





Browning®
Morse®

Shaft Mount Worm Gear and Bevel Reducer Catalog



EMERSON™
Industrial Automation

EMERSON. CONSIDER IT SOLVED.™

KEEPS YOU MOVING



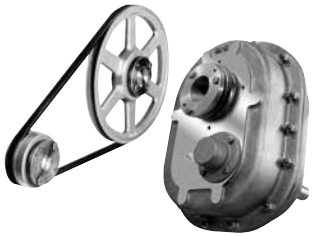
EMERSON™

Industrial Automation

EMERSON. CONSIDER IT SOLVED.®

Browning®

Belt drive and helical shaft mounts with innovative bushing systems for ease of installation and maximum shaft locking capacity.



KOP-FLEX®

Heavy-duty industrial shaft couplings and the supporting technology for the toughest applications. Coupling types include gear, tapered grid, flexible metallic disc, universal joints, elastomeric and resilient shaft types.



McGILL®

McGill® patented the Camrol® cam follower more than sixty years ago. Today cam follower bearings are offered in over 1,400 different combinations and configurations.



Morse®

Self-contained clutch products for high torque demanding back-stopping conveyor applications. Specialized sealing to reduce contamination and lenghten clutch operation.



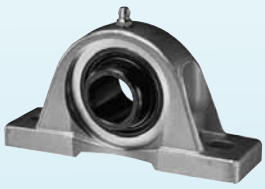
ROLLWAY®

Highly engineered cylindrical roller bearings for heavy duty, off-highway motorized wheels, screens and crusher applications.



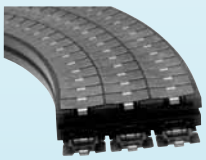
SEALMASTER®

Problem solver bearings designed with application-specific sealing and inherent lubrication features to extend bearing life and reduce downtime.



SYSTEM™ PLAST

System Plast S.p.A. is a global supplier of steel and engineered plastic conveying chains and chain tracks, modular plastic belts, composite housed bearings and Valu Guide® conveyor components and guide rails.



EMERSON™
Industrial Automation

EMERSON. CONSIDER IT SOLVED.™

Browning® EMERSON™ Industrial Automation Morse®

Table of Contents

Page

SMTP Shaft Mount TorqTaper Plus®/ SMFP Shaft Mount Finished Bore

Features and Benefits ..... 4 - 7
Selection and Ordering Information..... 8 - 9
AGMA Application Classification ..... 10 - 11
AGMA Class Speed Reducer Selection Chart..... 12 - 23
Dimensions..... 24 - 27

HMTP Hydraulic Mount TorqTaper Plus

Features and Benefits ..... 28 - 29
Selection and Ordering Information..... 30 - 31
AGMA Application Classification ..... 32 - 33
AGMA Class Speed Reducer Selection Chart..... 34 - 45
Dimensions..... 46 - 47

CMTP C-Face Mount TorqTaper Plus

Features and Benefits ..... 48 - 49
Selection and Ordering Information..... 50 - 51
AGMA Application Classification ..... 52 - 53
AGMA Class Speed Reducer Selection Chart..... 54 - 59
Dimensions..... 60 - 61

Shaft Mount Accessories Section

Features and Benefits ..... 62 - 63
Bushing Kits – Tapered Bore Type..... 64 - 67
Bushings – Finished Bore Type ..... 68 - 69
Motor Mounts..... 70 - 73
Belt Drives ..... 74 - 121
Belt Guards.....122
Bushing Guards.....123
Screw Conveyor Components ..... 124 - 130
Backstops and Torque Arm Kits.....131
Fan Kits/Pump and Cooler Kits/Breather Kits ..... 132 - 133

Page

Shaft Mount Engineering Section

Input Shaft Overhung Load Capacity ..... 136 - 137
Output Thrust and Overhung Loads ..... 138 - 141
Minimum Shaft Requirements 142
Face Mounting..... 144 - 145
Lubrication..... 146 - 149

RBC Shaft Mount Drives

Features and Ratings 150
Dimensions.....151

Raider® Plus Worm Gear Reducers

Features and Benefits ..... 152 - 157
Selection and Ordering Information..... 158 - 161
AGMA Application Classification ..... 162 - 163
Engineering Data..... 164 - 168
Dimensions..... 170 - 222
Tack-On Reducer Assemblies ..... 223 - 230

Washdown Duty Raider Plus

Features and Benefits ..... 232 - 234
Selection and Ordering Information.....235
Dimensions..... 236 - 237

Stainless Steel Raider Plus

Features and Benefits ..... 238 - 239
Selection and Ordering Information..... 240 - 241
AGMA Application Classification ..... 242 - 243
Engineering Data.....245
Dimensions..... 246 - 249
Stainless Accessories..... 250 - 251

Cobra

Features and Benefits ..... 252 - 253
Selection and Ordering Information..... 254 - 255
AGMA Application Classification ..... 256 - 257
Engineering Data..... 258 - 260
Dimensions..... 262 - 265
Accessories ..... 266 - 269

Browning® EMERSON™ Industrial Automation Morse®

Table of Contents

Page

PowerGear® - W Series
Features and Benefits ..... 270 - 271
Selection and Ordering Information..... 272 - 273
AGMA Application Classification ..... 274 - 275
Engineering Data..... 276 - 279
Dimensions..... 280 - 305

PowerGear - V Series
Features and Benefits ..... 306 - 307
Selection and Ordering Information..... 308 - 309
AGMA Application Classification ..... 310 - 311
Engineering Data..... 312 - 315
Dimensions..... 316 - 327

PowerGear - G Series
Features and Benefits ..... 328 - 329
Selection and Ordering Information..... 330 - 332
AGMA Application Classification ..... 333 - 334
Engineering Data..... 335 - 341
Dimensions..... 342 - 379

PowerGear - S Series
Features and Benefits ..... 380 - 381
Selection and Ordering Information..... 382 - 383
AGMA Application Classification ..... 384 - 385
Engineering Data..... 386 - 389
Dimensions..... 390 - 397

IRA Gearmotors
Features and Benefits ..... 398 - 399
Mounting Versatility, Size Range and General Presentation..... 400 - 402
Motor Options.....403
Selection and Ordering Information..... 404 - 409
AGMA Application Classification ..... 410 - 412
Engineering Data..... 413 - 425
Dimensions..... 426 - 428
Gearmotor Alternate Motor Dimensions..... 429 - 430
Brake Dimensional Supplement 431

Page

IRA Reducers
Features and Benefits ..... 432 - 433
Mounting Versatility.....434
Configuration Options.....435
Selection and Ordering Information..... 436 - 437
Overhung Load.....438
AGMA Application Classification ..... 439 - 441
Engineering Data..... 442 - 449
Dimensions..... 450 - 451

Bevel Reducers - Cast Iron
Features and Benefits ..... 452 - 453
Selection and Ordering Information.....454
AGMA Application Classification 455
Engineering Data..... 456 - 459
Dimensions..... 460 - 461

ARA Reducers
Features and Benefits ..... 462 - 463
Selection and Ordering Information.....464
Dimensions.....465

Bevel Reducers - M Series
Features and Benefits ..... 466 - 467
Selection and Ordering Information.....468
AGMA Application Classification 469
Engineering Data.....470
Dimensions.....471
Assembly Positions and Part Numbers ..... 472 - 473

C-Face Standard and Stainless Steel Motors
Features and Benefits ..... 474 - 477
Part Numbers ..... 478 - 479

C-Face IntelliGear® Plus
Features and Benefits ..... 480 - 481
General Information.....482
Characteristics..... 483 - 484
Diagnostics..... 485 - 486
Dimensions.....487

General Information ..... 488 - 489

Standard Terms and Conditions 495

Team Up with Browning and get a 3 year warranty on Shaft Mounts and Belt Drives. Team Browning will keep you in play, not sidelined by poor performance.

3 YEAR WARRANTY
TEAM Browning

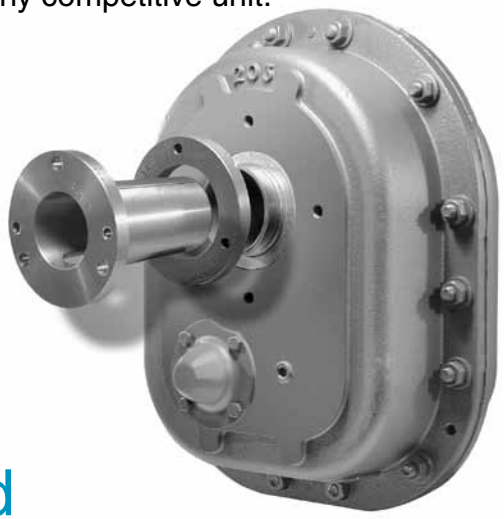
The American Standard





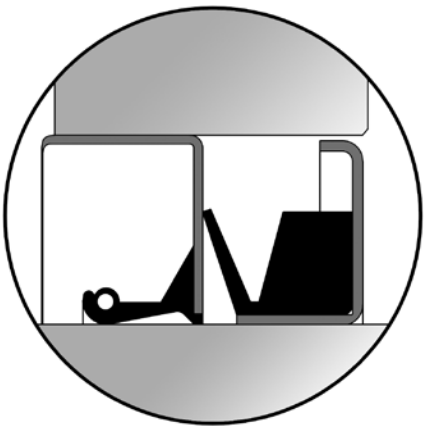
Browning® TorqTaper Plus Shaft Mounts...

Unlike competitive bushing systems that mount only from the front or back of the reducer (or require bushings on both sides), TorqTaper Plus uses a single tapered bushing that easily installs from either front or back – depending on your space limitations and available shaft length. This patented feature simplifies replacement of any competitive unit.

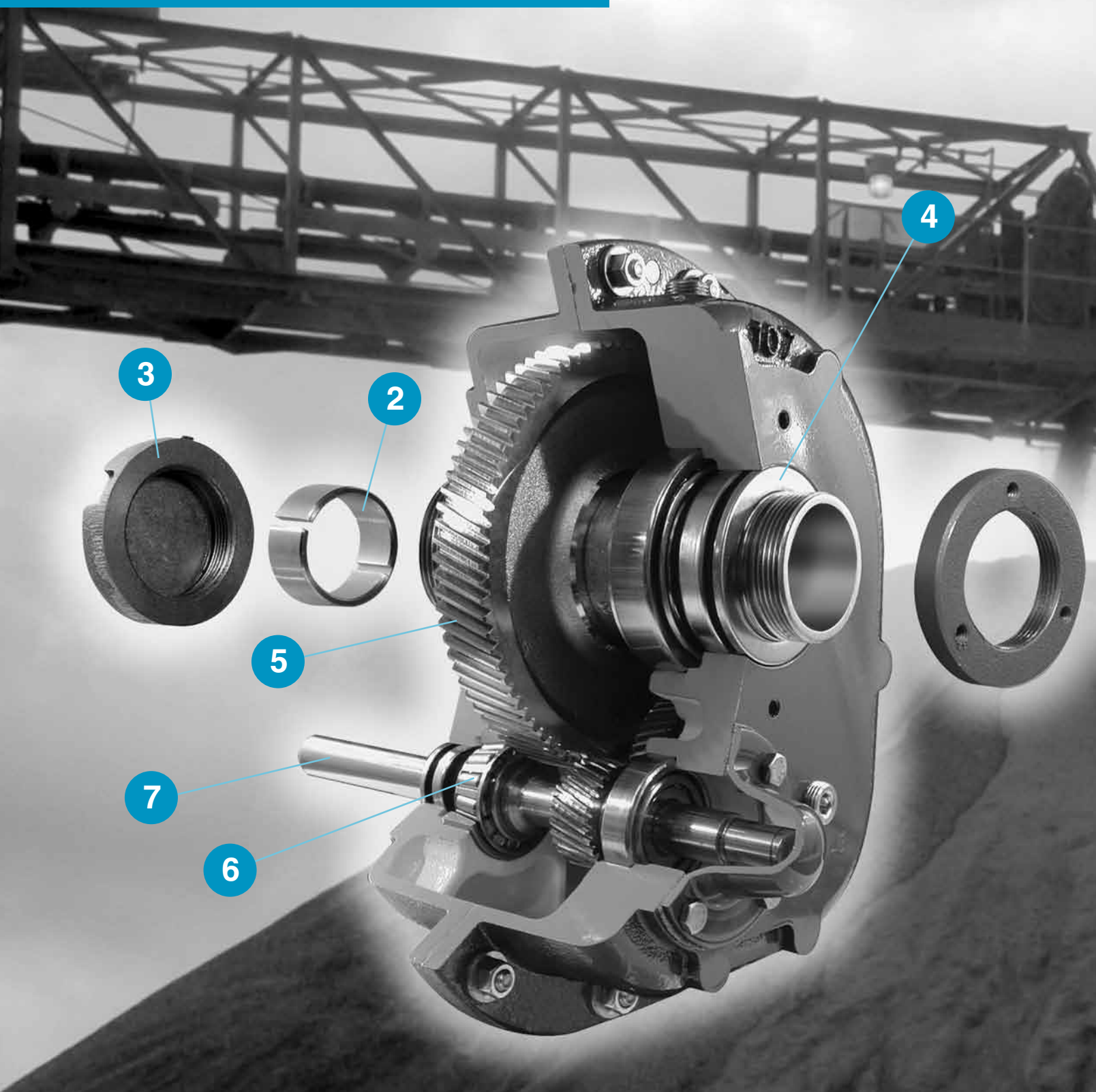


Patented Barrier Seal System

Combines a v-ring face seal, grease filled labyrinth and rotating outer flinger to provide triple protection against contamination and oil seal damage. Standard on all shafts.



The New Way... Your Way





Check Out These Additional Features of TorqTaper Plus Reducers

1. Unique, patented single bushing mounting system
    - Tapered bushing mounts from either side on the 107-315
2. Tapered stabilizer ring minimizes wobble and resists fretting corrosion
3. End cap seals quill end from contamination
4. Industrial strength seal systems
    - Patented barrier seal system includes standard double lip oil seals with v-ring face seal, grease packed labyrinth and external flinger
5. Carburized and ground gearing throughout
    - AGMA class 12 minimum
6. Tapered roller bearings on all shafts
7. Increased shaft diameters; higher overhung load ratings

Plus...

- Depending upon size, available ratios include 5, 9, 15, 25 and new 35:1 ratio
- Increased horsepower ratings, allows downsizing on many applications
- Pre-drilled and tapped face mount holes

Ordering Information

Example No. 1
Shaft Mount Application

A shaft mount reducer and belt drive are required for a bucket conveyor, which will be uniformly loaded and operated 16 to 24 hours per day at 81 rpm.

The conveyor requires 15 hp. The reducer will be mounted on the conveyor head shaft which is 2 7/16" diameter. The customer wants to mount the 1750 rpm 254T frame motor on the reducer. The customer has also requested a backstop for the reducer.

1. Determine the Load Classification

From the AGMA Application Classification numbers, note that the load class is II for a uniformly loaded bucket conveyor operating over 10 hours per day.

2. Determine the Speed Reducer Required

From the Reducer Selection Chart for Class II Service, select a reducer for 15 hp and 81-89 rpm, which in this case is a 207SMTP15 or 207SMTP09. Choose the 207SMTP15, as the larger ratio will require the most compact and generally most economical belt drive. Refer to the Shaft Mount Accessories section for a bushing and torque arm. A 207TBP207 bushing is required for the reducer. Select the 207TAP-H torque arm.

3. Select the Motor Mount

Determine if a top mount or side mount configuration is required. Reference the motor mount tables in the Shaft Mount Accessories section for dimensions. After consulting the customer, it was determined that the top mount configuration was desired. Select the correct motor mount supports, motor mount adapter and motor base: MMS207L, MMA207, MB203-207.

4. Select the Backstop

Select the 207BSP backstop from the Shaft Mount Accessories section.

5. Select the Belt Drive

Note that the belt centers for this motor and reducer combination are 22.34 to 39.66. Note that 4.3" is the minimum sheave pitch diameter for the 207SMTP15 reducer chosen in Step 2. Reducer input speed = 81 (conveyor speed) x 14.787 (Exact Reducer Ratio) = 1197 rpm. From the Shaft Mount Accessories section pre-selected belt drive tables select a belt drive with a center distance near the midpoint of the 22.34 to 39.66. This drive (1197 driven speed) consists of a 2B5V68 sheave with a B 1 5/8 bushing, a 2B5V94 sheave with a B 1 7/16 bushing and two 5VX660 gripnotch belts.

6. Select the Belt Guard

Select the guard. Notice from the table that the CD range with the belt guard is 22.00 to 34.00" and the maximum reducer sheave that will fit into the belt guard in the top mount position is 24". Note that the part number, BGP24 24-38 with 207BGMKP, kit hardware required to mount the guard onto the reducer.

7. List Components:

1, **207SMTP15** Reducer
1, **207TBP207** Bushing
1, **207TAP-H** Torque Arm
1, **MMS207L** Motor Mount Support
1, **MMA207** Motor Mount Adapter
1, **MB203-207** Motor Base
1, **207BSP** Backstop
1, **B 1 5/8** Bushing
1, **2B5V68** Sheave
1, **B 1 7/16** Bushing
1, **2B5V94** Sheave
2, **5VX660** Belts
1, **BGP24 24-38/ 207BGMKP** Belt Guard

Note: See “Application Considerations” on back cover.

Example No. 2
Screw Conveyor Application

A screw conveyor drive is required to convey dry cement powder. The conveyor will be uniformly fed and operated 12 to 16 hours per day. The screw is 14" diameter and has a 2 7/16" bore with two holes. The conveyor requires 5 hp and will operate at 60 rpm. The motor is a 1750 rpm 184T frame. The customer wants the trough end, waste pack, belt drive, belt guard and motor mount.

1. Determine the Load Classification

From the AGMA Application Classification numbers, note that the load class is II for a uniformly fed screw conveyor operating over 10 hours per day.

2. Determine the Speed Reducer Size Required

From the Reducer Selection Chart for Class II Service select a reducer for 5 hp and 60 rpm, which in this case is a 115SMTP09, 115SMTP15 or 115SMTP25 for 55-77 rpm. Choose the 115SMTP25 as the larger ratio will require the most compact and generally most economical belt drive.

3. Establish Sealing Required for Screw Conveyor

The waste pack cartridge is well suited for dry, abrasive materials such as cement powder. Specify the optional waste pack cartridge for the 115 shaft mount selected. From the Shaft Mount Accessories section, select part 115-203WPP.

4. Select the Screw Conveyor Adapter and Screw Conveyor Shaft

Note that the customer requested a 2 7/16" drive shaft with a two hole arrangement for the 14" diameter screw.
From the table select the 115SCA-P and the 115DSP207 using the basic reducer size, screw diameter and shaft size.

5. Select the Trough End

From the Shaft Mount Accessories section, select the SCTE14 x 2 7/16 trough end.

6. Select the Motor Mount

First determine if the top mount or side mount configuration is required. Reference the motor mount tables in the Shaft Mount Accessories section for dimensions. After consulting with the customer it was determined that the top mount was desired. Select the MMS115H, MMA107-115 and MB107-115. Check the dimensions from the motor mount table. Note that the high motor mount must be used with this size screw. The value of 4.32" needs to be added to the minimum center distance on the high supports to ensure that the motor mount clears the screw conveyor.

7. Select the Belt Drive

Note that the belt center distance range for this reducer and motor combination is 17.50" to 34.24". Note the minimum sheave pitch diameter for the 115SMTP25 is 3.4". Reducer input speed = 60 (conveyor speed) x 24.8558 (Exact Reducer Ratio) = 1491 rpm. From the pre-selected belt drive tables, select a belt drive with a center distance greater than 17.5 + 4.32 = 21.82". This drive (1496 driven speed) consists of a 2AK54H sheave with H 1 1/8" bushing, 2AK64H sheave with H 1 1/8" bushing and two AX58 Gripnotch belts.

8. Select the Belt Guard

Select the guard. Notice from the table that the CD range with the belt guard is 18.30 to 30.00" and the maximum reducer sheave that will fit into the belt guard in the top mount position is 14". Note that the part number is BGP14 18-30/115BGMKP, kit hardware required to mount the guard onto the reducer.

9. List the Components:

- 1, **115SMTP25** Reducer
- 1, **115-203WWP** Waste Pack Cartridge
- 1, **115SCA-P** Screw Conveyor Adapter
- 1, **115DSP207** Screw Conveyor Drive Shaft Kit
- 1, **SCTE14x2 7/16** Trough End
- 1, **MMS115H** Motor Mount Support
- 1, **MMA107-115** Motor Mount Adapter
- 1, **MB107-115** Motor Base
- 2, **H 1 1/8** Bushing
- 1, **AK54H** Sheave
- 1, **2AK64H** Sheave
- 1, **AX64** Belt
- 1, **BGP14 18-30/ 115BGMKP** Belt Guard

SMTP Exact Ratios

Reducer Size	Ratio Symbols				
	05	09	15	25	35
107 115	5.0588 4.7000	8.8205 8.8125	14.8276 14.7759	24.7250 24.8558	34.8778 34.9487
203 207 215	5.1053 5.1579 5.1667	8.8732 8.8308 8.8482	14.9231 14.7870 14.8187	24.7409 24.7094 24.8502	34.6429 35.0000 34.8154
307 315	5.1111 4.8824	8.7925 8.8620	14.9704 14.5744	24.7692 24.4118	34.8791 34.0513
407 415	5.0000 5.0833	- -	13.6842 13.9792	25.0000 25.8403	- -
507	-	-	13.6842	25.3846	-
608	-	-	13.9118	25.6555	-
800	-	-	-	24.9648	-

Note: See “Application Considerations” on back cover.

Classification Numbers

Application	AGMA Class Numbers		
	Up to 3 Hours Per Day	3-10 Hours Per Day	Over 10 Hours Per Day
AGITATORS (Mixers)			
Pure Liquids	I	I	II
Liquids and Solids	I	II	II
Liquids - Variable Density	I	II	II
BLOWERS			
Centrifugal & Vane	I	I	II
Lobe	I	II	II
Vane	I	II	II
BREWING AND DISTILLING			
Bottling Machinery	I	I	II
Brew Kettles - Continuous Duty	II	II	II
Cookers - Continuous Duty	II	II	II
Mash Tubs - Continuous Duty	II	II	II
Scale Hopper - Frequent Starts	II	II	II
CAN FILLING MACHINES	I	I	II
CAR DUMPERS	II	III	III
CAR PULLERS	I	II	II
CLARIFIERS	I	I	II
CLASSIFIERS	I	II	II
CLAY WORKING MACHINERY			
Brick Presses	II	III	III
Briquette Machines	II	III	III
Pug Mills	I	II	II
COMPACTORS	♦	♦	♦
COMPRESSORS			
Centrifugal	I	I	II
Lobe	I	II	II
Reciprocating, Multi-Cylinder	II	II	III
Reciprocating, Single-Cylinder	III	III	III
CONVEYORS - GENERAL PURPOSE			
Includes Apron, Assembly, Belt, Bucket			
Chain, Flight, Oven, and Screw			
Uniformly Loaded or Fed	I	I	II
Heavy Duty - Not Uniformly Fed	I	II	II
Severe Duty - Reciprocating or Shaker	II	III	III
CRANES			
Dry Dock			
Main Hoist	♦	♦	♦
Auxiliary Hoist	♦	♦	♦
Boom Hoist	♦	♦	♦
Slewing Drive	♦	♦	♦
Traction Drive	♦	♦	♦
Container			
Main Hoist	♦	♦	♦
Boom Hoist	♦	♦	♦
Trolley Drive			
Gantry Drive	♦	♦	♦
Traction Drive	♦	♦	♦
Mill Duty			
Main Hoist	♦	♦	♦
Auxiliary	♦	♦	♦
Bridge Travel	♦	♦	♦
Trolley Travel	♦	♦	♦
Industrial Duty			
Main	♦	♦	♦
Auxiliary	♦	♦	♦
Bridge Travel	♦	♦	♦
Trolley Travel	♦	♦	♦
CRUSHERS			
Stone or Ore	III	III	III
DREDGES			
Cable Reels	II	II	II
Conveyors	II	II	II
Cutter Head Drives	III	III	III
Pumps	III	III	III
Screen Drives	III	III	III
Stackers	II	II	II
Winches	II	II	II
ELEVATORS			
Bucket	I	II	II
Centrifugal Discharge	I	I	II
Escalators	I	I	II
Freight	I	II	II
Gravity Discharge	I	I	II
EXTRUDERS			
General	II	II	II
Plastics			
Variable Speed Drive	III	III	III
Fixed Speed Drive	III	III	III
Rubber			
Continuous Screw Operation	III	III	III
Intermittent Screw Operation	III	III	III
FANS			
Centrifugal	I	I	II

Application	AGMA Class Numbers		
	Up to 3 Hours Per Day	3-10 Hours Per Day	Over 10 Hours Per Day
FANS (Cont'd)			
Cooling Towers	III	III	III
Forced Draft	II	II	II
Induced Draft	II	II	II
Industrial & Mine	II	II	II
FEEDERS			
Apron	I	II	II
Belt	I	II	II
Disc	I	I	II
Reciprocating	II	III	III
Screw	I	II	II
FOOD INDUSTRY			
Cereal Cooker	I	I	II
Dough Mixer	II	II	II
Meat Grinders	II	II	II
Slicers	I	II	II
GENERATORS AND EXCITERS	II	II	II
HAMMER MILLS	III	III	III
HOISTS			
Heavy Duty	♦	♦	♦
Medium Duty	♦	♦	♦
Skip Hoist	♦	♦	♦
LAUNDRY TUMBLERS	II	II	II
LAUNDRY WASHERS	II	II	III
LUMBER INDUSTRY			
Barkers			
Spindle Feed	II	II	II
Main Drive	III	III	III
Conveyors			
Burner	II	II	II
Main or Heavy Duty	II	II	II
Main Log	III	III	III
Re-saw, Merry-Go-Round	II	II	II
Slab	III	III	III
Transfer	II	II	II
Chains			
Floor	II	II	II
Green	II	II	III
Cut-Off-Saws			
Chain	II	II	III
Drag	II	II	III
Debarking Drums	III	III	III
Feeds			
Edger	II	II	II
Gang	II	III	III
Trimmer	II	II	II
Log Deck	III	III	III
Log Hauls - Incline - Well Type	III	III	III
Log Turning Devices	III	III	III
Planer Feed	II	II	II
Planer Tilting Hoists	II	II	II
Rolls - Live-Off Brg - Roll Cases	III	III	III
Sorting Table	II	II	II
Tipple Hoist	II	II	II
Transfer			
Chain	II	II	III
Craneway	II	II	III
Tray Drives	II	II	II
Veneer Lathe Drives	II	II	II
METAL MILLS			
Draw Bench Carriage and Main Drive	II	II	II
Runout Table			
Non-Reversing			
Group Drives	II	II	II
Individual Drives	III	III	III
Reversing	III	III	III
Slab Pushers	II	II	II
Shears	III	III	III
Wire Drawing	II	II	II
Wire Winding Machine	II	II	II
METAL STRIP PROCESSING MACHINERY			
Bridges	II	II	II
Collers & Uncoilers	I	I	II
Edge Trimmers	I	II	II
Flatteners	II	II	II
Loopers (Accumulators)	I	I	I
Pinch Rolls	II	II	II
Scrap Choppers	II	II	II
Shears	III	III	III
Slitters	I	II	II
MILLS, ROTARY TYPE			
Ball & Rod			
Spur Ring Gear	III	III	III
Helical Ring Gear	II	II	II
Direct Connected	III	III	III

Browning®

AGMA Application

TAPER-LOCK® Plus

Classification Numbers

Application	AGMA Class Numbers		
	Up to 3 Hours Per Day	3-10 Hours Per Day	Over 10 Hours Per Day
MILLS, ROTARY TYPE (Cont'd)			
Cement Kilns	II	II	II
Dryers & Coolers	II	II	II
PAPER MILLS[1]			
Agitator (Mixer)	II	II	II
Agitator For Pure Liquors	II	II	II
Barking Drums	III	III	III
Barkers - Mechanical	III	III	III
Beater	II	II	II
Breaker Stack	II	II	II
Calendar[2]	II	II	II
Chipper	III	III	III
Chip Feeder	II	II	II
Coating Rolls	II	II	II
Conveyors			
Chip, Bark, Chemical	II	II	II
Log (Including Slab)	III	III	III
Couch Rolls	II	II	II
Cutter	III	III	III
Cylinder Molds	II	II	II
Dryers[2]			
Paper Machine	II	II	II
Conveyor Type	II	II	II
Embosser	II	II	II
Extruder	II	II	II
Fourdrinier Rolls (Includes Lump Breaker, Dandy Roll, Wire Turning, and Return Rolls)	II	II	II
Jordan	II	II	II
Kiln Drive	II	II	II
Mt. Hope Roll	II	II	II
Paper Rolls	II	II	II
Platter	II	II	II
Presses - Felt Suction	II	II	II
Pulper	III	III	III
Pumps - Vacuum	II	II	II
Reel (Surface - Type)	II	II	II
Screens			
Chip	II	II	II
Rotary	II	II	II
Vibrating	III	III	III
Size Press	II	II	II
Supercalendar	II	II	II
Thickener (AC Motor)	II	II	II
Thickener (DC Motor)	II	II	II
Washer (AC Motor)	II	II	II
Washer (DC Motor)	II	II	II
Wind and Unwind Stand	I	I	I
II II			
PLASTICS INDUSTRY			
PRIMARY PROCESSING			
Intensive Internal Mixers			
Batch Mixers	III	III	III
Continuous Mixers	II	II	II
Batch Drop Mill - 2 Smooth Rolls	II	II	II
Continuous Feed, Holding & Blend Mill	II	II	II
Calendars	II	II	II
PLASTICS INDUSTRY			
SECONDARY PROCESSING			
Blow Molders	II	II	II
Coating	II	II	II
Film	II	II	II
Pipe	II	II	II
Pre-Plasticizers	II	II	II
Rods	II	II	II
Sheet	II	II	II
Tubing	II	II	II
PULLERS - BARGE HAUL	II	II	II
PUMPS			
Centrifugal	I	I	II
Proportioning	II	II	II
Reciprocating			
Single Acting, 3 or more Cylinders	II	II	II
Double Acting, 2 or more Cylinders	II	II	II
Rotary			
Gear Type	I	I	II
Lobe	I	I	II
Vane	I	I	II
RUBBER INDUSTRY			
Intensive Internal Mixers			
Batch Mixers	III	III	III
Continuous Mixers	II	II	II
Mixing Mill			
2 Smooth Rolls	II	II	II
1 or 2 Corrugated Rolls	III	III	III
RUBBER INDUSTRY (Cont'd)			
Batch Drop Mill - 2 Smooth Rolls	II	II	II
Cracker Warmer - 2 Roll, 1 Corrugated Roll	III	III	III
Cracker - 2 Corrugated Rolls	III	III	III
Holding, Feed & Blend Mill - 2 Rolls	II	II	II
Refiner - 2 Rolls	II	II	II
Calendars	II	II	II
SAND MULLER	II	II	II
SEWAGE DISPOSAL EQUIPMENT			
Bar Screens	II	II	II
Chemical Feeder	II	II	II
Dewatering Screens	II	II	II
Scum Breakers	II	II	II
Slow or Rapid Mixers	II	II	II
Sludge Collectors	II	II	II
Thickener	II	II	II
Vacuum Filters	II	II	II
SCREENS			
Air Washing	I	I	II
Rotary - Stone or Gravel	II	II	II
Traveling Water Intake	I	I	I
SCREW CONVEYORS			
Uniformly Loaded or Fed	I	I	II
Heavy Duty	I	II	II
SUGAR INDUSTRY			
Beet Slicer	III	III	III
Cane Knives	II	II	II
Crushers	II	II	II
Mills (Low Speed End)	III	III	III
TEXTILE INDUSTRY			
Batchers	II	II	II
Calendars	II	II	II
Cards	II	II	II
Dry Cans	II	II	II
Dyeing Machinery	II	II	II
Looms	II	II	II
Mangles	II	II	II
Nappers	II	II	II
Pads	II	II	II
Slashers	II	II	II
Soapers	II	II	II
Spinners	II	II	II
Tenter Frames	II	II	II
Washers	II	II	II
Winders	II	II	II

Notes:

1) The Class numbers listed in the table for paper mill applications are consistent with those shown in TAPPI *(Technical Association of Pulp and Paper Industry)* Technical information sheet 0406-18 1967, *Service Factors for Gears on Major Equipment in the Pulp and Paper Industry.*
2) Anti-friction bearings only.

♦ Contact Application Engineering (1 800 626 2093) for the selection of AGMA Class Numbers in these applications.

SMTP/SMFP Selection Chart

Class I Service (1.0 S.F.)

Output RPM	Reducer Size	Minimum Sheave P.D.
1/4 HP MOTOR		
5 - 50	107SMTP35	2.3
	107SMTP25	2.3
	107SMTP15	2.8
	107SMTP09	4.7
51 - 80	107SMTP25	2.3
	107SMTP15	2.8
	107SMTP09	4.7
81 - 89	107SMTP15	2.8
	107SMTP09	4.7
90 - 130	107SMTP15	2.8
	107SMTP09	4.7
	107SMTP05	4.6
131 - 200	107SMTP09	4.7
	107SMTP05	4.6
201 - 400	107SMTP05	4.6
1/3 HP MOTOR		
5 - 50	107SMTP35	2.3
	107SMTP25	2.3
	107SMTP15	2.8
	107SMTP09	4.7
51 - 80	107SMTP25	2.3
	107SMTP15	2.8
	107SMTP09	4.7
81 - 89	107SMTP15	2.8
	107SMTP09	4.7
90 - 130	107SMTP15	2.8
	107SMTP09	4.7
	107SMTP05	4.6
131 - 200	107SMTP09	4.7
	107SMTP05	4.6
201 - 400	107SMTP05	4.6
1/2 HP MOTOR		
5 - 50	107SMTP35	2.3
	107SMTP25	2.3
	107SMTP15	2.8
	107SMTP09	4.7
51 - 80	107SMTP25	2.3
	107SMTP15	2.8
	107SMTP09	4.7
81 - 89	107SMTP15	2.8
	107SMTP09	4.7
90 - 130	107SMTP15	2.8
	107SMTP09	4.7
	107SMTP05	4.6
131 - 200	107SMTP09	4.7
	107SMTP05	4.6
201 - 400	107SMTP05	4.6
3/4 HP MOTOR		
5	203SMTP35	3.8
	203SMTP25	3.8
	203SMTP15	3.8
	203SMTP09	3.8
6 - 7	115SMTP35	3.4
	115SMTP25	3.4
	115SMTP15	3.4
	115SMTP09	3.4
8 - 50	107SMTP35	2.3
	107SMTP25	2.3
	107SMTP15	2.6
	107SMTP09	4.4
3/4 HP MOTOR (Cont'd)		
51 - 80	107SMTP25	2.3
	107SMTP15	2.6
	107SMTP09	4.4
81 - 89	107SMTP15	2.6
	107SMTP09	4.4
90 - 130	107SMTP15	2.6
	107SMTP09	4.4
	107SMTP05	4.6
131 - 200	107SMTP09	4.4
	107SMTP05	4.6
201 - 400	107SMTP05	4.6
1 HP MOTOR		
5 - 6	203SMTP35	3.8
	203SMTP25	3.8
	203SMTP15	3.8
	203SMTP09	3.8
7 - 9	115SMTP35	3.4
	115SMTP25	3.4
	115SMTP15	3.4
	115SMTP09	3.4
10 - 50	107SMTP35	2.3
	107SMTP25	2.3
	107SMTP15	2.8
	107SMTP09	4.7
51 - 80	107SMTP25	2.3
	107SMTP15	2.8
	107SMTP09	4.7
81 - 89	107SMTP15	2.8
	107SMTP09	4.7
90 - 130	107SMTP15	2.8
	107SMTP09	4.7
	107SMTP05	4.6
131 - 200	107SMTP09	4.7
	107SMTP05	4.6
201 - 400	107SMTP05	4.6
1 1/2 HP MOTOR		
5	207SMTP35	4.3
	207SMTP25	4.3
	207SMTP15	4.3
	207SMTP09	4.4
6 - 10	203SMTP35	3.8
	203SMTP25	3.8
	203SMTP15	3.8
	203SMTP09	4.3
11 - 15	115SMTP35	3.4
	115SMTP25	3.4
	115SMTP15	3.4
	115SMTP09	3.4
16 - 50	107SMTP35	2.3
	107SMTP25	2.3
	107SMTP15	2.6
	107SMTP09	4.4
51 - 80	107SMTP25	2.3
	107SMTP15	2.6
	107SMTP09	4.4
81 - 89	107SMTP15	2.6
	107SMTP09	4.4
90 - 130	107SMTP15	2.6
	107SMTP09	4.4
	107SMTP05	4.6
1 1/2 HP MOTOR (Cont'd)		
131 - 200	107SMTP09	4.4
	107SMTP05	4.6
201 - 400	107SMTP05	4.6
2 HP MOTOR		
5 - 8	207SMTP35	4.3
	207SMTP25	4.3
	207SMTP15	4.3
	207SMTP09	4.4
9 - 14	203SMTP35	3.8
	203SMTP25	3.8
	203SMTP15	3.8
	203SMTP09	3.8
15 - 20	115SMTP35	3.4
	115SMTP25	3.4
	115SMTP15	3.4
	115SMTP09	3.4
21 - 50	107SMTP35	2.3
	107SMTP25	2.3
	107SMTP15	2.7
	107SMTP09	4.5
51 - 80	107SMTP25	2.3
	107SMTP15	2.7
	107SMTP09	4.5
81 - 89	107SMTP15	2.7
	107SMTP09	4.5
90 - 130	107SMTP15	2.7
	107SMTP09	4.5
	107SMTP05	4.6
131 - 200	107SMTP09	4.5
	107SMTP05	4.6
201 - 400	107SMTP05	4.6
3 HP MOTOR		
5 - 7	215SMTP35	5.6
	215SMTP25	5.6
	215SMTP15	5.6
	215SMTP09	5.6
8 - 12	207SMTP35	4.3
	207SMTP25	4.3
	207SMTP15	4.3
	207SMTP09	4.3
13 - 22	203SMTP35	3.8
	203SMTP25	3.8
	203SMTP15	3.8
	203SMTP09	4.0
23 - 31	115SMTP35	3.4
	115SMTP25	3.4
	115SMTP15	3.4
	115SMTP09	3.4
32 - 50	107SMTP35	2.3
	107SMTP25	2.3
	107SMTP15	2.6
	107SMTP09	4.4
51 - 80	107SMTP25	2.3
	107SMTP15	2.6
	107SMTP09	4.4
81 - 89	107SMTP15	2.6
	107SMTP09	4.4
90 - 130	107SMTP15	2.6
	107SMTP09	4.4
	107SMTP05	4.6

Browning®

SMTP/SMFP Selection Chart

TAPER-LOCK® Plus

Class I Service (1.0 S.F.)

Output RPM	Reducer Size	Minimum Sheave P.D.
3 HP MOTOR (Cont'd)		
131 - 200	107SMTP09	4.4
	107SMTP05	4.6
201 - 400	107SMTP05	4.6
5 HP MOTOR		
5-7	307SMTP35	6.0
	307SMTP25	6.0
	307SMTP15	6.0
	307SMTP09	6.0
8 - 13	215SMTP35	5.6
	215SMTP25	5.6
	215SMTP15	5.6
	215SMTP09	5.6
14 - 21	207SMTP35	4.3
	207SMTP25	4.3
	207SMTP15	4.3
	207SMTP09	4.3
22 - 38	203SMTP35	3.8
	203SMTP25	3.8
	203SMTP15	3.8
	203SMTP09	3.8
39 - 50	115SMTP35	3.4
	115SMTP25	3.4
	115SMTP15	3.4
	115SMTP09	3.4
51 - 54	115SMTP25	3.4
	115SMTP15	3.4
	115SMTP09	3.4
55 - 80	107SMTP25	2.8
	107SMTP15	2.8
	107SMTP09	4.3
81 - 89	107SMTP15	2.8
	107SMTP09	4.3
90 - 130	107SMTP15	2.8
	107SMTP09	4.3
	107SMTP05	4.6
131 - 200	107SMTP09	4.3
	107SMTP05	4.6
201 - 400	107SMTP05	4.6
7 1/2 HP MOTOR		
5	407SMTP25B	6.4
	407SMTP15B	6.4
6	315SMTP35	6.4
	315SMTP25	6.4
	315SMTP15	6.4
	315SMTP09	7.1
7 - 12	307SMTP35	6.0
	307SMTP25	6.0
	307SMTP15	6.0
	307SMTP09	6.5
13 - 20	215SMTP35	5.6
	215SMTP25	5.6
	215SMTP15	5.6
	215SMTP09	5.6
21 - 33	207SMTP35	4.3
	207SMTP25	4.3
	207SMTP15	4.3
	207SMTP09	4.3
34 - 50	203SMTP35	3.8
	203SMTP25	3.8
	203SMTP15	3.8
	203SMTP09	3.8

Output RPM	Reducer Size	Minimum Sheave P.D.
7 1/2 HP MOTOR (Cont'd)		
51 - 58	203SMTP25	3.8
	203SMTP15	3.8
	203SMTP09	3.8
59 - 80	115SMTP25	3.4
	115SMTP15	3.4
	115SMTP09	3.4
81 - 83	115SMTP15	3.4
	115SMTP09	3.4
84 - 89	107SMTP15	2.8
	107SMTP09	4.2
90 - 130	107SMTP15	2.8
	107SMTP09	4.2
	115SMTP05	9.8
131 - 160	107SMTP09	4.2
	115SMTP05	9.8
161 - 200	107SMTP09	4.2
	107SMTP05	3.8
201 - 400	107SMTP05	3.8
10 HP MOTOR		
5 - 7	407SMTP25B	6.4
	407SMTP15B	6.4
8 - 9	315SMTP35	6.4
	315SMTP25	6.4
	315SMTP15	6.4
	315SMTP09	7.1
10 - 16	307SMTP35	6.0
	307SMTP25	6.0
	307SMTP15	6.0
	307SMTP09	6.1
17 - 27	215SMTP35	5.6
	215SMTP25	5.6
	215SMTP15	5.6
	215SMTP09	5.6
28 - 46	207SMTP35	4.3
	207SMTP25	4.3
	207SMTP15	4.3
	207SMTP09	4.3
47 - 50	207SMTP35	4.3
	203SMTP25	3.8
	203SMTP15	3.8
	203SMTP09	3.8
51 - 80	203SMTP25	3.8
	203SMTP15	3.8
	203SMTP09	3.8
81 - 89	115SMTP15	3.6
	115SMTP09	3.6
90 - 114	115SMTP15	3.6
	115SMTP09	3.6
	115SMTP05	9.8
115 - 130	107SMTP15	3.6
	107SMTP09	4.1
	115SMTP05	9.8
131 - 200	107SMTP09	4.1
	115SMTP05	9.8
201 - 244	115SMTP05	9.8
245 - 400	107SMTP05	3.6
15 HP MOTOR		
5 - 7	415SMTP25B	7.1
	415SMTP15B	7.1

Output RPM	Reducer Size	Minimum Sheave P.D.
15 HP MOTOR (Cont'd)		
8 - 11	407SMTP25B	6.4
	407SMTP15B	6.4
12 - 14	315SMTP35	6.4
	315SMTP25	6.4
	315SMTP15	6.4
	315SMTP09	7.1
15 - 25	307SMTP35	6.0
	307SMTP25	6.0
	307SMTP15	6.0
	307SMTP09	6.1
26 - 42	215SMTP35	5.6
	215SMTP25	5.6
	215SMTP15	5.6
	215SMTP09	5.6
43 - 50	207SMTP35	4.3
	207SMTP25	4.3
	207SMTP15	4.3
	207SMTP09	4.3
51 - 80	207SMTP25	4.3
	207SMTP15	4.3
	207SMTP09	4.3
81 - 89	203SMTP15	3.8
	203SMTP09	3.8
90 - 121	203SMTP15	3.8
	203SMTP09	3.8
	203SMTP05	6.4
122 - 130	203SMTP15	3.8
	115SMTP09	3.4
	203SMTP05	6.4
131 - 161	115SMTP09	3.4
	203SMTP05	6.4
162 - 200	115SMTP09	3.4
	115SMTP05	9.6
201 - 400	115SMTP05	9.6
20 HP MOTOR		
5 - 6	507SMTP25B	7.9
	507SMTP15B	8.3
7 - 9	415SMTP25B	7.1
	415SMTP15B	7.1
10 - 14	407SMTP25B	6.4
	407SMTP15B	6.4
15 - 19	315SMTP35	6.4
	315SMTP25	6.4
	315SMTP15	6.4
	315SMTP09	7.6
20 - 34	307SMTP35	6.0
	307SMTP25	6.0
	307SMTP15	6.0
	307SMTP09	6.1
35 - 50	215SMTP35	5.6
	215SMTP25	5.6
	215SMTP15	5.6
	215SMTP09	5.6
51 - 61	215SMTP25	5.6
	215SMTP15	5.6
	215SMTP09	5.6
61 - 80	207SMTP25	4.3
	207SMTP15	4.3
	207SMTP09	4.3

SMTP/SMFP Selection Chart

Class I Service (1.0 S.F.)

Output RPM	Reducer Size	Minimum Sheave P.D.
20 HP MOTOR (Cont'd)		
81 - 89	207SMTP15	4.3
	207SMTP09	4.3
90 - 120	207SMTP15	4.3
	207SMTP09	4.3
	207SMTP05	9.8
121 - 130	203SMTP15	3.8
	203SMTP09	3.8
	203SMTP05	6.8
131 - 200	203SMTP09	3.8
	203SMTP05	6.8
201 - 244	203SMTP05	6.8
245 - 400	115SMTP05	9.4
25 HP MOTOR		
5	608SMTP25B	8.0
	608SMTP15B	11.4
6 - 8	507SMTP25B	7.9
	507SMTP15B	8.7
9 - 12	415SMTP25B	7.1
	415SMTP15B	7.1
13 - 18	407SMTP25B	6.4
	407SMTP15B	6.4
19 - 24	315SMTP35	6.4
	315SMTP25	6.4
	315SMTP15	6.4
	315SMTP09	7.5
25 - 44	307SMTP35	6.0
	307SMTP25	6.0
	307SMTP15	6.0
	307SMTP09	6.1
45 - 50	215SMTP35	5.6
	215SMTP25	5.6
	215SMTP15	5.6
	215SMTP09	5.6
51 - 80	215SMTP25	5.6
	215SMTP15	5.6
	215SMTP09	5.6
81 - 89	207SMTP15	4.3
	207SMTP09	4.7
90 - 125	207SMTP15	4.3
	207SMTP09	4.7
	215SMTP05	6.2
126 - 130	207SMTP15	4.3
	207SMTP09	4.7
	207SMTP05	9.6
131 - 159	207SMTP09	4.7
	207SMTP05	9.6
160 - 200	203SMTP09	3.8
	203SMTP05	6.8
201 - 337	203SMTP05	6.8
338 - 400	115SMTP05	9.3
30 HP MOTOR		
5 - 6	608SMTP25B	8.1
	608SMTP15B	11.4
7 - 10	507SMTP25B	7.9
	507SMTP15B	8.9
11 - 15	415SMTP25B	7.1
	415SMTP15B	7.1
16 - 23	407SMTP25B	6.4
	407SMTP15B	6.4

Output RPM	Reducer Size	Minimum Sheave P.D.
30 HP MOTOR (Cont'd)		
24 - 30	315SMTP35	6.4
	315SMTP25	6.4
	315SMTP15	6.4
	315SMTP09	7.1
31 - 50	307SMTP35	6.0
	307SMTP25	6.0
	307SMTP15	6.0
	307SMTP09	6.0
51 - 55	307SMTP25	6.0
	307SMTP15	6.0
	307SMTP09	6.0
56 - 80	215SMTP25	5.6
	215SMTP15	5.6
	215SMTP09	5.6
81 - 89	215SMTP15	5.6
	215SMTP09	5.6
90 - 103	215SMTP15	5.6
	215SMTP09	5.6
	215SMTP05	6.2
104 - 130	207SMTP15	4.3
	207SMTP09	5.2
	215SMTP05	6.2
131 - 162	207SMTP09	5.2
	215SMTP05	6.2
163 - 200	207SMTP09	5.2
	207SMTP05	9.5
201 - 215	207SMTP05	9.5
215 - 400	203SMTP05	6.7
40 HP MOTOR		
5	800SMTP25	12.0
6 - 9	608SMTP25B	8.1
	608SMTP15B	12.7
10 - 14	507SMTP25B	7.9
	507SMTP15B	8.3
15 - 20	415SMTP25B	7.1
	415SMTP15B	7.1
21 - 31	407SMTP25B	6.4
	407SMTP15B	6.4
32 - 43	315SMTP35	6.4
	315SMTP25	6.4
	315SMTP15	6.4
	315SMTP09	7.4
44 - 50	307SMTP35●	6.0
	307SMTP25●	6.0
	307SMTP15	6.0
	307SMTP09	6.9
51 - 76	307SMTP25●	6.0
	307SMTP15	6.0
	307SMTP09	6.9
77 - 80	307SMTP25●	6.0
	307SMTP15	6.0
	215SMTP09	5.7
81 - 89	307SMTP15	6.0
	215SMTP09	5.6
90 - 130	215SMTP15	5.6
	215SMTP09	5.6
	307SMTP05	7.8
131 - 156	215SMTP09	5.8
	215SMTP05	6.3

Output RPM	Reducer Size	Minimum Sheave P.D.
40 HP MOTOR (Cont'd)		
157 - 200	207SMTP09	5.8
	215SMTP05	6.3
201 - 246	215SMTP05	6.3
247 - 327	207SMTP05	9.3
328 - 400	203SMTP05	6.5
50 HP MOTOR		
5 - 7	800SMTP25	12.0
8 - 11	608SMTP25B	8.1
	608SMTP15B	11.9
12 - 18	507SMTP25B	7.9
	507SMTP15B	8.7
19 - 25	415SMTP25B	7.1
	415SMTP15B	7.1
26 - 39	407SMTP25B●	6.4
	407SMTP15B	6.4
40 - 50	315SMTP35●	6.4
	315SMTP25●	6.4
	315SMTP15	6.4
	315SMTP09	8.6
51 - 58	315SMTP25●	6.4
	315SMTP15	6.4
	315SMTP09	8.6
59 - 80	307SMTP25●	6.0
	307SMTP15●	6.0
	307SMTP09●	7.8
81 - 89	307SMTP15●	6.0
	307SMTP09●	7.8
90 - 99	307SMTP15●	6.0
	307SMTP09●	7.8
	315SMTP05	20.3
100 - 104	307SMTP15●	6.0
	307SMTP09●	7.8
	307SMTP05	9.0
105 - 130	307SMTP15●	6.0
	215SMTP09	5.6
	307SMTP05	9.0
131 - 182	215SMTP09	5.6
	307SMTP05	9.0
183 - 200	215SMTP09	5.6
	215SMTP05	6.2
201 - 340	215SMTP05	6.2
341 - 400	207SMTP05	9.1
60 HP MOTOR		
5	◆	
6 - 9	800SMTP25	12.0
10 - 14	608SMTP25B	8.1
	608SMTP15B	11.4
15 - 22	507SMTP25B	7.9
	507SMTP15B	8.3
23 - 31	415SMTP25B	7.1
	415SMTP15B	7.1
32 - 48	407SMTP25B●	6.4
	407SMTP15B●	6.4
49 - 50	315SMTP35●	6.4
	315SMTP25●	6.4
	315SMTP15●	6.4
	315SMTP09●	9.9
51 - 74	315SMTP25●	6.4
	315SMTP15●	6.4
	315SMTP09●	9.9

Notes:
- ● Requires fan kit.
- ▲ Requires pump and cooler kit.
- ◆ Contact Application Engineering (1 800 626 2093) for the selection of an enclosed gear drive.

Browning

SMTP/SMFP Selection Chart

TAPER-LOCK Plus

Class I Service (1.0 S.F.)

Output RPM	Reducer Size	Minimum Sheave P.D.
60 HP MOTOR (Cont'd)		
75 - 80	307SMTP25●	6.0
	307SMTP15●	6.0
	307SMTP09●	8.9
81 - 89	307SMTP15●	6.0
	307SMTP09●	8.9
90 - 130	307SMTP15●	6.0
	307SMTP09●	8.9
	315SMTP05●	20.3
131 - 200	307SMTP09●	8.9
	307SMTP05	8.8
201 - 240	307SMTP05	8.8
241 - 400	215SMTP05	6.1
75 HP MOTOR		
5 - 7	◆	
8 - 11	800SMTP25	12.0
12 - 18	608SMTP25B	8.1
	608SMTP15B	11.9
19 - 28	507SMTP25B	7.9
	507SMTP15B	8.2
29 - 40	415SMTP25B●	7.1
	415SMTP15B	7.1
41 - 61	407SMTP25B●	6.4
	407SMTP15B●	6.6
62 - 80	315SMTP25●	6.4
	315SMTP15●	6.4
	315SMTP09●	12.0
81 - 89	315SMTP15●	6.4
	315SMTP09●	12.0
90 - 103	315SMTP15●	6.4
	315SMTP09●	12.0
	407SMTP05B	28.0
103 - 123	307SMTP15●	6.0
	307SMTP09●	9.8
	407SMTP05B	28.0
124 - 130	307SMTP15●	6.0
	307SMTP09●	9.8
	315SMTP05	19.9
131 - 181	307SMTP09●	9.8
	315SMTP05	19.9
182 - 200	307SMTP09●	9.8
	307SMTP05	8.7
201 - 337	307SMTP05	8.7
338 - 400	215SMTP05	6.0
100 HP MOTOR		
5 - 9	◆	
10 - 15	800SMTP25	12.0
16 - 24	608SMTP25B	8.1
	608SMTP15B	12.7
25 - 38	507SMTP25B●	7.9
	507SMTP15B	9.9
39 - 54	415SMTP25B●	7.1
	415SMTP15B●	7.1
55 - 80	407SMTP25B●	6.7
	407SMTP15B●	6.7
81 - 87	407SMTP15B●	6.7
88 - 89	407SMTP15B●	6.7
	315SMTP09●	14.3

Output RPM	Reducer Size	Minimum Sheave P.D.
100 HP MOTOR (Cont'd)		
90 - 95	407SMTP15B●	6.7
	315SMTP09●	14.3
	415SMTP05B	40.5
96 - 106	315SMTP15●	6.4
	315SMTP09●	14.3
	415SMTP05B	40.5
107 - 117	315SMTP15●	6.4
	315SMTP09●	14.3
	407SMTP05B	32.7
118 - 130	315SMTP15●	6.4
	315SMTP09●	14.3
	407SMTP05B	30.4
131 - 155	315SMTP09●	14.3
	407SMTP05B	30.4
156 - 186	307SMTP09▲	9.6
	407SMTP05B	30.4
187 - 200	307SMTP09▲	9.6
	315SMTP05	19.6
201 - 280	315SMTP05	19.6
281 - 400	307SMTP05●	8.4
125 HP MOTOR		
5 - 12	◆	
13 - 20	800SMTP25	12.0
21 - 31	608SMTP25B●	8.3
	608SMTP15B	17.3
32 - 51	507SMTP25B●	7.9
	507SMTP15B	11.7
52 - 74	415SMTP25B●	7.1
	415SMTP15B●	7.1
75 - 80	407SMTP25B●	6.7
	407SMTP15B●	6.7
81 - 121	407SMTP15B●	6.7
	415SMTP05B	40.5
122 - 130	407SMTP15B●	6.7
	315SMTP09▲	14.0
	415SMTP05B	40.5
131 - 146	315SMTP09▲	14.0
	415SMTP05B	40.5
147 - 200	315SMTP09▲	14.0
	407SMTP05B	29.9
201 - 256	407SMTP05B	29.9
257 - 394	315SMTP05●	19.2
395 - 400	307SMTP05●	8.2
150 HP MOTOR		
5 - 15	◆	
16 - 24	800SMTP25	12.0
25 - 40	608SMTP25B●	10.5
	608SMTP15B	23.4
41 - 67	507SMTP25B●	7.9
	507SMTP15B	11.9
68 - 80	415SMTP25B▲	7.1
	415SMTP15B●	7.1
81 - 111	415SMTP15B●	7.1
112 - 130	415SMTP15B●	7.1
	415SMTP05B	41.3
131 - 159	415SMTP05B	41.3
160 - 190	315SMTP09▲	13.6
	415SMTP05B	41.3
191 - 200	315SMTP09▲	13.6
	407SMTP05B●	29.4
201 - 334	407SMTP05B●	29.4
335 - 400	315SMTP05●	19.0

Output RPM	Reducer Size	Minimum Sheave P.D.
200 HP MOTOR		
5 - 20	◆	
21 - 35	800SMTP25●	12.0
36 - 61	608SMTP25B●	11.5
	608SMTP15B●	20.9
62 - 80	507SMTP25B▲	11.5
	507SMTP15B●	11.9
81 - 101	507SMTP15B●	11.9
102 - 130	415SMTP15B▲	7.1
131 - 168	◆	
169 - 317	415SMTP05B●	40.4
318 - 400	407SMTP05B●	28.5
250 HP MOTOR		
5 - 26	◆	
27 - 50	800SMTP25●	12.0
51 - 80	608SMTP25B▲	10.5
	608SMTP15B▲	19.1
81 - 84	608SMTP15B▲	19.1
85 - 130	507SMTP15B▲	11.9
131 - 232	◆	
233 - 400	415SMTP05B●	39.9
300 HP MOTOR		
5 - 32	◆	
33 - 66	800SMTP25▲	12.0
67 - 80	608SMTP25B▲	10.4
	608SMTP15B▲	17.9
81 - 110	608SMTP15B▲	17.9
111 - 130	507SMTP15B▲	11.8
131 - 302	◆	
303 - 400	415SMTP05B▲	39.4
350 HP MOTOR		
5 -38	◆	
39 - 80	800SMTP25▲	12.0
81 - 84	◆	
85 - 130	608SMTP15B▲	16.8
131 - 378	◆	
379 - 400	415SMTP05B▲	39.0
400 HP MOTOR		
5 - 44	◆	
45 - 80	800SMTP25▲	12.0
81 - 104	◆	
105 - 130	608SMTP15B▲	15.8
131 - 400	◆	
450 HP MOTOR		
5 - 50	◆	
51 - 80	800SMTP25▲	12.0
81 - 125	◆	
126 - 130	608SMTP15B▲	15.1
131 - 400	◆	
500 HP MOTOR		
5 - 56	◆	
57 - 80	800SMTP25▲	12.0
81 - 400	◆	
600 HP MOTOR		
5 - 68	◆	
69 - 80	800SMTP25▲	12.0
81-400	◆	
700 HP MOTOR		
5 - 400	◆	

Notes:
- ● Requires fan kit.
- ▲ Requires pump and cooler kit.
- ◆ Contact Application Engineering (1 800 626 2093) for the selection of an enclosed gear drive.

Class II Service (1.4 S.F.)

Output RPM	Reducer Size	Minimum Sheave P.D.
1/4 HP MOTOR		
5 - 50	107SMTP35	2.3
	107SMTP25	2.2
	107SMTP15	2.2
	107SMTP09	3.2
51 - 80	107SMTP25	2.3
	107SMTP15	2.3
	107SMTP09	3.2
81 - 89	107SMTP15	2.3
	107SMTP09	3.2
90 - 130	107SMTP15	2.3
	107SMTP09	3.2
	107SMTP05	2.8
131 - 200	107SMTP09	3.2
	107SMTP05	2.8
201 - 400	107SMTP05	2.7
1/3 HP MOTOR		
5 - 50	107SMTP35	2.3
	107SMTP25	2.3
	107SMTP15	2.3
	107SMTP09	3.2
51 - 80	107SMTP25	2.3
	107SMTP15	2.3
	107SMTP09	3.2
81 - 89	107SMTP15	2.3
	107SMTP09	3.2
90 - 130	107SMTP15	2.3
	107SMTP09	3.2
	107SMTP05	2.8
131 - 200	107SMTP09	3.2
	107SMTP05	2.8
201 - 400	107SMTP05	2.8
1/2 HP MOTOR		
5 - 6	115SMTP35	3.4
	115SMTP25	3.4
	115SMTP15	3.4
	115SMTP09	3.4
7 - 50	107SMTP35	2.3
	107SMTP25	2.3
	107SMTP15	2.3
	107SMTP09	3.4
51 - 80	107SMTP25	2.3
	107SMTP15	2.3
	107SMTP09	3.4
81 - 89	107SMTP15	2.3
	107SMTP09	3.4
90 - 130	107SMTP15	2.3
	107SMTP09	3.4
	107SMTP05	2.8
131 - 200	107SMTP09	3.4
	107SMTP05	2.8
201 - 400	107SMTP05	2.8
3/4 HP MOTOR		
5 - 7	203SMTP35	3.8
	203SMTP25	3.8
	203SMTP15	3.8
	203SMTP09	3.8

Output RPM	Reducer Size	Minimum Sheave P.D.
3/4 HP MOTOR (Cont'd)		
8 - 10	115SMTP35	3.4
	115SMTP25	3.4
	115SMTP15	3.4
	115SMTP09	3.4
11 - 50	107SMTP35	2.2
	107SMTP25	2.2
	107SMTP15	2.3
	107SMTP09	3.2
51 - 80	107SMTP25	2.2
	107SMTP15	2.3
	107SMTP09	3.2
81 - 89	107SMTP15	2.3
	107SMTP09	3.2
90 - 130	107SMTP15	2.3
	107SMTP09	3.2
	107SMTP05	2.8
131 - 200	107SMTP09	3.2
	107SMTP05	2.8
201 - 400	107SMTP05	2.8
1 HP MOTOR		
5	207SMTP35	4.3
	207SMTP25	4.3
	207SMTP15	4.3
	207SMTP09	4.3
6 - 10	203SMTP35	3.7
	203SMTP25	3.7
	203SMTP15	3.7
	203SMTP09	3.7
11 - 13	115SMTP35	3.4
	115SMTP25	3.4
	115SMTP15	3.4
	115SMTP09	3.4
14 - 50	107SMTP35	2.3
	107SMTP25	2.3
	107SMTP15	2.3
	107SMTP09	3.4
51 - 80	107SMTP25	2.3
	107SMTP15	2.3
	107SMTP09	3.4
81 - 89	107SMTP15	2.3
	107SMTP09	3.4
90 - 130	107SMTP15	2.3
	107SMTP09	3.4
	107SMTP05	2.8
131 - 200	107SMTP09	3.4
	107SMTP05	2.8
201 - 400	107SMTP05	2.8
1 1/2 HP MOTOR		
5	215SMTP35	5.6
	215SMTP25	5.6
	215SMTP15	5.6
	215SMTP09	5.6
6 - 8	207SMTP35	4.3
	207SMTP25	4.3
	207SMTP15	4.3
	207SMTP09	4.3

Output RPM	Reducer Size	Minimum Sheave P.D.
1 1/2 HP MOTOR (Cont'd)		
9 - 15	203SMTP35	3.8
	203SMTP25	3.8
	203SMTP15	3.8
	203SMTP09	3.8
16 - 21	115SMTP35	3.4
	115SMTP25	3.4
	115SMTP15	3.4
	115SMTP09	3.4
22 - 50	107SMTP35	2.3
	107SMTP25	2.3
	107SMTP15	2.3
	107SMTP09	3.2
51 - 80	107SMTP25	2.3
	107SMTP15	2.3
	107SMTP09	3.2
81 - 89	107SMTP15	2.3
	107SMTP09	3.2
90 - 130	107SMTP15	2.3
	107SMTP09	3.2
	107SMTP05	2.8
131 - 200	107SMTP09	3.2
	107SMTP05	2.8
201 - 400	107SMTP05	2.8
2 HP MOTOR		
5 - 7	215SMTP35	5.6
	215SMTP25	5.6
	215SMTP15	5.6
	215SMTP09	5.6
8 - 11	207SMTP35	4.3
	207SMTP25	4.3
	207SMTP15	4.3
	207SMTP09	4.3
12-20	203SMTP35	3.8
	203SMTP25	3.8
	203SMTP15	3.8
	203SMTP09	3.8
21-28	115SMTP35	3.4
	115SMTP25	3.4
	115SMTP15	3.4
	115SMTP09	3.4
29-50	107SMTP35	2.3
	107SMTP25	2.3
	107SMTP15	2.3
	107SMTP09	3.3
51-80	107SMTP25	2.3
	107SMTP15	2.3
	107SMTP09	3.3
81-89	107SMTP15	2.3
	107SMTP09	3.3
90-130	107SMTP15	2.3
	107SMTP09	3.3
	107SMTP05	2.8
131-200	107SMTP09	3.3
	107SMTP05	2.8
201-400	107SMTP05	2.8

Browning®

SMTP/SMFP Selection Chart

TAPER-LOCK® Plus

Class II Service (1.4 S.F.)

Output RPM	Reducer Size	Minimum Sheave P.D.
3 HP MOTOR		
5-6	307SMTP35	6.0
	307SMTP25	6.0
	307SMTP15	6.0
	307SMTP09	6.0
7-11	215SMTP35	5.6
	215SMTP25	5.6
	215SMTP15	5.6
	215SMTP09	5.6
12-18	207SMTP35	4.3
	207SMTP25	4.3
	207SMTP15	4.3
	207SMTP09	4.3
19-31	203SMTP35	3.8
	203SMTP25	3.8
	203SMTP15	3.8
	203SMTP09	3.8
32-44	115SMTP35	3.4
	115SMTP25	3.4
	115SMTP15	3.4
	115SMTP09	3.4
45-50	107SMTP35	2.3
	107SMTP25	2.3
	107SMTP15	2.3
	107SMTP09	3.2
51-80	107SMTP25	2.3
	107SMTP15	2.3
	107SMTP09	3.2
81-89	107SMTP15	2.3
	107SMTP09	3.2
90-130	107SMTP15	2.3
	107SMTP09	3.2
	107SMTP05	2.8
131-200	107SMTP09	3.2
	107SMTP05	2.8
201-400	107SMTP05	2.8
5 HP MOTOR		
5 - 6	315SMTP35	6.4
	315SMTP25	6.4
	315SMTP15	6.4
	315SMTP09	6.4
7 - 11	307SMTP35	6.0
	307SMTP25	6.0
	307SMTP15	6.0
	307SMTP09	6.0
12 - 19	215SMTP35	5.6
	215SMTP25	5.6
	215SMTP15	5.6
	215SMTP09	5.6
20 - 30	207SMTP35	4.3
	207SMTP25	4.3
	207SMTP15	4.3
	207SMTP09	4.3
31 - 50	203SMTP35	3.8
	203SMTP25	3.8
	203SMTP15	3.8
	203SMTP09	3.8
51 - 54	203SMTP25	3.8
	203SMTP15	3.8
	203SMTP09	3.8

Output RPM	Reducer Size	Minimum Sheave P.D.
5 HP MOTOR (Cont'd)		
55 - 77	115SMTP25	3.4
	115SMTP15	3.4
	115SMTP09	3.4
78 - 80	107SMTP25	2.3
	107SMTP15	2.3
	107SMTP09	3.0
81 - 89	107SMTP15	2.3
	107SMTP09	3.0
90 - 130	107SMTP15	2.3
	107SMTP09	3.0
	115SMTP05	4.9
131 - 144	107SMTP09	3.0
	115SMTP05	4.9
145 - 200	107SMTP09	3.0
	107SMTP05	2.8
201 - 400	107SMTP05	2.8
7 1/2 HP MOTOR		
5 - 7	407SMTP25B	6.4
	407SMTP15B	6.4
8 - 9	315SMTP35	6.4
	315SMTP25	6.4
	315SMTP15	6.4
	315SMTP09	6.4
10 - 17	307SMTP35	6.0
	307SMTP25	6.0
	307SMTP15	6.0
	307SMTP09	6.0
18 - 29	215SMTP35	5.6
	215SMTP25	5.6
	215SMTP15	5.6
	215SMTP09	5.6
30 - 46	207SMTP35	4.3
	207SMTP25	4.3
	207SMTP15	4.3
	207SMTP09	4.3
47 - 50	203SMTP35	3.8
	203SMTP25	3.8
	203SMTP15	3.8
	203SMTP09	3.8
51 - 80	203SMTP25	3.8
	203SMTP15	3.8
	203SMTP09	3.8
81 - 82	203SMTP15	3.8
	203SMTP09	3.8
83 - 89	115SMTP15	3.4
	115SMTP09	3.4
90 - 96	115SMTP15	3.4
	115SMTP09	3.4
	203SMTP05	4.2
97 - 119	115SMTP15	3.4
	115SMTP09	3.4
	115SMTP05	7.0
120 - 130	107SMTP15	2.3
	107SMTP09	3.0
	115SMTP05	7.0
131 - 200	107SMTP09	3.0
	115SMTP05	7.0

Output RPM	Reducer Size	Minimum Sheave P.D.
7 1/2 HP MOTOR (Cont'd)		
201 - 261	115SMTP05	7.0
262 - 400	107SMTP05	2.4
10 HP MOTOR		
5 - 6	415SMTP25B	7.1
	415SMTP15B	7.1
7 - 10	407SMTP25B	6.4
	407SMTP15B	6.4
11 - 13	315SMTP35	6.4
	315SMTP25	6.4
	315SMTP15	6.4
	315SMTP09	6.4
14 - 23	307SMTP35	6.0
	307SMTP25	6.0
	307SMTP15	6.0
	307SMTP09	6.0
24 - 39	215SMTP35	5.6
	215SMTP25	5.6
	215SMTP15	5.6
	215SMTP09	5.6
40 - 50	207SMTP35	4.3
	207SMTP25	4.3
	207SMTP15	4.3
	207SMTP09	4.3
51 - 71	207SMTP25	4.3
	207SMTP15	4.3
	207SMTP09	4.3
72 - 80	203SMTP25	3.8
	203SMTP15	3.8
	203SMTP09	3.8
81 - 89	203SMTP15	3.8
	203SMTP09	3.8
90 - 111	203SMTP15	3.8
	203SMTP09	3.8
	203SMTP05	4.2
112 - 130	115SMTP15	3.4
	115SMTP09	3.4
	203SMTP05	4.2
131 - 145	115SMTP09	3.4
	203SMTP05	4.2
146 - 175	115SMTP09	3.4
	115SMTP05	6.9
176 - 200	107SMTP09	2.7
	115SMTP05	6.9
201 - 400	115SMTP05	6.9
15 HP MOTOR		
5 - 7	507SMTP25B	7.9
	507SMTP15B	7.9
8 - 10	415SMTP25B	7.1
	415SMTP15B	7.1
11 - 15	407SMTP25B	6.4
	407SMTP15B	6.4
16 - 20	315SMTP35	6.4
	315SMTP25	6.4
	315SMTP15	6.4
	315SMTP09	6.4
21 - 36	307SMTP35	6.0
	307SMTP25	6.0
	307SMTP15	6.0
	307SMTP09	6.0

SMTP/SMFP Selection Chart

Class II Service (1.4 S.F.)

Output RPM	Reducer Size	Minimum Sheave P.D.
15 HP MOTOR (Cont'd)		
37 - 50	215SMTP35	5.6
	215SMTP25	5.6
	215SMTP15	5.6
	215SMTP09	5.6
51 - 66	215SMTP25	5.6
	215SMTP15	5.6
	215SMTP09	5.6
67 - 80	207SMTP25	4.3
	207SMTP15	4.3
	207SMTP09	4.3
81 - 89	207SMTP15	4.3
	207SMTP09	4.3
90 - 97	207SMTP15	4.3
	207SMTP09	4.3
	215SMTP05	5.6
98 - 122	207SMTP15	4.3
	207SMTP09	4.3
	207SMTP05	6.9
123 - 130	203SMTP15	3.8
	203SMTP09	3.8
	203SMTP05	4.9
131 - 181	203SMTP09	3.8
	203SMTP05	4.9
182 - 200	115SMTP09	3.4
	203SMTP05	4.9
201 - 261	203SMTP05	4.9
262 - 400	115SMTP05	6.7
20 HP MOTOR		
5 - 6	608SMTP25B	8.1
	608SMTP15B	8.1
7 - 9	507SMTP25B	7.9
	507SMTP15B	7.9
10 - 13	415SMTP25B	7.1
	415SMTP15B	7.1
14 - 21	407SMTP25B	6.4
	407SMTP15B	6.4
22 - 27	315SMTP35	6.4
	315SMTP25	6.4
	315SMTP15	6.4
	315SMTP09	6.4
28 - 50	307SMTP35	6.0
	307SMTP25	6.0
	307SMTP15	6.0
	307SMTP09	6.0
51 - 80	215SMTP25	5.6
	215SMTP15	5.6
	215SMTP09	5.6
81 - 89	215SMTP15	5.6
	215SMTP09	5.6
90 - 96	215SMTP15	5.6
	215SMTP09	5.6
	215SMTP05	5.6
97 - 130	207SMTP15	4.3
	207SMTP09	4.3
	215SMTP05	5.6
131 - 147	207SMTP09	4.3
	215SMTP05	5.6
148 - 189	207SMTP09	4.3
	207SMTP05	6.8

Output RPM	Reducer Size	Minimum Sheave P.D.
20 HP MOTOR (Cont'd)		
190 - 200	203SMTP09	3.8
	203SMTP05	4.8
201 - 396	203SMTP05	4.8
397 - 400	115SMTP05	6.5
25 HP MOTOR		
5	◆	
6 - 7	608SMTP25B	8.1
	608SMTP15B	8.1
8 - 12	507SMTP25B	7.9
	507SMTP15B	7.9
13 - 17	415SMTP25B	7.1
	415SMTP15B	7.1
18 - 27	407SMTP25B	6.4
	407SMTP15B	6.4
28 - 35	315SMTP35	6.4
	315SMTP25	6.4
	315SMTP15	6.4
	315SMTP09	6.4
36 - 50	307SMTP35	6.0
	307SMTP25	6.0
	307SMTP15	6.0
	307SMTP09	6.0
51 - 62	307SMTP25	6.0
	307SMTP15	6.0
	307SMTP09	6.0
63 - 80	215SMTP25	5.6
	215SMTP15	5.6
	215SMTP09	5.6
81 - 89	215SMTP15	5.6
	215SMTP09	5.6
90 - 107	215SMTP15	5.6
	215SMTP09	5.6
	307SMTP05	6.0
108 - 130	215SMTP15	5.6
	215SMTP09	5.6
	215SMTP05	5.6
131 - 200	207SMTP09	4.3
	215SMTP05	5.6
201 - 269	207SMTP05	6.7
270 - 400	203SMTP05	4.7
30 HP MOTOR		
5 - 6	800SMTP25	12.0
7 - 9	608SMTP25B	8.1
	608SMTP15B	8.2
10 - 15	507SMTP25B	7.9
	507SMTP15B	7.9
16 - 21	415SMTP25B	7.1
	415SMTP15B	7.1
22 - 33	407SMTP25B	6.4
	407SMTP15B	6.4
34 - 45	315SMTP35	6.4
	315SMTP25	6.4
	315SMTP15	6.4
	315SMTP09	6.4
46 - 50	307SMTP35	6.0
	307SMTP25	6.0
	307SMTP15	6.0
	307SMTP09	6.0

Output RPM	Reducer Size	Minimum Sheave P.D.
30 HP MOTOR (Cont'd)		
51 - 80	307SMTP25	6.0
	307SMTP15	6.0
	307SMTP09	6.0
81 - 89	307SMTP15	6.0
	215SMTP09	5.6
90 - 130	215SMTP15	5.6
	215SMTP09	5.6
	307SMTP05	6.0
131 - 140	215SMTP09	5.6
	307SMTP05	6.0
141 - 167	215SMTP09	5.6
	215SMTP05	5.6
168 - 200	207SMTP09	4.3
	215SMTP05	5.6
201 - 264	215SMTP05	5.6
265 - 351	207SMTP05	6.6
352 - 400	203SMTP05	4.6
40 HP MOTOR		
5	◆	
6- 8	800SMTP25	12.0
9 - 13	608SMTP25B	8.1
	608SMTP15B	8.5
14 - 20	507SMTP25B	7.9
	507SMTP15B	7.9
21 - 29	415SMTP25B	7.1
	415SMTP15B	7.1
30 - 45	407SMTP25B	6.4
	407SMTP15B	6.4
46 - 50	315SMTP35	6.4
	315SMTP25	6.4
	315SMTP15	6.4
	315SMTP09	6.7
51 - 70	315SMTP25	6.4
	315SMTP15	6.4
	315SMTP09	6.7
71 - 80	307SMTP25●	6.0
	307SMTP15	6.0
	307SMTP09	6.0
81 - 89	307SMTP15	6.0
	307SMTP09	6.0
90 - 117	307SMTP15	6.0
	307SMTP09	6.0
	315SMTP05	13.5
118 - 122	307SMTP15	6.0
	307SMTP09	6.0
	307SMTP05	6.4
123 - 130	215SMTP15	5.6
	215SMTP09	5.6
	307SMTP05	6.4
131 - 200	215SMTP09	5.6
	307SMTP05	6.4
201 - 216	307SMTP05	6.4
217 - 400	215SMTP05	5.6
50 HP MOTOR		
5 - 6	◆	
7 - 10	800SMTP25	12.0
11 - 16	608SMTP25B	8.1
	608SMTP15B	8.6
17 - 26	507SMTP25B	7.9
	507SMTP15B	7.9

Notes:
- ● Requires fan kit.
- ▲ Requires pump and cooler kit.
- ◆ Contact Application Engineering (1 800 626 2093) for the selection of an enclosed gear drive.

Browning®

SMTP/SMFP Selection Chart

TAPER-LOCK® Plus

Class II Service (1.4 S.F.)

Output RPM	Reducer Size	Minimum Sheave P.D.
50 HP MOTOR (Cont'd)		
27 - 37	415SMTP25B	7.1
	415SMTP15B	7.1
38 - 57	407SMTP25B●	6.4
	407SMTP15B	6.4
58 - 80	315SMTP25●	6.4
	315SMTP15	6.4
	315SMTP09	8.0
81 - 89	315SMTP15	6.4
	315SMTP09	8.0
90 - 111	307SMTP15●	6.0
	307SMTP09●	7.2
	307SMTP05	18.7
112 - 130	307SMTP15●	6.0
	307SMTP09●	7.2
	315SMTP05	14.4
131 - 163	307SMTP09●	7.2
	315SMTP05	14.3
164 - 169	307SMTP09●	7.2
	307SMTP05	6.3
170 - 200	215SMTP09	5.6
	307SMTP05	6.3
201 - 304	307SMTP05	6.3
305 - 400	215SMTP05	5.6
60 HP MOTOR		
5 - 8	◆	
9 - 13	800SMTP25	12.0
14 - 20	608SMTP25B	8.1
	608SMTP15B	8.2
21 - 32	507SMTP25B	7.9
	507SMTP15B	7.9
33 - 44	415SMTP25B	7.1
	415SMTP15B	7.1
45 - 70	407SMTP25B●	6.4
	407SMTP15B●	6.4
71 - 80	315SMTP25●	6.4
	315SMTP15●	6.4
	315SMTP09●	9.6
81 - 89	315SMTP15●	6.4
	315SMTP09●	9.6
90 - 120	315SMTP15●	6.4
	315SMTP09●	9.6
	407SMTP05B	22.0
121 - 130	307SMTP15●	6.0
	307SMTP09●	7.0
	407SMTP05B	22.0
131 - 144	307SMTP09●	7.0
	407SMTP05B	22.0
145 - 200	307SMTP09●	7.0
	315SMTP05	14.2
201 - 215	315SMTP05	14.2
216 - 400	307SMTP05	6.1
75 HP MOTOR		
5 - 10	◆	
11 - 16	800SMTP25	12.0
17 - 26	608SMTP25B	8.1
	608SMTP15B	9.6
27 - 41	507SMTP25B	7.9
	507SMTP15B	7.9

Output RPM	Reducer Size	Minimum Sheave P.D.
75 HP MOTOR (Cont'd)		
42 - 58	415SMTP25B●	7.1
	415SMTP15B	7.1
59 - 80	407SMTP25B●	6.4
	407SMTP15B●	6.4
81 - 89	407SMTP15B●	6.4
90 - 94	407SMTP15B●	6.4
	415SMTP05B	24.3
95 - 102	407SMTP15B●	6.4
	315SMTP09●	10.1
	415SMTP05B	24.3
103 - 125	315SMTP15●	6.4
	315SMTP09●	10.1
	415SMTP05B	24.3
126 - 130	315SMTP15●	6.4
	315SMTP09●	10.1
	407SMTP05B	21.8
131 - 166	315SMTP09●	10.1
	407SMTP05B	21.8
167 - 200	307SMTP09●	6.8
	407SMTP05B	21.8
201 - 301	315SMTP05	13.9
302 - 400	307SMTP05	6.0
100 HP MOTOR		
5 - 14	◆	
15 - 22	800SMTP25	12.0
23 - 37	608SMTP25B	8.1
	608SMTP15B	14.6
38 - 61	507SMTP25B●	7.9
	507SMTP15B	8.4
62 - 80	415SMTP25B●	7.1
	415SMTP15B●	7.1
81 - 89	415SMTP15B●	7.1
90 - 130	407SMTP15B●	6.4
	415SMTP05B	29.6
131 - 143	415SMTP05B	29.6
144 - 172	315SMTP09●	9.8
	415SMTP05B	29.6
173 - 190	315SMTP09●	9.8
	407SMTP05B●	21.1
191 - 200	315SMTP09●	9.8
	407SMTP05B●	21.1
201 - 302	407SMTP05B●	21.1
303 - 400	315SMTP05	13.7
125 HP MOTOR		
5 - 18	◆	
19 - 29	800SMTP25	12.0
30 - 50	608SMTP25B●	9.8
	608SMTP15B	15.0
51 - 80	507SMTP25B●	7.9
	507SMTP15B	8.5
81 - 121	415SMTP15B●	7.1
122-130	407SMTP15B●	6.4
139 - 199	415SMTP05B	29.3
200 - 236	◆	
237 - 400	407SMTP05B●	20.7
150 HP MOTOR		
5 - 22	◆	
23 - 30	800SMTP25	12.0
39 - 66	608SMTP25B●	8.1
	608SMTP15B	14.7

Output RPM	Reducer Size	Minimum Sheave P.D.
150 HP MOTOR (Cont'd)		
67 - 80	507SMTP25B●	7.9
	507SMTP15B	8.4
81 - 108	507SMTP15B	8.4
109 - 130	415SMTP15B●	7.1
131 - 180	◆	
181 - 340	415SMTP05B●	28.9
341 - 400	407SMTP05B●	20.3
200 HP MOTOR		
5 - 30	◆	
31 - 59	800SMTP25	12.0
60 - 80	608SMTP25B●	8.1
	608SMTP15B●	13.2
81 - 99	608SMTP15B●	13.2
100 - 130	507SMTP15B●	8.5
131 - 273	◆	
274 - 400	415SMTP05B●	28.3
250 HP MOTOR		
5 - 38	◆	
39 - 80	800SMTP25●	12.0
81 - 84	◆	
85 - 130	608SMTP15B●	12.0
131 - 378	◆	
379 - 400	415SMTP05B▲	27.9
300 HP MOTOR		
5 - 46	◆	
47 - 80	800SMTP25▲	12.0
81 - 112	◆	
113 - 130	608SMTP15B▲	11.1
131 - 400	◆	
350 HP MOTOR		
5 - 55	◆	
56 - 80	800SMTP25▲	12.0
81 - 400	◆	
400 HP MOTOR		
5 - 63	◆	
64 - 80	800SMTP25▲	12.0
81 - 400	◆	
450 HP MOTOR		
5 - 72	◆	
73 - 80	800SMTP25▲	12.0
81 - 400	◆	
500 HP MOTOR		
5 - 400	◆	

Notes:
- ● Requires fan kit.
- ▲ Requires pump and cooler kit.
- ◆ Contact Application Engineering (1 800 626 2093) for the selection of an enclosed gear drive.

SMTP/SMFP Selection Chart

Class III Service (2.0 S.F.)

Output RPM	Reducer Size	Minimum Sheave P.D.
1/4 HP MOTOR		
5 - 50	107SMTP35	2.3
	107SMTP25	2.3
	107SMTP15	2.3
	107SMTP09	2.4
51 - 80	107SMTP25	2.3
	107SMTP15	2.3
	107SMTP09	2.4
81 - 89	107SMTP15	2.3
	107SMTP09	2.4
90 - 130	107SMTP15	2.3
	107SMTP09	2.4
	107SMTP05	2.3
131 - 200	107SMTP09	2.4
	107SMTP05	2.3
201 - 400	107SMTP05	2.3
1/3 HP MOTOR		
5 - 6	115SMTP35	3.4
	115SMTP25	3.4
	115SMTP15	3.4
	115SMTP09	3.4
7 - 50	107SMTP35	2.3
	107SMTP25	2.3
	107SMTP15	2.3
	107SMTP09	2.3
51 - 80	107SMTP25	2.3
	107SMTP15	2.3
	107SMTP09	2.3
81 - 89	107SMTP15	2.3
	107SMTP09	2.3
90 - 130	107SMTP15	2.3
	107SMTP09	2.3
	107SMTP05	2.3
131 - 200	107SMTP09	2.3
	107SMTP05	2.3
201 - 400	107SMTP05	2.3
1/2 HP MOTOR		
5 - 6	203SMTP35	3.8
	203SMTP25	3.8
	203SMTP15	3.8
	203SMTP09	3.8
7 - 9	115SMTP35	3.4
	115SMTP25	3.4
	115SMTP15	3.4
	115SMTP09	3.4
10 - 50	107SMTP35	2.3
	107SMTP25	2.3
	107SMTP15	2.3
	107SMTP09	2.4
51 - 80	107SMTP25	2.3
	107SMTP15	2.3
	107SMTP09	2.4
81 - 89	107SMTP15	2.3
	107SMTP09	2.4
90 - 130	107SMTP15	2.3
	107SMTP09	2.4
	107SMTP05	2.3
131 - 200	107SMTP09	2.4
	107SMTP05	2.3
201 - 400	107SMTP05	2.3

Output RPM	Reducer Size	Minimum Sheave P.D.
3/4 HP MOTOR		
5	207SMTP35	4.3
	207SMTP25	4.3
	207SMTP15	4.3
	207SMTP09	4.3
6 - 10	203SMTP35	3.8
	203SMTP25	3.8
	203SMTP15	3.8
	203SMTP09	3.8
11 - 14	115SMTP35	3.4
	115SMTP25	3.4
	115SMTP15	3.4
	115SMTP09	3.4
15 - 50	107SMTP35	2.3
	107SMTP25	2.3
	107SMTP15	2.3
	107SMTP09	2.4
51 - 80	107SMTP25	2.3
	107SMTP15	2.3
	107SMTP09	2.4
81 - 89	107SMTP15	2.3
	107SMTP09	2.4
90 - 130	107SMTP15	2.3
	107SMTP09	2.4
	107SMTP05	2.3
131 - 200	107SMTP09	2.4
	107SMTP05	2.3
201 - 400	107SMTP05	2.3
1 HP MOTOR		
5 - 8	207SMTP35	4.3
	207SMTP25	4.3
	207SMTP15	4.3
	207SMTP09	4.3
9 - 14	203SMTP35	3.8
	203SMTP25	3.8
	203SMTP15	3.8
	203SMTP09	3.8
15 - 20	115SMTP35	3.4
	115SMTP25	3.4
	115SMTP15	3.4
	115SMTP09	3.4
21 - 50	107SMTP35	2.3
	107SMTP25	2.3
	107SMTP15	2.3
	107SMTP09	2.3
51 - 80	107SMTP25	2.3
	107SMTP15	2.3
	107SMTP09	2.3
81 - 89	107SMTP15	2.3
	107SMTP09	2.3
90 - 130	107SMTP15	2.3
	107SMTP09	2.3
	107SMTP05	2.3
131 - 200	107SMTP09	2.3
	107SMTP05	2.3
201 - 400	107SMTP05	2.3

Output RPM	Reducer Size	Minimum Sheave P.D.
1 1/2 HP MOTOR		
5 - 7	215SMTP35	5.6
	215SMTP25	5.6
	215SMTP15	5.6
	215SMTP09	5.6
8 - 12	207SMTP35	4.3
	207SMTP25	4.3
	207SMTP15	4.3
	207SMTP09	4.3
13 - 22	203SMTP35	3.8
	203SMTP25	3.8
	203SMTP15	3.8
	203SMTP09	3.8
23 - 31	115SMTP35	3.4
	115SMTP25	3.4
	115SMTP15	3.4
	115SMTP09	3.4
32 - 50	107SMTP35	2.3
	107SMTP25	2.3
	107SMTP15	2.3
	107SMTP09	2.3
51 - 80	107SMTP25	2.3
	107SMTP15	2.3
	107SMTP09	2.3
81 - 89	107SMTP15	2.3
	107SMTP09	2.3
90 - 130	107SMTP15	2.3
	107SMTP09	2.3
	107SMTP05	2.3
131 - 200	107SMTP09	2.3
	107SMTP05	2.3
201 - 400	107SMTP05	2.3
2 HP MOTOR		
5 - 6	307SMTP35	6.0
	307SMTP25	6.0
	307SMTP15	6.0
	307SMTP09	6.0
7 - 10	215SMTP35	5.6
	215SMTP25	5.6
	215SMTP15	5.6
	215SMTP09	5.6
11 - 17	207SMTP35	4.3
	207SMTP25	4.3
	207SMTP15	4.3
	207SMTP09	4.3
18 - 30	203SMTP35	3.8
	203SMTP25	3.8
	203SMTP15	3.8
	203SMTP09	3.8
31 - 42	115SMTP35	3.4
	115SMTP25	3.4
	115SMTP15	3.4
	115SMTP09	3.4
43 - 50	107SMTP35	2.3
	107SMTP25	2.3
	107SMTP15	2.3
	107SMTP09	2.3
51 - 80	107SMTP25	2.3
	107SMTP15	2.3
	107SMTP09	2.3

Browning®

SMTP/SMFP Selection Chart

TAPER-LOCK® Plus

Class III Service (2.0 S.F.)

Output RPM	Reducer Size	Minimum Sheave P.D.
2 HP MOTOR (Cont'd)		
81 - 89	107SMTP15	2.3
	107SMTP09	2.3
90 - 130	107SMTP15	2.3
	107SMTP09	2.3
	107SMTP05	2.3
131 - 200	107SMTP09	2.3
	107SMTP05	2.3
201 - 400	107SMTP05	2.3
3 HP MOTOR		
5	315SMTP35	6.4
	315SMTP25	6.4
	315SMTP15	6.4
	315SMTP09	6.4
6 - 9	307SMTP35	6.0
	307SMTP25	6.0
	307SMTP15	6.0
	307SMTP09	6.0
10 - 16	215SMTP35	5.6
	215SMTP25	5.6
	215SMTP15	5.6
	215SMTP09	5.6
17 - 26	207SMTP35	4.3
	207SMTP25	4.3
	207SMTP15	4.3
	207SMTP09	4.3
27 - 46	203SMTP35	3.8
	203SMTP25	3.8
	203SMTP15	3.8
	203SMTP09	3.8
47 - 50	115SMTP35	3.4
	115SMTP25	3.4
	115SMTP15	3.4
	115SMTP09	3.4
51 - 65	115SMTP25	3.4
	115SMTP15	3.4
	115SMTP09	3.4
66 - 80	107SMTP25	2.3
	107SMTP15	2.3
	107SMTP09	2.3
81 - 89	107SMTP15	2.3
	107SMTP09	2.3
90 - 115	107SMTP15	2.3
	107SMTP09	2.3
	115SMTP05	4.9
116 - 130	107SMTP15	2.3
	107SMTP09	2.3
	107SMTP05	2.3
131 - 200	107SMTP09	2.3
	107SMTP05	2.3
201 - 400	107SMTP05	2.3
5 HP MOTOR		
5 - 7	407SMTP25B	6.4
	407SMTP15B	6.4
8 - 9	315SMTP35	6.4
	315SMTP25	6.4
	315SMTP15	6.4
	315SMTP09	6.4

Output RPM	Reducer Size	Minimum Sheave P.D.
5 HP MOTOR (Cont'd)		
10 - 16	307SMTP35	6.0
	307SMTP25	6.0
	307SMTP15	6.0
	307SMTP09	6.0
17 - 27	215SMTP35	5.6
	215SMTP25	5.6
	215SMTP15	5.6
	215SMTP09	5.6
28 - 44	207SMTP35	4.3
	207SMTP25	4.3
	207SMTP15	4.3
	207SMTP09	4.3
45 - 50	203SMTP35	3.8
	203SMTP25	3.8
	203SMTP15	3.8
	203SMTP09	3.8
51 - 80	203SMTP25	3.8
	203SMTP15	3.8
	203SMTP09	3.8
81 - 89	115SMTP15	3.4
	115SMTP09	3.4
90 - 113	115SMTP15	3.4
	115SMTP09	3.4
	115SMTP05	4.9
114 - 130	107SMTP15	2.3
	107SMTP09	2.3
	115SMTP05	4.9
131 - 200	107SMTP09	2.3
	115SMTP05	4.9
201 - 244	115SMTP05	4.9
245 - 400	107SMTP05	2.3
7 1/2 HP MOTOR		
5 - 6	415SMTP25B	7.1
	415SMTP15B	7.1
7 - 11	407SMTP25B	6.4
	407SMTP15B	6.4
12 - 14	315SMTP35	6.4
	315SMTP25	6.4
	315SMTP15	6.4
	315SMTP09	6.4
15 - 25	307SMTP35	6.0
	307SMTP25	6.0
	307SMTP15	6.0
	307SMTP09	6.0
26 - 42	215SMTP35	5.6
	215SMTP25	5.6
	215SMTP15	5.6
	215SMTP09	5.6
43 - 50	207SMTP35	4.3
	207SMTP25	4.3
	207SMTP15	4.3
	207SMTP09	4.3
51 - 80	207SMTP25	4.3
	207SMTP15	4.3
	207SMTP09	4.3
81 - 89	203SMTP15	3.8
	203SMTP09	3.8

Output RPM	Reducer Size	Minimum Sheave P.D.
7 1/2 HP MOTOR (Cont'd)		
90 - 120	203SMTP15	3.8
	203SMTP09	3.8
	203SMTP05	3.8
121 - 130	115SMTP15	3.4
	115SMTP09	3.4
	203SMTP05	3.8
131 - 161	115SMTP09	3.4
	203SMTP05	3.8
162 - 194	115SMTP09	3.4
	115SMTP05	4.8
195 - 200	107SMTP09	2.3
	115SMTP05	4.8
201 - 400	115SMTP05	4.8
10 HP MOTOR		
5 - 6	507SMTP25B	7.9
	507SMTP15B	7.9
7 - 9	415SMTP25B	7.1
	415SMTP15B	7.1
10 - 14	407SMTP25B	6.4
	407SMTP15B	6.4
15 - 19	315SMTP35	6.4
	315SMTP25	6.4
	315SMTP15	6.4
	315SMTP09	6.4
20 - 34	307SMTP35	6.0
	307SMTP25	6.0
	307SMTP15	6.0
	307SMTP09	6.0
35 - 50	215SMTP35	5.6
	215SMTP25	5.6
	215SMTP15	5.6
	215SMTP09	5.6
51 - 61	215SMTP25	5.6
	215SMTP15	5.6
	215SMTP09	5.6
61 - 80	207SMTP25	4.3
	207SMTP15	4.3
	207SMTP09	4.3
81 - 89	207SMTP15	4.3
	207SMTP09	4.3
90 - 119	207SMTP15	4.3
	207SMTP09	4.3
	207SMTP05	4.9
120 - 130	203SMTP15	3.8
	203SMTP09	3.8
131 - 168	203SMTP09	3.8
	203SMTP05	3.8
169 - 200	115SMTP09	3.4
	203SMTP05	3.8
201 - 244	203SMTP05	3.8
245 - 400	115SMTP05	4.7
15 HP MOTOR		
5 - 6	608SMTP25B	8.1
	608SMTP15B	8.1
7 - 10	507SMTP25B	7.9
	507SMTP15B	7.9
11 - 15	415SMTP25B	7.1
	415SMTP15B	7.1

SMTP/SMFP Selection Chart

Class III Service (2.0 S.F.)

Output RPM	Reducer Size	Minimum Sheave P.D.
15 HP MOTOR (Cont'd)		
16 - 23	407SMTP25B	6.4
	407SMTP15B	6.4
24 - 30	315SMTP35	6.4
	315SMTP25	6.4
	315SMTP15	6.4
	315SMTP09	6.4
31 - 50	307SMTP35	6.0
	307SMTP25	6.0
	307SMTP15	6.0
	307SMTP09	6.0
51 - 80	215SMTP25	5.6
	215SMTP15	5.6
	215SMTP09	5.6
81 - 89	215SMTP15	5.6
	215SMTP09	5.6
90 - 105	215SMTP15	5.6
	215SMTP09	5.6
	215SMTP05	5.6
106 - 130	207SMTP15	4.3
	207SMTP09	4.3
	215SMTP05	5.6
131 - 162	207SMTP09	4.3
	215SMTP05	5.6
163 - 200	207SMTP09	4.3
	207SMTP05	4.8
201 - 215	207SMTP05	4.8
216 - 400	203SMTP05	3.8
20 HP MOTOR		
5	800SMTP25	12.0
6 - 9	608SMTP25B	8.1
	608SMTP15B	8.1
10 - 14	507SMTP25B	7.9
	507SMTP15B	7.9
15 - 29	415SMTP25B	7.1
	415SMTP15B	7.1
21 - 31	407SMTP25B	6.4
	407SMTP15B	6.4
32 - 43	315SMTP35	6.4
	315SMTP25	6.4
	315SMTP15	6.4
	315SMTP09	6.4
43 - 50	307SMTP35	6.0
	307SMTP25	6.0
	307SMTP15	6.0
	307SMTP09	6.0
51 - 80	307SMTP25	6.0
	307SMTP15	6.0
	307SMTP09	6.0
81 - 89	215SMTP15	5.6
	215SMTP09	5.6
90 - 130	215SMTP15	5.6
	215SMTP09	5.6
	307SMTP05	6.0
131 - 156	215SMTP09	5.6
	215SMTP05	5.6
157 - 200	207SMTP09	4.3
	215SMTP05	5.6
201 - 246	215SMTP05	5.6

Output RPM	Reducer Size	Minimum Sheave P.D.
20 HP MOTOR (Cont'd)		
247 - 327	207SMTP05	4.6
328 - 400	203SMTP05	3.8
25 HP MOTOR		
5 - 7	800SMTP25	12.0
8 - 11	608SMTP25B	8.1
	608SMTP15B	8.1
12 - 18	507SMTP25B	7.9
	507SMTP15B	7.9
19 - 25	415SMTP25B	7.1
	415SMTP15B	7.1
26 - 39	407SMTP25B	6.4
	407SMTP15B	6.4
40 - 50	315SMTP35	6.4
	315SMTP25	6.4
	315SMTP15	6.4
	315SMTP09	6.4
51 - 59	315SMTP25	6.4
	315SMTP15	6.4
	315SMTP09	6.4
60 - 80	307SMTP25	6.0
	307SMTP15	6.0
	307SMTP09	6.0
81 - 89	307SMTP15	6.0
	307SMTP09	6.0
90 - 99	307SMTP15	6.0
	307SMTP09	6.0
	315SMTP05	10.1
100 - 110	307SMTP15	6.0
	307SMTP09	6.0
	307SMTP05	6.0
111 - 130	215SMTP15	5.6
	215SMTP09	5.6
	307SMTP05	6.0
131 - 182	215SMTP09	5.6
	307SMTP05	6.0
183 - 200	215SMTP09	5.6
	215SMTP05	5.6
201 - 340	215SMTP05	5.6
341 - 400	207SMTP05	4.6
30 HP MOTOR		
6 - 9	800SMTP25	12.0
10 - 14	608SMTP25B	8.1
	608SMTP15B	8.1
15 - 22	507SMTP25B	7.9
	507SMTP15B	7.9
23 - 31	415SMTP25B	7.1
	415SMTP15B	7.1
32 - 48	407SMTP25B	6.4
	407SMTP15B	6.4
49 - 50	315SMTP35	6.4
	315SMTP25	6.4
	315SMTP15	6.4
	315SMTP09	6.4
51 - 80	315SMTP25	6.4
	315SMTP15	6.4
	315SMTP09	6.4
81 - 89	307SMTP15	6.0
	307SMTP09	6.0

Output RPM	Reducer Size	Minimum Sheave P.D.
30 HP MOTOR (Cont'd)		
90 - 130	307SMTP15	6.0
	307SMTP09	6.0
	315SMTP05	10.1
131 - 200	215SMTP09	5.6
	307SMTP05	6.0
201 - 240	307SMTP05	6.0
241 - 400	215SMTP05	5.6
40 HP MOTOR		
5 - 7	◆	
8 - 12	800SMTP25	12.0
13 - 19	608SMTP25B	8.1
	608SMTP15B	8.1
20 - 30	507SMTP25B	7.9
	507SMTP15B	7.9
31 - 42	415SMTP25B	7.1
	415SMTP15B	7.1
43 - 69	407SMTP25B	6.4
	407SMTP15B	6.4
70 - 80	315SMTP25	6.4
	315SMTP15	6.4
	315SMTP09	6.4
81 - 89	315SMTP15	6.4
	315SMTP09	6.4
90 - 113	315SMTP15	6.4
	315SMTP09	6.4
	407SMTP05B	14.9
114 - 130	307SMTP15	6.0
	307SMTP09	6.0
	407SMTP05B	14.9
131 - 200	307SMTP09	6.0
	315SMTP05	9.9
201 - 372	307SMTP05	6.0
373 - 400	215SMTP05	5.6
50 HP MOTOR		
5 - 9	◆	
10 - 15	800SMTP25	12.0
16 - 24	608SMTP25B	8.1
	608SMTP15B	8.1
25 - 38	507SMTP25B	7.9
	507SMTP15B	7.9
39 - 54	415SMTP25B	7.1
	415SMTP15B	7.1
55 - 80	407SMTP25B●	6.4
	407SMTP15B	6.4
81 - 89	407SMTP15B	6.4
90 - 95	407SMTP15B	6.4
	315SMTP09	7.1
	415SMTP05B	19.5
96 - 106	315SMTP15	6.4
	315SMTP09	7.2
	415SMTP05B	19.5
107 - 130	315SMTP15	6.4
	315SMTP09	7.2
	407SMTP05B	15.2
131 - 155	315SMTP09	7.2
	407SMTP05B	15.2
156 - 186	307SMTP09●	6.0
	407SMTP05B	15.2

Notes:
● Requires fan kit.
▲ Requires pump and cooler kit.
◆ Contact Application Engineering (1 800 626 2093) for the selection of an enclosed gear drive.

Browning®

SMTP/SMFP Selection Chart

TAPER-LOCK® Plus

Class III Service (2.0 S.F.)

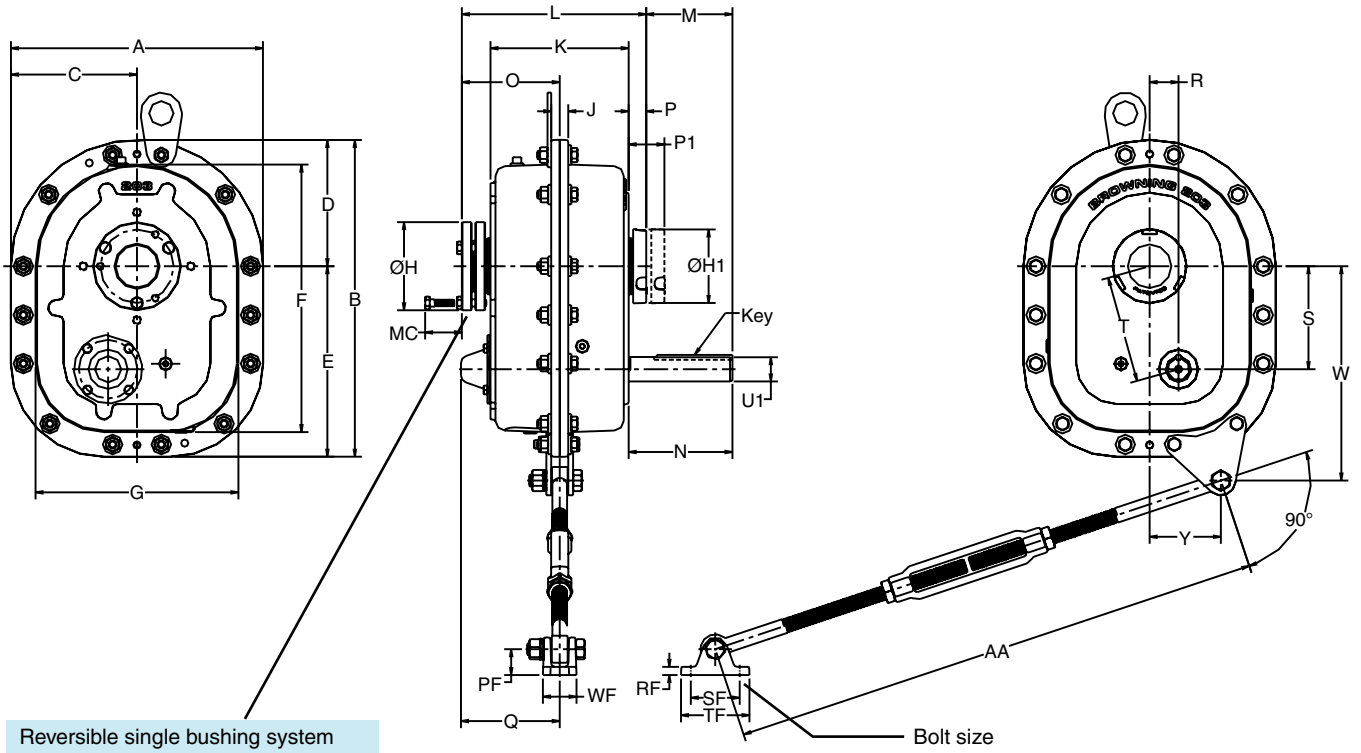
Output RPM	Reducer Size	Minimum Sheave P.D.
50 HP MOTOR (Cont'd)		
187 - 200	307SMTP09●	6.0
	315SMTP05	9.8
201 - 280	315SMTP05	9.8
281 - 400	307SMTP05	6.0
60 HP MOTOR		
5 - 12	◆	
13 - 19	800SMTP25	12.0
20 - 30	608SMTP25B	8.1
	608SMTP15B	8.1
31 - 48	507SMTP25B	7.9
	507SMTP15B	7.9
49 - 70	415SMTP25B	7.1
	415SMTP15B	7.1
71 - 80	407SMTP25B●	6.4
	407SMTP15B●	6.4
81 - 89	407SMTP15B	6.4
90 - 114	407SMTP15B●	6.4
	415SMTP05B	19.5
115 - 123	407SMTP15B●	6.4
	315SMTP09●	7.0
	415SMTP05B	19.5
124 - 130	315SMTP15●	6.4
	315SMTP09●	7.0
	415SMTP05B	19.5
131 - 152	315SMTP09●	7.0
	407SMTP05B	15.0
153 - 200	315SMTP09●	7.0
	407SMTP05B	15.0
201 - 242	407SMTP05B	15.0
243 - 370	315SMTP05	9.7
371 - 400	307SMTP05	6.0
75 HP MOTOR		
5 - 15	◆	
16 - 24	800SMTP25	12.0
25 - 40	608SMTP25B	8.1
	608SMTP15B	11.7
41 - 67	507SMTP25B	7.9
	507SMTP15B	7.9
68 - 80	415SMTP25B●	7.1
	415SMTP15B	7.1
81 - 89	415SMTP15B	7.1
90 - 97	415SMTP15B	7.1
	415SMTP05B	20.7
98-130	407SMTP15B●	6.4
131 - 159	415SMTP05B	20.7
160 - 190	315SMTP09●	6.8
191 - 200	315SMTP09●	6.8
	407SMTP05B	14.7
201 - 334	407SMTP05B	14.7
335 - 400	315SMTP05	9.5
100 HP MOTOR		
5 - 20	◆	
21 - 35	800SMTP25	12.0
36 - 61	608SMTP25B	8.1
	608SMTP15B	10.5
62 - 80	507SMTP25B●	7.9
	507SMTP15B	7.9
81 - 101	507SMTP15B	7.9
102 - 130	415SMTP15B●	7.1

Output RPM	Reducer Size	Minimum Sheave P.D.
100 HP MOTOR (Cont'd)		
131 - 168	◆	
169 - 286	415SMTP05B	20.3
287 - 400	407SMTP05B●	14.2
125 HP MOTOR		
5 - 26	◆	
27 - 50	800SMTP25●	12.0
51 - 80	608SMTP25B●	8.1
	608SMTP15B	9.6
81 - 84	608SMTP15B	9.6
85 - 130	507SMTP15B	7.9
131 - 232	◆	
233 - 400	415SMTP05B●	20.1
150 HP MOTOR		
5 - 32	◆	
33 - 66	800SMTP25●	12.0
67 - 80	608SMTP25B●	8.1
	608SMTP15B	9.0
81 - 110	608SMTP15B	9.0
111 - 130	507SMTP15B	7.9
131 - 302	◆	
303 - 400	415SMTP05B●	19.7
200 HP MOTOR		
5 - 44	◆	
45 - 80	800SMTP25●	12.0
81 - 104	◆	
105 - 130	608SMTP15B●	8.1
131 - 400	◆	
250 HP MOTOR		
5 - 56	◆	
57 - 80	800SMTP25●	12.0
81 - 400	◆	
300 HP MOTOR		
5 - 68	◆	
69 - 80	800SMTP25▲	12.0
81 - 400	◆	
350 HP MOTOR		
5 - 400	◆	



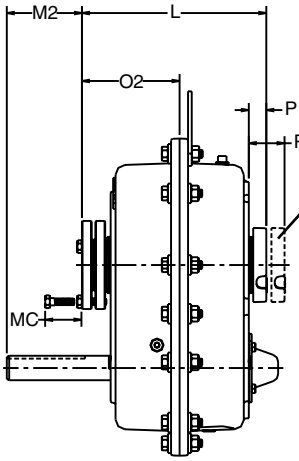
Notes:
- ● Requires fan kit.
- ▲ Requires pump and cooler kit.
- ◆ Contact Application Engineering (1 800 626 2093) for the selection of an enclosed gear drive.

SMTP TorqTaper Plus Unit Sizes 107-315



Reversible single bushing system mounted on the back side.

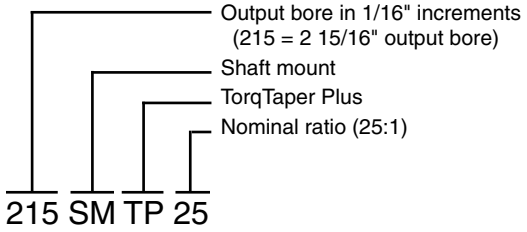




Reversible single bushing system mounted on the front side.



Part Number Explanation



Browning®

Shaft Mount Reducers

TorqTaper Plus

SMTP TorqTaper Plus Unit Sizes 107-315

PART NO. ★	DIMENSIONS IN INCHES									
	A	B	C	D	E	F	G	H	H1	J
107SMTP	9.76	12.07	4.88	4.88	7.19	10.07	7.75	3.25	3	0.63
115SMTP	11	14.08	5.5	5.5	8.58	11.78	8.69	4.13	3.5	0.75
203SMTP	12.88	16.16	6.44	6.44	9.72	13.66	10.38	4.5	3.75	0.87
207SMTP	14.5	18.47	7.25	7.25	11.22	15.73	11.76	4.88	4.25	1.01
215SMTP	16.25	20.88	8.13	8.13	12.76	18.07	13.44	5.31	4.75	1.07
307SMTP	19.04	24.37	9.52	9.52	14.85	21	15.67	6.44	5.69	1.25
315SMTP	19.9	26.35	9.95	9.95	16.4	23.02	16.57	7.13	6.7	1.25

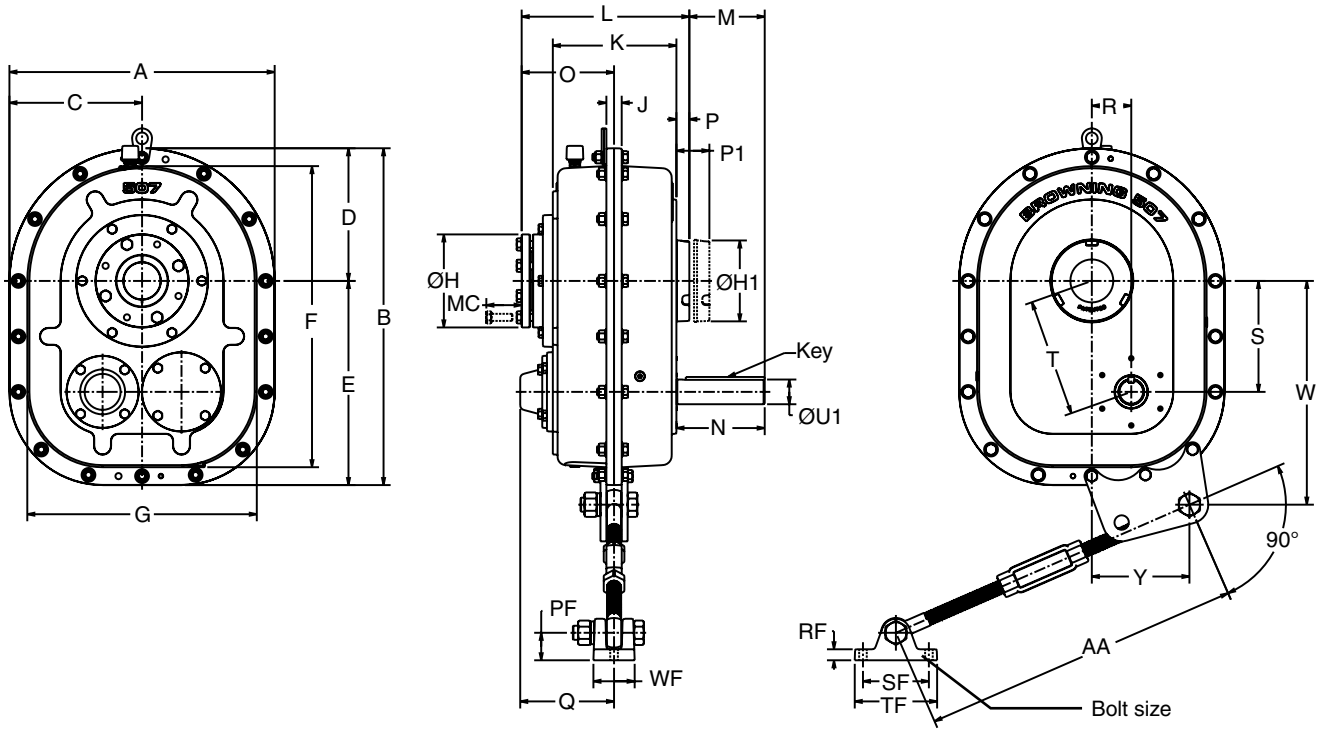
PART NO. ★	DIMENSIONS IN INCHES									
	K	L	M	M2	MC	N	O	O2	P	P1
107SMTP	5.52	7.89	3.18	2.61	1.75	4.08	4.25	4.21	0.9	1.84
115SMTP	5.99	8.36	3.34	2.77	1.88	4.24	4.48	4.45	0.9	1.83
203SMTP	7.07	9.43	4.42	3.84	1.88	5.31	5.01	4.99	0.89	1.83
207SMTP	7.39	9.75	4.23	3.65	1.88	5.12	5.14	5.19	0.89	1.86
215SMTP	8.24	10.85	4.85	4.28	1.88	5.87	5.69	5.74	1.02	1.96
307SMTP	9.27	12.57	6.09	5.47	2.25	7.45	6.58	6.61	1.36	2.75
315SMTP	10.51	14.5	6.59	5.96	2.75	8.32	7.51	7.61	1.73	3.25

PART NO. ★	DIMENSIONS IN INCHES									
	PF	Q	R	RF	S	SF	T	TF	U1	W
107SMTP	1.14	4.24	1.18	0.36	3.77	2.50	3.95	3.38	0.75	7.88
115SMTP	1.14	4.51	1.35	0.36	4.36	2.50	4.56	3.38	1.12	9.14
203SMTP	1.32	5.04	1.48	0.42	5.26	2.50	5.46	3.50	1.25	10.94
207SMTP	1.51	5.57	1.63	0.48	6.08	3.00	6.29	4.25	1.44	12.68
215SMTP	1.51	6.24	2.12	0.48	7.01	3.00	7.32	4.25	1.87	14.19
307SMTP	1.81	6.79	2.25	0.61	7.78	4.00	8.10	5.38	2.00	17.00
315SMTP	2.22	8.05	2.63	0.72	8.53	4.75	8.93	6.50	2.13	18.12

PART NO. ★	DIMENSIONS IN INCHES						MAX. OUTPUT BORE	WT. LBS
	WF	Y	AA		BOLT SIZE	KEY		
			MIN.	MAX.				
107SMTP	1.44	2.73	24.00	30.00	3/8	.188 x .188 x 2.88	1 7/16	53
115SMTP	1.44	3.12	24.00	30.00	3/8	.250 x .250 x 2.75	1 15/16	75
203SMTP	1.72	3.64	24.00	30.00	3/8	.250 x .250 x 3.88	2 3/16	112
207SMTP	2.19	4.16	27.00	33.00	7/16	.375 x .375 x 3.75	2 7/16	155
215SMTP	2.19	4.65	27.00	33.00	7/16	.500 x .500 x 3.75	2 15/16	226
307SMTP	2.78	5.58	29.00	35.00	1/2	.500 x .500 x 6.50	3 7/16	367
315SMTP	3.63	6.2	29.50	35.50	5/8	.500 x .500 x 7.50	3 15/16	480

★ Complete part number by adding ratio symbol, for example, "107SMTP05".
Note - "05" is symbol for 5:1 nominal ratio: see page 9 for exact ratios and ratio symbols.
Dimension "MC" is minimum clearance for bushing removal.
Order bushings from pages 64 thru 66 for shaft size required.

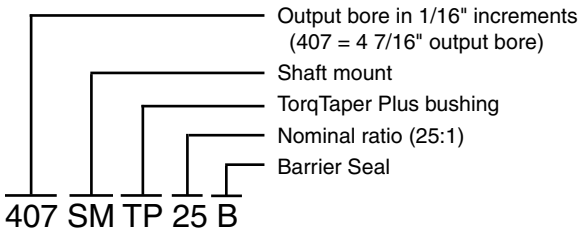
SMTP TorqTaper Plus Unit Sizes 407 - 800



Part No.★	Dimensions in Inches																				
	A	B	C	D	E	F	G	H	H1	J	K	L	M	N	O	P	P1	PF	Q	R	RF
407SMTP-B	21.69	27.80	10.85	10.85	16.96	24.48	18.37	7.69	7.00	1.38	10.13	13.88	5.50	6.70	7.55	1.20	3.00	2.22	8.25	3.13	0.72
415SMTP-B	25.04	31.80	12.52	12.52	19.28	28.01	21.25	9.44	7.88	1.63	12.63	16.78	8.00	9.23	9.18	1.23	3.25	2.92	9.43	3.63	1.17
507SMTP-B	28.16	35.75	14.08	14.08	21.67	31.96	24.37	9.88	8.50	1.63	13.12	17.80	8.00	9.37	9.81	1.37	3.50	2.92	9.96	4.19	1.17
608SMTP-B	30.23	39.58	15.11	15.11	24.47	35.78	26.43	11.56	10.94	1.88	16.74	21.96	8.00	9.51	12.09	1.51	3.75	3.52	12.50	4.25	1.36
800SMTP	36.56	46.93	18.28	18.28	28.65	41.22	30.84	14.50	12.75	2.38	18.78	24.40	10.81	12.75	12.99	1.94	4.75	4.25	13.57	4.88	1.63

Part No.★	Dimensions in Inches								AA		Bolt	Key	Max.	MC	Wt.
	S	SF	T	TF	U1	W	WF	Y	Min.	Max.	Size		Output Bore		Lbs.
407SMTP-B	9.24	4.75	9.75	6.50	2.12	19.72	3.63	3.56	29.50	35.50	5/8	1/2 Sq. x 6.00" Key	4 7/16	2.75	609
415SMTP-B	10.39	7.00	11.00	8.75	2.37	21.79	4.38	7.16	28.00	34.00	3/4	5/8 Sq. x 8.38" Key	4 15/16	3.25	957
507SMTP-B	11.78	7.00	12.50	8.75	2.62	23.75	4.38	10.36	28.00	34.00	3/4	5/8 Sq. x 8.38" Key	57/16	3.75	1217
608SMTP-B	13.60	7.00	14.25	9.25	2.69	26.05	4.96	11.71	28.00	34.00	3/4	5/8 Sq. x 8.75" Key	6 1/2	4.25	1913
800SMTP	15.24	9.00	16.00	11.88	2.94	31.36	5.75	10.62	31.00	37.00	7/8	3/4 Sq. x 12.00" Key	8	4.50	2894

Part Number Explanation



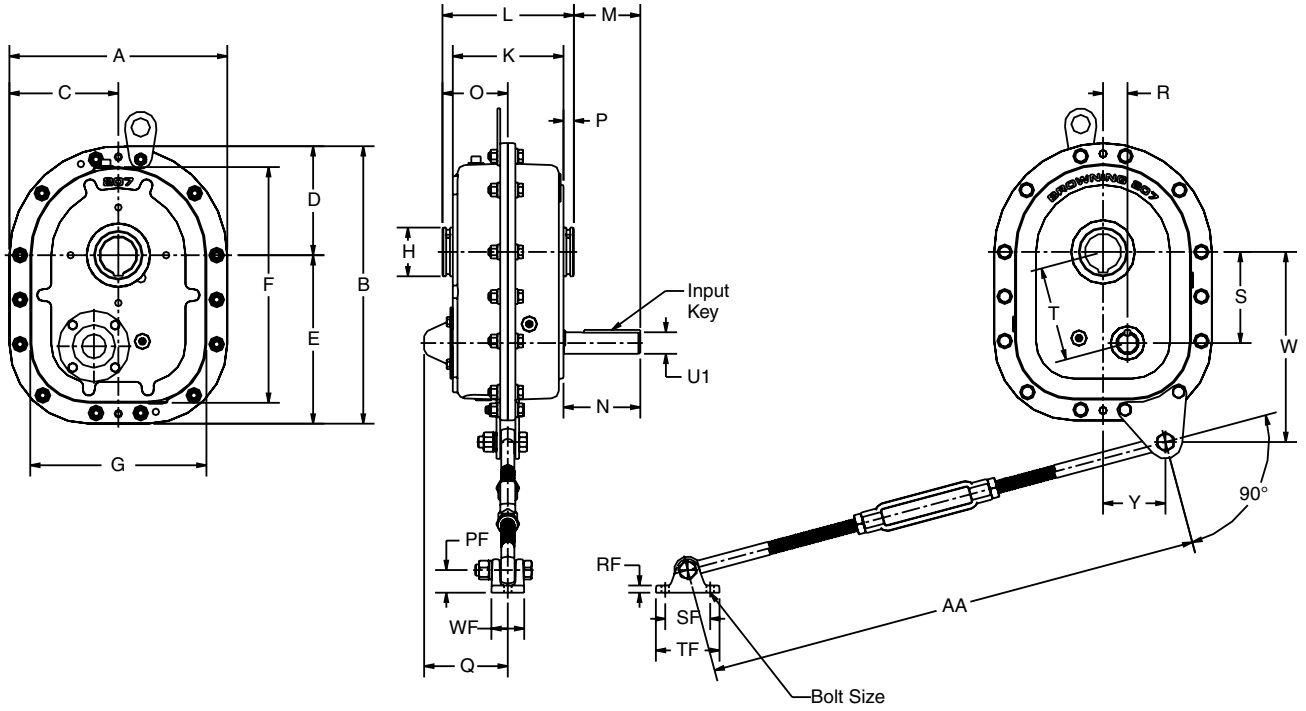
★ Complete part number by adding ratio symbol, for example, "407SMTP05B".

Browning

Shaft Mount Reducers

TAPER-LOCK Plus

SMFP Finished Bore Sizes 107-315



Note: SMFP units are made-to-order.
Contact Emerson for delivery.

Part Number Explanation

215 SM FP 15

- 215 — Output bore in 1/16" increments (215 = 2 15/16" output bore)
- SM — Shaft mount
- FP — Finished bore
- 15 — Nominal ratio (15:1)

PART NO. ★	DIMENSIONS IN INCHES														OUTPUT BORE*	
	A	B	C	D	E	F	G	H	J	K	L	M	N	O	DIA.	KEYWAY
107SMFP	9.76	12.07	4.88	4.88	7.19	10.07	7.75	2.00	0.63	5.52	6.52	3.58	4.08	3.26	1.4375	.375 x .125
115SMFP	11.00	14.08	5.50	5.50	8.58	11.78	8.69	2.63	0.75	5.99	7.13	3.67	4.24	3.57	1.9375	.500 x .125
203SMFP	12.88	16.16	6.44	6.44	9.72	13.66	10.38	2.88	0.87	7.07	8.45	4.62	5.31	4.23	2.1875	.500 x .187
207SMFP	14.50	18.47	7.25	7.25	11.22	15.73	11.76	3.25	1.01	7.39	8.77	4.43	5.12	4.39	2.4375	.625 x .187
215SMFP	16.25	20.88	8.13	8.13	12.76	18.07	13.44	3.88	1.07	8.24	10.25	4.86	5.87	5.13	2.9375	.750 x .250
307SMFP	19.04	24.37	9.52	9.52	14.85	21.00	15.67	5.00	1.25	9.27	11.70	6.24	7.45	5.85	3.4375	.875 x .250
315SMFP	19.90	26.35	9.95	9.95	16.40	23.02	16.57	5.38	1.25	10.51	13.00	7.08	8.32	6.50	3.9375	1.000 x .250

PART NO. ★	DIMENSIONS IN INCHES																	WT. LBS.
	P	PF	a	R	RF	S	SF	T	TF	U1	W	WF	Y	BOLT SIZE	AA MIN.	AA MAX.	INPUT KEY	
107SMFP	0.50	1.14	4.24	1.18	0.36	3.77	2.50	3.95	3.38	0.75	7.88	1.44	2.73	3/8	24	30	.188 x .188 x 2.88	53
115SMFP	0.57	1.14	4.51	1.35	0.36	4.36	2.50	4.56	3.38	1.13	9.14	1.44	3.12	3/8	24	30	.250 x .250 x 2.75	75
203SMFP	0.69	1.32	5.04	1.48	0.42	5.26	2.50	5.46	3.50	1.25	10.94	1.72	3.64	3/8	24	30	.250 x .250 x 3.88	112
207SMFP	0.69	1.51	5.57	1.63	0.48	6.08	3.00	6.29	4.25	1.44	12.68	2.19	4.16	7/16	27	33	.375 x .375 x 3.75	155
215SMFP	1.01	1.51	6.24	2.12	0.48	7.01	3.00	7.32	4.25	1.88	14.19	2.19	4.65	7/16	27	33	.500 x .500 x 3.75	226
307SMFP	1.22	1.81	6.79	2.25	0.61	7.78	4.00	8.10	5.38	2.00	17.00	2.78	5.58	1/2	29	35	.500 x .500 x 6.50	365
315SMFP	1.25	2.22	8.05	2.83	0.72	8.53	4.75	8.93	6.50	2.13	18.12	3.83	6.20	5/8	29.5	355	.500 x .500 x 7.50	477

★ Complete part number by adding ratio symbol, for example, "107SMFP05".
Note - "05" is symbol for 5:1 nominal ratio: see page 9 for exact ratios and ratio symbols.

* If smaller shaft than the output bore is used, order bushing from page Accessories Section.



Application Inspired... Hydraulically Driven



Browning Hydraulic TorqTaper Plus Shaft Mount Reducers

With over 25 years in developing innovative solutions for industries, Emerson engineers designed the newest member of the TorqTaper Plus family. The hydraulic TorqTaper Plus is appropriate for applications where fluid power is required.

- For applications where electric motors are not available, such as portable equipment
- Compatible with many hydraulic motors currently used in similar applications – standard SAE mounting patterns
- Can be configured with screw conveyor components or as a shaft mounted reducer
- Patented mounting system, barrier seal system and increased ratings
- Replaces all popular hydraulic shaft mounted reducers
- Available with involute or straight sided input splines

Example No. 1

Units 107 - 315 Hydraulic Shaft Mounts

A hydraulic shaft mount reducer is required for a portable aggregate conveyor which can be loaded and operated 16 to 24 hours per day at 30 rpm.

The conveyor requires 3 hp. The reducer will be mounted on the conveyor drive pulley shaft, which is 2 3/16" diameter.

1. Determine the Load Classification

From the *AGMA Application Classification Numbers* section, note the AGMA Class Number is II for a uniformly loaded or fed conveyor operating over 10 hours per day.

2. Determine the Speed Reducer Required

From the *Hydraulic Reducer Selection Chart* section, there are four tables for selecting hydraulic shaft mounts for Class II Service. Locate the 30 rpm row, if available, in each table. Read across the row to find a column with a rating of 3 hp or greater. Read up the column to determine the basic reducer size that corresponds to the design hp. For this application, a 203HMTP15 13T SAE-B 2, 203HMTP25 9T SAE-A 2, 203HMTP05 6B SAE-A 2 or a 203HMTP25 6B SAE-A 2 may be used. Select the reducer based upon hydraulic motor characteristics, such as spline dimensions and flow rates.

(Note: Hydraulic motors are not included with the reducer.)

For this example, select 203HMTP15 13T SAE-B 2.

A 203TBP203 bushing is required to mount any of the three reducers to the 2 3/16" driven shaft.

A 203TAP-H torque arm kit is required to restrain the gearbox in operation.

3. List Components

1, **203HMTP15 13T SAE-B 2** reducer
1, **203TBP203** bushing
1, **203TAP-H** torque arm kit
1, Hydraulic motor (separate)

Example No. 2

Units 107 - 315 Hydraulic Screw Conveyor

A hydraulic shaft mount reducer is required to convey dry cement powder. The conveyor will be uniformly fed and operated 12 to 16 hours per day. The screw is 14" diameter and has a 2 7/16" bore with two holes. The conveyor requires 4 1/2 hp and will operate at 60 rpm. The application requires a waste pack.

1. Determine the Load Classification

From the *AGMA Application Classification Numbers* section, note the AGMA Class Number is II for a uniformly loaded or fed screw conveyor, operating over 10 hours per day.

2. Determine the Speed Reducer Required

From the *Hydraulic Reducer Selection Chart* section, there are four tables for selecting hydraulic shaft mounts for Class II Service. Locate the 60 rpm row, if available, in each table. Read across the row to find a column with a rating of 4 1/2 hp or greater. Read up the column to determine the basic reducer size that corresponds to the design hp. For this application, a 115HMTP15 9T SAE-A 2, 115HMTP25 9T SAE-A 2, 203HMTP25 6B SAE-A 2 or a 203HMTP05 6B SAE-A 2 may be used. Generally, the smaller case size is more economical, but the total system should be considered. Select the reducer based upon hydraulic motor characteristics such as spline dimensions and flow rates. (Note: Hydraulic motors are not included with the reducer.) For this example, select a 115HMTP15 9T SAE-A 2.

3. Establish Sealing Required for Screw Conveyor

The waste pack cartridge is well suited for dry, abrasive materials such as cement powder. Specify the optional waste pack cartridge for the 115 shaft mount selected. From the *Accessories* section, select part 115-203WPP.

4. Select the Screw Conveyor Adapter and Screw Conveyor Shaft

Using the basic reducer size, required drive shaft and screw diameter for the selection; refer to *Screw Conveyor Drives* in the *Accessories* section. Note the specification was for a 2 7/16" drive shaft with a two hole arrangement for the 14" diameter screw. From the table select the 115SCA-P and the 115DSP207.

5. Select the Trough End

From the *Screw Conveyor Trough Ends Sizes 107-407* table, select the SCTE14 X 2 7/16 trough end.

6. List of Components:

1, **115HMTP15** 9T SAE-A 2 reducer
1, **115SCA-P** screw conveyor adapter
1, **115DSP207** screw conveyor drive shaft kit
1, **115-203WPP** waste pack cartridge
1, **SCTE14X2 7/16** trough end
1, Hydraulic motor (separate)

HMTP Exact Ratios

Reducer Size	Ratio Symbols		
	05	15	25
107 **115**	5.0588 4.7000	14.8276 14.7759	24.7250 24.8558
203 **207** **215**	5.1053 5.1579 5.1667	14.9231 14.7870 14.8187	24.7409 24.7094 24.8502
307 **315**	5.1111 4.8824	14.9704 14.5744	24.7692 24.4118

Note: See “Application Considerations” on back cover.

AGMA Application Classification Numbers

Application	AGMA Class Numbers		
	Up to 3 Hours Per Day	3-10 Hours Per Day	Over 10 Hours Per Day
AGITATORS (Mixers)			
Pure Liquids	I	I	II
Liquids and Solids	I	II	II
Liquids - Variable Density	I	II	II
BLOWERS			
Centrifugal & Vane	I	I	II
Lobe	I	II	II
Vane	I	II	II
BREWING AND DISTILLING			
Bottling Machinery	I	I	II
Brew Kettles - Continuous Duty	II	II	II
Cookers - Continuous Duty	II	II	II
Mash Tubs - Continuous Duty	II	II	II
Scale Hopper - Frequent Starts	II	II	II
CAN FILLING MACHINES	I	I	II
CAR DUMPERS	II	III	III
CAR PULLERS	I	II	II
CLARIFIERS	I	I	II
CLASSIFIERS	I	II	II
CLAY WORKING MACHINERY			
Brick Presses	II	III	III
Briquette Machines	II	III	III
Pug Mills	I	II	II
COMPACTORS	♦	♦	♦
COMPRESSORS			
Centrifugal	I	I	II
Lobe	I	II	II
Reciprocating, Multi-Cylinder	II	II	III
Reciprocating, Single-Cylinder	III	III	III
CONVEYORS - GENERAL PURPOSE			
Includes Apron, Assembly, Belt, Bucket			
Chain, Flight, Oven, and Screw			
Uniformly Loaded or Fed	I	I	II
Heavy Duty - Not Uniformly Fed	I	II	II
Severe Duty - Reciprocating or Shaker	II	III	III
CRANES			
Dry Dock			
Main Hoist	♦	♦	♦
Auxiliary Hoist	♦	♦	♦
Boom Hoist	♦	♦	♦
Slewing Drive	♦	♦	♦
Traction Drive	♦	♦	♦
Container			
Main Hoist	♦	♦	♦
Boom Hoist	♦	♦	♦
Trolley Drive			
Gantry Drive	♦	♦	♦
Traction Drive	♦	♦	♦
Mill Duty			
Main Hoist	♦	♦	♦
Auxiliary	♦	♦	♦
Bridge Travel	♦	♦	♦
Trolley Travel	♦	♦	♦
Industrial Duty			
Main	♦	♦	♦
Auxiliary	♦	♦	♦
Bridge Travel	♦	♦	♦
Trolley Travel	♦	♦	♦
CRUSHERS			
Stone or Ore	III	III	III
DREDGES			
Cable Reels	II	II	II
Conveyors	II	II	II
Cutter Head Drives	III	III	III
Pumps	III	III	III
Screen Drives	III	III	III
Stackers	II	II	II
Winches	II	II	II
ELEVATORS			
Bucket	I	II	II
Centrifugal Discharge	I	I	II
Escalators	I	I	II
Freight	I	II	II
Gravity Discharge	I	I	II
EXTRUDERS			
General	II	II	II
Plastics			
Variable Speed Drive	III	III	III
Fixed Speed Drive	III	III	III
Rubber			
Continuous Screw Operation	III	III	III
Intermittent Screw Operation	III	III	III
FANS			
Centrifugal	I	I	II

Application	AGMA Class Numbers		
	Up to 3 Hours Per Day	3-10 Hours Per Day	Over 10 Hours Per Day
FANS (Cont'd)			
Cooling Towers	III	III	III
Forced Draft	II	II	II
Induced Draft	II	II	II
Industrial & Mine	II	II	II
FEEDERS			
Apron	I	II	II
Belt	I	II	II
Disc	I	I	II
Reciprocating	II	III	III
Screw	I	II	II
FOOD INDUSTRY			
Cereal Cooker	I	I	II
Dough Mixer	II	II	II
Meat Grinders	II	II	II
Slicers	I	II	II
GENERATORS AND EXCITERS	II	II	II
HAMMER MILLS	III	III	III
HOISTS			
Heavy Duty	♦	♦	♦
Medium Duty	♦	♦	♦
Skip Hoist	♦	♦	♦
LAUNDRY TUMBLERS	II	II	II
LAUNDRY WASHERS	II	II	III
LUMBER INDUSTRY			
Barkers			
Spindle Feed	II	II	II
Main Drive	III	III	III
Conveyors			
Burner	II	II	II
Main or Heavy Duty	II	II	II
Main Log	III	III	III
Re-saw, Merry-Go-Round	II	II	II
Slab	III	III	III
Transfer	II	II	II
Chains			
Floor	II	II	II
Green	II	II	III
Cut-Off-Saws			
Chain	II	II	III
Drag	II	II	III
Debarking Drums	III	III	III
Feeds			
Edger	II	II	II
Gang	II	III	III
Trimmer	II	II	II
Log Deck	III	III	III
Log Hauls - Incline - Well Type	III	III	III
Log Turning Devices	III	III	III
Planer Feed	II	II	II
Planer Tilting Hoists	II	II	II
Rolls - Live-Off Brg - Roll Cases	III	III	III
Sorting Table	II	II	II
Tipple Hoist	II	II	II
Transfer			
Chain	II	II	III
Craneway	II	II	III
Tray Drives	II	II	II
Veneer Lathe Drives	II	II	II
METAL MILLS			
Draw Bench Carriage and Main Drive	II	II	II
Runout Table			
Non-Reversing			
Group Drives	II	II	II
Individual Drives	III	III	III
Reversing	III	III	III
Slab Pushers	II	II	II
Shears	III	III	III
Wire Drawing	II	II	II
Wire Winding Machine	II	II	II
METAL STRIP PROCESSING MACHINERY			
Bridges	II	II	II
Collers & Uncoilers	I	I	II
Edge Trimmers	I	II	II
Flatteners	II	II	II
Loopers (Accumulators)	I	I	I
Pinch Rolls	II	II	II
Scrap Choppers	II	II	II
Shears	III	III	III
Slitters	I	II	II
MILLS, ROTARY TYPE			
Ball & Rod			
Spur Ring Gear	III	III	III
Helical Ring Gear	II	II	II
Direct Connected	III	III	III

AGMA Application Classification Numbers

Application	AGMA Class Numbers		
	Up to 3 Hours Per Day	3-10 Hours Per Day	Over 10 Hours Per Day
MILLS, ROTARY TYPE (Cont'd)			
Cement Kilns	II	II	II
Dryers & Coolers	II	II	II
PAPER MILLS[1]			
Agitator (Mixer)	II	II	II
Agitator For Pure Liquors	II	II	II
Barking Drums	III	III	III
Barkers - Mechanical	III	III	III
Beater	II	II	II
Breaker Stack	II	II	II
Calendar[2]	II	II	II
Chipper	III	III	III
Chip Feeder	II	II	II
Coating Rolls	II	II	II
Conveyors			
Chip, Bark, Chemical	II	II	II
Log (Including Slab)	III	III	III
Couch Rolls	II	II	II
Cutter	III	III	III
Cylinder Molds	II	II	II
Dryers[2]			
Paper Machine	II	II	II
Conveyor Type	II	II	II
Embosser	II	II	II
Extruder	II	II	II
Fourdrinier Rolls (Includes Lump Breaker, Dandy Roll, Wire Turning, and Return Rolls)	II	II	II
Jordan	II	II	II
Kiln Drive	II	II	II
Mt. Hope Roll	II	II	II
Paper Rolls	II	II	II
Platter	II	II	II
Presses - Felt Suction	II	II	II
Pulper	III	III	III
Pumps - Vacuum	II	II	II
Reel (Surface - Type)	II	II	II
Screens			
Chip	II	II	II
Rotary	II	II	II
Vibrating	III	III	III
Size Press	II	II	II
Supercalendar	II	II	II
Thickener (AC Motor)	II	II	II
Thickener (DC Motor)	II	II	II
Washer (AC Motor)	II	II	II
Washer (DC Motor)	II	II	II
Wind and Unwind Stand	I	I	I
Winders (Surface Type)	II	II	II
Yankee Dryers[2]	II	II	II
PLASTICS INDUSTRY			
PRIMARY PROCESSING			
Intensive Internal Mixers			
Batch Mixers	III	III	III
Continuous Mixers	II	II	II
Batch Drop Mill - 2 Smooth Rolls	II	II	II
Continuous Feed, Holding & Blend Mill	II	II	II
Calendars	II	II	II
PLASTICS INDUSTRY			
SECONDARY PROCESSING			
Blow Molders	II	II	II
Coating	II	II	II
Film	II	II	II
Pipe	II	II	II
Pre-Plasticizers	II	II	II
Rods	II	II	II
Sheet	II	II	II
Tubing	II	II	II
PULLERS - BARGE HAUL	II	II	II
PUMPS			
Centrifugal	I	I	II
Proportioning	II	II	II
Reciprocating			
Single Acting, 3 or more Cylinders	II	II	II
Double Acting, 2 or more Cylinders	II	II	II
Rotary			
Gear Type	I	I	II
Lobe	I	I	II
Vane	I	I	II
RUBBER INDUSTRY			
Intensive Internal Mixers			
Batch Mixers	III	III	III
Continuous Mixers	II	II	II
Mixing Mill			
2 Smooth Rolls	II	II	II
1 or 2 Corrugated Rolls	III	III	III

Application	AGMA Class Numbers		
	Up to 3 Hours Per Day	3-10 Hours Per Day	Over 10 Hours Per Day
RUBBER INDUSTRY (Cont'd)			
Batch Drop Mill - 2 Smooth Rolls	II	II	II
Cracker Warmer - 2 Roll, 1 Corrugated Roll	III	III	III
Cracker - 2 Corrugated Rolls	III	III	III
Holding, Feed & Blend Mill - 2 Rolls	II	II	II
Refiner - 2 Rolls	II	II	II
Calendars	II	II	II
SAND MULLER	II	II	II
SEWAGE DISPOSAL EQUIPMENT			
Bar Screens	II	II	II
Chemical Feeder	II	II	II
Dewatering Screens	II	II	II
Scum Breakers	II	II	II
Slow or Rapid Mixers	II	II	II
Sludge Collectors	II	II	II
Thickener	II	II	II
Vacuum Filters	II	II	II
SCREENS			
Air Washing	I	I	II
Rotary - Stone or Gravel	II	II	II
Traveling Water Intake	I	I	I
SCREW CONVEYORS			
Uniformly Loaded or Fed	I	I	II
Heavy Duty	I	II	II
SUGAR INDUSTRY			
Beet Slicer	III	III	III
Cane Knives	II	II	II
Crushers	II	II	II
Mills (Low Speed End)	III	III	III
TEXTILE INDUSTRY			
Batchers	II	II	II
Calendars	II	II	II
Cards	II	II	II
Dry Cans	II	II	II
Dyeing Machinery	II	II	II
Looms	II	II	II
Mangles	II	II	II
Nappers	II	II	II
Pads	II	II	II
Slashers	II	II	II
Soapers	II	II	II
Spinners	II	II	II
Tenter Frames	II	II	II
Washers	II	II	II
Winders	II	II	II

Notes:
1) The Class numbers listed in the table for paper mill applications are consistent with those shown in TAPPI *(Technical Association of Pulp and Paper Industry)* Technical information sheet 0406-18 1967, *Service Factors for Gears on Major Equipment in the Pulp and Paper Industry.*
2) Anti-friction bearings only.
♦ Contact Application Engineering (1 800 626 2093) for the selection of an AGMA Class Numbers in these applications.

Class I Service (1.0 S.F.)

Involute Spline Input

Single Reduction										
Output RPM	107HMTP05 13T SAE-B2		115HMTP05 13T SAE-B2		203HMTP05 14T SAE-C4		207HMTP05 14T SAE-C4		215HMTP05 14T SAE-C4	
	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)
90	4.55	3,078	7.55	5,111	14.74	9,980	17.93	12,137	28.16	19,064
100	4.89	2,978	8.39	5,111	15.86	9,663	19.27	11,740	30.08	18,327
110	5.22	2,890	9.23	5,111	16.94	9,383	20.59	11,402	32.07	17,762
120	5.54	2,813	10.07	5,111	17.99	9,136	21.87	11,102	33.99	17,255
130	5.85	2,743	10.91	5,111	19.02	8,914	23.12	10,833	35.85	16,803
140	6.16	2,680	11.75	5,111	20.02	8,713	24.33	10,587	36.00	15,666
150	6.45	2,622	12.58	5,111	20.09	8,159	25.52	10,365	36.00	14,622
160	6.75	2,569	13.42	5,111	20.09	7,649	26.69	10,164	36.00	13,708
170	7.03	2,520	14.01	5,020	20.09	7,199	27.83	9,975	36.00	12,902
180	7.31	2,475	14.58	4,934	20.09	6,799	28.97	9,804	36.00	12,185
190	7.59	2,434	14.58	4,675	20.09	6,441	30.07	9,642	36.00	11,544
200	7.86	2,394	14.58	4,441	20.09	6,119	31.15	9,490	36.00	10,966
210	8.13	2,357	14.58	4,230	20.09	5,828	31.50	9,139	36.00	10,444
220	8.39	2,322	14.58	4,038	20.09	5,563	31.50	8,723	36.00	9,969
230	8.65	2,290	14.58	3,862	20.09	5,321	31.50	8,344	36.00	9,536
240	8.90	2,259	14.58	3,701	20.09	5,099	31.50	7,996	36.00	9,139
250	9.15	2,230	14.58	3,553	20.09	4,895	31.50	7,676	36.00	8,773
260	9.40	2,202	14.58	3,416	20.09	4,707	31.50	7,381	36.00	8,436
270	9.64	2,176	14.58	3,290	20.09	4,533	31.50	7,108	36.00	8,123
280	9.88	2,151	14.58	3,172	20.09	4,371	31.50	6,854	36.00	7,833
290	10.12	2,127	14.58	3,063	20.09	4,220	31.50	6,618	36.00	7,563
300	10.36	2,104	14.58	2,961	20.09	4,079	31.50	6,397	36.00	7,311
310	10.60	2,083	14.58	2,865	20.09	3,948	31.50	6,191	36.00	7,075
320	10.83	2,061	14.58	2,776	20.09	3,825	31.50	5,997	36.00	6,854
330	11.05	2,041	14.58	2,692	20.09	3,709	31.50	5,815	36.00	6,646
340	11.28	2,021	14.58	2,613	20.09	3,600	31.50	5,644	36.00	6,451
350	11.34	1,974	14.58	2,538	20.09	3,497	31.50	5,483	36.00	6,266
360	11.34	1,919	14.58	2,467	20.09	3,400	31.50	5,331	36.00	6,092
370	11.34	1,867	14.58	2,401	20.09	3,308	31.50	5,187	36.00	5,928
380	11.34	1,818	14.58	2,338	20.09	3,221	31.50	5,050	36.00	5,772
390	11.34	1,771	14.58	2,278	20.09	3,138	31.50	4,921	36.00	5,624
400	11.34	1,727	14.58	2,221	20.09	3,060	31.50	4,798	36.00	5,483

Class I Service (1.0 S.F.)

Involute Spline Input

Double Reduction														
Output RPM	107HMTP15 9T SAE-A2		107HMTP25 9T SAE-A2		115HMTP15 9T SAE-A2		115HMTP25 9T SAE-A2		203HMTP15 13T SAE-B2		203HMTP25 9T SAE-A2		207HMTP15 13T SAE-B2	
	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)
10	0.93	5,658	0.93	5,658	1.26	7,655	1.26	7,655	2.18	13,260	2.12	12,915	2.64	16,081
20	1.78	5,434	1.78	5,434	2.41	7,341	2.41	7,341	4.16	12,684	4.16	12,684	5.28	16,081
30	2.61	5,301	2.61	5,301	3.57	7,242	3.57	7,242	6.16	12,506	6.16	12,506	7.92	16,081
40	3.42	5,204	3.42	5,204	4.71	7,168	4.71	7,168	8.12	12,372	8.12	12,372	10.56	16,081
50	4.21	5,128	4.21	5,128	5.83	7,107	5.83	7,107	10.06	12,262	9.46	11,531	13.20	16,081
60	4.99	5,065	4.99	5,065	6.95	7,055	6.95	7,055	11.32	11,498	10.68	10,847	15.84	16,081
70	5.76	5,011	5.76	5,011	8.05	7,009	8.05	7,009	12.45	10,837	11.72	10,203	18.48	16,081
80	6.52	4,964	6.52	4,964	9.15	6,969	9.15	6,969	13.50	10,285	12.69	9,667	21.12	16,081
90	7.27	4,922	-	-	10.24	6,932	-	-	14.51	9,820	-	-	23.73	16,064
100	8.02	4,884	-	-	11.32	6,899	-	-	15.46	9,420	-	-	25.54	15,563
110	8.76	4,850	-	-	12.40	6,868	-	-	16.47	9,121	-	-	27.31	15,125
120	9.49	4,818	-	-	12.60	6,397	-	-	17.45	8,857	-	-	29.02	14,736
130	10.22	4,788	-	-	12.60	5,905	-	-	18.39	8,620	-	-	30.70	14,387

Double Reduction														
Output RPM	207HMTP25 13T SAE-B2		215HMTP15 14T SAE-C4		215HMTP25 13T SAE-B2		307HMTP15 14T SAE-C4		307HMTP25 14T SAE-C4		315HMTP15 14T SAE-C4		315HMTP25 14T SAE-C4	
	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)
10	3.44	20,966	5.59	34,066	4.44	27,025	9.64	58,758	9.64	58,758	12.34	75,206	12.34	75,206
20	6.58	20,059	10.65	32,436	8.87	27,025	18.47	56,266	18.47	56,266	23.67	72,105	23.67	72,105
30	9.73	19,769	15.73	31,951	13.31	27,025	26.97	54,771	26.97	54,771	34.55	70,167	34.55	70,167
40	12.83	19,549	20.73	31,582	17.74	27,025	34.29	52,228	33.68	51,292	45.13	68,741	45.13	68,741
50	15.43	18,796	24.54	29,905	22.18	27,025	40.09	48,847	39.37	47,973	54.00	65,798	50.40	61,412
60	17.53	17,796	27.88	28,314	26.61	27,025	45.00	45,693	41.40	42,038	54.00	54,832	50.40	51,176
70	19.52	16,991	31.06	27,033	29.70	25,849	45.00	39,166	41.40	36,032	54.00	46,999	50.40	43,865
80	21.43	16,323	34.10	25,972	29.70	22,618	45.00	34,270	41.40	31,528	54.00	41,124	50.40	38,382
90	-	-	36.00	24,370	-	-	45.00	30,462	-	-	54.00	36,555	-	-
100	-	-	36.00	21,933	-	-	45.00	27,416	-	-	54.00	32,899	-	-
110	-	-	36.00	19,939	-	-	45.00	24,924	-	-	54.00	29,908	-	-
120	-	-	36.00	18,277	-	-	45.00	22,847	-	-	54.00	27,416	-	-
130	-	-	36.00	16,871	-	-	45.00	21,089	-	-	54.00	25,307	-	-

Class I Service (1.0 S.F.)

Straight Sided Spline Input

Single Reduction										
Output RPM	107HMTP05 6B SAE-A2		115HMTP05 6B SAE-A2		203HMTP05 6B SAE-A2		207HMTP-05 6B SAE-A2		215HMTP05 6B SAE-A2	
	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)
1	0.07	4,089	0.12	7,496	0.18	10,905	0.25	14,994	0.26	15,733
5	0.27	3,271	0.52	6,366	0.83	10,156	1.04	12,683	1.29	15,733
10	0.52	3,169	1.02	6,225	1.65	10,063	2.03	12,394	2.58	15,733
20	1.02	3,118	2.02	6,154	3.29	10,016	4.02	12,249	5.16	15,733
30	1.53	3,101	3.02	6,131	4.92	10,000	6.01	12,201	7.75	15,733
40	2.03	3,092	4.02	6,119	6.56	9,992	7.99	12,177	10.33	15,733
50	2.53	3,087	5.02	6,112	8.20	9,988	9.98	12,162	12.91	15,733
60	3.04	3,084	6.01	6,107	9.83	9,985	11.97	12,153	15.49	15,733
70	3.54	3,081	7.01	6,104	11.47	9,982	13.95	12,146	18.08	15,733
80	4.04	3,080	8.01	6,101	13.11	9,981	15.94	12,141	20.66	15,733
90	4.55	3,078	9.01	6,099	14.74	9,980	17.93	12,137	23.24	15,733
100	4.89	2,978	9.69	5,906	15.86	9,663	19.27	11,740	25.82	15,733
110	5.22	2,890	10.36	5,737	16.94	9,383	20.59	11,402	28.40	15,733
120	5.54	2,813	11.00	5,586	17.99	9,136	21.87	11,102	30.99	15,733
130	5.85	2,743	11.63	5,450	19.02	8,914	23.12	10,833	33.57	15,733
140	6.16	2,680	12.24	5,328	20.02	8,713	24.33	10,587	36.00	15,666
150	6.45	2,622	12.60	5,118	20.09	8,159	25.52	10,365	36.00	14,622
160	6.75	2,569	12.60	4,798	20.09	7,649	26.69	10,164	36.00	13,708
170	7.03	2,520	12.60	4,516	20.09	7,199	27.83	9,975	36.00	12,902
180	7.31	2,475	12.60	4,265	20.09	6,799	28.97	9,804	36.00	12,185
190	7.59	2,434	12.60	4,040	20.09	6,441	30.07	9,642	36.00	11,544
200	7.86	2,394	12.60	3,838	20.09	6,119	31.15	9,490	36.00	10,966
210	8.13	2,357	12.60	3,655	20.09	5,828	31.50	9,139	36.00	10,444
220	8.39	2,322	12.60	3,489	20.09	5,563	31.50	8,723	36.00	9,969
230	8.65	2,290	12.60	3,338	20.09	5,321	31.50	8,344	36.00	9,536
240	8.90	2,259	12.60	3,199	20.09	5,099	31.50	7,996	36.00	9,139
250	9.15	2,230	12.60	3,071	20.09	4,895	31.50	7,676	36.00	8,773
260	9.40	2,202	12.60	2,952	20.09	4,707	31.50	7,381	36.00	8,436
270	9.64	2,176	12.60	2,843	20.09	4,533	31.50	7,108	36.00	8,123
280	9.88	2,151	12.60	2,742	20.09	4,371	31.50	6,854	36.00	7,833
290	10.12	2,127	12.60	2,647	20.09	4,220	31.50	6,618	36.00	7,563
300	10.36	2,104	12.60	2,559	20.09	4,079	31.50	6,397	36.00	7,311
310	10.60	2,083	12.60	2,476	20.09	3,948	31.50	6,191	36.00	7,075
320	10.83	2,061	12.60	2,399	20.09	3,825	31.50	5,997	36.00	6,854
330	11.05	2,041	12.60	2,326	20.09	3,709	31.50	5,815	36.00	6,646
340	11.28	2,021	12.60	2,258	20.09	3,600	31.50	5,644	36.00	6,451
350	11.34	1,974	12.60	2,193	20.09	3,497	31.50	5,483	36.00	6,266
360	11.34	1,919	12.60	2,132	20.09	3,400	31.50	5,331	36.00	6,092
370	11.34	1,867	12.60	2,075	20.09	3,308	31.50	5,187	36.00	5,928
380	11.34	1,818	12.60	2,020	20.09	3,221	31.50	5,050	36.00	5,772
390	11.34	1,771	12.60	1,968	20.09	3,138	31.50	4,921	36.00	5,624
400	11.34	1,727	12.60	1,919	20.09	3,060	31.50	4,798	36.00	5,483

Class I Service (1.0 S.F.)

Straight Sided Spline Input

Double Reduction												
Output RPM	203HMTP25 6B SAE-A2		207HMTP15 6B SAE-A2		207HMTP25 6B SAE-A2		215HMTP25 6B SAE-A2		307HMTP25 6B SAE-A2		315HMTP25 6B SAE-A2	
	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)
1	0.19	11,569	0.29	17,721	0.29	17,721	0.49	29,989	0.91	55,479	1.12	68,156
5	1.17	14,268	1.85	22,570	1.85	22,570	2.99	36,404	4.98	60,698	6.10	74,334
10	2.18	13,260	3.44	20,966	3.44	20,966	5.59	34,066	9.64	58,758	12.20	74,334
20	4.16	12,684	6.58	20,059	6.58	20,059	10.65	32,436	18.47	56,266	23.67	72,105
30	6.16	12,506	9.73	19,769	9.73	19,769	15.73	31,951	26.97	54,771	34.55	70,167
40	8.12	12,372	12.83	19,549	12.83	19,549	20.73	31,582	33.68	51,292	45.13	68,741
50	9.46	11,531	15.73	19,162	15.43	18,796	24.99	30,450	39.37	47,973	50.40	61,412
60	10.68	10,847	17.87	18,141	17.53	17,796	28.39	28,829	41.40	42,038	50.40	51,176
70	11.72	10,203	19.90	17,321	19.52	16,991	29.70	25,849	41.40	36,032	50.40	43,865
80	12.69	9,667	21.85	16,641	21.43	16,323	29.70	22,618	41.40	31,528	50.40	38,382
90	-	-	23.73	16,064	-	-	-	-	-	-	-	-
100	-	-	25.54	15,563	-	-	-	-	-	-	-	-
110	-	-	27.31	15,125	-	-	-	-	-	-	-	-
120	-	-	29.02	14,736	-	-	-	-	-	-	-	-
130	-	-	30.70	14,387	-	-	-	-	-	-	-	-

Class II Service (1.4 S.F.)

Involute Spline Input

Single Reduction										
Output RPM	107HMTP05 13T SAE-B2		115HMTP05 13T SAE-B2		203HMTP05 14T SAE-C4		207HMTP05 14T SAE-C4		215HMTP05 14T SAE-C4	
	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)
90	3.25	2,199	5.39	3,651	10.53	7,128	12.81	8,669	20.12	13,617
100	3.49	2,127	5.99	3,651	11.33	6,902	13.76	8,386	21.49	13,091
110	3.73	2,064	6.59	3,651	12.10	6,702	14.70	8,144	22.91	12,687
120	3.96	2,009	7.19	3,651	12.85	6,526	15.62	7,930	24.28	12,325
130	4.18	1,959	7.79	3,651	13.59	6,367	16.51	7,738	25.61	12,002
140	4.40	1,914	8.39	3,651	14.30	6,224	17.38	7,562	26.91	11,709
150	4.61	1,873	8.99	3,651	15.00	6,093	18.23	7,404	28.18	11,444
160	4.82	1,835	9.59	3,651	15.69	5,973	19.07	7,260	29.41	11,199
170	5.02	1,800	10.01	3,586	16.35	5,861	19.88	7,125	30.62	10,973
180	5.22	1,768	10.41	3,524	17.01	5,759	20.69	7,003	31.81	10,765
190	5.42	1,738	10.81	3,465	17.66	5,664	21.48	6,887	32.97	10,572
200	5.61	1,710	11.20	3,411	18.30	5,576	22.25	6,778	34.11	10,390
210	5.80	1,684	11.58	3,361	18.93	5,491	23.01	6,676	35.23	10,220
220	5.99	1,659	11.96	3,314	19.55	5,413	23.77	6,581	36.00	9,969
230	6.18	1,636	12.34	3,268	20.09	5,321	24.52	6,494	36.00	9,536
240	6.36	1,614	12.70	3,225	20.09	5,099	25.24	6,407	36.00	9,139
250	6.54	1,593	13.07	3,186	20.09	4,895	25.96	6,327	36.00	8,773
260	6.71	1,573	13.43	3,147	20.09	4,707	26.68	6,252	36.00	8,436
270	6.89	1,554	13.79	3,111	20.09	4,533	27.39	6,180	36.00	8,123
280	7.06	1,536	14.13	3,076	20.09	4,371	28.09	6,113	36.00	7,833
290	7.23	1,519	14.48	3,043	20.09	4,220	28.78	6,046	36.00	7,563
300	7.40	1,503	14.58	2,961	20.09	4,079	29.46	5,983	36.00	7,311
310	7.57	1,488	14.58	2,865	20.09	3,948	30.14	5,924	36.00	7,075
320	7.73	1,472	14.58	2,776	20.09	3,825	30.81	5,866	36.00	6,854
330	7.90	1,458	14.58	2,692	20.09	3,709	31.45	5,807	36.00	6,646
340	8.06	1,444	14.58	2,613	20.09	3,600	31.50	5,644	36.00	6,451
350	8.22	1,431	14.58	2,538	20.09	3,497	31.50	5,483	36.00	6,266
360	8.38	1,418	14.58	2,467	20.09	3,400	31.50	5,331	36.00	6,092
370	8.53	1,405	14.58	2,401	20.09	3,308	31.50	5,187	36.00	5,928
380	8.69	1,393	14.58	2,338	20.09	3,221	31.50	5,050	36.00	5,772
390	8.85	1,382	14.58	2,278	20.09	3,138	31.50	4,921	36.00	5,624
400	9.00	1,371	14.58	2,221	20.09	3,060	31.50	4,798	36.00	5,483

Class II Service (1.4 S.F.)

Involute Spline Input

Double Reduction														
Output RPM	107HMTP15 9T SAE-A2		107HMTP25 9T SAE-A2		115HMTP15 9T SAE-A2		115HMTP25 9T SAE-A2		203HMTP15 13T SAE-B2		203HMTP25 9T SAE-A2		207HMTP15 13T SAE-B2	
	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)
10	0.66	4,041	0.66	4,041	0.90	5,468	0.90	5,468	1.55	9,472	1.51	9,225	1.89	11,486
20	1.27	3,882	1.27	3,882	1.72	5,244	1.72	5,244	2.97	9,060	2.97	9,060	3.77	11,486
30	1.86	3,786	1.86	3,786	2.55	5,173	2.55	5,173	4.40	8,933	4.40	8,933	5.66	11,486
40	2.44	3,717	2.44	3,717	3.36	5,120	3.36	5,120	5.80	8,837	5.80	8,837	7.54	11,486
50	3.01	3,663	3.01	3,663	4.17	5,076	4.17	5,076	7.19	8,758	6.76	8,236	9.43	11,486
60	3.56	3,618	3.56	3,618	4.96	5,039	4.96	5,039	8.09	8,213	7.63	7,748	11.31	11,486
70	4.11	3,580	4.11	3,580	5.75	5,007	5.75	5,007	8.89	7,741	8.37	7,288	13.20	11,486
80	4.66	3,546	4.66	3,546	6.54	4,978	6.54	4,978	9.65	7,346	9.07	6,905	15.08	11,486
90	5.19	3,516	-	-	7.31	4,952	-	-	10.36	7,014	-	-	16.95	11,475
100	5.73	3,489	-	-	8.09	4,928	-	-	11.04	6,728	-	-	18.25	11,117
110	6.25	3,464	-	-	8.86	4,905	-	-	11.76	6,515	-	-	19.51	10,804
120	6.78	3,441	-	-	9.62	4,885	-	-	12.46	6,327	-	-	20.73	10,526
130	7.30	3,420	-	-	10.38	4,865	-	-	13.14	6,157	-	-	21.93	10,276

Double Reduction														
Output RPM	207HMTP25 13T SAE-B2		215HMTP15 14T SAE-C4		215HMTP25 13T SAE-B2		307HMTP15 14T SAE-C4		307HMTP25 14T SAE-C4		315HMTP15 14T SAE-C4		315HMTP25 14T SAE-C4	
	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)
10	2.46	14,976	3.99	24,333	3.17	19,303	6.89	41,970	6.89	41,970	8.82	53,719	8.82	53,719
20	4.70	14,328	7.61	23,168	6.34	19,303	13.19	40,190	13.19	40,190	16.91	51,503	16.91	51,503
30	6.95	14,121	11.24	22,822	9.51	19,303	19.26	39,122	19.26	39,122	24.68	50,119	24.68	50,119
40	9.17	13,963	14.81	22,559	12.67	19,303	24.49	37,306	24.05	36,637	32.24	49,100	32.24	49,100
50	11.02	13,426	17.53	21,361	15.84	19,303	28.63	34,891	28.12	34,267	39.64	48,299	39.64	48,299
60	12.52	12,711	19.92	20,225	19.01	19,303	32.53	33,033	31.95	32,441	46.47	47,185	46.54	47,261
70	13.94	12,136	22.19	19,309	22.18	19,303	36.24	31,540	35.59	30,977	51.76	45,050	50.40	43,865
80	15.31	11,660	24.36	18,552	24.80	18,889	39.79	30,301	39.08	29,758	54.00	41,124	50.40	38,382
90	-	-	26.45	17,908	-	-	43.21	29,249	-	-	54.00	36,555	-	-
100	-	-	28.48	17,351	-	-	45.00	27,416	-	-	54.00	32,899	-	-
110	-	-	30.44	16,861	-	-	45.00	24,924	-	-	54.00	29,908	-	-
120	-	-	32.35	16,426	-	-	45.00	22,847	-	-	54.00	27,416	-	-
130	-	-	34.22	16,037	-	-	45.00	21,089	-	-	54.00	25,307	-	-

Class II Service (1.4 S.F.)

Straight Sided Spline Input

Single Reduction										
Output RPM	107HMTP05 6B SAE-A2		115HMTP05 6B SAE-A2		203HMTP05 6B SAE-A2		207HMTP-05 6B SAE-A2		215HMTP05 6B SAE-A2	
	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)
1	0.05	2,921	0.09	5,354	0.13	7,789	0.18	10,710	0.18	11,238
5	0.19	2,337	0.37	4,547	0.60	7,254	0.74	9,059	0.92	11,238
10	0.37	2,264	0.73	4,446	1.18	7,188	1.45	8,853	1.84	11,238
20	0.73	2,227	1.44	4,396	2.35	7,154	2.87	8,749	3.69	11,238
30	1.09	2,215	2.16	4,379	3.52	7,143	4.29	8,715	5.53	11,238
40	1.45	2,209	2.87	4,371	4.69	7,137	5.71	8,698	7.38	11,238
50	1.81	2,205	3.58	4,366	5.85	7,134	7.13	8,687	9.22	11,238
60	2.17	2,203	4.30	4,362	7.02	7,132	8.55	8,681	11.07	11,238
70	2.53	2,201	5.01	4,360	8.19	7,130	9.97	8,676	12.91	11,238
80	2.89	2,200	5.72	4,358	9.36	7,129	11.39	8,672	14.76	11,238
90	3.25	2,199	6.44	4,357	10.53	7,128	12.81	8,669	16.60	11,238
100	3.49	2,127	6.92	4,219	11.33	6,902	13.76	8,386	18.44	11,238
110	3.73	2,064	7.40	4,098	12.10	6,702	14.70	8,144	20.29	11,238
120	3.96	2,009	7.86	3,990	12.85	6,526	15.62	7,930	22.13	11,238
130	4.18	1,959	8.31	3,893	13.59	6,367	16.51	7,738	23.98	11,238
140	4.40	1,914	8.75	3,806	14.30	6,224	17.38	7,562	25.82	11,238
150	4.61	1,873	9.17	3,726	15.00	6,093	18.23	7,404	27.67	11,238
160	4.82	1,835	9.59	3,653	15.69	5,973	19.07	7,260	29.41	11,199
170	5.02	1,800	10.01	3,586	16.35	5,861	19.88	7,125	30.62	10,973
180	5.22	1,768	10.41	3,524	17.01	5,759	20.69	7,003	31.81	10,765
190	5.42	1,738	10.81	3,465	17.66	5,664	21.48	6,887	32.97	10,572
200	5.61	1,710	11.20	3,411	18.30	5,576	22.25	6,778	34.11	10,390
210	5.80	1,684	11.58	3,361	18.93	5,491	23.01	6,676	35.23	10,220
220	5.99	1,659	11.96	3,314	19.55	5,413	23.77	6,581	36.00	9,969
230	6.18	1,636	12.34	3,268	20.09	5,321	24.52	6,494	36.00	9,536
240	6.36	1,614	12.70	3,225	20.09	5,099	25.24	6,407	36.00	9,139
250	6.54	1,593	13.07	3,186	20.09	4,895	25.96	6,327	36.00	8,773
260	6.71	1,573	13.43	3,147	20.09	4,707	26.68	6,252	36.00	8,436
270	6.89	1,554	13.79	3,111	20.09	4,533	27.39	6,180	36.00	8,123
280	7.06	1,536	14.13	3,076	20.09	4,371	28.09	6,113	36.00	7,833
290	7.23	1,519	14.48	3,043	20.09	4,220	28.78	6,046	36.00	7,563
300	7.40	1,503	14.58	2,961	20.09	4,079	29.46	5,983	36.00	7,311
310	7.57	1,488	14.58	2,865	20.09	3,948	30.14	5,924	36.00	7,075
320	7.73	1,472	14.58	2,776	20.09	3,825	30.81	5,866	36.00	6,854
330	7.90	1,458	14.58	2,692	20.09	3,709	31.45	5,807	36.00	6,646
340	8.06	1,444	14.58	2,613	20.09	3,600	31.50	5,644	36.00	6,451
350	8.22	1,431	14.58	2,538	20.09	3,497	31.50	5,483	36.00	6,266
360	8.38	1,418	14.58	2,467	20.09	3,400	31.50	5,331	36.00	6,092
370	8.53	1,405	14.58	2,401	20.09	3,308	31.50	5,187	36.00	5,928
380	8.69	1,393	14.58	2,338	20.09	3,221	31.50	5,050	36.00	5,772
390	8.85	1,382	14.58	2,278	20.09	3,138	31.50	4,921	36.00	5,624
400	9.00	1,371	14.58	2,221	20.09	3,060	31.50	4,798	36.00	5,483

Class II Service (1.4 S.F.)

Straight Sided Spline Input

Output RPM	Double Reduction											
	203HMTP25 6B SAE-A2		207HMTP15 6B SAE-A2		207HMTP25 6B SAE-A2		215HMTP25 6B SAE-A2		307HMTP25 6B SAE-A2		315HMTP25 6B SAE-A2	
	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)
1	0.14	8,264	0.21	12,658	0.21	12,658	0.35	21,420	0.65	39,628	0.80	48,683
5	0.84	10,192	1.32	16,121	1.32	16,121	2.13	26,003	3.56	43,356	4.36	53,096
10	1.55	9,472	2.46	14,976	2.46	14,976	3.99	24,333	6.89	41,970	8.71	53,096
20	2.97	9,060	4.70	14,328	4.70	14,328	7.61	23,168	13.19	40,190	16.91	51,503
30	4.40	8,933	6.95	14,121	6.95	14,121	11.24	22,822	19.26	39,122	24.68	50,119
40	5.80	8,837	9.17	13,963	9.17	13,963	14.81	22,559	24.05	36,637	32.24	49,100
50	6.76	8,236	11.23	13,687	11.02	13,426	17.85	21,750	28.12	34,267	39.64	48,299
60	7.63	7,748	12.76	12,958	12.52	12,711	20.28	20,592	31.95	32,441	46.54	47,261
70	8.37	7,288	14.22	12,372	13.94	12,136	22.59	19,662	35.59	30,977	50.40	43,865
80	9.07	6,905	15.61	11,886	15.31	11,660	24.80	18,889	39.08	29,758	50.40	38,382
90	-	-	16.95	11,475	-	-	-	-	-	-	-	-
100	-	-	18.25	11,117	-	-	-	-	-	-	-	-
110	-	-	19.51	10,804	-	-	-	-	-	-	-	-
120	-	-	20.73	10,526	-	-	-	-	-	-	-	-
130	-	-	21.93	10,276	-	-	-	-	-	-	-	-

Class III Service (2.0 S.F.)

Involute Spline Input

Single Reduction										
Output RPM	107HMTP05 13T SAE-B2		115HMTP05 13T SAE-B2		203HMTP05 14T SAE-C4		207HMTP05 14T SAE-C4		215HMTP05 14T SAE-C4	
	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)
90	2.27	1,539	3.78	2,556	7.37	4,990	8.96	6,068	14.08	9,532
100	2.44	1,489	4.19	2,556	7.93	4,831	9.63	5,870	15.04	9,164
110	2.61	1,445	4.61	2,556	8.47	4,692	10.29	5,701	16.03	8,881
120	2.77	1,406	5.03	2,556	9.00	4,568	10.93	5,551	16.99	8,627
130	2.93	1,371	5.45	2,556	9.51	4,457	11.56	5,417	17.93	8,402
140	3.08	1,340	5.87	2,556	10.01	4,357	12.16	5,294	18.83	8,197
150	3.23	1,311	6.29	2,556	10.50	4,265	12.76	5,182	19.72	8,011
160	3.37	1,284	6.71	2,556	10.98	4,181	13.35	5,082	20.59	7,839
170	3.52	1,260	7.00	2,510	11.45	4,103	13.92	4,987	21.43	7,681
180	3.66	1,238	7.29	2,467	11.91	4,031	14.48	4,902	22.26	7,536
190	3.79	1,217	7.57	2,426	12.36	3,965	15.03	4,821	23.08	7,401
200	3.93	1,197	7.84	2,388	12.81	3,903	15.58	4,745	23.88	7,273
210	4.06	1,179	8.11	2,353	13.25	3,844	16.11	4,673	24.66	7,154
220	4.19	1,161	8.38	2,319	13.68	3,789	16.64	4,607	25.43	7,043
230	4.32	1,145	8.64	2,287	14.11	3,737	17.16	4,546	26.19	6,939
240	4.45	1,129	8.89	2,258	14.53	3,689	17.67	4,485	26.94	6,840
250	4.57	1,115	9.15	2,230	14.95	3,643	18.17	4,429	27.67	6,744
260	4.70	1,101	9.40	2,203	15.36	3,599	18.67	4,376	28.40	6,654
270	4.82	1,088	9.65	2,178	15.76	3,556	19.17	4,326	29.12	6,571
280	4.94	1,075	9.89	2,153	16.16	3,517	19.67	4,279	29.82	6,488
290	5.06	1,063	10.14	2,130	16.56	3,479	20.14	4,232	30.52	6,412
300	5.18	1,052	10.38	2,108	16.95	3,442	20.62	4,188	31.21	6,339
310	5.30	1,041	10.62	2,087	17.34	3,408	21.10	4,147	31.88	6,266
320	5.41	1,031	10.85	2,066	17.72	3,374	21.57	4,106	32.57	6,200
330	5.53	1,020	11.08	2,046	18.10	3,342	22.02	4,065	33.23	6,135
340	5.64	1,011	11.32	2,029	18.48	3,311	22.47	4,027	33.89	6,073
350	5.75	1,001	11.55	2,011	18.85	3,282	22.94	3,993	34.53	6,011
360	5.86	993	11.77	1,992	19.22	3,252	23.39	3,958	35.17	5,953
370	5.97	984	12.00	1,976	19.59	3,225	23.83	3,924	35.83	5,899
380	6.08	975	12.23	1,960	19.95	3,198	24.28	3,893	36.00	5,772
390	6.19	967	12.44	1,944	20.09	3,138	24.72	3,862	36.00	5,624
400	6.30	959	12.66	1,929	20.09	3,060	25.15	3,831	36.00	5,483

Class III Service (2.0 S.F.)

Involute Spline Input

Output RPM	Double Reduction													
	107HMTP15 9T SAE-A2		107HMTP25 9T SAE-A2		115HMTP15 9T SAE-A2		115HMTP25 9T SAE-A2		203HMTP15 13T SAE-B2		203HMTP25 9T SAE-A2		207HMTP15 13T SAE-B2	
	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)
10	0.46	2,829	0.46	2,829	0.63	3,827	0.63	3,827	1.09	6,630	1.06	6,457	1.32	8,040
20	0.89	2,717	0.89	2,717	1.20	3,671	1.20	3,671	2.08	6,342	2.08	6,342	2.64	8,040
30	1.31	2,650	1.31	2,650	1.78	3,621	1.78	3,621	3.08	6,253	3.08	6,253	3.96	8,040
40	1.71	2,602	1.71	2,602	2.35	3,584	2.35	3,584	4.06	6,186	4.06	6,186	5.28	8,040
50	2.10	2,564	2.10	2,564	2.92	3,553	2.92	3,553	5.03	6,131	4.73	5,765	6.60	8,040
60	2.49	2,533	2.49	2,533	3.47	3,527	3.47	3,527	5.66	5,749	5.34	5,423	7.92	8,040
70	2.88	2,506	2.88	2,506	4.03	3,505	4.03	3,505	6.23	5,419	5.86	5,102	9.24	8,040
80	3.26	2,482	3.26	2,482	4.58	3,484	4.58	3,484	6.75	5,142	6.35	4,833	10.56	8,040
90	3.64	2,461	-	-	5.12	3,466	-	-	7.25	4,910	-	-	11.87	8,032
100	4.01	2,442	-	-	5.66	3,449	-	-	7.73	4,710	-	-	12.77	7,782
110	4.38	2,425	-	-	6.20	3,434	-	-	8.23	4,561	-	-	13.65	7,563
120	4.74	2,409	-	-	6.73	3,419	-	-	8.72	4,429	-	-	14.51	7,368
130	5.11	2,394	-	-	7.27	3,406	-	-	9.20	4,310	-	-	15.35	7,193

Output RPM	Double Reduction													
	207HMTP25 13T SAE-B2		215HMTP15 14T SAE-C4		215HMTP25 13T SAE-B2		307HMTP15 14T SAE-C4		307HMTP25 14T SAE-C4		315HMTP15 14T SAE-C4		315HMTP25 14T SAE-C4	
	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)
10	1.72	10,483	2.80	17,033	2.22	13,512	4.82	29,379	4.82	29,379	6.17	37,603	6.17	37,603
20	3.29	10,029	5.32	16,218	4.44	13,512	9.24	28,133	9.24	28,133	11.83	36,052	11.83	36,052
30	4.87	9,884	7.87	15,975	6.65	13,512	13.48	27,385	13.48	27,385	17.28	35,083	17.28	35,083
40	6.42	9,774	10.37	15,791	8.87	13,512	17.14	26,114	16.84	25,646	22.57	34,370	22.57	34,370
50	7.71	9,398	12.27	14,953	11.09	13,512	20.04	24,423	19.69	23,987	27.75	33,810	27.75	33,810
60	8.76	8,898	13.94	14,157	13.31	13,512	22.77	23,123	22.36	22,708	32.53	33,029	32.58	33,082
70	9.76	8,496	15.53	13,516	15.52	13,512	25.37	22,078	24.91	21,684	36.23	31,535	36.08	31,406
80	10.72	8,162	17.05	12,986	17.36	13,222	27.85	21,211	27.35	20,831	39.78	30,297	39.44	30,037
90	-	-	18.52	12,535	-	-	30.24	20,474	-	-	43.20	29,247	-	-
100	-	-	19.94	12,146	-	-	32.56	19,838	-	-	46.51	28,336	-	-
110	-	-	21.31	11,803	-	-	34.81	19,279	-	-	49.72	27,537	-	-
120	-	-	22.65	11,498	-	-	36.99	18,783	-	-	52.84	26,827	-	-
130	-	-	23.95	11,226	-	-	39.12	18,336	-	-	54.00	25,307	-	-

Class III Service (2.0 S.F.)

Straight Sided Spline Input

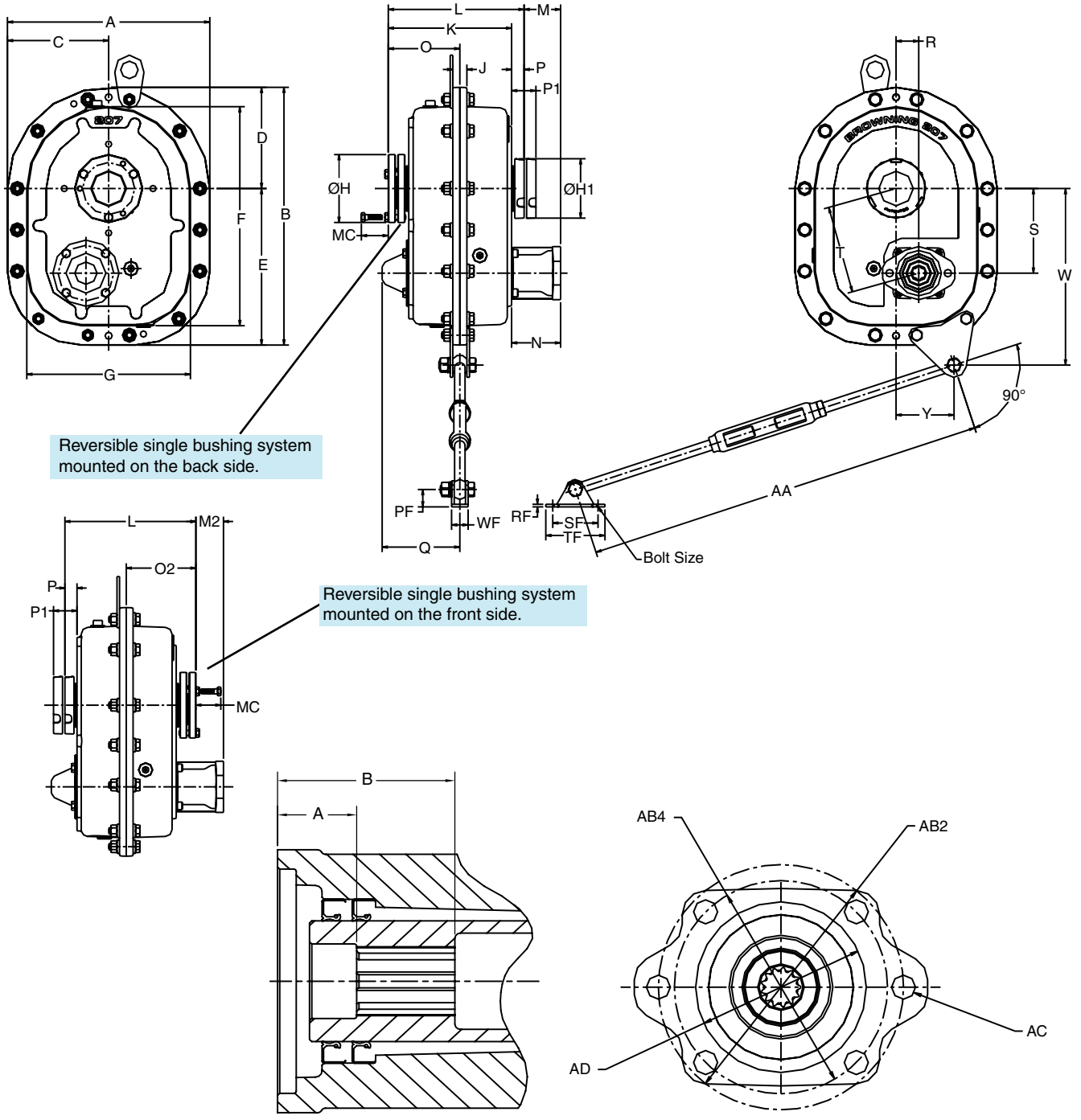
Single Reduction										
Output RPM	107HMTP05 6B SAE-A2		115HMTP05 6B SAE-A2		203HMTP05 6B SAE-A2		207HMTP-05 6B SAE-A2		215HMTP05 6B SAE-A2	
	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)
1	0.03	2,045	0.06	3,748	0.09	5,452	0.12	7,497	0.13	7,866
5	0.13	1,636	0.26	3,183	0.42	5,078	0.52	6,341	0.65	7,866
10	0.26	1,585	0.51	3,112	0.83	5,031	1.02	6,197	1.29	7,866
20	0.51	1,559	1.01	3,077	1.64	5,008	2.01	6,125	2.58	7,866
30	0.76	1,550	1.51	3,065	2.46	5,000	3.00	6,100	3.87	7,866
40	1.02	1,546	2.01	3,059	3.28	4,996	4.00	6,088	5.16	7,866
50	1.27	1,544	2.51	3,056	4.10	4,994	4.99	6,081	6.46	7,866
60	1.52	1,542	3.01	3,054	4.92	4,992	5.98	6,076	7.75	7,866
70	1.77	1,541	3.51	3,052	5.73	4,991	6.98	6,073	9.04	7,866
80	2.02	1,540	4.01	3,051	6.55	4,990	7.97	6,070	10.33	7,866
90	2.27	1,539	4.51	3,050	7.37	4,990	8.96	6,068	11.62	7,866
100	2.44	1,489	4.85	2,953	7.93	4,831	9.63	5,870	12.91	7,866
110	2.61	1,445	5.18	2,868	8.47	4,692	10.29	5,701	14.20	7,866
120	2.77	1,406	5.50	2,793	9.00	4,568	10.93	5,551	15.49	7,866
130	2.93	1,371	5.81	2,725	9.51	4,457	11.56	5,417	16.78	7,866
140	3.08	1,340	6.12	2,664	10.01	4,357	12.16	5,294	18.08	7,866
150	3.23	1,311	6.42	2,609	10.50	4,265	12.76	5,182	19.37	7,866
160	3.37	1,284	6.72	2,557	10.98	4,181	13.35	5,082	20.59	7,839
170	3.52	1,260	7.00	2,510	11.45	4,103	13.92	4,987	21.43	7,681
180	3.66	1,238	7.29	2,467	11.91	4,031	14.48	4,902	22.26	7,536
190	3.79	1,217	7.57	2,426	12.36	3,965	15.03	4,821	23.08	7,401
200	3.93	1,197	7.84	2,388	12.81	3,903	15.58	4,745	23.88	7,273
210	4.06	1,179	8.11	2,353	13.25	3,844	16.11	4,673	24.66	7,154
220	4.19	1,161	8.38	2,319	13.68	3,789	16.64	4,607	25.43	7,043
230	4.32	1,145	8.64	2,287	14.11	3,737	17.16	4,546	26.19	6,939
240	4.45	1,129	8.89	2,258	14.53	3,689	17.67	4,485	26.94	6,840
250	4.57	1,115	9.15	2,230	14.95	3,643	18.17	4,429	27.67	6,744
260	4.70	1,101	9.40	2,203	15.36	3,599	18.67	4,376	28.40	6,654
270	4.82	1,088	9.65	2,178	15.76	3,556	19.17	4,326	29.12	6,571
280	4.94	1,075	9.89	2,153	16.16	3,517	19.67	4,279	29.82	6,488
290	5.06	1,063	10.14	2,130	16.56	3,479	20.14	4,232	30.52	6,412
300	5.18	1,052	10.38	2,108	16.95	3,442	20.62	4,188	31.21	6,339
310	5.30	1,041	10.62	2,087	17.34	3,408	21.10	4,147	31.88	6,266
320	5.41	1,031	10.85	2,066	17.72	3,374	21.57	4,106	32.57	6,200
330	5.53	1,020	11.08	2,046	18.10	3,342	22.02	4,065	33.23	6,135
340	5.64	1,011	11.32	2,029	18.48	3,311	22.47	4,027	33.89	6,073
350	5.75	1,001	11.55	2,011	18.85	3,282	22.94	3,993	34.53	6,011
360	5.86	993	11.77	1,992	19.22	3,252	23.39	3,958	35.17	5,953
370	5.97	984	12.00	1,976	19.59	3,225	23.83	3,924	35.83	5,899
380	6.08	975	12.23	1,960	19.95	3,198	24.28	3,893	36.00	5,772
390	6.19	967	12.44	1,944	20.09	3,138	24.72	3,862	36.00	5,624
400	6.30	959	12.66	1,929	20.09	3,060	25.15	3,831	36.00	5,483

Class III Service (2.0 S.F.)

Straight Sided Spline Input

Double Reduction												
Output RPM	203HMTP25 6B SAE-A2		207HMTP15 6B SAE-A2		207HMTP25 6B SAE-A2		215HMTP25 6B SAE-A2		307HMTP25 6B SAE-A2		315HMTP25 6B SAE-A2	
	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)	Input HP	Output Torque (lb-ins)
1	0.09	5,785	0.15	8,860	0.15	8,860	0.25	14,994	0.46	27,739	0.56	34,078
5	0.59	7,134	0.93	11,285	0.93	11,285	1.49	18,202	2.49	30,349	3.05	37,167
10	1.09	6,630	1.72	10,483	1.72	10,483	2.80	17,033	4.82	29,379	6.10	37,167
20	2.08	6,342	3.29	10,029	3.29	10,029	5.32	16,218	9.24	28,133	11.83	36,052
30	3.08	6,253	4.87	9,884	4.87	9,884	7.87	15,975	13.48	27,385	17.28	35,083
40	4.06	6,186	6.42	9,774	6.42	9,774	10.37	15,791	16.84	25,646	22.57	34,370
50	4.73	5,765	7.86	9,581	7.71	9,398	12.49	15,225	19.69	23,987	27.75	33,810
60	5.34	5,423	8.93	9,071	8.76	8,898	14.20	14,414	22.36	22,708	32.58	33,082
70	5.86	5,102	9.95	8,661	9.76	8,496	15.81	13,763	24.91	21,684	36.08	31,406
80	6.35	4,833	10.93	8,320	10.72	8,162	17.36	13,222	27.35	20,831	39.44	30,037
90	-	-	11.87	8,032	-	-	-	-	-	-	-	-
100	-	-	12.77	7,782	-	-	-	-	-	-	-	-
110	-	-	13.65	7,563	-	-	-	-	-	-	-	-
120	-	-	14.51	7,368	-	-	-	-	-	-	-	-
130	-	-	15.35	7,193	-	-	-	-	-	-	-	-

HMTP TorqTaper Plus Unit Sizes 107-315



UNIT NO.	HYDRAULIC MOTOR MOUNTING STYLES							
	6B		9T		13T		14T	
	A	B	A	B	A	B	A	B
107	1.03	2.38	0.64	1.89	-	-	-	-
115	1.01	2.36	0.62	1.87	1.28	2.15	-	-
203	1.06	2.37	0.73	1.98	1.12	1.93	1.40	2.92
207	1.10	2.41	-		1.16	1.97	1.39	2.91
215	1.02	2.39	-		0.91	2.10	1.43	2.94
307	1.06	2.43	-	-	-	-	1.47	2.98
315	1.13	2.50	-	-	-	-	1.54	3.05

HMTP TorqTaper Plus Unit Sizes 107-315

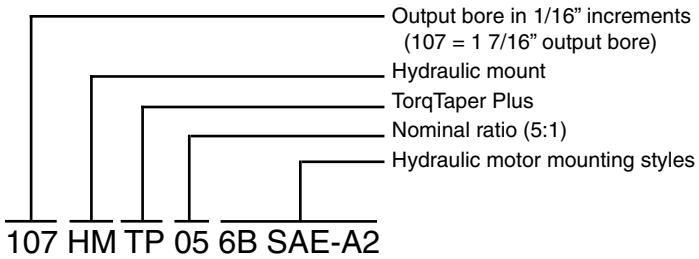
PART NO.	DIMENSIONS IN INCHES																	
	A	B	C	D	E	F	G	H	H1	J	K	L	MC	O	O2	P	P1	PF
107HMTP	9.76	12.07	4.88	4.88	7.19	10.07	7.75	3.25	3.00	0.63	5.52	7.89	1.75	4.25	4.21	0.90	1.84	1.14
115HMTP	11.00	14.08	5.50	5.50	8.58	11.78	8.69	4.13	3.50	0.75	5.99	8.36	1.88	4.48	4.45	0.90	1.83	1.14
203HMTP	12.88	16.16	6.44	6.44	9.72	13.66	10.38	4.50	3.75	0.87	7.07	9.43	1.88	5.01	4.99	0.89	1.83	1.32
207HMTP	14.50	16.47	7.25	7.25	11.22	15.73	11.76	4.88	4.25	1.01	7.39	9.75	1.88	5.14	5.19	0.89	1.86	1.51
215HMTP	16.25	20.88	8.13	8.13	12.76	18.07	13.44	5.31	4.75	1.07	8.24	10.85	1.88	5.89	5.74	1.02	1.96	1.51
307HMTP	19.04	24.37	9.52	9.52	14.85	21.00	15.67	6.44	5.69	1.25	9.27	12.57	2.25	6.58	6.61	1.36	2.75	1.81
315HMTP	19.90	26.35	9.95	9.95	16.40	23.02	16.57	7.13	6.70	1.25	10.51	14.50	2.75	7.51	7.61	1.73	3.25	2.22

PART NO.	DIMENSIONS IN INCHES														
	Q	R	RF	S	SF	T	TF	W	WF	Y	AA		BOLT SIZE	MAX. OUTPUT BORE	WT. LBS.
											MIN.	MAX.			
107HMTP	4.24	1.18	0.36	3.77	2.50	3.95	3.38	7.88	1.44	2.73	24.00	30.00	3/8	1 7/16	58
115HMTP	4.51	1.35	0.36	4.36	2.50	4.56	3.38	9.14	1.44	3.12	24.00	30.00	3/8	1 15/16	79
203HMTP	5.04	1.48	0.42	5.26	2.50	5.46	3.50	10.94	1.72	3.64	24.00	30.00	3/8	2 3/16	120
207HMTP	5.57	1.63	0.48	6.08	3.00	6.29	4.25	12.68	2.19	4.16	27.00	33.00	7/16	2 7/16	162
215HMTP	6.24	2.12	0.48	7.01	3.00	7.32	4.25	14.19	2.19	4.65	27.00	33.00	7/16	2 15/16	234
307HMTP	6.79	2.25	0.61	7.78	4.00	8.10	5.38	17.00	2.78	5.58	29.00	35.00	1/2	3 7/16	365
315HMTP	8.05	2.63	0.72	8.53	4.75	8.93	6.50	18.12	3.63	6.20	29.50	35.50	5/8	3 15/16	473

PART NO.	DIMENSIONS IN INCHES									
	M	M2	N	AB2	AB4	AC	AD	SPLINE DATA ★		
								NT	DP	OD
107HMTP 6B SAE-A2	2.18	1.60	3.08	4.19	-	0.50	3.25	6	-	1.00
107HMTP 9T SAE-A2	2.18	1.60	3.08	4.19	-	0.38	3.25	9	16/32	.609
107HMTP 13T SAE-B2	2.66	2.08	3.56	5.75	5.00	0.50	4.00	13	16/32	.875
115HMTP 6B SAE-A2	2.18	1.60	3.08	4.19	-	0.50	3.25	6	-	1.00
115HMTP 9T SAE-A2	2.18	1.60	3.08	4.19	-	0.38	3.25	9	16/32	.609
115HMTP 13T SAE- B2	2.66	2.08	3.56	5.75	5.00	0.50	4.00	13	16/32	.875
203HMTP 6B SAE-A2	2.68	2.14	3.58	4.19	-	0.50	3.25	6	-	1.00
203HMTP 9T SAE-A2	2.68	2.14	3.58	4.19	-	0.38	3.25	9	16/32	.609
203HMTP 13T SAE-B2	2.87	2.33	3.77	5.75	5.00	0.50	4.00	13	16/32	.875
203HMTP 14T SAE-C4	3.18	2.64	4.08	6.38	-	0.50	5.00	14	12/24	1.234
207HMTP 6B SAE-A2	2.62	2.07	3.52	4.19	-	0.50	3.25	6	-	1.00
207HMTP 13T SAE-B2	2.81	2.26	3.71	5.75	5.00	0.50	4.00	13	16/32	.875
207HMTP 14T SAE-C4	3.12	2.57	4.02	6.38	-	0.50	5.00	14	12/24	1.234
215HMTP 6B SAE-A2	2.69	2.12	3.72	4.19	-	0.50	3.25	6	-	1.00
215HMTP 13T SAE-B2	2.68	2.11	3.71	5.75	5.00	0.50	4.00	13	16/32	.875
215HMTP 14T SAE-C4	3.24	2.67	4.27	6.38	-	0.50	5.00	14	12/24	1.234
307HMTP 6B SAE-A2	2.29	1.67	3.65	4.19	-	0.50	3.25	6	-	1.00
307HMTP 14T SAE-C4	2.84	2.22	4.20	6.38	-	0.50	5.00	14	12/24	1.234
315HMTP 6B SAE-A2	1.92	1.29	3.65	4.19	-	0.50	3.25	6	-	1.00
315HMTP 14T SAE-C4	2.47	1.84	4.20	6.38	-	0.50	5.00	14	12/24	1.234

★ NT - Number of spline teeth.
DP - Involute spline diametral pitch.
OD - Internal spline major outside diameter.

Part Number Explanation



Innovative C-Face Motor Connections

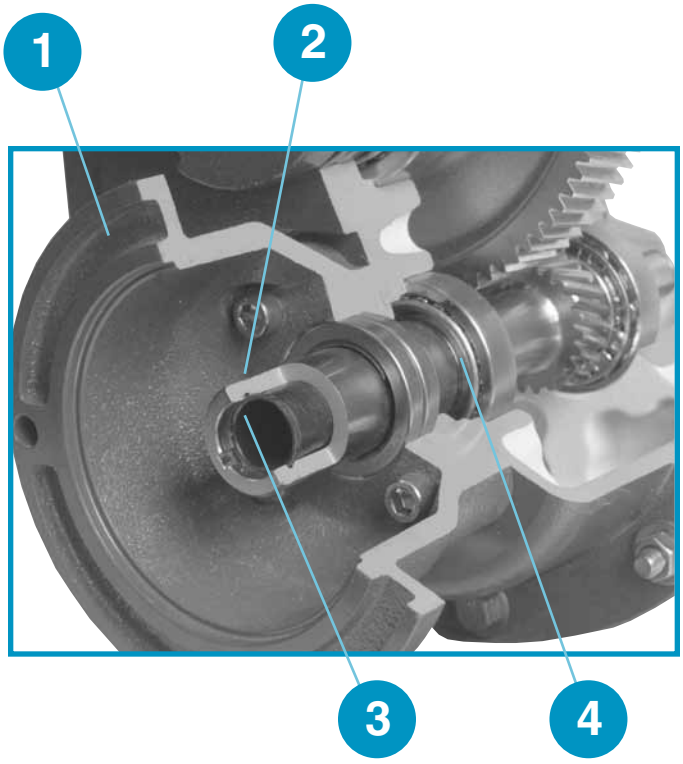




Browning C-Face TorqTaper Plus Shaft Mount Reducers

Experience the latest in technology with the new C-Face TorqTaper Plus shaft mounted reducers. Emerson engineers continue to create innovative new designs to solve industry needs.

- Eliminate belt guards, belt drives and motor mounts
- Combine with Intelligear for variable speed control
- Innovative Emerson C-Face motor connections
- Patented mounting system, barrier seal system and increased ratings



1. Rugged C-Face adapters — designed for standard NEMA frame sizes
2. Metal key — provides positive torque transmission
3. Non metallic quill liner — eliminates fretting and allows for easier motor removal
4. Bearing supported quill input — minimizes shaft wobble and increases seal life

Ordering Information

Example No. 1

Units 107 - 315 C-face Shaft Mounts

A C-face shaft mount reducer is required for a grain bucket elevator, which will be uniformly loaded and operated 8 hours per day at 50 rpm.

The elevator requires 20 hp. The reducer will be mounted on the elevator drive pulley shaft with a 3 7/16" diameter extension.

1. Determine the Load Classification

From the *AGMA Application Classification Numbers* section, note the AGMA Class Number is II for a bucket elevator operating 3 to 10 hours per day.

2. Determine the Speed Reducer Required

From the *C-face Reducer Selection Chart* section, there are two tables for Class II Service. Locate the 50 rpm row in each table. Read across the row to find a column with a rating of 20 hp or greater. Read up the column to determine the basic reducer size that corresponds to the design hp. For this application, a 315CMTP05, 307CMTP09, 307CMTP15, 307CMTP25 or a 307CMTP35 may be used. Generally, the smaller case size is more economical, but the total system should be considered. For this example, select a 307CMTP35. When used with a 1750 rpm C-face motor, the 35:1 ratio will provide an output speed closest to the desired 50 rpm speed. Other ratios may be used, but to obtain the desired speed a variable frequency drive may be required. (Note: The motor and variable frequency drives are not included with the reducer.)

From the *CMTP Availability Table*, locate the row with the basic reducer size. At the top of the table, locate the column with the C-face motor frame designation required. The complete reducer part number is at the intersection of the selected row and column. For this example, a 307CMTP35 Q250 is selected.

A 307TBP307 bushing is required to mount the reducer to a 3 7/16 shaft.

The 307TAP-H kit is required to restrain the gearbox in operation.

3. List Components

1, **307CMTP35 Q250** reducer
1, **307TBP307** bushing
1, **307TAP-H** torque arm kit
1, C-face motor purchased separately ▲

▲ Refer to C-Face standard and stainless steel motors section for product information.

CMTP Availability Table

PART NO.	RATIO	Q56	Q140	Q180	Q210	Q250
107CMTP05	5.0588	107CMTP05 Q56	107CMTP05 Q140	-	-	-
107CMTP09	8.8205	107CMTP09 Q56	107CMTP09 Q140	-	-	-
107CMTP15	14.8276	107CMTP15 Q56	107CMTP15 Q140	-	-	-
107CMTP25	24.7250	107CMTP25 Q56	107CMTP25 Q140	-	-	-
107CMTP35	34.8778	107CMTP35 Q56	107CMTP35 Q140	-	-	-
115CMTP05	4.7000	115CMTP05 Q56	115CMTP05 Q140	115CMTP05 Q180	-	-
115CMTP09	8.8125	115CMTP09 Q56	115CMTP09 Q140	115CMTP09 Q180	-	-
115CMTP15	14.7759	115CMTP15 Q56	115CMTP15 Q140	115CMTP15 Q180	-	-
115CMTP25	24.8558	115CMTP25 Q56	115CMTP25 Q140	115CMTP25 Q180	-	-
115CMTP35	34.9487	115CMTP35 Q56	115CMTP35 Q140	115CMTP35 Q180	-	-
203CMTP05	5.1053	203CMTP05 Q56	203CMTP05 Q140	203CMTP05 Q180	203CMTP05 Q210	-
203CMTP09	8.8732	203CMTP09 Q56	203CMTP09 Q140	203CMTP09 Q180	203CMTP09 Q210	-
203CMTP15	14.9231	203CMTP15 Q56	203CMTP15 Q140	203CMTP15 Q180	203CMTP15 Q210	-
203CMTP25	24.7409	203CMTP25 Q56	203CMTP25 Q140	203CMTP25 Q180	203CMTP25 Q210	-
203CMTP35	34.6429	203CMTP35 Q56	203CMTP35 Q140	203CMTP35 Q180	203CMTP35 Q210	-
207CMTP05	5.1579	207CMTP05 Q56	207CMTP05 Q140	207CMTP05 Q180	207CMTP05 Q210	-
207CMTP09	8.8308	207CMTP09 Q56	207CMTP09 Q140	207CMTP09 Q180	207CMTP09 Q210	-
207CMTP15	14.7870	207CMTP15 Q56	207CMTP15 Q140	207CMTP15 Q180	207CMTP15 Q210	-
207CMTP25	24.7094	207CMTP25 Q56	207CMTP25 Q140	207CMTP25 Q180	207CMTP25 Q210	-
207CMTP35	35.0000	207CMTP35 Q56	207CMTP35 Q140	207CMTP35 Q180	207CMTP35 Q210	-
215CMTP05	5.1667	215CMTP05 Q56	215CMTP05 Q140	215CMTP05 Q180	215CMTP05 Q210	215CMTP05 Q250
215CMTP09	8.8482	215CMTP09 Q56	215CMTP09 Q140	215CMTP09 Q180	215CMTP09 Q210	215CMTP09 Q250
215CMTP15	14.8187	215CMTP15 Q56	215CMTP15 Q140	215CMTP15 Q180	215CMTP15 Q210	215CMTP15 Q250
215CMTP25	24.8502	215CMTP25 Q56	215CMTP25 Q140	215CMTP25 Q180	215CMTP25 Q210	215CMTP25 Q250
215CMTP35	34.8154	215CMTP35 Q56	215CMTP35 Q140	215CMTP35 Q180	215CMTP35 Q210	215CMTP35 Q250
307CMTP05	5.1111	307CMTP05 Q56	307CMTP05 Q140	307CMTP05 Q180	307CMTP05 Q210	307CMTP05 Q250
307CMTP09	8.7925	307CMTP09 Q56	307CMTP09 Q140	307CMTP09 Q180	307CMTP09 Q210	307CMTP09 Q250
307CMTP15	14.9704	307CMTP15 Q56	307CMTP15 Q140	307CMTP15 Q180	307CMTP15 Q210	307CMTP15 Q250
307CMTP25	24.7692	307CMTP25 Q56	307CMTP25 Q140	307CMTP25 Q180	307CMTP25 Q210	307CMTP25 Q250
307CMTP35	34.8791	307CMTP35 Q56	307CMTP35 Q140	307CMTP35 Q180	307CMTP35 Q210	307CMTP35 Q250
315CMTP05	4.8824	315CMTP05 Q56	315CMTP05 Q140	315CMTP05 Q180	315CMTP05 Q210	315CMTP05 Q250
315CMTP09	8.8620	315CMTP09 Q56	315CMTP09 Q140	315CMTP09 Q180	315CMTP09 Q210	315CMTP09 Q250
315CMTP15	14.5744	315CMTP15 Q56	315CMTP15 Q140	315CMTP15 Q180	315CMTP15 Q210	315CMTP15 Q250
315CMTP25	24.4118	315CMTP25 Q56	315CMTP25 Q140	315CMTP25 Q180	315CMTP25 Q210	315CMTP25 Q250
315CMTP35	34.0513	315CMTP35 Q56	315CMTP35 Q140	315CMTP35 Q180	315CMTP35 Q210	315CMTP35 Q250

Note: See “Application Considerations” on back cover.

Example No. 2

Units 107 - 315 C-face Screw Conveyor Drive

A C-face shaft mount reducer is required for a screw conveyor transporting rice. The conveyor will be uniformly loaded and operates 18 to 24 hours per day. The screw is 12" diameter and has a 2" bore with three holes. The conveyor requires 5 hp and will operate at 70 rpm. The application requires a waste pack.

1. Determine the Load Classification

From the *AGMA Application Classification Numbers* section, note the AGMA Class Number is II for a uniformly loaded or fed screw conveyor operating over 10 hours per day.

2. Determine the Speed Reducer Required

From the *C-face Reducer Selection Chart* section, there are two tables for Class II Service. Locate the 70 rpm row in each table. Read across the row to find a column with a rating of 5 hp or greater. Read up the column to determine the basic reducer size that corresponds to the design hp. For this application, a 115CMTP05, 115CMTP09, 115CMTP15 or a 115CMTP25 may be used. For this example, select a 115CMTP25. When used with a 1750 rpm C-face motor, the 25:1 ratio will provide an output speed closest to the desired 70 rpm speed. Other ratios may be used, but to obtain the desired speed a variable frequency drive may be required. (Note: The motor and variable frequency drives are not included with the reducer.)

From the *CMTP Availability Table*, locate the row with the basic reducer size. At the top of the table, locate the column with the C-face motor frame designation required. The complete reducer part number is at the intersection of the selected row and column. For this example, a 115CMTP25 Q180 is selected.

3. Establish Sealing Required for Screw Conveyor

The waste pack cartridge is well suited for dry materials, such as rice. Specify the optional waste pack cartridge for the 115 shaft mount selected. From the *Accessories* section, select part 115-203WPP.

4. Select the Screw Conveyor Adapter and Screw Conveyor Shaft

Using the basic reducer size, required drive shaft and screw diameter for the selection; refer to *Screw Conveyor Drives* in the *Accessories* section. Note the specification was for a 2" drive shaft with a three hole arrangement for the 12" diameter screw. From the table select the 115SCA-P and the 115DSP200-3.

5. Select the Trough End

From the *Screw Conveyor Trough Ends Sizes 107-407* table, select the SCTE12 X 2 trough end.

6. List of Components:

1, **115CMTP25 Q180** reducer
1, **115SCA-P** screw conveyor adapter
1, **115DSP200-3** screw conveyor drive shaft kit
1, **115-203WPP** waste pack cartridge
1, **SCTE12X2** trough end
1, C-face motor (separate) ▲

▲ Refer to C-Face standard and stainless steel motors section for product information.

CMTP Exact Ratios

Reducer Size	Ratio Symbols				
	05	09	15	25	35
107	5.0588	8.8205	14.8276	24.7250	34.8778
115	4.7000	8.8125	14.7759	24.8558	34.9487
203	5.1053	8.8732	14.9231	24.7409	34.6429
207	5.1579	8.8308	14.7870	24.7094	35.0000
215	5.1667	8.8482	14.8187	24.8502	34.8154
307	5.1111	8.7925	14.9704	24.7692	34.8791
315	4.8824	8.8620	14.5744	24.4118	34.0513

Note: See “Application Considerations” on back cover.

Classification Numbers

Application	AGMA Class Numbers		
	Up to 3 Hours Per Day	3-10 Hours Per Day	Over 10 Hours Per Day
AGITATORS (Mixers)			
Pure Liquids	I	I	II
Liquids and Solids	I	II	II
Liquids - Variable Density	I	II	II
BLOWERS			
Centrifugal & Vane	I	I	II
Lobe	I	II	II
Vane	I	II	II
BREWING AND DISTILLING			
Bottling Machinery	I	I	II
Brew Kettles - Continuous Duty	II	II	II
Cookers - Continuous Duty	II	II	II
Mash Tubs - Continuous Duty	II	II	II
Scale Hopper - Frequent Starts	II	II	II
CAN FILLING MACHINES	I	I	II
CAR DUMPERS	II	III	III
CAR PULLERS	I	II	II
CLARIFIERS	I	I	II
CLASSIFIERS	I	II	II
CLAY WORKING MACHINERY			
Brick Presses	II	III	III
Briquette Machines	II	III	III
Pug Mills	I	II	II
COMPACTORS	♦	♦	♦
COMPRESSORS			
Centrifugal	I	I	II
Lobe	I	II	II
Reciprocating, Multi-Cylinder	II	II	III
Reciprocating, Single-Cylinder	III	III	III
CONVEYORS - GENERAL PURPOSE			
Includes Apron, Assembly, Belt, Bucket			
Chain, Flight, Oven, and Screw			
Uniformly Loaded or Fed	I	I	II
Heavy Duty - Not Uniformly Fed	I	II	II
Severe Duty - Reciprocating or Shaker	II	III	III
CRANES			
Dry Dock			
Main Hoist	♦	♦	♦
Auxiliary Hoist	♦	♦	♦
Boom Hoist	♦	♦	♦
Slewing Drive	♦	♦	♦
Traction Drive	♦	♦	♦
Container			
Main Hoist	♦	♦	♦
Boom Hoist	♦	♦	♦
Trolley Drive			
Gantry Drive	♦	♦	♦
Traction Drive	♦	♦	♦
Mill Duty			
Main Hoist	♦	♦	♦
Auxiliary	♦	♦	♦
Bridge Travel	♦	♦	♦
Trolley Travel	♦	♦	♦
Industrial Duty			
Main	♦	♦	♦
Auxiliary	♦	♦	♦
Bridge Travel	♦	♦	♦
Trolley Travel	♦	♦	♦
CRUSHERS			
Stone or Ore	III	III	III
DREDGES			
Cable Reels	II	II	II
Conveyors	II	II	II
Cutter Head Drives	III	III	III
Pumps	III	III	III
Screen Drives	III	III	III
Stackers	II	II	II
Winches	II	II	II
ELEVATORS			
Bucket	I	II	II
Centrifugal Discharge	I	I	II
Escalators	I	I	II
Freight	I	II	II
Gravity Discharge	I	I	II
EXTRUDERS			
General	II	II	II
Plastics			
Variable Speed Drive	III	III	III
Fixed Speed Drive	III	III	III
Rubber			
Continuous Screw Operation	III	III	III
Intermittent Screw Operation	III	III	III
FANS			
Centrifugal	I	I	II

Application	AGMA Class Numbers		
	Up to 3 Hours Per Day	3-10 Hours Per Day	Over 10 Hours Per Day
FANS (Cont'd)			
Cooling Towers	III	III	III
Forced Draft	II	II	II
Induced Draft	II	II	II
Industrial & Mine	II	II	II
FEEDERS			
Apron	I	II	II
Belt	I	II	II
Disc	I	I	II
Reciprocating	II	III	III
Screw	I	II	II
FOOD INDUSTRY			
Cereal Cooker	I	I	II
Dough Mixer	II	II	II
Meat Grinders	II	II	II
Slicers	I	II	II
GENERATORS AND EXCITERS	II	II	II
HAMMER MILLS	III	III	III
HOISTS			
Heavy Duty	♦	♦	♦
Medium Duty	♦	♦	♦
Skip Hoist	♦	♦	♦
LAUNDRY TUMBLERS	II	II	II
LAUNDRY WASHERS	II	II	III
LUMBER INDUSTRY			
Barkers			
Spindle Feed	II	II	II
Main Drive	III	III	III
Conveyors			
Burner	II	II	II
Main or Heavy Duty	II	II	II
Main Log	III	III	III
Re-saw, Merry-Go-Round	II	II	II
Slab	III	III	III
Transfer	II	II	II
Chains			
Floor	II	II	II
Green	II	II	III
Cut-Off-Saws			
Chain	II	II	III
Drag	II	II	III
Debarking Drums	III	III	III
Feeds			
Edger	II	II	II
Gang	II	III	III
Trimmer	II	II	II
Log Deck	III	III	III
Log Hauls - Incline - Well Type	III	III	III
Log Turning Devices	III	III	III
Planer Feed	II	II	II
Planer Tilting Hoists	II	II	II
Rolls - Live-Off Brg - Roll Cases	III	III	III
Sorting Table	II	II	II
Tipple Hoist	II	II	II
Transfer			
Chain	II	II	III
Craneway	II	II	III
Tray Drives	II	II	II
Veneer Lathe Drives	II	II	II
METAL MILLS			
Draw Bench Carriage and Main Drive	II	II	II
Runout Table			
Non-Reversing			
Group Drives	II	II	II
Individual Drives	III	III	III
Reversing	III	III	III
Slab Pushers	II	II	II
Shears	III	III	III
Wire Drawing	II	II	II
Wire Winding Machine	II	II	II
METAL STRIP PROCESSING MACHINERY			
Bridges	II	II	II
Collers & Uncoilers	I	I	II
Edge Trimmers	I	II	II
Flatteners	II	II	II
Loopers (Accumulators)	I	I	I
Pinch Rolls	II	II	II
Scrap Choppers	II	II	II
Shears	III	III	III
Slitters	I	II	II
MILLS, ROTARY TYPE			
Ball & Rod			
Spur Ring Gear	III	III	III
Helical Ring Gear	II	II	II
Direct Connected	III	III	III

Classification Numbers

Application	AGMA Class Numbers		
	Up to 3 Hours Per Day	3-10 Hours Per Day	Over 10 Hours Per Day
MILLS, ROTARY TYPE (Cont'd)			
Cement Kilns	II	II	II
Dryers & Coolers	II	II	II
PAPER MILLS[1]			
Agitator (Mixer)	II	II	II
Agitator For Pure Liquors	II	II	II
Barking Drums	III	III	III
Barkers - Mechanical	III	III	III
Beater	II	II	II
Breaker Stack	II	II	II
Calendar[2]	II	II	II
Chipper	III	III	III
Chip Feeder	II	II	II
Coating Rolls	II	II	II
Conveyors			
Chip, Bark, Chemical	II	II	II
Log (Including Slab)	III	III	III
Couch Rolls	II	II	II
Cutter	III	III	III
Cylinder Molds	II	II	II
Dryers[2]			
Paper Machine	II	II	II
Conveyor Type	II	II	II
Embosser	II	II	II
Extruder	II	II	II
Fourdrinier Rolls (Includes Lump Breaker, Dandy Roll, Wire Turning, and Return Rolls)	II	II	II
Jordan	II	II	II
Kiln Drive	II	II	II
Mt. Hope Roll	II	II	II
Paper Rolls	II	II	II
Platter	II	II	II
Presses - Felt Suction	II	II	II
Pulper	III	III	III
Pumps - Vacuum	II	II	II
Reel (Surface - Type)	II	II	II
Screens			
Chip	II	II	II
Rotary	II	II	II
Vibrating	III	III	III
Size Press	II	II	II
Supercalendar	II	II	II
Thickener (AC Motor)	II	II	II
Thickener (DC Motor)	II	II	II
Washer (AC Motor)	II	II	II
Washer (DC Motor)	II	II	II
Wind and Unwind Stand	I	I	I
Winders (Surface Type)	II	II	II
Yankee Dryers[2]	II	II	II
PLASTICS INDUSTRY PRIMARY PROCESSING			
Intensive Internal Mixers			
Batch Mixers	III	III	III
Continuous Mixers	II	II	II
Batch Drop Mill - 2 Smooth Rolls	II	II	II
Continuous Feed, Holding & Blend Mill	II	II	II
Calendars	II	II	II
PLASTICS INDUSTRY SECONDARY PROCESSING			
Blow Molders	II	II	II
Coating	II	II	II
Film	II	II	II
Pipe	II	II	II
Pre-Plasticizers	II	II	II
Rods	II	II	II
Sheet	II	II	II
Tubing	II	II	II
PULLERS - BARGE HAUL	II	II	II
PUMPS			
Centrifugal	I	I	II
Proportioning	II	II	II
Reciprocating			
Single Acting, 3 or more Cylinders	II	II	II
Double Acting, 2 or more Cylinders	II	II	II
Rotary			
Gear Type	I	I	II
Lobe	I	I	II
Vane	I	I	II
RUBBER INDUSTRY			
Intensive Internal Mixers			
Batch Mixers	III	III	III
Continuous Mixers	II	II	II
Mixing Mill			
2 Smooth Rolls	II	II	II
1 or 2 Corrugated Rolls	III	III	III

Application	AGMA Class Numbers		
	Up to 3 Hours Per Day	3-10 Hours Per Day	Over 10 Hours Per Day
RUBBER INDUSTRY (Cont'd)			
Batch Drop Mill - 2 Smooth Rolls	II	II	II
Cracker Warmer - 2 Roll, 1 Corrugated Roll	III	III	III
Cracker - 2 Corrugated Rolls	III	III	III
Holding, Feed & Blend Mill - 2 Rolls	II	II	II
Refiner - 2 Rolls	II	II	II
Calendars	II	II	II
SAND MULLER	II	II	II
SEWAGE DISPOSAL EQUIPMENT			
Bar Screens	II	II	II
Chemical Feeder	II	II	II
Dewatering Screens	II	II	II
Scum Breakers	II	II	II
Slow or Rapid Mixers	II	II	II
Sludge Collectors	II	II	II
Thickener	II	II	II
Vacuum Filters	II	II	II
SCREENS			
Air Washing	I	I	II
Rotary - Stone or Gravel	II	II	II
Traveling Water Intake	I	I	I
SCREW CONVEYORS			
Uniformly Loaded or Fed	I	I	II
Heavy Duty	I	II	II
SUGAR INDUSTRY			
Beet Slicer	III	III	III
Cane Knives	II	II	II
Crushers	II	II	II
Mills (Low Speed End)	III	III	III
TEXTILE INDUSTRY			
Batchers	II	II	II
Calendars	II	II	II
Cards	II	II	II
Dry Cans	II	II	II
Dyeing Machinery	II	II	II
Looms	II	II	II
Mangles	II	II	II
Nappers	II	II	II
Pads	II	II	II
Slashers	II	II	II
Soapers	II	II	II
Spinners	II	II	II
Tenter Frames	II	II	II
Washers	II	II	II
Winders	II	II	II

Notes:

1) The Class numbers listed in the table for paper mill applications are consistent with those shown in TAPPI *(Technical Association of Pulp and Paper Industry)* Technical information sheet 0406-18 1967, *Service Factors for Gears on Major Equipment in the Pulp and Paper Industry.*
2) Anti-friction bearings only.

♦ Contact Application Engineering (1 800 626 2093) for the selection of an AGMA Class Numbers in these applications.

CMTP Selection Chart

Class I Service (1.0 S.F.)

Single Reduction														
Output RPM	107CMTP05		115CMTP05		203CMTP05		207CMTP05		215CMTP05		307CMTP05		315CMTP05	
	Input HP	Output Torque (In-lbs)	Input HP	Output Torque (In-lbs)	Input HP	Output Torque (In-lbs)	Input HP	Output Torque (In-lbs)	Input HP	Output Torque (In-lbs)	Input HP	Output Torque (In-lbs)	Input HP	Output Torque (In-lbs)
5	0.26	3,184	0.52	6,310	0.85	10,324	1.04	12,555	1.63	19,721	2.45	29,661	3.14	38,026
10	0.53	3,184	1.04	6,310	1.71	10,324	2.08	12,555	3.26	19,721	4.90	29,661	6.28	38,026
20	1.05	3,184	2.09	6,310	3.41	10,324	4.15	12,555	6.52	19,721	9.80	29,661	12.57	38,026
30	1.58	3,184	3.13	6,310	5.12	10,324	6.23	12,555	9.78	19,721	14.71	29,661	18.85	38,026
40	2.11	3,184	4.17	6,310	6.83	10,324	8.30	12,555	13.04	19,721	19.61	29,661	25.14	38,026
50	2.63	3,184	5.21	6,310	8.53	10,324	10.38	12,555	16.30	19,721	24.51	29,661	31.42	38,026
60	3.16	3,184	6.26	6,310	10.24	10,324	12.45	12,555	19.56	19,721	29.41	29,661	37.71	38,026
70	3.68	3,184	7.30	6,310	11.94	10,324	14.53	12,555	22.82	19,721	34.32	29,661	43.99	38,026
80	4.21	3,184	8.34	6,310	13.65	10,324	16.60	12,555	26.08	19,721	39.22	29,661	50.28	38,026
90	4.74	3,184	9.39	6,310	15.36	10,324	18.68	12,555	29.34	19,721	44.12	29,661	56.25	37,815
100	5.09	3,081	10.10	6,110	16.52	9,996	20.07	12,145	31.34	18,959	46.88	28,361	56.25	34,034
110	5.44	2,990	10.79	5,935	17.65	9,707	21.44	11,795	33.41	18,374	46.88	25,783	56.25	30,940
120	5.77	2,910	11.46	5,779	18.75	9,451	22.78	11,484	35.40	17,850	46.88	23,634	56.25	28,361
130	6.10	2,837	12.11	5,638	19.81	9,221	24.08	11,207	37.35	17,383	46.88	21,816	56.25	26,180
140	6.41	2,772	12.75	5,512	20.86	9,014	25.34	10,952	37.50	16,206	46.88	20,258	56.25	24,310
150	6.72	2,712	13.38	5,397	20.93	8,440	26.58	10,722	37.50	15,126	46.88	18,908	56.25	22,689
160	7.03	2,657	13.99	5,290	20.93	7,913	27.80	10,514	37.50	14,181	46.88	17,726	56.25	21,271
170	7.33	2,607	14.59	5,193	20.93	7,447	28.99	10,319	37.50	13,346	46.88	16,683	56.25	20,020
180	7.62	2,561	15.18	5,104	20.93	7,034	30.17	10,142	37.50	12,605	46.88	15,756	56.25	18,908
190	7.91	2,517	15.19	4,836	20.93	6,663	31.32	9,975	37.50	11,942	46.88	14,927	56.25	17,912
200	8.19	2,477	15.19	4,595	20.93	6,330	32.45	9,817	37.50	11,345	46.88	14,181	56.25	17,017
210	8.46	2,439	15.19	4,376	20.93	6,029	32.81	9,454	37.50	10,804	46.88	13,505	56.25	16,206
220	8.74	2,402	15.19	4,177	20.93	5,755	32.81	9,024	37.50	10,313	46.88	12,891	56.25	15,470
230	9.01	2,369	15.19	3,995	20.93	5,505	32.81	8,632	37.50	9,865	46.88	12,331	56.25	14,797
240	9.27	2,337	15.19	3,829	20.93	5,275	32.81	8,272	37.50	9,454	46.88	11,817	56.25	14,181
250	9.53	2,307	15.19	3,676	20.93	5,064	32.81	7,941	37.50	9,076	46.88	11,345	56.25	13,613
260	9.79	2,278	15.19	3,534	20.93	4,869	32.81	7,636	37.50	8,727	46.88	10,908	56.25	13,090
270	10.05	2,251	15.19	3,403	20.93	4,689	32.81	7,353	37.50	8,403	46.88	10,504	56.25	12,605
280	10.30	2,225	15.19	3,282	20.93	4,522	32.81	7,090	37.50	8,103	46.88	10,129	56.25	12,155
290	10.55	2,200	15.19	3,169	20.93	4,366	32.81	6,846	37.50	7,824	46.88	9,780	56.25	11,736
300	10.79	2,176	15.19	3,063	20.93	4,220	32.81	6,618	37.50	7,563	46.88	9,454	56.25	11,345
310	11.04	2,154	15.19	2,964	20.93	4,084	32.81	6,404	37.50	7,319	46.88	9,149	56.25	10,979
320	11.28	2,132	15.19	2,872	20.93	3,956	32.81	6,204	37.50	7,090	46.88	8,863	56.25	10,635
330	11.52	2,111	15.19	2,785	20.93	3,837	32.81	6,016	37.50	6,875	46.88	8,594	56.25	10,313
340	11.75	2,091	15.19	2,703	20.93	3,724	32.81	5,839	37.50	6,673	46.88	8,342	56.25	10,010
350	11.81	2,042	15.19	2,625	20.93	3,617	32.81	5,672	37.50	6,483	46.88	8,103	56.25	9,724
360	11.81	1,985	15.19	2,553	20.93	3,517	32.81	5,515	37.50	6,303	46.88	7,878	56.25	9,454
370	11.81	1,932	15.19	2,484	20.93	3,422	32.81	5,366	37.50	6,132	46.88	7,665	56.25	9,198
380	11.81	1,881	15.19	2,418	20.93	3,332	32.81	5,224	37.50	5,971	46.88	7,463	56.25	8,956
390	11.81	1,833	15.19	2,356	20.93	3,246	32.81	5,090	37.50	5,818	46.88	7,272	56.25	8,727
400	11.81	1,787	15.19	2,297	20.93	3,165	32.81	4,963	37.50	5,672	46.88	7,090	56.25	8,508

CMTP Selection Chart

Class I Service (1.0 S.F.)

Double Reduction														
Output RPM	107CMTP09 107CMTP15 107CMTP25 107CMTP35		115CMTP09 115CMTP15 115CMTP25 115CMTP35		203CMTP09 203CMTP15 203CMTP25 203CMTP35		207CMTP09 207CMTP15 207CMTP25 207CMTP35		215CMTP09 215CMTP15 215CMTP25 215CMTP35		307CMTP09 307CMTP15 307CMTP25 307CMTP35		315CMTP09 315CMTP15 315CMTP25 315CMTP35	
	Input HP	Output Torque (In-lbs)	Input HP	Output Torque (In-lbs)	Input HP	Output Torque (In-lbs)	Input HP	Output Torque (In-lbs)	Input HP	Output Torque (In-lbs)	Input HP	Output Torque (In-lbs)	Input HP	Output Torque (In-lbs)
5	0.50	6,081	0.70	8,516	1.22	14,760	1.93	23,348	3.11	37,659	5.19	62,791	5.76	69,693
10	0.97	5,853	1.31	7,919	2.27	13,718	3.58	21,689	5.82	35,241	10.05	60,784	11.52	69,693
20	1.86	5,622	2.51	7,594	4.34	13,121	6.86	20,750	11.09	33,554	19.24	58,206	23.04	69,693
30	2.72	5,483	3.71	7,492	6.41	12,937	10.14	20,450	16.39	33,053	28.09	56,660	34.56	69,693
40	3.56	5,384	4.90	7,415	8.46	12,798	13.37	20,223	21.60	32,671	36.30	54,904	46.07	69,693
50	4.38	5,305	6.08	7,352	10.48	12,685	16.56	20,037	26.74	32,360	42.43	51,349	56.25	68,067
60	5.20	5,240	7.24	7,298	12.48	12,588	19.19	19,352	31.77	32,038	46.88	47,269	56.25	56,723
70	6.00	5,184	8.39	7,251	13.76	11,892	21.38	18,477	35.39	30,588	46.88	40,516	56.25	48,619
80	6.79	5,135	9.53	7,209	14.95	11,307	23.47	17,752	37.50	28,361	46.88	35,452	56.25	42,542
90	7.57	5,092	10.67	7,171	16.09	10,815	25.49	17,136	37.50	25,210	46.88	31,513	56.25	37,815
100	8.35	5,053	11.80	7,137	17.17	10,390	27.44	16,602	37.50	22,689	46.88	28,361	56.25	34,034
110	9.12	5,017	12.92	7,104	18.30	10,066	29.33	16,134	37.50	20,626	46.88	25,783	56.25	30,940
120	9.88	4,984	14.03	7,074	19.40	9,779	31.18	15,719	37.50	18,908	46.88	23,634	56.25	28,361
130	10.64	4,953	15.14	7,046	20.46	9,521	32.81	15,271	37.50	17,453	46.88	21,816	56.25	26,180
140	11.40	4,925	15.19	6,564	20.93	9,043	32.81	14,181	37.50	16,206	46.88	20,258	56.25	24,310
150	11.81	4,765	15.19	6,126	20.93	8,440	32.81	13,235	37.50	15,126	46.88	18,908	56.25	22,689
160	11.81	4,467	15.19	5,743	20.93	7,913	32.81	12,408	37.50	14,181	46.88	17,726	56.25	21,271
170	11.81	4,204	15.19	5,405	20.93	7,447	32.81	11,678	37.50	13,346	46.88	16,683	56.25	20,020
180	11.81	3,971	15.19	5,105	20.93	7,034	32.81	11,029	37.50	12,605	46.88	15,756	56.25	18,908
190	11.81	3,762	15.19	4,836	20.93	6,663	32.81	10,449	37.50	11,942	46.88	14,927	56.25	17,912
200	11.81	3,574	15.19	4,595	20.93	6,330	32.81	9,926	37.50	11,345	46.88	14,181	56.25	17,017

CMTP Selection Chart

Class II Service (1.4 S.F.)

Single Reduction														
Output RPM	107CMTP05		115CMTP05		203CMTP05		207CMTP05		215CMTP05		307CMTP05		315CMTP05	
	Input HP	Output Torque (In-lbs)	Input HP	Output Torque (In-lbs)	Input HP	Output Torque (In-lbs)	Input HP	Output Torque (In-lbs)	Input HP	Output Torque (In-lbs)	Input HP	Output Torque (In-lbs)	Input HP	Output Torque (In-lbs)
5	0.19	2,274	0.37	4,507	0.61	7,374	0.74	8,968	1.16	14,087	1.75	21,187	2.24	27,162
10	0.38	2,274	0.74	4,507	1.22	7,374	1.48	8,968	2.33	14,087	3.50	21,187	4.49	27,162
20	0.75	2,274	1.49	4,507	2.44	7,374	2.96	8,968	4.66	14,087	7.00	21,187	8.98	27,162
30	1.13	2,274	2.23	4,507	3.66	7,374	4.45	8,968	6.98	14,087	10.51	21,187	13.47	27,162
40	1.50	2,274	2.98	4,507	4.88	7,374	5.93	8,968	9.31	14,087	14.01	21,187	17.96	27,162
50	1.88	2,274	3.72	4,507	6.09	7,374	7.41	8,968	11.64	14,087	17.51	21,187	22.45	27,162
60	2.26	2,274	4.47	4,507	7.31	7,374	8.89	8,968	13.97	14,087	21.01	21,187	26.94	27,162
70	2.63	2,274	5.21	4,507	8.53	7,374	10.38	8,968	16.30	14,087	24.51	21,187	31.42	27,162
80	3.01	2,274	5.96	4,507	9.75	7,374	11.86	8,968	18.63	14,087	28.01	21,187	35.91	27,162
90	3.38	2,274	6.70	4,507	10.97	7,374	13.34	8,968	20.95	14,087	31.52	21,187	40.40	27,162
100	3.64	2,201	7.21	4,364	11.80	7,140	14.34	8,675	22.38	13,542	33.68	20,376	43.46	26,294
110	3.88	2,136	7.71	4,239	12.61	6,934	15.32	8,425	23.86	13,125	35.89	19,743	46.45	25,548
120	4.12	2,078	8.19	4,128	13.39	6,751	16.27	8,203	25.29	12,750	38.07	19,194	49.34	24,879
130	4.35	2,027	8.65	4,027	14.15	6,587	17.20	8,005	26.68	12,416	40.15	18,688	52.15	24,274
140	4.58	1,980	9.11	3,937	14.90	6,438	18.10	7,823	28.03	12,113	42.19	18,234	54.93	23,738
150	4.80	1,937	9.56	3,855	15.63	6,303	18.99	7,659	29.35	11,839	44.18	17,821	56.25	22,689
160	5.02	1,898	9.99	3,779	16.34	6,179	19.86	7,510	30.64	11,585	46.12	17,441	56.25	21,271
170	5.23	1,862	10.42	3,710	17.04	6,063	20.71	7,370	31.89	11,351	46.88	16,683	56.25	20,020
180	5.44	1,829	10.85	3,646	17.72	5,958	21.55	7,244	33.13	11,136	46.88	15,756	56.25	18,908
190	5.65	1,798	11.26	3,585	18.40	5,860	22.37	7,125	34.34	10,937	46.88	14,927	56.25	17,912
200	5.85	1,769	11.67	3,529	19.07	5,768	23.18	7,012	35.53	10,748	46.88	14,181	56.25	17,017
210	6.05	1,742	12.07	3,477	19.72	5,681	23.97	6,906	36.69	10,572	46.88	13,505	56.25	16,206
220	6.24	1,716	12.46	3,428	20.36	5,600	24.76	6,808	37.50	10,313	46.88	12,891	56.25	15,470
230	6.43	1,692	12.85	3,380	20.93	5,505	25.54	6,718	37.50	9,865	46.88	12,331	56.25	14,797
240	6.62	1,669	13.23	3,336	20.93	5,275	26.29	6,628	37.50	9,454	46.88	11,817	56.25	14,181
250	6.81	1,648	13.62	3,296	20.93	5,064	27.04	6,545	37.50	9,076	46.88	11,345	56.25	13,613
260	6.99	1,627	13.99	3,256	20.93	4,869	27.79	6,467	37.50	8,727	46.88	10,908	56.25	13,090
270	7.18	1,608	14.36	3,218	20.93	4,689	28.53	6,393	37.50	8,403	46.88	10,504	56.25	12,605
280	7.35	1,589	14.72	3,182	20.93	4,522	29.27	6,324	37.50	8,103	46.88	10,129	56.25	12,155
290	7.53	1,572	15.09	3,148	20.93	4,366	29.98	6,254	37.50	7,824	46.88	9,780	56.25	11,736
300	7.71	1,555	15.19	3,063	20.93	4,220	30.69	6,189	37.50	7,563	46.88	9,454	56.25	11,345
310	7.88	1,539	15.19	2,964	20.93	4,084	31.40	6,128	37.50	7,319	46.88	9,149	56.25	10,979
320	8.06	1,523	15.19	2,872	20.93	3,956	32.09	6,068	37.50	7,090	46.88	8,863	56.25	10,635
330	8.23	1,508	15.19	2,785	20.93	3,837	32.76	6,007	37.50	6,875	46.88	8,594	56.25	10,313
340	8.39	1,494	15.19	2,703	20.93	3,724	32.81	5,839	37.50	6,673	46.88	8,342	56.25	10,010
350	8.56	1,480	15.19	2,625	20.93	3,617	32.81	5,672	37.50	6,483	46.88	8,103	56.25	9,724
360	8.73	1,467	15.19	2,553	20.93	3,517	32.81	5,515	37.50	6,303	46.88	7,878	56.25	9,454
370	8.89	1,454	15.19	2,484	20.93	3,422	32.81	5,366	37.50	6,132	46.88	7,665	56.25	9,198
380	9.05	1,441	15.19	2,418	20.93	3,332	32.81	5,224	37.50	5,971	46.88	7,463	56.25	8,956
390	9.22	1,430	15.19	2,356	20.93	3,246	32.81	5,090	37.50	5,818	46.88	7,272	56.25	8,727
400	9.37	1,418	15.19	2,297	20.93	3,165	32.81	4,963	37.50	5,672	46.88	7,090	56.25	8,508

Class II Service (1.4 S.F.)

Double Reduction														
Output RPM	107CMTP09 107CMTP15 107CMTP25 107CMTP35		115CMTP09 115CMTP15 115CMTP25 115CMTP35		203CMTP09 203CMTP15 203CMTP25 203CMTP35		207CMTP09 207CMTP15 207CMTP25 207CMTP35		215CMTP09 215CMTP15 215CMTP25 215CMTP35		307CMTP09 307CMTP15 307CMTP25 307CMTP35		315CMTP09 315CMTP15 315CMTP25 315CMTP35	
	Input HP	Output Torque (In-lbs)	Input HP	Output Torque (In-lbs)	Input HP	Output Torque (In-lbs)	Input HP	Output Torque (In-lbs)	Input HP	Output Torque (In-lbs)	Input HP	Output Torque (In-lbs)	Input HP	Output Torque (In-lbs)
5	0.36	4,343	0.50	6,083	0.87	10,543	1.38	16,677	2.22	26,899	3.71	44,851	4.11	49,780
10	0.69	4,181	0.93	5,656	1.62	9,798	2.56	15,492	4.16	25,172	7.18	43,417	8.23	49,780
20	1.33	4,016	1.79	5,425	3.10	9,372	4.90	14,822	7.92	23,967	13.74	41,576	16.46	49,780
30	1.94	3,917	2.65	5,352	4.58	9,241	7.24	14,607	11.71	23,609	20.07	40,471	24.68	49,780
40	2.54	3,845	3.50	5,296	6.04	9,142	9.55	14,445	15.43	23,337	25.93	39,217	32.91	49,780
50	3.13	3,789	4.34	5,251	7.49	9,060	11.83	14,312	19.10	23,114	30.31	36,678	41.14	49,780
60	3.71	3,743	5.17	5,213	8.92	8,991	13.71	13,823	22.69	22,884	34.44	34,725	48.86	49,269
70	4.28	3,703	5.99	5,179	9.83	8,494	15.27	13,198	25.28	21,849	38.36	33,156	56.25	48,619
80	4.85	3,668	6.81	5,149	10.68	8,077	16.77	12,680	27.76	20,992	42.12	31,855	56.25	42,542
90	5.41	3,637	7.62	5,122	11.49	7,725	18.21	12,240	30.14	20,263	45.74	30,747	56.25	37,815
100	5.96	3,609	8.43	5,098	12.27	7,421	19.60	11,858	32.45	19,632	46.88	28,361	56.25	34,034
110	6.51	3,583	9.23	5,075	13.07	7,190	20.95	11,524	34.69	19,078	46.88	25,783	56.25	30,940
120	7.06	3,560	10.02	5,053	13.85	6,985	22.27	11,228	36.87	18,588	46.88	23,634	56.25	28,361
130	7.60	3,538	10.81	5,033	14.61	6,801	23.55	10,961	37.50	17,453	46.88	21,816	56.25	26,180
140	8.14	3,518	11.60	5,014	15.35	6,635	24.80	10,720	37.50	16,206	46.88	20,258	56.25	24,310
150	8.67	3,499	12.32	4,971	16.07	6,483	26.03	10,501	37.50	15,126	46.88	18,908	56.25	22,689
160	8.84	3,342	12.89	4,875	16.78	6,344	27.24	10,299	37.50	14,181	46.88	17,726	56.25	21,271
170	9.20	3,273	13.45	4,788	17.46	6,215	28.42	10,113	37.50	13,346	46.88	16,683	56.25	20,020
180	9.55	3,209	14.00	4,706	18.14	6,097	29.57	9,941	37.50	12,605	46.88	15,756	56.25	18,908
190	9.89	3,149	14.54	4,631	18.80	5,986	30.71	9,781	37.50	11,942	46.88	14,927	56.25	17,912
200	10.23	3,094	15.07	4,560	19.45	5,884	31.84	9,632	37.50	11,345	46.88	14,181	56.25	17,017

CMTP Selection Chart

Class III Service (2.0 S.F.)

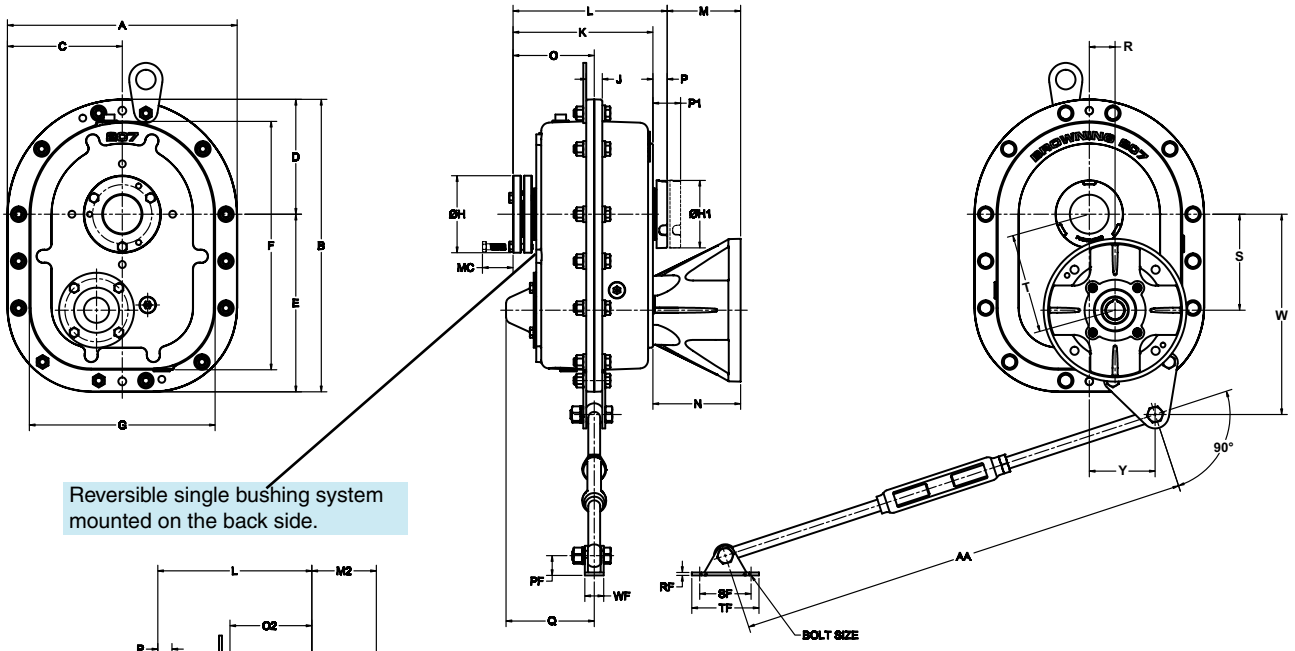
Single Reduction														
Output RPM	107CMTP05		115CMTP05		203CMTP05		207CMTP05		215CMTP05		307CMTP05		315CMTP05	
	Input HP	Output Torque (In-lbs)	Input HP	Output Torque (In-lbs)	Input HP	Output Torque (In-lbs)	Input HP	Output Torque (In-lbs)	Input HP	Output Torque (In-lbs)	Input HP	Output Torque (In-lbs)	Input HP	Output Torque (In-lbs)
5	0.13	1,592	0.26	3,155	0.43	5,162	0.52	6,278	0.81	9,861	1.23	14,831	1.57	19,013
10	0.26	1,592	0.52	3,155	0.85	5,162	1.04	6,278	1.63	9,861	2.45	14,831	3.14	19,013
20	0.53	1,592	1.04	3,155	1.71	5,162	2.08	6,278	3.26	9,861	4.90	14,831	6.28	19,013
30	0.79	1,592	1.56	3,155	2.56	5,162	3.11	6,278	4.89	9,861	7.35	14,831	9.43	19,013
40	1.05	1,592	2.09	3,155	3.41	5,162	4.15	6,278	6.52	9,861	9.80	14,831	12.57	19,013
50	1.32	1,592	2.61	3,155	4.27	5,162	5.19	6,278	8.15	9,861	12.26	14,831	15.71	19,013
60	1.58	1,592	3.13	3,155	5.12	5,162	6.23	6,278	9.78	9,861	14.71	14,831	18.85	19,013
70	1.84	1,592	3.65	3,155	5.97	5,162	7.26	6,278	11.41	9,861	17.16	14,831	22.00	19,013
80	2.11	1,592	4.17	3,155	6.83	5,162	8.30	6,278	13.04	9,861	19.61	14,831	25.14	19,013
90	2.37	1,592	4.69	3,155	7.68	5,162	9.34	6,278	14.67	9,861	22.06	14,831	28.28	19,013
100	2.55	1,540	5.05	3,055	8.26	4,998	10.04	6,073	15.67	9,480	23.57	14,263	30.42	18,406
110	2.72	1,495	5.39	2,967	8.82	4,853	10.72	5,898	16.70	9,187	25.13	13,820	32.51	17,884
120	2.89	1,455	5.73	2,889	9.37	4,726	11.39	5,742	17.70	8,925	26.65	13,436	34.54	17,415
130	3.05	1,419	6.06	2,819	9.91	4,611	12.04	5,603	18.67	8,691	28.11	13,082	36.51	16,991
140	3.21	1,386	6.38	2,756	10.43	4,507	12.67	5,476	19.62	8,479	29.53	12,764	38.45	16,617
150	3.36	1,356	6.69	2,698	10.94	4,412	13.29	5,361	20.55	8,287	30.93	12,475	40.33	16,266
160	3.51	1,329	7.00	2,645	11.44	4,325	13.90	5,257	21.44	8,109	32.29	12,209	42.20	15,957
170	3.66	1,304	7.30	2,597	11.93	4,244	14.50	5,159	22.33	7,946	33.63	11,967	44.00	15,659
180	3.81	1,280	7.59	2,552	12.41	4,170	15.09	5,071	23.19	7,796	34.93	11,742	45.79	15,391
190	3.95	1,259	7.88	2,509	12.88	4,102	15.66	4,987	24.04	7,656	36.19	11,524	47.53	15,136
200	4.09	1,238	8.17	2,470	13.35	4,038	16.23	4,908	24.87	7,524	37.47	11,335	49.24	14,897
210	4.23	1,219	8.45	2,434	13.80	3,977	16.78	4,834	25.69	7,401	38.68	11,145	50.99	14,690
220	4.37	1,201	8.72	2,399	14.25	3,920	17.33	4,766	26.49	7,286	39.90	10,973	52.66	14,482
230	4.50	1,185	9.00	2,366	14.70	3,866	17.88	4,703	27.29	7,178	41.10	10,812	54.25	14,272
240	4.63	1,168	9.26	2,335	15.14	3,816	18.40	4,639	28.07	7,076	42.29	10,662	55.93	14,099
250	4.77	1,153	9.53	2,307	15.57	3,768	18.93	4,582	28.83	6,976	43.42	10,509	56.25	13,613
260	4.89	1,139	9.79	2,279	16.00	3,723	19.45	4,527	29.58	6,883	44.55	10,368	56.25	13,090
270	5.02	1,126	10.05	2,253	16.42	3,679	19.97	4,475	30.34	6,798	45.69	10,238	56.25	12,605
280	5.15	1,112	10.31	2,227	16.84	3,638	20.49	4,427	31.06	6,712	46.83	10,120	56.25	12,155
290	5.27	1,100	10.56	2,203	17.25	3,599	20.98	4,378	31.79	6,633	46.88	9,780	56.25	11,736
300	5.40	1,088	10.81	2,180	17.66	3,561	21.48	4,332	32.51	6,558	46.88	9,454	56.25	11,345
310	5.52	1,077	11.06	2,159	18.06	3,525	21.98	4,290	33.21	6,482	46.88	9,149	56.25	10,979
320	5.64	1,066	11.31	2,138	18.46	3,490	22.46	4,247	33.92	6,414	46.88	8,863	56.25	10,635
330	5.76	1,056	11.55	2,117	18.85	3,457	22.93	4,205	34.61	6,346	46.88	8,594	56.25	10,313
340	5.88	1,046	11.79	2,099	19.25	3,425	23.41	4,166	35.30	6,282	46.88	8,342	56.25	10,010
350	5.99	1,036	12.03	2,080	19.64	3,395	23.89	4,130	35.97	6,218	46.88	8,103	56.25	9,724
360	6.11	1,027	12.26	2,061	20.02	3,365	24.36	4,095	36.64	6,158	46.88	7,878	56.25	9,454
370	6.22	1,018	12.50	2,044	20.40	3,337	24.82	4,059	37.32	6,103	46.88	7,665	56.25	9,198
380	6.34	1,009	12.73	2,028	20.78	3,308	25.29	4,027	37.50	5,971	46.88	7,463	56.25	8,956
390	6.45	1,001	12.96	2,011	20.93	3,246	25.75	3,995	37.50	5,818	46.88	7,272	56.25	8,727
400	6.56	993	13.19	1,995	20.93	3,165	26.20	3,963	37.50	5,672	46.88	7,090	56.25	8,508

CMTP Selection Chart

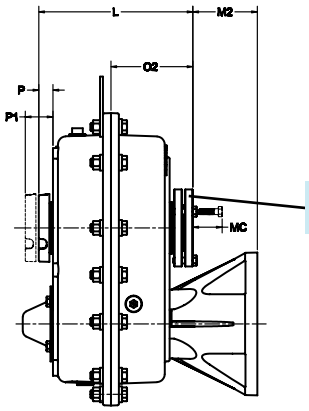
Class III Service (2.0 S.F.)

Double Reduction														
Output RPM	107CMTP09 107CMTP15 107CMTP25 107CMTP35		115CMTP09 115CMTP15 115CMTP25 115CMTP35		203CMTP09 203CMTP15 203CMTP25 203CMTP35		207CMTP09 207CMTP15 207CMTP25 207CMTP35		215CMTP09 215CMTP15 215CMTP25 215CMTP35		307CMTP09 307CMTP15 307CMTP25 307CMTP35		315CMTP09 315CMTP15 315CMTP25 315CMTP35	
	Input HP	Output Torque (In-lbs)	Input HP	Output Torque (In-lbs)	Input HP	Output Torque (In-lbs)	Input HP	Output Torque (In-lbs)	Input HP	Output Torque (In-lbs)	Input HP	Output Torque (In-lbs)	Input HP	Output Torque (In-lbs)
5	0.25	3,040	0.35	4,258	0.61	7,380	0.96	11,674	1.56	18,830	2.59	31,396	2.88	34,846
10	0.48	2,927	0.65	3,959	1.13	6,859	1.79	10,845	2.91	17,621	5.02	30,392	5.76	34,846
20	0.93	2,811	1.26	3,797	2.17	6,561	3.43	10,375	5.55	16,777	9.62	29,103	11.52	34,846
30	1.36	2,742	1.86	3,746	3.21	6,469	5.07	10,225	8.19	16,526	14.05	28,330	17.28	34,846
40	1.78	2,692	2.45	3,707	4.23	6,399	6.68	10,111	10.80	16,336	18.15	27,452	23.04	34,846
50	2.19	2,652	3.04	3,676	5.24	6,342	8.28	10,019	13.37	16,180	21.22	25,675	28.80	34,846
60	2.60	2,620	3.62	3,649	6.24	6,294	9.60	9,676	15.89	16,019	24.11	24,308	34.20	34,488
70	3.00	2,592	4.19	3,626	6.88	5,946	10.69	9,238	17.69	15,294	26.85	23,209	39.42	34,071
80	3.40	2,568	4.77	3,605	7.48	5,654	11.74	8,876	19.43	14,695	29.48	22,298	44.57	33,708
90	3.79	2,546	5.33	3,586	8.04	5,407	12.74	8,568	21.10	14,184	32.02	21,523	47.63	32,019
100	4.18	2,526	5.90	3,568	8.59	5,195	13.72	8,301	22.71	13,742	34.47	20,854	51.19	30,973
110	4.56	2,508	6.46	3,552	9.15	5,033	14.67	8,067	24.28	13,355	36.84	20,266	54.64	30,053
120	4.94	2,492	7.02	3,537	9.70	4,890	15.59	7,860	25.81	13,012	39.16	19,744	56.25	28,361
130	5.32	2,477	7.57	3,523	10.23	4,761	16.49	7,673	27.29	12,703	41.41	19,274	56.25	26,180
140	5.70	2,462	8.12	3,510	10.75	4,644	17.36	7,504	28.75	12,423	43.62	18,853	56.25	24,310
150	6.07	2,449	8.63	3,480	11.25	4,538	18.22	7,351	30.17	12,169	45.78	18,466	56.25	22,689
160	6.19	2,339	9.03	3,413	11.74	4,441	19.07	7,210	31.56	11,936	46.88	17,726	56.25	21,271
170	6.44	2,291	9.42	3,351	12.22	4,351	19.89	7,079	32.93	11,721	46.88	16,683	56.25	20,020
180	6.68	2,246	9.80	3,294	12.70	4,268	20.70	6,959	34.28	11,522	46.88	15,756	56.25	18,908
190	6.92	2,204	10.18	3,242	13.16	4,190	21.50	6,847	35.60	11,335	46.88	14,927	56.25	17,912
200	7.16	2,166	10.55	3,192	13.61	4,119	22.29	6,742	36.90	11,162	46.88	14,181	56.25	17,017

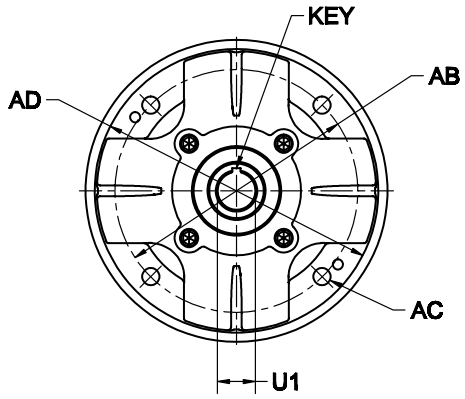
CMTP TorqTaper Plus Unit Sizes 107-315

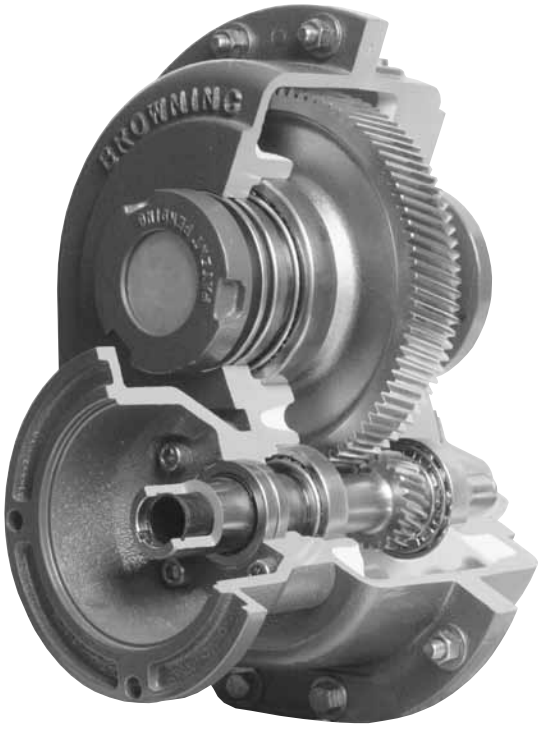


Reversible single bushing system mounted on the back side.



Reversible single bushing system mounted on the front side.





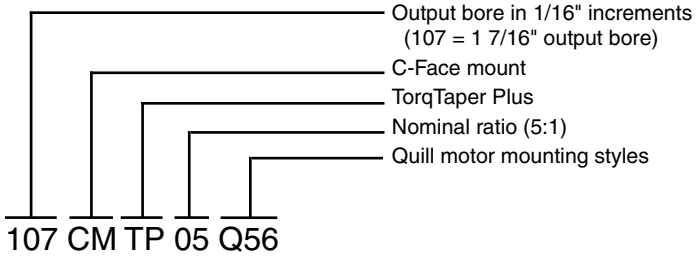
CMTP TorqTaper Plus Unit Sizes 107-315

PART NO.	DIMENSIONS IN INCHES																			
	A	B	C	D	E	F	G	H	H1	J	K	L	M	M2	MC	N	O	P	P1	PF
107CMTP	9.76	12.07	4.88	4.88	7.19	10.07	7.75	3.25	3.00	0.63	5.52	7.89	3.18	2.61	1.75	4.08	4.25	0.90	1.84	1.14
115CMTP	11.00	14.08	5.50	5.50	8.58	11.78	8.69	4.13	3.50	0.75	5.99	8.36	3.34	2.77	1.88	4.24	4.48	0.90	1.83	1.14
203CMTP	12.88	16.16	6.44	6.44	9.72	13.66	10.38	4.50	3.75	0.87	7.07	9.43	4.42	3,84	1.88	5.31	5.01	0.89	1.83	1.32
207CMTP	14.50	16.47	7.25	7.25	11.22	15.73	11.76	4.88	4.25	1.01	7.39	9.75	4.23	3.65	1.88	5.12	5.14	0.89	1.86	1.51
215CMTP	16.25	20.88	8.13	8.13	12.76	18.07	13.44	5.31	4.75	1.07	8.24	10.85	4.85	4.28	1.88	5.87	5.89	1.02	1.96	1.51
307CMTP	19.04	24.37	9.52	9.52	14.85	21.00	15.67	6.44	5.69	1.25	9.27	12.57	6.09	5.47	2.25	7.45	6.58	1.36	2.75	1.81
315CMTP	19.90	26.35	9.95	9.95	16.40	23.02	16.57	7.13	6.70	1.25	10.51	14.50	6.59	5.96	2.75	8.32	7.51	1.73	3.25	2.22

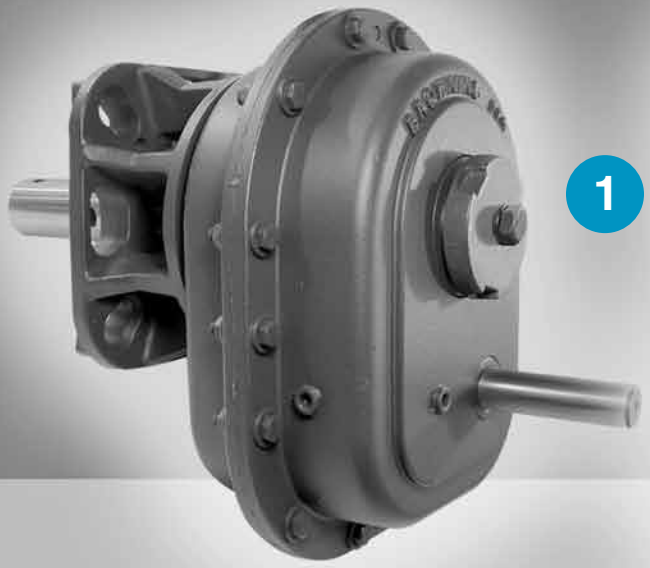
PART NO.	DIMENSIONS IN INCHES																
	Q	R	RF	S	SF	T	TF	U1	W	WF	Y	AA		BOLT SIZE	KEY	MAX. OUTPUT BORE	WT. LBS.
												MIN.	MAX.				
107CMTP	4.34	1.18	0.36	3.77	2.50	3.95	3.38	0.75	7.88	1.44	2.73	24.00	30.00	3/8	.188 x .188 x 2.88	1 7/16	61
115CMTP	4.51	1.35	0.36	4.36	2.50	4.56	3.38	1.13	9.14	1.44	3.12	24.00	30.00	3/8	.250 x .250 x 2.75	1 15/16	92
203CMTP	5.04	1.48	0.42	5.26	2.50	5.46	3.50	1.25	10.94	1.72	3.64	24.00	30.00	3/8	.250 x .250 x 2.75	2 3/16	130
207CMTP	5.57	1.63	0.48	6.08	3.00	6.29	4.25	1.44	12.68	2.19	4.16	27.00	33.00	7/16	.375 x .375 x 3.75	2 7/16	171
215CMTP	6.24	2.12	0.48	7.01	3.00	7.32	4.25	1.88	14.19	2.19	4.65	27.00	33.00	7/16	.500 x .500 x 3.75	2 15/16	250
307CMTP	6.79	2.25	0.61	7.78	4.00	8.10	5.38	2.00	17.00	2.78	5.58	29.00	35.00	1/2	.500 x .500 x 6.50	3 7/16	381
315CMTP	8.05	2.63	0.72	8.53	4.75	8.93	6.50	2.13	18.12	3.63	6.20	29.50	35.50	5/8	.500 x .500 x 7.50	3 15/16	490

PART NO.	DIMENSIONS IN INCHES								
	M	M2	N	O2	U1	KEY	AB	AC	AD
107CMTP Q56	2.41	▲	3.32	▲	0.63	0.188	5.88	0.38	4.50
107CMTP Q140	2.41	▲	3.32	▲	0.88	0.188	5.88	0.38	4.50
115CMTP Q56	2.41	▲	3.32	▲	0.63	0.188	5.88	0.38	4.50
115CMTP Q140	2.41	▲	3.32	▲	0.88	0.188	5.88	0.38	4.50
115CMTP Q180	4.70	▲	5.61	▲	1.13	0.250	7.25	0.50	8.50
203CMTP Q56	2.92	2.38	3.82	4.99	0.63	0.188	5.88	0.38	4.50
203CMTP Q140	2.92	2.38	3.82	4.99	0.88	0.188	5.88	0.38	4.50
203CMTP Q180	4.71	▲	5.61	▲	1.13	0.250	7.25	0.50	8.50
203CMTP Q210	4.71	▲	5.61	▲	1.38	0.313	7.25	0.50	8.50
207CMTP Q56	2.86	2.31	3.76	5.19	0.63	0.188	5.88	0.38	4.50
207CMTP Q140	2.86	2.31	3.76	5.19	0.88	0.188	5.88	0.38	4.50
207CMTP Q180	4.65	4.10	5.55	5.19	1.13	0.250	7.25	0.50	8.50
207CMTP Q210	4.65	4.10	5.55	5.19	1.38	0.313	7.25	0.50	8.50
215CMTP Q56	2.80	2.23	3.83	5.74	0.63	0.188	5.88	0.38	4.50
215CMTP Q140	2.80	2.23	3.83	5.74	0.88	0.188	5.88	0.38	4.50
215CMTP Q180	4.83	4.26	5.86	5.74	1.13	0.250	7.25	0.50	8.50
215CMTP Q210	4.83	4.26	5.86	5.74	1.38	0.313	7.25	0.50	8.50
215CMTP Q250	4.83	4.26	5.86	5.74	1.63	0.375	7.25	0.50	8.50
307CMTP Q56	2.40	1.78	3.76	6.61	0.63	0.188	5.88	0.38	4.50
307CMTP Q140	2.40	1.78	3.76	6.61	0.88	0.188	5.88	0.38	4.50
307CMTP Q180	4.43	3.81	5.79	6.61	1.13	0.250	7.25	0.50	8.50
307CMTP Q210	4.43	3.81	5.79	6.61	1.38	0.313	7.25	0.50	8.50
307CMTP Q250	4.43	3.81	5.79	6.61	1.63	0.375	7.25	0.50	8.50
315CMTP Q56	2.03	1.40	3.76	7.61	0.63	0.188	5.88	0.38	4.50
315CMTP Q140	2.03	1.40	3.76	7.61	0.88	0.188	5.88	0.38	4.50
315CMTP Q180	4.06	3.43	5.79	7.61	1.13	0.250	7.25	0.50	8.50
315CMTP Q210	4.06	3.43	5.79	7.61	1.38	0.313	7.25	0.50	8.50
315CMTP Q250	4.06	3.43	5.79	7.61	1.63	0.375	7.25	0.50	8.50

Part Number Explanation



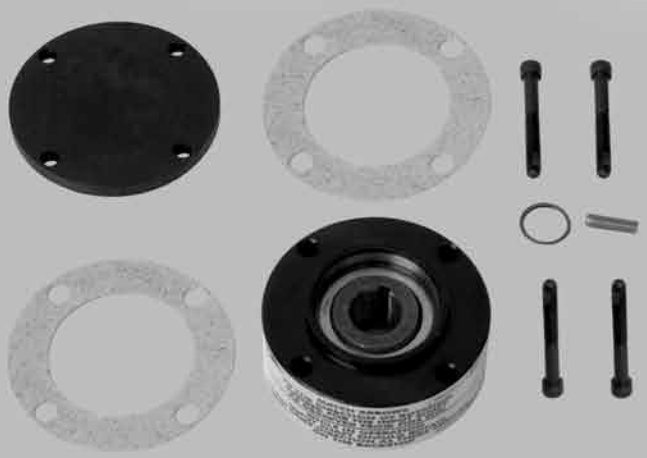
▲ Bushing system cannot be mounted on the front side with this reducer and motor combination.



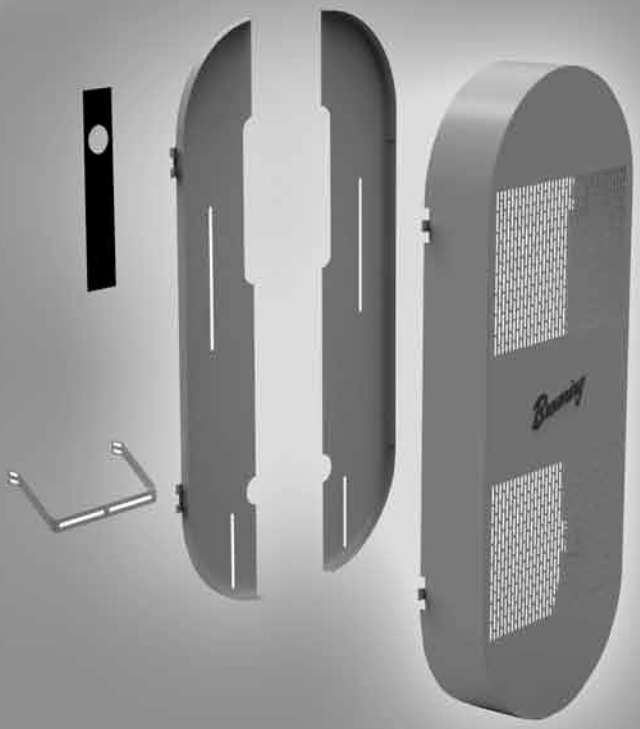
1



2



4



3



5





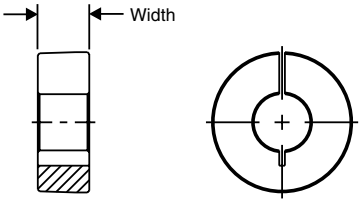


Check Out These Options for TorqTaper Plus Reducers

1. Modular screw conveyor – standard shaft mount converts to a screw conveyor drive using stock components.
2. Backstop kits
3. Patented bushing kits
4. Belt guard kits
5. Bushing guard kits
6. Motor mount kits

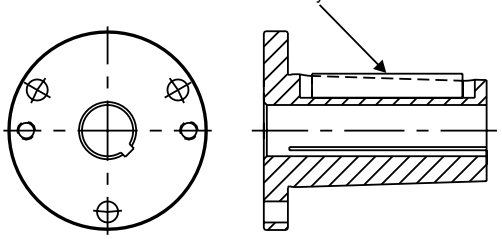
TorqTaper Plus Bushing Kits Unit Sizes 107-115



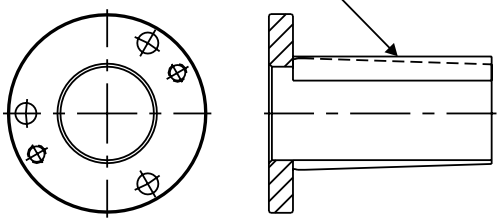


Stabilizer Ring





Type 1



Type 2

REDUCER SIZE	BUSHING NO.	BORE SIZE	SHAFT KEYSEAT REQUIRED	TYPE	STABILIZER RING WIDTH	BOLT TORQUE		WEIGHT
						BOLT SIZE	FT.LBS.	
107SMTP	107TBP012	3/4	3/16 x 3/32 x 3 7/8	1	0.793	5/16-18 x 1 1/4	16	2.6
	107TBP014	7/8	3/16 x 3/32 x 3 7/8	1				2.5
	107TBP015	15/16	1/4 x 1/8 x 3 7/8	2				2.4
	107TBP100	1	1/4 x 1/8 x 3 7/8	2				2.3
	107TBP101	1 1/16	1/4 x 1/8 x 3 7/8	2				2.1
	107TBP102	1 1/8	1/4 x 1/8 x 3 7/8	2				2.0
	107TBP103	1 3/16	1/4 x 1/8 x 3 7/8	2				1.9
	107TBP104	1 1/4	1/4 x 1/8 x 3 7/8	2				1.8
	107TBP105	1 5/16	5/16 x 5/32 x 3 7/8	2				1.6
	107TBP106	1 3/8	5/16 x 5/32 x 3 7/8	2				1.5
	107TBP107	1 7/16	3/8 x 3/16 x 3 7/8	2				1.5
115SMTP	115TBP015	15/16	1/4 x 1/8 x 4 1/8	1	0.855	3/8-16 x 1 1/4	29	6.0
	115TBP100	1	1/4 x 1/8 x 4 1/8	1				5.9
	115TBP101	1 1/16	1/4 x 1/8 x 4 1/8	1				5.7
	115TBP102	1 1/8	1/4 x 1/8 x 4 1/8	1				5.6
	115TBP103	1 3/16	1/4 x 1/8 x 4 1/8	1				5.4
	115TBP104	1 1/4	1/4 x 1/8 x 4 1/8	1				5.3
	115TBP105	1 5/16	5/16 x 5/32 x 4 1/8	2				5.1
	115TBP106	1 3/8	5/16 x 5/32 x 4 1/8	2				4.8
	115TBP107	1 7/16	3/8 x 3/16 x 4 1/8	2				4.7
	115TBP108	1 1/2	3/8 x 3/16 x 4 1/8	2				4.4
	115TBP110	1 5/8	3/8 x 3/16 x 4 1/8	2				4.0
	115TBP111	1 11/16	3/8 x 3/16 x 4 1/8	2				3.7
	115TBP112	1 3/4	3/8 x 3/16 x 4 1/8	2				3.5
	115TBP115	1 15/16	1/2 x 1/4 x 4 1/8	2				2.7

Note: When using shafts smaller than the largest bushing bore shown for a specific reducer, shaft stress based on the transmitted load must always be checked.

TorqTaper Plus Bushing Kits Unit Sizes 203-215

REDUCER SIZE	BUSHING NO.	BORE SIZE	SHAFT KEYSEAT REQUIRED	TYPE	STABILIZER RING WIDTH	BOLT TORQUE		WEIGHT
						BOLT SIZE	FT.LBS.	
	203TBP103	1 3/16	1/4 x 1/8 x 4 5/8	1				7.5
	203TBP104	1 1/4	1/4 x 1/8 x 4 5/8	1				7.3
	203TBP105	1 5/16	5/16 x 5/32 x 4 5/8	1				7.1
	203TBP106	1 3/8	5/16 x 5/32 x 4 5/8	1				6.9
	203TBP107	1 7/16	3/8 x 3/16 x 4 5/8	1				6.6
	203TBP108	1 1/2	3/8 x 3/16 x 4 5/8	2				6.1
203SMTP	203TBP110	1 5/8	3/8 x 3/16 x 4 5/8	2	0.980	3/8-16 x 1 1/4	29	5.9
	203TBP111	1 11/16	3/8 x 3/16 x 4 5/8	2				5.6
	203TBP112	1 3/4	3/8 x 3/16 x 4 5/8	2				5.4
	203TBP114	1 7/8	1/2 x 1/4 x 4 5/8	2				4.8
	203TBP115	1 15/16	1/2 x 1/4 x 4 5/8	2				4.4
	203TBP200	2	1/2 x 1/4 x 4 5/8	2				4.2
	203TBP203	2 3/16	1/2 x 1/4 x 4 5/8	2				3.1

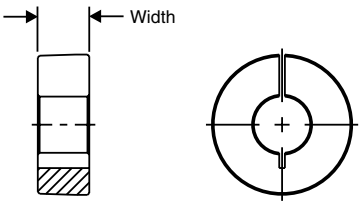
	207TBP106	1 3/8	5/16 x 5/32 x 5 1/8	1				9.6
	207TBP107	1 7/16	3/8 x 3/16 x 5 1/8	1				9.3
	207TBP108	1 1/2	3/8 x 3/16 x 5 1/8	1				9.1
	207TBP110	1 5/8	3/8 x 3/16 x 5 1/8	2				8.5
	207TBP111	1 11/16	3/8 x 3/16 x 5 1/8	2				8.3
	207TBP112	1 3/4	3/8 x 3/16 x 5 1/8	2				7.9
207SMTP	207TBP114	1 7/8	1/2 x 1/4 x 5 1/8	2	1.040	3/8-16 x 1 1/4	29	7.3
	207TBP115	1 15/16	1/2 x 1/4 x 5 1/8	2				6.9
	207TBP200	2	1/2 x 1/4 x 5 1/8	2				6.6
	207TBP202	2 1/8	1/2 x 1/4 x 5 1/8	2				5.9
	207TBP203	2 3/16	1/2 x 1/4 x 5 1/8	2				5.5
	207TBP204	2 1/4	1/2 x 1/4 x 5 1/8	2				5.1
	207TBP207	2 7/16	5/8 x 5/16 x 5 1/8	2				3.9

	215TBP107	1 7/16	3/8 x 3/16 x 5 5/8	1				14.9
	215TBP108	1 1/2	3/8 x 3/16 x 5 5/8	1				14.5
	215TBP111	1 11/16	3/8 x 3/16 x 5 5/8	1				13.6
	215TBP112	1 3/4	3/8 x 3/16 x 5 5/8	1				13.2
	215TBP114	1 7/8	1/2 x 1/4 x 5 5/8	2				12.6
	215TBP115	1 15/16	1/2 x 1/4 x 5 5/8	2				12.2
215SMTP	215TBP200	2	1/2 x 1/4 x 5 5/8	2	1.140	3/8-16 x 1 3/8	29	11.9
	215TBP203	2 3/16	1/2 x 1/4 x 5 5/8	2				10.7
	215TBP204	2 1/4	1/2 x 1/4 x 5 5/8	2				9.80
	215TBP207	2 7/16	5/8 x 5/16 x 5 5/8	2				8.90
	215TBP208	2 1/2	5/8 x 5/16 x 5 5/8	2				8.50
	215TBP211	2 11/16	5/8 x 5/16 x 5 5/8	2				7.00
	215TBP215	2 15/16	3/4 x 3/8 x 5 5/8	2				5.00

Note: When using shafts smaller than the largest bushing bore shown for a specific reducer, shaft stress based on the transmitted load must always be checked.

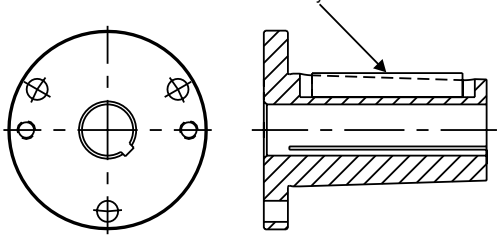
TorqTaper Plus Bushing Kits Unit Sizes 307-315



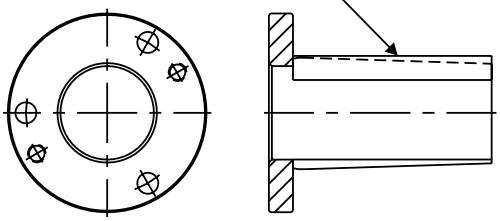


Stabilizer Ring





Type 1



Type 2

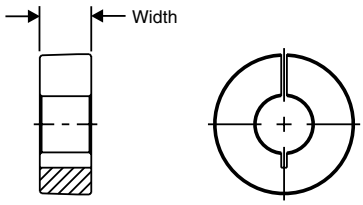
REDUCER SIZE	BUSHING NO.	BORE SIZE	SHAFT KEYSEAT REQUIRED	TYPE	STABILIZER RING WIDTH	BOLT TORQUE		WEIGHT
						BOLT SIZE	FT.LBS.	
	307TBP115	1 15/16	1/2 x 1/4 x 6 3/4	1				21.61
	307TBP200	2	1/2 x 1/4 x 6 3/4	1				21.13
	307TBP203	2 3/16	1/2 x 1/4 x 6 3/4	1				19.76
	307TBP204	2 1/4	1/2 x 1/4 x 6 3/4	1				19.27
	307TBP206	2 3/8	5/8 x 5/16 x 6 3/4	2				18.28
	307TBP207	2 7/16	5/8 x 5/16 x 6 3/4	2				17.68
307SMTP	307TBP208	2 1/2	5/8 x 5/16 x 6 3/4	2	1.45	1/2-13 x 1 5/8	65	17.08
	307TBP211	2 11/16	5/8 x 5/16 x 6 3/4	2				15.36
	307TBP214	2 7/8	3/4 x 3/8 x 6 3/4	2				13.51
	307TBP215	2 15/16	3/4 x 3/8 x 6 3/4	2				12.89
	307TBP300	3	3/4 x 3/8 x 6 3/4	2				12.76
	307TBP306	3 3/8	7/8 x 7/16 x 6 3/4	2				7.55
	307TBP307	3 7/16	7/8 x 7/16 x 6 3/4	2				7.11

REDUCER SIZE	BUSHING NO.	BORE SIZE	SHAFT KEYSEAT REQUIRED	TYPE	STABILIZER RING WIDTH	BOLT TORQUE		WEIGHT
						BOLT SIZE	FT.LBS.	
	315TBP207	2 7/16	5/8 x 5/16 x 7 15/16	1				30.89
	315TBP208	2 1/2	5/8 x 5/16 x 7 15/16	1				30.47
	315TBP211	2 11/16	5/8 x 5/16 x 7 15/16	1				28.09
	315TBP213	2 13/16	3/4 x 3/8 x 7 15/16	1				26.83
	315TBP214	2 7/8	3/4 x 3/8 x 7 15/16	1				26.09
315SMTP	315TBP215	2 15/16	3/4 x 3/8 x 7 15/16	2	1.69	1/2-13 x 1 3/4	65	23.95
	315TBP300	3	3/4 x 3/8 x 7 15/16	2				22.90
	315TBP303	3 3/16	3/4 x 3/8 x 7 15/16	2				20.65
	315TBP307	3 7/16	7/8 x 7/16 x 7 15/16	2				17.10
	315TBP315	3 15/16	1 x 1/2 x 7 15/16	2				11.24

Note: When using shafts smaller than the largest bushing bore shown for a specific reducer, shaft stress based on the transmitted load must always be checked.

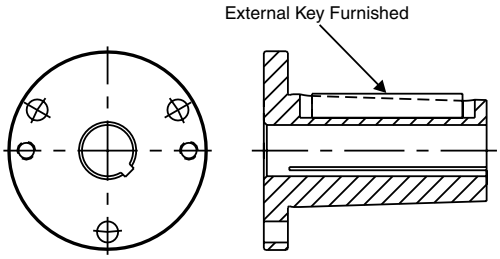
TorqTaper Plus Bushing Kits Unit Sizes 407-800



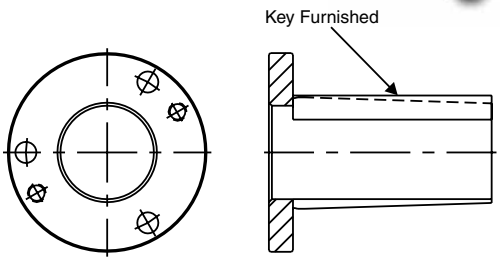


Stabilizer Ring





Type 1



Type 2

Reducer Size	Bushing No.	Bore Size	Shaft Keyseat Required	Type	Stabilizer Ring Width	Bolt Torque		Weight
						Bolt Size	Ft. Lbs.	
407SMTP_B	407TBP215B	2 15/16	3/4 x 3/8 x 7 1/2	1	1.56	1/2-13 x 1 3/4	65	30.2
	407TBP303B	3 3/16	3/4 x 3/8 x 7 1/2	2				29.3
	407TBP307B	3 7/16	7/8 x 7/16 x 7 1/2	2				26.5
	407TBP315B	3 15/16	1 x 1/2 x 7 1/2	2				20.1
	407TBP403B	4 3/16	1 x 1/2 x 7 1/2	2				16.5
	407TBP407B	4 7/16	1 x 1/2 x 7 1/2	2				12.6

Reducer Size	Bushing No.	Bore Size	Shaft Keyseat Required	Type	Stabilizer Ring Width	Bolt Torque		Weight
						Bolt Size	Ft. Lbs.	
415SMTP_B	415TBP307B	3 7/16	7/8 x 7/16 x 9 1/4	2	1.59	5/8-11 x 2	140	53.1
	415TBP315B	3 15/16	1 x 1/2 x 9 1/4	2				44.4
	415TBP403B	4 3/16	1 x 1/2 x 9 1/4	2				40.1
	415TBP407B	4 7/16	1 x 1/2 x 9 1/4	2				35.5
	415TBP408B	4 1/2	1 x 1/2 x 9 1/4	2				34.2
	415TBP415B	4 15/16	1 1/4 x 5/8 x 9 1/4	2				25.6

Reducer Size	Bushing No.	Bore Size	Shaft Keyseat Required	Type	Stabilizer Ring Width	Bolt Torque		Weight
						Bolt Size	Ft. Lbs.	
507SMTP_B	507TBP315B	3 15/16	1 x 1/2 x 10 3/8	2	1.56	3/4-10 x 2 1/4	250	65.0
	507TBP403B	4 3/16	1 x 1/2 x 10 3/8	2				59.0
	507TBP407B	4 7/16	1 x 1/2 x 10 3/8	2				54.0
	507TBP415B	4 15/16	1 1/4 x 5/8 x 10 3/8	2				45.0
	507TBP507B	5 7/16	1 1/4 x 5/8 x 10 3/8	2				37.0

Reducer Size	Bushing No.	Bore Size	Shaft Keyseat Required	Type	Stabilizer Ring Width	Bolt Torque		Weight
						Bolt Size	Ft. Lbs.	
608SMTP_B	608TBP507B	5 7/16	1 1/4 x 5/8 x 11	2	1.71	3/4-10 x 2 3/4	250	80.0
	608TBP515B	5 15/16	1 1/2 x 3/4 x 11	2				72.0
	608TBP600B	6	1 1/2 x 3/4 x 11	2				70.0
	608TBP607B	6 7/16	1 1/2 x 3/4 x 11	2				64.0
	608TBP608B	6 1/2	1 1/2 x 3/4 x 11	2				63.0

Reducer Size	Bushing No.	Bore Size	Shaft Keyseat Required	Type	Stabilizer Ring Width	Bolt Torque		Weight
						Bolt Size	Ft.Lbs.	
800SMTP	800TBP515	5 15/16	1 1/2 x 3/4 x 11	2	1.88	7/8-9 x 2 3/4	400	168.0
	800TBP600	6	1 1/2 x 3/4 x 11	2				165.0
	800TBP608	6 1/2	1 1/2 x 3/4 x 11	2				147.0
	800TBP700	7	1 3/4 x 7/8 x 11	2				128.0
	800TBP800	8	2 x 1 x 11	2				84.0

Notes: When using shafts smaller than the largest bushing bore shown for a specific reducer, shaft stress based on the transmitted load must always be checked.

Finished Bore Bushings Unit Sizes 107-207

Browning shaft mount reducers may be mounted on shafts smaller than the output bore of the reducer by using the wide selection of bushings offered. These stock bushing kits contain one keyed bushing, one plain bushing, keys and setscrews necessary to fit the smaller shaft.

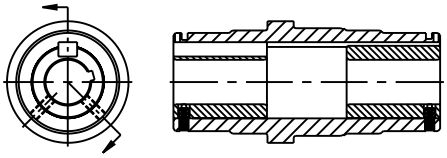


Figure 1 - Thick wall bushing internal key

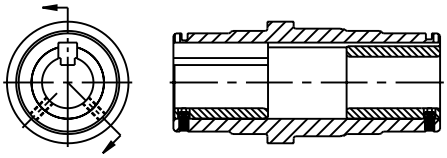


Figure 2 - Thin wall bushing offset key

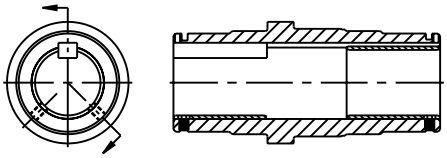


Figure 3 - Thin wall bushing rectangular or square key

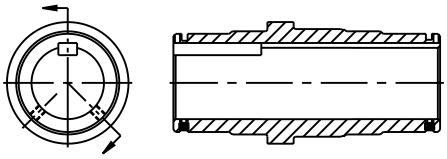


Figure 4 - No bushing

Reducer Size	Shaft Dia.	Shaft Keyseat	**Bushing Kit No**	Fig.	Wt. Lbs.
107SMFP	3/4"	3/16 x 3/32 x 2"	**107BU012**	1	1.4
	7/8	3/16 x 3/32 x 2	**107BU014**	1	1.2
	15/16	1/4 x 1/8 x 2	**107BU015**	2	1.1
	1	1/4 x 1/8 x 2	**107BU100**	2	1.0
	1 1/16	1/4 x 1/8 x 2	**107BU101**	2	.9
	1 1/8	1/4 x 1/8 x 2	**107BU102**	2	.8
	1 3/16	1/4 x 1/8 x 2	**107BU103**	2	.6
	1 1/4	1/4 x 1/8 x 2	**107BU104**	2	.5
	1 5/16	5/16 x 5/32 x 2	**107BU105**	2	.4
	1 7/16	3/8 x 3/16 x 2	**NONE**	4	-
115SMFP	15/16	1/4 x 1/8 x 2 1/2	**115BU015**	1	3.2
	1	1/4 x 1/8 x 2 1/2	**115BU100**	1	3.1
	1 1/16	1/4 x 1/8 x 2 1/2	**115BU101**	1	3.0
	1 1/8	1/4 x 1/8 x 2 1/2	**115BU102**	1	2.8
	1 3/16	1/4 x 1/8 x 2 1/2	**115BU103**	1	2.7
	1 1/4	1/4 x 1/8 x 2 1/2	**115BU104**	1	2.5
	1 5/16	5/16 x 5/32 x 2 1/2	**115BU105**	2	2.3
	1 3/8	5/16 x 5/32 x 2 1/2	**115BU106**	2	2.1
	1 7/16	3/8 x 3/16 x 2 1/2	**115BU107**	2	1.9
	1 1/2	3/8 x 3/16 x 2 1/2	**115BU108**	2	1.7
	1 5/8	3/8 x 3/16 x 2 1/2	**115BU110**	2	1.3
	1 11/16	3/8 x 3/16 x 2 1/2	**115BU111**	2	1.1
	1 3/4	3/8 x 3/16 x 2 1/2	**115BU112**	2	.8
	1 15/16	1/2 x 1/4 x 2 1/2	**NONE**	4	-
203SMFP	1 3/16	1/4 x 1/8 x 2 1/2	**203BU103**	1	3.8
	1 1/4	1/4 x 1/8 x 2 1/2	**203BU104**	1	3.6
	1 5/16	5/16 x 5/32 x 2 1/2	**203BU105**	1	3.5
	1 3/8	5/16 x 5/32 x 2 1/2	**203BU106**	1	3.4
	1 7/16	3/8 x 3/16 x 2 1/2	**203BU107**	1	3.1
	1 1/2	3/8 x 3/16 x 2 1/2	**203BU108**	2	2.9
	1 5/8	3/8 x 3/16 x 2 1/2	**203BU110**	2	2.4
	1 11/16	3/8 x 3/16 x 2 1/2	**203BU111**	2	2.2
	1 3/4	3/8 x 3/16 x 2 1/2	**203BU112**	2	2.0
	1 7/8	1/2 x 1/4 x 2 1/2	**203BU114**	3	1.5
	1 15/16	1/2 x 1/4 x 2 1/2	**203BU115**	3	1.2
	2	1/2 x 1/4 x 2 1/2	**203BU200**	3	.9
	2 3/16	1/2 x 1/4 x 2 1/2	**NONE**	4	-
207SMFP	1 3/8	5/16 x 5/32 x 3 1/2	**207BU106**	1	6.4
	1 7/16	3/8 x 3/16 x 3 1/2	**207BU107**	1	6.1
	1 1/2	3/8 x 3/16 x 3 1/2	**207BU108**	1	5.8
	1 5/8	3/8 x 3/16 x 3 1/2	**207BU110**	2	5.2
	1 11/16	3/8 x 3/16 x 3 1/2	**207BU111**	2	4.9
	1 3/4	3/8 x 3/16 x 3 1/2	**207BU112**	2	4.5
	1 7/8	1/2 x 1/4 x 3 1/2	**207BU114**	2	3.8
	1 15/16	1/2 x 1/4 x 3 1/2	**207BU115**	2	3.5
	2	1/2 x 1/4 x 3 1/2	**207BU200**	2	3.1
	2 1/8	1/2 x 1/4 x 3 1/2	**207BU202**	2	2.3
	2 3/16	1/2 x 1/4 x 3 1/2	**207BU203**	2	1.8
	2 1/4	1/2 x 1/4 x 3 1/2	**207BU204**	2	1.4
	2 7/16	5/8 x 5/16 x 3 1/2	**NONE**	4	-

Note: When using bushings to adapt a SMFP shaft mount reducer to a smaller shaft, the shaft stress based on the transmitted load must always be checked.

Finished Bore Bushings Unit Sizes 215-315

Browning shaft mount reducers may be mounted on shafts smaller than the output bore of the reducer by using the wide selection of bushings offered. These stock bushing kits contain one keyed bushing, one plain bushing, keys and setscrews necessary to fit the smaller shaft.

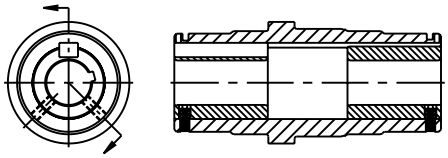


Figure 1 - Thick wall bushing internal key

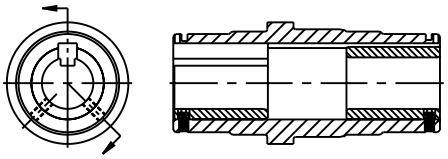


Figure 2 - Thin wall bushing offset key

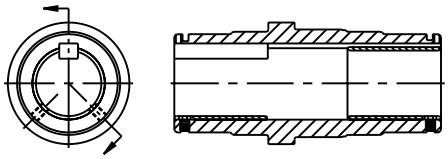


Figure 3 - Thin wall bushing rectangular or square key

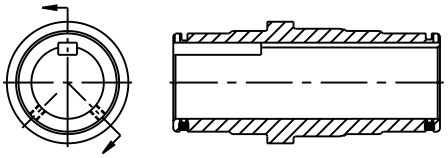


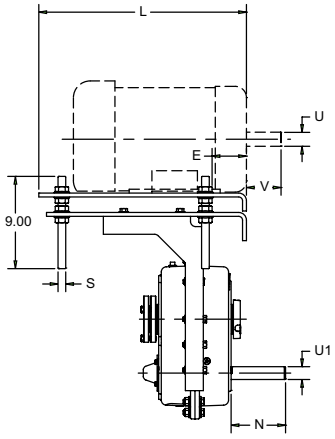
Figure 4 - No bushing

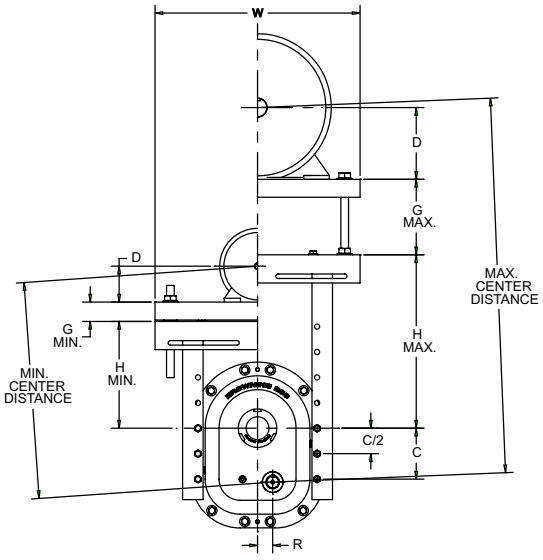
Reducer Size	Shaft Dia.	Shaft Keyseat	**Bushing Kit No.**	Fig.	Wt. Lbs.
215SMFP	1 7/16	3/8 x 3/16 x 4	**215BU107**	1	11.7
	1 1/2	3/8 x 3/16 x 4	**215BU108**	1	11.4
	1 11/16	3/8 x 3/16 x 4	**215BU111**	1	10.3
	1 3/4	3/8 x 3/16 x 4	**215BU112**	1	9.9
	1 7/8	1/2 x 1/4 x 4	**215BU114**	1	9.1
	1 15/16	1/2 x 1/4 x 4	**215BU115**	2	8.7
	2	1/2 x 1/4 x 4	**215BU200**	2	8.3
	2 3/16	1/2 x 1/4 x 4	**215BU203**	2	6.9
	2 1/4	1/2 x 1/4 x 4	**215BU204**	2	6.4
	2 7/16	5/8 x 5/16 x 4	**215BU207**	2	4.8
	2 1/2	5/8 x 5/16 x 4	**215BU208**	2	4.3
	2 11/16	5/8 x 5/16 x 4	**215BU211**	2	2.5
	2 15/16	3/4 x 3/8 x 4	**None**	4	-
307SMFP	1 15/16	1/2 x 1/4 x 4 1/2	**307BU115**	1	16.2
	2	1/2 x 1/4 x 4 1/2	**307BU200**	1	15.7
	2 3/16	1/2 x 1/4 x 4 1/2	**307BU203**	1	14.1
	2 1/4	1/2 x 1/4 x 4 1/2	**307BU204**	1	13.6
	2 7/16	5/8 x 5/16 x 4 1/2	**307BU207**	2	11.8
	2 1/2	5/8 x 5/16 x 4 1/2	**307BU208**	2	11.2
	2 11/16	5/8 x 5/16 x 4 1/2	**307BU211**	2	9.3
	2 7/8	3/4 x 3/8 x 4 1/2	**307BU214**	2	7.1
	2 15/16	3/4 x 3/8 x 4 1/2	**307BU215**	2	6.4
	3 7/16	7/8 x 7/16 x 4 1/2	**None**	4	-
315SMFP	2 7/16	5/8 x 5/16 x 4 1/2	**315BU207**	1	19.2
	2 1/2	5/8 x 5/16 x 4 1/2	**315BU208**	1	18.6
	2 11/16	5/8 x 5/16 x 4 1/2	**315BU211**	2	16.6
	2 13/16	3/4 x 3/8 x 4 1/2	**315BU213**	2	15.2
	2 7/8	3/4 x 3/8 x 4 1/2	**315BU214**	2	14.5
	2 15/16	3/4 x 3/8 x 4 1/2	**315BU215**	2	13.8
	3	3/4 x 3/8 x 4 1/2	**315BU300**	2	13.1
	3 3/16	3/4 x 3/8 x 4 1/2	**315BU303**	2	10.7
	3 7/16	7/8 x 7/16 x 4 1/2	**315BU307**	2	7.4
	3 15/16	1 x 1/2 x 4 1/2	**None**	4	-

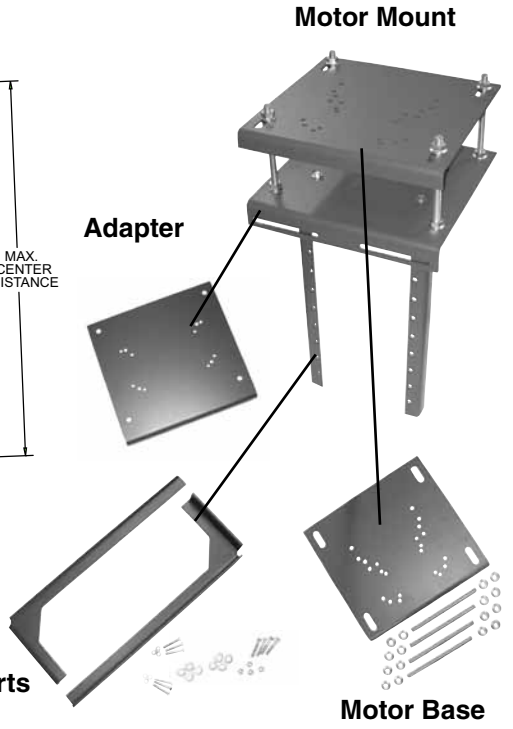
Note: SMFP units and bushings are made-to-order. Contact Emerson for delivery.

Note: When using bushings to adapt a SMFP shaft mount reducer to a smaller shaft, the shaft stress based on the transmitted load must always be checked.

Top Mount Motor Mounts







Motor Frame Size	Dimensions in Inches				
	D	E	U		V
			Dia.	Keyseat	
56	3.50	2.75	0.63	3/16 x 3/32	1.88
143T, 145T	3.50	2.25	0.88	3/16 x 3/32	2.25
182T, 184T	4.50	2.75	1.13	1/4 x 1/8	2.75
213T, 215T	5.25	3.50	1.38	5/16 x 5/32	3.38
254T, 256T	6.25	4.25	1.63	3/8 x 3/16	4.00
284T, 286T	7.00	4.75	1.88	1/2 x 1/4	5.63
324T, 326T	8.00	5.25	2.13	1/2 x 1/4	5.25
364T, 365T	9.00	5.88	2.38	5/8 x 5/16	5.88
404T, 405T	11.00	6.62	2.88	3/4 x 3/8	7.25
444T, 447T	11.00	7.50	3.38	7/8 X 7/16	8.50

* To determine usable input shaft length, see pages 24-26.

Part Number Explanation

Motor Mount components may be ordered individually or as a kit. To order the complete kit use the following format:



Top Mount Motor Mounts

Basic Reducer Size	Motor Mount Support	Motor Mount Adapter	Motor Base	Motor Mount Assy. Wt. Lbs.	DIMENSIONS										
					C	G		H		L	N*	R	S	W	Input Shaft U1	
						Min.	Max.	Min.	Max.						Dia.	Keyseat
107 HIGH	MMS107H	MMA107-115	MB107-115	51.0	3.75	1.64	7.61	8.78	18.15	15.50	4.08	1.18	0.63	16.50	0.75	3/16 x 3/32
107 LOW	MMS107L			48.0				5.75	9.50							
115 HIGH	MMS115H			51.0	4.32	1.64	7.61	6.94	17.74	15.50	4.24	1.35	0.63	16.50	1.12	1/4x1/8
115 LOW	MMS115L			48.0				7.77	9.93							
203 HIGH	MMS203H	MMA203	MB203-207	112.8	4.96	1.89	7.36	7.00	16.91	20.25	5.31	1.48	0.75	20.00	1.25	1/4 x 1/8
203 LOW	MMS203L			107.8				7.94	10.41							
207 HIGH	MMS207H	MMA207		118.6	5.94	1.89	7.36	8.06	19.94	20.25	5.12	1.63	0.75	20.00	1.44	3/8x3/16
207 LOW	MMS207L			112.6				10.44	10.44							
215 HIGH	MMS215H	MMA215	MB215-307	134.4	6.88	1.89	7.36	11.43	21.75	20.25	5.87	2.13	0.75	24.00	1.87	1/2 x 1/4
215 LOW	MMS215L			126.4				10.50	10.50							
307 HIGH	MMS307H	MMA307	MB215-307	150.0	7.95	1.89	7.36	10.28	26.18	20.00	7.45	2.25	0.75	24.00	2.00	1/2 x 1/4
307 LOW	MMS307L			141.0					14.25							
315 HIGH	MMS315H	MMA315	MB315	177.0	8.29	1.89	7.36	10.50	27.09	23.50	8.32	2.63	0.75	24.00	2.13	1/2x1/4
315 LOW	MMS315L			168.0					14.65							
407 HIGH	MMS407H	MMA407-415	MB407-415	326.0	9.25	3.09	12.98	14.59	19.21	27.00	6.70	3.13	1.50	32.50	2.12	1/2 x 1/4
415 HIGH	MMS415H			333.0	10.38	3.09	12.98	13.34	18.53	27.00	9.23	3.63	1.50	32.50	2.37	5/8 x 5/16
507 HIGH	MMS507H	MMA507-608	MB507-608	392.0	11.78	3.09	12.98	15.08	20.97	30.00	9.37	4.19	1.50	37.00	2.62	5/8 x 5/16
608 HIGH	MMS608H			403.0	9.06	3.09	12.98	16.26	20.79	30.00	9.51	4.25	1.50	37.00	2.69	5/8 x 5/16
800 HIGH	MMS800H	MMA800	MB800	604.0	-	3.27	12.87	27.26	27.26	31.00	12.75	4.88	1.50	39.50	2.94	3/4 x 3/8

Basic Reducer Size	Motor Mount Support	Motor Mount Adapter	Motor Base	Minimum and Maximum Center Distances (in inches) for Motor Frame Sizes																	
				56		143T, 145T		182T, 184T		213T, 215T		254T,256T		284T, 286T		324T, 326T		3641, 365T		404T, 405T		444T, 447T	
				Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
107 HIGH	MMS107H	MMA107-115	MB107 115	17.73	33.05	17.73	33.05	18.72	34.05	19.47	34.80	-	-	-	-	-	-	-	-	-	-	-	-
107 LOW	MMS107L			14.71	24.41	14.71	24.41	15.71	25.41	16.45	26.16												
115 HIGH	MMS115H			16.50	33.24	16.50	33.24	17.50	34.24	18.25	34.99	-	-	-	-	-	-	-	-	-	-	-	-
115 LOW	MMS115L			17.32	25.43	17.32	25.43	18.32	26.43	19.06	27.18												
203 HIGH	MMS203H	MMA203	MB203 207	17.70	33.06	17.70	33.06	18.70	34.06	19.44	34.81	20.44	35.81	21.19	36.56	-	-	-	-	-	-	-	-
203 LOW	MMS203L			18.64	26.57	18.64	26.57	19.63	27.57	20.38	28.32	21.38	29.31	22.13	30.06								
207 HIGH	MMS207H	MMA207		19.59	36.91	19.59	36.91	20.59	37.91	21.34	38.66	22.34	39.66	23.08	40.41	-	-	-	-	-	-	-	-
207 LOW	MMS207L			21.97	27.42	21.97	27.42	22.96	28.42	23.71	29.17	24.71	30.17	25.46	30.92								
215 HIGH	MMS215H	MMA215	MB215-307	-	-	23.92	39.67	24.92	40.67	25.67	41.42	26.66	42.42	27.41	43.17	28.41	44.17	29.41	45.17	-	-	-	-
215 LOW	MMS215L					23.00	28.45	23.99	29.44	24.74	30.19	25.74	31.19	26.48	31.94	27.48	32.94	28.48	33.94				
307 HIGH	MMS307H	MMA307	MB215-307	-	-	-	-	24.56	45.88	25.30	46.63	26.30	47.63	27.05	48.38	28.05	49.38	29.05	50.38	-	-	-	-
307 LOW	MMS307L								33.97		34.72		35.72		36.47		37.47		38.47				
315 HIGH	MMS315H	MMA315	MB315	-	-	-	-	25.57	47.55	26.31	48.30	27.31	49.30	28.05	50.05	29.05	51.05	30.05	52.05	-	-	-	-
315 LOW	MMS315L								35.14		35.89		36.89		37.64		38.64		39.64				
407 HIGH	MMS407H	MMA407-415	MB407-415	-	-	-	-	-	-	32.56	47.04	33.55	48.03	34.30	48.78	35.29	49.78	36.29	50.78	37.29	51.78	38.28	52.77
415 HIGH	MMS415H			-	-	-	-	-	-	32.27	47.29	33.26	48.29	34.00	49.04	35.00	50.03	36.00	51.03	37.00	52.03	38.00	53.03
507 HIGH	MMS507H	MMA507-608	MB507-608	-	-	-	-	-	-	-	-	36.43	52.15	37.18	52.90	38.17	53.90	39.17	54.89	40.16	55.89	41.16	56.89
608 HIGH	MMS608H			-	-	-	-	-	-	-	-	39.43	53.80	40.17	54.54	41.17	55.54	42.16	56.54	43.16	57.53	44.15	58.53
800 HIGH	MMS800H	MMA800	MB800	-	-	-	-	-	-	-	-	-	-	-	-	54.00	63.55	54.98	64.55	55.98	65.55	56.97	66.54

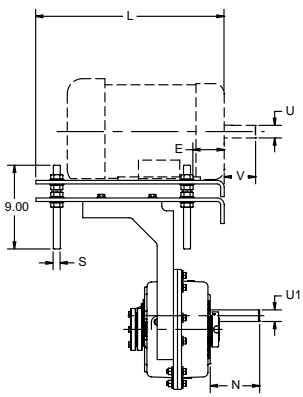
Screw Conveyor Trough Clearance Table

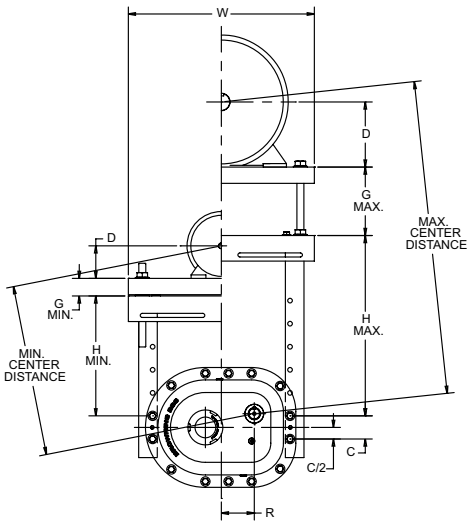
When a motor mount is used on screw conveyor drives, the amount shown in the table below must be added to the minimum center distance shown above. Maximum center distance is unchanged.

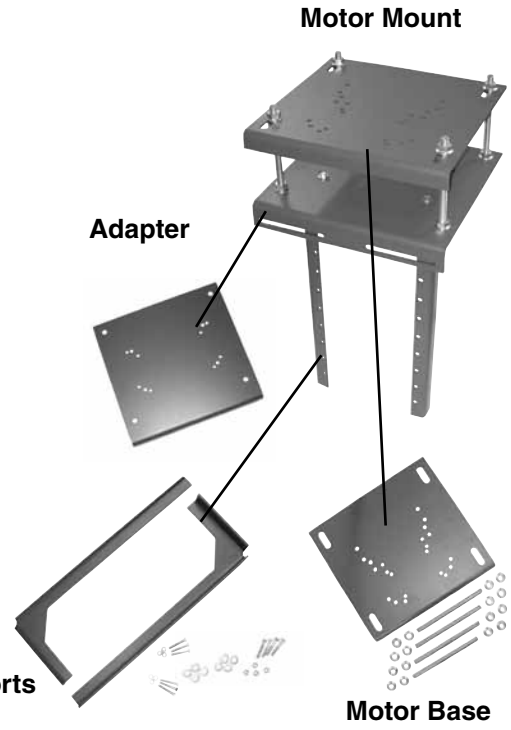
Basic Reducer Size	Conveyor Diameter								
	6	9	10	12	14	16	18	20	24
107 HIGH	0	0	1.88	3.75	3.75	3.75	5.63	7.50	N/A
107 LOW	1.88	3.75	N/A	N/A	N/A	N/A	N/A	N/A	N/A
115 HIGH	0	2.16	2.16	4.32	4.32	6.68	8.64	8.64	N/A
115 LOW	0	2.16	2.16	2.16	N/A	N/A	N/A	N/A	N/A
203 HIGH	0	2.48	2.48	4.96	4.96	7.44	9.92	9.92	N/A
203 LOW	0	2.48	2.48	2.48	N/A	N/A	N/A	N/A	N/A
207 HIGH	N/A	2.97	2.97	2.97	5.94	5.94	8.91	8.91	N/A
207 LOW	N/A	0	0	0	N/A	N/A	N/A	N/A	N/A
215 HIGH	N/A	0	0	0	3.44	3.44	3.44	6.88	10.32
215 LOW	N/A	0	0	0	N/A	N/A	N/A	N/A	N/A
307 HIGH	N/A	N/A	N/A	0	3.98	3.98	3.98	7.95	11.93
307 LOW	N/A	N/A	N/A	0	3.98	3.98	3.98	N/A	N/A
315 HIGH	N/A	N/A	N/A	0	4.15	4.15	4.15	8.30	12.45
315 LOW	N/A	N/A	N/A	0	4.15	4.15	4.15	N/A	N/A
407 HIGH	N/A	N/A	N/A	0	4.69	4.69	4.69	4.69	*

* Refer to Application Engineering (1 800 626 2093).

Side Mount Motor Mounts





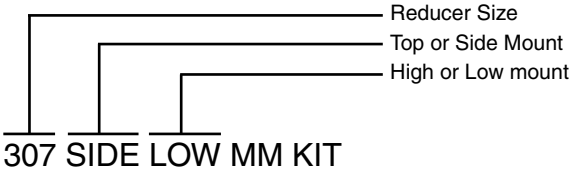


Motor Frame Size	Dimensions in Inches				
	D	E	U		V
			Dia.	Keyseat	
56	3.50	2.75	0.63	3/16 x 3/32	1.88
143T, 145T	3.50	2.25	0.88	3/16 x 3/32	2.25
182T, 184T	4.50	2.75	1.13	1/4 x 1/8	2.75
213T, 215T	5.25	3.50	1.38	5/16 x 5/32	3.38
254T, 256T	6.25	4.25	1.63	3/8 x 3/16	4.00
284T, 286T	7.00	4.75	1.88	1/2 x 1/4	5.63
324T, 326T	8.00	5.25	2.13	1/2 x 1/4	5.25
364T, 365T	9.00	5.88	2.38	5/8 x 5/16	5.88

* To determine usable input shaft length, see pages 24-26.

Part Number Explanation

Motor Mount components may be ordered individually or as a kit. To order the complete kit use the following format:



Side Mount Motor Mounts

Basic Reducer Size	Motor Mount Support	Motor Mount Adapter	Motor Base	Motor Mount Assy. Wt. Lbs.	Dimensions										
					C	G		H		L	N*	R	S	W	Input Shaft U1	
						Min.	Max.	Min.	Max.						Dia.	Keyseat
107 HIGH	MMS107H	MMA107-115	MB107-115	51.0	1.88	1.64	7.61	8.78	18.15	15.50	4.08	2.56	0.63	16.50	0.75	3/16 x 3/32
107 LOW	MMS107L			48.0				5.75	9.50							
115 HIGH	MMS115H	MMA203		51.0	2.16	1.64	7.61	6.94	17.74	15.50	4.24	2.74	0.63	16.50	1.12	1/4 x 1/8
115 LOW	MMS115L			48.0				7.77	9.93							
203 HIGH	MMS203H	MMA207	MB203-207	112.8	2.48	1.89	7.36	7.00	16.91	20.25	5.31	3.54	0.75	20.00	1.25	1/4 x 1/8
203 LOW	MMS203L			107.8				7.94	10.41							
207 HIGH	MMS207H	MMA215	MB215-307	118.6	2.97	1.89	7.36	8.06	19.94	20.25	5.12	4.00	0.75	20.00	1.44	3/8 x 3/16
207 LOW	MMS207L			112.6				10.44	10.44							
215 HIGH	MMS215H	MMA307	MB215-307	134.4	3.44	1.89	7.36	11.43	21.75	20.25	5.87	4.59	0.75	24.00	1.87	1/2 x 1/4
215 LOW	MMS215L			126.4				10.50	10.50							
307 HIGH	MMS307H	MMA315	MB315	150.0	3.97	1.89	7.36	10.28	30.15	23.00	7.45	5.01	0.75	24.00	2.00	1/2 x 1/4
307 LOW	MMS307L			141.0					18.23							
315 HIGH	MMS315H	MMA315-S	MB315	177.0	4.16	1.89	7.36	10.50	31.22	23.50	8.32	5.26	0.75	24.00	2.13	1/2 x 1/4
315 LOW	MMS315L			168.0					18.80							

Basic Reducer Size	Motor Mount Support	Motor Mount Adapter	Motor Base	Minimum and Maximum Center Distances (in inches)for Motor Frame Sizes													
				56		143T, 145T		182T, 184T		213T, 215T		254T, 256T		284T, 286T		324T, 326T		364T, 365T	
				Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Max.	Min.	Max.	Min.
107 HIGH	MMS107H	MMA107-115	MB107-115	13.91	31.00	13.91	31.00	14.89	32.00	15.63	32.74	-	-	-	-	-	-	-	-
107 LOW	MMS107L			10.95	22.39	10.95	22.39	11.92	22.38	12.66	24.13								
115 HIGH	MMS115H	MMA203		12.25	31.00	12.25	31.00	13.23	32.00	13.96	32.74	-	-	-	-	-	-	-	-
115 LOW	MMS115L			10.96	23.22	10.96	23.22	11.93	24.22	12.66	24.96								
203 HIGH	MMS203H	MMA207	MB203-207	12.66	30.23	12.66	30.23	13.62	31.22	14.34	31.97	15.31	32.96	16.05	33.71	-	-	-	-
203 LOW	MMS203L			13.56	23.76	13.56	23.78	14.53	24.77	15.26	25.52	16.23	26.51	16.96	27.25				
207 HIGH	MMS207H	MMA215	MB215-307	13.89	33.86	13.89	33.86	14.85	34.85	15.57	35.60	16.54	36.59	17.27	37.34	-	-	-	-
207 LOW	MMS207L			13.33	24.45	13.33	24.45	14.28	25.44	15.00	26.18	15.97	27.17	16.70	27.91				
215 HIGH	MMS215H	MMA307	MB215-307	-	-	13.76	35.94	14.71	36.93	15.42	37.68	16.38	38.67	17.10	39.41	18.07	40.41	19.04	41.41
215 LOW	MMS215L					12.89	24.82	13.83	25.81	14.54	25.54	15.49	27.53	16.21	28.27	15.55	27.59	16.51	28.58
307 HIGH	MMS307H	MMA315	MB315	-	-	-	-	17.15	42.05	17.87	42.79	18.83	43.79	19.56	44.53	20.53	45.53	21.50	46.52
307 LOW	MMS307L								30.24		30.98		31.97		32.71	20.53	33.70	21.50	34.69
315 HIGH	MMS315H	MMA315-S	MB315	-	-	-	-	17.16	42.86	17.88	43.60	18.84	44.60	19.56	45.34	20.52	46.33	21.49	47.33
315 LOW	MMS315L								30.56		31.29		32.28		33.02	20.52	34.01	21.49	35.00

Screw Conveyor Trough Clearance Table

When a motor mount is used on screw conveyor drives, the amount shown in the table below must be added to the minimum center distance shown on page 71. Maximum center distance is unchanged.

Basic Reducer Size	Conveyor Diameter								
	6	9	10	12	14	16	18	20	24
107 HIGH	0	0	0	0	1.88	3.75	5.63	7.50	N/A
107 LOW	0	1.88	1.88	3.75	5.63	N/A	N/A	N/A	N/A
115 HIGH	0	2.16	2.16	216	4.32	6.48	6.48	8.64	N/A
115 LOW	0	2.16	2.16	4.32	N/A	6.48	N/A	N/A	N/A
203 HIGH	0	2.48	2.48	2.48	4.96	4.96	7.44	9.92	N/A
203 LOW	0	0	0	2.48	2.48	4.96	N/A	N/A	N/A
207 HIGH	N/A	0	0	2.97	2.97	5.94	5.94	8.91	11.88
207 LOW	N/A	0	0	2.97	2.97	5.94	5.94	N/A	N/A
215 HIGH	N/A	0	0	3.44	3.44	6.88	6.88	6.88	10.32
215 LOW	N/A	0	3.44	3.44	3.44	6.88	6.88	N/A	N/A
307 HIGH	N/A	N/A	N/A	0	0	3.98	3.98	3.98	7.95
307 LOW	N/A	N/A	N/A	0	0	3.98	3.98	3.98	7.95
315 HIGH	N/A	N/A	N/A	0	0	4.15	4.15	4.15	8.30
315 LOW	N/A	N/A	N/A	0	0	4.15	4.15	4.15	8.30

* Refer to Application Engineering (1 800 626 2093).


CAUTION
TIGHTEN SETSCREW OVER KEYWAY BEFORE OPERATING
FOR PITCH DIAMETER ADJUSTMENT
Loosen Outer Locking Ring
Turn Outer Locking Ring
Retighten Screws
Screws Only. Do Not Remove
5VX850
5VX850
5VX850
5VX850



Browning Belt Drives

For over 120 years Browning has been an innovator of quality belt drive solutions for varying equipment and demanding applications. Today, Browning offers the most extensive belt drive product line in the world. Our extensive offering has many patented and exclusive design features not found in any other sheave.

Key Product Offerings:

Complete Line of FHP sheaves

Complete Line of Multiple Sheaves in both Q-D® and Split Taper™ designs

Browning Split Taper Bushings

- Better concentricity for easy assembly
- Key-to-key drive
- 3/4" ft. self-locking taper
- Available in inch and metric bores

Browning Patented B5V® Sheaves (*Not for use with Banded Belts)*

- Interchanges with popular Q-D and Split Taper sheave designs
- Patented design provides the power of 5V belts in the economy of a B section sheave.
- Serves 90% of all applications from 10-125 HP
- Increases HP by 40% (or reduces cost by 40%)

Browning Brand V-belts

- Unique design enhances performance, provides increased horsepower capacity in short center drives
- Single fabric design reduces vibration (wrapped belt)
- Ground form edges reduce center distance variation and drive vibration (raw edge)
- Browning belts and sheaves provide 4X the product offering of any competitor

Browning VP Vortex Variable Pitch Sheaves

- Increased wall thickness and hub design for increased horsepower capacity and shorter center drives
- Tighter tolerances for reduced vibration
- External rib design provides extra cooling for longer belt life

Browning MVP® - Variable Pitch Sheaves

- Economical and infinite mechanical speed adjustment
- Offered up to 10 grooves
- Serves applications up to 750 hp
- **An excellent solution for dual drive applications**

Pre-selected Belt Drives - 107SMTP05

107SMTP05 Variable Pitch

Output rpm	Driver		Driven		Belts	Belt Qty.
	Variable Pitch	Bushing	Fixed Pitch	Bushing		
90 - 96	2VP50	-	2B5V160	B	BX	2
97 - 108	2VP56				AX	
109 - 124	2VP50		2AK124H	H		
125 - 140			2B5V110	B		
141 - 160	2VP42		2B5V80		BX	
161 - 181	2VP60		2BK110H	H		
182 - 196	2VP65					
197 - 206	2VP60		2B5V90	B	5VX	
207 - 220	2VP65				AX	
221 - 227					5VX	
228 - 235	2VP71				AX	
236 - 246					BX	
247 - 252					5VX	
253 - 273	2VP65		2BK80	-	BX	
274 - 285	2VP71					
286 - 296	2VP62		2B5V52	B	5VX	
297 - 303	2VP65		2B5V62		BX	
304 - 307	2VP62				5VX	
308 - 309	2VP65					
310 - 324					BX	
325 - 350	2VP71					
351 - 353	2VP60		2B5V52			
354 - 383	2VP65					
384 - 400	2VP71					

107SMTP05 Fixed Pitch

Output rpm	Driver		Driven		Belts	Belt Qty.
	Fixed Pitch	Bushing	Fixed Pitch	Bushing		
90 - 93	2AK39	-	2AK144H	H	AX	2
94 - 97	2AK41					
98 - 104	2BK36		2B5V124	B		
105 - 110	2TB40	P1				
111 - 115	2B5V42					
116 - 121	2BK32	-	2BK100	-	BX	
122 - 129	2BK34					
130 - 136	2BK36					
137 - 143	2BK40					
144 - 147	2TB40	P1			AX	
148 - 151	2BK36		2BK90		BX	
152 - 160	2BK40	-				
161 - 164	2TB38	P1				
165 - 172	2BK45	-				
173 - 180	2BK47					
181 - 184	2B5V42	P1				
185 - 192	2BK50	-		-		
193 - 200	2BK52					
201 - 213	2BK55					
214 - 226	2AK54		2AK84		AX	
227 - 234	2AK56					
235 - 244	2AK84					
245 - 250	2BK57		2BK80			
251 - 263	2BK60					
264 - 273	2BK62				BX	
274 - 280	2BK65					
281 - 283	2B5V50	B				
284 - 300	2BK57					
301 - 317	2BK60					
318 - 328	2BK62		2BK67H	H		
329 - 337	2BK57		2BK60			
338 - 356	2BK60					
357 - 369	2BK62					
370 - 387	2BK65					
388 - 400	2BK67					

Notes: Pre-selected belt drives are based on the following guidelines:
- NEMA Recommendations for Sheave Diameter and Width
- Average Service at Reducer Rated Load
- 2 Belt Minimum

For other conditions (including but not limited to; fire hazard, explosion hazard or choked input), contact Application Engineering (1 800 626 2093) for assistance in selecting a belt drive.

It is recommended that 250 hp motors and larger the sheave diameters shown be checked with the motor manufacturer to be sure they meet their recommendations for minimum pitch diameter.

Pre-selected Belt Drives - 107SMTP09

107SMTP09 Variable Pitch

Output rpm	Driver		Driven		Belts	Belt Qty.
	Variable Pitch	Bushing	Fixed Pitch	Bushing		
16 - 20	2VP36	-	2TB300	Q1	AX	2
21 - 23	2VP42					
24 - 30	2VP36		2B5V200	B	BX	
31	2VP42				AX	
32 - 37					BX	
38 - 44	2VP50				AX	
45 - 49	2VP56		2AK184H	H		
50 - 54						
55 - 56	2VP60					
57 - 58	2VP65					
59 - 61	2VP50		2B5V136	B		
62 - 65						
66 - 73	2VP56					
74 - 81	2VP42		2B5V90	H	BX	
82 - 83	2VP56		2BK120H			
84 - 95	2VP60					
96 - 103	2VP65		2B5V110	B	AX	
104 - 106					BX	
107 - 113	2VP71				AX	
114 - 117					BX	
118 - 123	2VP75					
124 - 125	2VP60		2B5V86			
126 - 135	2VP65					
136 - 138					5VX	
139 - 148	2VP71				BX	
149 - 156	2VP60		2B5V68			
157 - 170	2VP65					
171 - 186	2VP71					
187 - 200	2VP65		2B5V58		5VX	

107SMTP09 Fixed Pitch

Output rpm	Driver		Driven		Belts	Belt Qty.
	Fixed Pitch	Bushing	Fixed Pitch	Bushing		
12	2AK23	-	2TB380	Q1	AX	2
13	2AK25					
14	2AK26					
15	3BK32		3TB380			3
16	3BK34					
17	3BK36					
18	3BK40					
19 - 20	3BK45H	H				
21	3BK47H					
22	2AK22	-	2B5V200	B		2
23	2AK23					
24	2BK28					
25	2AK25					
26	2AK26					
27	2AK27					
28 - 29	2AK28		2TA195	Q1		
30 - 31	2AK30					
32 - 33	2AK32					
34	2AK34					
35 - 36	2BK32		2BK190H	H	BX	
37 - 38	2BK34					
39 - 40	2BK36					
41 - 42	2BK40					
43 - 44	2TB38	P1				
45	2BK45	-	2B5V110	B	AX	
46	2BK47					
47 - 49	2BK30		2AK144H	H		
50 - 53	2BK32					
54 - 56	2AK41					
57 - 60	2AK44					
61 - 63	2AK46					
64 - 67	2AK49					
68 - 69	2AK51					
70 - 73	2AK39		2AK104	-		
74 - 79	2AK41					
80 - 83	2AK39		2AK94			
84 - 88	2AK54		2AK124H	H		
89 - 91	2AK56					
92 - 96	2AK59					
97 - 99	2AK51		2AK104	-		
100 - 105	2AK54					
106 - 109	2AK56					
110 - 114	2AK59					
115 - 120	2BK55		2B5V86	B	BX	
121 - 125	2BK57					
126 - 132	2BK60					
133 - 135	2BK62					
136 - 144	2AK74		2AK104	-	AX	
145 - 146	2B5V50	B	2B5V68	B	BX	
147 - 155	2BK57	-				
156 - 164	2BK60					
165 - 170	2B5V50	B	2BK65H	H		
171 - 178	2BK57	-				
179 - 188	2BK60					
189 - 194	2BK62					
195 - 198	2B5V66	B	2B5V68	B		
199 - 200	2B5V68					

Notes: Pre-selected belt drives are based on the following guidelines:
- NEMA Recommendations for Sheave Diameter and Width
- Average Service at Reducer Rated Load
- 2 Belt Minimum

For other conditions (including but not limited to; fire hazard, explosion hazard or choked input), contact Application Engineering (1 800 626 2093) for assistance in selecting a belt drive.

It is recommended that 250 hp motors and larger the sheave diameters shown be checked with the motor manufacturer to be sure they meet their recommendations for minimum pitch diameter.

Accessories Shaft Mount Reducers

Pre-selected Belt Drives - 107SMTP15

107SMTP15 Variable Pitch

Output rpm	Driver		Driven		Belts	Belt Qty.
	Variable Pitch	Bushing	Fixed Pitch	Bushing		
10 - 13	2VP36	-	2B5V278	B	AX	2
14 - 16	2VP42					
17	2VP50					
18 - 23	2VP36		2AK154H	H		
24 - 29			2AK124H			
30 - 31	2VP42					
32 - 38			2AK114H			
39 - 46			2AK94	-		
47 - 52			2AK84			
53 - 59	2VP50		2B5V90	B		
60 - 65	2VP56					
66 - 71	2VP50		2AK74	-		
72 - 80			2B5V66	B		
81 - 83			2AK61	-		
84 - 93	2VP60		2B5V68	B	BX	
94	2VP65					
95 - 100					AX	
101 - 105	2VP60		2B5V60			
106 - 113						
114 - 126	2VP65		2BK60	-	BX	
127 - 130	2VP71					

107SMTP15 Fixed Pitch

Output rpm	Driver		Driven		Belts	Belt Qty.
	Fixed Pitch	Bushing	Fixed Pitch	Bushing		
7	2AK22	-	2TB380	Q1	AX	2
8	2AK25					
9	2AK21		2B5V278	B		
10	2AK23					
11	2AK25					
12	2BK25		2B5V200			
13	2AK22					
14	2AK23					
15	2AK25					
16	2AK27					
17	2AK22		2BK160H	H		
18	2AK28		2AK184H			
19 - 20	2AK30					
21	2AK32					
22	2AK34					
23	2AK22		2BK120H			
24	2AK23					
25 - 26	2BK28					
27 - 28	2AK26					
29	2AK27					
30	2AK28		2AK114H			
31 - 32	2AK30					
33 - 34	2AK32					
35 - 36	2AK34					
37 - 38	2AK32		2AK104	-		
39 - 40	2AK34					
41 - 43	2AK30		2TA82	Q1		
44 - 46	2AK32					
47 - 49	2AK34					
50	2AK44		2AK104	-		
51 - 52	2AK46					
53 - 56	2AK49					
57 - 58	2AK51					
59 - 62	2AK44		2AK84			
63 - 65	2AK46					
66 - 69	2AK49					
70 - 72	2AK51					
73 - 77	2AK54					
78 - 82	2AK44		2AK64			
83	2AK46					
84 - 87	2AK54		2AK74			
88 - 91	2AK56					
92 - 96	2AK59					
97 - 99	2AK61					
100 - 104	2AK64					
105 - 107	2AK54		2AK61			
108 - 111	2AK46					
112 - 113	2AK59					
114 - 119	2BK57		2B5V52	B	BX	
120 - 126	2BK60					
127 - 130	2BK62					

Notes: Pre-selected belt drives are based on the following guidelines:

- NEMA Recommendations for Sheave Diameter and Width
- Average Service at Reducer Rated Load
- 2 Belt Minimum

For other conditions (including but not limited to; fire hazard, explosion hazard or choked input), contact Application Engineering (1 800 626 2093) for assistance in selecting a belt drive.

It is recommended that 250 hp motors and larger the sheave diameters shown be checked with the motor manufacturer to be sure they meet their recommendations for minimum pitch diameter.

Pre-selected Belt Drives - 107SMTP25

107SMTP25 Variable Pitch

Output rpm	Driver		Driven		Belts	Belt Qty.
	Variable Pitch	Bushing	Fixed Pitch	Bushing		
6 - 7	2VP36	-	2B5V278	B	AX	2
8 - 10			2B5V200			
11 - 14			2AK154H	H		
15 - 19			2AK114H			
20 - 26			2AK84	-		
27 - 31	2VP42					
32 - 38			2B5V88	B		
39 - 47			2AK56	-		
48 - 53			2AK49			
54 - 57	2VP50		2AK56			
58 - 64	2VP56					
65 - 70	2VP50		2B5V42	P1	BX	
71 - 77					AX	
78 - 80	2VP56					

107SMTP25 Fixed Pitch

Output rpm	Driver		Driven		Belts	Belt Qty.
	Fixed Pitch	Bushing	Fixed Pitch	Bushing		
5	2AK20	-	2B5V278	B	AX	2
6	2AK23					
7	2AK27					
8	2AK20		2BK190H	H		
9	2AK23					
10	2AK25					
11	2AK28		2AK184H			
12	2AK30					
13	2AK34					
14	2BK25		2BK110H			
15	2AK22					
16	2AK23					
17	2AK25					
18 - 19	2AK22		2B5V86	-		
20	2BK28					
21	2AK25					
22	2AK26					
23 - 24	2AK34		2AK104			
25 - 26	2AK39					
27 - 28	2AK28		2AK74			
29 - 30	2AK30					
31 - 32	2AK32					
33 - 34	2AK34					
35	2AK30		2AK64			
36 - 37	2AK32					
38 - 40	2AK34					
41 - 43	2AK39		2AK61			
44 - 45						
46 - 48	2AK41					
49 - 51	2AK44					
52 - 54	2AK46					
55 - 58	2AK49					
59 - 62	2AK44		2AK51			
63 - 65	2AK46					
66 - 69	2AK49					
70 - 72	2AK51					
73 - 77	2AK54					
78 - 80	2AK56					

Notes: Pre-selected belt drives are based on the following guidelines:
- NEMA Recommendations for Sheave Diameter and Width
- Average Service at Reducer Rated Load
- 2 Belt Minimum

For other conditions (including but not limited to; fire hazard, explosion hazard or choked input), contact Application Engineering (1 800 626 2093) for assistance in selecting a belt drive.

It is recommended that 250 hp motors and larger the sheave diameters shown be checked with the motor manufacturer to be sure they meet their recommendations for minimum pitch diameter.

Pre-selected Belt Drives - 107SMTP35

107SMTP35 Variable Pitch						
Output rpm	Driver		Driven		Belts	Belt Qty.
	Variable Pitch	Bushing	Fixed Pitch	Bushing		
5 - 6	2VP36	-	2TA45	Q1	AX	2
7	2VP42					
8	2VP50					
9 - 11	2VP36		2AK134H	H		
12 - 13	2VP42					
14	2VP36		2AK104	-		
15 - 17	2VP42					
18 - 21	2VP36		2AK74			
22 - 25	2VP42					
26 - 31	2VP36		2AK49			
32 - 38	2VP42					
39 - 45			2B5V42	P1		
46 - 50			2TB38			

107SMTP35 Fixed Pitch						
Output rpm	Driver		Driven		Belts	Belt Qty.
	Fixed Pitch	Bushing	Fixed Pitch	Bushing		
5	2AK20	-	2B5V200	B	AX	2
6	2AK23					
7	2AK27					
8	2AK20		2B5V124			
9	2AK22					
10	2AK25					
11	2AK26					
12	2AK25		2B5V86			
13	2AK22					
14	2AK23					
15	2AK25					
16	2AK26					
17	2AK22		2B5V68			
18	2AK23					
19	2AK25					
20	2AK22		2B5V56			
21 - 22	2AK23					
23	2AK25					
24	2AK26					
25	2AK23		2BK55H	H		
26 - 27	2AK25					
28	2AK26					
29	2AK27					
30 - 31	2AK32		2AK54	-		
32 - 33	2AK34					
34 - 35	2AK32		2AK49			
36 - 37	2AK34					
38 - 39	2AK39		2AK51			
40 - 41	2AK41					
42 - 44	2AK44					
45 - 46	2AK46					
47 - 48	2AK49					
49 - 50	2AK32		2AK32			

Notes: Pre-selected belt drives are based on the following guidelines:
- NEMA Recommendations for Sheave Diameter and Width
- Average Service at Reducer Rated Load
- 2 Belt Minimum

For other conditions (including but not limited to; fire hazard, explosion hazard or choked input), contact Application Engineering (1 800 626 2093) for assistance in selecting a belt drive.

It is recommended that 250 hp motors and larger the sheave diameters shown be checked with the motor manufacturer to be sure they meet their recommendations for minimum pitch diameter.

Accessories Shaft Mount Reducers

Pre-selected Belt Drives - 115SMTP05

115SMTP05 Variable Pitch						
Output rpm	Driver		Driven		Belts	Belt Qty.
	Variable Pitch	Bushing	Fixed Pitch	Bushing		
90 - 95	2VP65	-	2B5V34	B	BX	2
96 - 105	2VP71					
106 - 110	2VP75					
111 - 113	2VP62		2B5V184		5VX	
114 - 122	2VP65					
123 - 134	2VP71					
135 - 140	2VP75					
141 - 150	2VP60		2B5V136		BX	
151 - 164	2VP65					
165 - 179						
180 - 193	2VP71		2B5V124		5VX	
194 - 196						
197 - 208	2VP75					
209 - 210	2VP65		2Q5V109	Q1		
211 - 229	2VP71					
230 - 242	2VP75					
243 - 261	2VP71		2B5V94	B		
262 - 276	2VP75			-		
277 - 280	2VP65		2B5V80			
281 - 306	2VP71					
307 - 310	2VP75					
311 - 330	2VP71		2B5V74			
331 - 337	2VP75					
338 - 349	2V58B70					
350 - 367	2V68B80		2B5V80			
368 - 386	2MVP80B94Q		2B5V86		BX	
387 - 400	2V58B70		1B5V64		5VX	

115SMTP05 Fixed Pitch						
Output rpm	Driver		Driven		Belts	Belt Qty.
	Fixed Pitch	Bushing	Fixed Pitch	Bushing		
90 - 91	3TB36	P2	3B5V160	B	BX	3
92 - 96	3TB38	P1				
97 - 98	3BK45H	H				
99 - 100	3BK47H					
101 - 104	3BK52H				AX	
105 - 106	2BK55	-	2BK190H	H	BX	2
107 - 110	2BK57					
111 - 116	2BK60					
117 - 121	2BK62					
122 - 124	2BK65					
125 - 132	2B5V42	P1	2B5V124	B	5VX	
133 - 138	2B5V44					
139 - 143	2BK55	-	2B5V136		BX	
144 - 149	2BK57					
150	2B5V52	B				
151 - 157	2BK60	-				
158 - 161	2BK62					
162 - 168	2B5V54	B	2B5V124		5VX	
169 - 174	2B5V56					
175 - 181	2B5V58					
182 - 187	2B5V60					
188 - 193	2B5V62					
194 - 202	2B5V64				BX	
203 - 208	2B5V66					
209 - 214	2B5V68					
215 - 224	2B5V50		2B5V86		5VX	
225 - 233	2B5V52					
234 - 242	2B5V54					
243 - 244	2B5V56					
245 - 257	2B5V60		2B5V90			
258 - 265	2B5V62					
266 - 274	2B5V64					
275 - 282	2B5V66					
283 - 290	2B5V68					
291 - 297	2B5V80		2BK110H	H	BX	
298 - 312	2B5V60		2B5V74	B	5VX	
313 - 322	2B5V62					
323 - 330	2B5V64					
331 - 333	2B5V90		2BK110H	H	BX	
334 - 347	2B5V94					
348 - 363	2B5V70		2B5V74	B	5VX	
364 - 383	2B5V74					
384 - 394	3V5V70		3B5V68		BX	3
395 - 400	3B5V74					

Notes: Pre-selected belt drives are based on the following guidelines:
- NEMA Recommendations for Sheave Diameter and Width
- Average Service at Reducer Rated Load
- 2 Belt Minimum

For other conditions (including but not limited to; fire hazard, explosion hazard or choked input), contact Application Engineering (1 800 626 2093) for assistance in selecting a belt drive.

It is recommended that 250 hp motors and larger the sheave diameters shown be checked with the motor manufacturer to be sure they meet their recommendations for minimum pitch diameter.

Pre-selected Belt Drives - 115SMTP09

115SMTP09 Variable Pitch

Output rpm	Driver		Driven		Belts	Belt Qty.
	Variable Pitch	Bushing	Fixed Pitch	Bushing		
16 - 20	2VP36	-	2TB300	Q1	AX	2
21 - 25	2VP42					
26 - 29	2VP50					
30 - 33	2VP56					
34 - 38	2VP50		2B5V234	B	BX	
39 - 43	2VP56					
44 - 46	2VP60					
47 - 54	2VP42		2B5V136			
55 - 58	2VP56		2B5V160		AX	
59 - 64	2VP60					
65 - 70	2VP65					
61 - 75					5VX	
76 - 78	2VP71				BX	
79 - 85	2VP65		2B5V136			
86 - 95	2VP71					
96 - 100	2VP75					
101 - 107	2VP65		2B5V110			
108 - 117	2VP71					
118 - 133	2VP65		2B5V90		5VX	
134 - 142	2VP71				BX	
143 - 145					5VX	
146 - 160	2VP65		2B5V74			
161 - 175	2VP71					
176 - 185	2VP75					
186 - 191	2VP65		2B5V62			
192 - 200	2VP71					

115SMTP09 Fixed Pitch

Output rpm	Driver		Driven		Belts	Belt Qty.
	Fixed Pitch	Bushing	Fixed Pitch	Bushing		
12	2AK23	-	2TB380	Q1	AX	2
13	2AK25					
14	2AK26					
15	2AK23		2TB300			
16	2BK28					
17	2AK25					
18	2AK27					
19	2AK23		2B5V250	B		
20	2AK25					
21	2AK26					
22	2AK27					
23	2BK32					
24 - 25	2H3V31	H	2Q3V250	Q1	3VX	
26 - 27	2H3V33					
28 - 29	2H3V36					
30 - 31	3BK32	-	3BK190H	H	AX	3
32 - 33	3BK34					
34 - 36	3BK36					
36 - 38	3BK40			B		
39 - 40	3TB38	P1		H	BX	2
41 - 43	2BK32	-	2BK160H		AX	
44 - 45	2BK34					
46 - 48	2TB38	P1			BX	
49 - 51	2TB40					
52 - 54	2BK45	-	2B5V124	B	AX	
55 - 56	2BK34					
57 - 58	2TB38	P1				
59 - 61	2BK45	-	2B5V136		BX	
62 - 64	2BK47	-				
65 - 66	2B5V42	P1				
67 - 69	2BK50	-				
70 - 72	2BK52					
73 - 74	2B5V52	B			AX	
75 - 78	2BK52	-	2B5V124		BX	
79 - 83	2BK55					
84 - 87	2BK57					
88 - 91	2BK60					
92 - 93	2BK52		2BK110H	H		
94 - 99	2BK55					
100 - 103	2BK57					
104 - 109	2BK60					
110 - 112	2BK62					
113 - 119	2BK55		2B5V86	B	5VX	
120	2BK57					
121 - 124	2B5V52	B				
125 - 129	2B5V54					
130 - 134	2B5V56					
135 - 141	2B5V64		2B5V94		BX	
142 - 145	2B5V66					
146 - 149	2B5V68					
150 - 157	2B5V64		2BK90	-		
158 - 162	2B5V66					
163 - 167	2B5V68					
168	2B5V70					
169 - 171	2B5V62		2B5V74	B	5VX	
172 - 175	2B5V64					
176 - 186	2B5V80		2B5V66			
187 - 192	2B5V62					
193 - 198	2B5V64					
199 - 200	2B5V86		2BK90	-	BX	

Notes: Pre-selected belt drives are based on the following guidelines:
- NEMA Recommendations for Sheave Diameter and Width
- Average Service at Reducer Rated Load
- 2 Belt Minimum

For other conditions (including but not limited to; fire hazard, explosion hazard or choked input), contact Application Engineering (1 800 626 2093) for assistance in selecting a belt drive.

It is recommended that 250 hp motors and larger the sheave diameters shown be checked with the motor manufacturer to be sure they meet their recommendations for minimum pitch diameter.

Pre-selected Belt Drives - 115SMTP15

115SMTP15 Variable Pitch

Output rpm	Driver		Driven		Belts	Belt Qty.
	Variable Pitch	Bushing	Fixed Pitch	Bushing		
10 - 13	2VP36	-	2V5V278	B	AX	2
14 - 16	2VP42					
17 - 19	2VP50					
20 - 22	2VP36		2AK154H	H		
23 - 28	2VP42					
29 - 32			2AK134H			
33 - 36	2VP50		2AK144H			
37 - 41	2VP56					
42 - 50	2VP42		2B5V86	B	BX	
51 - 58			2BK80	-		
59 - 61	2VP65		2B5V110	B	AX	
62 - 63					BX	
64 - 67	2VP71					
68 - 69						
70 - 73	2VP60		2B5V86		AX	
74 - 78	2VP65					
79 - 81					BX	
82 - 87	2VP71				AX	
88					BX	
89 - 93	2VP60		2B5V68			
94 - 101	2VP65					
102 - 106	2VP71					
107 - 111					AX	
112 - 120	2VP65		2BK62	-	BX	
121 - 130	2VP71		2B5V58	B		

115SMTP15 Fixed Pitch

Output rpm	Driver		Driven		Belts	Belt Qty.
	Fixed Pitch	Bushing	Fixed Pitch	Bushing		
7	3BK27	-	3TB380	Q1	AX	3
8	3BK30					
9	3BK32					
10	3BK36					
11	2AK23		2B5V250	B		2
12	2AK25					
13	2AK27					
14	2AK22		2BK190H	H		
15	2AK23					
16	2AK26					
17	2AK27					
18	2AK22		2B5V136	B		
19 - 20						
21	2BK28					
22	2AK25					
23	2BK30					
24	2AK30		2AK154H	H		
25	2AK32					
26 - 27	2AK34					
28 - 29	2AK39					
30 - 31	2AK41					
32 - 33	2AK44					
34	2AK34		2AK124H			
35 - 37	2AK39					
38 - 39	2AK41					
40 - 42	2AK44					
43 - 44	2AK46					
45 - 46	2AK49					
47 - 49	2BK34		2BK90	-	BX	
50 - 51	2BK36					
52 - 53	2TB38	P1			AX	
54 - 56	2TB40					
57 - 58	2B5V42					
59 - 61	2BK47	-				
62 - 63	2B5V42	P1				
64 - 65	2BK50	-	2AK94			
66 - 68	2BK52					
69 - 72	2BK56					
73 - 75	2AK59		2BK80		BX	
76 - 78	2AK61					
79 - 82	2AK64					
83 - 85	2BK57		2BK67			
86 - 90	2BK60					
91 - 93	2BK62					
94 - 99	2BK55		2B5V52			
100 - 103	2BK57					
104 - 108	2BK60					
109 - 111	2BK62					
112 - 119	2BK57					
120	2BK60					
121 - 122	2B5V52			B	5VX	
123 - 126	2B5V54				BX	
127 - 130	2B5V68		2B5V62			

Notes: Pre-selected belt drives are based on the following guidelines:

- NEMA Recommendations for Sheave Diameter and Width
- Average Service at Reducer Rated Load
- 2 Belt Minimum

For other conditions (including but not limited to; fire hazard, explosion hazard or choked input), contact Application Engineering (1 800 626 2093) for assistance in selecting a belt drive.

It is recommended that 250 hp motors and larger the sheave diameters shown be checked with the motor manufacturer to be sure they meet their recommendations for minimum pitch diameter.

Pre-selected Belt Drives - 115SMTP25

115SMTP25 Variable Pitch						
Output rpm	Driver		Driven		Belts	Belt Qty.
	Variable Pitch	Bushing	Fixed Pitch	Bushing		
6 - 7	2VP36	-	2B5V278	B	AX	2
8 - 9	2VP42					
10 - 11	2VP50					
12 - 14	2VP36		2AK154H	H		
15 - 16	2VP42					
17 - 21	2VP36		2AK104H			
22 - 24	2VP42		2B5V86	B		
25 - 30			2BK80	-		
31 - 35			2B5V62	B		
36 - 38					BX	
39 - 41						
42 - 50			2B5V50			
51 - 57	2VP50		2AK56	-	AX	
58 - 61	2VP60		2AK61			
62 - 67	2BP65		2BK55			
68 - 76	2VP60				BX	
77 - 80			2BK50			

115SMTP25 Fixed Pitch						
Output rpm	Driver		Driven		Belts	Belt Qty.
	Fixed Pitch	Bushing	Fixed Pitch	Bushing		
5	2AK20	-	2B5V278	B	AX	2
6	2AK23					
7	2BK25		2B5V200			
8	2AK22					
9	2AK25					
10	2AK22		2BK160H	H		
11	2BK28					
12	2AK26					
13	2AK22		2B5V124	B		
14	2BK28					
15	2AK26					
16	2AK27					
17	2AK22		2B5V94			
18	2AK23					
19	2AK25					
20	2AK26					
21	2AK27					
22	2AK26		2B5V86			
23 - 24	2BK32					
25	2AK41		2AK114H	H		
26 - 27	2AK44					
28	2AK46					
29 - 30	2AK49					
31 - 32	2AK32		2AK74H			
33 - 34	2AK34					
35	2AK30		2AK64	-		
36 - 37	2AK32					
38	2AK34					
39 - 40	2BK32		2BK62		BX	
41 - 43	2BK34					
44 - 45	2BK36					
46 - 47	2BK40					
48 - 50	2BK32		2BK50			
51 - 54	2BK34					
55 - 57	2BK36					
58	2BK40				AX	
59 - 60	2AK54		2AK64			
61 - 63	2AK56					
64 - 66	2AK59					
67 - 69	2AK61					
70 - 71	2AK64					
72	2AK54		2AK54			
73 - 75	2AK56					
76 - 78	2AK59					
79 - 80	2BK62		2BK55		BX	

Notes: Pre-selected belt drives are based on the following guidelines:
- NEMA Recommendations for Sheave Diameter and Width
- Average Service at Reducer Rated Load
- 2 Belt Minimum

For other conditions (including but not limited to; fire hazard, explosion hazard or choked input), contact Application Engineering (1 800 626 2093) for assistance in selecting a belt drive.

It is recommended that 250 hp motors and larger the sheave diameters shown be checked with the motor manufacturer to be sure they meet their recommendations for minimum pitch diameter.

Pre-selected Belt Drives - 115SMTP35

115SMTP35 Variable Pitch

Output rpm	Driver		Driven		Belts	Belt Qty.
	Variable Pitch	Bushing	Fixed Pitch	Bushing		
5 - 6	2VP36	-	2TA245	Q1	AX	2
7	2VP42					
8	2VP50					
9 - 11	2VP36		2AK134H	H		
12 - 14	2VP42					
15 - 17			2AK104H			
18 - 20			2AK84	-		
21 - 22	2VP36		2B5V66	B		
23 - 26	2VP42					
27 - 32			2BK62	-	BX	
33 - 38			2AK49		AX	
39 - 42	2VP50		2AK54			
43 - 45	2VP56					
46 - 50	2VP50		2AK44			

115SMTP35 Fixed Pitch

Output rpm	Driver		Driven		Belts	Belt Qty.
	Fixed Pitch	Bushing	Fixed Pitch	Bushing		
5	2AK20	-	2B5V200	B	AX	2
6	2BK28					
7	2AK27					
8	2BK25		2B5V124			
9	2AK22					
10	2AK25					
11	2AK26					
12	2BK25		2B5V86			
13	2AK22					
14	2AK23					
15	2AK25					
16	2AK27					
17	2AK22		2B5V66			
18	2AK23					
19 - 20	2AK25					
21	2AK22		2BK60	-		
22	2AK23					
23 - 24	2AK34		2AK74H	H		
25 - 26	2AK39					
27	2AK41					
28	2AK34		2AK64	-		
29 - 30	2AK39					
31 - 32	2AK41					
33	2AK44					
34 - 35	2AK39		2AK56			
36 - 37	2AK41					
38 - 40	2AK44					
41 - 42	2AK46					
43 - 44	2AK49					
45 - 46	2AK51					
47 - 49	2AK54					
50	2AK44		2AK44			

Notes: Pre-selected belt drives are based on the following guidelines:
- NEMA Recommendations for Sheave Diameter and Width
- Average Service at Reducer Rated Load
- 2 Belt Minimum

For other conditions (including but not limited to; fire hazard, explosion hazard or choked input), contact Application Engineering (1 800 626 2093) for assistance in selecting a belt drive.

It is recommended that 250 hp motors and larger the sheave diameters shown be checked with the motor manufacturer to be sure they meet their recommendations for minimum pitch diameter.

Accessories Shaft Mount Reducers

Pre-selected Belt Drives - 203SMTP05

203SMTP05 Variable Pitch

Output rpm	Driver		Driven		Belts	Belt Qty.
	Variable Pitch	Bushing	Fixed Pitch	Bushing		
90 - 99	2VP65	-	2R5V212	R1	5VX	2
100 - 108	2VP71					
109 - 114	2VP75					
115 - 120			2B5V200	B		
121 - 129	2VP65		2B5V154			
130 - 141	2VP71		2B5V160			
142 - 152	2VP75					
153 - 165	2VP71		2B5V136			
166 - 176	2V58B70					
177 - 201	2MVP75C97Q	Q2	2TC160	Q1	CX	
202 - 204	2MVP85C107Q					
205 - 215	2V58B70	-	2B5V110	B	5VX	
216 - 228	2MVP75C97Q	Q2	2C140R	R1	CX	
229 - 239	2MVP85C107Q					
240 - 246	2MVP75C97Q		2TC130	Q1		
247 - 272	2MVP85C107Q					
273 - 279	2MVP75C97Q		2TC114			
280 - 291	2MVP85C107Q					
292 - 305	3MVP70B84	-	3MVB90Q		BX	3
306 - 322	4MVP60B74		4MVB74Q	Q2		4
323 - 327	2V68B80		2B5V80	B	5VX	2
328 - 334	2MVP95C117Q	Q2	2TC114	Q1	CX	
335 - 360	2MVP105C127Q		2TC114			
361 - 387	2MVP95C117Q					
388 - 400	2MVP105C127Q		2TC98			

203SMTP05 Fixed Pitch

Output rpm	Driver		Driven		Belts	Belt Qty.
	Fixed Pitch	Bushing	Fixed Pitch	Bushing		
90 - 92	3B5V46	B	3BK190H	H	BX	3
93 - 96	3V5V48					
97 - 100	3V5V50					
101 - 103	3B5V52					
104 - 107	3B5V54					
108 - 109	3B5V56					
110 - 116	3B5V62				AX	
117 - 120	2B5V52		2B5V154	B	5VX	2
121 - 122	2B5V62		3BK190H	H	BX	3
123 - 126	3B5V64					
127 - 129	3B5V68					
130 - 134	2B5V58		2B5V154	B	5VX	2
135 - 139	2B5V60					
140 - 143	2B5V62					
144 - 147	2B5V64					
148 - 155	3B5V58		3B5V136		BX	3
156 - 160	3B5V60					
161 - 165	3B5V62					
166 - 175	3B5V66					
176 - 180	3B5V68					
181 - 183	2B5V70		2B5V136		5VX	2
184 - 193	2B5V74					
194 - 200	2B5V70		2B5V124			
201 - 212	2B5V74					
213 - 224	2B5V86		2B5V136			
225 - 234	2B5V90					
235 - 244	2B5V94					
245 - 246	3B5V60		3B5V86			3
247 - 254	3B5V62					
255 - 262	3B5V64					
263 - 271	3B5V66					
272 - 286	3B5V60		3B5V74			
287 - 295	3B5V62					
296 - 305	3B5V64					
306 - 308	3B5V66					
309 - 326	2B5V80		2B5V86			2
327 - 331	2Q4V109	Q1		Q1		
332 - 352	2B5V110	B	2B5V110	B		
353 - 372	3B5V110		3BK110H	H	BX	3
373 - 386	2B5V136		2B5V124	B	5VX	2
387 - 400	3B5V110		3B5V94		BX	3

Notes: Pre-selected belt drives are based on the following guidelines:

- NEMA Recommendations for Sheave Diameter and Width
- Average Service at Reducer Rated Load
- 2 Belt Minimum

For other conditions (including but not limited to; fire hazard, explosion hazard or choked input), contact Application Engineering (1 800 626 2093) for assistance in selecting a belt drive.

It is recommended that 250 hp motors and larger the sheave diameters shown be checked with the motor manufacturer to be sure they meet their recommendations for minimum pitch diameter.

Accessories Shaft Mount Reducers

Pre-selected Belt Drives - 203SMTP09

203SMTP09 Variable Pitch

Output rpm	Driver		Driven		Belts	Belt Qty.
	Variable Pitch	Bushing	Fixed Pitch	Bushing		
20 - 24	2VP42	-	2TB300	Q1	AX	2
25 - 29			2B5V250	B		
30 - 32	2VP50		2B5V278		BX	
37 - 39	2VP60					
40 - 42	2VP65					
43 - 47	2VP71					
48 - 52	2MVP35B49		2BK190H	H		
53 - 59	2VP60					
60 - 64	2VP65					
65 - 70	2VP71					
71 - 74	2VP75					
75 - 80	2VP65		2R5V150	R1	5VX	
81 - 88	2VP71					
89 - 92	2VP75					
93 - 95	2VP71		2B5V136	B	BX	
96 - 100	2VP75					
101 - 108	2VP65		2B5V110		5VX	
109 - 114	2VP71				BX	
115 - 118					5VX	
119 - 125	2VP75					
126 - 135	2VP71		2Q5V97	Q1		
136 - 143	2VP75					
144 - 151	2VP71		2B5V86	B		
152 - 159	2VP75					
161 - 165	2V58B70		2Q5V85	Q1		
166 - 173	4MVP45B59		4MVB64Q	Q2	BX	4
174 - 187	4MVP59B64					
188 - 200	2V58B70		2B5V68	B	5VX	2

203SMTP09 Fixed Pitch

Output rpm	Driver		Driven		Belts	Belt Qty.
	Fixed Pitch	Bushing	Fixed Pitch	Bushing		
12	2AK23	-	2TB380	Q1	AX	2
13	3BK28		3TB380			3
14	3BK30					
15	3BK32					
16	3BK34					
17	3BK36					
18	3BK40					
19 - 20	3BK45H	H				
21 - 22	2BK32	-	2TB300		BX	2
23	2BK34					
24	2BK36					
25 - 26	2BK40					
27 - 28	2BK32		2B5V234	B		
29 - 30	2BK34					
31	2BK36					
32	2BK40					
33	2BK40H	H				
34 - 36	2BK45	-				
37 - 39	2BK40H	H	2B5V200			
40 - 42	2BK45	-				
43 - 45	2VP71	P2	3BK160H	H		3
46 - 47	3TB34					
48 - 50	3TB36					
51 - 53	3TB38	P1				
54 - 56	2BK47	-	2BK160H			2
57 - 59	2BK50					
60 - 62	2BK52					
63 - 67	2BK55					
68 - 69	2BK57					
70 - 71	2B5V52	B	2B5V136	B	5VX	
72 - 75	2B5V50					
76 - 78	2B5V52					
79 - 81	2B5V54					
82 - 84	2B5V56					
85 - 87	2B5V58					
88 - 89	2B5V54		2B5V124			
90 - 92	2B5V56					
93 - 95	2B5V58					
96 - 99	2B5V60					
100 - 101	2B5V62					
102 - 107	2B5V64				BX	
108 - 110	2B5V66					
111 - 113	2B5V68					
114 - 115	2B5V62		2B5V110		5VX	
116 - 118	2B5V64					
119 - 122	2B5V66					
123 - 126	2B5V68					
127 - 128	2B5V70					
129 - 136	2B5V60		2B5V90			
137 - 140	2B5V62					
141 - 145	2B5V64					
146 - 149	2B5V66					
150 - 154	2B5V68					
155 - 156	2B5V66		2B5V86			
157 - 161	2B5V68					
162 - 165	2B5V70					
166 - 175	2B5V74					
176 - 178	2B5V70		2B8V80			
179 - 188	2B5V74					
189 - 192	2B5V70		2B5V74			
193 - 200	2B5V74					

Notes: Pre-selected belt drives are based on the following guidelines:

- NEMA Recommendations for Sheave Diameter and Width
- Average Service at Reducer Rated Load
- 2 Belt Minimum

For other conditions (including but not limited to; fire hazard, explosion hazard or choked input), contact Application Engineering (1 800 626 2093) for assistance in selecting a belt drive.

It is recommended that 250 hp motors and larger the sheave diameters shown be checked with the motor manufacturer to be sure they meet their recommendations for minimum pitch diameter.

Accessories Shaft Mount Reducers

Pre-selected Belt Drives - 203SMTP15

203SMTP15 Variable Pitch

Output rpm	Driver		Driven		Belts	Belt Qty.
	Variable Pitch	Bushing	Fixed Pitch	Bushing		
10 - 12	2VP36	-	2B5V278	B	AX	2
13 - 15	2VP42					
16 - 17			2B5V250			
18 - 20	2VP50					
21 - 24	2VP56					
25 - 28	2VP50		2AK184H	H		
29 - 32	2VP56					
33 - 35	2VP60		2BK190H		BX	
36 - 38	2VP65					
39 - 41	2VP71					
42 - 44	2VP75					
45 - 50	2VP65		2B5V136	B		
51 - 56	2VP71					
57 - 58	2VP60		2B5V110			
59 - 62	2VP65					
63 - 69	2VP71					
70 - 73	2VP60		2B5V86			
74 - 79	2VP65					
80 - 82					5VX	
83 - 87	2VP71					
88 - 95	2VP65		2B5V74			
96 - 101	2VP71					
102 - 113	2VP65		2B5V62			
114 - 123	2VP71					
124 - 130			2B5V58			

203SMTP15 Fixed Pitch

Output rpm	Driver		Driven		Belts	Belt Qty.
	Fixed Pitch	Bushing	Fixed Pitch	Bushing		
7	2AK22	-	2TB380	Q1	AX	2
8	2AK25					
9	2AK23		2TB300			
10	2AK25					
11	2AK27					
12	3BK30		3BK190H	B		3
13	3BK32					
14	3BK34					
15	3BK36					
16	3BK40					
17	3BK30		3BK190H	H		
18	3BK32					
19	3BK34					
20 - 21	3BK36					
22	3BK40					
23	3TB38	P1				
24	3BK45H	H				
25	3BK47H					
26	3B5V42	P1	2BK160H			2
27 - 29	2TB38					
30 - 31	2TB40					
32	2B5V42				BX	
33 - 34	2BK47	-	2B5V124	B		
35 - 36	2BK50					
37	2BK52					
38 - 40	2BK45					
41 - 42	2BK47					
43 - 45	2BK50					
46 - 47	2BK52					
48 - 49	2B5V48	B				
50 - 52	2BK57	-	2BK110H	H		
53 - 55	2BK60					
56 -57	2BK62					
58 - 59	2BK55					
60 - 61	2BK57					
62 - 65	2BK60					
66 - 67	2BK62					
68 - 71	2BK55		2B5V86	B		
72 - 74	2BK57					
75 - 78	2BK60					
79 - 80	2BK62					
81 - 85	2B5V62	B	2B5V90			
86 - 88	2B5V64					
89 - 90	2B5V66					
91 - 93	2B5V68					
94 - 98	2B5V64		2B5V80			
99 - 101	2B5V66					
102 - 104	2B5V68					
105 - 106	2B5V64		2BK80H	H		
107 - 109	2B5V66					
110 - 112	2B5V68					
113 - 118	2B5V64		2B5V66	B		
119 - 121	2B5V66					
122 - 125	2B5V68					
126 - 128	2B5V66		2B5V62		5VX	
129 - 130	2B5V64		2B5V58			

Notes: Pre-selected belt drives are based on the following guidelines:

- NEMA Recommendations for Sheave Diameter and Width
- Average Service at Reducer Rated Load
- 2 Belt Minimum

For other conditions (including but not limited to; fire hazard, explosion hazard or choked input), contact Application Engineering (1 800 626 2093) for assistance in selecting a belt drive.

It is recommended that 250 hp motors and larger the sheave diameters shown be checked with the motor manufacturer to be sure they meet their recommendations for minimum pitch diameter.

Pre-selected Belt Drives - 203SMTP25

203SMTP25 Variable Pitch

Output rpm	Driver		Driven		Belts	Belt Qty.
	Variable Pitch	Bushing	Fixed Pitch	Bushing		
6 - 7	2VP36	-	2B5V278	B	AX	2
8 - 9	2VP42					
10 - 11	2VP50					
12 - 14	2VP42		2AK184H	H		
15 - 17	2VP50					
18 - 19	2VP56					
20 - 23	2VP42		2B4V110	B		
24 - 27	2VP50		2AK114H	H		
28 - 32	2VP56					
33 - 35	2VP60		2AK104H			
36 - 38	2VP65					
39 - 43	2VP60		2B5V86	B		
44 - 48	2VP65					
49 - 52	2VP71					
53 - 55	2VP60		2B5V68		BX	
56 - 61	2VP65					
62 - 69	2VP60		2B5V54			
70 - 71	2VP65					
72 - 80	2VP60		2B5V46			

203SMTP25 Fixed Pitch

Output rpm	Driver		Driven		Belts	Belt Qty.
	Fixed Pitch	Bushing	Fixed Pitch	Bushing		
5	2BK25	-	2B5V278	B	AX	2
6	2AK23					
7	2AK27					
8	2BK25		2BK190H	H		
9	2AK23					
10	2AK25					
11	2AK28		2AK184H			
12	2AK30					
13	2AK34					
14	2AK39					
15	2AK41					
16	2AK44					
17	2AK34		2AK144H			
18 - 19	2AK39					
20	2AK41					
21	2AK44					
22	2AK46					
23 - 24	2AK49					
25 - 26	2AK39		2AK104H			
27	2AK41					
28 - 29	2AK39		2AK94H			
30	2AK41					
31 - 32	2TB38	P1	2BK90H		BX	
33 - 34						
35 - 36	2TB40					
37	2B5V42					
38 - 39	2BK50	-	2BK80H			
40 - 41	2BK52					
42 - 44	2BK50					
45 - 46	2BK52					
47 - 49	2BK55					
50 - 51	2BK57					
52 - 53	2BK60					
54 - 55	2BK62					
56 - 59	2BK55		2BK67H			
60 - 61	2BK57					
62 - 64	2BK60					
65 - 66	2BK62			B		
67 - 69	2BK57		2B5V54			
70 - 72	2BK60					
73 - 75	2BK62					
76 - 80	2BK60		2BK55H	H		

Notes: Pre-selected belt drives are based on the following guidelines:
- NEMA Recommendations for Sheave Diameter and Width
- Average Service at Reducer Rated Load
- 2 Belt Minimum

For other conditions (including but not limited to; fire hazard, explosion hazard or choked input), contact Application Engineering (1 800 626 2093) for assistance in selecting a belt drive.

It is recommended that 250 hp motors and larger the sheave diameters shown be checked with the motor manufacturer to be sure they meet their recommendations for minimum pitch diameter.

Pre-selected Belt Drives - 203SMTP35

203SMTP35 Variable Pitch						
Output rpm	Driver		Driven		Belts	Belt Qty.
	Variable Pitch	Bushing	Fixed Pitch	Bushing		
5 - 6	2VP36	-	2TA245	Q1	AX	2
7	2VP42					
8	2VP50					
9 - 11	2VP36		2B5V136	B		
12 - 13	2VP42		2AK114H	H		
14 -16						
17 - 19			2AK94H			
20 - 21	2VP50		2AK104H			
22 - 24	2VP56					
25 - 30	2VP42		2BK67H		B	
31 - 36			2BK55H			
37 - 38			2BK47H			
39 - 43	2VP60		2B5V62	B	AX	
44 - 47	2VP65					
48 - 50	2VP60		2B5V52			

203SMTP35 Fixed Pitch						
Output rpm	Driver		Driven		Belts	Belt Qty.
	Fixed Pitch	Bushing	Fixed Pitch	Bushing		
5	2BK25	-	2B5V200	B	AX	2
6	2AK23					
7	2AK27					
8	2BK36					
9	2AK22		2B5V124			
10	2BK28					
11	2AK26					
12	2AK32		2AK134H	H		
13	2AK34					
14	2AK39					
15	2AK41					
16	2AK44					
17	2AK46					
18	2AK49					
19	2AK51					
20	2AK39		2AK94H			
21 - 22	2AK41					
23	2AK44					
24	2AK46					
25 - 26	2BK32		2B5V62	B	BX	
27 - 28	2BK34					
29	2BK36					
30 - 31	2BK32		2BK57H	H		
32 - 33	2BK34					
34 - 35	2BK32		2B5V46	B		
36 - 37	2BK34					
38	2BK36					
39	2BK45		2B5V52			
40 - 41	2BK47					
42 - 44	2BK50					
45 - 47	2AK54		2AK59H	H	AX	
48 - 49	2AK56					
50	2AK59					

Notes: Pre-selected belt drives are based on the following guidelines:
- NEMA Recommendations for Sheave Diameter and Width
- Average Service at Reducer Rated Load
- 2 Belt Minimum

For other conditions (including but not limited to; fire hazard, explosion hazard or choked input), contact Application Engineering (1 800 626 2093) for assistance in selecting a belt drive.

It is recommended that 250 hp motors and larger the sheave diameters shown be checked with the motor manufacturer to be sure they meet their recommendations for minimum pitch diameter.

Pre-selected Belt Drives - 207SMTP05

207SMTP05 Variable Pitch

Output rpm	Driver		Driven		Belts	Belt Qty.
	Variable Pitch	Bushing	Fixed Pitch	Bushing		
90 - 96	2VP71	-	2B5V234	B	5VX	2
97 - 101	2VP75					
102 - 111	2VP65		2B5V184			
112 - 122	2VP71					
123 - 125	2VP75					
126 - 129	2V58B70					
130 - 137	2V68B80		2B5V200			
138 - 148	2V58B70		2B5V160			
149 - 160	2V58B70		2R5V150	R1		
161 - 168	2V68B80		2B5V160	B		
169 - 177	2V58B70		2B5V140	R1		
178 - 187			2B5V124	B		
188 - 198	2v68B80		2B5V136			
199 - 207			2Q5V132	Q1		
208 - 219			2Q5V125			
220 - 232			2Q5V118			
233 - 246			2B5V110	B		
247 - 253	2MVP105C127Q	Q2	2TC160	Q1	CX	3
254 - 272	2MVP95C117Q		2C140R	R1		
273 - 294	2MVP105C127Q					
295 - 315			2TC130	Q1		
316 - 331	2MVP95C117Q		2TC114			
332 - 340			2TC106			
341 - 357	3MVP85C107Q		3MVC96Q	Q2		
358 - 362	3MVP75C97Q		3MBV86Q			
363 - 381	3MVP80C102Q					
382 - 400	3MVP85C107Q					

207SMTP05 Fixed Pitch

Output rpm	Driver		Driven		Belts	Belt Qty.
	Fixed Pitch	Bushing	Fixed Pitch	Bushing		
90 - 91	4B5V46	B	4B5V184	B	BX	4
92 - 95	4B5V48					
96 - 99	4B5V50					
100 - 101	4B5V52					
102 - 104	4B5V54					
105 - 110	4B5V56					
111 - 113	3B5V58		3BK190H	H		3
114 - 121	3B5V62					
122 - 125	3B5V64					
126 - 129	3B5V66					
130 - 132	3B5V68					
133 - 136	3B5V70					
137 - 148	3B5V74					
149 - 151	2B5V66		2B5V154	B	5VX	2
152 - 155	2B5V68					
156 - 160	2B5V70					
161 - 162	2B5V74					
163 - 165	3B5V58		3B5V124			3
166 - 170	3B5V60					
171 - 176	3B5V62					
177 - 181	3B5V64					
182 - 187	3B5V66					
188 - 193	3B5V68					
194 - 196	2B5V86		2B5V154			2
197 - 205	2B5V90					
206 - 210	2B5V94					
211 - 222	2B5V86		2B5V136			
223 - 232	2B5V90					
233 - 242	2B5V94					
243 - 246	2Q5V97					
247 - 253	4B5V64		4B5V86			4
254 - 258						
259 - 271	2Q5V97	Q1	2B5V124			2
272 - 285	2Q5V103					
286 - 302	2Q5V109					
303 - 310	2B5V110	B				
311 - 321	2Q5V103	Q1	2B5V110			
322 - 329	2Q5V109					
330 - 340	2B5V110	B				
341 - 349	2B5V124					
350 - 361	2Q5V132	Q1	2B5V124			
362 - 383	2B5V136	B				
384 - 393	2B5V124		2B5V110			
394 - 400	2Q5V132	Q1				

Notes: Pre-selected belt drives are based on the following guidelines:
- NEMA Recommendations for Sheave Diameter and Width
- Average Service at Reducer Rated Load
- 2 Belt Minimum

For other conditions (including but not limited to; fire hazard, explosion hazard or choked input), contact Application Engineering (1 800 626 2093) for assistance in selecting a belt drive.

It is recommended that 250 hp motors and larger the sheave diameters shown be checked with the motor manufacturer to be sure they meet their recommendations for minimum pitch diameter.

Accessories Shaft Mount Reducers

Pre-selected Belt Drives - 207SMTP09

207SMTP09 Variable Pitch

Output rpm	Driver		Driven		Belts	Belt Qty.
	Variable Pitch	Bushing	Fixed Pitch	Bushing		
23 - 25	2MVP35B49	-	2TB380	Q1	AX	2
26 - 29	3MVP35B49		3MVB300R	R1		3
30 - 31	3MVP40B54					
32 - 34	2MVP35B49		2B5V278	B	BX	2
35 - 39	2VP60					
40 - 43	2VP65					
44 - 47	2VP71					
48 - 50	2VP75					
51 - 55	2VP71		2B5V234			
56 - 58	2VP75					
59 - 60	2VP65		2B5V200		5VX	
61 - 65	2VP71					
66 - 69	2VP75					
70 - 75	2VP65		2B5V160			
76 - 79	2VP71					
80 - 84	3MVP45B59		3MVB136R	R1	BX	3
85 - 90	3MVP50B64					
91 - 97	3MVP55B69					
98 - 104	3MVP60B74					
105 - 113	2MVP85C107Q	Q2	2C180R	Q1	CX	2
114 - 116	2MVP75C97Q		2TC160			
117 - 128	2MVP85C107Q					
129 - 135	2V68B80	-	2Q5V118		5VX	
136 - 146	2V58B70		2Q5V97			
147 - 153	2MVP75C97Q	Q2	2TC120	Q1	CX	
154 - 156	2VMP85C107Q					
157 - 171	2MVP105C127Q		2C140R	R1		
172 - 184	4MVP70B84	-	4MVB86Q	Q2	BX	4
185 - 200			4MVB80Q			

207SMTP09 Fixed Pitch

Output rpm	Driver		Driven		Belts	Belt Qty.
	Fixed Pitch	Bushing	Fixed Pitch	Bushing		
15	3BK32	-	3TB380	Q1	AX	3
16	3BK34					
17	3BK36					
18	3BK40					
19 - 20	3BK45H	H				
21	3BK47H					
22	3BK50H					
23	3BK52H					
24 - 25	3TB36	P2	3B5V278	B	BX	
26 - 27	3BK45H	H				
28	3TB36	P2				
29 - 30	3BK45H	H			AX	
31	3BK50H					
32	3BK52H					
33	3BK55H					
34 - 35	2BK52	-	2B5V278		BX	2
36 - 37	2BK55					
38 - 39	2BK57					
40	4TB38	P1	4B5V184		AX	4
41 - 42	4TB40					
43 - 44	4TB38				BX	
45 - 46	4TB40					
47 - 49	4B5V42					
50 - 51	4B5V44					
52 - 53	4B5V50	B			AX	
54 - 56	4B5V52					
57 - 58	3B5V44	P1	3B5V154		5VX	3
59 - 61	3B5V46	B				
62 - 64	3B5V48					
65 - 67	3B5V50					
68 - 69	3B5V52					
70 - 74	3B5V56		3B5V160		BX	
75 - 76	3B5V58					
77 - 79	3B5V60					
80 - 84	2B5V66		2B5V160		5VX	2
85 - 87	2B5V68					
88 - 90	2B5V70					
91 - 95	2B5V74					
96 - 101	3B5V54		3B5V110			3
102 - 103	3B5V56					
104 - 108	3B5V58					
109 - 112	3B5V60					
113 - 115	3B5V62					
116 - 119	3B5V64					
120 - 123	3B5V66					
124 - 125	3B5V68					
126 - 129	2B5V86		2B5V136			2
130 - 135	2B5V90					
136 - 141	2B5V94					
142 - 143	3B5V60		3B5V86			3
144 - 147	3B5V62					
148 - 152	3B5V64					
153 - 156	2B5V86		2B5V110			2
157 - 158	2Q5V97	Q1	2B5V124			
159 - 166	2Q5V103					
167 - 171	2Q5V109					
172 - 181	2B5V110	B				
182 - 187	2Q5V103	Q1	2B5V110			
188 - 192	2Q5V109					
193 - 200	2B5V110	B				

Notes: Pre-selected belt drives are based on the following guidelines:

- NEMA Recommendations for Sheave Diameter and Width
- Average Service at Reducer Rated Load
- 2 Belt Minimum

For other conditions (including but not limited to; fire hazard, explosion hazard or choked input), contact Application Engineering (1 800 626 2093) for assistance in selecting a belt drive.

It is recommended that 250 hp motors and larger the sheave diameters shown be checked with the motor manufacturer to be sure they meet their recommendations for minimum pitch diameter.

Pre-selected Belt Drives - 207SMTP15

207SMTP15 Variable Pitch

Output rpm	Driver		Driven		Belts	Belt Qty.
	Variable Pitch	Bushing	Fixed Pitch	Bushing		
11 - 13	2VP42	-	2TB380	Q1	AX	2
14 - 16						
17 - 19	2VP50		2B5V278	B	BX	
20 - 23	2VP60					
24 - 25	2VP65					
26 - 28	2VP71					
29 - 33	2VP62		2B5V200			
34 - 35	2VP65					
36 - 39	2VP71					
40 - 44	2VP65		2B5V160			
45 - 48	2VP71					
49 - 51	2VP75					
52 - 57	2VP71		2B5V136			
58 - 61	2VP65		2Q5V118	Q1	5VX	
62 - 69	2VP71					
70 - 74	2VP65		2Q5V97			
75 - 83	2VP71					
84 - 91	2V58B70		2B5V90	B		
92 - 99			2Q5V85	Q1		
100 - 105			2Q5V80			
106 - 110			2B5V74	B		
111 - 116	2V68B80		2B5V80			
117 - 119			2Q5V80	Q1		
120 - 126			2B5V74			
127 - 130			2B5V70	B		

207SMTP15 Fixed Pitch

Output rpm	Driver		Driven		Belts	Belt Qty.
	Fixed Pitch	Bushing	Fixed Pitch	Bushing		
7	3BK27	-	3TB380	Q1	AX	3
8	3BK30					
9	3BK32					
10	3BK36					
11	3TB38	P1				
12	3BK45H	H				
13	2BK36	-	2TB300			2
14	2TB38	P1				
15	2TB40					
16	2B5V42					
17	3BK32	-	3B5V200	B		3
18	3BK34					
19	3BK36					
20	3BK40					
21	3TB38	P1				
22						
23 - 24			3BK190H	H		
25 - 26	3BK47H	H				
27 - 28	3BK50H					
29	3BK52H					
30 - 31	3BK55H					
32 - 33	2BK55	-	2BK190H		BX	2
34 - 35	2BK57					
36 - 37	2BK60					
38 - 40	2B5V58	B				
41 - 42	2BK52	-	2B5V136	B	5VX	
43 - 45	2B5V50	B				
46 - 47	2B5V52					
48 - 50	2B5V56					
51 - 53	2B5V54		2B5V124			
54 - 55	2B5V56					
56 - 57	2B5V58					
58 - 60	2B5V82					
61 - 63	2B5V64					
64 - 67	2B5V68					
68 - 71	2B5V64		2B5V110			
72 - 75	2B5V68					
76 - 78	2B5V60		2B5V94			
79 - 83	2B5V64					
84 - 88	2B5V68					
89 - 91	2B5V70					
92 - 96	2B5V74					
97 - 99	2B5V70		2B5V86			
100 - 105	2B5V74					
106 - 111	2B5V86		2B5V94			
112 - 116	2B5V90					
117 - 122	2B5V94					
123 - 126	2B5V90		2B5V86			
127 - 130	2B5V94					

Notes: Pre-selected belt drives are based on the following guidelines:
- NEMA Recommendations for Sheave Diameter and Width
- Average Service at Reducer Rated Load
- 2 Belt Minimum

For other conditions (including but not limited to; fire hazard, explosion hazard or choked input), contact Application Engineering (1 800 626 2093) for assistance in selecting a belt drive.

It is recommended that 250 hp motors and larger the sheave diameters shown be checked with the motor manufacturer to be sure they meet their recommendations for minimum pitch diameter.

Accessories Shaft Mount Reducers

Pre-selected Belt Drives - 207SMTP25

207SMTP25 Variable Pitch						
Output rpm	Driver		Driven		Belts	Belt Qty.
	Variable Pitch	Bushing	Fixed Pitch	Bushing		
6 - 7	2VP36	-	2B5V278	B	AX	2
8 - 9	2VP42					
10 - 11	2VP50					
12 - 13	2VP56					
14 - 16	2VP42		2B5V160			
17 - 20	2VP50					
21 - 23	2VP60					
24 - 25	2VP65					
26 - 28	2VP71					
29 - 31	2VP65		2AK134H	H		
32 - 34	2VP71					
35 - 38	2VP65		2B5V110	B		
39 - 40	2VP71					
41 - 42	2VP60		2B5V90		BX	
43 - 47	2VP65					
48 - 51	2VP71					
52 - 57	2VP65		2B5V74		5VX	
58 - 62	2VP71					
63 - 66	2VP75					
67 - 68	2VP65		2B5V62			
69 - 74	2VP71					
75 - 80	2VP65		2B5V52			

207SMTP25 Fixed Pitch						
Output rpm	Driver		Driven		Belts	Belt Qty.
	Fixed Pitch	Bushing	Fixed Pitch	Bushing		
5	3BK30	-	3TB380	Q1	AX	3
6	3BK36					
7	2BK28		2B5V250	B		2
8	2BK32					
9	3BK36					
10	2BK38	P1				
11	2TB40					
12	2AK30	-	2AK184H	H		
13	2AK34					
14	2AK39					
15	2AK41					
16	2AK44					
17	2AK46					
18	2BK34		2B5V136	B	BX	
19	2BK36H	H				
20	2BK40	P1				
21	2TB38					
22	2BK45	-				
23	2BK47					
24	2BK50					
25	2BK47		2B5V124			
26 - 27	2BK50					
28	2BK52					
29	2BK55					
30 - 31	2B5V52	B				
32 - 33	2BK62	-				
34 - 35	2BK55		2BK110	-		
36 - 37	2B5V52	B				
38 - 40	2BK62	-				
41 - 42	2BK55		2B5V86	B	5VX	
43 - 44	2B5V52	B				
45 - 46	2B5V54					
47 - 48	2B5V62		2BK100	-	BX	
49 - 51	2B5V66					
52 - 53	2B5V68					
54 - 57	2B5V62		2B5V80	B		
58 - 60	2B5V66					
61 - 62	2B5V68					
63 - 65	2B5V80		2B5V90			
66 - 69	2B5V66					
70 - 74	3B5V60		3BK65H	H		3
75 - 78	3B5V64					
79 - 80	3B5V66					

Notes: Pre-selected belt drives are based on the following guidelines:
- NEMA Recommendations for Sheave Diameter and Width
- Average Service at Reducer Rated Load
- 2 Belt Minimum

For other conditions (including but not limited to; fire hazard, explosion hazard or choked input), contact Application Engineering (1 800 626 2093) for assistance in selecting a belt drive.

It is recommended that 250 hp motors and larger the sheave diameters shown be checked with the motor manufacturer to be sure they meet their recommendations for minimum pitch diameter.

Pre-selected Belt Drives - 207SMTP35

207SMTP35 Variable Pitch

Output rpm	Driver		Driven		Belts	Belt Qty.
	Variable Pitch	Bushing	Fixed Pitch	Bushing		
5	2VP36	-	2B5V78	B	AX	2
6	2VP42					
7 - 8	2VP50					
9	2VP56					
10 - 11	2VP42		2B5V160			
12 - 14	2VP50					
15	2VP56					
16	2VP42		2AK114	-		
17 - 20	2VP50					
21 - 23	2VP60					
24 - 27	2VP65		2B5V110	B	BX	
28 - 30	2VP71					
31 - 34	2VP65		2B5V80			
35 - 36	2VP65					
37 - 40	2VP71					
41 - 44	2VP60		2B5V60			
45 - 47	2VP65					
48 - 50	2VP71		2BK67H	H		

207SMTP35 Fixed Pitch

Output rpm	Driver		Driven		Belts	Belt Qty.
	Fixed Pitch	Bushing	Fixed Pitch	Bushing		
5	2AK25	-	2B5V250	B	AX	2
6	2BK34					
7	2AK22		2B5V160			
8	2BK30					
9	2BK32					
10	2BK36					
11	2BK40					
12	2AK32		2AK134H	H		
13	2AK34					
14	2AK39					
15	2AK41					
16	2AK44					
17	2AK46					
18	2AK49					
19	2AK51					
20	2AK46		2AK114	-		
21	2AK49					
22	2AK51					
23	2AK54					
24	2AK56					
25 - 26	2AK59					
27	2AK64					
28	2B5V48	B	2B5V86	B	BX	
29 - 30	2BK55	-				
31	2BK57					
32 - 33	2BK60					
34	2BK62					
35	2B5V48	B	2B5V68			
36 - 37	2BK55	-				
38 - 39	2BK57					
40	2BK60					
41 - 44	2BK55		2BK65H	H		
45 - 46	2B5V66	B	2BK80	-		
47	2B5V68					
48 - 50	2B5V64		2B5V66	B		

Notes: Pre-selected belt drives are based on the following guidelines:
- NEMA Recommendations for Sheave Diameter and Width
- Average Service at Reducer Rated Load
- 2 Belt Minimum

For other conditions (including but not limited to; fire hazard, explosion hazard or choked input), contact Application Engineering (1 800 626 2093) for assistance in selecting a belt drive.

It is recommended that 250 hp motors and larger the sheave diameters shown be checked with the motor manufacturer to be sure they meet their recommendations for minimum pitch diameter.

Pre-selected Belt Drives - 215SMTP05

215SMTP05 Variable Pitch						
Output rpm	Driver		Driven		Belts	Belt Qty.
	Variable Pitch	Bushing	Fixed Pitch	Bushing		
90 - 98	2V58B70	-	2B5V250	B	5VX	2
99 - 111	2V58B80					
112 - 117	2V58B70		2B5V200			
118 - 130			2B5V184			
131 - 139	2MVP105C127Q	Q2	2C300R	R1	CX	
140 - 142	2VMP95C117Q		2C270R			
143 - 154	2MVP104C127Q		2TC240	Q1		
155 - 178						
179 - 194	2MVP95C117Q		2TC200			
195 - 212	2MVP105C127Q					
213 - 230			2C180R	R1		3
231 - 240	3MVP85C107Q		3MVC140R			
241 - 262	3MVP90C112Q					
263 - 281	3MVP95C117Q					
282 - 313	3MVP85C107Q		3MVC110Q	Q2		
314 - 324	3MVP90C112Q					
325 - 337						
338 - 375	3MVP115C137Q		3MVC120Q			
376 - 400			3MVC110Q			

215SMTP05 Fixed Pitch						
Output rpm	Driver		Driven		Belts	Belt Qty.
	Fixed Pitch	Bushing	Fixed Pitch	Bushing		
90 - 96	4B5V50	B	4B5V184	B	5VX	4
97 - 99	4B5V52					
100 - 103	4B5V54					
104 - 107	4B5V56					
108 - 111	3B5V58		3B5V184			3
112 - 118	3B5V62					
119 - 122	3B5V64					
123 - 130	3B5V68					
131 - 134	3B5V70					
135 - 141	3B5V74					
142 - 144	3R5V80	R1				
145 - 152	3B5V80	B				
153 - 162	4Q5V59	Q1	4B5V124			4
163 - 170	4B5V60	B				
171 - 181	4B5V64					
182 - 192	4B5V68					
193 - 198	4V5V70					
199 - 209	4B5V74					
210 - 222	3B5V86		3B5V136			3
223 - 232	3B5V90					
233 - 241	3B5V94					
242 - 248	3R5V97	R1				
249 - 261	3R5V103					
262 - 276	3R5V109					
277 - 283	3B5V110	B				
284 - 291	3R5V118	R1	3B5V110			
292 - 305	3R5V97					
306 - 320	3R5V103					
321 - 328	3R5V109					
329 - 337	3B5V110	B				
338 - 349	3B5V124		3B5V124			
350 - 365	3R5V132	R1				
366 - 382	3B5V136	B				
383 - 400	3B5V124		3R5V109			

Notes: Pre-selected belt drives are based on the following guidelines:
- NEMA Recommendations for Sheave Diameter and Width
- Average Service at Reducer Rated Load
- 2 Belt Minimum

For other conditions (including but not limited to; fire hazard, explosion hazard or choked input), contact Application Engineering (1 800 626 2093) for assistance in selecting a belt drive.

It is recommended that 250 hp motors and larger the sheave diameters shown be checked with the motor manufacturer to be sure they meet their recommendations for minimum pitch diameter.

Pre-selected Belt Drives - 215SMTP09

215SMTP09 Variable Pitch						
Output rpm	Driver		Driven		Belts	Belt Qty.
	Variable Pitch	Bushing	Fixed Pitch	Bushing		
20 - 24	3MVP35B49	-	3MVB380R	R1	AX	3
25 - 29	3MVP40B54				BX	
30 - 35	3MVP40B54		3MVB300R			
36 - 38	3MVP45B99					
39 - 41	3MVP50B64					
42 - 46	3MVP55B69					
47 - 51	3MVP55B69		3MVB250R			
52 - 57	3MVP60B74					
58 - 62	2MVP75C97Q	Q2	2C300R		CX	2
63 - 68	2MVP85C107Q					
69 - 74	2MVP95C117Q					
75 - 81	2MVP105C127Q					
82 - 86	2MVP85C107Q		2TC240	Q1		
87 - 92	2MVP95C117Q					
93 - 103	3MVP75C97Q		3MVC180R	R1		3
104 - 113	3MVP85C107Q					
114 - 123	3MVP95C117Q					
214 - 142	3MVP75C97Q		3MVC130Q	Q2		
143 - 161	3MVP90C112Q					
162 - 172	3MVP95C117Q					
173 - 189	3MVP105C127Q					
190 - 200	3MVP115C137Q					

215SMTP09 Fixed Pitch						
Output rpm	Driver		Driven		Belts	Belt Qty.
	Fixed Pitch	Bushing	Fixed Pitch	Bushing		
20	3TB36	P2	3TB380	Q1	BX	3
21	3TB38	P1				
22	3TB40					
23	3BK47H	H				
24	3BK50H					
25	3BK52H					
26 - 27	3B5V48	B				
28	3B5V50					
29	3B5V52					
30	3B5V54					
31	3B5V56					
32	3B5V42		3B5V278	B	5VX	
33 - 34	3B5V44					
35	3B5V48					
36 - 37	3B5V50					
38	3B5V52					
39 - 40	3B5V46		3B5V234			
41 - 42	3B5V48					
43	3B5V50					
44 - 45	3B5V52					
46 - 47	3B5V54					
48 - 49	3B5V56					
50 - 52	3B5V60					
53 - 54	3B5V62					
55 - 56	3B5V64					
57 - 58	4B5V52		4B5V184			4
59 - 60	4B5V54					
61 - 62	4B5V56					
63 - 64	4B5V58					
65 - 68	4B5V60				BX	
69 - 73	4B5V64					
74 - 75	4B5V66					
76 - 78	3B5V70		3B5V184		5VX	3
79 - 82	3B5V74					
83 - 84	3R5V80	R1				
85 - 89	3B5V80	B				
90 - 94	4Q5V59	Q1	4B5V124			4
95 - 99	4B5V60	B				
100 - 104	4B5V64					
105 - 110	3R5V85	R1	3B5V154			3
111 - 114	3B5V86	B				
115 - 119	3B5V90					
120 - 124	3B5V94					
125 - 132	3R5V90	R1	3B5V136			
133 - 135	3R5V92					
136 - 144	3R5V97					
145 - 151	3R5V103					
152 - 160	3R5V109					
161 - 165	3B5V110	B				
166 - 176	3R5V109	R1	3B5V124			
177 - 181	3B5V110	B				
182 - 186	3B5V124					
187 - 192	3R5V132	R1	3B5V136			
193 - 200	3B5V136	B				

Notes: Pre-selected belt drives are based on the following guidelines:
- NEMA Recommendations for Sheave Diameter and Width
- Average Service at Reducer Rated Load
- 2 Belt Minimum

For other conditions (including but not limited to; fire hazard, explosion hazard or choked input), contact Application Engineering (1 800 626 2093) for assistance in selecting a belt drive.

It is recommended that 250 hp motors and larger the sheave diameters shown be checked with the motor manufacturer to be sure they meet their recommendations for minimum pitch diameter.

Pre-selected Belt Drives - 215SMTP15

215SMTP15 Variable Pitch						
Output rpm	Driver		Driven		Belts	Belt Qty.
	Variable Pitch	Bushing	Fixed Pitch	Bushing		
11 - 14	2VP42	-	2TB380	Q1	AX	2
15 - 19	2MVP35B49		3TB300		BX	
20 - 23	2VP60		2B5V250	B		
24 - 25						
26 - 28	2VP65					
29 - 32	2VP71					
33 - 34	2MVP60B74P	P2				
35 - 39	2VP71	-	2B5V200		5VX	
40 - 44	2VP75					
45 - 48	2V68B80					
49 - 54	2V58B70		2R5V160	R1		
55 - 61	2MVP75C97Q	Q2	2C180R		CX	
62 - 67	2MVP85C107Q					
68 - 75	2MVP95C117Q					
76 - 86	2V58B70	-	2Q5V97	Q1	5VX	
87 - 94	2MVP95C117Q	Q2	2C140R	R1	CX	
95 - 102	2MVP105C127Q					
103 - 118	2MVP85C107Q		2TC106	Q1		
119 - 130	3MVP80C102		3MVC86Q	Q2		3

215SMTP15 Fixed Pitch						
Output rpm	Driver		Driven		Belts	Belt Qty.
	Fixed Pitch	Bushing	Fixed Pitch	Bushing		
9	3BK32	-	3TB380	Q1	AX	3
10	3BK36					
11	3TB38	P1				
12	3BK45H	H				
13	3BK50H					
14	3BK52H					
15	3TB36	P2	3B5V278	B		
16	3TB40	P1				
17	3B5V42					
18	3BK50H	H				
19	3BK52H					
20	2BK50	-	2B5V278		BX	2
21	2BK52					
22	2BK55					
23	2BK57					
24 - 25	4TB36	P2	4B5V154			4
26	4TB38	P1				
27 - 28	4TB40					
29 - 30	4B5V44					
31 - 32	4B5V46					
33 - 34	3B5V42	B	3B5V154		5VX	3
35 - 37	3B5V46					
38 - 40	3B5V50					
41 - 43	3B5V48		3B5V136			
44 - 47	3B5V52					
48 - 51	3B5V56					
52 - 54	2B5V68		2B5V154			2
55 - 57	2B5V74					
58 - 60	2Q5V80	Q1				
61 - 63	2B5V80	B				
64 - 66	2Q5V85	Q1				
67 - 68	2B5V86	B	2B5V136			
69 - 72	2B5V80					
73 - 77	2B5V86					
78 - 81	2B5V90					
82 - 84	2B5V94					
85 - 86	2Q5V90	Q1	2B5V124			
87 - 89	2Q5V92					
90 - 94	2Q5V97					
95 - 99	2Q5V103					
100 - 105	2Q5V109					
106 - 108	2B5V110	B				
109 - 112	2Q5V103	Q1	2B5V110			
113 - 114	2Q5V109					
115 - 118	2B5V110	B				
119 - 122	2B5V124		2B5V124			
123 - 125	2Q5V132	Q1				
126 - 130	2B5V136	B				

Notes: Pre-selected belt drives are based on the following guidelines:
- NEMA Recommendations for Sheave Diameter and Width
- Average Service at Reducer Rated Load
- 2 Belt Minimum

For other conditions (including but not limited to; fire hazard, explosion hazard or choked input), contact Application Engineering (1 800 626 2093) for assistance in selecting a belt drive.

It is recommended that 250 hp motors and larger the sheave diameters shown be checked with the motor manufacturer to be sure they meet their recommendations for minimum pitch diameter.

Pre-selected Belt Drives - 215SMTP25

215SMTP25 Variable Pitch

Output rpm	Driver		Driven		Belts	Belt Qty.
	Variable Pitch	Bushing	Fixed Pitch	Bushing		
7 - 8	2VP42	-	2TB300	Q1	AX	2
9 - 10	2VP50					
11 -12			2TA245			
13 - 14	2VP60					
15 - 16	2VP65					
17 - 18	2VP71					
19 - 21	2VP65		2B5V184	B		
22 - 23	2MVP50B64					
24 - 25	2VP75					
26 - 28					5VX	
29 - 32	2VP65		2R5V140	R1		
33 - 35	2VP75					
36 - 38	2VP65		2B5V110	B		
39 - 43	2VP71					
44 - 50	2V58B70		2Q5V103	Q1		
51 - 58	2V68B80					
59 - 69	2V58B70		2B5V74	B		
70 - 80	2V68B70		2Q5V75	Q1		

215SMTP25 Fixed Pitch

Output rpm	Driver		Driven		Belts	Belt Qty.
	Fixed Pitch	Bushing	Fixed Pitch	Bushing		
5	2BK30	-	2TB380	Q1	AX	2
6	2BK36					
7	2TB40	P1				
8	2TB50	-				
9	2TB38	P1	2B5V278	B		
10	2TB40					
11	3BK36	-	3B5V200			3
12	3BK40					
13	3TB38	P1				
14	3B5V42					
15	3TB36	P2	3B5V160			
16 - 17	3BK45H	H				
18	3B5V42	P1				
19	3BK50H	H				
20	3BK52H					
21 - 22	3TB36	P2	3B5V124		BX	
23	3TB38	P1				
24 - 25	3BK47H	H				
26	3B5V44	P1				
27 - 28	3B5V46	B	2B5V136			2
29	3B5V48					
30 - 31	2B5V58					
32 - 33	2B5V62					
34 - 35	2B5V66				5VX	
36	2B5V66					
37 - 38	2B5V58		2B5V110			
39 - 41	2B5V62					
42 - 43	2B5V66					
44 - 46	2B5V70					
47 - 49	2B5V74					
50 - 52	2B5V80					
53 - 54	2B5V70		2B5V94			
55 - 56	2B5V74					
57 - 58	2Q5V80	Q1				
59 - 62	2B5V80	B				
63 - 65	2B5V86		2B5V90			
66 - 69						
70 - 72	2B5V90					
73 - 75	2B5V94					
76 - 77	2B5V86		2B5V80			
78 - 80	2Q5V92	Q1				

Notes: Pre-selected belt drives are based on the following guidelines:
- NEMA Recommendations for Sheave Diameter and Width
- Average Service at Reducer Rated Load
- 2 Belt Minimum

For other conditions (including but not limited to; fire hazard, explosion hazard or choked input), contact Application Engineering (1 800 626 2093) for assistance in selecting a belt drive.

It is recommended that 250 hp motors and larger the sheave diameters shown be checked with the motor manufacturer to be sure they meet their recommendations for minimum pitch diameter.

Pre-selected Belt Drives - 215SMTP35

215SMTP35 Variable Pitch						
Output rpm	Driver		Driven		Belts	Belt Qty.
	Variable Pitch	Bushing	Fixed Pitch	Bushing		
5 - 6	2VP42	-	2TB300	Q1	AX	2
7	2VP50					
8	2VP56					
9	2VP42		2B5V200	B		
10 - 11	2VP50					
12	2VP56					
13 - 14	2VP65					
15 - 17	2MVP55B69					
18 - 20	2VP60		2B5V136			
21 - 23	2MVP50B64					
24 - 25	2VP65		2B5V110		BX	
26 - 28						
29 - 32	2VP75					
33 - 36	2VP65		2B5V86		5VX	
37 - 41	2VP75					
42 - 46	2VP65		2B5V68			
47 - 50	2V58B70					

215SMTP35 Fixed Pitch						
Output rpm	Driver		Driven		Belts	Belt Qty.
	Fixed Pitch	Bushing	Fixed Pitch	Bushing		
5	2BK32	-	2B5V278	B	AX	2
6	2BK36					
7	2TB40	P1	2B5V200			
8	2B5V42					
9	2TB38					3
10						
11	3BK34	-	3B5V136			
12	3BK36					
13	3TB36	P2				
14	3BK45H	H				
15	3BL47H					
16	3BK50H					
17	3BK52H					
18	3BK55H					
19 - 20	2BK52	-	2B5V124		BX	2
21	2BK55					
22	2BK57					
23 - 24	2BK62					
25	2BK65					
26 - 27	2B5V64	B				
28	2B5V66					
29	2B5V70					
30 - 31	2B5V50		2B5V86			
32 - 33	2B5V54					
34 - 36	2B5V86		2B5V124			
37	2B5V90					
38 - 39	2B5V94					
40 - 42	2B5V60		2B5V74			
43 - 44	2B5V80		2B5V94			
45 - 46	2B5V86					
47 - 48	2B5V90					
49 - 50	2B5V94					

Notes: Pre-selected belt drives are based on the following guidelines:
- NEMA Recommendations for Sheave Diameter and Width
- Average Service at Reducer Rated Load
- 2 Belt Minimum

For other conditions (including but not limited to; fire hazard, explosion hazard or choked input), contact Application Engineering (1 800 626 2093) for assistance in selecting a belt drive.

It is recommended that 250 hp motors and larger the sheave diameters shown be checked with the motor manufacturer to be sure they meet their recommendations for minimum pitch diameter.

Accessories Shaft Mount Reducers

Pre-selected Belt Drives - 307SMTP05

307SMTP05 Variable Pitch						
Output rpm	Driver		Driven		Belts	Belt Qty.
	Variable Pitch	Bushing	Fixed Pitch	Bushing		
90 - 99	3MVP85C107Q	Q2	3MVC360R	R2	CX	3
100 - 108	3MVP95C117Q					
109 - 122	3MVP85C107Q		3MVC300R			
123 - 134	3MVP815V95Q		3MV5V240S	S1	5VX	
135 - 148	3MVP915V105Q					
149 - 161	3MVP1015V115Q					
162 - 177	3MVP1115V125Q					
178 - 194	3MVP1015V115Q		3MV5V200R	R1		
195 - 213	3MVP1015V125Q					
214 - 237	3MVP1115V125Q		3MV5V180R			
238 - 262	3MVP1015V115Q		3MV5V150R			
263 - 280	3MVP1015V125Q					
281 - 296	4MVP1015V115	-	4MV5V132R			4
297 - 332			4MV5V118R			
333 - 362	4MVP1115V125					
363 - 394			4MV5B109R			
395 - 400	5MVP1015V115		5MV5V97R	R2		5

307SMTP05 Fixed Pitch						
Output rpm	Driver		Driven		Belts	Belt Qty.
	Fixed Pitch	Bushing	Fixed Pitch	Bushing		
90 - 91	4B5V60	B	4B5V234	B	5VX	4
92 - 97	4B5V64					
98 - 100	4B5V66					
101 - 103	4B5V68					
104 - 106	4B5V70					
107 - 112	4B5V74					
113 - 117	4B5V66		4B5V200			
118 - 121	4B5V68					
122 - 125	4B5V70					
126 - 130	4B5V74					
131 - 138	4B5V80	R1				
139 - 142	4B5V80	B				
143 - 147	4R5V85	R1				
148 - 152	4B5V86	B				
153 - 158	4B5V90					
159 - 165	4B5V86		4B5V184			
166 - 172	4B5V90					
173 - 180	4B5V94					
181 - 183	4R5V97	R1				
184 - 193	4R5V103					
194 - 196	4R5V109					
197 - 206	4B5V90	B	4B5V154			
207 - 215	4B5V94					
216 - 219	4R5V97	R1				
220 - 228	4R5V103					
229 - 233	4B5V90	B	4B5V136			
234 - 243	4B5V94					
244 - 248	4R5V97	R1				
249 - 255	4B5V90	B	4B5V124			
256 - 267	4B5V94					
268 - 273	4R5V97	R1				
274 - 279	4R5V103					
280 - 297	4R5V132		4B5V154			
298 - 305	4R5V140					
306 - 318	4R5V125		4B5V136			
319 - 336	4R5V132					
337 - 353	4R5V140					
354 - 368	4R5V132		4B5V124			
369 - 388	4R5V140					
389 - 394	4R5V125		4B5V110			
395 - 400	5B5V124		5R5V109			5

Notes: Pre-selected belt drives are based on the following guidelines:
- NEMA Recommendations for Sheave Diameter and Width
- Average Service at Reducer Rated Load
- 2 Belt Minimum

For other conditions (including but not limited to; fire hazard, explosion hazard or choked input), contact Application Engineering (1 800 626 2093) for assistance in selecting a belt drive.

It is recommended that 250 hp motors and larger the sheave diameters shown be checked with the motor manufacturer to be sure they meet their recommendations for minimum pitch diameter.

Pre-selected Belt Drives - 307SMTP09

307SMTP09 Variable Pitch						
Output rpm	Driver		Driven		Belts	Belt Qty.
	Variable Pitch	Bushing	Fixed Pitch	Bushing		
23 - 27	5MVP40B54	-	5MVB380R	R2	AX	5
28 - 30	5MVP45B59					
31 - 35	5MVP40B54		5MVB300R		BX	
36 - 41	5MVP50B64					
42 - 45	5MVP55B69					
46 - 48	5MVP60B74					
49 - 55	3MVP80C102Q	Q2	3MVC360R		CX	3
56 - 59	3MVP90C112Q					
60 - 63	3MVP95C117Q					
64 - 69	3MVP85C107Q					
70 - 75	3MVP95C117Q					
76 - 81	3MVP105C127Q					
82 - 94	3MVP815V95Q		3MV5V200R	R1	5VX	
95 - 104	3MVP915V105Q					
105 - 114	3MVP1015V115Q					
115 - 130	3MVP915V105Q		3MV5V160R			
131 - 146			3MV5V140R			
147 - 155			3MV5V132R			
156 - 170	4MVP1015V115	-	4MV5V132R			4
171 - 182			4MV5V125R			
183 - 200	4MVP1115V125					

307SMTP09 Fixed Pitch						
Output rpm	Driver		Driven		Belts	Belt Qty.
	Fixed Pitch	Bushing	Fixed Pitch	Bushing		
23 - 24	4B5V42	P1	4S5V375	S1	5VX	4
25	4B5V46	B				
26	4B5V48					
27 - 28	4B5V50					
29	5B5V52	Q1	5TB380	Q2	BX	5
30	5TB54					
31	5TB56					
32	5TB58					
33	5TB60					
34	5TB62					
35	5TB64					
36 - 37	4B5V50	B	4B5V278	B	5VX	4
38	4B5V52					
39 - 40	4B5V54					
41	4B5V56					
42 - 43	4B5V58					
44 - 46	4B5V62					
47 - 49	4B5V66					
50 - 51	4B5V58		4B5V234			
52 - 54	4B5V62					
55 - 56	4B5V64					
57	4B5V66					
58 - 60	4B5V68					
61 - 62	4B5V70					
63 - 65	4B5V74					
66 - 68	3R5V85	R1	3B5V250			3
69 - 71	3B5V86	B				
72 - 74	3B5V90					
75 - 77	3B5V94					
78 - 79	3R5V97	R1				
80 - 83	3R5V103					
84 - 87	4R5V80		4B5V184			4
88 - 93	4R5V85					
94 - 96	4B5V86	B				
97 - 100	4B5V90					
101 - 105	4B5V94					
106 - 107	4R5V97	R1				
108 - 113	4R5V103					
114 - 115	4R5V109					
116 - 123	4B5V110	B				
124 - 129	3R5V118	R1	3B5V184			3
130 - 137	3R5V125					
138 - 140	3R5V132					
141 - 149	4B5V90	B	4B5V124			4
150 - 155	4B5V94					
156 - 164	4R5V125	R1	4B5V154			
165 - 173	4R5V132					
174 - 178	4R5V140					
179 - 185	4R5V125		4B5V136			
186 - 196	4R5V132					
197 - 200	4R5V140					

Notes: Pre-selected belt drives are based on the following guidelines:
- NEMA Recommendations for Sheave Diameter and Width
- Average Service at Reducer Rated Load
- 2 Belt Minimum

For other conditions (including but not limited to; fire hazard, explosion hazard or choked input), contact Application Engineering (1 800 626 2093) for assistance in selecting a belt drive.

It is recommended that 250 hp motors and larger the sheave diameters shown be checked with the motor manufacturer to be sure they meet their recommendations for minimum pitch diameter.

Accessories Shaft Mount Reducers

Pre-selected Belt Drives - 307SMTP15

307SMTP15 Variable Pitch

Output rpm	Driver		Driven		Belts	Belt Qty.
	Variable Pitch	Bushing	Fixed Pitch	Bushing		
15 - 16	4MVP40B54	-	4MVB380R	R1	AX	4
17 - 19			4MVB300R			
20					BX	
21 - 22	4MVP45B59					
23 - 25	4MVP50B64					
26 - 27	4MVP60B74					
28 - 30	2MVP75C971	Q2	2C360R		CX	2
31 - 35	2MVP85C107Q					
36 - 42	2MVP75C97Q		2C270R			
43 - 46	2MVP85C107Q					
47 - 49	2MVP95C117Q					
50 - 53	2MVP105C127Q					
54 - 61	3MVP75C97Q		3MVC180R			3
62 - 67	3MVP85C107Q					
68 - 73	3MVP95C117Q					
74 - 82	3MVP95C117Q		3MVC160R			
83 - 92	3MVP815V95Q		3MV5V118R		5VX	
93 - 104	3MVP915V105Q					
105 - 119	3MVP915V105Q		3MV5V103R			
120 - 130	3MVP1015V115Q					

307SMTP15 Fixed Pitch

Output rpm	Driver		Driven		Belts	Belt Qty.
	Fixed Pitch	Bushing	Fixed Pitch	Bushing		
12	3TB36	P2	3TB380	Q1	BX	3
13	3BK45H	H				
14	3B5V42	P1				
15	3B5V46	B				
16	3B5V48					
17	4B5V42	P1	4TB300			4
18	4B5V44					
19	4B5V46	B				
20 - 21	4B5V50					
22	3B5V54		3TB300			3
23	3B5V56					
24	3B5V58					
25 - 26	3B5V54		3B5V250	B	5VX	
27	3B5V56					
28 - 29	4Q5V46	Q2	4B5V184			4
30	4B5V46	B				
31	4B5V48					
32 - 33	4B5V50					
34 - 35	4B5V54					
36 - 37	4B5V56					
38 - 39	3B5V60		3B5V184			3
40 - 42	3B5V64					
43	3Q5V71	Q1				
44 - 46	3B5V70	B				
47 - 48	3B5V74					
49	3R5V80	R1				
50 - 52	3B5V80	B				4
53 - 55	3B5V70		3B5V154			
56 - 58	3B5V74					
59 - 62	4B5V70		4B5V136			
63 - 65	4B5V74					
66 - 67	3B5V86		3B5V154			
68 - 70	3B5V90					
71 - 73	3B5V94					
74 - 78	4B5V80		4B5V124			
79 - 83	4B5V86					
84 - 87	4B5V90					
88 - 91	4B5V94					
92 - 93	3R5V97	R1	3B5V124			3
94 - 98	3R5V103					
99 - 104	3R5V109					
105 - 109	3B5V124	B	3B5V136			
110 - 113	3R5V132	R1				
114 - 119	3B5V124	B	3B5V124			
120 - 126	3R5V132	R1				
127 - 130	3B5V136	B				

Notes: Pre-selected belt drives are based on the following guidelines:

- NEMA Recommendations for Sheave Diameter and Width
- Average Service at Reducer Rated Load
- 2 Belt Minimum

For other conditions (including but not limited to; fire hazard, explosion hazard or choked input), contact Application Engineering (1 800 626 2093) for assistance in selecting a belt drive.

It is recommended that 250 hp motors and larger the sheave diameters shown be checked with the motor manufacturer to be sure they meet their recommendations for minimum pitch diameter.

Accessories Shaft Mount Reducers

Pre-selected Belt Drives - 307SMTP25

307SMTP25 Variable Pitch						
Output rpm	Driver		Driven		Belts	Belt Qty.
	Variable Pitch	Bushing	Fixed Pitch	Bushing		
7 - 9	2MVP35B49	-	2TB380	Q1	BX	2
10 - 12			2B5V278	B		
13 - 14	2VP60					
15 - 17	2VP71					
18 - 20	2VP75		2B5V250			
21 - 23	2MVP70B84P	P2				
24 - 27	2MVP80B94Q	Q2	2TC200	Q1	CX	
28 - 33	2MVP75C97Q					
34 - 37	2MVP85C107Q					
38 - 41	2MVP95C117Q					
42 - 43	2MVP105C127Q					
44 - 52	2MVP95C117Q		2TC160			
53 - 56	2MVP95C117Q		2C140R	R1		
57 - 60	2MVP105C127Q					
61 - 73	3MVP80C102Q		3MVC96Q	Q2		3
74 - 80	3MVP95C117Q					

307SMTP25 Fixed Pitch						
Output rpm	Driver		Driven		Belts	Belt Qty.
	Fixed Pitch	Bushing	Fixed Pitch	Bushing		
6	3BK36	-	3TB380	Q1	AX	3
7	3BK45H	H				
8	3BK50H					
9	3TB36	P2	3B5V278	B		
10	3BK47H	H				
11	3BK50H					
12	2BK50	-	2B5V278		BX	2
13	2BK55					
14	2BK60					
15	2B5V56	B				
16	2B5V60					
17	3B5V42	P1	3B5V184			3
18	3B5V44					
19	3B5V46	B				
20	3B5V50					
21 - 22	3B5V46		3B5V154		5VX	
23	3B5V48					
24	3B5V52					
25	3B5V54					
26	6B5V66					
27 - 28	3B5V60					
29 - 30	3B5V56		3B5V136			
31 - 32	3B5V60					
33 - 34	3B5V64					
35 - 36	3B5V68					
37 - 38	3B5V58		3B5V110			
39 - 41	3B5V62					
42 - 43	3B5V66					
44 - 46	3B5V70					
47 - 49	3B5V74					
50 - 51	2Q5V97	Q1	2B5V136			2
52 - 54	2Q5V103					
55	2Q5V109					
56 - 59	2B5V110	B				
60	3B5V80		3B5V94			3
61 - 64	3R5V85	R1				
65	3R5V90					
66 - 69	3B5V90	B				
70 - 72	3B5V94					
73 - 76	3B5V90		3B5V86			
77 - 78	3B5V94					
79 - 80	3R5V109	R1	3B5V94			

Notes: Pre-selected belt drives are based on the following guidelines:

- NEMA Recommendations for Sheave Diameter and Width
- Average Service at Reducer Rated Load
- 2 Belt Minimum

For other conditions (including but not limited to; fire hazard, explosion hazard or choked input), contact Application Engineering (1 800 626 2093) for assistance in selecting a belt drive.

It is recommended that 250 hp motors and larger the sheave diameters shown be checked with the motor manufacturer to be sure they meet their recommendations for minimum pitch diameter.

Accessories Shaft Mount Reducers

Pre-selected Belt Drives - 307SMTP35

307SMTP35 Variable Pitch

Output rpm	Driver		Driven		Belts	Belt Qty.
	Variable Pitch	Bushing	Fixed Pitch	Bushing		
5 - 6	2VP42	-	2TB300	Q1	AX	2
7 - 8	2MVP35B49					
9 - 15	2BP65		2B5V234	B	BX	
16 - 18	2VP75		2B5V184			
19 - 22	2VP71		2B5V154		5VX	
23 - 24			2B5V136			
25 - 27	2V58B70					
28 - 30	2V58B80					
31 - 34	2V58B70		2Q5V109	Q1		
35 - 38	2V68B80					
39 - 42	2V58B70		2B5V86	B		
43 - 46	2V68B80					
47 - 50	2MVP85C107Q	Q2	2TC100	Q1	CX	

307SMTP35 Fixed Pitch

Output rpm	Driver		Driven		Belts	Belt Qty.
	Fixed Pitch	Bushing	Fixed Pitch	Bushing		
5	3BK34	-	3TB300	Q1	AX	3
6	3TB30	P1				
7	3B5V42					
8	2B5V48	B	2B5V278	B	BX	2
9	2B5V52					
10	2B5V60	-	2B5V234			
11	2BK55					
12	2BK57					
13	2BK62					
14	2B5V44	P1	2B5V160		5VX	
15	2B5V48	B				
16	2B5V50					
17	2B5V52					
18	2B5V56					
19	2B5V60					
20	2B5V62					
21	2B5V68					
22 - 23	2B5V60		2B5V136			
24	2B5V64					
25 - 26	2B5V68					
27 - 28	2B5V74					
29 - 30	2B5V80					
31 - 32	2B5V86					
33 - 34	2B5V90					
35	2B5V94		2B5V110			
36 - 38	2B5V80					
39 - 40	2B5V86					
41	2B5V90					
42 - 44	2B5V94	Q1	3B5V86			3
45 - 46	2Q5V103					
47 - 48	3B5V80					
49 - 50	3B5V86					

Notes: Pre-selected belt drives are based on the following guidelines:
- NEMA Recommendations for Sheave Diameter and Width
- Average Service at Reducer Rated Load
- 2 Belt Minimum

For other conditions (including but not limited to; fire hazard, explosion hazard or choked input), contact Application Engineering (1 800 626 2093) for assistance in selecting a belt drive.

It is recommended that 250 hp motors and larger the sheave diameters shown be checked with the motor manufacturer to be sure they meet their recommendations for minimum pitch diameter.

Accessories Shaft Mount Reducers

Pre-selected Belt Drives - 315SMTP05

315SMTP05 Variable Pitch						
Output rpm	Driver		Driven		Belts	Belt Qty.
	Variable Pitch	Bushing	Fixed Pitch	Bushing		
90 - 98	3MVP75C97Q	Q2	3MVC260R	R2	CX	3
99 - 112	3MVP815V95Q		3MV5V300S	S1	5VX	
113 - 123	3MVP915V105Q					
124 - 137	3MVP1015V115Q					
138 - 155	3MVP915V105Q		3MV5V240S			
156 - 171	3MVP1015V115Q					
172 - 186	3MVP1115V125Q					
187 - 204	4MVP1015V115	-	4MV5V200R	R1		4
205 - 227			4MV5V180R			
228 - 246	4MVP1115V125					
247 - 266	5MVP915V105		5MV5V140S	S1		5
267 - 295	5MVP1015V115					
296 - 327			5MV5V125S			
328 - 356	5MVP1115V125					
357 - 379			5MV5V118S			
380 - 400			5MV5V198R	R1		

315SMTP05 Fixed Pitch						
Output rpm	Driver		Driven		Belts	Belt Qty.
	Fixed Pitch	Bushing	Fixed Pitch	Bushing		
90 - 94	3B5V94	B	3S5V375	S1	5VX	3
95 - 100	3R5V103	R1				
101 - 106	3R5V109					
107 - 110	4B5V74	B	4B5V250	B		4
111 - 112	4R5V80	R1				
113 - 119	4B5V80	B				
120 - 126	4B5V86					
127 - 134	4B5V90					
135 - 139	4B5V94					
140 - 142	4R5V97	R1				
143 - 148	4R5V103					
149 - 155	3R5V118		3B5V278			3
156 - 165	3B5V124	B				
166 - 168	3R5V132					
169 - 177	4R5V90	R1	4B5V184			4
178 - 183	4R5V92					
184 - 186	4B5V94	B				
187 - 189	5B5V94	R1	5B5V184	R1		5
190 - 193	5R5V97					
194 - 203	5R5V103					
204 - 208	5R5V109					
209 - 221	5B5V110					
221 - 233	4R5V118		4B5V184	B		4
234 - 247	4R5V125					
248 - 256	4R5V132					
257 - 270	5R5V118		5B5V160	R1		5
271 - 286	5B5V124					
287 - 297	5R5V132					
298 - 302	5B5V136					
303 - 315	5B5R116		5B5V136			
316 - 321	5R5V125					
322 - 334	5B5V124					
335 - 345	6R5V118		6B5V124			6
346 - 348	6S5V125	S1				
349 - 369	6B5V124	R1				
370 - 381	6S5V132	S1				
382 - 400	6B5V136	R1				

Notes: Pre-selected belt drives are based on the following guidelines:

- NEMA Recommendations for Sheave Diameter and Width
- Average Service at Reducer Rated Load
- 2 Belt Minimum

For other conditions (including but not limited to; fire hazard, explosion hazard or choked input), contact Application Engineering (1 800 626 2093) for assistance in selecting a belt drive.

It is recommended that 250 hp motors and larger the sheave diameters shown be checked with the motor manufacturer to be sure they meet their recommendations for minimum pitch diameter.

Pre-selected Belt Drives - 315SMTP09

315SMTP09 Variable Pitch

Output rpm	Driver		Driven		Belts	Belt Qty.
	Variable Pitch	Bushing	Fixed Pitch	Bushing		
24 - 29	6MVP40B54	-	6MVB380R	R2	BX	6
30 - 34	6MVP40B54					
35 - 37	5MVP55B69		5MVB380R			5
38 - 54			5MVB300R			
46 - 52	3MVP75C97Q	Q2	3MVC360R		CX	3
53 - 59	3MVP85C107Q					
60 - 70	3MVP105C127Q					
71 - 76	3MVP115C137Q					
77 - 87	3MVP915V105Q		3MV5V240S	S1	5VX	
88 - 95	4MVP1015V115	-	4MV5V240S			4
96 - 108			4MV5V212S			
109 - 121	4MVP1115V125		4MV5V200R	R1		
122 - 130	5MVP915V105		5MV5V180S	S1		5
131 - 143	5MVP1015V115		5MV5V160S			
144 - 159			5MV5V140S			
160 - 177	5MVP1115V125					
178 - 200			5MV5V125S			

315SMTP09 Fixed Pitch

Output rpm	Driver		Driven		Belts	Belt Qty.
	Fixed Pitch	Bushing	Fixed Pitch	Bushing		
25	4C60Q	Q2	4C500R	R1	CX	4
26	4B5V48	B	4S5V375	S1	5VX	
27	4B5V50					
28	4B5V52					
29	4B5V54					
30	4B5V56					
31	4B5V58					
32 - 33	4B5V60					
34	4B5V62					
35	4B5V64					
36	4B5V66					
37 - 38	4B5V70					
39 - 41	4B5V74					
42 - 44	4B5V80					
45 - 46	4B5V86					
47 - 48	3B5V90		3S5V375			3
49 - 51	3B5V94					
52 - 55	3R5V103	R1				
56 - 59	3R5V109					
60 - 63	3R5V118					
64 - 67	3R5V125					
68 - 71	3R5V132					
72 - 73	4B5V90	B	4B5V250	B		4
74 - 78	4B5V94					
79 - 82	4R5V103	R1				
83 - 87	4R5V109					
88 - 93			4B5V234			
94 - 100	4R5V125		4B5V250			
101 - 106	4R5V132					
107 - 112			4B5V234			
113 - 115	5R5V109		5B5V184	R1		5
116 - 121	5B5V110					
122 - 129	5R5V118					
130 - 137	5B5V124					
138 - 142	5R5V132					
143 - 150	5B5V136					
151 - 158	5B5V124					
159 - 163	6S5V132	S1	6B5V160			6
164 - 173	6B5V136	R1				
174 - 185	6B5V124		6B5V136			
186 - 191	6S5V132	S1				
192 - 200	6B5V136					

Notes: Pre-selected belt drives are based on the following guidelines:
- NEMA Recommendations for Sheave Diameter and Width
- Average Service at Reducer Rated Load
- 2 Belt Minimum

For other conditions (including but not limited to; fire hazard, explosion hazard or choked input), contact Application Engineering (1 800 626 2093) for assistance in selecting a belt drive.

It is recommended that 250 hp motors and larger the sheave diameters shown be checked with the motor manufacturer to be sure they meet their recommendations for minimum pitch diameter.

Accessories Shaft Mount Reducers

Pre-selected Belt Drives - 315SMTP15

315SMTP15 Variable Pitch						
Output rpm	Driver		Driven		Belts	Belt Qty.
	Variable Pitch	Bushing	Fixed Pitch	Bushing		
17 - 22	5MVP40B54	-	5MVB300R	R2	BX	5
23 - 27	5MVP55B69					
28 - 31	5MVP50B64		5MVB250R			
32 - 35	5MVP60B74					
36 - 41	5MVP70B74					
42 - 48	3MVP75C97Q	Q2	3MVC240R	R1	CX	3
49 - 55	3MVP90C112Q					
56 - 63	3MVP85C107Q		3MVC200R			
64 - 69	3MVP915V105Q		3M5V180R		5VX	
70 - 76	3MVP1015V115Q					
77 - 86			3MV5V160R			
87 - 95	3MVP915V105Q		3MV5V132R			
96 - 104	4MVP1015V115	-	4MV5V132R			4
105 - 114	4MVP1115V125					
115 - 130	5MVP915V105		5MV5V97R	R2		5

315SMTP15 Fixed Pitch						
Output rpm	Driver		Driven		Belts	Belt Qty.
	Fixed Pitch	Bushing	Fixed Pitch	Bushing		
13	5B5V42	P2	5TB380	Q2	AX	5
14	5B5V46					
15	5TB50					
16	5TB52					
17	5TB54	Q1				
18	4B5V42	P1	4B5V278	B	5VX	4
19	4Q5V46	Q2				
20	4B5V46	B				
21	4B5V48					
22 - 23	4B5V46		4B5V250			
24 - 25	4B5V50					
26	4B5V52		3B5V250			3
27 - 28	3B5V56					
29 - 30	3B5V60					
31 - 32	3B5V66					
33 - 35	3B5V70					
36 - 37	3B5V74					
38 - 39	4B5V64		4B5V200			4
40	4B5V66					
41 - 42	4B5V68					
43	4B5V70					
44 - 46	4B5V74					
47 - 48	4B5V80					
49 - 50	4R5V85	R1				
51 - 53	4B5V86	B				
54 - 55	4B5V90					
56 - 58	4B5V94					
59	4R5V97	R1				
60 - 62	4R5V103					
63 - 65	4R5V109					
66 - 67	4B5V110	B				
68 - 69	4B5V90		4B5V160			
70 - 73	4B5V94					
74 - 78	4R5V103	R1				
80 - 82	4R5V109					
83 - 85	4B5V110	B				
86 - 89	4R5V118	R1				
90 - 95	4R5V125					
96 - 100	4R5V132					
101 - 105	4R5V140					
106 - 112	4R5V125		4B5V136			
113 - 118	4R5V132					
119 - 124	4R5V140					
125 - 130	4R5V132		4B5V124			

Notes: Pre-selected belt drives are based on the following guidelines:
- NEMA Recommendations for Sheave Diameter and Width
- Average Service at Reducer Rated Load
- 2 Belt Minimum

For other conditions (including but not limited to; fire hazard, explosion hazard or choked input), contact Application Engineering (1 800 626 2093) for assistance in selecting a belt drive.

It is recommended that 250 hp motors and larger the sheave diameters shown be checked with the motor manufacturer to be sure they meet their recommendations for minimum pitch diameter.

Pre-selected Belt Drives - 315SMTP25

315SMTP25 Variable Pitch						
Output rpm	Driver		Driven		Belts	Belt Qty.
	Variable Pitch	Bushing	Fixed Pitch	Bushing		
10	3MVP35B49	-	3MVB300R	R1	BX	3
11 - 12	3MVP40B54					
13	3MVP45B59					
14 - 15	3MVP50B64					
16 - 17	3MVP55B69					
18 - 20	4MVP45B59		4MVB200R			4
21 - 23	4MVP55B69					
24 - 26	4MVP60B74					
27 - 29	4MVP70B84					
30 - 33	4MVP80B94Q	Q2	3MVC180R		CX	3
34 - 39	3MVP75C97Q					
40 - 45	3MVP95C117Q					
46 - 49	3MVP105C127Q					
50 - 56	3MVP915V105Q		3MV5V132R		5VX	
57 - 63			3MV5V118R			
64 - 70	3MVP1015V115Q	-				
71 - 80			3MV5V103R			

315SMTP25 Fixed Pitch						
Output rpm	Driver		Driven		Belts	Belt Qty.
	Fixed Pitch	Bushing	Fixed Pitch	Bushing		
6	4TB34	P2	4TB380	Q1	AX	4
7	4TB38	P1				
8	4B5V44					
9	4B5V48	B				
10	3TB36	P2	3B5V278	B	BX	3
11	3BK45H	H				
12	3B5V44	P1				
13	3B5V48	B				
14	3B5V52					
15	3B5V56					
16	3B5V58					
17	4B5V42	P1	4B5V184			4
18	4B5V44					
19	4B5V48	B				
20	4B5V50					
21	4B5V52					
22 - 23	4B5V56					
24	4B5V60					
25	4B5V62					
26	4B5V64					
27	4B5V66					
28	4B5V68					
29 - 30	3B5V62		3B5V154		5VX	3
31	3B5V66					
32 - 33	3B5V70					
34 - 35	3B5V74					
36 - 37	3R5V80	R1				
38 - 39	3R5V85					
40 - 42	3R5V90					
43 - 44	3B5V94	B				
45 - 46	3B5V86		3B5V136			
47 - 48	3B5V90					
49 - 51	3B5V94					
52 - 55	3R5V103	R1				
56 - 59	3B5V110	B				
60 - 63	3R5V118	R1				
64 - 67	3B5V124	B				
68 - 69	3R5V132	R1				
70 - 73	3B5V136	B				
74 - 77	3R5V132	R1	3B5V124			
78 - 80	3B5V136	B				

Notes: Pre-selected belt drives are based on the following guidelines:
- NEMA Recommendations for Sheave Diameter and Width
- Average Service at Reducer Rated Load
- 2 Belt Minimum

For other conditions (including but not limited to; fire hazard, explosion hazard or choked input), contact Application Engineering (1 800 626 2093) for assistance in selecting a belt drive.

It is recommended that 250 hp motors and larger the sheave diameters shown be checked with the motor manufacturer to be sure they meet their recommendations for minimum pitch diameter.

Accessories Shaft Mount Reducers

Pre-selected Belt Drives - 315SMTP35

315SMTP35 Variable Pitch						
Output rpm	Driver		Driven		Belts	Belt Qty.
	Variable Pitch	Bushing	Fixed Pitch	Bushing		
7 - 8	3MVP35B49	-	3MVB300R	R1	AX	3
9 - 10	2MVP35B49		2B5V250	B	BX	2
11 - 12	2MVP45B59					
13 - 14	2VP71					
15 - 16	2MVP70B84P	P2				
17 - 18	2MVP80B94Q	Q2				
19 - 20	2V58B70	-	2B5V184		5VX	
21 - 23	2V68B80					
24 - 27	2MVP85C107Q	Q2	2TC200	Q1	CX	3
28 - 30	2MVP95C117Q					
31 - 38	3MVP75C97Q		3MBV130Q	Q2		
39 - 43	3MVP90C112Q					
44 - 50	3MVP105C127Q					

315SMTP35 Fixed Pitch						
Output rpm	Driver		Driven		Belts	Belt Qty.
	Fixed Pitch	Bushing	Fixed Pitch	Bushing		
5	3BK32	-	3TB300	Q1	AX	3
6	3TB36	P2				
7	3B5V42	P1				
8	3BK55H	H				
9	3B5V54	B				
10	3TB36	P2	3B5V200	B	BX	
11	3B5V44	P1				
12	3B5V48	B				
13	3B5V52					
14	3B5V56					
15	3B5V60					
16 - 17	3B5V66					
18	3B5V52		3B5V154		5VX	
19	3B5V56					
20	3B5V58					
21	3B5V62					
22 - 23	3B5V54		3B5V124			
24 - 25	3B5V58					
26	3B5V62					
27	3B5V64					
28	3B5V66					
29	3B5V68					
30 - 31	3B5V74					
32 - 33	3B5V86		2B5V136			
34 - 35	3B5V90					
36	3B5V94					
37	3R5V92	R1				
38 - 39	3R5V103					
40 - 41	3B5V86	B	3B5V110			
42 - 43	3B5V90					
44 - 45	3B5V94					
46 - 48	3R5V103	R1				
49 - 50	3R5V109					

Notes: Pre-selected belt drives are based on the following guidelines:

- NEMA Recommendations for Sheave Diameter and Width
- Average Service at Reducer Rated Load
- 2 Belt Minimum

For other conditions (including but not limited to; fire hazard, explosion hazard or choked input), contact Application Engineering (1 800 626 2093) for assistance in selecting a belt drive.

It is recommended that 250 hp motors and larger the sheave diameters shown be checked with the motor manufacturer to be sure they meet their recommendations for minimum pitch diameter.

Pre-selected Belt Drives - 407SMTP05B

407SMTP05B Variable Pitch

Output rpm	Driver		Driven		Belts	Belt Qty.
	Variable Pitch	Bushing	Fixed Pitch	Bushing		
112 - 117	3MVP915V105Q	Q1	3MV5V300S	S1	5VX	3
118 - 137	4MVP1015V115	-	4MV5V300S			4
138 - 151	4MVP1115V125		4MV5V280S			
152 - 161	4MVP1015V115		4MB5V140S			
162 - 185	5MVP915V105		5MV5V200S			5
186 - 202	5MVP1015V115					
203 - 220	5MVP1115V125					
221 - 244			5MV5V180S			
245 - 270	6MVP1015V115		6MV5V150S			6
271 - 302			6MB5V132S			
303 - 315	6MVP1115V125		6MV5V140S			

407SMTP05B Fixed Pitch

Output rpm	Driver		Driven		Belts	Belt Qty.
	Fixed Pitch	Bushing	Fixed Pitch	Bushing		
90 - 93	4R5V97	R1	4S5V375	S1	5VX	4
94 - 98	4R5V103					
99 - 102	4R5V109					
103 - 107	4B5V110	B				
108 - 113	4R5V118	R1				
114 - 117	4R5V125					
118 - 125	6B5V86		6B5V250	R1		6
126 - 130	6B5V90					
131 - 136	6B5V94					
137 - 139	6R5V97					
140 - 146	6R5V103					
147 - 155	5R5V109		5B5V250			5
156 - 159	5B5V110					
160 - 168	5R5V118					
169 - 178	5R5V125					
179 - 188	5R5V132					
189 - 196	5B5V136					
197 - 199	5R5V140					
200 - 210	6R5V109		6B5V184			6
211 - 222	6S5V125	S1	6B5V200			
223 - 235	6S5V132					
236 - 249	6S5V140					
250 - 255	6S5V132		6B5V184			
256 - 261	6S5V140					
262 - 267	6B5V136					
268 - 272	6R5V118	R1	6B5V154			
273 - 288	6S5V125	S1				
289 - 300	6S5V132					
301 - 317	6S5V136	R1				
318 - 327	8S5V140	S1	8S5V150	S1		8
328 - 340	8S5V132		8S5V132			
341 - 359						
360 - 381	8S5V140		8S5V125			
382 - 400						

Notes: Pre-selected belt drives are based on the following guidelines:
- NEMA Recommendations for Sheave Diameter and Width
- Average Service at Reducer Rated Load
- 2 Belt Minimum

For other conditions (including but not limited to; fire hazard, explosion hazard or choked input), contact Application Engineering (1 800 626 2093) for assistance in selecting a belt drive.

It is recommended that 250 hp motors and larger the sheave diameters shown be checked with the motor manufacturer to be sure they meet their recommendations for minimum pitch diameter.

Accessories Shaft Mount Reducers

Pre-selected Belt Drives - 407SMTP15B

407SMTP15B Variable Pitch

Output rpm	Driver		Driven		Belts	Belt Qty.
	Variable Pitch	Bushing	Fixed Pitch	Bushing		
31 - 33	3MVP75C97Q	Q2	3MVC360R	R2	CX	3
34 - 37	3MVP85C107Q					
38 - 40	3MVP95C117Q					
41 - 43	3MVP105C127Q					
44 - 48	3MVP815V95Q		3MV5V240S	S1	5VX	
49 - 55	3MVP915V105Q					
56 - 60	3MVP1015V115Q					
61 - 67	3MVP915V105Q		3MV5V200R	R1		
68 - 72	3MVP1015V115Q					
73 - 80	4MVP1115V125	-	4MV5V200R			4
81 - 89			4MV5V180R			
90 - 99			4MV5V160R			
100 - 108	5MVP915V105		5MV5V125S	S1		5
109 - 123			5MV5V109R	R2		
124 - 130	5MVP1115V125		5MV5V118S	S1		

407SMTP15B Fixed Pitch

Output rpm	Driver		Driven		Belts	Belt Qty.
	Fixed Pitch	Bushing	Fixed Pitch	Bushing		
15	4Q5V46	Q2	4S5V375	S1	5VX	4
16	4B5V46	B				
17	4B5V48					
18	4B5V52					
19	4B5V54					
20	4B5V58					
21	4B5V60					
22	4B5V62					
23	4B5V66					
24 - 25	4B5V70					
26	4B5V56		4B5V278	B		
27	4B5V58					
28	4B5V60					
29 - 30	4B5V64					
31	4B5V66					
32 - 33	4B5V70					
34 - 35	4B5V74					
36 - 37	4B5V70		4B5V250			
38 - 39	4B5V74					
40 - 41	4R5V80	R1				
42	4B5V80	B				
43	4R5V85	R1				
44 - 45	4B5V86	B				
46 - 47	4B5V90					
48	4B5V86		4B5V234			
49 - 51	4B5V90					
52 - 53	4B5V94					
54 - 55	4R5V103	R1	4B5V200			
56 - 58	4R5V90					
59 - 60	4R5V92					
61 - 62	4B5V94	B				
63	4R5V97	R1				
64 - 66	4R5V103					
67 - 68	4R5V109					
69 - 72	4B5V110	B				
73 - 76	4R5V118	R1				
77 - 81	4R5V125					
82 - 85	4R5V132					
86 - 88	4R5V125		4B5V184			
89 - 93	4R5V132					
94 - 99	4R5V140					
100 - 102	6R5V97		6B5V124	R1		6
103 - 107	6R5V103					
108 - 110	6R5V109					
111 - 117	6B5V110					
118 - 123	6R5V118					
124 - 128	6R5V109		6B5V110			
129 - 130	6R5V110					

Notes: Pre-selected belt drives are based on the following guidelines:

- NEMA Recommendations for Sheave Diameter and Width
- Average Service at Reducer Rated Load
- 2 Belt Minimum

For other conditions (including but not limited to; fire hazard, explosion hazard or choked input), contact Application Engineering (1 800 626 2093) for assistance in selecting a belt drive.

It is recommended that 250 hp motors and larger the sheave diameters shown be checked with the motor manufacturer to be sure they meet their recommendations for minimum pitch diameter.

Accessories Shaft Mount Reducers

Pre-selected Belt Drives - 407SMTP25B

407SMTP25B Variable Pitch

Output rpm	Driver		Driven		Belts	Belt Qty.
	Variable Pitch	Bushing	Fixed Pitch	Bushing		
9 - 10	4MVP45B59	-	4MBV380R	R1	AX	4
11 - 12	4MVP40B54		4MVB300R		BX	
13 - 16	4MVP55B69					
17 - 19	4MVP70B84					
20 - 21	4MVP80B94Q	Q2				
22 - 24	2MVP75C97Q		2C270R		CX	2
25 - 27	2MVP85C107Q					
28 - 19	2MVP95C117Q					
30 - 33			2TC240	Q1		
34 - 37	2MVP105C127Q					
38 - 40	3MVP915V105Q		3MV5V180R	R1	5VX	3
41 - 44	3MVP1015V115Q					
45 - 48	3MVP1115V125Q					
49 - 52	3MVP915V105Q		3MV5V140R			
53 - 57	3MVP1015V115Q					
58 - 62	3MVP1115V125Q					
63 - 68	3MVP1015V115Q		3MV5V118R			
69 - 72	4MVP1015V115	-	4MV5V103R			
73 - 80			4MV5V97R			

407SMTP25B Fixed Pitch

Output rpm	Driver		Driven		Belts	Belt Qty.
	Fixed Pitch	Bushing	Fixed Pitch	Bushing		
7	4TB40	P2	4TB380	Q1	AX	4
8	4B5V44	P1				
9	4B5V50	B				
10	4B5V56					
11	3B5V42	P1	3B5V278	B	5VX	3
12	3B5V46	B				
13	3B5V52					
14	3B5V54					
15	3B5V58					
16	3B5V54		3B5V234			
17	3B5V56					
18	3B5V60					
19	3B5V64					
20	3B5V66					
21	4B5V48		4B5V160			4
22	4B5V50					
23	4B5V52					
24	4B5V54					
25 - 26	4B5V58					
27	4B5V60					
28	4B5V62					
29	4B5V64					
30 - 31	3B5V80		3B5V184			3
32 - 33	3B5V86					
34	3R5V90	R1				
35 - 37	3B5V94	B				
38 - 39	3R5V103	R1				
40 - 41	3R5V109					
42 - 43	3B5V110	B				
44 - 45	3R5V118	R1				
46 - 48	3B5V124	B				
49	3R5V132	R1				
50 - 52	3R5V118		3B5V160			
53 - 56	3B5V124	B				
57	3R5V136					
58 - 62	3B5V136					
63 - 64	3R5V125	R1	3B5V136			
65 - 67	3R5V132					
68 - 72	3B5V136	B				
73 - 77	5R5V103	R1	5B5V94	R1		5
78 - 80	5R5V109					

Notes: Pre-selected belt drives are based on the following guidelines:

- NEMA Recommendations for Sheave Diameter and Width
- Average Service at Reducer Rated Load
- 2 Belt Minimum

For other conditions (including but not limited to; fire hazard, explosion hazard or choked input), contact Application Engineering (1 800 626 2093) for assistance in selecting a belt drive.

It is recommended that 250 hp motors and larger the sheave diameters shown be checked with the motor manufacturer to be sure they meet their recommendations for minimum pitch diameter.

Pre-selected Belt Drives - 415SMTP05B

415SMTP05B Variable Pitch						
Output rpm	Driver		Driven		Belts	Belt Qty.
	Variable Pitch	Bushing	Fixed Pitch	Bushing		
93 - 104	5MVP1015V115	-	5MV5V375	U0	5VX	5
105 - 111	5MVP105C127		5MVC360S	S2	CX	
146 - 165	6MVP1015V115		6MV5V240U	U0	5VX	6

415SMTP05B Fixed Pitch						
Output rpm	Driver		Driven		Belts	Belt Qty.
	Fixed Pitch	Bushing	Fixed Pitch	Bushing		
90 - 92	5R5V132	R1	5U5V500	U0	5VX	5
93 - 96	5B5V136					
97 - 102	6R5V109		6U5V375			6
103 - 105	6B5V110					
106 - 111	6R5V118					
112 - 113	6B5V124					
114 - 117	6S5V125	S1				
118 - 122	6S5V132					
123 - 129	6B5V136	R1				
130 - 131	6S5V140	S1				
132 - 137	6R5V109	R1	6S5V280	S1		
138 - 140	6B5V110					
141 - 148	6R5V118					
149 - 157	6S5V125	S1				
158 - 165	6S5V132					
166 - 168	6B5V136	R1				
169 - 176	8S5V125	S1	8U5V250	U1		8
177 - 186	8S5V132					
187 - 199	8S5V140					
200 - 208	8S5V125		8U5V212			
209 - 220	8S5V132					
221 - 232	8S5V140					
233 - 235	105V1250J	J	105V1870J	J		10
236 - 249	105V1320J					
250 - 261	105V1400J					
262 - 275	10U5V125	U1	10U5V160	U1		
276 - 292	10U5V132					
293 - 309	10U5V140					
310 - 332			10U5V150			
333 - 354			10U5V140			
355 - 372			10U5V132			

Notes: Pre-selected belt drives are based on the following guidelines:
- NEMA Recommendations for Sheave Diameter and Width
- Average Service at Reducer Rated Load
- 2 Belt Minimum

For other conditions (including but not limited to; fire hazard, explosion hazard or choked input), contact Application Engineering (1 800 626 2093) for assistance in selecting a belt drive.

It is recommended that 250 hp motors and larger the sheave diameters shown be checked with the motor manufacturer to be sure they meet their recommendations for minimum pitch diameter.

Accessories Shaft Mount Reducers

Pre-selected Belt Drives - 415SMTP15B

415SMTP15B Variable Pitch

Output rpm	Driver		Driven		Belts	Belt Qty.
	Variable Pitch	Bushing	Fixed Pitch	Bushing		
24 - 28	5MVP75C97	-	5MVC440U	U0	CX	5
29 - 33			5MVC360S	S2		
34 - 38	5VMP85C107					
39 - 44	5MVP105C127					
45 - 48	4MVP1015V115		4MV5V300S	S1	5VX	4
49 - 52	4MVP1115V125					
53 - 56			4MV5V280S			
57 - 62	5MVP915V105		5MV5V212U	U0		5
63 - 67	5MVP1015V115					
68 - 74	5MVP11115V115					
75 - 80	6MVP1015V115		6MV5V180S	S2		6
81 - 90			6MV5V160S			
91 - 101			6MV5V140S			

415SMTP15B Fixed Pitch

Output rpm	Driver		Driven		Belts	Belt Qty.
	Fixed Pitch	Bushing	Fixed Pitch	Bushing		
12	4Q5V49	Q1	4U5V500	U0	5VX	4
13	4B5V52	B				
14	4B5V54					
15	4B5V60					
16	4B5V62					
17	4B5V66					
18	4B5V70					
19	4B5V74					
20	4B5V80					
21	4R5V85	R1				
22	4R5V86	B				
23	4B5V90					
24	4B5V94					
25 - 26	4B5V74		4S5V375	S1		
27	4R5V80	R1				
28	4R5V85					
29 - 30	4R5V90					
31 - 32	4B5V94	B				
33	4R5V97	R1				
34 - 35	4R5V103					
36	4R5V109					
37	4B5V110	B				
38	6B5V86	R1	6S5V280			6
39 - 41	6R5V90					
42 - 43	6B5V94					
44	6B5V86		6B5V250	R1		
45 - 46	6B5V90					
47 - 48	6B5V94					
49	6R5V97					
50 - 52	6R5V103					
53 - 55	6R5V109					
56 - 57	6B5V110					
58 - 60	6R5V118					
61 - 64	6B5V124					
65 - 66	6S5V132	S1				
67	6B5V136	R1				
68 - 71	6S5V140	S1				
72 - 75	6R5V118	R1	6B5V200			
76 - 79	6B5V124					
80 - 83	6S5V132	S1				
84 - 86	6B5V136	R1				
87 - 88	6S5V140	S1				
89 - 92	6R5V118	R1	6B5V160			
93 - 98	6S5V125	S1				
99 - 101	6S5V132					
102 - 106	8S5V132		8S5V160			8
107 - 112	8S5V140					
113 - 120			8S5V150	S1		
121 - 128	8S5V132		8S5V132			
129 - 130	8S5V140					

Notes: Pre-selected belt drives are based on the following guidelines:

- NEMA Recommendations for Sheave Diameter and Width
- Average Service at Reducer Rated Load
- 2 Belt Minimum

For other conditions (including but not limited to; fire hazard, explosion hazard or choked input), contact Application Engineering (1 800 626 2093) for assistance in selecting a belt drive.

It is recommended that 250 hp motors and larger the sheave diameters shown be checked with the motor manufacturer to be sure they meet their recommendations for minimum pitch diameter.

Pre-selected Belt Drives - 415SMTP25B

415SMTP25B Variable Pitch						
Output rpm	Driver		Driven		Belts	Belt Qty.
	Variable Pitch	Bushing	Fixed Pitch	Bushing		
11 - 12	5MVP40B54	-	5MVB300R	R2	BX	5
13 - 14	5MVP50B64					
15 - 16	5MVP60B74					
17 - 19	3MVP85C107Q	Q2	3MVC360R		CX	3
20 - 21	3MVP95C117Q					
22 - 24	4MVP75C97Q	Q3	4MVC270R			4
25 - 28	4MVP95C117Q					
29 - 33	4MVP115C137Q					
34 - 38	4MVP95C117Q		4MVC200R			
39 - 46	4MVP1015V115	-	4MV5V180R	R1	5VX	5
47 - 51	5MVP915V105		5MV5V140S	S1		
52 - 56	5MVP1015V115					
57 - 61	5MVP1115V125					
62 - 67			5MV5V125S			
68 - 72			5MV5V118S			
73 - 80			5MV4V109R	R2		

415SMTP25B Fixed Pitch						
Output rpm	Driver		Driven		Belts	Belt Qty.
	Fixed Pitch	Bushing	Fixed Pitch	Bushing		
6	3B5V42	P1	3U5V500	U0	5VX	3
7	3B3V50	B				
8	3B5V44	P1	3S5V375	S1		
9	3V5B50	B				
10	3B5V54					
11	3B5V60					
12	3B5V66					
13	3B5V70					
14	4B5V50		4B5V250	B		4
15	4B5V56					
16	4B5V58					
17	4B5V62					
18	4B5V64					
19	4B5V68					
20	4B5V74					
21	3B5V86		3B5V278			3
22	3B5V90					
23	3R5V92	R1				
24	3R5V97					
25	3R5V103					
26	3R5V109					
27	3B5V110	B				
28 - 29	3R5V118	R1				
30 - 31	3B5V124	B				
32 - 33	4R5V90	R1	4B5V184			4
34	4B5V90	B				
35	4B5V94					
36	4B5V97	R1				
37 - 38	4R5V103					
39 - 41	5B5V94		5B5V160	R1		5
42	5R5V97					
43 - 44	5R5V103					
45	5R5V109					
46 - 47	5B5V110					
48 - 50	5R5V118					
51	5R5V125					
52 - 54	6R5V97		6B5V124			6
55 - 56	6R5V103					
57 - 58	6R5V109					
59 - 62	6B5V110					
63 - 66			6R5V118			
67 - 70	6R5V118					
71 - 74	6B5V124	S1				
75 - 78	6S5V132					
79 - 80	6S5V140					

Notes: Pre-selected belt drives are based on the following guidelines:
- NEMA Recommendations for Sheave Diameter and Width
- Average Service at Reducer Rated Load
- 2 Belt Minimum

For other conditions (including but not limited to; fire hazard, explosion hazard or choked input), contact Application Engineering (1 800 626 2093) for assistance in selecting a belt drive.

It is recommended that 250 hp motors and larger the sheave diameters shown be checked with the motor manufacturer to be sure they meet their recommendations for minimum pitch diameter.

Pre-selected Belt Drives - 507SMTP15B

507SMTP15B Variable Pitch						
Output rpm	Driver		Driven		Belts	Belt Qty.
	Variable Pitch	Bushing	Fixed Pitch	Bushing		
28 - 30	5MVP915V105	-	5MV5V440U	U0	5VX	5
31 - 35			5MV5V375U			
36 - 39	5MVP1015V115					
40 - 43	5MVP1115V125					
44 - 49	6MVP1015V115		6MV5V300U			6
50 - 53			6MV5V280U			
54 - 61			6M5V240U			

507SMTP15B Fixed Pitch						
Output rpm	Driver		Driven		Belts	Belt Qty.
	Fixed Pitch	Bushing	Fixed Pitch	Bushing		
22	5B5V86	R1	5U5V500	U0	5VX	5
23 - 24	5B5V90					
25	5B5V94					
26	5R5V103					
27 - 28	6B5V80		6U5V375			6
29 - 30	6V5V86					
31	6B5V90					
32 - 33	6R5V97					
34 - 35	6R5V103					
36 - 38	6R5V109					
39 - 41	6R5V118					
42 - 44	6B5V124					
45 - 46	6S5V132	S1				
47 - 48	6B5V136	R1				
49 - 51	6R5V109		6S5V280	S1		
52 - 54	6R5V118					
55 - 58	6B5V110		6B5V250	R1		
59 - 61	6R5V118					
62 - 65	8S5V125	S1	8U5V250	U1		8
66 - 69	8S5V132					
70 - 72	8S5V140					
73 - 77	8S5V125		8U5V212			
78 - 81	8S5V132					
82 - 87	8S5V140					
88 - 92	105V1320J	J	105V1870J	J		10
93 - 97	105V1400J					
98 - 102	10U5V125	U1	10U5V160	U1		
103 - 108	10U5V132					
109 - 115	10U5V140		10U5V150			
116 - 123						
124 - 130			10U5V140			

Notes: Pre-selected belt drives are based on the following guidelines:
- NEMA Recommendations for Sheave Diameter and Width
- Average Service at Reducer Rated Load
- 2 Belt Minimum

For other conditions (including but not limited to; fire hazard, explosion hazard or choked input), contact Application Engineering (1 800 626 2093) for assistance in selecting a belt drive.

It is recommended that 250 hp motors and larger the sheave diameters shown be checked with the motor manufacturer to be sure they meet their recommendations for minimum pitch diameter.

Pre-selected Belt Drives - 507SMTP25B

507SMTP25B Variable Pitch						
Output rpm	Driver		Driven		Belts	Belt Qty.
	Variable Pitch	Bushing	Fixed Pitch	Bushing		
12 - 14	6MVP60B74	-	6MVB380R	R2	BX	6
15 - 17	3MVP85C107Q	Q2	3MVC440U	U0	CX	3
18 - 20	3MVP105C127Q					
21 - 24	3MVP915V105Q		3MV5V300S	S1	5VX	
25 - 28	4MVP1015V115	-	4MV5V280S			4
29 - 31	4MVP1115V125					5
32 - 36	5MVP915V105		5MV5V200S			
37 - 40			5MV5V180S			
41 - 44	5MVP1015V115					
45 - 48	5MVP1115V125					
49 - 53	5MVP1015V115		5MV5V150S			
54 - 61	5MVP1115V125		5MV5V140S			

507SMTP25B Fixed Pitch						
Output rpm	Driver		Driven		Belts	Belt Qty.
	Fixed Pitch	Bushing	Fixed Pitch	Bushing		
7	4B5V50	B	4U5V500	U0	5VX	4
8	4B5V56					
9	4B5V64					
10	5B5V52	Q1	5U5V375	R1		5
11	5B5V58					
12	5B5V64					
13	5B5V68					
14	5B5V74					
15	5B5V80	R1				
16	5R5V90					
17	5B5V90					
18	5B5V94					
19	5R5V103					
20 - 21	5B5V110					
22	5B5V80		5B5V250			
23	5R5V85					
24	5B5V86					
25	5B5V90					
26	5B5V94					
27	5B5V97					
28	5R5V103					
29	5R5V109					
30 - 31	5B5V110					
32 - 33	5R5V118					
34	5B5V124					
35 - 36	6R5V103		6B5V200			6
37 - 39	6B5V110					
40 - 41	6R5V118					
42 - 44	6B5V124					
45 - 46	6S5V132	S1				
47 - 49	6S5V140					
50 - 53	6R5V118	R1	6B5V154			
54 - 57	6B5V124					
58 - 59	6S5V132					
60 - 61	6B5V136					
62 - 66	8S5V140	S1	8S5V150	S1		8
67 - 71	8S5V132		8S5V132			
72 - 80	8S5V140		8S5V125			

Notes: Pre-selected belt drives are based on the following guidelines:
- NEMA Recommendations for Sheave Diameter and Width
- Average Service at Reducer Rated Load
- 2 Belt Minimum

For other conditions (including but not limited to; fire hazard, explosion hazard or choked input), contact Application Engineering (1 800 626 2093) for assistance in selecting a belt drive.

It is recommended that 250 hp motors and larger the sheave diameters shown be checked with the motor manufacturer to be sure they meet their recommendations for minimum pitch diameter.

Pre-selected Belt Drives - 608SMTP15B

608SMTP15B Variable Pitch						
Output rpm	Driver		Driven		Belts	Belt Qty.
	Variable Pitch	Bushing	Fixed Pitch	Bushing		
No Drives Available						

608SMTP15B Fixed Pitch						
Output rpm	Driver		Driven		Belts	Belt Qty.
	Fixed Pitch	Bushing	Fixed Pitch	Bushing		
20	8R5V80	R2	8U5V500	U1	5VX	8
21	8R5V85					
22 - 23	8R5V90					
24	8S5V97	S1				
25 - 26	8S5V103					
27 - 28	8S5V109					
29 - 30	8S5V118					
31 - 32	8S5V125					
33 - 34	8S5V132					
35 - 37	8S5V140					
38 - 40	8S5V118		8U5V375			
41 - 42	8S5V125					
43 - 45	8S5V132					
46 - 48	8S5V140					
49 - 51	10U5V125	U1	105V3150M	M		10
52 - 54	10U5V132					
55 - 57	10U5V140					
58 - 60	10U5V132		10U5V280	U1		
61 - 64	10U5V140					
65 - 68	10U5V132		10U5V250			
69 - 72	10U5V140		10U5V250			
73 - 75	10U5V125		10U5V212			
76 - 80	10U5V132					
81 - 84	10U5V140					

Notes: Pre-selected belt drives are based on the following guidelines:
- NEMA Recommendations for Sheave Diameter and Width
- Average Service at Reducer Rated Load
- 2 Belt Minimum

For other conditions (including but not limited to; fire hazard, explosion hazard or choked input), contact Application Engineering (1 800 626 2093) for assistance in selecting a belt drive.

It is recommended that 250 hp motors and larger the sheave diameters shown be checked with the motor manufacturer to be sure they meet their recommendations for minimum pitch diameter.

Accessories Shaft Mount Reducers

Pre-selected Belt Drives - 608SMTP25B

608SMTP25B Variable Pitch						
Output rpm	Driver		Driven		Belts	Belt Qty.
	Variable Pitch	Bushing	Fixed Pitch	Bushing		
13 - 14	5MVP75C97	-	5MVC440U	U0	CX	5
15 - 16	5MVP85C107					
17 - 20	5MVP915V105		5MV5V375U		5VX	
21 - 24			5MV5V300U			6
25 - 28	6MVP1015V115		6MV5V280U			
29 - 32			6MV5V240U			
33 - 35			6MV5V212U			

608SMTP25B Fixed Pitch						
Output rpm	Driver		Driven		Belts	Belt Qty.
	Fixed Pitch	Bushing	Fixed Pitch	Bushing		
9	5B5V66	Q1	5U5V500	U0	5VX	5
10	5Q5V75	Q2				
11	5B5V80	R1				
12	5B5V66					
13	5B5V94					
14	5R5V80		5U5V375			
15	5B5V80					
16	5R5V90					
17	5B5V90					
18	5R5V97					
19	5R5V103					
20	5B5V110					
21 - 22	5R5V118					
23	5R5V125					
24	5R5V132					
25	5B5V136					
26	5R5V140					
27	6B5V110		6S5V280	S1		6
28 - 29	6R5V118					
30 - 31	6B5V124					
32 - 33	6S5V132	S1				
34 - 35	6S5V140					
36 - 37	8S5V132		8U5V250	U1		8
38 - 39	8S5V140					
40 - 41			85V2360J	J		
42 - 43	8S5V132		8U5V212	U1		
44 - 46	8S5V140					
47 - 49	8S5V132		85V1870J	J		
50 - 52	8S5V140					
53 - 54	10U5V125	U1	10U5V160	U1		10
55 - 57	10U5V132					
58 - 62	10U5V140					
63 - 66	10U5V132		10U5V140			
67 - 70	10U5V132					
71 - 74	10U5V140		10U5V132			
75 - 78			10U5V125			
79 - 80			10S5V118			

Notes: Pre-selected belt drives are based on the following guidelines:
- NEMA Recommendations for Sheave Diameter and Width
- Average Service at Reducer Rated Load
- 2 Belt Minimum

For other conditions (including but not limited to; fire hazard, explosion hazard or choked input), contact Application Engineering (1 800 626 2093) for assistance in selecting a belt drive.

It is recommended that 250 hp motors and larger the sheave diameters shown be checked with the motor manufacturer to be sure they meet their recommendations for minimum pitch diameter.

Pre-selected Belt Drives - 800SMTP25

800SMTP25 Variable Pitch						
Output rpm	Driver		Driven		Belts	Belt Qty.
	Variable Pitch	Bushing	Fixed Pitch	Bushing		
No Drives Available						

800SMTP25 Fixed Pitch						
Output rpm	Driver		Driven		Belts	Belt Qty.
	Fixed Pitch	Bushing	Fixed Pitch	Bushing		
5 - 9	No Drives Available					
10	85V710SF	SF	8U5V500	U1	5V	8
11	6R5V80	R1	6U5V500	U0	5V	6
12	6B5V86	R1	6U5V500	U0	5V	6
13	6B5V90	R1	6U5V500	U0	5V	6
14	6R5V103	R1	6U5V500	U0	5V	6
15	6R5V109	R1	6U5V500	U0	5V	6
16	6B5V110	R1	6U5V500	U0	5V	6
17	6S5V125	S1	6U5V500	U0	5V	6
18	6B5V124	R1	6U5V500	U0	5V	6
19	6B5V136	R1	6U5V500	U0	5V	6
20	6S5V140	S1	6U5V500	U0	5V	6
21	5S8V132	S1	58V4450N	N	8V	5
22	5S8V140	S1	58V4450N	N	8V	5
23	5S8V132	S1	5U8V400	U0	8V	5
24 - 25	5S8V140	S1	5U8V400	U0	8V	5
26	6S8V132	S1	68V3550N	N	8V	6
27 - 28	6S8V140	S1	68V3550N	N	8V	6
29 - 30	8S5V132	S1	85V3150M	M	5VX	8
31	8S5V140	S1	85V3150M	M	5VX	8
32 - 33	10U5V132	U1	10U5V280	U1	5VX	10
34 - 35	10U5V140	U1	10U5V280	U1	5VX	10
36 - 38	10U5V132	U1	10U5V250	U1	5VX	10
39 - 40	10U5V140	U1	10U5V250	U1	5VX	10
41 - 42	10U5V140	U1	105V2360M	M	5VX	10
43 - 44	8S8V140	S2	8U8V224	U1	8V	8
45 - 47	10U8V140	U1	10U8V212	U1	8V	10
48 - 50	10U8V140	U1	10U8V200	U1	8V	10
51 - 80	No Drives Available					

Notes: Pre-selected belt drives are based on the following guidelines:
- NEMA Recommendations for Sheave Diameter and Width
- Average Service at Reducer Rated Load
- 2 Belt Minimum

For other conditions (including but not limited to; fire hazard, explosion hazard or choked input), contact Application Engineering (1 800 626 2093) for assistance in selecting a belt drive.

It is recommended that 250 hp motors and larger the sheave diameters shown be checked with the motor manufacturer to be sure they meet their recommendations for minimum pitch diameter.

Belt Guard

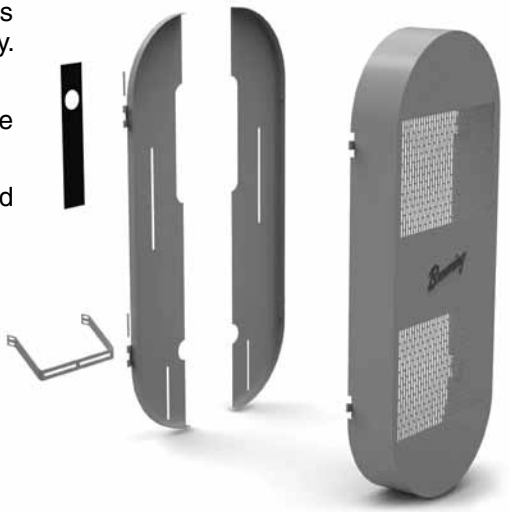
Belt guard assemblies consist of a guard kit and a mounting bracket kit as shown in the tables. Mounting bracket kit must be purchased separately. These belt guards may also be used with screw conveyor drives.

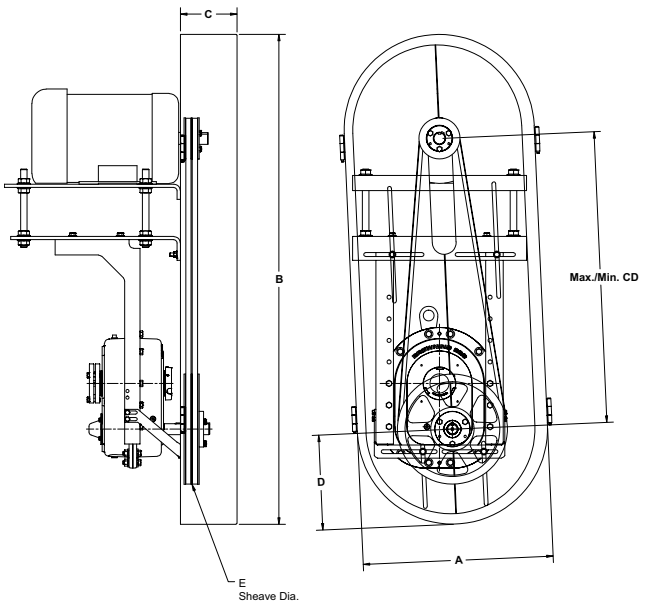
Belt guard standard color is yellow. Brackets supplied can accommodate fan kits when required.

Plated fasteners providing protection in outdoor applications are supplied with the guard assembly.

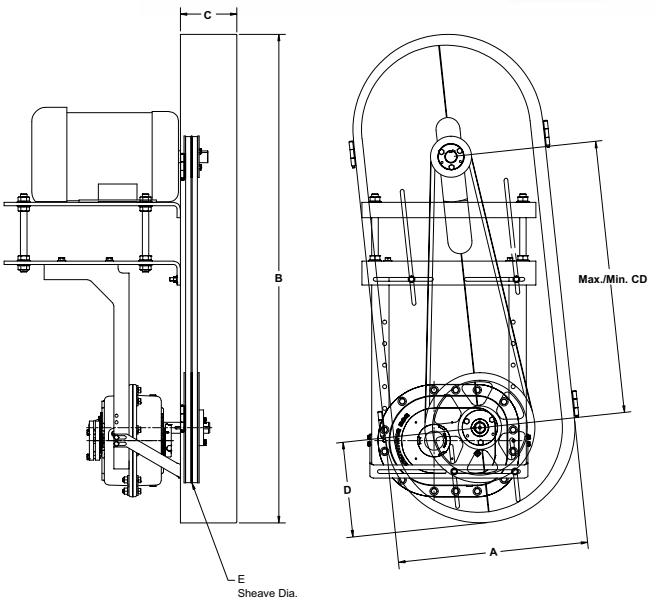
Belt guards have a hinged, removable cover.

Belt guards may be assembled with the belt drive already installed.





Top Mount



Side Mount

Dimensions in Inches

Belt Guard Kit No.	Center distance		A	B	C	D	E
	Min.	Max.					Max.
BGP10 13-20	13.00	20.00	11.00	31.50	6.50	5.50	10.00
BGP14 18-30	18.00	30.00	15.00	45.50	6.50	7.50	14.00
BGP20 22-34	22.00	34.00	21.00	55.50	6.50	10.50	20.00
BGP24 24-38	24.00	38.00	25.00	63.50	8.50	12.50	24.00
BGP28 32-48	32.00	48.00	29.00	77.50	8.50	14.50	28.00
BGP32 42-67	42.00	62.00	33.00	95.50	8.50	16.50	32.00

Top Mount		Side Mount	
Mounting Bracket Kit No.	Reducer Size	Mounting Bracket Kit No.	Reducer Size
107BGMKPT	107	107BGMKPS	107
115BGMKPT	115	115BGMKPS	115
203BGMKPT	203	203BGMKPS	203
207BGMKPT	207	207BGMKPS	207
215BGMKPT	215	215BGMKPS	215
307BGMKPT	307	307BGMKPS	307
315BGMKPT	315	315BGMKPS	315
407BGMKPT	407		
415BGMKPT	415		
507BGMKPT	507		
608BGMKPT	608		
800BGMKPT	800		

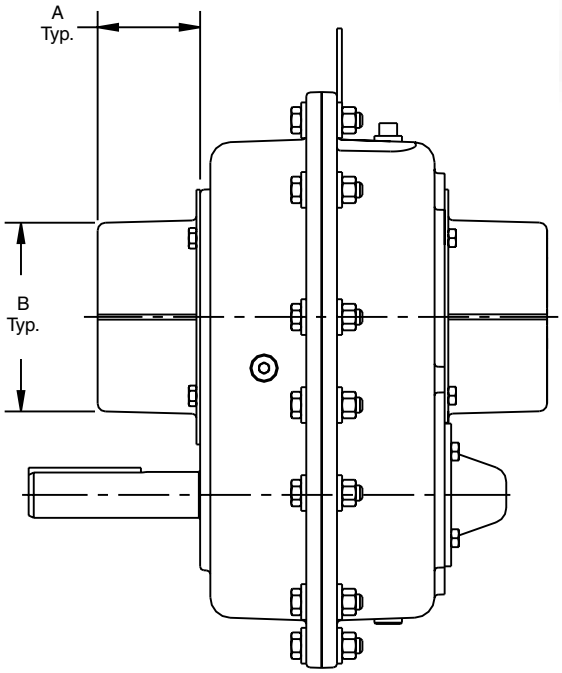
Bushing Guard

Bushing guard kits have the following features:

- One kit will cover the bushing and end cap
- Kit may be used with bushing on the front or rear of the reducer housing
- Guard may be installed after the reducer and bushing are mounted to the equipment
- Guard has the ability to mount on several different shaft sizes

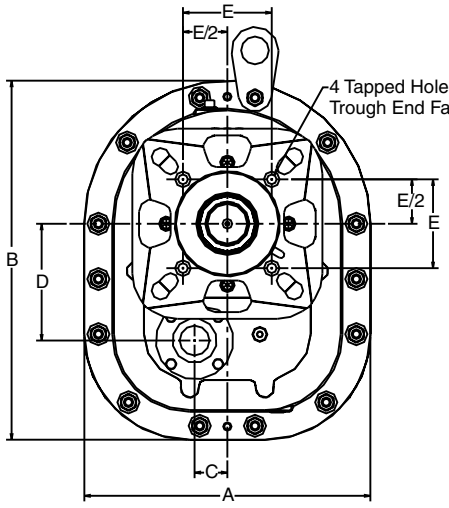


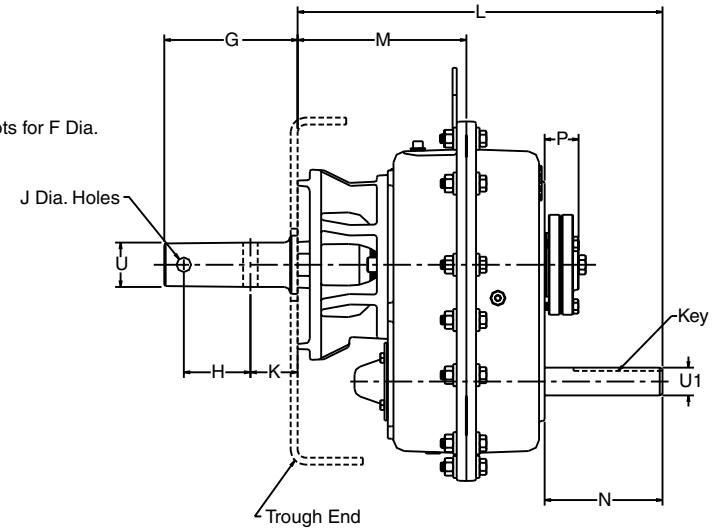


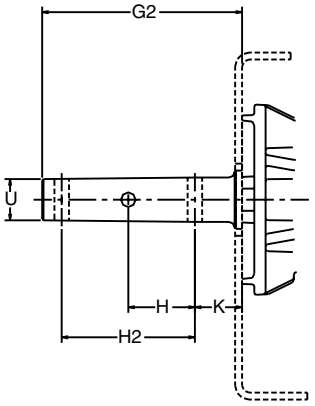


Reducer Size	Bushing Guard Kit	Bushing Guard Kit when used with optional Fan Kit	A	B
107	107 Bushing Guard Kit	NA	2.44	3.88
115	115 Bushing Guard Kit	NA	2.51	4.74
203	203 Bushing Guard Kit	NA	2.62	5.12
207	207 Bushing Guard Kit	NA	2.75	5.50
215	215 Bushing Guard Kit	NA	2.19	5.93
307	307 Bushing Guard Kit	307 Bushing Guard Fan Kit	3.00	7.10
315	315 Bushing Guard Kit	315 Bushing Guard Fan Kit	3.02	7.81
407	407 Bushing Guard Kit	407 Bushing Guard Fan Kit	2.50	8.75
415	415 Bushing Guard Kit	415 Bushing Guard Fan Kit	2.75	10.25
507	507 Bushing Guard Kit	507 Bushing Guard Fan Kit	3.15	11.00
608	608 Bushing Guard Kit	608 Bushing Guard Fan Kit	3.69	12.50
800	NA	NA	NA	NA

SMTP Screw Conveyor Drives







Optional 3 Hole Shaft



BASIC UNIT SIZE	DIMENSIONS IN INCHES									KEY
	A	B	C	D	L	M	N	P	U1	
107SMTP	9.76	12.07	1.18	3.77	13.73	6.90	4.08	1.61	0.75	.188 x .188 x 2.88
115SMTP	11.00	14.08	1.35	4.36	14.35	7.14	4.24	1.72	1.13	.250 x .250 x 2.75
203SMTP	12.88	16.16	1.48	5.26	16.44	7.60	5.31	1.72	1.25	.250 x .250 x 3.88
207SMTP	14.50	18.47	1.63	6.08	17.35	8.51	5.12	1.80	1.44	.375 x .375 x 3.75
215SMTP	16.25	20.88	2.12	7.01	19.27	9.25	5.87	1.93	1.88	.500 x .500 x 3.75
307SMTP	19.04	24.37	2.25	7.78	23.03	10.94	7.45	2.52	2.00	.500 x .500 x 6.50
315SMTP	19.90	26.35	2.63	8.53	25.14	11.56	8.32	2.90	2.13	.500 x .500 x 7.50
407SMTP_B	21.69	27.80	3.13	9.24	23.89	12.06	6.70	2.58	2.13	.500 x .500 x 6.00

DRIVE SHAFT DIA. "U"	FOR SCREW DIA.	DIMENSIONS IN INCHES							
		E	F	G	G2	H	H2	J	K
1.50	6,9	4.00	0.50	6.00	9.00	3.00	6.00	0.53	2.13
2.00	9-12	5.13	0.63	6.00	9.00	3.00	6.00	0.66	2.13
2.44	12,14	5.63	0.63	6.69	9.69	3.00	6.00	0.66	2.75
3.00	12-20	6.00	0.75	6.88	9.88	3.00	6.00	0.78	2.88
3.44	18-24	6.75	0.75	9.13	13.13	4.00	8.00	0.91	3.88

SMTP Screw Conveyor Drives

STOCK SMTP REDUCER (1)	TYPE SMTP SCREW CONVEYOR ADAPTER	TYPE SMTP SCREW CONVEYOR SHAFT (2)	OPTIONAL SEAL CARTRIDGES		FELT SEAL (3)
			WASTE PACK KIT	PACKING GLAND KIT	
1 1/2" DRIVE SHAFT - FOR SCREW DIAMETERS 6 - 10"					
107SMTP_ _	107SCA-P	107DSP108_ _	107WPP	107PGP	FR200
115SMTP_ _	115SCA-P	115DSP108_ _	115-203WPP	115-203PGP	FR210
203SMTP_ _	203SCA-P	203DSP108_ _			
2" DRIVE SHAFT - FOR SCREW DIAMETERS 9 - 12"					
107SMTP_ _	107SCA-P	107DSP200_ _	107WPP	107PGP	FR200
115SMTP_ _	115SCA-P	115DSP200_ _	115-203WPP	115-203PGP	FR210
203SMTP_ _	203SCA-P	203DSP200_ _			
207SMTP_ _	207SCA-P	207DSP200_ _	207-407WPP	207-407PGP	FR308
215SMTP_ _	215SCA-P	215DSP200_ _			
2 7/16" DRIVE SHAFT - FOR SCREW DIAMETERS 12 and 14"					
107SMTP_ _	107SCA-P	107DSP207_ _	107WPP	107PGP	FR200
115SMTP_ _	115SCA-P	115DSP207_ _	115-203WPP	115-203PGP	FR210
203SMTP_ _	203SCA-P	203DSP207_ _			
207SMTP_ _	207SCA-P	207DSP207_ _	207-407WPP	207-407PGP	FR308
215SMTP_ _	215SCA-P	215DSP207_ _			
3" DRIVE SHAFT - FOR SCREW DIAMETERS 12 - 20"					
107SMTP_ _	107SCA-P	107DSP300_ _	107WPP	107PGP	FR200
115SMTP_ _	115SCA-P	115DSP300_ _	115-203WPP	115-203PGP	FR210
203SMTP_ _	203SCA-P	203DSP300_ _			
207SMTP_ _	207SCA-P	207DSP300_ _	207-407WPP	207-407PGP	FR308
215SMTP_ _	215SCA-P	215DSP300_ _			
307SMTP_ _	307SCA-P	307DSP300_ _	207-407WPP	207-407PGP	FR308
315SMTP_ _	315SCA-P	315DSP300_ _			
407SMTP_ _B	407SCA-PB	407DSP300_ _B			
3 7/16" DRIVE SHAFT - FOR SCREW DIAMETERS 18 - 24"					
207SMTP_ _	207SCA-P	207DSP307_ _	207-407WPP	207-407PGP	FR308
215SMTP_ _	215SCA-P	215DSP307_ _			
307SMTP_ _	307SCA-P	307DSP307_ _	207-407WPP	207-407PGP	FR308
315SMTP_ _	315SCA-P	315DSP307_ _			
407SMTP_ _B	407SCA-PB	407DSP307_ _B			

Shaft stress based on transmitted load must always be checked. Calculations must account for drilled holes on shaft.

SMTP screw conveyor drives may be assembled in the field.

Required components include:
- SMTP reducer
- SMTP screw conveyor adapter
- SMTP screw conveyor shaft

Optional components include:
- Waste pack
- Packing gland
- Felt seal

(1) Complete part number by adding ratio, ie: 05, 09, 15, 25 or 35

(2) Complete part number by adding shaft type

Standard	2 hole steel shaft	= leave blank (example 107DSP108)
Optional	3 hole steel shaft	= -3 (example 107DSP108-3)
	2 hole stainless steel shaft	= SS (example 107DSP108SS)
	3 hole stainless steel shaft	= -3SS (example 107DSP108-3SS)

(3) Felt seal can be added to the waste pack or packing gland seal cartridge.



Screw Conveyor Adapter Kit



Waste Pack Kit

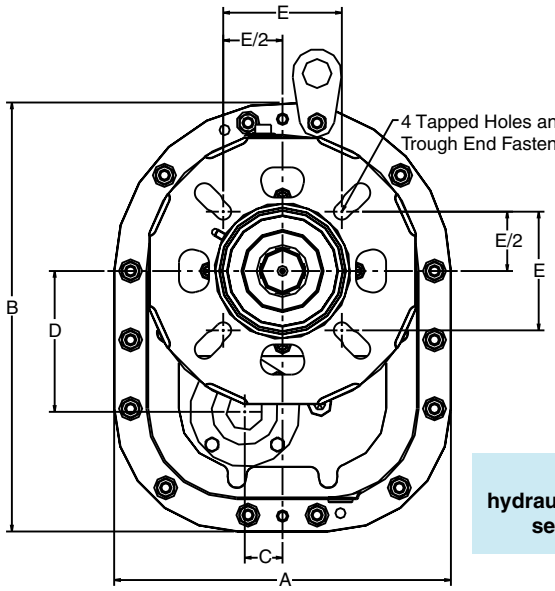


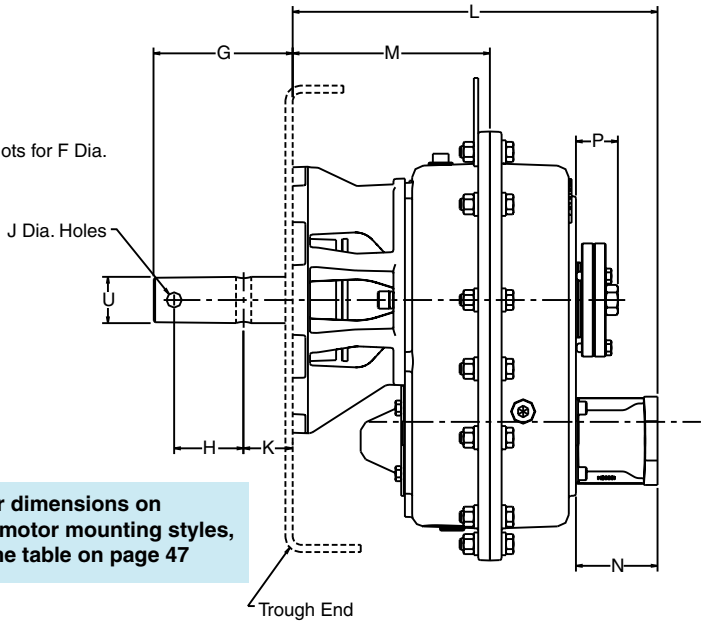
Packing Gland Kit



Screw Conveyor Drive Shaft Kit

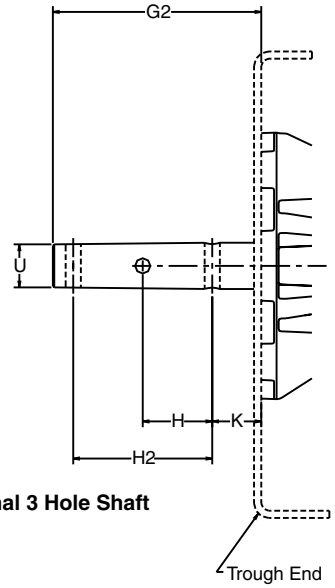
HMTP Screw Conveyor Drives





Standard 2 Hole Shaft

For dimensions on hydraulic motor mounting styles, see the table on page 47



Optional 3 Hole Shaft

BASIC UNIT SIZE	DIMENSIONS IN INCHES	
	L	N
107HMTP 6B SAE-A2	12.72	3.08
107HMTP 9T SAE-A2	12.72	3.08
107HMTP 13T SAE-B2	13.21	3.56
115HMTP 6B SAE-A2	13.19	3.08
115HMTP 9T SAE-A2	13.19	3.08
115HMTP 13T SAE-B2	13.67	3.56
203HMTP 6B SAE-A2	14.71	3.58
203HMTP 9T SAE-A2	14.71	3.58
203HMTP 13T SAE-B2	14.90	3.77
203HMTP 14T SAE-C4	15.21	4.08
207HMTP 6B SAE-A2	15.75	3.52
207HMTP 13T SAE-B2	15.94	3.71
207HMTP 14T SAE-C4	16.25	4.02
215HMTP 6B SAE-A2	17.11	3.72
215HMTP 13T SAE-B2	17.10	3.71
215HMTP 14T SAE-C4	17.66	4.27
307HMTP 6B SAE-A2	19.23	3.65
307HMTP 14T SAE-C4	19.78	4.20
315HMTP 6B SAE-A2	20.47	3.65
315HMTP 14T SAE-C4	21.02	4.20

BASIC UNIT SIZE	DIMENSIONS IN INCHES					
	A	B	C	D	M	P
107HMTP	9.76	12.07	1.18	3.77	6.90	1.61
115HMTP	11.00	14.08	1.35	4.36	7.14	1.72
203HMTP	12.88	16.16	1.48	5.26	7.60	1.72
207HMTP	14.50	18.47	1.63	6.08	8.51	1.80
215HMTP	16.25	20.88	2.12	7.01	9.25	1.93
307HMTP	19.04	24.37	2.25	7.78	10.94	2.52
315HMTP	19.90	26.35	2.63	8.53	11.56	2.90

DRIVE SHAFT DIA. U""	FOR SCREW DIA.	DIMENSIONS IN INCHES							
		E	F	G	G2	H	H2	J	K
1.50	6,9	4.00	0.50	6.00	9.00	3.00	6.00	0.53	2.13
2.00	9-12	5.13	0.63	6.00	9.00	3.00	6.00	0.66	2.13
2.44	12,14	5.63	0.63	6.69	9.69	3.00	6.00	0.66	2.75
3.00	12-20	6.00	0.75	6.88	9.88	3.00	6.00	0.78	2.88
3.44	18-24	6.75	0.75	9.13	13.13	4.00	8.00	0.91	3.88

HMTP Screw Conveyor Drives

STOCK HMTP REDUCER (1)	TYPE SMTP SCREW CONVEYOR ADAPTER	TYPE SMTP SCREW CONVEYOR SHAFT (2)	OPTIONAL SEAL CARTRIDGES		FELT SEAL (3)
			WASTE PACK KIT	PACKING GLAND KIT	
1 1/2" DRIVE SHAFT - FOR SCREW DIAMETERS 6 - 10"					
107HMTP_ _	107SCA-P	107DSP108_ _	107WPP	107PGP	FR200
115HMTP_ _	115SCA-P	115DSP108_ _	115-203WPP	115-203PGP	FR210
203HMTP_ _	203SCA-P	203DSP108_ _			
2" DRIVE SHAFT - FOR SCREW DIAMETERS 9 - 12"					
107HMTP_ _	107SCA-P	107DSP200_ _	107WPP	107PGP	FR200
115HMTP_ _	115SCA-P	115DSP200_ _	115-203WPP	115-203PGP	FR210
203HMTP_ _	203SCA-P	203DSP200_ _			
207HMTP_ _	207SCA-P	207DSP200_ _	207-407WPP	207-407PGP	FR308
215HMTP_ _	215SCA-P	215DSP200_ _			
2 7/16" DRIVE SHAFT - FOR SCREW DIAMETERS 12 and 14"					
107HMTP_ _	107SCA-P	107DSP207_ _	107WPP	107PGP	FR200
115HMTP_ _	115SCA-P	115DSP207_ _	115-203WPP	115-203PGP	FR210
203HMTP_ _	203SCA-P	203DSP207_ _			
207HMTP_ _	207SCA-P	207DSP207_ _	207-407WPP	207-407PGP	FR308
215HMTP_ _	215SCA-P	215DSP207_ _			
3" DRIVE SHAFT - FOR SCREW DIAMETERS 12 - 20"					
107HMTP_ _	107SCA-P	107DSP300_ _	107WPP	107PGP	FR200
115HMTP_ _	115SCA-P	115DSP300_ _	115-203WPP	115-203PGP	FR210
203HMTP_ _	203SCA-P	203DSP300_ _			
207HMTP_ _	207SCA-P	207DSP300_ _	207-407WPP	207-407PGP	FR308
215HMTP_ _	215SCA-P	215DSP300_ _			
307HMTP_ _	307SCA-P	307DSP300_ _	207-407WPP	207-407PGP	FR308
315HMTP_ _	315SCA-P	315DSP300_ _			
3 7/16" DRIVE SHAFT - FOR SCREW DIAMETERS 18 - 24"					
207HMTP_ _	207SCA-P	207DSP307_ _	207-407WPP	207-407PGP	FR308
215HMTP_ _	215SCA-P	215DSP307_ _			
307HMTP_ _	307SCA-P	307DSP307_ _	207-407WPP	207-407PGP	FR308
315HMTP_ _	315SCA-P	315DSP307_ _			

Shaft stress based on transmitted load must always be checked. Calculations must account for drilled holes on shaft.

HMTP screw conveyor drives may be assembled in the field.

Required components include:
- HMTP reducer
- SMTP screw conveyor adapter
- SMTP screw conveyor shaft

Optional components include:
- Waste pack
- Packing gland
- Felt seal

(1) Complete part number by adding ratio, ie: 05, 09, 15, 25 or 35

(2) Complete part number by adding shaft type

Standard	2 hole steel shaft	= leave blank (example 107DSP108)
Optional	3 hole steel shaft	= -3 (example 107DSP108-3)
	2 hole stainless steel shaft	= SS (example 107DSP108SS)
	3 hole stainless steel shaft	= -3SS (example 107DSP108-3SS)

(3) Felt seal can be added to the waste or packing gland pack seal cartridge.



Screw Conveyor Adapter Kit



Waste Pack Kit

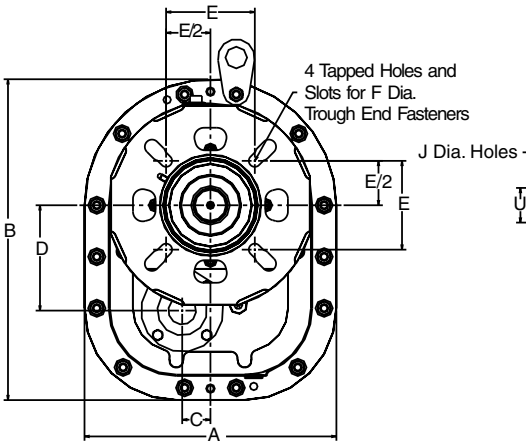


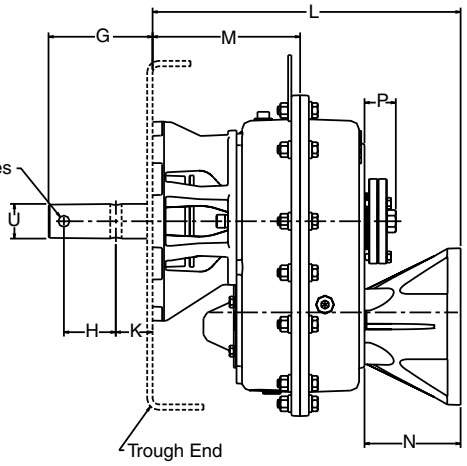
Packing Gland Kit



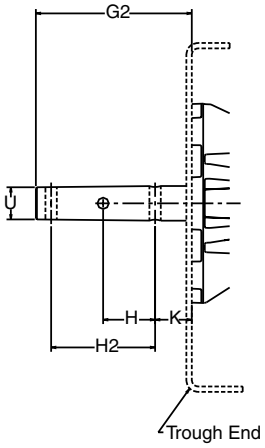
Screw Conveyor Drive Shaft Kit

CMTP Screw Conveyor Drives





Standard 2 Hole Shaft



Optional 3 Hole Shaft

PART NO.	DIMENSIONS IN INCHES	
	L	N
107CMTP Q56	12.97	3.32
107CMTP Q140	12.97	3.32
115CMTP Q56	13.43	3.32
115CMTP Q140	13.43	3.32
115CMTP Q180	15.72	5.61
203CMTP Q56	14.95	3.82
203CMTP Q140	14.95	3.82
203CMTP Q180	16.73	5.61
203CMTP Q210	16.73	5.61
207CMTP Q56	16.00	3.76
207CMTP Q140	16.00	3.76
207CMTP Q180	17.77	5.55
207CMTP Q210	17.77	5.55
215CMTP Q56	17.22	3.83
215CMTP Q140	17.22	3.83
215CMTP Q180	19.25	5.86
215CMTP Q210	19.25	5.86
215CMTP Q250	19.25	5.86
307CMTP Q56	19.34	3.76
307CMTP Q140	19.34	3.76
307CMTP Q180	21.37	5.79
307CMTP Q210	21.37	5.79
307CMTP Q250	21.37	5.79
315CMTP Q56	20.58	3.76
315CMTP Q140	20.58	3.76
315CMTP Q180	22.61	5.79
315CMTP Q210	22.61	5.79
315CMTP Q250	22.61	5.79

BASIC UNIT SIZE	DIMENSIONS IN INCHES					
	A	B	C	D	M	P
107CMTP	9.76	12.07	1.18	3.77	6.90	1.61
115CMTP	11.00	14.08	1.35	4.36	7.14	1.72
203CMTP	12.88	16.16	1.48	5.26	7.60	1.72
207CMTP	14.50	18.47	1.63	6.08	8.51	1.80
215CMTP	16.25	20.88	2.12	7.01	9.25	1.93
307CMTP	19.04	24.37	2.25	7.78	10.94	2.52
315CMTP	19.90	26.35	2.63	8.53	11.56	2.90

DRIVE SHAFT DIA. "U"	FOR SCREW DIA.	DIMENSIONS IN INCHES							
		E	F	G	G2	H	H2	J	K
1.50	6,9	4.00	0.50	6.00	9.00	3.00	6.00	0.53	2.13
2.00	9-12	5.13	0.63	6.00	9.00	3.00	6.00	0.66	2.13
2.44	12,14	5.63	0.63	6.69	9.69	3.00	6.00	0.66	2.75
3.00	12-20	6.00	0.75	6.88	9.88	3.00	6.00	0.78	2.88
3.44	18-24	6.75	0.75	9.13	13.13	4.00	8.00	0.91	3.88

CMTP Screw Conveyor Drives

STOCK CMTP REDUCER (1)	TYPE SMTP SCREW CONVEYOR ADAPTER	TYPE SMTP SCREW CONVEYOR SHAFT (2)	OPTIONAL SEAL CARTRIDGES		FELT SEAL (3)
			WASTE PACK KIT	PACKING GLAND KIT	
1 1/2" DRIVE SHAFT - FOR SCREW DIAMETERS 6 -10"					
107CMTP_ _	107SCA-P	107DSP108_ _	107WPP	107PGP	FR200
115CMTP_ _	115SCA-P	115DSP108_ _	115-203WPP	115-203PGP	FR210
203CMTP_ _	203SCA-P	203DSP108_ _			
2" DRIVE SHAFT - FOR SCREW DIAMETERS 9 - 12"					
107CMTP_ _	107SCA-P	107DSP200_ _	107WPP	107PGP	FR200
115CMTP_ _	115SCA-P	115DSP200_ _	115-203WPP	115-203PGP	FR210
203CMTP_ _	203SCA-P	203DSP200_ _			
207CMTP_ _	207SCA-P	207DSP200_ _	207-407WPP	207-407PGP	FR308
215CMTP_ _	215SCA-P	215DSP200_ _			
2 7/16" DRIVE SHAFT - FOR SCREW DIAMETERS 12 and 14"					
107CMTP_ _	107SCA-P	107DSP207_ _	107WPP	107PGP	FR200
115CMTP_ _	115SCA-P	115DSP207_ _	115-203WPP	115-203PGP	FR210
203CMTP_ _	203SCA-P	203DSP207_ _			
207CMTP_ _	207SCA-P	207DSP207_ _	207-407WPP	207-407PGP	FR308
215CMTP_ _	215SCA-P	215DSP207_ _			
3" DRIVE SHAFT - FOR SCREW DIAMETERS 12 - 20"					
107CMTP_ _	107SCA-P	107DSP300_ _	107WPP	107PGP	FR200
115CMTP_ _	115SCA-P	115DSP300_ _	115-203WPP	115-203PGP	FR210
203CMTP_ _	203SCA-P	203DSP300_ _			
207CMTP_ _	207SCA-P	207DSP300_ _	207-407WPP	207-407PGP	FR308
215CMTP_ _	215SCA-P	215DSP300_ _			
307CMTP_ _	307SCA-P	307DSP300_ _	207-407WPP	207-407PGP	FR308
315CMTP_ _	315SCA-P	315DSP300_ _			
3 7/16" DRIVE SHAFT - FOR SCREW DIAMETERS 18 - 24"					
207CMTP_ _	207SCA-P	207DSP307_ _	207-407WPP	207-407PGP	FR308
215CMTP_ _	215SCA-P	215DSP307_ _			
307CMTP_ _	307SCA-P	307DSP307_ _	207-407WPP	207-407PGP	FR308
315CMTP_ _	315SCA-P	315DSP307_ _			

Shaft stress based on transmitted load must always be checked. Calculations must account for drilled holes on shaft.

CMTP screw conveyor drives may be assembled in the field.

Required components include:
- CMTP reducer
- SMTP screw conveyor adapter
- SMTP screw conveyor shaft

Optional components include:
- Waste pack
- Packing gland
- Felt seal

(1) Complete part number by adding ratio, ie: 05, 09, 15, 25 or 35

(2) Complete part number by adding shaft type

Standard	2 hole steel shaft	= leave blank (example 107DSP108)
Optional	3 hole steel shaft	= -3 (example 107DSP108-3)
	2 hole stainless steel shaft	= SS (example 107DSP108SS)
	3 hole stainless steel shaft	= -3SS (example 107DSP108-3SS)

(3) Felt seal can be added to the waste pack or packing gland seal cartridge.



Screw Conveyor Adapter Kit



Waste Pack Kit



Packing Gland Kit



Screw Conveyor Drive Shaft Kit

Screw Conveyor Trough Ends Sizes 107-407



Formed Hot Roll Plate Steel

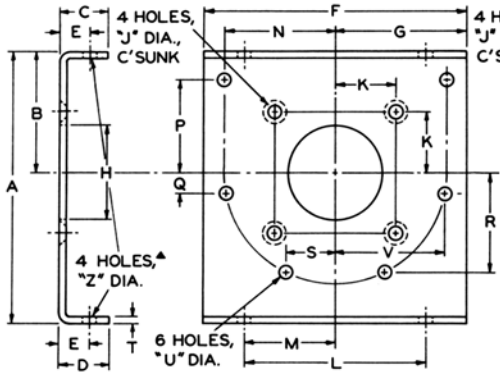


FIG 1 - 6 HOLE TYPE

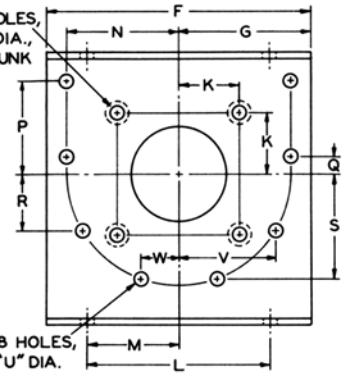


FIG 2 - 8 HOLE TYPE

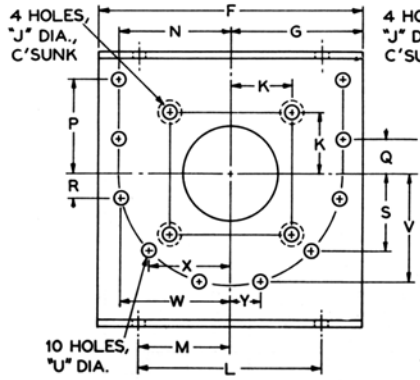


FIG 3 -10 HOLE TYPE

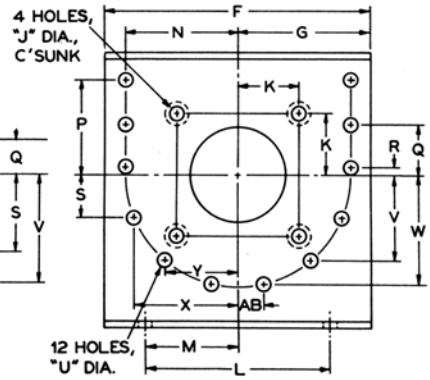


FIG 4 - 12 HOLE TYPE

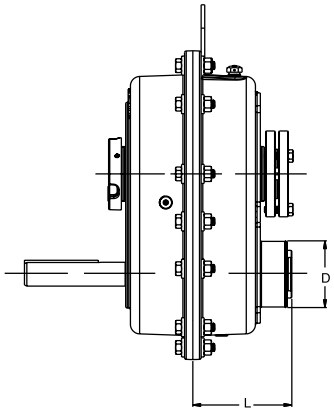
Specifications

Part No.	Conveyor Screw Dia.	Drive Shaft Dia.	Fig.	Type	Dimensions										
					A	B	C	D	E	F	G	H	J	K	L
SCTE06 x 1 1/2"	6"	1 1/2"	1	6-Hole	10 1/8"	4 1/2"	1 1/2"	1 3/4"	1"	9 3/4"	4 7/8"	1 3/4"	9/16"	2"	8 1/8"
SCTE09 x 1 1/2	9	1 1/2	2	8-Hole	14	6 1/8	1 5/8	2 5/8	1 1/2	13 3/4	6 7/8	1 3/4	9/16	2	9 3/8
SCTE09 x 2	9	2	2	8-Hole	14	6 1/8	1 5/8	2 5/8	1 1/2	13 3/4	6 7/8	2 1/4	11/16	2 9/16	9 3/8
SCTE10 x 1 1/2	10	1 1/2	2	8-Hole	15 1/4	6 3/8	2 3/8	2 7/8	1 3/4	14 3/4	7 3/8	1 3/4	9/16	2	9 1/2
SCTE10 x 2	10	2	2	8-Hole	15 1/4	6 3/8	2 7/8	2 7/8	1 3/4	14 3/4	7 3/8	2 1/4	11/16	2 9/16	9 1/2
SCTE12 x 2	12	2	2	8-Hole	17 3/8	7 3/4	2	2 3/4	1 5/8	17 1/4	8 5/8	2 1/4	11/16	2 9/16	12 1/4
SCTE12 x 2 7/16	12	2 7/16	2	8-Hole	17 3/8	7 3/4	2	2 3/4	1 5/8	17 1/4	8 5/8	2 11/16	11/16	2 13/16	12 1/4
SCTE12 x 3	12	3	2	8-Hole	17 3/8	7 3/4	2	2 3/4	1 5/8	17 1/4	8 5/8	3 1/4	13/16	3	12 1/4
SCTE14 x 2 7/16	14	2 7/16	2	8-Hole	20 1/8	9 1/4	2	2 7/8	1 5/8	19 1/4	9 5/8	2 11/16	11/16	2 13/16	13 1/2
SCTE14 x 3	14	3	2	8-Hole	20 1/8	9 1/4	2	2 7/8	1 5/8	19 1/4	9 5/8	3 1/4	13/16	3	13 1/2
SCTE16 x 3	16	3	2	8-Hole	22 5/8	10 5/8	2 1/2	3 1/4	2	21 1/4	10 5/8	3 1/4	13/16	3	14 7/8
SCTE18 x 3	18	3	3	10-Hole	25 1/2	12 1/8	2 1/2	3 1/4	2	24 1/4	12 1/8	3 1/4	13/16	3	16
SCTE18 x 3 7/16	18	3 7/16	3	10-Hole	25 1/2	12 1/8	2 1/2	3 1/4	2	24 1/4	12 1/8	3 11/16	13/16	3 3/8	16
SCTE20 x 3	20	3	3	10-Hole	28 1/2	13 1/2	2 1/2	3 3/4	2 1/4	26 1/4	13 1/8	3 1/4	13/16	3	19 1/4
SCTE20 x 3 7/16	20	3 7/16	3	10-Hole	28 1/2	13 1/2	2 1/2	3 3/4	2 1/4	26 1/4	13 1/8	3 11/16	13/16	3 3/8	19 1/4
SCTE24 x 3 7/16	24	3 7/16	4	12-Hole	34 5/8	16 1/2	2 1/2	4 1/8	2 1/2	30 1/4	15 1/8	3 11/16	13/16	3 3/8	20

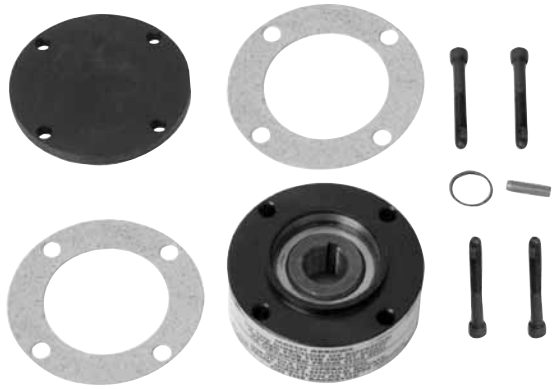
Part No.	Dimensions														Wt. Lbs.
	M	N	P	Q	R	S	T	U	V	W	X	Y	Z	AB	
SCTE06 x 1 1/2"	4 1/16"	4 7/16"	3 15/32"	5/8"	3 15/16"	2 1/32"	3/16"	7/16"	4 25/64"	-	-	-	7/16"	-	6.7
SCTE09 x 1 1/2	4 11/16	6 1/4	4 15/16	13/16	3 13/64	5 45/64	1/4	7/16	5 23/64	2 9/16"	-	-	9/16	-	17.8
SCTE09 x 2	4 11/16	6 1/4	4 15/16	13/16	3 13/64	5 45/64	1/4	7/16	5 23/64	2 9/16	-	-	9/16	-	17.7
SCTE10 x 1 1/2	4 3/4	6 5/8	4 1/8	5/8	3 3/8	6 1/8	1/4	7/16	5 45/64	2 17/32	-	-	9/16	-	20.6
SCTE10 x 2	4 3/4	6 5/8	4 1/8	5/8	3 3/8	6 1/8	1/4	7/16	5 45/64	2 17/32	-	-	9/16	-	20.5
SCTE12 x 2	6 1/8	7 15/16	6 1/4	15/16	4 7/64	6 59/64	5/16	9/16	6 51/64	3 7/8	-	-	11/16	-	33.8
SCTE12 x 2 7/16	6 1/8	7 15/16	6 1/4	15/16	4 7/64	6 59/64	5/16	9/16	6 51/64	3 7/8	-	-	11/16	-	33.5
SCTE12 x 3	6 1/8	7 15/16	6 1/4	15/16	4 7/64	6 59/64	5/16	9/16	6 51/64	3 7/8	-	-	11/16	-	33.3
SCTE14 x 2 7/16	6 3/4	8 15/16	6 23/32	1 3/32	4 11/16	8 27/64	5/16	9/16	7 39/64	3	-	-	11/16	-	42.4
SCTE14 x 3	6 3/4	8 15/16	6 23/32	1 3/32	4 11/16	8 27/64	5/16	9/16	7 39/64	3	-	-	11/16	-	42.2
SCTE16 x 3	7 7/16	10	8	1 5/8	4 57/64	9 17/64	5/16	11/16	8 23/32	3 3/4	-	-	11/16	-	51.1
SCTE18 x 3	8	11	9 1/2	3 9/16	2 25/64	7 37/64	5/16	11/16	10 19/32	10 47/64	7 63/64"	2 15/16"	11/16	-	67.9
SCTE18 x 3 7/16	8	11	9 1/2	3 9/16	2 25/64	7 37/64	5/16	11/16	10 19/32	10 47/64	7 63/64	2 15/16	11/16	-	67.7
SCTE20 x 3	9 5/8	12 3/16	10 23/32	4 15/32	2 13/64	8 3/16	3/8	11/16	11 23/32	11 63/64	9 1/32	3 11/32	13/16	-	96.9
SCTE20 x 3 7/16	9 5/8	12 3/16	10 23/32	4 15/32	2 13/64	8 3/16	3/8	11/16	11 23/32	11 63/64	9 1/32	3 11/32	13/16	-	96.7
SCTE24 x 3 7/16	10	14 1/4	13 23/32	7 19/32	31/32	5 33/64	3/8	11/16	10 7/8	13 55/64	13 1/8	9 7/32	13/16 ▲	3 5/16"	133.0

Notes: Browning trough ends are drilled to fit CEMA Standard Troughs. The center holes are drilled to fit Browning screw conveyor drives.
▲2 "Z" holes in bottom flange only; no holes in top flange.

Options and Accessories Sizes 107-800



Size 107-800



Backstop Kits

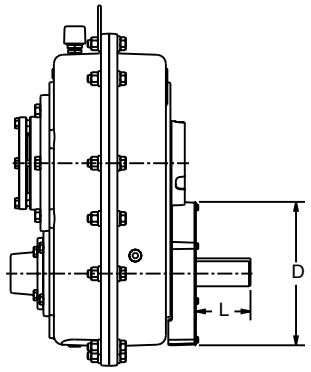
REDUCER SIZE	USE BACKSTOP KIT		DIMENSIONS		WT. LBS.
	PART NO.	RATIOS	D	L	
107	107BSP	ALL	3.000	4.336	2.4
115	115-203BSP		3.438	4.573	3.1
203			3.438	5.100	3.1
207	207BSP		4.750	5.695	7.4
215	215-307BSP		5.000	6.230	8.4
307			5.000	6.770	8.4
315	315BSP		6.000	7.780	16.2
407	407BSP		6.125	6.625	10.0
415	415BSP		6.815	7.500	13.0
507	507BSP		7.625	7.969	15.0
608	608BSP		8.375	9.500	17.0
800	800BSP		9.380	13.290	60.0



Torque Arm Kits

REDUCER SIZE	PART NO.
107	107TAP-H
115	115TAP-H
203	203TAP-H
207	207TAP-H
215	215TAP-H
307	307TAP-H
315	315TAP-H
407	407TAP-HB
415	415TAP-HB
507	507TAP-HB
608	608TAP-HB
800	800TAP-H

Fan Kits

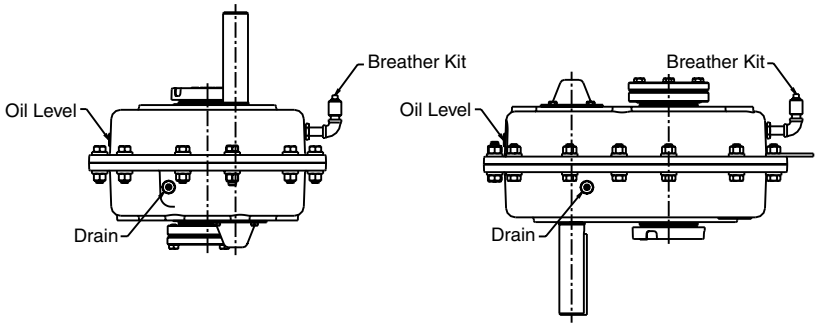




Reducer Size	Fan Kit No.	Dimensions		Wt. Lbs.
		D	L	
307	**307FKP**	9.5	4.9	4.5
315	**315FKP**	10.4	5.7	4.9
407	**407FKPB**	12.66	4.56	6.4
415	**415FKPB**	14.38	6.92	8.3
507	**507FKPB**	16.41	6.56	13.2
608	**608FKPB**	16.41	6.69	13.2
800	**800FKP**	16.41	9.93	13.2

107-800 SMTP VBK Vertical Breather Kit

When a shaft mount speed reducer is mounted with the shaft vertical, a vertical breather kit is needed.





107-800 SMTP FBK Filtered Breather Kit

A filtered breather is recommended in applications where abrasive particles may contaminate the gearbox lubricant.



307-800 SMTP PC Pump and Cooler Kit

The pump and cooler kit is required for specific operating conditions noted in the Class I, II, and III selection tables.


BROWNING



Shaft Mount Engineering Section

Input Shaft Overhung Load Capacity ..... 136 - 137

Output Thrust and Overhung Loads ..... 138 - 141

Minimum Shaft Requirements 142

Face Mounting ..... 144 - 145

Lubrication ..... 146 - 149

Load Capacity (Lbs.) Unit Size 107-608

5:1 Ratio Reducers

Output RPM	Reducer Size								
	107	115	203	207	215	307	315	407	415
90	354	442	967	795	1992	2132	1285	1143	1282
100	354	430	938	777	1941	2077	1254	1113	1251
110	354	420	917	760	1890	2027	1224	1088	1221
120	354	410	893	740	1844	1976	1194	1067	1191
130	354	400	877	725	1804	1936	1174	1045	1171
140	354	395	858	710	1768	1896	1148	1027	1146
150	354	385	843	700	1733	1861	1129	1012	1126
160	354	380	828	688	1702	1826	1108	995	1106
170	354	375	818	675	1676	1795	1093	980	1091
180	354	370	803	668	1650	1770	1078	965	1076
190	354	365	793	658	1625	1745	1063	954	1061
200	354	360	783	648	1604	1720	1053	944	1051
210	354	355	773	638	1580	1699	1033	935	1031
220	354	350	763	633	1559	1675	1018	924	1016
230	354	347	758	623	1543	1654	1018	914	1016
240	354	342	748	618	1524	1639	998	904	996
250	354	340	738	613	1508	1619	988	894	986
260	354	335	733	605	1493	1604	983	889	981
270	354	332	723	600	1477	1589	973	879	971
280	354	330	718	593	1462	1569	958	869	956
290	354	327	713	588	1447	1554	958	868	956
300	354	322	708	583	1436	1544	948	859	946
310	354	322	698	578	1422	1529	933	849	931
320	354	317	693	575	1411	1514	933	848	931
330	354	317	688	570	1396	1504	923	838	921
340	354	312	683	565	1386	1494	918	833	916
350	354	312	678	560	1376	1479	916	828	915
360	354	307	673	555	1365	1468	901	823	900
370	354	307	668	555	1355	1458	906	818	905
380	354	305	668	550	1345	1448	896	814	895
390	354	302	663	545	1335	1438	891	808	890
400	354	302	658	540	1329	1428	886	803	885

9:1 Ratio Reducers

Output RPM	Reducer Size						
	107	115	203	207	215	307	315
10	354	992	1212	1717	3172	3555	4004
20	354	992	1212	1717	3172	3555	4004
30	354	992	1212	1717	3172	3545	3856
40	354	992	1212	1717	3121	3077	3165
50	354	992	1212	1682	3021	2655	2656
60	354	992	1212	1627	2838	2324	2264
70	354	992	1212	1496	2695	2054	1941
80	354	989	1212	1372	2577	1823	1670
90	354	967	1212	1265	2476	1638	1716
100	354	950	1212	1173	2385	1497	1675
110	354	931	1212	1161	2309	1578	1635
120	354	896	1212	1136	2242	1543	1600
130	354	863	1212	1116	2181	1508	1574
140	354	836	1212	1094	2125	1483	1544
150	354	808	1212	1074	2074	1458	1519
160	354	783	1212	1059	2029	1437	1498
170	354	761	1212	1044	1987	1412	1474
180	354	739	1212	1029	1951	1397	1456
190	354	721	1212	1014	1911	1377	1438
200	354	701	1212	1001	1880	1362	1421

Overhung Loads

$$OHL = \frac{2TKP}{D}$$

Where:

OHL = Overhung load (pounds)
T = Actual shaft torque (inch-pounds)
D = P.D. of sprocket, sheave, pulley or gear
K = 1.0 for chain drives
1.25 for gear drives
1.25 for gearbelt drives
1.50 for V-belt drives
P = Load position factor

Note: Input overhung loads shown are with center of load at one input shaft diameter from seal. For loads located at other distances, use input load position factor.

Load Capacity (Lbs.) Unit Size 107-608

15:1 Ratio Reducers

Output RPM	Reducer Size										
	107	115	203	207	215	307	315	407	415	507	608
10	354	992	1212	1717	3172	3555	4004	4472	5505	6729	7040
20	354	992	1212	1717	3172	3553	4004	4346	5505	6601	5009
30	354	992	1212	1717	3094	3358	3935	3860	5498	4873	3754
40	354	992	1212	1641	2853	2866	3775	3484	5172	4301	3545
50	354	992	1212	1551	2649	2495	3499	3040	4830	4024	3480
60	354	965	1212	1456	2492	2204	3255	2877	4573	3809	3425
70	354	938	1212	1379	2365	1963	2976	2747	4367	3638	3380
80	354	891	1212	1317	2263	1758	2743	2639	4196	3493	3340
90	354	848	1212	1264	2176	1587	2720	2548	4050	3372	3305
100	354	811	1212	1210	2100	1592	2649	2468	3924	3267	3275
110	354	778	1212	1141	2033	1552	2586	2400	3814	3177	3250
120	354	748	1212	1138	1977	1517	2531	2338	3716	3096	3225
130	354	721	1212	1110	1921	1487	2480	2280	3625	3021	3205

25:1 Ratio Reducers

Output RPM	Reducer Size											
	107	115	203	207	215	307	315	407	415	507	608	800
10	354	992	1212	1717	3172	3555	4004	4472	5505	6780	7040	8603
20	354	992	1212	1716	3082	3458	3920	3812	5390	5943	5573	8603
30	354	992	1212	1598	2695	3027	3585	3323	4830	4305	3144	8603
40	354	955	1212	1451	2452	2620	3259	3014	4296	3781	3513	8603
50	354	913	1212	1342	2278	2284	3023	2794	3905	3533	3443	8603
60	354	861	1212	1259	2145	2013	2733	2646	3697	3345	3282	8504
70	354	819	1212	1195	2038	1787	2658	2525	3531	3197	3136	8173
80	354	784	1212	1143	1947	1592	2566	2425	3393	3070	3011	7892

35:1 Ratio Reducers

Output RPM	Reducer Size						
	107	115	203	207	215	307	315
10	354	992	1226	1717	3168	3552	4004
20	354	992	1226	1632	2792	3132	3713
30	354	950	1226	1441	2446	2741	3248
40	354	886	1226	1309	2227	2495	2951
50	354	824	1226	1212	2068	2315	2726

Input Load Position Factors (P)

Reducer Size	Distance in inches from face of the housing																		
	1/2	1	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2	5	5 1/2	6	6 1/2	7	7 1/2	8	8 1/2	9	9 1/2
107	1.00	1.13	1.36	1.60	1.84	2.08	2.32	2.55	-	-	-	-	-	-	-	-	-	-	-
115	1.00	1.00	1.16	1.36	1.55	1.75	1.95	2.15	-	-	-	-	-	-	-	-	-	-	-
203	1.00	1.00	1.09	1.27	1.44	1.62	1.79	1.97	2.15	2.32	-	-	-	-	-	-	-	-	-
207	1.00	1.00	1.03	1.19	1.36	1.52	1.69	1.85	2.01	2.18	-	-	-	-	-	-	-	-	-
215	1.00	1.00	1.00	1.04	1.18	1.31	1.45	1.59	1.72	1.86	2.13	-	-	-	-	-	-	-	-
307	1.00	1.00	1.00	1.00	1.11	1.20	1.31	1.44	1.60	1.80	2.05	2.39	2.85	3.55			-	-	-
315	1.00	1.00	1.00	1.00	1.06	1.13	1.21	1.31	1.42	1.56	1.72	1.92	2.18	2.51	2.97	3.62	-	-	-
407	1.00	1.00	1.00	1.02	1.16	1.30	1.44	1.57	1.72	1.86	1.99	2.11	-	-	-	-	-	-	-
415	1.00	1.00	1.00	1.00	1.03	1.15	1.27	1.39	1.52	1.64	1.76	1.88	2.00	2.12	2.24	2.36	2.47	2.59	-
507	1.00	1.00	1.00	1.00	1.08	1.19	1.30	1.41	1.52	1.63	1.73	1.84	1.95	2.06	2.17	2.27	2.38	2.49	-
608	1.00	1.00	1.00	1.00	1.00	1.05	1.14	1.22	1.30	1.38	1.47	1.55	1.64	1.72	1.80	1.89	1.97	2.05	2.13
800	1.00	1.00	1.00	1.00	1.00	1.00	1.04	1.09	1.14	1.20	1.26	1.33	1.40	1.49	1.59	1.70	1.83	1.98	2.15

Note: Input overhung loads shown are with center of load at one input shaft diameter from seal. For loads located at other distances, use input load position factor.

Overhung Load Capacity (Lbs.) Unit Size 107-215

Single Reduction Reducers

Output R.P.M.	107_MTP05			
	Thrust Load	OHL at Inches from Machined Housing Surface		
		4	8	12
90	2040	975	802	535
100	1980	943	802	535
110	1920	908	802	535
120	1870	873	772	535
130	1820	858	757	535
140	1796	828	732	535
150	1772	810	715	535
160	1746	792	698	535
170	1707	778	687	535
180	1669	757	668	535
190	1630	747	658	535
200	1608	733	647	535
210	1585	720	635	535
220	1563	707	623	535
230	1540	693	612	530
240	1523	680	600	520
250	1505	672	593	515
260	1488	658	582	505
270	1470	653	577	500
280	1455	648	572	495
290	1440	640	565	490
300	1425	640	565	490
310	1410	640	565	490
320	1400	640	565	490
330	1390	640	565	490
340	1380	640	565	490
350	1370	640	565	490
360	1358	640	565	490
370	1345	640	565	490
380	1333	640	565	490
390	1320	640	565	490
400	1310	640	565	490

Output R.P.M.	115_MTP05			
	Thrust Load	OHL at Inches from Machined Housing Surface		
		4	8	12
90	3190	1208	1067	925
100	3105	1160	1025	890
110	3020	1123	992	860
120	2953	1083	957	830
130	2885	1048	927	805
140	2818	1025	905	785
150	2750	998	882	765
160	2708	972	858	745
170	2662	953	842	730
180	2616	927	818	710
190	2570	913	807	700
200	2538	895	790	685
210	2505	873	772	670
220	2473	860	760	660
230	2440	850	750	650
240	2418	828	732	635
250	2395	815	720	625
260	2373	810	715	620
270	2350	797	703	610
280	2333	783	692	600
290	2315	770	680	590
300	2298	765	675	585
310	2280	748	662	575
320	2265	743	657	570
330	2250	730	645	560
340	2235	725	640	555
350	2220	717	633	550
360	2203	712	628	545
370	2185	698	617	535
380	2168	690	610	530
390	2150	685	605	525
400	2130	677	598	520

Output R.P.M.	203_MTP05			
	Thrust Load	OHL at Inches from Machined Housing Surface		
		4	8	12
90	3620	1525	1350	1175
100	3620	1458	1292	1125
110	3620	1408	1247	1085
120	3620	1363	1207	1050
130	3560	1315	1165	1015
140	3500	1287	1138	990
150	3440	1247	1103	960
160	3380	1212	1073	935
170	3338	1188	1052	915
180	3295	1162	1028	895
190	3253	1135	1005	875
200	3210	1108	982	855
210	3200	1090	965	840
220	3190	1072	948	825
230	3180	1050	930	810
240	3170	1032	913	795
250	3158	1010	895	780
260	3145	1000	885	770
270	3133	978	867	755
280	3120	965	855	745
290	3105	955	845	735
300	3090	942	833	725
310	3075	928	822	715
320	3060	915	810	705
330	3048	902	798	695
340	3035	888	787	685
350	3023	883	782	680
360	3010	870	770	670
370	2995	865	765	665
380	2980	848	752	655
390	2965	843	747	650
400	2950	830	735	640

Output R.P.M.	207_MTP05			
	Thrust Load	OHL at Inches from Machined Housing Surface		
		4	8	12
90	4910	1907	1688	1470
100	4910	1827	1618	1410
110	4910	1755	1555	1355
120	4910	1692	1498	1305
130	4910	1633	1447	1260
140	4818	1580	1400	1220
150	4725	1535	1360	1185
160	4633	1490	1320	1150
170	4540	1450	1285	1120
180	4473	1413	1252	1090
190	4405	1378	1222	1065
200	4338	1347	1193	1040
210	4270	1323	1172	1020
220	4233	1288	1142	995
230	4195	1262	1118	975
240	4158	1238	1097	955
250	4120	1220	1080	940
260	4088	1197	1058	920
270	4055	1178	1042	905
280	4023	1160	1025	890
290	3990	1145	1010	875
300	3950	1127	993	860
310	3910	1105	975	845
320	3870	1078	952	825
330	3830	1060	935	810
340	3793	1042	918	795
350	3755	1020	900	780
360	3718	1002	883	765
370	3680	980	865	750
380	3647	962	848	735
390	3613	948	837	725
400	3580	930	820	710

Output R.P.M.	215_MTP05			
	Thrust Load	OHL at Inches from Machined Housing Surface		
		4	8	12
90	5400	2718	2412	2105
100	5400	2615	2320	2025
110	5400	2520	2235	1950
120	5288	2427	2153	1880
130	5175	2350	2085	1820
140	5063	2278	2022	1765
150	4950	2215	1965	1715
160	4865	2157	1913	1670
170	4780	2107	1868	1630
180	4695	2053	1822	1590
190	4610	2008	1782	1555
200	4573	1963	1742	1520
210	4535	1923	1707	1490
220	4498	1887	1673	1460
230	4460	1855	1645	1435
240	4428	1815	1610	1405
250	4395	2822	2503	2185
260	4363	2790	2475	2160
270	4330	2758	2447	2135
280	4293	2727	2418	2110
290	4255	2700	2395	2090
300	4218	2673	2372	2070
310	4180	2650	2350	2050
320	4147	2623	2327	2030
330	4113	2597	2303	2010
340	4080	2578	2287	1995
350	4047	2552	2263	1975
360	4013	2533	2247	1960
370	3980	2515	2230	1945
380	3947	2493	2212	1930
390	3913	2475	2195	1915
400	3880	2457	2178	1900

Notes: Above thrust and overhung loads are not applicable for combined thrust and overhung loads; refer such applications to Application Engineering (1 800 626 2093).
Interpolate for loads at other distances from the housing surface.
Overhung load must be applied on the same side as the bushing.

Overhung Load Capacity (Lbs.) Unit Size 307-415

Single Reduction Reducers

Output R.P.M.	307_MTP05			
	Thrust Load	OHL at Inches from Machined Housing Surface		
		4	8	12
90	8350	3843	3412	2980
100	8332	3687	3273	2860
110	8121	3538	3142	2745
120	7909	3412	3028	2645
130	7698	3295	2925	2555
140	7487	3192	2833	2475
150	7275	3093	2747	2400
160	7064	3012	2673	2335
170	6853	2927	2598	2270
180	6641	2855	2535	2215
190	6430	2783	2472	2160
200	6219	2720	2415	2110
210	6007	4442	3943	3445
220	5796	4383	3892	3400
230	5585	4328	3842	3355
240	5373	4267	3788	3310
250	5162	4217	3743	3270
260	4951	4172	3703	3235
270	4739	4118	3657	3195
280	4528	4082	3623	3165
290	4317	4037	3583	3130
300	4106	4000	3550	3100
310	3894	3952	3508	3065
320	3683	3920	3480	3040
330	3472	3880	3445	3010
340	3260	3848	3417	2985
350	3049	3817	3388	2960
360	2838	3785	3360	2935
370	2626	3753	3332	2910
380	2415	3722	3303	2885
390	2204	3695	3280	2865
400	1992	3663	3252	2840

Output R.P.M.	315_MTP05			
	Thrust Load	OHL at Inches from Machined Housing Surface		
		4	8	12
90	7019	5493	4887	4280
100	6937	5242	4663	4085
110	6844	5025	4470	3915
120	6734	4832	4298	3765
130	6627	4660	4145	3630
140	6521	4507	4008	3510
150	6414	4363	3882	3400
160	6308	4237	3768	3300
170	6201	4115	3660	3205
180	6095	4003	3562	3120
190	5988	3910	3475	3040
200	5881	3822	3393	2965
210	5775	3738	3317	2895
220	5668	3663	3247	2830
230	5562	3597	3183	2770
240	5455	3523	3117	2710
250	5455	3428	3032	2635
260	5455	3327	2943	2560
270	5455	3245	2870	2495
280	5455	3160	2795	2430
290	5455	3075	2720	2365
300	5455	2995	2650	2305
310	5455	2923	2587	2250
320	5455	2852	2523	2195
330	5455	2788	2467	2145
340	5455	2722	2408	2095
350	5455	2658	2352	2045
360	5455	2600	2300	2000
370	5455	2542	2248	1955
380	5455	2480	2195	1910
390	5455	2430	2150	1870
400	5455	2377	2103	1830

Output R.P.M.	407SMTP05B			
	Thrust Load	OHL at Inches from Machined Housing Surface		
		4	8	12
90	5557	6638	5897	5155
100	5385	6638	5897	5155
110	5238	6490	5765	5040
120	5105	6320	5615	4910
130	4985	6175	5485	4795
140	4930	6040	5365	4690
150	4875	5918	5257	4595
160	4820	5802	5153	4505
170	4765	5698	5062	4425
180	4710	5600	4975	4350
190	4655	5510	4895	4280
200	4600	5428	4822	4215
210	4545	5352	4753	4155
220	4490	5272	4683	4095
230	4435	5200	4620	4040
240	4380	5137	4563	3990
250	4325	5073	4507	3940
260	4270	5015	4455	3895
270	4270	4957	4403	3850
280	4270	4907	4358	3810
290	4270	4853	4312	3770
300	4270	4803	4267	3730
310	4270	4758	4227	3695
320	4270	4713	4187	3660
330	4270	4668	4147	3625
340	4270	4628	4112	3595
350	4270	4592	4078	3565
360	4270	4552	4043	3535
370	4270	4512	4008	3505
380	4270	4475	3975	3475
390	4270	4443	3947	3450
400	4270	4412	3918	3425

Output R.P.M.	415SMTP05B			
	Thrust Load	OHL at Inches from Machined Housing Surface		
		4	8	12
90	12583	13970	12480	10990
100	12479	13400	11970	10540
110	12375	12895	11520	10145
120	12270	12452	11123	9795
130	12166	12050	10765	9480
140	12062	11688	10442	9195
150	11958	11363	10152	8940
160	11853	11065	9885	8705
170	11749	10785	9635	8485
180	11645	10532	9408	8285
190	11541	10297	9198	8100
200	11437	10080	9005	7930
210	11332	9877	8823	7770
220	11228	9678	8647	7615
230	11124	9502	8488	7475
240	11020	9330	8335	7340
250	10915	9172	8193	7215
260	10811	9018	8057	7095
270	10707	8873	7927	6980
280	10603	8738	7807	6875
290	10498	8603	7687	6770
300	10394	8485	7580	6675
310	10290	8363	7472	6580
320	10186	8250	7370	6490
330	10082	8142	7273	6405
340	9977	8042	7183	6325
350	9873	7938	7092	6245
360	9769	7843	7007	6170
370	9665	7748	6922	6095
380	9560	7658	6842	6025
390	9456	7568	6762	5955
400	9352	7487	6688	5890

Notes: Above thrust and overhung loads are not applicable for combined thrust and overhung loads; refer such applications to Application Engineering (1 800 626 2093).
Interpolate for loads at other distances from the housing surface.
Overhung load must be applied on the same side as the bushing.

Overhung Load Capacity (Lbs.) Unit Size 107-215

Double Reduction Reducers

Reducer Size	107_MTP09 107_MTP15 107_MTP25 107_MTP35			
Output R.P.M.	Thrust Load	OHL at Inches from Machined Housing Surface		
		4	8	12
10	2040	1604	802	535
20	2040	1597	802	535
30	2040	1387	802	535
40	2040	1253	802	535
50	2040	1163	802	535
60	2020	1092	802	535
70	1890	1033	802	535
80	1780	988	802	535
90	1670	940	802	535
100	1590	908	802	535
110	1510	873	772	535
120	1475	850	750	535
130	1440	832	733	535
140	1405	805	710	535
150	1370	783	692	535
160	1348	765	675	535
170	1325	752	663	535
180	1303	730	645	535
190	1280	720	635	535
200	1260	707	623	535

Reducer Size	115_MTP09 115_MTP15 115_MTP25 115_MTP35			
Output R.P.M.	Thrust Load	OHL at Inches from Machined Housing Surface		
		4	8	12
10	3190	2677	1964	1309
20	3190	2127	1878	1309
30	3190	1862	1643	1309
40	3190	1683	1487	1290
50	3190	1558	1377	1195
60	3050	1460	1290	1120
70	2910	1383	1222	1060
80	2770	1325	1170	1015
90	2630	1267	1118	970
100	2553	1218	1077	935
110	2475	1182	1043	905
120	2398	1150	1015	880
130	2320	1115	985	855
140	2273	1083	957	830
150	2225	1057	933	810
160	2178	1030	910	790
170	2130	1012	893	775
180	2097	993	877	760
190	2063	972	858	745
200	2030	953	842	730

Reducer Size	203_MTP09 203_MTP15 203_MTP25 203_MTP35			
Output R.P.M.	Thrust Load	OHL at Inches from Machined Housing Surface		
		4	8	12
10	3620	3408	2826	1884
20	3620	2695	2385	1884
30	3620	2328	2062	1795
40	3620	2103	1862	1620
50	3620	1942	1718	1495
60	3425	1808	1602	1395
70	3230	1722	1523	1325
80	3035	1642	1453	1265
90	2840	1570	1390	1210
100	2789	1520	1345	1170
110	2738	1458	1292	1125
120	2687	1413	1252	1090
130	2636	1368	1212	1055
140	2583	1337	1183	1030
150	2517	1297	1148	1000
160	2450	1265	1120	975
170	2383	1238	1097	955
180	2317	1215	1075	935
190	2250	1188	1052	915
200	2200	1162	1028	895

Reducer Size	207_MTP09 207_MTP15 207_MTP25 207_MTP35			
Output R.P.M.	Thrust Load	OHL at Inches from Machined Housing Surface		
		4	8	12
10	4910	4528	3910	2607
20	4910	3545	3140	2607
30	4910	3052	2703	2355
40	4910	2733	2422	2110
50	4910	2508	2222	1935
60	4910	2338	2072	1805
70	4673	2195	1945	1695
80	4435	2087	1848	1610
90	4198	1997	1768	1540
100	3960	1912	1693	1475
110	3790	1840	1630	1420
120	3620	1782	1578	1375
130	3450	1723	1527	1330
140	3280	1670	1480	1290
150	3225	1625	1440	1255
160	3170	1588	1407	1225
170	3115	1548	1372	1195
180	3060	1508	1337	1165
190	3010	1477	1308	1140
200	2960	1445	1280	1115

Reducer Size	215_MTP09 215_MTP15 215_MTP25 215_MTP35			
Output R.P.M.	Thrust Load	OHL at Inches from Machined Housing Surface		
		4	8	12
10	5400	6127	5433	4562
20	5400	4793	4252	3710
30	5400	4120	3655	3190
40	5400	3693	3277	2860
50	5055	3392	3008	2625
60	4710	3158	2802	2445
70	4365	2978	2642	2305
80	4020	2822	2503	2185
90	3900	2700	2395	2090
100	3780	2592	2298	2005
110	3660	2493	2212	1930
120	3540	2408	2137	1865
130	3470	2332	2068	1805
140	3400	2268	2012	1755
150	3330	2202	1953	1705
160	3260	2143	1902	1660
170	3198	2093	1857	1620
180	3135	2048	1817	1585
190	3073	2003	1777	1550
200	3010	1958	1737	1515

Notes: Above thrust and overhung loads are not applicable for combined thrust and overhung loads; refer such applications to Application Engineering (1 800 626 2093).
Interpolate for loads at other distances from the housing surface.
Overhung load must be applied on the same side as the bushing.

Overhung Load Capacity (Lbs.) Unit Size 307-608

Double Reduction Reducers

Reducer Size	307_MTP09 307_MTP15 307_MTP25 307_MTP35			
Output R.P.M.	Thrust Load	OHL at Inches from Machined Housing Surface		
		4	8	12
10	8350	9072	8053	7035
20	8350	7080	6285	5490
30	8350	6100	5415	4730
40	8350	5480	4865	4250
50	8350	5035	4470	3905
60	8350	4693	4167	3640
70	8350	4423	3927	3430
80	8350	4203	3732	3260
90	8350	4018	3567	3115
100	8332	3862	3428	2995
110	8121	3713	3297	2880
120	7909	3587	3183	2780
130	7698	3470	3080	2690
140	7487	3367	2988	2610
150	7275	3268	2902	2535
160	7064	3183	2827	2470
170	6853	3107	2758	2410
180	6641	3035	2695	2355
190	6430	2972	2638	2305
200	6219	2908	2582	2255

Reducer Size	315_MTP09 315_MTP15 315_MTP25 315_MTP35			
Output R.P.M.	Thrust Load	OHL at Inches from Machined Housing Surface		
		4	8	12
10	8840	13882	12348	10815
20	8840	10865	9665	8465
30	8840	9383	8347	7310
40	8840	8447	7513	6580
50	7410	7780	6920	6060
60	6750	7267	6463	5660
70	6220	6853	6097	5340
80	5820	6515	5795	5075
90	5430	6223	5537	4850
100	5210	5983	5322	4660
110	5070	5763	5127	4490
120	4940	5570	4955	4340
130	4820	5403	4807	4210
140	4720	5250	4670	4090
150	4593	5110	4545	3980
160	4476	4980	4430	3880
170	4360	4858	4322	3785
180	4243	4750	4225	3700
190	4126	4655	4140	3625
200	4009	4557	4053	3550

Reducer Size	407SMTP15B 407SMTP25B			
Output R.P.M.	Thrust Load	OHL at Inches from Machined Housing Surface		
		4	8	12
10	9000	11072	9838	8605
20	8298	8022	7128	6235
30	6586	6518	5792	5065
40	4874	5570	4950	4330
50	4344	4900	4355	3810
60	3813	4392	3903	3415
70	3283	3995	3550	3105
80	2931	4017	3566	3115
90	2579	4038	3582	3125
100	2226	4060	3598	3135
110	1874	4082	3613	3145
120	1760	4103	3629	3155
130	1645	4125	3645	3165

Reducer Size	415SMTP15B 415SMTP25B			
Output R.P.M.	Thrust Load	OHL at Inches from Machined Housing Surface		
		4	8	12
10	12200	13575	12075	10575
20	12200	9742	8613	7485
30	12200	7462	6598	5735
40	11700	6055	5355	4655
50	10600	5477	4843	4210
60	9777	5185	4585	3985
70	8953	4948	4377	3805
80	8130	4755	4205	3655
90	7675	4593	4062	3530
100	7220	4450	3935	3420
110	6960	4317	3818	3320
120	6700	4208	3722	3235
130	6440	4110	3635	3160

Reducer Size	507SMTP15B 507SMTP25B			
Output R.P.M.	Thrust Load	OHL at Inches from Machined Housing Surface		
		4	8	12
10	12900	16922	15108	13295
20	12900	12825	11450	10075
30	12900	10830	9670	8510
40	12900	9853	8797	7740
50	12900	9217	8228	7240
60	12300	8725	7790	6855
70	11500	8332	7438	6545
80	10800	7998	7142	6285
90	10100	7727	6898	6070
100	10000	7483	6682	5880
110	9950	7275	6495	5715
120	9900	7082	6323	5565
130	9820	6918	6177	5435

Reducer Size	608SMTP15B 608SMTP25B			
Output R.P.M.	Thrust Load	OHL at Inches from Machined Housing Surface		
		4	8	12
10	22000	30878	27742	24605
20	22000	23938	21507	19075
30	21600	20557	18468	16380
40	19100	18542	16658	14775
50	17600	17343	15582	13820
60	16400	16422	14753	13085
70	15450	15673	14082	12490
80	14500	15060	13530	12000
90	13116	14538	13062	11585
100	11909	14088	12657	11225
110	10703	13693	12302	10910
120	9497	13332	11978	10625
130	8291	13022	11698	10375

Reducer Size	800SMTP25			
Output R.P.M.	Thrust Load	OHL at Inches from Machined Housing Surface		
		4	8	12
10	30360	56746	55828	54910
20	30360	43503	42799	42095
30	29808	37012	36414	35815
40	26358	32916	32383	31850
50	24288	30005	29520	29035
60	22632	27790	27340	26890
70	21321	26023	25602	25180
80	20010	24560	24163	23765

Notes: Above thrust and overhung loads are not applicable for combined thrust and overhung loads; refer such applications to Application Engineering (1 800 626 2093).
Interpolate for loads at other distances from the housing surface.
Overhung load must be applied on the same side as the bushing.

Length Requirements

Front Mounting Configuration with Stabilizer Ring

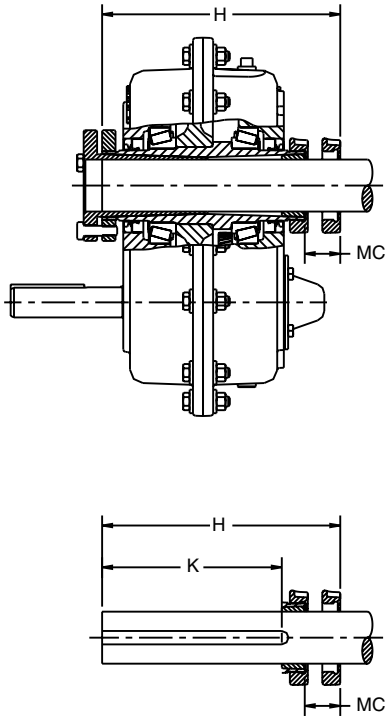


Fig. 1

Unit Size	Endcap Clearance	Minimum Shaft Mounting Length	Minimum Key Connection Length
	MC	H	K*
107	0.97	8.06	3.69
115	1.03	8.59	3.88
203	1.15	9.78	4.32
207	1.21	10.16	4.81
215	1.31	11.36	5.25
307	1.44	13.04	6.31
315	1.69	15.20	7.38
407	-	-	-
415	-	-	-
507	-	-	-
608	-	-	-
800	-	-	-

Rear Mounting Configuration with Stabilizer Ring

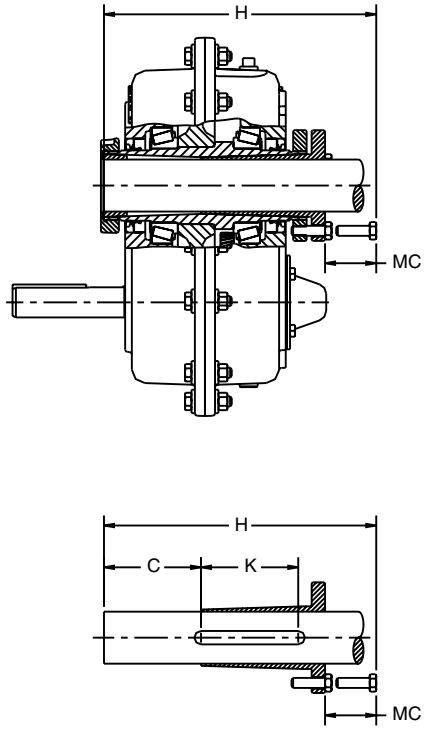


Fig. 2

Unit Size	Bolt Clearance	Minimum Shaft Mounting Length	Minimum Key Connection Length	Remaining Shaft for Stabilizer Ring
	MC	H	K*	C
107	1.75	9.53	3.69	3.40
115	1.88	10.13	3.88	3.62
203	1.88	11.19	4.32	4.19
207	1.88	11.52	4.81	4.01
215	1.88	12.62	5.25	4.61
307	2.25	14.64	6.31	5.01
315	2.75	17.07	7.38	5.76
407	2.75	16.42	6.91	5.54
415	3.25	19.76	8.53	6.51
507	3.75	21.27	9.66	6.27
608	4.25	25.93	10.15	9.68
800	4.50	28.62	10.73	11.12

Rear Mounting Configuration without Stabilizer Ring

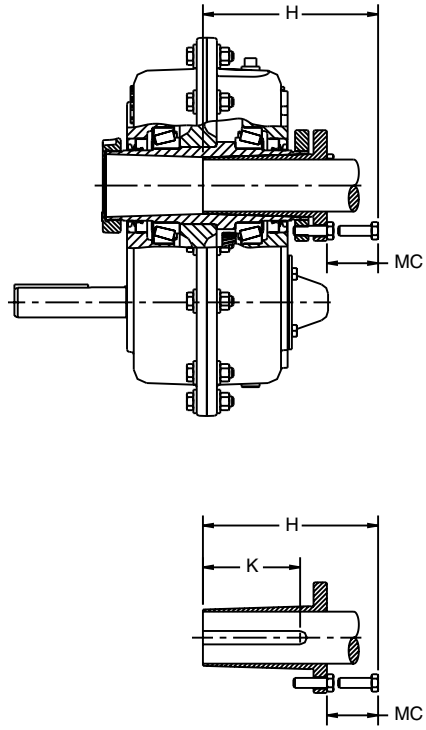


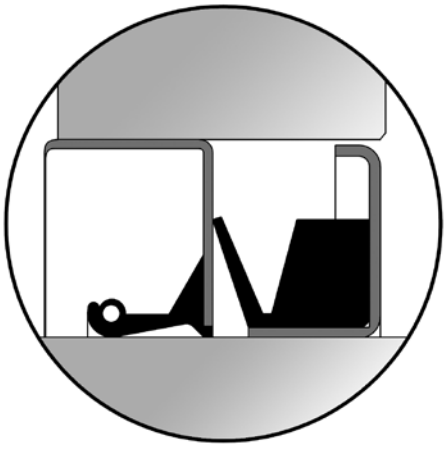
Fig. 3

Unit Size	Bolt Clearance	Minimum Shaft Mounting Length	Minimum Key Connection Length
	MC	H	K*
107	1.75	6.12	3.69
115	1.88	6.50	3.88
203	1.88	7.00	4.32
207	1.88	7.50	4.81
215	1.88	8.00	5.25
307	2.25	9.63	6.31
315	2.75	11.31	7.38
407	2.75	10.88	6.91
415	3.25	13.25	8.53
507	3.75	15.00	9.66
608	4.25	16.25	10.15
800	4.50	17.50	10.73

*K — Minimum key connection length is measured from the end of the driven shaft to the end of the usable keyseat.

Note: 407-800 mounting systems available in rear configuration only. Contact Application Engineering (1 800 626 2093) for front configuration mounting systems on these sizes.

Don't Let An Ounce of Dirt Stop 1,000 Tons of Rock!!

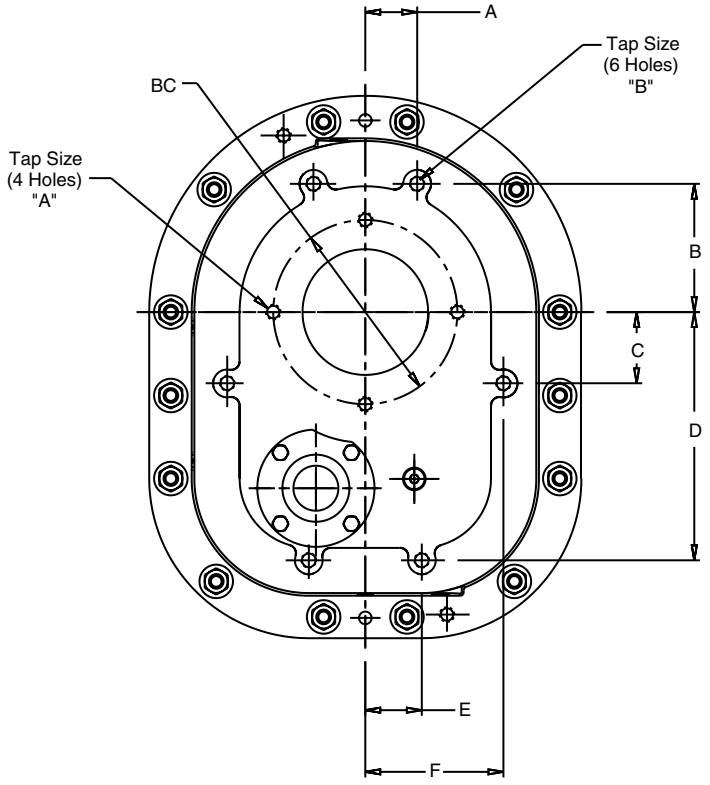


Performance is Our Pledge

Browning Patented Barrier Seal System

Combines a v-ring face seal, grease filled labyrinth and rotating outer flinger to provide triple protection to reduce contamination and oil seal damage. Standard on all shafts.

Face Mounting Drill and Tap Instructions Unit Sizes 107-315



"A" Pre-Machined Face Mount Holes (Machined at Factory)

Reducer Size	Holes	Tap Size	Tap Depth	Drill Depth	BC
107	4	5/16-18	0.63	0.75	4.125
115		3/8-16	0.88	1.13	5.060
203		7/16-14	0.88	1.13	5.500
207		1/2-13	1.06	1.31	6.375
215			0.81	1.13	6.875
307		5/8-11	1.16	1.44	8.375
315			1.25	1.50	9.125

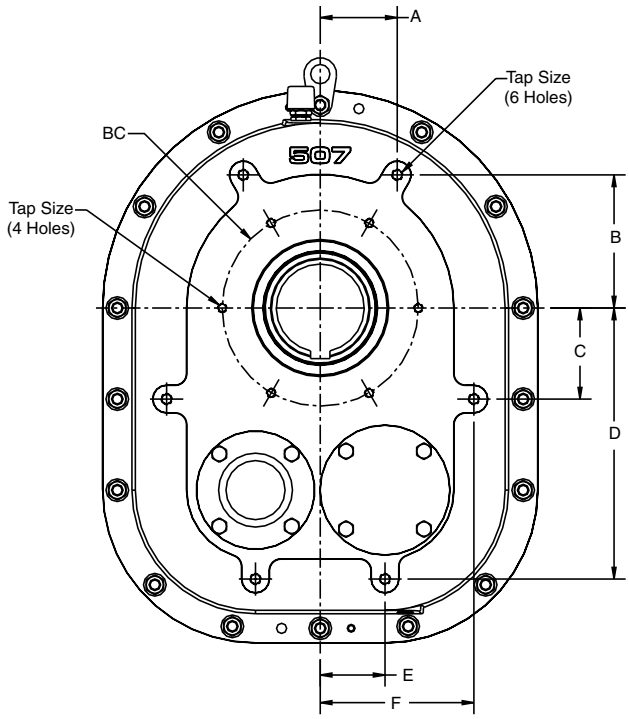
"B" Optional Face Mount Holes (Not Machined)

Reducer Size	A	B	C	D	E	F
107	1.14	2.81	1.59	5.59	1.19	3.00
115	1.27	3.13	1.53	6.41	1.28	3.01
203	1.55	3.83	2.13	7.41	1.69	4.13
207	1.87	4.64	2.66	8.94	1.97	5.00
215	2.15	5.33	2.63	10.38	2.25	5.75
307	2.44	6.02	3.75	11.83	2.63	6.50
315	2.53	6.25	1.81	13.21	2.75	6.75

Reducer Size	Holes	Tap Size	Tap Depth	Drill Depth
107	6	5/16-18	0.56	0.75
115		3/8-16	0.69	0.88
203		7/16-14	0.69	0.88
207			0.81	1.00
215		1/2-13	0.81	1.00
307		5/8-11	1.00	1.19
315				

Notes: No extra charge for drilled and tapped holes. Please specify at time of order.
Full diameter of drill must not exceed specified drill depth because point of drill may break through housing and contaminate the oil with metal chips.

Face Mounting Drill and Tap Instructions Unit Sizes 407-800



"A" Face Mount Holes (Machined at Factory)

Reducer Size	Holes	Tap Size	Tap Depth	Drill Depth	BC
407	6	5/8-11	1.06	1.37	10.125
415			1.12	1.44	12.250
507			1.31	1.63	12.688
608	8	3/4-10	1.56	1.88	15.750
800		7/8-9	2.00	2.25	18.250

"B" Face Mount Holes (Not Machined)

Reducer Size	A	B	C	D	E	F
407	7.48	2.00	4.63	13.86	3.13	7.75
415	8.42	2.25	5.19	15.47	3.63	8.72
507	4.98	8.61	5.89	17.53	4.19	9.94
608	7.5	7.50	6.81	20.00	4.25	10.59
800	9.75	8.13	6.50	20.78	10.41	12.75

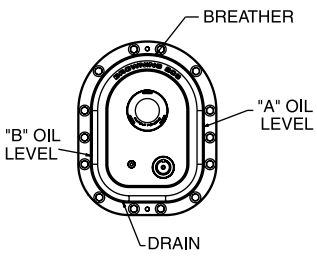
Reducer Size	Holes	Tap Size	Tap Depth	Drill Depth
407	6	3/4-10	1.00	1.19
415				
507				
608			1.38	1.69
800		1-8	1.56	1.88

Notes: No extra charge for drilled and tapped holes. Please specify at time of order.
Full diameter of drill must not exceed specified drill depth because point of drill may break through housing and contaminate the oil with metal chips.

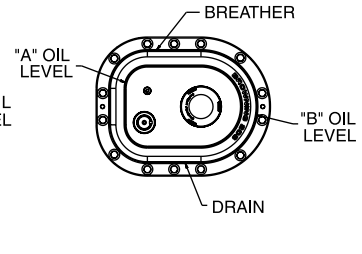
Lubrication Sizes 107-800

The drawing below shows the breather, magnetic drain and oil level plug locations for the standard mounting positions. The breather is installed in the fill hole in the top and the magnetic drain plug is installed in the bottom of the reducer in its relative position. Use oil level “A” for speeds slower than those shown in the table below. Use oil level “B” for speeds faster than those shown in the table below.

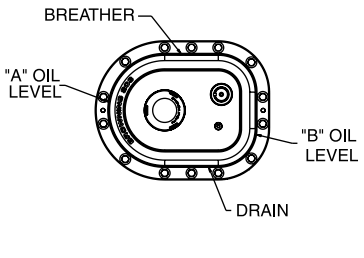
Refer to mounting positions and lubrication tables shown below for proper oil levels on 107-608 sizes.



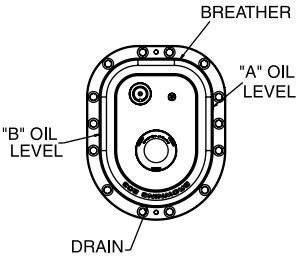
6 O'CLOCK



9 O'CLOCK

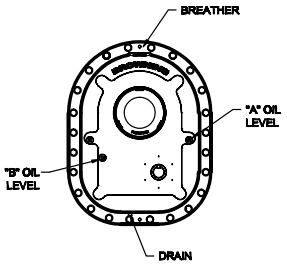


3 O'CLOCK

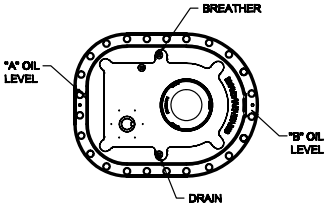


12 O'CLOCK

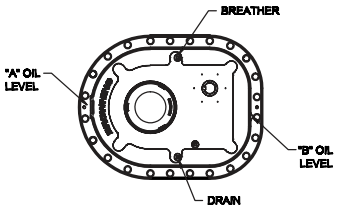
Refer to mounting positions and lubrication tables shown below for proper oil levels on 800SMTP.



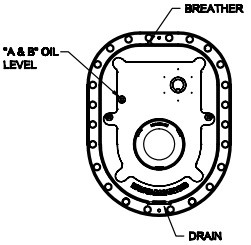
6 O'CLOCK



9 O'CLOCK

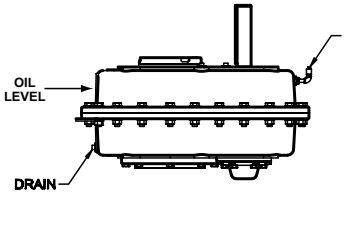


3 O'CLOCK

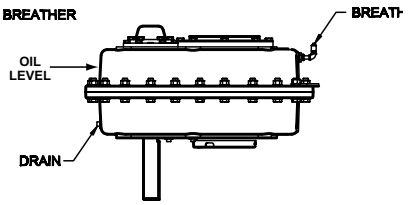


12 O'CLOCK

Vertical shaft mounting positions



INPUT SHAFT UP



INPUT SHAFT DOWN

Lubrication Sizes 107-800

Shaft mount reducers require different amounts of oil in the various mounting positions. For the convenience of having enough oil at the installation site, the table below shows the approximate amount of oil for each mounting position.

Refer to mounting positions and lubrication tables shown below for proper oil levels.

Use Oil Level "B" For Speeds Faster Than Those Shown Below

Reducer Size	Output rpm for Reducer Ratios				
	5:1	9:1	15:1	25:1	35:1
107	400	184	120	70	40
115	382	173	120	70	40
203	326	128	113	70	40
207	275	112	99	70	40
215	236	97	85	70	40
307	204	90	79	70	40
315	202	85	62	70	40
407	176	-	63	55	-
415	156	-	53	46	-
507	-	-	47	41	-
608	-	-	46	40	-
800	-	-	-	40	-

Approximate Oil Capacities in Quarts

Output Orientation	Horizontal															
Ratio	5:1								9,15,25,35:1							
Oil Level	A				B				A				B			
Mounting Position	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
107	2.0	2.0	2.5	2.0	1.0	1.0	1.5	1.5	2.0	2.0	2.0	2.0	1.0	1.0	1.5	1.5
115	3.0	3.0	3.0	3.0	1.5	2.0	2.0	2.0	3.0	3.0	3.0	3.0	1.5	2.0	2.0	2.0
203	5.0	5.0	6.0	5.0	2.5	3.0	3.5	3.5	4.5	4.5	5.5	5.0	2.5	3.0	3.5	3.5
207	6.5	7.0	7.5	7.0	3.0	4.0	4.5	4.5	6.0	6.5	7.5	7.0	3.0	4.0	4.5	4.5
215	9.0	10.0	11.5	10.5	4.0	5.5	7.0	6.0	8.0	9.0	11.0	10.0	4.0	5.0	7.0	6.0
307	13.0	13.5	15.5	14.0	7.0	8.5	10.0	9.5	12.0	12.5	15.0	14.0	7.0	8.0	10.0	9.5
315	17.0	19.5	19.5	17.5	10.0	12.5	13.0	11.0	15.5	18.0	19.0	17.0	9.5	11.5	13.0	11.0
407	19.0	20.1	23.5	19.8	8.4	12.3	13.5	12.7	15.9	17.1	21.7	19.3	7.8	10.3	13.8	12.7
415	32.5	34.0	40.0	34.8	15.3	20.9	23.8	22.5	27.8	29.7	37.5	33.8	14.2	18.0	24.3	22.5
507	-	-	-	-	-	-	-	-	38.3	40.3	52.9	49.4	19.7	23.5	34.8	32.9
608	-	-	-	-	-	-	-	-	55.0	61.5	65.4	68.2	40.3	36.8	50.4	43.9
800	-	-	-	-	-	-	-	-	94.6	90.0	91.0	-	74.3	-	69.5	-

Output Orientation	Vertical			
Ratio	5:1		9,15,25,35:1	
Mounting Position	Input Shaft Up	Input Shaft Down	Input Shaft Up	Input Shaft Down
107	2.5	2.5	2.5	2.5
115	3.5	4.0	3.5	4.0
203	6.0	7.0	6.0	7.0
207	8.5	9.0	8.5	9.0
215	13.0	12.5	12.0	12.0
307	18.5	20.0	17.5	19.0
315	24.0	26.0	22.5	25.0
407	26.5	29.0	24.0	26.5
415	46.3	50.2	42.5	46.3
507	-	-	60.8	65.8
608	-	-	87.9	93.9
800	-	-	144.3	145.3

Notes: Contact Application Engineering (1 800 626 2093) for vertical shaft mounting lubrication instructions.
SMTP, SMFP, HMTP and CMTP reducers are shipped without oil. Gearboxes must be filled to the proper level before operation.
Synthetic or mineral oil may be used in SMTP, SMFP, HMTP and CMTP shaft mount reducers.
For complete lubrication instructions, refer to the installation manual provided with the unit.

Reference page 148 for additional lubrication specifications.

Lubrication Sizes 107-800

NOTICE: Petroleum-based and synthetic lubricants which contain anti-wear/extreme pressure additives must not be used in units with internal backstops. These additives decrease the backstop's ability to prevent reverse rotation and will result in backstop failure.

Note: Reducers operating more than 10° from standard position should have a stand pipe or sight glass installed and marked at proper oil level in order to monitor oil level while in operating position. Contact Application Engineering (1 800 626 2093) Department for assistance in selecting and installing required material.

Relubrication

The following are some general recommendations regarding relubrication. Your experience in your specific application is the best determination of relubrication intervals.

Petroleum-based lubricants

For normal operating conditions, oil should be changed every 2,500 hours or six months, whichever occurs first. If temperatures vary by season, the oil should be changed to suit the ambient operating temperature.

Synthetic Lubricants

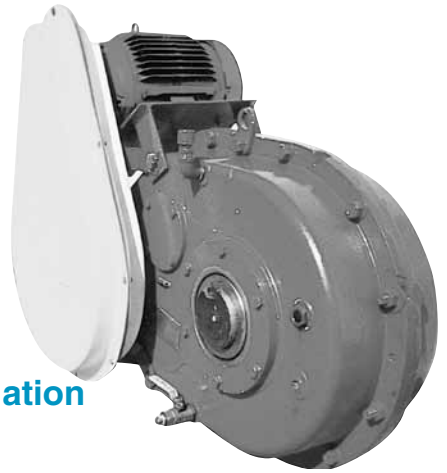
Some type of synthetic lubricants can be used in shaft mount reducers. These lubricants can extend oil change intervals to as much as 8,000 to 10,000 hours based on operating temperatures and lubricant contamination. If temperatures vary by season, the oil should be changed to suit the ambient operating temperature.

Lubrication Sizes 107-800

AGMA Oil Viscosity Grades for Ambient Operating Temperature between 14 deg F and 50 deg F												
Output RPM	Reducer Size											
	107_MTP	115_MTP	203_MTP	207_MTP	215_MTP	307_MTP	315_MTP	407SMTP	415SMTP	507SMTP	608SMTP	800SMTP
5-20	5	5	5	5	5	5	5	5	5	5	5	5
21-40	5	5	5	5	5	5	5	5	5	5	5	5
41-60	5	5	5	5	5	5	5	5	5	5	5	5
61-80	5	5	5	5	5	5	5	5	5	5	5	5
81-100	5	5	5	5	5	5	5	5	5	5	5	
101-120	5	5	5	5	5	5	5	5	5	5	5	
121-140	5	5	5	5	5	5	5	5	5			
141-160	5	5	5	5	5	5	5	5	5			
161-180	5	5	5	5	5	5	5	5	5			
181-200	5	5	5	5	5	5	5	5	5			
201-220	5	5	5	5	5	5	5	5	4			
221-240	5	5	5	5	5	5	5	4	4			
241-260	5	5	5	5	5	5	5	4	4			
261-280	5	5	5	5	5	5	4	4	4			
281-300	5	5	5	5	5	4	4	4	4			
301-320	5	5	5	5	4	4	4	4	4			
321-340	5	5	5	5	4	4	4	4	4			
341-360	5	5	5	5	4	4	4	4	4			
361-380	5	5	5	4	4	4	4	4	4			
381-400	5	5	5	4	4	4	4	4	4			

AGMA Oil Viscosity Grades for Ambient Operating Temperature between 50 deg F and 95 deg F												
Output RPM	Reducer Size											
	107_MTP	115_MTP	203_MTP	207_MTP	215_MTP	307_MTP	315_MTP	407SMTP	415SMTP	507SMTP	608SMTP	800SMTP
5-20	6	6	6	6	6	6	6	6	6	6	6	6
21-40	6	6	6	6	6	6	6	6	6	6	6	6
41-60	6	6	6	6	6	6	6	6	6	6	6	6
61-80	6	6	6	6	6	6	6	6	6	6	6	6
81-100	6	6	6	6	6	6	6	6	6	6	6	
101-120	6	6	6	6	6	6	6	6	6	6	6	
121-140	6	6	6	6	6	6	6	6	6			
141-160	6	6	6	6	6	6	6	6	6			
161-180	6	6	6	6	6	6	6	6	6			
181-200	6	6	6	6	6	6	6	6	5			
201-220	6	6	6	6	6	6	6	5	5			
221-240	6	6	6	6	6	6	5	5	5			
241-260	6	6	6	6	6	6	5	5	5			
261-280	6	6	6	6	6	5	5	5	5			
281-300	6	6	6	6	6	5	5	5	5			
301-320	6	6	6	6	5	5	5	5	5			
321-340	6	6	6	6	5	5	5	5	5			
341-360	6	6	6	6	5	5	5	5	5			
361-380	6	6	6	5	5	5	5	5	5			
381-400	6	6	6	5	5	5	5	5	5			

Features and Ratings



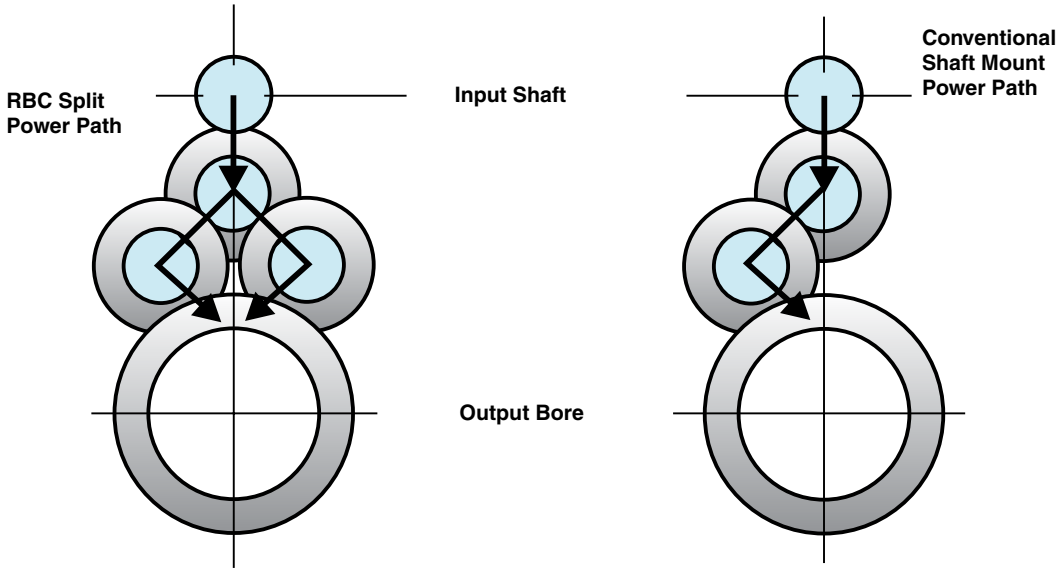
Water treatment maintenance superintendents, design engineers and consultants agree...

Browning products meet all your needs for rotating biological contactor drives.

Specify the Browning solution on your next RBC installation or retrofit.

Superior RBC Drive Solutions

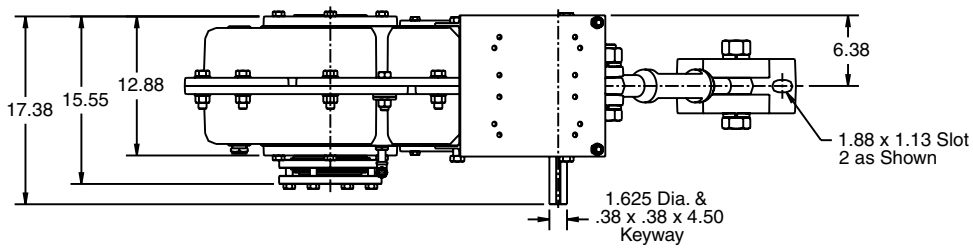
Built Rugged and Dependable for Minimal Maintenance and Downtime

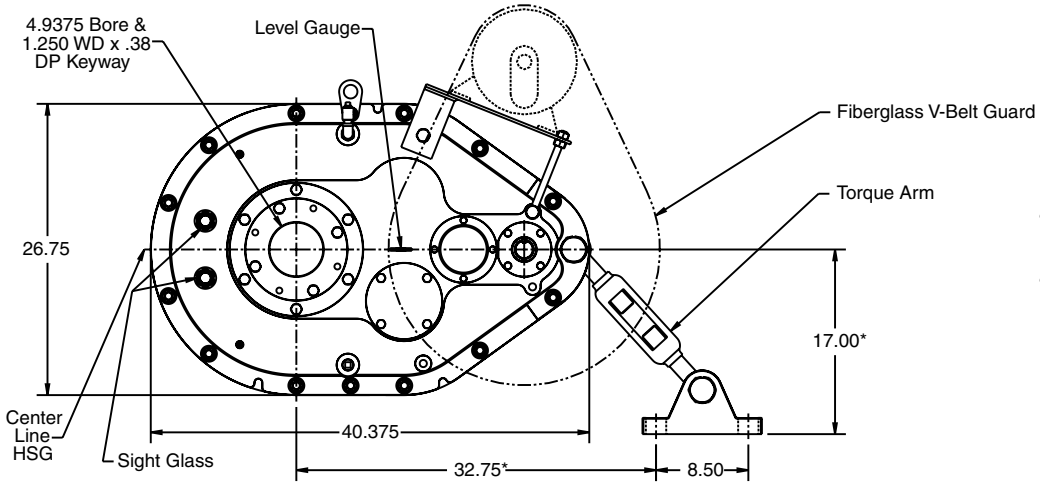


- **Split Power Path Design**
  Provides twice the tooth engagement when compared to conventional drives
- **Leak Free Operation**
  Plunge ground shafts with dual lip oil seals
- **High Quality Bearings**
  100,000 hour B-10 life at 5 hp Class II service
- **Generous Shaft Diameters**
  Support overhung loads generated by V-belt drive assembly
- **Compact design and drop-in features allow for quick replacement of problem drives**
  Universal housings allow for left or right-hand installations
  Reducer, belt guard, torque arm, belt drive and motor are to be ordered separately

Dimensions

Standard Unit





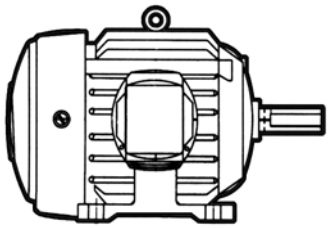
Drive Assembly

- **Tapered Bushed Unit**
  P/N 415SMT148
  includes 4 15/16" tapered bushing and standard motor mount.
- **Straight Bore Unit**
  P/N 415SMF148
  Includes Std. Motor Mount
  Motor mount will accept... 184T, 213T & 254T* frame motors and a V-belt drive CD of 14 to 20"
- **Fiberglass V-Belt Guard**
  P/N BG415-RBC
- **Torque Arm**
  P/N TA415-RBC/1

* If torque arm arrangement is longer than 32.75" in the horizontal, or smaller than 17.00" in the vertical dimension, contact Application Engineering (1 800 626 2093).

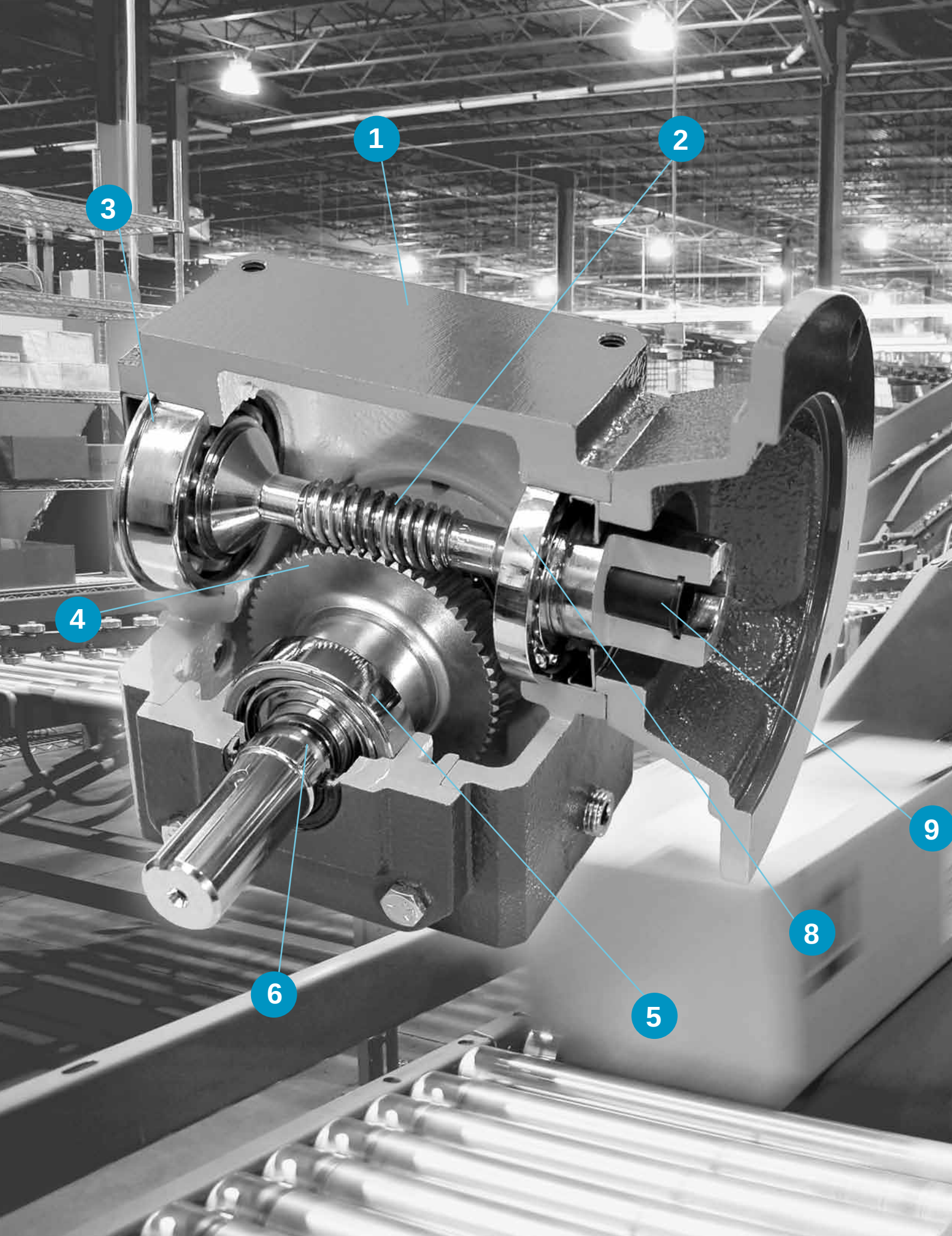
• Hostile duty totally enclosed fan cooled motors

Designed for wastewater treatment plant operation



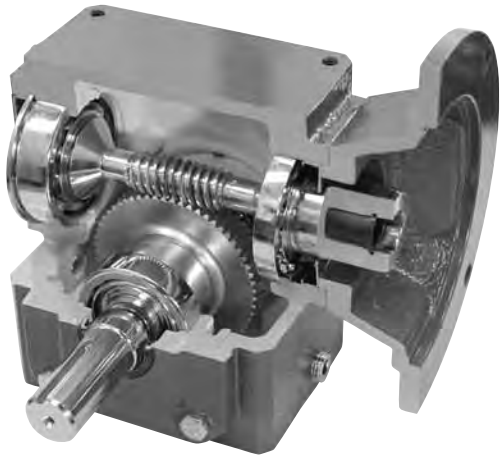
- High efficiency EPAct '92 certified
- Cast iron frames
- Hostile-duty paint
- Stainless steel nameplates

Browning RBC Drive Ratings							
Motor hp/rpm	**Part Number**	**Motor Frame**	**AGMA Service Factor**	**V-Belt Drive Ratio**	**Gear Drive Ratio**	**Final Output Speed**	**Final Output Torque Rating**
5/1150	H5E3D	215T	Class II	5.2:1	148:1	1.5 RPM	199,600 in./lbs.
7.5/1150	H7E3D	254T	Class I	5.2:1	148:1	1.5 RPM	297,400 in./lbs.


1
2
3
4
5
6
8
9



Morse® RAIDER Plus®



Design Features

1. **Rugged Cast Iron Housings**
   - Raider Plus speed reducers incorporate rugged cast iron single piece construction for all housings, motor adapters, covers and mounting bases, providing maximum strength and dependability.
2. **Integral Worm and Shaft**
   - Hardened to 58RC for extra durability and strength.
3. **Large, Single Row Ball Bearings**
   - Absorb radial and thrust loads on higher input speeds for increased efficiency. Tapered roller bearings are used in 375, 450, 516 and 600 units.
4. **Forged Bronze Worm Gears**
   - Provide greater tensile strength than cast bronze, are precision manufactured to AGMA specifications for long, trouble-free operation. Cast iron hubs are used in larger sizes for extra strength.
5. **Heavy-duty Tapered Roller Bearings on all Output Shafts**
   - Effectively handle inherent gear load and provide maximum overhung load capacity.
6. **Double Lip Seals on Emerson Exclusive Sealing Surfaces**
   - Helps keep contaminants out and lubrication in. Provision for an extra seal on both input and output shafts permits additional protection in highly contaminated applications - an exclusive Raider Plus feature.
7. **All Units Factory Filled with Polyglycol Oil**
8. **Bearing on input for support**
9. **Compact C-Face Quill Design**
   - Non-metallic liner to minimize fretting.


1


2


4


5


6


7


8


9



Morse® RAIDER Plus® Accessories





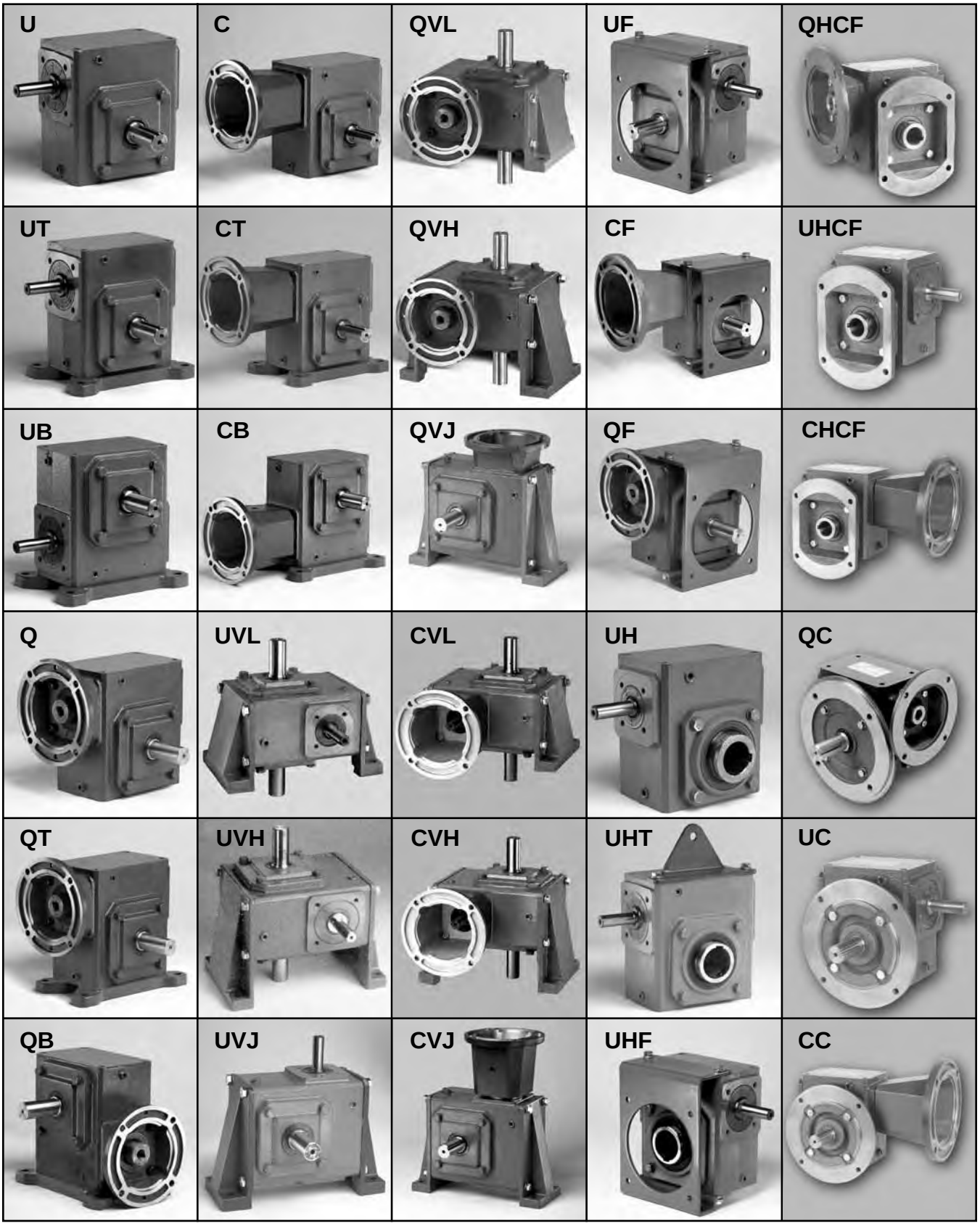


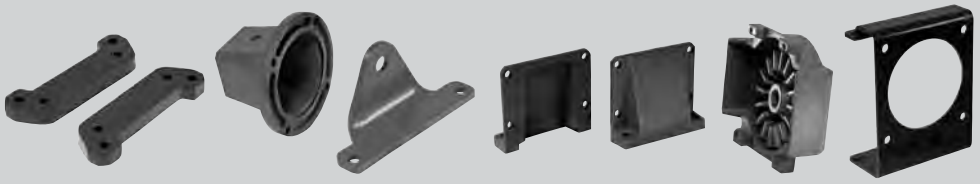
Need a reducer in a hurry? It's never a problem with Raider Plus worm gear speed reducers, because you need only four basic units to serve every conceivable application. Any of the Raider Plus component accessories can be added in just minutes to convert the basic unit to the desired style. That means absolute minimum inventory requirements - at absolute minimum costs!

Design Features

1. **Standard Horizontal Base Kit**
2. **Motor Adapter Kit**
3. **Econo Horizontal Base Kit**
4. **Vertical Low Base Kit**
5. **Vertical High Base Kit**
6. **Vertical "J" Base Kit**
7. **Torque Arm Kit**
8. **Plug In Shaft Kit**
9. **Cast Iron Flange Kit**
10. **Steel Flange Kit**
11. **Riser Block Kit**
12. **Tack on Adapter / C-Face Output Flange Kit**




U
C
QVL
UF
QHCF
UT
CT
QVH
CF
UHCF
UB
CB
QVJ
QF
CHCF
Q
UVL
CVL
UH
QC
QT
UVH
CVH
UHT
UC
QB
UVJ
CVJ
UHF
CC

QH 	UHMT 	CHMB 	QHVH 	QRT 
QHT 	UHMB 	UHVL 	QHVJ 	CRT 
QHF 	QHMT 	UHVH 	CHVL 	QHP 
CH 	QHMB 	UHVJ 	CHVH 	UHP 
CHT 	CHMT 	QHVL 	CHVJ 	CHP 
CHF 	Components 			

The Morse® Worm Gear Speed Reducer can easily be sized and ordered by following these instructions.

Basic Unit and Components

This method of ordering is used when versatility and modularity are desired. It is especially convenient for distributors and customers that want to stock the various basic units and components, so that an almost unlimited number of configurations can be put together. When ordering by this method, the basic unit and components will not be assembled, but will be shipped in separate cartons.

Ordering Steps:

1. Find the desired style to be ordered on pages 170 through 209 in this catalog.

2. Go to the dimension table for the specific style desired and find the “Components” section. The basic unit and component part numbers are shaded for easy reference.

3. Complete the basic unit part number by following the foot note instructions.

4. Order the complete basic unit part number along with the indicated component part numbers that will make up the desired Raider Plus style.

Example: A QT Style, 145TC NEMA frame, 30:1 Ratio, 3.25" C.D., with left output shaft. A standard base kit is also required.

Steps:

1. Go to pages 172 and 173 where style QT will be found.

2. The table on page 173 shows basic unit numbers and dimensions. The table shows components and dimensions for Style QT – with Base – Worm Top.

3. Find the unit size needed which is 325Q140, then complete the Basic Unit part number by adding shaft assembly and ratio symbol to unit size – 325Q140**L30**.

4. Basic unit part number and component part numbers required are:

Reducer:	**325Q140L30**
Base Kit:	**325S-BK**

Part Description Configuration

Center Distance	Type of Input	C Face Size (if applicable)	O.P. Shaft Arrangement	Ratio
133	**Q**	**56**	**LR**	**30**
1.00"=100	U = Universal, Shaft In	42CZ/48C = 40	L = Left Output	5
1.33"=133	**Q = C Face Quilled**	**56C = 56**	R = Right Output	10
1.54"=154		143/145TC = 140	**LR = Left & Right Output**	15
1.75"=175		182/184TC = 180	H = Hollow Output	20
2.06"=206		213/215T = 210		25
2.37"=237				**30**
2.62"=262				40
3.00"=300				50
3.25"=325				60
3.75"=375				
4.50"=450				
5.16"=516				
6.00"=600				

It is recommended to use the above chart to arrive at Raider Plus reducer part description.
The above sample part description is 133Q56LR30. This description does not include feet or other available mounting accessories that are available for the Raider Plus product. These accessories are sold separately using the part descriptions for the appropriate product. Not all ratios are available in each configuration.

Raider Plus units ordered with hollow outputs have a stock bore for each C.D. Bushing kits are available to help reducers fit on shafts that are smaller than the stock bore.

Kit Descriptions

Bushing Kits

203 BU 200
- 200 = I.D.
- BU = Bushing Kit
- 203 = O.D.

NEMA Frame Adapter Kit

375 MAK 56
- 56 = NEMA size 56 C Face
- MAK = Motor Adapter Kit
- 375 = Fits 3.75" C.D. Reducer

Torque Arm Kit

133 H - TAK
- TAK = Torque Arm Kit
- H = Generally used with Hollow Output Reducers (not limited to)
- 133 = Fits 1.33" C.D. Reducer

Adjustable Torque Arm Kit

133-175 ATAK
- ATAK = Adjustable Torque Arm Kit
- 133-175 = Fits Units 1.33"-1.75" C.D.

Fan Kit

375 FAN
- FAN = Fan Kit
- 375 = Fits 3.75" C.D. Reducer

Plug In Shaft

175 H - SK
- SK = Shaft Kit
- H = Hollow Output
- 175 = Fits 1.75" CD Reducer

Cast Iron Flange Kit

175 H - CFK
- CFK = Cast Iron Flange Kit
- H = Hollow Output
- 175 = Fits 1.75" CD Reducer

Econo Base Kit

175 E-BK
- E-BK = Econo Base Kit
- 175 = Fits 1.75" C.D. Reducer

Standard Base Kit

206 S-BK
- S-BK = Standard Base Kit
- 206 = Fits 2.06" C.D. Reducer

Flange Kit

206 H-FK
- FK = Flange Kit
- H = Generally used with Hollow Output Reducers (not limited to)
- 206 = Fits 2.06" C.D. Reducer

Vertical Low Base Kit

262 VL-BK
- VL-BK = Vertical Low Base Kit
- 262 = Fits 2.62" C.D. Reducer

Vertical High Base Kit

262 VH-BK
- VH-BK = Vertical High Base Kit
- 262 = Fits 2.62" C.D. Reducer

Vertical “J” Base Kit

262 VJ-BK
- VJ-BK = Vertical “J” Base Kit
- 262 = Fits 2.62" C.D. Reducer

Solid Base Kit

133 - BKS
- BKS = Base Kit - Solid
- 133 = Fits 1.33" C.D. Reducer

C-Face Output Kit

175 TAD Q140
- Q140 = NEMA Size 140C C-Face Motor Size
- TAD = Tack on Adapter
- 175 = Fits 1.75" CD Reducer

Selection Procedure of Raider Plus Worm Gear Speed Reducers

1. Determine Service Factor
From service factor tables on pages 162 and 163 determine service factor for the application.

2. Determine the Overall Drive Ratio

$$\text{Overall Drive Ratio} = \frac{\text{rpm of driver}}{\text{rpm of driven}}$$

When over-all drive ratio is not one of the stock speed reducer ratios shown in tables on page 170 through 209, a chain, belt, or gear drive with further reduction for either the input or output side will be necessary.

3. Determine Equivalent hp or Normal Torque

A. Horsepower Method:

Equivalent hp = Actual Motor hp × Service Factor (Step # 1)

B. Torque Method:

Normal Torque = Actual Torque × Service Factor (Step # 1)

4. Determine the Size of Speed Reducer Required

A. Horsepower Method:

Refer to pages 164 through 168 and select a speed reducer having a mechanical input horsepower equal to or slightly greater than the equivalent hp calculated in Step No. 3 above.

B. Torque Method:

Refer to pages 164 to 168 and select a speed reducer having a mechanical output torque rating equal to or slightly greater than the normal torque calculated in Step No. 3 above. If the required input and output speeds are not listed in these tables, the ratings can be determined by straight line interpolation. When the input speed is less than 100 rpm, ratings for 100 rpm must be used.

5. Check the Thermal Rating
The Thermal Rating is the maximum input horsepower or output torque that can be transmitted continuously without exceeding a 100° F temperature rise over ambient. The thermal rating should not be exceeded. Service Factors are not applied to Thermal Ratings.
It is not necessary to check thermal ratings when the reducer does not operate more than 1/2 hour at a time and is shut down for a minimum period equal to the running time.

A. Horsepower Method:

Check the actual motor hp against the thermal input hp ratings (see pages 164 to 168), and if the motor hp is greater, select either a unit with a fan and/or a larger speed reducer so that the thermal rating is greater than the actual hp.

B. Torque Method:

Check the actual torque against the thermal output ratings (see pages 164 to 168), and if the actual torque is greater, select a unit with a fan and/or a larger speed reducer so that the thermal rating is greater than the actual torque.

6. Determine the Motor Horsepower

Use the following equation when motor hp is not known:

$$\text{Motor Horsepower} = \frac{\text{Actual Torque} \times \text{Thermal Input hp}}{\text{Thermal Output Torque}}$$

7. Check the Overhung Load and Thrust Loads
Calculate the overhung load for drives to be mounted directly on the reducer shafts by following instructions on page 33. Check this and any existing thrust loads against the load values shown on pages 164 to 168, and if the calculated load is greater than the values in the table, select a larger speed reducer.

Note: Refer combined overhung and thrust loads to Application Engineering (1 800 626 2093).

Example No. 1 - Horsepower Method

Select a worm gear speed reducer for a dough mixer in a bakery. The speed reducer will be driven by a 1.0 hp, 1750 rpm, 56 Frame, C-Face Motor. The left reducer output shaft will be directly coupled to the mixer shaft. The mixer will operate 8 - 10 hours daily and the shaft speed is 58 rpm. The reducer also requires a horizontal mounting base with the worm on top.

1. Determine the Service Factor
From the table on page 162, note that the service factor for a dough mixer (Food Industry) operating 3 - 10 hours per day is 1.25.

2. Determine the Overall Drive Ratio

$$\text{Overall Drive Ratio} = \frac{\text{rpm of Driver}}{\text{rpm of Driven}} = \frac{1750}{58} = 30.17$$

Since there is not an auxiliary input or output drive required, the reducer ratio needed is 30:1.

3. Determine Equivalent Horsepower

$$\text{Equivalent hp} = \text{Actual Motor hp} \times \text{S F} =$$

$$1.0 \times 1.25 = 1.25 \text{ hp}$$

4. Determine the Size of Speed Reducer Required
From page 164 under “1750 rpm Driver -30:1 Ratio - 58.3 rpm Output” and under “Input hp Mechanical” find the rating equal to or greater than the 1.25 equivalent hp calculated in Step No. 3. Note that a 237 reducer has mechanical rating of 1.45 hp. The correct part numbers required are:

Reducer: **237Q56L30**
Base Kit: **237S-BK**

5. Check the Thermal Rating
From the rating tables on page 164, read to the right and note the Thermal hp is 1.24 hp, which is greater than the motor horsepower (1.0 hp), therefore, the unit is not thermally limited.

6. Determine the Motor Horsepower
The motor horsepower is already known to be 1.0 hp.

7. Check Overhung Load and Thrust Loads
The unit will be coupling connected on the output shaft. Overhung load does not need to be calculated. There is not any thrust on the output shaft. There is neither thrust nor overhung load on the input shaft because it is mated with a C-Face motor. Therefore, the reducer selected is the proper size.

Example No. 2 - Torque Method

Select a worm gear speed reducer for a belt conveyor (general purpose), not uniformly fed. The speed reducer will be driven by a 1750 rpm electric motor directly connected by a coupling, with a 1.23:1 ratio chain drive from the reducer to the head shaft of the conveyor. The pitch diameter of the driver sprocket mounted on the reducer output shaft is 5.032 inches. The conveyor will operate 10 hours per day, and the head shaft speed is 140 rpm. The reducer will also require a horizontal mounting base with the worm on top. Conveyor calculations indicate that 1710 inch pounds of torque is needed at the conveyor head shaft.

1. Determine the Service Factor

From the table on page 162, note that the service factor for a belt conveyor (general purpose) operating 3 - 10 hours per day is 1.25.

2. Determine the Overall Drive Ratio

$$\text{Overall Drive Ratio} = \frac{\text{rpm of Driver}}{\text{rpm of Driven}} = \frac{1750}{140} = 12.5 : 1$$

$$\text{Speed Reducer Ratio} = \frac{\text{Overall Drive Ratio}}{\text{Chain Drive Ratio}} = \frac{12.5}{1.23} = 10.16 : 1$$

3. Determine the Normal Torque

The normal torque required for reducer selection is the actual torque required at the reducer output shaft. Therefore, we must convert the 1710 inch pounds of actual torque at the conveyor head shaft to the actual required torque at the reducer output shaft, and then multiply by the service factor.

Actual Torque at Reducer Output Shaft =

$$\frac{\text{Actual Torque At Conveyor Head Shaft}}{\text{Chain Drive Ratio}} = \frac{1710}{1.23} = 1{,}390 \text{ In/lbs.}$$

Normal Torque =

Actual Reducer Output Torque × S F =

1,390 × 1.25 = 1738 in/lbs.

4. Determine the Size of Speed Reducer Required

From page 164 under “1750 rpm Driver - 10 to 1 ratio - 175 rpm Driven” and under “Mechanical Output Torque” find the rating equal to or greater than the 1738 inch-pounds normal torque calculated in step no. 3. Note that a 3.00 inch center distance reducer has a mechanical rating of 2004 inch-pounds.

5. Check the Thermal Rating

From the rating table on page 164, read to the right and note the thermal torque for a 3.00 inch C.D. reducer is 2004 inch-pounds, which is greater than the actual torque at the reducer output shaft (1,390 inch-pounds) calculated in step no. 3. Therefore, a 3.00 inch C.D. unit, which has a thermal rating of 2004 inch-pounds, can be used.

The correct part numbers required are:

Reducer: **300ULR10**
Base Kit: **300S-BK**

6. Determine the Motor Horsepower

$$\text{Motor Horsepower} = \frac{\text{Actual Torque X Thermal Input hp}}{\text{Thermal Output Torque}}$$

$$= \frac{1{,}390 \times 5.25}{2004}$$

$$= 3.64$$

Use a 5 horsepower motor.

7. Check Overhung and Thrust Loads

$$\text{OL (See below)} = \frac{2 \times T \times K}{\text{P.D. of Sprocket}}$$

$$= \frac{2 \times 1390 \times 1.0}{5.032}$$

$$= 552.50 \text{ Pounds}$$

From rating table on page 164, note the maximum overhung load for the output shaft of the 300ULR10 reducer is 987 lbs., which is greater than the calculated load on shaft of 553 lbs. There is no thrust on the output shaft. There is neither thrust or overhung load on the input shaft because it is direct couple connected. The reducer selection size is ample.

Overhung Loads

When a speed reducer is driven by any belt, chain or gear drive, or when the speed reducer drives a driven unit through a belt, chain or gear drive, overhung loads must not exceed those shown on pages 164 through 168. Use the following formula to calculate the overhung loads:

$$OL = \frac{2TK}{D}$$

where

OL	=	Overhung Load	
T	=	Actual Shaft Torque (inch-pounds)	
D	=	P. D. of Sprocket, Sheave , Pulley or Gear	
K	=	1.0	for Chain Drive
	=	1.25	for Gear Drive
	=	1.25	for Gearbelt Drive
	=	1.50	for V-Belt Drive
	=	2.50	for Flat Belt Drive

No overhung loads are encountered when the speed reducer is coupling connected to the driver and/or driven machine. However, care should be taken in aligning the shafts to avoid pre-loading bearings in misalignment.

Enclosed Worm Gear Applications

(Service factors shown apply only if electric or hydraulic motors are used. For single or multi-cylinder engines, see table on next page for conversion.)

APPLICATION	Up to 3 Hrs. Day	3-10 Hrs. Day	Over 10 Hrs. Day
AGITATORS (Mixers)			
Pure Liquids	–	1.00	1.25
Liquids and Solids	1.00	1.25	1.50
Liquids-Variable Density	1.00	1.25	1.50
BLOWERS			
Centrifugal	1.00	1.25	–
Lobe	1.00	1.25	1.50
Vane	–	1.00	1.25
BREWING AND DISTILLING			
Bottling Machinery	–	1.00	1.25
Brew Kettles, Continuous Duty	–	1.00	1.25
Cookers, Continuous Duty	–	1.00	1.25
Mash Tubs, Continuous Duty	–	1.00	1.25
Scale Hopper, Frequent Starts	1.00	1.25	1.50
CAN FILLING MACHINES	–	1.00	1.25
CAR DUMPERS	1.25	1.50	1.75
CAR PULLERS	1.00	1.25	1.50
CLARIFIERS	–	1.00	1.25
CLASSIFIERS	1.00	1.25	1.50
CLAY WORKING MACHINERY			
Brick Press	1.25	1.50	1.75
Briquette Machine	1.25	1.50	1.75
Pug Mill	1.00	1.25	1.50
COMPACTORS	1.50	1.75	2.00
COMPRESSORS			
Centrifugal	–	1.00	1.25
Lobe	1.00	1.25	1.50
Reciprocating, Multi-Cylinder	1.00	1.25	1.50
Reciprocating, Single-Cylinder	1.25	1.50	1.75
CONVEYORS - GENERAL PURPOSE			
Uniformly Loaded or Fed	–	1.00	1.25
Not Uniformly Fed	1.00	1.25	1.50
Reciprocating or Shaker	1.25	1.50	1.75
CRANES			
Dry Dock			
Main Hoist	1.25	1.50	1.75
Auxiliary	1.25	1.50	1.75
Boom Hoist	1.25	1.50	1.75
Slewing Drive	1.25	1.50	1.75
Traction Drive	1.50	1.50	1.50
Container			
Main Hoist	Refer To Application Engr.		
Boom Hoist	Refer To Application Engr.		
Trolley Drive (Gantry Drive)	Refer To Application Engr.		
(Traction Drive)	Refer To Application Engr.		
Mill Duty			
Main Hoist	Refer To Application Engr.		
Auxiliary	Refer To Application Engr.		
Bridge and Trolley Travel	Refer To Application Engr.		
Industrial Duty			
Main	1.00	1.25	1.50
Auxiliary	Refer To Application Engr.		
Bridge and Trolley Travel	Refer To Application Engr.		
CRUSHER			
Stone or Ore	1.50	1.75	2.00
DREDGES			
Cable Reels	1.00	1.25	1.50
Conveyors	1.00	1.25	1.50
Cutter Head Drives	1.25	1.50	1.75
Pumps	1.00	1.25	1.50
Screen Drives	1.25	1.50	1.75
Stackers	1.00	1.25	1.50
Winches	1.00	1.25	1.50
ELEVATORS			
Bucket	1.00	1.25	1.50
Centrifugal Discharge	–	1.00	1.25
Escalators	Refer To Application Engr.		
Freight	Refer To Application Engr.		
Gravity Discharge	–	1.00	1.25
EXTRUDERS			
General	1.25	1.25	1.25
Plastics			
(a) Variable Speed Drive	1.50	1.50	1.50
(b) Fixed Speed Drive	1.75	1.75	1.75
Rubber			
(a) Continuous Screw Operation	1.50	1.50	1.50
(b) Intermittent Screw Operation	1.75	1.75	1.75

APPLICATION	Up to 3 Hrs. Day	3-10 Hrs. Day	Over 10 Hrs. Day
FANS			
Centrifugal	–	1.00	1.25
Cooling Towers	Refer To Application Engr.		
Forced Draft	1.25	1.25	1.25
Induced Draft	1.00	1.25	1.50
Industrial & Mine	1.00	1.25	1.50
FEEDERS			
Apron	–	1.25	1.50
Belt	1.00	1.25	1.50
Disc	–	1.00	1.25
Reciprocating	1.25	1.50	1.75
Screw	1.00	1.25	1.50
FOOD INDUSTRY			
Cereal Cooker	–	1.00	1.25
Dough Mixer	1.00	1.25	1.50
Meat Grinders	1.00	1.25	1.50
Slicers	1.00	1.25	1.50
GENERATORS AND EXCITERS	–	1.00	1.25
HAMMER MILLS	1.50	1.50	1.75
HOISTS			
Heavy Duty	1.25	1.50	1.75
Medium Duty	1.00	1.25	1.50
Skip Hoist	1.00	1.25	1.50
LAUNDRY TUMBLERS	1.00	1.25	1.50
LAUNDRY WASHERS	1.25	1.25	1.50
LUMBER INDUSTRY			
Barkers			
-Spindle Feed	1.25	1.25	1.25
- Main Drive	1.50	1.50	1.50
Conveyors			
- Burner	1.25	1.25	1.50
- Main or Heavy Duty	1.50	1.50	1.50
- Main Log	1.50	1.50	1.50
- Re-saw, Merry-Go-Round	1.25	1.25	1.50
- Slab	1.50	1.50	1.75
- Transfer	1.25	1.25	1.50
Chains			
- Floor	1.50	1.50	1.50
- Green	1.50	1.50	1.50
Cut-Off Saws			
- Chain	1.50	1.50	1.50
- Drag	1.50	1.50	1.50
Debarking Drums	1.50	1.50	1.75
Feeds			
- Edger	1.25	1.25	1.50
- Gang	1.50	1.50	1.50
- Trimmer	1.25	1.25	1.50
Log Deck	1.50	1.50	1.50
Log Hauls-Incline-Well Type	1.50	1.50	1.50
Log Turning Devices	1.50	1.50	1.50
Planer Feed	1.25	1.25	1.50
Planer Tilting Hoists	1.50	1.50	1.50
Rolls-Live-off Brg.-Roll Cases	1.50	1.50	1.50
Sorting Table	1.25	1.25	1.50
Tipple Hoist	1.25	1.25	1.50
Transfers			
- Chain	1.50	1.50	1.50
- Causeway	1.50	1.50	1.50
Tray Drives	1.25	1.25	1.50
Veneer Lathe Drives	Refer To Application Engr.		
METAL MILLS			
Draw Bench Carriage and Main Drive	1.00	1.25	1.50
Runout Table			
Non-reversing			
Group Drives	1.00	1.25	1.50
Individual Drives	1.50	1.50	1.75
Reversing	1.50	1.50	1.75
Slab Pushers	1.25	1.25	1.50
Shears	1.50	1.50	1.75
Wire Drawing	1.00	1.25	1.50
Wire Winding Machine	1.00	1.25	1.50
METAL STRIP PROCESSING MACHINERY			
Bridles	1.25	1.25	1.50
Coilers & Uncoilers	1.00	1.00	1.25
Edge Trimmers	1.00	1.25	1.50
Flatteners	1.00	1.25	1.50
Loopers(Accumulators)	1.00	1.00	1.00
Pinch Rolls	1.00	1.25	1.50
Scrap Choppers	1.00	1.25	1.50
Shears	1.50	1.50	1.75
Slitters	1.00	1.25	1.50

Enclosed Worm Gear Applications

APPLICATION	Up to 3 Hrs. Day	3-10 Hrs. Day	Over 10 Hrs. Day
MILLS, ROTARY TYPE			
Ball & Rod			
Spur Ring Gear	1.50	1.50	1.75
Helical Ring Gear	1.50	1.50	1.50
Direct Connected	1.50	1.50	1.75
Cement Kilns	1.50	1.50	1.50
Dryers & Coolers	1.50	1.50	1.50
MIXERS, CONCRETE	1.00	1.25	1.50
PAPER MILLS			
Agitator(Mixer)	1.50	1.50	1.50
Agitator for Pure Liquids	1.25	1.25	1.25
Barking Drums	1.75	1.75	1.75
Barkers - Mechanical	1.75	1.75	1.75
Beater	1.50	1.50	1.50
Breaker Stack	1.25	1.25	1.25
❖ Calender	1.25	1.25	1.25
Chipper	1.75	1.75	1.75
Chip Feeder	1.50	1.50	1.50
Coating Rolls	1.25	1.25	1.25
Conveyors			
Chip, Bark, Chemical	1.25	1.25	1.25
Log(Including Slab)	1.75	1.75	1.75
Couch Rolls	1.25	1.25	1.25
Cutter	1.75	1.75	1.75
Cylinder Molds	1.25	1.25	1.25
❖ Dryers			
Paper Machine	1.25	1.25	1.25
Conveyor Type	1.25	1.25	1.25
Embosser	1.25	1.25	1.25
Extruder	1.50	1.50	1.50
Fourdrinier Rolls (Includes Lump Breaker, Dandy Roll, Wire Turning, and Return Rolls)	1.25	1.25	1.25
Jordan	1.25	1.25	1.25
Kiln Drive	1.50	1.50	1.50
Mt. Hope Roll	1.25	1.25	1.25
Paper Rolls	1.25	1.25	1.25
Platter	1.50	1.50	1.50
Presses- Felt & Suction	1.25	1.25	1.25
Pulper	1.50	1.50	1.75
Pumps- Vacuum	1.50	1.50	1.50
Reel (Surface Type)	1.25	1.25	1.50
Screens			
Chip	1.50	1.50	1.50
Rotary	1.50	1.50	1.50
Vibrating	1.75	1.75	1.75
Size Press	1.25	1.25	1.25
Super Calender (See Note)	1.25	1.25	1.25
Thickener			
(AC Motor)	1.50	1.50	1.50
(DC Motor)	1.25	1.25	1.25
Washer			
(AC Motor)	1.50	1.50	1.50
(DC Motor)	1.25	1.25	1.25
Wind and Unwind Stand	1.00	1.00	1.00
Winders (Surface Type)	1.25	1.25	1.25
❖ Yankee Dryers	1.25	1.25	1.25
PLASTICS INDUSTRY - PRIMARY PROCESSING			
Intensive Internal Mixers			
(a) Batch Mixers	1.75	1.75	1.75
(b) Continuous Mixers	1.50	1.50	1.50
Batch Drop Mill - 2 Smooth Rolls	1.25	1.25	1.25
Continuous Feed, Holding & Blend Mill	1.25	1.25	1.25
Compounding Mills	1.25	1.25	1.25
Calenders	1.50	1.50	1.50
PLASTICS INDUSTRY - SECONDARY PROCESSING			
Blow Molders	1.50	1.50	1.50
Coating	1.25	1.25	1.25
Film	1.25	1.25	1.25
Pipe	1.25	1.25	1.25
Pre-Plasticizers	1.50	1.50	1.50
Rods	1.25	1.25	1.25
Sheet	1.25	1.25	1.25
Tubing	1.25	1.25	1.50
PULLERS - BARGE HAUL	1.00	1.50	1.75
PUMPS			
Centrifugal	–	1.00	1.25
Proportioning	1.00	1.25	1.50
Reciprocating			
Single Acting, 3 or More Cylinders	1.00	1.25	1.50
Double Acting, 2 or More Cylinders	1.00	1.25	1.50
Rotary			
- Gear Type	–	1.00	1.50
- Lobe	–	1.00	1.25
- Vane	–	1.00	1.25
RUBBER INDUSTRY			
Intensive Internal Mixers			
(a) Batch Mixers	1.50	1.75	1.75
(b) Continuous Mixers	1.25	1.50	1.50
Mixing Mill - 2 Smooth Rolls - (If corrugated rolls are used, then use the same service factors that are used for a Cracker-Warmer)	1.50	1.50	1.50
Batch Drop Mill - 2 Smooth Rolls	1.50	1.50	1.50
Cracker Warmer - 2 Roll: 1 Corrugated Roll	1.75	1.75	1.75
Cracker - 2 Corrugated Rolls	1.75	1.75	1.75

APPLICATION	Up to 3 Hrs. Day	3-10 Hrs. Day	Over 10 Hrs. Day
RUBBER INDUSTRY (Cont'd.)			
Holding, Feed and Blend Mill - 2 Rolls	1.25	1.25	1.25
Refiner - 2 Rolls	1.50	1.50	1.50
Calenders	1.50	1.50	1.50
SAND MILLER	1.00	1.25	1.50
SEWAGE DISPOSAL EQUIPMENT			
Bar Screens	–	1.00	1.25
Chemical Feeders	–	1.00	1.25
SEWAGE DISPOSAL EQUIPMENT (Cont'd.)			
Dewatering Screens	1.00	1.25	1.50
Scum Breakers	1.00	1.25	1.50
Slow Or Rapid Mixers	1.00	1.25	1.50
Sludge Collectors	1.00	1.00	1.25
Thickener	1.00	1.25	1.50
Vacuum Filters	1.00	1.25	1.50
SCREENS			
Air Washing	–	1.00	1.25
Rotary - Stone Or Gravel	1.00	1.25	1.50
Traveling Water Intake	–	1.00	1.25
SUGAR INDUSTRY			
Beet Slicer	1.50	1.50	1.75
Cane Knives	1.50	1.50	1.50
Crushers	1.50	1.50	1.50
Mills (Low Speed End)	1.50	1.50	1.50
TEXTILE INDUSTRY			
Batchers	1.00	1.25	1.50
Calenders	1.00	1.25	1.50
Cards	1.00	1.25	1.50
Dry Cans	1.00	1.25	1.50
Dryers	1.00	1.25	1.50
Dyeing Machinery	1.00	1.25	1.50
Looms	1.00	1.25	1.50
Mangles	1.00	1.25	1.50
Nappers	1.00	1.25	1.50
Pads	1.00	1.25	1.50
Slashers	1.00	1.25	1.50
Soapers	1.00	1.25	1.50
Spinners	1.00	1.25	1.50
Tenter Frames	1.00	1.25	1.50
Washers	1.00	1.25	1.50
Winders	1.00	1.25	1.50

❖ Anti-Friction Bearings Only.

Note: A Service Factor of 1.0 may be applied at the base of a super calender, operating over a speed range where part of the range is constant horsepower and part of the range is constant torque, provided that the constant horsepower part is greater than 1.5 to 1. A service factor of 1.25 is applicable to super calenders operating over the entire speed range at constant torque, or where the constant horsepower speed range is less than 1.5 to 1.

Service Factors for Electric and Hydraulic Motors

(For Service Factors For Single Or Multi-Cylinder Engines, see below)

Duration of Service (Hours Per Day)	Uniform Load	Moderate Shock	Heavy Shock	Extreme Shock
Occasional 1/2 Hour	–	–	1.0	1.25
Less Than 3 Hours	1.0	1.0	1.25	1.50
3 - 10 Hours	1.0	1.25	1.50	1.75
Over 10 Hours	1.25	1.50	1.75	2.00

Conversion Table for Single or Multi-Cylinder Engines to find Equivalent Single or Multi-Cylinder Service Factors

Hydraulic or Electric Motor	Single Cylinder Engines	Multi-Cylinder Engines
1.00	1.50	1.25
1.25	1.75	1.50
1.50	2.00	1.75
1.75	2.25	2.00
2.00	2.50	2.25

Load and operating characteristics of both the driver and driven units must be considered throughly when selecting speed reducers. It is essential that all speed reducers be selected for maximum load conditions to be encountered. Worm gear speed reducers will safely transmit momentary starting loads as great as 300% of the mechanical input ratings.

Input Horsepower, Output Torque, Overhung Load and Thrust Load for Raider Plus Single Reduction Worm Gear Speed Reducers

Unit Size ■	Mechanical		Thermal		Maximum Overhung Lbs.	Max Thrust LoadLbs.
	Input hp	Output Torque	Input hp	Output Torque	Output Shaft	Output Shaft
1750 rpm Driver - 5:1 Ratio-350 pm Output						
100	0.58	94	0.58	94	147	◗
133	1.28	210	1.28	210	458	811
154	1.66	276	1.66	276	388	806
175	2.45	405	2.00	331	663	868
206	3.50	587	2.81	470	913	1265
237	5.11	861	3.98	672	843	1379
262	6.19	1045	4.68	790	1295	1596
300	9.46	1604	8.99	1524	987	2692
1750 rpm Driver - 10:1 Ratio-175 rpm Output						
100	0.37	117	0.37	117	147	◗
133	0.77	246	0.77	246	458	1001
154	1.06	339	1.06	339	388	1001
175	1.52	493	1.50	459	740	1098
206	2.24	731	2.00	653	1078	1580
237	3.34	1095	2.66	871	843	1714
262	4.07	1337	3.47	1143	1295	1976
300	6.04	2004	6.04	2004	987	3322
325	7.23	2401	7.23	2401	2401	2964
375	9.81	3286	8.48	2841	1678	2335
375 W/Fan	9.81	3286	9.64	3228	1678	2335
450	14.78	4981	11.52	3882	1549	4626
450W/Fan	14.78	4981	14.40	4853	1549	4626
516	19.86	6729	14.94	5060	2531	3889
516W/Fan	19.86	6729	18.66	6325	2531	3889
600	28.74	9722	21.70	7342	4417	5398
600W/Fan	28.74	9722	25.84	8740	4417	5398
1750 rpm Driver - 15:1 Ratio -116.6 rpm Output						
100	0.26	121	0.26	121	147	◗
133	0.56	259	0.56	259	458	1156
154	0.81	365	0.81	365	388	1146
175	1.14	531	1.10	516	740	1253
206	1.64	782	1.50	698	1078	1820
237	2.52	1191	2.08	986	843	1954
262	3.00	1440	2.50	1197	1295	2296
300	4.57	2197	4.57	2197	987	3410
325	5.42	2614	5.22	2521	2401	3364
375	7.35	3572	5.88	2858	1678	2655
375 W/Fan	7.35	3572	7.35	3572	1678	2655
450	11.09	5436	8.66	4246	1549	5346
450W/Fan	11.09	5436	10.82	4962	1549	5346
516	15.01	7421	10.95	5412	2531	4449
516W/Fan	15.01	7421	13.67	6764	2531	4449
600	21.19	10516	14.82	7355	4417	6198
600W/Fan	21.19	10516	18.08	8970	4417	6198
1750 rpm Driver - 20:1 Ratio -87.5 rpm Output						
100	0.23	135	0.23	135	147	◗
133	0.46	270	0.46	270	458	1241
154	0.64	373	0.64	373	388	1241
175	0.90	544	0.86	520	740	1358
206	1.33	812	1.25	762	1078	1980
237	1.99	1217	1.66	1012	843	2179
262	2.40	1490	2.09	1296	1295	2536
300	3.60	2251	3.60	2251	987	3410
325	4.28	2674	4.26	2662	2401	3410
375	6.01	3807	5.11	3235	1678	2895
375W/Fan	6.01	3807	6.01	3807	1678	2895
450	8.66	5544	7.28	4658	1549	5906
450W/Fan	8.66	5544	8.66	5544	1549	5906
516	11.68	7557	9.33	6035	2531	4929
516W/Fan	11.68	7557	11.11	7185	2531	4929
600	16.51	10696	13.20	8549	4417	6758
600W/Fan	16.51	10696	15.71	10178	4417	6758

Unit Size ■	Mechanical		Thermal		Maximum Overhung Lbs.	Max. Thrust Load Lbs.
	Input hp	Output Torque	Input hp	Output Torque	Output Shaft	Output Shaft
1750 rpm Driver - 25:1 Ratio -70 rpm Output						
133	0.39	269	0.39	269	458	1322
154	0.55	375	0.55	375	388	1322
175	0.76	543	0.75	513	740	1380
206	1.14	812	1.06	761	1078	2143
237	1.63	1212	1.50	1033	843	2245
262	2.05	1495	1.78	1298	1295	2748
300	3.12	2270	3.12	2270	987	3410
325	3.70	2726	3.69	2720	2401	3410
375	5.22	3878	4.46	3315	1678	3133
375 W/Fan	5.22	3878	5.22	3878	1678	3133
450	7.45	5598	6.14	4589	1549	6305
450 W/Fan	7.45	5598	7.45	5598	1549	6305
516	10.05	7652	7.92	6013	2531	5252
516 W/Fan	10.05	7652	9.63	7337	2531	5252
600	14.16	10803	11.39	8697	4417	7281
600W/Fan	14.16	10803	13.48	10293	4417	7281
1750 rpm Driver - 30:1 Ratio -58.3 rpm Output						
100	0.16	138	0.16	138	147	◗
133	0.32	268	0.32	268	458	1399
154	0.47	377	0.47	377	388	1399
175	0.63	543	0.59	507	740	1399
206	0.94	813	0.87	759	1078	2300
237	1.45	1233	1.24	1055	843	2305
262	1.70	1498	1.50	1301	1295	2956
300	2.63	2290	2.63	2290	987	3410
325	3.14	2777	3.14	2777	2401	3410
375	4.43	3949	3.81	3396	1678	3375
375 W/Fan	4.43	3949	4.43	3949	1678	3375
450	6.23	5651	4.99	4521	1549	6706
450 W/Fan	6.23	5651	6.23	5651	1549	6706
516	8.43	7749	6.52	5992	2531	5569
516 W/Fan	8.43	7749	8.15	7490	2531	5569
600	11.80	10911	9.57	8846	4417	7798
600W/Fan	11.80	10911	11.26	10408	4417	7798
1750 rpm Driver - 40:1 Ratio -43.7 rpm Output						
100	0.13	136	0.13	136	147	◗
133	0.26	270	0.26	270	458	1399
154	0.38	371	0.38	371	388	1399
175	0.52	543	0.50	507	740	1399
206	0.76	811	0.75	756	1078	2305
237	1.14	1216	1.00	1025	843	2305
262	1.37	1489	1.18	1288	1295	3096
300	2.04	2261	2.04	2261	987	3410
325	2.43	2690	2.43	2690	2401	3410
375	3.35	3818	2.84	3245	1678	3695
375 W/Fan	3.35	3818	3.35	3818	1678	3695
450	4.96	5750	4.21	4888	1549	6820
450 W/Fan	4.96	5750	4.96	5750	1549	6820
516	6.39	7565	5.37	6354	2531	6209
516 W/Fan	6.39	7565	6.39	7565	2531	6209
600	9.05	10716	7.30	8641	4417	8518
600W/Fan	9.05	10716	8.68	10287	4417	8518
1750 rpm Driver - 50:1 Ratio -35 rpm Output						
100	0.09	121	0.09	121	147	◗
133	0.22	256	0.22	256	458	1399
154	0.31	355	0.31	355	388	1399
175	0.41	520	0.41	520	740	1399
206	0.62	780	0.59	743	1078	2305
237	0.91	1166	0.78	1009	843	2305
262	1.10	1438	1.00	1256	1295	3336
300	1.64	2178	1.64	2178	987	3410

■ Basic unit size. See assembly drawings, pages 170 - 217, to determine components needed and complete the part numbers following the directions on that page.

Above ratings are not applicable when reducer shafts are subjected to combined overhung and thrust loads.
Find ratings for input speeds not shown by straight line interpolation.
Maximum overhung loads are at center of keyseats and on one end of output shaft only. Overhung loads applied closer to the reducer housing are desirable, but overhung loads farther out on the shaft and overhung loads on both ends of output shaft should be referred to Application Engineering.

◗ Contact Application Engineering (1 800 626 2093).

Contact Application Engineering for the following:
1. High starting torques exceeding 300% of the reducer mechanical rating.
2. Frequent starting or repetitive shock applications.
3. Applications where high energy loads must be absorbed as when stalling.

Input Horsepower, Output Torque, Overhung Load and Thrust Load for Raider Plus Single Reduction Worm Gear Speed Reducers

Unit Size■	Mechanical		Thermal		Maximum Overhung Load Lbs.	Max. Thrust Load Lbs.
	Input hp	Output Torque	Input hp	Output Torque	Output Shaft	Output Shaft
1750 rpm Driver - 50:1 Ratio -35 rpm Output						
325	2.05	2684	2.05	2684	2401	3410
375	2.82	3818	2.45	3321	1678	4015
375 W/Fan	2.82	3818	2.82	3818	1678	4015
450	3.99	5589	3.35	4694	1549	6820
450 W/Fan	3.99	5589	3.99	5589	1549	6820
516	5.12	7280	4.14	5896	2531	6689
516 W/Fan	5.12	7280	5.12	7280	2531	6689
600	7.07	10228	5.84	8456	4417	9238
600 W/Fan	7.07	10228	6.80	9833	4417	9238
1750 rpm Driver - 60:1 Ratio -29.1 rpm Output						
133	0.19	240	0.19	240	458	1399
154	0.28	399	0.28	399	388	1399
175	0.35	490	0.35	490	740	1399
206	0.52	737	0.52	737	1078	2305
237	0.76	1102	0.69	1003	843	2305
262	0.91	1359	0.82	1224	1295	3410
300	1.36	2063	1.36	2063	987	3410
325	1.76	2651	1.76	2651	2401	3410
375	2.39	3761	1.93	3045	1678	4255
375 W/Fan	2.39	3761	2.39	3761	1678	4255
450	3.39	5474	2.71	4379	1549	6820
450 W/Fan	3.39	5474	3.39	5474	1549	6820
516	4.13	6825	3.35	5528	2531	6820
516W/Fan	4.13	6825	4.13	6825	2531	6820
600	5.83	9743	4.92	8216	4417	9798
600 W/Fan	5.83	9743	5.78	9666	4417	9798
1160 rpm Driver - 5:1 Ratio-232 rpm Output						
100	0.45	101	0.45	101	147	◗
133	0.96	236	0.96	236	458	916
154	1.29	317	1.29	317	388	911
175	1.93	477	1.62	401	740	973
206	2.83	708	2.32	580	1078	1415
237	4.23	1062	3.38	849	843	1534
262	5.15	1299	4.02	1014	1295	1776
300	7.78	1964	7.47	1885	987	2997
1160 rpm Driver - 10:1 Ratio-116 rpm Output						
100	0.30	124	0.30	124	147	◗
133	0.56	263	0.56	263	458	1151
154	0.80	375	0.80	375	388	1141
175	1.13	547	1.11	534	740	1238
206	1.72	836	1.60	776	1078	1740
237	2.62	1273	2.22	1075	843	1944
262	3.23	1578	3.02	1477	1295	2216
300	4.89	2412	4.89	2412	987	3410
325	6.03	2961	6.03	2961	2401	3284
375	8.12	4045	7.07	3519	1678	2575
375 W/Fan	8.12	4045	8.12	4045	1678	2575
450	12.20	6115	9.76	4892	1549	5106
450W/Fan	12.20	6115	11.84	5936	1549	5106
516	16.23	8186	12.50	6303	2531	4289
516 W/Fan	16.23	8186	15.58	7859	2531	4289
600	23.15	11675	19.91	10041	4417	6038
600 W/Fan	23.15	11675	22.22	11208	4417	6038
1160 rpm Driver - 15:1 Ratio -77.3 rpm Output						
100	0.22	129	0.22	129	14	◗
133	0.40	276	0.40	276	458	1311
154	0.60	405	0.60	405	388	1296
175	0.86	589	0.83	563	740	1399
206	1.27	881	1.18	819	1078	2060
237	1.99	1389	1.76	1229	843	2194
262	2.36	1677	2.08	1481	1295	2536
300	3.73	2645	3.73	2645	987	3410
325	4.45	3171	4.31	3076	2401	3410

Unit Size■	Mechanical		Thermal		Maximum Overhung Load Lbs.	Max. Thrust Load Lbs.
	Input hp	Output Torque	Input hp	Output Torque	Output Shaft	Output Shaft
1160 rpm Driver - 5:1 Ratio -77.3 pm Output						
375	6.16	4425	5.05	3629	1678	2975
375 W/Fan	6.16	4425	6.16	4425	1678	2975
450	9.23	6693	7.38	5355	1549	5906
450 W/Fan	9.23	6693	9.14	6626	1549	5906
516	12.29	9020	9.34	6856	2531	4929
516 W/Fan	12.29	9020	11.30	8299	2531	4929
600	17.08	12579	13.15	9686	4417	6918
600 W/Fan	17.08	12579	15.20	11194	4417	6918
1160 rpm Driver - 20:1 Ratio-58 rpm Output						
100	0.20	146	0.20	146	147	◗
133	0.34	288	0.34	288	458	1399
154	0.48	410	0.48	410	388	1399
175	0.67	599	0.67	599	740	1399
206	1.03	916	1.03	916	1078	2220
237	1.56	1403	1.50	1281	843	2305
262	1.92	1748	1.84	1672	1295	2776
300	2.92	2676	2.92	2676	987	3410
325	3.56	3275	3.56	3275	2401	3410
375	4.82	4499	4.23	3959	1678	3295
375 W/Fan	4.82	4499	4.85	4499	1678	3295
450	7.27	6856	6.25	5896	1549	6546
450 W/Fan	7.27	6856	7.27	6856	1549	6546
516	9.69	9252	7.85	7494	2531	5489
516 W/Fan	9.69	9252	9.30	8883	2531	5489
600	13.47	12917	11.18	10721	4417	7638
600 W/Fan	13.47	12917	12.94	12401	4417	7638
1160 rpm Driver - 25:1 Ratio -46.4 rpm Output						
133	0.34	288	0.34	288	458	1399
154	0.48	410	0.48	410	388	1399
175	0.67	599	0.67	599	740	1399
206	1.03	916	1.03	916	1078	2220
237	1.56	1403	1.50	1281	843	2305
262	1.92	1748	1.84	1672	1295	2776
300	2.92	2676	2.92	2676	987	3410
325	3.56	3275	3.56	3275	2401	3410
375	4.82	4499	4.23	3959	1678	3295
375 W/Fan	4.82	4499	4.82	4499	1678	3295
450	7.27	6856	6.25	5896	1549	6546
450 W/Fan	7.27	6856	7.27	6856	1549	6546
516	9.69	9252	7.85	7494	2531	5489
516 W/Fan	9.69	9252	9.30	8883	2531	5489
600	13.47	12917	11.18	10721	4417	7638
600 W/Fan	13.47	12917	12.94	12401	4417	7638
1160 rpm Driver - 30:1 Ratio -38.6 rpm Output						
100	0.15	149	0.15	149	147	◗
133	0.24	284	0.24	284	458	1399
154	0.37	418	0.37	418	388	1399
175	0.48	591	0.48	591	740	1399
206	0.74	911	0.73	911	1078	2305
237	1.16	1435	1.08	1325	843	2305
262	1.36	1740	1.25	1612	1295	3176
300	2.16	2737	2.16	2737	987	3410
325	2.54	3296	2.54	3296	2401	3410
375	3.53	4582	3.04	3940	1678	3775
375 W/Fan	3.53	4582	3.53	4582	1678	3775
450	5.25	6937	4.31	5690	1549	6820
450 W/Fan	5.25	6937	5.25	6937	1549	6820
516	7.01	9412	5.61	7530	2531	6289
516 W/Fan	7.01	9412	6.52	8754	2531	6289
600	9.64	13066	8.20	11106	4417	8678
600 W/Fan	9.64	13066	8.97	12151	4417	8678

■ Basic unit size. See assembly drawings, pages 170 - 217, to determine components needed and complete the part numbers following the directions on that page.

Above ratings are not applicable when reducer shafts are subjected to combined overhung and thrust loads.
Find ratings for input speeds not shown by straight line interpolation.
Maximum overhung loads are at center of keyseats and on one end of output shaft only. Overhung loads applied closer to the reducer housing are desirable, but overhung loads farther out on the shaft and overhung loads on both ends of output shaft should be referred to Application Engineering (1 800 626 2093).

◗ Contact Application Engineering (1 800 626 2093).

Contact Application Engineering for the following:
1. High starting torques exceeding 300% of the reducer mechanical rating.
2. Frequent starting or repetitive shock applications.
3. Applications where high energy loads must be absorbed as when stalling.

Input Horsepower, Output Torque, Overhung Load and Thrust Load for Raider Plus Single Reduction Worm Gear Speed Reducers

Unit Size ■	Mechanical		Thermal		Maximum Overhung Load Lbs.	Max. Thrust Load Lbs.
	Input hp	Output Torque	Input hp	Output Torque	Output Shaft	Output Shaft
1160 rpm Driver - 40:1 Ratio - 29 rpm Output						
100	0.11	144	0.11	144	147	◗
133	0.20	287	0.20	287	458	1399
154	0.29	409	0.29	409	388	1399
175	0.39	599	0.39	599	740	1399
206	0.59	914	0.59	914	1078	2305
237	0.91	1401	0.85	1312	843	2305
262	1.11	1745	1.03	1631	1295	3176
300	1.68	2684	1.68	2684	987	3410
325	2.06	3270	2.06	3270	2401	3410
375	2.73	4516	2.37	3929	1678	4175
375 W/Fan	2.73	4516	2.73	4516	1678	4175
450	4.10	6887	3.53	5923	1549	6820
450 W/Fan	4.10	6887	4.10	6887	1549	6820
516	5.41	9300	4.38	7533	2531	6820
516 W/Fan	5.41	9300	5.20	8929	2531	6820
600	7.53	13003	6.32	10922	4417	9558
600 W/Fan	7.53	13003	7.22	12484	4417	9558
1160 rpm Driver - 50:1 Ratio - 23.2 rpm Output						
100	0.09	123	0.09	123	147	◗
133	0.16	273	0.16	273	458	1399
154	0.24	389	0.24	389	388	1399
175	0.32	569	0.32	569	740	1399
206	0.48	874	0.48	874	1078	2305
237	0.73	1326	0.71	1275	843	2305
262	0.90	1663	0.82	1511	1295	3410
300	1.34	2559	1.34	2559	987	3410
325	1.67	3144	1.67	3144	2401	3410
375	2.22	4333	1.95	3814	1678	4495
375 W/Fan	2.22	4333	2.22	4333	1678	4495
450	3.30	6610	2.84	5685	1549	6820
450 W/Fan	3.30	6610	3.30	6610	1549	6820
516	4.32	8966	3.58	7441	2531	6820
516 W/Fan	4.32	8966	4.32	8966	2531	6820
600	5.98	12488	5.03	10490	4417	10358
600 W/Fan	5.98	12488	5.86	12238	4417	10358
1160 rpm Driver - 60:1 Ratio - 19.3 rpm Output						
133	0.14	258	0.14	258	458	1399
154	0.21	428	0.21	428	388	1399
175	0.27	534	0.27	534	740	1399
206	0.40	822	0.40	822	1078	2305
237	0.60	1257	0.57	1184	843	2305
262	0.74	1571	0.67	1438	1295	3410
300	1.10	2405	1.10	2405	987	3410
325	1.38	2977	1.38	2977	2401	3410
375	1.81	4094	1.52	3438	1678	4815
375 W/Fan	1.81	4094	1.81	4094	1678	4815
450	2.70	6246	2.24	5184	1549	6820
450 W/Fan	2.70	6246	2.70	6246	1549	6820
516	3.57	8501	2.97	7056	2531	6820
516 W/Fan	3.57	8501	3.57	8501	2531	6820
600	4.95	11852	4.21	10080	4417	10998
600 W/Fan	4.95	11852	4.95	11852	4417	10998
690 rpm Driver - 5:1 Ratio - 138 rpm Output						
100	0.26	108	0.26	108	147	◗
133	0.65	261	0.65	261	458	1071
154	0.87	355	0.87	355	388	1066
175	1.34	548	1.18	482	740	1118
206	2.02	832	1.74	715	1078	1650
237	3.08	1278	2.59	1074	843	1784
262	3.83	1591	3.14	1305	1295	2056
300	5.94	2477	5.94	2477	987	3402

Unit Size ■	Mechanical		Thermal		Maximum Overhung Load Lbs.	Max. Thrust Load Lbs.
	Input hp	Output Torque	Input hp	Output Torque	Output Shaft	Output Shaft
690 rpm Driver - 10:1 Ratio - 69 rpm Output						
100	0.17	132	0.17	132	147	◗
133	0.36	279	0.36	279	458	1321
154	0.53	408	0.53	408	388	1321
175	0.75	593	0.75	593	740	1399
206	1.17	924	1.17	924	1078	2060
237	1.80	1439	1.80	1439	843	2274
262	2.27	1813	2.27	1813	1295	2616
300	3.49	2822	3.49	2822	987	3410
325	4.43	3577	3.80	3061	2401	3410
375	6.01	4926	4.65	3813	1678	2975
375 W/Fan	6.01	4926	4.92	4037	1678	2975
450	9.30	7684	7.62	6301	1549	5906
450 W/Fan	9.30	7684	9.11	7530	1549	5906
516	12.65	10528	10.12	8423	2531	4929
516 W/Fan	12.65	10528	10.51	8738	2531	4929
600	18.45	15368	16.24	13523	4417	6838
600 W/Fan	18.45	15368	18.07	15060	4417	6838
690 rpm Driver - 15:1 Ratio - 46 rpm Output						
100	0.12	138	0.12	138	147	◗
133	0.26	290	0.26	290	458	1399
154	0.41	442	0.41	442	388	1399
175	0.57	637	0.57	637	740	1399
206	0.85	966	0.85	966	1078	2305
237	1.40	1576	1.40	1576	843	2305
262	1.64	1895	1.56	1801	1295	2936
300	2.68	3097	2.68	3097	987	3410
325	3.25	3773	2.57	2990	2401	3410
375	4.59	5400	3.85	4536	1678	3375
375 W/Fan	4.59	5400	4.26	5013	1678	3375
450	7.11	8432	5.83	6914	1549	6786
450 W/Fan	7.11	8432	6.29	7471	1549	6786
516	9.67	11635	7.55	9075	2531	5729
516 W/Fan	9.67	11635	7.76	9332	2531	5729
600	13.79	16612	11.03	13289	4417	7958
600 W/Fan	13.79	16612	12.08	14540	4417	7958
690 rpm Driver - 20:1 Ratio - 34.5 rpm Output						
100	0.11	150	0.11	150	147	◗
133	0.22	315	0.22	315	458	1399
154	0.33	457	0.33	457	388	1399
175	0.45	645	0.45	645	740	1399
206	0.70	1009	0.70	1009	1078	2305
237	1.09	1570	1.09	1570	843	2305
262	1.40	1978	1.38	1949	1295	3256
300	2.08	3092	2.08	3092	987	3410
325	2.63	3906	2.37	3517	2401	3410
375	3.59	5424	3.22	4882	1678	3775
375 W/Fan	3.59	5424	3.59	5431	1678	3775
450	5.51	8471	4.85	7455	1549	6820
450 W/Fan	5.51	8471	5.08	7811	1549	6820
516	7.52	11721	6.17	9611	2531	6289
516 W/Fan	7.52	11721	6.41	9987	2531	6289
600	10.86	16942	9.70	15136	4417	8758
600 W/Fan	10.86	16942	10.10	15756	4417	8758
690 rpm Driver - 25:1 Ratio - 27.6 rpm Output						
133	0.19	322	0.19	322	458	1399
154	0.28	468	0.28	468	388	1399
175	0.37	645	0.37	645	740	1399
206	0.59	1007	0.59	1007	1078	2305
237	0.95	1597	0.95	1597	843	2305
262	1.14	1968	1.11	1894	1295	3410
300	1.78	3146	1.78	3146	942	3410
325	2.17	3898	1.95	3509	2401	3410

■ Basic unit size. See assembly drawings, pages 170 - 217, to determine components needed and complete the part numbers following the directions on that page.

Above ratings are not applicable when reducer shafts are subjected to combined overhung and thrust loads.
Find ratings for input speeds not shown by straight line interpolation.
Maximum overhung loads are at center of keyseats and on one end of output shaft only. Overhung loads applied closer to the reducer housing are desirable, but overhung loads farther out on the shaft and overhung loads on both ends of output shaft should be referred to Application Engineering.

◗ Contact Application Engineering (1 800 626 2093).

Contact Application Engineering for the following:
1. High starting torques exceeding 300% of the reducer mechanical rating.
2. Frequent starting or repetitive shock applications.
3. Applications where high energy loads must be absorbed as when stalling.

Input Horsepower, Output Torque, Overhung Load and Thrust Load for Raider Plus Single Reduction Worm Gear Speed Reducers

Unit Size ■	Mechanical		Thermal		Maximum Overhung Load Lbs.	Max. Thrust Load Lbs.
	Input hp	Output Torque	Input hp	Output Torque	Output Shaft	Output Shaft
690 rpm Driver (Continued) - 25:1 Ratio - 27.6 rpm Output						
375	3.06	5503	2.72	4897	1678	4050
375 W/Fan	3.06	5503	3.06	5503	1678	4050
450	4.68	8593	4.02	7387	1549	6820
450 W/Fan	4.68	8593	4.49	8262	1549	6820
516	6.35	11881	4.94	9241	2531	6820
516 W/Fan	6.35	11881	5.25	9837	2531	6820
600	9.11	17115	7.99	15001	4417	9402
600 W/Fan	9.11	17115	8.28	15590	4417	9402
690 rpm Driver - 30:1 Ratio - 23 rpm Output						
100	0.08	154	0.08	154	147	◗
133	0.15	326	0.15	326	458	1399
154	0.25	477	0.25	477	388	1399
175	0.32	649	0.32	649	740	1399
206	0.50	993	0.50	993	1078	2305
237	0.84	1621	0.84	1621	843	2305
262	0.96	1957	0.90	1839	1295	3410
300	1.58	3198	1.58	3198	987	3410
325	1.88	3882	1.69	3494	2401	3410
375	2.70	5579	2.38	4909	1678	4335
375 W/Fan	2.70	5579	2.70	5579	1678	4335
450	4.11	8716	3.45	7322	1549	6820
450 W/Fan	4.11	8716	4.11	8716	1549	6820
516	5.58	12034	4.10	8864	2531	6820
516 W/Fan	5.58	12034	4.48	9662	2531	6820
600	7.95	17281	6.84	14861	4417	10038
600 W/Fan	7.95	17281	7.10	15422	4417	10038
690 rpm Driver - 40:1 Ratio - 17.2 rpm Output						
100	0.07	152	0.07	152	147	◗
133	0.13	295	0.13	315	458	1399
154	0.20	460	0.20	460	388	1399
175	0.26	642	0.26	642	740	1399
206	0.42	1005	0.42	1005	1078	2305
237	0.65	1565	0.65	1569	843	2305
262	0.79	1973	0.79	1973	1295	3410
300	1.22	3084	1.22	3084	987	3410
325	1.55	3898	1.36	3433	2401	3410
375	2.07	5413	1.82	4763	1678	4815
375 W/Fan	2.07	5413	2.07	5413	1678	4815
450	3.16	8455	2.72	7271	1549	6820
450 W/Fan	3.16	8455	2.95	7887	1549	6820
516	4.28	11752	3.47	9519	2531	6820
516 W/Fan	4.28	11752	3.56	9798	2531	6820
600	6.16	16920	5.23	14355	4417	11078
600 W/Fan	6.16	16920	5.45	14960	4417	11078
690 rpm Driver - 50:1 Ratio - 13.8 rpm Output						
100	0.06	132	0.06	132	147	◗
133	0.11	286	0.11	286	458	1399
154	0.17	418	0.17	418	388	1399
175	0.22	609	0.22	609	740	1399
206	0.34	954	0.34	954	1078	2305
237	0.52	1467	0.52	1467	843	2305
262	0.65	1880	0.65	1880	1295	3410
300	0.98	2921	0.98	2921	987	3410
325	1.27	3738	1.13	3335	2401	3410
375	1.67	5135	1.47	4519	1678	5215
375 W/Fan	1.67	5135	1.67	5135	1678	5215
450	2.55	8081	2.20	6950	1549	6820
450 W/Fan	2.55	8081	2.55	8081	1549	6820
516	3.41	11151	2.79	9130	2531	6820
516 W/Fan	3.41	11151	2.99	9781	2531	6820
600	4.83	15989	4.00	13262	4417	11958
600 W/Fan	4.83	15989	4.32	14328	4417	11958

Unit Size ■	Mechanical		Thermal		Maximum Overhung Load Lbs.	Max. Thrust Load Lbs.
	Input hp	Output Torque	Input hp	Output Torque	Output Shaft	Output Shaft
690 rpm Driver - 60:1 Ratio - 11.5 rpm Output						
133	0.09	265	0.09	265	458	1399
154	0.13	440	0.13	440	388	1399
175	0.19	570	0.19	570	740	1399
206	0.29	897	0.29	897	1078	2305
237	0.43	1385	0.43	1385	843	2305
262	0.54	1767	0.54	1767	1295	3410
300	0.80	2729	0.80	2729	987	3410
325	1.07	3520	1.01	3336	2401	3410
375	1.38	4818	1.16	4047	1678	5615
375 W/Fan	1.38	4818	1.38	4818	1678	5615
450	2.10	7575	1.75	6287	1549	3820
450 W/Fan	2.10	7575	2.10	7575	1549	6820
516	2.78	10481	2.31	8700	2531	6820
516 W/Fan	2.78	10481	2.62	9874	2531	6820
600	4.03	15173	3.22	12161	4417	12487
600 W/Fan	4.03	15173	3.56	13420	4417	12487
100 rpm Driver - 5:1 Ratio - 20 rpm Output						
100	0.04	113	0.04	113	147	◗
133	0.11	292	0.11	292	458	1399
154	0.15	406	0.15	406	388	1399
175	0.25	644	0.25	644	740	1399
206	0.38	1005	0.38	1005	1078	2305
237	0.60	1603	0.60	1603	843	2305
262	0.77	2050	0.77	2050	1295	3410
300	1.24	3326	1.24	3326	987	3410
100 rpm Driver - 10:1 Ratio - 10 rpm Output						
100	0.03	135	0.03	135	147	◗
133	0.06	300	0.06	300	458	1399
154	0.09	451	0.09	451	388	1399
175	0.13	654	0.13	654	740	1399
206	0.21	1047	0.21	1047	1078	2305
237	0.32	1665	0.32	1665	843	2305
262	0.42	2139	0.42	2139	1295	3410
300	0.66	3398	0.66	3398	987	3410
325	0.82	4190	0.82	4190	2401	3410
375	1.06	5508	1.06	5508	1678	5615
375 W/Fan	1.06	5508	1.06	5508	1678	5615
450	1.73	9126	1.73	9126	1549	6820
450 W/Fan	1.73	9126	1.73	9126	1549	6820
516	2.16	11556	2.16	11556	2531	6820
516 W/Fan	2.16	11556	2.16	11556	2531	6820
600	3.77	19948	3.77	19948	4417	12487
600 W/Fan	3.77	19948	3.77	19948	4417	12487
100 rpm Driver - 15:1 Ratio - 6.6 rpm Output						
100	0.02	151	0.02	151	147	◗
133	0.04	308	0.04	308	458	1399
154	0.07	489	0.07	489	388	1399
175	0.10	702	0.10	702	740	1399
206	0.15	1077	0.15	1077	1078	2305
237	0.26	1832	0.26	1832	843	2305
262	0.30	2202	0.30	2202	1295	3410
300	0.53	3743	0.53	3743	987	3410
325	0.57	4190	0.57	4190	2401	3410
375	0.76	5508	0.76	5508	1678	6244
375 W/Fan	0.76	5508	0.76	5508	1678	6244
450	1.23	9126	1.23	9126	1549	6820
450 W/Fan	1.23	9126	1.23	9126	1549	6820
516	1.53	11556	1.53	11556	2531	6820
516 W/Fan	1.53	11556	1.53	11556	2531	6820
600	2.79	21060	2.79	21060	4417	12487
600 W/Fan	2.79	21060	2.79	21060	4417	12487

■ Basic unit size. See assembly drawings, pages 170 - 217, to determine components needed and complete the part numbers following the directions on that page.

Above ratings are not applicable when reducer shafts are subjected to combined overhung and thrust loads.
Find ratings for input speeds not shown by straight line interpolation.
Maximum overhung loads are at center of keyseats and on one end of output shaft only. Overhung loads applied closer to the reducer housing are desirable, but overhung loads farther out on the shaft and overhung loads on both ends of output shaft should be referred to Application Engineering.

◗ Contact Application Engineering (1 800 626 2093).

Contact Application Engineering for the following:
1. High starting torques exceeding 300% of the reducer mechanical rating.
2. Frequent starting or repetitive shock applications.
3. Applications where high energy loads must be absorbed as when stalling.

Input Horsepower, Output Torque, Overhung Load and Thrust Load for Raider Plus Single Reduction Worm Gear Speed Reducers

Unit Size ■	Mechanical		Thermal		Maximum Overhung Load Lbs.	Max. Thrust Load Lbs.
	Input hp	Output Torque	Input hp	Output Torque	Output Shaft	Output Shaft
100 rpm Driver - 20:1 Ratio - 5 rpm Output						
100	0.02	162	0.02	162	147	I
133	0.04	324	0.04	324	458	1399
154	0.06	487	0.06	487	388	1399
175	0.08	706	0.08	706	740	1399
206	0.13	1132	0.13	1132	1078	2305
237	0.21	1797	0.21	1797	843	2305
262	0.26	2316	0.26	2316	1295	3410
300	0.41	3677	0.41	3677	987	3410
325	0.46	4190	0.46	4190	2401	3410
375	0.59	5508	0.59	5508	1678	6244
375 W/Fan	0.59	5508	0.59	5508	1678	6244
450	0.98	9126	0.98	9126	1549	6820
450 W/Fan	0.98	9126	0.98	9126	1549	6820
516	1.21	11556	1.21	11556	2531	6820
516 W/Fan	1.21	11556	1.21	11556	2531	6820
600	2.25	21384	2.25	21384	4417	12487
600 W/Fan	2.25	21384	2.25	21384	4417	12487
100 rpm Driver - 25:1 Ratio -4 rpm Output						
133	0.03	320	0.03	320	458	1399
154	0.05	496	0.05	496	388	1399
175	0.06	698	0.06	698	740	1399
206	0.10	1119	0.10	1119	1078	2305
237	0.19	1836	0.19	1836	843	2305
262	0.23	2289	0.23	2289	1295	3410
300	0.36	3759	0.36	3759	987	3410
325	0.40	4190	0.40	4190	2401	3410
375	0.50	5508	0.50	5508	1678	6244
375 W/Fan	0.50	5508	0.50	5508	1678	6244
450	0.85	9126	0.85	9126	1549	6820
450 W/Fan	0.85	9126	0.85	9126	1549	6820
516	1.06	11723	1.06	11723	2531	6820
516 W/Fan	1.06	11723	1.06	11723	2531	6820
600	1.95	21763	1.95	21763	4417	12487
600 W/Fan	1.95	21763	1.95	21763	4417	12487
100 rpm Driver - 30:1 Ratio -3.3 rpm Output						
100	0.01	164	0.01	164	147	◗
133	0.03	315	0.03	315	458	1399
154	0.05	502	0.05	502	388	1399
175	0.06	687	0.06	687	740	1399
206	0.09	1104	0.09	1104	1078	2305
237	0.16	1877	0.16	1877	843	2305
262	0.18	2257	0.18	2257	1295	3410
300	0.32	3836	0.32	3836	987	3410
325	0.35	4190	0.35	4190	2401	3410
375	0.45	5508	0.45	5508	1678	6244
375 W/Fan	0.45	5508	0.45	5508	1678	6244
450	0.75	9126	0.75	9126	1549	6820
450 W/Fan	0.75	9126	0.75	9126	1549	6820
516	0.94	11880	0.94	11880	2531	6820
516 W/Fan	0.94	11880	0.94	11880	2531	6820
600	1.75	22140	1.75	22140	4417	12487
600 W/Fan	1.75	22140	1.75	22140	4417	12487

Unit Size ■	Mechanical		Thermal		Maximum Overhung Load Lbs.	Max. Thrust Load Lbs.
	Input hp	Output Torque	Input hp	Output Torque	Output Shaft	Output Shaft
100 rpm Driver - 40:1 Ratio -2.5 rpm Output						
100	0.01	162	0.01	162	147	◗
133	0.02	322	0.02	322	458	1399
154	0.04	484	0.04	484	388	1399
175	0.05	702	0.05	702	740	1399
206	0.08	1125	0.08	1125	1078	2305
237	0.13	1792	0.13	1792	843	2305
262	0.16	2301	0.16	2301	1295	3410
300	0.26	3655	0.26	3655	987	3410
325	0.30	4190	0.30	4190	2401	3410
375	0.38	5508	0.38	5508	1678	6244
375 W/Fan	0.38	5508	0.38	5508	1678	6244
450	0.60	9126	0.60	9126	1549	6820
450 W/Fan	0.60	9126	0.60	9126	1549	6820
516	0.75	11556	0.75	11556	2531	6820
516 W/Fan	0.75	11556	0.75	11556	2531	6820
600	1.33	20520	1.33	20520	4417	12487
600 W/Fan	1.33	20520	1.33	20520	4417	12487
100 rpm Driver - 50:1 Ratio -2 rpm Output						
100	0.01	140	0.01	140	147	◗
133	0.02	303	0.02	303	458	1399
154	0.03	457	0.03	457	388	1399
175	0.04	662	0.04	662	740	1399
206	0.07	1063	0.07	1063	1078	2305
237	0.10	1661	0.10	1661	843	2305
262	0.14	2176	0.14	2176	1295	3410
300	0.21	3419	0.21	3419	987	3410
325	0.26	4190	0.26	4190	2401	3410
375	0.32	5508	0.32	5508	1678	6244
375 W/Fan	0.32	5508	0.32	5508	1678	6244
450	0.53	9126	0.53	9126	1549	6820
450 W/Fan	0.53	9126	0.53	9126	1549	6820
516	0.64	11556	0.64	11556	2531	6820
516 W/Fan	0.64	11556	0.64	11556	2531	6820
600	1.06	19440	1.06	19440	4417	12487
600 W/Fan	1.06	19440	1.06	19440	4417	12487
100 rpm Driver - 60:1 Ratio -1.6 rpm Output						
133	0.02	284	0.02	284	458	1399
154	0.03	452	0.03	452	388	1399
175	0.03	620	0.03	620	740	1399
206	0.06	997	0.06	997	1078	2305
237	0.09	1562	0.09	1562	843	2305
262	0.12	2038	0.12	2038	1295	3410
300	0.17	3172	0.17	3172	987	3410
325	0.22	3953	0.22	3953	2401	3410
375	0.28	5508	0.28	5508	1678	6224
375 W/Fan	0.28	5508	0.28	5508	1678	6224
450	0.44	9126	0.44	9126	1549	6820
450 W/Fan	0.44	9126	0.44	9126	1549	6820
516	0.54	11556	0.54	11556	2531	6820
516 W/Fan	0.54	11556	0.54	11556	2531	6820
600	0.86	18360	0.86	18360	4417	12487
600 W/Fan	0.86	18360	0.86	18360	4417	12487

■ Basic unit size. See assembly drawings, pages 170 - 217, to determine components needed and complete the part numbers following the directions on that page.

Above ratings are not applicable when reducer shafts are subjected to combined overhung and thrust loads.
Find ratings for input speeds not shown by straight line interpolation.
Maximum overhung loads are at center of keyseats and on one end of output shaft only. Overhung loads applied closer to the reducer housing are desirable, but overhung loads farther out on the shaft and overhung loads on both ends of output shaft should be referred to Application Engineering.

◗ Contact Application Engineering (1 800 626 2093).

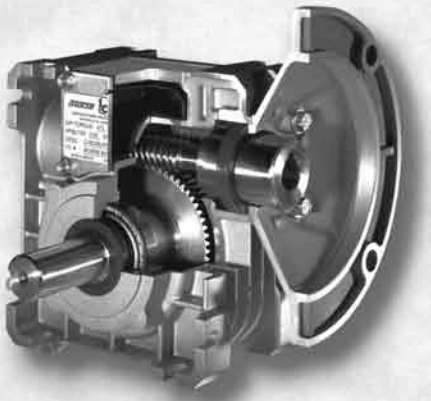
Contact the Application Engineering for the following:
1. High starting torques exceeding 300% of the reducer mechanical rating.
2. Frequent starting or repetitive shock applications.
3. Applications where high energy loads must be absorbed as when stalling.

Complete Gearing Solutions...

Emerson Has the Industry's Broadest Line of Standard Gearmotors and Speed Reducers

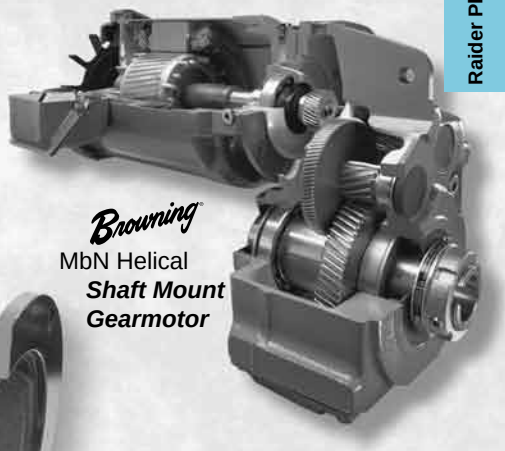


Browning
CbN In-line
Concentric Gearmotor

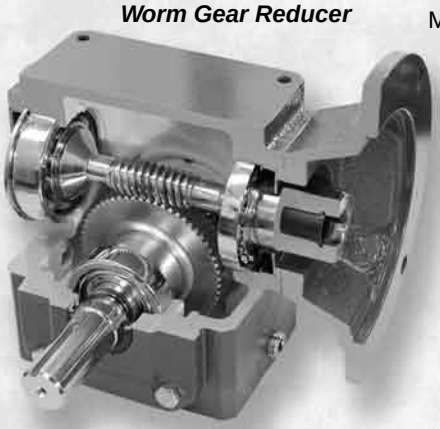


Morse
Cobra
Worm Gear Reducer

Morse
Raider Plus
Worm Gear Reducer

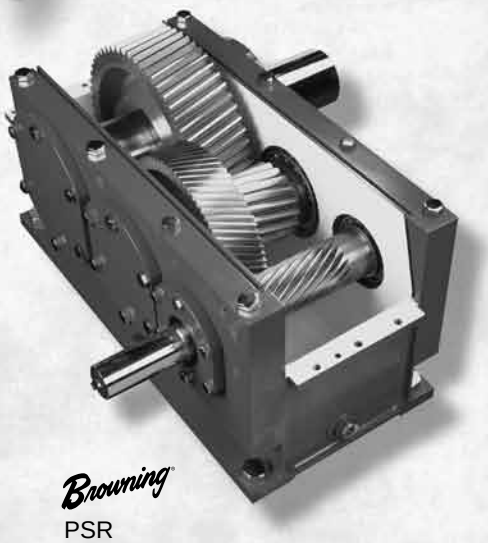


Browning
MbN Helical
Shaft Mount Gearmotor





Morse
PoweRgear
Worm Gear Reducer



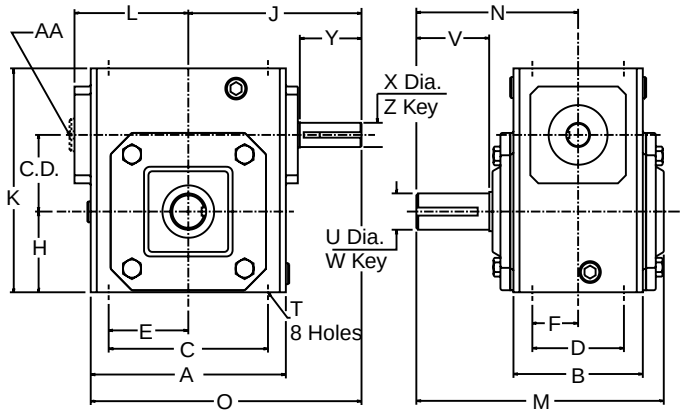
Browning
PSR
Helical Parallel Shaft Gear Reducer



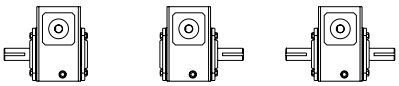
Browning
TORQ TAPER *Plus*
Shaft Mount Speed Reducer

Style U

Universal —Basic Unit



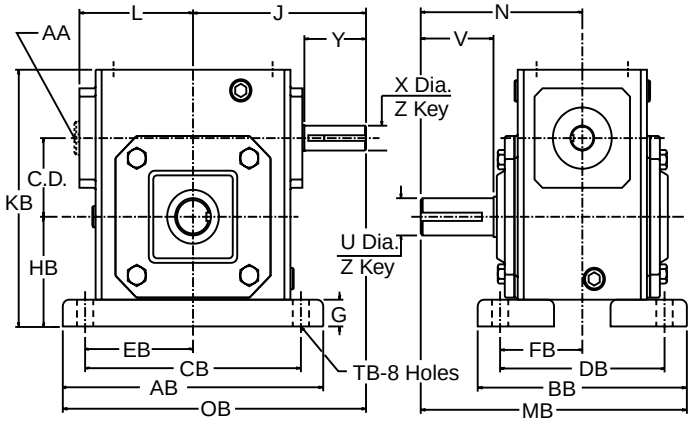
Assembly Drawing and Sample of Components



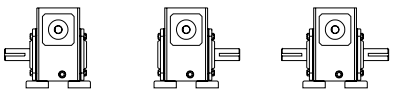
133UL10 133UR10 133ULR10

Style UT

Universal Worm Top



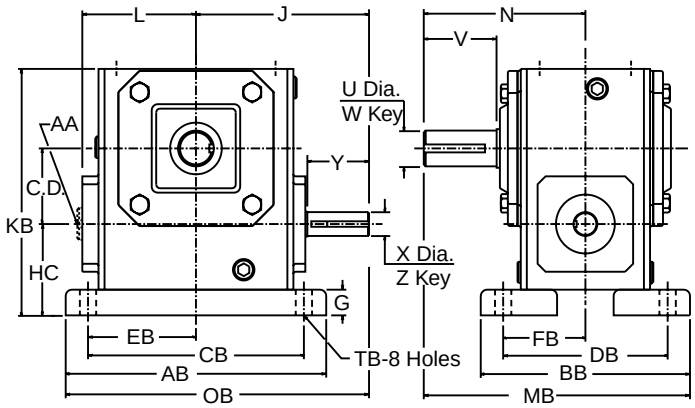
Assembly Drawing and Sample of Components



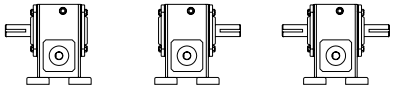
133UL10 133UR10 133ULR10
133S-BK 133S-BK 133S-BK

Style UB

Universal Worm Bottom



Assembly Drawing and Sample of Components



133UR10 133UL10 133ULR10
133S-BK 133S-BK 133S-BK

Dimensions (Inches) for Style "U"

C.D.	Basic Unit ★	A	B	C	D	E	F	H	J	K	L	M	N	O
1.00	100U	3.30	2.50	2.63	1.69	1.31	.84	1.31	3.00	3.63	1.71	4.40	2.88	4.65
1.33	133U	4.00	2.88	3.25	2.00	1.63	1.00	1.72	4.03	4.66	2.12	6.03	4.00	6.03
1.54	154U	5.13	3.69	4.19	2.75	2.09	1.38	1.91	4.69	5.38	2.75	6.76	4.31	7.25
1.75	175U	4.81	3.38	4.19	2.75	2.09	1.38	2.06	4.68	5.75	2.75	6.75	4.31	7.09
2.06	206U	5.50	3.75	5.00	2.88	2.50	1.44	2.28	5.06	6.38	3.00	7.25	4.69	7.73
2.37	237U	6.13	4.06	5.00	2.88	2.50	1.44	2.50	5.44	6.94	3.56	7.78	5.08	8.51
2.62	262U	7.12	4.44	6.38	3.38	3.19	1.69	2.94	6.23	8.00	3.69	8.50	5.63	9.79
3.00	300U	8.50	5.50	7.00	4.00	3.50	2.00	3.25	7.00	8.88	4.50	10.25	6.75	11.25
3.25	325U	8.50	5.00	7.50	4.00	3.75	2.00	3.50	7.06	9.38	4.50	10.60	7.06	11.31
3.75	375U	9.50	6.38	8.50	4.75	4.25	2.38	3.88	8.38	10.44	5.74	11.88	7.75	13.13
4.50	450U	10.88	7.38	9.56	5.81	4.78	2.91	4.50	9.59	11.94	6.42	13.16	8.44	15.09
5.16	516U	12.50	7.38	11.00	5.81	5.50	2.91	5.31	10.69	13.75	7.42	13.91	9.06	16.94
6.00	600U	14.50	8.13	12.75	6.38	6.38	3.19	6.50	11.75	16.50	8.25	15.31	10.00	19.00

C.D.	T		OUTPUT SHAFT				INPUT SHAFT				Stock Ratios marked "x"									Wt. Lbs.
			U	V	W Key		X	Y	Z Key											
	Size	Deep	+.000 -.001		Sq.	Lgth.	+.000 -.001		Sq.	Lgth.	5	10	15	20	25	30	40	50	60	
1.00	1/4-20	.44	.500	1.25	.125	.88	.375	1.23	.094	.75	x	x	x	x	-	x	x	x	-	6.0
1.33	5/16-18	.50	.625	2.00	.188	1.31	.500	1.81	.125	1.38	x	x	x	x	x	x	x	x	x	11.0
1.54	5/16-18	.50	.750	1.78	.188	1.25	.625	1.69	.188	.94	x	x	x	x	x	x	x	x	x	18.0
1.75	5/16-18	.61	.875	1.88	.188	1.38	.625	1.81	.188	1.50	x	x	x	x	x	x	x	x	x	20.0
2.06	3/8-16	.61	1.000	2.00	.250	1.75	.625	1.81	.188	1.50	x	x	x	x	x	x	x	x	x	25.0
2.37	3/8-16	.60	1.125	2.37	.250	1.75	.750	1.94	.188	1.31	x	x	x	x	x	x	x	x	x	31.0
2.62	3/8-16	.58	1.125	2.50	.250	2.00	.750	2.31	.188	1.88	x	x	x	x	x	x	x	x	x	43.0
3.00	7/16-14	.80	1.250	3.25	.250	2.25	.875	2.26	.188	1.31	x	x	x	x	x	x	x	x	x	57.0
3.25	7/16-14	.80	1.375	3.25	.313	2.88	.875	2.31	.188	1.63	-	x	x	x	x	x	x	x	x	72.0
3.75	1/2-13	1.00	1.625	3.50	.375	2.81	1.000	2.91	.250	1.75	-	x	x	x	x	x	x	x	x	105.0
4.50	5/8-11	1.00	1.625	3.38	.375	2.50	1.125	3.48	.250	2.50	-	x	x	x	x	x	x	x	x	151.0
5.16	5/8-11	1.00	2.000	4.16	.500	2.81	1.250	3.75	.250	2.56	-	x	x	x	x	x	x	x	x	198.0
6.00	5/8-11	1.00	2.250	4.56	.500	3.50	1.500	3.75	.375	2.94	x	x	x	x	x	x	x	x	x	240.0

Dimensions (Inches) for Style "UT" - With Base - Worm Top

Components ◆		AB	BB	CB	DB	EB	FB	G	HB	KB	MB	OB	TB	Wt. Lbs.
Basic Unit ★	Base Kit ▲ Standard													
100U	100S-BK	4.37	3.50	3.75	2.88	1.88	1.44	.38	1.75	4.07	4.63	5.19	.344	6.5
133U	133S-BK	5.38	4.19	4.38	3.31	2.19	1.66	.47	2.25	5.19	6.09	6.72	.344	11.5
154U	154S-BK	6.44	5.44	5.25	4.31	2.63	2.16	.59	2.50	5.97	7.03	7.91	.406	18.8
175U	175S-BK	7.00	5.56	5.75	4.50	2.88	2.25	.69	2.75	6.44	7.09	8.18	.406	21.0
206U	206S-BK	7.69	5.76	6.38	4.69	3.19	2.34	.72	3.00	7.09	7.57	8.90	.469	26.5
237U	237S-BK	8.50	6.19	7.06	4.88	3.53	2.44	.75	3.25	7.69	8.18	9.69	.469	32.8
262U	262S-BK	9.25	6.50	8.00	5.25	4.00	2.63	.75	3.69	8.75	8.88	10.86	.531	45.0
300U	300S-BK	10.17	7.38	8.44	5.88	4.22	2.94	.88	4.13	9.75	10.44	12.08	.531	59.5
325U	325S-BK	11.12	7.75	9.50	6.13	4.75	3.06	.88	4.38	10.25	10.94	12.63	.531	75.0
375U	375S-BK	12.00	8.63	10.38	7.00	5.19	3.50	.94	4.81	11.38	12.06	14.38	.594	115.0
450U	450S-BK	13.88	9.31	12.13	7.63	6.06	3.81	1.13	5.63	13.06	13.13	16.53	.656	168.0
516U	516S-BK	16.38	10.38	14.13	8.38	7.06	4.19	1.13	6.44	14.88	14.25	18.88	.781	224.0
600U	600S-BK	19.00	12.00	16.50	9.50	8.25	4.75	1.25	7.75	17.75	16.00	21.25	.906	283.0

Dimensions (Inches) for Style "UB"

Components ◆		HC
Basic Unit ★	Base Kit ▲ Standard	
100U	100S-BK	1.75
133U	133S-BK	2.14
154U	154S-BK	2.50
175U	175S-BK	2.63
206U	206S-BK	2.75
237U	237S-BK	2.81
262U	262S-BK	3.19
300U	300S-BK	3.50
325U	325S-BK	3.50
375U	375S-BK	3.75
450U	450S-BK	4.06
516U	516S-BK	4.40
600U	600S-BK	5.25

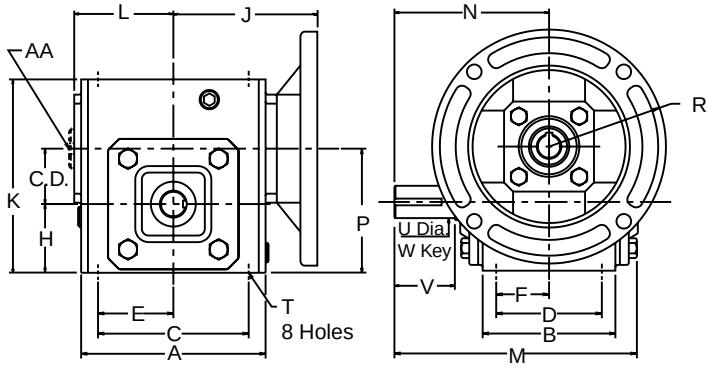
Fan Kit

Basic Unit ★	Fan Kit	AA		L	Wt. Lbs.
		Tap	Deep		
375U	375 FAN	3/8-24	3/4	7.66	2.8
450U	450 FAN	3/8-24	3/4	8.36	2.8
516U	516 FAN	3/8-24	3/4	9.18	2.8
600U	600 FAN	3/8-24	3/4	10.70	4.2

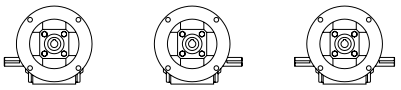
★ To complete Part No. add shaft assembly (L, R, LR) and ratio symbol to size - for example 133ULR10.
◆ Components needed to make assembled reducer must be ordered separately. If Fan Kit is required, see the table above.
▲ Select either Standard Base Kit (S-BK) or Econo Base Kit (E-BK) or Solid Base Kit (BKS); base kits are shown on page 212. Consult factory for ratios not shown as standard.

Style Q

C-Face Quilled – Basic Unit



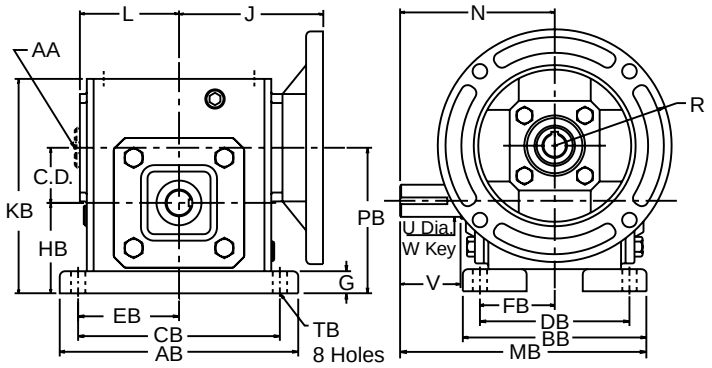
Assembly Drawing and Sample of Components



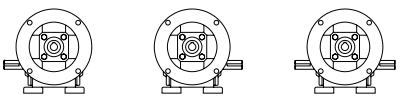
133Q56L10 133Q56R10 133Q56LR10

Style QT

Worm Top



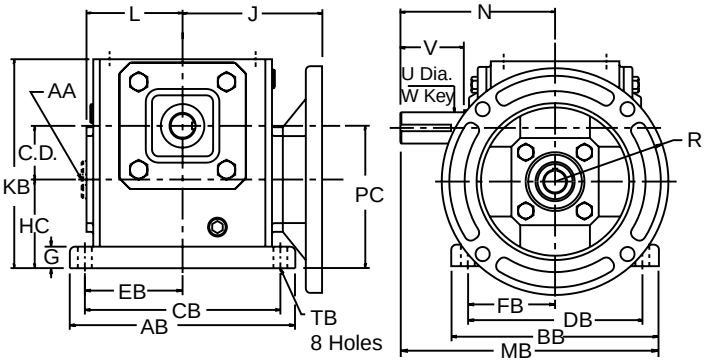
Assembly Drawing and Sample of Components



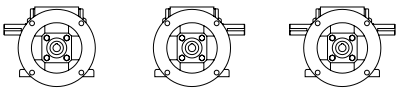
133Q56L10 133Q56R10 133Q56LR10
133S-BK 133S-BK 133S-BK

Style QB

Worm Bottom



Assembly Drawing and Sample of Components



133Q56R10 133Q56L10 133Q56LR10
133S-BK 133S-BK 133S-BK

Note: When mounting Style "QB", interference may occur; use a Riser Block or consult Application Engineering (1 800 626 2093).

Dimensions (Inches) for Style "Q"

C.D.	Basic Unit★	NEMA.FrameA		B	C	D	E	F	H	J	K	L	M	N	P	R
1.00	100Q40	42CZ/48C	3.30	2.50	2.63	1.69	1.31	0.84	1.31	3.16	3.63	1.71	4.40	2.88	2.31	2.13
1.00	100Q56	56C	3.30	2.50	2.63	1.69	1.31	0.84	1.31	3.53	3.63	1.71	4.40	2.88	2.31	3.25
1.33	133Q56	56C	4.00	2.88	3.25	2.00	1.63	1.00	1.72	3.94	4.66	2.12	6.03	4.00	3.05	3.25
1.54	154Q56	56C	5.13	3.69	4.19	2.75	2.09	1.38	1.91	4.52	5.38	2.75	6.76	4.31	3.45	3.25
1.54	154Q140	143/145TC	5.13	3.69	4.19	2.75	2.09	1.38	1.91	4.52	5.38	2.75	6.76	4.31	3.45	3.25
1.75	175Q56	56C	4.81	3.38	4.19	2.75	2.09	1.38	2.06	4.38	5.75	2.75	6.75	4.31	3.81	3.25
1.75	175Q140	143/145TC	4.81	3.38	4.19	2.75	2.09	1.38	2.06	4.38	5.75	2.75	6.75	4.31	3.81	3.25
2.06	206Q56	56C	5.50	3.75	5.00	2.88	2.50	1.44	2.28	4.75	6.38	3.00	7.25	4.69	4.34	3.25
2.06	206Q140	143/145TC	5.50	3.75	5.00	2.88	2.50	1.44	2.28	4.75	6.38	3.00	7.25	4.69	4.34	3.25
2.37	237Q56	56C	6.13	4.06	5.00	2.88	2.50	1.44	2.50	5.06	6.94	3.56	7.78	5.08	4.88	3.25
2.37	237Q140	143/145TC	6.13	4.06	5.00	2.88	2.50	1.44	2.50	5.06	6.94	3.56	7.78	5.08	4.88	3.25
2.62	262Q56	56C	7.12	4.44	6.38	3.38	3.19	1.69	2.94	5.69	8.00	3.69	8.50	5.63	5.57	3.25
2.62	262Q140	143/145TC	7.12	4.44	6.38	3.38	3.19	1.69	2.94	5.69	8.00	3.69	8.50	5.63	5.57	3.25
2.62	262Q180	182/184TC	7.12	4.44	6.38	3.38	3.19	1.69	2.94	6.13	8.00	3.69	8.50	5.63	5.57	4.50
3.00	300Q56	56C	8.50	5.50	7.00	4.00	3.50	2.00	3.25	5.67	8.88	4.50	10.25	6.75	6.25	3.25
3.00	300Q140	143/145TC	8.50	5.50	7.00	4.00	3.50	2.00	3.25	5.67	8.88	4.50	10.25	6.75	6.25	3.25
3.00	300Q180	182/184TC	8.50	5.50	7.00	4.00	3.50	2.00	3.25	6.45	8.88	4.50	10.25	6.75	6.25	4.50
3.25	325Q56	56C	8.50	5.00	7.50	4.00	3.75	2.00	3.50	6.56	9.38	4.50	10.60	7.06	6.75	3.25
3.25	325Q140	143/145TC	8.50	5.00	7.50	4.00	3.75	2.00	3.50	6.56	9.38	4.50	10.60	7.06	6.75	3.25
3.25	325Q180	182/184TC	8.50	5.00	7.50	4.00	3.75	2.00	3.50	7.00	9.38	4.50	10.60	7.06	6.75	4.50
3.75	375Q56	56C	9.50	6.38	8.50	4.75	4.25	2.38	3.88	6.01	10.44	5.74	11.88	7.75	7.63	3.38
3.75	375Q140	143/145TC	9.50	6.38	8.50	4.75	4.25	2.38	3.88	6.01	10.44	5.74	11.88	7.75	7.63	3.38
3.75	375Q180	182/184TC	9.50	6.38	8.50	4.75	4.25	2.38	3.88	7.29	10.44	5.74	11.88	7.75	7.63	4.50
3.75	375Q21O	213/215TC	9.50	6.38	8.50	4.75	4.25	2.38	3.88	7.29	10.44	5.74	11.88	7.75	7.63	4.50
4.50	450Q140	143/145TC	10.88	7.38	9.56	5.81	4.78	2.91	4.50	6.69	11.94	6.42	13.16	8.44	9.00	3.38
4.50	450Q180	182/184TC	10.88	7.38	9.56	5.81	4.78	2.91	4.50	7.97	11.94	6.42	13.16	8.44	9.00	4.50
4.50	450Q210	213/215TC	10.88	7.38	9.56	5.81	4.78	2.91	4.50	7.97	11.94	6.42	13.16	8.44	9.00	4.50
5.16	516Q180	182/184TC	12.50	7.38	11.00	5.81	5.50	2.91	5.31	8.78	13.75	7.42	13.91	9.06	10.47	4.50
5.16	516Q210	213/215TC	12.50	7.38	11.00	5.81	5.50	2.91	5.31	8.78	13.75	7.42	13.91	9.06	10.47	4.50
6.00	600Q180	213/215TC	14.50	8.13	12.75	6.38	6.38	3.19	6.50	9.68	6.50	8.25	15.31	10.00	12.50	4.50
6.00	600Q210	213/215TC	14.50	8.13	12.75	6.38	6.38	3.19	6.50	9.68	6.50	8.25	15.31	10.00	12.50	4.50

C.D.	N.E.M.A. Frame	T		INPUT		OUTPUT SHAFT U +.000 -.000	V	W Key		Stock Ratios marked x									Wt. Lbs.
		Size	Deep	Bore	Keyway			Sq.	Lgth.	5	10	15	20	25	30	40	50	60	
1.00	42CZ/48C	1/4-20	.44	.500	1/8 X 1/16	.500	1.25	.125	0.88	x	x	x	x	-	x	x	x	-	9.0
1.00	56C	1/4-20	.44	.625	3/16 X 3/32	.500	1.25	.125	0.88	x	x	x	x	-	x	x	-	-	9.0
1.33	56C	5/16-18	.50	.625	3/16 X 3/32	.625	2.00	.188	1.31	x	x	x	x	x	x	x	x	x	17.0
1.54	56C	5/16-18	.50	.625	3/16 X 3/32	.750	1.78	.188	1.25	x	x	x	x	x	x	x	x	x	24.0
1.54	143/145TC	5/16-18	.50	.875	3/16 X 3/32	.750	1.78	.188	1.25	x	x	x	-	-	-	-	-	-	24.0
1.75	56C	5/16-18	.61	.625	3/16 X 3/32	.875	1.88	.188	1.38	x	x	x	x	x	x	x	x	x	27.0
1.75	143/145TC	5/16-18	.61	.875	3/16 X 3/32	.875	1.88	.188	1.38	x	x	x	-	-	-	-	-	-	27.0
2.06	56C	3/8-16	.61	.625	3/16 X 3/32	1.000	2.00	.250	1.75	x	x	x	x	x	x	x	x	x	32.0
2.06	143/145TC	3/8-16	.61	.875	3/16 X 3/32	1.000	2.00	.250	1.75	x	x	x	x	x	-	-	-	-	32.0
2.37	56C	3/8-16	.60	.625	3/16 X 3/32	1.125	2.37	.250	1.75	x	x	x	x	x	x	x	x	x	38.0
2.37	143/145TC	3/8-16	.60	.875	3/16 X 3/32	1.125	2.37	.250	1.75	x	x	x	x	x	x	x	-	-	38.0
2.62	56C	3/8-16	.58	.625	3/16 X 3/32	1.125	2.50	.250	2.00	-	x	x	x	x	x	x	x	x	50.0
2.62	143/145TC	3/8-16	.58	.875	3/16 X 3/32	1.125	2.50	.250	2.00	-	x	x	x	x	x	x	x	x	50.0
2.62	182/184TC	3/8-16	.58	1.125	1/4 X 1/8	1.125	2.50	.250	2.00	x	x	-	-	-	-	-	-	-	50.0
3.00	56C	7/16-14	.80	.625	3/16 X 3/32	1.250	3.25	.250	2.25	-	-	x	x	x	x	x	x	x	68.0
3.00	143/145TC	7/16-14	.80	.875	3/16 X 3/32	1.250	3.25	.250	2.25	-	x	x	x	x	x	x	x	x	68.0
3.00	182/184TC	7/16-14	.80	1.125	1/4 X 1/8	1.250	3.25	.250	2.25	-	x	x	x	x	x	x	x	x	68.0
3.25	56C	7/16-14	.80	.625	3/16 X 3/32	1.375	3.25	.313	2.88	-	x	x	x	x	x	x	x	x	87.0
3.25	143/145TC	7/16-14	.80	.875	3/16 X 3/32	1.375	3.25	.313	2.88	-	x	x	x	x	x	x	x	x	87.0
3.25	182/184TC	7/16-14	.80	1.125	1/4 X 1/8	1.375	3.25	.313	2.88	-	x	x	x	x	x	x	x	x	87.0
3.75	56C	1/2-13	1.00	.625	3/16 X 3/32	1.625	3.50	.375	2.81	-	-	-	-	-	-	x	x	x	120.0
3.75	143/145TC	1/2-13	1.00	.875	3/16 X 3/32	1.625	3.50	.375	2.81	-	x	x	x	x	x	x	x	x	120.0
3.75	182/184TC	1/2-13	1.00	1.125	1/4 X 1/8	1.625	3.50	.375	2.81	-	x	x	x	x	x	x	x	-	120.0
3.75	213/215TC	1/2-13	1.00	1.375	5/16 X 5/32	1.625	3.50	.375	2.81	-	x	x	-	-	-	-	-	-	120.0
4.50	143/145TC	5/8-11	1.00	.875	3/16 X 3/32	1.625	3.88	.375	2.50	-	-	-	-	-	-	x	x	x	170.0
4.50	182/184TC	5/8-11	1.00	1.125	1/4 X 1/8 1	1.625	3.38	.375	2.50	-	-	x	x	x	x	x	x	x	170.0
4.50	213/215TC	5/8-11	1.00	1.375	5/16X5/32	1.625	3.38	.375	2.50	-	x	x	x	x	-	-	-	-	170.0
5.16	182/184TC	5/8-11	1.00	1.125	1/4 X 1/8	2.000	4.16	.500	2.81	-	-	-	-	-	-	x	x	x	221.0
5.16	213/215TC	5/8-11	1.00	1.375	5/16 X 5/32	2.000	4.16	.500	2.81	-	x	x	x	x	x	-	-	-	221.0
6.00	182/184TC	5/8-11	1.00	1.375	5/16 X 5/32	2.250	4.56	.500	3.50	-	-	-	x	x	x	x	x	x	270.0
6.00	213/215TC	5/8-11	1.00	1.375	5/16 X 5/32	2.250	4.56	.500	3.50	-	-	-	-	x	x	x	x	x	270.0

Dimensions (Inches) for Style "QT" - Worm Top

Components♦		AB	BB	CB	DB	EB	FB	G	HB	KB	MB	PB	TB	Wt. Lbs.
Ref. No.	Standard Base Kit A▲													
100Q	100S-BK	4.37	3.50	3.75	2.88	1.88	1.44	.38	1.75	4.07	4.63	2.75	.344	9.5
133Q	133S-BK	5.38	4.19	4.38	3.31	2.19	1.66	.47	2.25	5.19	6.09	3.58	.344	17.5
154Q	154S-BK	6.44	5.44	5.25	4.31	2.63	2.16	.59	2.50	5.97	7.03	4.04	.406	24.8
175Q	175S-BK	7.00	5.56	5.75	4.50	2.88	2.25	.69	2.75	6.44	7.09	4.50	.406	28.0
206Q	206S-BK	7.69	5.76	6.38	4.69	3.19	2.34	.72	3.00	7.09	7.57	5.06	.469	33.5
237Q	237S-BK	8.50	6.19	7.06	4.88	3.53	2.44	.75	3.25	7.69	8.18	5.62	.469	39.8
262Q	262S-BK	9.25	6.50	8.00	5.25	4.00	2.63	.75	3.69	8.75	8.88	6.31	.531	52.0
300Q	300S-BK	10.17	7.38	8.44	5.88	4.22	2.94	.88	4.13	9.75	10.44	7.13	.531	70.5
325Q	325S-BK	11.12	7.75	9.50	6.13	4.75	3.06	.88	4.38	10.25	10.94	7.63	.531	90.0
375Q	375S-BK	12.00	8.63	10.38	7.00	5.19	3.50	.94	4.81	11.38	12.06	8.56	.594	130.0
450Q	450S-BK	13.88	9.31	12.13	7.63	6.06	3.81	1.13	5.63	13.06	13.13	10.19	.656	187.0
516Q	516S-BK	16.38	10.38	14.13	8.38	7.06	4.19	1.13	6.44	14.88	14.25	11.60	.781	247.0
600Q	600S-BK	19.00	12.00	16.50	9.50	8.25	4.75	1.25	7.75	17.75	16.00	13.75	.906	313.0

Dimensions (Inches) for Style "QB"

Components♦		HC	PC
Ref. No.	Base Kits Standard		
100Q	100S-BK	1.75	2.75
133Q	133S-BK	2.14	3.47
154Q	154S-BK	2.50	4.04
175Q	175S-BK	2.63	4.38
206Q	206S-BK	2.75	4.81
237Q	237S-BK	2.81	5.19
262Q	262S-BK	3.19	5.81
300Q	300S-BK	3.50	6.50
325Q	325S-BK	3.50	6.75
375Q	375S-BK	3.75	7.50
450Q	450S-BK	4.06	8.63
516Q	516S-BK	4.40	9.56
600Q	600S-BK	5.25	11.25

Fan Kit

Basic Unit★	Fan Kit	AA		Wt. Lbs.
		Tap	Deep	
375Q	375 FAN	3/8/24	3/4	2.8
450Q	450 FAN	3/8/24	3/4	2.8
516Q	516 FAN	3/8/24	3/4	2.8
600Q	600 FAN	3/8/24	3/4	4.2

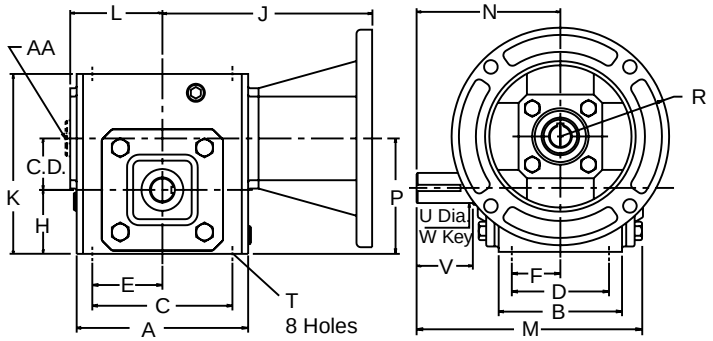
★ To complete Part No. add shaft assembly (L, R, LR) and ratio symbol to size - for example 133Q56LR10.

◆ Components needed to make assembled reducer must be ordered separately. If Fan Kit is required, see the table to left.

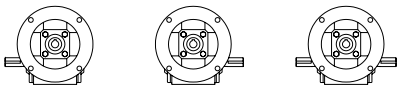
▲ Select either Standard Base Kit (S-BK) or Econo Base Kit (E-BK) or Solid Base Kit (BKS); base kits are shown on page 220.
Consult factory for ratios not shown as standard.

Style C

C-Face Coupled



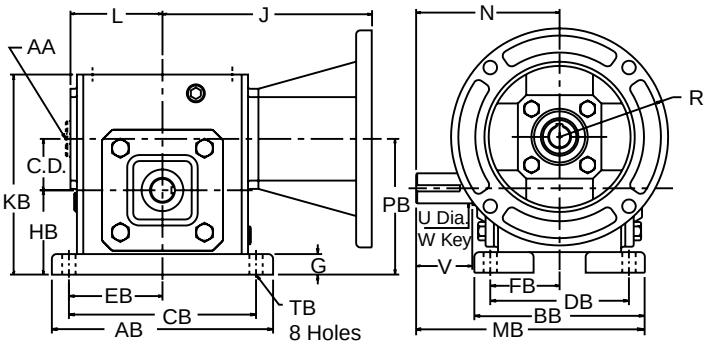
Assembly Drawing and Sample of Components



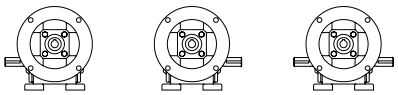
133UL10	133UR10	133ULR10
133MAK56	133MAK56	133MAK56

Style CT

C Face Coupled Worm Top



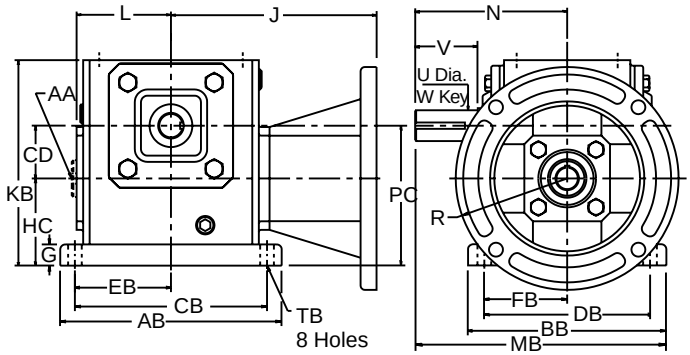
Assembly Drawing and Sample of Components



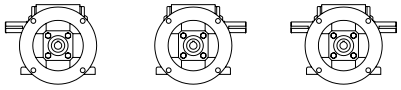
133UL10	133UR10	133ULR10
133MAK56	133MAK56	133MAK56
133S-BK	133S-BK	133S-BK

Style CB

C Face Coupled Worm Bottom



Assembly Drawing and Sample of Components



133UR10	133UL10	133ULR10
133MAK56	133MAK56	133MAK56
133S-BK	133S-BK	133S-BK

Note: When mounting Style "CB", interference may occur; use a Riser Block or consult Application Engineering (1 800 626 2093).

Dimensions (Inches) for Style "C"

C.D.	Component ◆		A	B	C	D	E	F	H	K	L	M	N	P	T	
	Basic Unit ★	Adapter Kit													Size	Deep
1.33	133U	See Adapter Kit Table Below	4.00	2.88	3.25	2.00	1.63	1.00	1.72	4.66	2.12	6.03	4.00	3.05	5/16-18	.50
1.54	154U		5.13	3.69	4.19	2.75	2.09	1.38	1.91	5.38	2.75	6.76	4.31	3.45	5/16-18	.50
1.75	175U		4.81	3.38	4.19	2.75	2.09	1.38	2.06	5.75	2.75	6.75	4.31	3.81	5/16-18	.61
2.06	206U		5.50	3.75	5.00	2.88	2.50	1.44	2.28	6.38	3.00	7.25	4.69	4.34	3/8-16	.61
2.37	237U		6.13	4.06	5.00	2.88	2.50	1.44	2.50	6.94	3.56	7.78	5.08	4.88	3/8-16	.60
2.62	262U		7.12	4.44	6.38	3.38	3.19	1.69	2.94	8.00	3.69	8.50	5.63	5.57	3/8-16	.58
3.00	300U		8.50	5.50	7.00	4.00	3.50	2.00	3.25	8.88	4.50	10.25	6.75	6.25	7/16-14	.80
3.25	325U		8.50	5.00	7.50	4.00	3.75	2.00	3.50	9.38	4.50	10.60	7.06	6.75	7/16-14	.80
3.75	375U		9.50	6.38	8.50	4.75	4.25	2.38	3.88	10.44	5.74	11.88	7.75	7.63	1/2-13	1.00
4.50	450U		10.88	7.38	9.56	5.81	4.78	2.91	4.50	11.94	6.42	13.16	8.44	9.00	5/8-11	1.00
5.16	516U		12.50	7.38	11.00	5.81	5.50	2.91	5.31	13.75	7.42	13.91	9.06	10.47	5/8-11	1.00
6.00	600U		14.50	8.13	12.75	6.38	6.38	3.19	6.50	16.50	8.25	15.31	10.00	12.50	5/8-11	1.00

C.D.	OUTPUT SHAFT				Stock Ratios marked "x"									Wt. Lbs.
	U +.000 -.001	V	W Key											
			Sq.	Lgth.	05	10	15	20	25	30	40	50	60	
1.33	.625	2.00	.188	1.31	x	x	x	x	x	x	x	x	x	18.0
1.54	.750	1.78	.188	1.25	x	x	x	x	x	x	x	x	x	25.0
1.75	.875	1.88	.188	1.38	x	x	x	x	x	x	x	x	x	27.0
2.06	1.000	2.00	.250	1.75	x	x	x	x	x	x	x	x	x	32.0
2.37	1.125	2.37	.250	1.75	x	x	x	x	x	x	x	x	x	39.0
2.62	1.125	2.50	.250	2.00	x	x	x	x	x	x	x	x	x	54.0
3.00	1.250	3.25	250	2.25	x	x	x	x	x	x	x	x	x	68.0
3.25	1.375	3.25	.313	2.88	-	x	x	x	x	x	x	x	x	83.0
3.75	1.625	3.50	.375	2.81	-	x	x	x	x	x	x	x	x	117.5
4.50	1.625	3.38	.375	2.50	-	x	x	x	x	x	x	x	x	167.0
5.16	2.000	4.16	.500	2.81	-	x	x	x	x	x	x	x	x	216.0
6.00	2.250	4.56	.500	3.50	x	x	x	x	x	x	x	x	x	270.0

Dimensions (Inches) for Style "CT" - With Base - Worm Top

Components ◆			AB	BB	CB	DB	EB	FB	G	HB	KB	MB	PB	TB	Wt. Lbs.
Basic Unit ★	Adapter Kit	Standard Base Kit ▲													
133U	See Adapter Kit Table Below	133S-BK	5.38	4.19	4.38	3.31	2.19	1.66	.47	2.25	5.19	6.09	3.58	.344	18.5
154U		154S-BK	6.44	5.44	5.25	4.31	2.63	2.16	.59	2.50	5.97	7.03	4.04	.406	25.8
175U		175S-BK	7.00	5.56	5.75	4.50	2.88	2.25	.69	2.75	6.44	7.09	4.50	.406	28.0
206U		206S-BK	7.69	5.76	6.38	4.69	3.19	2.34	.72	3.00	7.09	7.57	5.06	.469	33.5
237U		237S-BK	8.50	6.19	7.06	4.88	3.53	2.44	.75	3.25	7.69	8.18	5.62	.469	40.8
262U		262S-BK	9.25	6.50	8.00	5.25	4.00	2.63	.75	3.69	8.75	8.88	6.31	.531	56.0
300U		300S-BK	10.17	7.38	8.44	5.88	4.22	2.94	.88	4.13	9.75	10.44	7.13	.531	70.5
325U		325S-BK	11.12	7.75	9.50	6.13	4.75	3.06	.88	4.38	10.25	10.94	7.63	.531	86.0
375U		375S-BK	12.00	8.63	10.38	7.00	5.19	3.50	.94	4.81	11.38	12.06	8.56	.594	127.5
450U		450S-BK	13.88	9.31	12.13	7.63	6.06	3.81	1.13	5.63	13.06	13.13	10.19	.656	184.0
516U		516S-BK	16.38	10.38	14.13	8.38	7.06	4.19	1.13	6.44	14.88	14.25	11.60	.781	242.0
600U		600S-BK	19.00	12.00	16.50	9.50	8.52	4.75	1.25	7.75	17.75	16.00	13.75	.906	313.0

Dimensions (Inches) for Style "CB"

Components ◆			HC	PC
Basic Unit ★	Adapter Kit	Standard Base Kit ▲		
133U	See Adapter Kit Table Below	133S-BK	2.14	3.47
154U		154S-BK	2.50	4.04
175U		175S-BK	2.63	4.38
206U		206S-BK	2.75	4.81
237U		237S-BK	2.81	5.19
262U		262S-BK	3.19	5.81
300U		300S-BK	3.50	6.50
325U		325S-BK	3.50	6.75
375U		375S-BK	3.75	7.50
450U		450S-BK	4.06	8.63
516U		516S-BK	4.40	9.56
600U		600S-BK	5.25	11.25

Fan Kit

Basic Unit ★	Fan Kit	AA		L	Wt. Lbs.
		Tap	Deep		
375U	375 FAN	3/8-24	3/4	7.66	2.8
450U	450 FAN	3/8-24	3/4	8.36	2.8
516U	516 FAN	3/8-24	3/4	9.18	2.8
600U	600 FAN	3/8-24	3/4	10.70	4.2

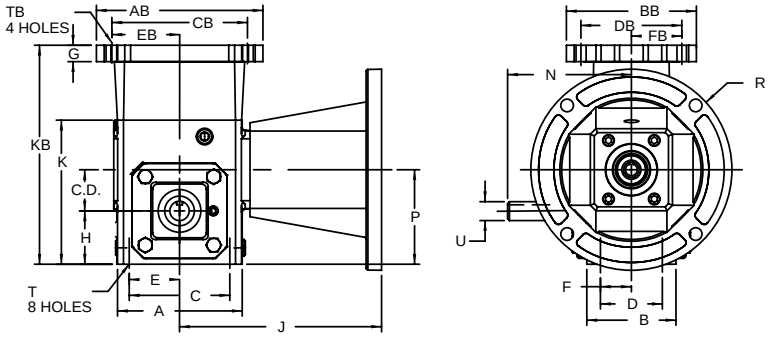
N.E.M.A. Frame Adapter Kits and Dimensions

C.D.	56C Input: .625 Kw.: 3/16 x 3/32			143/145TC Input: .875 Kw.: 3/16 x 3/32			182/184TC Input: 1.125 KW.: 1/4 x 1/8			213/215TC Input: 1.375 Kw.: 5/16 x 5/32			254/256TC Input: 1.625 Kw.: 3/8 x 3/16		
	Adapter Kit No.	J	R	Adapter Kit No.	J	R	Adapter Kit No.	J	R	Adapter Kit No.	J	R	Adapter Kit No.	J	R
1.33	133MAK56	6.38	3.25	133MAK140											
1.54	154-206MAK56	7.13	3.25	154-206MAK140	7.13	3.25									
1.75	154-206MAK56	7.00	3.25	154-206MAK140	7.00	3.25									
2.06	154-206MAK56	7.37	3.25	154-206MAK140	7.37	3.25									
2.37	237MAK56	7.69	3.25	237MAK140	7.69	3.25									
2.62	262MAK56	8.50	3.25	262MAK140	8.50	3.25	262MAK180	9.72	4.50						
3.00	300-325MAK56	9.35	3.25	300-325MAK140	9.35	3.25	300-325MAK180	10.57	4.50						
3.25	300-325MAK56	9.37	3.25	300-325MAK140	9.37	3.25	300-325MAK180	10.59	4.50	325MAK210					
3.75	375MAK56	11.47	3.38	375MAK140	11.47	3.38	375MAK180	12.92	4.50	375MAK210	12.92	4.50			
4.50				450MAK140	12.15	3.38	450MAK180	13.60	4.50	450MAK210	13.60	4.50			
5.16							516MAK180	14.40	4.50	516MAK210	14.40	4.50			
6.00							600MAK180	16.97	4.50	600MAK210	16.97	4.50	600MAK250	16.97	4.50

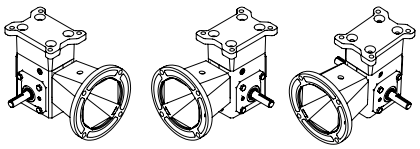
★ To complete Part No. add shaft assembly (L, R, LR) and ratio symbol to size - for example 133ULR10.
◆ Components needed to make assembled reducer must be ordered separately. If Fan Kit is required, see the table above.
▲ Select either Standard Base Kit (S-BK) or Econo Base Kit (E-BK) or Solid Base Kit (BK); base kits are shown on page 220. Consult factory for ratios not shown as standard.

Style CRT

C-Face Coupled - Riser Block
Worm Top



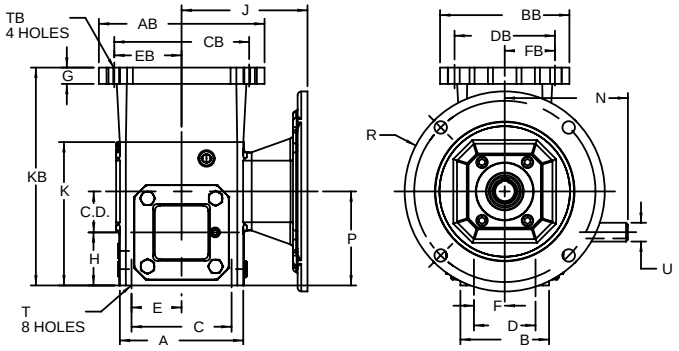
Assembly Drawing and Sample of Components



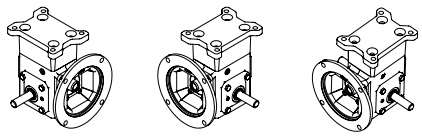
133UL10	133UR10	133ULR10
133R-BK	133R-BK	133R-BK
133MAK56	133MAK56	133MAK56
133S-BK	133S-BK	133S-BK

Style QRT

C-Face Quilled - Riser Block
Worm Top



Assembly Drawing and Sample of Components



133Q56L10	133Q56R10	133Q56LR10
133R-BK	133R-BK	133R-BK
133S-BK	133S-BK	133S-BK

DIMENSIONS (INCHES) FOR STYLE "QT" - WORM TOP

C.D.	BASIC UNIT ★	N.E.M.A. FRAME	A	B	C	D	E	F	H	J "Q"	J "C"	N	P	R
1.33	**133Q56**	56C	4.00	2.88	3.25	2.00	1.63	1.00	1.82	3.94	6.38	4.00	3.05	3.25
1.54	**154Q56**	56C	5.13	3.69	4.19	2.75	2.09	1.38	1.91	4.52	7.13	4.31	3.45	3.25
1.54	**154Q140**	143/145TC	5.13	3.69	4.19	2.75	2.09	1.38	1.91	4.52	7.13	4.31	3.45	3.25
1.75	**175Q56**	56C	4.81	3.38	4.19	2.75	2.09	1.38	2.06	4.38	7.00	4.31	3.81	3.25
1.75	**175Q140**	143/145TC	4.81	3.38	4.19	2.75	2.09	1.38	2.06	4.38	7.00	4.31	3.81	3.25
2.06	**206Q56**	56C	5.50	3.75	5.00	2.88	2.50	1.44	2.28	4.75	7.37	4.69	4.34	3.25
2.06	**206Q140**	143/145TC	5.50	3.75	5.00	2.88	2.50	1.44	2.28	4.75	7.37	4.69	4.34	3.25
2.37	**237Q56**	56C	6.13	4.06	5.00	2.88	2.50	1.44	2.50	5.06	7.69	5.08	4.88	3.25
2.37	**237Q140**	143/145TC	6.13	4.06	5.00	2.88	2.50	1.44	2.50	5.06	7.69	5.08	4.88	3.25
2.62	**262Q56**	56C	7.12	4.44	6.38	3.38	3.09	1.69	2.94	5.69	8.50	5.63	5.57	3.25
2.62	**262Q140**	143/145TC	7.12	4.44	6.38	3.38	3.09	1.69	2.94	5.69	8.50	5.63	5.57	3.25
2.62	**262Q180**	182/184TC	7.12	4.44	6.38	3.38	3.09	1.69	2.94	6.13	9.72	5.63	5.57	4.50
3.00	**300Q56**	56C	8.50	5.50	7.00	4.00	3.50	2.00	3.25	5.67	9.35	6.75	6.25	3.25
3.00	**300Q140**	143/145TC	8.50	5.50	7.00	4.00	3.50	2.00	3.25	5.67	9.35	6.75	6.25	3.25
3.00	**300Q180**	182/184TC	8.50	5.50	7.00	4.00	3.50	2.00	3.25	6.45	10.57	6.75	6.25	4.50
3.25	**325Q56**	56C	8.50	5.00	7.50	4.00	3.75	2.00	3.50	6.56	9.37	7.06	6.75	3.25
3.25	**325Q140**	143/145TC	8.50	5.00	7.50	4.00	3.75	2.00	3.50	6.56	9.37	7.06	6.75	3.25
3.25	**325Q180**	182/184TC	8.50	5.00	7.50	4.00	3.75	2.00	3.50	7.00	10.59	7.06	6.75	4.50
3.75	**375Q56**	56C	9.50	6.38	8.50	4.75	4.25	2.38	3.88	6.01	11.47	7.75	7.63	3.38
3.75	**375Q140**	143/145TC	9.50	6.38	8.50	4.75	4.25	2.38	3.88	6.01	11.47	7.75	7.63	3.38
3.75	**375Q180**	182/184TC	9.50	6.38	8.50	4.75	4.25	2.38	3.88	7.29	12.92	7.75	7.63	4.50
3.75	**375Q210**	213/215TC	9.50	6.38	8.50	4.75	4.25	2.38	3.88	7.29	12.92	7.75	7.63	4.50
4.50	**450Q140**	143/145TC	10.88	7.38	9.56	5.81	4.78	2.91	4.50	6.69	12.15	8.44	9.00	3.38
4.50	**450Q180**	182/184TC	10.88	7.38	9.56	5.81	4.78	2.91	4.50	7.97	13.60	8.44	9.00	4.50
4.50	**450Q210**	213/215TC	10.88	7.38	9.56	5.81	4.78	2.91	4.50	7.97	13.60	8.44	9.00	4.50
5.16	**516Q180**	182/184TC	12.50	7.38	11.00	5.81	5.50	2.91	5.31	8.78	14.40	9.06	10.47	4.50
5.16	**516Q210**	213/215TC	12.50	7.38	11.00	5.81	5.50	2.91	5.31	8.78	14.40	9.06	10.47	4.50

C.D.	N.E.M.A. FRAME	T		OUTPUT SHAFT			STOCK RATIOS MARKED "X"									
				U	W KEY											
		SIZE	DEEP	+.000/-.001	SQ.	LGTH.	5	10	15	20	25	30	40	50	60	WT. LBS
1.33	56C	5/16-18	0.50	0.625	0.188	1.31	x	x	x	x	x	x	x	x	x	19.41
1.54	56C	5/16-18	0.50	0.625	0.188	1.25	x	x	x	x	x	x	x	x	x	26.65
1.54	143/145TC	5/16-18	0.50	0.875	0.188	1.25	x	x	x	-	-	-	-	-	-	26.65
1.75	56C	5/16-18	0.61	0.625	0.188	1.38	x	x	x	x	x	x	x	x	x	29.39
1.75	143/145TC	5/16-18	0.61	0.875	0.188	1.38	x	x	x	-	-	-	-	-	-	29.39
2.06	56C	3/8-16	0.61	0.625	0.250	1.75	x	x	x	x	x	x	x	x	x	34.81
2.06	143/145TC	3/8-16	0.61	0.875	0.250	1.75	x	x	x	x	x	x	x	x	x	34.81
2.37	56C	3/8-16	0.60	0.625	0.250	1.75	x	x	x	x	x	x	x	x	x	45.28
2.37	143/145TC	3/8-16	0.60	0.875	0.250	1.75	x	x	x	x	x	x	x	x	x	45.28
2.62	56C	3/8-16	0.58	0.625	0.250	2.00	-	x	x	x	x	x	x	x	x	56.02
2.62	143/145TC	3/8-16	0.58	0.875	0.250	2.00	-	x	x	x	x	x	x	x	x	56.02
2.62	182/184TC	3/8-16	0.58	1.125	0.250	2.00	x	x	-	-	-	-	-	-	-	56.02
3.00	56C	7/16-14	0.80	0.625	0.250	2.25	-	-	x	x	x	x	x	x	x	74.76
3.00	143/145TC	7/16-14	0.80	0.875	0.250	2.25	-	x	x	x	x	x	x	x	x	74.76
3.00	182/184TC	7/16-14	0.80	1.125	0.250	2.25	-	x	x	x	x	x	x	x	x	74.76
3.25	56C	7/16-14	0.80	0.625	0.313	2.88	-	x	x	x	x	x	x	x	x	92.17
3.25	143/145TC	7/16-14	0.80	0.875	0.313	2.88	-	x	x	x	x	x	x	x	x	92.17
3.25	182/184TC	7/16-14	0.80	1.125	0.313	2.88	-	x	x	x	x	x	x	x	x	92.17
3.75	56C	1/2-13	1.00	0.625	0.375	2.81	-	-	-	-	-	-	x	x	x	126.03
3.75	143/145TC	1/2-13	1.00	0.875	0.375	2.81	-	x	x	x	x	x	x	x	x	126.03
3.75	182/184TC	1/2-13	1.00	1.125	0.375	2.81	-	x	x	x	x	x	x	x	-	126.03
3.75	213/215TC	1/2-13	1.00	1.375	0.375	2.81	-	x	x	-	-	-	-	-	-	126.03
4.50	143/145TC	5/8-11	1.00	0.875	0.375	2.50	-	-	-	-	-	-	x	x	x	179.62
4.50	182/184TC	5/8-11	1.00	1.125	0.375	2.50	-	-	x	x	x	x	x	x	x	179.62
4.50	213/215TC	5/8-11	1.00	1.375	0.375	2.50	-	x	x	x	x	-	-	-	-	179.62
5.16	182/184TC	5/8-11	1.00	1.125	0.500	2.81	-	-	-	-	-	-	x	x	x	230.19
5.16	213/215TC	5/8-11	1.00	1.375	0.500	2.81	-	x	x	x	x	x	-	-	-	230.19

DIMENSIONS (INCHES) FOR STYLE "QT" - WORM TOP

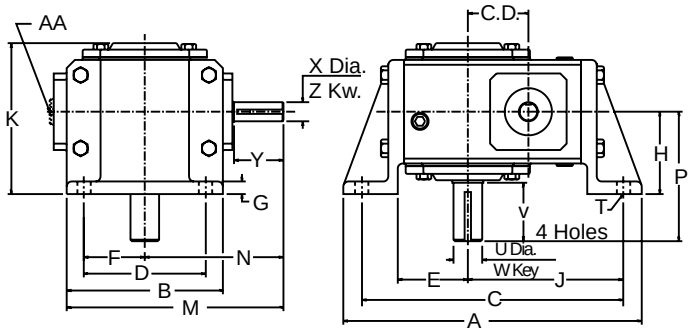
COMPONENTS ◆		AB	BB	CB	DB	EB	FB	G	KB	TB
REF. NO.	RISER BLOCK KIT									
133Q	133R-BK	5.38	4.19	4.38	3.31	2.19	1.66	0.47	7.07	0.38
154Q	154R-BK	6.44	5.44	5.25	4.31	2.63	2.16	0.59	7.52	0.44
175Q	175R-BK	7.00	5.56	5.75	4.50	2.88	2.25	0.69	8.05	0.44
206Q	206R-BK	7.69	5.76	6.38	4.69	3.19	2.34	0.72	8.51	0.50
237Q	237R-BK	8.50	6.19	7.06	4.88	3.53	2.44	0.75	10.38	0.50
262Q	262R-BK	9.25	6.50	8.00	5.25	4.00	2.63	0.75	11.15	0.56
300Q	300R-BK	10.17	7.38	8.44	5.88	4.22	2.94	0.88	11.88	0.56
325Q	325R-BK	11.12	7.75	9.50	6.13	4.75	3.06	0.88	12.13	0.56
375Q	375R-BK	12.00	8.63	10.38	7.00	5.19	3.50	0.94	13.15	0.59
450Q	450R-BK	13.88	9.31	12.13	7.63	6.06	3.81	1.13	15.33	0.66
516Q	516R-BK	16.38	10.38	14.13	8.38	7.06	4.19	1.13	16.88	0.78

★ To complete Part No. add shaft assembly (L, R, LR) and ratio symbol to size - for example 133Q56H10.

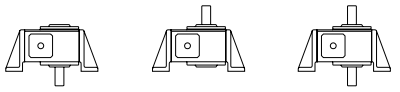
◆ Components needed to make assembled reducer must be ordered separately. If Fan Kit is required, see the table at the left. Consult factory for ratios not shown as standard.

Style UVL

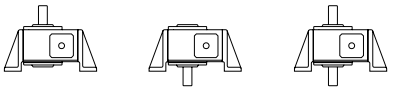
Vertical Low Base



Assembly Drawing and Sample of Components



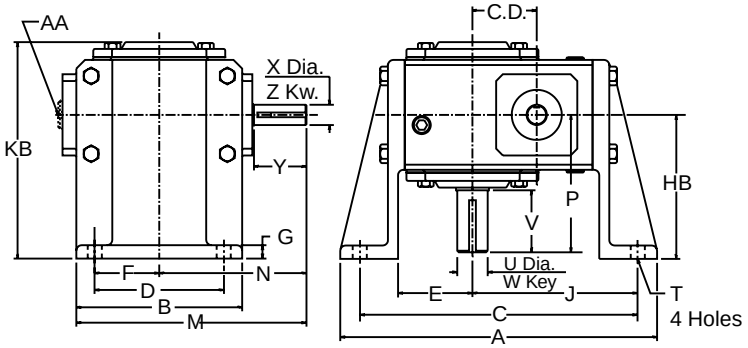
133UL10 133VL-BK | 133UR10 133VL-BK | 133ULR10 133VL-BK



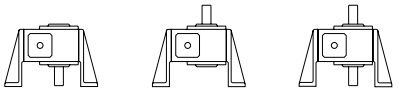
133UL10 133VL-BK | 133UR10 133VL-BK | 133ULR10 133VL-BK

Style UVH

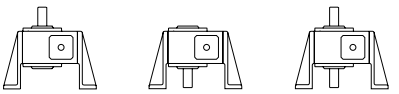
Vertical High Base



Assembly Drawing and Sample of Components



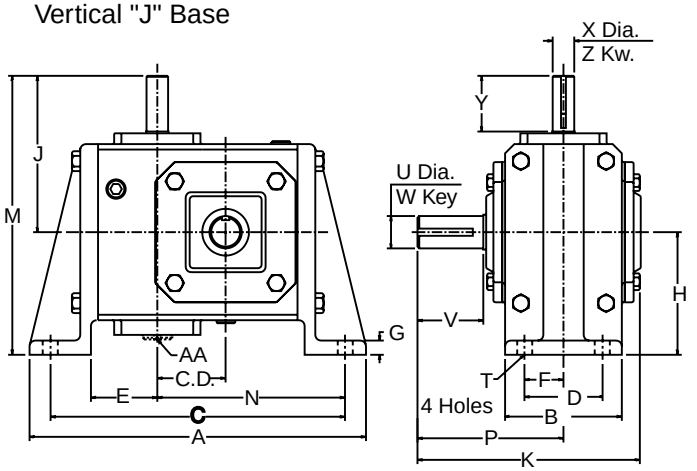
133UL10 133VH-BK | 133UR10 133VH-BK | 133ULR10 133VH-BK



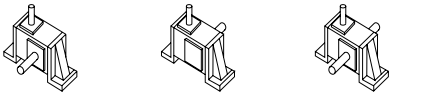
133UL10 133VH-BK | 133UR10 133VH-BK | 133ULR10 133VH-BK

Style UVJ

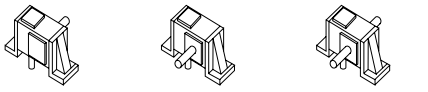
Vertical "J" Base



Assembly Drawing and Sample of Components



133UL10 133VJ-BK | 133UR10 133VJ-BK | 133ULR10 133VJ-BK



133UL10 133VJ-BK | 133UR10 133VJ-BK | 133ULR10 133VJ-BK

Note: If mounting a fan unit with input up, fan extends beyond "H" dimension.

Dimensions (Inches) for Style "UVL" - With Vertical Low Base

C.D.	Components ◆		A	B	C	D	E	F	G	H	J	K	M	N	P	T
	Basic Unit ★	Base Kit														
1.00	100U	100VL-BK	5.75	3.30	5.13	2.31	1.31	1.15	.13	1.83	3.06	3.46	4.65	3.00	2.88	.342
1.33	133U	133VL-BK	7.10	4.00	6.16	3.25	1.81	1.63	.53	2.31	3.69	4.31	6.03	4.03	4.00	.344
1.54	154U	154VL-BK	8.06	5.12	7.00	4.00	1.97	2.00	.69	3.00	4.28	5.50	7.25	4.69	4.31	.406
1.75	175U	175VL-BK	8.44	4.81	7.38	4.00	2.12	2.00	.69	3.00	4.50	5.41	7.09	4.68	4.31	.406
2.06	206U	206VL-BK	9.50	5.63	8.38	4.88	2.34	2.44	.72	3.13	5.09	5.73	7.87	5.06	4.69	.469
2.37	237U	237VL-BK	10.06	6.12	8.94	4.88	2.56	2.44	.75	3.38	5.44	6.08	8.50	5.44	5.08	.469
2.62	262U	262VL-BK	11.25	7.13	10.13	5.75	3.00	2.88	.75	3.63	6.13	6.50	9.79	6.23	5.63	.531
3.00	300U	300VL-BK	12.88	8.50	11.38	6.13	3.31	3.06	.81	4.69	6.88	8.19	11.25	7.00	6.75	.531
3.25	325U	325VL-BK	13.38	8.50	11.88	6.13	3.56	3.06	.81	4.69	7.13	8.37	11.31	7.06	7.06	.531
3.75	375U	375VL-BK	15.69	9.50	13.94	8.00	3.44	4.00	.88	5.25	8.31	9.58	13.13	8.38	7.75	.594
4.50	450U	450VL-BK	16.94	10.88	14.94	9.56	4.63	4.78	.88	5.06	8.94	9.78	15.09	9.59	8.44	.688
5.16	516U	516VL-BK	20.57	12.50	18.00	10.00	5.44	5.00	1.00	6.38	10.56	11.25	16.93	10.69	9.06	.781
6.00	600U	600VL-BK	23.25	14.75	20.88	11.75	6.63	5.88	1.13	7.31	12.19	12.63	19.13	11.75	10.00	.906

C.D.	OUTPUT SHAFT				INPUT SHAFT				Stock Ratios marked "x"									Wt. Lbs.
	U +.000 -.001	V	W Key		X +.000 -.001	Y	Z Key		5	10	15	20	25	30	40	50	60	
			Sq.	Lgth.			Sq.	Lgth.										
1.00	.500	1.25	.125	.88	.375	1.23	.094	.75	x	x	x	x	x	x	x	x	-	7.8
1.33	.625	2.00	.188	1.31	.500	1.81	.125	1.38	x	x	x	x	x	x	x	x	x	13.3
1.54	.750	1.78	.188	1.25	.625	1.69	.188	.94	x	x	x	x	x	x	x	x	x	21.4
1.75	.875	1.88	.188	1.38	.625	1.81	.188	1.50	x	x	x	x	x	x	x	x	x	24.5
2.06	1.000	2.00	.250	1.75	.625	1.81	.188	1.50	x	x	x	x	x	x	x	x	x	32.0
2.37	1.125	2.37	.250	1.75	.750	1.94	.188	1.31	x	x	x	x	x	x	x	x	x	39.0
2.62	1.125	2.50	.250	2.00	.750	2.31	.188	1.88	x	x	x	x	x	x	x	x	x	52.0
3.00	1.250	3.25	.250	2.25	.875	2.26	.188	1.31	x	x	x	x	x	x	x	x	x	69.5
3.25	1.375	3.25	.313	2.88	.875	2.31	.188	1.63	-	x	x	x	x	x	x	x	x	88.0
3.75	1.625	3.50	.375	2.81	1.000	2.91	.250	1.75	-	x	x	x	x	x	x	x	x	130.0
4.50	1.625	3.38	.375	2.50	1.125	3.48	.250	2.50	-	x	x	x	x	x	x	x	x	184.0
5.16	2.000	4.16	.500	2.81	1.250	3.75	.250	2.56	-	x	x	x	x	x	x	x	x	246.0
6.00	2.250	4.56	.500	3.50	1.500	3.75	.375	2.94	x	x	x	x	x	x	x	x	x	316.0

Dimensions (Inches) for Style "UVH"

Components ◆		HB	KB	Wt. Lbs.
Basic Unit ★	Base Kit			
100U	100VH-BK	2.96	4.59	7.8
133U	133VH-BK	3.56	5.56	14.3
154U	154VH-BK	4.38	6.88	22.4
175U	175VH-BK	4.38	6.78	25.5
206U	206VH-BK	4.88	7.48	33.0
237U	237VH-BK	5.25	7.96	41.5
262U	262VH-BK	5.60	8.47	56.0
300U	300VH-BK	6.25	9.75	73.0
325U	325VH-BK	6.25	9.93	91.0
375U	375VH-BK	7.00	11.33	133.5
450U	450VH-BK	8.56	13.28	192.0
516U	516VH-BK	8.63	13.50	258.0
600U	600VH-BK	9.63	14.94	331.0

Fan Kit

Basic Unit ★	Fan Kit	AA		Wt. Lbs.
		Tap	Deep	
375U	375 FAN	3/8-24	3/4	2.8
450U	450 FAN	3/8-24	3/4	2.8
516U	516 FAN	3/8-24	3/4	2.8
600U	600 FAN	3/8-24	3/4	4.2

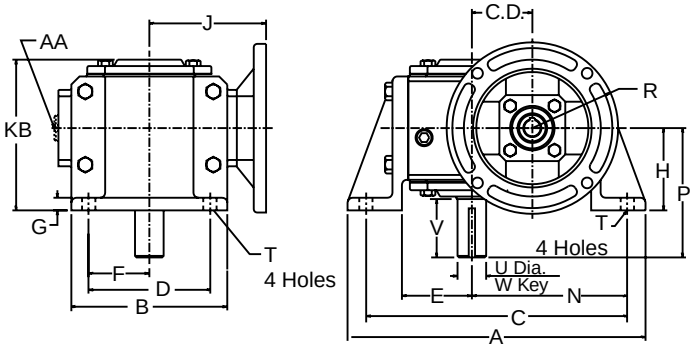
Dimensions (Inches) for Style "UVJ" - With Vertical "J" Base

Components ◆		A	B	C	D	E	F	G	H	J	K	M	N	P	T	Wt. Lbs.
Base Unit ★	Base Kit															
133U	133VJ-BK	7.28	2.88	6.42	2.00	1.66	1.00	.53	2.94	4.03	5.31	6.97	3.93	2.66	.344	15.0
154U	154VJ-BK	8.25	3.69	7.25	2.50	1.98	1.25	.69	3.50	4.69	6.44	8.19	4.39	3.22	.406	22.0
175U	175VJ-BK	8.63	3.38	7.63	2.50	2.00	1.25	.69	3.50	4.68	5.70	8.18	4.75	2.85	.406	25.0
206U	206VJ-BK	9.75	3.75	8.62	2.62	2.09	1.31	.72	3.94	5.06	6.44	9.00	5.46	3.22	.469	31.0
237U	237VJ-BK	10.30	4.06	9.19	2.88	2.12	1.44	.75	4.06	5.44	6.31	9.50	6.00	3.16	.469	47.0
262U	262VJ-BK	11.75	4.44	10.38	3.13	2.50	1.56	.75	4.75	6.23	6.88	10.98	6.75	3.44	.531	58.0
300U	300VJ-BK	13.50	5.00	12.25	4.00	2.69	2.00	.81	5.94	7.00	8.38	12.94	7.94	4.19	.531	82.0
325U	325VJ-BK	14.00	5.00	12.75	4.00	2.69	2.00	.81	5.69	7.06	8.50	12.75	8.44	4.25	.531	85.0
375U	375VJ-BK	15.06	6.25	13.31	4.75	2.94	2.38	.88	6.00	8.38	9.63	14.38	9.06	4.81	.594	117.5
450U	450VJ-BK	16.94	7.38	14.94	5.81	3.06	2.91	.88	7.38	9.59	11.13	16.96	8.94	5.56	.688	151.0
516U	516VJ-BK	19.38	7.38	17.50	5.81	3.40	2.91	1.00	7.75	10.69	11.31	18.44	12.35	5.66	.781	240.0
600U	600VJ-BK	22.00	8.13	20.00	6.38	4.12	3.19	1.13	8.50	11.75	12.63	20.25	14.25	6.31	.906	342.0

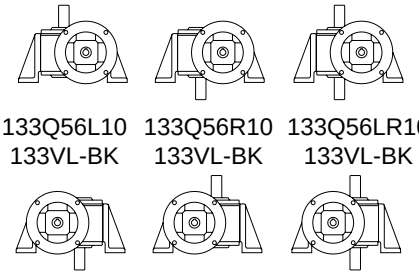
★ To complete Part No. add shaft assembly (L, R, LR) and ratio symbol to size - for example 133ULR10.
◆ Components needed to make assembled reducer must be ordered separately. If Fan Kit is required, see the table above. Consult factory for ratios not shown as standard.

Style QVL

Vertical Low Base



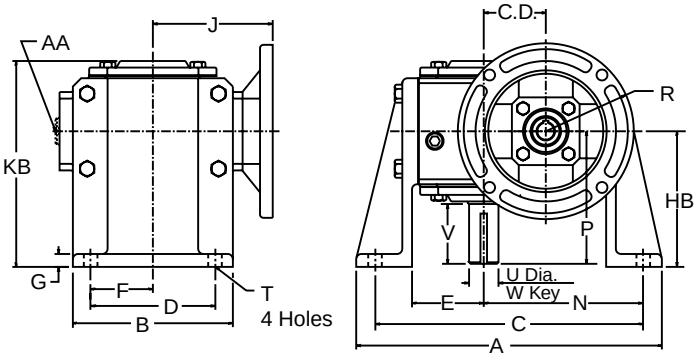
Assembly Drawing and Sample of Components



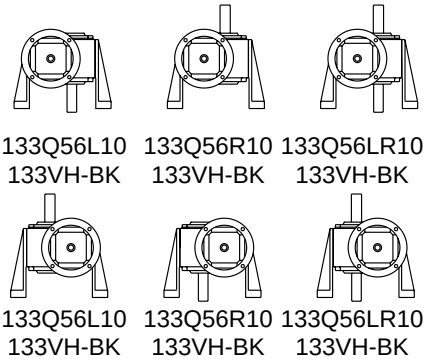
133Q56L10 133VL-BK	133Q56R10 133VL-BK	133Q56LR10 133VL-BK
133Q56L10 133VL-BK	133Q56R10 133VL-BK	133Q56LR10 133VL-BK

Style QVH

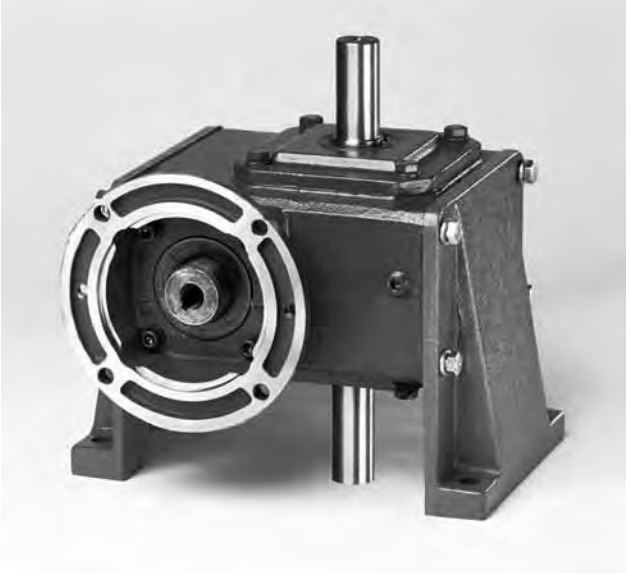
Vertical High Base



Assembly Drawing and Sample of Components



133Q56L10 133VH-BK	133Q56R10 133VH-BK	133Q56LR10 133VH-BK
133Q56L10 133VH-BK	133Q56R10 133VH-BK	133Q56LR10 133VH-BK



Dimensions (Inches) for Style "QVL" - With Vertical Low Base

C.D.	Components ◆		N.E.M.A. Frame	A	B	C	D	E	F	G	H	J	K	N	P
	Part No. ★	Base Kit													
1.00	**100Q40**	**100VL-BK**	42CZ/48C	5.75	3.30	5.13	2.31	1.31	1.15	.13	1.83	3.16	3.46	3.06	2.88
1.00	**100Q56**	**100VL-BK**	56C	5.75	3.30	5.13	2.31	1.31	1.15	.13	1.83	3.53	3.46	3.06	2.88
1.33	**133Q56**	**133VL-BK**	56C	7.38	4.00	6.16	3.25	1.81	1.63	.53	2.31	3.94	4.31	3.69	4.00
1.54	**154Q56**	**154VL-BK**	56C	8.06	5.12	7.00	4.00	1.97	2.00	.69	3.00	4.52	5.50	4.28	4.31
1.54	**154Q140**	**154VL-BK**	143/145TC	8.06	5.12	7.00	4.00	1.97	2.00	.69	3.00	4.52	5.50	4.28	4.31
1.75	**175Q56**	**175VL-BK**	56C	8.44	4.81	7.38	4.00	2.12	2.00	.69	3.00	4.38	5.41	4.50	4.31
1.75	**175Q140**	**175VL-BK**	143/145TC	8.44	4.81	7.38	4.00	2.12	2.00	.69	3.00	4.38	5.41	4.50	4.31
2.06	**206Q56**	**206VL-BK**	56C	9.50	5.63	8.38	4.88	2.34	2.44	.72	3.13	4.75	5.73	5.09	4.69
2.06	**206Q140**	**206VL-BK**	143/145TC	9.50	5.63	8.38	4.88	2.34	2.44	.72	3.13	4.75	5.73	5.09	4.69
2.37	**237Q56**	**237VL-BK**	56C	10.06	6.12	8.94	4.88	2.56	2.44	.75	3.38	5.06	6.08	5.44	5.08
2.37	**237Q140**	**237VL-BK**	143/145TC	10.06	6.12	8.94	4.88	2.56	2.44	.75	3.38	5.06	6.08	5.44	5.08
2.62	**262Q56**	**262VL-BK**	56C	11.25	7.13	10.13	5.75	3.00	2.88	.75	3.63	5.69	6.50	6.13	5.63
2.62	**262Q140**	**262VL-BK**	143/145TC	11.25	7.13	10.13	5.75	3.00	2.88	.75	3.63	5.69	6.50	6.13	5.63
2.62	**262Q180**	**262VL-BK**	182/184TC	11.25	7.13	10.13	5.75	3.00	2.88	.75	3.63	5.69	6.50	6.13	5.63
3.00	**300Q56**	**300VL-BK**	56C	12.88	8.50	11.38	6.13	3.31	3.06	.81	4.69	5.67	8.19	6.88	6.75
3.00	**300Q140**	**300VL-BK**	143/145TC	12.88	8.50	11.38	6.13	3.31	3.06	.81	4.69	5.67	8.19	6.88	6.75
3.00	**300Q180**	**300VL-BK**	182/184TC	12.88	8.50	11.38	6.13	3.31	3.06	.81	4.69	6.45	8.19	6.88	6.75
3.25	**325Q56**	**325VL-BK**	56C	13.38	8.50	11.88	6.13	3.56	3.06	.81	4.69	6.56	8.37	7.13	7.06
3.25	**325Q140**	**325VL-BK**	143/145TC	13.38	8.50	11.88	6.13	3.56	3.06	.81	4.69	6.56	8.37	7.13	7.06
3.25	**325Q180**	**325VL-BK**	182/184TC	13.38	8.50	11.88	6.13	3.56	3.06	.81	4.69	7.00	8.37	7.13	7.06
3.75	**375Q56**	**375VL-BK**	56C	15.69	9.50	13.94	8.00	3.44	4.00	.88	5.25	6.01	9.58	8.31	7.75
3.75	**375Q140**	**375VL-BK**	143/145TC	15.69	9.50	13.94	8.00	3.44	4.00	.88	5.25	6.01	9.58	8.31	7.75
3.75	**375Q180**	**375VL-BK**	182/184TC	15.69	9.50	13.94	8.00	3.44	4.00	.88	5.25	7.29	9.58	8.31	7.75
3.75	**375Q210**	**375VL-BK**	213/215TC	15.69	9.50	13.94	8.00	3.44	4.00	.88	5.25	7.29	9.58	8.31	7.75
4.50	**450Q140**	**450VL-BK**	143/145TC	16.94	10.88	14.94	9.56	4.63	4.78	.88	5.06	6.69	9.78	8.94	8.44
4.50	**450Q180**	**450VL-BK**	182/184TC	16.94	10.88	14.94	9.56	4.63	4.78	.88	5.06	7.97	9.78	8.94	8.44
4.50	**450Q210**	**450VL-BK**	213/215TC	16.94	10.88	14.94	9.56	4.63	4.78	.88	5.06	7.97	9.78	8.94	8.44
5.16	**516Q180**	**516VL-BK**	182/184TC	20.57	12.50	18.00	10.00	5.44	5.00	1.00	6.38	8.78	11.25	10.56	9.06
5.16	**516Q210**	**516VL-BK**	213/215TC	20.57	12.50	18.00	10.00	5.44	5.00	1.00	6.38	8.78	11.25	10.56	9.06
6.00	**600Q180**	**600VL-BK**	213/215TC	23.25	14.75	20.88	11.75	6.63	5.88	1.13	7.31	9.68	12.63	12.19	10.00
6.00	**600Q210**	**600VL-BK**	213/215TC	23.25	14.75	20.88	11.75	6.63	5.88	1.13	7.31	9.68	12.63	12.19	10.00

C.D.	N.E.M.A. Frame	R	T	INPUT		OUTPUT SHAFT				Stock Ratios marked "x"									Wt. Lbs.
						U +.000 / -.001	V	W Key											
				Bore	Keyway			Sq.	Lgth.	5	10	15	20	25	30	40	50	60	
1.00	42CZ/48C	2.13	.320	.500	1/8 X 1/16	.500	1.25	.125	.88	x	x	x	x	-	x	x	x	-	10.8
1.00	56C	3.25	.320	.625	3/16 X 3/32	.500	1.25	.125	.88	x	x	x	x	-	x	x	-	-	10.8
1.33	56C	3.25	.344	.625	3/16 X 3/32	.625	2.00	.188	1.31	x	x	x	x	x	x	x	x	x	19.3
1.54	56C	3.25	.406	.625	3/16 X 3/32	.750	1.78	.188	1.25	x	x	x	x	x	x	x	x	x	27.4
1.54	143/145TC	3.25	.406	.875	3/16 X 3/32	.750	1.78	.188	1.25	x	x	x	-	-	-	-	-	-	27.4
1.75	56C	3.25	.406	.625	3/16 X 3/32	.875	1.88	.188	1.38	x	x	x	x	x	x	x	x	x	31.5
1.75	143/145TC	3.25	.406	.875	3/16 X 3/32	.875	1.88	.188	1.38	x	x	x	-	-	-	-	-	-	31.5
2.06	56C	3.25	.469	.625	3/16 X 3/32	1.000	2.00	.250	1.75	x	x	x	x	x	x	x	x	x	39.0
2.06	143/145TC	3.25	.469	.875	3/16 X 3/32	1.000	2.00	.250	1.75	x	x	x	x	x	-	-	-	-	39.0
2.37	56C	3.25	.469	.625	3/16 X 3/32	1.125	2.37	.250	1.75	x	x	x	x	x	x	x	x	x	46.0
2.37	143/145TC	3.25	.469	.875	3/16 X 3/32	1.125	2.37	.250	1.75	x	x	x	x	x	x	x	-	-	46.0
2.62	56C	3.25	.531	.625	3/16 X 3/32	1.125	2.50	.250	2.00	-	x	x	x	x	x	x	x	x	59.0
2.62	143/145TC	3.25	.531	.875	3/16 X 3/32	1.125	2.50	.250	2.00	-	x	x	x	x	x	x	x	x	59.0
2.62	182/184TC	4.50	.531	1.125	1/4 X 1/8	1.125	2.50	.250	2.00	x	x	-	-	-	-	-	-	-	59.0
3.00	56C	3.25	.531	.625	3/16 X 3/32	1.250	3.25	.250	2.25	-	-	x	x	x	x	x	x	x	80.5
3.00	143/145TC	3.25	.531	.875	3/16 X 3/32	1.250	3.25	.250	2.25	-	x	x	x	x	x	x	x	x	80.5
3.00	182/184TC	4.50	.531	1.125	1/4 X 1/8	1.250	3.25	.250	2.25	-	x	x	x	x	x	x	x	x	80.5
3.25	56C	3.25	.531	.625	3/16 X 3/32	1.375	3.25	.313	2.88	-	x	x	x	x	x	x	x	x	103.0
3.25	143/145TC	3.25	.531	.875	3/16 X 3/32	1.375	3.25	.313	2.88	-	x	x	x	x	x	x	x	x	103.0
3.25	182/184TC	4.50	.531	1.125	1/4 X 1/8	1.375	3.25	.313	2.88	-	x	x	x	x	x	x	x	x	103.0
3.75	56C	3.38	.594	.625	3/16 X 3/32	1.625	3.50	.375	2.81	-	-	-	-	-	-	x	x	x	145.0
3.75	143/145TC	3.38	.594	.875	3/16 X 3/32	1.625	3.50	.375	2.81	-	x	x	x	x	x	x	x	x	145.0
3.75	182/184TC	4.50	.594	1.125	1/4 X 1/8	1.625	3.50	.375	2.81	-	x	x	x	x	x	x	x	-	145.0
3.75	213/215TC	4.50	.594	1.375	5/16 X 5/32	1.625	3.50	.375	2.81	-	x	x	NA	-	-	-	-	-	145.0
4.50	143/145TC	3.38	.688	.875	3/16 X 3/32	1.625	3.38	.375	2.50	-	-	-	-	-	-	x	x	x	203.0
4.50	182/184TC	4.50	.688	1.125	1/4 X 1/8	1.625	3.38	.375	2.50	-	-	x	x	x	x	x	x	x	203.0
4.50	213/215TC	4.50	.688	1.375	5/16 X 5/32	1.625	3.38	.375	2.50	-	x	x	x	x	-	-	-	-	203.0
5.16	182/184TC	4.50	.781	1.125	1/4 X 1/8	2.000	4.16	.500	2.81	-	-	-	-	-	-	x	x	x	269.0
5.16	213/215TC	4.50	.781	1.375	5/16 X 5/32	2.000	4.16	.500	2.81	-	x	x	x	x	x	x	-	-	269.0
6.00	182/184TC	4.50	.906	1.375	5/16 X 5/32	2.250	4.56	.500	3.50	-	-	-	x	x	x	x	x	x	346.0
6.00	213/215TC	4.50	.906	1.375	5/16 X 5/32	2.250	4.56	.500	3.50	-	-	-	-	x	x	x	x	x	346.0

Dimensions (Inches) for Style "QVH" - With Vertical High Base

C.D.	Components ◆		N.E.M.A. Frame	HB	KB	Wt. Lbs.	C.D.	Components ◆		N.E.M.A. Frame	HB	KB	Wt. Lbs.
	Basic Unit ★	Base Kit						Basic Unit ★	Base Kit				
1.00	**100Q40**	**100VH-BK**	42CZ/48C	2.96	4.59	10.8	3.25	**325Q56**	**325VH-BK**	56C	6.25	9.93	106.0
1.00	**100Q56**	**100VH-BK**	56C	2.96	4.59	10.8	3.25	**325Q140**	**325VH-BK**	143/145TC	6.25	9.93	106.0
1.33	**133Q56**	**133VH-BK**	56C	3.56	5.56	20.3	3.25	**325Q180**	**325VH-BK**	182/184TC	6.25	9.93	106.0
1.54	**154Q56**	**154VH-BK**	56C	4.38	6.88	28.4							
1.54	**154Q140**	**154VH-BK**	143/145TC	4.38	6.88	28.4	3.75	**375Q56**	**375VH-BK**	56C	7.00	11.33	148.5
1.75	**175Q56**	**175VH-BK**	56C	4.38	6.78	32.5	3.75	**375Q180**	**375VH-BK**	182/184TC	7.00	11.33	148.5
1.75	**175Q140**	**175VH-BK**	143/145TC	4.38	6.78	32.5	3.75	**375Q210**	**375VH-BK**	213/215TC	7.00	11.33	148.5
2.06	**206Q56**	**206VH-BK**	56C	4.88	7.48	40.0							
2.06	**206Q140**	**206VH-BK**	143/145TC	4.88	7.48	40.0	4.50	**450Q140**	**450VH-BK**	143/145TC	8.56	13.28	211.0
2.37	**237Q56**	**237VH-BK**	56C	5.25	7.96	48.5	4.50	**450Q180**	**450VH-BK**	182/184TC	8.56	13.28	211.0
2.37	**237Q140**	**237VH-BK**	143/145TC	5.25	7.96	48.5	4.50	**450Q210**	**450VH-BK**	213/215TC	8.56	13.28	211.0
2.62	**262Q56**	**262VH-BK**	56C	5.60	8.47	63.0	5.16	**516Q180**	**516VH-BK**	182/184TC	8.63	13.50	281.0
2.62	**262Q140**	**262VH-BK**	143/145TC	5.60	8.47	63.0	5.16	**516Q210**	**516VH-BK**	213/215TC	8.63	13.50	281.0
2.62	**262Q180**	**262VH-BK**	182/184TC	5.60	8.47	63.0							
3.00	**300Q56**	**300VH-BK**	56C	6.25	9.75	84.0	6.00	**600Q210**	**600VH-BK**	213/215TC	9.63	14.94	361.0
3.00	**300Q140**	**300VH-BK**	143/145TC	6.25	9.75	84.0							
3.00	**300Q180**	**300VH-BK**	182/184TC	6.25	9.75	84.0							

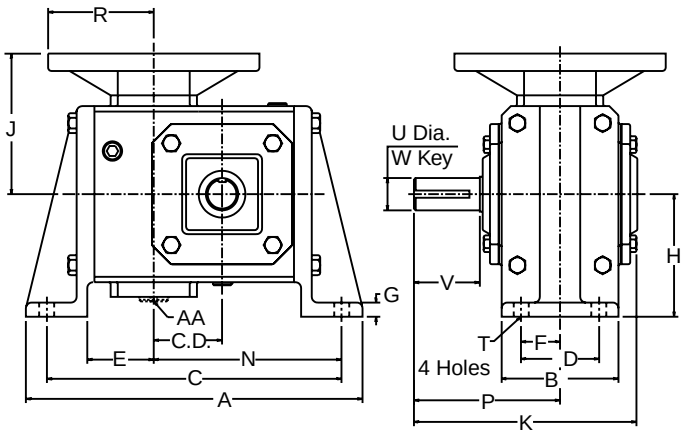
Fan Kit

Ref. No.	Fan Kit	AA		Wt. Lbs.
		Tap	Deep	
375Q	**375 FAN**	3/8-24	3/4	2.8
450Q	**450 FAN**	3/8-24	3/4	2.8
516Q	**516 FAN**	3/8-24	3/4	2.8
600Q	**600 FAN**	3/8-24	3/4	4.2

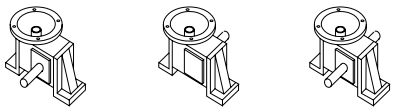
★ To complete Part No. add shaft assembly (L, R, LR) and ratio symbol to size - for example 133Q56LR10.
◆ Components needed to make assembled reducer must be ordered separately. If Fan Kit is required, see the table at the left.
Consult factory for ratios not shown as standard.

Style QVJ

Vertical "J" Base



Assembly Drawing and Sample of Components



133Q56L10	133Q56R10	133Q56LR10
133VJ-BK	133VJ-BK	133VJ-BK

NOTE: If mounting a fan unit, fan extends beyond "H" dimension.



Dimensions (Inches) for Style "QVJ" - With Vertical "J" Base

C.D.	Components♦		N.E.M.A. Frame	A	B	C	D	E	F	G	H	J	K	N	P
	Part No. ★	Base Kit													
1.00	**100Q40**	**100VJ-BK**	42CZ/48C	5.88	2.50	5.13	1.69	1.32	.85	.13	2.31	3.16	4.50	3.06	2.88
1.00	**100Q56**	**100VJ-BK**	56C	5.88	2.50	5.13	1.69	1.32	.85	.13	2.31	3.53	4.50	3.06	2.88
1.33	**133Q56**	**133VJ-BK**	56C	7.28	2.88	6.42	2.00	1.66	1.00	.53	2.94	3.94	6.03	3.93	4.00
1.54	**154Q56**	**154VJ-BK**	56C	8.25	3.69	7.25	2.50	1.98	1.25	.69	3.50	4.52	6.76	4.39	4.31
1.54	**154Q140**	**154VJ-BK**	143/145TC	8.25	3.69	7.25	2.50	1.98	1.25	.69	3.50	4.52	6.76	4.39	4.31
1.75	**175Q56**	**175VJ-BK**	56C	8.63	3.38	7.63	2.50	2.00	1.25	.69	3.50	4.38	6.75	4.75	4.31
1.75	**175Q140**	**175VJ-BK**	143/145TC	8.63	3.38	7.63	2.50	2.00	1.25	.69	3.50	4.38	6.75	4.75	4.31
2.06	**206Q56**	**206VJ-BK**	56C	9.75	3.75	8.62	2.62	2.09	1.31	.72	3.94	4.75	7.25	5.46	4.69
2.06	**206Q140**	**206VJ-BK**	143/145TC	9.75	3.75	8.62	2.62	2.09	1.31	.72	3.94	4.75	7.25	5.46	4.69
2.37	**237Q56**	**237VJ-BK**	56C	10.30	4.06	9.19	2.88	2.12	1.44	.75	4.06	5.06	7.78	6.00	5.08
2.37	**237Q140**	**237VJ-BK**	143/145TC	10.30	4.06	9.19	2.88	2.12	1.44	.75	4.06	5.06	7.78	6.00	5.08
2.62	**262Q56**	**262VJ-BK**	56C	11.75	4.44	10.38	3.13	2.50	1.56	.75	4.75	5.69	8.50	6.75	5.63
2.62	**262Q140**	**262VJ-BK**	143/145TC	11.75	4.44	10.38	3.13	2.50	1.56	.75	4.75	5.69	8.50	6.75	5.63
2.62	**262Q180**	**262VJ-BK**	182/184TC	11.75	4.44	10.38	3.13	2.50	1.56	.75	4.75	6.13	8.50	6.75	5.63
3.00	**300Q56**	**300VJ-BK**	56C	13.50	5.00	12.25	4.00	2.69	2.00	.81	5.94	5.67	10.25	7.94	6.75
3.00	**300Q140**	**300VJ-BK**	143/145TC	13.50	5.00	12.25	4.00	2.69	2.00	.81	5.94	5.67	10.25	7.94	6.75
3.00	**300Q180**	**300VJ-BK**	182/184TC	13.50	5.00	12.25	4.00	2.69	2.00	.81	5.94	6.45	10.25	7.94	6.75
3.25	**325Q56**	**325VJ-BK**	56C	14.00	5.00	12.75	4.00	2.69	2.00	.81	5.69	6.56	10.60	8.44	7.06
3.25	**325Q140**	**325VJ-BK**	143/145TC	14.00	5.00	12.75	4.00	2.69	2.00	.81	5.69	6.56	10.60	8.44	7.06
3.25	**325Q180**	**325VJ-BK**	182/184TC	14.00	5.00	12.75	4.00	2.69	2.00	.81	5.69	7.00	10.60	8.44	7.06
3.75	**375Q56**	**375VJ-BK**	56C	15.06	6.25	13.31	4.75	2.94	2.38	.88	6.00	6.01	11.88	9.06	7.75
3.75	**375Q140**	**375VJ-BK**	143/145TC	15.06	6.25	13.31	4.75	2.94	2.38	.88	6.00	6.01	11.88	9.06	7.75
3.75	**375Q180**	**375VJ-BK**	182/184TC	15.06	6.25	13.31	4.75	2.94	2.38	.88	6.00	7.29	11.88	9.06	7.75
3.75	**375Q210**	**375VJ-BK**	213/215TC	15.06	6.25	13.31	4.75	2.94	2.38	.88	6.00	7.29	11.88	9.06	7.75
4.50	**450Q140**	**450VJ-BK**	143/145TC	16.94	7.38	14.94	5.81	3.06	2.91	.88	7.38	6.69	13.16	10.50	8.44
4.50	**450Q180**	**450VJ-BK**	182/184TC	16.94	7.38	14.94	5.81	3.06	2.91	.88	7.38	7.97	13.16	10.50	8.44
4.50	**450Q210**	**450VJ-BK**	213/215TC	16.94	7.38	14.94	5.81	3.06	2.91	.88	7.38	7.97	13.16	10.50	8.44
5.16	**516Q180**	**516VJ-BK**	182/184TC	19.38	7.38	17.50	5.81	3.40	2.91	1.00	7.75	8.78	13.91	12.35	9.06
5.16	**516Q210**	**516VJ-BK**	213/215TC	19.38	7.38	17.50	5.81	3.40	2.91	1.00	7.75	8.78	13.91	12.35	9.06
6.00	**600Q180**	**600VJ-BK**	182/184TC	22.00	8.13	20.00	6.38	4.12	3.19	1.13	8.50	9.68	15.31	14.25	10.00
6.00	**600Q210**	**600VJ-BK**	213/215TC	22.00	8.13	20.00	6.38	4.12	3.19	1.13	8.50	9.68	15.31	14.25	10.00

C D	N.E.M.A. Frame	R	T	INPUT		OUTPUT SHAFT				Stock Ratios marked x									Wt. Lbs.
						U	V	W K ey											
				Bore	Keyway	+000 -.001		Sq.	Lgth.	5	10	15	20	25	30	40	50	60	
1.00	42CZ/48C	2.13	.320	.500	1/8 X 1/16	.500	1.25	.125	.88	x	x	x	x	-	x	x	x	-	9.8
1.00	56C	3.25	.320	.625	3/16 X 3/32	.500	1.25	.125	.88	x	x	x	x	-	x	x	x	-	9.8
1.33	56C	3.25	.344	.625	3/16 X 3/32	.625	2.00	.188	1.31	x	x	x	x	x	x	x	-	x	18.0
1.54	56C	3.25	.406	.625	3/16 X 3/32	.750	1.78	.188	1.25	x	x	x	x	x	x	x	x	x	26.0
1.54	143/145TC	3.25	.406	.875	3/16 X 3/32	.750	1.78	.188	1.25	x	x	x	-	-	-	-	-	-	26.0
1.75	56C	3.25	.406	.625	3/16 X 3/32	.875	1.88	.188	1.38	x	x	x	x	x	x	x	x	x	29.0
1.75	143/145TC	3.25	.406	.875	3/16 X 3/32	.875	1.88	.188	1.38	x	x	x	-	-	-	-	-	-	29.0
2.06	56C	3.25	.469	.625	3/16 X 3/32	1.000	2.00	.250	1.75	x	x	x	x	x	x	x	x	x	35.0
2.06	143/145TC	3.25	.469	.875	3/16 X 3/32	1.000	2.00	.250	1.75	x	x	x	x	x	-	-	-	-	35.0
2.37	56C	3.25	.469	.625	3/16 X 3/32	1.125	2.37	.250	1.75	x	x	x	x	x	x	x	x	x	41.0
2.37	143/145TC	3.25	.469	.875	3/16 X 3/32	1.125	2.37	.250	1.75	x	x	x	x	x	x	x	-	-	41.0
2.62	56C	3.25	.531	.625	3/16 X 3/32	1.125	2.50	.250	2.00	-	x	x	x	x	x	x	x	x	54.0
2.62	143/145TC	3.25	.531	.875	3/16 X 3/32	1.125	2.50	.250	2.00	-	x	x	x	x	x	x	x	x	54.0
2.62	182/184TC	4.50	.531	1.125	1/4 X 1/8	1.125	2.50	.250	2.00	x	x	-	-	-	-	-	-	-	54.0
3.00	56C	3.25	.531	.625	3/16 X 3/32	1.250	3.25	.250	2.25	-	-	x	x	x	x	x	x	x	74.0
3.00	143/145TC	3.25	.531	.875	3/16 X 3/32	1.250	3.25	.250	2.25	-	x	x	x	x	x	x	x	x	74.0
3.00	182/184TC	4.50	.531	1.125	1/4 X 1/8	1.250	3.25	.250	2.25	-	x	x	x	x	x	x	x	x	74.0
3.25	56C	3.25	.531	.625	3/16 X 3/32	1.375	3.25	.313	2.88	-	x	x	x	x	x	x	x	x	93.0
3.25	143/145TC	3.25	.531	.875	3/16 X 3/32	1.375	3.25	.313	2.88	-	x	x	x	x	x	x	x	x	93.0
3.25	182/184TC	4.50	.531	1.125	1/4 X 1/8	1.375	3.25	.313	2.88	-	x	x	x	x	x	x	x	x	93.0
3.75	56C	3.38	.594	.625	3/16 X 3/32	1.625	3.50	.375	2.81	-	-	-	-	-	-	x	x	x	128.5
3.75	143/145TC	3.38	.594	.875	3/16 X 3/32	1.625	3.50	.375	2.81	-	x	x	x	x	x	x	x	x	128.5
3.75	182/184TC	4.50	.594	1.125	1/4 X 1/8	1.625	3.50	.375	2.81	-	x	x	x	x	x	x	x	-	128.5
3.75	213/215TC	4.50	.594	1.375	5/16 X 5/32	1.625	3.50	.375	2.81	-	x	x	-	-	-	-	-	-	128.5
4.50	143/145TC	3.38	.688	.875	3/16 X 3/32	1.625	3.38	.375	2.50	-	-	-	-	-	-	x	x	x	181.0
4.50	182/184TC	4.50	.688	1.125	1/4 X 1/8	1.625	3.38	.375	2.50	-	-	x	x	x	x	x	x	x	181.0
4.50	213/215TC	4.50	.688	1.375	5/16 X 5/32	1.625	3.38	.375	2.50	-	x	x	x	x	-	-	-	-	181.0
5.16	182/184TC	4.50	.781	1.125	1/4 X 1/8	2.000	4.16	.500	2.81	-	-	-	-	-	-	x	x	x	239.0
5.16	213/215TC	4.50	.781	1.375	5/16 X 5/32	2.000	4.16	.500	2.81	-	x	x	x	x	x	-	-	-	239.0
6.00	182/184TC	4.50	.906	1.375	5/16 X 5/32	2.250	4.56	.500	3.50	-	-	-	x	x	x	x	x	x	291.0
6.00	213/215TC	4.50	.906	1.375	5/16 X 5/32	2.250	4.56	.500	3.50	-	-	-	-	x	x	x	x	x	291.0

Fan Kit

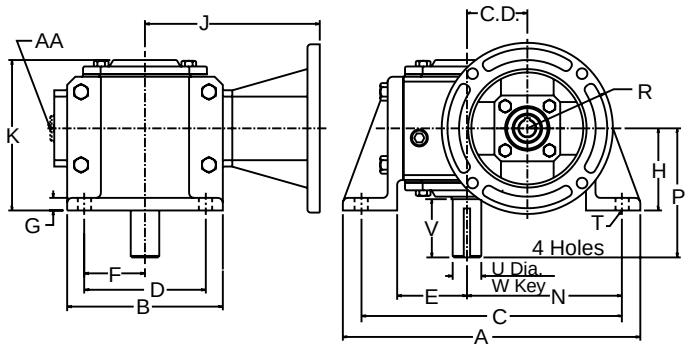
Ref. No.	Fan Kit	AA		Wt. Lbs.
		Tap	Deep	
375Q	**375 FAN**	3/8-24	3/4	2.8
450Q	**450 FAN**	3/8-24	3/4	2.8
516Q	**516 FAN**	3/8-24	3/4	2.8
600Q	**600 FAN**	3/8-24	3/4	4.2

★ To complete Part No. add shaft assembly (L, R, LR) and ratio symbol to size - for example 133Q56LR10.

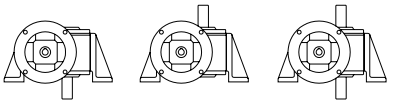
◆ Components needed to make assembled reducer must be ordered separately. If Fan Kit is required, see the table at the left.
Consult factory for ratios not shown as standard.

Style CVL

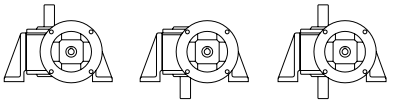
Vertical Low Base



Assembly Drawing and Sample of Components



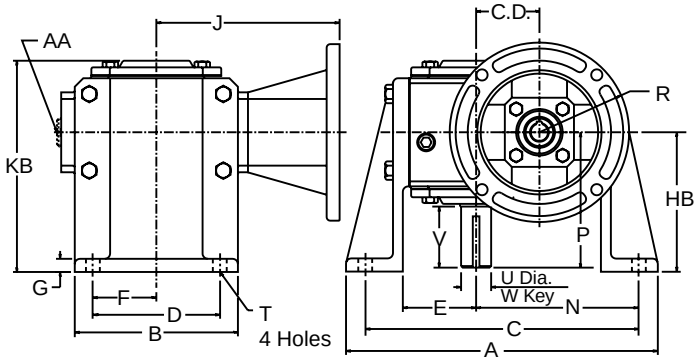
133UL10	133UR10	133ULR10
133VL-BK	133VL-BK	133VL-BK
133MAK56	133MAK56	133MAK56



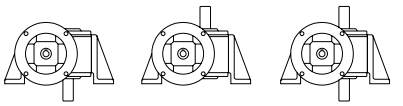
133UL10	133UR10	133ULR10
133VL-BK	133VL-BK	133VL-BK
133MAK56	133MAK56	133MAK56

Style CVH

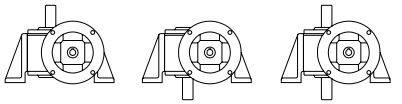
Vertical High Base



Assembly Drawing and Sample of Components



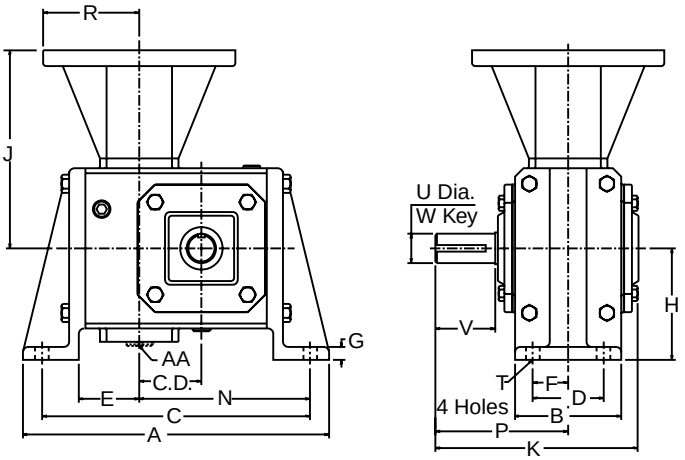
133UL10	133UR10	133ULR10
133VH-BK	133VH-BK	133VH-BK
133MAK56	133MAK56	133MAK56



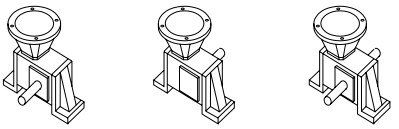
133UL10	133UR10	133ULR10
133VH-BK	133VH-BK	133VH-BK
133MAK56	133MAK56	133MAK56

Style CVJ

Vertical "J" Base



Assembly Drawing and Sample of Components



133UL10	133UR10	133ULR10
133VJ-BK	133VJ-BK	133VJ-BK
133MAK56	133MAK56	133MAK56

Note: If mounting a fan unit, fan extends beyond "H" dimension.

Dimensions (Inches) for Style "CVL" - With Vertical Low Base

C.D.	Components ◆			A	B	C	D	E	F	G	H	K	N	P	T
	Base Unit. ★	Adapter Kit	Base Kit												
1.33	133U	See Adapter Kit Table Below	133VL-BK	7.10	4.00	6.16	3.25	1.81	1.63	.53	2.31	4.31	3.69	4.00	.344
1.54	154U		154VL-BK	8.06	5.12	7.00	4.00	1.97	2.00	.69	3.00	5.50	4.28	4.31	.406
1.75	175U		175VL-BK	8.44	4.81	7.38	4.00	2.12	2.00	.69	3.00	5.41	4.50	4.31	.406
2.06	206U		206VL-BK	9.50	5.63	8.38	4.88	2.34	2.44	.72	3.13	5.73	5.09	4.69	.469
2.37	237U		237VL-BK	10.06	6.12	8.94	4.88	2.56	2.44	.75	3.38	6.08	5.44	5.08	.469
2.62	262U		262VL-BK	11.25	7.13	10.13	5.75	3.00	2.88	.75	3.63	6.50	6.13	5.63	.531
3.00	300U		300VL-BK	12.88	8.50	11.38	6.13	3.31	3.06	.81	4.69	8.19	6.88	6.75	.531
3.25	325U		325VL-BK	13.38	8.50	11.88	6.13	3.56	3.06	.81	4.69	8.37	7.13	7.06	.531
3.75	375U		375VL-BK	15.69	9.50	13.94	8.00	3.44	4.00	.88	5.25	9.58	8.31	7.75	.594
4.50	450U		450VL-BK	16.94	10.88	14.94	9.56	4.63	4.78	.88	5.06	9.78	10.56	8.44	.688
5.16	516U		516VL-BK	20.57	12.50	18.00	10.00	5.44	5.00	1.00	6.38	11.25	10.56	9.06	.781
6.00	600U		600VL-BK	23.25	14.75	20.88	11.75	6.63	5.88	1.13	7.31	12.63	12.19	10.00	.906

C.D.	OUTPUT SHAFT				Stock Ratios marked "x"									Wt. Lbs.
	U +.000 -.001	V	W Key											
			Sq.	Lgth.	05	10	15	20	25	30	40	50	60	
1.33	.625	2.00	.188	1.31	x	x	x	x	x	x	x	x	x	20.3
1.54	.750	1.78	.188	1.25	x	x	x	x	x	x	x	x	x	28.4
1.75	.875	1.88	.188	1.38	x	x	x	x	x	x	x	x	x	31.5
2.06	1.000	2.00	.250	1.75	x	x	x	x	x	x	x	x	x	39.0
2.37	1.125	2.37	.250	1.75	x	x	x	x	x	x	x	x	x	47.0
2.62	1.125	2.50	.250	2.00	x	x	x	x	x	x	x	x	x	63.0
3.00	1.250	3.25	.250	2.25	x	x	x	x	x	x	x	x	x	80.5
3.25	1.375	3.25	.313	2.88	-	x	x	x	x	x	x	x	x	99.0
3.75	1.625	3.50	.375	2.81	-	x	x	x	x	x	x	x	x	142.5
4.50	1.625	3.38	.375	2.50	-	x	x	x	x	x	x	x	x	200.0
5.16	2.000	4.16	.500	2.81	-	x	x	x	x	x	x	x	x	264.0
6.00	2.250	4.56	.500	3.50	x	x	x	x	x	x	x	x	x	356.0

Dimensions (Inches) for Style "CVH"

Components ◆			HB	KB	Wt. Lbs.
Base Unit. ★	Adapter Kit	Base Kit			
133U	See Adapter Kit Table Below	133VH-BK	3.56	5.56	21.3
154U		154VH-BK	4.38	6.88	29.4
175U		175VH-BK	4.38	6.78	32.5
206U		206VH-BK	4.88	7.48	40.0
237U		237VH-BK	5.25	7.96	49.5
262U		262VH-BK	5.60	8.47	67.0
300U		300VH-BK	6.25	9.75	84.0
325U		325VH-BK	6.25	9.93	102.0
375U		375VH-BK	7.00	11.33	146.0
450U		450VH-BK	8.56	13.28	208.0
516U		516VH-BK	8.63	13.50	276.0
600U		600VH-BK	9.63	14.94	361.0

Fan Kit

Basic Unit ★	Fan Kit	AA		Wt. Lbs.
		Tap	Deep	
375U	375 FAN	3/8-24	3/4	2.8
450U	450 FAN	3/8-24	3/4	2.8
516U	516 FAN	3/8-24	3/4	2.8
600U	600 FAN	3/8-24	3/4	4.2

Dimensions (Inches) for Style "CVJ" - Vertical "J" Base

Components ◆			A	B	C	D	E	F	G	H	K	N	P	T	Wt. Lbs.
Base Unit ★	Adapter Kit	Base Kit													
133U	See Adapter Kit Table Below	133VJ-BK	7.28	2.88	6.42	2.00	1.66	1.00	.53	2.94	6.03	3.93	4.00	.344	19.0
154U		154VJ-BK	8.25	3.69	7.25	2.50	1.98	1.25	.69	3.50	6.76	4.39	4.31	.406	27.0
175U		175VJ-BK	8.63	3.38	7.63	2.50	2.00	1.25	.69	3.50	6.75	4.75	4.31	.406	29.0
206U		206VJ-BK	9.75	3.75	8.62	2.62	2.09	1.31	.72	3.94	7.25	5.46	4.69	.469	35.0
237U		237VJ-BK	10.30	4.06	9.19	2.88	2.12	1.44	.75	4.06	7.78	6.00	5.08	.469	42.0
262U		262VJ-BK	11.75	4.44	10.38	3.13	2.50	1.56	.75	4.75	8.50	6.75	5.63	.531	58.0
300U		300VJ-BK	13.50	5.00	12.25	4.00	2.69	2.00	.81	5.94	10.25	7.94	6.75	.531	74.0
325U		325VJ-BK	14.00	5.00	12.75	4.00	2.69	2.00	.81	5.69	10.60	8.44	7.06	.531	89.0
375U		375VJ-BK	15.06	6.25	13.31	4.75	2.94	2.38	.88	6.00	11.88	9.06	7.75	.594	126.0
450U		450VJ-BK	16.94	7.38	14.94	5.81	3.06	2.91	.88	7.38	13.16	8.94	8.44	.688	178.0
516U		516VJ-BK	19.38	7.38	17.50	5.81	3.40	2.91	1.00	7.75	13.91	12.35	9.06	.781	234.0
600U		600VJ-BK	22.00	8.13	20.00	6.38	4.12	3.19	1.13	8.50	15.31	14.25	10.00	.906	291.0

N.E.M.A. Frame Adapter Kits and Dimensions

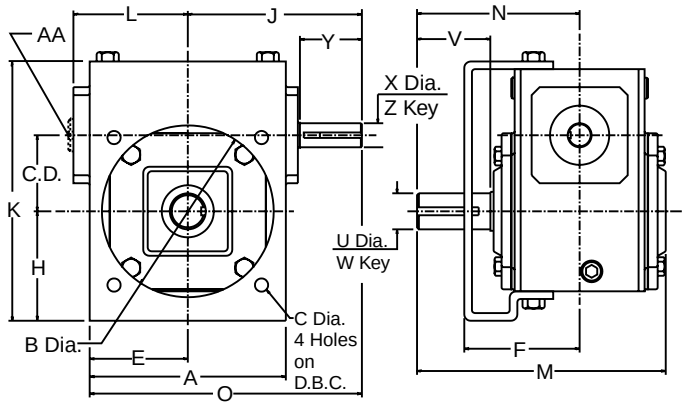
C.D.	56C Input: .625 Kw.: 3/16 x 3/32			143/145TC Input: .875 Kw.: 3/16 x 3/32			182/184TC Input: 1.125 KW.: 1/4 x 1/8			213/215TC Input: 1.375 Kw.: 5/16 x 5/32			254/256TC Input: 1.625 Kw.: 3/8 x 3/16		
	Adapter Kit No.	J	R	Adapter Kit No.	J	R	Adapter Kit No.	J	R	Adapter Kit No.	J	R	Adapter Kit No.	J	R
1.33	133MAK56	6.38	3.25	133MAK140											
1.54	154-206MAK56	7.13	3.25	154-206MAK140	7.13	3.25									
1.75	154-206MAK56	7.00	3.25	154-206MAK140	7.00	3.25									
2.06	154-206MAK56	7.37	3.25	154-206MAK140	7.37	3.25									
2.37	237MAK56	7.69	3.25	237MAK140	7.69	3.25									
2.62	262MAK56	8.50	3.25	262MAK140	8.50	3.25	262MAK180	9.72	4.50						
3.00	300-325MAK56	9.35	3.25	300-325MAK140	9.35	3.25	300-325MAK180	10.57	4.50						
3.25	300-325MAK56	9.37	3.25	300-325MAK140	9.37	3.25	300-325MAK180	10.59	4.50	325MAK210					
3.75	375MAK56	11.47	3.38	375MAK140	11.47	3.38	375MAK180	12.92	4.50	375MAK210	12.92	4.50			
4.50				450MAK140	12.15	3.38	450MAK180	13.60	4.50	450MAK210	13.60	4.50			
5.16							516MAK180	14.40	4.50	516MAK210	14.40	4.50			
6.00							600MAK180	16.97	4.50	600MAK210	16.97	4.50	600MAK250	16.97	4.50

★ To complete Part No. add shaft assembly (L, R, LR) and ratio symbol to size - for example 133ULR10.

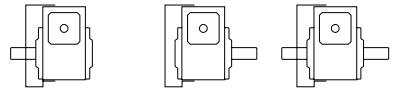
◆ Components needed to make assembled reducer must be ordered separately. If Fan Kit is required, see the table above. Consult factory for ratios not shown as standard.

Style UF

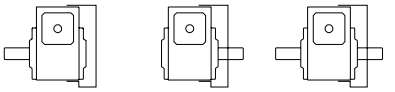
Flange Bracket



Assembly Drawing and Sample of Components



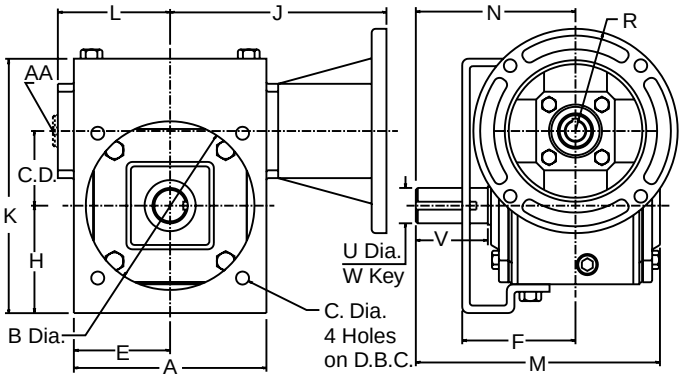
133UL10 133H-FK | 133UR10 133H-FK | 133ULR10 133H-FK



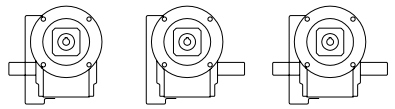
133UL10 133H-FK | 133UR10 133H-FK | 133ULR10 133H-FK

Style CF

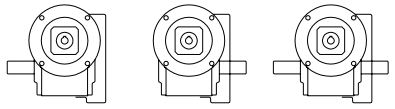
Flange Bracket



Assembly Drawing and Sample of Components



133UL10 133H-FK 133MAK56 | 133UR10 133H-FK 133MAK56 | 133ULR10 133H-FK 133MAK56



133UL10 133H-FK 133MAK56 | 133UR10 133H-FK 133MAK56 | 133ULR10 133H-FK 133MAK56





Dimensions (Inches) for Style "UF" - With Flange

C.D.	Components ◆		A	B	C	D	E	F	H	J	K	L	M	N	O
	Basic Unit ★	Flange Kit													
1.33	133U	133H-FK	4.25	3.63	.344	5.000	2.13	3.00	2.44	4.03	5.57	2.12	6.03	4.00	6.16
1.54	154U	154H-FK	4.75	3.63	.344	5.000	2.38	3.56	2.54	4.69	6.20	2.75	6.76	4.31	7.07
1.75	175U	175H-FK	4.81	4.06	.344	5.875	2.41	3.50	2.78	4.68	6.66	2.75	6.75	4.31	7.09
2.06	206U	206H-FK	5.75	4.50	.406	6.500	2.88	3.75	3.14	5.06	7.43	3.00	7.25	4.69	7.94
2.37	237U	237H-FK	6.13	5.00	.406	7.500	3.06	3.72	3.61	5.44	8.24	3.56	7.78	5.08	8.51
2.62	262U	262H-FK	7.18	6.00	.406	8.000	3.59	4.06	3.94	6.23	9.25	3.69	8.50	5.63	9.82
3.00	300U	300H-FK	8.50	7.00	.406	9.000	4.25	4.50	4.14	7.00	10.02	4.50	10.25	6.75	11.25
3.25	325U	325H-FK	8.50	7.00	.563	10.000	4.25	5.25	4.75	7.06	10.89	4.50	10.60	7.06	11.31
3.75	375U	375H-FK	9.54	8.00	.563	11.500	4.77	5.46	5.04	8.38	11.85	5.74	11.88	7.75	13.13
4.50	450U	450H-FK	10.88	9.00	.563	11.500	5.44	6.88	5.34	9.59	13.10	6.42	13.16	8.44	15.09
5.16	516U	516H-FK	12.50	10.00	.688	14.000	6.25	6.58	6.57	10.69	15.33	7.42	13.91	9.06	16.94
6.00	600U	600H-FK	14.50	12.00	.688	15.560	7.25	7.22	7.85	11.75	18.22	8.25	15.31	10.00	19.00

C.D.	OUTPUT SHAFT				INPUT SHAFT				Stock Ratios marked "x"									Wt. Lbs.
	U +.000 -.000	V	W Key		X +.000 -.001	Y	Z Key		5	10	15	20	25	30	40	50	60	
			Sq.	Lgth.			Sq.	Lgth.										
1.33	.625	2.00	.188	1.31	.500	1.81	.125	1.38	x	x	x	x	x	x	x	x	x	13.7
1.54	.750	1.78	.188	1.25	.625	1.69	.188	.94	x	x	x	x	x	x	x	x	x	21.3
1.75	.875	1.88	.188	1.38	.625	1.81	.188	1.50	x	x	x	x	x	x	x	x	x	23.4
2.06	1.000	2.00	.250	1.75	.625	1.81	.188	1.50	x	x	x	x	x	x	x	x	x	29.6
2.37	1.125	2.37	.250	1.75	.750	1.94	.188	1.31	x	x	x	x	x	x	x	x	x	36.1
2.62	1.125	2.50	.250	2.00	.750	2.31	.188	1.88	x	x	x	x	x	x	x	x	x	51.4
3.00	1.250	3.25	.250	2.25	.875	2.26	.188	1.31	x	x	x	x	x	x	x	x	x	67.1
3.25	1.375	3.25	.313	2.88	.875	2.31	.188	1.63	-	x	x	x	x	x	x	x	x	83.9
3.75	1.625	3.50	.375	2.81	1.000	2.91	.250	1.75	-	x	x	x	x	x	x	x	x	118.3
4.50	1.625	3.38	.375	2.50	1.125	3.48	.250	2.50	-	x	x	x	x	x	x	x	x	172.8
5.16	2.000	4.16	.500	2.81	1.250	3.75	.250	2.56	-	x	x	x	x	x	x	x	x	224.9
6.00	2.250	4.56	.500	3.50	1.500	3.75	.375	2.94	x	x	x	x	x	x	x	x	x	284.7

Dimensions (Inches) for Style "CF"

Components ◆			Wt. Lbs.
Basic Unit ★	Adapter Kit	Flange Kit	
133U	See Adapter Kit Table Below	133H-FK	20.7
154U		154H-FK	28.3
175U		175H-FK	30.4
206U		206H-FK	36.6
237U		237H-FK	44.1
262U		262H-FK	62.4
300U		300H-FK	78.1
325U		325H-FK	94.9
375U		375H-FK	130.8
450U		450H-FK	188.8
516U		516H-FK	242.9
600U		600H-FK	314.7

Fan Kit

Basic Unit ★	Fan Kit	AA		L	Wt. Lbs.
		Tap	Deep		
375U	375 FAN	3/8-24	3/4	7.66	2.8
450U	450 FAN	3/8-24	3/4	8.36	2.8
516U	516 FAN	3/8-24	3/4	9.18	2.8
600U	600 FAN	3/8-24	3/4	10.70	4.2

N.E.M.A. Frame Adapter Kits and Dimensions

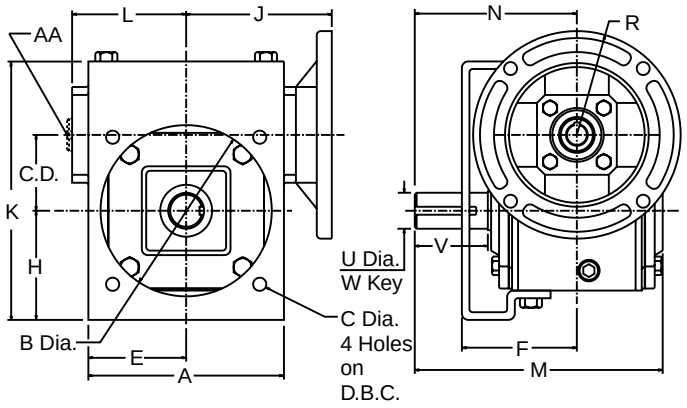
C.D.	56C Input: .625 Kw.: 3/16 x 3/32			143/145TC Input: .875 Kw.: 3/16 x 3/32			182/184TC Input: 1.125 KW.: 1/4 x 1/8			213/215TC Input: 1.375 Kw.: 5/16 x 5/32			254/256TC Input: 1.625 Kw.: 3/8 x 3/16		
	Adapter Kit No.	J	R	Adapter Kit No.	J	R	Adapter Kit No.	J	R	Adapter Kit No.	J	R	Adapter Kit No.	J	R
1.33	133MAK56	6.38	3.25	133MAK140											
1.54	154-206MAK56	7.13	3.25	154-206MAK140	7.13	3.25									
1.75	154-206MAK56	7.00	3.25	154-206MAK140	7.00	3.25									
2.06	154-206MAK56	7.37	3.25	154-206MAK140	7.37	3.25									
2.37	237MAK56	7.69	3.25	237MAK140	7.69	3.25									
2.62	262MAK56	8.50	3.25	262MAK140	8.50	3.25	262MAK180	9.72	4.50						
3.00	300-325MAK56	9.35	3.25	300-325MAK140	9.35	3.25	300-325MAK180	10.57	4.50						
3.25	300-325MAK56	9.37	3.25	300-325MAK140	9.37	3.25	300-325MAK180	10.59	4.50	325MAK210					
3.75	375MAK56	11.47	3.38	375MAK140	11.47	3.38	375MAK180	12.92	4.50	375MAK210	12.92	4.50			
4.50				450MAK140	12.15	3.38	450MAK180	13.60	4.50	450MAK210	13.60	4.50			
5.16							516MAK180	14.40	4.50	516MAK210	14.40	4.50			
6.00							600MAK180	16.97	4.50	600MAK210	16.97	4.50	600MAK250	16.97	4.50

★ To complete Part No. add shaft assembly (L, R, LR) and ratio symbol to size - for example 133ULR10.

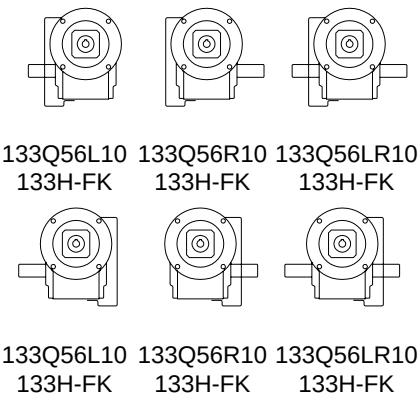
◆ Components needed to make assembled reducer must be ordered separately. If Fan Kit is required, see the table above. Consult factory for ratios not shown as standard.

Style QF

Flange Bracket



Assembly Drawing and Sample of Components



133Q56L10 133H-FK | 133Q56R10 133H-FK | 133Q56LR10 133H-FK

133Q56L10 133H-FK | 133Q56R10 133H-FK | 133Q56LR10 133H-FK



Dimensions (Inches) for Style "QF" - With Flange

C.D.	Components ◆		N.E.M.A. Frame	A	B	C	D	E	F	H	J	K	L	M
	Part No. ★	Flange Kit												
1.33	**133Q56**	**133H-FK**	56C	4.25	3.63	.344	5.000	2.13	3.00	2.44	3.94	5.57	2.12	6.03
1.54	**154Q56**	**154H-FK**	56C	4.75	3.63	.344	5.000	2.38	3.56	2.54	4.52	6.20	2.75	6.76
1.54	**154Q140**	**154H-FK**	143/145TC	4.75	3.63	.344	5.000	2.38	3.56	2.54	4.52	6.20	2.75	6.76
1.75	**175Q56**	**175H-FK**	56C	4.81	4.06	.344	5.875	2.41	3.50	2.78	4.38	6.66	2.75	6.75
1.75	**175Q140**	**175H-FK**	143/145TC	4.81	4.06	.344	5.875	2.41	3.50	2.78	4.38	6.66	2.75	6.75
2.06	**206Q56**	**206H-FK**	56C	5.75	4.50	.406	6.500	2.88	3.75	3.14	4.75	7.43	3.00	7.25
2.06	**206Q140**	**206H-FK**	143/145TC	5.75	4.50	.406	6.500	2.88	3.75	3.14	4.75	7.43	3.00	7.25
2.37	**237Q56**	**237H-FK**	56C	6.13	5.00	.406	7.500	3.06	3.72	3.61	5.06	8.24	3.56	7.78
2.37	**237Q140**	**237H-FK**	143/145TC	6.13	5.00	.406	7.500	3.06	3.72	3.61	5.06	8.24	3.56	7.78
2.62	**262Q56**	**262H-FK**	56C	7.18	6.00	.406	8.000	3.59	4.06	3.94	5.69	9.25	3.69	8.50
2.62	**262Q140**	**262H-FK**	143/145TC	7.18	6.00	.406	8.000	3.59	4.06	3.94	5.69	9.25	3.69	8.50
2.62	**262Q180**	**262H-FK**	182/184TC	7.18	6.00	.406	8.000	3.59	4.06	3.94	6.13	9.25	3.69	8.50
3.00	**300Q56**	**300H-FK**	56C	8.50	7.00	.406	9.000	4.25	4.50	4.14	5.67	10.02	4.50	10.25
3.00	**300Q140**	**300H-FK**	143/145TC	8.50	7.00	.406	9.000	4.25	4.50	4.14	5.67	10.02	4.50	10.25
3.00	**300Q180**	**300H-FK**	182/184TC	8.50	7.00	.406	9.000	4.25	4.50	4.14	6.45	10.02	4.50	10.25
3.25	**325Q56**	**325H-FK**	56C	8.50	7.00	.563	10.000	4.25	5.25	4.75	6.56	10.89	4.50	10.60
3.25	**325Q140**	**325H-FK**	143/145TC	8.50	7.00	.563	10.000	4.25	5.25	4.75	6.56	10.89	4.50	10.60
3.25	**325Q180**	**325H-FK**	182/184TC	8.50	7.00	.563	10.000	4.25	5.25	4.75	7.00	10.89	4.50	10.60
3.75	**375Q56**	**375H-FK**	56C	9.54	8.00	.563	11.500	4.77	5.46	5.04	6.01	11.85	5.74	11.88
3.75	**375Q140**	**375H-FK**	143/145TC	9.54	8.00	.563	11.500	4.77	5.46	5.04	6.01	11.85	5.74	11.88
3.75	**375Q180**	**375H-FK**	182/184TC	9.54	8.00	.563	11.500	4.77	5.46	5.04	7.29	11.85	5.75	11.88
3.75	**375Q210**	**375H-FK**	213/215TC	9.54	8.00	.563	11.500	4.77	5.46	5.04	7.29	11.85	5.74	11.88
4.50	**450Q140**	**450H-FK**	143/145TC	10.88	9.00	.563	11.500	5.44	6.88	5.34	6.69	13.10	6.42	13.16
4.50	**450Q180**	**450H-FK**	182/184TC	10.88	9.00	.563	11.500	5.44	6.88	5.34	7.97	13.10	6.42	13.16
4.50	**450Q210**	**450H-FK**	213/215TC	10.88	9.00	.563	14.000	5.44	6.88	5.34	7.97	13.10	6.42	13.16
5.16	**516Q180**	**516H-FK**	182/184TC	12.50	10.00	.688	14.000	6.25	6.58	6.57	8.78	15.33	7.42	13.91
5.16	**516Q210**	**516H-FK**	213/215TC	12.50	10.00	.688	14.000	6.25	6.58	6.57	8.78	15.33	7.42	13.91
6.00	**600Q180**	**600H-FK**	182/184TC	14.50	12.00	.688	15.560	7.25	7.22	7.85	9.68	18.22	8.25	15.31
6.00	**600Q210**	**600H-FK**	213/215TC	14.50	12.00	.688	15.560	7.25	7.22	7.85	9.68	18.22	8.25	15.31

C.D.	N.E.M.A. Frame	N	R	INPUT		OUTPUT SHAFT				Stock Ratios marked "x"									Wt. Lbs.
						U +.000 -.001	V	W Key											
				Bore	Keyway			Sq.	Lgth.	5	10	15	20	25	30	40	50	60	
1.33	56C	4.00	3.25	.625	3/16 X 3/32	.625	2.00	.188	1.31	x	x	x	x	x	x	x	x	x	19.7
1.54	56C	4.31	3.25	.625	3/16 X 3/32	.750	1.78	.188	1.25	x	x	x	x	x	x	x	x	x	27.3
1.54	143/145TC	4.31	3.25	.875	3/16 X 3/32	.750	1.78	.188	1.25	x	x	x	-	-	-	-	-	-	27.3
1.75	56C	4.31	3.25	.625	3/16 X 3/32	.875	1.88	.188	1.38	x	x	x	x	x	x	x	x	x	30.4
1.75	143/145TC	4.31	3.25	.875	3/16 X 3/32	.875	1.88	.188	1.38	x	x	x	-	-	-	-	-	-	30.4
2.06	56C	4.69	3.25	.625	3/16 X 3/32	1.000	2.00	.250	1.75	x	x	x	x	x	x	x	x	x	36.6
2.06	143/145TC	4.69	3.25	.875	3/16 X 3/32	1.000	2.00	.250	1.75	x	x	x	x	x	-	-	-	-	36.6
2.37	56C	5.08	3.25	.625	3/16 X 3/32	1.125	2.37	.250	1.75	x	x	x	x	x	x	x	x	x	43.1
2.37	143/145TC	5.08	3.25	.875	3/16 X 3/32	1.125	2.37	.250	1.75	x	x	x	x	x	x	x	-	-	43.1
2.62	56C	5.63	3.25	.625	3/16 X 3/32	1.125	2.50	.250	2.00	-	x	x	x	x	x	x	x	x	58.4
2.62	143/145TC	5.63	3.25	.875	3/16 X 3/32	1.125	2.50	.250	2.00	-	x	x	x	x	x	x	x	x	58.4
2.62	182/184TC	5.63	4.50	1.125	1/4 X 1/8	1.125	2.50	.250	2.00	x	x	-	-	-	-	-	-	-	58.4
3.00	56C	6.75	3.25	.625	3/16 X 3/32	1.250	3.25	.250	2.25	-	-	x	x	x	x	x	x	x	78.1
3.00	143/145TC	6.75	3.25	.875	3/16 X 3/32	1.250	3.25	.250	2.25	-	x	x	x	x	x	x	x	x	78.1
3.00	182/184TC	6.75	4.50	1.125	1/4 X 1/8	1.250	3.25	.250	2.25	-	x	x	x	x	x	x	x	x	78.1
3.25	56C	7.06	3.25	.625	3/16 X 3/32	1.375	3.25	.313	2.88	-	x	x	x	x	x	x	x	x	98.9
3.25	143/145TC	7.06	3.25	.875	3/16 X 3/32	1.375	3.25	.313	2.88	-	x	x	x	x	x	x	x	x	98.9
3.25	182/184TC	7.06	4.50	1.125	1/4 X 1/8	1.375	3.25	.313	2.88	-	x	x	x	x	x	x	x	x	98.9
3.75	56C	7.75	3.38	.625	3/16 X 3/32	1.625	3.50	.375	2.81	-	-	-	-	-	-	x	x	x	133.3
3.75	143/145TC	7.75	3.38	.875	3/16 X 3/32	1.625	3.50	.375	2.81	-	x	x	x	x	x	x	x	x	133.3
3.75	182/184TC	7.75	4.50	1.125	1/4 X 1/8	1.625	3.50	.375	2.81	-	x	x	x	x	x	x	x	-	133.3
3.75	213/215TC	7.75	4.50	1.375	5/16 X 5/32	1.625	3.50	.375	2.81	-	x	x	-	-	-	-	-	-	133.3
4.50	143/145TC	8.44	3.38	.875	3/16 X 3/32	1.625	3.38	.375	2.50	-	-	-	-	-	-	x	x	x	191.8
4.50	182/184TC	8.44	4.50	1.125	1/4 X 1/8	1.625	3.38	.375	2.50	-	-	x	x	x	x	x	x	x	191.8
4.50	213/215TC	8.44	4.50	1.375	5/16 X 5/32	1.625	3.38	.375	2.50	-	x	x	x	x	-	-	-	-	191.8
5.16	182/184TC	9.06	4.50	1.125	1/4 X 1/8	2.000	4.16	.500	2.81	-	-	-	-	-	-	x	x	x	247.9
5.16	213/215TC	9.06	4.50	1.375	5/16 X 5/32	2.000	4.16	.500	2.81	-	x	x	x	x	x	x	-	-	247.9
6.00	182/184TC	10.00	4.50	1.375	5/16 X 5/32	2.250	4.56	.500	3.50	-	-	-	x	x	x	x	x	x	314.7
6.00	213/215TC	10.00	4.50	1.375	5/16 X 5/32	2.250	4.56	.500	3.50	-	-	-	-	x	x	x	x	x	314.7

Fan Kit

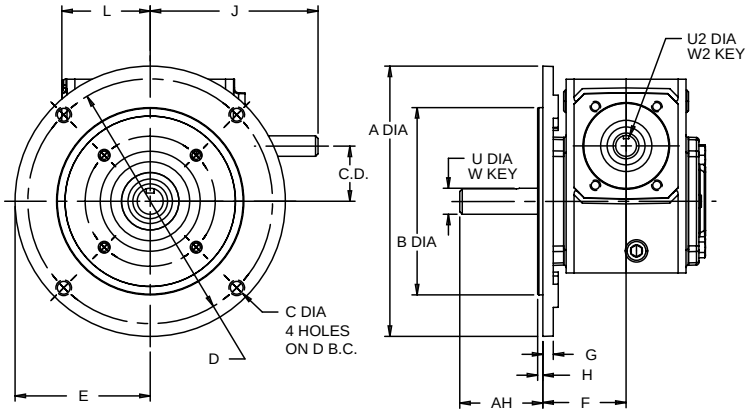
Ref. No.	Fan Kit	AA		Wt. Lbs.
		Tap	Deep	
375Q	**375 FAN**	3/8-24	3/4	2.8
450Q	**450 FAN**	3/8-24	3/4	2.8
516Q	**516 FAN**	3/8-24	3/4	2.8
600Q	**600 FAN**	3/8-24	3/4	4.2

★ To complete Part No. add shaft assembly (L, R, LR) and ratio symbol to size - for example 133Q56H10.

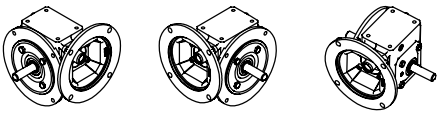
◆ Components needed to make assembled reducer must be ordered separately. If Fan Kit is required, see the table at the left.
Consult factory for ratios not shown as standard.

Style QC

C-Face Quilled
C-Face Output Bracket



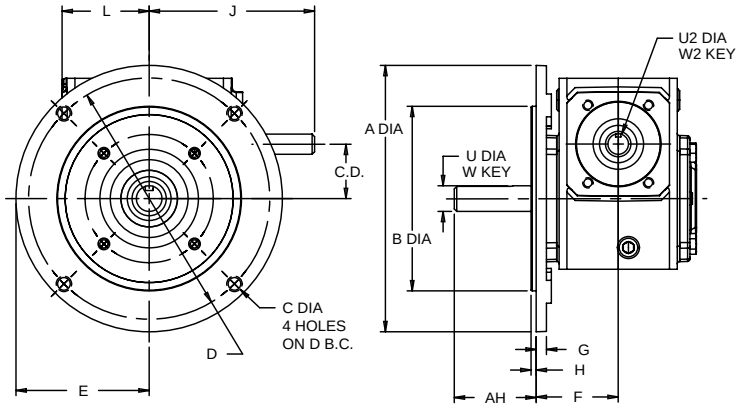
Assembly Drawing and Sample of Components



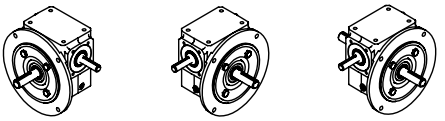
133Q56L10 133TAD Q56 | 133Q56R10 133TAD Q56 | 133Q56LR10 133TAD Q56

Style UC

Universal
C-Face Output Bracket



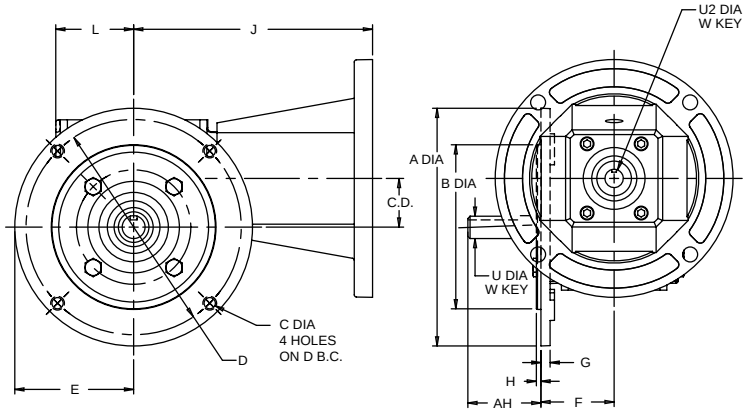
Assembly Drawing and Sample of Components



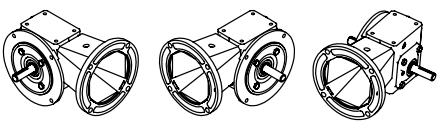
133UL10 133TAD Q56 | 133UR10 133TAD Q56 | 133ULR10 133TAD Q56

Style CC

C-Face Coupled
C-Face Output Bracket



Assembly Drawing and Sample of Components



133UL10 133MAK56 133TAD Q56 | 133UR10 133MAK56 133TAD Q56 | 133ULR10 133MAK56 133TAD Q56

CD	UNIT SIZE	N.E.M.A. FRAME	A	B	C	D	E	F	G	H	AH	J	L	U	W	U2	W2
1.33	133U	56C	6.50	4.50	3/8-16	5.88	3.25	2.00	0.25	0.12	2.00	4.03	2.13	0.50	3/16x3/32	0.625	1/8x1/16
1.75	175U	143/145TC	6.50	4.50	3/8-16	5.88	3.25	2.38	0.25	0.18	1.93	4.69	2.77	0.625	3/16x3/32	0.875	3/16x3/32
2.37	237U	182/184TC	9.00	8.50	1/2-13	7.25	4.50	2.49	0.20	0.25	2.59	5.44	3.56	1.125	1/4x1/8	0.75	3/16x3/32
2.62	262U	182/184TC	9.00	8.50	1/2-13	7.25	4.50	2.83	0.30	0.25	2.80	6.23	3.69	1.125	1/4x1/8	0.75	3/16x3/32
3.25	325U	213/215TC	9.00	8.50	1/2-13	7.25	4.50	3.64	0.45	0.25	3.42	7.06	4.5	1.375	5/16x5/32	0.875	3/16x3/32

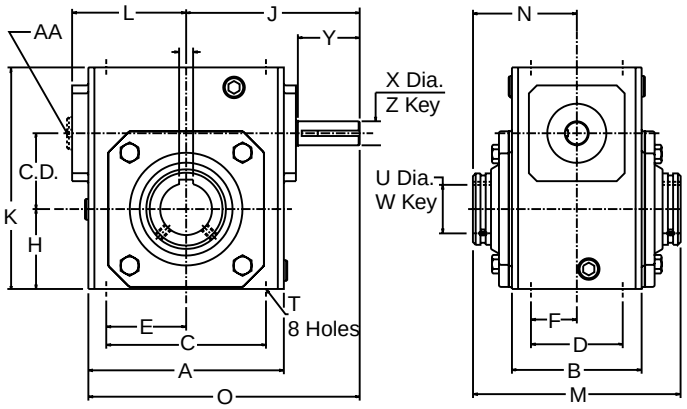
CD	UNIT SIZE	N.E.M.A. FRAME	A	B	C	D	E	F	G	H	AH	J	L	U	W	U2	W2
1.33	133Q	56C	6.50	4.50	3/8-16	5.88	3.25	2.00	0.25	0.12	2.00	4.09	2.13	0.63	3/16x3/32	0.625	1/8x1/16
1.75	175Q	143/145TC	6.50	4.50	3/8-16	5.88	3.25	2.38	0.25	0.18	1.93	4.40	2.77	0.75	3/16x3/32	0.875	3/16x3/32
2.37	237Q	182/184TC	9.00	8.50	1/2-13	7.25	4.50	2.49	0.20	0.25	2.59	5.06	3.56	1.125	1/4x1/8	0.88	3/16x3/32
2.62	262Q	182/184TC	9.00	8.50	1/2-13	7.25	4.50	2.83	0.30	0.25	2.80	5.69	3.69	1.125	1/4x1/8	1.125	3/16x3/32
3.25	325Q	213/215TC	9.00	8.50	1/2-13	7.25	4.50	3.64	0.45	0.25	3.42	6.56	4.5	1.375	5/16x5/32	1.125	3/16x3/32

CD	UNIT SIZE	FLANGE KIT	N.E.M.A. FRAME	A	B	C	D	E	F	G	H	AH	J	L	U	W	U2	W2
1.33	133C	133TAD Q56	56C	6.50	4.50	3/8-16	5.88	3.25	2.00	0.25	0.12	2.00	6.53	2.13	0.50	3/16x3/32	0.625	1/8x1/16
1.75	175C	175TAD Q140	143/145TC	6.50	4.50	3/8-16	5.88	3.25	2.38	0.25	0.18	1.93	7.00	2.77	0.625	3/16x3/32	0.875	3/16x3/32
2.37	237C	237TAD Q180	182/184TC	9.00	8.50	1/2-13	7.25	4.50	2.49	0.20	0.25	2.59	7.69	3.56	1.125	1/4x1/8	0.75	3/16x3/32
2.62	262C	262TAD Q180	182/184TC	9.00	8.50	1/2-13	7.25	4.50	2.83	0.30	0.25	2.80	8.50	3.69	1.125	1/4x1/8	0.75	3/16x3/32
3.25	325C	325TAD Q120	213/215TC	9.00	8.50	1/2-13	7.25	4.50	3.64	0.45	0.25	3.42	9.37	4.5	1.375	5/16x5/32	0.875	3/16x3/32

★ To complete Part No. add shaft assembly (L, R, LR) and ratio symbol to size - for example 133Q56H10.
◆ Components needed to make assembled reducer must be ordered separately.
Consult factory for ratios not shown as standard.

Style UH

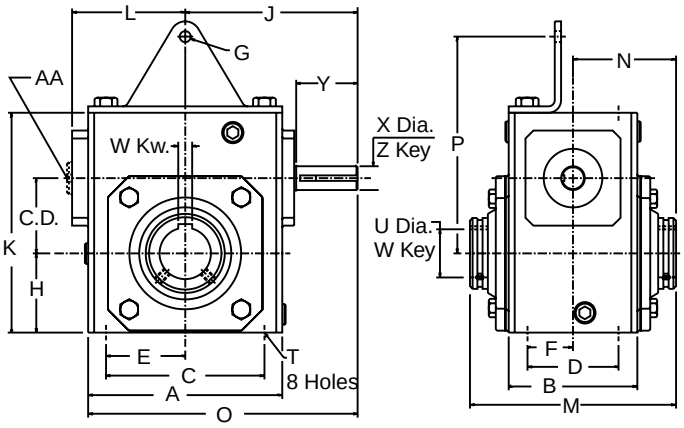
Hollow – Basic Unit



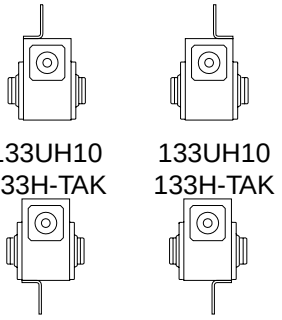


Style UHT

Torque Arm



Assembly Drawing and Sample of Components



133UH10
133H-TAK

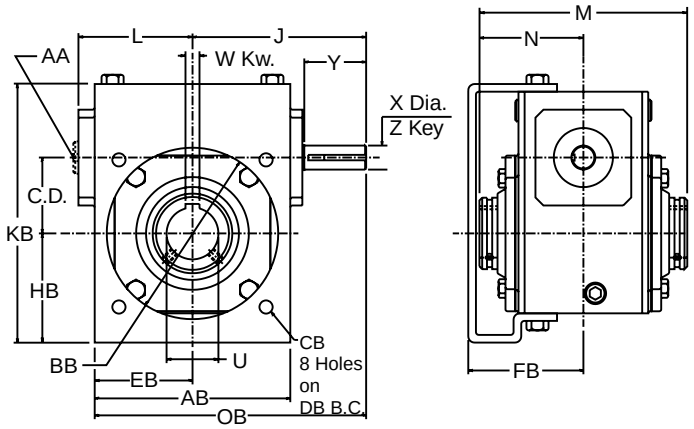
133UH10
133H-TAK

133UH10
133H-TAK

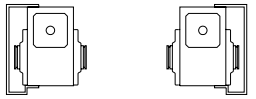
133UH10
133H-TAK

Style UHF

Flange Bracket



Assembly Drawing and Sample of Components



133UH10
133H-FK

Dimensions (Inches) for Style "UH"

C.D.	Basic Unit ★	A	B	C	D	E	F	H	J	K	L	M	N	O
1.33	133UH	4.00	2.88	3.25	2.00	1.63	1.00	1.72	4.03	4.66	2.12	5.31	2.66	6.03
1.54	154UH	5.13	3.69	4.19	2.75	2.09	1.38	1.91	4.69	5.38	2.75	6.44	3.22	7.25
1.75	175UH	4.81	3.38	4.19	2.75	2.09	1.38	2.06	4.68	5.75	2.75	5.70	2.85	7.09
2.06	206UH	5.50	3.75	5.00	2.88	2.50	1.44	2.28	5.06	6.38	3.00	6.44	3.22	7.73
2.37	237UH	6.13	4.06	5.00	2.88	2.50	1.44	2.50	5.44	6.94	3.56	6.31	3.16	8.51
2.62	262UH	7.12	4.44	6.38	3.38	3.19	1.69	2.94	6.23	8.00	3.69	6.88	3.44	9.79
3.00	300UH	8.50	5.50	7.00	4.00	3.50	2.00	3.25	7.00	8.88	4.50	8.38	4.19	11.25
3.25	325UH	8.50	5.00	7.50	4.00	3.75	2.00	3.50	7.06	9.38	4.50	8.50	4.25	11.31
3.75	375UH	9.50	6.38	8.50	4.75	4.25	2.38	3.88	8.38	10.44	5.74	9.63	4.81	13.13
4.50	450UH	10.88	7.38	9.56	5.81	4.78	2.91	4.50	9.59	11.94	6.42	11.13	5.56	15.09
5.16	516UH	12.50	7.38	11.00	5.81	5.50	2.91	5.31	10.69	13.75	7.42	11.31	5.66	16.94
6.00	600UH	14.50	8.13	12.75	6.38	6.38	3.19	6.50	11.75	16.50	8.25	12.63	6.31	19.00

C.D.	T		OUTPUT BORE ✚		INPUT SHAFT				Stock Ratios marked "x"									Wt. Lbs.
	Size	Deep	U +.0015 -.0000	W Keyway	X +.000 -.001	Y	Z Key Sq.	Z Key Lgth.	5	10	15	20	25	30	40	50	60	
1.33	5/16-18	.50	.6250	3/16 x 3/32	.500	1.81	.125	1.38	x	x	x	x	x	x	x	x	x	14.0
1.54	5/16-18	.50	1.0000	1/4 x 1/8	.625	1.69	.188	1.25	x	x	x	x	x	x	x	x	x	20.0
1.75	5/16-18	.61	1.0000	1/4 x 1/8	.625	1.81	.188	1.50	x	x	x	x	x	x	x	x	x	23.0
2.06	3/8-16	.61	1.4375	3/8 x 1/8	.625	1.81	.188	1.50	x	x	x	x	x	x	x	x	x	28.0
2.37	3/8-16	.60	1.4375	3/8 x 1/8	.750	1.94	.188	1.31	x	x	x	x	x	x	x	x	x	44.0
2.62	3/5-16	.58	1.9375	1/2 x 1/8	.750	2.31	.188	1.88	x	x	x	x	x	x	x	x	x	54.0
3.00	7/16-14	.80	2.1875	1/2 x 3/16	.875	2.26	.188	1.31	x	x	x	x	x	x	x	x	x	76.0
3.25	7/16-14	.80	2.1875	1/2 x 3/16	.875	2.31	.188	1.63	-	x	x	x	x	x	x	x	x	79.0
3.75	1/2-13	1.00	2.4375	5/8 x 3/16	1.000	2.91	.250	1.75	-	x	x	x	x	x	x	x	x	109.0
4.50	5/8-11	1.00	2.9375	3/4 x 1/4	1.125	3.48	.250	2.50	-	x	x	x	x	x	x	x	x	140.0
5.16	5/8-11	1.00	3.4375	7/8 x 1/4	1.250	3.75	.250	2.56	-	x	x	x	x	x	x	x	x	222.0
6.00	5/8-11	1.00	3.9375	1 x 1/4	1.500	3.75	.375	2.94	x	x	x	x	x	x	x	x	x	321.0

Dimensions (Inches) for Style "UHT" - With Torque Arm

Components ◆		G	P	Wt. Lbs.
Basic Unit ★	Torque Arm Kit			
133UH	133H-TAK	.53	4.16	14.6
154UH	154H-TAK	.53	4.55	20.7
175UH	175H-TAK	.53	5.06	23.9
206UH	206H-TAK	.53	6.07	29.0
237UH	237H-TAK	.53	6.69	45.2
262UH	262H-TAK	.53	7.44	55.4
300UH	300H-TAK	.53	8.25	77.7
325UH	325H-TAK	.53	9.06	81.0
375UH	375H-TAK	.53	9.56	111.6
450UH	450H-TAK	.81	10.94	143.4
516UH	516H-TAK	.81	12.45	227.5
600UH	600H-TAK	.81	14.63	327.9

Fan Kit

Basic Unit ★	Fan Kit	AA		L	Wt. Lbs.
		Tap	Deep		
375UH	375 FAN	3/8-24	3/4	7.66	2.8
450UH	450 FAN	3/8-24	3/4	8.36	2.8
516UH	516 FAN	3/8-24	3/4	9.18	2.8
600UH	600 FAN	3/8-24	3/4	10.70	4.2

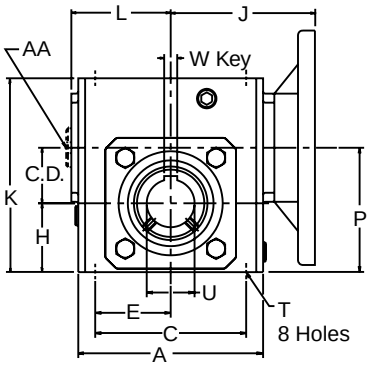
Dimensions (Inches) for Style "UHF" - With Flange

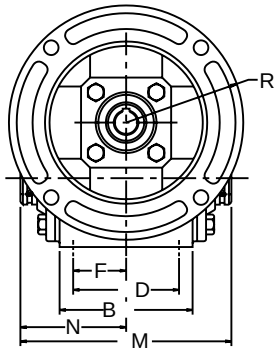
Components ◆		AB	BB	CB	DB	EB	FB	HB	J	KB	L	M	N	OB	Wt. Lbs.
Basic Unit ★	Flange Kit														
133UH	133H-FK	4.25	3.63	.344	5.000	2.13	3.00	2.44	4.03	5.57	2.12	5.31	2.66	6.16	16.7
154UH	154H-FK	4.75	3.63	.344	5.000	2.38	3.56	2.54	4.69	6.20	2.75	6.44	3.22	7.07	23.3
175UH	175H-FK	4.81	4.06	.344	5.875	2.41	3.50	2.78	4.68	6.66	2.75	5.70	2.85	7.09	26.4
206UH	206H-FK	5.75	4.50	.406	6.500	2.88	3.75	3.14	5.06	7.43	3.00	6.44	3.22	7.94	32.6
237UH	237H-FK	6.13	5.00	.406	7.500	3.06	3.72	3.61	5.44	8.24	3.56	6.31	3.16	8.51	49.1
262UH	262H-FK	7.18	6.00	.406	8.000	3.59	4.06	3.94	6.23	9.25	3.69	6.88	3.44	9.82	62.4
300UH	300H-FK	8.50	7.00	.406	9.000	4.25	4.50	4.14	7.00	10.02	4.50	8.38	4.19	11.25	86.1
325UH	325H-FK	8.50	7.00	.563	10.000	4.25	5.25	4.75	7.06	10.89	4.50	8.50	4.25	11.31	90.9
375UH	375H-FK	9.54	8.00	.563	11.500	4.77	5.46	5.04	8.38	11.85	5.74	9.63	4.81	13.13	122.3
450UH	450H-FK	10.88	9.00	.563	11.500	5.44	6.88	5.34	9.59	13.10	6.42	11.13	5.56	15.09	161.8
516UH	516H-FK	12.50	10.00	.688	14.000	6.25	6.58	6.57	10.69	15.33	7.42	11.31	5.66	16.94	248.9
600UH	600H-FK	14.50	12.00	.688	15.560	7.25	7.22	7.85	11.75	18.22	8.25	12.63	6.31	19.00	365.7

★ To complete Part No. add ratio symbol to size - for example 133UH10.
◆ Components needed to make assembled reducer must be ordered separately. If Fan Kit is required, see the table above.
✚ For adapting reducers to shafts smaller than output bore, use Bushing Kits, see the table on page 218.
Consult factory for ratios not shown as standard.

Style QH

C-Face Quilled–Hollow

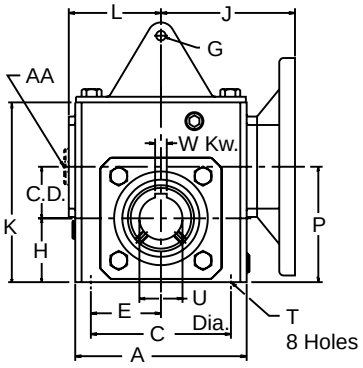


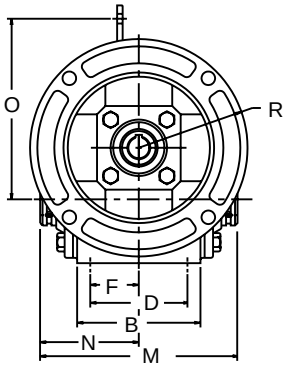




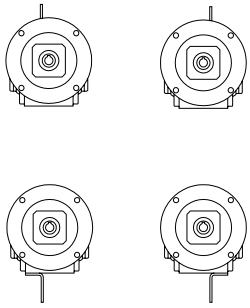
Style QHT

Torque Arm



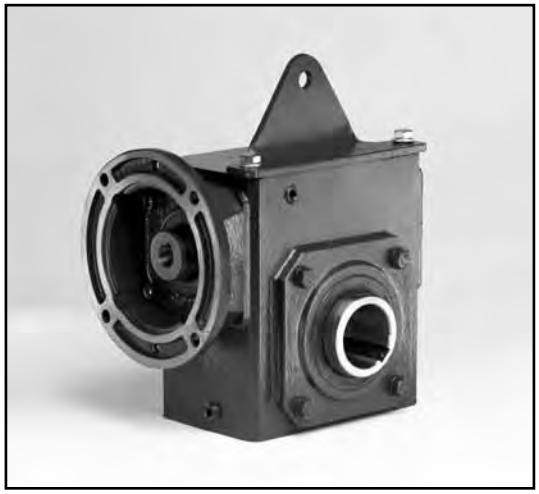


Assembly Drawing and Sample of Components



133Q56H10

133H-TAK



Dimensions (Inches) for Style "QH"

C.D.	Basic Unit ★	N.E.M.A. Frame	A	B	C	D	E	F	H	J	K	L	M	N	P	R
1.33	**133Q56H**	56C	4.00	2.88	3.25	2.00	1.63	1.00	1.72	3.94	4.66	2.12	5.31	2.66	3.05	3.25
1.54	**154Q56H**	56C	5.13	3.69	4.19	2.75	2.09	1.38	1.91	4.52	5.38	2.75	6.44	3.22	3.45	3.25
1.54	**154Q140H**	143/145TC	5.13	3.69	4.19	2.75	2.09	1.38	1.91	4.52	5.38	2.75	6.44	3.22	3.45	3.25
1.75	**175Q56H**	56C	4.81	3.38	4.19	2.75	2.09	1.38	2.06	4.38	5.75	2.75	5.70	2.85	3.81	3.25
1.75	**175Q140H**	143/145TC	4.81	3.38	4.19	2.75	2.09	1.38	2.06	4.38	5.75	2.75	5.70	2.85	3.81	3.25
2.06	**206Q56H**	56C	5.50	3.75	5.00	2.88	2.50	1.44	2.28	4.75	6.38	3.00	6.44	3.22	4.34	3.25
2.06	**206Q140H**	143/145TC	5.50	3.75	5.00	2.88	2.50	1.44	2.28	4.75	6.38	3.00	6.44	3.22	4.34	3.25
2.37	**237Q56H**	56C	6.13	4.06	5.00	2.88	2.50	1.44	2.50	5.06	6.94	3.56	6.31	3.16	4.88	3.25
2.37	**237Q140H**	143/145TC	6.13	4.06	5.00	2.88	2.50	1.44	2.50	5.06	6.94	3.56	6.31	3.16	4.88	3.25
2.62	**262Q56H**	56C	7.12	4.44	6.38	3.38	3.19	1.69	2.94	5.69	8.00	3.69	6.88	3.44	5.57	3.25
2.62	**262Q140H**	143/145TC	7.12	4.44	6.38	3.38	3.19	1.69	2.94	5.69	8.00	3.69	6.88	3.44	5.57	3.25
2.62	**262Q180H**	182/184TC	7.12	4.44	6.38	3.38	3.19	1.69	2.94	6.13	8.00	3.69	6.88	3.44	5.57	4.50
3.00	**300Q56H**	56C	8.50	5.50	7.00	4.00	3.50	2.00	3.25	5.67	8.88	4.50	8.38	4.19	6.25	3.25
3.00	**300Q140H**	143/145TC	8.50	5.50	7.00	4.00	3.50	2.00	3.25	5.67	8.88	4.50	8.38	4.19	6.25	3.25
3.00	**300Q180H**	182/184TC	8.50	5.50	7.00	4.00	3.50	2.00	3.25	6.45	8.88	4.50	8.38	4.19	6.25	4.50
3.25	**325Q56H**	56C	8.50	5.00	7.50	4.00	3.75	2.00	3.50	6.56	9.38	4.50	8.50	4.25	6.75	3.25
3.25	**325Q140H**	143/145TC	8.50	5.00	7.50	4.00	3.75	2.00	3.50	6.56	9.38	4.50	8.50	4.25	6.75	3.25
3.25	**325Q180H**	182/184TC	8.50	5.00	7.50	4.00	3.75	2.00	3.50	7.00	9.38	4.50	8.50	4.25	6.75	4.50
3.75	**375Q56H**	56C	9.50	6.38	8.50	4.75	4.25	2.38	3.88	6.01	10.44	4.93	9.63	4.81	7.63	3.38
3.75	**375Q140H**	143/145TC	9.50	6.38	8.50	4.75	4.25	2.38	3.88	6.01	10.44	4.93	9.63	4.81	7.63	3.38
3.75	**375Q180H**	182/184TC	9.50	6.38	8.50	4.75	4.25	2.38	3.88	7.29	10.44	4.93	9.63	4.81	7.63	4.50
3.75	**375Q210H**	213/215TC	9.50	6.38	8.50	4.75	4.25	2.38	3.88	7.29	10.44	4.93	9.63	4.81	7.63	4.50
4.50	**450Q140H**	143/145TC	10.88	7.38	9.56	5.81	4.78	2.91	4.50	6.69	11.94	6.42	11.13	5.56	9.00	3.38
4.50	**450Q180H**	182/184TC	10.88	7.38	9.56	5.81	4.78	2.91	4.50	7.97	11.94	6.42	11.31	5.66	9.00	4.50
4.50	**450Q210H**	213/215TC	10.88	7.38	9.56	5.81	4.78	2.91	4.50	7.97	11.94	6.42	11.31	5.66	9.00	4.50
5.16	**516Q180H**	182/184TC	12.50	7.38	11.00	5.81	5.50	2.91	5.31	8.78	13.75	7.42	11.31	5.66	10.47	4.50
5.16	**516Q210H**	213/215TC	12.50	7.38	11.00	5.81	5.50	2.91	5.31	8.78	13.75	7.42	11.31	5.66	10.47	4.50
6.00	**600Q180H**	182/184TC	14.50	8.13	12.75	6.38	6.38	3.19	6.50	9.68	16.50	8.25	12.63	6.31	12.50	4.50
6.00	**600Q210H**	213/215TC	14.50	8.13	12.75	6.38	6.38	3.19	6.50	9.68	16.50	8.25	12.63	6.31	12.50	4.50

C.D.	N.E.M.A. Frame	T		INPUT		OUTPUT BORE ✚		Stock Ratios marked "x"									Wt. Lbs.
		Size	Deep	Bore	Keyway	U +.0015 -.0000	W Keyway	5	10	15	20	25	30	40	50	60	
1.33	56C	5/16-18	.50	.625	3/16 x 3/32	.6250	3/16 x 3/32	x	x	x	x	x	x	x	x	x	17.0
1.54	56C	5/16-18	.50	.625	3/16 x 3/32	1.0000	1/4 x 1/8	x	x	x	x	x	x	x	x	x	22.0
1.54	143/145TC	5/16-18	.50	.875	3/16 x 3/32	1.0000	1/4 x 1/8	x	x	-	-	-	-	-	-	-	22.0
1.75	56C	5/16-18	.61	.625	3/16 x 3/32	1.0000	1/4 x 1/8	x	x	x	x	x	x	x	x	x	25.0
1.75	143/145TC	5/16-18	.61	.875	3/16 x 3/32	1.0000	1/4 x 1/8	x	x	x	-	-	-	-	-	-	25.0
2.06	56C	3/8-16	.61	.625	3/16 x 3/32	1.4375	3/8 x 1/8	x	x	x	x	x	x	x	x	x	33.0
2.06	143/145TC	3/8-16	.61	.875	3/16 x 3/32	1.4375	3/8 x 1/8	x	x	x	x	x	-	-	-	-	33.0
2.37	56C	3/8-16	.60	.625	3/16 x 3/32	1.4375	3/8 x 1/8	x	x	x	x	x	x	x	x	x	47.0
2.37	143/145TC	3/8-16	.60	.875	3/16 x 3/32	1.4375	3/8 x 1/8	x	x	x	x	x	x	x	-	-	47.0
2.62	56C	3/8-16	.58	.625	3/16 x 3/32	1.9375	1/2 x 1/8	-	x	x	x	x	x	x	x	x	57.0
2.62	143/145TC	3/8-16	.58	.875	3/16 x 3/32	1.9375	1/2 x 1/8	-	x	x	x	x	x	x	x	x	57.0
2.62	182/184TC	3/8-16	.58	1.125	1/4 x 1/8	1.9375	1/2 x 1/8	x	x	-	-	-	-	-	-	-	57.0
3.00	56C	7/16-14	.80	.625	3/16 x 3/32	2.1875	1/2 x 3/16	-	-	x	x	x	x	x	x	x	80.0
3.00	143/145TC	7/16-14	.80	.875	3/16 x 3/32	2.1875	1/2 x 3/16	-	x	x	x	x	x	x	x	x	80.0
3.00	182/184TC	7/16-14	.80	1.125	1/4 x 1/8	2.1875	1/2 x 3/16	-	x	x	x	x	x	x	x	x	80.0
3.25	56C	7/16-14	.80	.625	3/16 x 3/32	2.1875	1/2 x 3/16	-	x	x	x	x	x	x	x	x	83.0
3.25	143/145TC	7/16-14	.80	.875	3/16 x 3/32	2.1875	1/2 x 3/16		x	x	x	x	x	x	x	x	83.0
3.25	182/184TC	7/16-14	.80	1.125	1/4 x 1/8	2.1875	1/2 x 3/16	-	x	x	x	x	x	x	x	x	83.0
3.75	56C	1/2-13	1.00	.625	3/16 x 3/32	2.4375	5/8 x 3/16	-	-	-	-	-	-	x	x	x	116.0
3.75	143/145TC	1/2-13	1.00	.875	3/16 x 3/32	2.4375	5/8 x 3/16	-	x	x	x	x	x	x	x	x	116.0
3.75	182/184TC	1/2-13	1.00	1.125	1/4 x 1/8	2.4375	5/8 x 3/16	-	x	x	x	x	x	x	x	-	116.0
3.75	213/215TC	1/2-13	1.00	1.375	3/16 x 3/32	2.4375	5/8 x 3/16	-	x	x	-	-	-	-	-	-	116.0
4.50	143/145TC	5/8-11	1.00	.875	3/16 x 3/32	2.9375	3/4 x 1/4	-	-	-	-	-	-	x	x	x	150.0
4.50	182/184TC	5/8-11	1.00	1.125	1/4 x 1/8	2.9375	3/4 x 1/4	-	-	x	x	x	x	x	x	x	150.0
4.50	213/215TC	5/8-11	1.00	1.375	5/16 x 5/32	2.9375	3/4 x 1/4	-	x	x	x	x	-	-	-	-	150.0
5.16	182/184TC	5/8-11	1.00	1.125	1/4 x 1/8	3.4375	7/8 x 1/4	-	-	-	-	-	-	x	x	x	230.0
5.16	213/215TC	5/8-11	1.00	1.375	5/16 x 5/32	3.4375	7/8 x 1/4	-	x	x	x	x	x	-	-	-	230.0
6.00	182/184TC	5/8-11	1.00	1.375	5/16 x 5/32	3.9375	1 x 1/4	-	-	-	x	x	x	x	x	x	344.0
6.00	213/215TC	5/8-11	1.00	1.375	5/16 x 5/32	3.9375	1 x 1/4	-	-	-	-	x	x	x	x	x	344.0

Dimensions (Inches) for Style "QHT"

Components ◆		G	O	Wt. Lbs.
Ref. No.	Torque Arm Kit			
133QH	**133H-TAK**	.53	4.16	17.6
154QH	**154H-TAK**	.53	4.55	22.7
175QH	**175H-TAK**	.53	5.06	25.9
206QH	**206H-TAK**	.53	6.07	34.0
237QH	**237H-TAK**	.53	6.69	48.2
262QH	**262H-TAK**	.53	7.44	58.4
300QH	**300H-TAK**	.53	8.25	81.7
325QH	**325H-TAK**	.53	9.06	85.0
375QH	**375H-TAK**	.53	9.56	118.6
450QH	**450H-TAK**	.81	10.94	153.4
516QH	**516H-TAK**	.81	12.45	235.5
600QH	**600H-TAK**	.81	14.63	350.9

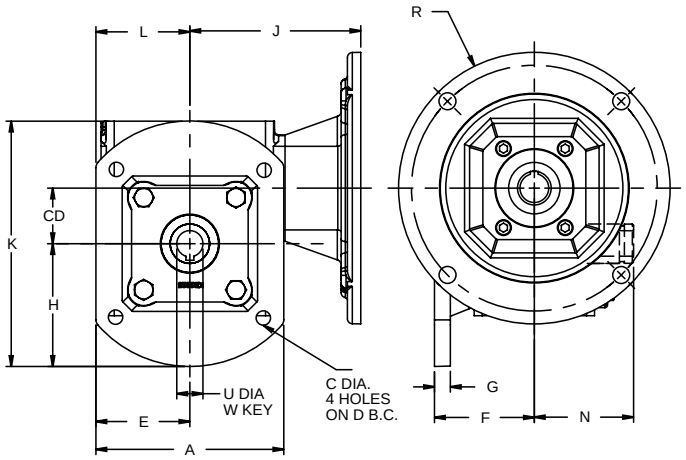
Fan Kit

Ref. No.	Fan Kit	AA		L	Wt. Lbs.
		Tap	Deep		
375QH	**375 FAN**	3/8-24	3/4	7.66	2.8
450QH	**450 FAN**	3/8-24	3/4	8.36	2.8
516QH	**516 FAN**	3/8-24	3/4	9.18	2.8
600QH	**600 FAN**	3/8-24	3/4	10.70	4.2

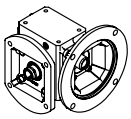
★ To complete Part No. add ratio symbol to size - for example 133Q56H10.
◆ Components needed to make assembled reducer must be ordered separately. If Fan Kit is required, see the table above.
✚ For adapting reducers to shafts smaller than output bore, use Bushing Kits, see the table on page 218. Consult factory for ratios not shown as standard.

Style QHCF

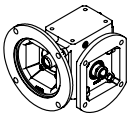
C-Face Quilled
Cast Iron Output Flange Hollow



Assembly Drawing and Sample of Components



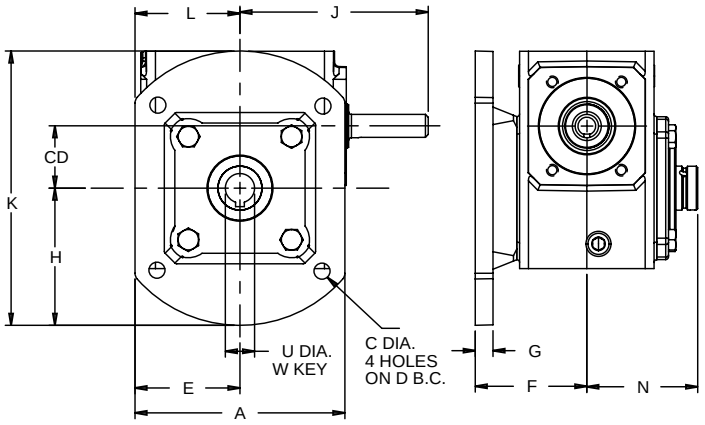
133Q56H10
133H-SK



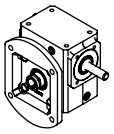
133Q56H10
133H-SK

Style UHCF

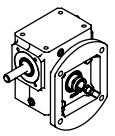
Universal
Cast Iron Output Flange Hollow



Assembly Drawing and Sample of Components



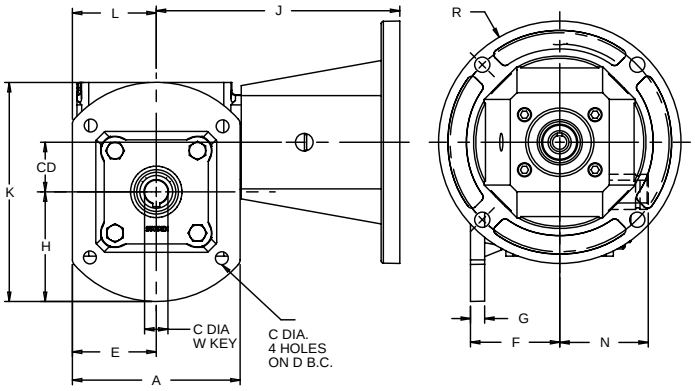
133UH10
133H-SK



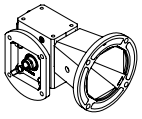
133UH10
133H-SK

Style CHCF

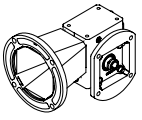
C-Face Coupled
Cast Iron Output Flange Hollow



Assembly Drawing and Sample of Components



133UH10
133MAK56
133H-SK



133UH10
133MAK56
133H-SK

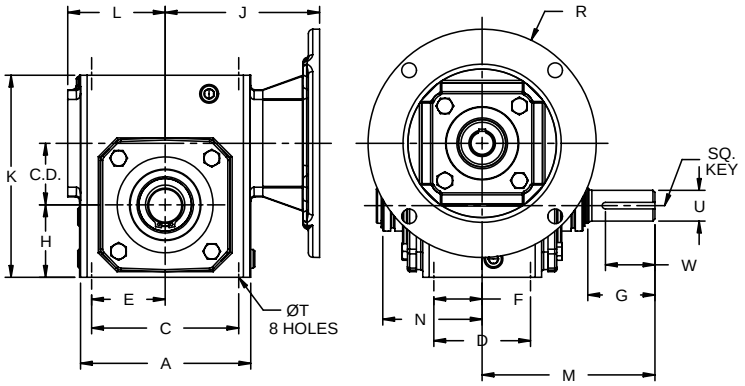
C.D.	COMPONENTS ◆		N.E.M.A. FRAME	A	C	D	E	F	G	H	J	K	L
	PART NO. ★	FLANGE KIT											
1.33	**133Q56H**	133C-FK	56C	4.50	0.344	5.00	2.25	3.00	0.38	2.94	4.09	5.88	2.25
1.54	**154Q56H**	154C-FK	56C	4.50	0.344	5.00	2.25	3.54	0.28	2.88	4.5	5.75	2.25
1.54	**154Q140H**	154C-FK	143/145TC	4.50	0.344	5.00	2.25	3.54	0.28	2.88	4.5	5.75	2.25
1.75	**175Q56H**	175C-FK	56C	4.88	0.344	5.87	2.44	3.50	0.38	3.38	4.38	6.75	2.44
1.75	**175Q141H**	175C-FK	143/145TC	4.88	0.344	5.87	2.44	3.50	0.38	3.38	4.38	6.75	2.44
2.06	**206Q56H**	206C-FK	56C	5.75	0.344	7.00	2.88	3.75	0.38	1.44	4.75	7.87	2.88
2.06	**206Q140H**	206C-FK	143/145TC	5.75	0.406	7.00	2.88	3.75	0.38	1.44	4.75	7.87	2.88
2.37	**237Q56H**	237C-FK	56C	6.80	0.406	7.50	3.40	3.74	0.38	4.30	5.06	8.60	3.40
2.37	**237Q140H**	237C-FK	143/145TC	6.80	0.406	7.50	3.40	3.74	0.38	4.30	5.06	8.60	3.40
2.62	**262Q56H**	262C-FK	56C	7.75	0.406	8.00	3.88	4.06	0.38	4.44	5.69	8.88	3.88
2.62	**262Q140H**	262C-FK	143/145TC	7.75	0.406	8.00	3.88	4.06	0.38	4.44	5.69	8.88	3.88
2.62	**262Q180H**	262C-FK	182/184TC	7.75	0.406	8.00	3.88	4.06	0.38	4.44	6.13	8.88	3.88
3.00	**300Q56H**	300C-FK	56	8.20	0.406	9.00	4.10	4.75	0.38	5.08	5.67	10.15	4.10
3.00	**300Q140H**	300C-FK	143/145TC	8.20	0.406	9.00	4.10	4.75	0.38	5.08	5.67	10.15	4.10
3.00	**300Q180H**	300C-FK	182/184TC	8.20	0.406	9.00	4.10	4.75	0.38	5.08	6.45	10.15	4.10
3.25	**325Q56H**	325C-FK	56C	9.00	0.531	10.00	4.50	5.25	0.50	5.50	6.56	11.00	4.50
3.25	**325Q140H**	325C-FK	143/145TC	9.00	0.531	10.00	4.50	5.25	0.50	5.50	6.56	11.00	4.50
3.25	**325Q180H**	325C-FK	182/184TC	9.00	0.531	10.00	4.50	5.25	0.50	5.50	7.00	11.00	4.50

C.D.	N.E.M.A. FRAME			INPUT		OUTPUT BORE		STOCK RATIOS MARKED "X"								
						U	W KEYWAY									
		N	R	BORE	KEYWAY	+.0015/-.0000		5	10	15	20	25	30	40	50	60
1.33	56C	2.38	3.25	0.625	3/16x3/32	0.625	3/16x3/32	x	x	x	x	x	x	x	x	x
1.54	56C	3.22	3.25	0.625	3/16x3/32	1.000	1/4x1/8	x	x	x	x	x	x	x	x	x
1.54	143/145TC	3.22	3.25	0.875	3/16x3/32	1.000	1/4x1/8	x	x	-	-	-	-	-	-	-
1.75	56C	2.85	3.25	0.625	3/16x3/32	1.000	1/4x1/8	x	x	x	x	x	x	x	x	x
1.75	143/145TC	2.85	3.25	0.875	3/16x3/32	1.000	1/4x1/8	x	x	x	-	-	-	-	-	-
2.06	56C	3.22	3.25	0.625	3/16x3/32	1.438	3/8x1/8	x	x	x	x	x	x	x	x	x
2.06	143/145TC	3.22	3.25	0.875	3/16x3/32	1.438	3/8x1/8	x	x	x	x	x	-	-	-	-
2.37	56C	3.16	3.25	0.625	3/16x3/32	1.438	3/8x1/8	x	x	x	x	x	x	x	x	x
2.37	143/145TC	3.16	3.25	0.875	3/16x3/32	1.438	3/8x1/8	x	x	x	x	x	x	x	-	-
2.62	56C	3.44	3.25	0.625	3/16x3/32	1.938	1/2x1/8	-	x	x	x	x	x	x	x	x
2.62	143/145TC	3.44	3.25	0.875	3/16x3/32	1.938	1/2x1/8	-	x	x	x	x	x	x	x	x
2.62	182/184TC	3.44	4.50	1.125	1/4x1/8	1.938	1/2x1/8	x	x	-	-	-	-	-	-	-
3.00	56C	4.19	3.25	0.625	3/16x3/32	2.188	1/2x3/16	-	-	x	x	x	x	x	x	x
3.00	143/145TC	4.19	3.25	0.875	3/16x3/32	2.188	1/2x3/16	-	x	x	x	x	x	x	x	x
3.00	182/184TC	4.19	4.50	1.125	1/4x1/8	2.188	1/2x3/16	-	x	x	x	x	x	x	x	x
3.25	56C	4.25	3.25	0.625	3/16x3/32	2.188	1/2x3/16	-	x	x	x	x	x	x	x	x
3.25	143/145TC	4.25	3.25	0.875	3/16x3/32	2.188	1/2x3/16	-	x	x	x	x	x	x	x	x
3.25	182/184TC	4.25	4.50	1.125	1/4x1/8	2.188	1/2x3/16	-	x	x	x	x	x	x	x	x

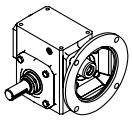
★ To complete Part No. add ratio symbol to size - for example 133UH10.
◆ Components needed to make assembled reducer must be ordered separately.
✚ For adapting reducers to shafts smaller than output bore, use Bushing Kits, see the table on page 218.
Consult factory for ratios not shown as standard.

Style QHP

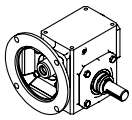
C-Face Quilled
Plug In Shaft



Assembly Drawing and Sample of Components



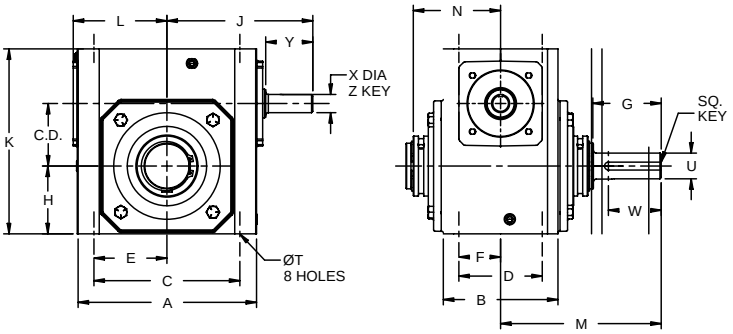
133Q56H10
133H-SK



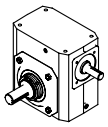
133Q56H10
133H-SK

Style UHP

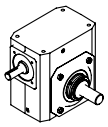
Universal
Plug In Shaft



Assembly Drawing and Sample of Components



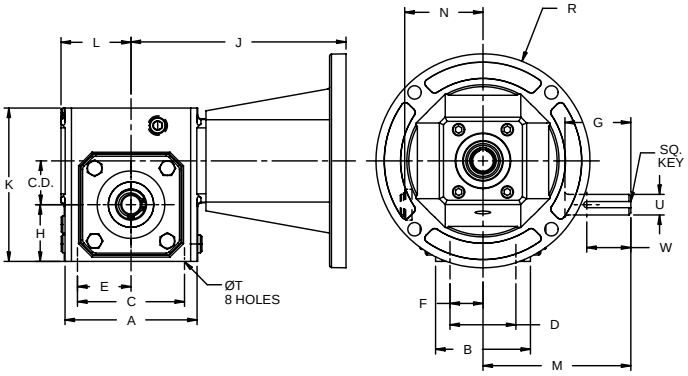
133UH10
133H-SK



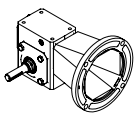
133UH10
133H-SK

Style CHP

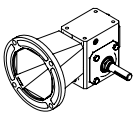
C-Face Coupled
Plug In Shaft



Assembly Drawing and Sample of Components



133UH10
133MAK56
133H-SK



133UH10
133MAK56
133H-SK

DIMENSIONS (INCHES) FOR STYLE "QH"

C.D.	BASIC UNIT	SHAFT KIT	N.E.M.A. FRAME	A	B	C	D	E	F	G	H	J	K	L	M	N	R
1.33	133Q56H	133H-SK	56C	4.00	2.88	3.25	2.00	1.63	1.00	2.00	1.72	3.94	4.66	2.12	4.49	2.66	3.25
1.54	154Q56H	154H-SK	56C	5.13	3.69	4.19	2.75	2.09	1.38	1.81	1.91	4.52	5.38	2.75	4.90	3.22	3.25
1.54	154Q140H	154H-SK	143/145TC	5.13	3.69	4.19	2.75	2.09	1.38	1.81	1.91	4.52	5.38	2.75	4.90	3.22	3.25
1.75	175Q56H	175H-SK	56C	4.81	3.38	4.19	2.75	2.09	1.38	1.91	2.06	4.38	5.75	2.75	4.92	2.85	3.25
1.75	175Q140H	175H-SK	143/145TC	4.81	3.38	4.19	2.75	2.09	1.38	1.91	2.06	4.38	5.75	2.75	4.92	2.85	3.25
2.06	206Q56H	206H-SK	56C	5.50	3.75	5.00	2.88	2.50	1.44	2.00	2.28	4.75	6.38	3.00	5.43	3.22	3.25
2.06	206Q140H	206H-SK	143/145TC	5.50	3.75	5.00	2.88	2.50	1.44	2.00	2.28	4.75	6.38	3.00	5.43	3.22	3.25
2.37	237Q56H	237H-SK	56C	6.13	4.06	5.00	2.88	2.50	1.44	2.37	2.50	5.06	6.94	3.56	5.74	3.16	3.25
2.37	237Q140H	237H-SK	143/145TC	6.13	4.06	5.00	2.88	2.50	1.44	2.37	2.50	5.06	6.94	3.56	5.74	3.16	3.25
2.62	262Q56H	262H-SK	56C	7.12	4.44	6.38	3.38	3.19	1.69	2.50	2.94	5.69	8.00	3.69	6.21	3.44	3.25
2.62	262Q140H	262H-SK	143/145TC	7.12	4.44	6.38	3.38	3.19	1.69	2.50	2.94	5.69	8.00	3.69	6.21	3.44	3.25
2.62	262Q180H	262H-SK	182/184TC	7.12	4.44	6.38	3.38	3.19	1.69	2.50	2.94	6.13	8.00	3.69	6.21	3.44	4.50
3.00	300Q56H	300H-SK	56C	8.50	5.50	7.00	4.00	3.50	2.00	3.25	3.25	5.67	8.88	4.50	7.74	4.19	3.25
3.00	300Q140H	300H-SK	143/145TC	8.50	5.50	7.00	4.00	3.50	2.00	3.25	3.25	5.67	8.88	4.50	7.74	4.19	3.25
3.00	300Q180H	300H-SK	182/184TC	8.50	5.50	7.00	4.00	3.50	2.00	3.25	3.25	6.45	8.88	4.50	7.74	4.19	4.50
3.25	325Q56H	325H-SK	56C	8.50	5.00	7.50	4.00	3.75	2.00	3.25	3.50	6.56	9.38	4.50	7.74	4.25	3.25
3.25	325Q140H	325H-SK	143/145TC	8.50	5.00	7.50	4.00	3.75	2.00	3.25	3.50	6.56	9.38	4.50	7.74	4.25	3.25
3.25	325Q180H	325H-SK	182/184TC	8.50	5.00	7.50	4.00	3.75	2.00	3.25	3.50	7.00	9.38	4.50	7.74	4.25	4.50

C.D.	N.E.M.A. FRAME	T		OUTPUT SHAFT U	OUTPUT SHAFT W	OUTPUT SHAFT SQ	INPUT SHAFT		STOCK RATIOS MARKED "X"									WT.
		SIZE	DEEP	+.0015/.0000	KW LGTH	KEY	BORE	KEYWAY	5	10	15	20	25	30	40	50	60	LBS.
1.33	56C	5/16-18	0.50	0.625	1.313	0.188	0.625	3/16X3/32	X	X	X	X	X	X	X	X	X	17.0
1.54	56C	5/16-18	0.50	1.000	1.250	0.188	0.625	3/16X3/32	X	X	X	X	X	X	X	X	X	22.0
1.54	143/145TC	5/16-18	0.50	1.000	1.250	0.188	0.875	3/16X3/32	X	X	-	-	-	-	-	-	-	22.0
1.75	56C	5/16-18	0.61	1.000	1.375	0.188	0.625	3/16X3/32	X	X	X	X	X	X	X	X	X	25.0
1.75	143/145TC	5/16-18	0.61	1.000	1.375	0.188	0.875	3/16X3/32	X	X	X	-	-	-	-	-	-	25.0
2.06	56C	3/8-16	0.61	1.438	1.750	0.250	0.625	3/16X3/32	-	X	X	X	X	X	X	X	X	33.0
2.06	143/145TC	3/8-16	0.61	1.438	1.750	0.250	0.875	3/16X3/32	X	X	X	X	X	-	-	-	-	33.0
2.37	56C	3/8-16	0.60	1.438	1.750	0.250	0.625	3/16X3/32	-	X	X	X	X	X	X	X	X	47.0
2.37	143/145TC	3/8-16	0.60	1.438	1.750	0.250	0.875	3/16X3/32	X	X	X	X	X	X	X	-	-	14.0
2.62	56C	3/8-16	0.58	1.938	2.000	0.250	0.625	3/16X3/32	-	X	X	X	X	X	X	X	X	57.0
2.62	143/145TC	3/8-16	0.58	1.938	2.000	0.250	0.875	3/16X3/32	-	X	X	X	X	X	X	X	X	57.0
2.62	182/184TC	3/8-16	0.58	1.938	2.000	0.250	1.125	1/4X1/8	X	X	-	-	-	-	-	-	-	57.0
3.00	56C	7/16-14	0.80	2.188	2.250	0.250	0.625	3/16X3/32	-	-	X	X	X	X	X	X	X	80.0
3.00	143/145TC	7/16-14	0.80	2.188	2.250	0.250	0.875	3/16X3/32	-	X	X	X	X	X	X	X	X	80.0
3.00	182/184TC	7/16-14	0.80	2.188	2.250	0.250	1.125	1/4X1/8	-	X	X	X	X	X	X	X	X	80.0
3.25	56C	7/16-14	0.80	2.188	2.875	0.313	0.625	3/16X3/32	-	X	X	X	X	X	X	X	X	53.0
3.25	143/145TC	7/16-14	0.80	2.188	2.875	0.313	0.875	3/16X3/32	-	X	X	X	X	X	X	X	X	53.0
3.25	182/184TC	7/16-14	0.80	2.188	2.875	0.313	1.125	1/4X1/8	-	X	X	X	X	X	X	X	X	53.0

DIMENSIONS (INCHES) FOR STYLE "UH"

C.D.	BASIC UNIT	A	B	C	D	E	F	G	H	J	K	L	M	N
1.33	**133UH**	4.00	2.88	3.25	2.00	1.63	1.00	2.00	1.72	4.03	4.66	2.12	4.49	2.66
1.54	**154UH**	5.13	3.69	4.19	2.75	2.09	1.38	1.81	1.91	4.69	5.38	2.75	4.90	3.22
1.75	**175UH**	4.81	3.38	4.19	2.75	2.09	1.38	1.91	2.06	4.68	5.75	2.75	4.92	2.85
2.06	**206UH**	5.50	3.75	5.00	2.88	2.50	1.44	2.00	2.28	5.06	6.38	3.00	5.43	3.22
2.37	**237UH**	6.13	4.06	5.00	2.88	2.50	1.44	2.37	2.50	5.44	6.94	3.56	5.74	3.16
2.62	**262UH**	7.12	4.44	6.38	3.38	3.19	1.69	2.50	2.94	6.23	8.00	3.69	6.21	3.44
3.00	**300UH**	8.50	5.50	7.00	4.00	3.50	2.00	3.25	3.25	7.00	8.88	4.50	7.74	4.19
3.25	**325UH**	5.00	5.00	7.50	4.00	3.75	2.00	3.25	3.50	7.06	9.38	4.50	7.74	4.29

C.D.	T		OUTPUT SHAFT U	OUTPUT SHAFT W	OUTPUT SHAFT SQ	INPUT SHAFT X	INPUT SHAFT Y	INPUT SHAFT Z KEY		STOCK RATIOS MARKED "X"										WT.
	SIZE	DEEP	+.0015/.0000	KW LGTH	KEY	+.000/-.001		SQ.	LGTH.	5	10	15	20	25	30	40	50	60	60	LBS.
1.33	5/16-18	0.50	0.625	1.313	0.188	0.500	1.81	0.125	1.38	X	X	X	X	X	X	X	X	X	X	14.0
1.54	5/16-18	0.50	1.000	1.250	0.188	0.625	1.69	0.188	1.25	X	X	X	X	X	X	X	X	X	X	20.0
1.75	5/16-18	0.61	1.000	1.375	0.188	0.625	1.81	0.188	1.50	X	X	X	X	X	X	X	X	X	X	23.0
2.06	3/8-16	0.61	1.438	1.750	0.250	0.625	1.81	0.188	1.50	X	X	X	X	X	X	X	X	X	X	28.0
2.37	3/8-16	0.60	1.438	1.750	0.250	0.750	1.94	0.188	1.31	X	X	X	X	X	X	X	X	X	X	44.0
2.62	3/8-16	0.58	1.938	2.000	0.250	0.750	2.31	0.188	1.88	X	X	X	X	X	X	X	X	X	X	54.0
3.00	7/16-14	0.80	2.188	2.250	0.250	0.875	2.26	0.188	1.31	X	X	X	X	X	X	X	X	X	X	76.0
3.25	7/16-14	0.80	2.188	2.875	0.313	0.875	2.31	0.188	1.63	-	X	X	X	X	X	X	X	X	X	79.0

DIMENSIONS (INCHES) FOR STYLE "CH"

C.D.	BASIC UNIT	N.E.M.A. FRAME	A	B	C	D	E	F	G	H	J	K	L	M	N	R
1.33	133Q56H	56C	4.00	2.88	3.25	2.00	1.63	1.00	2.00	1.72	6.38	4.66	2.12	4.49	2.66	3.25
1.54	154Q56H	56C	5.13	3.69	4.19	2.75	2.09	1.38	1.81	1.91	7.13	5.38	2.75	4.90	3.22	3.25
1.54	154Q140H	143/145TC	5.13	3.69	4.19	2.75	2.09	1.38	1.81	1.91	7.13	5.38	2.75	4.90	3.22	3.25
1.75	175Q56H	56C	4.81	3.38	4.19	2.75	2.09	1.38	1.91	2.06	7.00	5.75	2.75	4.92	2.85	3.25
1.75	175Q140H	143/145TC	4.81	3.38	4.19	2.75	2.09	1.38	1.91	2.06	7.00	5.75	2.75	4.92	2.85	3.25
2.06	206Q56H	56C	5.50	3.75	5.00	2.88	2.50	1.44	2.00	2.28	7.37	6.38	3.00	5.43	3.22	3.25
2.06	206Q140H	143/145TC	5.50	3.75	5.00	2.88	2.50	1.44	2.00	2.28	7.37	6.38	3.00	5.43	3.22	3.25
2.37	237Q56H	56C	6.13	4.06	5.00	2.88	2.50	1.44	2.37	2.50	7.69	6.94	3.56	5.74	3.16	3.25
2.37	237Q140H	143/145TC	6.13	4.06	5.00	2.88	2.50	1.44	2.37	2.50	7.69	6.94	3.56	5.74	3.16	3.25
2.62	262Q56H	56C	7.12	4.44	6.38	3.38	3.19	1.69	2.50	2.94	8.50	8.00	3.69	6.21	3.44	3.25
2.62	262Q140H	143/145TC	7.12	4.44	6.38	3.38	3.19	1.69	2.50	2.94	8.50	8.00	3.69	6.21	3.44	3.25
2.62	262Q180H	182/184TC	7.12	4.44	6.38	3.38	3.19	1.69	2.50	2.94	9.72	8.00	3.69	6.21	3.44	4.50
3.00	300Q56H	56C	8.50	5.50	7.00	4.00	3.50	2.00	3.25	3.25	9.35	8.88	4.50	7.74	4.19	3.25
3.00	300Q140H	143/145TC	8.50	5.50	7.00	4.00	3.50	2.00	3.25	3.25	9.35	8.88	4.50	7.74	4.19	3.25
3.00	300Q180H	182/184TC	8.50	5.50	7.00	4.00	3.50	2.00	3.25	3.25	10.57	8.88	4.50	7.74	4.19	4.50
3.25	325Q56H	56C	8.50	5.00	7.50	4.00	3.75	2.00	3.25	3.50	9.37	9.38	4.50	7.74	4.25	3.25
3.25	325Q140H	143/145TC	8.50	5.00	7.50	4.00	3.75	2.00	3.25	3.50	9.37	9.38	4.50	7.74	4.25	3.25
3.25	325Q180H	182/184TC	8.50	5.00	7.50	4.00	3.75	2.00	3.25	3.50	10.59	9.38	4.50	7.74	4.25	4.50

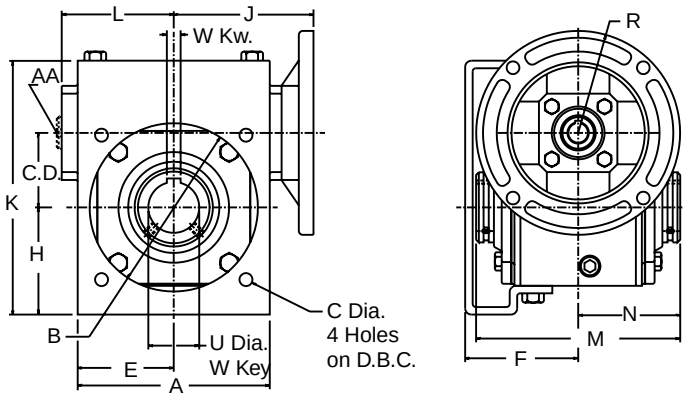
C.D.	N.E.M.A. FRAME	T		OUTPUT SHAFT U	OUTPUT SHAFT W	OUTPUT SHAFT SQ	INPUT SHAFT X	INPUT SHAFT Y	INPUT SHAFT Z KEY		STOCK RATIOS MARKED "X"										WT.
		SIZE	DEEP	+.0015 /.0000	KW LGTH	KEY	+.000/-.001		SQ.	LGTH.	5	10	15	20	25	30	40	50	60	LBS.
1.33	56C	5/16-18	0.50	0.625	1.313	0.188	0.500	1.81	0.125	1.38	X	X	X	X	X	X	X	X	X	17.0
1.54	56C	5/16-18	0.50	1.000	1.250	0.188	0.625	1.69	0.188	1.25	X	X	X	X	X	X	X	X	X	22.0
1.54	143/145TC	5/16-18	0.50	1.000	1.250	0.188	0.625	1.69	0.188	1.25	X	X	X	X	X	X	X	X	X	22.0
1.75	56C	5/16-18	0.61	1.000	1.375	0.188	0.625	1.81	0.188	1.50	X	X	X	X	X	X	X	X	X	25.0
1.75	143/145TC	5/16-18	0.61	1.000	1.375	0.188	0.625	1.81	0.188	1.50	X	X	X	X	X	X	X	X	X	25.0
2.06	56C	3/8-16	0.61	1.438	1.750	0.250	0.625	1.81	0.188	1.50	X	X	X	X	X	X	X	X	X	33.0
2.06	143/145TC	3/8-16	0.61	1.438	1.750	0.250	0.625	1.81	0.188	1.50	X	X	X	X	X	X	X	X	X	33.0
2.37	56C	3/8-16	0.60	1.438	1.750	0.250	0.750	1.94	0.188	1.31	X	X	X	X	X	X	X	X	X	47.0
2.37	143/145TC	3/8-16	0.60	1.438	1.750	0.250	0.750	1.94	0.188	1.31	X	X	X	X	X	X	X	X	X	14.0
2.62	56C	3/8-16	0.58	1.938	2.000	0.250	0.750	2.31	0.188	1.88	X	X	X	X	X	X	X	X	X	57.0
2.62	143/145TC	3/8-16	0.58	1.938	2.000	0.250	0.750	2.31	0.188	1.88	X	X	X	X	X	X	X	X	X	57.0
2.62	182/184TC	3/8-16	0.58	1.938	2.000	0.250	0.750	2.31	0.188	1.88	X	X	X	X	X	X	X	X	X	57.0
3.00	56C	7/16-14	0.80	2.188	2.250	0.250	0.875	2.26	0.188	1.31	X	X	X	X	X	X	X	X	X	80.0
3.00	143/145TC	7/16-14	0.80	2.188	2.250	0.250	0.875	2.26	0.188	1.31	X	X	X	X	X	X	X	X	X	80.0
3.00	182/184TC	7/16-14	0.80	2.188	2.250	0.250	0.875	2.26	0.188	1.31	X	X	X	X	X	X	X	X	X	80.0
3.25	56C	7/16-14	0.80	2.188	2.875	0.313	0.875	2.31	0.188	1.63	-	X	X	X	X	X	X	X	X	53.0
3.25	143/145TC	7/16-14	0.80	2.188	2.875	0.313	0.875	2.31	0.188	1.63	-	X	X	X	X	X	X	X	X	53.0
3.25	182/184TC	7/16-14	0.80	2.188	2.875	0.313	0.875	2.31	0.188	1.63	-	X	X	X	X	X	X	X	X	53.0

★ To complete Part No. add shaft assembly (L, R, LR) and ratio symbol to size - for example 133Q56H10.

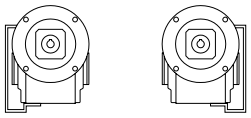
◆ Components needed to make assembled reducer must be ordered separately.
Consult factory for ratios not shown as standard.

Style QHF

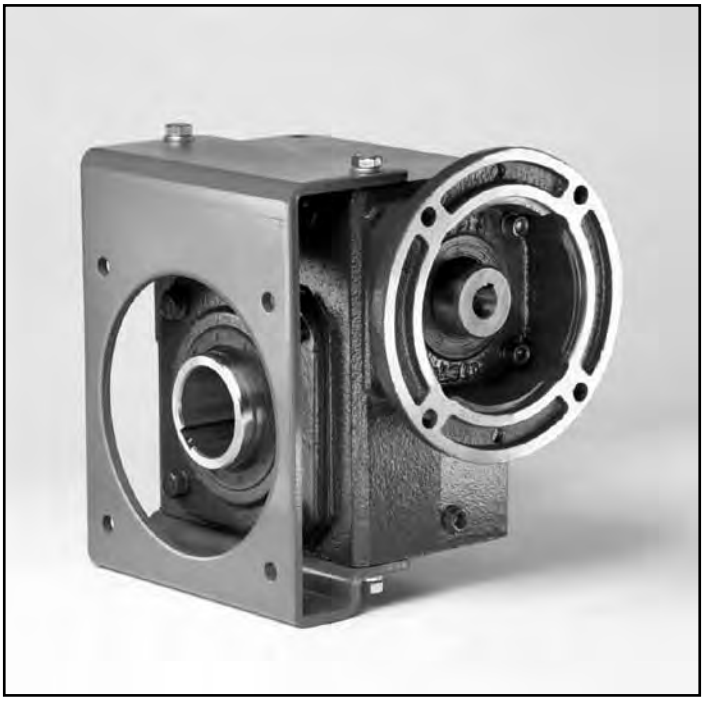
Flange Bracket



Assembly Drawing and Sample of Components



133Q56H10
133H-FK



Dimensions (Inches) for Style "QHF" - With Flange

C.D.	Components ◆		N.E.M.A. Frame	A	B	C	D	E	F	H	J	K	L	M
	Part No. ★	Flange Kit												
1.33	133Q56H	133H-FK	56C	4.25	3.63	0.34	5.00	2.13	3.00	2.44	3.94	5.57	2.12	5.31
1.54	154Q56H	154H-FK	56C	4.75	3.63	0.34	5.00	2.38	3.56	2.54	4.52	6.20	2.75	6.44
1.54	154Q140H	154H-FK	143/145TC	4.75	3.63	0.34	5.00	2.38	3.56	2.54	4.52	6.20	2.75	6.44
1.75	175Q56H	175H-FK	56C	4.81	4.06	0.34	5.88	2.41	3.50	2.78	4.38	6.66	2.75	5.70
1.75	175Q140H	175H-FK	143/145TC	4.81	4.06	0.34	5.88	2.41	3.50	2.78	4.38	6.66	2.75	5.70
2.06	206Q56H	206H-FK	56C	5.75	4.50	0.41	6.50	2.88	3.75	3.14	4.75	7.43	3.00	6.44
2.06	206Q140H	206H-FK	143/145TC	5.75	4.50	0.41	6.50	2.88	3.75	3.14	4.75	7.43	3.00	6.44
2.37	237Q56H	237H-FK	56C	6.13	5.00	0.41	7.50	3.06	3.72	3.61	5.06	8.24	3.56	6.31
2.37	237Q140H	237H-FK	143/145TC	6.13	5.00	0.41	7.50	3.06	3.72	3.61	5.06	8.24	3.56	6.31
2.62	262Q56H	262H-FK	56C	7.18	6.00	0.41	8.00	3.59	4.06	3.94	5.69	9.25	3.69	6.88
2.62	262Q140H	262H-FK	143/145TC	7.18	6.00	0.41	8.00	3.59	4.06	3.94	5.69	9.25	3.69	6.88
2.62	262Q180H	262H-FK	182/184TC	7.18	6.00	0.41	8.00	3.59	4.06	3.94	6.13	9.25	3.69	6.88
3.00	300Q56H	300H-FK	56C	8.50	7.00	0.41	9.00	4.25	4.50	4.14	5.67	10.02	4.50	8.38
3.00	300Q140H	300H-FK	143/145TC	8.50	7.00	0.41	9.00	4.25	4.50	4.14	5.67	10.02	4.50	8.38
3.00	300Q180H	300H-FK	182/184TC	8.50	7.00	0.41	9.00	4.25	4.50	4.14	6.45	10.02	4.50	8.38
3.25	325Q56H	325H-FK	56C	8.50	7.00	0.56	10.00	4.25	5.25	4.75	6.56	10.89	4.50	8.50
3.25	325Q140H	325H-FK	143/145TC	8.50	7.00	0.56	10.00	4.25	5.25	4.75	6.56	10.89	4.50	8.50
3.25	325Q180H	325H-FK	182/184TC	8.50	7.00	0.56	10.00	4.25	5.25	4.75	7.00	10.89	4.50	8.50
3.75	375Q56H	375H-FK	56C	9.54	8.00	0.56	11.50	4.77	5.46	5.04	6.01	11.85	4.93	9.63
3.75	375Q140H	375H-FK	143/145TC	9.54	8.00	0.56	11.50	4.77	5.46	5.04	6.01	11.85	4.93	9.63
3.75	375Q180H	375H-FK	182/184TC	9.54	8.00	0.56	11.50	4.77	5.46	5.04	7.29	11.85	4.93	9.63
3.75	375Q210H	375H-FK	213/215TC	9.54	8.00	0.56	11.50	4.77	5.46	5.04	7.29	11.85	4.93	9.63
4.50	450Q140H	450H-FK	143/145TC	10.88	9.00	0.56	11.50	5.44	6.88	5.34	6.69	13.10	6.42	11.13
4.50	450Q180H	450H-FK	182/184TC	10.88	9.00	0.56	11.50	5.44	6.88	5.34	7.97	13.10	6.42	11.13
4.50	450Q210H	450H-FK	213/215TC	10.88	9.00	0.56	14.00	5.44	6.88	5.34	7.97	13.10	6.42	11.13
5.16	516Q180H	516H-FK	182/184TC	12.50	10.00	0.69	14.00	6.25	6.58	6.57	8.78	15.33	7.42	11.13
5.16	516Q210H	516H-FK	213/215TC	12.50	10.00	0.69	14.00	6.25	6.58	6.57	8.78	15.33	7.42	11.13
6.00	600Q180H	600H-FK	182/184TC	14.50	12.00	0.69	15.56	7.25	7.22	7.85	9.68	18.22	8.25	12.63
6.00	600Q210H	600H-FK	213/215TC	14.50	12.00	0.69	15.56	7.25	7.22	7.85	9.68	18.22	8.25	12.63

C.D.	N.E.M.A. Frame	N	R	INPUT		OUTPUT BORE ✚		Stock Ratios marked "x"									Wt. Lbs.
				Bore	Keyway	U +.0015 -.0000	W Keyway	5	10	15	20	25	30	40	50	60	
1.33	56C	2.66	3.25	.625	3/16 x 3/32	.6250	3/16 x 3/32	x	x	x	x	x	x	x	x	x	19.7
1.54	56C	3.22	3.25	.625	3/16 x 3/32	1.0000	1/4 x 1/8	x	x	x	x	x	x	x	x	x	25.3
1.54	143/145TC	3.22	3.25	.875	3/16 x 3/32	1.0000	1/4 x 1/8	x	x	-	-	-	-	-	-	-	25.3
1.75	56C	2.85	3.25	.625	3/16 x 3/32	1.0000	1/4 x 1/8	x	x	x	x	x	x	x	x	x	28.4
1.75	143/145TC	2.85	3.25	.875	3/16 x 3/32	1.0000	1/4 x 1/8	x	x	x	-	-	-	-	-	-	28.4
2.06	56C	3.22	3.25	.625	3/16 x 3/32	1.4375	3/8 x 1/8	x	x	x	x	x	x	x	x	x	37.6
2.06	143/145TC	3.22	3.25	.875	3/16 x 3/32	1.4375	3/8 x 1/8	x	x	x	x	x	-	-	-	-	37.6
2.37	56C	3.16	3.25	.625	3/16 x 3/32	1.4375	3/8 x 1/8	x	x	x	x	x	x	x	x	x	52.1
2.37	143/145TC	3.16	3.25	.875	3/16 x 3/32	1.4375	3/8 x 1/8	x	x	x	x	x	x	x	-	-	52.1
2.62	56C	3.44	3.25	.625	3/16 x 3/32	1.9375	1/2 x 1/8	-	x	x	x	x	x	x	x	x	65.4
2.62	143/145TC	3.44	3.25	.875	3/16 x 3/32	1.9375	1/2 x 1/8	-	x	x	x	x	x	x	x	x	65.4
2.62	182/184TC	3.44	4.50	1.125	1/4 x 1/8	1.9375	1/2 x 1/8	x	x	-	-	-	-	-	-	-	65.4
3.00	56C	4.19	3.25	.625	3/16 x 3/32	2.1875	1/2 x 3/16	-	-	x	x	x	x	x	x	x	90.1
3.00	143/145TC	4.19	3.25	.875	3/16 x 3/32	2.1875	1/2 x 3/16	-	x	x	x	x	x	x	x	x	90.1
3.00	182/184TC	4.19	4.50	1.125	1/4 x 1/8	2.1875	1/2 x 3/16	-	x	x	x	x	x	x	x	x	90.1
3.25	56C	4.25	3.25	.625	3/16 x 3/32	2.1875	1/2 x 3/16	-	x	x	x	x	x	x	x	x	94.9
3.25	143/145TC	4.25	3.25	.875	3/16 x 3/32	2.1875	1/2 x 3/16	-	x	x	x	x	x	x	x	x	94.9
3.25	182/184TC	4.25	4.50	1.125	1/4 x 1/8	2.1875	1/2 x 3/16	-	x	x	x	x	x	x	x	x	94.9
3.75	56C	4.81	3.38	.625	3/16 x 3/32	2.4375	5/8 x 3/16	-	-	-	-	-	-	x	x	x	129.3
3.75	143/145TC	4.81	3.38	.875	3/16 x 3/32	2.4375	5/8 x 3/16	-	x	x	x	x	x	x	x	x	129.3
3.75	182/184TC	4.81	4.50	1.125	1/4 x 1/8	2.4375	5/8 x 3/16	-	x	x	x	x	x	x	x	-	129.3
3.75	213/215TC	4.81	4.50	1.375	5/16 x 5/32	2.4375	5/8 x 3/16	-	x	x	-	-	-	-	-	-	129.3
4.50	143/145TC	5.56	3.38	.875	3/16 x 3/32	2.9375	3/4 x 1/4	-	-	-	-	-	-	x	x	x	171.8
4.50	182/184TC	5.56	4.50	1.125	1/4 x 1/8	2.9375	3/4 x 1/4	-	-	x	x	x	x	x	x	x	171.8
4.50	213/215TC	5.56	4.50	1.375	5/16 x 5/32	2.9375	3/4 x 1/4	-	x	x	x	x	-	-	-	-	171.8
5.16	182/184TC	5.56	4.50	1.125	1/4 x 1/8	3.4375	7/8 x 1/4	-	-	-	-	-	-	x	x	x	256.9
5.16	213/215TC	5.56	4.50	1.375	5/16 x 5/32	3.4375	7/8 x 1/4	-	x	x	x	x	x	-	-	-	256.9
6.00	182/184TC	6.31	4.50	1.375	5/16 x 5/32	3.9375	1 x 1/4	-	-	-	x	x	x	x	x	x	388.7
6.00	213/215TC	6.31	4.50	1.375	5/16 x 5/32	3.9375	1 x 1/4	-	-	-	-	x	x	x	x	x	388.7

Fan Kit

Ref. No.	Fan Kit	AA		L	Wt. Lbs.
		Tap	Deep		
375QH	375 FAN	3/8-24	3/4	7.66	2.8
450QH	450 FAN	3/8-24	3/4	8.36	2.8
516QH	516 FAN	3/8-24	3/4	9.18	2.8
600QH	600 FAN	3/8-24	3/4	10.70	4.2

★ To complete Part No. ratio symbol to size - for example 133Q56H10.

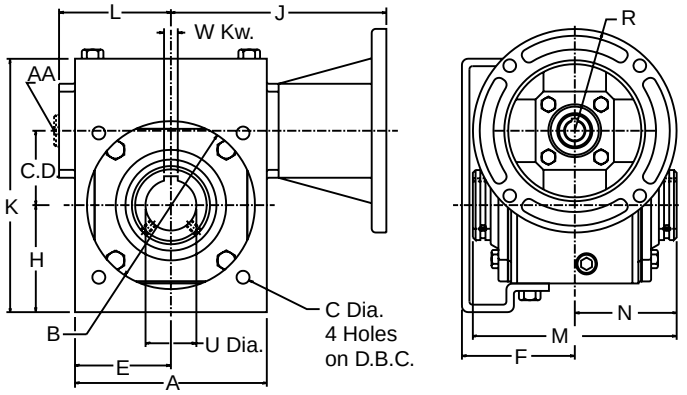
◆ Components needed to make assembled reducer must be ordered separately. If Fan Kit is required, see the table at the left.

✚ For adapting reducers to shafts smaller than output bore, use Bushing Kits, see the table on page 218.

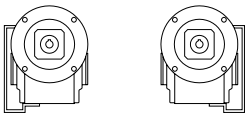
Consult factory for ratios not shown as standard.

Style CHF

Flange Bracket



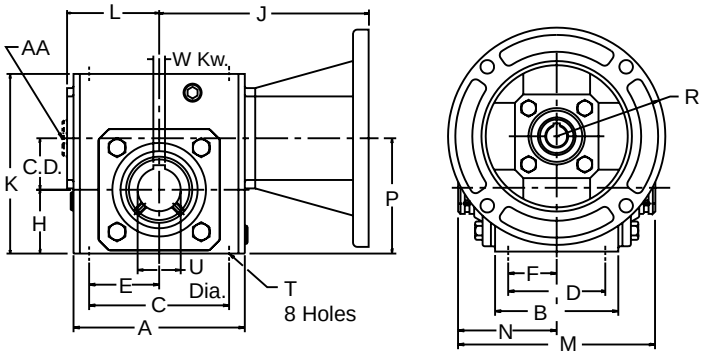
Assembly Drawing and Sample of Components



133UH10
133H-FK
133MAK56

Style CH

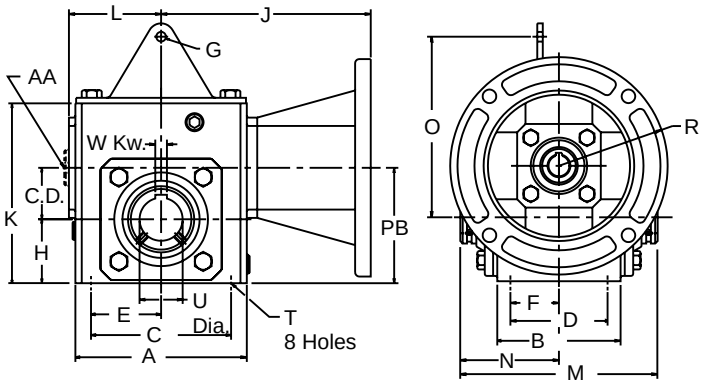
C-Face Coupled–Hollow



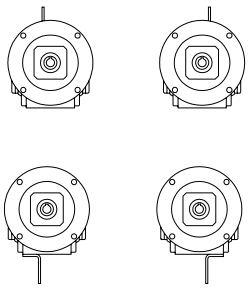
Sample of Components
133UH10
133MAK56

Style CHT

Torque Arm



Assembly Drawing and Sample of Components



133UH10
133H-TAK
133MAK56

Dimensions (Inches) for Style "CH"

C.D.	Components ◆		A	B	C	D	E	F	H	K	L	M	N	P	T	
	Basic Unit. ★	Adapter Kit													Size	Deep
1.33	133UH	See Adapter Kit Table Below	4.00	2.88	3.25	2.00	1.63	1.00	1.72	4.66	2.12	5.31	2.66	3.05	5/16-18	.50
1.54	154UH		5.13	3.69	4.19	2.75	2.09	1.38	1.91	5.38	2.75	6.44	3.22	3.45	5/16-18	.50
1.75	175UH		4.81	3.38	4.19	2.75	2.09	1.38	2.06	5.75	2.75	5.70	2.85	3.81	5/16-18	.61
2.06	206UH		5.50	3.75	5.00	2.88	2.50	1.44	2.28	6.38	3.00	6.44	3.22	4.34	3/8-16	.61
2.37	237UH		6.13	4.06	5.00	2.88	2.50	1.44	2.50	6.94	3.56	6.31	3.16	4.88	3/8-16	.60
2.62	262UH		7.12	4.44	6.38	3.38	3.19	1.69	2.94	8.00	3.69	6.88	3.44	5.57	3/8-16	.58
3.00	300UH		8.50	5.50	7.00	4.00	3.50	2.00	3.25	8.88	4.50	8.38	4.19	6.25	7/16-14	.80
3.25	325UH		8.50	5.00	7.50	4.00	3.75	2.00	3.50	9.38	4.50	8.50	4.25	6.75	7/16-14	.80
3.75	375UH		9.50	6.38	8.50	4.75	4.25	2.38	3.88	10.44	4.93	9.63	4.81	7.63	1/2-13	1.00
4.50	450UH		10.88	7.38	9.56	5.81	4.78	2.91	4.50	11.94	6.42	11.13	5.56	9.00	5/8-11	1.00
5.16	516UH		12.50	7.38	11.00	5.81	5.50	2.91	5.31	13.75	7.42	11.31	5.66	10.47	5/8-11	1.00
6.00	600UH		14.50	8.13	12.75	6.38	6.38	3.19	6.50	16.50	8.25	12.63	6.31	12.50	5/8-11	1.00

C.D.	OUTPUT BORE ✚		Stock Ratios marked "x"									Wt. Lbs.
	U +.0015 -.0000	W Keyway	5	10	15	20	25	30	40	50	60	
1.33	.6250	3/16 x 3/32	x	x	x	x	x	x	x	x	x	21.0
1.54	1.0000	1/4 x 1/8	x	x	x	x	x	x	x	x	x	27.0
1.75	1.0000	1/4 x 1/8	x	x	x	x	x	x	x	x	x	30.0
2.06	1.4375	3/8 x 1/8	x	x	x	x	x	x	x	x	x	35.0
2.37	1.4375	3/8 x 1/8	x	x	x	x	x	x	x	x	x	52.0
2.62	1.9375	1/2 x 1/8	x	x	x	x	x	x	x	x	x	65.0
3.00	2.1875	1/2 x 3/16	x	x	x	x	x	x	x	x	x	87.0
3.25	2.1875	1/2 x 3/16	-	x	x	x	x	x	x	x	x	90.0
3.75	2.4375	5/8 x 3/16	-	x	x	x	x	x	x	x	x	121.5
4.50	2.9375	3/4 x 1/4	-	x	x	x	x	x	x	x	x	156.0
5.16	3.4375	7/8 x 1/4	-	x	x	x	x	x	x	x	x	240.0
6.00	3.9375	1 x 1/4	-	x	x	x	x	x	x	x	x	351.0

Dimensions (Inches) for Style "CHT"

Components ◆			G	O	Wt. Lbs.
Basic Unit ★	Adapter Kit	Torque Arm Kit			
133UH	See Adapter Kit Table Below	133H-TAK	.53	4.16	21.6
154UH		154H-TAK	.53	4.55	27.7
175UH		175H-TAK	.53	5.06	30.9
206UH		206H-TAK	.53	6.07	36.0
237UH		237H-TAK	.53	6.69	53.2
262UH		262H-TAK	.53	7.44	66.4
300UH		300H-TAK	.53	8.25	88.7
325UH		325H-TAK	.53	9.06	92.0
375UH		375H-TAK	.53	9.56	124.1
450UH		450H-TAK	.81	10.94	159.4
516UH		516H-TAK	.81	12.45	245.5
600UH		600H-TAK	.81	14.63	357.9

Fan Kit

Basic Unit ★	Fan Kit	AA		L	Wt. Lbs.
		Tap	Deep		
375UH	375 FAN	3/8-24	3/4	7.66	2.8
450UH	450 FAN	3/8-24	3/4	8.36	2.8
516UH	516 FAN	3/8-24	3/4	9.18	2.8
600UH	600 FAN	3/8-24	3/4	10.70	4.2

Dimensions (Inches) for Style "CHF" - With Flange

Components ◆			A	B	C	D	E	F	H	K	L	M	N	Wt. Lbs.
Basic Unit ★	Adapter	Flange Kit												
133UH	See Adapter Kit Table Below	133H-FK	4.25	3.63	.344	5.000	2.13	3.00	2.44	5.57	2.12	5.31	2.66	23.7
154UH		154H-FK	4.75	3.63	.344	5.000	2.38	3.56	2.54	6.20	2.75	6.44	3.22	30.3
175UH		175H-FK	4.81	4.06	.344	5.875	2.41	3.50	2.78	6.66	2.75	5.70	2.85	33.4
206UH		206H-FK	5.75	4.50	.406	6.500	2.88	3.75	3.14	7.43	3.00	6.44	3.22	39.6
237UH		237H-FK	6.13	5.00	.406	7.500	3.06	3.72	3.61	8.24	3.56	6.31	3.16	57.1
262UH		262H-FK	7.18	6.00	.406	8.000	3.59	4.06	3.94	9.25	3.69	6.88	3.44	73.4
300UH		300H-FK	8.50	7.00	.406	9.000	4.25	4.50	4.14	10.02	4.50	8.38	4.19	97.1
325UH		325H-FK	8.50	7.00	.563	10.000	4.25	5.25	4.75	10.89	4.50	8.50	4.25	101.9
375UH		375H-FK	9.54	8.00	.563	11.500	4.77	5.46	5.04	11.85	4.93	9.63	4.81	134.8
450UH		450H-FK	10.88	9.00	.563	11.500	5.44	6.88	5.34	13.10	6.42	11.13	5.56	177.8
516UH		516H-FK	12.50	10.00	.688	14.000	6.25	6.58	6.57	15.33	7.42	11.31	5.66	266.9
600UH		600H-FK	14.50	12.00	.688	15.560	7.25	7.22	7.85	18.22	8.25	12.63	6.31	395.7

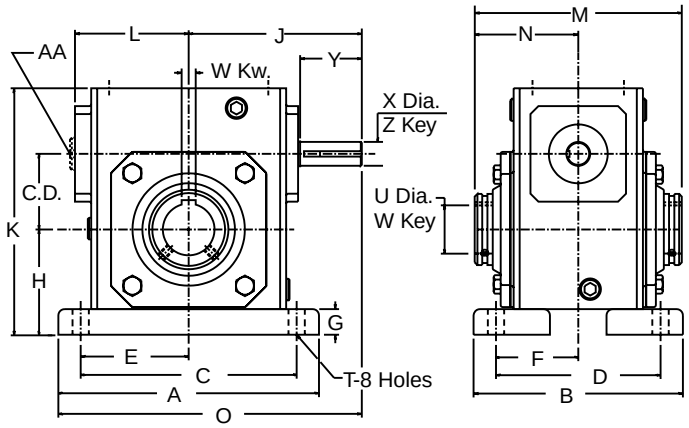
N.E.M.A. Frame Adapter Kits and Dimensions

C.D.	56C Input: .625 Kw.: 3/16 x 3/32			143/145TC Input: .875 Kw.: 3/16 x 3/32			182/184TC Input: 1.125 KW.: 1/4 x 1/8			213/215TC Input: 1.375 Kw.: 5/16 x 5/32			254/256TC Input: 1.625 Kw.: 3/8 x 3/16		
	Adapter Kit No.	J	R	Adapter Kit No.	J	R	Adapter Kit No.	J	R	Adapter Kit No.	J	R	Adapter Kit No.	J	R
1.33	133MAK56	6.38	3.25	133MAK140											
1.54	154-206MAK56	7.13	3.25	154-206MAK140	7.13	3.25									
1.75	154-206MAK56	7.00	3.25	154-206MAK140	7.00	3.25									
2.06	154-206MAK56	7.37	3.25	154-206MAK140	7.37	3.25									
2.37	237MAK56	7.69	3.25	237MAK140	7.69	3.25									
2.62	262MAK56	8.50	3.25	262MAK140	8.50	3.25	262MAK180	9.72	4.50						
3.00	300-325MAK56	9.35	3.25	300-325MAK140	9.35	3.25	300-325MAK180	10.57	4.50						
3.25	300-325MAK56	9.37	3.25	300-325MAK140	9.37	3.25	300-325MAK180	10.59	4.50	325MAK210					
3.75	375MAK56	11.47	3.38	375MAK140	11.47	3.38	375MAK180	12.92	4.50	375MAK210	12.92	4.50			
4.50				450MAK140	12.15	3.38	450MAK180	13.60	4.50	450MAK210	13.60	4.50			
5.16							516MAK180	14.40	4.50	516MAK210	14.40	4.50			
6.00							600MAK180	16.97	4.50	600MAK210	16.97	4.50	600MAK250	16.97	4.50

★ To complete Part No. add ratio symbol to size - for example 133UH10.
◆ Components needed to make assembled reducer must be ordered separately. If Fan Kit is required, see the table above.
✚ For adapting reducers to shafts smaller than output bore, use Bushing Kits; see the table on page 218.
Consult factory for ratios not shown as standard.

Style UHMT

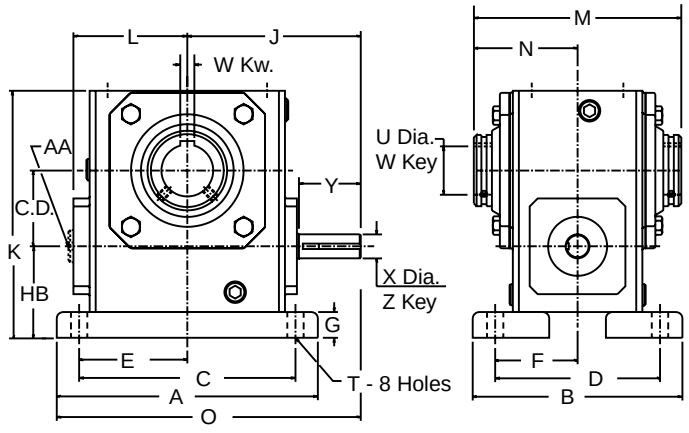
Worm Top



Sample of Components
133UH10
133S-BK

Style UHMB

Worm Bottom



Sample of Components
133UH10
133S-BK





Dimensions (Inches) for Style "UHMT" - With Base - Worm Top

C.D.	Components ◆		A	B	C	D	E	F	G	H	J	K	L	M	N
	Basic Unit ★	Base Kits Standard ▲													
1.33	133UH	133S-BK	5.38	4.19	4.38	3.31	2.19	1.66	.47	2.25	4.03	5.19	2.12	5.31	2.66
1.54	154UH	154S-BK	6.44	5.44	5.25	4.31	2.63	2.16	.59	2.50	4.69	5.97	2.75	6.44	3.22
1.75	175UH	175S-BK	7.00	5.56	5.75	4.50	2.88	2.25	.69	2.75	4.68	6.44	2.75	5.70	2.85
2.06	206UH	206S-BK	7.69	5.76	6.38	4.69	3.19	2.34	.72	3.00	5.06	7.09	2.75	6.44	3.22
2.37	237UH	237S-BK	8.50	6.19	7.06	4.88	3.53	2.44	.75	3.25	5.44	7.69	3.56	6.31	3.16
2.62	262UH	262S-BK	9.25	6.50	8.00	5.25	4.00	2.63	.75	3.69	6.23	8.75	3.69	6.88	3.44
3.00	300UH	300S-BK	10.17	7.38	8.44	5.88	4.22	2.94	.88	4.13	7.00	9.75	4.50	8.38	4.19
3.25	325UH	325S-BK	11.12	7.75	9.50	6.13	4.75	3.06	.88	4.38	7.06	10.25	4.50	8.50	4.25
3.75	375UH	375S-BK	12.00	8.63	10.38	7.00	5.19	3.50	.94	4.81	8.38	11.38	4.93	9.63	4.81
4.50	450UH	450S-BK	13.88	9.33	12.13	7.63	6.06	4.22	1.19	5.69	9.59	13.13	6.42	11.13	5.56
5.16	516UH	516S-BK	16.38	10.38	14.13	8.38	7.06	4.19	1.13	6.44	10.69	14.88	7.42	11.31	5.66
6.00	600UH	600S-BK	19.00	12.00	16.50	9.50	8.25	4.75	1.25	7.75	11.75	17.75	8.25	12.63	6.31

C.D.	O	T	OUTPUT BORE ✚		INPUT SHAFT				Stock Ratios marked "x"									Wt. Lbs.
			U +.0015 -.0000	W Keyway	X +.000 -.001	Y	Z Key		5	10	15	20	25	30	40	50	60	
							Sq.	Lgth.										
1.33	6.72	.344	.6250	3/16 x 3/32	.500	1.81	.125	1.38	x	x	x	x	x	x	x	x	x	14.5
1.54	7.91	.406	1.0000	1/4 x 1/8	.625	1.69	.188	1.25	x	x	x	x	x	x	x	x	x	20.8
1.75	8.18	.406	1.0000	1/4 x 1/8	.625	1.81	.188	1.50	x	x	x	x	x	x	x	x	x	24.0
2.06	8.90	.469	1.4375	3/8 x 1/8	.625	1.81	.188	1.50	x	x	x	x	x	x	x	x	x	29.5
2.37	9.69	.469	1.4375	3/8 x 1/8	.750	1.94	.188	1.31	x	x	x	x	x	x	x	x	x	45.8
2.62	10.86	.531	1.9375	1/2 x 1/8	.750	2.31	.188	1.88	x	x	x	x	x	x	x	x	x	56.0
3.00	12.08	.531	2.1875	1/2 x 3/16	.875	2.26	.188	1.31	x	x	x	x	x	x	x	x	x	78.5
3.25	12.63	.531	2.1875	1/2 x 3/16	.875	2.31	.188	1.63	-	x	x	x	x	x	x	x	x	82.0
3.75	14.38	.594	2.4375	5/8 x 3/16	1.000	2.91	.250	1.75	-	x	x	x	x	x	x	x	x	119.0
4.50	16.53	.656	2.9375	3/4 x 1/4	1.125	3.48	.250	2.50	-	x	x	x	x	x	x	x	x	157.0
5.16	18.88	.781	3.4375	7/8 x 1/4	1.250	3.75	.250	2.56	-	x	x	x	x	x	x	x	x	248.0
6.00	21.25	.906	3.9375	1 x 1/4	1.500	3.75	.375	2.94	-	x	x	x	x	x	x	x	x	364.0

Dimensions (Inches) for Style "UHMB"

Components ◆		HB
Basic Unit ★	Base Kits Standard ▲	
133UH	133S-BK	2.14
154UH	154S-BK	2.50
175UH	175S-BK	2.63
206UH	206S-BK	2.75
237UH	237S-BK	2.81
262UH	262S-BK	3.19
300UH	300S-BK	3.50
325UH	325S-BK	3.50
375UH	375S-BK	3.75
450UH	450S-BK	4.06
516UH	516S-BK	4.40
600UH	600S-BK	5.25

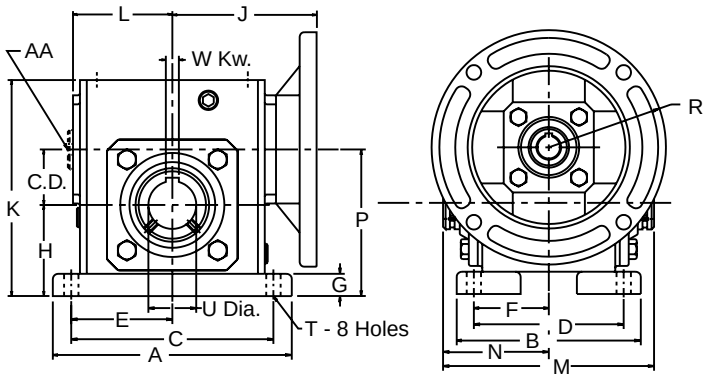
Fan Kit

Basic Unit ★	Fan Kit	AA		L	Wt. Lbs.
		Tap	Deep		
375UH	375 FAN	3/8-24	3/4	7.66	2.8
450UH	450 FAN	3/8-24	3/4	8.36	2.8
516UH	516 FAN	3/8-24	3/4	9.18	2.8
600UH	600 FAN	3/8-24	3/4	10.70	4.2

★ To complete Part No. ratio symbol to size - for example 133UH10.
◆ Components needed to make assembled reducer must be ordered separately. If Fan Kit is required, see the table above.
▲ Select either Standard Base Kit (S-BK) or Econo Base Kit (E-BK) or Solid Base Kit (BKS); base kits are shown on page 220.
✚ For adapting reducers to shafts smaller than output bore, use Bushing Kits; see the table on page 218.
Consult factory for ratios not shown as standard.

Style QHMT

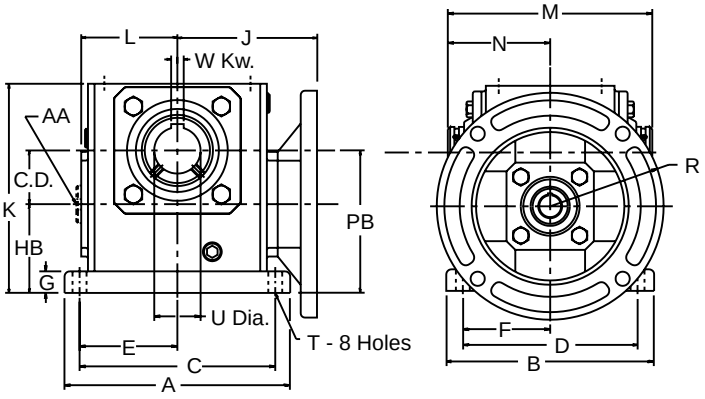
Worm Top



Sample of Components
133Q56H10
133S-BK

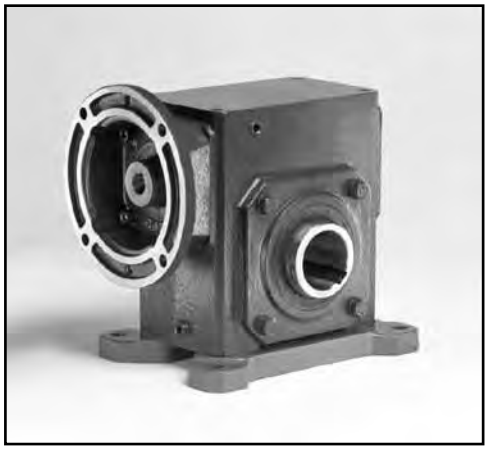
Style QHMB

Worm Bottom



Sample of Components
133Q56H10
133S-BK

Note: When mounting Style "QHMB", interference may occur; use a Riser Block or consult Application Engineering (1 800 626 2093).





Dimensions (Inches) for Style "QHMT" With Base - Worm Top

C.D.	Components◆		N.E.M.A Frame	A	B	C	D	E	F	G	H	J	K	L	M	N
	Basic Unit★	Standard Base Kit ▲														
1.33	133Q56H	133S-BK	56C	5.38	4.19	4.38	3.31	2.19	1.66	.47	2.25	3.94	5.19	2.12	5.31	2.66
1.54	154Q56H	154S-BK	56C	6.44	5.44	5.25	4.31	2.63	2.16	.59	2.50	4.52	5.97	2.75	6.44	3.22
1.54	154Q140H	154S-BK	143/145TC	6.44	5.44	5.25	4.31	2.63	2.16	.59	2.50	4.52	5.97	2.75	6.44	3.22
1.75	175Q56H	175S-BK	56C	7.00	5.56	5.75	4.50	2.88	2.25	.69	2.75	4.38	6.44	2.75	5.70	2.85
1.75	175Q140H	175S-BK	143/145TC	7.00	5.56	5.75	4.50	2.88	2.25	.69	2.75	4.38	6.44	2.75	5.70	2.85
2.06	206Q56H	206S-BK	56C	7.69	5.76	6.38	4.69	3.19	2.34	.72	3.00	4.75	7.09	3.00	6.44	3.22
2.06	206Q140H	206S-BK	143/145TC	7.69	5.76	6.38	4.69	3.19	2.34	.72	3.00	4.75	7.09	3.00	6.44	3.22
2.37	237Q56H	237S-BK	56C	8.50	6.19	7.06	4.88	3.53	2.44	.75	3.25	5.06	7.69	3.56	6.31	3.16
2.37	237Q140H	237S-BK	143/145TC	8.50	6.19	7.06	4.88	3.53	2.44	.75	3.25	5.06	7.69	3.56	6.31	3.16
2.62	262Q56H	262S-BK	56C	9.25	6.50	8.00	5.25	4.00	2.63	.75	3.69	5.69	8.75	3.69	6.88	3.44
2.62	262Q140H	262S-BK	143/145TC	9.25	6.50	8.00	5.25	4.00	2.63	.75	3.69	5.69	8.75	3.69	6.88	3.44
2.62	262Q180H	262S-BK	182/184TC	9.25	6.50	8.00	5.25	4.00	2.63	.75	3.69	6.13	8.75	3.69	6.88	3.44
3.00	300Q56H	300S-BK	56C	10.17	7.38	8.44	5.88	4.22	2.94	.88	4.13	5.67	9.75	4.50	8.38	4.19
3.00	300Q140H	300S-BK	143/145TC	10.17	7.38	8.44	5.88	4.22	2.94	.88	4.13	5.67	9.75	4.50	8.38	4.19
3.00	300Q180H	300S-BK	182/184TC	10.17	7.38	8.44	5.88	4.22	2.94	.88	4.13	6.45	9.75	4.50	8.38	4.19
3.25	325Q56H	325S-BK	56C	11.12	7.75	9.50	6.13	4.75	3.06	.88	4.38	6.56	10.25	4.50	8.50	4.25
3.25	325Q140H	325S-BK	143/145TC	11.12	7.75	9.50	6.13	4.75	3.06	.88	4.38	5.69	10.25	4.50	8.50	4.25
3.25	325Q180H	325S-BK	182/184TC	11.12	7.75	9.50	6.13	4.75	3.06	.88	4.38	7.00	10.25	4.50	8.50	4.25
3.75	375Q56H	375S-BK	56C	12.00	8.63	10.38	7.00	5.19	3.50	.94	4.81	6.01	11.38	4.93	9.63	4.81
3.75	375Q140H	375S-BK	143/145TC	12.00	8.63	10.38	7.00	5.19	3.50	.94	4.81	6.01	11.38	4.93	9.63	4.81
3.75	375Q180H	375S-BK	182/184TC	12.00	8.63	10.38	7.00	5.19	3.50	.94	4.81	7.29	11.38	4.93	9.63	4.81
3.75	375Q210H	375S-BK	213/215TC	12.00	8.63	10.38	7.00	5.19	3.50	.94	4.81	7.29	11.38	4.93	9.63	4.81
4.50	450Q140H	450S-BK	143/145TC	13.88	9.33	12.13	7.63	6.06	4.22	1.19	5.69	6.69	13.13	6.42	11.13	5.56
4.50	450Q180H	450S-BK	182/184TC	13.88	9.33	12.13	7.63	6.06	4.22	1.19	5.69	7.97	13.13	6.42	11.13	5.56
4.50	450Q210H	450S-BK	213/215TC	13.88	9.33	12.13	7.63	6.06	4.22	1.19	5.69	7.97	13.13	6.42	11.13	5.56
5.16	516Q180H	516S-BK	182/184TC	16.38	10.38	14.13	8.38	7.06	4.19	1.13	6.44	8.78	14.88	7.42	11.31	5.66
5.16	516Q210H	516S-BK	213/215TC	16.38	10.38	14.13	8.38	7.06	4.19	1.13	6.44	8.78	14.88	7.42	11.31	5.66
6.00	600Q180H	600S-BK	182/184TC	19.00	12.00	16.50	9.50	8.25	4.75	1.25	7.75	9.68	17.75	8.25	12.63	6.31
6.00	600Q210H	600S-BK	213/215TC	19.00	12.00	16.50	9.50	8.25	4.75	1.25	7.75	9.68	17.75	8.25	12.63	6.31

C.D.	N.E.M.A. Frame	P	R	T	INPUT		OUTPUT BORE ✚		Stock Ratios marked "x"									Wt. Lbs.
					Bore	Keyway	U +.0015 -.0000	W Keyway	5	10	15	20	25	30	40	50	60	
1.33	56C	3.58	3.25	.344	.625	3/16 x 3/32	.6250	3/16 x 3/32	x	x	x	x	x	x	x	x	x	17.5
1.54	56C	4.04	3.25	.406	.625	3/16 x 3/32	1.0000	1/4 x 1/8	x	x	x	x	x	x	x	x	x	22.8
1.54	143/145TC	4.04	3.25	.406	.875	3/16 x 3/32	1.0000	1/4 x 1/8	x	x	-	-	-	-	-	-	-	22.8
1.75	56C	4.50	3.25	.406	.625	3/16 x 3/32	1.0000	1/4 x 1/8	x	x	x	x	x	x	x	x	x	26.0
1.75	143/145TC	4.50	3.25	.406	.875	3/16 x 3/32	1.0000	1/4 x 1/8	x	x	x	-	-	-	-	-	-	26.0
2.06	56C	5.06	3.25	.469	.625	3/16 x 3/32	1.4375	3/8 x 1/8	x	x	x	x	x	x	x	x	x	34.5
2.06	143/145TC	5.06	3.25	.469	.875	3/16 x 3/32	1.4375	3/8 x 1/8	x	x	x	x	x	-	-	-	-	34.5
2.37	56C	5.62	3.25	.469	.625	3/16 x 3/32	1.4375	3/8 x 1/8	x	x	x	x	x	x	x	x	x	48.8
2.37	143/145TC	5.62	3.25	.469	.875	3/16 x 3/32	1.4375	3/8 x 1/8	x	x	x	x	x	x	x	-	-	48.8
2.62	56C	6.31	3.25	.469	.625	3/16 x 3/32	1.9375	1/2 x 1/8	-	x	x	x	x	x	x	x	x	59.0
2.62	143/145TC	6.31	3.25	.469	.875	3/16 x 3/32	1.9375	1/2 x 1/8	-	x	x	x	x	x	x	x	x	59.0
2.62	182/184TC	6.31	4.50	.469	1.125	1/4 x 1/8	1.9375	1/2 x 1/8	x	x	-	-	-	-	-	-	-	59.0
3.00	56C	7.13	3.25	.469	.625	3/16 x 3/32	2.1875	1/2 x 3/16	-	-	-	x	x	x	x	x	x	82.5
3.00	143/145TC	7.13	3.25	.469	.875	3/16 x 3/32	2.1875	1/2 x 3/16	-	x	x	x	x	x	x	x	x	82.5
3.00	182/184TC	7.13	4.50	.469	1.125	1/4 x 1/8	2.1875	1/2 x 3/16	-	x	x	x	x	x	x	x	x	82.5
3.25	56C	7.63	3.25	.469	.625	3/16 x 3/32	2.1875	1/2 x 3/16	-	x	x	x	x	x	x	x	x	86.0
3.25	143/145TC	7.63	3.25	.469	.875	3/16 x 3/32	2.1875	1/2 x 3/16	-	x	x	x	x	x	x	x	x	86.0
3.25	182/184TC	7.93	4.50	.469	1.125	1/4 x 1/8	2.1875	1/2 x 3/16	-	x	x	x	x	x	x	x	x	86.0
3.75	56C	8.56	3.38	.594	.625	3/16 x 3/32	2.4375	5/8 x 3/16	-	-	-	-	-	-	x	x	x	126.0
3.75	143/145TC	8.56	3.38	.594	.875	3/16 x 3/32	2.4375	5/8 x 3/16	-	x	x	x	x	x	x	x	x	126.0
3.75	182/184TC	8.56	4.50	.594	1.125	1/4 x 1/8	2.4375	5/8 x 3/16	-	x	x	x	x	x	x	x	-	126.0
3.75	213/215TC	8.56	4.50	.594	1.375	5/16 x 5/32	2.4375	5/8 x 3/16	-	x	x	-	-	-	-	-	-	126.0
4.50	143/145TC	10.19	3.38	.656	.875	3/16 x 3/32	2.9375	3/4 x 1/4	-	-	x	x	-	-	x	x	x	167.0
4.50	182/184TC	10.19	4.50	.656	1.125	1/4 x 1/8	2.9375	3/4 x 1/4	-	-	x	x	x	x	x	x	x	167.0
4.50	213/215TC	10.19	4.50	.656	1.375	5/16 x 5/32	2.9375	3/4 x 1/4	-	x	x	x	x	-	-	-	-	167.0
5.16	182/184TC	11.60	4.50	.781	1.125	1/4 x 1/8	3.4375	7/8 x 1/4	-	-	-	-	-	-	x	x	x	256.0
5.16	213/215TC	11.60	4.50	.781	1.375	5/16 x 5/32	3.4375	7/8 x 1/4	-	x	x	x	x	x	-	-	-	256.0
6.00	182/184TC	13.75	4.50	.906	1.375	5/16 x 5/32	3.9375	1 x 1/4	-	-	-	x	x	x	x	x	x	367.0
6.00	213/215TC	13.75	4.50	.906	1.375	5/16 x 5/32	3.9375	1 x 1/4	-	-	-	-	x	x	x	x	x	367.0

Dimensions (Inches) for Style "QHMB"

Components◆		HB	PB
Ref. No.	Base Kits Standard▲		
133QH	133S-BK	41.2	.374
154QH	154S-BK	05.2	40.4
175QH	175S-BK	36.2	.483
206QH	206S-BK	57.2	18.4
237QH	237S-BK	18.2	.591
262QH	262S-BK	91.3	18.5
300QH	300S-BK	05.3	05.6
325QH	325S-BK	05.3	57.6
375QH	375S-BK	57.3	05.7
450QH	450S-BK	60.4	36.8
516QH	516S-BK	04.4	65.9
600QH	600S-BK	52.5	1 52.1

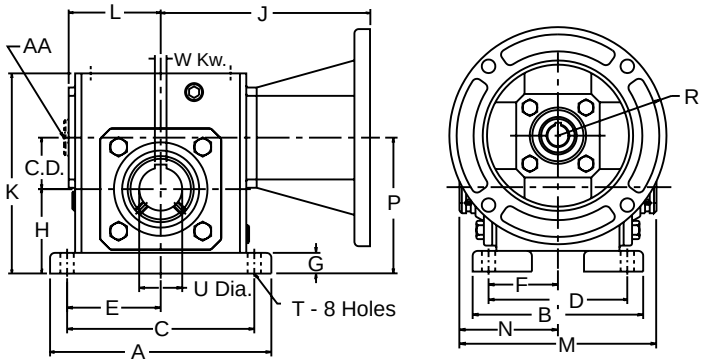
Fan Kit

Ref. No.	Fan Kit	AA		L	Wt. Lbs.
		Tap	Deep		
375QH	375 FAN	3/8-24	3/4	7.66	2.8
450QH	450 FAN	3/8-24	3/4	8.36	2.8
516QH	516 FAN	3/8-24	3/4	9.18	2.8
600QH	600 FAN	3/8-24	3/4	10.70	4.2

★ To complete Part No. add ratio symbol to size - for example 133Q56H10.
◆ Components needed to make assembled reducer must be ordered separately. If Fan Kit is required, see the table above.
▲ Select either Standard Base Kit (S-BK) or Econo Base Kit (E-BK) or Solid Base Kit (BKS); base kits are shown on page 220.
✚ For adapting reducers to shafts smaller than output bore, use Bushing Kits; see the table on page 218. Consult factory for ratios not shown as standard.

Style CHMT

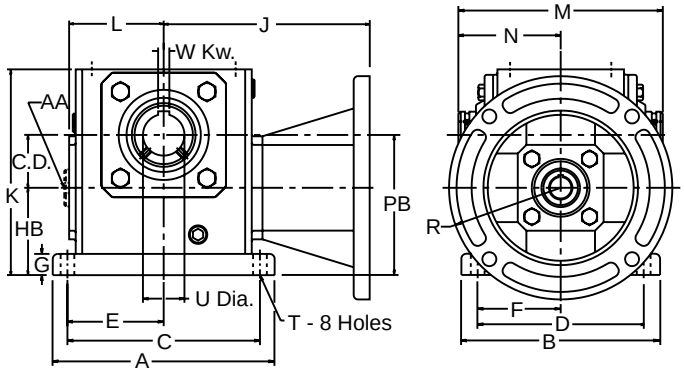
Worm Top



Sample of Components
133UH10
133S-BK
133MAK56

Style CHMB

Worm Bottom



Sample of Components
133UH10
133S-BK
133MAK56

Note: When mounting Style "CHMB", interference may occur; use a Riser Block or consult Application Engineering (1 800 626 2093).





Dimensions (Inches) for Style "CHMT" - With Base - Worm Top

C.D.	Components ◆ Basic Unit ★	Adapter	Base Kit u Standard	A	B	C	D	E	F	G	H	K	L	M	N
1.33	133UH	See Adapter Kit Table Below	133S-BK	5.38	4.19	4.38	3.31	2.19	1.66	.47	2.25	5.19	2.12	5.31	2.66
1.54	154UH		154S-BK	6.44	5.44	5.25	4.31	2.63	2.16	.59	2.50	5.97	2.75	6.44	3.22
1.75	175UH		175S-BK	7.00	5.56	5.75	4.50	2.88	2.25	.69	2.75	6.44	2.75	5.70	2.85
2.06	206UH		206S-BK	7.69	5.76	6.38	4.69	3.19	2.34	.72	3.00	7.09	3.00	6.44	3.22
2.37	237UH		237S-BK	8.50	6.19	7.06	4.88	3.53	2.44	.75	3.25	7.69	3.56	6.31	3.16
2.62	262UH		262S-BK	9.25	6.50	8.00	5.25	4.00	2.63	.75	3.69	8.75	3.69	6.88	3.44
3.00	300UH		300S-BK	10.17	7.38	8.44	5.88	4.22	2.94	.88	4.13	9.75	4.50	8.38	4.19
3.25	325UH		325S-BK	11.12	7.75	9.50	6.13	4.75	3.06	.88	4.38	10.25	4.50	8.50	4.25
3.75	375UH		375S-BK	12.00	8.63	10.38	7.00	5.19	3.50	.94	4.81	11.38	4.93	9.63	4.81
4.50	450UH		450S-BK	13.88	9.33	12.13	7.63	6.06	4.22	1.19	5.69	13.13	6.42	11.13	5.56
5.16	516UH		516S-BK	16.38	10.38	14.13	8.38	7.06	4.19	1.13	6.44	14.88	7.42	11.31	5.66
6.00	600UH		600S-BK	19.00	12.00	16.50	9.50	8.52	4.75	1.25	7.75	17.75	8.25	12.63	6.31

C.D.	P	T	OUTPUT BORE ✚ U +.0015 -.0000	OUTPUT BORE ✚ W Keyway	Stock Ratios marked "x" 5	10	15	20	25	30	40	50	60	Wt. Lbs.
1.33	3.58	.344	.6250	3/16 x 3/32	x	x	x	x	x	x	x	x	x	21.5
1.54	4.04	.406	1.0000	1/4 x 1/8	x	x	x	x	x	x	x	x	x	27.8
1.75	4.50	.406	1.0000	1/4 x 1/8	x	x	x	x	x	x	x	x	x	31.0
2.06	5.06	.469	1.4375	3/8 x 1/8	x	x	x	x	x	x	x	x	x	36.5
2.37	5.62	.469	1.4375	3/8 x 1/8	x	x	x	x	x	x	x	x	x	53.8
2.62	6.31	.531	1.9375	1/2 x 1/8	x	x	x	x	x	x	x	x	x	67.0
3.00	7.13	.531	2.1875	1/2 x 3/16	x	x	x	x	x	x	x	x	x	89.5
3.25	7.63	.531	2.1875	1/2 x 3/16	-	x	x	x	x	x	x	x	x	93.0
3.75	8.56	.594	2.4375	5/8 x 3/16	-	x	x	x	x	x	x	x	x	131.5
4.50	10.19	.656	2.9375	3/4 x 1/4	-	x	x	x	x	x	x	x	x	173.0
5.16	11.60	.781	3.4375	7/8 x 1/4	-	x	x	x	x	x	x	x	x	266.0
6.00	13.75	.906	3.9375	1 x 1/4	-	x	x	x	x	x	x	x	x	394.0

Dimensions (Inches) for Style "CHMB"

Components ◆ Basic Unit ★	Adapter Kit	Base Kit ▲ Standard	HB	PB
133UH	See Adapter Kit Table Below	133S-BK	2.14	3.47
154UH		154S-BK	2.50	4.04
175UH		175S-BK	2.63	4.38
206UH		206S-BK	2.75	4.81
237UH		237S-BK	2.81	5.19
262UH		262S-BK	3.19	5.81
300UH		300S-BK	3.50	6.50
325UH		325S-BK	3.50	6.75
375UH		375S-BK	3.75	7.50
450UH		450S-BK	4.06	8.63
516UH		516S-BK	4.40	9.56
600UH		600S-BK	5.25	11.25

Fan Kit

Basic Unit ★	Fan Kit	AA Tap	AA Deep	L	Wt. Lbs.
375UH	375 FAN	3/8-24	3/4	7.66	2.8
450UH	450 FAN	3/8-24	3/4	8.36	2.8
516UH	516 FAN	3/8-24	3/4	9.18	2.8
600UH	600 FAN	3/8-24	3/4	10.70	4.2

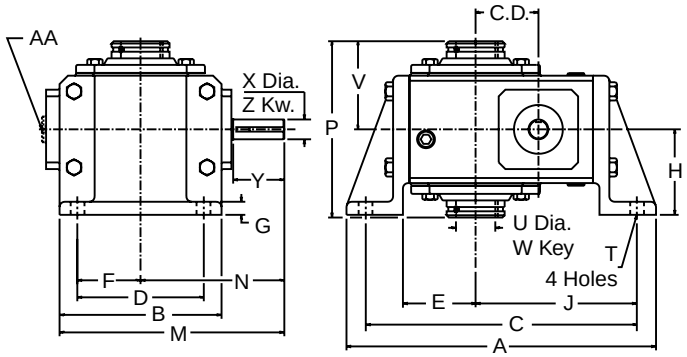
N.E.M.A. Frame Adapter Kits and Dimensions

C.D.	56C Input: .625 Kw.: 3/16 x 3/32 Adapter Kit No.	J	R	143/145TC Input: .875 Kw.: 3/16 x 3/32 Adapter Kit No.	J	R	182/184TC Input: 1.125 KW.: 1/4 x 1/8 Adapter Kit No.	J	R	213/215TC Input: 1.375 Kw.: 5/16 x 5/32 Adapter Kit No.	J	R	254/256TC Input: 1.625 Kw.: 3/8 x 3/16 Adapter Kit No.	J	R
1.33	133MAK56	6.38	3.25	133MAK140											
1.54	154-206MAK56	7.13	3.25	154-206MAK140	7.13	3.25									
1.75	154-206MAK56	7.00	3.25	154-206MAK140	7.00	3.25									
2.06	154-206MAK56	7.37	3.25	154-206MAK140	7.37	3.25									
2.37	237MAK56	7.69	3.25	237MAK140	7.69	3.25									
2.62	262MAK56	8.50	3.25	262MAK140	8.50	3.25	262MAK180	9.72	4.50						
3.00	300-325MAK56	9.35	3.25	300-325MAK140	9.35	3.25	300-325MAK180	10.57	4.50						
3.25	300-325MAK56	9.37	3.25	300-325MAK140	9.37	3.25	300-325MAK180	10.59	4.50	325MAK210					
3.75	375MAK56	11.47	3.38	375MAK140	11.47	3.38	375MAK180	12.92	4.50	375MAK210	12.92	4.50			
4.50				450MAK140	12.15	3.38	450MAK180	13.60	4.50	450MAK210	13.60	4.50			
5.16							516MAK180	14.40	4.50	516MAK210	14.40	4.50			
6.00							600MAK180	16.97	4.50	600MAK210	16.97	4.50	600MAK250	16.97	4.50

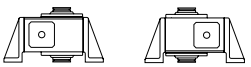
★ To complete Part No. ratio symbol to size - for example 133UH10.
◆ Components needed to make assembled reducer must be ordered separately. If Fan Kit is required, see the table above.
▲ Select either Standard Base Kit (S-BK) or Econo Base Kit (E-BK) or Solid Base Kit (BKS); base kits are shown on page 220.
✚ For adapting reducers to shafts smaller than output bore, use Bushing Kits; see the table on page 218. Consult factory for ratios not shown as standard.

Style UHVL

Vertical Low Base



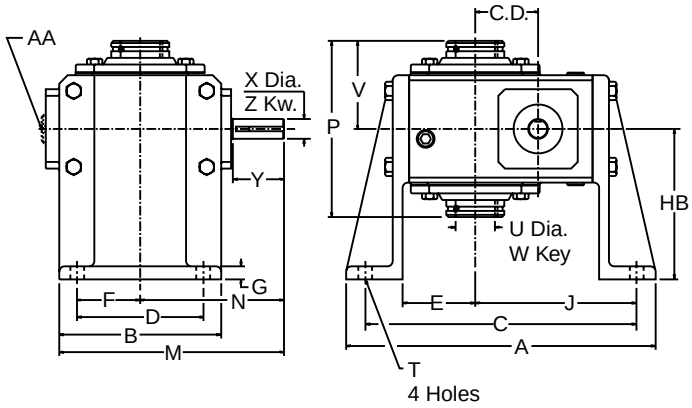
Assembly Drawing and Sample of Components



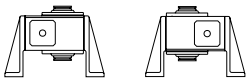
133UH10
133VL-BK

Style UHVH

Vertical High Base



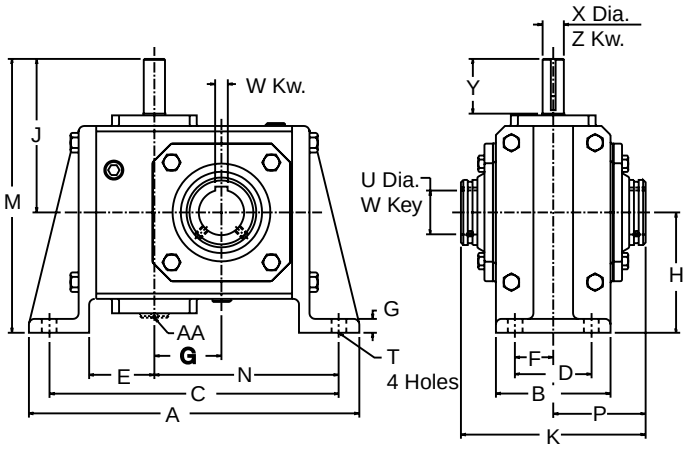
Assembly Drawing and Sample of Components



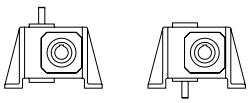
133UH10
133VH-BK

Style UHVJ

Vertical "J" Base



Assembly Drawing and Sample of Components



133UH10
133VJ-BK

Note: If mounting a fan unit, fan extends beyond "H" dimension.

Dimensions (Inches) for Style "UHVL" - With Vertical Low Base

C.D.	Components ◆		A	B	C	D	E	F	G	H	J	M	N	P	T	V
	Basic Unit ★	Base Kit														
1.33	133UH	133VL-BK	7.10	4.00	6.16	3.25	1.81	1.63	.53	2.31	3.69	6.03	4.03	5.31	.344	2.66
1.54	154UH	154VL-BK	8.06	5.12	7.00	4.00	1.97	2.00	.69	3.00	4.28	7.25	4.69	6.44	.406	3.22
1.75	175UH	175VL-BK	8.44	4.81	7.38	4.00	2.12	2.00	.69	3.00	4.50	7.09	4.68	5.70	.406	2.85
2.06	206UH	206VL-BK	9.50	5.63	8.38	4.88	2.34	2.44	.72	3.13	5.09	7.87	5.06	6.44	.469	3.22
2.37	237UH	237VL-BK	10.06	6.12	8.94	4.88	2.56	2.44	.75	3.38	5.44	8.50	5.44	6.31	.469	3.16
2.62	262UH	262VL-BK	11.25	7.13	10.13	5.75	3.00	2.88	.75	3.63	6.13	9.79	6.23	6.88	.531	3.44
3.00	300UH	300VL-BK	12.88	8.50	11.38	6.13	3.31	3.06	.81	4.69	6.88	11.25	7.00	8.38	.531	4.19
3.25	325UH	325VL-BK	13.38	8.50	11.88	6.13	3.56	3.06	.81	4.69	7.13	11.31	7.06	8.50	.531	4.25
3.75	375UH	375VL-BK	15.69	10.50	13.94	8.00	3.44	4.00	.88	5.25	8.31	13.13	8.38	9.63	.594	4.81
4.50	450UH	450VL-BK	16.94	10.88	14.94	9.56	4.63	4.78	.88	5.06	8.94	15.09	9.59	11.13	.688	5.56
5.16	516UH	516VL-BK	20.57	12.50	18.00	10.00	5.44	5.00	1.00	6.38	10.56	16.93	10.69	11.31	.781	5.66
6.00	600UH	600VL-BK	23.25	14.75	20.88	11.75	6.63	5.88	1.13	7.31	12.19	19.13	11.75	12.63	.906	6.31

C.D.	OUTPUT BORE ✚		INPUT SHAFT				Stock Ratios marked "x"									Wt. Lbs.
	U +.0015 -.0000	W Keyway	X +.000 -.001	Y	Z Key											
					Sq.	Lgth.	5	10	15	20	25	30	40	50	60	
1.33	.6250	3/16 x 3/32	.500	1.81	.125	1.38	x	x	x	x	x	x	x	x	x	16.3
1.54	1.0000	1/4 x 1/8	.625	1.69	.188	.94	x	x	x	x	x	x	x	x	x	23.4
1.75	1.0000	1/4 x 1/8	.625	1.81	.188	1.50	x	x	x	x	x	x	x	x	x	27.5
2.06	1.4375	3/8 x 1/8	.625	1.81	.188	1.50	x	x	x	x	x	x	x	x	x	35.0
2.37	1.4375	3/8 x 1/8	.750	1.94	.188	1.31	x	x	x	x	x	x	x	x	x	52.0
2.62	1.9375	1/2 x 1/8	.750	2.31	.188	1.88	x	x	x	x	x	x	x	x	x	63.0
3.00	2.1875	1/2 x 3/16	.875	2.26	.188	1.31	x	x	x	x	x	x	x	x	x	88.5
3.25	2.1875	1/2 x 3/16	.875	2.31	.188	1.63	-	x	x	x	x	x	x	x	x	95.0
3.75	2.4375	5/8 x 3/16	1.000	2.91	.250	1.75	-	x	x	x	x	x	x	x	x	134.0
4.50	2.9375	3/4 x 1/4	1.125	3.48	.250	2.50	-	x	x	x	x	x	x	x	x	173.0
5.16	3.4375	7/8 x 1/4	1.250	3.75	.250	2.56	-	x	x	x	x	x	x	x	x	270.0
6.00	3.9375	1 x 1/4	1.500	3.75	.375	2.94	-	x	x	x	x	x	x	x	x	397.0

Dimensions (Inches) for Style "UHVH"

Components ◆		HB	Wt. Lbs.
Basic Unit ★	Base Kit		
133UH	133VH-BK	3.56	17.3
154UH	154VH-BK	4.38	24.4
175UH	175VH-BK	4.38	28.5
206UH	206VH-BK	4.38	36.0
237UH	237VH-BK	5.25	54.5
262UH	262VH-BK	5.60	67.0
300UH	300VH-BK	6.25	92.0
325UH	325VH-BK	6.25	98.0
375UH	375VH-BK	7.00	137.5
450UH	450VH-BK	8.56	181.0
516UH	516VH-BK	8.63	282.0
600UH	600VH-BK	9.63	412.0

Fan Kit

Basic Unit ★	Fan Kit	AA		L	Wt. Lbs.
		Tap	Deep		
375UH	375 FAN	3/8-24	3/4	7.66	2.8
450UH	450 FAN	3/8-24	3/4	8.36	2.8
516UH	516 FAN	3/8-24	3/4	9.18	2.8
600UH	600 FAN	3/8-24	3/4	10.70	4.2

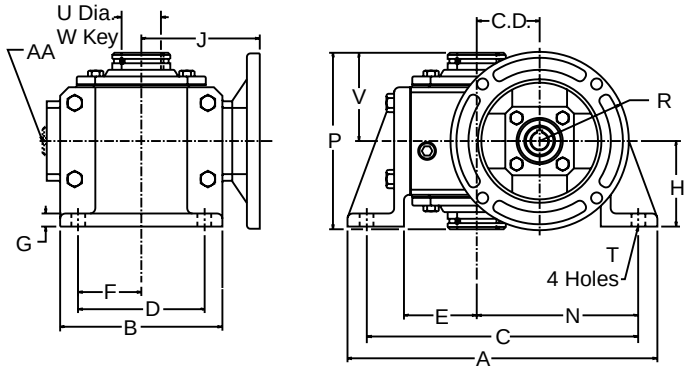
Dimensions (Inches) for Style "UHVJ" - With Vertical "J" Base

Components ◆		A	B	C	D	E	F	G	H	J	K	M	N	P	T	Wt. Lbs.
Base Unit ★	Base Kit															
133U	133VJ-BK	7.28	2.88	6.42	2.00	1.66	1.00	.53	2.94	4.03	5.31	6.97	3.93	2.66	.344	15.0
154U	154VJ-BK	8.25	3.69	7.25	2.50	1.98	1.25	.69	3.50	4.69	6.44	8.19	4.39	3.22	.406	22.0
175U	175VJ-BK	8.63	3.38	7.63	2.50	2.00	1.25	.69	3.50	4.68	5.70	8.18	4.75	2.85	.406	25.0
206U	206VJ-BK	9.75	3.75	8.62	2.62	2.09	1.31	.72	3.94	5.06	6.44	9.00	5.46	3.22	.469	31.0
237U	237VJ-BK	10.30	4.06	9.19	2.88	2.12	1.44	.75	4.06	5.44	6.31	9.50	6.00	3.16	.469	47.0
262U	262VJ-BK	11.75	4.44	10.38	3.13	2.50	1.56	.75	4.75	6.23	6.88	10.98	6.75	3.44	.531	58.0
300U	300VJ-BK	13.50	5.00	12.25	4.00	2.69	2.00	.81	5.94	7.00	8.38	12.94	7.94	4.19	.531	82.0
325U	325VJ-BK	14.00	5.00	12.75	4.00	2.69	2.00	.81	5.69	7.06	8.50	12.75	8.44	4.25	.531	85.0
375U	375VJ-BK	15.06	6.25	13.31	4.75	2.94	2.38	.88	6.00	8.38	9.63	14.38	9.06	4.81	.594	117.5
450U	450VJ-BK	16.94	7.38	14.94	5.81	3.06	2.91	.88	7.38	9.59	11.13	16.96	10.50	5.56	.688	151.0
516U	516VJ-BK	19.38	7.38	17.50	5.81	3.40	2.91	1.00	7.75	10.69	11.31	18.44	12.35	5.66	.781	240.0
600U	600VJ-BK	22.00	8.13	20.00	6.38	4.12	3.19	1.13	8.50	11.75	12.63	20.25	14.25	6.31	.906	342.0

★ To complete Part No. ratio symbol to size - for example 133UH10.
◆ Components needed to make assembled reducer must be ordered separately. If Fan Kit is required, see the table above.
✚ For adapting reducers to shafts smaller than output bore, use Bushing Kits; see the table on page 218.
Consult factory for ratios not shown as standard.

Style QHVL

Vertical Low Base



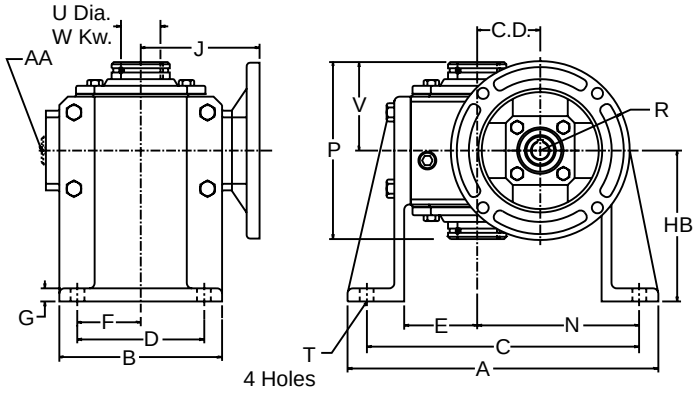
Assembly Drawing and Sample of Components



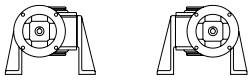
133Q56H10
133VL-BK

Style QHVH

Vertical High Base



Assembly Drawing and Sample of Components



133Q56H10
133VH-BK





Dimensions (Inches) for Style "QHVL" - With Vertical Low Base

C.D.	Components ◆		N.E.M.A. Frame	A	B	C	D	E	F	G	H	J	N	P	R
	Part No. ★	Base Kit													
1.33	**133QH56**	**133VL-BK**	56C	7.10	4.00	6.16	3.25	1.81	1.63	.53	2.31	3.94	3.69	5.31	3.25
1.54	**154QH56**	**154VL-BK**	56C	8.06	5.12	7.00	4.00	1.97	2.00	.69	3.00	4.52	4.28	6.44	3.25
1.54	**154QH140**	**154VL-BK**	143/145TC	8.06	5.12	7.00	4.00	1.97	2.00	.69	3.00	4.52	4.28	6.44	3.25
1.75	**175QH56**	**175VL-BK**	56C	8.44	4.81	7.38	4.00	2.12	2.00	.69	3.00	4.38	4.50	5.70	3.25
1.75	**175QH140**	**175VL-BK**	143/145TC	8.44	4.81	7.38	4.00	2.12	2.00	.69	3.00	4.38	4.50	5.70	3.25
2.06	**206QH56**	**206VL-BK**	56C	9.50	5.63	8.38	4.88	2.34	2.44	.72	3.13	4.75	5.09	6.44	3.25
2.06	**206QH140**	**206VL-BK**	143/145TC	9.50	5.63	8.38	4.88	2.34	2.44	.72	3.13	4.75	5.09	6.44	3.25
2.37	**237QH56**	**237VL-BK**	56C	10.06	6.12	8.94	4.88	2.56	2.44	.75	3.38	5.06	5.44	6.31	3.25
2.37	**237QH140**	**237VL-BK**	143/145TC	10.06	6.12	8.94	4.88	2.56	2.44	.75	3.38	5.06	5.44	6.31	3.25
2.62	**262QH56**	**262VL-BK**	56C	11.25	7.13	10.13	5.75	3.00	2.88	.75	3.63	5.69	6.13	6.88	3.25
2.62	**262QH140**	**262VL-BK**	143/145TC	11.25	7.13	10.13	5.75	3.00	2.88	75	3.63	5.69	6.13	6.88	3.25
2.62	**262QH180**	**262VL-BK**	182/184TC	11.25	7.13	10.13	5.75	3.00	2.88	.75	3.63	6.13	6.13	6.88	4.50
3.00	**300QH56**	**300VL-BK**	56C	12.88	8.50	11.38	6.13	3.31	3.06	.81	4.69	5.67	6.88	8.38	3.25
3.00	**300QH140**	**300VL-BK**	143/145TC	12.88	8.50	11.38	6.13	3.31	3.06	.81	4.69	5.67	6.88	8.38	3.25
3.00	**300QH180**	**300VL-BK**	182/184TC	12.88	8.50	11.38	6.13	3.31	3.06	.81	4.69	6.45	6.88	8.38	4.50
3.25	**325QH56**	**325VL-BK**	56C	13.38	8.50	11.88	6.13	3.56	3.06	.81	4.69	6.56	7.13	8.50	3.25
3.25	**325QH140**	**325VL-BK**	143/145TC	13.38	8.50	11.88	6.13	3.56	3.06	.81	4.69	6.56	7.13	8.50	3.25
3.25	**325QH180**	**325VL-BK**	182/184TC	13.38	8.50	11.88	6.13	3.56	3.06	.81	4.69	7.00	7.13	8.50	4.50
3.75	**375QH56**	**375VL-BK**	56C	15.69	10.50	13.94	8.00	3.44	4.00	.88	5.25	6.01	8.31	9.63	3.38
3.75	**375QH140**	**375VL-BK**	143/145TC	15.69	10.50	13.94	8.00	3.44	4.00	.88	5.25	6.01	8.31	9.63	3.38
3.75	**375QH180**	**375VL-BK**	182/184TC	15.69	10.50	13.94	8.00	3.44	4.00	.88	5.25	7.29	8.31	9.63	4.50
3.75	**375QH210**	**375VL-BK**	213/215TC	15.69	10.50	13.94	8.00	3.44	4.00	.88	5.25	7.29	8.31	9.63	4.50
4.50	**450QH140**	**450VL-BK**	143/145TC	16.94	10.88	14.94	9.56	4.63	4.78	.88	5.06	6.69	8.94	11.13	3.38
4.50	**450QH180**	**450VL-BK**	182/184TC	16.94	10.88	14.94	9.56	4.63	4.78	.88	5.06	7.97	8.94	11.13	4.50
4.50	**450QH210**	**450VL-BK**	213/215TC	16.94	10.88	14.94	9.56	4.63	4.78	.88	5.06	7.97	8.94	11.13	4.50
5.16	**516QH180**	**516VL-BK**	182/184TC	20.57	12.50	18.00	10.00	5.44	5.00	1.00	6.38	8.78	10.56	11.31	4.50
5.16	**516QH210**	**516VL-BK**	213/215TC	20.57	12.50	18.00	10.00	5.44	5.00	1.00	6.38	8.78	10.56	11.31	4.50
6.00	**600QH180**	**600VL-BK**	182/184TC	23.25	14.75	20.88	11.75	6.63	5.88	1.13	7.31	9.68	12.19	12.63	4.50
6.00	**600QH210**	**600VL-BK**	213/215TC	23.25	14.75	20.88	11.75	6.63	5.88	1.13	7.31	9.68	12.19	12.63	4.50

C.D.	N.E.M.A. Frame	T	V	INPUT		OUTPUT BORE ✚		Stock Ratios marked "x"									Wt. Lbs.
				Bore	Keyway	U +.0015 -.0000	W Keyway	5	10	15	20	25	30	40	50	60	
1.33	56C	.344	2.66	.625	3/16 x 3/32	.6250	3/16 x 3/32	x	x	x	x	x	x	x	x	x	19.3
1.54	56C	.406	3.22	.625	3/16 x 3/32	1.0000	1/4 x 1/8	x	x	x	x	x	x	x	x	x	25.4
1.54	143/145TC	.406	3.22	.875	3/16 x 3/32	1.0000	1/4 x 1/8	x	x	-	-	-	-	-	-	-	25.4
1.75	56C	.406	2.85	.625	3/16 x 3/32	1.0000	1/4 x 1/8	x	x	x	x	x	x	x	x	x	29.5
1.75	143/145TC	.406	2.85	.875	3/16 x 3/32	1.0000	1/4 x 1/8	x	x	x	-	-	-	-	-	-	29.5
2.06	56C	.469	3.22	.625	3/16 x 3/32	1.4375	3/8 x 1/8	x	x	x	x	x	x	x	x	x	40.0
2.06	143/145TC	.469	3.22	.875	3/16 x 3/32	1.4375	3/8 x 1/8	x	x	x	x	x	-	-	-	-	40.0
2.37	56C	.469	3.16	.625	3/16 x 3/32	1.4375	3/8 x 1/8	x	x	x	x	x	x	x	x	x	55.0
2.37	143/145TC	.469	3.16	.875	3/16 x 3/32	1.4375	3/8 x 1/8	x	x	x	x	x	x	x	-	-	55.0
2.62	56C	.531	3.44	.625	3/16 x 3/32	1.9375	1/2 x 1/8	-	x	x	x	x	x	x	x	x	66.0
2.62	143/145TC	.531	3.44	.875	3/16 x 3/32	1.9375	1/2 x 1/8	-	x	x	x	x	x	x	x	x	66.0
2.62	182/184TC	.531	3.44	1.125	1/4 x 1/8	1.9375	1/2 x 1/8	x	x	-	-	-	-	-	-	-	66.0
3.00	56C	.531	4.19	.625	3/16 x 3/32	2.1875	1/2 x 3/16	-	-	x	x	x	x	x	x	x	92.5
3.00	143/145TC	.531	4.19	.875	3/16 x 3/32	2.1875	1/2 x 3/16	-	x	x	x	x	x	x	x	x	92.5
3.00	182/184TC	.531	4.19	1.125	1/4 x 1/8	2.1875	1/2 x 3/16	-	x	x	x	x	x	x	x	x	92.5
3.25	56C	.531	4.25	.625	3/16 x 3/32	2.1875	1/2 x 3/16	-	x	x	x	x	x	x	x	x	99.0
3.25	143/145TC	.531	4.25	.875	3/16 x 3/32	2.1875	1/2 x 3/16	-	x	x	x	x	x	x	x	x	99.0
3.25	182/184TC	.531	4.25	1.125	1/4 x 1/8	2.1875	1/2 x 3/16	-	x	x	x	x	x	x	x	x	99.0
3.75	56C	.594	4.81	.625	3/16 x 3/32	2.4375	5/8 x 3/16	-	-	-	-	-	-	x	x	x	141.0
3.75	143/145TC	.594	4.81	.875	3/16 x 3/32	2.4375	5/8 x 3/16	-	x	x	x	x	x	x	x	x	141.0
3.75	182/184TC	.594	4.81	1.125	1/4 x 1/8	2.4375	5/8 x 3/16	-	x	x	x	x	x	x	x	-	141.0
3.75	213/215TC	.594	4.81	1.375	5/16 x 5/32	2.4375	5/8 x 3/16	-	x	x	-	-	-	-	-	-	141.0
4.50	143/145TC	.656	5.56	.875	3/16 x 3/32	2.9375	3/4 x 1/4	-	-	-	-	-	-	x	x	x	183.0
4.50	182/184TC	.656	5.56	1.125	1/4 x 1/8	2.9375	3/4 x 1/4	-	-	x	x	x	x	x	x	x	183.0
4.50	213/215TC	.656	5.56	1.375	5/16 x 5/32	2.9375	3/4 x 1/4	-	x	x	x	x	-	-	-	-	183.0
5.16	182/184TC	.781	5.56	1.125	1/4 x 1/8	3.4375	7/8 x 1/4	-	-	-	-	-	-	x	x	x	278.0
5.16	213/215TC	.781	5.56	1.375	5/16 x 5/32	3.4375	7/8 x 1/4	-	x	x	x	x	x	-	-	-	278.0
6.00	182/184TC	.906	6.31	1.375	5/16 x 5/32	3.9375	1 x 1/4	-	-	-	x	x	x	x	x	x	420.0
6.00	213/215TC	.906	6.31	1.375	5/16 x 5/32	3.9375	1 x 1/4	-	-	-	-	x	x	x	x	x	420.0

Dimensions (Inches) for Style "QHVH" - With Vertical High Base

C.D.	Components ◆		N.E.M.A. Frame	HB	Wt. Lbs.	C.D.	Components ◆		N.E.M.A. Frame	HB	Wt. Lbs.
	Basic Unit ★	Base Kit					Basic Unit ★	Base Kit			
1.33	**133Q56H**	**133VH-BK**	56C	3.56	20.3	3.25	**325Q56H**	**325VH-BK**	56C	6.25	102.0
1.54	**154Q56H**	**154VH-BK**	56C	4.38	26.4	3.25	**325Q140H**	**325VH-BK**	143/145TC	6.25	102.0
1.54	**154Q140H**	**154VH-BK**	143/145TC	4.38	26.4	3.25	**325Q180H**	**325VH-BK**	182/184TC	6.25	102.0
1.75	**175Q56H**	**175VH-BK**	56C	4.38	30.5	3.75	**375Q56H**	**375VH-BK**	56C	7.00	144.5
1.75	**175Q140H**	**175VH-BK**	143/145TC	4.38	30.5	3.75	**375Q140H**	**375VH-BK**	143/145TC	7.00	144.5
2.06	**206Q56H**	**206VH-BK**	56C	4.88	41.0	3.75	**375Q180H**	**375VH-BK**	182/184TC	7.00	144.5
2.06	**206Q140H**	**206VH-BK**	143/145TC	4.88	41.0	3.75	**375Q210H**	**375VH-BK**	213/215TC	7.00	144.5
2.37	**237Q56H**	**237VH-BK**	56C	5.25	57.5	4.50	**450Q140H**	**450VH-BK**	143/145TC	8.56	191.0
2.37	**237Q140H**	**237VH-BK**	143/145TC	5.25	57.5	4.50	**450Q180H**	**450VH-BK**	182/184TC	8.56	191.0
2.62	**262Q56H**	**262VH-BK**	56C	5.60	70.0	4.50	**450Q210H**	**450VH-BK**	213/215TC	8.56	191.0
2.62	**262Q140H**	**262VH-BK**	143/145TC	5.60	70.0	5.16	**516Q180H**	**516VH-BK**	182/184TC	8.63	290.0
2.62	**262Q180H**	**262VH-BK**	182/184TC	5.60	70.0	5.16	**516Q210H**	**516VH-BK**	213/215TC	8.63	290.0
3.00	**300Q56H**	**300VH-BK**	56C	6.25	96.0	6.00	**600Q210H**	**600VH-BK**	213/215TC	9.63	435.0
3.00	**300Q140H**	**300VH-BK**	143/145TC	6.25	96.0						
3.00	**300Q180H**	**300VH-BK**	182/184TC	6.25	96.0						

Fan Kit

Ref. No.	Fan Kit	AA		L	Wt. Lbs.
		Tap	Deep		
375QH	**375 FAN**	3/8-24	3/4	7.66	2.8
450QH	**450 FAN**	3/8-24	3/4	8.36	2.8
516QH	**516 FAN**	3/8-24	3/4	9.18	2.8
600QH	**600 FAN**	3/8-24	3/4	10.70	4.2

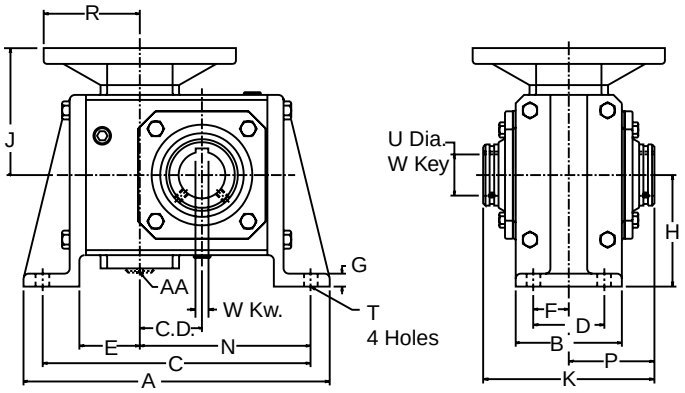
★ To complete Part No. add ratio symbol to size - for example 133Q56H10.

◆ Components needed to make assembled reducer must be ordered separately. If Fan Kit is required, see the table above.

✚ For adapting reducers to shafts smaller than output bore, use Bushing Kits; see the table on page 218. Consult factory for ratios not shown as standard.

Style QHVJ

Vertical "J" Base



Sample of Components

133Q56H10
133VJ-BK

Note: If mounting fan unit, fan extends beyond "H" dimension.



Dimensions (Inches) for Style "QHVJ" - With Vertical "J" Base

C.D.	Components ◆		N.E.M.A. Frame	A	B	C	D	E	F	G	H	J	K	N	P
	Part No. ★	Base Kit													
1.33	**133Q56H**	**133VJ-BK**	56C	7.25	2.88	6.42	2.00	1.66	1.00	.53	2.94	3.94	5.31	3.93	2.66
1.54	**154Q56H**	**154VJ-BK**	56C	8.25	3.69	7.25	2.50	1.98	1.25	.69	3.50	4.52	6.44	4.39	3.22
1.54	**154Q140H**	**154VJ-BK**	143/145TC	8.25	3.69	7.25	2.50	1.98	1.25	.69	3.50	4.52	6.44	4.39	3.22
1.75	**175Q56H**	**175VJ-BK**	56C	8.63	3.38	7.63	2.50	2.00	1.25	.69	3.50	4.38	5.70	4.75	2.85
1.75	**175Q140H**	**175VJ-BK**	143/145TC	8.63	3.38	7.63	2.50	2.00	1.25	.69	3.50	4.38	5.70	4.75	2.85
2.06	**206Q56H**	**206VJ-BK**	56C	9.75	3.75	8.62	2.62	2.09	1.31	.72	3.94	4.75	6.44	5.46	3.22
2.06	**206Q140H**	**206VJ-BK**	143/145TC	9.75	3.75	8.62	2.62	2.09	1.31	.72	3.94	4.75	6.44	5.46	3.22
2.37	**237Q56H**	**237VJ-BK**	56C	10.30	4.06	9.19	2.88	2.12	1.44	.75	4.06	5.06	6.31	6.00	3.16
2.37	**237Q140H**	**237VJ-BK**	143/145TC	10.30	4.06	9.19	2.88	2.12	1.44	.75	4.06	5.06	6.31	6.00	3.16
2.62	**262Q56H**	**262VJ-BK**	56C	11.75	4.44	10.38	3.13	2.50	1.56	.75	4.75	5.69	6.88	6.75	3.44
2.62	**262Q140H**	**262VJ-BK**	143/145TC	11.75	4.44	10.38	3.13	2.50	1.56	.75	4.75	5.69	6.88	6.75	3.44
2.62	**262Q180H**	**262VJ-BK**	182/184TC	11.75	4.44	10.38	3.13	2.50	1.56	.75	4.75	6.13	6.88	6.75	3.44
3.00	**300Q56H**	**300VJ-BK**	56C	13.50	5.00	12.25	4.00	2.69	2.00	.81	5.94	5.67	8.38	7.94	4.19
3.00	**300Q140H**	**300VJ-BK**	143/145TC	13.50	5.00	12.25	4.00	2.69	2.00	.81	5.94	5.67	8.38	7.94	4.19
3.00	**300Q180H**	**300VJ-BK**	182/184TC	13.50	5.00	12.25	4.00	2.69	2.00	.81	5.94	6.45	8.38	7.94	4.19
3.25	**325Q56H**	**325VJ-BK**	56C	14.00	5.00	12.75	4.00	2.69	2.00	.81	5.69	6.56	8.50	8.44	4.25
3.25	**325Q140H**	**325VJ-BK**	143/145TC	14.00	5.00	12.75	4.00	2.69	2.00	.81	5.69	6.56	8.50	8.44	4.25
3.25	**325Q180H**	**325VJ-BK**	182/184TC	14.00	5.00	12.75	4.00	2.69	2.00	.81	5.69	7.00	8.50	8.44	4.25
3.75	**375Q56H**	**375VJ-BK**	56C	15.06	6.25	13.31	4.75	2.94	2.38	.88	6.00	6.01	9.63	9.06	4.81
3.75	**375Q140H**	**375VJ-BK**	143/145TC	15.06	6.25	13.31	4.75	2.94	2.38	.88	6.00	6.01	9.63	9.06	4.81
3.75	**375Q180H**	**375VJ-BK**	182/184TC	15.06	6.25	13.31	4.75	2.94	2.38	.88	6.00	7.29	9.63	9.06	4.81
3.75	**375Q210H**	**375VJ-BK**	213/215TC	15.06	6.25	13.31	4.75	2.94	2.38	.88	6.00	7.29	9.63	9.06	4.81
4.50	**450Q140H**	**450VJ-BK**	143/145TC	16.94	7.38	14.94	5.81	3.06	2.91	.88	7.38	6.69	11.13	10.50	5.56
4.50	**450Q180H**	**450VJ-BK**	182/184TC	16.94	7.38	14.94	5.81	3.06	2.91	.88	7.38	7.97	11.13	10.50	5.56
4.50	**450Q210H**	**450VJ-BK**	213/215TC	16.94	7.38	14.94	5.81	3.06	2.91	.88	7.38	7.97	11.13	10.50	5.56
5.16	**516Q180H**	**516VJ-BK**	182/184TC	19.38	7.38	17.50	5.81	3.40	2.91	1.00	7.75	8.78	11.13	12.35	5.66
5.16	**516Q210H**	**516VJ-BK**	213/215TC	19.38	7.38	17.50	5.81	3.40	2.91	1.00	7.75	8.78	11.13	12.35	5.66
6.00	**600Q180H**	**600VJ-BK**	182/184TC	22.00	8.13	20.00	6.38	4.12	3.19	1.13	8.50	9.68	12.63	14.25	6.31
6.00	**600Q210H**	**600VJ-BK**	213/215TC	22.00	8.13	20.00	6.38	4.12	3.19	1.13	8.50	9.68	12.63	14.25	6.31

C.D.	N.E.M.A. Frame	R	T	INPUT		OUTPUT BORE ✚		Stock Ratios marked "x"									Wt. Lbs.
				Bore	Keyway	U +.0015 -.0000	W Keyway	5	10	15	20	25	30	40	50	60	
1.33	56C	3.25	.344	.625	3/16 x 3/32	.6250	3/16 x 3/32	x	x	x	x	x	x	x	x	x	18.30
1.54	56C	3.25	.406	.625	3/16 x 3/32	1.0000	1/4 x 1/8	x	x	x	x	x	x	x	x	x	24.0
1.54	143/145TC	3.25	.406	.875	3/16 x 3/32	1.0000	1/4 x 1/8	x	x	-	-	-	-	-	-	-	24.0
1.75	56C	3.25	.406	.625	3/16 x 3/32	1.0000	1/4 x 1/8	x	x	x	x	x	x	x	x	x	27.0
1.75	143/145TC	3.25	.406	.875	3/16 x 3/32	1.0000	1/4 x 1/8	x	x	x	-	-	-	-	-	-	27.0
2.06	56C	3.25	.469	.625	3/16 x 3/32	1.4375	3/8 x 1/8	x	x	x	x	x	x	x	x	x	36.0
2.06	143/145TC	3.25	.469	.875	3/16 x 3/32	1.4375	3/8 x 1/8	x	x	x	x	x	-	-	-	-	36.0
2.37	56C	3.25	.469	.625	3/16 x 3/32	1.4375	3/8 x 1/8	x	x	x	x	x	x	x	x	x	50.0
2.37	143/145TC	3.25	.469	.875	3/16 x 3/32	1.4375	3/8 x 1/8	x	x	x	x	x	x	x	-	-	50.0
2.62	56C	3.25	.531	.625	3/16 x 3/32	1.9375	1/2 x 1/8	-	x	x	x	x	x	x	x	x	61.0
2.62	143/145TC	3.25	.531	.875	3/16 x 3/32	1.9375	1/2 x 1/8	-	x	x	x	x	x	x	x	x	61.0
2.62	182/184TC	4.50	.531	1.125	1/4 x 1/8	1.9375	1/2 x 1/8	x	x	-	-	-	-	-	-	-	61.0
3.00	56C	3.25	.531	.625	3/16 x 3/32	2.1875	1/2 x 3/16	-	-	x	x	x	x	x	x	x	86.0
3.00	143/145TC	3.25	.531	.875	3/16 x 3/32	2.1875	1/2 x 3/16	-	x	x	x	x	x	x	x	x	86.0
3.00	182/184TC	4.50	.531	1.125	1/4 x 1/8	2.1875	1/2 x 3/16	-	x	x	x	x	x	x	x	x	86.0
3.25	56C	3.25	.531	.625	3/16 x 3/32	2.1875	1/2 x 3/16	-	x	x	x	x	x	x	x	x	89.0
3.25	143/145TC	3.25	.531	.875	3/16 x 3/32	2.1875	1/2 x 3/16	-	x	x	x	x	x	x	x	x	89.0
3.25	182/184TC	4.50	.531	1.125	1/4 x 1/8	2.1875	1/2 x 3/16	-	x	x	x	x	x	x	x	x	89.0
3.75	56C	3.38	.594	.625	3/16 x 3/32	2.4375	5/8 x 3/16	-	-	-	-	-	-	x	x	x	124.5
3.75	143/145TC	3.38	.594	.875	3/16 x 3/32	2.4375	5/8 x 3/16	-	x	x	x	x	x	x	x	x	124.5
3.75	182/184TC	4.50	.594	1.125	1/4 x 1/8	2.4375	5/8 x 3/16	-	x	x	x	x	x	x	x	-	124.5
3.75	213/215TC	4.50	.594	1.375	5/16 x 5/32	2.4375	5/8 x 3/16	-	x	x	-	-	-	-	-	-	124.5
4.50	143/145TC	3.38	.656	.875	3/16 x 3/32	2.9375	3/4 x 1/4	-	-	-	-	-	-	x	x	x	161.0
4.50	182/184TC	4.50	.656	1.125	1/4 x 1/8	2.9375	3/4 x 1/4	-	-	x	x	x	x	x	x	x	161.0
4.50	213/215TC	4.50	.656	1.375	5/16 x 5/32	2.9375	3/4 x 1/4	-	x	x	x	x	-				161.0
5.16	182/184TC	4.50	.781	1.125	1/4 x 1/8	3.4375	7/8 x 1/4	-	-	-	-	-	-	x	x	x	248.0
5.16	213/215TC	4.50	.781	1.375	5/16 x 5/32	3.4375	7/8 x 1/4	-	x	x	x	x	x	-	-	-	248.0
6.00	182/184TC	4.50	.906	1.375	5/16 x 5/32	3.9375	1 x 1/4	-	-	-	x	x	x	x	x	x	365.0
6.00	213/215TC	4.50	.906	1.375	5/16 x 5/32	3.9375	1 x 1/4	-	-	-	-	x	x	x	x	x	365.0

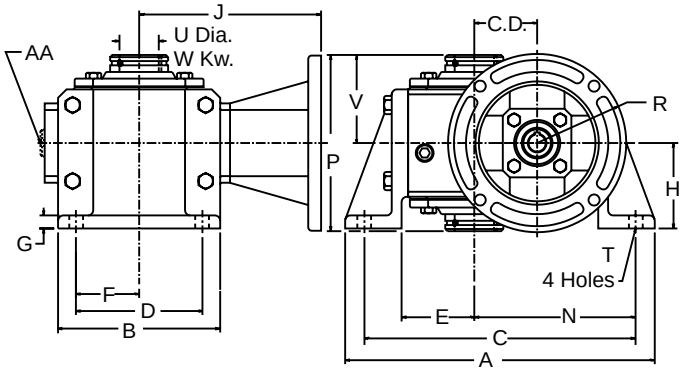
Fan Kit

Ref. No.	Fan Kit	AA		L	Wt. Lbs.
		Tap	Deep		
375QH	**375 FAN**	3/8-24	3/4	7.66	2.8
450QH	**450 FAN**	3/8-24	3/4	8.36	2.8
516QH	**516 FAN**	3/8-24	3/4	9.18	2.8
600QH	**600 FAN**	3/8-24	3/4	10.70	4.2

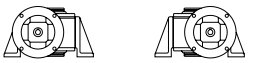
★ To complete Part No. add ratio symbol to size - for example 133Q56H10.
◆ Components needed to make assembled reducer must be ordered separately. If Fan Kit is required, see the table above.
✚ For adapting reducers to shafts smaller than output bore, use Bushing Kits; see the table on page 218. Consult factory for ratios not shown as standard.

Style CHVL

Vertical Low Base



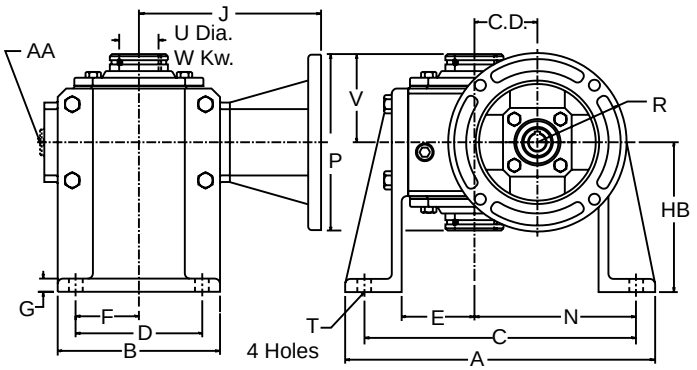
Assembly Drawing and Sample of Components



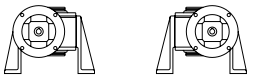
133UH10
133VL-BK
133MAK56

Style CHVH

Vertical High Base



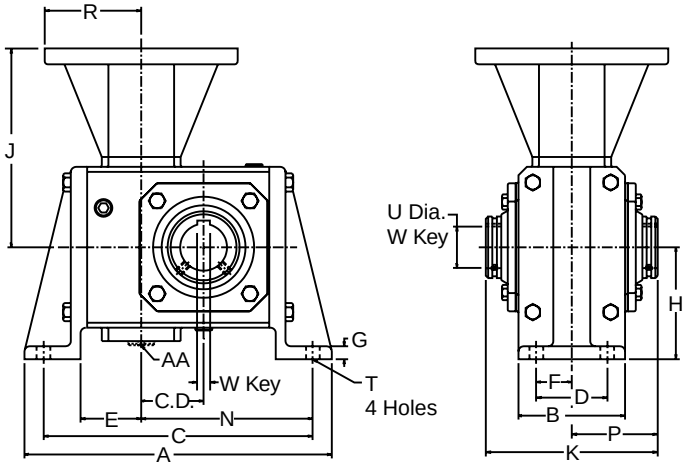
Assembly Drawing and Sample of Components



133UH10
133VH-BK
133MAK56

Style CHVJ

Vertical "J" Base



Sample of Components

133UH10
133VJ-BK
133MAK56

Note: If mounting fan unit, fan extends beyond "H" dimension.

Dimensions (Inches) for Style "CHVL" - Vertical Low Base

C.D.	Components ◆			A	B	C	D	E	F	G	H	N	P	T	V
	Basic Unit ★	Adapter Kit	Base Kit												
1.33	133UH	See Adapter Kit Table Below	133VL-BK	7.10	4.00	6.16	3.25	1.81	1.63	.53	2.31	3.69	5.31	.344	2.66
1.54	154UH		154VL-BK	8.06	5.12	7.00	4.00	1.97	2.00	.69	3.00	4.28	6.44	.406	3.22
1.75	175UH		175VL-BK	8.44	4.81	7.38	4.00	2.12	2.00	.69	3.00	4.50	5.70	.406	2.85
2.06	206UH		206VL-BK	9.50	5.63	8.38	4.88	2.34	2.44	.72	3.13	5.09	6.44	.469	3.22
2.37	237UH		237VL-BK	10.06	6.12	8.94	4.88	2.56	2.44	.75	3.38	5.44	6.31	.469	3.16
2.62	262UH		262VL-BK	11.25	7.13	10.13	5.75	3.00	2.88	.75	3.63	6.13	6.88	.531	3.44
3.00	300UH		300VL-BK	12.88	8.50	11.38	6.13	3.31	3.06	.81	4.69	6.88	8.38	.531	4.19
3.25	325UH		325VL-BK	13.38	8.50	11.88	6.13	3.56	3.06	.81	4.69	7.13	8.50	.531	4.25
3.75	375UH		375VL-BK	15.69	10.50	13.94	8.00	3.44	4.00	.88	5.25	8.31	9.63	.594	4.81
4.50	450UH		450VL-BK	16.94	10.88	14.94	9.56	4.63	4.78	.88	5.06	8.94	11.13	.688	5.56
5.16	516UH		516VL-BK	20.57	12.50	18.00	10.00	5.44	5.00	1.00	6.38	10.56	11.31	.781	5.66
6.00	600UH		600VL-BK	23.25	14.75	20.88	11.75	6.63	5.88	1.13	7.31	12.19	12.63	.906	6.31

C.D.	OUTPUT BORE ✚		Stock Ratios marked "x"									Wt. Lbs.
	U +.0015 -.0000	W Keyway	5	10	15	20	25	30	40	50	60	
1.33	.6250	3/16 x 3/32	x	x	x	x	x	x	x	x	x	23.3
1.54	1.0000	1/4 x 1/8	x	x	x	x	x	x	x	x	x	30.4
1.75	1.0000	1/4 x 1/8	x	x	x	x	x	x	x	x	x	34.5
2.06	1.4375	3/8 x 1/8	x	x	x	x	x	x	x	x	x	42.0
2.37	1.4375	3/8 x 1/8	x	x	x	x	x	x	x	x	x	60.0
2.62	1.9375	1/2 x 1/8	x	x	x	x	x	x	x	x	x	74.0
3.00	2.1875	1/2 x 3/16	x	x	x	x	x	x	x	x	x	99.5
3.25	2.1875	1/2 x 3/16	-	x	x	x	x	x	x	x	x	106.0
3.75	2.4375	5/8 x 3/16	-	x	x	x	x	x	x	x	x	146.5
4.50	2.9375	3/4 x 1/4	-	x	x	x	x	x	x	x	x	189.0
5.16	3.4375	7/8 x 1/4	-	x	x	x	x	x	x	x	x	288.0
6.00	3.9375	1 x 1/4	x	x	x	x	x	x	x	x	x	427.0

Dimensions (Inches) for Style "CHVH"

Components ◆			HB	Wt. Lbs.
Base Unit ★	Adapter Kit	Base Kit		
133UH	See Adapter Kit Table Below	133VH-BK	3.56	24.3
154UH		154VH-BK	4.38	31.4
175UH		175VH-BK	4.38	35.5
206UH		206VH-BK	4.88	43.0
237UH		237VH-BK	5.25	62.5
262UH		262VH-BK	5.60	78.0
300UH		300VH-BK	6.25	103.0
325UH		325VH-BK	6.25	109.0
375UH		375VH-BK	7.00	150.0
450UH		450VH-BK	8.56	197.0
516UH		516VH-BK	8.63	300.0
600UH		600VH-BK	9.63	442.0

Fan Kit

Basic Unit ★	Fan Kit	AA		L	Wt. Lbs.
		Tap	Deep		
375UH	375 FAN	3/8-24	3/4	7.66	2.8
450UH	450 FAN	3/8-24	3/4	8.36	2.8
516UH	516 FAN	3/8-24	3/4	9.18	2.8
600UH	600 FAN	3/8-24	3/4	10.70	4.2

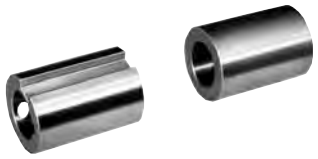
Dimensions (Inches) for Style "CHVJ" - Vertical "J" Base

Components ◆			A	B	C	D	E	F	G	H	K	N	P	T	Wt. Lbs.
Base Unit. ★	Adapter Kit	Base Kit													
133UH	See Adapter Kit Table Below	133VJ-BK	7.28	2.88	6.42	2.00	1.66	1.00	.53	2.94	5.31	3.93	2.66	.344	22.0
154UH		154VJ-BK	8.25	3.69	7.25	2.50	1.98	1.25	.69	3.50	6.44	4.39	3.22	.406	29.0
175UH		175VJ-BK	8.63	3.38	7.63	2.50	2.00	1.25	.69	3.50	5.70	4.75	2.85	.406	32.0
206UH		206VJ-BK	9.75	3.75	8.62	2.62	2.09	1.31	.72	3.94	6.44	5.46	3.22	.469	38.0
237UH		237VJ-BK	10.30	4.06	9.19	2.88	2.12	1.44	.75	4.06	6.31	6.00	3.16	.469	55.0
262UH		262VJ-BK	11.75	4.44	10.38	3.13	2.50	1.56	.75	4.75	6.88	6.75	3.44	.531	69.0
300UH		300VJ-BK	13.50	5.00	12.25	4.00	2.69	2.00	.81	5.94	8.38	7.94	4.19	.531	93.0
325UH		325VJ-BK	14.00	5.00	12.75	4.00	2.69	2.00	.81	5.69	8.50	8.44	4.25	.531	96.0
375UH		375VJ-BK	15.06	6.25	13.31	4.75	2.94	2.38	.88	6.00	9.63	9.06	4.81	.594	130.0
450UH		450VJ-BK	16.94	7.38	14.94	5.81	3.06	2.91	.88	7.38	11.13	10.50	5.56	.688	167.0
516UH		516VJ-BK	19.38	7.38	17.50	5.81	3.40	2.91	1.00	7.75	11.31	12.35	5.66	.781	258.0
600UH		600VJ-BK	22.00	8.13	20.00	6.38	4.12	3.19	1.13	8.50	12.63	14.25	6.31	.906	372.0

N.E.M.A. Frame Adapter Kits and Dimensions

C.D.	56C Input: .625 Kw.: 3/16 x 3/32			143/145TC Input: .875 Kw.: 3/16 x 3/32			182/184TC Input: 1.125 KW.: 1/4 x 1/8			213/215TC Input: 1.375 Kw.: 5/16 x 5/32			254/256TC Input: 1.625 Kw.: 3/8 x 3/16		
	Adapter Kit No.	J	R	Adapter Kit No.	J	R	Adapter Kit No.	J	R	Adapter Kit No.	J	R	Adapter Kit No.	J	R
1.33	133MAK56	6.38	3.25	133MAK140											
1.54	154-206MAK56	7.13	3.25	154-206MAK140	7.13	3.25									
1.75	154-206MAK56	7.00	3.25	154-206MAK140	7.00	3.25									
2.06	154-206MAK56	7.37	3.25	154-206MAK140	7.37	3.25									
2.37	237MAK56	7.69	3.25	237MAK140	7.69	3.25									
2.62	262MAK56	8.50	3.25	262MAK140	8.50	3.25	262MAK180	9.72	4.50						
3.00	300-325MAK56	9.35	3.25	300-325MAK140	9.35	3.25	300-325MAK180	10.57	4.50						
3.25	300-325MAK56	9.37	3.25	300-325MAK140	9.37	3.25	300-325MAK180	10.59	4.50	325MAK210					
3.75	375MAK56	11.47	3.38	375MAK140	11.47	3.38	375MAK180	12.92	4.50	375MAK210	12.92	4.50			
4.50				450MAK140	12.15	3.38	450MAK180	13.60	4.50	450MAK210	13.60	4.50			
5.16							516MAK180	14.40	4.50	516MAK210	14.40	4.50			
6.00							600MAK180	16.97	4.50	600MAK210	16.97	4.50	600MAK250	16.97	4.50

★ To complete Part No. add ratio symbol to size - for example 133UH10.
◆ Components needed to make assembled reducer must be ordered separately. If Fan Kit is required, see the table above.
✚ For adapting reducers to shafts smaller than output bore, use Bushing Kits; see the table on page 218.
Consult factory for ratios not shown as standard.





Bushings for Raider Hollow Shaft Reducers

Reducer C.D.	Shaft Dia.	Shaft Keyseat	Bushing Kit No.	Wt. Lbs.
1.54	3/4	3/16 x 3/32 x 1 1/8	**100BU012**	.3
&	7/8	3/16 x 3/32x 1 1/8	**100BU014**	.1
1.75	15/16	1/4 x 1/8 x 1 1/8	**100BU015**	.1
2.06	3/4	3/16 x 3/32 x 2	**107BU012**	1.4
&	7/8	3/16 x 3/32 x 2	**107BU014**	1.2
2.37	15/16	1/4 x 1/8 x 2	**107BU015**	1.1
	1	1/4 x 1/8 x 2	**107BU100**	1.0
	1 1/16	1/4 x 1/8 x 2	**107BU101**	.9
	1 1/8	14 x 1/8 x 2	**107BU102**	.8
	1 3/16	1/4 x 1/8 x 2	**107BU103**	.6
	1 1/4	1/4 x 1/8 x 2	**107BU104**	.5
	1 5/16	5/16 x 5/32 x 2	**107BU105**	.4
2.62	15/16	1/4 x 1/8 x 2 1/2	**115BU015**	3.2
	1	1/4 x 1/8 x 2 1/2	**115BU100**	3.1
	1 1/6	1/4 x 1/8 x 2 1/2	**115BU101**	3.0
	1 1/8	1/4 x 1/8 x 2 1/2	**115BU102**	2.8
	1 3/16	1/4 x 1/8 x 2 1/2	**115BU103**	2.7
	1 1/4	1/4 x 1/8 x 2 1/2	**115BU104**	2.5
	1 5/16	5/16 x 5/32 x 2 1/2	**115BU105**	2.3
	1 3/8	5/16 x 5/32 x 2 1/2	**115BU106**	2.1
	1 7/16	3/8 x 3/16 x 2 1/2	**115BU107**	1.9
	1 1/2	3/8 x 3/16 x 2 1/2	**115BU108**	1.7
	1 5/8	3/8 x 3/16 x 2 1/2	**115BU110**	1.3
	1 11/16	3/8 x 3/16 x 2 1/2	**115BU111**	1.1
	1 3/4	3/8 x 3/16 x 2 1/2	**115BU112**	.8
3.00	1 3/16	1/4 x 1/8 x 2 1/2	**203BU103**	3.8
&	1 1/4	1/4 x 1/8 x 2 1/2	**203BU104**	3.6
3.25	1 5/16	5/16 x 5/32 x 2 1/2	**203BU105**	3.5
	1 3/8	5/16 x 5/32 x 2 1/2	**203BU106**	3.4
	1 7/16	3/8 x 3/16 x 2 1/2	**203BU107**	3.1
	1 1/2	3/8 x 3/16 x 2 1/2	**203BU108**	2.9
	1 5/8	3/8 x 3/16 x 2 1/2	**203BU110**	2.4
	1 11/16	3/8 x 3/16 x 2 1/2	**203BU111**	2.2
	1 3/4	3/8 x 3/16 x 2 1/2	**203BU112**	2.0
	1 7/8	1/2 x 1/4 x 2 1/2	**203BU114**	1.5
	1 15/16	1/2 x 1/4 x 2 1/2	**203BU115**	1.2
	2	1/2 x 1/4 x 2 1/2	**203BU200**	.9

Reducer C.D.	Shaft Dia.	Shaft Keyseat	Bushing Kit No.	Wt. Lbs.
3.75	1 3/8	5/16 x 5/32 x 3 1/2	**207BU106**	6.4
	1 7/16	3/8 x 3/16 x 3 1/2	**207BU107**	6.1
	1 1/2	3/8 x 3/16 x 3 1/2	**207BU108**	5.8
	1 5/8	3/8 x 3/16 x 3 1/2	**207BU110**	5.2
	1 11/16	3/8 x 3/16 x 3 1/2	**207BU111**	4.9
	1 3/4	3/8 x 3/16 x 3 1/2	**207BU112**	4.5
	1 7/8	1/2 x 1/4 x 3 1/2	**207BU114**	3.8
	1 15/16	1/2 x 1/4 x 3 1/2	**207BU115**	3.5
	2	1/2 x 1/4 x 3 1/2	**207BU200**	3.1
	2 1/8	1/2 x 1/4 x 3 1/2	**207BU202**	2.3
	2 3/16	1/2 x 1/4 x 3 1/2	**207BU203**	1.8
	2 1/4	1/2 x 1/4 x 3 1/2	**207BU204**	1.4
4.50	1 7/16	3/8 x 3/16 x 4	**215BU107**	11.7
	1 1/2	3/8 x 3/16 x 4	**215BU108**	11.4
	1 11/16	3/8 x 3/16 x 4	**215BU111**	10.3
	1 3/4	3/8 x 3/16 x 4	**215BU112**	9.9
	1 7/8	1/2 x 1/4 x 4	**215BU114**	9.1
	1 15/16	1/2 x 1/4 x 4	**215BU115**	8.7
	2	1/2 x 1/4 x 4	**215BU200**	8.3
	2 3/16	1/2 x 1/4 x 4	**215BU203**	6.9
	2 1/4	1/2 x 1/4 x 4	**215BU204**	6.4
	2 7/16	5/8 x 5/16 x 4	**215BU207**	4.8
	2 1/2	5/8 x 5/16 x 4	**215BU208**	4.3
	2 11/16	5/8 x 5/16 x 4	**215BU211**	2.5
5.16	1 15/16	1/2 x 1/4 x 4 1/2	**307BU115**	16.2
	2	1/2 x 1/4 x 4 1/2	**307BU200**	15.7
	2 3/16	1/2 x 1/4 x 4 1/2	**307BU203**	14.1
	2 1/4	1/2 x 1/4 x 4 1/2	**307BU204**	13.6
	2 7/16	5/8 x 5/16 x 4 1/2	**307BU207**	11.8
	2 1/2	5/8 x 5/16 x 4 1/2	**307BU208**	11.2
	2 11/16	5/8 x 5/16 x 4 1/2	**307BU211**	9.3
	2 7/8	3/4 x 3/8 x 4 1/2	**307BU214**	7.1
	2 15/16	3/4 x 3/8 x 4 1/2	**307BU215**	6.4
6.00	2 7/16	5/8 x 5/16 x 4 1/2	**315BU207**	19.2
	2 1/2	5/8 x 5/16 x 4 1/2	**315BU208**	18.6
	2 11/16	5/8 x 5/16 x 4 1/2	**315BU211**	16.6
	2 13/16	3/4 x 3/8 x 4 1/2	**315BU213**	15.2
	2 7/8	3/4 x 3/8 x 4 1/2	**315BU214**	14.5
	2 15/16	3/4 x 3/8 x 4 1/2	**315BU215**	13.8
	3	3/4 x 3/8 x 4 1/2	**315BU300**	13.1
	3 3/16	3/4 x 3/8 x 4 1/2	**315BU303**	10.7
	3 7/16	7/8 x 7/16 x 4 1/2	**315BU307**	7.4



Fan Kit

Fan Kit	Wt. Lbs.
375 Fan Kit	2.8
450 Fan Kit	2.8
516 Fan Kit	2.8
600 Fan Kit	4.2

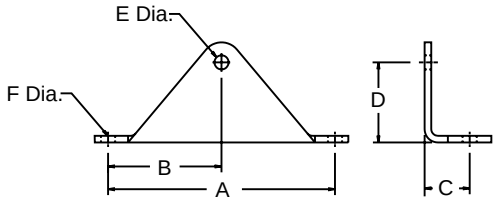
N.E.M.A. Frame Adapter Kit

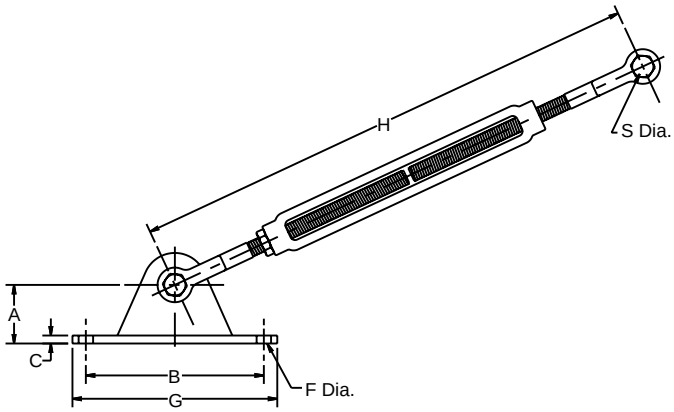
Kit Part No.	Frame Size	Wt./Lbs.
133MAK56	56C	7.0
154-206MAK56	56C	7.0
154-206MAK140	143/145TC	7.0
237MAK56	56C	8.0
237MAK140	143/145TC	8.0
262MAK56	56C	8.0
262MAK140	143/145TC	8.0
262MAK180	182/184TC	11.0
300-325MAK56	56C	11.0
300-325MAK140	143/145TC	11.0
300-325MAK180	182/184TC	11.0
325MAK210	213/215TC	11.0
375MAK56	56C	12.5
375MAK140	143/145TC	12.5
375MAK180	182/184TC	12.5
375MAK210	213/215TC	12.5
450MAK140	143/145TC	14.0
450MAK180	182/184TC	16.0
450MAK210	213/215TC	16.0
516MAK180	182/184TC	18.0
516MAK210	213/215TC	18.0
600MAK180	182/184TC	22.0
600MAK210	213/215TC	22.0
600MAK250	254/256TC	30.0



Dimensions (Inches) for Torque Arm Kit

Part No.	A	B	C	D	E	F	Wt./Lbs.
133H-TAK	3.25	1.63	.75	1.22	.53	.344	.6
154H-TAK	4.19	2.09	.82	1.08	.53	.344	.7
175H-TAK	4.19	2.09	.95	1.38	.53	.344	.9
206H-TAK	5.00	2.50	1.28	1.97	.53	.406	1.0
237H-TAK	5.00	2.50	1.28	2.25	.53	.406	1.2
262H-TAK	6.38	3.19	1.31	2.38	.53	.406	1.4
300H-TAK	7.00	3.50	1.44	2.62	.53	.468	1.7
325H-TAK	7.50	3.75	1.35	3.19	.53	.468	2.0
375H-TAK	8.50	4.25	1.68	3.00	.53	.531	2.5
450H-TAK	9.56	4.78	1.94	3.50	.81	.656	3.4
516H-TAK	11.00	5.50	1.75	4.00	.81	.687	5.5
600H-TAK	12.75	6.38	1.75	4.63	.81	.687	6.9



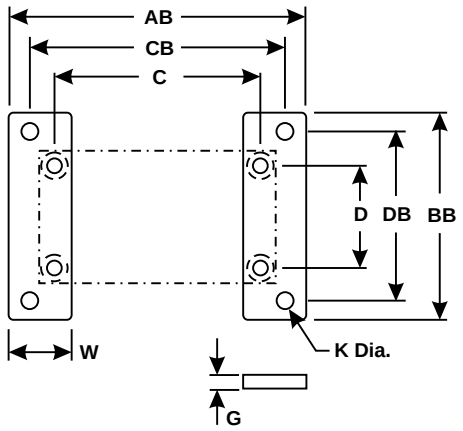


Dimensions (Inches) for Adjustable Torque Arm Kit

Part No.	B	C	F	G	H	S	Wt./Lbs.
133-175ATAK	2.50	.18	.375	3.50	9-15	.53	2.0
206-375ATAK	2.50	.18	.375	3.50	24-30	.53	3.8
450-600ATAK	3.00	.18	.438	4.25	27-33	.81	6.3

Dimensions (Inches) for Horizontal Econo Base Kit

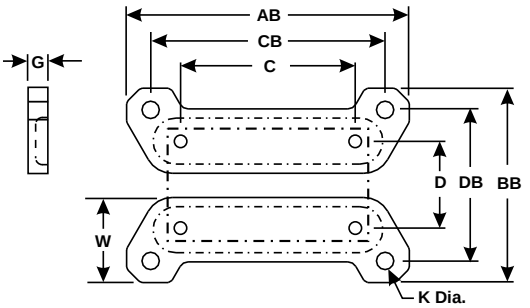
Part No.	AB	BB	C	CB	D	DB	G	K	W	Wt./Lbs.
100E-BK	4.37	3.50	2.63	3.75	1.69	2.88	0.25	0.344	1.25	0.8
133E-BK	5.37	4.19	3.25	4.37	2.00	3.31	0.25	0.344	1.50	1.1
154E-BK	6.31	5.38	4.19	5.25	2.75	4.31	0.25	0.406	1.50	1.3
175E-BK	6.81	5.50	4.19	5.75	2.75	4.50	0.25	0.406	1.81	1.7
206E-BK	7.56	5.75	5.00	6.38	2.88	4.69	0.25	0.469	1.75	1.9
237E-BK	8.30	6.12	5.00	7.06	2.88	4.88	0.38	0.469	2.25	4.0
262E-BK	9.00	6.25	6.38	8.00	3.38	5.25	0.38	0.531	1.94	3.8
300E-BK	9.76	7.12	7.00	8.44	4.00	5.88	0.38	0.531	2.00	4.2
325E-BK	10.50	7.12	7.50	9.50	4.00	6.12	0.38	0.531	2.00	4.5



Dimensions (Inches) for Horizontal Standard Base Kit

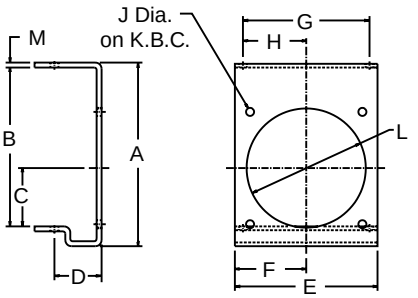
Part No.	AB	BB	C	CB	D	DB	G	K	W	Wt./Lbs.
100S-BK	4.37	3.50	2.63	3.75	1.69	2.88	0.38	0.344	N/A *	0.9
133S-BK	5.38	4.19	3.25	4.38	2.00	3.31	0.47	0.344	N/A *	1.3
154S-BK	6.44	5.44	4.19	5.25	2.75	4.31	0.59	0.406	2.04	1.5
175S-BK	7.00	5.56	4.19	5.75	2.75	4.50	0.69	0.406	2.18	2.0
206S-BK	7.69	5.76	5.00	6.38	2.88	4.69	0.72	0.469	2.31	2.2
237S-BK	8.50	6.19	5.00	7.06	2.88	4.88	0.75	0.469	2.47	4.4
262S-BK	9.25	6.50	6.38	8.00	3.38	5.25	0.75	0.531	2.50	4.6
300S-BK	10.17	7.38	7.00	8.44	4.00	5.88	0.88	0.531	2.62	4.8
325S-BK	11.12	7.75	7.50	9.50	4.00	6.13	0.88	0.531	2.81	5.2
375S-BK	12.00	8.63	8.50	10.38	4.75	7.00	0.94	0.594	2.88	10.0
450S-BK	13.88	9.33	9.56	12.12	5.81	7.63	1.12	0.656	2.88	17.0
516S-BK	16.38	10.37	11.00	14.13	5.81	8.37	1.12	0.781	3.47	26.0
600S-BK	19.00	12.00	12.75	16.50	6.38	9.50	1.25	0.906	4.00	43.0

*One-piece Base



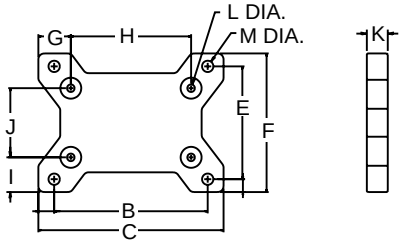
Dimensions (Inches) for Flange Kit

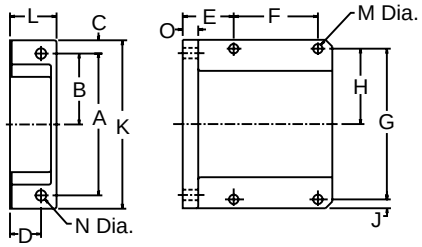
Part No.	A	B	C	D	E	F	G	H	J	K	L	M	Wt./Lbs.
133H-FK	5.56	4.66	1.72	2.00	4.25	2.13	3.25	1.63	.344	5.000	3.63	.19	2.7
154H-FK	6.19	5.38	1.91	2.19	4.75	2.38	4.19	2.09	.344	5.000	3.63	.19	3.3
175H-FK	6.66	5.75	2.06	2.13	4.81	2.41	4.19	2.09	.344	5.875	4.06	.19	3.4
206H-FK	7.43	6.38	2.28	2.31	5.75	2.88	5.00	2.50	.406	6.500	4.50	.19	4.6
237H-FK	8.24	6.94	2.50	2.28	6.13	3.06	5.00	2.50	.406	7.500	5.00	.19	5.1
262H-FK	9.25	8.00	2.94	2.37	7.18	3.59	6.38	3.19	.406	8.000	6.00	.25	8.4
300H-FK	10.02	8.88	3.25	2.50	8.50	4.25	7.00	3.50	.406	9.000	7.00	.25	10.1
325H-FK	10.89	9.38	3.50	3.25	8.50	4.25	7.50	3.75	.563	10.000	7.00	.25	11.9
375H-FK	11.85	10.44	3.88	3.08	9.54	4.77	8.50	4.25	.563	11.500	8.00	.25	13.3
450H-FK	13.10	11.94	4.50	3.96	10.88	5.44	9.56	4.78	.563	11.500	9.00	.31	21.8
516H-FK	15.33	13.75	5.31	3.67	12.50	6.25	11.00	5.50	.687	14.000	10.00	.31	26.9
600H-FK	18.22	16.50	6.50	4.03	14.50	7.25	12.75	6.38	.687	15.563	12.00	.38	44.7



Dimensions (Inches) for Solid Horizontal One Piece Base

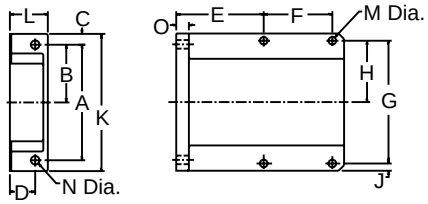
Part No.	A	B	C	D	E	F	G	H	I	J	K	L Dia.	M Dia.
133-BKS	.50	4.38	5.38	.44	3.31	4.19	1.06	3.25	1.10	2.00	.53	.38	.38
154-BKS	.60	5.25	6.44	.57	4.32	5.46	1.13	4.19	1.35	2.75	.59	.38	.44
175-BKS	.62	5.75	7.00	.53	4.50	5.56	1.41	4.19	1.40	2.75	.69	.38	.44
206-BKS	.66	6.38	7.69	.53	4.69	5.76	1.35	5.00	1.44	2.88	.72	.44	.50
237-BKS	.72	7.06	8.50	.66	4.88	6.20	1.75	5.00	1.66	2.88	.75	.44	.50
262-BKS	.63	8.00	9.25	.62	5.25	6.50	1.44	6.38	1.56	3.38	.75	.44	.56
300-BKS	.86	8.44	10.16	.74	5.88	7.36	1.58	7.00	1.68	4.00	.88	.50	.56
325-BKS	.82	9.50	11.13	.81	6.13	7.75	1.82	7.50	1.88	4.00	.88	.50	.56





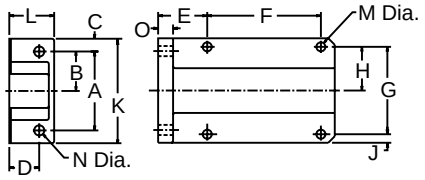
Dimensions (Inches) for Vertical Low Base Kit

Part No.	A	B	C	D	E	F	G	H	J	K	L	M	N	O	Wt./Lbs.
100VL-BK	2.31	1.16	.49	.75	1.00	1.69	2.62	1.31	.34	3.30	1.06	.320	.288	.13	1.8
133VL-BK	3.25	1.62	.38	.75	1.31	2.00	3.25	1.62	.38	4.00	1.22	.344	.344	.53	2.3
154VL-BK	4.00	2.00	.56	.81	1.63	2.75	4.19	2.09	.47	5.12	1.34	.344	.406	.69	3.4
175VL-BK	4.00	2.00	.41	.81	1.63	2.75	4.19	2.09	.31	4.81	1.34	.344	.406	.69	4.5
206VL-BK	4.88	2.44	.38	1.00	1.69	2.88	5.00	2.50	.31	5.63	1.56	.406	.469	.72	7.0
237VL-BK	4.88	2.44	.63	1.00	1.94	2.88	5.00	2.50	.56	6.12	1.56	.406	.469	.75	8.0
262VL-BK	5.75	2.88	.69	1.06	1.94	3.38	6.38	3.19	.38	7.12	1.63	.406	.531	.75	9.0
300VL-BK	6.13	3.06	1.19	1.25	2.69	4.00	7.00	3.50	.75	8.50	2.00	.469	.531	.81	12.5
325VL-BK	6.13	3.06	1.19	1.25	2.69	4.00	7.50	3.75	.50	8.50	2.00	.469	.531	.81	16.0
375VL-BK	8.00	4.00	.75	1.75	2.88	4.75	8.50	4.25	.50	9.50	2.63	.531	.594	.88	25.0
450VL-BK	9.56	4.78	.66	1.50	2.16	5.81	9.56	4.78	.66	10.88	2.50	.687	.687	.88	33.0
516VL-BK	10.00	5.00	1.25	2.13	3.47	5.82	11.00	5.50	.75	12.50	3.44	.687	.781	1.00	48.0
600VL-BK	11.75	5.88	1.50	2.19	3.94	6.38	12.75	6.38	1.00	14.75	3.38	.687	.906	1.13	76.0



Dimensions (Inches) for Vertical High Base Kit

Part No.	A	B	C	D	E	F	G	H	J	K	L	M	N	O	Wt./Lbs.
100VH-BK	2.31	1.16	.49	.75	2.13	1.69	2.62	1.31	.34	3.30	1.06	.320	.288	.13	1.8
133VH-BK	3.25	1.62	.38	.75	2.56	2.00	3.25	1.62	.38	4.00	1.22	.344	.344	.53	3.3
154VH-BK	4.00	2.00	.56	.81	3.01	2.75	4.19	2.09	.47	5.12	1.34	.344	.406	.69	4.4
175VH-BK	4.00	2.00	.41	.81	3.01	2.75	4.19	2.09	.31	4.81	1.34	.344	.406	.69	5.5
206VH-BK	4.88	2.44	.38	1.00	3.44	2.88	5.00	2.50	.31	5.63	1.56	.406	.469	.72	8.0
237VH-BK	4.88	2.44	.63	1.00	3.81	2.88	5.00	2.50	.56	6.12	1.56	.406	.469	.75	10.5
262VH-BK	5.75	2.88	.69	1.06	3.91	3.38	6.38	3.19	.38	7.12	1.63	.406	.531	.75	13.0
300VH-BK	6.13	3.06	1.19	1.25	4.25	4.00	7.00	3.50	.75	8.50	2.00	.469	.531	.81	16.0
325VH-BK	6.13	3.06	1.19	1.25	5.00	4.00	7.50	3.75	.50	8.50	2.00	.469	.531	.81	19.0
375VH-BK	8.00	4.00	.75	1.75	4.63	4.75	8.50	4.25	.50	9.50	2.63	.531	.594	.88	28.5
450VH-BK	9.56	4.78	.66	1.50	5.66	5.81	9.56	4.78	.66	10.88	2.50	.687	.687	.88	41.0
516VH-BK	10.00	5.00	1.25	2.13	5.72	5.82	11.00	5.50	.75	12.50	3.44	.687	.781	1.00	60.0
600VH-BK	11.75	5.88	1.50	2.19	6.26	6.38	12.75	6.38	1.00	14.75	3.38	.687	.906	1.13	91.0

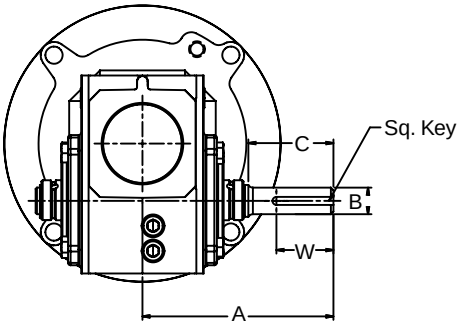


Dimensions (Inches) for Vertical "J" Base Kit

Part No.	A	B	C	D	E	F	G	H	J	K	L	M	N	O	Wt./Lbs.
100VJ-BK	1.69	.85	.41	.75	1.00	2.62	1.69	.85	.41	2.50	1.12	.320	.288	.13	.8
133VJ-BK	2.00	1.00	.44	.88	1.31	3.25	2.00	1.00	.44	2.88	1.31	.344	.344	.53	1.0
154VJ-BK	2.50	1.25	.60	.94	1.41	4.19	2.75	1.38	.47	3.69	1.44	.344	.406	.69	2.0
175VJ-BK	2.50	1.25	.44	.94	1.41	4.19	2.75	1.38	.31	3.38	1.44	.344	.406	.69	2.0
206VJ-BK	2.62	1.31	.57	1.12	1.44	5.00	2.88	1.44	.44	3.75	1.69	.406	.469	.72	3.0
237VJ-BK	2.88	1.44	.59	1.12	1.56	5.00	2.88	1.44	.59	4.06	1.69	.406	.469	.75	3.0
262VJ-BK	3.13	1.56	.66	1.19	1.56	6.38	3.38	1.69	.53	4.44	1.88	.406	.531	.75	4.0
300VJ-BK	4.00	2.00	.50	1.69	2.44	7.00	4.00	2.00	.50	5.00	2.31	.469	.531	.81	6.0
325VJ-BK	4.00	2.00	.50	1.69	1.94	7.50	4.00	2.00	.50	5.00	2.31	.469	.531	.81	6.0
375VJ-BK	4.75	2.38	.75	1.44	1.75	8.50	4.75	2.38	.75	6.25	2.31	.531	.594	.88	8.5
450VJ-BK	5.81	2.91	.79	1.50	2.60	9.56	5.81	2.91	.79	7.38	2.50	.687	.687	.88	11.0
516VJ-BK	5.81	2.91	.79	1.88	2.25	11.00	5.82	2.91	.78	7.38	2.81	.687	.781	1.00	18.0
600VJ-BK	6.38	3.19	.88	1.75	2.12	12.75	6.38	3.19	.88	8.13	2.75	.687	.906	1.13	21.0

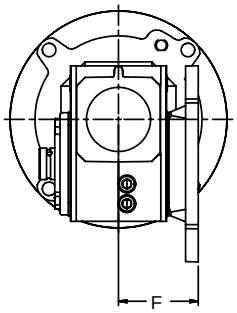
Dimensions (Inches) for Output Plug-In Shaft Kit

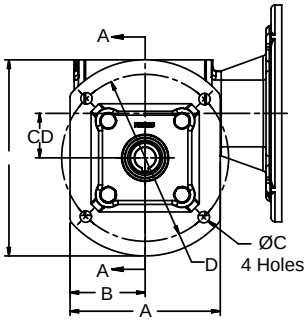
Part No.	A	B	C	W	Sq. Key
133H-SK	4.49	0.625	2.00	1.312	0.1875
154H-SK	4.90	0.750	1.81	1.250	0.1875
175H-SK	4.92	0.875	1.91	1.375	0.1875
206H-SK	5.43	1.000	2.00	1.750	0.2500
237H-SK	5.74	1.125	2.37	1.750	0.2500
262H-SK	6.21	1.125	2.50	2.000	0.2500
300H-SK	7.74	1.250	3.25	2.250	0.2500
325H-SK	7.74	1.375	3.25	2.875	0.3125

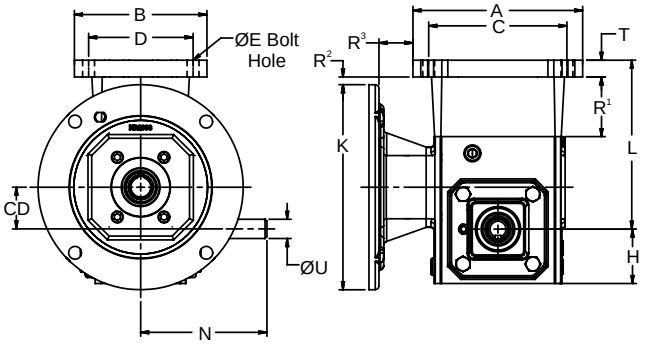


Dimensions (Inches) for Cast Iron Output Flange Kit

Part No.	CD	A	B	C	D	E	F
133H-CFK	1.33	4.50	2.25	0.344	5.00	5.88	3.00
154H-CFK	1.54	4.50	2.25	0.344	5.00	5.75	3.54
175H-CFK	1.75	4.88	2.44	0.344	5.87	6.75	3.50
206H-CFK	2.06	5.75	2.88	0.406	7.00	7.87	3.75
237H-CFK	2.37	6.80	3.40	0.405	7.50	8.60	3.74
262H-CFK	2.62	7.75	3.88	0.406	8.00	8.88	4.06
300H-CFK	3.00	8.20	4.10	0.405	9.00	10.15	4.75
325H-CFK	3.25	9.00	4.50	0.531	10.00	11.00	5.25



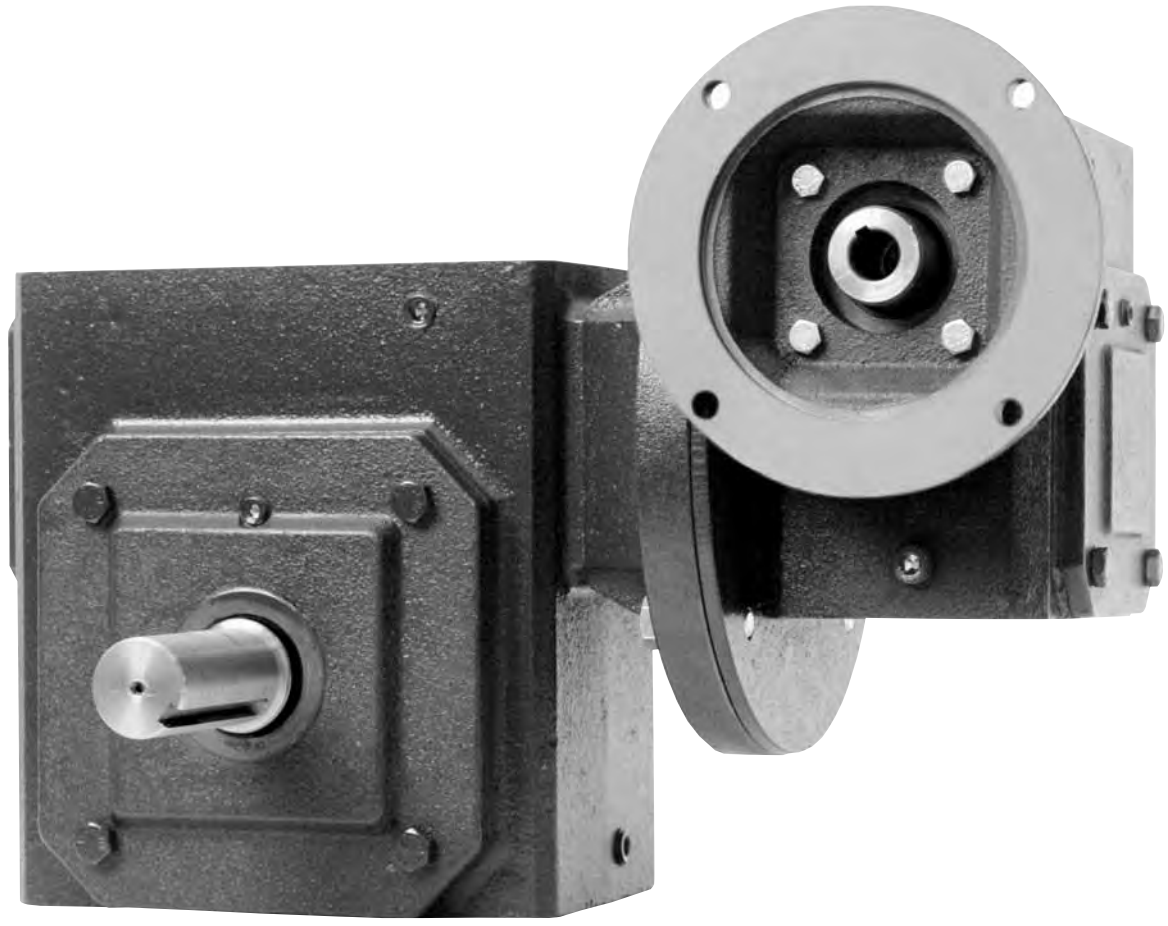




Dimensions (Inches) for Base Kit/Riser Kit

Base Kit	Riser Block Kit	C.D.	C-Face	R¹	R²	R³	T	A	B	C	D	E	K	H	L	N	U
133-BKS	133R-BK	1.33	56/140	1.89	0.24	1.07	0.53	5.38	4.20	4.38	3.31	0.38	6.50	1.72	5.35	4.00	0.62
154-BKS	154R-BK	1.54	56/140	1.55	0.23	0.97	0.59	6.44	5.46	5.25	4.32	0.44	6.50	1.91	5.61	4.31	0.75
175-BKS	175R-BK	1.75	56/140	1.61	0.30	0.57	0.69	7.00	5.56	5.75	4.50	0.44	6.50	2.06	5.99	4.31	0.88
206-BKS	206R-BK	2.06	56/140	1.42	0.20	0.57	0.72	7.70	5.76	6.38	4.69	0.50	6.50	2.28	6.23	4.72	1.00
237-BKS	237R-BK	2.37	56/140	2.69	1.51	0.50	0.75	8.50	6.20	7.06	4.88	0.50	6.50	2.50	7.88	5.08	1.13
262-BKS	262R-BK	2.62	56/140 180	2.40	1.59 0.34	0.59 0.72	0.75	9.26	6.50	8.00	5.25	0.56	6.50 9.00	2.93	8.22	5.63	1.13
300-BKS	300R-BK	3.00	56/140 180	2.12	1.50 0.25	0.11 0.58	0.88	10.16	7.36	8.44	5.88	0.56	6.50 9.00	3.25	8.63	6.75	1.25
325-BKS	325R-BK	3.25	56/140 180	1.87	1.25 0	0.82 0.65	0.88	11.14	7.76	9.50	6.13	0.56	6.50 9.00	3.50	8.63	7.06	1.38
375S-BK	375R-BK	3.75	56/140 180	1.77	1.2 0.08	0.53	0.94	12.00	8.63	10.38	7.00	0.59	6.76 9.00	3.88	9.27	7.75	1.63
450S-BK	450R-BK	4.50	140 180/215	2.27	1.83 0.71	0.28	1.12	13.88	9.33	12.12	7.63	0.66	6.76 9.00	4.50	10.83	8.44	1.63
516S-BK	516R-BK	5.16	180/215	2.01	0.78	-	1.12	16.38	10.37	14.13	8.37	0.78	9.00	5.31	11.57	9.06	2.00

Off the shelf Tack-On Adapter Kits can be used to combine standard Raider Plus reducers to achieve ratios to 3600:1.



Select a speed reducer drive for a belt conveyor which is not uniformly fed. The speed reducer will be driven by a 1750 rpm electric motor, C-Flange connected. Conveyor head shaft speed is 3.5 rpm and conveyor operates 8 to 10 hours daily. Conveyor calculations indicate that 2200 inch-pounds torque is needed at the head shaft.

1. Determine the Service Factor

From the table on page 162, note that the service factor for a conveyor, not uniformly loaded, operating 8 - 10 hours per day is 1.25.

2. Determine the Overall Drive Ratio

$$\text{Overall Drive Ratio} = \frac{\text{1750 rpm of Driver}}{\text{3.5 rpm of Driven}} = 500 : 1$$

3. Calculate the Normal Torque

The normal torque required for reducer selection is the actual torque at the reducer output shaft multiplied by the service factor.

Normal Torque = 2200 x 1.25 = 2750 inch-pounds

4. Determine the Primary and Secondary Speed Reducer Ratios

From page 227 note that for an overall ratio of 500:1, all possible reducer combinations consist of a 10:1 primary and a 50:1 secondary.

5. Determine the Size of the Secondary Speed Reducer Required

From the 500:1 ratio portion of the tables on page 227 note that a 325-50 with a minimum allowable output torque of 4090 in-lbs. is required. Referring to pages 172 and 173, the secondary unit basic size is 325Q56. The complete part number would be 325Q56LR50.

6. Determine the Size of the Primary Speed Reducer Required

From the tables for a 500:1 ratio on page 227, and using a 325-50 as the secondary unit, the primary unit is a 133-10. Referring to pages 172 and 173, the primary unit basic size is 133Q56. The complete part number would be 133Q56LR10.

7. Select the Adapter

From the tables on page 230, note that a 133TADQ56 adapter is required.

8. Check the Tack-On Assembly

From the Tack-On Assembly drawings on page 225, select the assembly which will give the desired position and direction of projection of the input and output shafts. Assuming that output shaft bottom and input vertical with motor UP is desired, note that an "L2" assembly is the correct one. Tack-On assemblies must be checked for non-stock reducers and/or appropriate base kit requirements.

9. Determine the Motor Horsepower

From the 500:1 Ratio Table on page 227, note that .563 input hp is required for the selected reducer combination.

Use a 1/2 hp motor. If the selected motor horsepower is more than the reducer combination required horsepower then a torque limiting device must be used on the output of the secondary reducer.

10. Check the Overhung Loads

From page 159

$$\text{Overhung Load} = \frac{2 \times T \times K}{\text{P.D. of Sprocket}}$$

Note that since the input is C-Flanged, there is no input overhung load. Output overhung load is dependent upon the size and type of the output drive.

11. List Drive Components

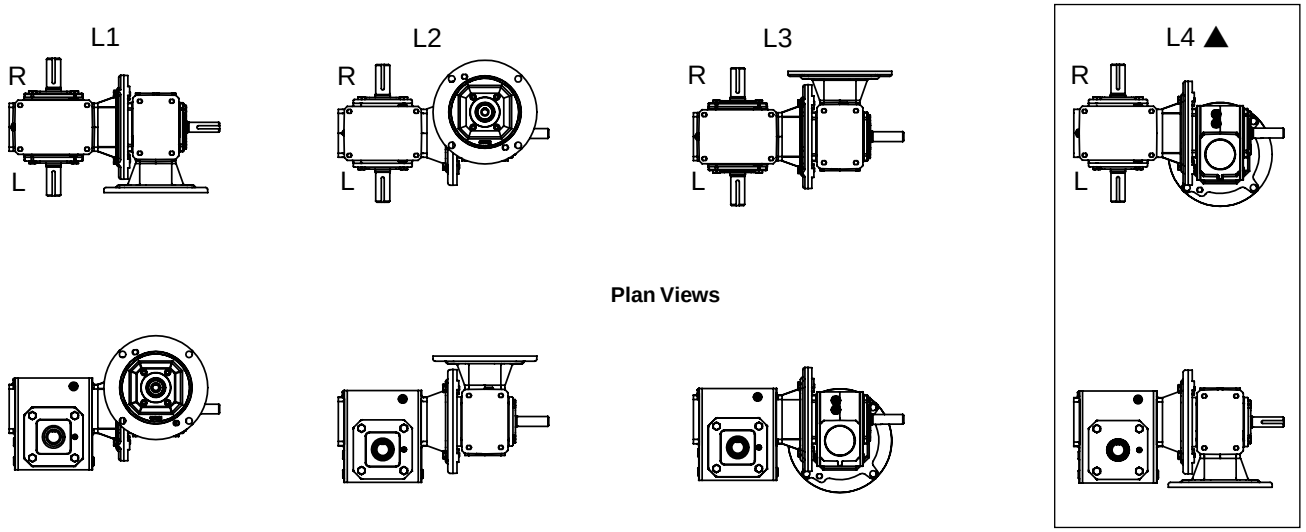
See Motor Catalog for Motor Selection

133Q56LR10	Primary Reducer
325Q56LR50	Secondary Reducer
133TAD Q56 Kit	Adapter

Floor Mount Tack-On Reducer Assemblies

All Arrangements Show Secondary Reducer in Standard Position, Worm-Over and Input to Right

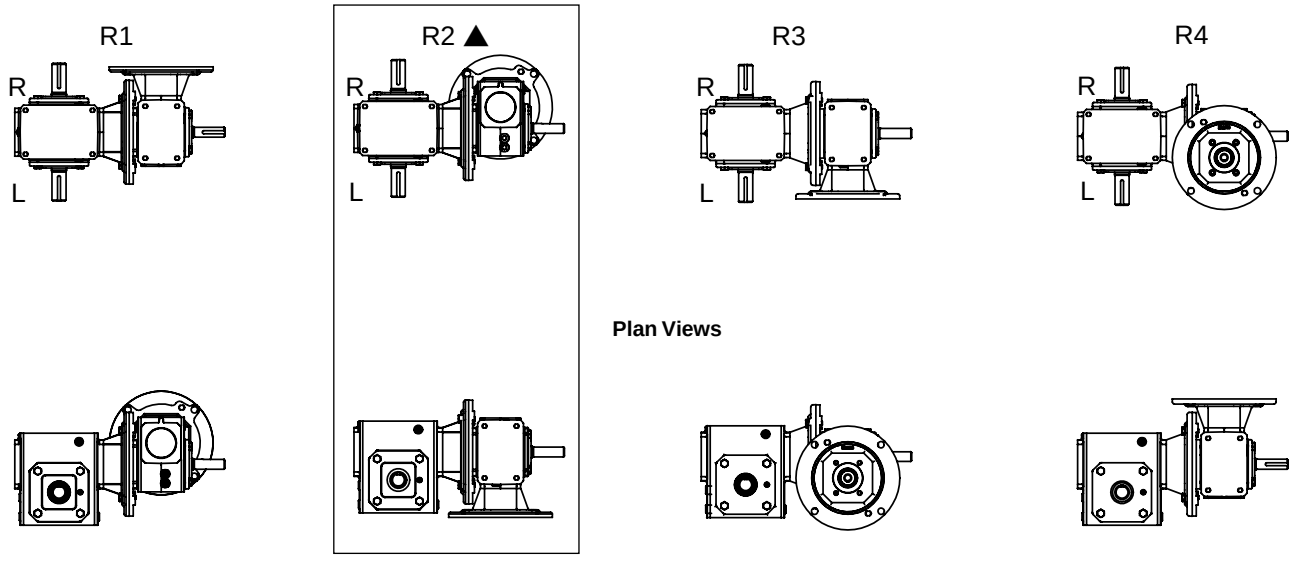
Primary Unit Using Left Output Extension to Secondary Input



Plan Views

Elevation View

Primary Unit Using Right Output Extension to Secondary Input



Plan Views

Elevation Views

Notes:

Primary unit can be C-Flanged or universal style input and L, R, or LR output style.
Secondary unit must be C-Flanged style input - any output style can be used.
▲ All possible combinations are shown, as the secondary unit being floor-mounted. In it's installed location neither unit should be mounted with the worm vertical, and input down. This mounting configuration is not recommended
The oil level in each unit should be adjusted for the actual orientation of the unit.

Input Horsepower and Output Torque for Coupled Raider Plus Single Reduction Worm Gear Speed Reducers

(1750 rpm Driver – 1.0 Service Factor)

Reducers ■		Primary	Secondary
Primary	Secondary	Input hp	Output Torque (In.-Lbs)
25:1 Ratio - 70 rpm Output			
133-5	133-5	0.372	221
133-5	154-5	0.572	343
133-5	175-5	0.773	465
50:1 Ratio - 35 rpm Output			
133-5	133-10	0.229	263
133-5	154-10	0.375	425
133-5	175-10	0.492	571
133-5	206-10	0.813	947
133-5	237-10	1.255	1470
175-5	262-10	1.715	2039
262-5	375-10	4.589	5636
75:1 Ratio - 23.3 rpm Output			
133-5	133-15	0.166	270
133-5	154-15	0.295	460
133-5	175-15	0.355	589
133-5	206-15	0.591	980
133-5	237-15	0.983	1613
133-5	262-15	1.255	2112
175-5	262-15	1.243	2112
175-5	300-15	2.050	3460
237-5	375-15	3.590	6214
262-5	375-15	3.580	6214
325-5	450-15	5.649	9989
325-5	516-15	7.779	13950
100:1 Ratio - 17.5 rpm Output			
133-5	133-20	0.140	284
133-5	154-20	0.234	459
133-5	175-20	0.298	619
133-5	206-20	0.494	1028
133-5	237-20	0.764	1595
133-5	262-20	1.042	2212
175-5	262-20	1.032	2212
175-5	300-20	1.585	3423
175-5	325-20	2.063	4421
237-5	375-20	2.764	6138
237-5	450-20	4.393	9886
262-5	375-20	2.756	6138
262-5	450-20	4.380	9886
133-10	133-10	0.124	269
133-10	154-10	0.206	439
133-10	175-10	0.269	592
133-10	206-10	0.449	988
133-10	237-10	0.698	1542
175-10	262-10	0.954	2151
175-10	300-10	1.464	3336
237-10	375-10	2.594	6059
262-10	375-10	2.583	6059
325-10	375-10	2.562	6059
325-10	450-10	4.150	9893
325-10	516-10	5.731	13800
150:1 Ratio - 11.67 rpm Output			
133-5	133-30	0.107	278
133-5	154-30	0.187	472
133-5	175-30	0.211	605
133-5	206-30	0.353	1006
133-5	237-30	0.602	1658
133-5	262-30	0.743	2167
133-5	300-30	1.251	3558
175-5	262-30	0.737	2167
175-5	300-30	1.239	3558
175-5	325-30	1.482	4359
237-5	375-30	2.149	6386
237-5	450-30	3.393	10283
262-5	375-30	2.143	6386
262-5	450-30	3.383	10283
262-5	516-30	4.617	14383

Reducers ■		Primary	Secondary
Primary	Secondary	Input hp	Output Torque (In.-Lbs)
150:1 Ratio - 11.67 rpm Output			
133-10	133-15	0.090	277
133-10	154-15	0.165	476
133-10	175-15	0.194	607
133-10	206-15	0.326	1018
133-10	237-15	0.554	1694
133-10	262-15	0.703	2216
175-10	262-15	0.693	2216
175-10	300-15	1.156	3674
175-10	325-15	1.408	4514
237-10	375-15	2.047	6692
262-10	375-15	2.038	6692
262-10	450-15	3.295	10936
325-10	450-15	3.268	10936
325-10	516-15	4.543	15437
200:1 Ratio - 8.75 rpm Output			
133-5	133-40	0.087	282
133-5	154-40	0.149	457
133-5	175-40	0.182	616
133-5	206-40	0.302	1022
133-5	237-40	0.468	1588
133-5	262-40	0.633	2202
133-5	300-40	0.965	3405
133-5	325-40	1.264	4399
175-5	262-40	0.627	2202
175-5	300-40	0.955	3405
175-5	325-40	1.252	4399
237-5	375-40	1.652	6119
237-5	450-40	2.605	9862
237-5	516-40	3.510	13677
262-5	375-40	1.648	6119
262-5	450-40	2.596	9862
262-5	516-40	3.499	13677
133-10	133-20	0.077	291
133-10	154-20	0.132	475
133-10	175-20	0.165	640
133-10	206-20	0.275	1068
133-10	237-20	0.431	1670
133-10	262-20	0.591	2324
175-10	262-20	0.583	2324
175-10	300-20	0.896	3613
175-10	325-20	1.178	4720
237-10	375-20	1.575	6567
237-10	450-20	2.540	10732
262-10	375-20	1.567	6567
262-10	450-20	2.529	10732
325-10	450-20	2.508	10732
325-10	516-20	3.442	15003
225:1 Ratio - 7.78 rpm Output			
133-15	133-15	0.064	279
133-15	154-15	0.118	483
133-15	175-15	0.138	614
133-15	206-15	0.231	1029
133-15	237-15	0.396	1721
133-15	262-15	0.500	2251
175-15	262-15	0.493	2251
175-15	300-15	0.827	3747
175-15	325-15	1.008	4606
237-15	375-15	1.469	6853
262-15	375-15	1.456	6853
325-15	450-15	2.335	11249
325-15	516-15	3.257	15931
250:1 Ratio - 7 rpm Output			
133-5	133-50	0.072	268
133-5	154-50	0.122	433
133-5	175-50	0.149	583
133-5	206-50	0.247	968
133-5	237-50	0.372	1479

Reducers ■		Primary	Secondary
Primary	Secondary	Input hp	Output Torque (In.-Lbs)
250:1 Ratio - 7 rpm Output			
133-5	262-50	0.518	2088
133-5	300-50	0.771	3197
133-5	325-50	1.037	4188
175-5	262-50	0.512	2088
175-5	300-50	0.764	3197
175-5	325-50	1.027	4188
237-5	375-50	1.336	5789
237-5	450-50	2.103	9333
237-5	516-50	2.798	12877
262-5	375-50	1.332	5789
262-5	450-50	2.096	9333
262-5	516-50	2.790	12877
300:1 Ratio - 5.83 rpm Output			
133-5	175-60	0.125	546
133-5	206-60	0.208	909
133-5	237-60	0.314	1393
133-5	262-60	0.434	1960
133-5	300-60	0.635	2974
133-5	325-60	0.872	3941
175-5	262-60	0.429	1960
175-5	300-60	0.630	2974
175-5	325-60	0.863	3941
237-5	450-60	1.727	8699
237-5	516-60	2.291	11978
262-5	450-60	1.721	8699
262-5	516-60	2.285	11978
133-10	133-30	0.056	284
133-10	154-30	0.107	489
133-10	175-30	0.119	622
133-10	206-30	0.198	1044
133-10	237-30	0.347	1739
133-10	262-30	0.425	2273
133-10	300-30	0.724	3768
175-10	262-30	0.420	2273
175-10	300-30	0.725	3768
175-10	325-30	0.853	4637
237-10	375-30	1.251	6866
237-10	450-30	2.009	11230
262-10	375-30	1.246	6866
262-10	450-30	2.000	11230
325-10	516-30	2.730	15850
325-10	600-30	4.077	23625
133-15	133-20	0.055	293
133-15	154-20	0.094	480
133-15	175-20	0.118	646
133-15	206-20	0.197	1082
133-15	237-20	0.306	1693
133-15	262-20	0.423	2362
175-15	262-20	0.415	2362
175-15	300-20	0.641	3682
175-15	325-20	0.850	4821
237-15	375-20	1.134	6718
237-15	450-20	1.833	11029
262-15	375-20	1.124	6718
262-15	450-20	1.817	11029
325-15	450-20	1.799	11029
325-15	516-20	2.466	15433
400:1 Ratio - 4.37 rpm Output			
133-10	133-40	0.048	290
133-10	154-40	0.086	472
133-10	175-40	0.104	635
133-10	206-40	0.172	1062
133-10	237-40	0.270	1660
133-10	262-40	0.367	2313
133-30	206-30	0.082	1069
133-30	237-30	0.146	1793
133-30	262-30	0.177	2345
133-10	300-40	0.562	3596

Input Horsepower and Output Torque for Coupled Raider Plus Single Reduction Worm Gear Speed Reducers
(1750 rpm Driver – 1.0 Service Factor)

Reducers ■		Primary	Secondary
Primary	Secondary	Input hp	Output Torque (In.-Lbs)
400:1 Ratio - 4.37 rpm Output			
133-10	325-40	0.743	4697
175-10	262-40	0.362	2313
175-10	300-40	0.555	3596
175-10	325-40	0.735	4697
237-10	375-40	0.962	6535
237-10	450-40	1.543	10692
237-10	516-40	2.088	14932
262-10	375-40	0.958	6535
262-10	450-40	1.537	10692
262-10	516-40	2.080	14932
325-10	600-40	3.138	22584
133-20	133-20	0.044	295
133-20	154-20	0.074	483
133-20	175-20	0.093	650
133-20	206-20	0.157	1089
133-20	237-20	0.245	1705
133-20	262-20	0.336	2382
175-20	262-20	0.329	2382
175-20	300-20	0.508	3711
175-20	325-20	0.673	4872
237-20	375-20	0.894	6784
237-20	450-20	1.452	11171
262-20	375-20	0.884	6784
262-20	450-20	1.437	11171
262-20	516-20	1.975	15660
325-20	450-20	1.418	11171
325-20	516-20	1.949	15660
450:1 Ratio - 3.89 rpm Output			
133-15	133-30	0.040	287
133-15	154-30	0.076	495
133-15	175-30	0.086	629
133-15	206-30	0.143	1056
133-15	237-30	0.251	1766
133-15	262-30	0.305	2309
133-15	300-30	0.526	3841
175-15	262-30	0.300	2309
175-15	300-30	0.518	3841
175-15	325-30	0.619	4727
237-15	375-30	0.910	7029
237-15	450-30	1.466	11556
262-15	375-30	0.903	7029
262-15	450-30	1.453	11556
325-15	516-30	1.981	16361
325-15	600-30	2.989	24550
500:1 Ratio - 3.5 rpm Output			
133-10	133-50	0.041	274
133-10	154-50	0.070	447
133-10	175-50	0.085	601
133-10	206-50	0.142	1006
133-10	237-50	0.215	1542
133-10	262-50	0.303	2191
133-10	300-50	0.451	3364
133-10	325-50	0.614	4458
175-10	262-50	0.299	2191
175-10	300-50	0.446	3364
175-10	325-50	0.606	4458
237-10	375-50	0.782	6166
237-10	450-50	1.247	10068
237-10	516-50	1.669	13996

Reducers ■		Primary	Secondary
Primary	Secondary	Input hp	Output Torque (In.-Lbs)
500:1 Ratio - 3.5 rpm Output			
262-10	375-50	0.778	6166
262-10	450-50	1.242	10068
262-10	516-50	1.661	13996
325-10	516-50	1.648	13996
325-10	600-50	2.363	20370
600:1 Ratio - 2.92 rpm Output			
133-10	175-60	0.072	562
133-10	206-60	0.120	943
133-10	237-60	0.183	1452
133-10	262-60	0.254	2054
133-10	300-60	0.374	3125
133-10	325-60	0.518	4188
175-10	262-60	0.251	2054
175-10	300-60	0.370	3125
175-10	325-60	0.510	4188
237-10	450-60	1.027	9351
237-10	516-60	1.372	12990
262-10	450-60	1.022	9351
262-10	516-60	1.367	12990
325-10	600-60	2.011	19333
133-15	133-40	0.035	292
133-15	154-40	0.062	477
133-15	175-40	0.075	642
133-15	206-40	0.124	1076
133-15	237-40	0.195	1683
133-15	262-40	0.266	2350
133-15	300-40	0.409	3659
133-15	325-40	0.547	4796
175-15	262-40	0.262	2350
175-15	300-40	0.402	3659
175-15	325-40	0.538	4796
237-15	375-40	0.703	6677
237-15	450-40	1.127	10962
237-15	516-40	1.527	15367
262-15	375-40	0.697	6677
262-15	450-40	1.117	10962
262-15	516-40	1.514	15367
325-15	600-40	2.306	23388
133-20	133-20	0.031	288
133-20	154-30	0.062	497
133-20	175-30	0.069	632
133-20	206-30	0.114	1063
133-20	237-30	0.202	1779
133-20	262-30	0.245	2327
133-20	300-30	0.422	3880
175-20	262-30	0.240	2327
175-20	300-30	0.412	3880
175-20	325-30	0.492	4773
237-20	375-30	0.724	7110
237-20	450-30	1.171	11710
262-20	375-30	0.716	7110
262-20	450-30	1.159	11710
325-20	516-30	1.579	16603
325-20	600-30	2.384	25013
750:1 Ratio - 2.33 rpm Output			
133-15	133-50	0.028	276
133-15	154-50	0.512	451
133-15	175-50	0.062	607
133-15	206-50	0.104	1017

Reducers ■		Primary	Secondary
Primary	Secondary	Input hp	Output Torque (In.-Lbs)
750:1 Ratio - 2.33 rpm Output			
133-15	237-50	0.156	1563
133-15	262-50	0.219	2226
133-15	300-50	0.329	3418
133-15	325-50	0.452	4546
175-15	262-50	0.216	2226
175-15	300-50	0.324	3418
175-15	325-50	0.445	4546
237-15	375-50	0.573	6294
237-15	450-50	0.916	10320
237-15	516-50	1.224	14375
262-15	375-50	0.568	6294
262-15	450-50	0.908	10320
262-15	516-50	1.213	14375
325-15	600-50	1.731	21038
800:1 Ratio - 2.18 rpm Output			
133-20	133-40	0.028	293
133-20	154-40	0.049	480
133-20	175-40	0.060	645
133-20	206-40	0.100	1082
133-20	237-40	0.158	1695
133-20	262-40	0.214	2369
133-20	300-40	0.328	3691
133-20	325-40	0.440	4846
175-20	262-40	0.209	2369
175-20	300-40	0.322	3691
175-20	325-40	0.431	4846
237-20	375-40	0.558	6748
237-20	450-40	0.901	11104
237-20	516-40	1.224	15582
262-20	375-40	0.553	6748
262-20	450-40	0.892	11104
262-20	516-40	1.212	15582
325-20	600-40	1.848	23817
900:1 Ratio - 1.94 rpm Output			
133-15	133-60	0.024	258
133-15	154-60	0.045	425
133-15	175-60	0.052	568
133-15	206-60	0.087	954
133-15	237-60	0.134	1470
133-15	262-60	0.185	2084
133-15	300-60	0.273	3174
133-15	325-60	0.384	4271
175-15	262-60	0.182	2084
175-15	300-60	0.267	3174
175-15	325-60	0.377	4271
237-15	450-60	0.755	9583
237-15	516-60	1.008	13318
262-15	450-60	0.749	9583
262-15	516-60	1.000	13318
325-15	450-60	0.741	9583
325-15	516-20	0.989	13318
325-15	600-60	1.478	19970
133-30	133-30	0.023	289
133-30	154-30	0.045	500
133-30	175-30	0.049	635
133-30	300-30	0.307	3915
175-30	262-30	0.172	2345
175-30	300-30	0.299	3915
175-30	325-30	0.356	4827

■ Basic unit size. See assembly drawings to determine Raider Plus assembled part no. and complete the part no. following the directions on that page.

Above ratings are not applicable when reducer shafts are subjected to combined overhung and thrust loads.
See pages 164 - 168 for overhung loads. Maximum overhung loads are at center of keyseats and on one end of output shaft only. Overhung loads applied closer to the reducer housing are desirable, but overhung loads farther out on the shaft and overhung loads on both ends of output shaft should be referred to Application Engineering .

Contact Application Engineering (1 800 626 2093) for the following:
1. High starting torques exceeding 300% of the reducer mechanical rating.
2. Frequent starting or repetitive shock applications.
3. Applications where high energy loads must be absorbed as when stalling.

Input Horsepower and Output Torque for Coupled Raider Plus Single Reduction Worm Gear Speed Reducers
(1750 rpm Driver – 1.0 Service Factor)

Reducers ■		Primary	Secondary
Primary	Secondary	Input hp	Output Torque (In.-Lbs)
900:1 Ratio - 1.94 rpm Output			
237-30	375-30	0.526	7199
237-30	450-30	0.851	11879
262-30	450-30	0.833	11879
325-30	516-30	1.128	16862
325-30	600-30	1.721	25502
1000:1 Ratio - 1.75 rpm Output			
133-20	133-50	0.023	277
133-20	154-50	0.041	453
133-20	175-50	0.049	610
133-20	206-50	0.084	1024
133-20	237-50	0.125	1575
133-20	262-50	0.178	2242
133-20	300-50	0.265	3445
133-20	325-50	0.364	4595
175-20	262-50	0.174	2242
175-20	300-50	0.259	3445
175-20	325-50	0.356	4595
237-20	375-50	0.456	6365
237-20	450-50	0.735	10455
237-20	516-50	0.981	14562
262-20	375-50	0.451	6365
262-20	450-50	0.727	10455
262-20	516-50	0.971	14562
325-20	600-50	1.389	21367
1200:1 Ratio - 1.46 rpm Output			
133-20	175-60	0.041	571
133-20	206-60	0.071	960
133-20	237-60	0.107	1481
133-20	262-60	0.150	2102
133-20	300-60	0.220	3199
133-20	325-60	0.308	4311
175-20	262-60	0.147	2102
175-20	300-60	0.215	3199
175-20	325-60	0.302	4311
237-20	450-60	0.606	9691
237-20	516-60	0.810	13487
262-20	450-60	0.600	9691
262-20	516-60	0.802	13487
325-20	450-60	0.592	9691
325-20	516-60	0.791	13487
325-20	600-60	1.191	20278
133-30	133-40	0.020	294
133-30	154-40	0.036	483
133-30	175-40	0.043	649
133-30	206-40	0.074	1090
133-30	237-40	0.114	1708
133-30	262-40	0.157	2388
133-30	300-40	0.241	3723
133-30	325-40	0.323	4897
175-30	262-40	0.153	2388
175-30	300-40	0.234	3723
175-30	325-40	0.314	4897
237-30	375-40	0.408	6823
237-30	450-40	0.658	11246
237-30	516-40	0.892	15806
262-30	375-40	0.399	6823
262-30	450-40	0.644	11246
262-30	516-40	0.872	15806
325-30	600-40	1.334	24231
1500:1 Ratio - 1.17 rpm Output			
133-30	133-50	0.016	245
133-30	154-50	0.029	456
133-30	175-50	0.036	613
133-30	206-50	0.061	1030
133-30	237-50	0.092	1585

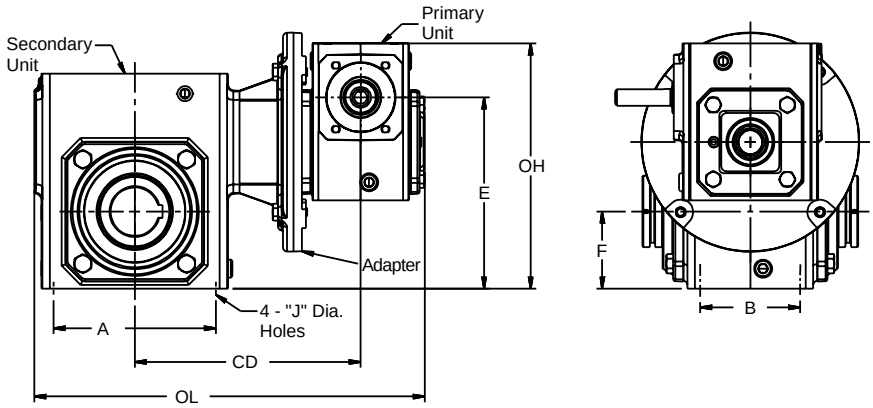
Reducers ■		Primary	Secondary
Primary	Secondary	Input hp	Output Torque (In.-Lbs)
133-30	262-50	0.130	2260
133-30	300-50	0.195	3475
133-30	325-50	0.268	4644
1500:1 Ratio - 1.17 rpm Output			
175-30	262-50	0.125	2260
175-30	300-50	0.190	3475
175-30	325-50	0.261	4644
237-30	375-50	0.334	6430
237-30	450-50	0.537	10582
237-30	516-50	0.717	14761
262-30	375-50	0.327	6430
262-30	450-50	0.525	10582
262-30	516-50	0.702	14761
262-30	600-50	1.018	21712
325-30	375-50	0.320	6430
325-30	450-50	0.517	10582
325-30	516-50	0.690	14761
1600:1 Ratio -1.09 rpm Output			
133-40	133-40	0.017	294
133-40	154-40	0.029	484
133-40	175-40	0.037	651
133-40	206-40	0.061	1092
133-40	237-40	0.094	1713
133-40	262-40	0.131	2399
133-40	300-40	0.201	3739
133-40	325-40	0.270	4921
175-40	262-40	0.125	2399
175-40	300-40	0.193	3739
175-40	325-40	0.261	4921
237-40	375-40	0.331	6857
237-40	450-40	0.535	11316
237-40	516-40	0.726	15909
262-40	375-40	0.326	6857
262-40	450-40	0.525	11316
262-40	516-40	0.712	15909
325-40	600-40	1.086	24433
1800:1 Ratio - .97 rpm Output			
133-30	175-60	0.032	573
133-30	206-60	0.051	966
133-30	237-60	0.078	1490
133-30	262-60	0.111	2118
133-30	300-60	0.162	3226
133-30	325-60	0.229	4358
175-30	262-60	0.108	2118
175-30	300-60	0.158	3226
175-30	325-60	0.222	4358
237-30	450-60	0.445	9811
237-30	516-60	0.594	13659
262-30	375-60	0.271	5966
262-30	450-60	0.435	9811
262-30	516-60	0.581	13659
325-30	600-60	0.861	20605
2000:1 Ratio - .87 rpm Output			
133-40	133-50	0.014	279
133-40	154-50	0.024	457
133-40	175-50	0.029	615
133-40	206-50	0.050	1032
133-40	237-50	0.076	1590
133-40	262-50	0.108	2268
133-40	300-50	0.162	3491
133-40	325-50	0.225	4666
175-40	262-50	0.104	2268
175-40	300-50	0.156	3491
175-40	325-50	0.217	4666
237-40	375-50	0.271	6460
237-40	450-50	0.437	10645

Reducers ■		Primary	Secondary
Primary	Secondary	Input hp	Output Torque (In.-Lbs)
237-40	516-50	0.584	14857
262-40	375-50	0.267	6460
262-40	450-50	0.429	10645
262-40	516-50	0.573	14857
325-40	600-50	0.816	21878
2400:1 Ratio - .73 rpm Output			
133-40	175-60	0.024	576
133-40	206-60	0.041	967
133-40	237-60	0.064	1495
133-40	262-60	0.093	2124
133-40	300-60	0.134	3241
133-40	325-60	0.192	4379
175-40	262-60	0.089	2124
175-40	300-60	0.130	3241
175-40	325-60	0.184	4379
237-40	450-60	0.363	9861
237-40	516-60	0.485	13745
262-40	450-60	0.356	9861
262-40	516-60	0.476	13745
325-40	450-60	0.348	9861
325-40	516-60	0.464	13745
325-40	600-60	0.705	20765
2500:1 Ratio - .70 rpm Output			
133-50	133-50	0.011	279
133-50	154-50	0.022	457
133-50	175-50	0.026	615
133-50	206-50	0.043	1034
133-50	237-50	0.066	1592
133-50	262-50	0.092	2272
133-50	300-50	0.137	3499
133-50	325-50	0.192	4682
175-50	262-50	0.087	2272
175-50	300-50	0.132	3499
175-50	325-50	0.184	4682
237-50	375-50	0.230	6482
237-50	450-50	0.372	10685
237-50	516-50	0.495	14909
262-50	375-50	0.226	6482
262-50	450-50	0.364	10685
262-50	516-50	0.485	14909
325-50	600-50	0.690	21972
3000:1 Ratio - .58 rpm Output			
133-50	175-60	0.022	576
133-50	206-60	0.037	970
133-50	237-60	0.057	1498
133-50	262-50	0.078	2128
133-50	300-60	0.116	3246
133-50	325-60	0.165	4393
175-50	262-50	0.075	2128
175-50	300-60	0.110	3246
175-50	325-60	0.158	4393
237-50	450-60	0.307	9892
237-50	516-60	0.412	13805
262-50	450-60	0.302	9892
262-50	516-60	0.404	13805
325-50	450-60	0.293	9892
325-50	516-60	0.393	13805
325-50	600-60	0.596	20854
3600:1 Ratio - .49 rpm Output			
175-60	262-60	0.046	2276
175-60	300-60	0.097	3250
175-60	325-60	0.140	4399
237-60	450-60	0.270	9922
237-60	516-60	0.361	13840
262-60	450-60	0.264	9922
262-60	516-60	0.353	13840
325-60	600-60	0.522	20924

■ Basic unit size. See assembly drawings to determine Raider Plus assembled part no. and complete the part no. following the directions on that page.

Above ratings are not applicable when reducer shafts are subjected to combined overhung and thrust loads.
See pages 164 - 168 for overhung loads. Maximum overhung loads are at center of keyseats and on one end of output shaft only. Overhung loads applied closer to the reducer housing are desirable, but overhung loads farther out on the shaft and overhung loads on both ends of output shaft should be referred to Application Engineering .

Contact Application Engineering (1 800 626 2093) for the following:
1. High starting torques exceeding 300% of the reducer mechanical rating.
2. Frequent starting or repetitive shock applications.
3. Applications where high energy loads must be absorbed as when stalling.



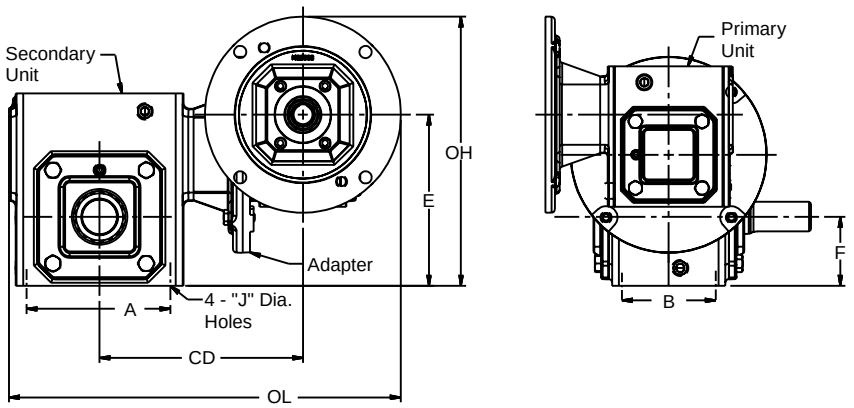
U-Style Input — Dimensions (inches)

SECONDARY UNIT *	PRIMARY UNIT **	A	B	E	F	J	CD	OL	OH
133Q56	133U	3.25	2.00	4.39	1.72	5/16-18	6.09	10.12	5.99
145Q56	133U	4.19	2.75	4.78	1.91	5/16-18	6.51	11.17	6.39
175Q56	133U	4.19	2.75	5.14	2.06	5/16-18	6.42	11.08	6.75
206Q56	133U	5.00	2.88	5.67	2.28	3/8-16	6.75	11.66	7.28
237Q56	133U	5.00	2.88	6.21	2.50	3/8-16	7.06	12.53	7.81
262Q56	133U	6.38	3.38	6.89	2.94	3/8-16	7.69	13.29	8.50
262Q140	175U	6.38	3.38	7.31	2.94	3/8-16	8.06	14.01	9.25
300Q56	133U	7.00	4.00	7.58	3.25	7/16-14	7.66	14.06	9.19
300Q140	175U	7.00	4.00	8.00	3.25	7/16-14	8.03	14.78	9.34
325Q56	133U	7.50	4.00	8.08	3.50	7/16-14	8.56	14.97	9.69
325Q140	175U	7.50	4.00	8.50	3.50	7/16-14	8.93	15.69	10.44
375Q180	237U	8.50	4.75	10.01	3.88	1/2-13	9.78	18.05	12.07
375Q180	262U	8.50	4.75	10.25	3.88	1/2-13	10.12	18.80	12.69
375Q210	325U	8.50	4.75	10.88	3.88	1/2-13	11.16	20.43	13.51
450Q180	237U	9.56	5.81	11.38	4.50	5/8-11	10.46	19.41	13.44
450Q180	262U	9.56	5.81	11.62	4.50	5/8-11	10.80	20.16	14.06
450Q210	325U	9.56	5.81	12.25	4.50	5/8-11	11.84	21.79	14.88
516Q180	237U	11.00	5.81	12.86	5.31	5/8-11	11.27	21.22	14.92
516Q180	262U	11.00	5.81	13.10	5.31	5/8-11	11.61	21.97	15.54
516Q210	325U	11.00	5.81	13.73	5.31	5/8-11	12.65	23.60	16.36
600Q210	325U	12.75	6.38	15.75	6.50	5/8-11	13.55	25.33	18.38

U-Style Input — Dimensions (inches)

SECONDARY UNIT *	PRIMARY UNIT **	ADAPTER KIT	SECONDARY OUTPUT SHAFT				PRIMARY INPUT SHAFT			
			DIA +.000 _.001	LENGTH	KEY SQ	KEY LENGTH	DIA +.000 _.001	LENGTH	KEY SQ	KEY LENGTH
133Q56	133U	133TAD Q56	0.625	2.00	0.188	1.31	0.500	1.81	0.125	1.38
145Q56	133U	133TAD Q56	0.750	1.78	0.188	1.25	0.500	1.81	0.125	1.38
175Q56	133U	133TAD Q56	0.875	1.88	0.188	1.38	0.500	1.81	0.125	1.38
206Q56	133U	133TAD Q56	1.000	2.00	0.250	1.75	0.500	1.81	0.125	1.38
237Q56	133U	133TAD Q56	1.125	2.37	0.250	1.75	0.500	1.81	0.125	1.38
262Q56	133U	133TAD Q56	1.125	2.50	0.250	2.00	0.500	1.81	0.125	1.38
262Q140	175U	175TAD Q140	1.125	2.50	0.250	2.00	0.625	1.81	0.188	1.50
300Q56	133U	133TAD Q56	1.250	3.25	0.250	2.25	0.500	2.26	0.125	1.38
300Q140	175U	175TAD Q140	1.250	3.25	0.250	2.25	0.625	2.26	0.188	1.50
325Q56	133U	133TAD Q56	1.375	3.25	0.313	2.88	0.500	1.81	0.125	1.38
325Q140	175U	175TAD Q140	1.375	3.25	0.313	2.88	0.625	1.81	0.188	1.50
375Q180	237U	237TAD Q180	1.625	3.50	0.375	2.81	0.750	1.94	0.188	1.31
375Q180	262U	262TAD Q180	1.625	3.50	0.375	2.81	0.750	2.31	0.188	1.88
375Q210	325U	325TAD Q210	1.625	3.50	0.375	2.81	0.875	2.31	0.188	1.63
450Q180	237U	237TAD Q180	1.625	3.38	0.375	2.50	0.750	1.94	0.188	1.31
450Q180	262U	262TAD Q180	1.625	3.38	0.375	2.50	0.750	2.31	0.188	1.88
450Q210	325U	325TAD Q210	1.625	3.38	0.375	2.50	0.875	2.31	0.188	1.63
516Q180	237U	237TAD Q180	2.000	4.16	0.500	2.81	0.750	1.94	0.188	1.31
516Q180	262U	262TAD Q180	2.000	4.16	0.500	2.81	0.750	2.31	0.188	1.88
516Q210	325U	325TAD Q210	2.000	4.16	0.500	2.81	0.875	2.31	0.188	1.63
600Q210	325U	325TAD Q210	2.250	4.56	0.500	3.50	0.875	2.31	0.188	1.63

* To complete part number, add shaft assembly code and ratio to size - for example, 133Q56LR10.
* Style QH can be substituted for the secondary unit.
** To complete part number,add shaft assembly code and ratio to size, for example 133ULR10.



Q-Style Input **Dimensions (inches)**

SECONDARY UNIT *	PRIMARY UNIT **	A	B	E	F	J	CD	OL	OH
133Q56	133Q	3.25	2.00	4.39	1.72	5/16-18	6.09	11.47	7.64
154Q56	133Q	4.19	2.75	4.78	1.91	5/16-18	6.51	12.51	8.03
175Q56	133Q	4.19	2.75	5.14	2.06	5/16-18	6.42	12.42	8.39
206Q56	133Q	5.00	2.88	5.67	2.28	3/8-16	6.75	13.00	8.92
237Q56	133Q	5.00	2.88	6.21	2.50	3/8-16	7.06	13.87	9.46
262Q56	133Q	6.38	3.38	6.89	2.94	3/8-16	7.69	14.63	10.14
262Q140	175Q	6.38	3.38	7.31	2.94	3/8-16	8.06	15.00	10.56
300Q56	133Q	7.00	4.00	7.58	3.25	7/16-14	7.66	15.41	10.83
300Q140	175Q	7.00	4.00	8.00	3.25	7/16-14	8.03	15.78	11.25
325Q56	133Q	7.50	4.00	8.08	3.50	7/16-14	8.56	16.31	11.33
325Q140	175Q	7.50	4.00	8.50	3.50	7/16-14	8.93	16.68	11.75
375Q180	237Q	8.50	4.75	10.01	3.88	1/2-13	9.78	18.77	14.51
375Q180	262Q	8.50	4.75	10.25	3.88	1/2-13	10.12	19.11	14.75
375Q210	325Q	8.50	4.75	10.88	3.88	1/2-13	11.16	20.15	15.38
450Q180	237Q	9.56	5.81	11.38	4.50	5/8-11	10.46	20.13	15.88
450Q180	262Q	9.56	5.81	11.62	4.50	5/8-11	10.80	20.46	16.12
450Q210	325Q	9.56	5.81	12.25	4.50	5/8-11	11.84	21.51	16.75
516Q180	237Q	11.00	5.81	12.86	5.31	5/8-11	11.27	21.94	17.36
516Q180	262Q	11.00	5.81	13.10	5.31	5/8-11	11.61	22.28	17.60
516Q210	325Q	11.00	5.81	13.73	5.31	5/8-11	12.65	23.32	18.23
600Q210	325Q	12.75	6.38	15.75	6.50	5/8-11	13.55	25.05	20.25

Q-Style Input **Dimensions (inches)**

SECONDARY UNIT *	PRIMARY UNIT **	ADAPTER KIT	SECONDARY OUTPUT SHAFT			
			DIA +.000 _.001	LENGTH	KEY SQ	KEY LENGTH
133Q23	133Q	133TAD Q56	0.625	2.00	0.188	1.31
154Q56	133Q	133TAD Q56	0.750	1.78	0.188	1.25
175Q56	133Q	133TAD Q56	0.875	1.88	0.188	1.38
206Q56	133Q	133TAD Q56	1.000	2.00	0.250	1.75
237Q56	133Q	133TAD Q56	1.125	2.37	0.250	1.75
262Q56	133Q	133TAD Q56	1.125	2.50	0.250	2.00
262Q140	175Q	175TAD Q140	1.125	2.50	0.250	2.00
300Q56	133Q	133TAD Q56	1.250	3.25	0.250	2.25
300Q140	175Q	175TAD Q140	1.250	3.25	0.250	2.25
325Q56	133Q	133TAD Q56	1.375	3.25	0.313	2.88
325Q140	175Q	175TAD Q140	1.375	3.25	0.313	2.88
375Q180	237Q	237TAD Q180	1.625	3.50	0.375	2.81
375Q180	262Q	262TAD Q180	1.625	3.50	0.375	2.81
375Q210	325Q	325TAD Q210	1.625	3.50	0.375	2.81
450Q180	237Q	237TAD Q180	1.625	3.38	0.375	2.50
450Q180	262Q	262TAD Q180	1.625	3.38	0.375	2.50
450Q210	325Q	325TAD Q210	1.625	3.38	0.375	2.50
516Q180	237Q	237TAD Q180	2.000	4.16	0.500	2.81
516Q180	262Q	262TAD Q180	2.000	4.16	0.500	2.81
516Q210	325Q	325TAD Q210	2.000	4.16	0.500	2.81
600Q210	325Q	325TAD Q210	2.250	4.56	0.500	3.50

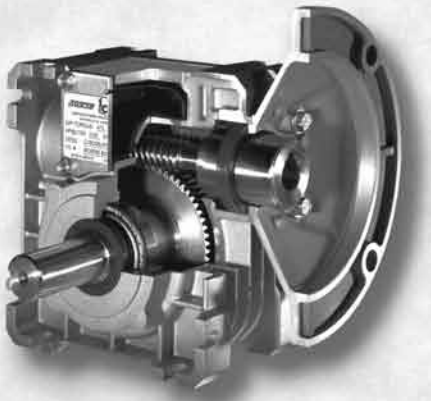
* To complete part number, add shaft assembly code and ratio to size - for example, 133Q56LR10.
* Style QH can be substituted for the secondary unit.
** To complete part number, add motor frame size, shaft assembly code and ratio to size, for example 133Q56LR10.

Complete Gearing Solutions...

Emerson Has the Industry's Broadest Line of Standard Gearmotors and Speed Reducers

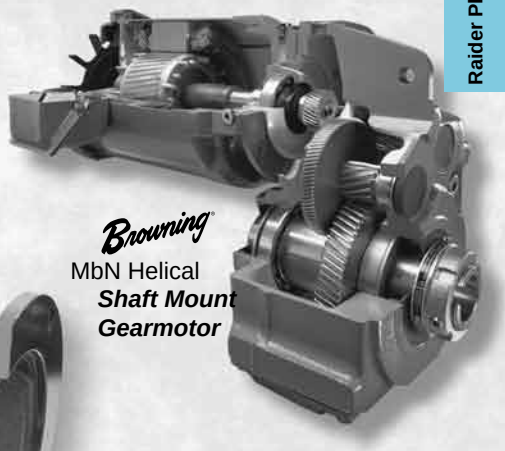


Browning
CbN In-line
Concentric Gearmotor

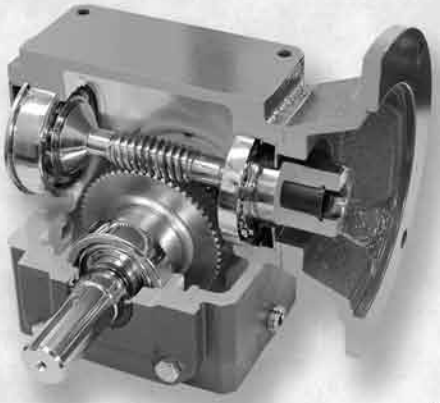


Morse
Cobra
Worm Gear Reducer

Morse
Raider Plus
Worm Gear Reducer



Browning
MbN Helical
Shaft Mount Gearmotor





Morse
PoweRgear
Worm Gear Reducer

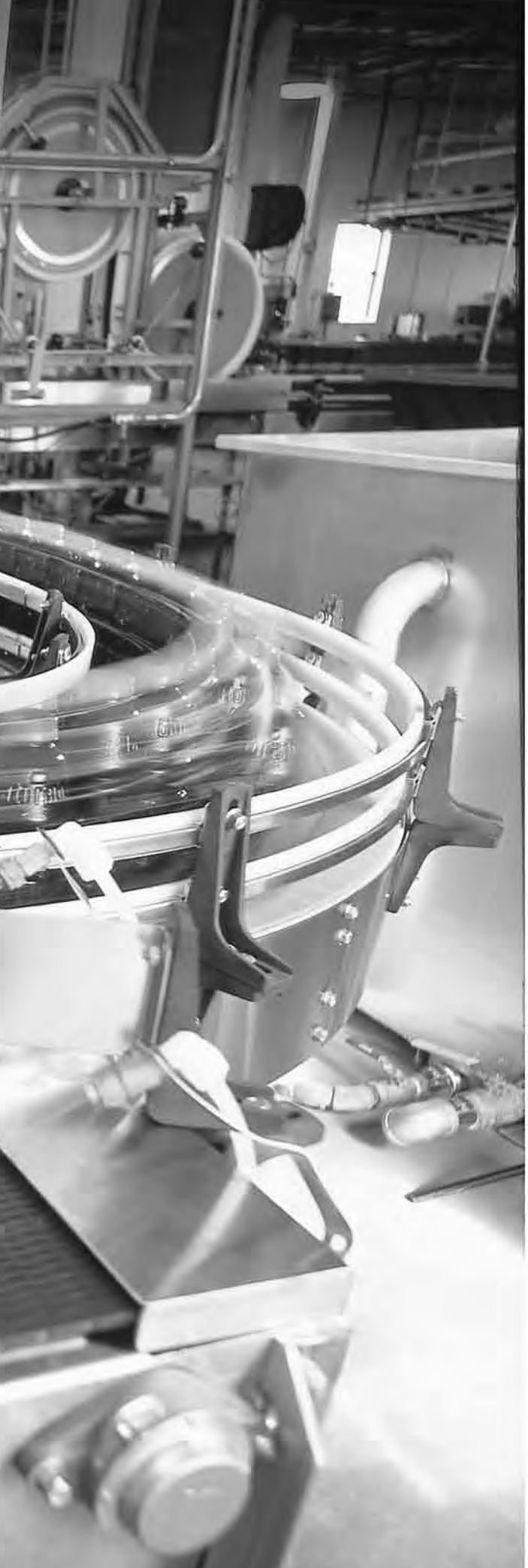


Browning
PSR
Helical Parallel Shaft Gear Reducer



Browning
TORQ TAPER *Plus*
Shaft Mount Speed Reducer





Washdown RAIDER Plus

White epoxy paint

- Provides superior protection and resistance to chemicals, humidity and other severe environments.

Stainless steel output shafts

- Resists moisture and chemicals.

Two double lip output seals

- Emerson exclusive sealing surfaces - helps keep contaminants out and lubrication in.

Corrosion resistant breather

- Relieves internal pressure while maintaining unit integrity.

Mylar nameplates

- Located on input bore plug.

Standard food grade synthetic lubricant

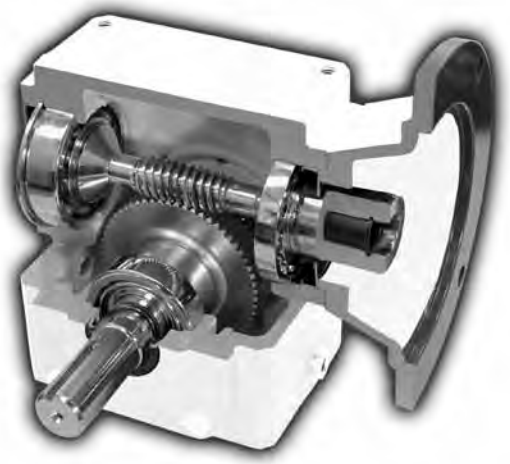
- For improved efficiency and large temperature range stability.

Corrosion resistant hardware

- Provided with reducer to allow installation in all mounting positions while preventing retention of contaminants.

Non-metallic Quill Liner

Bearing Supported Quill Input



Part Description Configuration

Center Distance	Type of Input	Output Shaft Arrangement	Ratio	Washdown Duty
175	Q	LR	30	W
1.33"=133	Q = C Face Quilled	L = Left Output	5	
1.54"=154		R = Right Output	10	
1.75"=175		LR = Left & Right Output	15	
2.06"=206		W = Washdown Duty	20	
2.37"=237			25	
2.62"=262			30	
			40	
			50	
			60	

It is recommended to use the above chart to arrive at the Washdown Duty Raider Plus reducer part description. The above sample part description is 175Q56LR30W. This description does NOT include feet or other available mounting accessories that are available for the Washdown Duty Raider Plus product. These accessories are sold separately using the part descriptions for the appropriate product. Not all ratios are available in each configuration.

Accessory Descriptions

Base Kit

175 S - BK W

- Washdown Duty
- BK = Base Kit
- S = Standard
- 175 = Fits 1.75" C.D. Reducer

Selection Procedure of Washdown Worm Gear Speed Reducers

1. Determine Service Factor

From service factor the tables on pages 162 and 163 determine service factor for the application.

2. Determine the Overall Drive Ratio

$$\text{Overall drive ratio} = \frac{\text{rpm of driver}}{\text{rpm of driven}}$$

When over-all drive ratio is not one of the stock speed reducer ratios shown in tables on pages 164 through 168, a chain, belt, or gear drive with further reduction for the output side will be necessary.

3. Determine Equivalent hp

Equivalent hp = actual motor hp × service factor (Step # 1)

4. Determine the size of the Speed Reducer Required

Refer to pages 164 through 168 and select a speed reducer having a mechanical input horsepower equal to or slightly greater than the service factor hp calculated in Step No. 3 above.

5. Check the Overhung Load and Thrust Loads

Calculate the overhung load for drives to be mounted directly on the reducer shafts by following instructions on this page. Check this and any existing thrust loads against the load values shown on pages 164 through 168, and if the calculated load is greater than the values in the table, select a larger speed reducer.

Note: Refer combined overhung and thrust loads to Application Engineering (1 800 626 2093).

Example No. 1

Select a worm gear speed reducer for a dough mixer in a bakery. The speed reducer will be driven by a 1.0 HP, 1750 rpm, 56 Frame, C-Face motor. The left reducer output shaft will be directly coupled to the mixer shaft. The mixer will operate 8 - 10 hours daily and the shaft speed is 58 rpm. The reducer also requires a horizontal mounting base with the worm on top.

1. Determine the Service Factor

From the table on page 162, note that the service factor for a dough mixer (Food Industry) operating 3 - 10 hours per day is 1.25.

2. Determine the Overall Drive Ratio

$$\text{Overall Drive Ratio} = \frac{\text{rpm of driver}}{\text{rpm of driven}} = \frac{1750}{58} = 30.17$$

Since there is not an auxiliary output drive required, the reducer ratio needed is 30:1.

3. Determine Equivalent Horsepower

Based on service factor, go to appropriate service factor table to select reducer.

4. Determine the Size of Speed Reducer Required

From page 164 under “1750 rpm driver - 30:1 Ratio - 58 rpm output, 1.25 service factor” and under “Motor hp” find the rating equal to or greater than the 1 hp given in the example. Note that a 237 reducer has a rating of 1.45 hp. The correct part numbers required are:

Reducer: **237Q56L30W**
Base Kit: **237S-BKW**

5. Determine the Motor Horsepower

The motor horsepower is already known to be 1.0 hp.

6. Check Overhung Load and Thrust Loads

The unit will be coupling connected on the output shaft. Overhung load does not need to be calculated. There is not any thrust on the output shaft. There is neither thrust nor overhung load on the input shaft because it is mated with a C-Face motor. Therefore, the reducer selected is the proper size.

Overhung Loads

When a speed reducer is driven by any belt, chain or gear drive, or when the speed reducer drives a driven unit through a belt, chain or gear drive, overhung loads must not exceed those shown on pages 164 through 168. Use the following formula to calculate the overhung loads:

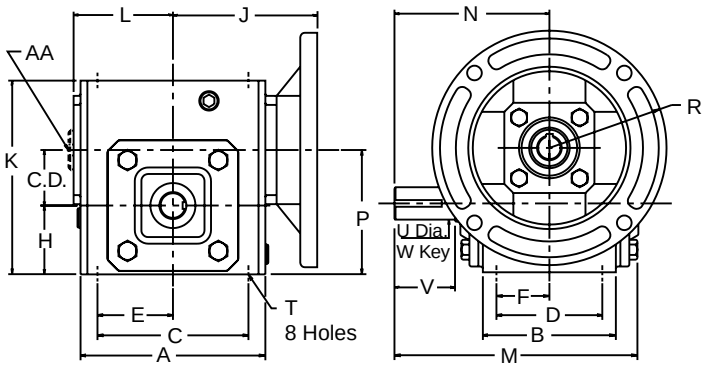
$$OL = \frac{2TK}{D}$$

where
OL = Overhung load
T = Actual shaft torque (inch-pounds)
D = P. D. of sprocket, sheave , pulley or gear
K = 1.0 for chain drive
= 1.25 for gear drive
= 1.25 for gearbelt drive
= 1.50 for V-belt drive
= 2.50 for blat belt drive

No overhung loads are encountered when the speed reducer is coupling connected to the driver and/or driven machine. However, care should be taken in aligning the shafts to avoid pre-loading bearings in misalignment.

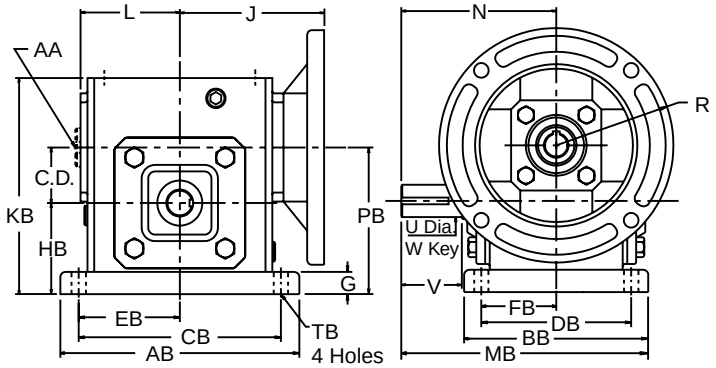
Style QW

C-Face Quilled - Basic Unit



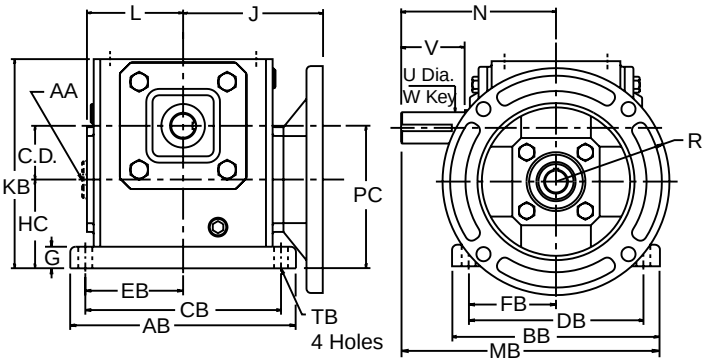
Style QW-T

Worm Top

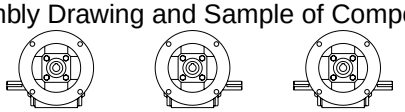


Style QW-B

Worm Bottom



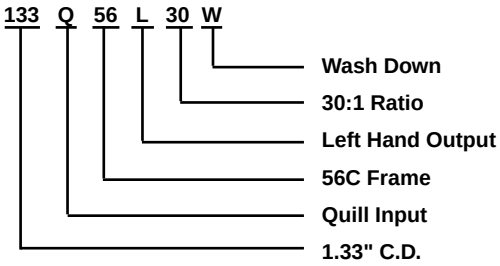
Assembly Drawing and Sample of Components



133Q56L10W 133Q56R10W 133Q56LR10W

Note: When mounting Style "QW-B", interference may occur; use a Riser Block or consult Application Engineering (1 800 626 2093).

PART NUMBER EXPLANATION



Dimensions (Inches) for Style "QW"

PART NUMBER ★	C.D.	NEMA FRAME	A	B	C	D	E	F	H	J	K	L	M	N	P	R
133Q56W	1.33	56C	4.00	2.88	3.25	2.00	1.62	1.00	1.72	3.94	4.66	2.12	6.01	4.00	3.05	3.25
154Q56W	1.54	56C	5.13	3.69	4.19	2.75	2.09	1.38	1.91	4.50	5.38	2.75	6.76	4.31	3.45	3.25
154Q140W	1.54	143/145TC	5.13	3.69	4.19	2.75	2.09	1.38	1.91	4.50	5.38	2.75	6.76	4.31	3.45	3.25
175Q56W	1.75	56C	4.81	3.38	4.19	2.75	2.09	1.38	2.06	4.38	5.75	2.75	6.72	4.31	3.81	3.25
175Q140W	1.75	143/145TC	4.81	3.38	4.19	2.75	2.09	1.38	2.06	4.38	5.75	2.75	6.72	4.31	3.81	3.25
206Q56W	2.06	56C	5.50	3.75	5.00	2.88	2.50	1.44	2.28	4.75	6.38	3.00	7.29	4.69	4.34	3.25
206Q140W	2.06	143/145TC	5.50	3.75	5.00	2.88	2.50	1.44	2.28	4.75	6.38	3.00	7.29	4.69	4.34	3.25
237Q56W	2.37	56C	6.13	4.06	5.00	2.88	2.50	1.44	2.50	5.06	6.94	3.56	7.78	5.08	4.88	3.25
237Q140W	2.37	143/145TC	6.13	4.06	5.00	2.88	2.50	1.44	2.50	5.06	6.94	3.56	7.78	5.08	4.88	3.25
262Q56W	2.62	56C	7.12	4.44	6.38	3.38	3.19	1.69	2.94	5.69	8.00	3.69	8.71	5.62	5.57	3.25
262Q140W	2.62	143/145TC	7.12	4.44	6.38	3.38	3.19	1.69	2.94	5.69	8.00	3.69	8.71	5.62	5.57	3.25
262Q180W	2.62	182/184TC	7.12	4.44	6.38	3.38	3.19	1.69	2.94	6.13	8.00	3.69	8.71	5.62	5.57	4.50
300Q56W	3.00	56C	8.50	5.50	7.00	4.00	3.50	2.00	3.25	5.66	8.88	4.50	10.21	6.75	6.25	3.25
300Q140W	3.00	143/145TC	8.50	5.50	7.00	4.00	3.50	2.00	3.25	5.66	8.88	4.50	10.21	6.75	6.25	3.25
300Q180W	3.00	182/184TC	8.50	5.50	7.00	4.00	3.50	2.00	3.25	6.44	8.88	4.50	10.21	6.75	6.25	4.50
325Q56W	3.25	56C	8.50	5.00	7.50	4.00	3.75	2.00	3.50	6.56	9.38	4.50	10.69	7.06	6.75	3.25
325Q140W	3.25	143/145TC	8.50	5.00	7.50	4.00	3.75	2.00	3.50	6.56	9.38	4.50	10.69	7.06	6.75	3.25
325Q180W	3.25	182/184TC	8.50	5.00	7.50	4.00	3.75	2.00	3.50	7.00	9.38	4.50	10.69	7.06	6.75	4.50

C.D.	N.E.M.A. FRAME	T		INPUT		OUTPUT SHAFT				STOCK RATIOS MARKED "x"									WT. LBS.
						U +.000 -.001	V	W KEY											
		SIZE	DEEP	BORE	KEYWAY			SQ.	LGTH.	5	10	15	20	25	30	40	50	60	
1.33	56C	5/16-18	.50	.625	3/16 X 3/32	.625	2.00	.188	1.31	x	x	x	x	x	x	x	x	x	17.0
1.54	56C	5/16-18	.50	.625	3/16 X 3/32	.750	1.70	.188	1.25	x	x	x	x	x	x	x	x	-	24.0
1.54	143/145TC	5/16-18	.50	.875	3/16 X 3/32	.750	1.70	.188	1.25	x	x	x	-	-	-	-	-	-	24.0
1.75	56C	5/16-18	.61	.625	3/16 X 3/32	.875	1.88	.188	1.38	x	x	x	x	x	x	x	x	x	27.0
1.75	143/145TC	5/16-18	.61	.875	3/16 X 3/32	.875	1.88	.188	1.38	x	x	x	-	-	-	-	-	-	27.0
2.06	56C	3/8-16	.61	.625	3/16 X 3/32	1.000	2.00	.250	1.75	-	x	x	x	x	x	x	x	x	32.0
2.06	143/145TC	3/8-16	.61	.875	3/16 X 3/32	1.000	2.00	.250	1.75	x	x	x	x	-	-	-	-	-	32.0
2.37	56C	3/8-16	.60	.625	3/16 X 3/32	1.125	2.26	.250	1.75	-	x	x	x	x	x	x	x	x	38.0
2.37	143/145TC	3/8-16	.60	.875	3/16 X 3/32	1.125	2.26	.250	1.75	-	x	x	x	x	x	x	-	-	38.0
2.62	56C	3/8-16	.58	.625	3/16 X 3/32	1.125	2.50	.250	2.00	-	x	x	x	x	x	x	x	x	50.0
2.62	143/145TC	3/8-16	.58	.875	3/16 X 3/32	1.125	2.50	.250	2.00	-	x	x	x	x	x	x	x	x	50.0
2.62	182/184TC	3/8-16	.58	1.125	1/4 X 1/8	1.125	2.50	.250	2.00	x	x	-	-	-	-	-	-	-	50.0
3.00	56C	7/16-14	.80	.625	3/16 X 3/32	1.250	3.14	.250	2.25	-	-	x	x	x	x	x	x	x	68.0
3.00	143/145TC	7/16-14	.80	.875	3/16 X 3/32	1.250	3.14	.250	2.25	-	x	x	x	x	x	x	x	x	68.0
3.00	182/184TC	7/16-14	.80	1.125	1/4 X 1/8	1.250	3.14	.250	2.25	-	x	x	x	x	x	x	x	x	68.0
3.25	56C	7/16-14	.80	.625	3/16 X 3/32	1.375	3.31	.313	2.88	-	x	x	x	x	x	x	x	x	87.0
3.25	143/145TC	7/16-14	.80	.875	3/16 X 3/32	1.375	3.31	.313	2.88	-	x	x	x	x	x	x	x	x	87.0
3.25	182/184TC	7/16-14	.80	1.125	1/4 X 1/8	1.375	3.31	.313	2.88	-	x	x	x	x	x	x	x	x	87.0

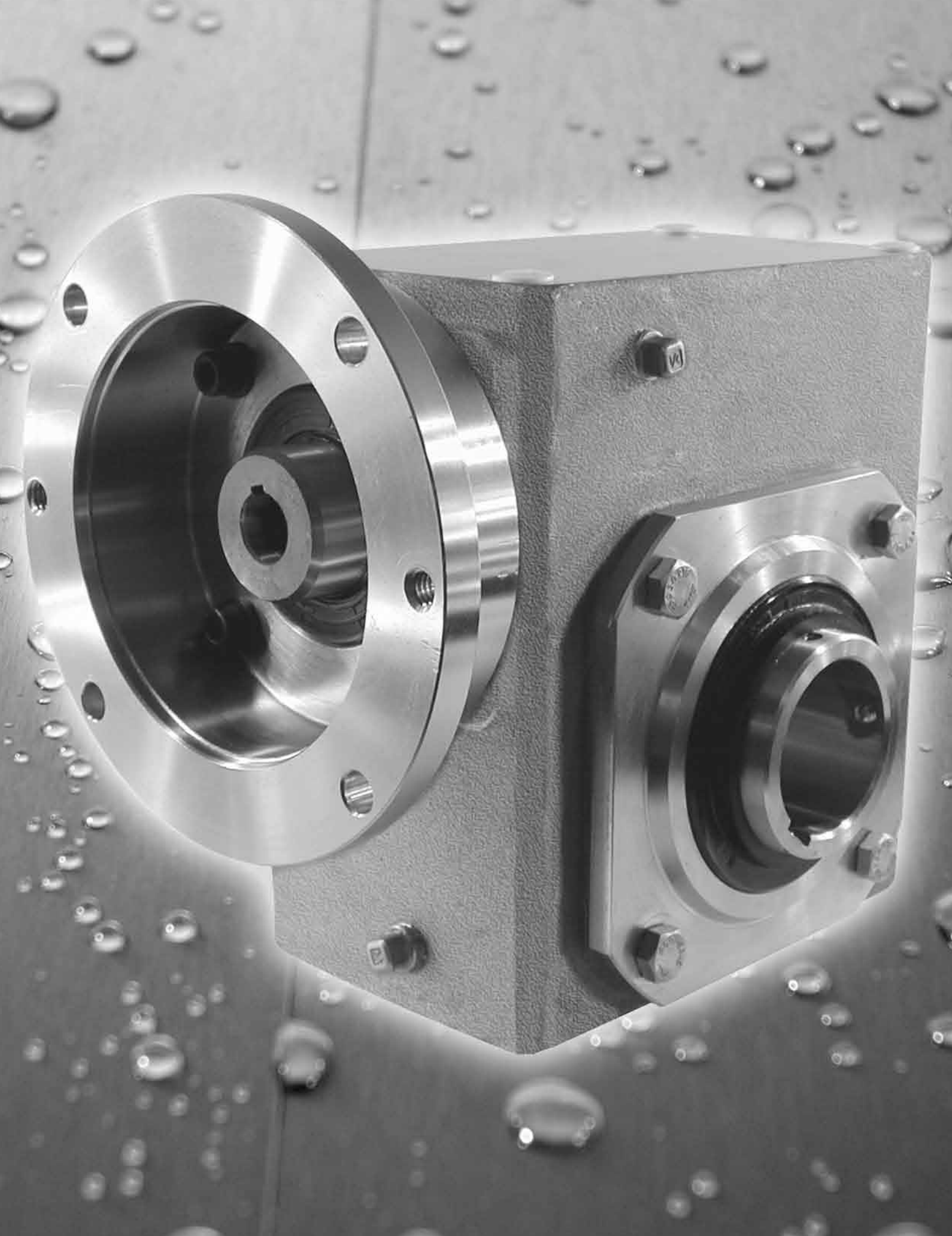
Dimensions (Inches) for Style "QW-T" – Worm Top

PART NUMBER	BASE KIT ◆	AB	BB	CB	DB	EB	FB	G	HB	KB	MB	PB	TB	WT. LBS.
133QW	133S-BKW	5.38	4.19	4.38	3.31	2.19	1.66	.53	2.25	5.19	6.09	3.58	.38	17.5
154QW	154S-BKW	6.44	5.46	5.25	4.32	2.63	2.16	.59	2.50	5.97	7.04	4.04	.44	24.8
175QW	175S-BKW	7.00	5.56	5.75	4.50	2.88	2.25	.69	2.75	6.44	7.09	4.50	.44	28.0
206QW	206S-BKW	7.69	5.76	6.38	4.69	3.19	2.34	.72	3.00	7.10	7.57	5.06	.50	33.5
237QW	237S-BKW	8.50	6.20	7.06	4.88	3.53	2.44	.75	3.25	7.69	8.19	5.62	.50	39.8
262QW	262S-BKW	9.25	6.50	8.00	5.25	4.00	2.63	.75	3.69	8.75	8.87	6.31	.56	52.0
300QW	300S-BKW	10.16	7.36	8.44	5.88	4.22	2.94	.88	4.13	9.76	10.43	7.13	.56	70.5
325QW	325S-BKW	11.13	7.75	9.50	6.13	4.75	3.06	.88	4.38	10.26	10.94	7.63	.56	90.0

Dimensions (Inches) for Style "QW-B"

PART NUMBER	BASE KIT ◆	HC	PC
133QW	133S-BKW	2.14	3.47
154QW	154S-BKW	2.52	4.06
175QW	175S-BKW	2.63	4.38
206QW	206S-BKW	2.75	4.81
237QW	237S-BKW	2.82	5.19
262QW	262S-BKW	3.19	5.81
300QW	300S-BKW	3.51	6.51
325QW	325S-BKW	3.51	6.76

★ To complete Part No. add shaft assembly (L, R, LR) and ratio symbol to size - for example 133Q56LR10W.
◆ Components needed to make assembled reducer must be ordered separately.
Washdown duty base kits are dimensionally identical to solid base kits on page 220 except for washdown duty paint.





Stainless Raider Plus

Designed for use in washdown environments, Morse stainless steel Raider Plus worm gear reducers include state-of-the art features built into every gear reducer. A non-metallic quill liner, an auxiliary v-ring seal on the output and food grade oil helps this gear reducer operate in a variety of corrosive applications.



- Premium 316 Stainless Steel Housing
- Stainless Steel Shaft Hardware and Accessories
- Non-Metallic Quill Liner
- Bearing Supported Quill Input
- Dual Encapsulated Seals
- Stainless Steel Normally Closed Breather
- Auxillary V-Ring Seal on Output
- USDA/FDA Compliant Food Grade Oil

1. Determine Service Factor

   From the service factor table determine service factor for the application.

2. Determine the Overall Drive Ratio

   Overall drive ratio = $\frac{\text{rpm of driver}}{\text{rpm of driven}}$

   When overall drive ratio is not one of the stock speed reducer ratios shown, a chain, belt, or gear drive with further reduction for the output side will be necessary.

3. Determine Equivalent Horsepower

Equivalent hp = actual motor hp × service factor (Step # 1)

4. Determine the Size of Speed Reducer Required

   Select a speed reducer having a mechanical input horsepower equal to or slightly greater than the equivalent hp calculated in Step No. 3 above.

5. Check the Overhung Load and Thrust Loads

   Calculate the overhung load for drives to be mounted directly on the reducer shafts by following instructions on this page. Check this and any existing thrust loads against the load values shown and if the calculated load is greater than the values in the table, select a larger speed reducer.

Note: Refer combined overhung and thrust loads to the Application Engineering (1 800 626 2093).

Example No. 1

Select a worm gear speed reducer for a conveyor in a bakery. The speed reducer will be driven by a 1.0 hp, 1750 rpm, 56 frame, C-Face motor. The left reducer output shaft will be directly coupled to the mixer shaft. The conveyor will operate over 10 hours daily and the shaft speed is 58 rpm. The reducer also requires a horizontal mounting base with the worm on top. The conveyor is uniformly fed.

1. Determine the Service Factor
   From the the service factor table note that the service factor for a conveyor operating over 10 hours per day is 1.25.

2. Determine Overall Drive Ratio

Overall Drive Ratio = $\frac{\text{rpm of driver}}{\text{rpm of driven}} = \frac{1750}{58} = 30.17$

Since there is not an auxiliary output drive required, the reducer ratio needed is 30:1.

3. Determine Equivalent Horsepower

   Multiply motor hp x service factor
   1.0 x 1.25 = 1.25 Equivalent hp

4. Determine the Size of Speed Reducer Required

   Go to the ratings table 1750 rpm driver - 30:1 Ratio - 58 rpm output, and under “input hp” find the rating equal to or greater than the 1.25 hp given in the example. Note that a 206 reducer has a rating of 1.14 hp. The correct part numbers required are:

   Reducer: **SS262Q56L30**
   Base Kit: SS262S-BK

5. Determine the Motor Horsepower

   The motor horsepower is already known to be 1.0 hp.
   Select the 1 hp 56C frame motor. The correct part number for the motor is:

   WDP1S2AFCR

6. Check Overhung Load and Thrust Loads

   The unit will be coupling connected on the output shaft. Overhung load does not need to be calculated. There is not any thrust on the output shaft. There is neither thrust nor overhung load on the input shaft because it is mated with a C-Face motor. Therefore, the reducer selected is the proper size.

Overhung Loads

When a speed reducer is driven by any belt, chain or gear drive, or when the speed reducer drives a driven unit through a belt, chain or gear drive, overhung loads must not exceed those shown. Use the following formula to calculate the overhung loads:

$$OL = \frac{2TK}{D}$$

where
- OL = Overhung load
- T = Actual shaft torque (inch-pounds)
- D = P. D. of sprocket, sheave , pulley or gear
- K = 1.0 for chain drive
- = 1.25 for gear drive
- = 1.25 for gearbelt drive
- = 1.50 for v-belt drive
- = 2.50 for flat belt drive

No overhung loads are encountered when the speed reducer is coupling connected to the driver and/or driven machine. However, care should be taken in aligning the shafts to avoid pre-loading bearings in misalignment.

Part Description Configuration

Stainless Steel	Center Distance	Type of Input	Output Shaft Arrangement	Ratio
SS	175	Q	LR	30
	1.75"=175 2.06"=206 2.62"=262	Q = C Face Quilled	L = Left Output R = Right Output LR = Left & Right Output H = Hollow Output	5 10 15 20 25 30 40 50 60

It is recommended to use the above chart to arrive at the Stainless Steel Raider Plus reducer part description. The above sample part description is SS175Q56LR30. This description does NOT include feet or other available mounting accessories that are available for the SS Raider Plus product. These accessories are sold separately using the part descriptions for the appropriate product. Not all ratios are available in each configuration.

Raider units ordered with Hollow Outputs have a stock bore for each C.D. (Bushing kits are available to help reducers fit on shafts that are smaller than the stock bore.)

Accessory Descriptions

Bushing Kits

SS 203 BU 200

- 200 = I.D. (2.00")
- BU = Bushing Kit
- 203 = O.D. (2 3/16")
- Stainless Steel

Solid Base Kit

SS 175 - BK

- BK = Base Kit - Solid
- 175 = Fits 1.75" C.D. Reducer
- Stainless Steel

Torque Arm Kit

SS 175 H - TAK

- TAK = Torque Arm Kit
- H = Generally Used with Hollow Output Reducer
- 175 = Fits 1.75" C.D. Reducer
- Stainless Steel

Adjustable Torque Arm Kit

SS 175-262 ATAK

- AT = Adjustable Torque Arm Kit
- 175-262 = Fits Units 1.75" C.D., 2.06 C.D. and 2.62 C.D.
- Stainless Steel

Service Factors for Enclosed Worm Gear Applications

Service factors shown apply only if electric or hydraulic motors are used. For single or multi-cylinder engines, see table on next page for conversion.

APPLICATION	Up to 3 Hrs. Day	3-10 Hrs. Day	Over 10 Hrs. Day
AGITATORS (Mixers)			
Pure Liquids	–	1.00	1.25
Liquids and Solids	1.00	1.25	1.50
Liquids-Variable Density	1.00	1.25	1.50
BLOWERS			
Centrifugal	1.00	1.25	–
Lobe	1.00	1.25	1.50
Vane	–	1.00	1.25
BREWING AND DISTILLING			
Bottling Machinery	–	1.00	1.25
Brew Kettles, Continuous Duty	–	1.00	1.25
Cookers, Continuous Duty	–	1.00	1.25
Mash Tubs, Continuous Duty	–	1.00	1.25
Scale Hopper, Frequent Starts	1.00	1.25	1.50
CAN FILLING MACHINES	–	1.00	1.25
CAR DUMPERS	1.25	1.50	1.75
CAR PULLERS	1.00	1.25	1.50
CLARIFIERS	–	1.00	1.25
CLASSIFIERS	1.00	1.25	1.50
CLAY WORKING MACHINERY			
Brick Press	1.25	1.50	1.75
Briquette Machine	1.25	1.50	1.75
Pug Mill	1.00	1.25	1.50
COMPACTORS	1.50	1.75	2.00
COMPRESSORS			
Centrifugal	–	1.00	1.25
Lobe	1.00	1.25	1.50
Reciprocating, Multi-Cylinder	1.00	1.25	1.50
Reciprocating, Single-Cylinder	1.25	1.50	1.75
CONVEYORS - GENERAL PURPOSE			
Uniformly Loaded or Fed	–	1.00	1.25
Not Uniformly Fed	1.00	1.25	1.50
Reciprocating or Shaker	1.25	1.50	1.75
CRANES			
Dry Dock			
Main Hoist	1.25	1.50	1.75
Auxiliary	1.25	1.50	1.75
Boom Hoist	1.25	1.50	1.75
Slewing Drive	1.25	1.50	1.75
Traction Drive	1.50	1.50	1.50
Container			
Main Hoist	Refer to Application Engr.		
Boom Hoist	Refer to Application Engr.		
Trolley Drive	Refer to Application Engr.		
(Gantry Drive) (Traction Drive)	Refer to Application Engr.		
Mill Duty			
Main Hoist	Refer to Application Engr.		
Auxiliary	Refer to Application Engr.		
Bridge and Trolley Travel	Refer to Application Engr.		
Industrial Duty			
Main	1.00	1.25	1.50
Auxiliary	Refer to Application Engr.		
Bridge and Trolley Travel	Refer to Application Engr.		
CRUSHER			
Stone or Ore	1.50	1.75	2.00
DREDGES			
Cable Reels	1.00	1.25	1.50
Conveyors	1.00	1.25	1.50
Cutter Head Drives	1.25	1.50	1.75
Pumps	1.00	1.25	1.50
Screen Drives	1.25	1.50	1.75
Stackers	1.00	1.25	1.50
Winches	1.00	1.25	1.50
ELEVATORS			
Bucket	1.00	1.25	1.50
Centrifugal Discharge	–	1.00	1.25
Escalators	Refer to Application Engr.		
Freight	Refer to Application Engr.		
Gravity Discharge	–	1.00	1.25
EXTRUDERS			
General	1.25	1.25	1.25
Plastics			
(a) Variable Speed Drive	1.50	1.50	1.50
(b) Fixed Speed Drive	1.75	1.75	1.75
Rubber			
(a) Continuous Screw Operation	1.50	1.50	1.50
(b) Intermittent Screw Operation	1.75	1.75	1.75

APPLICATION	Up to 3 Hrs. Day	3-10 Hrs. Day	Over 10 Hrs. Day
FANS			
Centrifugal	–	1.00	1.25
Cooling Towers	Refer to Application Engr.		
Forced Draft	1.25	1.25	1.25
Induced Draft	1.00	1.25	1.50
Industrial & Mine	1.00	1.25	1.50
FEEDERS			
Apron	–	1.25	1.50
Belt	1.00	1.25	1.50
Disc	–	1.00	1.25
Reciprocating	1.25	1.50	1.75
Screw	1.00	1.25	1.50
FOOD INDUSTRY			
Cereal Cooker	–	1.00	1.25
Dough Mixer	1.00	1.25	1.50
Meat Grinders	1.00	1.25	1.50
Slicers	1.00	1.25	1.50
GENERATORS AND EXCITERS	–	1.00	1.25
HAMMER MILLS	1.50	1.50	1.75
HOISTS			
Heavy Duty	1.25	1.50	1.75
Medium Duty	1.00	1.25	1.50
Skip Hoist	1.00	1.25	1.50
LAUNDRY TUMBLERS	1.00	1.25	1.50
LAUNDRY WASHERS	1.25	1.25	1.50
LUMBER INDUSTRY			
Barkers			
-Spindle Feed	1.25	1.25	1.25
- Main Drive	1.50	1.50	1.50
Conveyors			
- Burner	1.25	1.25	1.50
- Main or Heavy Duty	1.50	1.50	1.50
- Main Log	1.50	1.50	1.50
- Re-saw, Merry-Go-Round	1.25	1.25	1.50
- Slab	1.50	1.50	1.75
- Transfer	1.25	1.25	1.50
Chains			
- Floor	1.50	1.50	1.50
- Green	1.50	1.50	1.50
Cut-Off Saws			
- Chain	1.50	1.50	1.50
- Drag	1.50	1.50	1.50
Debarking Drums	1.50	1.50	1.75
Feeds			
- Edger	1.25	1.25	1.50
- Gang	1.50	1.50	1.50
- Trimmer	1.25	1.25	1.50
Log Deck	1.50	1.50	1.50
Log Hauls-Incline-Well Type	1.50	1.50	1.50
Log Turning Devices	1.50	1.50	1.50
Planer Feed	1.25	1.25	1.50
Planer Tilting Hoists	1.50	1.50	1.50
Rolls-Live-off Brg.-Roll Cases	1.50	1.50	1.50
Sorting Table	1.25	1.25	1.50
Tipple Hoist	1.25	1.25	1.50
Transfers			
- Chain	1.50	1.50	1.50
- Causeway	1.50	1.50	1.50
Tray Drives	1.25	1.25	1.50
Veneer Lathe Drives	Refer to Application Engr.		
METAL MILLS			
Draw Bench Carriage and Main Drive	1.00	1.25	1.50
Runout Table			
Non-reversing			
Group Drives	1.00	1.25	1.50
Individual Drives	1.50	1.50	1.75
Reversing	1.50	1.50	1.75
Slab Pushers	1.25	1.25	1.50
Shears	1.50	1.50	1.75
Wire Drawing	1.00	1.25	1.50
Wire Winding Machine	1.00	1.25	1.50
METAL STRIP PROCESSING MACHINERY			
Bridles	1.25	1.25	1.50
Coilers & Uncoilers	1.00	1.00	1.25
Edge Trimmers	1.00	1.25	1.50
Flatteners	1.00	1.25	1.50
Loopers(Accumulators)	1.00	1.00	1.00
Pinch Rolls	1.00	1.25	1.50
Scrap Choppers	1.00	1.25	1.50
Shears	1.50	1.50	1.75
Slitters	1.00	1.25	1.50

Service Factors for Enclosed Worm Gear Applications

Service factors shown apply only if electric or hydraulic motors are used. For single or multi-cylinder engines, see table below for conversion.

APPLICATION	Up to 3 Hrs. Day	3-10 Hrs. Day	Over 10 Hrs. Day
MILLS, ROTARY TYPE			
Ball and Rod			
Spur Ring Gear	1.50	1.50	1.75
Helical Ring Gear	1.50	1.50	1.50
Direct Connected	1.50	1.50	1.75
Cement Kilns	1.50	1.50	1.50
Dryers and Coolers	1.50	1.50	1.50
MIXERS, CONCRETE	1.00	1.25	1.50
PAPER MILLS			
Agitator(Mixer)	1.50	1.50	1.50
Agitator for Pure Liquids	1.25	1.25	1.25
Barking Drums	1.75	1.75	1.75
Barkers - Mechanical	1.75	1.75	1.75
Beater	1.50	1.50	1.50
Breaker Stack	1.25	1.25	1.25
* Calender	1.25	1.25	1.25
Chipper	1.75	1.75	1.75
Chip Feeder	1.50	1.50	1.50
Coating Rolls	1.25	1.25	1.25
Conveyors			
Chip, Bark, Chemical	1.25	1.25	1.25
Log(Including Slab)	1.75	1.75	1.75
Couch Rolls	1.25	1.25	1.25
Cutter	1.75	1.75	1.75
Cylinder Molds	1.25	1.25	1.25
* Dryers			
Paper Machine	1.25	1.25	1.25
Conveyor Type	1.25	1.25	1.25
Embosser	1.25	1.25	1.25
Extruder	1.50	1.50	1.50
Fourdrinier Rolls (Includes Lump Breaker, Dandy Roll, Wire Turning, and Return Rolls)	1.25	1.25	1.25
Jordan	1.25	1.25	1.25
Kiln Drive	1.50	1.50	1.50
Mt. Hope Roll	1.25	1.25	1.25
Paper Rolls	1.25	1.25	1.25
Platter	1.50	1.50	1.50
Presses- Felt & Suction	1.25	1.25	1.25
Pulper	1.50	1.50	1.75
Pumps- Vacuum	1.50	1.50	1.50
Reel (Surface Type)	1.25	1.25	1.50
Screens			
Chip	1.50	1.50	1.50
Rotary	1.50	1.50	1.50
Vibrating	1.75	1.75	1.75
Size Press	1.25	1.25	1.25
Super Calender (See Note)	1.25	1.25	1.25
Thickener			
(AC Motor)	1.50	1.50	1.50
(DC Motor)	1.25	1.25	1.25
Washer			
(AC Motor)	1.50	1.50	1.50
(DC Motor)	1.25	1.25	1.25
Wind and Unwind Stand	1.00	1.00	1.00
Winders (Surface Type)	1.25	1.25	1.25
* Yankee Dryers	1.25	1.25	1.25
PLASTICS INDUSTRY - PRIMARY PROCESSING			
Intensive Internal Mixers			
(a) Batch Mixers	1.75	1.75	1.75
(b) Continuous Mixers	1.50	1.50	1.50
Batch Drop Mill - 2 Smooth Rolls	1.25	1.25	1.25
Continuous Feed, Holding and Blend Mill	1.25	1.25	1.25
Compounding Mills	1.25	1.25	1.25
Calenders	1.50	1.50	1.50
PLASTICS INDUSTRY - SECONDARY PROCESSING			
Blow Molders	1.50	1.50	1.50
Coating	1.25	1.25	1.25
Film	1.25	1.25	1.25
Pipe	1.25	1.25	1.25
Pre-Plasticizers	1.50	1.50	1.50
Rods 1.25	1.25	1.25	
Sheet	1.25	1.25	1.25
Tubing	1.25	1.25	1.50
PULLERS - BARGE HAUL	1.00	1.50	1.75
PUMPS			
Centrifugal	–	1.00	1.25
Proportioning	1.00	1.25	1.50
Reciprocating			
Single Acting, 3 or More Cylinders	1.00	1.25	1.50
Double Acting, 2 or More Cylinders	1.00	1.25	1.50
Rotary			
- Gear Type	–	1.00	1.50
- Lobe	–	1.00	1.25
- Vane	–	1.00	1.25
RUBBER INDUSTRY			
Intensive Internal Mixers			
(a) Batch Mixers	1.50	1.75	1.75
(b) Continuous Mixers	1.25	1.50	1.50

APPLICATION	Up to 3 Hrs. Day	3-10 Hrs. Day	Over 10 Hrs. Day
RUBBER INDUSTRY (Continuous)			
Mixing Mill - 2 Smooth Rolls - (If corrugated rolls are used, then use the same service factors that are used for a Cracker-Warmer)	1.50	1.50	1.50
Batch Drop Mill - 2 Smooth Rolls	1.50	1.50	1.50
Cracker Warmer - 2 Roll: 1 Corrugated Roll	1.75	1.75	1.75
Cracker - 2 Corrugated Rolls	1.75	1.75	1.75
Holding, Feed and Blend Mill - 2 Rolls	1.25	1.25	1.25
Refiner - 2 Rolls	1.50	1.50	1.50
Calenders	1.50	1.50	1.50
SAND MILLER	1.00	1.25	1.50
SEWAGE DISPOSAL EQUIPMENT			
Bar Screens	–	1.00	1.25
Chemical Feeders	–	1.00	1.25
SEWAGE DISPOSAL EQUIPMENT (Cont'd.)			
Dewatering Screens	1.00	1.25	1.50
Scum Breakers	1.00	1.25	1.50
Slow Or Rapid Mixers	1.00	1.25	1.50
Sludge Collectors	1.00	1.00	1.25
Thickener	1.00	1.25	1.50
Vacuum Filters	1.00	1.25	1.50
SCREENS			
Air Washing	–	1.00	1.25
Rotary - Stone Or Gravel	1.00	1.25	1.50
Traveling Water Intake	–	1.00	1.25
SUGAR INDUSTRY			
Beet Slicer	1.50	1.50	1.75
Cane Knives	1.50	1.50	1.50
Crushers	1.50	1.50	1.50
Mills (Low Speed End)	1.50	1.50	1.50
TEXTILE INDUSTRY			
Batchers	1.00	1.25	1.50
Calenders	1.00	1.25	1.50
Cards	1.00	1.25	1.50
Dry Cans	1.00	1.25	1.50
Dryers	1.00	1.25	1.50
Dyeing Machinery	1.00	1.25	1.50
Looms	1.00	1.25	1.50
Mangles	1.00	1.25	1.50
Nappers	1.00	1.25	1.50
Pads 1.00	1.25	1.50	
Slashers	1.00	1.25	1.50
Soapers	1.00	1.25	1.50
Spinners	1.00	1.25	1.50
Tenter Frames	1.00	1.25	1.50
Washers	1.00	1.25	1.50
Winders	1.00	1.25	1.50

* Anti-Friction Bearings Only.

Note: A Service Factor of 1.0 may be applied at the base of a super calender, operating over a speed range where part of the range is constant horsepower and part of the range is constant torque, provided that the constant horsepower part is greater than 1.5 to 1. A service factor of 1.25 is applicable to super calenders operating over the entire speed range at constant torque, or where the constant horsepower speed range is less than 1.5 to 1.

Service Factors for Electric and Hydraulic Motors
(For Service Factors For Single Or Multi-Cylinder Engines, Consult Conversion Table below)

Duration of Service (Hours Per Day)	Uniform Load	Moderate Shock	Heavy Shock	Extreme Shock
Occasional 1/2 Hour	–	–	1.0	1.25
Less Than 3 Hours	1.0	1.0	1.25	1.50
3 - 10 Hours	1.0	1.25	1.50	1.75
Over 10 Hours	1.25	1.50	1.75	2.00

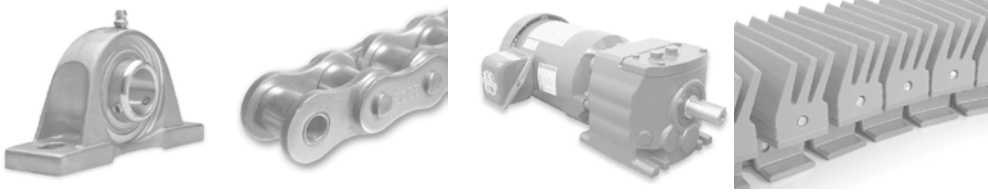
Conversion Table for Single or Multi-Cylinder Engines to find Equivalent Single or Multi-Cylinder Service Factors

Hydraulic or Electric Motor	Single Cylinder Engines	Multi-Cylinder Engines
1.00	1.50	1.25
1.25	1.75	1.50
1.50	2.00	1.75
1.75	2.25	2.00
2.00	2.50	2.25

Load and operating characteristics of both the driver and driven units must be considered throughly when selecting speed reducers. It is essential that all speed reducers be selected for maximum load conditions to be encountered. Worm gear speed reducers will safely transmit momentary starting loads as great as 300% of the mechanical input ratings.



Tough Environments, Durable Solutions



DELIVERING THE DIFFERENCE.

Temperature fluctuations, caustic clean-ups and high speed food processing — power transmission equipment and bearings that operate in the food and packaging industry must withstand harsh environments without impacting performance. With a full line of corrosion resistant bearings, chain, speed reducers and gearmotors, Emerson delivers engineered products that stand up to the demanding requirements of food packaging to keep production lines up and running.

Engineered for Safety and Reliability

For specific information about Emerson's full line of corrosion resistant bearings and power transmission products visit www.emerson-ept.com/food or call 1-800-268-4149.

EMERSON
Industrial Automation

Browning JAURE KOP-FLEX McGILL Morse ROLLWAY SEALMASTER SYSTEM PLAST™

Input Horsepower, Output Torque, Overhung Load and Thrust Load for Stainless Steel Raider Plus Single Reduction Worm Gear Reducers

Unit Size ■	Mechanical		Thermal		Maximum Overhung Load Lbs.	Max. Thrust Load Lbs.
	Input hp	Output Torque	Input hp	Output Torque	Output Shaft	Output Shaft
1750 rpm Driver–5:1 Ratio–350 rpm Output						
175	2.45	405	2.00	331	663	868
206	3.50	587	2.81	470	913	1265
262	6.19	1045	4.68	790	1295	1596
1750 rpm Driver–10:1 Ratio–175 rpm Output						
175	1.52	493	1.41	459	740	1098
206	2.24	731	2.00	653	1078	1580
262	4.07	1337	3.47	1143	1295	1976
1750 rpm Driver–15:1 Ratio–116.6 rpm Output						
175	1.14	531	1.10	516	740	1253
206	1.64	782	1.47	698	1078	1820
262	3.00	1440	2.50	1197	1295	2296
1750 rpm Driver–20:1 Ratio–87.5 rpm OutputT						
175	0.90	544	0.86	520	740	1358
206	1.33	812	1.25	762	1078	1980
262	2.40	1490	2.09	1296	1295	2536
1750 rpm Driver–25:1 Ratio–70 rpm Output						
175	0.76	543	0.72	513	740	1380
206	1.14	812	1.06	761	1078	2143
262	2.05	1495	1.78	1298	1295	2748
1750 rpm Driver–30:1 Ratio–58.3 rpm Output						
175	0.76	543	0.72	513	740	1380
206	1.14	812	1.06	761	1078	2143
262	2.05	1495	1.78	1298	1295	2748
1750 rpm Driver–40:1 Ratio–43.7 rpm Output						
175	0.52	543	0.48	507	740	1399
206	0.76	811	0.71	756	1078	2305
262	1.37	1489	1.18	1288	1295	3096
1750 rpm Driver–50:1 Ratio–35 rpm Output						
175	0.41	520	0.41	520	740	1399
206	0.62	780	0.59	743	1078	2305
262	1.10	1438	0.97	1256	1295	3336
1750 rpm Driver–60:1 Ratio–29.1 rpm Output						
175	0.35	490	0.35	490	740	1399
206	0.52	737	0.52	737	1078	2305
262	0.91	1359	0.82	1224	1295	3410

Unit Size ■	Mechanical		Thermal		Maximum Overhung Load Lbs.	Max. Thrust Load Lbs.
	Input hp	Output Torque	Input hp	Output Torque	Output Shaft	Output Shaft
1160 rpm Driver–5:1 Ratio–232 rpm Output						
175	1.93	477	1.62	401	740	973
206	2.83	708	2.32	580	1078	1415
262	5.15	1299	4.02	1014	1295	1776
1160 rpm Driver–10:1 Ratio–116 rpm Output						
175	1.13	547	1.11	534	740	1238
206	1.72	836	1.60	776	1078	1740
262	3.23	1578	3.02	1477	1295	2216
1160 rpm Driver–15:1 Ratio–77.3 rpm Output						
175	0.86	589	0.83	563	740	1399
206	1.27	881	1.18	819	1078	2060
262	2.36	1677	2.08	1481	1295	2536
1160 rpm Driver–20:1 Ratio–58 rpm Output						
175	0.67	599	0.67	599	740	1399
206	1.03	916	1.03	916	1078	2220
262	1.92	1748	1.84	1672	1295	2776
1160 rpm Driver–25:1 Ratio–46.4 rpm Output						
175	0.55	597	0.55	597	740	1399
206	0.85	912	0.85	912	1078	2305
262	1.59	1747	1.50	1643	1295	2978
1160 rpm Driver–30:1 Ratio–38.6 rpm Output						
175	0.48	591	0.48	591	740	1399
206	0.74	911	0.73	911	1078	2305
262	1.36	1740	1.25	1612	1295	3176
1160 rpm Driver–40:1 Ratio–29 rpm Output						
175	0.39	599	0.39	599	740	1399
206	0.59	914	0.59	914	1078	2305
262	1.11	1745	1.03	1631	1295	3176
1160 rpm Driver–50:1 Ratio–23.2 rpm Output						
175	0.32	569	0.32	569	740	1399
206	0.48	874	0.48	874	1078	2305
262	0.90	1663	0.82	1511	1295	3410
1160 rpm Driver–60:1 Ratio–19.3 rpm Output						
175	0.27	534	0.27	534	740	1399
206	0.40	822	0.40	822	1078	2305
262	0.74	1571	0.67	1438	1295	3410

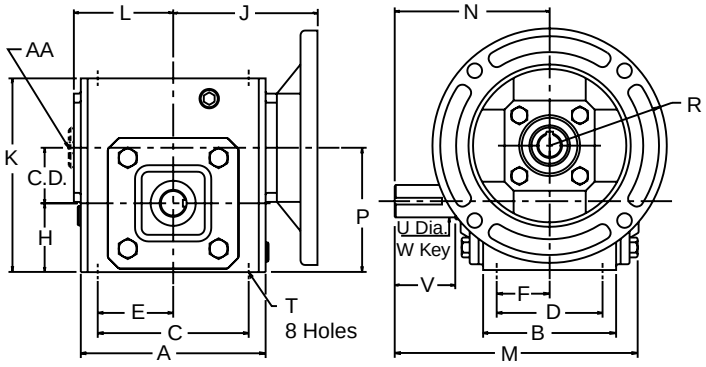
■ Basic unit size. See assembly drawings, pages 246 - 249, to determine components needed and complete the part numbers following the directions on that page.

Above ratings are not applicable when reducer shafts are subjected to combined overhung and thrust loads.
Find ratings for input speeds not shown by straight line interpolation.
Maximum overhung loads are at center of keyseats and on one end of output shaft only. Overhung loads applied closer to the reducer housing are desirable, but overhung loads farther out on the shaft and overhung loads on both ends of output shaft should be referred to Application Engineering.

Contact Application Engineering (1 800 626 2093) for the following:

1. High starting torques exceeding 300% of the reducer mechanical rating.
2. Frequent starting or repetitive shock applications.
3. Applications where high energy loads must be absorbed as when stalling.





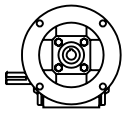
Style Q

C-Face Quilled – Basic Unit

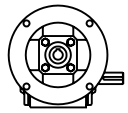
Style Q C-Face Quilled Worm Gear Reducers

Part Number ★	C.D.	NEMA Frame	A	B	C	D	E	F	H	J	K	L	M	N	P	R
SS175Q56	1.75	56C	4.81	3.38	4.19	2.75	2.09	1.38	2.06	4.38	5.75	2.75	6.72	4.31	3.81	3.25
SS175Q140	1.75	143/145TC	4.81	3.38	4.19	2.75	2.09	1.38	2.06	4.38	5.75	2.75	6.72	4.31	3.81	3.25
SS206Q56	2.06	56C	5.50	3.75	5.00	2.88	2.50	1.44	2.28	4.75	6.38	3.00	7.29	4.69	4.34	3.25
SS206Q140	2.06	143/145TC	5.50	3.75	5.00	2.88	2.50	1.44	2.28	4.75	6.38	3.00	7.29	4.69	4.34	3.25
SS262Q56	2.62	56C	7.12	4.44	6.38	3.38	3.19	1.69	2.94	5.69	8.00	3.69	8.71	5.62	5.57	3.25
SS262Q140	2.62	143/145TC	7.12	4.44	6.38	3.38	3.19	1.69	2.94	5.69	8.00	3.69	8.71	5.62	5.57	3.25

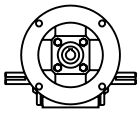
Assembly Drawing and Sample of Components



SS175Q56L10

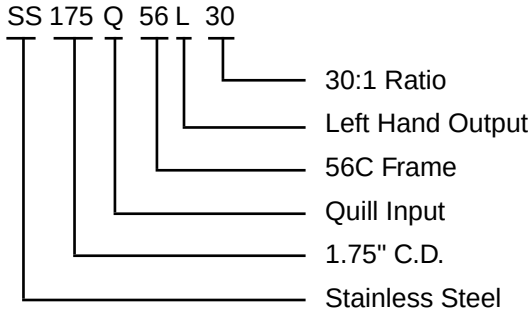


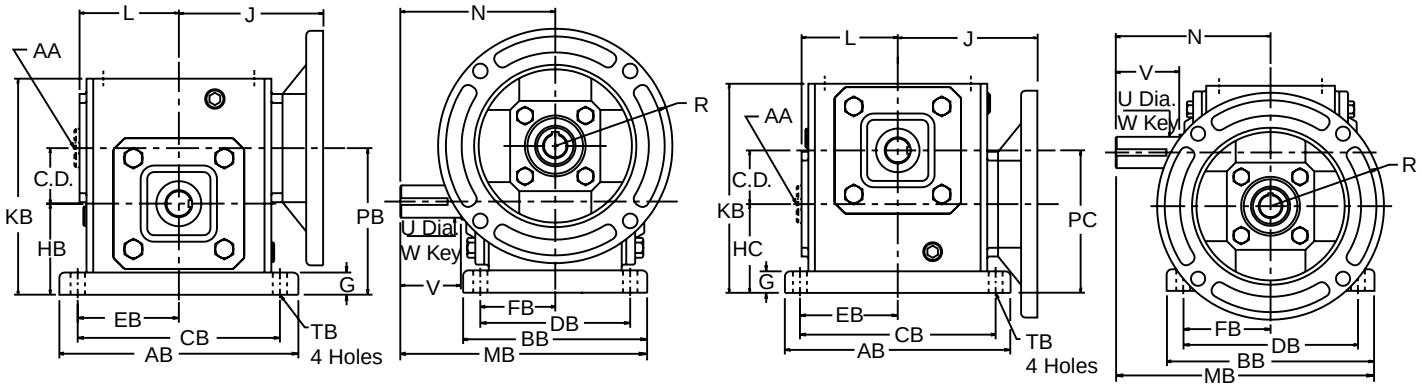
SS175Q56R10



SS175Q56LR10

Part Number Explanation





Note: When mounting Style "QB", interference may occur; use a Riser Block or consult Application Engineering (1 800 626 2093).

Style QT
Worm Top

Style QB
Worm Bottom

Style Q C-Face Quilled Worm Gear Reducers

N.E.M.A. Frame	T		Input		Output Shaft				Stock Ratios Marked "x"									Wt. Lbs.	Part Number ★
					U +.000 -.001	V	W Key												
	Size	Deep	Bore	Keyway			Sq.	Lgth.	5	10	15	20	25	30	40	50	60		
56C	5/16-18	.61	.625	3/16 X 3/32	.875	1.88	.188	1.38	x	x	x	x	x	x	x	x	x	27.0	**SS175Q56**
143/145TC	5/16-18	.61	.875	3/16 X 3/32	.875	1.88	.188	1.38	x	x	x	-	-	-	-	-	-	27.0	**SS175Q140**
56C	3/8-16	.61	.625	3/16 X 3/32	1.000	2.00	.250	1.75	-	x	x	x	x	x	x	x	x	32.0	**SS206Q56**
143/145TC	3/8-16	.61	.875	3/16 X 3/32	1.000	2.00	.250	1.75	x	x	x	x	-	-	-	-	-	32.0	**SS206Q140**
56C	3/8-16	.58	.625	3/16 X 3/32	1.125	2.50	.250	2.00	-	x	x	x	x	x	x	x	x	50.0	**SS262Q56**
143/145TC	3/8-16	.58	.875	3/16 X 3/32	1.125	2.50	.250	2.00	-	x	x	x	x	x	x	x	x	50.0	**SS262Q140**

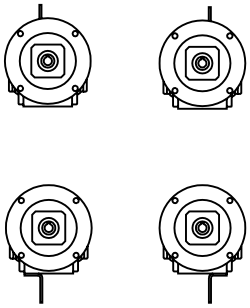
Style QT C-Face Quilled Worm Top, Style QB C-Face Quilled Worm Bottom

Part Number	Base Kit ◆	AB	BB	CB	DB	EB	FB	G	HB	HC	KB	MB	PB	PC	TB	Wt. Lbs.
SS175Q	SS175-BK	7.00	5.56	5.75	4.50	2.88	2.25	.69	2.75	2.63	6.44	7.09	4.50	4.38	.44	28.0
SS206Q	SS206-BK	7.69	5.76	6.38	4.69	3.19	2.34	.72	3.00	2.75	7.10	7.57	5.06	4.81	.50	33.5
SS262Q	SS262-BK	9.25	6.50	8.00	5.25	4.00	2.63	.75	3.69	3.19	8.75	8.87	6.31	5.81	.56	52.0

★ To complete Part No. add shaft assembly (L, R, LR) and ratio symbol to size – for example SS175Q56LR10.
◆ Components needed to make assembled reducer must be ordered separately.



Assembly Drawing and Sample of Components

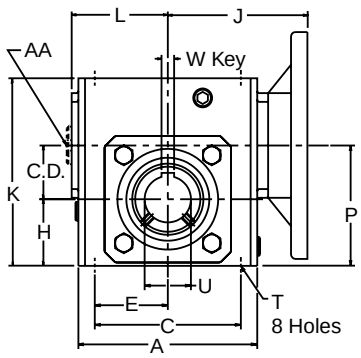


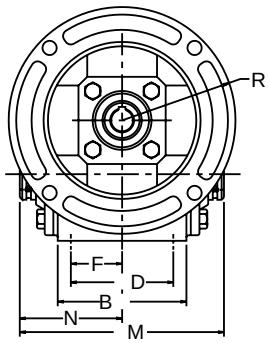
SS175Q56H10
SS175-TAK

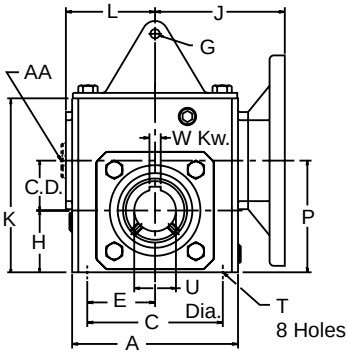
Style QH C-Face Quilled – Hollow Style QHT Torque Arm Worm Gear Reducers

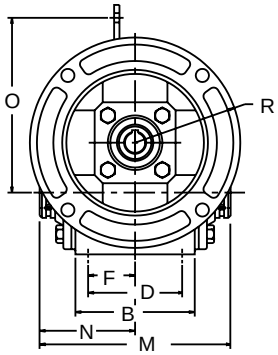
Dimensions (Inches) Style QH																
Basic Unit ★	C.D.	N.E.M.A. Frame	A	B	C	D	E	F	H	J	K	L	M	N	P	R
SS175Q56H	1.75	56C	4.81	3.38	4.19	2.75	2.09	1.38	2.06	4.38	5.75	2.75	5.70	2.85	3.81	3.25
SS175Q140H	1.75	143/145TC	4.81	3.38	4.19	2.75	2.09	1.38	2.06	4.38	5.75	2.75	5.70	2.85	3.81	3.25
SS206Q56H	2.06	56C	5.50	3.75	5.00	2.88	2.50	1.44	2.28	4.75	6.38	3.00	6.44	3.22	4.34	3.25
SS206Q140H	2.06	143/145TC	5.50	3.75	5.00	2.88	2.50	1.44	2.28	4.75	6.38	3.00	6.44	3.22	4.34	3.25
SS262Q56H	2.62	56C	7.12	4.44	6.38	3.38	3.19	1.69	2.94	5.69	8.00	3.69	6.88	3.44	5.57	3.25
SS262Q140H	2.62	143/145TC	7.12	4.44	6.38	3.38	3.19	1.69	2.94	5.69	8.00	3.69	6.88	3.44	5.57	3.25

★ To complete Part No. add shaft assembly (L, R, LR) and ratio symbol to size – for example SS175Q56LR10.
♦ Components needed to make assembled reducer must be ordered separately.
✚ For adapting reducers to shafts smaller than output bore, use Bushing Kits shown on page 252.
Consult Application Engineering (1 800 626 2093) for ratios not shown as standard.







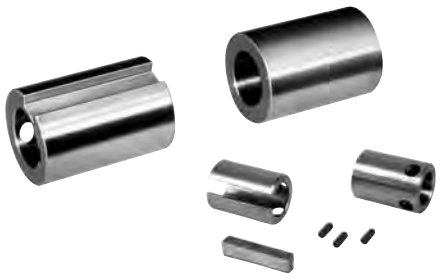


Style QH
C-Face Quilled – Hollow

Style QHT
Torque Arm

Style QH C-Face Quilled – Hollow Style QHT Torque Arm Worm Gear Reducers

Dimensions (Inches) Style QH																Dimensions (Inches) Style QHT				
T		Input		Output Bore ✚		Stock Ratios marked "x"									Wt. Lbs.	Components ◆		G	O	Wt. Lbs.
Size	Deep	Bore	Keyway	U +.0015 -.0000	W Keyway	5	10	15	20	25	30	40	50	60		Ref. No.	Torque Arm Kit			
5/16-18	.61	.625	3/16 x 3/32	1.0000	1/4 x 1/8	x	x	x	x	x	x	x	x	x	25.0	SS175QH	SS175H-TAK	.53	5.06	25.9
5/16-18	.61	.875	3/16 x 3/32	1.0000	1/4 x 1/8	x	x	x	-	-	-	-	-	-	25.0					
3/8-16	.61	.625	3/16 x 3/32	1.4375	3/8 x 1/8	-	x	x	x	x	x	x	x	x	33.0	SS206QH	SS206H-TAK	.53	6.07	34.0
3/8-16	.61	.875	3/16 x 3/32	1.4375	3/8 x 1/8	x	x	x	x	x	-	-	-	-	33.0					
3/8-16	.58	.625	3/16 x 3/32	1.9375	1/2 x 1/8	-	x	x	x	x	x	x	x	x	57.0	SS262QH	SS262H-TAK	.53	77.44	58.4
3/8-16	.58	.875	3/16 x 3/32	1.9375	1/2 x 1/8	-	x	x	x	x	x	x	x	x	57.0					

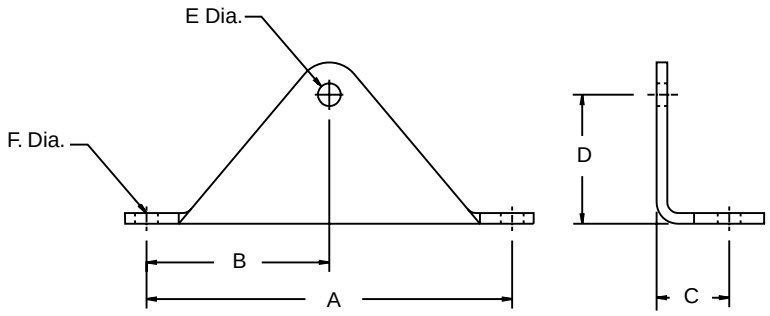


Bushings for SS Raider Plus Hollow Shaft Reducers

Reducer C.D.	Shaft Dia.	Shaft Keyseat	Bushing Kit No.	Wt. Lbs.
1.75	3/4	3/16 x 3/32 x 1 1/8	SS100BU012	.3
	7/8	3/16 x 3/32 x 1 1/8	SS100BU014	.1
	15/16	1/4 x 1/8 x 1 1/8	SS100BU015	.1
2.06	3/4	3/16 x 3/32 x 2	SS107BU012	1.4
	7/8	3/16 x 3/32 x 2	SS107BU014	1.2
	15/16	1/4 x 1/8 x 2	SS107BU015	1.1
	1	1/4 x 1/8 x 2	SS107BU100	1.0
	1 1/16	1/4 x 1/8 x 2	SS107BU101	.9
	1 1/8	14 x 1/8 x 2	SS107BU102	.8
	1 3/16	1/4 x 1/8 x 2	SS107BU103	.6
	1 1/4	1/4 x 1/8 x 2	SS107BU104	.5
	1 5/16	5/16 x 5/32 x 2	SS107BU105	.4
2.62	15/16	1/4 x 1/8 x 2 1/2	SS115BU015	3.2
	1	1/4 x 1/8 x 2 1/2	SS115BU100	3.1
	1 1/6	1/4 x 1/8 x 2 1/2	SS115BU101	3.0
	1 1/8	1/4 x 1/8 x 2 1/2	SS115BU102	2.8
	1 3/16	1/4 x 1/8 x 2 1/2	SS115BU103	2.7
	1 1/4	1/4 x 1/8 x 2 1/2	SS115BU104	2.5
	1 5/16	5/16 x 5/32 x 2 1/2	SS115BU105	2.3
	1 3/8	5/16 x 5/32 x 2 1/2	SS115BU106	2.1
	1 7/16	3/8 x 3/16 x 2 1/2	SS115BU107	1.9
	1 1/2	3/8 x 3/16 x 2 1/2	SS115BU108	1.7
	1 5/8	3/8 x 3/16 x 2 1/2	SS115BU110	1.3
	1 11/16	3/8 x 3/16 x 2 1/2	SS115BU111	1.1
	1 3/4	3/8 x 3/16 x 2 1/2	SS115BU112	.8

Note: When using bushings to adapt reducer to a smaller shaft, the shaft stress based on the transmitted load must always be checked.

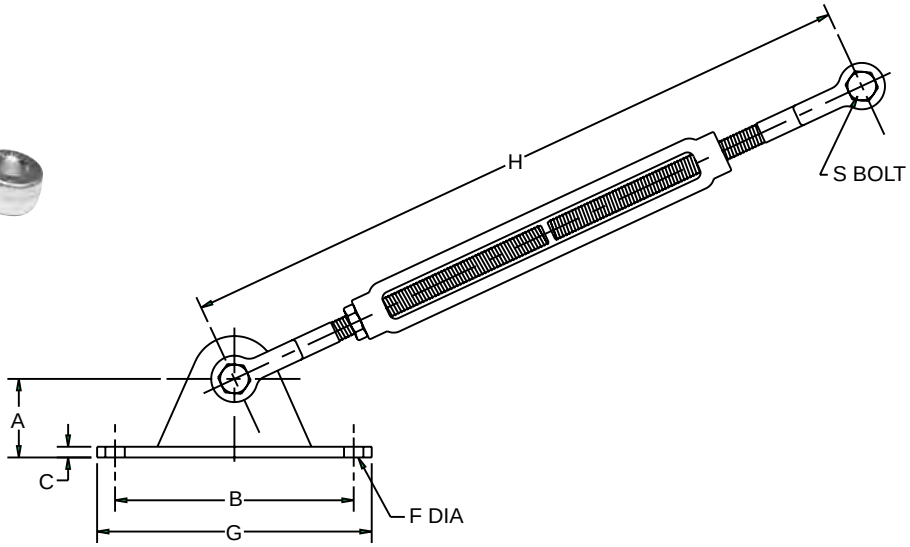




Dimensions for Torque Arm Kit

Part No.	A	B	C	D	E	F	Wt./Lbs.
SS175H-TAK	4.19	2.09	.95	1.38	.53	.344	.9
SS206H-TAK	5.00	2.50	1.28	1.97	.53	.406	1.0
SS262H-TAK	6.38	3.19	1.31	2.38	.53	.406	1.4

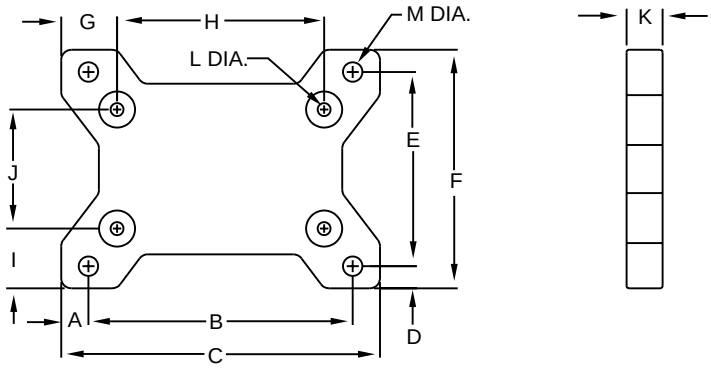




Dimensions for Adjustable Torque Arm Kit

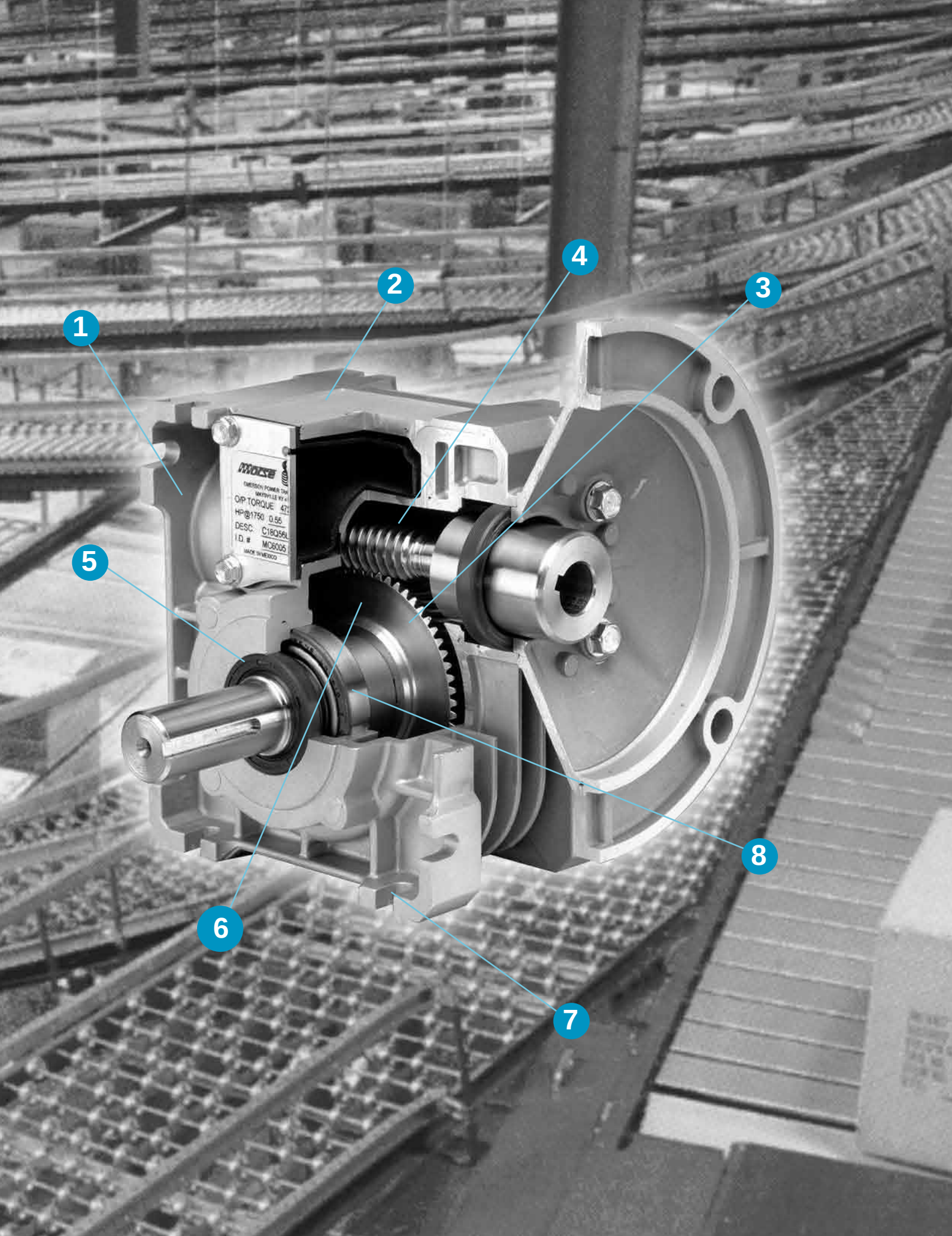
Part No.	A	B	C	F	G	H	S	Wt./Lbs.
SS175-262ATAK	1.38	4.187	.187	.34	4.81	12.00-17.50	5/16	2.0





Dimensions for Solid Horizontal One Piece Base

Part No.	A	B	C	D	E	F	G	H	I	J	K	L Dia.	M Dia.
SS175-BK	.62	5.75	7.00	.53	4.50	5.56	1.41	4.19	1.40	2.75	.69	.38	.44
SS206-BK	.66	6.38	7.69	.53	4.69	5.76	1.35	5.00	1.44	2.88	.72	.44	.50
SS262-BK	.63	8.00	9.25	.62	5.25	6.50	1.44	6.38	1.56	3.38	.75	.44	.56


1
2
3
4
5
6
7
8

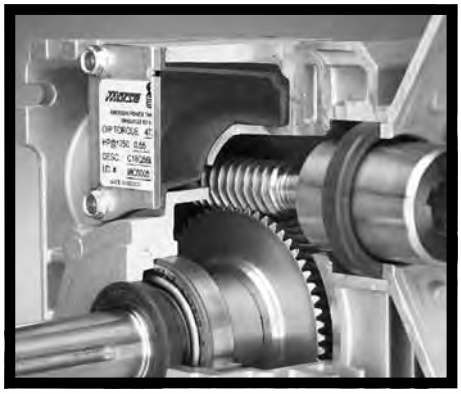


Morse®

COBRA

Design Features

1. **Compact light-weight**
   - All aluminum design: cool-running, resists rust, corrosion.
2. **Exclusive SealTite™ expansion chamber**.
   - Eliminates internal pressure buildup.
3. **Forged bronze worm gear**
   - High tensile strength, precision machined to AGMA specifications.
4. **Integral worm and shaft**
   - Hardened to 58 Rc for maximum efficiency, long life.
5. **Double-lip seals**
   - Combined with plunge-ground shaft seal surfaces for maximum oil retention.
6. **Sealed for life design**
   - Factory filled synthetic oil. No maintenance required for the life of the gear reducer.
7. **Flexible mounting**
   - Integral mounting slots on top, bottom and sides plus face mount register front and rear. No bolt-on feet required.
8. **Precision bearings**
   - Heavy-duty ball bearings on all inputs and hollow outputs, tapered roller bearings on solid outputs. Sized for maximum bearing life and generous overhung load capacity.



Integral SealTite Expansion Chamber

How it works:

- Expanding warm air inside the reducer escapes into the expansion chamber and collapses the flexible neoprene diaphragm.
- Ambient air inside the diaphragm is vented through the pressure relief hole in the diaphragm cover.
- As the reducer “inhales” during cool-down, the process is reversed.

Result:

- Internal pressure remains constant.
- There is no exchange of air between the reducer and the environment.
- Oil stays in - contaminants stay out.

Selection Procedure for Cobra Worm Gear Speed Reducers

1. Determine Service Factor
From service factor tables on pages 258 and 259 determine service factor for the application.

2. Determine the Overall Drive Ratio

$$\text{Overall Drive Ratio} = \frac{\text{rpm of driver}}{\text{rpm of driven}}$$

When over-all drive ratio is not one of the stock speed reducer ratios shown in tables on page 264 through 267, a chain, belt, or gear drive with further reduction for either the input or output side will be necessary.

3. Determine Equivalent Horsepower or Normal Torque

A. HP Method:

Equivalent hp = Actual Motor hp × Service Factor (Step # 1)

B. Torque Method:

Normal Torque = Actual Torque × Service Factor (Step # 1)

4. Determine the Size of Speed Reducer Required

A. HP Method:

Refer to pages 258 and 259 and select a speed reducer having a mechanical input horsepower equal to or slightly greater than the equivalent hp calculated in Step No. 3 above.

B. Torque Method:

Refer to pages 258 and 259 and select a speed reducer having a mechanical output torque rating equal to or slightly greater than the normal torque calculated in Step No. 3 above. If the required input and output speeds are not listed in these tables, the ratings can be determined by straight line interpolation. When the input speed is less than 100 rpm, ratings for 100 rpm must be used.

5. Determine the Motor Horsepower

Use the following equation when motor hp is not known:

$$\text{Motor Horsepower} = \frac{\text{Actual Torque} \times \text{Input hp}}{\text{Output Torque}}$$

6. Check the Overhung Load
Calculate the overhung load for drives to be mounted directly on the reducer shafts by following instructions on page 255. Check this and any existing thrust loads against the load values shown on pages 258 and 259, and if the calculated load is greater than the values in the table, select a larger speed reducer.

Note: Refer combined overhung and thrust loads to the Application Engineering (1 800 626 2093) Department.

Example No. 1 - Horsepower Method

Select a worm gear speed reducer for a dough mixer in a bakery. The speed reducer will be driven by a 1.0 hp, 1750 rpm, 56 Frame, C-Face Motor. The left reducer output shaft will be directly coupled to the mixer shaft. The mixer will operate 8 - 10 hours daily and the shaft speed is 58 rpm. The reducer also requires a horizontal mounting base with the worm on top.

1. Determine the Service Factor
From the table on page 256, note that the service factor for a dough mixer (Food Industry) operating 3 - 10 hours per day is 1.25.

2. Determine Overall Drive Ratio

$$\text{Overall Drive Ratio} = \frac{\text{rpm of Driver}}{\text{rpm of Driven}} = \frac{1750}{58} = 30.17$$

Since there is not an auxiliary input or output drive required, the reducer ratio needed is 30:1.

3. Determine Equivalent Horsepower

$$\text{Equivalent hp} = \text{Actual Motor hp} \times \text{S F} =$$

$$1.0 \times 1.25 = 1.25 \text{ hp}$$

4. Determine the Size of Speed Reducer Required
From page 258 under “1750 rpm Driver -30:1 Ratio - 175 rpm Output” and under “Input hp Mechanical” find the rating equal to or greater than the 1.25 equivalent hp calculated in Step No. 3. Note that a 26 reducer has mechanical rating of 1.48 hp. The correct part numbers required are:

Reducer: **C26Q56L30**

5. Determine the Motor Horsepower
The motor horsepower is already known to be 1.0 hp.

6. Check Overhung Load
The unit will be coupling connected on the output shaft. Overhung load does not need to be calculated. There is not any thrust on the output shaft. There is neither thrust nor overhung load on the input shaft because it is mated with a C-Face motor. Therefore, the reducer selected is the proper size.

Example No. 2 - Torque Method

Select a worm gear speed reducer for a belt conveyor (general purpose), not uniformly fed. The speed reducer will be driven by a 1750 rpm electric motor directly connected by a coupling, with a 1.23:1 ratio chain drive from the reducer to the head shaft of the conveyor. The pitch diameter of the driver sprocket mounted on the reducer output shaft is 5.032 inches. The conveyor will operate 10 hours per day, and the head shaft speed is 140 rpm. The reducer will also require a horizontal mounting base with the worm on top. Conveyor calculations indicate that 1710 inch pounds of torque is needed at the conveyor head shaft.

1. Determine the Service Factor

From the table on page 258, note that the service factor for a belt conveyor (general purpose) operating 3 - 10 hours per day is 1.25.

2. Determine the Overall Drive Ratio

$$\text{Overall Drive Ratio} = \frac{\text{rpm of Driver}}{\text{rpm of Driven}} = \frac{1750}{140} = 12.5 : 1$$

$$\text{Speed Reducer Ratio} = \frac{\text{Overall Drive Ratio}}{\text{Chain Drive Ratio}} = \frac{12.5}{1.23} = 10.16 : 1$$

3. Determine the Normal Torque

The normal torque required for reducer selection is the actual torque required at the reducer output shaft. Therefore, we must convert the 1710 inch pounds of actual torque at the conveyor head shaft to the actual required torque at the reducer output shaft, and then multiply by the service factor.

Actual Torque at Reducer Output Shaft =

$$\frac{\text{Actual Torque At Conveyor Head Shaft}}{\text{Chain Drive Ratio}} = \frac{1710}{1.23} = 1{,}390 \text{ In/lbs.}$$

Normal Torque =

Actual Reducer Output Torque × S F =

1,390 × 1.25 = 1738 in/lbs.

4. Determine Size of Speed Reducer Required

From page 258 under “1750 rpm Driver - 10 to 1 ratio - 175 rpm Driven” and under “Mechanical Output Torque” find the rating equal to or greater than the 1738 inch-pounds normal torque calculated in step no. 3. Note that a 38 inch center distance reducer has a mechanical rating of 2857 inch-pounds.

The correct part number required is:

Reducer: **C38ULR10**

5. Determine the Motor Horsepower

$$\text{Motor Horsepower} = \frac{\text{Actual Torque X Input hp}}{\text{Output Torque}}$$

$$= \frac{1{,}390 \times 5.25}{1743}$$

$$= 4.19$$

Use a 5 horsepower motor.

6. Check Overhung

$$\text{OL (See below)} = \frac{2 \times T \times K}{\text{P.D. of Sprocket}}$$

$$= \frac{2 \times 1390 \times 1.0}{5.032}$$

$$= 552.50 \text{ Pounds}$$

From rating table on page 258, note the maximum overhung load for the output shaft of the C38ULR10 reducer is 1875 lbs., which is greater than the calculated load on shaft of 553 lbs. There is no thrust on the output shaft. There is neither thrust or overhung load on the input shaft because it is direct couple connected. The reducer selection size is ample.

Overhung Loads

When a speed reducer is driven by any belt, chain or gear drive, or when the speed reducer drives a driven unit through a belt, chain or gear drive, overhung loads must not exceed those shown on pages 260 and 261. Use the following formula to calculate the overhung loads:

$$OL = \frac{2TK}{D}$$

where

OL	=	Overhung Load	
T	=	Actual Shaft Torque (inch-pounds)	
D	=	P. D. of Sprocket, Sheave, Pulley or Gear	
K	=	1.0	for Chain Drive
	=	1.25	for Gear Drive
	=	1.25	for Gearbelt Drive
	=	1.50	for V-Belt Drive
	=	2.50	for Flat Belt Drive

No overhung loads are encountered when the speed reducer is coupling connected to the driver and/or driven machine. However, care should be taken in aligning the shafts to avoid pre-loading bearings in misalignment.

Service Factors for Enclosed Worm Gear Applications

(Service factors shown apply only if electric or hydraulic motors are used. For single or multi-cylinder engines, see Conversion table on next page for conversion.)

APPLICATION	Up to 3 Hrs. Day	3-10 Hrs. Day	Over 10 Hrs. Day
AGITATORS (Mixers)			
Pure Liquids	–	1.00	1.25
Liquids and Solids	1.00	1.25	1.50
Liquids-Variable Density	1.00	1.25	1.50
BLOWERS			
Centrifugal	1.00	1.25	–
Lobe	1.00	1.25	1.50
Vane	–	1.00	1.25
BREWING AND DISTILLING			
Bottling Machinery	–	1.00	1.25
Brew Kettles, Continuous Duty	–	1.00	1.25
Cookers, Continuous Duty	–	1.00	1.25
Mash Tubs, Continuous Duty	–	1.00	1.25
Scale Hopper, Frequent Starts	1.00	1.25	1.50
CAN FILLING MACHINES	–	1.00	1.25
CAR DUMPERS	1.25	1.50	1.75
CAR PULLERS	1.00	1.25	1.50
CLARIFIERS	–	1.00	1.25
CLASSIFIERS	1.00	1.25	1.50
CLAY WORKING MACHINERY			
Brick Press	1.25	1.50	1.75
Briquette Machine	1.25	1.50	1.75
Pug Mill	1.00	1.25	1.50
COMPACTORS	1.50	1.75	2.00
COMPRESSORS			
Centrifugal	–	1.00	1.25
Lobe	1.00	1.25	1.50
Reciprocating, Multi-Cylinder	1.00	1.25	1.50
Reciprocating, Single-Cylinder	1.25	1.50	1.75
CONVEYORS - GENERAL PURPOSE			
Uniformly Loaded or Fed	–	1.00	1.25
Not Uniformly Fed	1.00	1.25	1.50
Reciprocating or Shaker	1.25	1.50	1.75
CRANES			
Dry Dock			
Main Hoist	1.25	1.50	1.75
Auxiliary	1.25	1.50	1.75
Boom Hoist	1.25	1.50	1.75
Slewing Drive	1.25	1.50	1.75
Traction Drive	1.50	1.50	1.50
Container			
Main Hoist	Refer to Application Engr.		
Boom Hoist	Refer to Application Engr.		
Trolley Drive	Refer to Application Engr.		
(Gantry Drive)			
(Traction Drive)	Refer to Application Engr.		
Mill Duty			
Main Hoist	Refer to Application Engr.		
Auxiliary	Refer to Application Engr.		
Bridge and Trolley Travel	Refer to Application Engr.		
Industrial Duty			
Main	1.00	1.25	1.50
Auxiliary	Refer to Application Engr.		
Bridge and Trolley Travel	Refer to Application Engr.		
CRUSHER			
Stone or Ore	1.50	1.75	2.00
DREDGES			
Cable Reels	1.00	1.25	1.50
Conveyors	1.00	1.25	1.50
Cutter Head Drives	1.25	1.50	1.75
Pumps	1.00	1.25	1.50
Screen Drives	1.25	1.50	1.75
Stackers	1.00	1.25	1.50
Winches	1.00	1.25	1.50
ELEVATORS			
Bucket	1.00	1.25	1.50
Centrifugal Discharge	–	1.00	1.25
Escalators	Refer to Application Engr.		
Freight	Refer to Application Engr.		
Gravity Discharge	–	1.00	1.25
EXTRUDERS			
General	1.25	1.25	1.25
Plastics			
(a) Variable Speed Drive	1.50	1.50	1.50
(b) Fixed Speed Drive	1.75	1.75	1.75
Rubber			
(a) Continuous Screw Operation	1.50	1.50	1.50
(b) Intermittent Screw Operation	1.75	1.75	1.75

Up to APPLICATION	Up to 3 Hrs. Day	3-10 Hrs. Day	Over 10 Hrs. Day
FANS			
Centrifugal	–	1.00	1.25
Cooling Towers	Refer to Application Engr.		
Forced Draft	1.25	1.25	1.25
Induced Draft	1.00	1.25	1.50
Industrial & Mine	1.00	1.25	1.50
FEEDERS			
Apron	–	1.25	1.50
Belt	1.00	1.25	1.50
Disc	–	1.00	1.25
Reciprocating	1.25	1.50	1.75
Screw	1.00	1.25	1.50
FOOD INDUSTRY			
Cereal Cooker	–	1.00	1.25
Dough Mixer	1.00	1.25	1.50
Meat Grinders	1.00	1.25	1.50
Slicers	1.00	1.25	1.50
GENERATORS AND EXCITERS	–	1.00	1.25
HAMMER MILLS	1.50	1.50	1.75
HOISTS			
Heavy Duty	1.25	1.50	1.75
Medium Duty	1.00	1.25	1.50
Skip Hoist	1.00	1.25	1.50
LAUNDRY TUMBLERS	1.00	1.25	1.50
LAUNDRY WASHERS	1.25	1.25	1.50
LUMBER INDUSTRY			
Barkers			
-Spindle Feed	1.25	1.25	1.25
- Main Drive	1.50	1.50	1.50
Conveyors			
- Burner	1.25	1.25	1.50
- Main or Heavy Duty	1.50	1.50	1.50
- Main Log	1.50	1.50	1.50
- Re-saw, Merry-Go-Round	1.25	1.25	1.50
- Slab	1.50	1.50	1.75
- Transfer	1.25	1.25	1.50
Chains			
- Floor	1.50	1.50	1.50
- Green	1.50	1.50	1.50
Cut-Off Saws			
- Chain	1.50	1.50	1.50
- Drag	1.50	1.50	1.50
Debarking Drums	1.50	1.50	1.75
Feeds			
- Edger	1.25	1.25	1.50
- Gang	1.50	1.50	1.50
- Trimmer	1.25	1.25	1.50
Log Deck	1.50	1.50	1.50
Log Hauls-Incline-Well Type	1.50	1.50	1.50
Log Turning Devices	1.50	1.50	1.50
Planer Feed	1.25	1.25	1.50
Planer Tilting Hoists	1.50	1.50	1.50
Rolls-Live-off Brg.-Roll Cases	1.50	1.50	1.50
Sorting Table	1.25	1.25	1.50
Tipple Hoist	1.25	1.25	1.50
Transfers			
- Chain	1.50	1.50	1.50
- Causeway	1.50	1.50	1.50
Tray Drives	1.25	1.25	1.50
Veneer Lathe Drives	Refer to Application Engr.		
METAL MILLS			
Draw Bench Carriage and Main Drive	1.00	1.25	1.50
Runout Table			
Non-reversing			
Group Drives	1.00	1.25	1.50
Individual Drives	1.50	1.50	1.75
Reversing	1.50	1.50	1.75
Slab Pushers	1.25	1.25	1.50
Shears	1.50	1.50	1.75
Wire Drawing	1.00	1.25	1.50
Wire Winding Machine	1.00	1.25	1.50
METAL STRIP PROCESSING MACHINERY			
Bridles	1.25	1.25	1.50
Coilers & Uncoilers	1.00	1.00	1.25
Edge Trimmers	1.00	1.25	1.50
Flatteners	1.00	1.25	1.50
Loopers(Accumulators)	1.00	1.00	1.00
Pinch Rolls	1.00	1.25	1.50
Scrap Choppers	1.00	1.25	1.50
Shears	1.50	1.50	1.75
Slitters	1.00	1.25	1.50

Enclosed Worm Gear Applications

APPLICATION	Up to 3 Hrs. Day	3-10 Hrs. Day	Over 10 Hrs. Day
MILLS, ROTARY TYPE			
Ball & Rod			
Spur Ring Gear	1.50	1.50	1.75
Helical Ring Gear	1.50	1.50	1.50
Direct Connected	1.50	1.50	1.75
Cement Kilns	1.50	1.50	1.50
Dryers & Coolers	1.50	1.50	1.50
MIXERS, CONCRETE	1.00	1.25	1.50
PAPER MILLS			
Agitator(Mixer)	1.50	1.50	1.50
Agitator for Pure Liquids	1.25	1.25	1.25
Barking Drums	1.75	1.75	1.75
Barkers - Mechanical	1.75	1.75	1.75
Beater	1.50	1.50	1.50
Breaker Stack	1.25	1.25	1.25
❖ Calender	1.25	1.25	1.25
Chipper	1.75	1.75	1.75
Chip Feeder	1.50	1.50	1.50
Coating Rolls	1.25	1.25	1.25
Conveyors			
Chip, Bark, Chemical	1.25	1.25	1.25
Log(Including Slab)	1.75	1.75	1.75
Couch Rolls	1.25	1.25	1.25
Cutter	1.75	1.75	1.75
Cylinder Molds	1.25	1.25	1.25
❖ Dryers			
Paper Machine	1.25	1.25	1.25
Conveyor Type	1.25	1.25	1.25
Embosser	1.25	1.25	1.25
Extruder	1.50	1.50	1.50
Fourdrinier Rolls (Includes Lump Breaker, Dandy Roll, Wire Turning, and Return Rolls)	1.25	1.25	1.25
Jordan	1.25	1.25	1.25
Kiln Drive	1.50	1.50	1.50
Mt. Hope Roll	1.25	1.25	1.25
Paper Rolls	1.25	1.25	1.25
Platter	1.50	1.50	1.50
Presses- Felt & Suction	1.25	1.25	1.25
Pulper	1.50	1.50	1.75
Pumps- Vacuum	1.50	1.50	1.50
Reel (Surface Type)	1.25	1.25	1.50
Screens			
Chip	1.50	1.50	1.50
Rotary	1.50	1.50	1.50
Vibrating	1.75	1.75	1.75
Size Press	1.25	1.25	1.25
Super Calender (See Note)	1.25	1.25	1.25
Thickener			
(AC Motor)	1.50	1.50	1.50
(DC Motor)	1.25	1.25	1.25
Washer			
(AC Motor)	1.50	1.50	1.50
(DC Motor)	1.25	1.25	1.25
Wind and Unwind Stand	1.00	1.00	1.00
Winders (Surface Type)	1.25	1.25	1.25
❖ Yankee Dryers	1.25	1.25	1.25
PLASTICS INDUSTRY - PRIMARY PROCESSING			
Intensive Internal Mixers			
(a) Batch Mixers	1.75	1.75	1.75
(b) Continuous Mixers	1.50	1.50	1.50
Batch Drop Mill - 2 Smooth Rolls	1.25	1.25	1.25
Continuous Feed, Holding & Blend Mill	1.25	1.25	1.25
Compounding Mills	1.25	1.25	1.25
Calenders	1.50	1.50	1.50
PLASTICS INDUSTRY - SECONDARY PROCESSING			
Blow Molders	1.50	1.50	1.50
Coating	1.25	1.25	1.25
Film	1.25	1.25	1.25
Pipe	1.25	1.25	1.25
Pre-Plasticizers	1.50	1.50	1.50
Rods	1.25	1.25	1.25
Sheet	1.25	1.25	1.25
Tubing	1.25	1.25	1.50
PULLERS - BARGE HAUL	1.00	1.50	1.75
PUMPS			
Centrifugal	–	1.00	1.25
Proportioning	1.00	1.25	1.50
Reciprocating			
Single Acting, 3 or More Cylinders	1.00	1.25	1.50
Double Acting, 2 or More Cylinders	1.00	1.25	1.50
Rotary			
- Gear Type	–	1.00	1.50
- Lobe	–	1.00	1.25
- Vane	–	1.00	1.25
RUBBER INDUSTRY			
Intensive Internal Mixers			
(a) Batch Mixers	1.50	1.75	1.75
(b) Continuous Mixers	1.25	1.50	1.50
Mixing Mill - 2 Smooth Rolls - (If corrugated rolls are used, then use the same service factors that are used for a Cracker-Warmer)	1.50	1.50	1.50
Batch Drop Mill - 2 Smooth Rolls	1.50	1.50	1.50
Cracker Warmer - 2 Roll: 1 Corrugated Roll	1.75	1.75	1.75

APPLICATION	Up to 3 Hrs. Day	3-10 Hrs. Day	Over 10 Hrs. Day
RUBBER INDUSTRY (Cont'd.)			
Cracker - 2 Corrugated Rolls	1.75	1.75	1.75
Holding, Feed & Blend Mill - 2 Rolls	1.25	1.25	1.25
Refiner - 2 Rolls	1.50	1.50	1.50
Calenders	1.50	1.50	1.50
SAND MILLER	1.00	1.25	1.50
SEWAGE DISPOSAL EQUIPMENT			
Bar Screens	–	1.00	1.25
Chemical Feeders	–	1.00	1.25
Dewatering Screens	1.00	1.25	1.50
Scum Breakers	1.00	1.25	1.50
Slow Or Rapid Mixers	1.00	1.25	1.50
Sludge Collectors	1.00	1.00	1.25
Thickener	1.00	1.25	1.50
Vacuum Filters	1.00	1.25	1.50
SCREENS			
Air Washing	–	1.00	1.25
Rotary - Stone Or Gravel	1.00	1.25	1.50
Traveling Water Intake	–	1.00	1.25
SUGAR INDUSTRY			
Beet Slicer	1.50	1.50	1.75
Cane Knives	1.50	1.50	1.50
Crushers	1.50	1.50	1.50
Mills (Low Speed End)	1.50	1.50	1.50
TEXTILE INDUSTRY			
Batchers	1.00	1.25	1.50
Calenders	1.00	1.25	1.50
Cards	1.00	1.25	1.50
Dry Cans	1.00	1.25	1.50
Dryers	1.00	1.25	1.50
Dyeing Machinery	1.00	1.25	1.50
Looms	1.00	1.25	1.50
Mangles	1.00	1.25	1.50
Nappers	1.00	1.25	1.50
Pads	1.00	1.25	1.50
Slashers	1.00	1.25	1.50
Soapers	1.00	1.25	1.50
Spinners	1.00	1.25	1.50
Tenter Frames	1.00	1.25	1.50
Washers	1.00	1.25	1.50
Winders	1.00	1.25	1.50

❖ Anti-Friction Bearings Only.

Note: A Service Factor of 1.0 may be applied at the base of a super calender, operating over a speed range where part of the range is constant horsepower and part of the range is constant torque, provided that the constant horsepower part is greater than 1.5 to 1. A service factor of 1.25 is applicable to super calenders operating over the entire speed range at constant torque, or where the constant horsepower speed range is less than 1.5 to 1.

Service Factors for Electric and Hydraulic Motors

(For Service Factors For Single Or Multi-Cylinder Engines, Consult Conversion Table below)

Duration of Service (Hours Per Day)	Uniform Load	Moderate Shock	Heavy Shock	Extreme Shock
Occasional 1/2 Hour	–	–	1.0	1.25
Less Than 3 Hours	1.0	1.0	1.25	1.50
3 - 10 Hours	1.0	1.25	1.50	1.75
Over 10 Hours	1.25	1.50	1.75	2.00

Conversion Table for Single or Multi-Cylinder Engines to find Equivalent Single or Multi-Cylinder Service Factors

Hydraulic or Electric Motor	Single Cylinder Engines	Multi-Cylinder Engines
1.00	1.50	1.25
1.25	1.75	1.50
1.50	2.00	1.75
1.75	2.25	2.00
2.00	2.50	2.25

Load and operating characteristics of both the driver and driven units must be considered throughly when selecting speed reducers. It is essential that all speed reducers be selected for maximum load conditions to be encountered. Worm gear speed reducers will safely transmit momentary starting loads as great as 300% of the mechanical input ratings.

Input Horsepower, Output Torque and Overhung Load for Cobra Worm Gear Speed Reducers

UNIT SIZE ■	MECHANICAL		MAXIMUM OVERHUNG LOAD Lbs.
	Input HP	Output Torque	Output Shaft
1750 RPM Driver–5:1 Ratio–350 RPM Output			
13	1.11	183	270
18	2.13	352	750
21	3.04	510	1012
26	5.38	909	1050
1750 RPM Driver–10:1 Ratio–175 RPM Output			
13	0.67	214	270
18	1.32	429	750
21	1.95	636	1012
26	3.54	1163	1050
38	8.53	2857	1875
1750 RPM Driver–15:1 Ratio–116.6 RPM Output			
13	0.49	225	270
18	0.99	462	750
21	1.43	680	1012
26	2.61	1252	1050
38	6.39	3106	1875
1750 RPM Driver–20:1 Ratio–87.5 RPM Output			
13	0.40	235	270
18	0.78	473	750
21	1.16	706	1012
26	2.09	1296	1050
38	5.23	3260	1875
1750 RPM Driver–25:1 Ratio–70 RPM Output			
13	0.34	234	270
18	0.66	472	750
21	0.99	706	1012
26	1.78	1300	1050
38	4.54	3372	1875
1750 RPM Driver–30:1 Ratio–58.3 RPM Output			
13	0.28	233	270
18	0.55	472	750
21	0.82	707	1012
26	1.48	1303	1050
38	3.85	3300	1875
1750 RPM Driver–40:1 Ratio–43.7 RPM Output			
13	0.23	235	270
18	0.45	472	750
21	0.66	705	1012
26	1.19	1295	1050
38	2.91	3320	1875
1750 RPM Driver–50:1 Ratio–35 RPM Output			
13	0.19	223	270
18	0.36	452	750
21	0.54	678	1012
26	0.96	1250	1050
38	2.45	3320	1875

UNIT SIZE ■	MECHANICAL		MAXIMUM OVERHUNG LOAD Lbs.
	Input HP	Output Torque	Output Shaft
1750 RPM Driver–60:1 Ratio–29.1 RPM Output			
13	0.17	209	270
18	0.30	426	750
21	0.45	641	1012
26	0.79	1182	1050
38	2.08	3270	1875
1160 RPM Driver–5:1 Ratio–232 RPM Output			
13	0.86	211	270
18	1.72	426	750
21	2.53	632	1012
26	4.60	1160	1050
1160 RPM Driver–10:1 Ratio–116 RPM Output			
13	0.50	235	270
18	1.01	488	750
21	1.54	746	1012
26	2.88	1409	1050
38	7.25	3612	1875
1160 RPM Driver–15:1 Ratio–77.3 RPM Output			
13	0.36	246	270
18	0.77	526	750
21	1.13	787	1012
26	2.11	1497	1050
38	5.50	4030	1875
1160 RPM Driver–20:1 Ratio–58 RPM Output			
13	0.30	257	270
18	0.60	535	750
21	0.92	818	1012
26	1.71	1561	1050
38	4.30	4150	1875
1160 RPM Driver–25:1 Ratio–46.4 RPM Output			
13	0.26	256	270
18	0.49	533	750
21	0.76	814	1012
26	1.42	1560	1050
38	3.60	4224	1875
1160 RPM Driver–30:1 Ratio–38.6 RPM Output			
13	0.21	254	270
18	0.43	528	750
21	0.65	813	1012
26	1.21	1554	1050
38	3.15	4150	1875
1160 RPM Driver–40:1 Ratio–29 RPM Output			
13	0.18	256	270
18	0.35	535	750
21	0.53	816	1012
26	0.99	1558	1050
38	2.44	4100	1875

UNIT SIZE ■	MECHANICAL		MAXIMUM OVERHUNG LOAD Lbs.
	Input HP	Output Torque	Output Shaft
1160 RPM Driver–50:1 Ratio–23.2 RPM Output			
13	0.14	244	270
18	0.29	508	750
21	0.43	780	1012
26	0.80	1485	1050
38	1.98	3900	1875
1160 RPM Driver–60:1 Ratio–19.3 RPM Output			
13	0.129	230	270
18	0.24	477	750
21	0.36	734	1012
26	0.66	1403	1050
38	1.62	3830	1875
690 RPM Driver–5:1 Ratio–138 RPM Output			
13	0.59	237	270
18	1.22	498	750
21	1.84	756	1012
26	3.48	1446	1050
690 RPM Driver–10:1 Ratio–69 RPM Output			
13	0.33	254	270
18	0.68	539	750
21	1.06	840	1012
26	2.06	1648	1050
38	5.46	4478	1875
690 RPM Driver–15:1 Ratio–46 RPM Output			
13	0.24	264	270
18	0.52	579	750
21	0.77	878	1012
26	1.49	1723	1050
38	4.17	4850	1875
690 RPM Driver–20:1 Ratio–34.5 RPM Output			
13	0.20	286	270
18	0.41	586	750
21	0.64	917	1012
26	1.27	1798	1050
38	3.26	5000	1875
690 RPM Driver–25:1 Ratio–27.6 RPM Output			
13	0.17	293	270
18	0.34	586	750
21	0.54	915	1012
26	1.04	1789	1050
38	2.78	4900	1875
690 RPM Driver–30:1 Ratio–23 RPM Output			
13	0.14	296	270
18	0.29	590	750
21	0.45	903	1012
26	0.87	1779	1050
38	2.45	4930	1875

■ Basic Unit Size

Find ratings for input speeds not shown by straight line interpolation.
Maximum overhung loads are at center of keyseats and on one end of output shaft only. Overhung loads applied closer to the reducer housing are desirable, but overhung loads farther out on the shaft and overhung loads on both ends of output shaft should be referred to Application Engineering .

Contact Application Engineering (1 800 626 2093) for the following:
1. High starting torques exceeding 300% of the reducer mechanical rating.
2. Frequent starting or repetitive shock applications.
3. Applications where high energy loads must be absorbed as when stalling.

Input Horsepower, Output Torque and Overhung Load for Cobra Worm Gear Speed Reducers

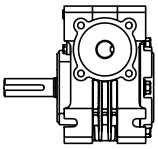
UNIT SIZE ■	MECHANICAL		MAXIMUM OVERHUNG LOAD Lbs.
	Input HP	Output Torque	Output Shaft
690 RPM Driver–40:1 Ratio–17.2 RPM Output			
13	0.12	286	270
18	0.24	584	750
21	0.38	914	1012
26	0.72	1794	1050
38	1.88	4800	1875
690 RPM Driver–50:1 Ratio–13.8 RPM Output			
13	0.096	260	270
18	0.20	554	750
21	0.31	867	1012
26	0.59	1709	1050
38	1.52	4500	1875
690 RPM Driver–60:1 Ratio–11.5 RPM Output			
13	0.085	241	270
18	0.17	518	750
21	0.26	815	1012
26	0.49	1606	1050
38	1.25	4300	1875
100 RPM Driver–5:1 Ratio–20 RPM Output			
13	0.10	270	270
18	0.23	596	750
21	0.35	931	1012
26	0.71	1898	1050

UNIT SIZE ■	MECHANICAL		MAXIMUM OVERHUNG LOAD Lbs.
	Input HP	Output Torque	Output Shaft
100 RPM Driver–10:1 Ratio–10 RPM Output			
13	0.056	278	270
18	0.12	606	750
21	0.19	969	1012
26	0.39	1981	1050
38	0.98	5100	1875
100 RPM Driver–15:1 Ratio–6.6 RPM Output			
13	0.040	285	270
18	0.093	650	750
21	0.14	997	1012
26	0.28	2039	1050
38	0.70	5180	1875
100 RPM Driver–20:1 Ratio–5 RPM Output			
13	0.035	300	270
18	0.070	654	750
21	0.12	1048	1012
26	0.24	2144	1050
38	0.55	5300	1875
100 RPM Driver–25:1 Ratio– 4 RPM Output			
13	0.03	296	270
18	0.06	646	750
21	0.09	1036	1012
26	0.21	2119	1050
38	0.46	5250	1875

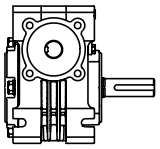
UNIT SIZE ■	MECHANICAL		MAXIMUM OVERHUNG LOAD Lbs.
	Input HP	Output Torque	Output Shaft
100 RPM Driver–30:1 Ratio–3.3 RPM Output			
13	0.025	292	270
18	0.053	636	750
21	0.086	1022	1012
26	0.17	2090	1050
38	0.42	5250	1875
100 RPM Driver–40:1 Ratio–2.5 RPM Output			
13	0.023	298	270
18	0.048	650	750
21	0.076	1042	1012
26	0.15	2131	1050
38	0.35	5170	1875
100 RPM Driver–50:1 Ratio–2 RPM Output			
13	0.019	281	270
18	0.039	613	750
21	0.063	984	1012
26	0.13	2015	1050
38	0.30	4720	1875
100 RPM Driver–60:1 Ratio–1.6 RPM Output			
13	0.016	263	270
18	0.032	574	750
21	0.051	923	1012
26	0.11	1887	1050
38	0.26	4560	1875

Assembly Positions

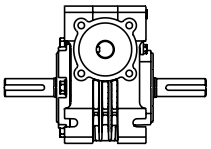
L



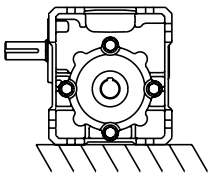
R



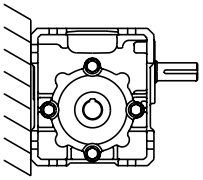
LR



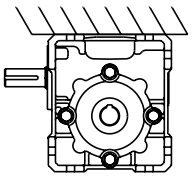
Mounting Surfaces



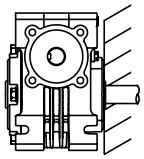
Floor



Wall



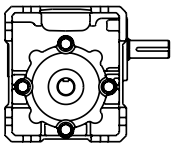
Ceiling



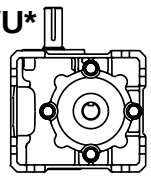
Face Mount

Mounting Positions

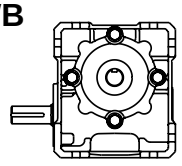
WT



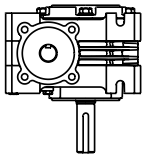
WVU*



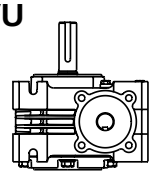
WB



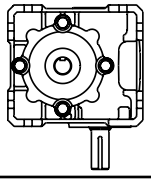
OVD



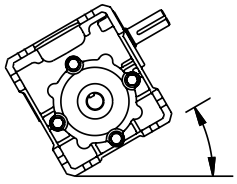
OVU



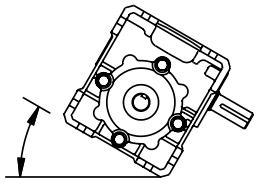
WVD**



Angle Mounting Positions



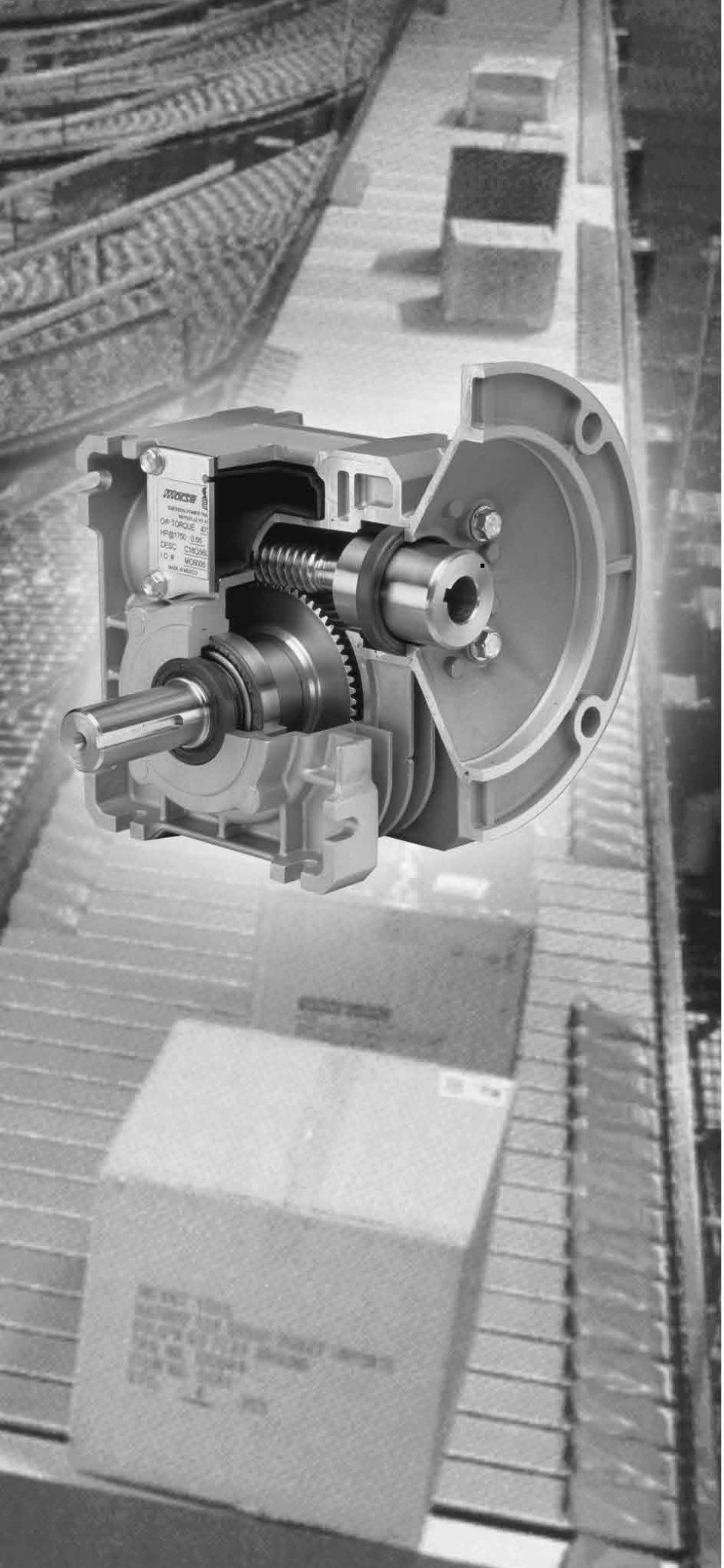
0° TO 30°



0° TO 30°

For angle mount greater than 30°, WVU or HVD positions consult factory.

* On shaft input style WVU position consult factory.
** Not recommended, consult factory.



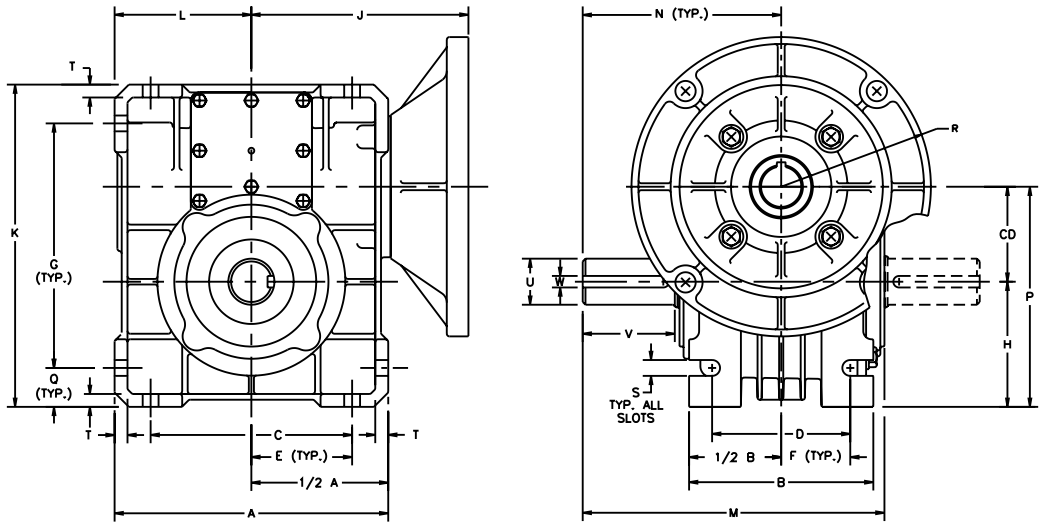
Making it move is our business.

Whether you are conveying aggregate or packages, Emerson can supply you with a complete solution for bearing and power transmission products. Our broad offering of rugged, problem-solving products can provide you maximum overall productivity through unique features that can reduce required maintenance and extend product life in even the harshest environments.

Emerson also provides rock solid support to our customers through:

- Online selection, interchange, media, and engineering tools
- Application Engineering - that boost your output
- Customer Service - that puts you first
- A Distributor Network - that's everywhere you are
- Global Savvy - that brings you the best the world has to offer

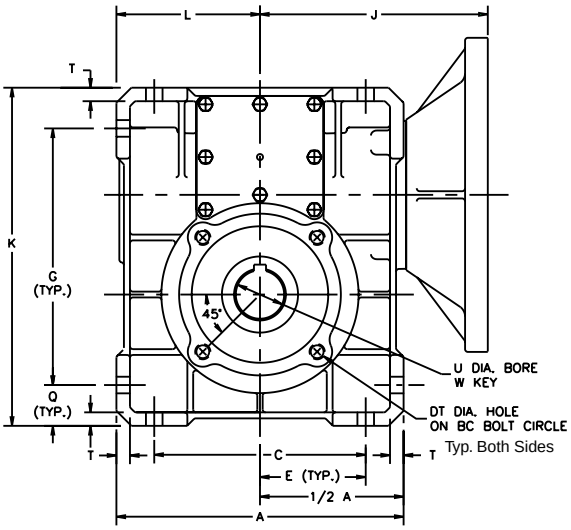
We understand that to succeed in today's global environment, you need your suppliers to provide you with the best value... and that is what you get with Emerson.

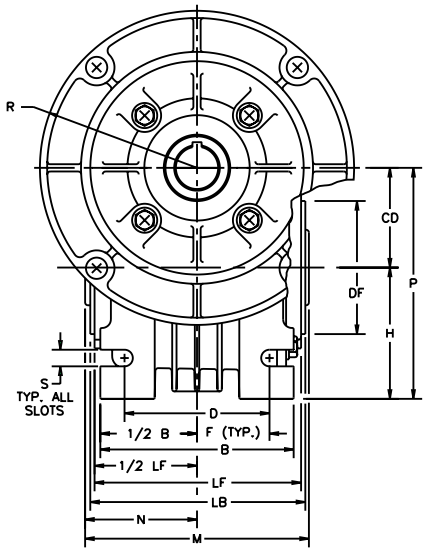


Type Q

CD	Basic Unit	NEMA Frame	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T
1.33	**13Q56**	56C	4.31	2.85	2.75	2.23	1.375	1.115	3.38	1.95	3.47	4.80	2.16	5.21	3.54	3.28	0.72	3.25	0.28	0.25
1.75	**18Q56**	56C	5.00	3.38	3.38	2.76	1.690	1.380	4.13	2.22	3.80	5.78	2.50	5.93	3.94	3.97	0.94	3.25	0.28	0.25
1.75	**18Q140**	143/145TC	5.00	3.38	3.38	2.76	1.690	1.380	4.13	2.22	3.80	5.78	2.50	5.93	3.94	3.97	0.94	3.25	0.28	0.25
2.06	**21Q56**	56C	5.94	4.00	4.38	3.25	2.190	1.625	5.31	2.72	4.72	6.97	2.97	6.52	4.31	4.78	0.84	3.25	0.41	0.28
2.06	**21Q140**	143/145TC	5.94	4.00	4.38	3.25	2.190	1.625	5.31	2.72	4.72	6.97	2.97	6.52	4.31	4.78	0.84	3.25	0.41	0.28
2.62	**26Q56**	56C	6.75	4.50	5.00	3.50	2.500	1.750	5.75	3.25	5.15	8.03	3.38	7.67	5.13	5.88	1.19	3.25	0.41	0.31
2.62	**26Q140**	143/145TC	6.75	4.50	5.00	3.50	2.500	1.750	5.75	3.25	5.15	8.03	3.38	7.67	5.13	5.88	1.19	3.25	0.41	0.31
2.62	**26Q180**	182/184TC	6.75	4.50	5.00	3.50	2.500	1.750	5.75	3.25	5.88	8.03	3.38	7.67	5.13	5.88	1.19	4.50	0.41	0.31
3.75	**38Q56**	56C	9.50	5.81	6.75	4.75	3.375	2.375	8.25	4.50	6.52	11.00	4.75	9.94	6.81	8.25	1.50	3.25	0.56	0.50
3.75	**38Q140**	143/145TC	9.50	5.81	6.75	4.75	3.375	2.375	8.25	4.50	6.52	11.00	4.75	9.94	6.81	8.25	1.50	3.25	0.56	0.50
3.75	**38Q180**	182/184TC	9.50	5.81	6.75	4.75	3.375	2.375	8.25	4.50	7.25	11.00	4.75	9.94	6.81	8.25	1.50	4.50	0.56	0.50

CD	Basic Unit	NEMA Frame	Output Shaft				Standard Ratios Marked "X"									Wt. Lbs.
			U	V	W Sq.	Key Lgth.	5	10	15	20	25	30	40	50	60	
1.33	**13Q56**	56C	0.625	1.75	0.188	1.31	x	x	x	x	x	x	x	x	x	5.8
1.75	**18Q56**	56C	0.875	1.88	0.188	1.38	x	x	x	x	x	x	x	x	x	8.7
1.75	**18Q140**	143/145TC	0.875	1.88	0.188	1.38	x	x	x	-	-	-	-	-		8.7
2.06	**21Q56**	56C	1.000	2.00	0.250	1.75	-	x	x	x	x	x	x	x	x	12.7
2.06	**21Q140**	143/145TC	1.000	2.00	0.250	1.75	x	x	x	x	x	-	-	-	-	12.7
2.62	**26Q56**	56C	1.125	2.50	0.250	2.00	x	x	x	x	x	x	x	x	x	19.4
2.62	**26Q140**	143/145TC	1.125	2.50	0.250	2.00	x	x	x	x	x	x	x	x	x	19.4
2.62	**26Q180**	182/184TC	1.125	2.50	0.250	2.00	x	x	-	-	-	-	-	-	-	19.4
3.75	**38Q56**	56C	1.625	3.63	0.375	3.00	-	-	-	-	-	x	x	x	x	42.2
3.75	**38Q140**	143/145TC	1.625	3.63	0.375	3.00	-	x	x	x	x	x	x	x	x	42.2
3.75	**38Q180**	182/184TC	1.625	3.63	0.375	3.00	-	x	x	x	x	x	x	x	-	42.2

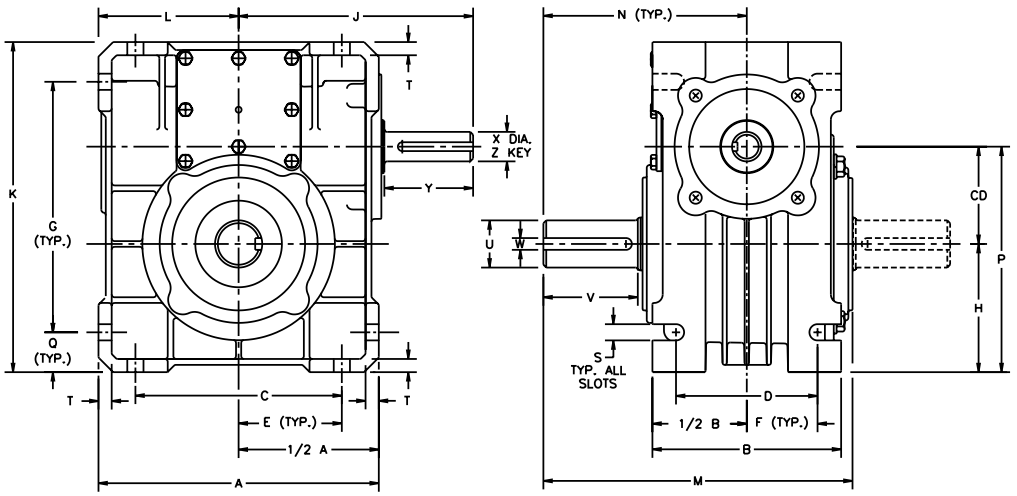




Type QH

CD	Basic Unit	NEMA Frame	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T
1.33	**13Q56H**	56C	4.31	2.85	2.75	2.23	1.375	1.115	3.38	1.95	3.47	4.80	2.16	3.50	1.75	3.28	0.72	3.25	0.28	0.25
1.75	**18Q56H**	56C	5.00	3.38	3.38	2.76	1.690	1.380	4.13	2.22	3.80	5.78	2.50	4.13	2.06	3.97	0.94	3.25	0.28	0.25
1.75	**18Q140H**	143/145TC	5.00	3.38	3.38	2.76	1.690	1.380	4.13	2.22	3.80	5.78	2.50	4.13	2.06	3.97	0.94	3.25	0.28	0.25
2.06	**21Q56H**	56C	5.94	4.00	4.38	3.25	2.190	1.625	5.31	2.72	4.72	6.97	2.97	4.63	2.32	4.78	0.84	3.25	0.41	0.28
2.06	**21Q140H**	143/145TC	5.94	4.00	4.38	3.25	2.190	1.625	5.31	2.72	4.72	6.97	2.97	4.63	2.32	4.78	0.84	3.25	0.41	0.28
2.62	**26Q56H**	56C	6.75	4.50	5.00	3.50	2.500	1.750	5.75	3.25	5.15	8.03	3.38	5.12	2.56	5.87	1.19	3.25	0.41	0.31
2.62	**26Q140H**	143/145TC	6.75	4.50	5.00	3.50	2.500	1.750	5.75	3.25	5.15	8.03	3.38	5.12	2.56	5.87	1.19	3.25	0.41	0.31
2.62	**26Q180H**	182/184TC	6.75	4.50	5.00	3.50	2.500	1.750	5.75	3.25	5.88	8.03	3.38	5.12	2.56	5.87	1.19	4.50	0.41	0.31
3.75	**38Q56H**	56C	9.50	5.81	6.75	4.75	3.375	2.375	8.25	4.50	6.52	11.00	4.75	6.50	3.25	8.25	1.50	3.25	0.56	0.50
3.75	**38Q140H**	143/145TC	9.50	5.81	6.75	4.75	3.375	2.375	8.25	4.50	6.52	11.00	4.75	6.50	3.25	8.25	1.50	3.25	0.56	0.50
3.75	**38Q180H**	182/184TC	9.50	5.81	6.75	4.75	3.375	2.375	8.25	4.50	7.25	11.00	4.75	6.50	3.25	8.25	1.50	4.50	0.56	0.50

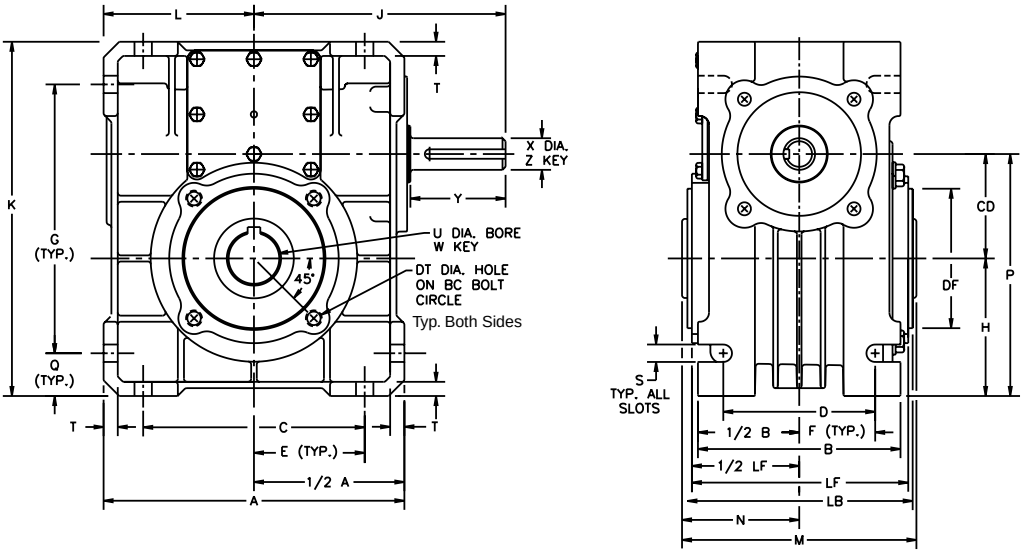
CD	Basic Unit	NEMA Frame	Output Bore		LB	LF	DF	DT (mm)	BC	Standard Ratios Marked "X"									Wt. Lbs.
			U	W Sq.						5	10	15	20	25	30	40	50	60	
1.33	**13Q56H**	56C	0.625	0.187	3.35	3.18	2.362	M6X8 (4)	2.953	x	x	x	x	x	x	x	x	x	5.6
1.75	**18Q56H**	56C	0.875	0.187	3.98	3.78	2.362	M6X8 (4)	2.953	x	x	x	x	x	x	x	x	x	8.8
1.75	**18Q140H**	143/145TC	0.875	0.187	3.98	3.78	2.362	M6X8 (4)	2.953	x	x	x	-	-	-	-	-		8.8
2.06	**21Q56H**	56C	1.000	0.250	4.44	4.23	2.755	M8X14 (4)	3.346	-	x	x	x	x	x	x	x	x	13.0
2.06	**21Q140H**	143/145TC	1.000	0.250	4.44	4.23	2.755	M8X14 (4)	3.346	x	x	x	x	x	-	-	-	-	13.0
2.62	**26Q56H**	56C	1.125	0.250	5.05	4.82	3.148	M8X14 (8)	3.740	x	x	x	x	x	x	x	x	x	19.7
2.62	**26Q140H**	143/145TC	1.125	0.250	5.05	4.82	3.148	M8X14 (8)	3.740	x	x	x	x	x	x	x	x	x	19.7
2.62	**26Q180H**	182/184TC	1.125	0.250	5.05	4.82	3.148	M8X14 (8)	3.740	x	x	-	-	-	-	-	-	-	19.7
3.75	**38Q56H**	56C	1.438	0.375	6.28	6.05	4.329	M10X18 (8)	5.118	-	-	-	-	-	x	x	x	x	38.5
3.75	**38Q140H**	143/145TC	1.438	0.375	6.28	6.05	4.329	M10X18 (8)	5.118	-	x	x	x	x	x	x	x	x	38.5
3.75	**38Q180H**	182/184TC	1.438	0.375	6.28	6.05	4.329	M10X18 (8)	5.118	-	x	x	x	x	x	x	x	-	38.5



Type U

CD	Basic Unit	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	S	T
1.33	**13U**	4.31	2.85	2.75	2.23	1.375	1.115	3.38	1.95	3.69	4.80	2.16	5.21	3.54	3.28	0.72	0.28	0.25
1.75	**18U**	5.00	3.38	3.38	2.76	1.690	1.380	4.13	2.22	4.35	5.78	2.50	5.93	3.94	3.97	0.94	0.28	0.25
2.06	**21U**	5.94	4.00	4.38	3.25	2.190	1.625	5.31	2.72	4.97	6.97	2.97	6.52	4.31	4.78	0.84	0.41	0.28
2.62	**26U**	6.75	4.50	5.00	3.50	2.500	1.750	5.75	3.25	5.87	8.03	3.38	7.67	5.13	5.88	1.19	0.41	0.31
3.75	**38U**	9.50	5.81	6.75	4.75	3.375	2.375	8.25	4.50	7.84	11.00	4.75	9.94	6.81	8.25	1.50	0.56	0.50

CD	Basic Unit	Output Shaft				Input Shaft				Standard Ratios Marked "X"									Wt. Lbs.
		U	V	W Sq.	Key Lgth.	X	Y	Z Sq.	Key Lgth.	5	10	15	20	25	30	40	50	60	
1.33	**13U**	0.625	1.75	0.188	1.31	0.625	1.38	0.188	1.13	X	X	X	X	X	X	X	X	X	5.2
1.75	**18U**	0.875	1.88	0.188	1.38	0.625	1.75	0.188	1.50	X	X	X	X	X	X	X	X	X	7.6
2.06	**21U**	1.000	2.00	0.250	1.75	0.625	1.88	0.188	1.50	X	X	X	X	X	X	X	X	X	12.4
2.62	**26U**	1.125	2.50	0.250	2.00	0.875	2.31	0.188	1.75	X	X	X	X	X	X	X	X	X	18.5
3.75	**38U**	1.625	3.63	0.375	3.00	1.000	2.95	0.250	1.75	-	X	X	X	X	X	X	X	X	41.7



Type UH

CD	Basic Unit	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	S	T
1.33	**13UH**	4.31	2.85	2.75	2.23	1.375	1.115	3.38	1.95	3.69	4.80	2.16	3.50	1.75	3.28	0.72	0.28	0.25
1.75	**18UH**	5.00	3.38	3.38	2.76	1.690	1.380	4.13	2.22	4.35	5.78	2.50	4.13	2.06	3.97	0.94	0.28	0.25
2.06	**21UH**	5.94	4.00	4.38	3.25	2.190	1.625	5.31	2.72	4.97	6.97	2.97	4.63	2.32	4.78	0.84	0.41	0.28
2.62	**26UH**	6.75	4.50	5.00	3.50	2.500	1.750	5.75	3.25	5.87	8.03	3.38	5.12	2.56	5.88	1.19	0.41	0.31
3.75	**38UH**	9.50	5.81	6.75	4.75	3.375	2.375	8.25	4.50	7.84	11.00	4.75	6.50	3.25	8.25	1.50	0.56	0.50

CD	Basic Unit	Output Bore		LB	LF	DF	DT (mm)	BC	Input Shaft				Standard Ratios Marked "X"									Wt. Lbs.
		U	W Sq.						X	Y	Z Sq.	Key Lgth.	5	10	15	20	25	30	40	50	60	
1.33	**13UH**	0.625	0.187	3.35	3.18	2.362	M6X8 (4)	2.953	0.625	1.38	0.188	1.13	x	x	x	x	x	x	x	x	x	5.00
1.75	**18UH**	0.875	0.187	3.98	3.78	2.362	M6X8 (4)	2.953	0.625	1.75	0.188	1.50	x	x	x	x	x	x	x	x	x	7.70
2.06	**21UH**	1.000	0.250	4.44	4.23	2.755	M8X14 (4)	3.346	0.625	1.88	0.188	1.50	x	x	x	x	x	x	x	x	x	12.2
2.62	**26UH**	1.125	0.250	5.05	4.82	3.148	M8X14 (8)	3.740	0.875	2.31	0.188	1.75	x	x	x	x	x	x	x	x	x	18.9
3.75	**38UH**	1.438	0.375	6.28	6.05	4.329	M10X18 (8)	5.118	1.000	2.95	0.250	1.75	-	x	x	x	x	x	x	x	x	44.0

Part Number Configuration

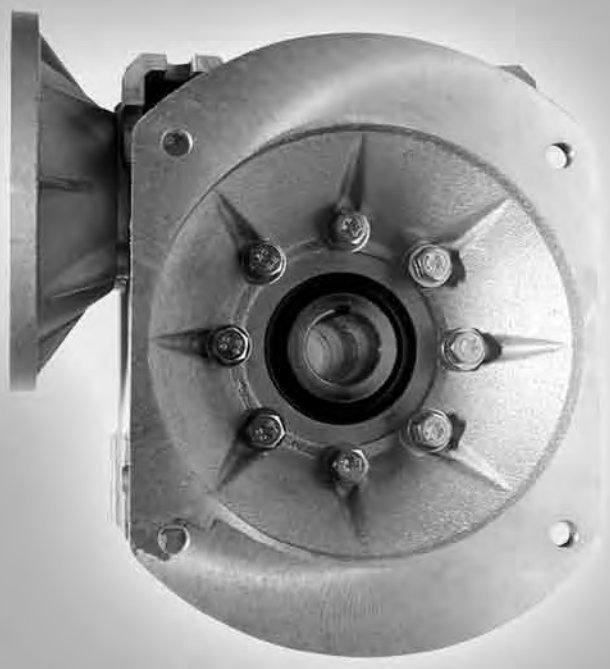
C 13 Q 56 LR 30

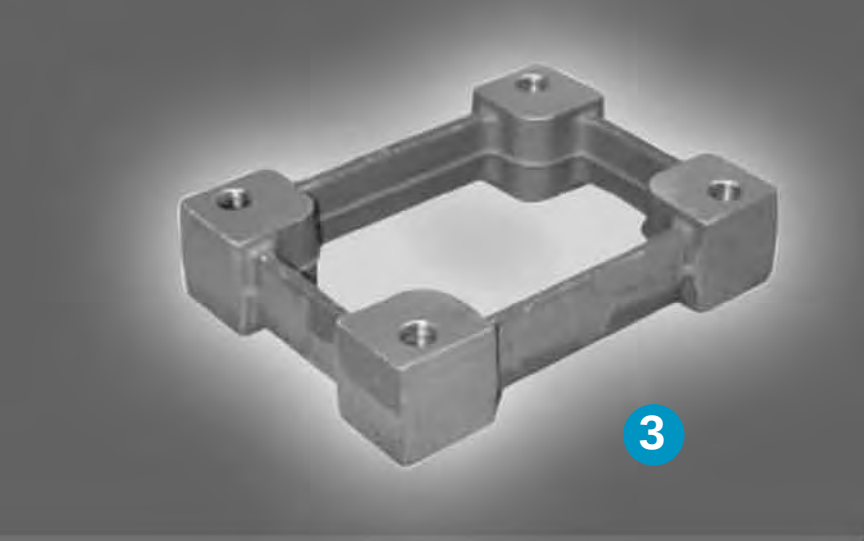
- Ratio: 5, 10, 15, 20, 25, 30, 40, 50, 60
- Output: L, R, LR, H (Hollow)
- Motor Frame: 56, 140, 180 (NEMA)
- Input: U (Shaft) or Q (Quill)
- Center Dist.: 13, 18, 21, 26, 38 (Inch)
- Cobra



2

1





Morse®

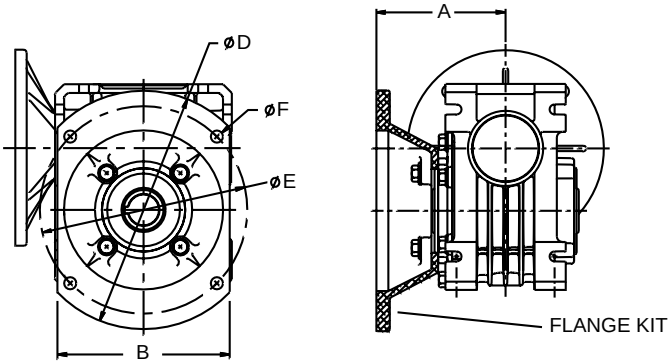
COBRA

1. **Flange Kit**
   - Industry standard bolt pattern
   - High strength, lightweight design
2. **Base Kit**
   - Industry standard bolt pattern
   - High strength, lightweight design
3. **Riser-Block Kit**
   - Bolt to standard Cobra housing
   - Provide clearance for c-face motors and quipment mounting surfaces
   - High strength, lightweight design

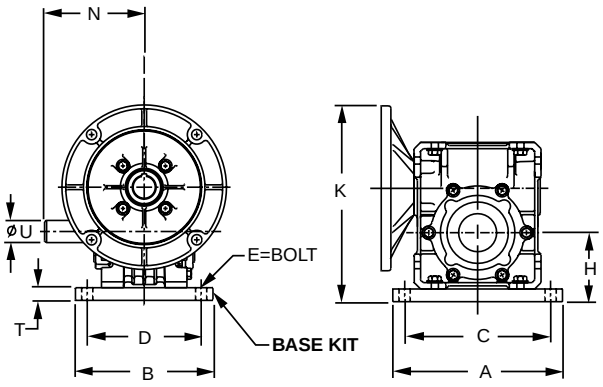
Accessories

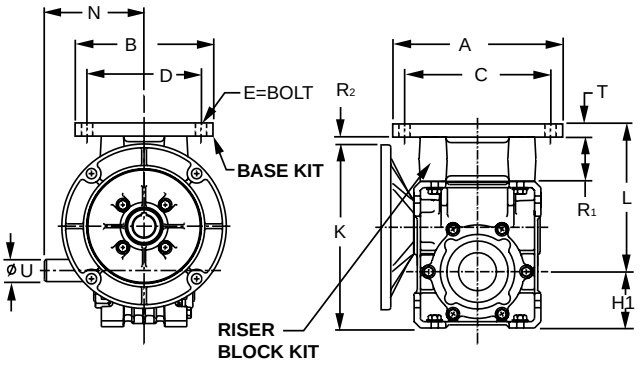
Flange Kit

DESCR.	C.D.	A	B	øD	øE	øF
C13/18FK	13	3.32	4.88	6.75	5.88	0.34
C13/18FK	18	3.62	4.88	6.75	5.88	0.34
C21FK	21	3.72	5.50	7.63	6.50	0.41
C26FK	26	4.82	6.88	9.13	8.00	0.41
C38FK	38	5.22	10.00	13.00	11.50	0.56



Base Kit / Riser Kit



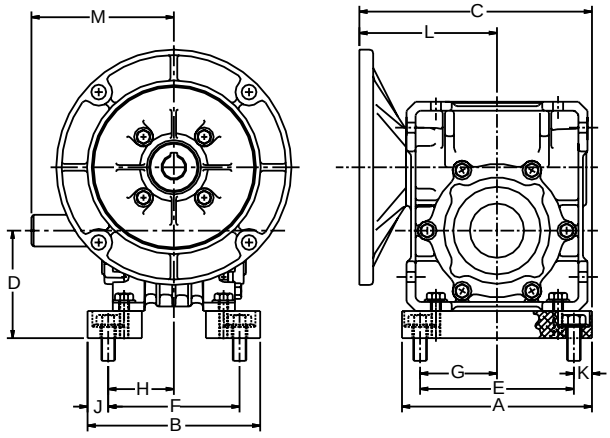


DESCRIPTION		C.D.	C-FACE	R_1	T	A	B	C	D	øE	H	H1	K	L	N	R_2	øU
BASE KIT	RISER BLOCK KIT																
C13BK	C13RBK	13	56 / 140	2.00	0.50	5.24	4.18	4.38	3.31	1/3	2.45	1.95	7.06	5.35	3.54	0.24	0.625
C18BK	C18RBK	18	56 / 140	1.75	0.50	6.82	5.56	5.75	4.50	3/8	2.72	2.22	7.75	5.81	3.94	0.28	0.875
C21BK	C21RBK	21	56 / 140	1.25	0.75	7.36	5.66	6.38	4.68	4/9	3.47	2.72	8.81	6.25	4.31	0.16	1.000
C26BK	C26RBK	26	56 / 140	2.50	0.75	9.25	6.50	8.00	5.25	1/2	4.00	3.25	9.91	8.03	5.13	1.37	1.125
			180	2.50	0.75	9.25	6.50	8.00	5.25	1/2	4.00	3.25	11.13	8.03	5.13	0.15	1.125
C38BK	C38RBK	38	56 / 140	2.00	1.06	10.76	7.38	9.50	6.12	1/2	5.56	4.50	12.59	9.56	6.81	1.47	1.625
			180	2.00	1.06	10.76	7.38	9.50	6.12	1/2	5.56	4.50	13.81	9.56	6.81	0.25	1.625

Accessories
Torqube Adapter

Dimensional Comparison of "Cobra with Adapter" to "Torqube"

	A	B	C	D	E	F	G	H	J	K	L	M	DESCR.
Cobra C18Q56	5.25	4.75	6.45	2.97	4.25	3.63	2.13	1.81	0.57	0.50	3.80	3.94	C18BKTQ
Torqube 17QC56	6.50	4.75	6.94	2.50	4.25	3.63	2.13	1.81	0.57	1.12	3.69	4.44	
Cobra C26Q56/140	7.25	5.25	8.53	4.00	5.50	4.13	3.63	2.06	0.56	1.25	5.15	5.13	C26BKTQ
Torqube 26QC56/140	7.75	5.25	8.13	3.56	5.50	4.13	2.75	2.06	0.56	1.12	4.25	5.44	
Cobra C38Q56/140	9.50	9.00	11.27	5.50	7.88	7.38	3.94	3.69	0.81	0.81	6.52	6.81	C38BKTQ
Torqube 37QC56/140	11.06	9.00	12.31	4.75	7.88	7.38	3.94	3.69	0.81	2.03	6.34	8.06	
Cobra C38Q180	9.50	9.00	12.00	5.50	7.88	7.38	3.94	3.69	0.81	0.81	7.25	6.81	
Torqube 37QC180	11.06	9.00	11.88	4.75	7.88	7.38	3.94	3.69	0.81	2.03	5.91	8.06	







POWERGEAR®
W Series

The RW and W models are the proven performers in worm gear speed reducers and are adapted for universal mounting in any of the three positions; B, T and V. We also offer these units as double reductions designated as DB and DV. These units have large housings, large bearings and large shafts resulting in heavy duty, high capacity units. The B, T and V types are single reduction units and are offered in ratios ranging from 5:1 to 60:1. The DB and DV types are double reduction units for use in either the horizontal or vertical position. Ratios in these DB and DV units range from 75:1 to 3600:1.

The RW models are especially designed and constructed for long, hard continuous running. In addition, the capacity for a given center distance has been raised by means of the unique case design and an external fan. Experience has shown that more capacity can be gained from a reducer if some of the excess heat is carried away from the housing. These fan-cooled units are called RW's. For extra heavy duty where conventional reducers would tend to run hot, you can look to RW's for performance.



- Heavy-duty shaft input/shaft output design.
- Rugged cast iron housings with integral mounting feet top and bottom.
- Integral housing fins and cooling fans improve thermal capacity.
- Tapered roller bearings used throughout.
- Single and double reduction combination units available with ratios through 3600:1.
- Center distance range: 1.00" through 10.00".

for PoweRgear W Series - W and RW

1. Determine Service Factor
From service factor tables on pages 274 and 275 determine service factor for the application.

2. Determine the Overall Drive Ratio

$$\text{Overall Drive Ratio} = \frac{\text{rpm of driver}}{\text{rpm of driven}}$$

When over-all drive ratio is not one of the stock speed reducer ratios shown in tables on page 280 through 305, a chain, belt, or gear drive with further reduction for either the input or output side will be necessary.

3. Determine Equivalent Horsepower or Normal Torque

A. HP Method:

Equivalent hp = Actual Motor hp × Service Factor (Step # 1)

B. Torque Method:

Normal Torque = Actual Torque × Service Factor (Step # 1)

4. Determine the Size of Speed Reducer Required

A. HP Method:

Refer to pages 280 through 305 and select a speed reducer having a mechanical input horsepower equal to or slightly greater than the equivalent hp calculated in Step No. 3 above.

B. Torque Method:

Refer to pages 280 through 305 and select a speed reducer having a mechanical output torque rating equal to or slightly greater than the normal torque calculated in Step No. 3 above. If the required input and output speeds are not listed in these tables, the ratings can be determined by straight line interpolation. When the input speed is less than 100 rpm, ratings for 100 rpm must be used.

5. Determine the Motor Horsepower

Use the following equation when motor hp is not known:

$$\text{Motor Horsepower} = \frac{\text{Actual Torque} \times \text{Input hp}}{\text{Output Torque}}$$

6. Check the Overhung Load
Calculate the overhung load for drives to be mounted directly on the reducer shafts by following instructions on page 273. Check this and any existing thrust loads against the load values shown on pages 280 through 305, and if the calculated load is greater than the values in the table, select a larger speed reducer.

Note: Refer combined overhung and thrust loads to the Application Engineering (1 800 626 2093) Department.

Example No. 1 - Horsepower Method

Select a worm gear speed reducer for a dough mixer in a bakery. The speed reducer will be driven by a 1.0 hp, 1750 rpm motor, directly coupled to the reducer input shaft. The left reducer output shaft will be directly coupled to the mixer shaft. The mixer will operate 8 - 10 hours daily and the shaft speed is 58 rpm. The reducer also requires a horizontal mounting base with the worm on top.

1. Determine the Service Factor
From the table on page 274, note that the service factor for a dough mixer (Food Industry) operating 3 - 10 hours per day is 1.25.

2. Determine Overall Drive Ratio

$$\text{Overall Drive Ratio} = \frac{\text{rpm of Driver}}{\text{rpm of Driven}} = \frac{1750}{58} = 30.17$$

Since there is not an auxiliary input or output drive required, the reducer ratio needed is 30:1.

3. Determine Equivalent Horsepower

$$\text{Equivalent hp} = \text{Actual Motor hp} \times \text{S F} = 1.0 \times 1.25 = 1.25 \text{ hp}$$

4. Determine the Size of Speed Reducer Required
From page 288 under “1750 rpm Driver -30:1 Ratio - 175 rpm Output” and under “Input hp Mechanical” find the rating equal to or greater than the 1.25 equivalent hp calculated in Step No. 3. Note that a 25 reducer has mechanical rating of 1.37 hp. The correct part numbers required are:

Reducer: **25RW-T, 30, 1-L, Position 1**

5. Determine the Motor Horsepower
The motor horsepower is already known to be 1.0 hp.

6. Check Overhung Load
The unit will be coupling connected on the output shaft. Overhung load does not need to be calculated. There is not any thrust on the output shaft. There is neither thrust nor overhung load on the input shaft because it is directly coupled with a motor. Therefore, the reducer selected is the proper size.

Example No. 2 - Torque Method

Select a worm gear speed reducer for a belt conveyor (general purpose), not uniformly fed. The speed reducer will be driven by a 1750 rpm electric motor directly connected by a coupling, with a 1.23:1 ratio chain drive from the reducer to the head shaft of the conveyor. The pitch diameter of the driver sprocket mounted on the reducer output shaft is 5.032 inches. The conveyor will operate 10 hours per day, and the head shaft speed is 140 rpm. The reducer will also require a horizontal mounting base with the worm on top. Conveyor calculations indicate that 1710 inch pounds of torque is needed at the conveyor head shaft.

1. Determine the Service Factor

From the table on page 274, note that the service factor for a belt conveyor (general purpose) operating 3 - 10 hours per day is 1.25.

2. Determine the Overall Drive Ratio

$$\text{Overall Drive Ratio} = \frac{\text{rpm of Driver}}{\text{rpm of Driven}} = \frac{1750}{140} = 12.5 : 1$$

$$\text{Speed Reducer Ratio} = \frac{\text{Overall Drive Ratio}}{\text{Chain Drive Ratio}} = \frac{12.5}{1.23} = 10.16 : 1$$

3. Determine the Normal Torque

The normal torque required for reducer selection is the actual torque required at the reducer output shaft. Therefore, we must convert the 1710 inch pounds of actual torque at the conveyor head shaft to the actual required torque at the reducer output shaft, and then multiply by the service factor.

Actual Torque at Reducer Output Shaft =

$$\text{Actual Torque At Conveyor Head Shaft} = \frac{1710}{1.23} = 1{,}390 \text{ In/lbs.}$$

Normal Torque =

Actual Reducer Output Torque × S F =

1,390 × 1.25 = 1738 in/lbs.

4. Determine Size of Speed Reducer Required

From page 290 under “1750 rpm Driver - 10 to 1 ratio - 175 rpm Driven” and under “Mechanical Output Torque” find the rating equal to or greater than the 1738 inch-pounds normal torque calculated in step no. 3. Note that a 30 reducer has a mechanical rating of 1753 inch-pounds.

The correct part number required is:

Reducer: **30RW-T, 10, 1-L, Position 1**

5. Determine the Motor Horsepower

$$\text{Motor Horsepower} = \frac{\text{Actual Torque X Input hp}}{\text{Output Torque}}$$

$$= \frac{1{,}390 \times 5.25}{1743}$$

$$= 4.19$$

Use a 5 horsepower motor.

6. Check Overhung

$$\text{OL (See below)} = \frac{2 \times T \times K}{\text{P.D. of Sprocket}}$$

$$= \frac{2 \times 1390 \times 1.0}{5.032}$$

$$= 552.50 \text{ Pounds}$$

From rating table on page 290, note the maximum overhung load for the output shaft of the 30RW10:1 reducer is 1403 lbs., which is greater than the calculated load on shaft of 553 lbs. There is no thrust on the output shaft. There is neither thrust or overhung load on the input shaft because it is direct couple connected. The reducer selection size is ample.

Overhung Loads

When a speed reducer is driven by any belt, chain or gear drive, or when the speed reducer drives a driven unit through a belt, chain or gear drive, overhung loads must not exceed those shown on pages 280 through 305. Use the following formula to calculate the overhung loads:

$$OL = \frac{2TK}{D}$$

where
- OL = Overhung Load
- T = Actual Shaft Torque (inch-pounds)
- D = P. D. of Sprocket, Sheave, Pulley or Gear
- K = 1.0 for Chain Drive
- = 1.25 for Gear Drive
- = 1.25 for Gearbelt Drive
- = 1.50 for V-Belt Drive
- = 2.50 for Flat Belt Drive

No overhung loads are encountered when the speed reducer is coupling connected to the driver and/or driven machine. However, care should be taken in aligning the shafts to avoid pre-loading bearings in misalignment.

Service Factors for Enclosed Worm Gear Applications

(Service factors shown apply only if electric or hydraulic motors are used. For single or multi-cylinder engines, see Conversion table on next page for conversion.)

APPLICATION	Up to 3 Hrs. Day	3-10 Hrs. Day	Over 10 Hrs. Day
AGITATORS (Mixers)			
Pure Liquids	–	1.00	1.25
Liquids and Solids	1.00	1.25	1.50
Liquids-Variable Density	1.00	1.25	1.50
BLOWERS			
Centrifugal	1.00	1.25	–
Lobe	1.00	1.25	1.50
Vane	–	1.00	1.25
BREWING AND DISTILLING			
Bottling Machinery	–	1.00	1.25
Brew Kettles, Continuous Duty	–	1.00	1.25
Cookers, Continuous Duty	–	1.00	1.25
Mash Tubs, Continuous Duty	–	1.00	1.25
Scale Hopper, Frequent Starts	1.00	1.25	1.50
CAN FILLING MACHINES	–	1.00	1.25
CAR DUMPERS	1.25	1.50	1.75
CAR PULLERS	1.00	1.25	1.50
CLARIFIERS	–	1.00	1.25
CLASSIFIERS	1.00	1.25	1.50
CLAY WORKING MACHINERY			
Brick Press	1.25	1.50	1.75
Briquette Machine	1.25	1.50	1.75
Pug Mill	1.00	1.25	1.50
COMPACTORS	1.50	1.75	2.00
COMPRESSORS			
Centrifugal	–	1.00	1.25
Lobe	1.00	1.25	1.50
Reciprocating, Multi-Cylinder	1.00	1.25	1.50
Reciprocating, Single-Cylinder	1.25	1.50	1.75
CONVEYORS - GENERAL PURPOSE			
Uniformly Loaded or Fed	–	1.00	1.25
Not Uniformly Fed	1.00	1.25	1.50
Reciprocating or Shaker	1.25	1.50	1.75
CRANES			
Dry Dock			
Main Hoist	1.25	1.50	1.75
Auxiliary	1.25	1.50	1.75
Boom Hoist	1.25	1.50	1.75
Slewing Drive	1.25	1.50	1.75
Traction Drive	1.50	1.50	1.50
Container			
Main Hoist	Refer to Application Engr.		
Boom Hoist	Refer to Application Engr.		
Trolley Drive	Refer to Application Engr.		
(Gantry Drive)			
(Traction Drive)	Refer to Application Engr.		
Mill Duty			
Main Hoist	Refer to Application Engr.		
Auxiliary	Refer to Application Engr.		
Bridge and Trolley Travel	Refer to Application Engr.		
Industrial Duty			
Main	1.00	1.25	1.50
Auxiliary	Refer to Application Engr.		
Bridge and Trolley Travel	Refer to Application Engr.		
CRUSHER			
Stone or Ore	1.50	1.75	2.00
DREDGES			
Cable Reels	1.00	1.25	1.50
Conveyors	1.00	1.25	1.50
Cutter Head Drives	1.25	1.50	1.75
Pumps	1.00	1.25	1.50
Screen Drives	1.25	1.50	1.75
Stackers	1.00	1.25	1.50
Winches	1.00	1.25	1.50
ELEVATORS			
Bucket	1.00	1.25	1.50
Centrifugal Discharge	–	1.00	1.25
Escalators	Refer to Application Engr.		
Freight	Refer to Application Engr.		
Gravity Discharge	–	1.00	1.25
EXTRUDERS			
General	1.25	1.25	1.25
Plastics			
(a) Variable Speed Drive	1.50	1.50	1.50
(b) Fixed Speed Drive	1.75	1.75	1.75
Rubber			
(a) Continuous Screw Operation	1.50	1.50	1.50
(b) Intermittent Screw Operation	1.75	1.75	1.75

APPLICATION	Up to 3 Hrs. Day	3-10 Hrs. Day	Over 10 Hrs. Day
FANS			
Centrifugal	–	1.00	1.25
Cooling Towers	Refer to Application Engr.		
Forced Draft	1.25	1.25	1.25
Induced Draft	1.00	1.25	1.50
Industrial & Mine	1.00	1.25	1.50
FEEDERS			
Apron	–	1.25	1.50
Belt	1.00	1.25	1.50
Disc	–	1.00	1.25
Reciprocating	1.25	1.50	1.75
Screw	1.00	1.25	1.50
FOOD INDUSTRY			
Cereal Cooker	–	1.00	1.25
Dough Mixer	1.00	1.25	1.50
Meat Grinders	1.00	1.25	1.50
Slicers	1.00	1.25	1.50
GENERATORS AND EXCITERS	–	1.00	1.25
HAMMER MILLS	1.50	1.50	1.75
HOISTS			
Heavy Duty	1.25	1.50	1.75
Medium Duty	1.00	1.25	1.50
Skip Hoist	1.00	1.25	1.50
LAUNDRY TUMBLERS	1.00	1.25	1.50
LAUNDRY WASHERS	1.25	1.25	1.50
LUMBER INDUSTRY			
Barkers			
-Spindle Feed	1.25	1.25	1.25
- Main Drive	1.50	1.50	1.50
Conveyors			
- Burner	1.25	1.25	1.50
- Main or Heavy Duty	1.50	1.50	1.50
- Main Log	1.50	1.50	1.50
- Re-saw, Merry-Go-Round	1.25	1.25	1.50
- Slab	1.50	1.50	1.75
- Transfer	1.25	1.25	1.50
Chains			
- Floor	1.50	1.50	1.50
- Green	1.50	1.50	1.50
Cut-Off Saws			
- Chain	1.50	1.50	1.50
- Drag	1.50	1.50	1.50
Debarking Drums	1.50	1.50	1.75
Feeds			
- Edger	1.25	1.25	1.50
- Gang	1.50	1.50	1.50
- Trimmer	1.25	1.25	1.50
Log Deck	1.50	1.50	1.50
Log Hauls-Incline-Well Type	1.50	1.50	1.50
Log Turning Devices	1.50	1.50	1.50
Planer Feed	1.25	1.25	1.50
Planer Tilting Hoists	1.50	1.50	1.50
Rolls-Live-off Brg.-Roll Cases	1.50	1.50	1.50
Sorting Table	1.25	1.25	1.50
Tipple Hoist	1.25	1.25	1.50
Transfers			
- Chain	1.50	1.50	1.50
- Causeway	1.50	1.50	1.50
Tray Drives	1.25	1.25	1.50
Veneer Lathe Drives	Refer to Application Engr.		
METAL MILLS			
Draw Bench Carriage and Main Drive	1.00	1.25	1.50
Runout Table			
Non-reversing			
Group Drives	1.00	1.25	1.50
Individual Drives	1.50	1.50	1.75
Reversing	1.50	1.50	1.75
Slab Pushers	1.25	1.25	1.50
Shears	1.50	1.50	1.75
Wire Drawing	1.00	1.25	1.50
Wire Winding Machine	1.00	1.25	1.50
METAL STRIP PROCESSING MACHINERY			
Bridles	1.25	1.25	1.50
Coilers & Uncoilers	1.00	1.00	1.25
Edge Trimmers	1.00	1.25	1.50
Flatteners	1.00	1.25	1.50
Loopers(Accumulators)	1.00	1.00	1.00
Pinch Rolls	1.00	1.25	1.50
Scrap Choppers	1.00	1.25	1.50
Shears	1.50	1.50	1.75
Slitters	1.00	1.25	1.50

Service Factors for Enclosed Worm Gear Applications

APPLICATION	Up to 3 Hrs. Day	3-10 Hrs. Day	Over 10 Hrs. Day
MILLS, ROTARY TYPE			
Ball & Rod			
Spur Ring Gear	1.50	1.50	1.75
Helical Ring Gear	1.50	1.50	1.50
Direct Connected	1.50	1.50	1.75
Cement Kilns	1.50	1.50	1.50
Dryers & Coolers	1.50	1.50	1.50
MIXERS, CONCRETE	1.00	1.25	1.50
PAPER MILLS			
Agitator(Mixer)	1.50	1.50	1.50
Agitator for Pure Liquids	1.25	1.25	1.25
Barking Drums	1.75	1.75	1.75
Barkers - Mechanical	1.75	1.75	1.75
Beater	1.50	1.50	1.50
Breaker Stack	1.25	1.25	1.25
❖ Calender	1.25	1.25	1.25
Chipper	1.75	1.75	1.75
Chip Feeder	1.50	1.50	1.50
Coating Rolls	1.25	1.25	1.25
Conveyors			
Chip, Bark, Chemical	1.25	1.25	1.25
Log(Including Slab)	1.75	1.75	1.75
Couch Rolls	1.25	1.25	1.25
Cutter	1.75	1.75	1.75
Cylinder Molds	1.25	1.25	1.25
❖ Dryers			
Paper Machine	1.25	1.25	1.25
Conveyor Type	1.25	1.25	1.25
Embosser	1.25	1.25	1.25
Extruder	1.50	1.50	1.50
Fourdrinier Rolls (Includes Lump Breaker, Dandy Roll, Wire Turning, and Return Rolls)	1.25	1.25	1.25
Jordan	1.25	1.25	1.25
Kiln Drive	1.50	1.50	1.50
Mt. Hope Roll	1.25	1.25	1.25
Paper Rolls	1.25	1.25	1.25
Platter	1.50	1.50	1.50
Presses- Felt & Suction	1.25	1.25	1.25
Pulper	1.50	1.50	1.75
Pumps- Vacuum	1.50	1.50	1.50
Reel (Surface Type)	1.25	1.25	1.50
Screens			
Chip	1.50	1.50	1.50
Rotary	1.50	1.50	1.50
Vibrating	1.75	1.75	1.75
Size Press	1.25	1.25	1.25
Super Calender (See Note)	1.25	1.25	1.25
Thickener			
(AC Motor)	1.50	1.50	1.50
(DC Motor)	1.25	1.25	1.25
Washer			
(AC Motor)	1.50	1.50	1.50
(DC Motor)	1.25	1.25	1.25
Wind and Unwind Stand	1.00	1.00	1.00
Winders (Surface Type)	1.25	1.25	1.25
❖ Yankee Dryers	1.25	1.25	1.25
PLASTICS INDUSTRY - PRIMARY PROCESSING			
Intensive Internal Mixers			
(a) Batch Mixers	1.75	1.75	1.75
(b) Continuous Mixers	1.50	1.50	1.50
Batch Drop Mill - 2 Smooth Rolls	1.25	1.25	1.25
Continuous Feed, Holding & Blend Mill	1.25	1.25	1.25
Compounding Mills	1.25	1.25	1.25
Calenders	1.50	1.50	1.50
PLASTICS INDUSTRY - SECONDARY PROCESSING			
Blow Molders	1.50	1.50	1.50
Coating	1.25	1.25	1.25
Film	1.25	1.25	1.25
Pipe	1.25	1.25	1.25
Pre-Plasticizers	1.50	1.50	1.50
Rods	1.25	1.25	1.25
Sheet	1.25	1.25	1.25
Tubing	1.25	1.25	1.50
PULLERS - BARGE HAUL	1.00	1.50	1.75
PUMPS			
Centrifugal	–	1.00	1.25
Proportioning	1.00	1.25	1.50
Reciprocating			
Single Acting, 3 or More Cylinders	1.00	1.25	1.50
Double Acting, 2 or More Cylinders	1.00	1.25	1.50
Rotary			
- Gear Type	–	1.00	1.50
- Lobe	–	1.00	1.25
- Vane	–	1.00	1.25
RUBBER INDUSTRY			
Intensive Internal Mixers			
(a) Batch Mixers	1.50	1.75	1.75
(b) Continuous Mixers	1.25	1.50	1.50
Mixing Mill - 2 Smooth Rolls - (If corrugated rolls are used, then use the same service factors that are used for a Cracker-Warmer)	1.50	1.50	1.50
Batch Drop Mill - 2 Smooth Rolls	1.50	1.50	1.50
Cracker Warmer - 2 Roll: 1 Corrugated Roll	1.75	1.75	1.75
RUBBER INDUSTRY (Cont'd.)			
Cracker - 2 Corrugated Rolls	1.75	1.75	1.75
Holding, Feed & Blend Mill - 2 Rolls	1.25	1.25	1.25
Refiner - 2 Rolls	1.50	1.50	1.50
Calenders	1.50	1.50	1.50
SAND MILLER	1.00	1.25	1.50
SEWAGE DISPOSAL EQUIPMENT			
Bar Screens	–	1.00	1.25
Chemical Feeders	–	1.00	1.25
Dewatering Screens	1.00	1.25	1.50
Scum Breakers	1.00	1.25	1.50
Slow Or Rapid Mixers	1.00	1.25	1.50
Sludge Collectors	1.00	1.00	1.25
Thickener	1.00	1.25	1.50
Vacuum Filters	1.00	1.25	1.50
SCREENS			
Air Washing	–	1.00	1.25
Rotary - Stone Or Gravel	1.00	1.25	1.50
Traveling Water Intake	–	1.00	1.25
SUGAR INDUSTRY			
Beet Slicer	1.50	1.50	1.75
Cane Knives	1.50	1.50	1.50
Crushers	1.50	1.50	1.50
Mills (Low Speed End)	1.50	1.50	1.50
TEXTILE INDUSTRY			
Batchers	1.00	1.25	1.50
Calenders	1.00	1.25	1.50
Cards	1.00	1.25	1.50
Dry Cans	1.00	1.25	1.50
Dryers	1.00	1.25	1.50
Dyeing Machinery	1.00	1.25	1.50
Looms	1.00	1.25	1.50
Mangles	1.00	1.25	1.50
Nappers	1.00	1.25	1.50
Pads	1.00	1.25	1.50
Slashers	1.00	1.25	1.50
Soapers	1.00	1.25	1.50
Spinners	1.00	1.25	1.50
Tenter Frames	1.00	1.25	1.50
Washers	1.00	1.25	1.50
Winders	1.00	1.25	1.50

❖ Anti-Friction Bearings Only.

Note: A Service Factor of 1.0 may be applied at the base of a super calender, operating over a speed range where part of the range is constant horsepower and part of the range is constant torque, provided that the constant horsepower part is greater than 1.5 to 1. A service factor of 1.25 is applicable to super calenders operating over the entire speed range at constant torque, or where the constant horsepower speed range is less than 1.5 to 1.

Service Factors for Electric and Hydraulic Motors

(For Service Factors For Single Or Multi-Cylinder Engines, Consult Conversion Table below)

Duration of Service (Hours Per Day)	Uniform Load	Moderate Shock	Heavy Shock	Extreme Shock
Occasional 1/2 Hour	–	–	1.0	1.25
Less Than 3 Hours	1.0	1.0	1.25	1.50
3 - 10 Hours	1.0	1.25	1.50	1.75
Over 10 Hours	1.25	1.50	1.75	2.00

Conversion Table for Single or Multi-Cylinder Engines to find Equivalent Single or Multi-Cylinder Service Factors

Hydraulic or Electric Motor	Single Cylinder Engines	Multi-Cylinder Engines
1.00	1.50	1.25
1.25	1.75	1.50
1.50	2.00	1.75
1.75	2.25	2.00
2.00	2.50	2.25

Load and operating characteristics of both the driver and driven units must be considered throughly when selecting speed reducers. It is essential that all speed reducers be selected for maximum load conditions to be encountered. Worm gear speed reducers will safely transmit momentary starting loads as great as 300% of the mechanical input ratings.

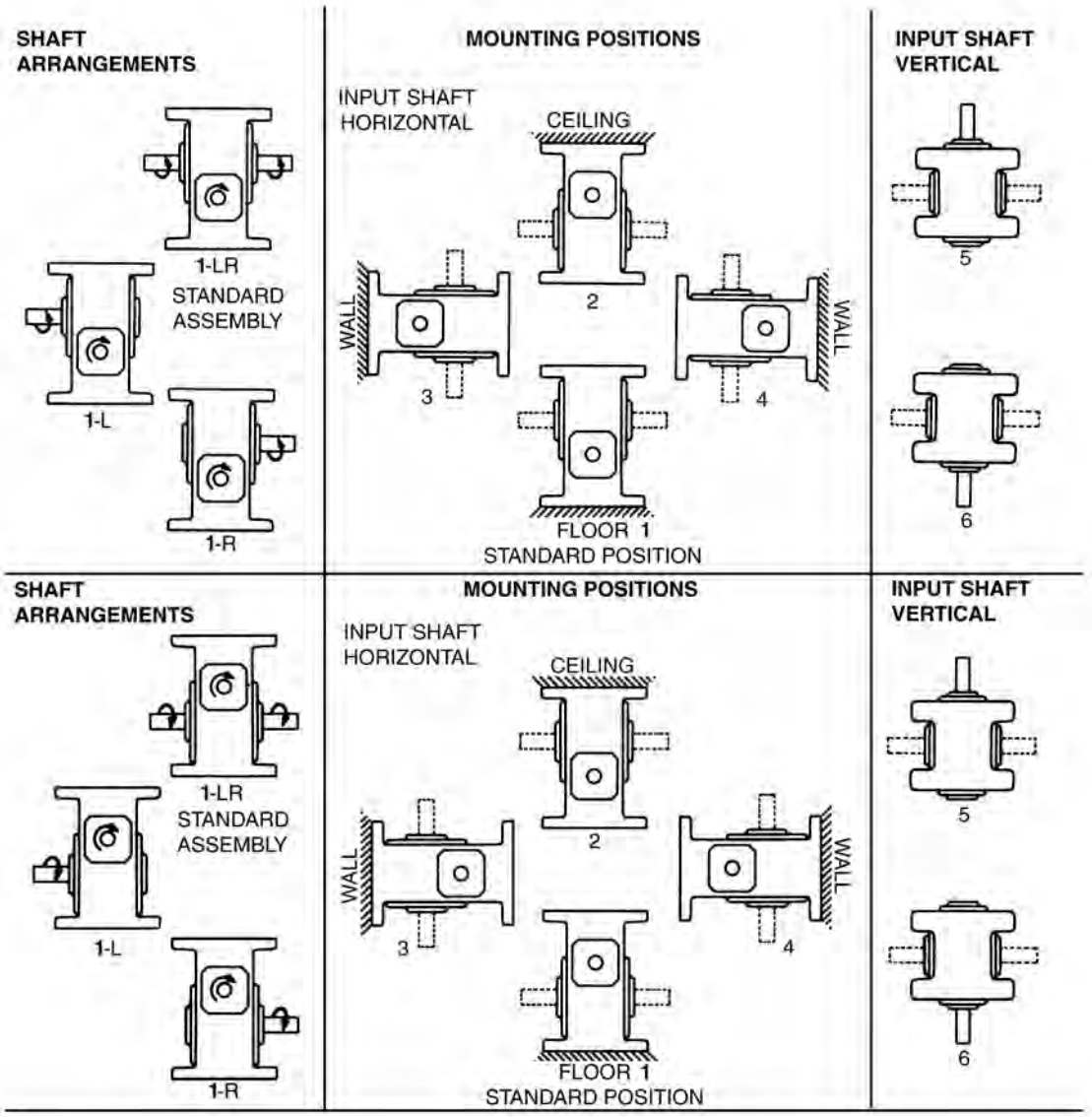
W-B and W-T Shaft Arrangements

MODEL W TYPE B

Arrows indicate relative rotation. Input Shaft may be rotated in either direction.



MODEL W TYPE T



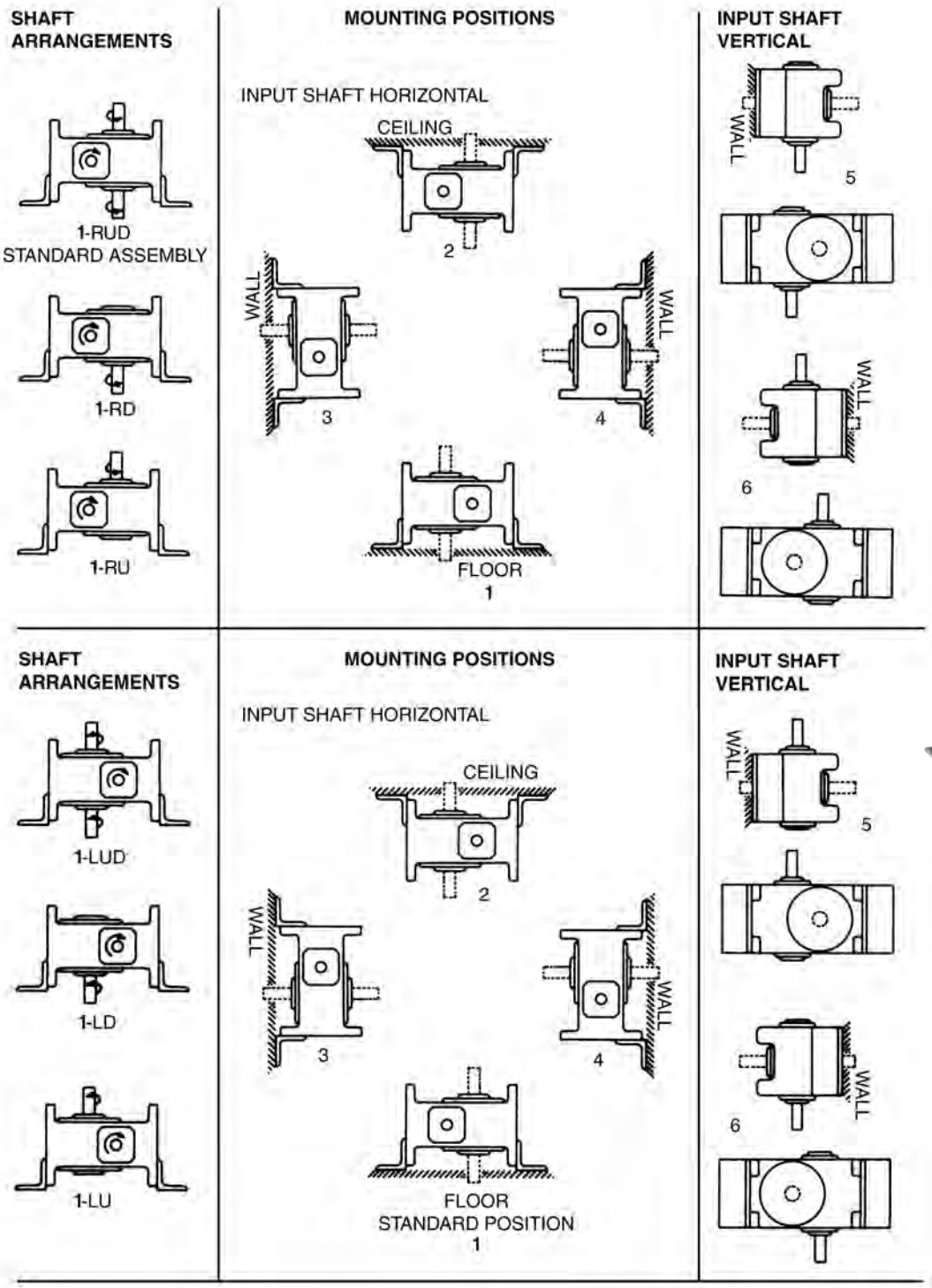
To Order, Specify:
Example: 10W-T30, 1-LR, position5

No extra charge for Standard Position shaft arrangements.

Series ..... as, W Series
Type .....as, B, T, or V
Size.....as, 10, 13, or 18

Ratio ..... as, 30:1
Shaft Arrangement .....as, 1-LR
Mounting Position as, Input Shaft Vertical, Up, position 5

W-V Shaft Arrangements



Angle brackets shown are for illustration purposes and are not included with the reducer

To Order, Specify:
Example: 10W-T30, 1-LD, position5

Series ..... as, W Series
Type ..... as, B, T, or V
Size..... as, 10, 13, or 18

Ratio ..... as, 30:1
Shaft Arrangement .....as, 1-LD
Mounting Position as, Input Shaft Vertical, Up, position 5

No extra charge for Standard Position shaft arrangements.

MODEL W TYPE V

Arrows indicate relative rotation. Input Shaft may be rotated in either direction.



Lubrication

For enclosed worm gear units only. A worm gear unit is only as good as the oil which is used. During the first few days of operation, a worm gear unit will run hot. Unless the temperature exceeds 200 degrees F. there is no cause for alarm.

The oils shown below are typical. Any make of oil meeting American Gear Manufactureers Association (AGMA) standards #7C & #8C will be satisfactory. Consult Application Engineering (1 800 626 2093) if you have any questions.

Ambient Temp. 15° to 60°F	Ambient Temp. 50° to 125°F
AGMA #7C	AGMA #8C

The following are some general recommendations regarding relubrication. Your experience in your specific application is the best determination of relubrication intervals.

Maintenance Schedule:

1. Change initial oil fill after 2 weeks.
2. Change oil every 6 to 12 months depending on service conditions.

Additional Lubrication notes:

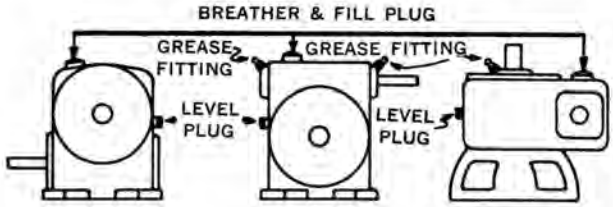
1. E.P. oils are not preferred. If an E.P. oil must be used, customer must determine that it is not corrosive to a bronze gear.
2. For ambient temperatures ouside of these temperature ranges, contact Application Engineering.
3. Units running at slow speeds should carry extra high oil level contact Application Engineering.
4. For slow input speeds (less than 100 RPM) use AGMA #8C oil in ambient temperatures of 15 to 60 degrees F.

Grease Fittings:

1. Grease every 100 hours of running time with about 3/8” ball of grease meeting NLGI #2 standards.
2. Do not over-lubricate.

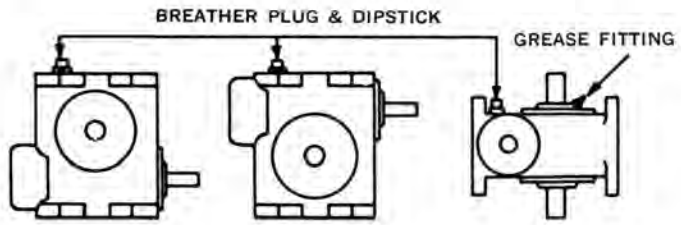
Lubrication

Lubricating Instructions - Reducers Other Than "RW"



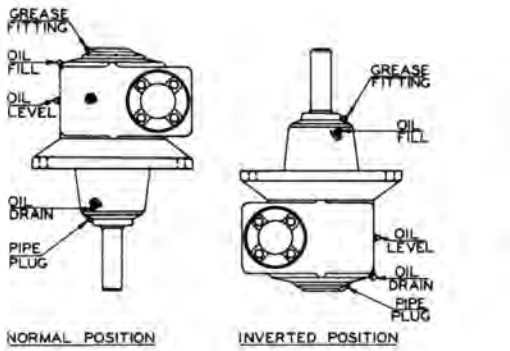
Many Morse units are equipped with plug type oil holes. Remove level plug and fill unit with oil until oil runs out level hole. Breather and fill plug is at top of unit. Grease fittings are used to lubricate bearings above oil level. Grease every 100 hours running time.

Lubricating Instructions - "RW" Reducers



RW units are equipped with a Breather-dipstick fill plug. This fill plug should always be located at top of unit. Fill unit with oil to appropriate oil level line as indicated on dipstick. Units equipped with special dipsticks: fill with oil so dipstick dips into oil 1/4". Grease fittings are used to lubricate bearings above oil level. Grease every 100 hours running time. When mounting units in inverted position or on walls, be sure all bearings get proper lubrication. Miter boxes do not require breather plugs.

Lubrication fittings VX conveyor drives



Oil Capacities Chart - U.S.A. Measure - Approximate Quantities, Fill To Oil Level

10WB.....1/4 Pt.
10WT.....1/4 Pt.
10WV.....1/4 Pt.
13WB.....1/2 Pt.
13WT.....1/2 Pt.
13WV.....1/2 Pt.
18WB.....1 Pt.
18WT.....3/4 Pt.
18WV.....1 Pt.
20WB.....1 3/4 Pts.
20WT.....1 1/2 Pts.
20WV.....1 1/2 Pts.
20WDB.....2 Pts.
20WDV.....1 3/4 Pts.
25RWB.....2 1/2 Pts.
25RWT.....2 1/2 Pts.
25RWV.....2 1/4 Pts.
25WDB.....3 1/4 Pts.
25WDV.....3 Pts.
30RWB.....3 3/4 Pts.
30RWT.....3 3/4 Pts.
30WDB.....2 1/2 Qts.
30WDV.....2 1/4 Qts.
35RWB.....3 1/4 Qts.
35RWT.....3 1/2 Qts.
35RWV.....2 1/2 Qts.
35WDB.....3 3/4 Qts.
35WDV.....3 Qts.
40RWB.....3 1/2 Qts.
40RWT.....3 1/2 Qts.
40RWV.....3 Qts.
40WDB.....3 3/4 Qts.
40WDV.....3 1/4 Qts.
50RWB.....1 3/4 Gals.

50RWT.....1 3/4 Gals.
50WDB.....2 1/4 Gals.
50WDV.....2 Gals.
60RWB.....2 3/4 Gals.
60RWT.....3 Gals.
60RWV.....2 1/2 Gals.
60WDB.....3 3/4 Gals.
60WDV.....3 1/2 Gals.
70RWB.....5 3/4 Gals.
70RWT.....5 3/4 Gals.
70RWV.....4 1/2 Gals.
70WDB.....7 Gals.
70WDV.....6 1/4 Gals.
80RWB.....7 1/2 Gals.
80RWT.....7 1/2 Gals.
80WDB.....10 Gals.
80WDV.....9 Gals.
100RWB.....15 1/2 Gals.
100RWT.....11 1/2 Gals.
100RWV.....10 Gals.
100WDB.....19 Gals.
100WDV.....12 1/2 Gals.
18V.....1 Pt.
20V.....1 1/2 Pts.
20DV.....1 Qt.
25V.....1 Qt.
25DV.....1 1/4 Pts.
30V.....1 3/4 Pts.
30DV.....2 1/2 Pts.
35V.....2 1/4 Pts.
35DV.....2 3/4 Pts.
40V.....3 1/2 Pts.
40DV.....4 1/4 Pts.
50V.....1 1/2 Gals.

50DV.....1 3/4 Gals.
60V.....2 1/2 Gals.
60DV.....2 3/4 Gals.
70V.....4 Gals.
70DV.....4 1/2 Gals.
30VX..... Std. 3 Qts.
Inverted..... 2 Qts.
30DVX..... Std. 3 3/4 Qts.
Inverted..... 2 3/4 Qts.
35VX..... Std. 4 1/4 Qts.
Inverted..... 3 3/4 Qts.
35DVX..... Std. 4 1/2 Qts.
Inverted..... 4 Qts.
40VX..... Std. 1 1/4 Gals.
Inverted..... 1 Gal.
40DVX..... Std. 1 1/2 Gals.
Inverted.....1 1/4 Gals.
50VX..... Std. 2 Gals.
Inverted.....1 3/4 Gals.
50DVX..... Std. 2 1/4 Gals.
Inverted.....2 Gals.
60VX..... Std. 3 3/4 Gals.
Inverted.....2 3/4 Gals.
60DVX..... Std. 4 1/4 Gals.
Inverted.....3 1/4 Gals.
70VX..... Std. 6 Gals.
Inverted.....5 Gals.
70DVX..... Std. 7 Gals.
Inverted.....5 1/2 Gals.
90VX.....11 Gals.
90DVX.....12 1/2 Gals.
110VX.....20 Gals.
110DVX.....18 1/2 Gals.
13GCT.....1/2 Pt.

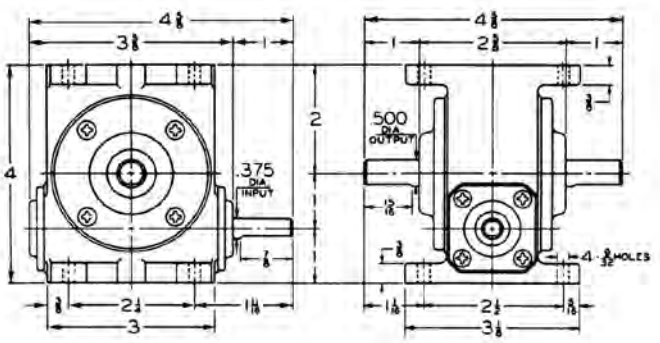
13GCV.....1/2 Pt.
Low Base.....1/2 Pt.
18GCT.....3/4 Pt.
18GCV.....1 Pt.
Low Base.....1 Pt.
20GCT.....1 1/2 Pts.
20GCV.....1 Qt.
Low Base.....1 Qt.
25GCT..... 1 1/4 Qts.
25GCV..... 1 1/2Qts.
Low Base..... 1 1/2 Qts.
30GCT..... 2 Qts.
30GCV..... 2 1/2 Qts.
Low Base..... 2 1/2 Qts.
35GCT..... 3 Qts.
35GCV..... 3 3/4 Qts.
Low Base..... 3 3/4 Qts.
40GCT..... 3 1/2Qts.
40GCV..... 3 1/2 Qts.
Low Base..... 3 1/2 Qts.
50GCT.....1 3/4 Gals.
60GCT.....2 3/4 Gals.
50GCV.....1 1/2 Gals.
Low Base.....1 1/2 Gals.
60GCV.....
Low Base.....2 3/4 Gals.
18SA,SF.....3/4 Pts.
18GSA,GSF.....3/4 Pts.
20SA,SF.....1 1/2 Pts.
20GSA,GSF.....1 1/2 Pts.
25SA,SF..... 1 1/4 Pts.
25GSA,GSF..... 1 1/4 Pts.
30SA,SF..... 2 Qts.
30GSA,GSF..... 2 Qts.

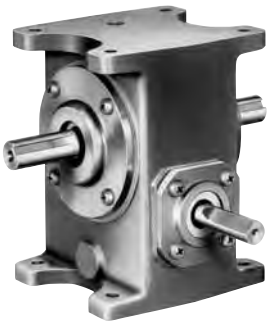
35SA,SF..... 3 Qts.
35GSA,GSF..... 3 Qts.
40SA.SF..... 3 1/2 Qts.
40GSA,GSF..... 3 1/2 Qts.
50SA ,SF.....1 3/4 Gals.
50GSA,GSF.....1 3/4 Gals.
60SA, SF.....2 3/4 Gals.
60GSA,GSF.....2 3/4 Gals.
13GCDB.....3/4 Pt.
13GCDV.....3/4 Pt.
18DSA,DSF.....1 Pt.
18 GDSA,
GDSF.....1 Pt.
18GCDB.....1 Pt.
18GCDV.....1 Pt.
20DSA,DSF..... 1 Qt.
20GDSA,GDSF..... 1 Qt.
20GCDB..... 1 Qt.
20GCDV..... 1 Qt.
25DSA,DSF.....3 1/4 Pts.
25GDSA,
GDSF.....3 1/4 Pts.
25GCDB.....3 1/4 Pts.
25GCDV..... 1 1/4 Qts.
30DSA,DSF..... 2 1/2 Qts.
30GDSA,
GDSF..... 2 1/2 Qts.
30GCDB..... 2 1/2 Qts.
30GCDV..... 2 1/2 Qts.
35DSA,DSF..... 2 3/4 Qts.
35GDSA,
GDSF..... 2 3/4 Qts.
35GCDB..... 3 3/4 Qts.
35GCDV..... 2 3/4 Qts.

40DSA,DSF..... 4 1/4 Qts.
40GDSA,
GDSF..... 4 1/4 Qts.
40GCDB..... 3 3/4 Qts.
50DSA,DSF.....2 1/4 Gals.
50GDSA,
GDSF.....2 1/4 Gals.
50GCDB.....2 1/4 Gals.
50GCDV.....1 3/4 Gals.
60DSA,DSF.....3 3/4 Gals.
60GDSA,
GDSF.....2 3/4 Gals.
60GCDB.....3 3/4 Gals.
60GCDV.....2 3/4 Gals.
30GCDVX... Std. 3 3/4 Qts.
Inverted..... 2 3/4 Qts.
35GCDVX... Std. 4 1/2 Qts.
Inverted..... 4 Qts.
40GCDVX.. Std. 1 1/2 Gals.
Inverted.....1 1/4 Gals.
50GCDVX. Std. 2 1/4 Gals.
Inverted..... 2 Gals.
60GCDVX. Std. 4 1/4 Gals.
Inverted.....3 1/4 Gals.
4M.....3/4 Pt.
6M..... 1 Qt.
8M..... 2 Qts.
12M.....1 1/2 Gals.

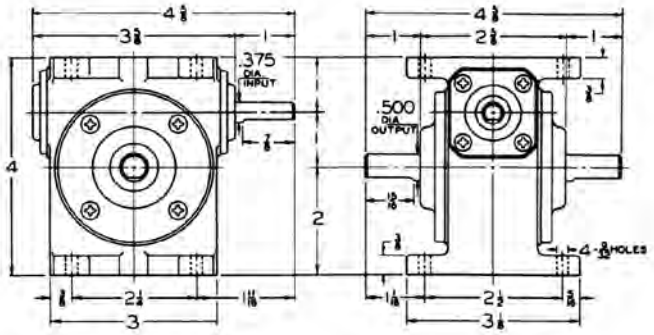
W-B, W-T and W-V Series

10W-B
Net wt. 3 lbs.
1.00" C.D.



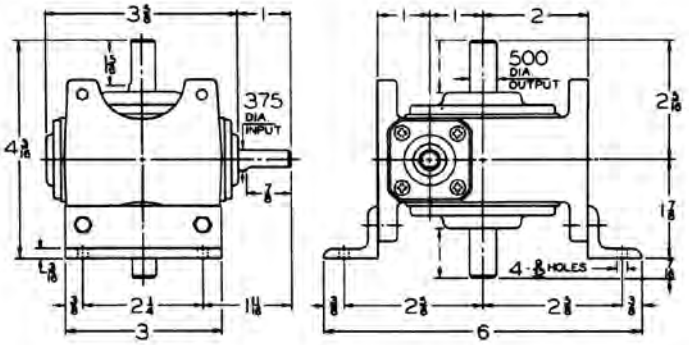


10W-T
Net wt. 3 lbs.
1.00" C.D.





10W-V
Net wt. 3 lbs.
1.00" C.D.





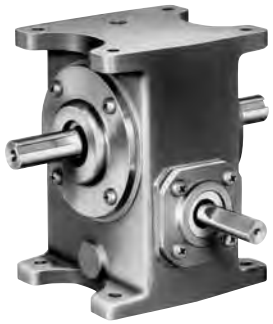
Angle brackets are not included with the reducer.

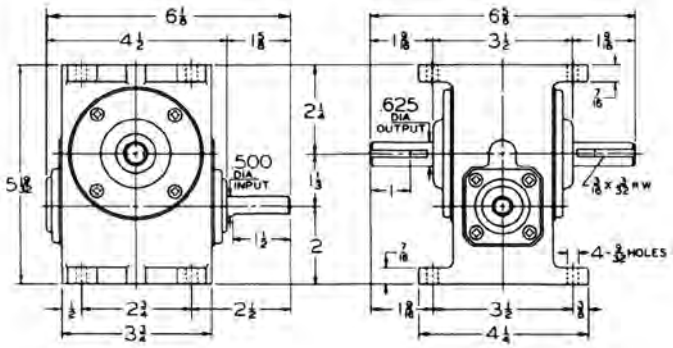
1.00 Service Factor* - Single Reduction Wormgear - Models 10W-B, 10W-T and 10W-V

TORQUE and HORSEPOWER RATINGS																	
RATIO	AT 1750 RPM INPUT			AT 1150 RPM INPUT			AT 870 RPM INPUT			AT 580 RPM INPUT			AT 300 RPM INPUT			AT 100 RPM INPUT		
	Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output	
		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque
10	.32	175.0	97	.23	115.0	106	.19	87.0	111	.13	58.0	115	.07	30.0	119	.03	10.0	120
15	.24	116.6	104	.18	76.6	113	.14	58.0	117	.10	38.7	122	.06	20.0	127	.02	6.6	125
20	.19	87.5	104	.14	57.5	113	.11	43.5	117	.08	29.0	121	.04	15.0	124	.02	5.0	125
25	.16	70.0	104	.12	46.0	112	.09	34.8	115	.07	23.2	118	.04	12.0	123	.01	4.0	119
30	.15	58.4	107	.11	38.4	116	.09	29.0	121	.06	19.3	125	.04	10.0	130	.01	3.3	133
40	.11	43.7	103	.09.	28.7	112	.07	21.8	116	.05	14.5	120	.03	7.5	124	.01	2.5	126
50	.09	35.0	99	.07	23.0	106	.06	17.4	109	.04	11.6	113	.02	6.0	113	.01	2.0	118
60	.08	29.2	92	.06	19.2	99	.05	14.5	102	.03	9.7	105	.02	5.0	104	.01	1.6	102

▲ Inch-pounds
Overhung load (O.H.L.) 165 pounds at one shaft diameter from housing.
* Refer to page 276 for other service factors. Refer to pages 278 and 279 for shaft arrangements.

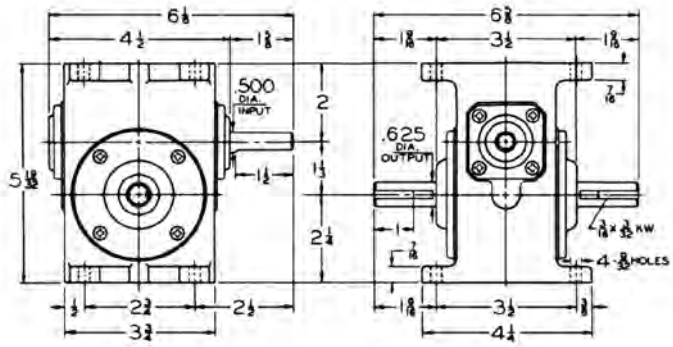
W-B, W-T and W-V Series



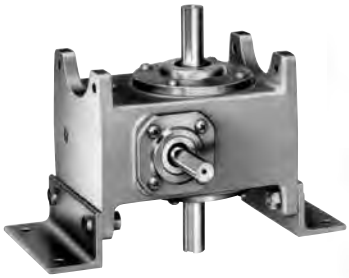


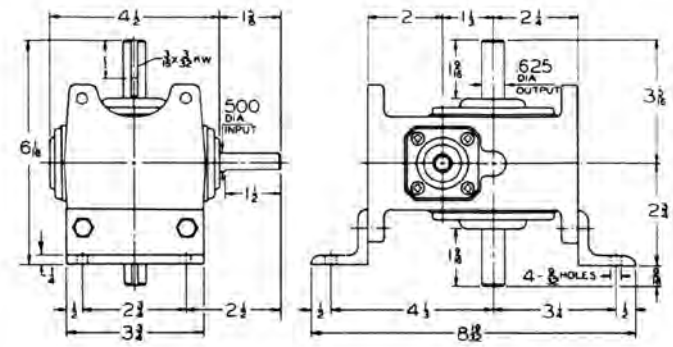
13W-B
Net wt. 6 lbs.
1.33" C.D.





13W-T
Net wt. 6 lbs.
1.33" C.D.





13W-V
Net wt. 6 lbs.
1.33" C.D.

Angle brackets are not included with the reducer.

PoweRgear

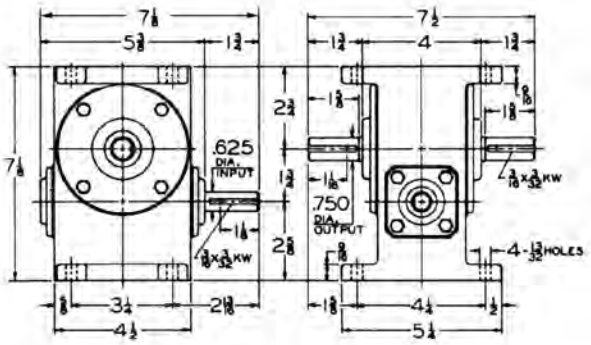
1.00 Service Factor* - Single Reduction Wormgear - Models 13W-B, 13W-T and 13 W-V

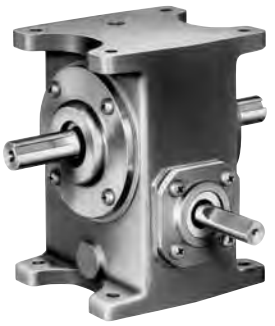
TORQUE and HORSEPOWER RATINGS																		
RATIO	AT 1750 RPM INPUT			AT 1150 RPM INPUT			AT 870 RPM INPUT			AT 580 RPM INPUT			AT 300 RPM INPUT			AT 100 RPM INPUT		
	Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output	
		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque
5	1.01	350.0	165	.77	230.0	190	.63	174.0	202	.45	116.0	215	.25	60.0	228	.09	20.0	237
7.5	.79	233.3	189	.60	153.3	214	.49	116.0	227	.35	77.3	241	.20	40.0	253	.07	13.3	264
10	.65	175.0	203	.50	115.0	229	.40	87.0	242	.29	58.0	256	.16	30.0	270	.06	10.0	277
15	.49	116.6	217	.38	76.6	244	.31	58.0	258	.22	38.7	272	.13	20.0	285	.05	6.6	293
20	.39	87.5	220	.29	57.5	244	.24	43.5	257	.17	29.0	271	.10	15.0	281	.04	5.0	286
25	.32	70.0	219	.24	46.0	242	.20	34.8	254	.14	23.2	266	.08	12.0	276	.03	4.0	281
30	.29	58.4	223	.23	38.4	251	.19	29.0	264	.14	19.3	278	.08	10.0	294	.03	3.3	303
40	.23	43.7	219	.18	28.7	243	.15	21.8	256	.11	14.5	268	.06	7.5	278	.02	2.5	283
50	.19	35.0	209	.15	23.0	231	.12	17.4	241	.09	11.6	253	.05	6.0	265	.02	2.0	269
60	.16	29.2	196	.13	19.2	221	.11	14.5	230	.08	9.7	243	.05	5.0	252	.02	1.6	258

▲ Inch-pounds
Overhung load (O.H.L.) 232 pounds at one shaft diameter from housing.
* Refer to page 275 for other service factors. Refer to pages 276 and 277 for shaft arrangements.

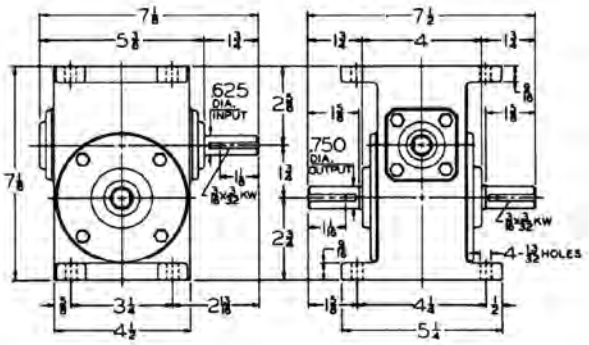
W-B, W-T and W-V Series

18W-B
Net wt. 9 lbs.
1.75" C.D.



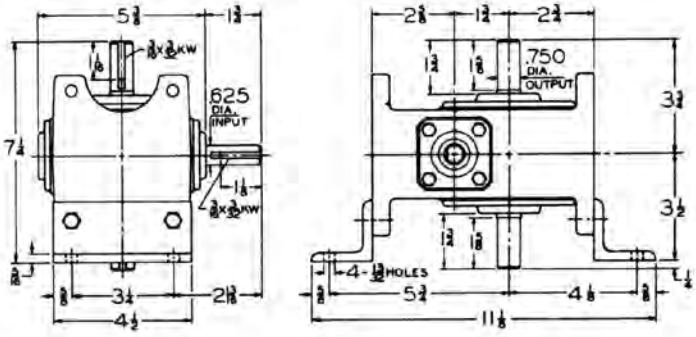


18W-T
Net wt. 9 lbs.
1.75" C.D.





18W-V
Net wt. 9 lbs.
1.75" C.D.





Angle brackets are not included with the reducer.

1.00 Service Factor* - Single Reduction Wormgear - Models 18W-B, 18W-T and 18 W-V

TORQUE and HORSEPOWER RATINGS																			
RATIO	AT 1750 RPM INPUT			AT 1150 RPM INPUT			AT 870 RPM INPUT			AT 580 RPM INPUT			AT 300 RPM INPUT			AT 100 RPM INPUT		
	Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output	
		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque
5	2.17	350.0	359	1.73	230.0	430	1.44	174.0	468	1.06	116.0	509	.61	60.0	551	.22	20.0	580
7.5	1.71	233.3	415	1.35	153.3	490	1.12	116.0	530	.82	77.3	571	.47	40.0	614	.17	13.3	643
10	1.42	175.0	447	1.12	115.0	527	.93	87.0	567	.68	58.0	610	.39	30.0	654	.14	10.0	682
15	1.06	116.6	479	.54	76.6	561	.70	58.0	603	.52	38.7	648	.30	20.0	693	.11	6.6	727
20	.85	87.5	490	.67	57.5	570	.56	43.5	611	.41	29.0	654	.24	15.0	698	.09	5.0	722
25	.71	70.0	494	.56	46.0	570	.47	34.8	608	.35	23.2	649	.20	12.0	688	.08	4.0	715
30	.63	58.4	494	.51	38.4	578	.43	29.0	620	.32	19.3	667	.19	10.0	711	.07	3.3	745
40	.50	43.7	489	.41	28.7	567	.34	21.8	607	.26	14.5	648	.15	7.5	694	.06	2.5	715
50	.41	35.0	471	.33	23.0	543	.28	17.4	578	.21	11.6	616	.13	6.0	658	.05	2.0	679
60	.34	29.2	446	.28	19.2	512	.24	14.5	545	.18	9.7	578	.11	5.0	615	.04	1.6	630

▲ Inch-pounds
Overhung load (O.H.L.) for 18W-B, W-T is 325 pounds, for 18W-V is 274 pounds at one shaft diameter from housing.
* Refer to page 275 for other service factors. Refer to pages 276 and 277 for shaft arrangements.

R-W and WD Series Specifications

The RW, PoweRgear series reducer is a universal mounting, heavy duty, fan cooled, single reduction, speed reducer. This reducer may be mounted in any of the three positions, B, T, or V, by rearranging the various lubrication fittings as on page 279. The reducer may be mounted in the vertical (V) position directly on the machine structure eliminating the angle feet. The angle feet may be made from standard angle iron rather than having them furnished by the factory. When the reducer is specifically ordered as a vertical model from the factory, double oil seals will be furnished for the down shaft.

The WD series, double reduction, reducer is made from the basic RW model. The fan is omitted as this unit runs at speeds that are too slow for effective fan cooling. The 20W model is not fan cooled as tests have proven that the housing is sufficiently large to cool properly without a fan.

The housing is high grade alloy cast iron. The worm is case hardened and ground alloy steel of integral shaft design. The gear is cast gear bronze of special alloy with generated teeth, and is keyed to the output shaft. The output shaft is high quality, medium carbor steel, ground to close tolerances. The worm and output shaft are mounted on anti-friction bearings. All shaft extensions are equipped with lip type, synthetic element, oil seals.

Shaft arrangements marked standard will be furnished unless some other assembly is specified. The other assemblies shown will be furnished at no additional cost. Shaft diameter tolerance +.000" -.001".

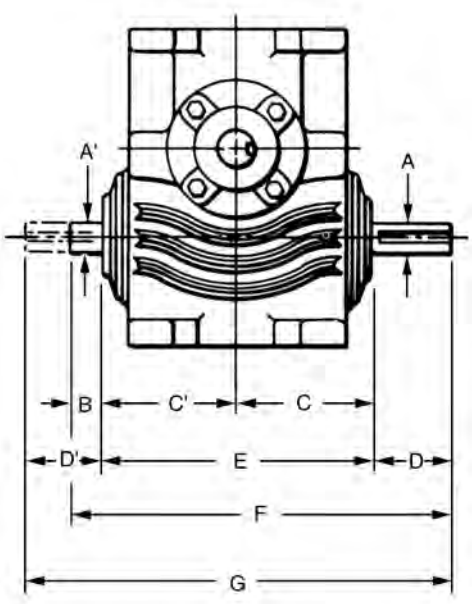
PoweRgear without fan and fan housing

The PoweRgear units when used with the fan can carry the full horsepower rating obtained by using the latest AGMA rating practices.

If the RW, PoweRgear, unit is used without the fan, the unit may require some adjustment in rating because of thermal limitations. The “V” ratings may be used for RW units without a fan.

The accompanying drawing and chart show the physical dimensions of the RW PoweRgear units with fan and fan housing removed.

Dimensions



	25W	30W	35W	40W	50W	60W	70W
A * A'	3/4	1	1	1 1/8	1 3/8	1 1/2	1 3/4
*B	1 5/16	1	1	1 3/8	1 7/16	1 5/8	1 7/8
C	4 1/16	4 3/8	4 7/8	5 7/16	6 13/16	8 3/16	9 9/16
C'	4 1/16	4 3/8	4 7/8	5 7/16	6 13/16	9 1/16	9 15/16
D & D	2	2 5/8	2 3/4	12 15/16	3 9/16	3 7/8	4 1/2
E	81/8	8 3/4	9 3/4	10 7/8	13 5/8	17 1/4	19 1/2
F	11 1/16	12 3/8	13 1/2	15 3/16	18 5/8	22 3/4	25 7/8
G	121/8	14	15 1/4	16 3/4	20 3/4	25	28 1/2

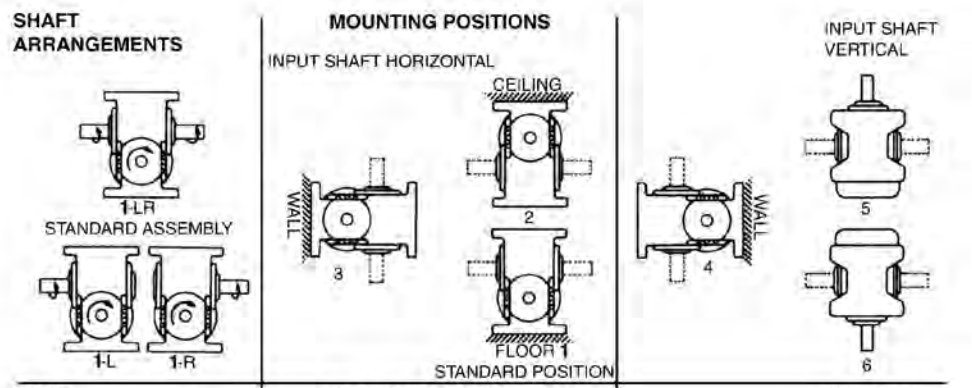
* Dimension B is stub shaft length when fan and fan housing are removed from a standard RW unit. When a unit is ordered from the factory without fan and fan housing this stub shaft is also eliminated. If stub shaft is wanted, order should so state. Units with dimension D’ are special and require a longer delivery time with a price addition.

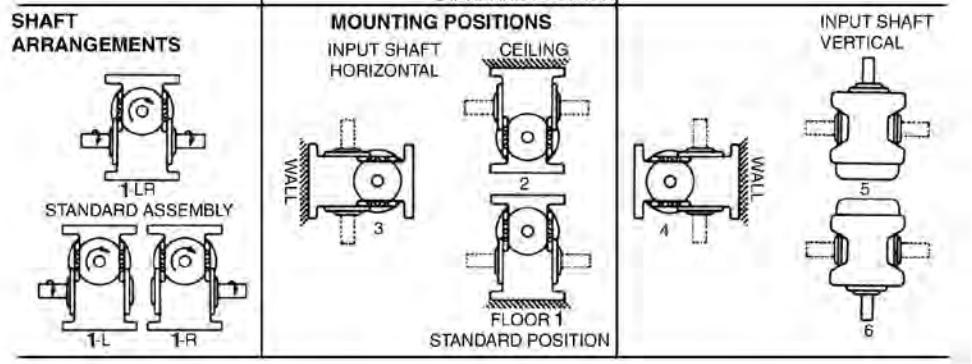
RW-B, RW-T and RW-V Shaft Arrangements

Model RW Type B and Type T

Arrows indicate relative rotation. Input Shaft may be rotated in either direction.





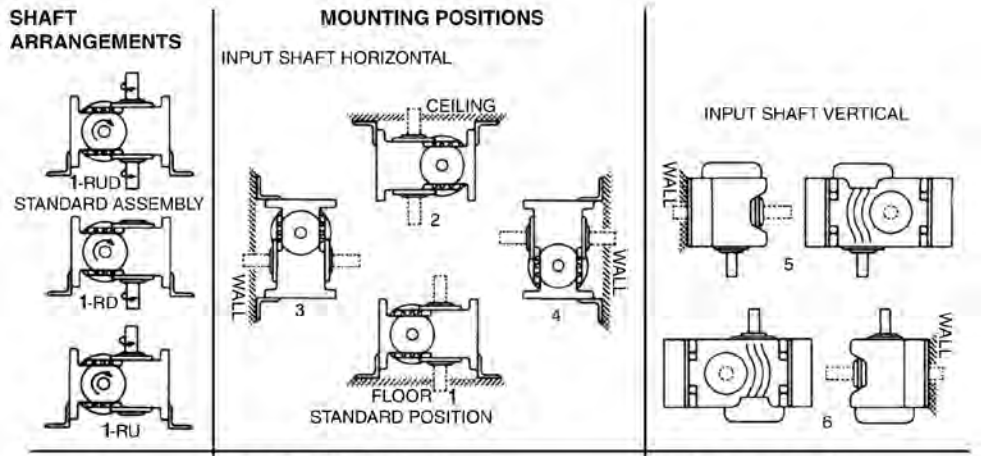


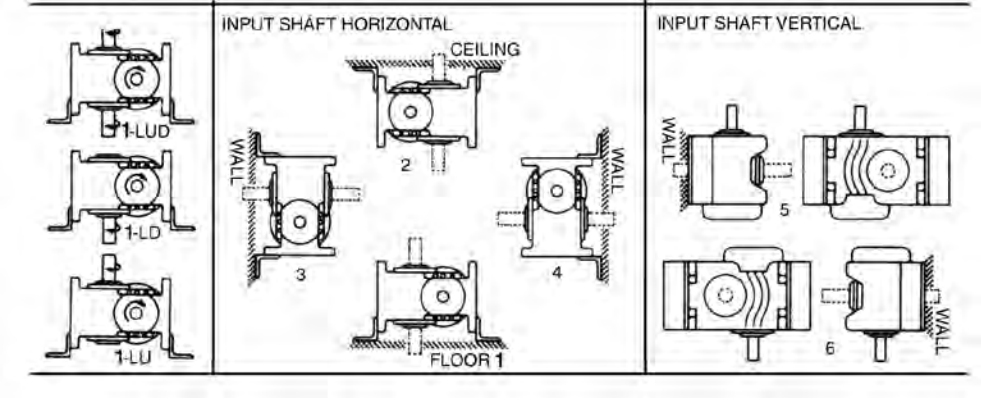
Model RW Type V

Arrows indicate relative rotation. Input Shaft may be rotated in either direction.



Angle brackets are not included with the reducer.





Shaft Tolerances
+ .000
-.001

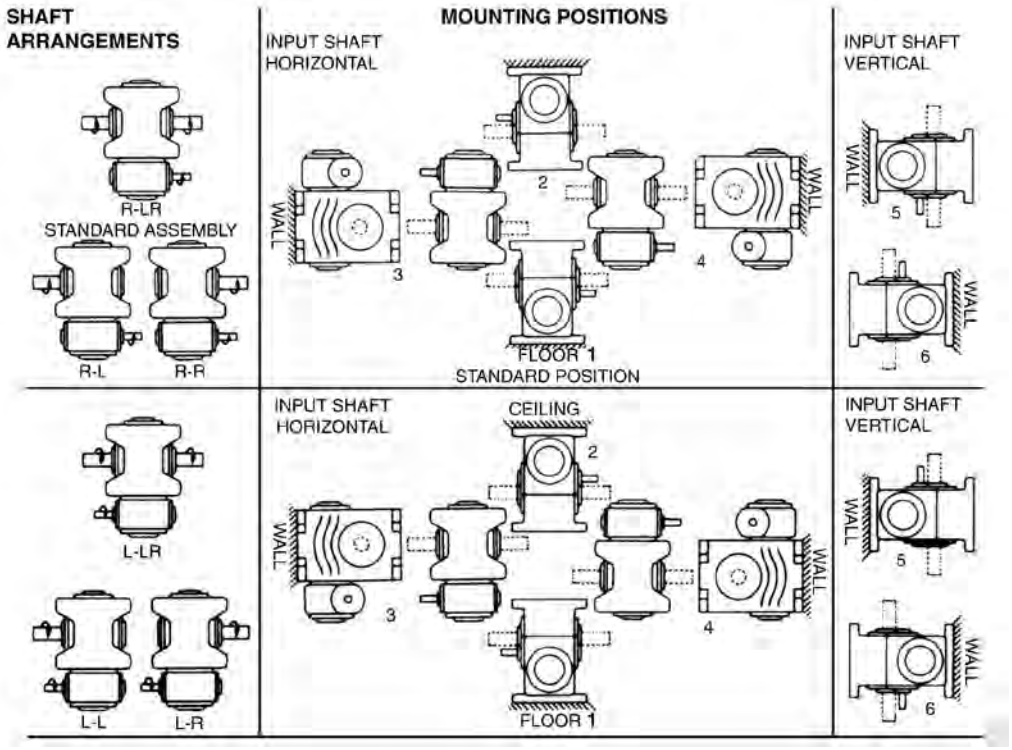
No extra charge for Standard Position shaft arrangements.

To Order, Specify:

Example: 30RW-T30, 1-LR, position3

Series .....as, Series RW	Ratio ..... as, 40:1
Type .....as, RW-B, T, or V	Shaft Arrangement .....as, 1-LR
Size.....as, 30	Mounting Positions .....as, Wall 3

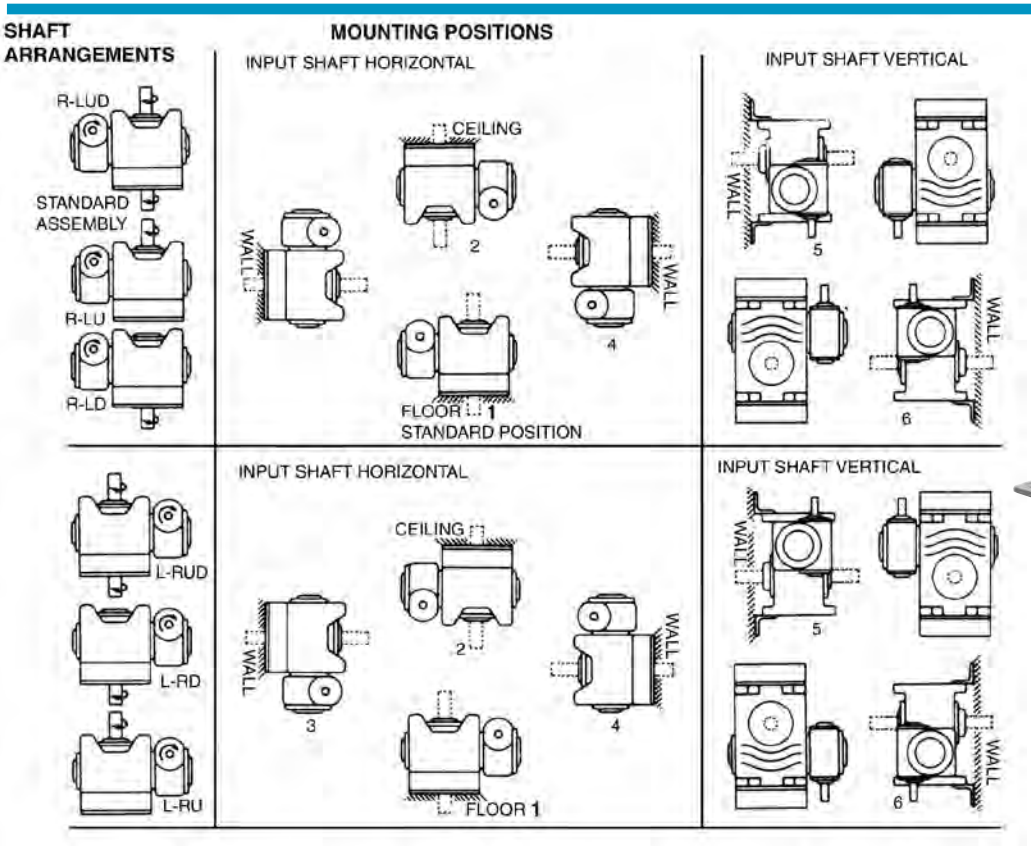
W-DB and W-DV Shaft Arrangements



Model W Type DB

Arrows indicate relative rotation. Input Shaft may be rotated in either direction.





Model W Type DV

Arrows indicate relative rotation. Input Shaft may be rotated in either direction.



Angle brackets are not included with the reducer.

Shaft Tolerances
+ .000
-.001

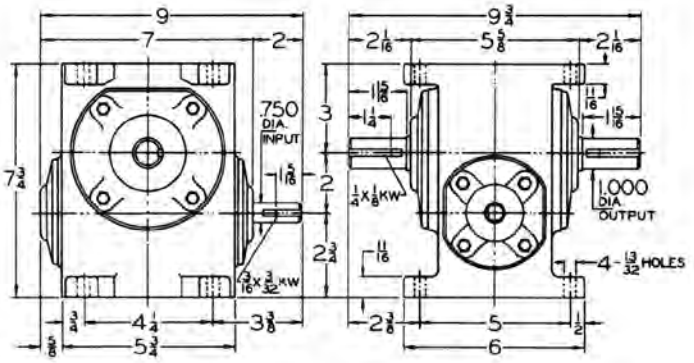
To Order, Specify:
Example: 30RW-T40, 1-LD, position3

Series ..... as, Series W
Type .....as, DB or DV
Size..... as, 40
Ratio ..... as, 250:1
Shaft Arrangement .....as, L-LR
Mounting Position ..... as, Floor 1

No extra charge for Standard Position shaft arrangements.

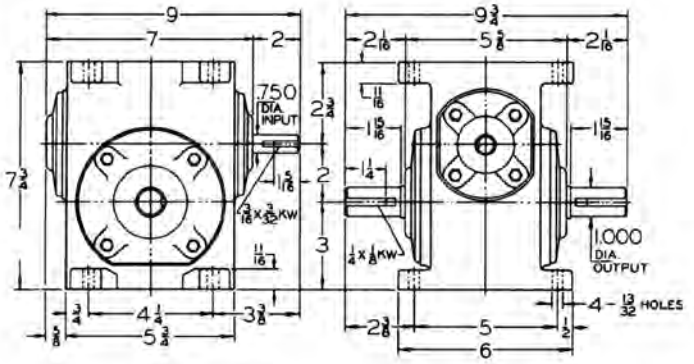
W-B, W-T and W-V Series

20W-B
Net wt. 33 lbs.
2.0" C.D.



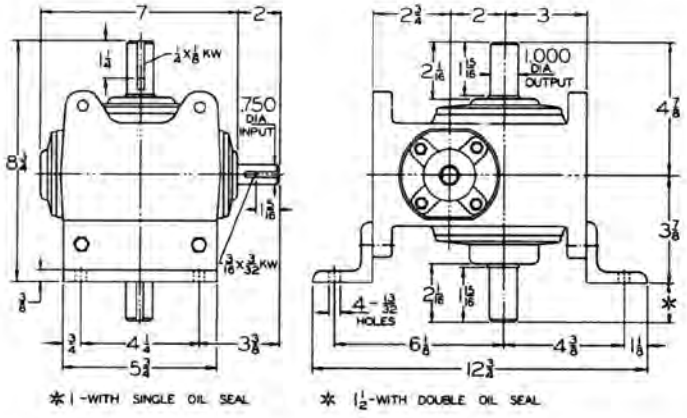


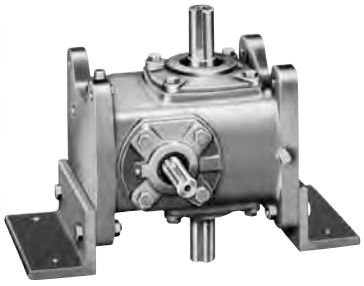
20W-T
Net wt. 33 lbs.
2.0" C.D.





20W-V
Net wt. 33 lbs.
2.0" C.D.





Angle brackets are not included with the reducer.

1.00 Service Factor* - Single Reduction Wormgear - Models 20W-B, 20W-T and 20 W-V

TORQUE and HORSEPOWER RATINGS																	
RATIO	AT 1750 RPM INPUT			AT 1150 RPM INPUT			AT 870 RPM INPUT			AT 580 RPM INPUT			AT 300 RPM INPUT			AT 100 RPM INPUT		
	Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output	
		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque
5	2.92	350.0	487	2.35	230.0	588	1.96	174.0	643	1.45	116.0	702	.83	60.0	763	.30	20.0	808
7.5	2.31	233.3	568	1.84	153.3	676	1.52	116.0	732	1.12	77.3	793	.64	40.0	854	.23	13.3	896
10	1.92	175.0	616	1.52	115.0	728	1.26	87.0	785	.92	58.0	847	.53	30.0	910	.19	10.0	954
15	1.44	116.6	663	1.14	76.6	779	.94	58.0	837	.70	38.7	902	.40	20.0	964	.15	6.6	1011
20	1.13	87.5	673	.88	57.5	779	.73	43.5	831	.54	29.0	890	.31	15.0	944	.12	5.0	987
25	.94	70.0	677	.73	46.0	777	.61	34.8	827	.45	23.2	882	.26	12.0	936	.10	4.0	971
30	.84	58.4	685	.67	38.4	803	.57	29.0	862	.42	19.3	928	.25	10.0	992	.10	3.3	1037
40	.64	46.7	672	.52	28.7	776	.43	21.8	828	.32	14.5	883	.19	7.5	937	.07	2.5	979
50	.53	35.0	646	.42	23.0	742	.35	17.4	788	.27	11.6	839	.16	6.0	887	.06	2.0	921
60	.44	29.2	610	.35	19.2	699	.30	14.5	741	.22	9.7	789	.13	5.0	835	.05	1.6	869

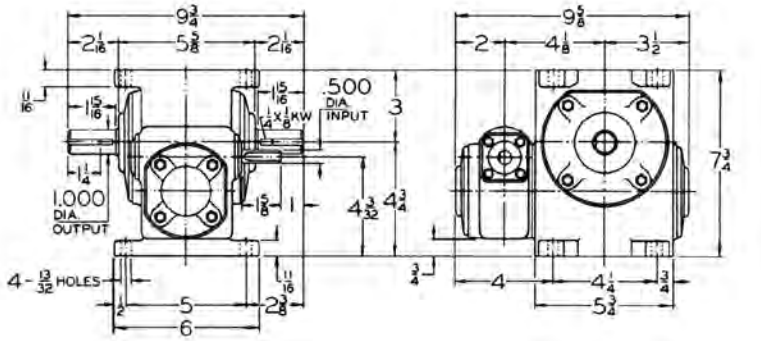
▲ Inch-pounds

Overhung load (O.H.L.) for 20W-B, W-T is 325 pounds, for 20W-V is 274 pounds at one shaft diameter from housing.

* Refer to page 275 for other service factors. Refer to pages 276 and 277 for shaft arrangements.

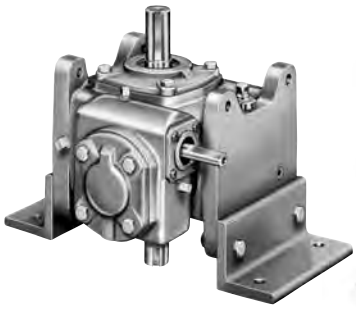
Series W-DB and W-DV



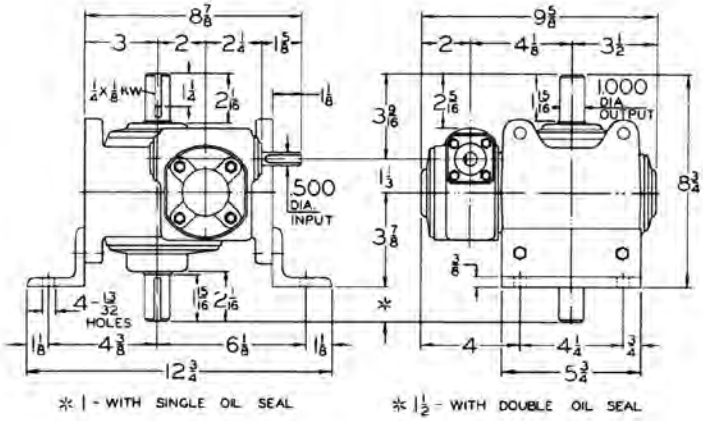


20W-DB
Net wt. 24 lbs.
2.0" C.D.

The W-DB model should not be turned over and used with the primary in the top or "T" position. When the primary is at the top, it may not receive sufficient lubrication and will be destroyed.



Angle brackets are not included with the reducer.



20W-DV
Net wt. 24 lbs.
2.0" C.D.

PoweRgear

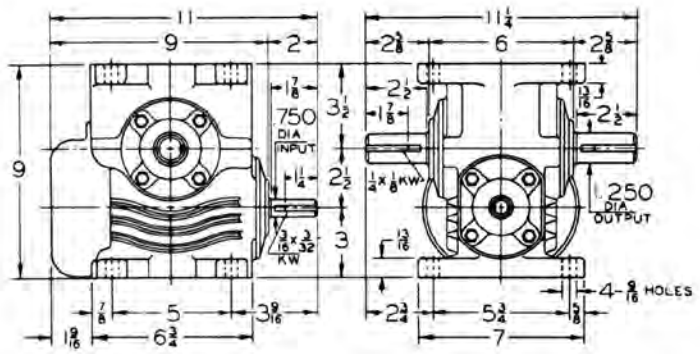
1.00 Service Factor* - Double Reduction Wormgear - Models 20W-DB and 20W-DV
1.33" Centers Primary - 2.0" Centers Secondary

TORQUE and HORSEPOWER RATINGS													
RATIO	Primary Ratio	Seconday Ratio	AT 1750 RPM INPUT			AT 1150 RPM INPUT			AT 870 RPM INPUT			AT 580 RPM INPUT		
			Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output	
				R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque
75	5	15	.50	23.33	956	.35	15.33	984	.28	11.60	997	.20	7.73	1010
100	5	20	.39	17.50	937	.27	11.50	962	.21	8.70	973	.15	5.80	985
125	5	25	.32	14.00	929	.23	9.20	952	.18	6.96	963	.13	4.64	975
150	10	15	.29	11.37	996	.20	7.67	1010	.16	5.80	1017	.11	3.87	1024
200	10	20	.22	8.75	973	.16	5.75	986	.12	4.35	991	.09	2.90	997
250	10	25	.18	7.00	963	.13	4.60	975	.10	3.48	980	.07	2.32	986
300	15	20	.16	5.83	985	.11	3.83	994	.09	2.90	997	.06	1.93	1001
400	20	20	.13	4.38	991	.09	2.88	998	.07	2.18	1000	.05	1.45	1003
500	25	20	.11	3.50	995	.08	2.30	1000	.06	1.74	1002	.04	1.16	1005
600	30	20	.10	2.92	997	.07	1.92	1002	.06	1.45	1003	.04	.97	1005
800	40	20	.08	2.19	1000	.06	1.44	1004	.05	1.09	1005	.03	.73	1006
1000	50	20	.07	1.75	1002	.05	1.15	1005	.04	.87	1006	.03	.58	1007
1200	60	20	.06	1.46	1003	.05	.96	1006	.04	.73	1006	.03	.48	1007
1500	25	60	.05	1.17	876	.04	.77	880	.03	.58	882	.02	.39	884
1800	30	60	.05	.97	878	.03	.64	882	.03	.48	883	.02	.32	885
2400	40	60	.04	.73	881	.03	.48	883	.02	.36	884	.02	.24	886
3000	50	60	.03	.58	882	.02	.38	884	.02	.29	885	.01	.19	886
3600	60	60	.03	.49	883	.02	.32	885	.02	.24	886	.01	.16	886

▲ Inch-pounds
Overhung load (O.H.L.) for 20W-DB is 702 pounds, for 20W-DV is 591 pounds at one shaft diameter from housing.
* Refer to page 275 for other service factors. Refer to page 285 for shaft arrangements.

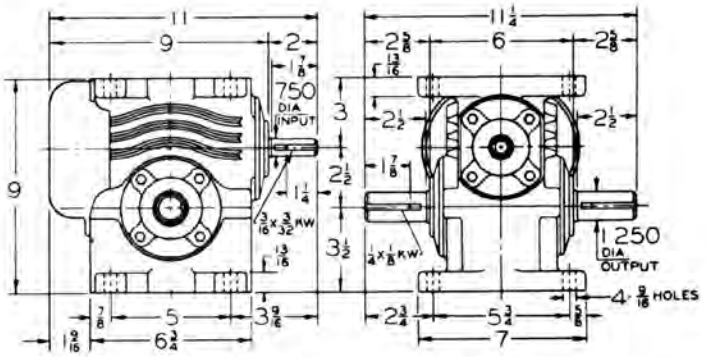
RW-B, RW-T and RW-V Series

25RW-B
Net wt. 48 lbs.
2.5" C.D.



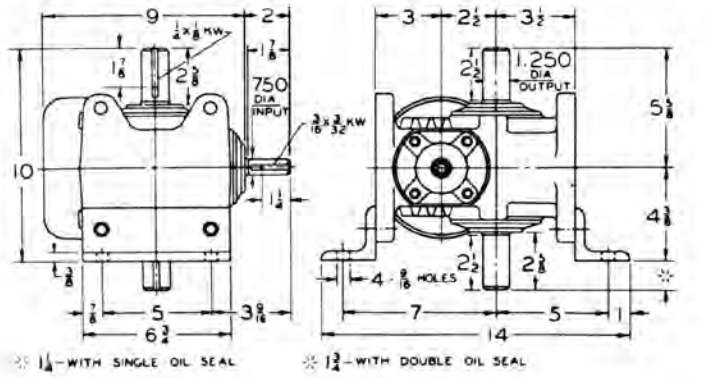


25RW-T
Net wt. 48 lbs.
2.5" C.D.





25RW-V
Net wt. 48 lbs.
2.5" C.D.





Angle brackets are not included with the reducer.

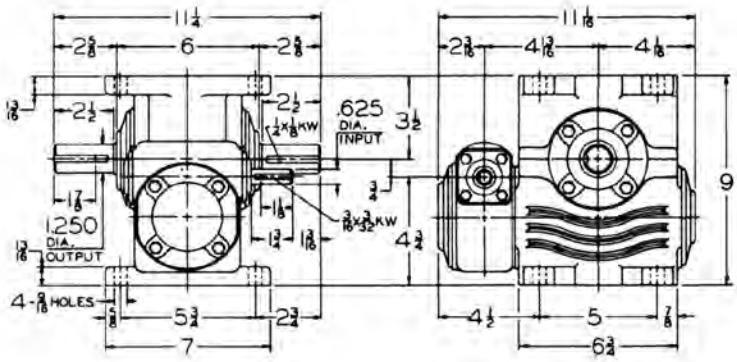
1.00 Service Factor* - Single Reduction Wormgear - 25RW PoweRgear Universal Model

TORQUE and HORSEPOWER RATINGS																		
RATIO	AT 1750 RPM INPUT			AT 1150 RPM INPUT			AT 870 RPM INPUT			AT 580 RPM INPUT			AT 300 RPM INPUT			AT 100 RPM INPUT		
	Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output	
		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque
5	4.76	350.0	798	3.95	230.0	996	3.36	174.0	1112	2.54	116.0	1243	1.49	60.0	1379	.55	20.0	1479
7.5	3.82	233.3	946	3.12	153.3	1152	2.63	116.0	1277	1.97	77.3	1409	1.14	40.0	1545	.42	13.3	1644
10	3.18	175.0	1031	2.58	115.0	1253	2.17	87.0	1376	1.63	58.0	1510	.94	30.0	1648	.35	10.0	1751
15	2.37	116.6	1113	1.93	76.6	1344	1.63	58.0	1472	1.22	38.7	1610	.71	20.0	1750	.27	6.6	1855
20	1.88	87.5	1139	1.52	57.5	1364	1.28	43.5	1484	.96	29.0	1614	.56	15.0	1745	.21	5.0	1835
25	1.54	70.0	1140	1.24	46.0	1347	1.03	34.8	1454	.77	23.2	1569	.45	12.0	1683	.17	1.0	1765
30	1.37	58.4	1155	1.13	38.4	1390	.96	29.0	1518	.73	19.3	1659	.44	10.0	1797	.17	3.3	1897
40	1.07	43.7	1139	.88	28.7	1361	.75	21.8	1479	.58	14.5	1607	.34	7.5	1737	.14	2.5	1828
50	.86	35.0	1090	.70	23.0	1285	.59	17.4	1386	.45	11.6	1495	.27	6.0	1605	.11	2.0	1684
60	.70	29.2	1024	.57	19.2	1196	.48	14.5	1281	.36	9.7	1376	.22	5.0	1472	.09	1.6	1533

▲ Inch-pounds
Overhung load (O.H.L.) for 25RW-B, RW-T is 1211 pounds, for 25RW-V is 1030 pounds at one shaft diameter from housing.
* Refer to page 275 for other service factors. Refer to page 284 for shaft arrangements.

W-DB and W-DV Series



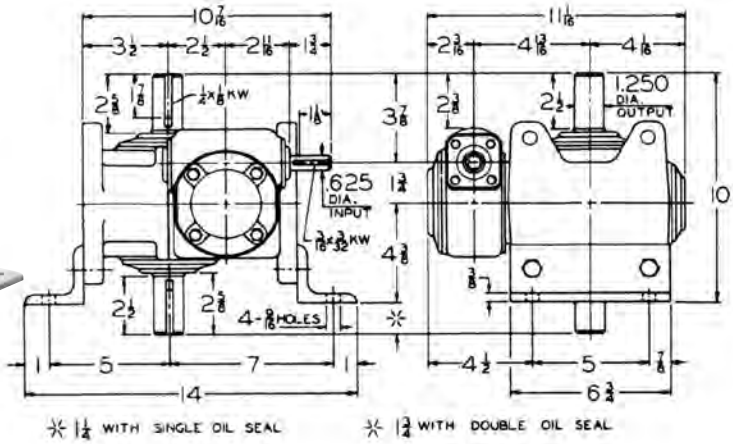


25W-DB
Net wt. 56 lbs.
2.5" C.D.

The W-DB model should not be turned over and used with the primary in the top or "T" position. When the primary is at the top, it may not receive sufficient lubrication and will be destroyed.



Angle brackets are not included with the reducer.



25W-DV
Net wt. 56 lbs.
2.5" C.D.

PoweRgear

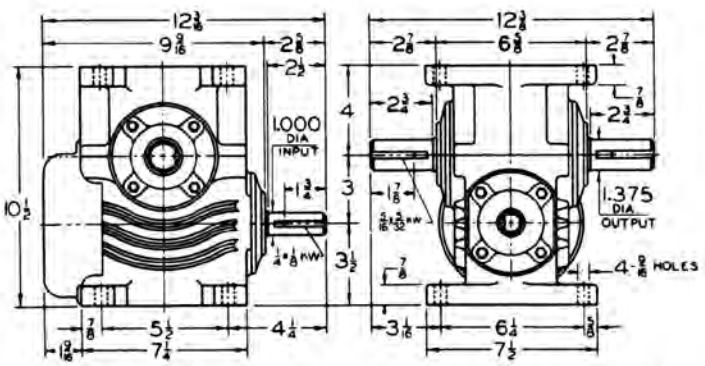
1.00 Service Factor* - Double Reduction Wormgear - Models 25W-DB & 25W-DV
1.75" Centers Primary - 2.5" Centers Secondary

TORQUE and HORSEPOWER RATINGS														
RATIO	Primary Ratio	Secondary Ratio	AT 1750 RPM INPUT			AT 1150 RPM INPUT			AT 870 RPM INPUT			AT 580 RPM INPUT		
			Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output	
				R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque
75	5	15	.88	23.33	1728	.62	15.33	1790	.49	11.60	1819	.35	7.73	1849
100	5	20	.69	17.50	1725	.49	11.50	1783	.39	8.70	1810	.27	5.80	1838
125	5	25	.55	14.00	1667	.39	9.20	1718	.31	6.96	1741	.22	4.64	1766
150	10	15	.51	11.67	1818	.35	7.67	1849	.28	5.80	1864	.20	3.87	1879
200	10	20	.40	8.75	1809	.28	5.75	1838	.22	4.35	1852	.16	2.90	1866
250	10	25	.32	7.00	1741	.22	4.60	1766	.18	3.48	1778	.12	2.32	1791
300	15	20	.29	5.83	1837	.20	3.83	1857	.16	2.90	1866	.11	1.93	1875
400	20	20	.23	4.38	1852	.17	2.88	1866	.13	2.18	1873	.09	1.45	1880
500	25	20	.20	3.50	1860	.14	2.30	1872	.11	1.74	1877	.08	1.16	1883
600	30	20	.18	2.92	1866	.13	1.92	1875	.10	1.45	1880	.07	.97	1885
800	40	20	.15	2.19	1873	.11	1.44	1880	.08	1.09	1883	.06	.73	1887
1000	50	20	.13	1.75	1877	.09	1.15	1883	.07	.87	1886	.05	.58	1888
1200	60	20	.11	1.46	1880	.08	.96	1885	.07	.73	1887	.05	.48	1889
1500	25	60	.08	1.17	1552	.06	.77	1560	.05	.58	1564	.03	.39	1568
1800	30	60	.07	.97	1556	.05	.64	1562	.04	.48	1566	.03	.32	1569
2400	40	60	.06	.73	1561	.04	.48	1566	.04	.36	1568	.03	.24	1571
3000	50	60	.05	.58	1564	.04	.38	1568	.03	.29	1570	.02	.19	1572
3600	60	60	.05	.49	1566	.03	.32	1569	.03	.24	1571	.02	.16	1572

▲ Inch-pounds
Overhung load (O.H.L.) for 25W-DB is 1211 pounds, for 25W-DV is 1030 pounds at one shaft diameter from housing.
* Refer to page 275 for other service factors. Refer to page 285 for shaft arrangements.

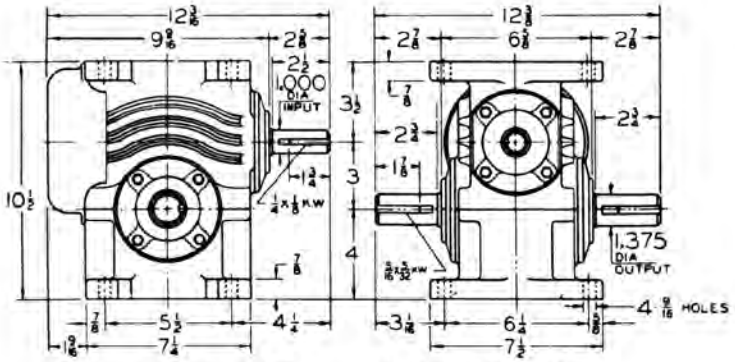
RW-B, RW-T and RW-V Series

30RW-B
Net wt. 65 lbs.
3.0" C.D.



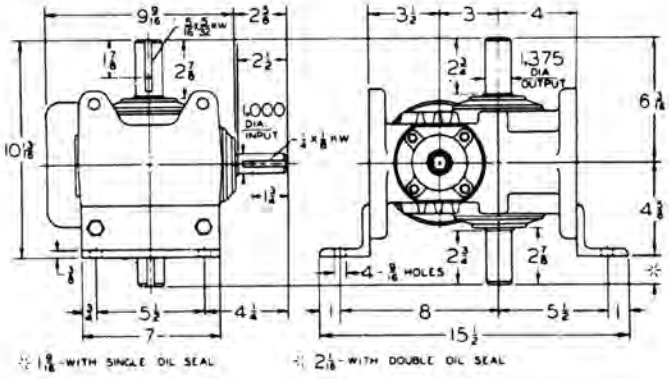


30RW-T
Net wt. 65 lbs.
3.0" C.D.





30RW-V
Net wt. 65 lbs.
3.0" C.D.





Angle brackets are not included with the reducer.

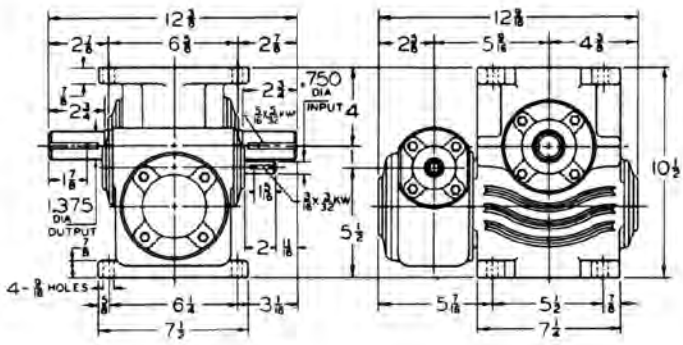
1.00 Service Factor* - Single Reduction Wormgear - 30RW PoweRgear Universal Model

TORQUE and HORSEPOWER RATINGS																		
RATIO	AT 1750 RPM INPUT			AT 1150 RPM INPUT			AT 870 RPM INPUT			AT 580 RPM INPUT			AT 300 RPM INPUT			AT 100 RPM INPUT		
	Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output	
		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque
5	8.06	350.0	1357	6.82	230.0	1729	5.92	174.0	1968	4.58	116.0	2254	2.75	60.0	2557	1.03	20.0	2783
7.5	6.44	233.3	1603	5.52	153.3	2026	4.65	116.0	2279	3.56	77.3	251	2.11	40.0	2874	.79	13.3	3100
10	5.37	175.0	1753	4.50	115.0	2198	3.85	87.0	2461	2.94	58.0	2760	1.74	30..0	3069	.66	10.0	3298
15	4.01	116.6	1899	3.36	76.6	2366	2.88	58.0	2639	2.20	38.7	2947	1.31	20.0	3264	.50	6.6	3499
20	3.19	87.5	1956	2.65	57.5	2412	2.27	46.5	2671	1.73	29.0	2955	1.03	15.0	3254	.39	5.0	3476
25	2.64	70.0	1975	2.18	46.0	2404	1.85	34.8	2643	1.41	23.2	2907	.84	12.0	3175	.32	4.0	3373
30	2.31	58.4	1975	1.96	38.4	2451	1.69	29.0	2725	1.31	19.3	3033	.80	10.0	3349	.31	3.3	3584
40	1.81	43.7	1959	1.53	28.7	2406	1.33	21.8	2665	1.03	14.5	2946	.63	7.5	3240	.25	2.5	3454
50	1.46	35.0	1889	1.23	23.0	2298	1.06	17.4	2525	.82	11.6	2770	.50	6.0	3020	.20	2.0	3198
60	1.21	29.2	1791	1.02	19.2	2172	.88	14.5	2380	.69	9.7	2612	.42	5.0	2844	.17	1.6	3016

▲ Inch-pounds
Overhung load (O.H.L.) for 30RW-B, RW-T is 1403 pounds, for 30RW-V is 1211 pounds at one shaft diameter from housing.
* Refer to page 275 for other service factors. Refer to page 284 for shaft arrangements.

W-DB and W-DV Series



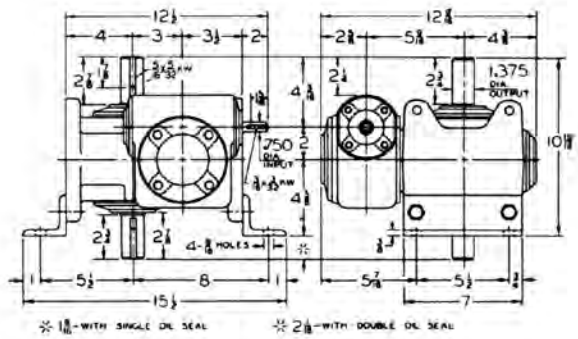


30W-DB
Net wt. 84 lbs.
3.0" C.D.

The W-DB model should not be turned over and used with the primary in the top or "T" position. When the primary is at the top, it may not receive sufficient lubrication and will be destroyed.



Angle brackets are not included with the reducer.



30W-DV
Net wt. 84 lbs.
3.0" C.D.

PoweRgear

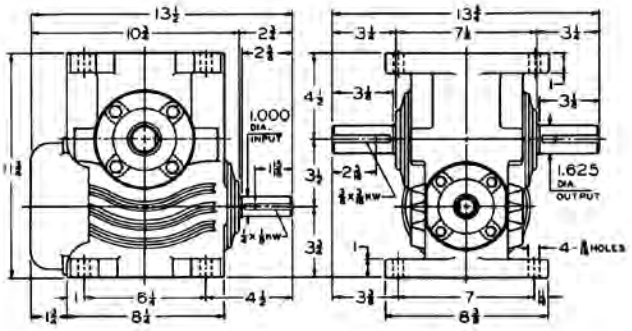
1.00 service factor* - Double Reduction Wormgear - Models 30W-DB & 30W-DV
2.0" Centers Primary - 3.0" Centers Secondary

TORQUE and HORSEPOWER RATINGS													
RATIO	Primary Ratio	Secondary Ratio	AT 1750 RPM INPUT			AT 1150 RPM INPUT			AT 870 RPM INPUT			AT 580 RPM INPUT		
			Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output	
				R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque
75	5	15	1.61	23.33	3208	1.15	15.33	3348	.91	11.60	3413	.64	7.73	3481
100	5	20	1.26	17.50	3207	.90	11.50	3337	.71	8.70	3399	.51	5.80	3462
125	5	25	1.02	14.00	3132	.73	9.20	3250		6.96	3305	.41	4.64	3362
150	10	15	.93	11.67	3412	.65	7.67	3483	.51	5.80	3516	.36	3.87	3550
200	10	20	.73	8.75	3398	.51	5.75	3464	.40	4.35	3494	.28	2.90	3526
250	10	25	.59	7.00	3304	.42	4.60	3363	.33	3.48	3391	.23	2.32	3420
300	15	20	.53	5.83	3462	.37	3.83	3506	.29	2.90	3526	.21	1.93	3548
400	20	20	.42	4.38	3494	.30	2.88	3527	2.3	2.18	3542	.16	1.45	3558
500	25	20	.35	3.50	3513	.25	2.30	3540	.20	1.74	3552	.14	1.16	3565
600	30	20	.32	2.92	3526	.23	1.92	3548	.18	1.45	3558	.13	.97	3569
800	40	20	.26	2.19	3542	.18	1.44	3559	.15	3.09	3566	.10	.73	3574
1000	50	20	.22	1.75	3552	.16	1.15	3565	.13	.87	3571	.09	.58	3578
1200	60	20	.20	1.46	3558	.14	.96	3569	.11	.73	3574	.08	.48	3580
1500	25	60	.16	1.17	3044	.11	.77	3065	.09	.58	3074	.06	.39	3084
1800	30	60	.14	.97	3054	.10	.64	3071	.08	.48	3079	.06	.32	3088
2400	40	60	.12	.73	3067	.08	.48	3080	.07	.36	3086	.05	.24	3092
3000	50	60	.10	.58	3074	.07	.38	3085	.06	.29	63089	.04	.19	3094
3600	60	60	.09	.49	3079	.06	.32	3088	.05	.24	3092	.04	.16	3096

▲ Inch-pounds
Overhung load (O.H.L.) for 30W-DV is 1211 pounds at one shaft diameter from housing.
* Refer to page 275 for other service factors. Refer to page 285 for shaft arrangements.

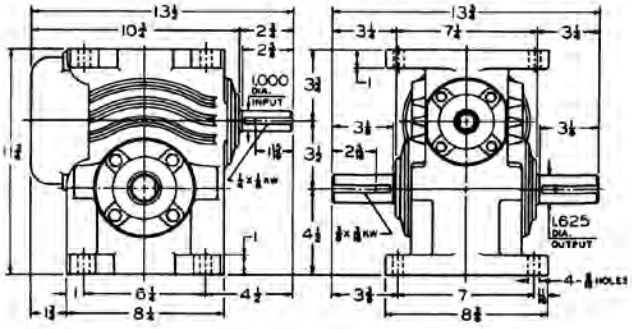
RW-B, RW-T and RW-V Series

35RW-B
Net wt. 85 lbs.
3.5" C.D.



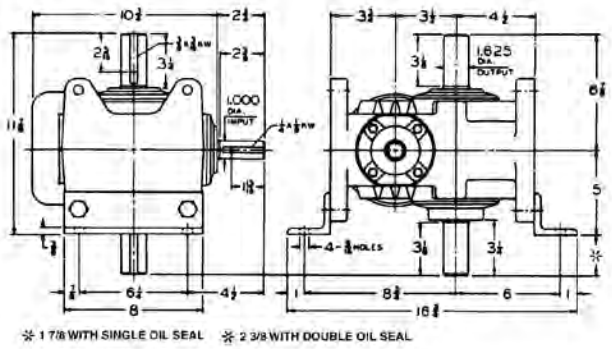


35RW-T
Net wt. 85 lbs.
3.5" C.D.





35RW-V
Net wt. 85 lbs.
3.5" C.D.





Angle brackets are not included with the reducer.

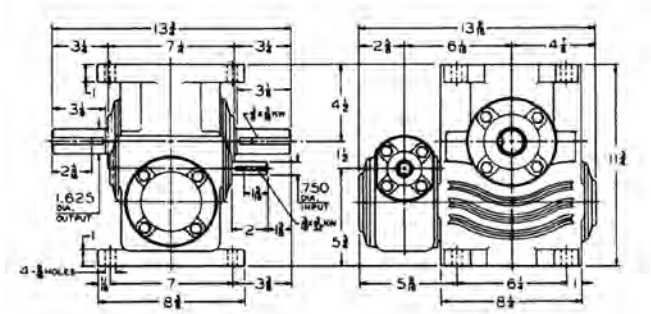
1.00 Service Factor* - Single Reduction Wormgear - 35RW PoweRgear Universal Model

TORQUE and HORSEPOWER RATINGS																		
RATIO	AT 1750 RPM INPUT			AT 1150 RPM INPUT			AT 870 RPM INPUT			AT 580 RPM INPUT			AT 300 RPM INPUT			AT 100 RPM INPUT		
	Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output	
		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque
5	11.54	350.0	1951	9.70	230.0	2470	8.58	174.0	2861	6.82	116.0	3373	4.21	60.0	3927	1.61	20.0	4356
7.5	9.12	233.3	2279	7.74	153.3	2903	6.78	116.0	3328	5.33	7.3	3368	3.25	40.0	4424	1.24	13.3	4854
10	7.55	175.0	2474	6.43	115.0	3155	5.62	87.0	3601	4.40	58.0	4150	2.68	30.0	4726	1.03	10.0	5167
15	5.60	116.6	2663	4.80	76.6	3396	4.20	58.0	3864	3.30	38.7	4429	2.02	20.0	5027	.78	6.6	5476
20	4.44	87.5	2739	3.80	57.5	3469	3.31	43.5	3921	2.58	29.0	4448	1.58	15.0	5003	.61	5.0	5401
25	3.67	70.0	2773	3.11	46.0	3470	2.69	34.8	3884	2.08	23.2	4349	1.26	12.0	4830	.49	4.0	5185
30	3.22	58.4	2773	2.79	38.4	3516	2.46	29.0	3995	1.97	19.3	4570	1.24	10.0	5165	.50	3.3	5625
40	2.50	43.7	2738	2.16	28.7	3468	1.92	21.98	3914	1.53	14.5	4428	.96	7.5	4969	.39	2.5	5364
50	2.02	35.0	2657	1.74	23.0	3320	1.52	17.4	3707	1.21	11.6	4144	.75	6.0	4603	.30	2.0	4934
60	1.67	29.2	2522	1.44	19.2	3138	1.26	14.5	3497	1.00	9.7	3900	.63	5.0	4308	.26	1.6	4637

▲ Inch-pounds
Overhung load (O.H.L.) for 35RW-B, RW-T is 2066 pounds, for 35RW-V is 1804 pounds at one shaft diameter from housing.
* Refer to page 275 for other service factors. Refer to page 284 for shaft arrangements.

W-DB and W-DV Series



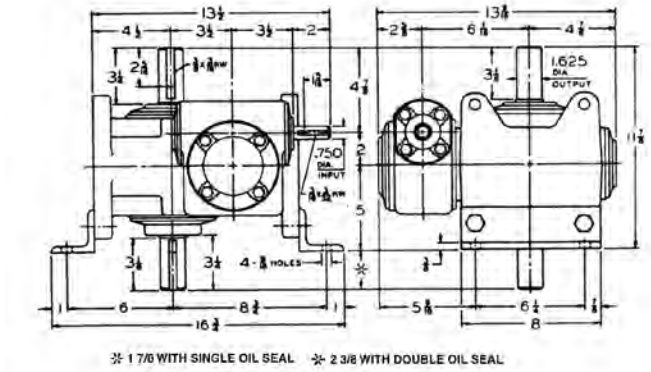


35W-DB
Net wt. 105 lbs.
3.5" C.D.

The W-DB model should not be turned over and used with the primary in the top or "T" position. When the primary is at the top, it may not receive sufficient lubrication and will be destroyed.



Angle brackets are not included with the reducer.



35W-DV
Net wt. 105 lbs.
3.5" C.D.

PoweRgear

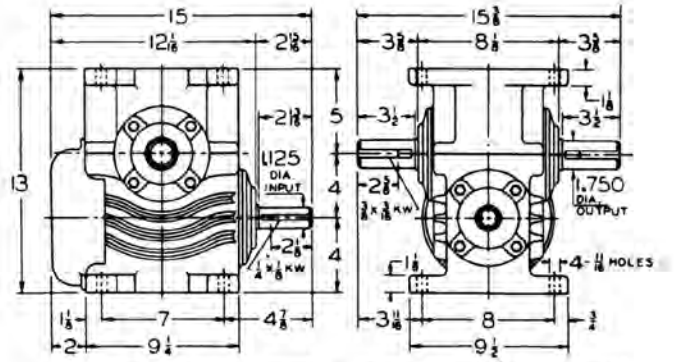
1.00 Service Factor* - Double Reduction Wormgear - Models 35W-DB and 35 W-DV
2.0" Centers Primary - 3.5" Centers Secondary

TORQUE and HORSEPOWER RATINGS													
RATIO	Primary Ratio	Secondary Ratio	AT 1750 RPM INPUT			AT 1150 RPM INPUT			AT 870 RPM INPUT			AT 580 RPM INPUT		
			Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output	
				R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque
75	5	15	2.47	23.33	4919	1.77	15.33	5187	1.41	11.60	5313	1.00	7.73	5444
100	5	20	1.93	17.50	4903	1.39	11.50	5147	1.10	8.70	5262	.79	5.80	5382
125	5	25	1.54	14.00	4750	1.11	9.20	4963	.88	6.93	5063	.63	4.64	5167
150	10	15	1.44	11.67	5311	1.02	7.67	5446	.80	5.80	5509	.57	3.87	5575
200	10	20	1.13	8.75	5260	.79	5.75	5384	.63	4.35	5442	.44	2.90	5502
250	10	25	.90	7.00	5061	.63	4360	5169	.50	3.48	5219	.35	2.32	5272
300	15	20	.82	5.83	5381	.58	3.83	5463	.46	2.90	5502	.33	1.93	5542
400	20	20	.65	4.38	5441	.46	2.88	5503	.37	2.18	5532	.26	1.45	5562
500	25	20	.55	3.50	5477	.39	2.30	5527	.31	1.74	5550	.22	1.16	5574
600	30	20	.50	2.29	5501	.35	1.92	5543	.28	1.45	5562	.20	.97	5582
800	40	20	.40	2.19	5532	.29	1.44	5563	.23	1.09	557	.16	.73	5593
1000	50	20	.35	1.75	5550	.25	1.15	5575	.20	.87	5586	.14	.58	5599
1200	60	20	.31	1.46	5562	.22	.96	5583	.18	.73	5593	.13	.48	5603
1500	25	60	.24	1.17	4671	.17	.77	4709	.14	.58	4726	.10	.39	4744
1800	30	60	.21	.97	4690	.15	.64	4721	.12	.48	4735	.09	.32	4750
2400	40	60	.17	.73	4712	.13	.48	4735	.10	.36	4746	.07	.24	4757
3000	50	60	.15	.58	4726	.11	.38	4744	.09	.29	4753	.06	.19	4762
3600	60	60	.14	.49	4735	.10	.32	4750	.08	.24	4757	.06	.16	4765

▲ Inch-pounds
Overhung load (O.H.L.) for 35W-DB is 2066 pounds, for 35W-DV lis 1804 pounds at one shaft diameter from housing.
* Refer to page 275 for other service factors. Refer to page 285 for shaft arrangements.

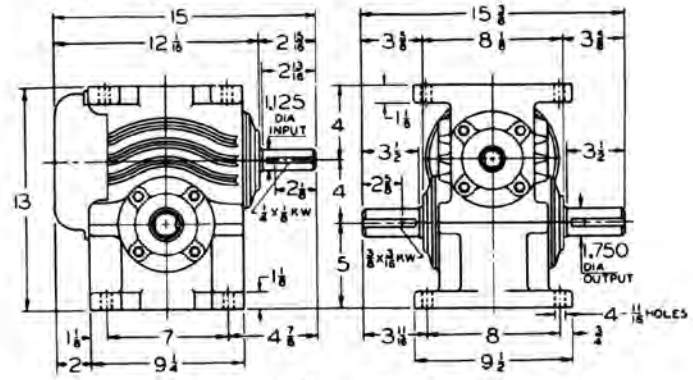
RW-B, RW-T and RW-V Series

40RW-B
Net wt. 119 lbs.
4.0" C.D.



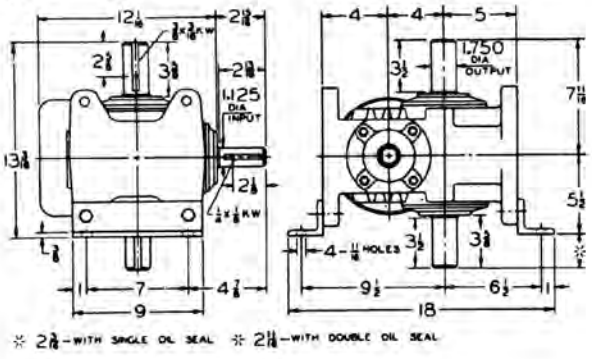


40RW-T
Net wt. 119 lbs.
4.0" C.D.





40RW-V
Net wt. 119 lbs.
4.0" C.D.





Angle brackets are not included with the reducer.

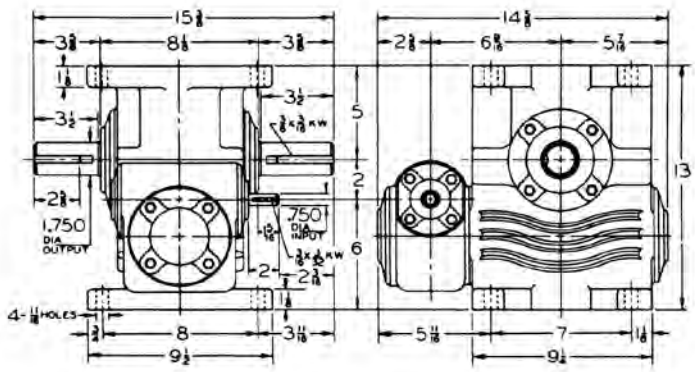
1.00 Service Factor* - Single Reduction Wormgear - 40 RW PoweRgear Universal Model

TORQUE and HORSEPOWER RATINGS																		
RATIO	AT 1750 RPM INPUT			AT 1150 RPM INPUT			AT 870 RPM INPUT			AT 580 RPM INPUT			AT 300 RPM INPUT			AT 100 RPM INPUT		
	Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output	
		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque
5	15.15	350.0	2570	12.65	230.0	3233	11.27	174.0	3781	9.05	116.0	4498	5.65	60.0	5306	2.18	20.0	5925
10	10.03	175.0	3321	8.52	115.0	4229	7.46	87.0	4845	5.87	58.0	5608	3.58	30.0	6427	1.37	10.0	7041
15	7.44	116.6	3592	6.36	76.6	4580	5.57	58.0	5222	4.38	38.7	6014	2.68	20.0	6846	1.04	6.6	7483
20	5.89	87.5	3685	5.06	57.5	4702	4.43	43.5	5244	3.49	29.0	6127	2.15	15.0	6949	.84	5.0	7566
25	4.87	70.0	3712	4.14	46.0	4695	3.60	34.8	5299	2.81	23.2	6002	1.71	12.0	6722	.67	4.0	7262
30	4.22	58.4	3733	3.65	38.4	4760	3.23	29.0	5412	2.57	19.3	6213	1.61	10.0	7043	.64	3.3	7679
40	3.31	43.7	3710	2.88	28.7	4705	2.55	21.8	5340	2.04	14.5	6106	1.29	7.5	6916	.52	2.5	7515
50	2.63	35.0	3555	2.29	23.0	4493	2.02	17.4	5066	1.61	11.6	5724	1.01	6.0	6408	.41	2.0	6904
60	2.15	29.2	3372	1.86	19.2	4226	1.63	14.5	4724	1.30	9.7	5293	.81	5.0	5877	.33	1.6	6345

▲ Inch-pounds
Overhung load (O.H.L.) for 40RW-B, RW-T is 2736 pounds, for 40RW-V is 2423 pounds at one shaft diameter from housing.
* Refer to page 275 for other service factors. Refer to page 284 for shaft arrangements.

W-DB and W-DV Series



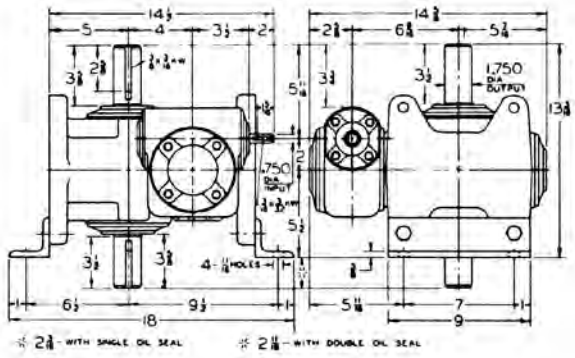


40W-DB
Net wt. 135 lbs.
4.0" C.D.

The W-DB model should not be turned over and used with the primary in the top or "T" position. When the primary is at the top, it may not receive sufficient lubrication and will be destroyed.



Angle brackets are not included with the reducer.



40W-DV
Net wt. 135 lbs.
4.0" C.D.

PoweRgear

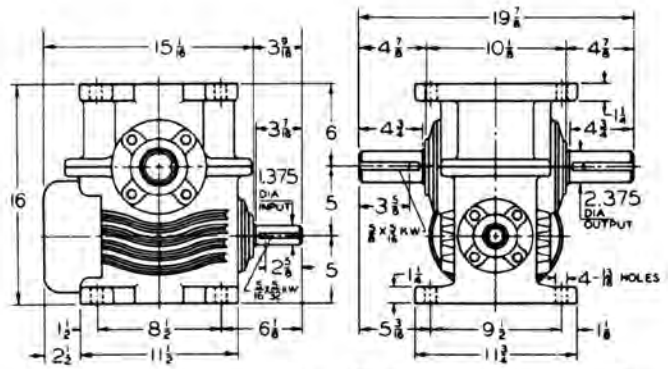
1.00 Service Factor* - Double Reduction Wormgear - Models 40W-DB and 40W-DV
2.0" Centers Primary - 4.0" Centers Secondary

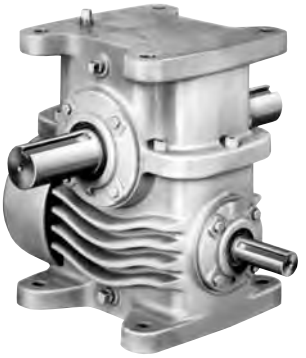
TORQUE and HORSEPOWER RATINGS														
RATIO	Primary Ratio	Secondary Ratio	AT 1750 RPM INPUT			AT 1150 RPM INPUT			AT 870 RPM INPUT			AT 580 RPM INPUT		
			Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output	
				R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque
75	5	15	2.92	23.33	5972	2.35	15.33	7058	1.87	11.60	7247	1.33	7.73	7431
100	5	20	2.62	17.50	6804	1.89	11.50	7172	1.50	8.70	7345	1.07	5.80	7526
125	5	25	2.10	14.00	6597	1.50	9.20	6920	1.20	6.96	7071	.85	34.64	7229
150	10	15	1.91	11.67	7244	1.34	7.67	7434	1.06	5.80	7523	.75	3.87	7615
200	10	20	1.53	8.75	7342	1.08	5.75	7529	.86	4.35	4616	.61	2.90	7707
250	10	25	1.22	7.00	7069	.86	4.60	7232	.68	3.48	7308	.48	2.32	7388
300	15	20	1.12	5.83	7524	.79	3.83	7649	.63	2.90	7707	.44	1.93	7768
400	20	20	.89	4.38	7615	.63	2.88	7708	.50	2.18	7752	.35	1.45	7798
500	25	20	.75	3.50	7669	.53	2.30	7745	.42	1.74	7780	.30	1.16	7816
600	30	20	.68	2.92	7706	.48	1.92	7769	.38	1.45	7798	.27	.97	7828
800	40	20	.55	2.19	7752	.39	1.44	7799	.31	3.09	7821	.22	.73	7843
1000	50	20	.47	1.75	7797	.34	1.15	7817	.27	.87	7834	.19	.58	7853
1200	60	20	.42	1.46	7797	.30	.96	7829	.24	.73	7843	.17	.48	7859
1500	25	60	.30	1.17	6388	.22	.77	6441	.17	.58	6466	.12	.39	6491
1800	30	60	.27	.97	6414	.20	.64	6458	.16	.48	6478	.11	.32	6500
2400	40	60	.22	.73	6446	.16	.48	6479	.13	.36	6494	.09	.24	6510
3000	50	60	.19	.58	6465	.14	.38	6492	.11	.29	6504	.08	.19	6517
3600	60	60	.17	.49	6478	.13	.32	6500	.10	.24	6510	.07	.16	6521

▲ Inch-pounds
Overhung load (O.H.L.) for 40W-DB is 2736 pounds, for 40W-DV is 2423 pounds at one shaft diameter from housing.
* Refer to page 275 for other service factors. Refer to page 285 for shaft arrangements.

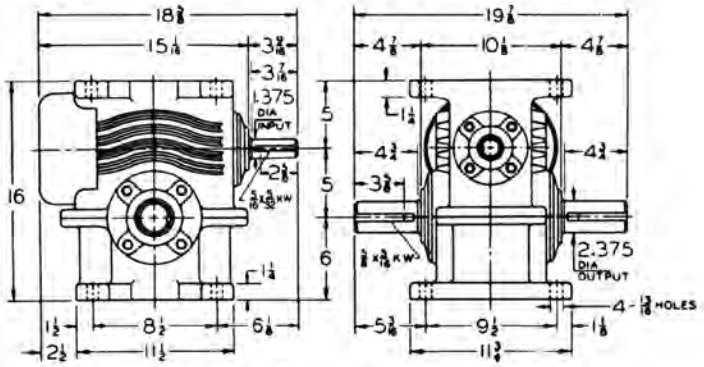
RW-B, RW-T and RW-V Series

50RW-B
Net wt. 232 lbs.
5.0" C.D.



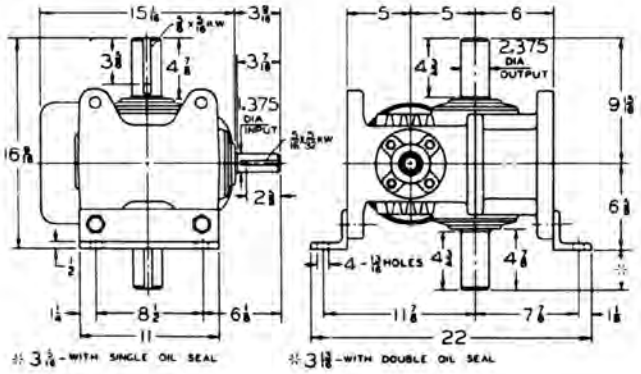


50RW-T
Net wt. 232 lbs.
5.0" C.D.





50RW-V
Net wt. 232 lbs.
5.0" C.D.





Angle brackets are not included with the reducer.

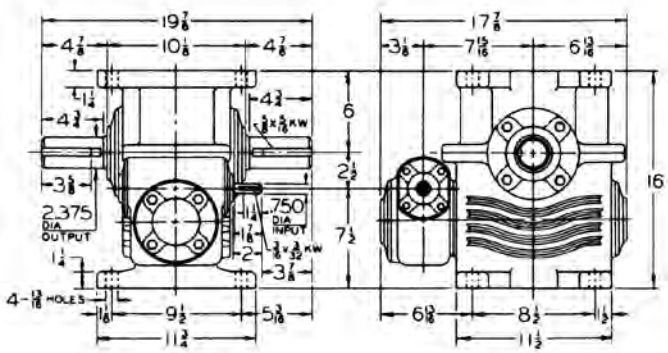
1.00 Service Factor* - Single Reduction Wormgear - 50RW PoweRgear Universal Model

TORQUE and HORSEPOWER RATINGS																	
RATIO	AT 1750 RPM INPUT			AT 1150 RPM INPUT			AT 870 RPM INPUT			AT 580 RPM INPUT			AT 300 RPM INPUT			AT 100 RPM INPUT		
	Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output	
		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque
5	25.25	350.0	4300	20.79	230.0	5344	18.60	174.0	6274	15.47	116.0	7743	10.11	60.0	9570	4.02	20.0	11029
10	16.64	175.0	5542	13.84	115.0	6917	12.47	87.0	8155	10.13	58.0	9790	6.45	30.0	11670	2.53	10.0	13139
15	12.31	116.6	5991	10.34	76.6	7512	9.30	58.0	8813	7.56	38.7	10511	4.83	20.0	12448	1.91	6.6	13958
20	9.61	87.5	6113	8.18	57.5	7737	7.29	43.5	8964	5.87	29.0	10547	3.71	15.0	12286	1.47	5.0	13610
25	7.94	70.0	6162	6.80	46.0	7823	6.06	34.8	9040	4.88	23.2	10592	3.09	12.0	12273	1.23	4.0	13558
30	6.92	58.4	6224	5.92	38.4	7836	5.36	29.0	9154	4.41	19.3	10877	2.88	10.0	12810	1.18	3.3	14338
40	5.31	43.7	6125	4.60	28.7	7771	4.14	21.8	8781	3.38	14.5	10531	2.20	7.5	12222	.90	2.5	13507
50	4.27	35.0	5899	3.73	23.0	7498	3.36	17.4	8644	2.76	11.6	10111	1.81	6.0	11686	.75	2.0	12904
60	3.48	29.2	5577	3.06	19.2	7094	2.76	14.5	8140	2.26	9.7	9470	1.48	5.0	10854	.62	1.6	11974

▲ Inch-pounds
Overhung load (O.H.L.) for 50RW-B, RW-T is 4477 pounds, for 50RW-V is 4040 pounds one shaft diameter from housing.
* Refer to page 275 for other service factors. Refer to page 284 for shaft arrangements.

W-DB and W-DV Series



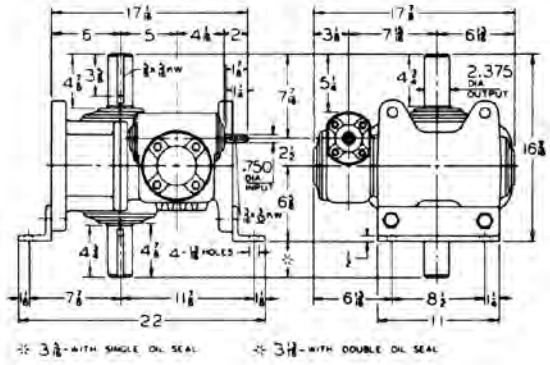


50W-DB
Net wt. 251 lbs.
5.0" C.D.

The W-DB model should not be turned over and used with the primary in the top or "T" position. When the primary is at the top, it may not receive sufficient lubrication and will be destroyed.



Angle brackets are not included with the reducer.



50W-DV
Net wt. 251 lbs.
5.0" C.D.

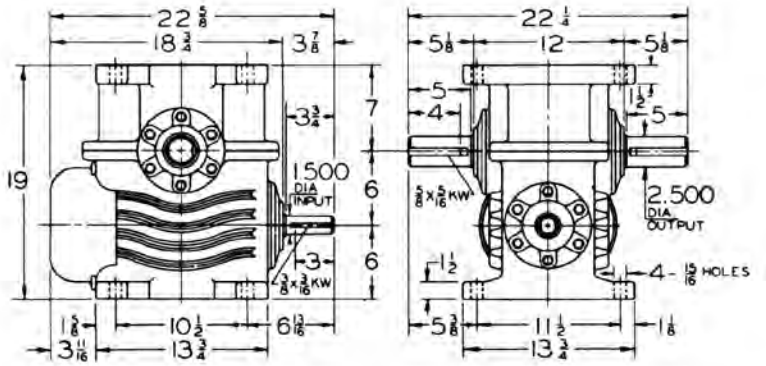
1.00 Service Factor* - Double Reduction Wormgear - Models 50W-DB and 50W-DV
2.5" Centers Primary - 5.0" Centers Secondary

TORQUE and HORSEPOWER RATINGS														
RATIO	Primary Ratio	Secondary Ratio	AT 1750 RPM INPUT			AT 1150 RPM INPUT			AT 870 RPM INPUT			AT 580 RPM INPUT		
			Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output	
				R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque
75	5	15	4.76	23.33	9904	3.95	15.33	12051	3.36	11.60	13276	2.42	7.73	13832
100	5	20	4.47	17.50	11961	3.25	11.50	12751	2.60	8.70	13124	1.85	5.80	13511
125	5	25	3.73	14.00	11963	2.74	9.20	12730	2.17	6.96	13091	1.56	4.64	13468
150	10	15	3.18	11.67	12310	2.44	7.67	13839	1.93	5.80	14052	1.36	3.87	14273
200	10	20	2.64	8.75	13117	1.87	5.75	13518	1.48	4.35	13706	1.05	2.90	13901
250	10	25	2.21	7.00	13085	1.57	4.60	13474	1.24	3.48	13656	.88	2.32	13846
300	15	20	1.93	5.83	13507	1.36	3.83	13776	1.07	2.990	13901	.76	1.93	14032
400	20	20	1.55	4.38	13703	1.08	2.88	13905	.86	2.18	13999	.61	1.45	14098
500	25	20	1.29	3.50	13820	.91	2.30	13982	.72	1.74	14058	.51	1.16	14136
600	30	20	1.15	2.92	13899	.82	1.92	14034	.65	1.45	14097	.47	.97	14163
800	40	20	.94	2.19	13997	.67	1.44	14099	.53	1.09	14146	.38	.73	14195
1000	50	20	.80	1.75	14057	.57	1.15	14138	.45	.87	14176	.33	.58	14215
1200	60	20	.70	1.46	14066	.50	.96	14164	.40	.73	14195	.29	.48	14228
1500	25	60	.55	1.17	12105	.40	.77	12235	.32	.58	12296	.23	.39	12359
1800	30	60	.50	.97	12168	.36	.64	12277	.29	.48	12327	.21	.32	12380
2400	40	60	.41	.73	12247	.30	.48	12329	.24	.36	12367	.17	.24	12406
3000	50	60	.35	.58	12295	.25	.38	12360	.20	.29	12390	.15	.19	12422
3600	60	60	.31	.49	12326	.23	.32	12381	.18	.24	12406	.13	.16	12432

▲ Inch-pounds
Overhung load (O.H.L.) for 50W-DB is 4477 pounds, for 50W-DV is 4040 pounds at one shaft diameter from housing.
* Refer to page 275 for other service factors. Refer to page 285 for shaft arrangements.

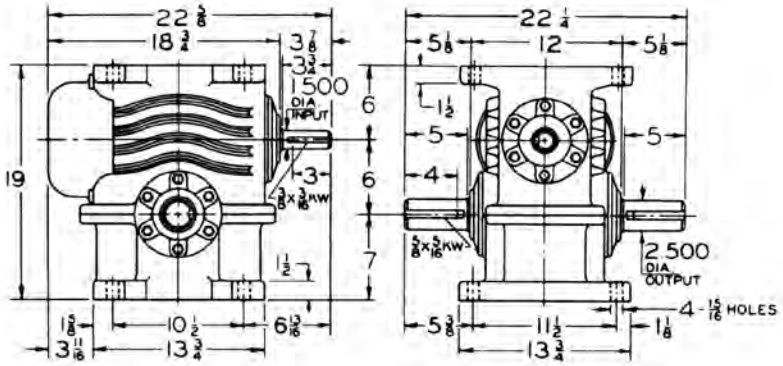
RW-B, RW-T and RW-V Series

60RW-B
Net wt. 375 lbs.
6.0" C.D.



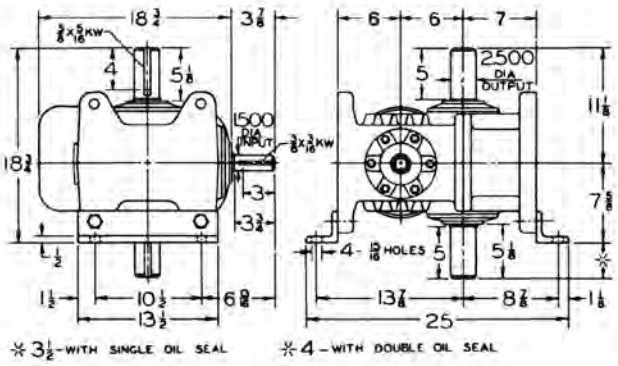


60RW-T
Net wt. 375 lbs.
6.0" C.D.





60RW-V
Net wt. 375 lbs.
6.0" C.D.





Angle brackets are not included with the reducer.

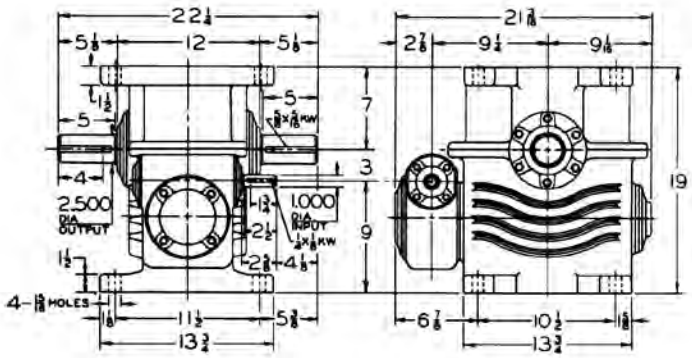
1.00 Service Factor* - Single Reduction Wormgear - 60RW PoweRgear Universal Model

TORQUE and HORSEPOWER RATINGS																	
RATIO	AT 1750 RPM INPUT			AT 1150 RPM INPUT			AT 870 RPM INPUT			AT 580 RPM INPUT			AT 300 RPM INPUT			AT 100 RPM INPUT		
	Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output	
		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque
5	38.15	350.0	6527	31.40	230.0	8104	27.71	174.0	9384	23.55	116.0	11849	16.02	60.0	15260	6.57	20.0	18127
10	25.10	175.0	8408	20.75	115.0	10437	18.60	87.0	12245	15.56	58.0	15129	10.27	30.0	18747	4.14	10.0	21641
15	18.54	116.6	9084	15.39	76.6	11275	13.90	58.0	13288	11.61	38.7	16315	7.68	20.0	20026	3.12	6.6	23008
20	14.50	87.5	9283	12.12	57.5	11560	1099	43.5	13640	9.10	29.0	16535	5.96	15.0	19955	2.42	5.0	22655
25	11.72	70.0	9254	9.91	46.0	11625	8.93	34.8	13623	7.25	23.2	16204	4.69	12.0	19127	1.88	4.0	21394
30	10.37	58.4	9438	8.73	38.4	11728	7.97	29.0	13843	6.74	19.3	16909	4.55	10.0	20627	1.92	3.3	23631
40	7.96	43.7	9299	6.76	28.7	11581	6.20	21.8	13672	5.22	14.5	16531	3.52	7.5	19879	1.48	2.5	22507
50	6.23	35.0	8867	5.37	23.0	11173	4.89	17.4	13038	4.05	11.6	15499	2.69	6.0	18232	1.12	2.0	20366
60	5.12	29.2	8418	4.45	19.2	10603	4.06	14.5	12374	3.39	9.7	14717	2.27	5.0	17305	.96	1.6	19390

▲ Inch-pounds
Overhung load (O.H.L.) for 60RW-B, RW-T is 5313 pounds, for 60RW-V is 4846 pounds at one shaft diameter from housing.
* Refer to page 275 for other service factors. Refer to page 284 for shaft arrangements.

W-DB and W-DV Series



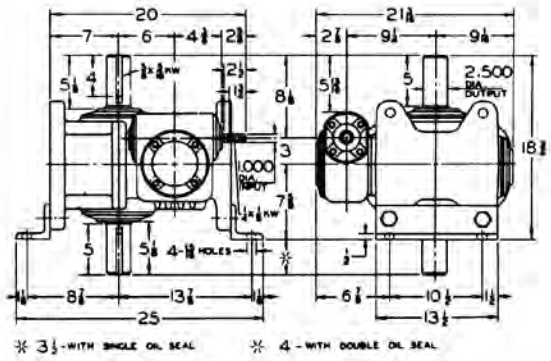


60W-DB
Net wt. 407 lbs.
6.0" C.D.

The W-DB model should not be turned over and used with the primary in the top or "T" position. When the primary is at the top, it may not receive sufficient lubrication and will be destroyed.



Angle brackets are not included with the reducer.



60W-DV
Net wt. 407 lbs.
6.0" C.D.

PoweRgear

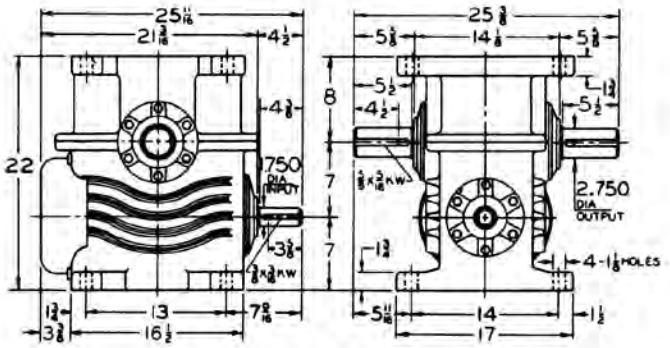
1.00 Service Factor* - Double Reduction Wormgear - Models 60W-DB and 60W-DV
3.0" Centers Primary - 6.0" Centers Secondary

TORQUE and HORSEPOWER RATINGS														
RATIO	Primary Ratio	Secondary Ratio	AT 1750 RPM INPUT			AT 1150 RPM INPUT			AT 870 RPM INPUT			AT 580 RPM INPUT		
			Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output	
				R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque
75	5	15	8.06	23.33	17032	6.79	15.33	21041	5.46	11.60	21878	3.92	7.73	22752
100	5	20	7.11	17.50	19334	5.26	11.50	20907	4.23	8.70	21668	3.04	5.80	22463
125	5	25	5.60	14.00	18581	4.11	9.20	19931	3.29	6.96	20567	2.36	4.64	21230
150	10	15	5.37	11.67	21159	3.95	7.67	22767	3.13	5.80	23192	2.22	3.87	23633
200	10	20	4.30	8.75	21655	3.06	5.57	22476	2.43	4.35	22862	1.72	2.90	23262
250	10	25	3.35	7.00	20556	2.38	4.60	21242	1.89	3.48	21563	1.34	2.32	21897
300	15	20	3.16	5.83	22453	2.23	3.83	23004	1.77	2.90	23262	1.25	1.93	23530
400	20	20	2.52	4.38	22855	1.78	2.88	23269	1.41	2.18	23463	1.01	1.45	23665
500	25	20	2.12	3.50	23096	1.49	2.30	23429	1.19	1.74	23584	.85	1.16	23745
600	30	20	1.89	2.92	23258	1.34	1.92	23535	1.07	1.45	23665	.76	.97	23799
800	40	20	1.53	2.19	23460	1.09	1.44	23668	.87	1.09	23765	.63	.73	23866
1000	50	20	1.30	1.75	23581	.93	1.15	23748	.75	.87	23826	.54	.58	23906
1200	60	20	1.16	1.46	23662	.83	.96	23801	.67	.73	23866	.49	.48	23933
1500	25	60	.86	1.17	19642	.61	.77	19887	.49	.58	20002	.36	.39	20121
1800	30	60	.77	.97	19761	.55	.64	19966	.45	.48	20062	.32	.32	20161
2400	40	60	.63	.73	19910	.46	.48	20064	.37	.36	20136	.27	.24	20211
3000	50	60	.54	.58	20000	.39	.38	20124	.32	.29	20181	.23	.19	20241
3600	60	60	.48	.49	20060	.35	.32	20163	.28	.24	20211	.21	.16	20261

▲ Inch-pounds
Overhung load (O.H.L.) for 60W-DB is 5313 pounds, for 60W-DV is 4846 pounds at one shaft diameter from housing.
* Refer to page 275 for other service factors. Refer to page 285 for shaft arrangements.

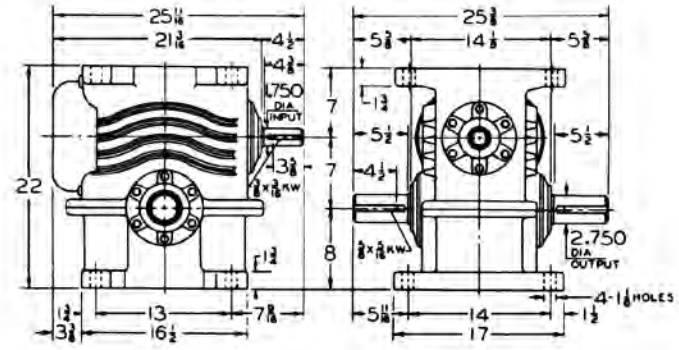
RW-B, RW-T and RW-V Series

70RW-B
Net wt. 523 lbs.
7.0" C.D.



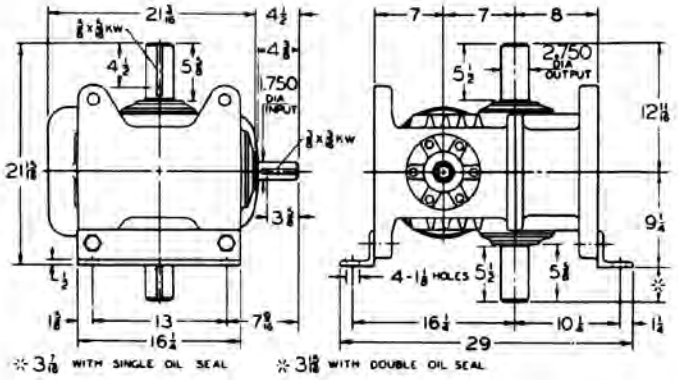


70RW-T
Net wt. 523 lbs.
7.0" C.D.





70RW-V
Net wt. 523 lbs.
7.0" C.D.





Angle brackets are not included with the reducer.

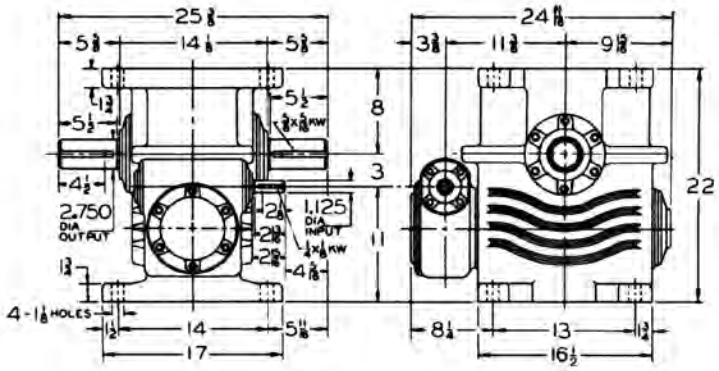
1.00 Service Factor* - Single Reduction Wormgear - 70RW PoweRgear Universal Model

TORQUE and HORSEPOWER RATINGS																	
RATIO	AT 1750 RPM INPUT			AT 1150 RPM INPUT			AT 870 RPM INPUT			AT 580 RPM INPUT			AT 300 RPM INPUT			AT 100 RPM INPUT		
	Input HP	Output		Input HP	OutPut		Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output	
		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque
5	53.32	350.0	9741	44.27	230.0	11463	38.91	174.0	13236	33.05	116.0	16702	23.28	60.0	22301	9.84	20.0	27293
10	35.46	175.0	11928	29.27	115.0	14805	25.89	87.0	17159	22.03	58.0	21573	15.01	30.0	27631	6.20	10.0	32651
15	26.15	116.6	12929	21.69	76.6	16027	19.29	58.0	18588	16.45	38.7	23335	11.21	20.0	29557	4.66	6.6	34735
20	20.42	87.5	13176	16.99	57.5	16369	15.27	43.5	19164	12.93	29.0	23743	8.71	15.0	29553	3.60	5.0	34208
25	16.73	70.0	13256	13.79	46.0	16462	12.66	34.8	19374	10.66	23.2	23800	7.14	12.0	29266	2.96	4.0	33662
30	14.57	58.4	13408	12.23	38.4	16649	11.01	29.0	19376	9.49	19.3	24240	6.60	10.0	30527	2.84	3.3	35653
40	11.14	43.7	13209	9.41	28.7	16407	8.57	21.8	19255	7.36	14.5	23769	5.09	7.5	29471	2.19	2.5	33985
50	8.86	35.0	12687	7.53	23.0	15764	6.91	17.4	18590	5.92	11.6	22752	4.10	6.0	27930	1.77	2.0	32014
60	7.14	29.2	11951	6.11	19.2	14893	5.63	14.5	17555	4.79	9.7	21296	3.28	5.0	25683	1.41	1.6	29312

▲ Inch-pounds
Overhung load (O.H.L.) for 70RW-B, RW-T is 6564 pounds, for 70RW-V is 6044 pounds at one shaft diameter from housing.
* Refer to page 275 for other service factors. Refer to page 284 for shaft arrangements.

W-DB and W-DV Series



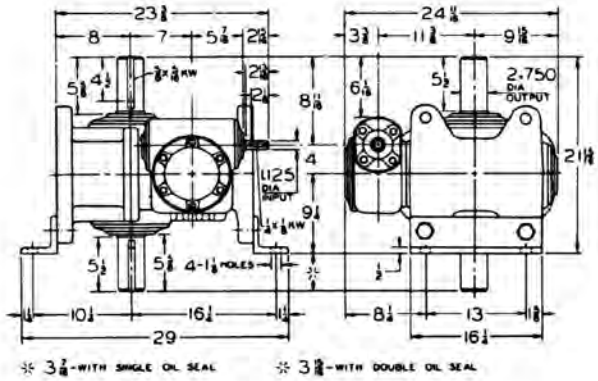


70W-DB
Net wt. 589 lbs.
7.0" C.D.

The W-DB model should not be turned over and used with the primary in the top or "T" position. When the primary is at the top, it may not receive sufficient lubrication and will be destroyed.



Angle brackets are not included with the reducer.



70W-DV
Net wt. 589 lbs.
7.0" C.D.

PoweRgear

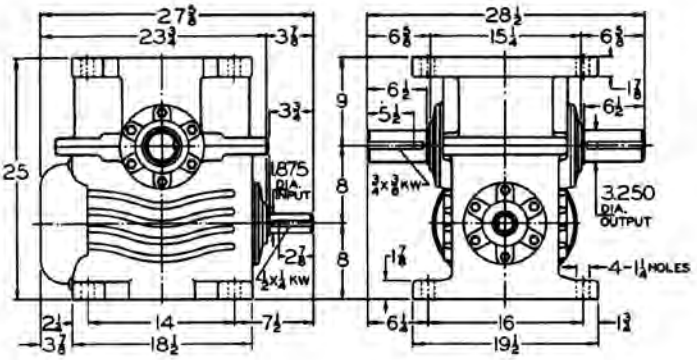
1.00 Service Factor* - Double Reduction Wormgear - Models 70W-DB and 70W-DV
4.0" Centers Primary - 7.0" Centers Secondary

TORQUE and HORSEPOWER RATINGS													
RATIO	Primary Ratio	Secondary Ratio	AT 1750 RPM INPUT			AT 1150 RPM INPUT			AT 870 RPM INPUT			AT 580 RPM INPUT		
			Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output	
				R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque
75	5	15	13.17	23.33	28390	9.91	15.33	31304	8.03	11.60	32764	5.79	7.73	24288
100	5	20	10.25	17.50	28472	7.69	11.50	31155	6.22	8.70	32481	4.48	5.80	33866
125	5	25	8.42	14.00	28272	6.31	9.20	30795	5.09	696	32032	3.68	4.64	33324
150	10	15	8.13	11.67	32737	5.79	7.67	34314	4.60	5.80	35055	3.26	3.87	35826
200	10	20	6.29	8.75	32458	4.48	5.75	33890	3.56	4.35	34562	2.53	2.90	35262
250	10	25	5.15	7.00	32010	3.68	4.60	33346	2.93	3.48	33973	2.08	23.32	34625
300	15	20	4.61	5.83	33850	3.26	3.83	34811	2.58	2.90	35262	1.83	1.93	35730
400	20	20	3.69	4.38	34550	2.61	2.88	35274	2.03	2.18	35613	1.46	1.45	35964
500	25	20	3.10	3.50	34972	2.18	2.30	35552	1.72	1.74	35823	1.23	1.16	36105
600	30	20	2.73	2.92	35254	1.93	1.92	35738	1.53	1.45	35964	1.10	.97	36199
800	40	20	2.22	2.19	35607	1.58	1.44	359710	1.26	1.09	36140	.90	.73	36316
1000	50	20	1.87	1.75	35819	1.34	1.15	36110	1.06	.87	36246	.77	.58	36387
1200	60	20	1.64	1.46	35960	1.17	.96	36203	.93	.73	36316	.67	.48	36434
1500	25	60	1.23	1.17	29743	.88	.77	30172	.71	.58	30372	.51	.39	30580
1800	30	60	1.10	.97	29952	.79	.64	3039	.63	.48	30476	.46	.32	30650
2400	40	60	.90	.73	30212	.65	.48	30481	.52	.36	30606	.38	.24	30736
3000	50	60	.77	.58	30369	.56	.38	30584	.45	.29	30684	.33	.19	30789
3600	60	60	.68	.49	30473	.49	.32	30653	.39	.24	30736	.29	.16	30823

▲ Inch-pounds
Overhung load (O.H.L.) for 70W-DB is 6564 pounds, for 70W-DV is 6044 pounds at one shaft diameter from housing.
* Refer to page 275 for other service factors. Refer to page 285 for shaft arrangements.

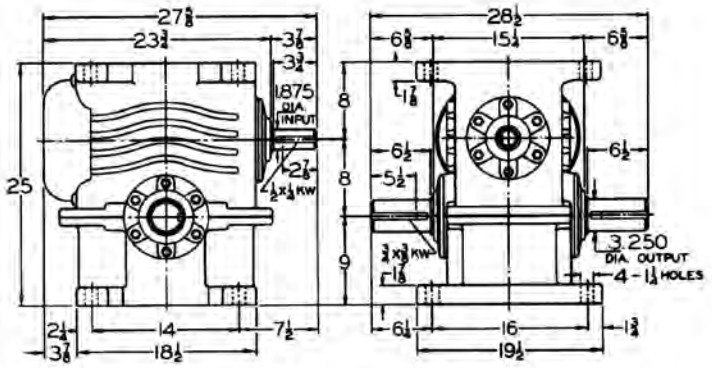
RW-B, RW-T and RW-V Series

80RW-B
Net wt. 777 lbs.
8.0" C.D.



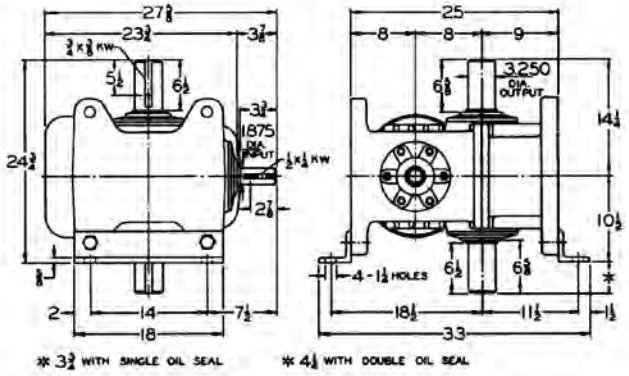


80RW-T
Net wt. 777 lbs.
8.0" C.D.





80RW-V
Net wt. 777 lbs.
8.0" C.D.





Angle brackets are not included with the reducer.

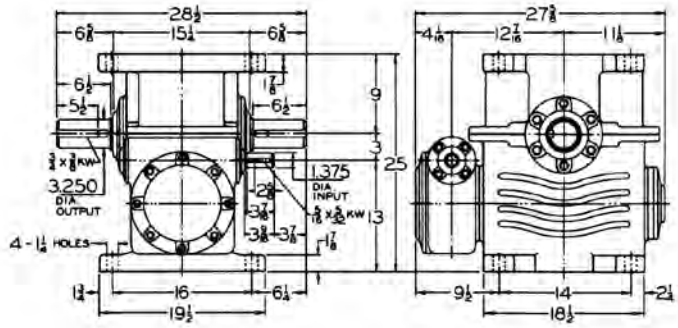
1.00 Service Factor* - Single Reduction Wormgear - 80RW PoweRgear Universal Model

TORQUE and HORSEPOWER RATINGS																	
RATIO	AT 1750 RPM INPUT			AT 1150 RPM INPUT			AT 870 RPM INPUT			AT 580 RPM INPUT			AT 300 RPM INPUT			AT 100 RPM INPUT		
	Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output	
		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque
5	72.45	350.0	12446	61.05	230.0	15843	53.64	174.0	18300	44.81	116.0	22692	32.97	60.0	31691	14.54	20.0	40415
10	47.91	175.0	16132	39.95	115.0	20232	35.22	87.0	23369	30.03	58.0	29463	21.39	30.0	39462	9.21	10.0	48463
15	35.33	116.6	17443	29.52	76.6	21840	23.11	58.0	25219	22.41	38.7	31826	15.99	20.0	42281	6.94	6.6	51504
20	27.79	87.5	17952	23.21	57.5	22358	20.58	43.5	25827	17.78	29.0	32659	12.60	15.0	42713	5.46	5.0	51333
25	22.90	70.0	18141	19.14	46.0	22554	17.11	34.8	26165	14.77	23.2	32904	10.45	12.0	42637	4.54	4.0	50943
30	19.66	58.4	18137	16.61	38.4	22666	14.83	29.0	26142	12.93	19.3	33091	9.43	10.0	43628	4.25	3.3	52940
40	15.16	43.7	17971	12.84	28.7	22383	11.53	21.8	25817	10.13	14.5	32687	7.39	7.5	42578	3.35	2.5	51049
50	12.13	35.0	17347	10.32	23.1	21566	9.34	17.4	24984	8.23	11.6	31479	6.02	6.0	40703	2.75	2.0	48476
60	9.87	29.2	16431	8.43	19.2	20397	7.65	14.5	23602	6.77	9.7	29753	4.94	5.0	38046	2.26	1.6	45054

▲ Inch-pounds
Overhung load (O.H.L.) for 80RW-B, RW-T is 7809 pounds, for 80RW-V is 7241 pounds at one shaft diameter from housing.
* Refer to page 275 for other service factors. Refer to page 284 for shaft arrangements.

W-DB and W-DV Series



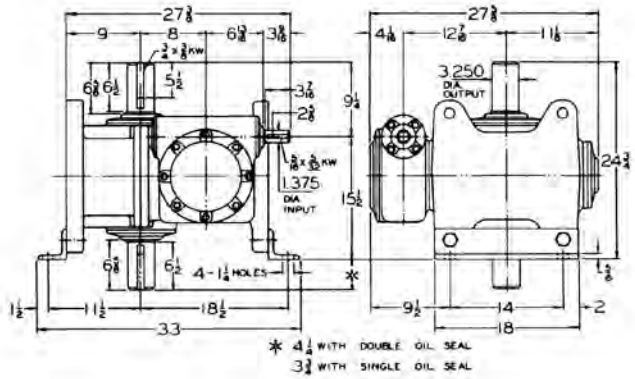


80W-DB
Net wt. 843 lbs.
8.0" C.D.

The W-DB model should not be turned over and used with the primary in the top or "T" position. When the primary is at the top, it may not receive sufficient lubrication and will be destroyed.



Angle brackets are not included with the reducer.



80W-DV
Net wt. 843 lbs.
8.0" C.D.

PoweRgear

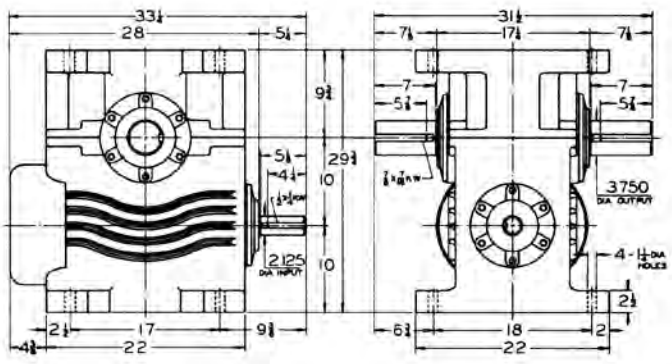
1.00 Service Factor* - Double Reduction Wormgear - Models 80W-DB and 80W-DV
5.0" Centers Primary - 8.0" Centers Secondary

TORQUE and HORSEPOWER RATINGS														
RATIO	Primary Ratio	Secondary Ratio	AT 1750 RPM INPUT			AT 1150 RPM INPUT			AT 870 RPM INPUT			AT 580 RPM INPUT		
			Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output	
				R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque
75	5	15	18.52	23.33	40142	14.28	15.33	45374	11.71	11.60	47943	8.54	7.73	50732
100	5	20	14.60	17.50	40722	11.23	11.50	45637	9.20	8.70	48065	6.71	5.80	50669
125	5	25	12.12	14.00	40758	9.31	9.20	45411	7.64	6.96	47781	5.58	4.64	50259
150	10	15	11.85	11.67	47895	8.55	7.67	50780	6.82	5.80	52137	4.86	3.87	53551
200	10	20	9.31	8.75	48020	6.72	5.75	50715	5.37	4.35	51982	3.84	2.90	53301
250	10	25	7.73	37.00	47738	5.59	4.60	50302	4.47	3.48	51508	3.20	2.32	52762
300	15	20	6.89	5.83	50639	4.92	3.83	52451	3.91	2.90	53301	2.77	1.93	54184
400	20	20	5.52	4.38	51959	3.92	2.88	53324	3.10	2.18	53963	2.21	1.45	54626
500	25	20	4.66	3.50	52754	3.30	2.30	53849	2.61	1.74	54361	1.87	1.16	54892
600	30	20	4.12	2.92	53286	2.92	1.92	54199	2.33	1.45	54626	1.67	.97	55070
800	40	20	3.31	2.19	53951	2.35	1.44	54638	1.88	1.09	54959	1.35	.73	55292
1000	50	20	2.82	1.75	54352	2.01	1.15	54902	1.61	.87	55159	1.16	.58	55425
1200	60	20	2.48	1.46	54619	1.77	.96	55077	1.42	.73	55292	1.03	.48	55514
1500	25	60	1.96	1.17	46029	1.42	.77	46892	1.14	.58	47296	.83	.39	47715
1800	30	60	1.75	.97	46448	1.26	.64	47169	1.02	.48	47506	.74	.32	47855
2400	40	60	1.42	.73	46973	1.03	.48	47515	.84	.36	47768	.61	.24	48030
3000	50	60	1.23	.58	47289	.89	.38	47722	.72	.29	47925	.53	.19	48135
3600	60	60	1.09	.49	47499	.79	.32	47861	.64	.24	48030	.47	.16	48205

▲ Inch-pounds
Overhung load (O.H.L.) for 80W-DB, for 80W-DV is 7809 pounds at one shaft diameter from housing.
* Refer to page 275 for other service factors. Refer to page 285 for shaft arrangements.

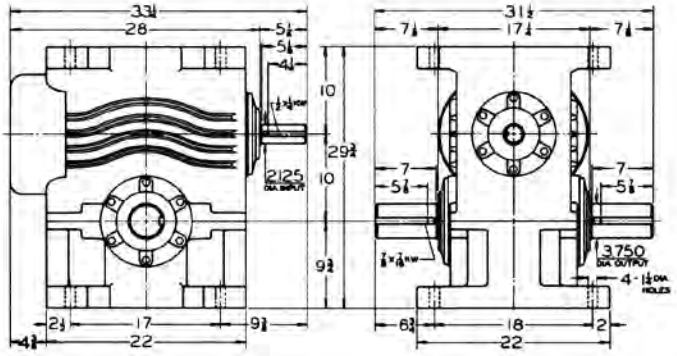
RW-B, RW-T and RW-V Series

100RW-B
Net wt. 1250 lbs.
10.0" C.D.



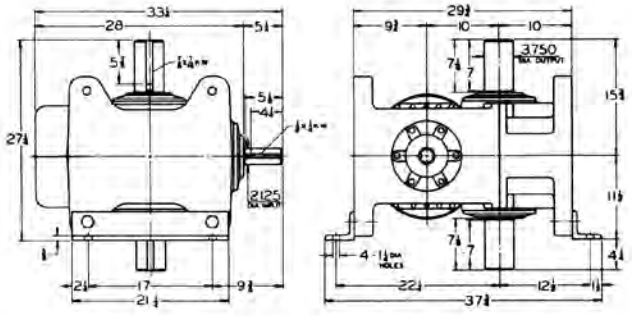


100RW-T
Net wt. 1250 lbs.
10.0" C.D.





100RW-V
Net wt. 1250 lbs.
10.0" C.D.





Angle brackets are not included with the reducer.

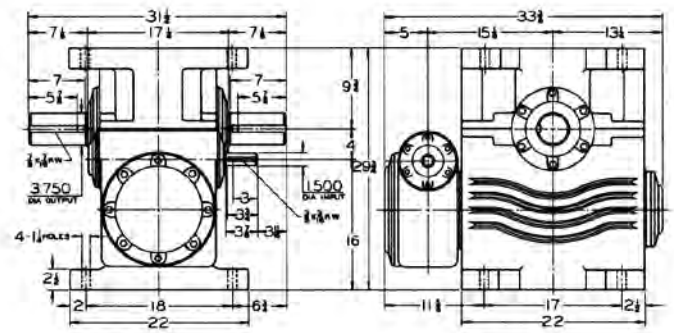
1.00 Service Factor* - Double Reduction Wormgear - 100RW PoweRgear Universal Model

TORQUE and HORSEPOWER RATINGS																		
RATIO	AT 1750 RPM INPUT			AT 1150 RPM INPUT			AT 870 RPM INPUT			AT 580 RPM INPUT			AT 300 RPM INPUT			AT 100 RPM INPUT		
	Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output	
		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque
10	77.66	175.0	26292	66.11	115.0	33697	58.20	87.0	38918	48.63	58.0	48091	36.48	30.0	67984	16.64	10.0	88314
15	57.24	116.6	28448	48.72	76.6	36369	43.03	58.0	41984	36.18	38.7	51967	27.25	20.0	72983	12.50	6.6	94026
20	45.06	87.5	29338	38.23	57.5	37210	33.84	43.5	42996	28.77	29.0	53575	21.50	15.0	74152	9.82	5.0	93836
25	37.11	70.0	29673	31.48	46.0	37522	27.94	34.8	43371	23.93	23.2	54226	17.83	12.0	74337	8.16	4.0	93085
30	31.71	58.4	29599	27.23	38.4	37697	24.25	29.0	43532	20.73	19.3	54002	15.94	10.0	75533	7.60	3.3	96623
40	24.43	43.7	29385	20.99	28.7	37223	18.77	21.8	43018	16.27	14.5	53662	12.47	7.5	73976	5.97	2.5	93312
50	19.52	35.0	28397	16.81	23.0	35881	15.10	17.4	41471	13.20	11.6	51864	10.14	6.0	70916	4.89	2.0	88623
60	15.94	29.2	26981	13.77	19.2	34027	12.42	14.5	39243	10.95	9.7	49348	8.43	5.0	66960	4.10	1.6	83456

▲ Inch-pounds
Overhung load (O.H.L.) for 100RW-B, RW-T and RW-V is 11571 pounds at one shaft diameter from housing.
* Refer to page 275 for other service factors. Refer to page 284 for shaft arrangements.

W-DB and W-DV Series



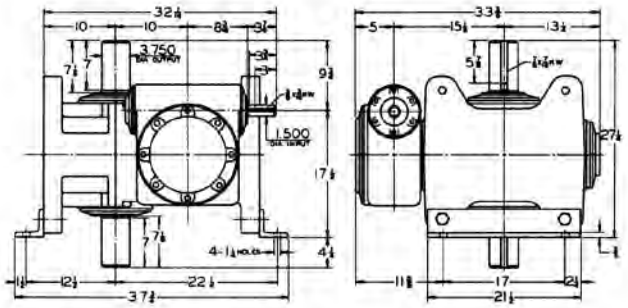


100W-DB
Net wt. 843 lbs.
8.0" C.D.

The W-DB model should not be turned over and used with the primary in the top or "T" position. When the primary is at the top, it may not receive sufficient lubrication and will be destroyed.



Angle brackets are not included with the reducer.



100W-DV
Net wt. 843 lbs.
8.0" C.D.

1.00 Service Factor* - Double Reduction Wormgear - Models 100W-DB and 100W-DV
6.0" Centers Primary-10.0" Centers Secondary

TORQUE and HORSEPOWER RATINGS														
RATIO	Primary Ratio	Secondary Ratio	AT 1750 RPM INPUT			AT 1150 RPM INPUT			AT 870 RPM INPUT			AT 580 RPM INPUT		
			Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output	
				R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque
75	5	15	31.09	23.33	68469	24.70	15.33	80001	20.55	11.60	85804	15.26	7.73	92149
100	5	20	24.59	17.50	69809	19.45	11.50	80777	16.15	8.70	86162	11.99	5.80	92205
125	5	25	20.40	14.00	70100	16.13	9.20	80639	13.40	6.96	85806	9.96	4.64	91558
150	10	15	20.77	11.67	85699	15.29	7.67	92261	12.24	5.80	95416	8.77	3.87	98704
200	10	20	16.32	8.75	89058	12.01	4.75	92310	9.62	4.35	95256	6.91	2.91	98326
250	10	25	13.54	7.00	85708	9.98	4.60	91658	8.00	3.48	94460	5.76	2.32	97380
300	15	20	12.29	5.83	92135	8.82	3.83	96347	7.03	2.90	98326	5.03	1.93	100383
400	20	20	9.88	4.38	95203	7.06	2.88	98379	5.64	2.18	99868	3.99	1.45	101415
500	25	20	8.29	3.50	97053	5.90	2.30	99602	4.68	1.74	100796	3.33	1.16	102035
600	30	20	7.38	2.92	98291	5.26	1.92	100419	4.18	1.45	101415	3.00	.97	102450
800	40	20	5.96	2.19	99842	4.24	1.44	101442	3.38	1.09	102191	2.44	.73	102967
1000	50	20	5.01	1.75	100775	3.57	1.15	102057	2.85	.87	102656	2.05	.58	103278
1200	60	20	4.41	1.46	101397	3.16	.96	102467	2.53	.73	102967	1.83	.48	103485
1500	25	60	3.53	1.17	85843	2.57	.77	87930	2.07	.58	88907	1.50	.39	89922
1800	30	60	3.17	.97	86856	2.31	.64	88599	1.86	.48	89414	1.36	.32	90261
2400	40	60	2.60	.73	88126	1.89	.48	89436	1.53	.36	90049	1.12	.24	90684
3000	50	60	2.21	.58	88889	1.61	.38	89939	1.30	.29	90430	.95	.19	90938
3600	60	60	1.96	.49	89339	1.44	.32	90275	1.17	.24	90684	.85	.16	91108

▲ Inch-pounds
Overhung load (O.H.L.) for 100W-DB and 100W-DV is 11571 pounds at one shaft diameter from housing.
* Refer to page 275 for other service factors. Refer to page 284 for shaft arrangements.


BEFORE USING, FILL TO OIL LEVEL PLUG WITH OIL SHOWN ON TAG.
SERIAL
RATIO
H. P.
SIZE
R.P.M.
Morse
4/5 BU.



POWERGEAR®
V Series

The VX models are heavy duty units especially designed for use in the conveyor industry. They are offered in ratios of 5:1 to 60:1. Double reduction units designated as DVX, are also available in ratios ranging from 75:1 to 3600:1. These units are vertical drives with a dropped lower bearing which eliminates the usual outboard bearing used to carry the heavy sprocket loads encountered in trolley conveyor drives and caterpillar drives. While these units are primarily designed for the conveyor industry, one should not overlook their utility for use in mixers, blenders, paddles, etc.
The V models are designed for use similar to the VX models. However, these models do not have the extended lower bearing as do the VX models. The V line reducers can be used where space available for the unit is limited and in applications where the overhung load is not great enough to require a VX model.



- Vertical output shaft reducers designed for conveyor drives, agitators and mixers.
- Four basic configurations available:
  - V - Single reduction, flange mounted.
  - DV - Double reduction, flange mounted.
  - VX - Single reduction, drop-bearing design with extended output shaft.
  - DVX - Double reduction, drop-bearing design with extended output shaft.
- Center distance range: 1.75” through 11.00”.

Reducer Selection Procedure for PoweRgear V Series

1. Determine Service Factor
From service factor tables on pages 310 and 311 determine service factor for the application.

2. Determine the Overall Drive Ratio

$$\text{Overall Drive Ratio} = \frac{\text{rpm of driver}}{\text{rpm of driven}}$$

When over-all drive ratio is not one of the stock speed reducer ratios shown in tables on page 316 through 327, a chain, belt, or gear drive with further reduction for either the input or output side will be necessary.

3. Determine Equivalent Horsepower or Normal Torque

A. HP Method:
Equivalent hp = Actual Motor hp × Service Factor (Step # 1)

B. Torque Method:
Normal Torque = Actual Torque × Service Factor (Step # 1)

4. Determine the Size of Speed Reducer Required

A. HP Method:

Refer to pages 316 through 327 and select a speed reducer having a mechanical input horsepower equal to or slightly greater than the equivalent hp calculated in Step No. 3 above.

B. Torque Method:

Refer to pages 316 through 327 and select a speed reducer having a mechanical output torque rating equal to or slightly greater than the normal torque calculated in Step No. 3 above. If the required input and output speeds are not listed in these tables, the ratings can be determined by straight line interpolation. When the input speed is less than 100 rpm, ratings for 100 rpm must be used.

5. Determine the Motor Horsepower

Use the following equation when motor hp is not known:

$$\text{Motor Horsepower} = \frac{\text{Actual Torque} \times \text{Input hp}}{\text{Output Torque}}$$

6. Check the Overhung Load
Calculate the overhung load for drives to be mounted directly on the reducer shafts by following instructions on page 309. Check this and any existing thrust loads against the load values shown on pages 316 through 327, and if the calculated load is greater than the values in the table, select a larger speed reducer.

Note: Refer combined overhung and thrust loads to the Appli cation Engineering Department.

Example No. 1 - Horsepower Method

Select a worm gear speed reducer for a dough mixer in a bakery. The speed reducer will be driven by a 1.0 hp, 1750 rpm motor, directly coupled to the reducer input speed. The reducer output shaft will be directly coupled to the mixer shaft. The mixer will operate 8 - 10 hours daily and the shaft speed is 58 rpm. The reducer also requires a horizontal mounting base.

1. Determine the Service Factor
From the table on page 310, note that the service factor for a dough mixer (Food Industry) operating 3 - 10 hours per day is 1.25.

2. Determine Overall Drive Ratio

$$\text{Overall Drive Ratio} = \frac{\text{rpm of Driver}}{\text{rpm of Driven}} = \frac{1750}{58} = 30.17$$

Since there is not an auxiliary input or output drive required, the reducer ratio needed is 30:1.

3. Determine Equivalent Horsepower

$$\text{Equivalent hp} = \text{Actual Motor hp} \times \text{S F} = 1.0 \times 1.25 = 1.25 \text{ hp}$$

4. Determine the Size of Speed Reducer Required
From page 318 under “1750 rpm Driver -30:1 Ratio - 175 rpm Output” and under “Input hp Mechanical” find the rating equal to or greater than the 1.25 equivalent hp calculated in Step No. 3. Note that a 25V reducer has mechanical rating of 1.37 hp. The correct part numbers required are:

Reducer: **25V, 30, 1-RD, Position 1**

5. Determine the Motor Horsepower
The motor horsepower is already known to be 1.0 hp.

6. Check Overhung Load
The unit will be coupling connected on the output shaft. Overhung load does not need to be calculated. There is not any thrust on the output shaft. There is neither thrust nor overhung load on the input shaft because it is directly coupled with a motor. Therefore, the reducer selected is the proper size.

Example No. 2 - Torque Method

Select a worm gear speed reducer for a belt conveyor (general purpose), not uniformly fed. The speed reducer will be driven by a 1750 rpm electric motor directly connected by a coupling, with a 1.23:1 ratio chain drive from the reducer to the head shaft of the conveyor. The pitch diameter of the driver sprocket mounted on the reducer output shaft is 5.032 inches. The conveyor will operate 10 hours per day, and the head shaft speed is 140 rpm. The reducer will also require a horizontal mounting base. Conveyor calculations indicate that 1710 inch pounds of torque is needed at the conveyor head shaft.

1. Determine the Service Factor

From the table on page 310, note that the service factor for a belt conveyor (general purpose) operating 3 - 10 hours per day is 1.25.

2. Determine the Overall Drive Ratio

$$\text{Overall Drive Ratio} = \frac{\text{rpm of Driver}}{\text{rpm of Driven}} = \frac{1750}{140} = 12.5 : 1$$

$$\text{Speed Reducer Ratio} = \frac{\text{Overall Drive Ratio}}{\text{Chain Drive Ratio}} = \frac{12.5}{1.23} = 10.16 : 1$$

3. Determine the Normal Torque

The normal torque required for reducer selection is the actual torque required at the reducer output shaft. Therefore, we must convert the 1710 inch pounds of actual torque at the conveyor head shaft to the actual required torque at the reducer output shaft, and then multiply by the service factor.

Actual Torque at Reducer Output Shaft =

$$\frac{\text{Actual Torque At Conveyor Head Shaft}}{\text{Chain Drive Ratio}} = \frac{1710}{1.23} = 1{,}390 \text{ In/lbs.}$$

Normal Torque =

Actual Reducer Output Torque × S F =

1,390 × 1.25 = 1738 in/lbs.

4. Determine Size of Speed Reducer Required

From page 319 under “1750 rpm Driver - 10 to 1 ratio - 175 rpm Driven” and under “Mechanical Output Torque” find the rating equal to or greater than the 1738 inch-pounds normal torque calculated in step no. 3. Note that a 30 reducer has a mechanical rating of 1753 inch-pounds.

The correct part number required is:

Reducer: **30V 10, 1-RD, Position 1**

5. Determine the Motor Horsepower

$$\text{Motor Horsepower} = \frac{\text{Actual Torque X Input hp}}{\text{Output Torque}}$$

$$= \frac{1{,}390 \times 5.25}{1743}$$

$$= 4.19$$

Use a 5 horsepower motor.

6. Check Overhung

$$\text{OL (See below)} = \frac{2 \times T \times K}{\text{P.D. of Sprocket}}$$

$$= \frac{2 \times 1390 \times 1.0}{5.032}$$

$$= 552.50 \text{ Pounds}$$

From rating table on page 319, note the maximum overhung load for the output shaft of the 30V reducer is 1212 lbs., which is greater than the calculated load on shaft of 553 lbs. There is no thrust on the output shaft. There is neither thrust or overhung load on the input shaft because it is direct couple connected. The reducer selection size is ample.

Overhung Loads

When a speed reducer is driven by any belt, chain or gear drive, or when the speed reducer drives a driven unit through a belt, chain or gear drive, overhung loads must not exceed those shown on pages 316 through 327. Use the following formula to calculate the overhung loads:

$$OL = \frac{2TK}{D}$$

where

OL	=	Overhung Load	
T	=	Actual Shaft Torque (inch-pounds)	
D	=	P. D. of Sprocket, Sheave, Pulley or Gear	
K	=	1.0	for Chain Drive
	=	1.25	for Gear Drive
	=	1.25	for Gearbelt Drive
	=	1.50	for V-Belt Drive
	=	2.50	for Flat Belt Drive

No overhung loads are encountered when the speed reducer is coupling connected to the driver and/or driven machine. However, care should be taken in aligning the shafts to avoid pre-loading bearings in misalignment.

Enclosed Worm Gear Applications

(Service factors shown apply only if electric or hydraulic motors are used. For single or multi-cylinder engines, see Conversion table on next page for conversion.)

APPLICATION	Up to 3 Hrs. Day	3-10 Hrs. Day	Over 10 Hrs. Day
AGITATORS (Mixers)			
Pure Liquids	–	1.00	1.25
Liquids and Solids	1.00	1.25	1.50
Liquids-Variable Density	1.00	1.25	1.50
BLOWERS			
Centrifugal	1.00	1.25	–
Lobe	1.00	1.25	1.50
Vane	–	1.00	1.25
BREWING AND DISTILLING			
Bottling Machinery	–	1.00	1.25
Brew Kettles, Continuous Duty	–	1.00	1.25
Cookers, Continuous Duty	–	1.00	1.25
Mash Tubs, Continuous Duty	–	1.00	1.25
Scale Hopper, Frequent Starts	1.00	1.25	1.50
CAN FILLING MACHINES	–	1.00	1.25
CAR DUMPERS	1.25	1.50	1.75
CAR PULLERS	1.00	1.25	1.50
CLARIFIERS	–	1.00	1.25
CLASSIFIERS	1.00	1.25	1.50
CLAY WORKING MACHINERY			
Brick Press	1.25	1.50	1.75
Briquette Machine	1.25	1.50	1.75
Pug Mill	1.00	1.25	1.50
COMPACTORS	1.50	1.75	2.00
COMPRESSORS			
Centrifugal	–	1.00	1.25
Lobe	1.00	1.25	1.50
Reciprocating, Multi-Cylinder	1.00	1.25	1.50
Reciprocating, Single-Cylinder	1.25	1.50	1.75
CONVEYORS - GENERAL PURPOSE			
Uniformly Loaded or Fed	–	1.00	1.25
Not Uniformly Fed	1.00	1.25	1.50
Reciprocating or Shaker	1.25	1.50	1.75
CRANES			
Dry Dock			
Main Hoist	1.25	1.50	1.75
Auxiliary	1.25	1.50	1.75
Boom Hoist	1.25	1.50	1.75
Slewing Drive	1.25	1.50	1.75
Traction Drive	1.50	1.50	1.50
Container			
Main Hoist	Refer to Application Engr.		
Boom Hoist	Refer to Application Engr.		
Trolley Drive	Refer to Application Engr.		
(Gantry Drive)			
(Traction Drive)	Refer to Application Engr.		
Mill Duty			
Main Hoist	Refer to Application Engr.		
Auxiliary	Refer to Application Engr.		
Bridge and Trolley Travel	Refer to Application Engr.		
Industrial Duty			
Main	1.00	1.25	1.50
Auxiliary	Refer to Application Engr.		
Bridge and Trolley Travel	Refer to Application Engr.		
CRUSHER			
Stone or Ore	1.50	1.75	2.00
DREDGES			
Cable Reels	1.00	1.25	1.50
Conveyors	1.00	1.25	1.50
Cutter Head Drives	1.25	1.50	1.75
Pumps	1.00	1.25	1.50
Screen Drives	1.25	1.50	1.75
Stackers	1.00	1.25	1.50
Winches	1.00	1.25	1.50
ELEVATORS			
Bucket	1.00	1.25	1.50
Centrifugal Discharge	–	1.00	1.25
Escalators	Refer to Application Engr.		
Freight	Refer to Application Engr.		
Gravity Discharge	–	1.00	1.25
EXTRUDERS			
General	1.25	1.25	1.25
Plastics			
(a) Variable Speed Drive	1.50	1.50	1.50
(b) Fixed Speed Drive	1.75	1.75	1.75
Rubber			
(a) Continuous Screw Operation	1.50	1.50	1.50
(b) Intermittent Screw Operation	1.75	1.75	1.75

APPLICATION	Up to 3 Hrs. Day	3-10 Hrs. Day	Over 10 Hrs. Day
FANS			
Centrifugal	–	1.00	1.25
Cooling Towers	Refer to Application Engr.		
Forced Draft	1.25	1.25	1.25
Induced Draft	1.00	1.25	1.50
Industrial & Mine	1.00	1.25	1.50
FEEDERS			
Apron	–	1.25	1.50
Belt	1.00	1.25	1.50
Disc	–	1.00	1.25
Reciprocating	1.25	1.50	1.75
Screw	1.00	1.25	1.50
FOOD INDUSTRY			
Cereal Cooker	–	1.00	1.25
Dough Mixer	1.00	1.25	1.50
Meat Grinders	1.00	1.25	1.50
Slicers	1.00	1.25	1.50
GENERATORS AND EXCITERS	–	1.00	1.25
HAMMER MILLS	1.50	1.50	1.75
HOISTS			
Heavy Duty	1.25	1.50	1.75
Medium Duty	1.00	1.25	1.50
Skip Hoist	1.00	1.25	1.50
LAUNDRY TUMBLERS	1.00	1.25	1.50
LAUNDRY WASHERS	1.25	1.25	1.50
LUMBER INDUSTRY			
Barkers			
-Spindle Feed	1.25	1.25	1.25
- Main Drive	1.50	1.50	1.50
Conveyors			
- Burner	1.25	1.25	1.50
- Main or Heavy Duty	1.50	1.50	1.50
- Main Log	1.50	1.50	1.50
- Re-saw, Merry-Go-Round	1.25	1.25	1.50
- Slab	1.50	1.50	1.75
- Transfer	1.25	1.25	1.50
Chains			
- Floor	1.50	1.50	1.50
- Green	1.50	1.50	1.50
Cut-Off Saws			
- Chain	1.50	1.50	1.50
- Drag	1.50	1.50	1.50
Debarking Drums	1.50	1.50	1.75
Feeds			
- Edger	1.25	1.25	1.50
- Gang	1.50	1.50	1.50
- Trimmer	1.25	1.25	1.50
Log Deck	1.50	1.50	1.50
Log Hauls-Incline-Well Type	1.50	1.50	1.50
Log Turning Devices	1.50	1.50	1.50
Planer Feed	1.25	1.25	1.50
Planer Tilting Hoists	1.50	1.50	1.50
Rolls-Live-off Brg.-Roll Cases	1.50	1.50	1.50
Sorting Table	1.25	1.25	1.50
Tipple Hoist	1.25	1.25	1.50
Transfers			
- Chain	1.50	1.50	1.50
- Causeway	1.50	1.50	1.50
Tray Drives	1.25	1.25	1.50
Veneer Lathe Drives	Refer to Application Engr.		
METAL MILLS			
Draw Bench Carriage and Main Drive	1.00	1.25	1.50
Runout Table			
Non-reversing			
Group Drives	1.00	1.25	1.50
Individual Drives	1.50	1.50	1.75
Reversing	1.50	1.50	1.75
Slab Pushers	1.25	1.25	1.50
Shears	1.50	1.50	1.75
Wire Drawing	1.00	1.25	1.50
Wire Winding Machine	1.00	1.25	1.50
METAL STRIP PROCESSING MACHINERY			
Bridles	1.25	1.25	1.50
Coilers & Uncoilers	1.00	1.00	1.25
Edge Trimmers	1.00	1.25	1.50
Flatteners	1.00	1.25	1.50
Loopers(Accumulators)	1.00	1.00	1.00
Pinch Rolls	1.00	1.25	1.50
Scrap Choppers	1.00	1.25	1.50
Shears	1.50	1.50	1.75
Slitters	1.00	1.25	1.50

Service Factors for Enclosed Worm Gear Applications

APPLICATION	Up to 3 Hrs. Day	3-10 Hrs. Day	Over 10 Hrs. Day
MILLS, ROTARY TYPE			
Ball & Rod			
Spur Ring Gear	1.50	1.50	1.75
Helical Ring Gear	1.50	1.50	1.50
Direct Connected	1.50	1.50	1.75
Cement Kilns	1.50	1.50	1.50
Dryers & Coolers	1.50	1.50	1.50
MIXERS, CONCRETE	1.00	1.25	1.50
PAPER MILLS			
Agitator(Mixer)	1.50	1.50	1.50
Agitator for Pure Liquids	1.25	1.25	1.25
Barking Drums	1.75	1.75	1.75
Barkers - Mechanical	1.75	1.75	1.75
Beater	1.50	1.50	1.50
Breaker Stack	1.25	1.25	1.25
❖ Calender	1.25	1.25	1.25
Chipper	1.75	1.75	1.75
Chip Feeder	1.50	1.50	1.50
Coating Rolls	1.25	1.25	1.25
Conveyors			
Chip, Bark, Chemical	1.25	1.25	1.25
Log(Including Slab)	1.75	1.75	1.75
Couch Rolls	1.25	1.25	1.25
Cutter	1.75	1.75	1.75
Cylinder Molds	1.25	1.25	1.25
❖ Dryers			
Paper Machine	1.25	1.25	1.25
Conveyor Type	1.25	1.25	1.25
Embosser	1.25	1.25	1.25
Extruder	1.50	1.50	1.50
Fourdrinier Rolls (Includes Lump Breaker, Dandy Roll, Wire Turning, and Return Rolls)	1.25	1.25	1.25
Jordan	1.25	1.25	1.25
Kiln Drive	1.50	1.50	1.50
Mt. Hope Roll	1.25	1.25	1.25
Paper Rolls	1.25	1.25	1.25
Platter	1.50	1.50	1.50
Presses- Felt & Suction	1.25	1.25	1.25
Pulper	1.50	1.50	1.75
Pumps- Vacuum	1.50	1.50	1.50
Reel (Surface Type)	1.25	1.25	1.50
Screens			
Chip	1.50	1.50	1.50
Rotary	1.50	1.50	1.50
Vibrating	1.75	1.75	1.75
Size Press	1.25	1.25	1.25
Super Calender (See Note)	1.25	1.25	1.25
Thickener			
(AC Motor)	1.50	1.50	1.50
(DC Motor)	1.25	1.25	1.25
Washer			
(AC Motor)	1.50	1.50	1.50
(DC Motor)	1.25	1.25	1.25
Wind and Unwind Stand	1.00	1.00	1.00
Winders (Surface Type)	1.25	1.25	1.25
❖ Yankee Dryers	1.25	1.25	1.25
PLASTICS INDUSTRY - PRIMARY PROCESSING			
Intensive Internal Mixers			
(a) Batch Mixers	1.75	1.75	1.75
(b) Continuous Mixers	1.50	1.50	1.50
Batch Drop Mill - 2 Smooth Rolls	1.25	1.25	1.25
Continuous Feed, Holding & Blend Mill	1.25	1.25	1.25
Compounding Mills	1.25	1.25	1.25
Calenders	1.50	1.50	1.50
PLASTICS INDUSTRY - SECONDARY PROCESSING			
Blow Molders	1.50	1.50	1.50
Coating	1.25	1.25	1.25
Film	1.25	1.25	1.25
Pipe	1.25	1.25	1.25
Pre-Plasticizers	1.50	1.50	1.50
Rods	1.25	1.25	1.25
Sheet	1.25	1.25	1.25
Tubing	1.25	1.25	1.50
PULLERS - BARGE HAUL	1.00	1.50	1.75
PUMPS			
Centrifugal	–	1.00	1.25
Proportioning	1.00	1.25	1.50
Reciprocating			
Single Acting, 3 or More Cylinders	1.00	1.25	1.50
Double Acting, 2 or More Cylinders	1.00	1.25	1.50
Rotary			
- Gear Type	–	1.00	1.50
- Lobe	–	1.00	1.25
- Vane	–	1.00	1.25
RUBBER INDUSTRY			
Intensive Internal Mixers			
(a) Batch Mixers	1.50	1.75	1.75
(b) Continuous Mixers	1.25	1.50	1.50
Mixing Mill - 2 Smooth Rolls - (If corrugated rolls are used, then use the same service factors that are used for a Cracker-Warmer)	1.50	1.50	1.50
Batch Drop Mill - 2 Smooth Rolls	1.50	1.50	1.50
Cracker Warmer - 2 Roll: 1 Corrugated Roll	1.75	1.75	1.75

APPLICATION	Up to 3 Hrs. Day	3-10 Hrs. Day	Over 10 Hrs. Day
RUBBER INDUSTRY (Cont'd.)			
Cracker - 2 Corrugated Rolls	1.75	1.75	1.75
Holding, Feed & Blend Mill - 2 Rolls	1.25	1.25	1.25
Refiner - 2 Rolls	1.50	1.50	1.50
Calenders	1.50	1.50	1.50
SAND MILLER	1.00	1.25	1.50
SEWAGE DISPOSAL EQUIPMENT			
Bar Screens	–	1.00	1.25
Chemical Feeders	–	1.00	1.25
Dewatering Screens	1.00	1.25	1.50
Scum Breakers	1.00	1.25	1.50
Slow Or Rapid Mixers	1.00	1.25	1.50
Sludge Collectors	1.00	1.00	1.25
Thickener	1.00	1.25	1.50
Vacuum Filters	1.00	1.25	1.50
SCREENS			
Air Washing	–	1.00	1.25
Rotary - Stone Or Gravel	1.00	1.25	1.50
Traveling Water Intake	–	1.00	1.25
SUGAR INDUSTRY			
Beet Slicer	1.50	1.50	1.75
Cane Knives	1.50	1.50	1.50
Crushers	1.50	1.50	1.50
Mills (Low Speed End)	1.50	1.50	1.50
TEXTILE INDUSTRY			
Batchers	1.00	1.25	1.50
Calenders	1.00	1.25	1.50
Cards	1.00	1.25	1.50
Dry Cans	1.00	1.25	1.50
Dryers	1.00	1.25	1.50
Dyeing Machinery	1.00	1.25	1.50
Looms	1.00	1.25	1.50
Mangles	1.00	1.25	1.50
Nappers	1.00	1.25	1.50
Pads	1.00	1.25	1.50
Slashers	1.00	1.25	1.50
Soapers	1.00	1.25	1.50
Spinners	1.00	1.25	1.50
Tenter Frames	1.00	1.25	1.50
Washers	1.00	1.25	1.50
Winders	1.00	1.25	1.50

❖ Anti-Friction Bearings Only.

Note: A Service Factor of 1.0 may be applied at the base of a super calender, operating over a speed range where part of the range is constant horsepower and part of the range is constant torque, provided that the constant horsepower part is greater than 1.5 to 1. A service factor of 1.25 is applicable to super calenders operating over the entire speed range at constant torque, or where the constant horsepower speed range is less than 1.5 to 1.

Service Factors for Electric and Hydraulic Motors

(For Service Factors For Single Or Multi-Cylinder Engines, Consult Conversion Table below)

Duration of Service (Hours Per Day)	Uniform Load	Moderate Shock	Heavy Shock	Extreme Shock
Occasional 1/2 Hour	–	–	1.0	1.25
Less Than 3 Hours	1.0	1.0	1.25	1.50
3 - 10 Hours	1.0	1.25	1.50	1.75
Over 10 Hours	1.25	1.50	1.75	2.00

Conversion Table for Single or Multi-Cylinder Engines to find Equivalent Single or Multi-Cylinder Service Factors

Hydraulic or Electric Motor	Single Cylinder Engines	Multi-Cylinder Engines
1.00	1.50	1.25
1.25	1.75	1.50
1.50	2.00	1.75
1.75	2.25	2.00
2.00	2.50	2.25

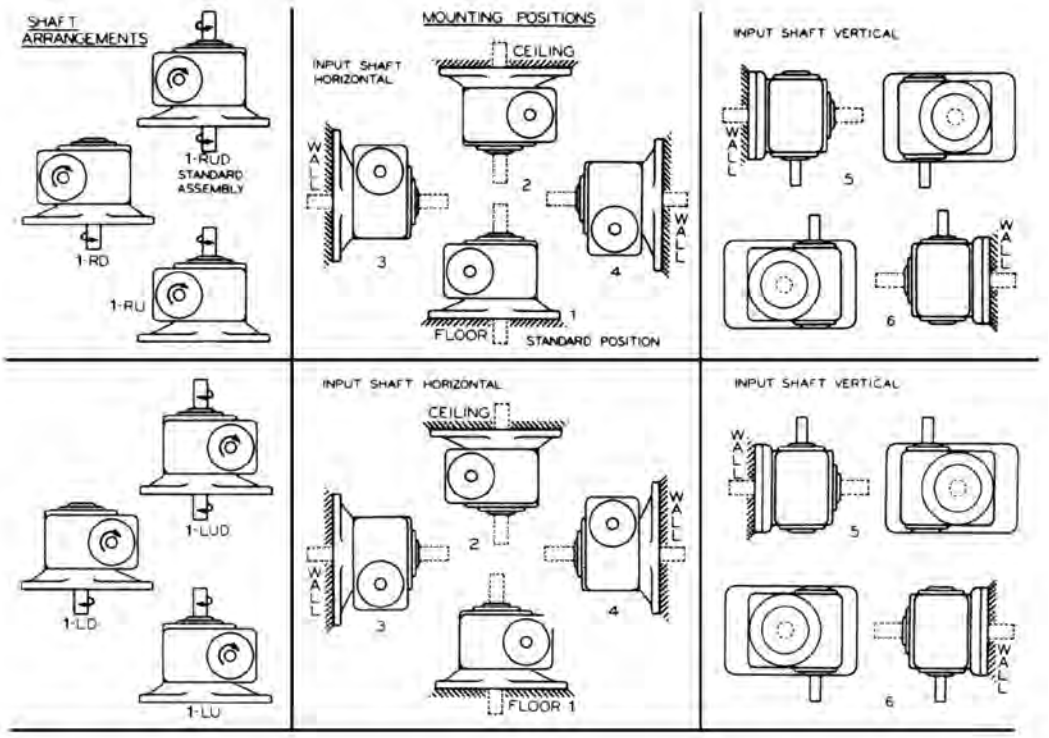
Load and operating characteristics of both the driver and driven units must be considered throughly when selecting speed reducers. It is essential that all speed reducers be selected for maximum load conditions to be encountered. Worm gear speed reducers will safely transmit momentary starting loads as great as 300% of the mechanical input ratings.

V and VX Series Shaft Arrangements

Model V Low Base

Arrows indicate relative rotation. Input Shaft may be rotated in either direction.



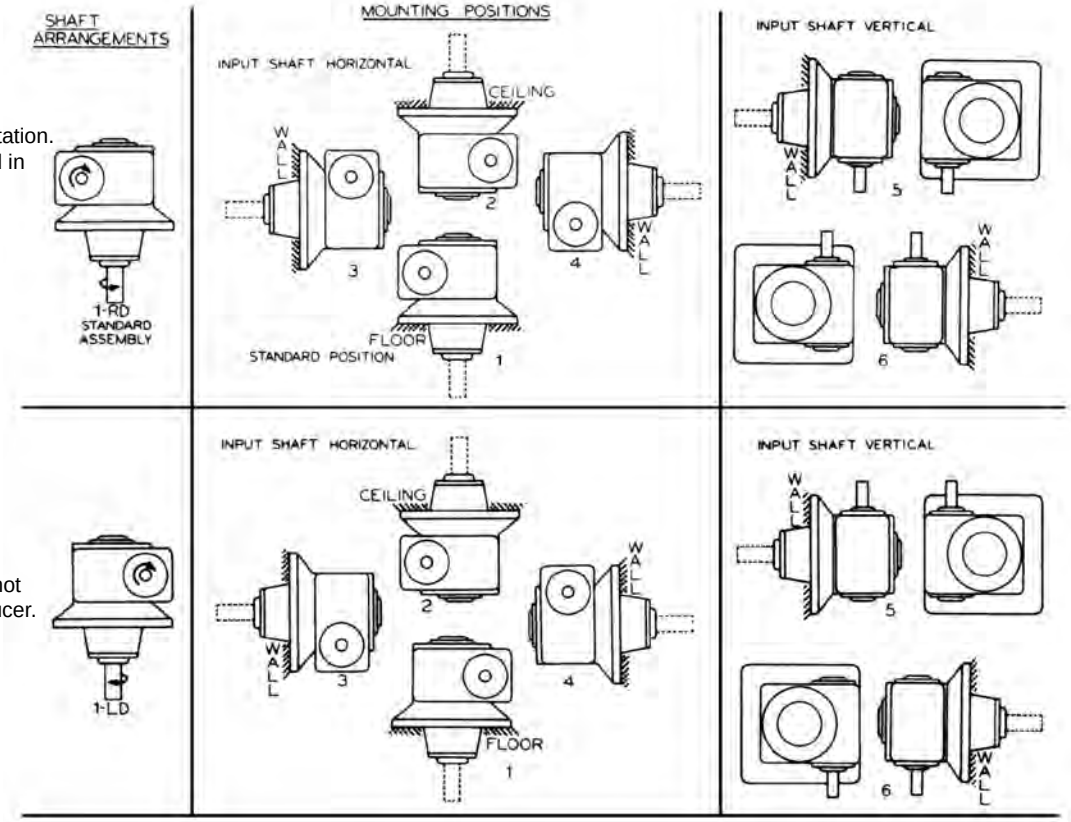


Model VX

Arrows indicate relative rotation. Input Shaft may be rotated in either direction.



Angle brackets are not included with the reducer.



Shaft Tolerances
+ .000
-.001

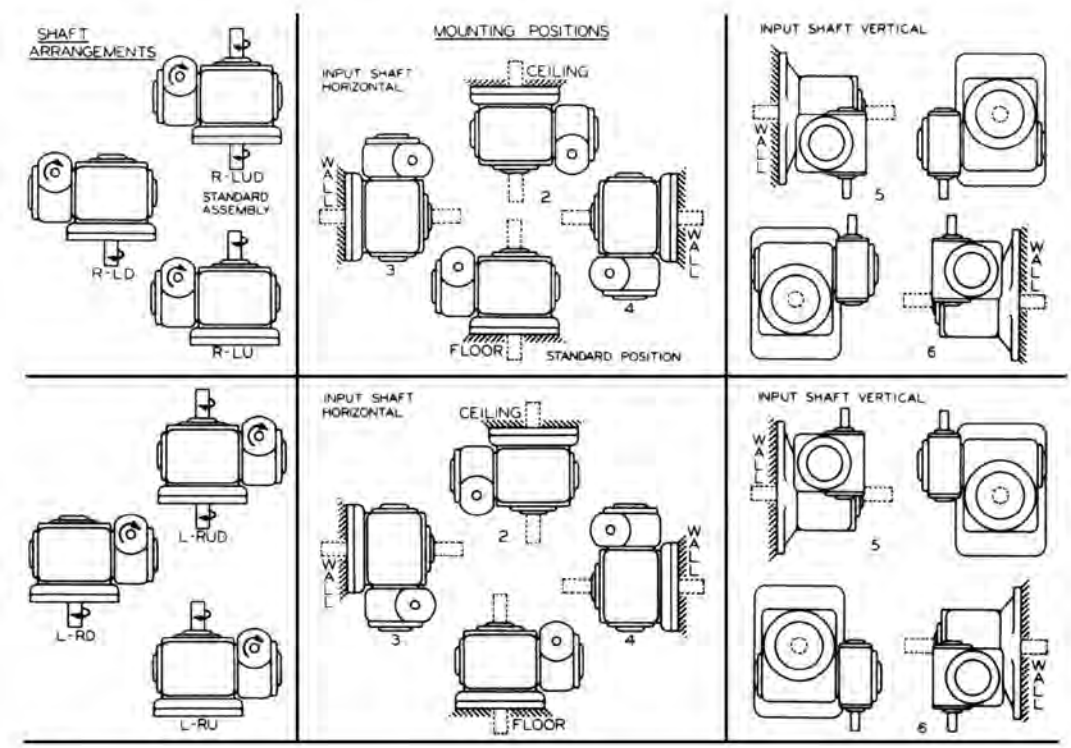
No extra charge for Standard Position shaft arrangements.

To Order, Specify:

Example: 50VX40-1-LD, position 2.

Series .....as, V	Ratio ..... as, 40:1
Type ..... as, X	Shaft Arrangement .....as, 1-LD
Size.....as, 50	Mounting Positions ..... as, Ceiling 2

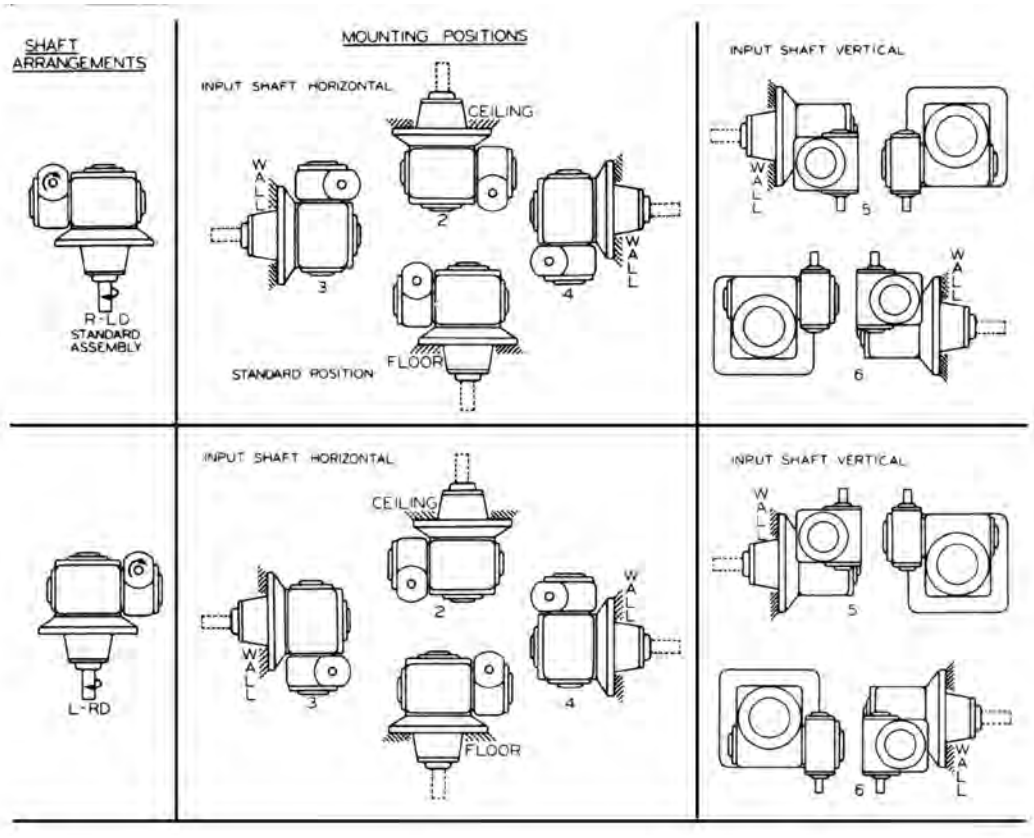
DV and DVX Series Shaft Arrangements



Model DV

Arrows indicate relative rotation. Input Shaft may be rotated in either direction.





Model DVX

Arrows indicate relative rotation. Input Shaft may be rotated in either direction.



PoweRgear

Shaft Tolerances
+ .000
-.001

To Order, Specify:
Example: 40DV50-R-LUD, position 2.

Series .....as, DV
Type ..... as, V
Size..... as, 40
Ratio ..... as, 50:1
Shaft Arrangement ..... as, R-LUD
Mounting Position ..... as, Ceiling 2

No extra charge for Standard Position shaft arrangements.

Lubrication

For enclosed worm gear units only. A worm gear unit is only as good as the oil which is used. During the first few days of operation, a worm gear unit will run hot. Unless the temperature exceeds 200 degrees F. there is no cause for alarm.

The oils shown below are typical. Any make of oil meeting American Gear Manufactureers Association (AGMA) standards #7C & #8C will be satisfactory. Consult Application Engineering (1 800 626 2093) if you have any questions.

Ambient Temp. 15° to 60°F	Ambient Temp. 50° to 125°F
AGMA #7C	AGMA #8C

The following are some general recommendations regarding relubrication. Your experience in your specific application is the best determination of relubrication intervals.

Maintenance Schedule:

1. Change initial oil fill after 2 weeks.
2. Change oil every 6 to 12 months depending on service conditions.

Additional Lubrication notes:

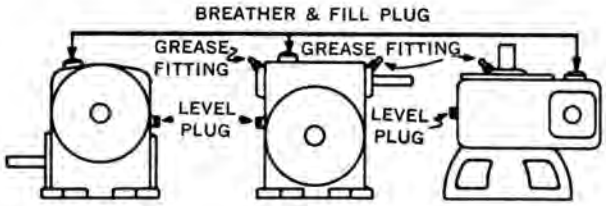
1. E.P. oils are not preferred. If an E.P. oil must be used, customer must determine that it is not corrosive to a bronze gear.
2. For ambient temperatures ouside of these temperature ranges, contact Application Engineering.
3. Units running at slow speeds should carry extra high oil level contact Application Engineering.
4. For slow input speeds (less than 100 RPM) use AGMA #8C oil in ambient temperatures of 15 to 60 degrees F.

Grease Fittings:

1. Grease every 100 hours of running time with about 3/8” ball of grease meeting NLGI #2 standards.
2. Do not over-lubricate.

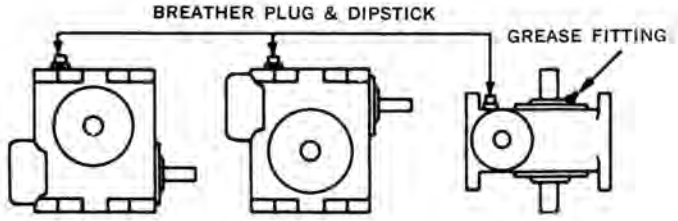
Lubrication

Lubricating Instructions - Reducers Other Than "RW"



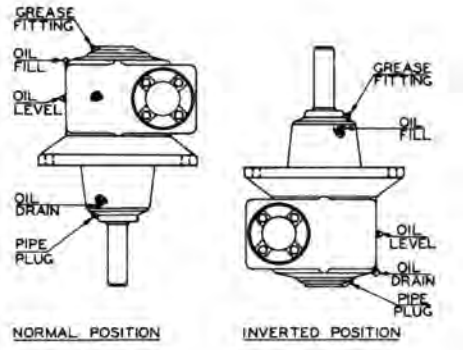
Many Morse units are equipped with plug type oil holes. Remove level plug and fill unit with oil until oil runs out level hole. Breather and fill plug is at top of unit. Grease fittings are used to lubricate bearings above oil level. Grease every 100 hours running time.

Lubricating Instructions - "RW" Reducers



RW units are equipped with a breather-dipstick fill plug. This fill plug should always be located at top of unit. Fill unit with oil to appropriate oil level line as indicated on dipstick. Units equipped with special dipsticks: fill with oil so dipstick dips into oil 1/4". Grease fittings are used to lubricate bearings above oil level. Grease every 100 hours running time. When mounting units in inverted position or on walls, be sure all bearings get proper lubrication. Miter boxes do not require breather plugs.

Lubrication fittings VX conveyor drives



PoweRgear

Oil Capacities Chart - U.S.A. Measure - Approximate Quantities, Fill To Oil Level

10WB.....1/4 Pt.
10WT.....1/4 Pt.
10WV.....1/4 Pt.
13WB.....1/2 Pt.
13WT.....1/2 Pt.
13WV.....1/2 Pt.
18WB.....1 Pt.
18WT.....3/4 Pt.
18WV.....1 Pt.
20WB.....1 3/4 Pts.
20WT.....1 1/2 Pts.
20WV.....1 1/2 Pts.
20WDB.....2 Pts.
20WDV.....1 3/4 Pts.
25RWB.....2 1/2 Pts.
25RWT.....2 1/2 Pts.
25RWV.....2 1/4 Pts.
25WDB.....3 1/4 Pts.
25WDV.....3 Pts.
30RWB.....3 3/4 Pts.
30RWT.....3 3/4 Pts.
30WDB.....2 1/2 Qts.
30WDV.....2 1/4 Qts.
35RWB.....3 1/4 Qts.
35RWT.....3 1/2 Qts.
35RWV.....2 1/2 Qts.
35WDB.....3 3/4 Qts.
35WDV.....3 Qts.
40RWB.....3 1/2 Qts.
40RWT.....3 1/2 Qts.
40RWV.....3 Qts.
40WDB.....3 3/4 Qts.
40WDV.....3 1/4 Qts.

50RWB.....1 3/4 Gals.
50RWT.....1 3/4 Gals.
50WDB.....2 1/4 Gals.
50WDV.....2 Gals.
60RWB.....2 3/4 Gals.
60RWT.....3 Gals.
60RWV.....2 1/2 Gals.
60WDB.....3 3/4 Gals.
60WDV.....3 1/2 Gals.
70RWB.....5 3/4 Gals.
70RWT.....5 3/4 Gals.
70RWV.....4 1/2 Gals.
70WDB.....7 Gals.
70WDV.....6 1/4 Gals.
80RWB.....7 1/2 Gals.
80RWT.....7 1/2 Gals.
80WDB.....10 Gals.
80WDV.....9 Gals.
100RWB.....15 1/2 Gals.
100RWT.....11 1/2 Gals.
100RWV.....10 Gals.
100WDB.....19 Gals.
100WDV.....12 1/2 Gals.
18V.....1 Pt.
20V.....1 1/2 Pts.
20DV.....1 Qt.
25V.....1 Qt.
25DV.....1 1/4 Qts.
30V.....1 3/4 Qts.
30DV.....2 1/2 Qts.
35V.....2 1/4 Qts.
35DV.....2 3/4 Qts.
40V.....3 1/2 Qts.
40DV.....4 1/4 Qts.

50V.....1 1/2 Gals.
50DV.....1 3/4 Gals.
60V.....2 1/2 Gals.
60DV.....2 3/4 Gals.
70V.....4 Gals.
70DV.....4 1/2 Gals.
30VX..... Std. 3 Qts.
Inverted..... 2 Qts.
30DVX..... Std. 3 3/4 Qts.
Inverted..... 2 3/4 Qts.
35VX..... Std. 4 1/4 Qts.
Inverted..... 3 3/4 Qts.
35DVX..... Std. 4 1/2 Qts.
Inverted..... 4 Qts.
40VX..... Std. 1 1/4 Gals.
Inverted..... 1 Gal.
40DVX..... Std. 1 1/2 Gals.
Inverted.....1 1/4 Gals.
50VX..... Std. 2 Gals.
Inverted.....1 3/4 Gals.
50DVX..... Std. 2 1/4 Gals.
Inverted.....2 Gals.
60VX..... Std. 3 3/4 Gals.
Inverted.....2 3/4 Gals.
60DVX..... Std. 4 1/4 Gals.
Inverted .....3 1/4 Gals.
70VX..... Std. 6 Gals.
Inverted.....5 Gals.
70DVX..... Std. 7 Gals.
Inverted.....5 1/2 Gals.
90VX.....11 Gals.
90DVX.....12 1/2 Gals.
110VX.....20 Gals.
110DVX .....18 1/2 Gals.

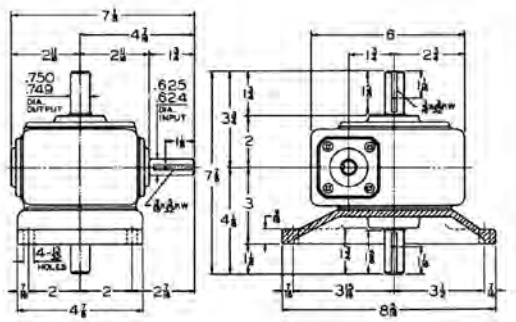
13GCT.....1/2 Pt.
13GCV.....1/2 Pt.
Low Base.....1/2 Pt.
18GCT.....3/4 Pt.
18GCV.....1 Pt.
Low Base.....1 Pt.
20GCT.....1 1/2 Pts.
20GCV..... 1 Qt.
Low Base..... 1 Qt.
25GCT..... 1 1/4 Qts.
25GCV..... 1 1/2Qts.
Low Base..... 1 1/2 Qts.
30GCT..... 2 Qts.
30GCV..... 2 1/2 Qts.
Low Base..... 2 1/2 Qts.
35GCT..... 3 Qts.
35GCV..... 3 3/4 Qts.
Low Base..... 3 3/4 Qts.
40GCT..... 3 1/2Qts.
40GCV..... 3 1/2 Qts.
Low Base..... 3 1/2 Qts.
50GCT.....1 3/4 Gals.
60GCT.....2 3/4 Gals.
50GCV.....1 1/2 Gals.
Low Base.....1 1/2 Gals.
60GCV.....
Low Base.....2 3/4 Gals.
18SA,SF.....3/4 Pts.
18GSA,GSF.....3/4 Pts.
20SA,SF.....1 1/2 Pts.
20GSA,GSF.....1 1/2 Pts.
25SA,SF..... 1 1/4 Pts.
25GSA,GSF..... 1 1/4 Pts.
30SA,SF..... 2 Qts.
30GSA,GSF..... 2 Qts.

35SA,SF..... 3 Qts.
35GSA,GSF..... 3 Qts.
40SA.SF..... 3 1/2 Qts.
40GSA,GSF..... 3 1/2 Qts.
50SA ,SF.....1 3/4 Gals.
50GSA,GSF.....1 3/4 Gals.
60SA, SF.....2 3/4 Gals.
60GSA,GSF.....2 3/4 Gals.
13GCDB .....3/4 Pt.
13GCDV .....3/4 Pt.
18DSA,DSF.....1 Pt.
18 GDSA,
GDSF.....1 Pt.
18GCDB .....1 Pt.
18GCDV .....1 Pt.
20DSA,DSF..... 1 Qt.
20GDSA,GDSF ..... 1 Qt.
20GCDB ..... 1 Qt.
20GCDV ..... 1 Qt.
25DSA,DSF.....3 1/4 Pts.
25GDSA,
GDSF.....3 1/4 Pts.
25GCDB .....3 1/4 Pts.
25GCDV ..... 1 1/4 Pts.
30DSA,DSF..... 2 1/2 Qts.
30GDSA,
GDSF..... 2 1/2 Qts.
30GCDB ..... 2 1/2 Qts.
30GCDV ..... 2 1/2 Qts.
35DSA,DSF..... 2 3/4 Qts.
35GDSA,
GDSF..... 2 3/4 Qts.
35GCDB ..... 3 3/4 Qts.
35GCDV ..... 2 3/4 Qts.

40DSA,DSF..... 4 1/4 Qts.
40GDSA,
GDSF..... 4 1/4 Qts.
40GCDB ..... 3 3/4 Qts.
50DSA,DSF.....2 1/4 Gals.
50GDSA,
GDSF.....2 1/4 Gals.
50GCDB .....2 1/4 Gals.
50GCDV .....1 3/4 Gals.
60DSA,DSF.....3 3/4 Gals.
60GDSA,
GDSF.....2 3/4 Gals.
60GCDB .....3 3/4 Gals.
60GCDV .....2 3/4 Gals.
30GCDVX... Std. 3 3/4 Qts.
Inverted..... 2 3/4 Qts.
35GCDVX... Std. 4 1/2 Qts.
Inverted..... 4 Qts.
40GCDVX.. Std. 1 1/2 Gals.
Inverted.....1 1/4 Gals.
50GCDVX. Std. 2 1/4 Gals.
Inverted..... 2 Gals.
60GCDVX. Std. 4 1/4 Gals.
Inverted.....3 1/4 Gals.
4M.....3/4 Pt.
6M..... 1 Qt.
8M..... 2 Qts.
12M.....1 1/2 Gals.

Series V





18V
Net wt. 10 lbs.
1.75" C.D.

1.00 Service Factor* - Single Reduction Wormgear - Model 18V "Low Base"

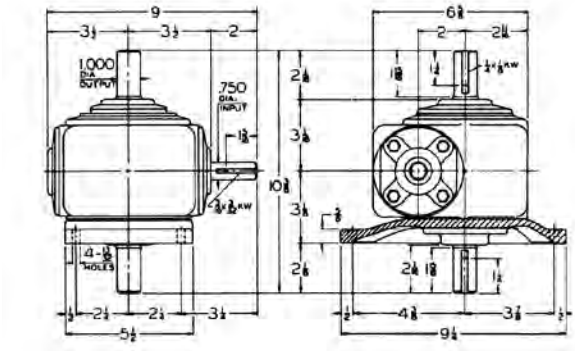
TORQUE and HORSEPOWER RATINGS																	
RATIO	AT 1750 RPM INPUT			AT 1150 RPM INPUT			AT 870 RPM INPUT			AT 580 RPM INPUT			AT 300 RPM INPUT			AT 100 RPM INPUT		
	Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output	
		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque
5	2.17	350.0	359	1.73	230.0	430	1.44	17.40	468	1.06	116.0	509	.61	60.0	551	.22	20.0	580
7.5	1.71	233.3	415	1.35	153.3	490	1.12	116.0	530	.82	77.3	571	.47	40.0	614	.17	13.3	643
10	1.42	175.0	447	1.12	115.0	527	.93	87.0	567	.68	58.0	610	.39	30.0	654	.14	10.0	682
15	1.06	116.6	479	.84	76.6	561	.70	58.0	603	.52	38.7	648	.30	20.0	693	.11	6.6	727
20	.85	87.5	490	.67	57.5	570	.56	43.5	611	.41	29.0	654	.24	15.0	698	.09	5.0	722
25	.71	70.0	494	.56	46.0	570	.47	3.8	608	.35	23.2	649	.20	12.0	688	.08	4.0	715
30	.63	58.4	494	.51	38.4	578	.43	29.0	620	.32	19.3	667	.19	10.0	711	.07	3.3	745
40	.50	43.7	489	.41	28.7	567	.34	21.8	607	.26	14.5	648	.15	7.5	694	.06	2.5	715
50	.41	35.00	471	.33	23.0	543	.28	17.4	578	.21	11.6	616	.13	6.0	658	.05	2.0	679
60	.34	29.2	446	.28	19.2	512	.24	14.5	545	.18	9.7	578	.11	5.0	615	.04	1.6	630

▲ Inch-pounds.
Overhung load (O.H.L.) 274 pounds at one shaft diameter from housing.

* Refer to page 311 for other service factors. Refer to page 312 for shaft arrangements.

V and DV Series

20V
Net wt. 34 lbs.
2.0" C.D.



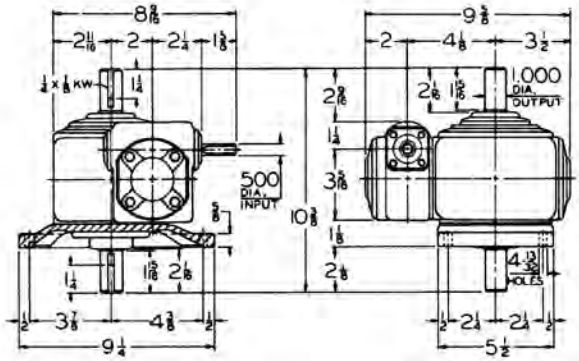


1.00 Service Factor* - Single Reduction Wormgear - Model 20V "Low Base"

TORQUE and HORSEPOWER RATINGS																	
RATIO	AT 1750 RPM INPUT			AT 1150 RPM INPUT			AT 870 RPM INPUT			AT 580 RPM INPUT			AT 300 RPM INPUT			AT 100 RPM INPUT		
	Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output	
		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque
5	2.92	350.0	487	2.35	230.0	588	1.96	174.0	643	1.45	116.0	702	.83	60.0	763	.30	20.0	808
7.5	2.31	233.3	568	1.84	153.3	676	1.52	116.0	732	1.12	77.3	793	.64	40.0	854	.23	13.3	896
10	1.92	175.0	616	1.52	115.0	728	1.26	87.0	785	.92	58.0	847	.53	30.0	910	.19	10.0	954
15	1.44	116.6	663	1.14	76.6	779	.94	58.0	837	.70	38.7	902	.40	20.0	964	.15	6.6	1011
20	1.13	87.5	673	.88	57.5	779	.73	43.5	830	.54	29.0	890	.31	15.0	944	.12	5.0	987
25	.94	70.0	677	.73	46.0	777	.61	34.8	827	.45	23.2	882	.26	12.0	936	.10	4.0	971
30	.84	58.4	685	.67	38.4	803	.57	29.0	862	.42	19.3	928	.25	10.0	992	.10	3.3	1037
40	.65	43.7	672	.52	28.7	776	.43	21.8	828	.32	14.5	883	.19	7.5	937	.07	2.5	979
50	.53	35.0	646	.42	23.0	742	.35	17.4	788	.27	11.6	839	.16	6.0	887	.06	2.0	921
60	.44	29.2	610	.35	19.2	699	.30	14.5	741	.22	9.7	789	.13	5.0	835	.05	1.6	869

▲ Inch-pounds Overhung load (O.H.L.) 670 pounds at one shaft diameter from housing.

20DV
Net wt. 39 lbs.
2.0" C.D.





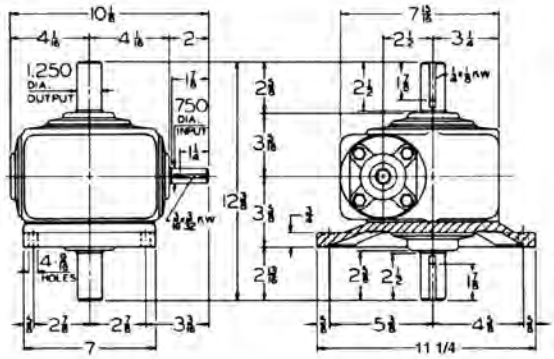
1.00 Service Factor* - Double Reduction Wormgear - Model 20DV "Low Base"
1.33" Centers Primary - 2.0" Centers Secondary

TORQUE and HORSEPOWER RATINGS															
RATIO	Primary Ratio	Secondary Ratio	AT 1750 RPM INPUT			AT 1150 RPM INPUT			AT 870 RPM INPUT			AT 580 RPM INPUT			
			Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output		
				R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque	
75	5	15	.50	23.33	956	.35	15.33	984	.28	11.60	997	.20	7.73	1010	
100	5	20	.39	17.50	937	.27	11.50	962	.21	8.70	973	.15	5.80	985	
125	5	25	.32	14.00	929	.23	9.20	952	.18	6.96	963	.13	4.64	975	
150	10	15	.29	11.67	996	.20	7.67	1010	.16	5.80	1017	.11	3.87	1024	
200	10	20	.22	8.75	973	.16	5.75	986	.12	4.35	991	.09	2.90	997	
250	10	25	.18	7.00	963	.13	4.60	975	.10	3.48	980	.07	2.32	986	
300	15	20	.16	5.83	985	.11	3.83	994	.09	2.90	997	.06	1.93	1001	
400	20	20	.13	4.38	991	.09	2.88	998	.07	2.18	1000	.05	1.45	1003	
500	25	20	.11	3.50	995	.08	2.30	1000	.06	1.74	1002	.04	1.16	1005	
600	30	20	.10	2.92	997	.07	1.92	1002	.06	1.45	1003	.04	.97	1005	
800	40	20	.08	2.19	1000	.06	1.44	1004	.05	1.09	1005	.03	.73	1006	
1000	50	20	.07	1.75	1002	.05	1.15	1005	.04	.87	1006	.03	.58	1007	
1200	60	20	.06	1.46	1003	.05	.96	1006	.04	.73	1006	.03	.48	1007	
1500	25	60	.05	1.17	876	.04	.77	880	.03	.58	882	.02	.39	884	
1800	30	60	.05	.97	878	.03	.64	882	.03	.48	883	.02	.32	885	
2400	40	60	.04	.73	881	.03	.48	883	.02	.36	884	.02	.24	886	
3000	50	60	.03	.58	882	.02	.38	884	.02	.29	885	.01	.19	886	
3600	60	60	.03	.49	883	.02	.32	885	.02	.24	886	.01	.16	886	

▲ Inch-pounds.
Overhung load (O.H.L.) 670 pounds at one shaft diameter from housing.
* Refer to page 311 for other service factors. Refer to page 312 for shaft arrangements.

V and DV Series





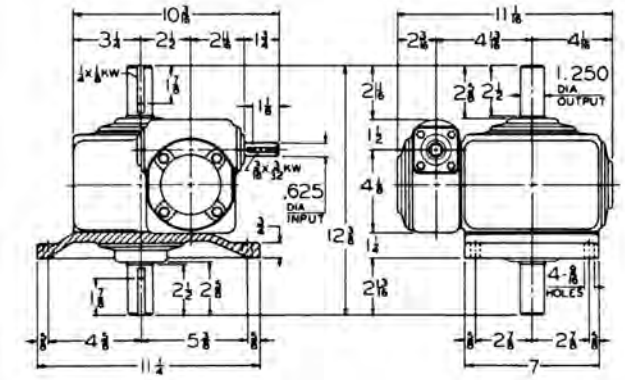
25V
Net wt. 52 lbs.
2.5" C.D.

1.00 Service Factor* - Single Reduction Wormgear - Model 25V "Low Base"

TORQUE and HORSEPOWER RATINGS																	
RATIO	AT 1750 RPM INPUT			AT 1150 RPM INPUT			AT 870 RPM INPUT			AT 580 RPM INPUT			AT 300 RPM INPUT			AT 100 RPM INPUT		
	Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output	
		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque
5	4.76	350.0	798	3.95	230.0	996	3.36	174.0	1112	2.54	116.0	1243	1.49	60.0	1379	.55	20.0	1479
7.5	3.82	233.3	946	3.12	153.3	1158	2.63	116.0	1277	1.97	77.3	1409	1.14	40.0	1545	.42	13.3	1644
10	3.18	175.0	1031	2.58	115.0	1253	2.17	87.0	1376	1.63	58.0	1510	.94	30.0	1648	.35	10.0	1751
15	2.37	116.6	1113	1.93	76.6	1344	1.63	58.0	1472	1.22	38.7	1610	.71	20.0	1750	.27	6.6	1855
20	1.88	87.5	1139	1.52	57.5	1364	1.28	43.5	1484	.96	29.0	1614	.56	15.0	1745	.21	5.0	1835
25	1.54	70.0	1140	1.24	46.0	1347	1.03	34.8	1454	.77	23.2	1569	.45	12.0	1683	.17	4.0	1765
30	1.37	58.4	1155	1.13	38.4	1390	.96	29.0	1518	.73	19.3	1659	.44	10.0	1797	.17	3.3	1897
40	1.07	43.7	1139	.85	28.7	1361	.75	21.8	1479	.58	14.5	1607	.34	7.5	1737	.14	2.5	1828
50	.86	35.0	1090	.70	23.0	1285	.59	17.4	1386	.45	11.6	1495	.27	6.0	1605	.11	2.0	1684
60	.70	29.2	1024	.57	19.2	1196	.48	14.5	1281	.36	9.7	1376	.22	5.0	1472	.09	1.6	1533

▲ Inch-pounds Overhung load (O.H.L.) 1030 pounds at one shaft diameter from housing.





25DV
Net wt. 67 lbs.
2.5" C.D.

1.00 Service Factor* - Double Reduction Wormgear - Model 25DV "Low Base"
1.75" Centers Primary - 2.5" Centers Secondary

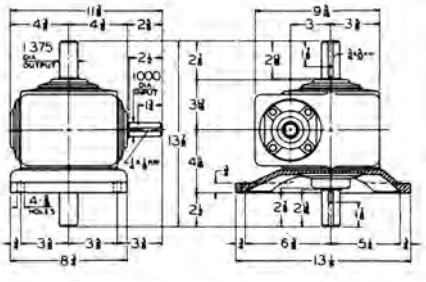
TORQUE and HORSEPOWER RATINGS															
RATIO	Primary Ratio	Secondary Ratio	AT 1750 RPM INPUT			AT 1150 RPM INPUT			AT 870 RPM INPUT			AT 580 RPM INPUT			
			Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output		
				R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲ Torque
75	5	15	.88	23.33	1728	.62	15.33	1790	.49	11.60	1819	.35	7.73	1849
100	5	20	.69	17.50	1725	.49	11.50	1783	.39	8.70	1810	.27	5.80	1838
125	5	25	.55	14.00	1667	.39	9.20	1718	.31	6.96	1741	.22	4.64	1766
150	10	15	.51	11.67	1818	.35	7.67	1849	.28	5.80	1864	.20	3.87	1879
200	10	20	.40	8.75	1809	.28	5.75	1838	.22	4.35	1852	.16	2.90	1866
250	10	25	.32	7.00	1741	.22	4.60	1766	.18	3.48	1778	.12	2.32	1791
300	15	20	.29	5.83	1837	.20	3.83	1857	.16	2.90	1866	.11	1.93	1875
400	20	20	.23	4.38	1852	.17	2.88	1866	.13	2.18	1873	.09	1.45	1880
500	25	20	.20	3.50	1860	.14	2.30	1872	.11	1.74	1877	.08	1.16	1883
600	30	20	.18	2.92	1866	.13	1.92	1875	.10	1.45	1880	.07	.97	1885
800	40	20	.15	2.19	1873	.11	1.44	1880	.08	1.09	1883	.06	.73	1887
1000	50	20	.13	1.75	1877	.09	1.15	1883	.07	.87	1886	.05	.58	1888
1200	60	20	.11	1.46	1880	.08	.96	1885	.07	.73	1887	.05	.48	1889
1500	25	60	.08	1.17	1552	.06	.77	1560	.05	.58	1564	.03	.39	1568
1800	30	60	.07	.97	1556	.05	.64	1562	.04	.48	1566	.03	.32	1569
2400	40	60	.06	.73	1561	.04	.48	1566	.04	.36	1568	.03	.24	1571
3000	50	60	.05	.58	1564	.04	.38	1568	.03	.29	1570	.02	.19	1572
3600	60	60	.05	.49	1566	.03	.32	1569	.03	.24	1571	.02	.16	1572

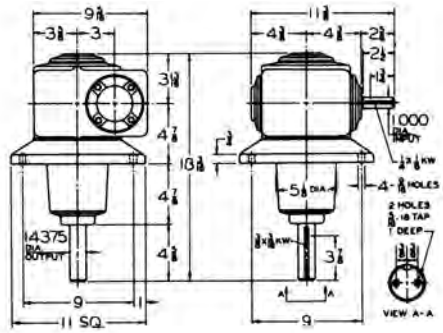
▲ Inch-pounds.
Overhung load (O.H.L.) 1030 pounds at one shaft diameter from housing.
* Refer to page 311 for other service factors. Refer to page 312 for shaft arrangements.

V, VX, DV and DVX Series

30V Net wt. 70 lbs.

3.0" C.D.





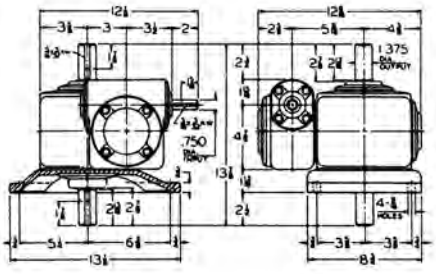
Net wt. 88 lbs. 30VX

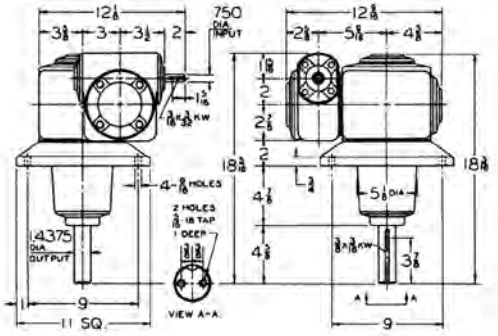
1.00 Service Factor* - Double Reduction Wormgear - Model 30DV "Low Base" and Model 30DVX

TORQUE and HORSEPOWER RATINGS																		
RATIO	AT 1750 RPM INPUT			AT 1150 RPM INPUT			AT 870 RPM INPUT			AT 580 RPM INPUT			AT 300 RPM INPUT			AT 100 RPM INPUT		
	Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output	
		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque
5	8.06	350.0	1357	6.82	230.0	1729	5.92	174.0	1968	4.58	116.0	2254	2.75	60.0	2557	1.03	20.0	2783
7.5	6.44	233.3	1603	5.42	153.3	2026	4.65	116.0	2279	3.56	77.3	2571	2.11	40.0	2874	.79	13.3	3100
10	5.37	175.0	1753	4.50	115.0	2198	3.85	87.0	2461	2.94	58.0	2760	1.74	30.0	3069	.66	10.0	3298
15	4.01	116.6	1899	3.36	76.6	2366	2.68	58.0	2639	2.20	38.7	2947	1.31	20.0	3264	.50	6.6	3499
20	3.19	87.5	1956	2.65	57.5	2412	2.27	43.5	2671	1.73	29.0	2955	1.03	15.0	3254	.39	5.0	3476
25	2.64	70.0	1975	2.18	64.0	2404	1.85	34.8	2643	1.41	23.2	2907	.84	12.0	3175	.32	4.0	3373
30	2.31	58.4	1975	1.96	38.4	2451	1.69	29.0	2725	1.31	19.3	3033	.81	10.0	3349	.31	3.3	3584
40	1.81	43.7	1959	1.53	28.7	2406	1.33	21.8	2665	1.03	14.5	2946	.63	7.5	3240	.25	2.5	3454
50	1.46	35.0	1889	1.23	23.0	2298	1.06	17.4	2525	.82	11.6	2770	.50	6.0	3020	.20	2.0	3198
60	1.21	29.2	1791	1.02	19.2	2172	.88	14.5	2380	.69	9.7	2612	.42	5.0	2844	.17	1.6	3016

30DV Net wt. 92 lbs.

3.0" C.D.





Net wt. 109lbs. 30DVX

1.00 Service Factor* - Double Reduction Wormgear - Model 30DV "Low Base" and Model 30DVX
2.0" Centers Primary - 3.0" Centers Secondary

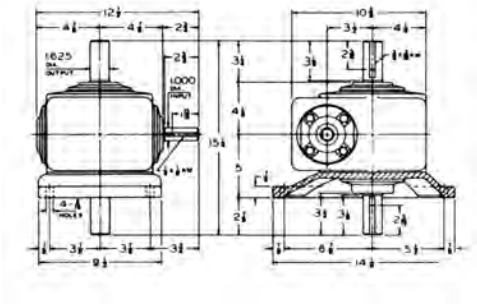
TORQUE and HORSEPOWER RATINGS															
RATIO	Primary Ratio	Secondary Ratio	AT 1750 RPM INPUT			AT 1150 RPM INPUT			AT 870 RPM INPUT			AT 580 RPM INPUT			
			Input HP	OupPut		Input HP	Output		Input HP	Output		Input HP	Output		
				R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque	
75	5	15	1.61	23.33	3208	1.15	15.33	3348	.91	11.60	3413	.64	7.73	3481	
100	5	20	1.26	17.50	3207	.90	11.50	3337	.71	8.70	3399	.51	5.80	3462	
125	5	25	1.02	14.00	3132	.73	9.20	3250	.58	6.96	3305	.41	4.64	3362	
150	10	15	.93	11.67	3412	.65	7.67	3483	.51	5.80	3516	.36	3.87	3550	
200	10	20	.73	8.75	3398	.51	5.75	3464	.40	4.35	3494	.28	2.90	3526	
250	10	25	.59	7.00	3304	.42	4.60	3363	.33	3.48	3391	.23	2.32	3420	
300	15	20	.53	5.83	3462	.37	3.83	3506	.29	2.90	3526	.21	1.93	3548	
400	20	20	.42	4.38	3494	.30	2.88	3527	.23	2.18	3542	.16	1.45	3558	
500	25	20	.35	3.50	3513	.25	2.30	3540	.20	1.74	3552	.14	1.16	3565	
600	30	20	.32	2.92	3526	.23	1.92	3548	.18	1.45	3558	.13	.97	3569	
800	40	20	.26	2.19	3542	.18	1.44	3559	.15	1.09	3566	.10	.73	3574	
1000	50	20	.22	1.75	3552	.16	1.15	3565	.13	.87	3571	.09	.58	3578	
1200	60	20	.20	1.46	3558	.14	.96	3569	.11	.73	3574	.08	.48	3580	
1500	25	60	.16	1.17	3044	.11	.77	3065	.09	.58	3074	.06	.39	3084	
1800	30	60	.14	.97	3054	.10	.64	3071	.08	.48	3079	.06	.32	3088	
2400	40	60	.12	.73	3067	.08	.48	3080	.07	.36	3086	.05	.24	3092	
3000	50	60	.10	.58	3074	.07	.38	3085	.06	.29	3089	.04	.19	3094	
3600	60	60	.09	.49	3079	.06	.32	3088	.05	.24	3092	0.4	.16	3096	

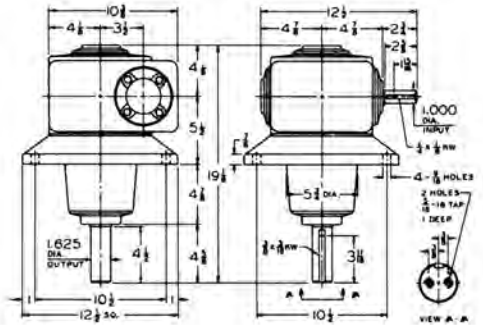
▲ Inch-pounds.
Overhung load (O.H.L.) for DV unit is 1212 pounds at one shaft diameter from housing, and 605 pounds for DVX unit at the end of Output Shaft Extension.
* Refer to page 311 for other service factors. Refer to page 312 for shaft arrangements.

V, VX, DV and DVX Series

35V Net wt. 92 lbs.

3.5" C.D.





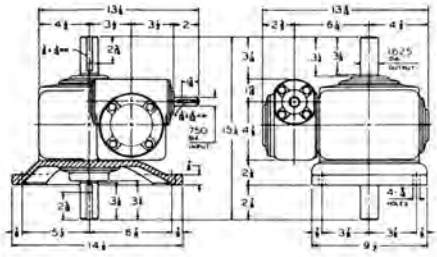
Net wt. 117 lbs. 35VX

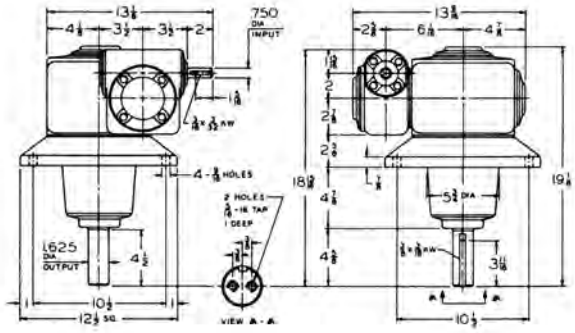
1.00 Service Factor* - Single Reduction Wormgear - Model 35V "Low Base" and Model 35VX

TORQUE and HORSEPOWER RATINGS																				
RATIO	AT 1750 RPM INPUT			AT 1150 RPM INPUT			AT 870 RPM INPUT			AT 580 RPM INPUT			AT 300 RPM INPUT			AT 100 RPM INPUT		
	Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output	
		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque
5	11.54	350.0	1951	9.70	230.0	2470	8.58	174.0	2861	6.82	116.0	3373	4.21	60.0	3927	1.61	20.0	4356
7.5	9.12	233.3	2279	7.74	153.3	2903	6.78	116.0	3328	5.33	77.3	3868	3.25	40.0	4424	1.24	13.3	4854
10	7.55	175.0	2474	6.43	115.0	3155	5.62	87.0	3601	4.40	58.0	4150	2.68	30.0	4726	1.03	10.0	5167
15	5.60	116.6	2663	4.80	76.6	3396	4.20	58.0	3864	3.30	38.7	4429	2.02	20.0	5027	.78	6.6	5476
20	4.44	87.5	2736	3.80	57.5	3469	3.31	43.5	3921	2.58	29.0	4448	1.58	15.0	5003	.61	5.0	5401
25	3.67	70.0	2773	3.11	46.0	3470	2.69	34.8	3884	2.08	23.2	4349	1.26	12.0	4830	.49	4.0	5185
30	3.22	58.4	2773	2.79	38.4	3516	2.46	29.0	3995	1.97	19.3	4570	1.24	10.0	5165	.50	3.3	5625
40	2.50	43.7	2738	2.18	28.7	3468	1.92	21.8	3914	1.53	14.5	4428	.96	7.5	4969	.39	2.5	5364
50	2.02	35.0	2657	1.74	23.0	3320	1.52	17.4	3707	1.21	11.6	4144	.75	6.0	4603	.30	2.0	4934
60	1.67	29.2	2522	1.44	19.2	3138	1.26	14.5	3497	1.00	9.7	3900	.63	5.0	4308	.26	1.6	4637

35DV Net wt. 111 lbs.

3.5" C.D.





Net wt. 136 lbs. 35DVX

1.00 Service Factor* - Double Reduction Wormgear - Model 35DV "Low Base" and Model 35DVX
2.0" Centers Primary - 3.5" Centers Secondary

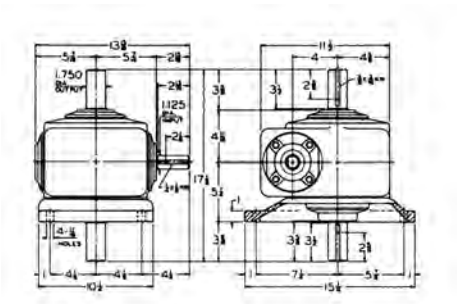
TORQUE and HORSEPOWER RATINGS												
RATIO	Primary Ratio	Secondary Ratio	AT 1750 RPM INPUT			AT 1150 RPM INPUT			AT 870 RPM INPUT			AT 580 RPM INPUT		
			Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output	
				R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque
75	5	15	2.47	23.33	4919	1.77	15.33	5187	1.41	11.60	5313	1.00	7.73	5444
100	5	20	1.93	17.50	4903	1.39	11.50	5147	1.10	8.70	5262	.79	5.80	5382
125	5	25	1.54	14.00	4750	1.11	9.20	4963	.88	6.96	5063	.63	4.64	5167
150	10	15	1.44	11.67	5311	1.02	7369	5446	.80	5.80	5509	.57	3.87	5575
200	10	20	1.13	8.75	5260	.79	5.75	5384	.63	4.35	5442	.44	2.90	5502
250	10	25	.90	7.00	5061	.63	4.60	5169	.50	3.48	5219	.35	2.32	5272
300	15	20	.82	5.83	5381	.58	3.83	5463	.46	2.90	5502	.33	1.93	5542
400	20	20	.65	4.38	5441	.46	2.88	5503	.37	2.18	5532	.26	1.45	5562
500	25	20	.55	3.50	5477	.39	2.30	5527	.31	1.74	5550	.22	1.16	5574
600	30	20	.50	2.92	5501	.35	1.92	5543	.28	145	5562	.20	.97	5582
800	40	20	.40	2.19	5532	.29	1.44	5563	.23	1.09	5577	.16	.73	5593
1000	50	20	.35	1.75	5550	.25	1.15	5575	.20	.87	5586	.14	.58	5599
1200	60	20	.31	1.46	5562	.22	.96	5583	.18	.73	5593	.13	.48	5603
1500	25	60	.24	1.17	4671	.17	.77	4709	.14	.58	4726	.10	.39	4744
1800	30	60	.21	.97	4690	.15	.64	4721	.12	.48	4735	.09	.32	4750
2400	40	60	.17	.73	4712	.13	.48	4735	.10	.36	4746	.07	.24	4757
3000	50	60	.15	.58	4726	.11	.38	4744	.09	.29	4753	.06	.19	5762
3600	60	60	.14	.49	4735	.10	.32	4750	.08	.24	4757	.06	.16	4765

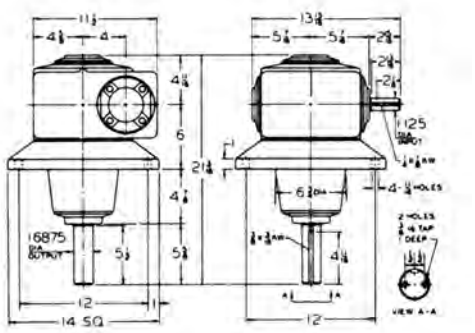
▲ Inch-pounds.
Overhung load (O.H.L.) for DV unit is 1804 pounds at one shaft diameter from housing, and 959 pounds for DVX unit at the end of Output Shaft Extension.
* Refer to page 311 for other service factors. Refer to page 312 for shaft arrangements.

V, VX, DV and DVX Series

40V Net wt. 121 lbs.

4.0" C.D.





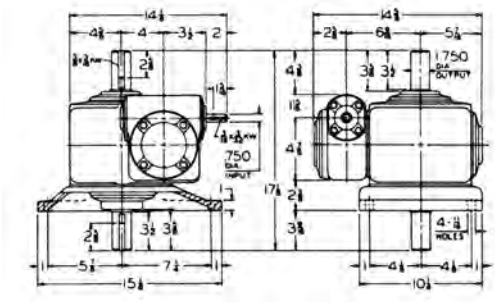
Net wt. 175 lbs. 40VX

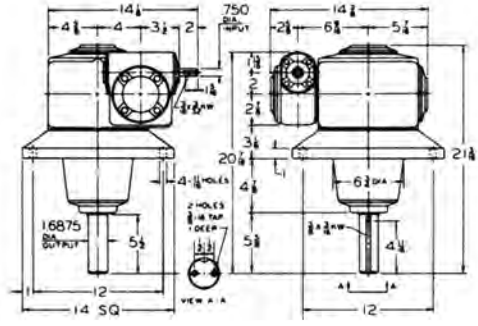
1.00 Service Factor* - Single Reduction Wormgear - Model 40V "Low Base" and Model 40VX

TORQUE and HORSEPOWER RATINGS																	
RATIO	AT 1750 RPM INPUT			AT 1150 RPM INPUT			AT 870 RPM INPUT			AT 580 RPM INPUT			AT 300 RPM INPUT			AT 100 RPM INPUT		
	Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output	
		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque
5	15.15	350.0	2570	12.65	230.0	3233	11.27	174.0	3781	9.05	116.0	4498	5.65	60.0	5303	2.18	20.0	5925
10	10.03	175.0	3321	8.52	115.0	4229	7.46	87.0	4845	5.87	58.0	5608	3.58	30.0	6427	1.37	10.0	7041
15	7.44	116.6	3592	6.36	76.6	4580	5.57	58.0	5222	4.38	38.7	6014	2.68	20.0	6846	1.04	6.6	7483
20	5.89	87.5	3685	5.06	57.5	4702	4.43	43.5	5344	3.49	29.0	6127	2.15	15.0	6949	.84	5.0	7566
25	4.84	70.0	3712	4.14	46.0	4695	3.60	34.8	5299	2.81	23.2	6002	1.71	12.0	6722	.67	4.0	7262
30	4.22	58.4	3733	3.65	38.4	4760	3.23	29.0	5412	2.57	19.3	6213	1.61	10.0	7043	.64	3.3	7679
40	3.31	43.7	3710	2.88	28.7	4705	2.55	21.8	5340	2.04	14.5	6106	1.29	7.5	6916	.52	2.5	7515
50	2.63	35.0	3555	2.29	23.0	4493	2.02	17.4	5066	1.61	11.6	5724	1.01	6.0	6408	.41	2.0	6904
60	2.15	29.2	3372	1.86	19.2	4226	1.63	14.5	4724	1.30	9.7	5293	.81	5.0	5877	.33	1.6	6345

40DV Net wt. 154 lbs.

4.0" C.D.





Net wt. 196 lbs. 40DVX

1.00 Service Factor* - Double Reduction Wormgear - Model 40DV "Low Base" and Model 40DVX
2.0" Centers Primary - 4.0" Centers Secondary

TORQUE and HORSEPOWER RATINGS															
RATIO	Primary Ratio	Secondary Ratio	AT 1750 RPM INPUT			AT 1150 RPM INPUT			AT 870 RPM INPUT			AT 580 RPM INPUT			
			Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output		
				R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque	
75	5	15	2.92	23.33	5972	2.35	15.33	7058	1.87	11.60	7247	1.33	7.73	7431	
100	5	20	2.62	17.50	6804	1.89	11.50	7172	1.50	8.70	7345	1.07	5.80	7526	
125	5	25	2.10	14.00	6597	1.50	9.50	6920	1.20	6.96	7071	.85	4.64	7229	
150	10	15	1.91	11.67	7244	1.34	7.67	7434	1.06	5.80	7523	.75	3.87	7615	
200	10	20	1.53	8.75	7342	1.08	5.75	7529	.86	4.35	7616	.61	2.90	7707	
250	10	25	1.22	7.00	7069	.86	4.60	7232	.68	3.48	7308	.48	2.32	7388	
300	15	20	1.12	5.83	7524	.79	3.83	7649	.63	2.90	7707	.44	1.93	7768	
400	20	20	.89	4.38	7615	.63	2.89	7708	.50	2.18	7752	.35	1.45	7798	
500	25	20	.75	3.50	7669	.53	2.30	7745	.42	1.74	7780	.30	1.16	7816	
600	30	20	.68	2.92	7706	.48	1.92	7769	.36	1.45	7798	.27	.97	7828	
800	40	20	.55	2.19	7752	.39	1.44	7799	.31	1.09	7821	.22	.73	7843	
1000	50	20	.47	1.75	7779	.34	1.15	7817	.27	.87	7834	.19	.58	7853	
1200	60	20	.42	1.46	7797	.30	.96	7829	.24	.73	7843	.17	.48	7859	
1500	25	60	.30	1.17	6388	.22	.77	6441	.17	.58	6466	.12	.39	6491	
1800	30	60	.27	.97	6414	.20	.64	6458	.16	.48	6478	.11	.32	6500	
2400	40	60	.22	.73	6446	.16	.48	6479	.13	.36	6494	.09	.24	6510	
3000	50	60	.19	.58	6465	.14	.38	6492	.11	.29	6504	.08	.19	6517	
3600	60	60	.17	.49	6478	.13	.32	6500	.10	.24	6510	.07	.16	6521	

▲ Inch-pounds.
Overhung load (O.H.L.) for DV unit is 2423 pounds at one shaft diameter from housing, and 1200 pounds for DVX unit at the end of output shaft extension.
* Refer to page 311 for other service factors. Refer to page 312 for shaft arrangements.

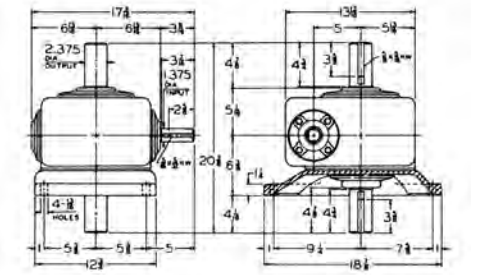
V, VX, DV and DVX Series

1.00 Service Factor* - Single Reduction Wormgear - Model 50V "Low Base" and Model 50VX

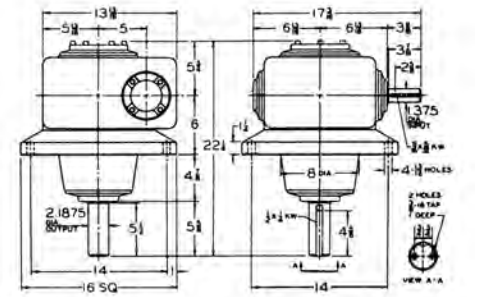
RATIO	AT 1750 RPM INPUT					AT 1150 RPM INPUT				
	Input HP	Output				Input HP	Output			
		R.P.M.	▲Torque	V O.H.L	VX O.H.L		R.P.M.	▲Torque	V O.H.L	VX O.H.L
5	25.25	350.0	4300	4040	1225	20.79	230.0	5344	4040	1386
10	16.64	175.0	5542	4040	1582	13.84	115.0	6917	4040	1796
15	12.31	116.6	5991	4040	1838	10.34	76.6	7512	4040	2104
20	9.61	87.5	6113	4040	2049	8.18	57.5	7737	4040	2329
25	7.94	70.0	6162	4040	2212	63.80	46.0	7823	4040	2515
30	6.92	58.4	6224	4040	2363	5.92	38.4	7836	4040	2524
40	5.31	43.7	6125	4040	2610	4.60	28.7	7771	4040	2524
50	4.27	35.0	5899	4040	2524	3.73	23.0	7498	4040	2524
60	3.48	29.2	5577	4040	2524	3.06	19.2	7094	4040	2524
	AT 870 RPM INPUT					AT 580 RPM INPUT				
5	18.60	174.0	6274	4040	1497	15.47	116.0	7743	4040	1695
10	12.47	87.0	8155	4040	1972	10.13	85.0	9790	4040	2237
15	9.30	58.0	8813	4040	2296	7.56	38.7	10511	4040	2524
20	7.29	43.5	8964	4040	2546	5.87	29.0	10547	4040	2524
25	6.06	34.8	9040	4040	2524	4.88	23.2	10592	4040	2524
30	5.36	29.0	9154	4040	2524	4.41	19.3	10877	4040	2524
40	4.14	21.8	8981	4040	2524	3.38	14.5	10531	4040	2524
50	3.36	17.4	8644	4040	2524	2.76	11.6	10111	4040	2524
60	2.76	14.5	8140	4040	2524	2.26	9.7	9470	4040	2524
	AT 300 RPM INPUT					AT 100 RPM INPUT				
5	10.11	60.0	9570	4040	2117	4.02	20.0	11029	4040	2524
10	6.45	30.0	11670	4040	2524	2.53	10.0	13139	4040	2524
15	4.83	20.0	12448	4040	2524	1.91	6.6	13958	4040	2524
20	3.71	15.0	12286	4040	2524	1.47	5.0	13610	4040	2524
25	3.09	12.0	12273	4040	2524	1.23	4.0	13558	4040	2524
30	2.88	10.0	12810	4040	2524	1.18	3.3	14338	4040	2524
40	2.20	7.5	12222	4040	2524	.90	2.5	13507	4040	2524
50	1.81	6.0	11686	4040	2524	.75	2.0	12904	4040	2524
60	1.48	5.0	10854	4040	2524	.62	1.6	11974	4040	2524

▲ Inch-pounds.
Overhung load (O.H.L.) for V unit is pounds at one shaft diameter from housing, and for VX unit at the end of Output Shaft Extension.

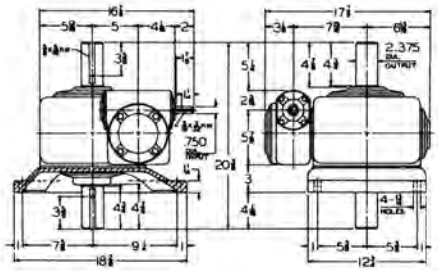
50V Net wt. 92 lbs. 5.0" C.D.



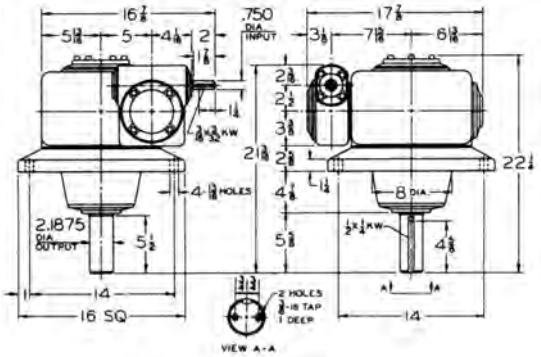
50VX Net wt. 270 lbs. 5.0" C.D.



50DV Net wt. 247 lbs. 5.0" C.D.



50DVX Net wt. 316 lbs. 5.0" C.D.



1.00 Service Factor* - Double Reduction Wormgear - Model 50DV "Low Base" and Model 50DVX
2.5" Centers Primary - 5.0" Centers Secondary

RATIO	Primary Ratio	Secondary Ratio	AT 1750 RPM INPUT			AT 1150 RPM INPUT			AT 870 RPM INPUT			AT 580 RPM INPUT		
			Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output	
				R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque
75	5	15	4.76	23.33	9904	3.95	15.33	12051	3.36	11.60	13276	2.42	7.73	13832
100	5	20	4.47	17.50	11961	3.25	11.50	12751	2.60	8.70	13124	1.85	5.80	13511
125	5	25	3.73	14.00	11963	2.71	9.0	12730	2.17	6.96	13091	1.56	4.64	13468
150	10	15	3.18	11.67	12310	2.44	7.67	13839	1.93	5.80	14052	1.36	3.87	14273
200	10	20	2.64	8.75	13117	1.87	5.75	13518	1.48	4.35	13706	1.05	2.90	13901
250	10	25	2.21	7.00	13085	1.57	4.60	13747	1.24	3.48	13656	.88	2.32	13846
300	15	20	1.93	5.83	13507	1.36	3.83	13776	1.07	2.90	13901	.76	1.93	14032
400	20	20	1.55	4.38	13703	1.08	2.88	13905	.86	2.18	13999	.61	1.45	14097
500	25	20	1.29	3.50	13820	.91	2.30	13982	.72	1.74	14058	.51	1.16	14136
600	30	20	1.15	2.92	13899	.82	1.92	14034	.65	1.45	14097	.47	.97	14163
800	40	20	.94	2.19	13997	.67	1.44	14099	.53	1.09	14146	.38	.73	14195
1000	50	20	.80	1.75	14057	.57	1.15	14138	.45	.87	14176	.33	.58	14205
1200	60	20	.80	1.46	14066	.50	.96	14164	.40	.73	14195	.29	.48	14228
1500	25	60	.55	1.17	12105	.40	.77	12235	.32	.58	12296	.23	.39	12359
1800	30	60	.50	.97	12168	.36	.64	12277	.29	.48	12327	.21	.32	12380
2400	40	60	.41	.73	12247	.30	.48	12329	.24	.36	12367	.17	.24	12406
3000	50	60	.35	.58	12295	.25	.38	12360	.20	.29	12390	.15	.19	12422
3600	60	60	.31	.49	12326	.23	.32	12381	.18	.24	12406	.13	.16	12432

▲ Inch-pounds.
Overhung load (O.H.L.) for DV unit is 4040 pounds at one shaft diameter from housing, and 2524 pounds for DVX unit at the end of output shaft extension.
* Refer to page 311 for other service factors. Refer to page 312 for shaft arrangements.

V, VX, DV and DVX Series

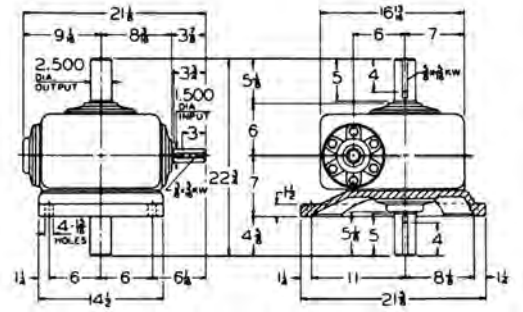
1.00 Service Factor* - Single Reduction Wormgear - Model 60V "Low Base" and Model 60VX

RATIO	AT 1750 RPM INPUT					AT 1150 RPM INPUT				
	Input HP	Output R.P.M.	Output ▲Torque	V O.H.L	VX O.H.L	Input HP	Output R.P.M.	Output ▲Torque	V O.H.L	VX O.H.L
5	38.15	350.0	6527	4846	1269	31.40	230.0	8104	4846	1435
10	25.10	175.0	8408	4846	1638	20.75	115.0	10437	4846	1857
15	18.54	116.6	9084	4846	1904	15.39	76.6	11275	4846	2178
20	14.50	87.5	9283	4846	2124	12.12	57.5	11560	4846	2245
25	11.72	70.0	9254	4846	2245	9.91	46.0	11625	4846	2245
30	10.37	58.4	9438	4846	2245	8.73	38.4	11728	4846	2245
40	7.96	43.7	9299	4846	2245	6.76	28.7	11581	4846	2245
50	6.23	35.0	8867	4846	2245	5.37	23.0	11173	4846	2245
60	5.12	29.2	8418	4846	2245	4.45	19.2	10603	4846	2245
5	AT 870 RPM INPUT					AT 580 RPM INPUT				
10	27.71	174.0	9384	4846	1548	23.55	116.0	11849	4846	1751
15	18.60	87.0	12245	4846	2039	15.56	58.0	15129	4846	2245
	13.60	58.0	13288	4846	2245	11.61	38.7	16315	4846	2245
20	10.99	43.5	13640	4846	2245	9.10	29.0	16535	4846	2245
25	8.93	34.8	13623	4846	2245	7.28	23.2	16204	4846	2245
30	7.97	29.0	13843	4846	2245	6.74	19.3	16909	4846	2245
40	6.20	21.8	13672	4846	2245	5.22	14.5	16531	4846	2245
50	4.89	17.4	13038	4846	2245	4.05	11.6	15499	4846	2245
60	4.06	14.5	12374	4846	2245	3.39	9.7	14717	4846	2245
5	AT 300 RPM INPUT					AT 100 RPM INPUT				
10	16.02	60.0	15260	4846	2186	6.57	20.0	18127	4846	2245
15	10.27	30.0	18747	4846	2245	4.14	10.0	21641	4846	2245
	7.68	20.0	20026	4846	2245	3.12	6.6	23008	4846	2245
20	5.96	15.0	19955	4846	2245	2.42	5.0	22655	4846	2245
25	4.69	12.0	19127	4846	2245	1.88	4.0	21394	4846	2245
30	4.55	10.0	20627	4846	2245	1.92	3.3	23631	4846	2245
40	3.52	7.5	19879	4846	2245	1.48	2.5	22507	4846	2245
50	2.69	6.0	18232	4846	2245	1.12	2.0	20366	4846	2245
60	2.27	5.0	17305	4846	2245	.96	1.6	19390	4846	2245

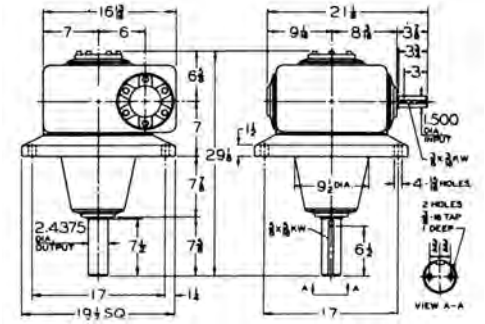
TORQUE and HORSEPOWER RATINGS

▲ Inch-pounds.
Overhung load (O.H.L.) for V unit is pounds at one shaft diameter from housing, and for VX unit at the end of output shaft extension.

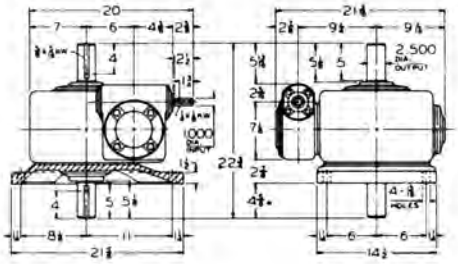
60V Net wt. 373 lbs. 6.0" C.D.



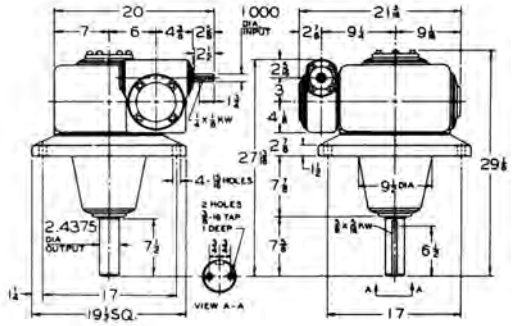
60VX Net wt. 468 lbs. 6.0" C.D.



60DV Net wt. 438 lbs. 6.0" C.D.



60DVX Net wt. 496 lbs. 6.0" C.D.



1.00 Service Factor* - Double Reduction Wormgear - Model 60DV "Low Base" and Model 60DVX 3.0" Centers Primary - 6.0" Centers Secondary

RATIO	Primary Ratio	Secondary Ratio	AT 1750 RPM INPUT			AT 1150 RPM INPUT			AT 870 RPM INPUT			AT 580 RPM INPUT		
			Input HP	Output R.P.M.	Output ▲Torque	Input HP	Output R.P.M.	Output ▲Torque	Input HP	OutPut R.P.M.	OutPut ▲Torque	Input HP	Output R.P.M.	Output ▲Torque
75	5	15	8.06	23.33	17032	6.79	15.33	21041	5.46	11.60	21878	3.92	7.73	22752
100	5	20	7.11	17.50	19334	5.26	11.50	20907	4.23	8.70	21668	3.04	5.80	22463
125	5	25	5.60	14.00	18581	4.11	9.20	19931	3.29	6.96	20567	2.36	4.64	21230
150	10	15	5.37	11.67	21159	3.95	7.67	22767	3.13	5.80	23192	2.22	3.87	23633
200	10	20	4.30	8.75	21655	3.06	5.75	22476	2.43	4.35	22862	1.72	2.90	23262
250	10	25	3.35	7.00	20556	2.38	4.60	21242	1.89	3.48	21563	1.34	2.32	21897
300	15	20	3.16	5.83	22453	2.23	3.83	23004	1.77	2.90	23262	1.25	1.93	23530
400	20	20	2.52	4.38	22855	1.78	2.88	23269	1.41	2.18	23463	1.01	1.45	23665
500	25	20	2.12	3.50	23096	1.49	2.30	23429	1.19	1.74	23584	.85	1.16	23745
600	30	20	1.89	2.92	23258	1.34	1.92	23535	1.07	1.45	23665	.76	.97	23799
800	40	20	1.53	2.19	23460	1.09	1.44	23668	.87	1.09	23765	.63	.73	23866
1000	50	20	1.30	1.75	23581	.93	1.15	23748	.75	.87	23826	.54	.58	23906
1200	60	20	1.16	1.46	23662	.83	.96	23801	.67	.73	23866	.49	.48	23933
1500	25	60	.86	1.17	19642	.61	.77	19887	.49	.58	20002	.36	.39	20121
1800	30	60	.77	.97	19761	.55	.64	19966	.45	.48	20062	.32	.32	20161
2400	40	60	.63	.73	19910	.46	.48	20064	.37	.36	20136	.27	.24	20211
3000	50	60	.54	.58	20000	.39	.38	20124	.32	.29	20181	.23	.19	20241
3600	60	60	.48	.49	20060	.35	.32	20163	.28	.24	20211	.21	.16	20261

TORQUE and HORSEPOWER RATINGS

▲ Inch-pounds.
Overhung load (O.H.L.) for DV unit is 4846 pounds at one shaft diameter from housing, and 2245 pounds for DVX unit at the end of output shaft extension.

* Refer to page 311 for other service factors. Refer to page 312 for shaft arrangements.

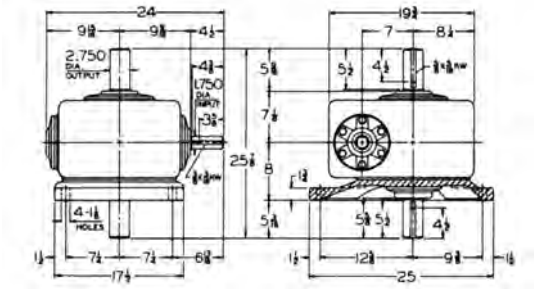
V, VX, DV and DVX Series

1.00 Service Factor* - Single Reduction Wormgear - Model 70V "Low Base" and Model 70VX

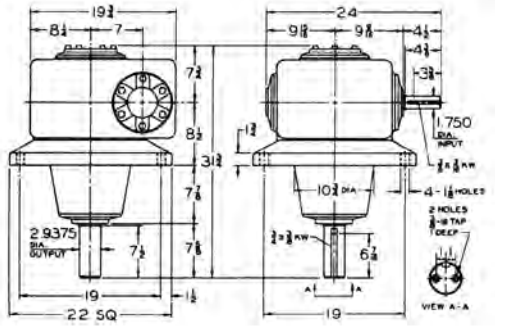
RATIO	AT 1750 RPM INPUT					AT 1150 RPM INPUT				
	Input HP	Output R.P.M.	Output ▲Torque	Output V O.H.L	Output VX O.H.L	Input HP	Output R.P.M.	Output ▲Torque	Output V O.H.L	Output VX O.H.L
5	53.32	350.0	9141	6044	1645	44.27	230.0	11463	6044	1860
10	35.46	175.0	11928	6044	2127	29.27	115.0	14805	6044	2417
15	26.15	116.6	12929	6044	2461	21.69	76.6	16027	6044	2829
20	20.42	87.5	13176	6044	2757	16.99	57.5	16369	6044	3130
25	16.73	70.0	13256	6044	2974	13.97	46.0	16462	6044	3433
30	14.57	58.4	13408	6044	3178	12.23	38.4	16649	6044	3635
40	11.14	43.7	13209	6044	3510	9.41	38.7	16407	6044	3791
50	8.86	35.0	12687	6044	3810	7.53	23.0	15764	6044	3791
60	7.14	29.2	11951	6044	3791	6.11	19.5	14893	6044	3791
	AT 870 RPM INPUT					AT 580 RPM INPUT				
8	38.91	174.0	13236	6044	2008	33.05	116.0	16702	6044	2271
10	25.89	87.0	17159	6044	2654	22.03	58.0	21573	6044	3004
15	19.29	58.0	18588	6044	3086	16.45	38.7	23335	6044	3529
20	15.27	43.5	19164	6044	3422	12.93	29.0	23743	6044	3791
25	12.66	34.8	19374	6044	3725	10.66	23.2	23800	6044	3791
30	11.01	29.0	19376	6044	3791	9.49	19.3	24240	6044	3791
40	8.57	21.8	19255	6044	3791	7.36	14.5	23769	6044	3791
50	6.91	17.4	18590	6044	3791	5.92	11.6	22752	6044	3791
60	5.63	14.5	17555	6044	3791	4.79	9.7	21296	6044	3791
	AT 300 RPM INPUT					AT 100 RPM INPUT				
5	23.28	60.0	22301	6044	2836	9.84	20.0	2793	6044	3791
10	15.01	30.0	27631	6044	3768	6.20	10.0	32651	6044	3791
15	11.21	20.0	29557	6044	3791	4.66	6.6	34735	6044	3791
20	8.71	15.0	29553	6044	3791	3.60	5.0	34208	6044	3791
25	7.14	12.0	29266	6044	3791	2.96	4.0	33662	6044	3791
30	6.60	10.0	30527	6044	3791	2.84	3.3	35653	6044	3791
40	5.09	7.5	29471	6044	3791	2.19	2.5	33985	6044	3791
50	4.10	6.0	27930	6044	3791	1.77	2.0	32014	6044	3791
60	3.28	5.0	25683	6044	3791	1.41	1.6	29312	6044	3791

▲ Inch-pounds
Overhung load (O.H.L.) for V unit is pounds at one shaft diameter from housing, and for VX unit at the end of output shaft extension.

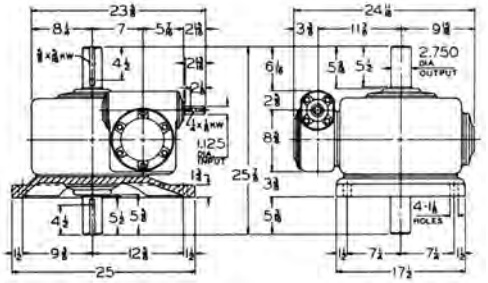
70V Net wt. 584 lbs. **7.0" C.D.**



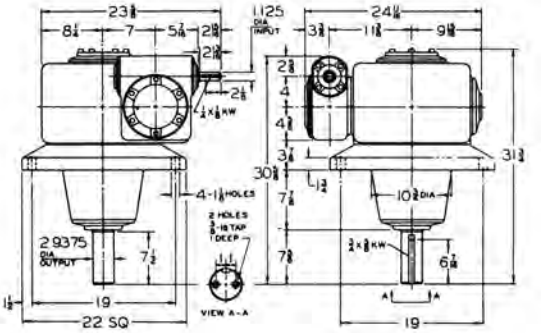
70VX Net wt. 659 lbs. **7.0" C.D.**



70DV Net wt. 597 lbs. **7.0" C.D.**



70DVX Net wt. 717 lbs. **7.0" C.D.**



1.00 Service Factor* - Double Reduction Wormgear - Model 70DV "Low Base" and Model 70DVX 4.0" Centers Primary - 7.0" Centers Secondary

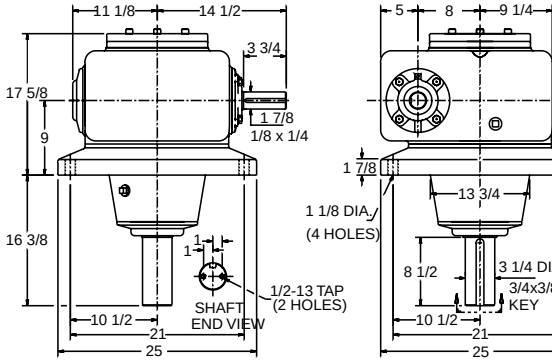
RATIO	Primary Ratio	Secondary Ratio	AT 1750 RPM INPUT			AT 1150 RPM INPUT			AT 870 RPM INPUT			AT 580 RPM INPUT		
			Input HP	Output R.P.M.	Output ▲Torque	Input HP	Output R.P.M.	Output ▲Torque	Input HP	Output R.P.M.	Output ▲Torque	Input HP	Output R.P.M.	Output ▲Torque
75	5	15	13.17	23.33	28390	9.91	15.33	31304	8.03	11.60	32764	5.79	7.73	34288
100	5	20	10.25	17.50	28472	7.69	11.50	31155	6.22	8.70	32481	4.48	5.80	33866
125	5	25	8.42	14.00	28272	6.31	9.20	30795	5.09	6.96	32032	3.68	4.64	33324
150	10	15	8.13	11.67	32737	5.79	7.67	34314	4.60	5.80	35055	3.26	3.87	35826
200	10	20	6.29	8.75	32458	4.48	5.75	33890	3.56	4.35	34562	2.53	2.90	35262
250	10	25	5.15	7.00	32010	3.68	4.60	33346	2.93	3.48	33973	2.08	2.32	34625
300	15	20	4.61	5.83	33850	3.56	3.83	34811	2.58	2.90	35262	1.83	1.93	35730
400	20	20	3.69	4.38	34550	2.61	2.88	35274	2.06	2.18	35613	1.46	1.45	35964
500	25	20	3.10	3.50	34972	2.18	2.30	35552	1.72	1.74	35823	1.23	1.16	36105
600	30	20	2.73	2.92	35254	1.93	1.92	35738	1.53	1.45	35964	1.10	.97	36199
800	40	20	2.22	2.19	35607	1.58	1.44	35970	1.26	1.09	36140	.90	.73	36316
1000	50	20	1.87	1.75	35819	1.34	1.15	36110	1.06	.87	36246	.77	.58	36387
1200	60	20	1.64	1.46	35960	1.17	.96	36203	.93	.73	36316	.67	.48	36434
1500	25	60	1.23	1.17	29743	.88	.77	30172	.71	.58	30372	.51	.39	30580
1800	30	60	1.10	.97	29952	.79	.64	30309	.63	.48	30476	.46	.32	30650
2400	40	60	.90	.73	30212	.65	.48	30481	.52	.36	30606	.38	.24	30736
3000	50	60	.77	.58	30369	.56	.38	30584	.45	.29	30684	.33	.19	30789
3600	60	60	.68	.49	30473	.49	.32	30653	.39	.24	30736	.29	.16	30823

▲ Inch-pounds.
Overhung load (O.H.L.) for DV unit is 6044 pounds at one shaft diameter from housing, and 3791 pounds for DVX unit at the end of output shaft extension.

* Refer to page 311 for other service factors. Refer to page 312 for shaft arrangements.

VX and DVX Series

80VX
Net wt. 895 lbs.
8.0" C.D.

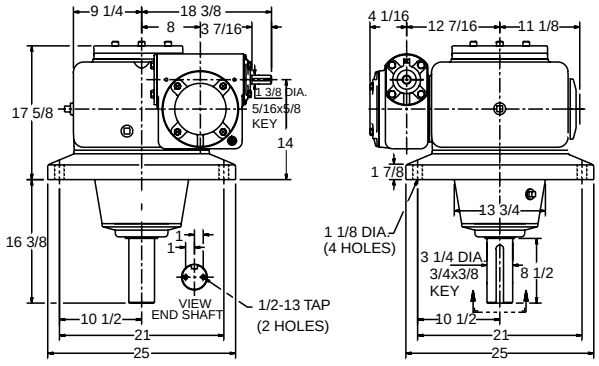




1.00 Service Factor* - Single Reduction Wormgear - Model 80VX

TORQUE and HORSEPOWER RATINGS																							
RATIO	AT 1750 RPM INPUT				AT 1150 RPM INPUT				AT 870 RPM INPUT				AT 580 RPM INPUT				AT 300 RPM INPUT				AT 100 RPM INPUT			
	Input HP	OUTPUT			Input HP	OUTPUT			Input HP	OUTPUT			Input HP	OUTPUT			Input HP	OUTPUT			Input HP	OUTPUT		
		R.P.M.	Torque	OHL		R.P.M.	Torque	OHL		R.P.M.	Torque	OHL		R.P.M.	Torque	OHL		R.P.M.	Torque	OHL		R.P.M.	Torque	OHL
5	72.45	350.0	12446	4320	61.05	230.0	15843	4320	53.64	174.0	18300	4320	44.81	116.0	22692	4320	32.97	60.0	31691	4320	14.54	20.0	40415	4320
10	47.91	175.0	16132	4320	39.95	115.0	20232	4320	35.22	87.0	23369	4320	30.03	58.0	29463	4320	21.39	30.0	39462	4320	9.21	10.0	48463	4320
15	35.33	116.6	17443	4320	29.52	76.6	21840	4320	26.11	58.0	25219	4320	22.41	38.7	31826	4320	15.99	20.0	42281	4320	6.94	6.6	51504	4320
20	27.79	87.5	17952	4320	23.21	57.5	22358	4320	20.58	43.5	25827	4320	17.78	29.0	32659	4320	12.6	15.0	42713	4320	5.46	5.0	51333	4320
25	22.90	70.0	18141	4320	19.14	46.0	22554	4320	17.11	34.8	26135	4320	14.77	23.2	32904	4320	10.45	12.0	42637	4320	4.54	4.0	50943	4320
30	19.66	58.4	18137	4320	16.61	38.4	22666	4320	14.83	29.0	26142	4320	12.93	19.3	33091	4320	9.43	10.0	43628	4320	4.25	3.3	52940	4320
40	15.16	43.7	17971	4320	12.84	28.7	22383	4320	11.53	21.8	25817	4320	10.13	14.5	32687	4320	7.39	7.5	42578	4320	3.35	2.5	51049	4320
50	12.13	35.0	17347	4320	10.32	23.0	21566	4320	9.34	17.4	24984	4320	8.23	11.6	31479	4320	6.02	6.0	40703	4320	2.75	2.0	48476	4320
60	9.87	29.2	16431	4320	8.43	19.2	20397	4320	7.65	14.5	23602	4320	6.77	9.7	29753	4320	4.94	5.0	38046	4320	2.26	1.6	45054	4320

80DVX
Net wt. 985 lbs.
8.0" C.D.





1.00 Service Factor* - Double Reduction Wormgear - Model 80DVX

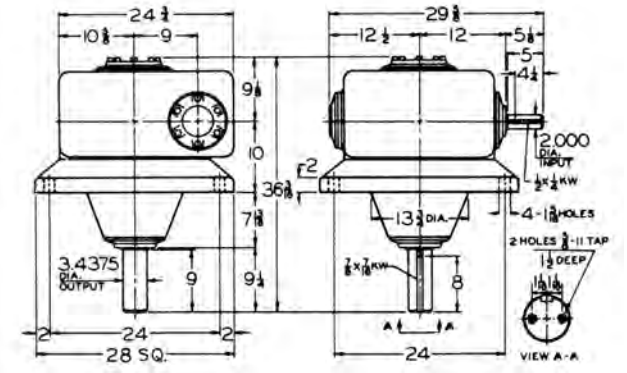
RATIO	Primary Ratio	Secondary Ratio	TORQUE and HORSEPOWER RATINGS											
			AT 1750 RPM INPUT			AT 1150 RPM INPUT			AT 870 RPM INPUT			AT 580 RPM INPUT		
			Input HP	OUTPUT		Input HP	OUTPUT		Input HP	OUTPUT		Input HP	OUTPUT	
				RPM	▲Torque		RPM	▲Torque		RPM	▲Torque		RPM	▲Torque
75	5	15	18.52	23.33	40142	14.28	15.33	45374	11.71	11.60	47943	8.54	7.73	50732
100	5	20	14.6	17.50	10722	11.23	11.50	45637	9.20	8.70	48065	6.71	5.80	50669
125	5	25	12.12	14.00	40758	9.31	9.20	45411	7.64	6.96	47781	5.58	4.64	50259
150	10	15	11.85	11.67	47895	8.55	7.67	50780	6.82	5.80	52137	4.86	3.87	53551
200	10	20	9.31	8.75	48020	6.72	5.75	50715	5.37	4.35	51982	3.84	2.90	53301
250	10	25	7.73	7.00	47738	5.59	4.60	50302	4.47	3.48	51508	3.20	2.32	52762
300	15	20	6.89	5.83	50639	4.92	3.83	52451	3.91	2.90	53301	2.77	1.93	54184
400	20	20	5.52	4.38	51959	3.92	2.88	53324	3.10	2.18	53963	2.21	1.45	54626
500	25	20	4.66	3.50	52754	3.30	2.30	53849	2.61	1.74	54361	1.87	1.16	54892
600	30	20	4.12	2.92	53286	2.92	1.92	54199	2.33	1.45	54626	1.67	0.97	55070
800	40	20	3.31	2.19	53951	2.35	1.44	54638	1.88	1.09	54959	1.35	0.73	55292
1000	50	20	2.82	1.75	54352	2.01	1.15	54902	1.61	0.87	55159	1.16	0.58	55425
1200	60	20	2.48	1.46	54619	1.77	0.96	55077	1.42	0.73	55292	1.03	0.48	55514
1500	25	60	1.96	1.17	46029	1.42	0.77	46892	1.14	0.58	47296	0.83	0.39	47715
1800	30	60	1.75	0.97	46448	1.26	0.64	47169	1.02	0.48	47506	0.74	0.32	47855
2400	40	60	1.42	0.73	46973	1.03	0.48	47515	0.84	0.36	47768	0.61	0.24	48030
3000	50	60	1.23	0.58	47289	0.89	0.38	47722	0.72	0.29	47925	0.53	0.19	48135
3600	60	60	1.09	0.49	47499	0.79	0.32	47861	0.64	0.24	48030	0.47	0.16	48205

▲ Inch-pounds.
Overhung load (O.H.L.) for DVX unit is 4320 pounds at the end of output shaft extension.

* Refer to page 311 for other service factors. Refer to page 312 for shaft arrangements.

VX and DVX Series

90VX
Net wt. 1130 lbs.
9.0" C.D.



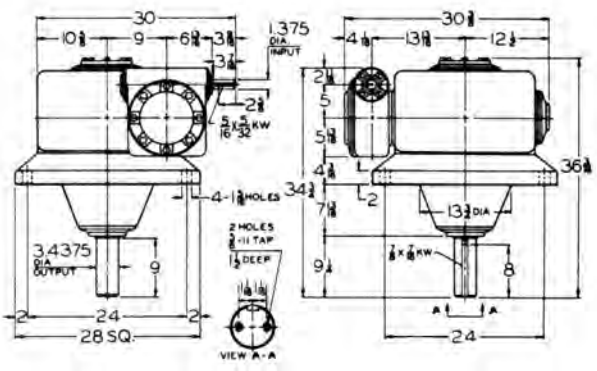


1.00 Service Factor* - Single Reduction Wormgear - Model 90VX

TORQUE and HORSEPOWER RATINGS																							
RATIO	AT 1750 RPM INPUT				AT 1150 RPM INPUT				AT 870 RPM INPUT				AT 580 RPM INPUT				AT 300 RPM INPUT				AT 100 RPM INPUT			
	Input HP	Output			Input HP	Output			Input HP	Output			Input HP	Output			Input HP	Output			Input HP	Output		
		R.P.M.	▲Torque	†O.H.L		R.P.M.	▲Torque	†O.H.L		R.P.M.	▲Torque	†O.H.L		R.P.M.	▲Torque	†O.H.L		R.P.M.	▲Torque	†O.H.L		R.P.M.	▲Torque	†O.H.L
5	93.03	350.0	16016	2136	79.30	230.0	20639	2414	69.67	174.0	23835	2605	58.04	116.0	29508	2944	43.32	60.0	41822	3672	19.69	20.0	54949	4850
10	61.84	175.0	20904	2762	51.98	115.0	26456	3132	45.78	87.0	30557	3436	38.70	58.0	38198	3893	28.24	30.0	52503	4850	12.45	10.0	66018	4850
15	45.61	116.6	22648	3211	38.36	76.6	28555	3672	33.90	58.0	32981	4003	28.89	38.7	41355	4577	21.08	20.0	56323	4850	9.36	6.6	70182	4850
20	35.80	87.5	23305	3581	30.02	57.5	29196	4065	26.60	43.5	33717	4441	22.88	29.0	42552	4850	16.48	15.0	56719	4850	7.24	5.0	69332	4850
25	29.40	70.0	23536	3860	24.64	46.0	29376	4453	21.89	34.8	33918	4828	18.93	23.2	42896	4850	13.55	12.0	56421	4850	5.94	4.0	68195	4850
30	25.30	58.4	23556	4128	21.50	38.4	29648	4726	19.17	29.0	34244	4850	16.60	19.3	43936	4850	12.35	10.0	58255	4850	5.70	3.3	72161	4850
40	19.43	43.7	23361	4563	16.51	28.7	29232	4850	14.79	21.8	33757	4850	12.94	14.5	42626	4850	9.57	7.5	56599	4850	4.40	2.5	68945	4850
50	15.46	35.0	22540	4850	13.17	23.0	28112	4850	11.84	17.4	32457	4850	10.43	11.6	41058	4850	7.71	6.0	53851	4850	3.55	2.0	64934	4850
60	12.72	29.2	21400	480	10.92	19.2	26724	4850	9.86	14.5	30058	4850	8.75	9.7	39016	4850	6.57	5.0	51424	4850	3.09	1.6	62264	4850

▲ Inch-pounds.
† O.H.L in pounds at the end of Output Shaft Extension.

90DVX
Net wt. 1255 lbs.
9.0" C.D.





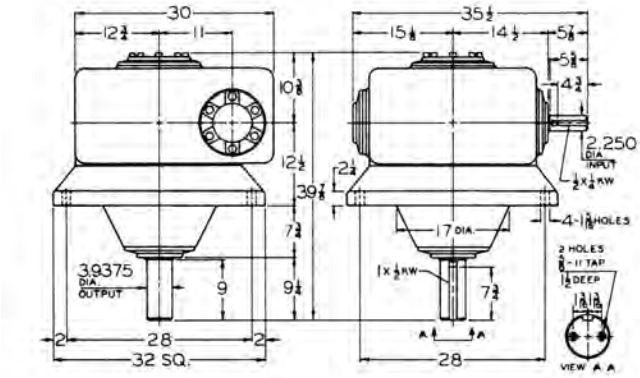
1.00 Service Factor* - Double Reduction Wormgear - Model 90DVX - 5.0" Centers Primary

TORQUE and HORSEPOWER RATINGS														
RATIO	Primary Ratio	Secondary Ratio	AT 1750 RPM INPUT			AT 1150 RPM INPUT			AT 870 RPM INPUT			AT 580 RPM INPUT		
			Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output	
				R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque
75	5	15	24.32	23.33	53180	18.99	15.33	60965	15.65	11.60	64781	11.52	7.73	69007
100	5	20	19.04	17.50	53790	14.77	11.50	60941	12.15	8.70	64450	8.90	5.80	68271
125	5	25	15.66	14.00	53671	12.13	9.50	60366	9.97	6.96	63660	7.30	4.64	67210
150	10	15	15.84	11.67	64709	11.51	7.67	69081	9.21	5.80	71139	6.58	3.87	73284
200	10	20	12.30	8.75	64384	8.91	5.75	68337	7.12	4.35	70197	5.09	2.90	72134
250	10	25	10.09	7.00	63599	7.31	4.60	67271	5.85	3.48	68998	4.19	2.32	70797
300	15	20	9.14	5.83	68226	6.54	3.83	70886	5.19	2.90	72134	3.70	1.93	73431
400	20	20	7.33	4.38	70164	5.20	2.88	72168	4.13	2.18	73107	2.94	1.45	74082
500	25	20	6.19	3.50	71331	4.39	2.30	72939	3.48	1.74	73691	2.48	1.16	74472
600	30	20	5.46	2.92	72112	3.87	1.92	73454	3.09	1.45	74082	2.21	.97	74733
800	40	20	4.70	2.19	73090	3.13	1.44	74098	2.49	1.09	74570	1.79	.73	75059
1000	50	20	3.75	1.75	73678	2.68	1.15	74486	2.15	.87	74864	1.55	.58	75255
1200	60	20	3.30	1.46	74070	2.36	.96	74744	1.89	.73	75059	4.37	.48	75386
1500	25	60	2.70	1.17	63974	1.96	.77	65349	1.57	.58	65992	1.15	.39	66660
1800	30	60	2.41	.97	64642	1.75	.64	65789	1.41	.48	66326	1.03	.32	66883
2400	40	60	1.97	.73	65478	1.43	.48	66341	1.16	.36	66744	.85	.24	67162
3000	50	60	1.70	.58	65981	1.24	.38	66672	1.01	.29	66995	.74	.19	67329
3600	60	60	1.51	.49	66316	1.10	.32	66893	.89	.24	67162	.66	.16	67441

▲ Inch-pounds.
Overhung load (O.H.L.) for DVX unit is 4850 pounds at the end of output shaft extension.
* Refer to page 311 for other service factors. Refer to page 312 for shaft arrangements.

VX and DVX Series

110VX
Net wt. 1900 lbs.
11.0" C.D.



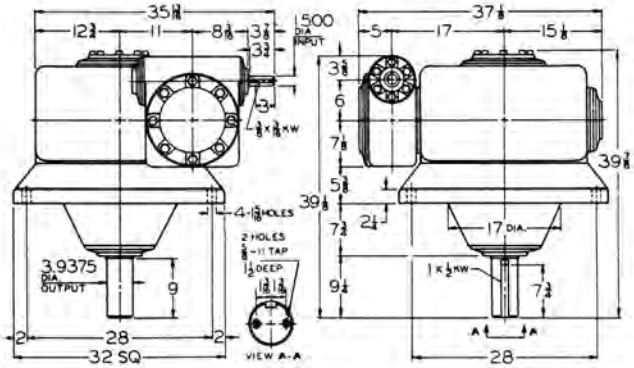


1.00 Service Factor* - Single Reduction Wormgear - Model 110VX

TORQUE and HORSEPOWER RATINGS																					
RATIO	AT 1750 RPM INPUT				AT 1150 RPM INPUT				AT 870 RPM INPUT				AT 580 RPM INPUT				AT 300 RPM INPUT				AT 100 RPM INPUT			
	Input HP	Output			Input HP	Output			Input HP	Output			Input HP	Output			Input HP	Output			Input HP	Output		
		R.P.M.	▲Torque	†O.H.L		R.P.M.	▲Torque	†O.H.L		R.P.M.	▲Torque	†O.H.L		R.P.M.	▲Torque	†O.H.L		R.P.M.	▲Torque	†O.H.L		R.P.M.	▲Torque	†O.H.L
10	95.13	175.0	32216	4450	81.86	115.0	41809	5054	72.52	87.0	48559	5555	60.40	58.0	59856	6304	45.98	30.0	85832	7913	21.88	10.0	116029	8500
15	70.03	116.60	34832	5153	60.34	76.6	45095	5900	53.52	58.0	5226	6442	44.80	38.7	64419	7372	34.37	20.0	92190	8500	16.50	6.6	123414	8500
20	5.25	87.5	36005	5733	47.56	57.5	46401	6513	42.13	43.5	53588	7123	35.58	29.0	66349	8158	27.24	15.0	94037	8500	13.00	5.0	123584	8500
25	45.45	70.0	36600	6175	38.77	46.0	46583	7130	34.37	34.8	53795	7740	29.19	23.2	66763	8500	22.09	12.0	93189	8500	10.27	4.0	118829	8500
30	38.77	58.4	36197	6598	33.71	38.4	46793	7558	30.13	29.0	54167	8276	25.59	19.3	66756	8500	20.12	10.0	95401	8500	10.07	3.3	126937	8500
40	29.94	43.7	36058	7283	26.10	28.7	46413	8347	23.35	21.8	53568	8500	20.05	14.5	66267	8500	15.81	7.5	93880	8500	7.94	2.5	122913	8500
50	23.80	35.0	35051	7897	20.59	23.0	44559	8500	18.46	17.4	51459	8500	16.00	11.6	63941	8500	12.47	6.0	89005	8500	6.10	2.0	113171	8500
60	19.58	29.2	33104	8414	17.13	19.2	42412	8500	15.44	14.5	48970	8500	13.43	9.7	60595	8500	10.73	5.0	85247	8500	5.44	1.6	109783	8500

▲ Inch-pounds.
O.H.L in pounds at the end of Output Shaft Extension.

110DVX
Net wt. 2100 lbs.
11.0" C.D.





1.00 Service Factor* - Double Reduction Wormgear - Model 110DVX
6.0" Centers Primary - 11.0" Centers Secondary

TORQUE and HORSEPOWER RATINGS														
RATIO	Primary Ratio	Secondary Ratio	AT 1750 RPM INPUT			AT 1150 RPM INPUT			AT 870 RPM INPUT			AT 580 RPM INPUT		
			Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output	
				R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque
75	5	15	38.15	23.33	84103	31.40	15.33	101920	26.61	11.60	111128	20.02	7.73	120658
100	5	20	30.86	17.50	87696	24.95	11.50	103773	20.99	8.70	112015	15.78	5.80	121006
125	5	25	25.19	14.00	87512	20.08	9.50	101737	16.77	6.96	108849	12.52	4.64	116632
150	10	15	25.10	11.67	103641	20.06	7.67	120830	16.16	5.80	125564	11.66	3.87	130709
200	10	20	21.21	8.75	111865	15.81	5.75	121167	12.73	4.35	125686	9.21	2.90	130400
250	10	25	1695	7.00	108720	12.54	4.60	116769	10.07	3.48	120622	7.26	2.32	124638
300	15	20	16.17	5.83	120898	11.71	3.83	127362	9.36	2.90	130400	6.73	1.93	133562
400	20	20	13.08	4.38	125605	9.40	2.88	130482	7.49	2.18	132770	5.37	1.45	135149
500	25	20	11.02	3.50	128446	7.88	2.30	132361	6.28	1.74	134196	4.47	1.16	136103
600	30	20	9.83	2.92	130347	7.05	1.92	133617	5.62	1.45	135149	4.04	.97	136740
800	40	20	7.95	2.19	132729	5.70	1.44	135190	4.54	1.09	136341	3.28	.73	137536
1000	50	20	6.23	1.75	124514	4.79	1.15	136136	3.83	.87	137058	2.77	.58	138014
1200	60	20	5.12	1.46	116738	4.25	.96	136766	3.41	.73	137536	2.47	.48	138333
1500	25	60	4.72	1.17	113770	3.45	.77	116980	2.79	.58	118484	2.03	.39	120046
1800	30	60	4.25	.97	115329	3.12	.64	118009	2.51	.48	119264	1.85	.32	120568
2400	40	60	3.50	.73	117282	2.55	.48	119298	2.07	.36	120241	1.53	.24	121220
3000	50	60	2.98	.58	118457	2.18	.38	120073	1.77	.29	120828	1.30	.19	12612
3600	60	60	2.65	.49	119241	1.95	.32	120589	1.59	.24	121220	1.16	.16	121873

▲ Inch-pounds.
Overhung load (O.H.L.) for DVX unit is 8500 pounds at the end of Output Shaft Extension.
* Refer to page 311 for other service factors. Refer to page 312 for shaft arrangements.


4/5 BU.
4/5 BU.
4/5 BU.



POWERGEAR®
G Series

The GC models are C-face reducers. The GCT style has a horizontal shaft. The GCV style has a vertical output shaft. The GCBD is double reduction “B” style unit and the GCDV is a double reduction “V” style unit. The C-face reducers are offered in eight sizes for use with motors from 1/6 hp through 15 hp. The design permits attaching standard NEMA “C” flange, end mounted, motors of any brand.



- NEMA “C” input reducers available in a variety of models:
  - GCT - Foot mounted with double shaft output.
  - GSA - Hollow output, shaft mounted.
  - GSF - Hollow output, flange mounted.
  - GCV - Vertical shaft output, flange mounted.
- Center distance range: 1.33” through 6.00”.

for PoweRgear G Series

1. Determine Service Factor
From service factor tables on pages 332 and 338 determine service factor for the application.

2. Determine the Overall Drive Ratio

$$\text{Overall Drive Ratio} = \frac{\text{rpm of driver}}{\text{rpm of driven}}$$

When over-all drive ratio is not one of the stock speed reducer ratios shown in tables on page 342 through 379, a chain, belt, or gear drive with further reduction for either the input or output side will be necessary.

3. Determine Equivalent Horsepower or Normal Torque

A. HP Method:

Equivalent hp = Actual Motor hp × Service Factor (Step # 1)

B. Torque Method:

Normal Torque = Actual Torque × Service Factor (Step # 1)

4. Determine the Size of Speed Reducer Required

A. HP Method:

Refer to pages 342 through 379 and select a speed reducer having a mechanical input horsepower equal to or slightly greater than the equivalent hp calculated in Step No. 3 above.

B. Torque Method:

Refer to pages 342 through 379 and select a speed reducer having a mechanical output torque rating equal to or slightly greater than the normal torque calculated in Step No. 3 above. If the required input and output speeds are not listed in these tables, the ratings can be determined by straight line interpolation. When the input speed is less than 100 rpm, ratings for 100 rpm must be used.

5. Determine the Motor Horsepower

Use the following equation when motor hp is not known:

$$\text{Motor Horsepower} = \frac{\text{Actual Torque} \times \text{Input hp}}{\text{Output Torque}}$$

6. Check the Overhung Load
Calculate the overhung load for drives to be mounted directly on the reducer shafts by following instructions on page 331. Check this and any existing thrust loads against the load values shown on pages 342 through 379, and if the calculated load is greater than the values in the table, select a larger speed reducer.

Note: Refer combined overhung and thrust loads to the Application Engineering (1 800 626 2093) Department.

Example No. 1 - Horsepower Method

Select a worm gear speed reducer for a dough mixer in a bakery. The speed reducer will be driven by a 1.0 hp, 1750 rpm motor, directly coupled to the reducer input speed. The reducer output shaft will be directly coupled to the mixer shaft. The mixer will operate 8 - 10 hours daily and the shaft speed is 58 rpm. The reducer also requires a horizontal mounting base.

1. Determine the Service Factor
From the table on page 333, note that the service factor for a dough mixer (Food Industry) operating 3 - 10 hours per day is 1.25.

2. Determine Overall Drive Ratio

$$\text{Overall Drive Ratio} = \frac{\text{rpm of Driver}}{\text{rpm of Driven}} = \frac{1750}{58} = 30.17$$

Since there is not an auxiliary input or output drive required, the reducer ratio needed is 30:1.

3. Determine Equivalent Horsepower

$$\text{Equivalent hp} = \text{Actual Motor hp} \times \text{S F} = 1.0 \times 1.25 = 1.25 \text{ hp}$$

4. Determine the Size of Speed Reducer Required
From page 352 under “1750 rpm Driver -30:1 Ratio - 175 rpm Output” and under “Input hp Mechanical” find the rating equal to or greater than the 1.25 equivalent hp calculated in Step No. 3. Note that a 25 reducer has mechanical rating of 1.37 hp. The correct part numbers required are:

Reducer: **25GCT30-L, Position 1**

5. Determine the Motor Horsepower
The motor horsepower is already known to be 1.0 hp.

6. Check Overhung Load
The unit will be coupling connected on the output shaft. Overhung load does not need to be calculated. There is not any thrust on the output shaft. There is neither thrust nor overhung load on the input shaft because it is directly coupled with a motor. Therefore, the reducer selected is the proper size.

Example No. 2 - Torque Method

Select a worm gear speed reducer for a belt conveyor (general purpose), not uniformly fed. The speed reducer will be driven by a 1750 rpm electric motor directly connected by a coupling, with a 1.23:1 ratio chain drive from the reducer to the head shaft of the conveyor. The pitch diameter of the driver sprocket mounted on the reducer output shaft is 5.032 inches. The conveyor will operate 10 hours per day, and the head shaft speed is 140 rpm. The reducer will also require a horizontal mounting base. Conveyor calculations indicate that 1710 inch pounds of torque is needed at the conveyor head shaft.

1. Determine the Service Factor

From the table on page 332, note that the service factor for a belt conveyor (general purpose) operating 3 - 10 hours per day is 1.25.

2. Determine the Overall Drive Ratio

$$\text{Overall Drive Ratio} = \frac{\text{rpm of Driver}}{\text{rpm of Driven}} = \frac{1750}{140} = 12.5 : 1$$

$$\text{Speed Reducer Ratio} = \frac{\text{Overall Drive Ratio}}{\text{Chain Drive Ratio}} = \frac{12.5}{1.23} = 10.16 : 1$$

3. Determine the Normal Torque

The normal torque required for reducer selection is the actual torque required at the reducer output shaft. Therefore, we must convert the 1710 inch pounds of actual torque at the conveyor head shaft to the actual required torque at the reducer output shaft, and then multiply by the service factor.

Actual Torque at Reducer Output Shaft =

$$\frac{\text{Actual Torque At Conveyor Head Shaft}}{\text{Chain Drive Ratio}} = \frac{1710}{1.23} = 1{,}390 \text{ In/lbs.}$$

Normal Torque =

Actual Reducer Output Torque × S F =

1,390 × 1.25 = 1738 in/lbs.

4. Determine Size of Speed Reducer Required

From page 356 under “1750 rpm Driver - 10 to 1 ratio - 175 rpm Driven” and under “Mechanical Output Torque” find the rating equal to or greater than the 1738 inch-pounds normal torque calculated in step no. 3. Note that a 3.0 inch center distance reducer has a mechanical rating of 1975 inch-pounds.

The correct part number required is:

Reducer: **30GCT 10-LR, Position 1**

5. Determine the Motor Horsepower

$$\text{Motor Horsepower} = \frac{\text{Actual Torque X Input hp}}{\text{Output Torque}}$$

$$= \frac{1{,}390 \times 5.25}{1743}$$

$$= 4.19$$

Use a 5 horsepower motor.

6. Check Overhung

$$\text{OL (See below)} = \frac{2 \times T \times K}{\text{P.D. of Sprocket}}$$

$$= \frac{2 \times 1390 \times 1.0}{5.032}$$

$$= 552.50 \text{ Pounds}$$

From rating table on page 356, note the maximum overhung load for the output shaft of the 30GCT reducer is 1403 lbs., which is greater than the calculated load on shaft of 553 lbs. There is no thrust on the output shaft. There is neither thrust or overhung load on the input shaft because it is direct couple connected. The reducer selection size is ample.

Overhung Loads

When a speed reducer is driven by any belt, chain or gear drive, or when the speed reducer drives a driven unit through a belt, chain or gear drive, overhung loads must not exceed those shown on pages 342 through 379. Use the following formula to calculate the overhung loads:

$$OL = \frac{2TK}{D}$$

where
- OL = Overhung Load
- T = Actual Shaft Torque (inch-pounds)
- D = P. D. of Sprocket, Sheave, Pulley or Gear
- K = 1.0 for Chain Drive
- = 1.25 for Gear Drive
- = 1.25 for Gearbelt Drive
- = 1.50 for V-Belt Drive
- = 2.50 for Flat Belt Drive

No overhung loads are encountered when the speed reducer is coupling connected to the driver and/or driven machine. However, care should be taken in aligning the shafts to avoid pre-loading bearings in misalignment.

Selection Tables

Motor Selection Table

Rating tables on the following pages for all "GC" type worm gearmotor reducers indicate the maximum C-Flange motor frame size which may be accommodated. Available from stock are gearmotor reducers having flange details and input shaft bore diameters and coupling capable of accepting a wide selection of other NEMA C-Flange motor frame sizes.

In the motor selection table below are listed these NEMA motor frame sizes which may be accommodated with specific "GC" reducer models. Reducer models are indicated by center distance (C.D.) dimension and ratio. For double reduction gearmotor reducers, use center distance and ratio of the primary reduction only. When the motor is not being supplied with the reducer as a complete unit, the NEMA frame size of the selected motor must be specified.

Center Distance

Ratio	1.33"	1.75"	2.0"		2.5"		3"			3.5"		
	Flange Din. = 4 1/2" Shaft Diam. = 5/8"	Flange Din. = 4 1/2" Shaft Diam. = 5/8"	Flange Din. = 4 1/2" Shaft Diam. = 5/8"	Flange Din. = 4 1/2" Shaft Diam. = 7/8"	Flange Din. = 4 1/2" Shaft Diam. = 5/8"	Flange Din. = 4 1/2" Shaft Diam. = 7/8"	Flange Din. = 4 1/2" Shaft Diam. = 5/8"	Flange Din. = 4 1/2" Shaft Diam. = 7/8"	Flange Din. = 8 1/2" Shaft Diam. = 1 1/8"	Flange Din. = 4 1/2" Shaft Diam. = 5/8"	Flange Din. = 4 1/2" Shaft Diam. = 7/8"	Flange Din. = 8 1/2 Shaft Diam. = 1 1/8"
5	56C	56C	56C	143TC/145TC	56C	143TC/145TC	N/A	N/A	182TC/184TC	N/A	N/A	182TC/184TC
71/2	56C	56C	56C	143TC/145TC	56C	143TC/145TC	N/A	N/A	182TC/184TC	N/A	N/A	182TC/184TC
10	56C	56C	56C	143TC/145TC	56C	143TC/145TC	N/A	N/A	182TC/184TC	N/A	N/A	182TC/184TC
15	56C	56C	56C	143TC/1 45TC	56C	143TC/145TC	56C	143TC/145TC	182TC/184TC	N/A	N/A	182TC/184TC
20	56C	56C	56C	143TC/145TC	56C	143TC/145TC	56C	143TC/145TC	182TC/184TC	N/A	N/A	182TC/184TC
25	56C	56C	56C	N/A	56C	143TC/145TC	56C	143TC/145TC	182TC/184TC	N/A	N/A	182TC/184TC
30	56C	56C	56C	N/A	56C	143TC/145TC	56C	143TC/145TC	182TC/184TC	56C	143TC/145TC	182TC/184TC
40	48YC	56C	56C	N/A	56C	143TC/145TC	56C	143TC/145TC	182TC/184TC	56C	143TC/145TC	182TC/184TC
50	48YC	56C	56C	N/A	56C	N/A	56C	143TC/145TC	N/A	56C	143TC/145TC	182TC/184TC
60	48YC	56C	56C	N/A	56C	N/A	56C	143TC/145TC	N/A	56C	143TC/145TC	182TC/184TC

Ratio	4.0"			5.0"			6.0"			
	Flange Din.=4 1/2" Shaft Diam. = 7/8"	Flange Din.=81/2" Shaft Diam. = 1 1/8"	Flange Din.=8 1/2" Shaft Diam. = 1 3/8"	Flange Din.=8 1/2" Shaft Diam. = 1 1/8"	Flange Din.=8 1/2" Shaft Diam. = 1 3/8"	Flange Din.=8 1/2" Shaft Diam. = 1 5/8"	Flange Din.= 8 1/2" Shaft Diam. = 1 1/8"	Flange Din.=8 1/2" Shaft Diam. = 1 3/8"	Flange Din.=8 1/2" Shaft Diam. = 1 5/8"	Flange Din.=8 1/2" Shaft Diam. = 1 7/8"
5	*	*	213TC/215TC	*	*	254TC/256TC	*	*	*	284TC/286TC
71/2	*	182TC/184TC	213TC/215TC	*	213TC/215TC	254TC/256TC	*	*	254TC/250TC	284TC/286TC
10	*	182TC/184TC	213TC/215TC	*	213TC/215TC	254TC/256TC	*	*	254TC/250TC	284TC/286TC
15	*	182TC/184TC	213TC/215TC	*	213TC/215TC	*	*	213TC/215TC	*	*
20	*	182TC/184TC	*	*	213TC/215TC	*	*	213TC/215TC	*	*
25	*	182TC/184TC	*	182TC/184TC	213TC/215TC	*	*	213TC/215TC	*	*
30	*	182TC/184TC	*	182TC/184TC		*	*	213TC/215TC	*	*
40	143TC/145TC	182TC/184TC	*	182TC/184TC	*	*	182TC/184TC	213TC/215TC	*	*
50	143TC/145TC	*	*	182TC/184TC	*	*	182TC/184TC	*	*	*
60	143TC/145TC	*	*	182TC/184TC	*	*	182TC/184TC	*	*	*

* Consult factory.

Service Factors for Enclosed Worm Gear Applications

(Service factors shown apply only if electric or hydraulic motors are used. For single or multi-cylinder engines, see Conversion table on next page for conversion.)

APPLICATION	Up to 3 Hrs. Day	3-10 Hrs. Day	Over 10 Hrs. Day
AGITATORS (Mixers)			
Pure Liquids	–	1.00	1.25
Liquids and Solids	1.00	1.25	1.50
Liquids-Variable Density	1.00	1.25	1.50
BLOWERS			
Centrifugal	1.00	1.25	–
Lobe	1.00	1.25	1.50
Vane	–	1.00	1.25
BREWING AND DISTILLING			
Bottling Machinery	–	1.00	1.25
Brew Kettles, Continuous Duty	–	1.00	1.25
Cookers, Continuous Duty	–	1.00	1.25
Mash Tubs, Continuous Duty	–	1.00	1.25
Scale Hopper, Frequent Starts	1.00	1.25	1.50
CAN FILLING MACHINES	–	1.00	1.25
CAR DUMPERS	1.25	1.50	1.75
CAR PULLERS	1.00	1.25	1.50
CLARIFIERS	–	1.00	1.25
CLASSIFIERS	1.00	1.25	1.50
CLAY WORKING MACHINERY			
Brick Press	1.25	1.50	1.75
Briquette Machine	1.25	1.50	1.75
Pug Mill	1.00	1.25	1.50
COMPACTORS	1.50	1.75	2.00
COMPRESSORS			
Centrifugal	–	1.00	1.25
Lobe	1.00	1.25	1.50
Reciprocating, Multi-Cylinder	1.00	1.25	1.50
Reciprocating, Single-Cylinder	1.25	1.50	1.75
CONVEYORS - GENERAL PURPOSE			
Uniformly Loaded or Fed	–	1.00	1.25
Not Uniformly Fed	1.00	1.25	1.50
Reciprocating or Shaker	1.25	1.50	1.75
CRANES			
Dry Dock			
Main Hoist	1.25	1.50	1.75
Auxiliary	1.25	1.50	1.75
Boom Hoist	1.25	1.50	1.75
Slewing Drive	1.25	1.50	1.75
Traction Drive	1.50	1.50	1.50
Container			
Main Hoist	Refer to Application Engr.		
Boom Hoist	Refer to Application Engr.		
Trolley Drive (Gantry Drive) (Traction Drive)	Refer to Application Engr.		
Mill Duty			
Main Hoist	Refer to Application Engr.		
Auxiliary	Refer to Application Engr.		
Bridge and Trolley Travel	Refer to Application Engr.		
Industrial Duty			
Main	1.00	1.25	1.50
Auxiliary	Refer to Application Engr.		
Bridge and Trolley Travel	Refer to Application Engr.		
CRUSHER			
Stone or Ore	1.50	1.75	2.00
DREDGES			
Cable Reels	1.00	1.25	1.50
Conveyors	1.00	1.25	1.50
Cutter Head Drives	1.25	1.50	1.75
Pumps	1.00	1.25	1.50
Screen Drives	1.25	1.50	1.75
Stackers	1.00	1.25	1.50
Winches	1.00	1.25	1.50
ELEVATORS			
Bucket	1.00	1.25	1.50
Centrifugal Discharge	–	1.00	1.25
Escalators	Refer to Application Engr.		
Freight	Refer to Application Engr.		
Gravity Discharge	–	1.00	1.25
EXTRUDERS			
General	1.25	1.25	1.25
Plastics			
(a) Variable Speed Drive	1.50	1.50	1.50
(b) Fixed Speed Drive	1.75	1.75	1.75
Rubber			
(a) Continuous Screw Operation	1.50	1.50	1.50
(b) Intermittent Screw Operation	1.75	1.75	1.75

APPLICATION	Up to 3 Hrs. Day	3-10 Hrs. Day	Over 10 Hrs. Day
FANS			
Centrifugal	–	1.00	1.25
Cooling Towers	Refer to Application Engr.		
Forced Draft	1.25	1.25	1.25
Induced Draft	1.00	1.25	1.50
Industrial & Mine	1.00	1.25	1.50
FEEDERS			
Apron	–	1.25	1.50
Belt	1.00	1.25	1.50
Disc	–	1.00	1.25
Reciprocating	1.25	1.50	1.75
Screw	1.00	1.25	1.50
FOOD INDUSTRY			
Cereal Cooker	–	1.00	1.25
Dough Mixer	1.00	1.25	1.50
Meat Grinders	1.00	1.25	1.50
Slicers	1.00	1.25	1.50
GENERATORS AND EXCITERS	–	1.00	1.25
HAMMER MILLS	1.50	1.50	1.75
HOISTS			
Heavy Duty	1.25	1.50	1.75
Medium Duty	1.00	1.25	1.50
Skip Hoist	1.00	1.25	1.50
LAUNDRY TUMBLERS	1.00	1.25	1.50
LAUNDRY WASHERS	1.25	1.25	1.50
LUMBER INDUSTRY			
Barkers			
-Spindle Feed	1.25	1.25	1.25
- Main Drive	1.50	1.50	1.50
Conveyors			
- Burner	1.25	1.25	1.50
- Main or Heavy Duty	1.50	1.50	1.50
- Main Log	1.50	1.50	1.50
- Re-saw, Merry-Go-Round	1.25	1.25	1.50
- Slab	1.50	1.50	1.75
- Transfer	1.25	1.25	1.50
Chains			
- Floor	1.50	1.50	1.50
- Green	1.50	1.50	1.50
Cut-Off Saws			
- Chain	1.50	1.50	1.50
- Drag	1.50	1.50	1.50
Debarking Drums	1.50	1.50	1.75
Feeds			
- Edger	1.25	1.25	1.50
- Gang	1.50	1.50	1.50
- Trimmer	1.25	1.25	1.50
Log Deck	1.50	1.50	1.50
Log Hauls-Incline-Well Type	1.50	1.50	1.50
Log Turning Devices	1.50	1.50	1.50
Planer Feed	1.25	1.25	1.50
Planer Tilting Hoists	1.50	1.50	1.50
Rolls-Live-off Brg.-Roll Cases	1.50	1.50	1.50
Sorting Table	1.25	1.25	1.50
Tipple Hoist	1.25	1.25	1.50
Transfers			
- Chain	1.50	1.50	1.50
- Causeway	1.50	1.50	1.50
Tray Drives	1.25	1.25	1.50
Veneer Lathe Drives	Refer to Application Engr.		
METAL MILLS			
Draw Bench Carriage and Main Drive	1.00	1.25	1.50
Runout Table			
Non-reversing			
Group Drives	1.00	1.25	1.50
Individual Drives	1.50	1.50	1.75
Reversing	1.50	1.50	1.75
Slab Pushers	1.25	1.25	1.50
Shears	1.50	1.50	1.75
Wire Drawing	1.00	1.25	1.50
Wire Winding Machine	1.00	1.25	1.50
METAL STRIP PROCESSING MACHINERY			
Bridles	1.25	1.25	1.50
Coilers & Uncoilers	1.00	1.00	1.25
Edge Trimmers	1.00	1.25	1.50
Flatteners	1.00	1.25	1.50
Loopers(Accumulators)	1.00	1.00	1.00
Pinch Rolls	1.00	1.25	1.50
Scrap Choppers	1.00	1.25	1.50
Shears	1.50	1.50	1.75
Slitters	1.00	1.25	1.50

Service Factors for Enclosed Worm Gear Applications

APPLICATION	Up to 3 Hrs. Day	3-10 Hrs. Day	Over 10 Hrs. Day
MILLS, ROTARY TYPE			
Ball & Rod			
Spur Ring Gear	1.50	1.50	1.75
Helical Ring Gear	1.50	1.50	1.50
Direct Connected	1.50	1.50	1.75
Cement Kilns	1.50	1.50	1.50
Dryers & Coolers	1.50	1.50	1.50
MIXERS, CONCRETE	1.00	1.25	1.50
PAPER MILLS			
Agitator(Mixer)	1.50	1.50	1.50
Agitator for Pure Liquids	1.25	1.25	1.25
Barking Drums	1.75	1.75	1.75
Barkers - Mechanical	1.75	1.75	1.75
Beater	1.50	1.50	1.50
Breaker Stack	1.25	1.25	1.25
❖ Calender	1.25	1.25	1.25
Chipper	1.75	1.75	1.75
Chip Feeder	1.50	1.50	1.50
Coating Rolls	1.25	1.25	1.25
Conveyors			
Chip, Bark, Chemical	1.25	1.25	1.25
Log(Including Slab)	1.75	1.75	1.75
Couch Rolls	1.25	1.25	1.25
Cutter	1.75	1.75	1.75
Cylinder Molds	1.25	1.25	1.25
❖ Dryers			
Paper Machine	1.25	1.25	1.25
Conveyor Type	1.25	1.25	1.25
Embosser	1.25	1.25	1.25
Extruder	1.50	1.50	1.50
Fourdrinier Rolls (Includes Lump Breaker, Dandy Roll, Wire Turning, and Return Rolls)	1.25	1.25	1.25
Jordan	1.25	1.25	1.25
Kiln Drive	1.50	1.50	1.50
Mt. Hope Roll	1.25	1.25	1.25
Paper Rolls	1.25	1.25	1.25
Platter	1.50	1.50	1.50
Presses- Felt & Suction	1.25	1.25	1.25
Pulper	1.50	1.50	1.75
Pumps- Vacuum	1.50	1.50	1.50
Reel (Surface Type)	1.25	1.25	1.50
Screens			
Chip	1.50	1.50	1.50
Rotary	1.50	1.50	1.50
Vibrating	1.75	1.75	1.75
Size Press	1.25	1.25	1.25
Super Calender (See Note)	1.25	1.25	1.25
Thickener			
(AC Motor)	1.50	1.50	1.50
(DC Motor)	1.25	1.25	1.25
Washer			
(AC Motor)	1.50	1.50	1.50
(DC Motor)	1.25	1.25	1.25
Wind and Unwind Stand	1.00	1.00	1.00
Winders (Surface Type)	1.25	1.25	1.25
❖ Yankee Dryers	1.25	1.25	1.25
PLASTICS INDUSTRY - PRIMARY PROCESSING			
Intensive Internal Mixers			
(a) Batch Mixers	1.75	1.75	1.75
(b) Continuous Mixers	1.50	1.50	1.50
Batch Drop Mill - 2 Smooth Rolls	1.25	1.25	1.25
Continuous Feed, Holding & Blend Mill	1.25	1.25	1.25
Compounding Mills	1.25	1.25	1.25
Calenders	1.50	1.50	1.50
PLASTICS INDUSTRY - SECONDARY PROCESSING			
Blow Molders	1.50	1.50	1.50
Coating	1.25	1.25	1.25
Film	1.25	1.25	1.25
Pipe	1.25	1.25	1.25
Pre-Plasticizers	1.50	1.50	1.50
Rods	1.25	1.25	1.25
Sheet	1.25	1.25	1.25
Tubing	1.25	1.25	1.50
PULLERS - BARGE HAUL	1.00	1.50	1.75
PUMPS			
Centrifugal	–	1.00	1.25
Proportioning	1.00	1.25	1.50
Reciprocating			
Single Acting, 3 or More Cylinders	1.00	1.25	1.50
Double Acting, 2 or More Cylinders	1.00	1.25	1.50
Rotary			
- Gear Type	–	1.00	1.50
- Lobe	–	1.00	1.25
- Vane	–	1.00	1.25
RUBBER INDUSTRY			
Intensive Internal Mixers			
(a) Batch Mixers	1.50	1.75	1.75
(b) Continuous Mixers	1.25	1.50	1.50
Mixing Mill - 2 Smooth Rolls - (If corrugated rolls are used, then use the same service factors that are used for a Cracker-Warmer)	1.50	1.50	1.50
Batch Drop Mill - 2 Smooth Rolls	1.50	1.50	1.50
Cracker Warmer - 2 Roll: 1 Corrugated Roll	1.75	1.75	1.75

APPLICATION	Up to 3 Hrs. Day	3-10 Hrs. Day	Over 10 Hrs. Day
RUBBER INDUSTRY (Cont'd.)			
Cracker - 2 Corrugated Rolls	1.75	1.75	1.75
Holding, Feed & Blend Mill - 2 Rolls	1.25	1.25	1.25
Refiner - 2 Rolls	1.50	1.50	1.50
Calenders	1.50	1.50	1.50
SAND MILLER	1.00	1.25	1.50
SEWAGE DISPOSAL EQUIPMENT			
Bar Screens	–	1.00	1.25
Chemical Feeders	–	1.00	1.25
Dewatering Screens	1.00	1.25	1.50
Scum Breakers	1.00	1.25	1.50
Slow Or Rapid Mixers	1.00	1.25	1.50
Sludge Collectors	1.00	1.00	1.25
Thickener	1.00	1.25	1.50
Vacuum Filters	1.00	1.25	1.50
SCREENS			
Air Washing	–	1.00	1.25
Rotary - Stone Or Gravel	1.00	1.25	1.50
Traveling Water Intake	–	1.00	1.25
SUGAR INDUSTRY			
Beet Slicer	1.50	1.50	1.75
Cane Knives	1.50	1.50	1.50
Crushers	1.50	1.50	1.50
Mills (Low Speed End)	1.50	1.50	1.50
TEXTILE INDUSTRY			
Batchers	1.00	1.25	1.50
Calenders	1.00	1.25	1.50
Cards	1.00	1.25	1.50
Dry Cans	1.00	1.25	1.50
Dryers	1.00	1.25	1.50
Dyeing Machinery	1.00	1.25	1.50
Looms	1.00	1.25	1.50
Mangles	1.00	1.25	1.50
Nappers	1.00	1.25	1.50
Pads	1.00	1.25	1.50
Slashers	1.00	1.25	1.50
Soapers	1.00	1.25	1.50
Spinners	1.00	1.25	1.50
Tenter Frames	1.00	1.25	1.50
Washers	1.00	1.25	1.50
Winders	1.00	1.25	1.50

❖ Anti-Friction Bearings Only.

Note: A Service Factor of 1.0 may be applied at the base of a super calender, operating over a speed range where part of the range is constant horsepower and part of the range is constant torque, provided that the constant horsepower part is greater than 1.5 to 1. A service factor of 1.25 is applicable to super calenders operating over the entire speed range at constant torque, or where the constant horsepower speed range is less than 1.5 to 1.

Service Factors for Electric and Hydraulic Motors

(For Service Factors For Single Or Multi-Cylinder Engines, Consult Conversion Table below)

Duration of Service (Hours Per Day)	Uniform Load	Moderate Shock	Heavy Shock	Extreme Shock
Occasional 1/2 Hour	–	–	1.0	1.25
Less Than 3 Hours	1.0	1.0	1.25	1.50
3 - 10 Hours	1.0	1.25	1.50	1.75
Over 10 Hours	1.25	1.50	1.75	2.00

Conversion Table for Single or Multi-Cylinder Engines to find Equivalent Single or Multi-Cylinder Service Factors

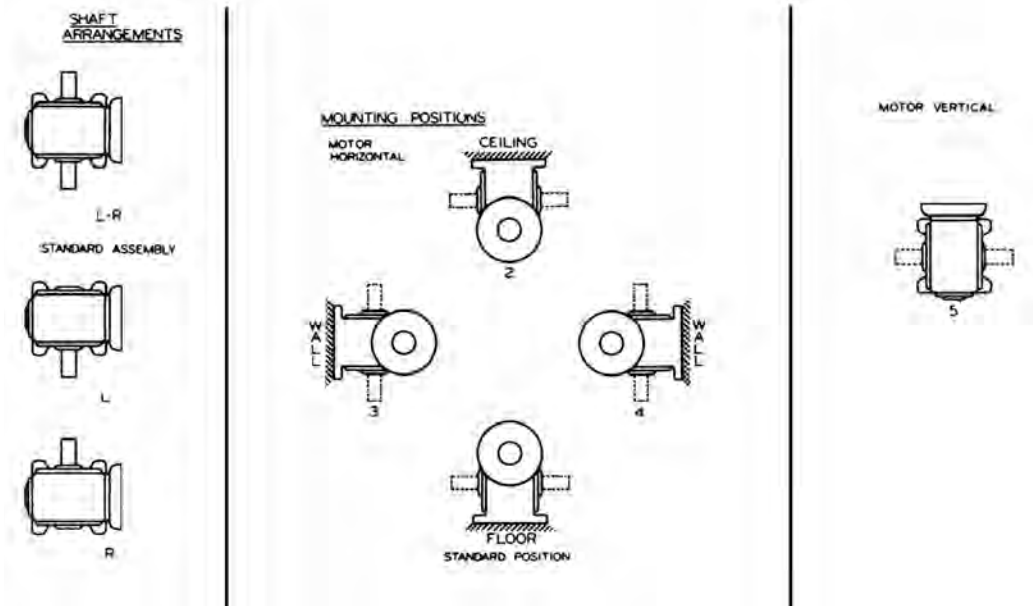
Hydraulic or Electric Motor	Single Cylinder Engines	Multi-Cylinder Engines
1.00	1.50	1.25
1.25	1.75	1.50
1.50	2.00	1.75
1.75	2.25	2.00
2.00	2.50	2.25

Load and operating characteristics of both the driver and driven units must be considered throughly when selecting speed reducers. It is essential that all speed reducers be selected for maximum load conditions to be encountered. Worm gear speed reducers will safely transmit momentary starting loads as great as 300% of the mechanical input ratings.

GCT and GCV Series Shaft Arrangements

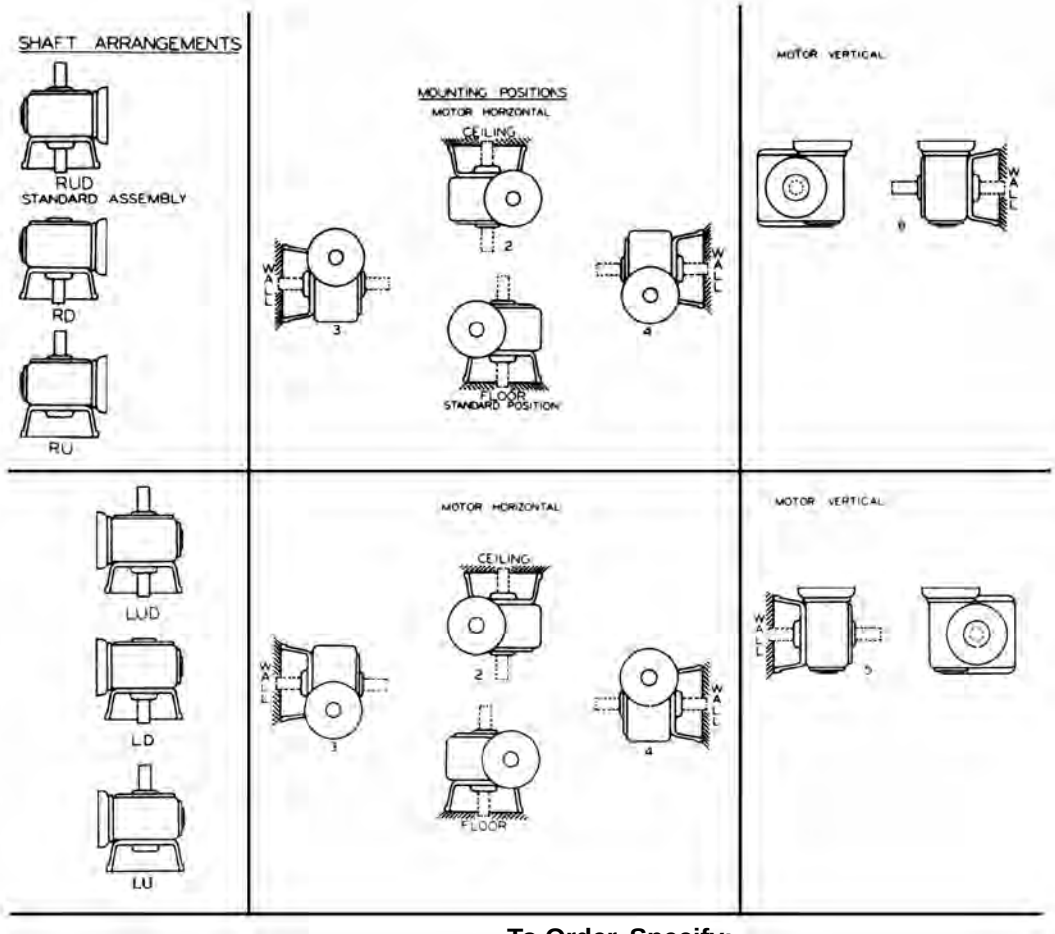
Model GC Type T





Model GC Type V





Shaft Tolerances
+ .000
-.001

No extra charge for Standard Position shaft arrangements.
Low profile base available.

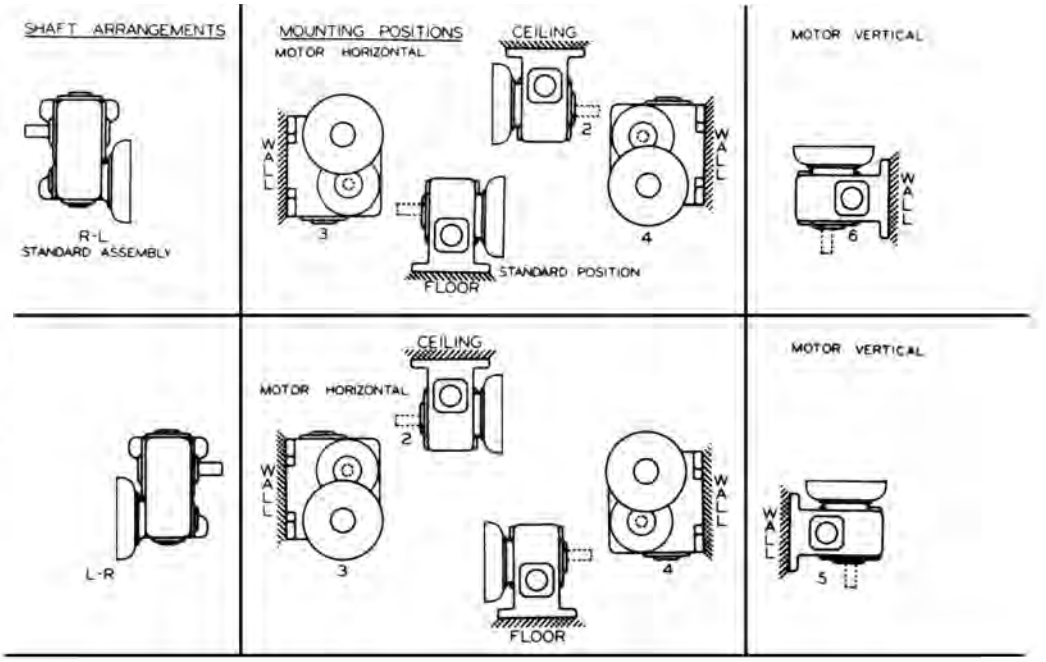
To Order, Specify:
Example: 18GCT10-L, position 3.

Series ..... as, GC
Type ..... as, T
Size ..... as, 18
Ratio ..... as, 10:1
Shaft Arrangement ..... as, L
Mounting Positions ..... as, Wall 3

GCDB and GCDV Series Shaft Arrangements

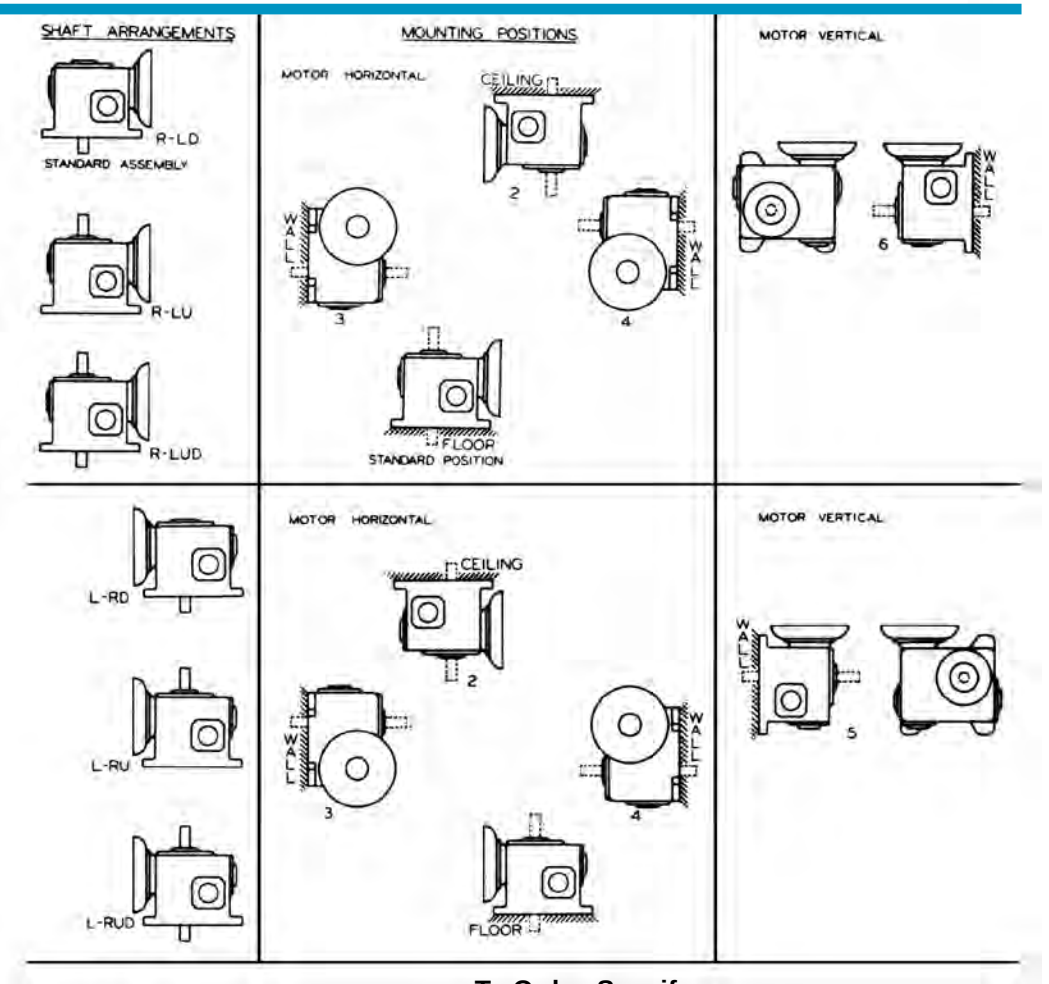
Model GC Type DB Sizes 13-18





Model GC Type DV Sizes 13-18





Shaft Tolerances
+ .000
-.001

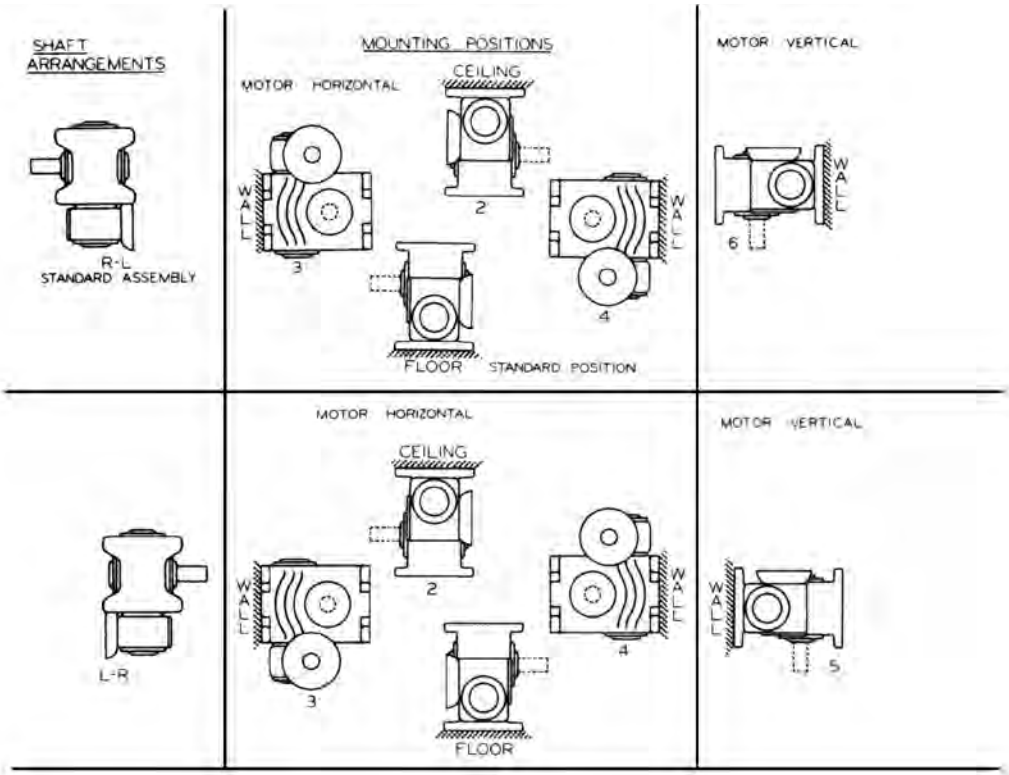
No extra charge for Standard Position shaft arrangements.
Low profile base available.

To Order, Specify:

Example: 13GCDB75 R-L, position 6.

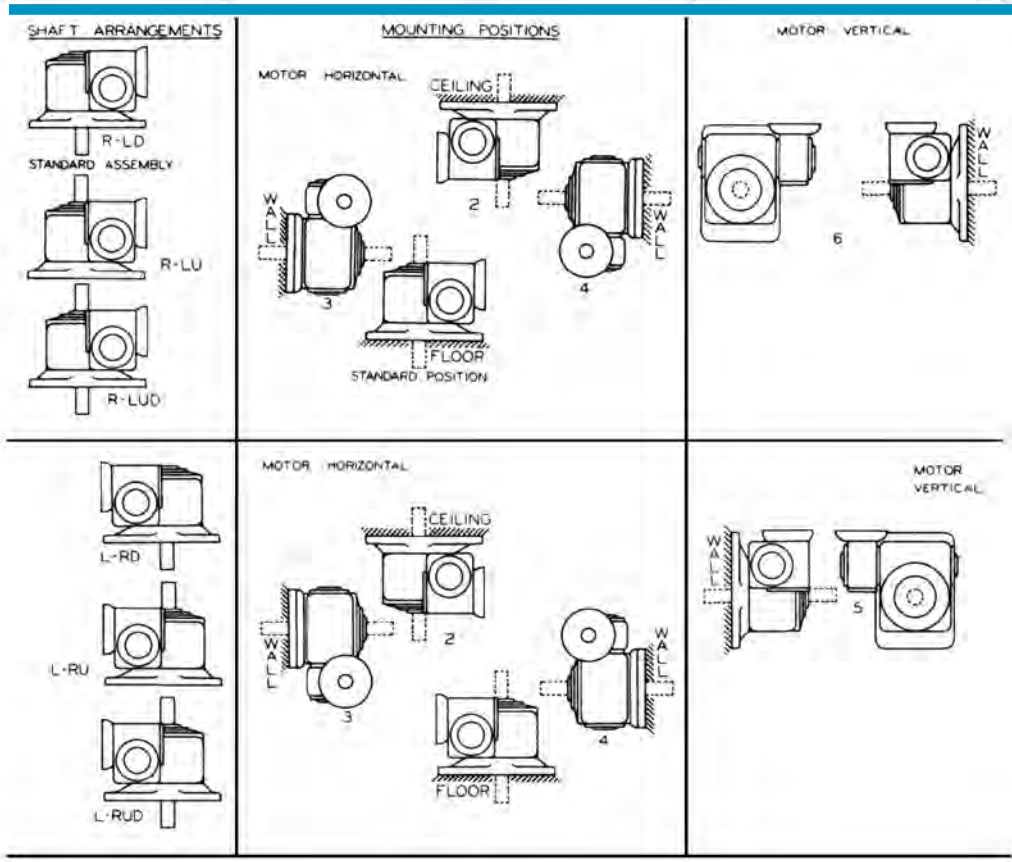
Series ..... as, GC
Type ..... as, DB
Size ..... as, 13
Motor Vertical Down .....
Ratio ..... as, 75:1
Shaft Arrangement ..... as, R-L
Mounting Positions ..... as, Wall 6

GCDB, and GCDV Series Shaft Arrangements



Model GC Type DB Sizes 20-60





Model GC Type DV Sizes 20-60



Shaft Tolerances
+ .000
-.001

To Order, Specify:

Example: 30GCDV100 L-RUD, position 5.

Series ..... as, GC	Ratio ..... as, 100:1
Type ..... as, DV	Shaft Arrangement ..... as, L-RUD
Size..... as, 30	Mounting Positions .....as, Wall 5

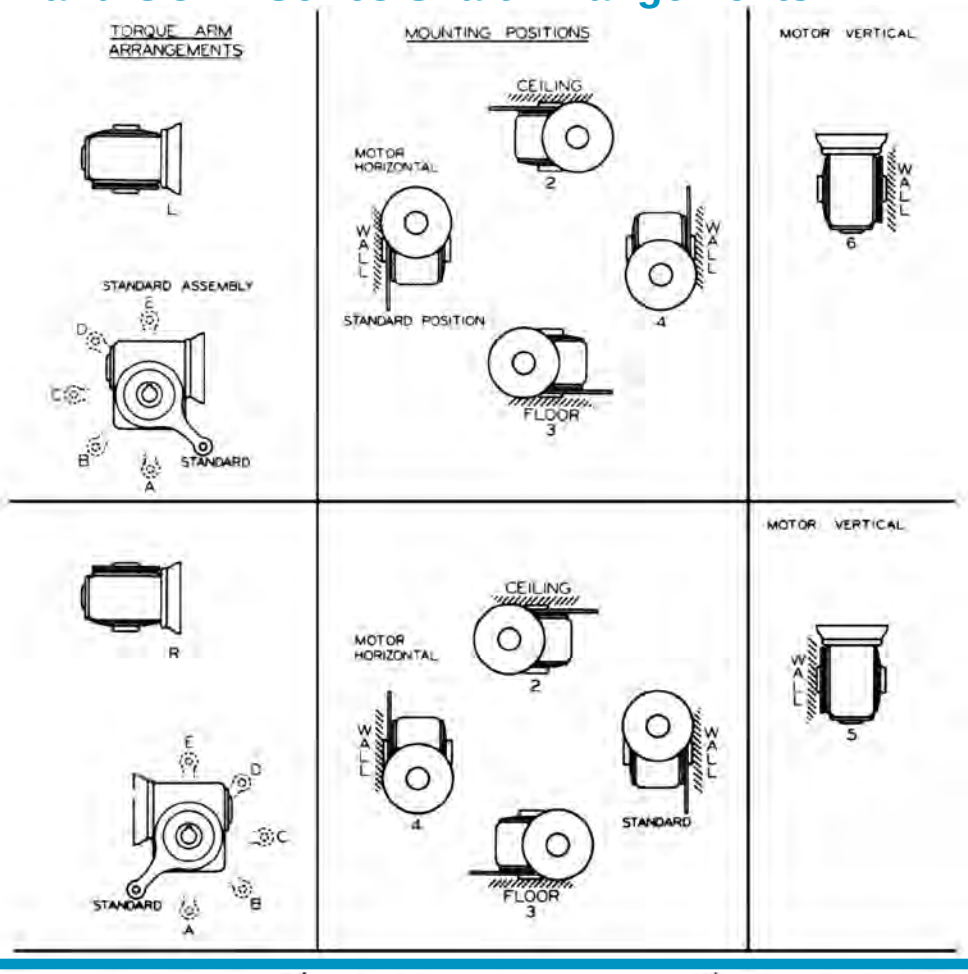
Motor vertical down not recommended, and should be avoided.

No extra charge for Standard Position shaft arrangements.
Low profile base available.

GCDB and GCDV Series Shaft Arrangements

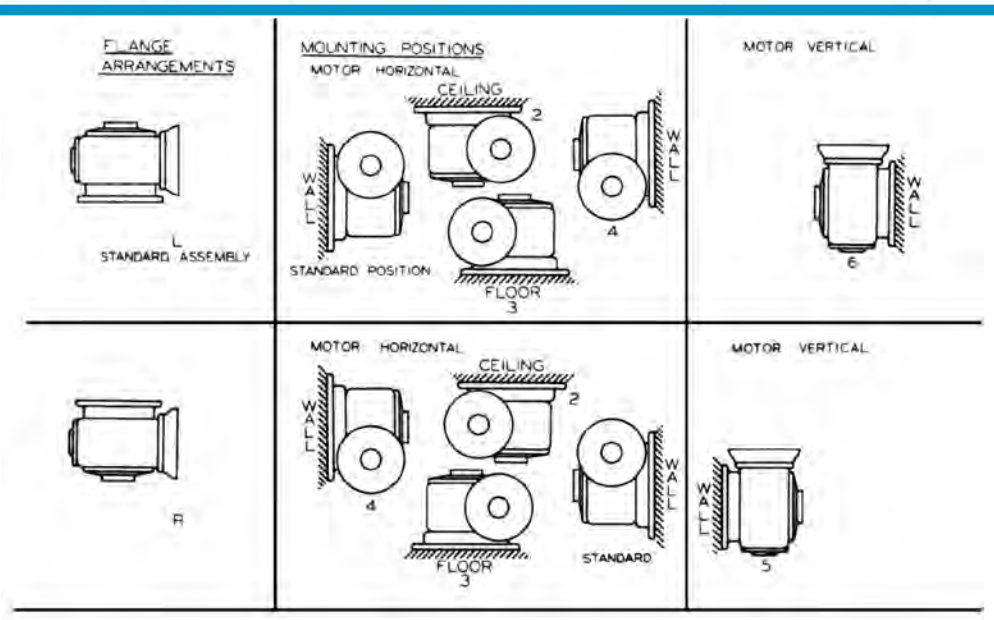
Model G Type SA





Model G Type SF





Shaft Tolerances
+ .000
-.001

To Order, Specify:

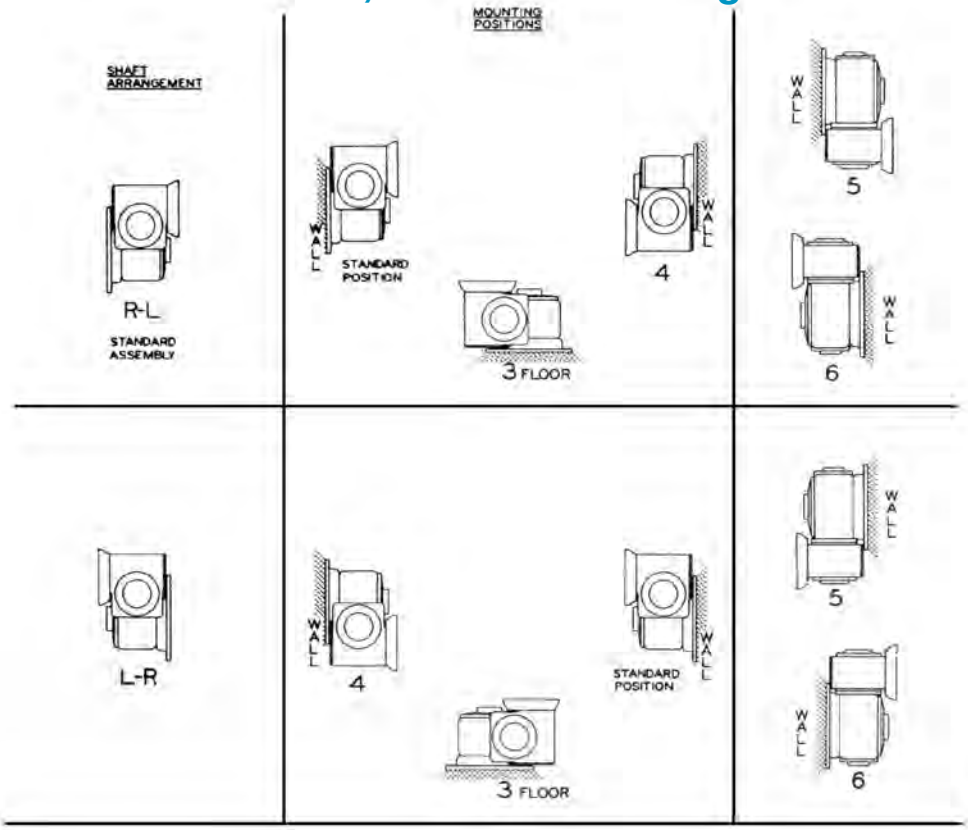
Example: 20GSF40-L, position 3.

Series ..... as, GS	Arrangement ..... as, L
Type ..... as, F	Quill Bore ..... as, 1.1875
Size ..... as, 20	Mounting Positions ..... as, Floor 3
Ratio ..... as, 40:1	

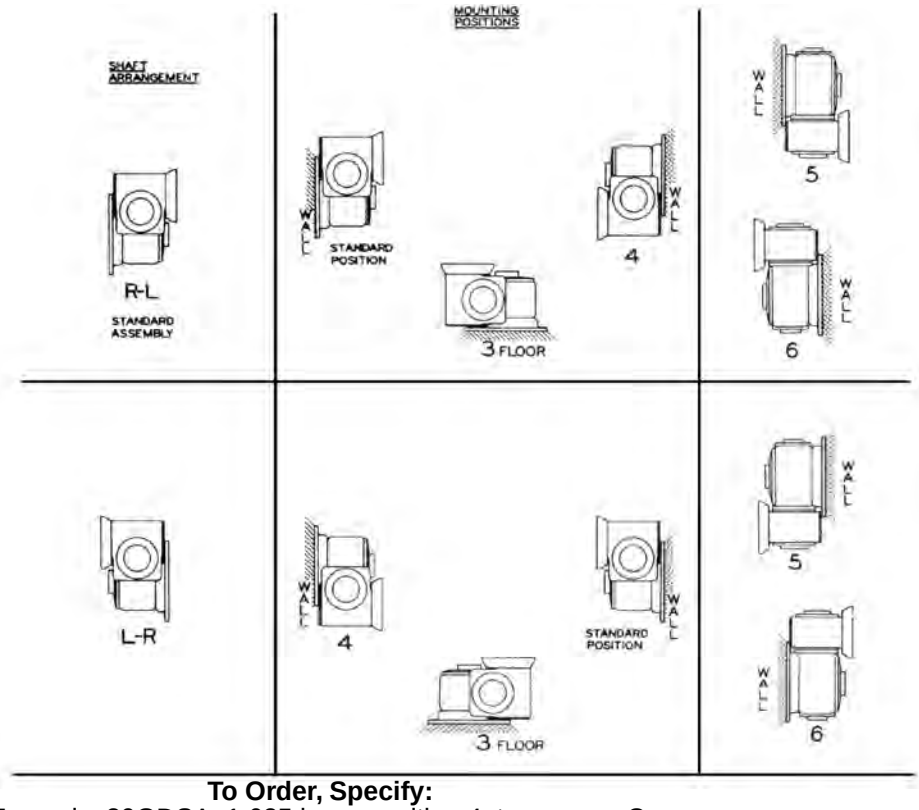
No extra charge for Standard Position shaft arrangements.

Motor vertical down not recommended, and should be avoided.

GDSA, and GDSF Arrangements



Model GD Type SF



Model GD Type SA

PoweRgear

Shaft Tolerances
+ .000
-.001

To Order, Specify:

Example: 30GDSA, 1.625 bore, position 4, torque armC.

Series .....as, GDSA
Size.....as, 50
Ratio .....as, 250:1
Torque arm arrangement.....as, L-LD
Mounting Positions ..... as, Floor 3

Motor vertical down not recommended, and should be avoided.

No extra charge for Standard Position shaft arrangements.

Lubrication

For enclosed worm gear units only. A worm gear unit is only as good as the oil which is used. During the first few days of operation, a worm gear unit will run hot. Unless the temperature exceeds 200 degrees F. there is no cause for alarm.

The oils shown below are typical. Any make of oil meeting American Gear Manufactureers Association (AGMA) standards #7C & #8C will be satisfactory. Consult Application Engineering (1 800 626 2093) if you have any questions.

Ambient Temp. 15° to 60°F	Ambient Temp. 50° to 125°F
AGMA #7C	AGMA #8C

The following are some general recommendations regarding relubrication. Your experience in your specific application is the best determination of relubrication intervals.

Maintenance Schedule:

1. Change initial oil fill after 2 weeks.
2. Change oil every 6 to 12 months depending on service conditions.

Additional Lubrication notes:

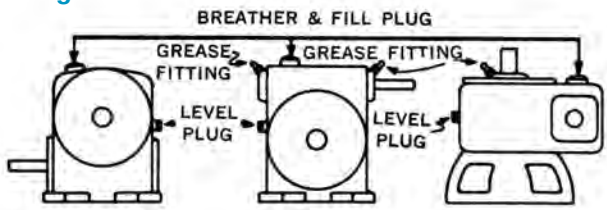
1. E.P. oils are not preferred. If an E.P. oil must be used, customer must determine that it is not corrosive to a bronze gear.
2. For ambient temperatures ouside of these temperature ranges, contact Application Engineering.
3. Units running at slow speeds should carry extra high oil level contact Application Engineering.
4. For slow input speeds (less than 100 RPM) use AGMA #8C oil in ambient temperatures of 15 to 60 degrees F.

Grease Fittings:

1. Grease every 100 hours of running time with about 3/8” ball of grease meeting NLGI #2 standards.
2. Do not over-lubricate.

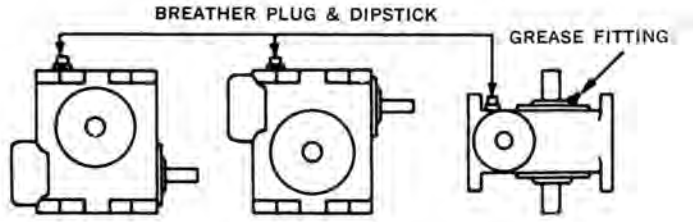
Lubrication

Lubricating Instructions - Reducers Other Than "RW"



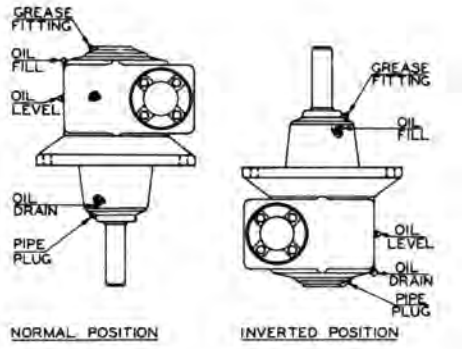
Many Morse units are equipped with plug type oil holes. Remove level plug and fill unit with oil until oil runs out level hole. Breather and fill plug is at top of unit. Grease fittings are used to lubricate bearings above oil level. Grease every 100 hours running time.

Lubricating Instructions - "RW" Reducers



RW units are equipped with a breather-dipstick fill plug. This fill plug should always be located at top of unit. Fill unit with oil to appropriate oil level line as indicated on dipstick. Units equipped with special dipsticks: fill with oil so dipstick dips into oil 1/4". Grease fittings are used to lubricate bearings above oil level. Grease every 100 hours running time. When mounting units in inverted position or on walls, be sure all bearings get proper lubrication. Miter boxes do not require breather plugs.

Lubrication fittings VX conveyor drives



Oil Capacities Chart - U.S.A. Measure - Approximate Quantities, Fill To Oil Level

10WB.....1/4 Pt.
10WT.....1/4 Pt.
10WV.....1/4 Pt.
13WB.....1/2 Pt.
13WT.....1/2 Pt.
13WV.....1/2 Pt.
18WB.....1 Pt.
18WT.....3/4 Pt.
18WV.....1 Pt.
20WB.....1 3/4 Pts.
20WT.....1 1/2 Pts.
20WV.....1 1/2 Pts.
20WDB.....2 Pts.
20WDV.....1 3/4 Pts.
25RWB.....2 1/2 Pts.
25RWT.....2 1/2 Pts.
25RWV.....2 1/4 Pts.
25WDB.....3 1/4 Pts.
25WDV.....3 Pts.
30RWB.....3 3/4 Pts.
30RWT.....3 3/4 Pts.
30WDB.....2 1/2 Qts.
30WDV.....2 1/4 Qts.
35RWB.....3 1/4 Qts.
35RWT.....3 1/2 Qts.
35RWV.....2 1/2 Qts.
35WDB.....3 3/4 Qts.
35WDV.....3 Qts.
40RWB.....3 1/2 Qts.
40RWT.....3 1/2 Qts.
40RWV.....3 Qts.
40WDB.....3 3/4 Qts.
40WDV.....3 1/4 Qts.

50RWB.....1 3/4 Gals.
50RWT.....1 3/4 Gals.
50WDB.....2 1/4 Gals.
50WDV.....2 Gals.
60RWB.....2 3/4 Gals.
60RWT.....3 Gals.
60RWV.....2 1/2 Gals.
60WDB.....3 3/4 Gals.
60WDV.....3 1/2 Gals.
70RWB.....5 3/4 Gals.
70RWT.....5 3/4 Gals.
70RWV.....4 1/2 Gals.
70WDB.....7 Gals.
70WDV.....6 1/4 Gals.
80RWB.....7 1/2 Gals.
80RWT.....7 1/2 Gals.
80WDB.....10 Gals.
80WDV.....9 Gals.
100RWB.....15 1/2 Gals.
100RWT.....11 1/2 Gals.
100RWV.....10 Gals.
100WDB.....19 Gals.
100WDV.....12 1/2 Gals.
18V.....1 Pt.
20V.....1 1/2 Pts.
20DV.....1 Qt.
25V.....1 Qt.
25DV.....1 1/4 Qts.
30V.....1 3/4 Qts.
30DV.....2 1/2 Qts.
35V.....2 1/4 Qts.
35DV.....2 3/4 Qts.
40V.....3 1/2 Qts.
40DV.....4 1/4 Qts.

50V.....1 1/2 Gals.
50DV.....1 3/4 Gals.
60V.....2 1/2 Gals.
60DV.....2 3/4 Gals.
70V.....4 Gals.
70DV.....4 1/2 Gals.
30VX..... Std. 3 Qts.
Inverted..... 2 Qts.
30DVX..... Std. 3 3/4 Qts.
Inverted..... 2 3/4 Qts.
35VX..... Std. 4 1/4 Qts.
Inverted..... 3 3/4 Qts.
35DVX..... Std. 4 1/2 Qts.
Inverted..... 4 Qts.
40VX..... Std. 1 1/4 Gals.
Inverted..... 1 Gal.
40DVX..... Std. 1 1/2 Gals.
Inverted.....1 1/4 Gals.
50VX..... Std. 2 Gals.
Inverted.....1 3/4 Gals.
50DVX..... Std. 2 1/4 Gals.
Inverted.....2 Gals.
60VX..... Std. 3 3/4 Gals.
Inverted.....2 3/4 Gals.
60DVX..... Std. 4 1/4 Gals.
Inverted .....3 1/4 Gals.
70VX..... Std. 6 Gals.
Inverted.....5 Gals.
70DVX..... Std. 7 Gals.
Inverted.....5 1/2 Gals.
90VX.....11 Gals.
90DVX.....12 1/2 Gals.
110VX.....20 Gals.
110DVX .....18 1/2 Gals.

13GCT.....1/2 Pt.
13GCV.....1/2 Pt.
Low Base.....1/2 Pt.
18GCT.....3/4 Pt.
18GCV.....1 Pt.
Low Base.....1 Pt.
20GCT.....1 1/2 Pts.
20GCV..... 1 Qt.
Low Base..... 1 Qt.
25GCT..... 1 1/4 Qts.
25GCV..... 1 1/2Qts.
Low Base..... 1 1/2 Qts.
30GCT..... 2 Qts.
30GCV..... 2 1/2 Qts.
Low Base..... 2 1/2 Qts.
35GCT..... 3 Qts.
35GCV..... 3 3/4 Qts.
Low Base..... 3 3/4 Qts.
40GCT..... 3 1/2Qts.
40GCV..... 3 1/2 Qts.
Low Base..... 3 1/2 Qts.
50GCT.....1 3/4 Gals.
60GCT.....2 3/4 Gals.
50GCV.....1 1/2 Gals.
Low Base.....1 1/2 Gals.
60GCV.....
Low Base.....2 3/4 Gals.
18SA,SF.....3/4 Pts.
18GSA,GSF.....3/4 Pts.
20SA,SF.....1 1/2 Pts.
20GSA,GSF.....1 1/2 Pts.
25SA,SF..... 1 1/4 Qts.
25GSA,GSF..... 1 1/4 Qts.
30SA,SF..... 2 Qts.
30GSA,GSF..... 2 Qts.

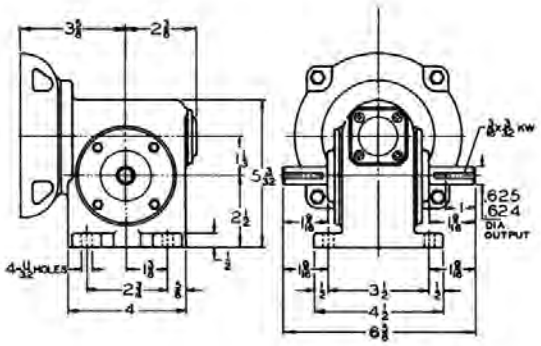
35SA,SF..... 3 Qts.
35GSA,GSF..... 3 Qts.
40SA.SF..... 3 1/2 Qts.
40GSA,GSF..... 3 1/2 Qts.
50SA ,SF.....1 3/4 Gals.
50GSA,GSF.....1 3/4 Gals.
60SA, SF.....2 3/4 Gals.
60GSA,GSF.....2 3/4 Gals.
13GCDB.....3/4 Pt.
13GCDV.....3/4 Pt.
18DSA,DSF.....1 Pt.
18 GDSA,
GDSF.....1 Pt.
18GCDB.....1 Pt.
18GCDV.....1 Pt.
20DSA,DSF..... 1 Qt.
20GDSA,GDSF ..... 1 Qt.
20GCDB..... 1 Qt.
20GCDV..... 1 Qt.
25DSA,DSF.....3 1/4 Pts.
25GDSA,
GDSF.....3 1/4 Pts.
25GCDB.....3 1/4 Pts.
25GCDV..... 1 1/4 Qts.
30DSA,DSF..... 2 1/2 Qts.
30GDSA,
GDSF..... 2 1/2 Qts.
30GCDB..... 2 1/2 Qts.
30GCDV..... 2 1/2 Qts.
35DSA,DSF..... 2 3/4 Qts.
35GDSA,
GDSF..... 2 3/4 Qts.
35GCDB..... 3 3/4 Qts.
35GCDV..... 2 3/4 Qts.

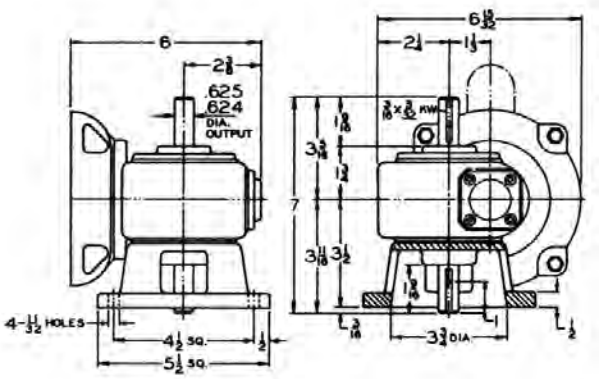
40DSA,DSF..... 4 1/4 Qts.
40GDSA,
GDSF..... 4 1/4 Qts.
40GCDB..... 3 3/4 Qts.
50DSA,DSF.....2 1/4 Gals.
50GDSA,
GDSF.....2 1/4 Gals.
50GCDB.....2 1/4 Gals.
50GCDV.....1 3/4 Gals.
60DSA,DSF.....3 3/4 Gals.
60GDSA,
GDSF.....2 3/4 Gals.
60GCDB.....3 3/4 Gals.
60GCDV.....2 3/4 Gals.
30GCDVX... Std. 3 3/4 Qts.
Inverted..... 2 3/4 Qts.
35GCDVX... Std. 4 1/2 Qts.
Inverted..... 4 Qts.
40GCDVX.. Std. 1 1/2 Gals.
Inverted.....1 1/4 Gals.
50GCDVX. Std. 2 1/4 Gals.
Inverted..... 2 Gals.
60GCDVX. Std. 4 1/4 Gals.
Inverted.....3 1/4 Gals.
4M.....3/4 Pt.
6M..... 1 Qt.
8M..... 2 Qts.
12M.....1 1/2 Gals.

GCT and GCV Series

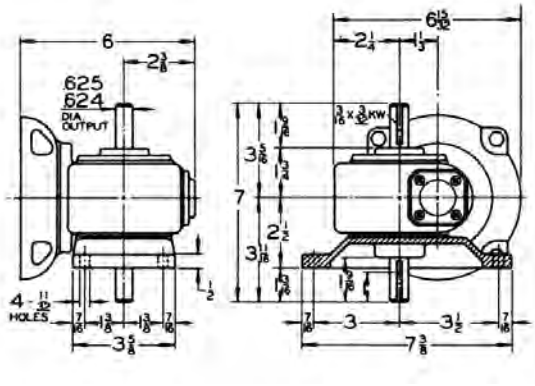
for N.E.M.A. "C" flange motors

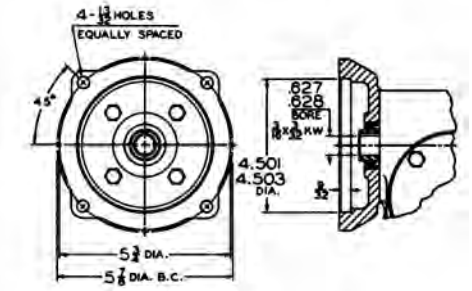
13GCT Net wt. 8 lbs. 1.33" C.D. Net wt. 8 lbs. 13GCV





13GCV LOW BASE Net wt. 8 lbs. 1.33" C.D.





1.00 service factor*

Ratio	At1750 rpm Input			At 1150 rpm Input			NEMA† Motor Frame No.
	Input hp	Output rpm	Output Torque In.-Lbs.	Input hp	Output rpm	Output Torque In.-Lbs.	
5	1.01	350.0	165	0.77	230.0	190	56C
7 1/2	0.79	233.0	189	0.60	153.3	214	56C
10	0.65	175.0	203	0.50	115.0	229	56C
15	0.49	116.6	217	0.38	76.6	244	56C
20	0.39	87.5	220	0.29	57.5	244	56C
25	0.32	70.0	219	0.24	46.0	242	56C
30	0.29	58.4	223	0.23	38.4	251	56C
40	0.23	43.7	219	0.18	28.7	243	56C
50	0.19	35.0	209	0.15	23.0	231	56C
60	0.16	29.2	198	0.13	19.2	221	56C

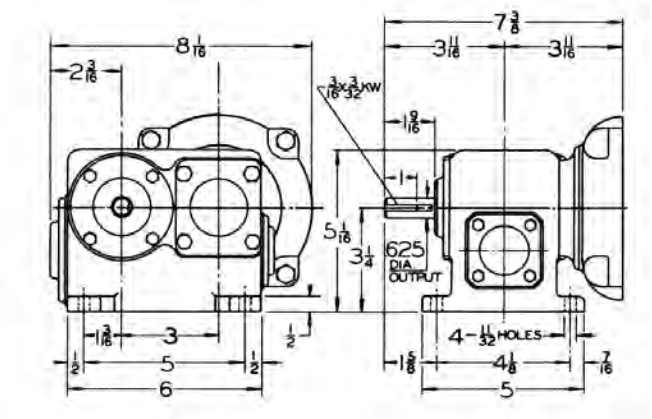
Overhung load (O.H.L.) for 13GCT is 232 pounds, for 13GCV is 191 pounds at one shaft diameter from housing.

* Refer to page 334 for other service factors. Refer to pages 335 - 339 for shaft arrangements.

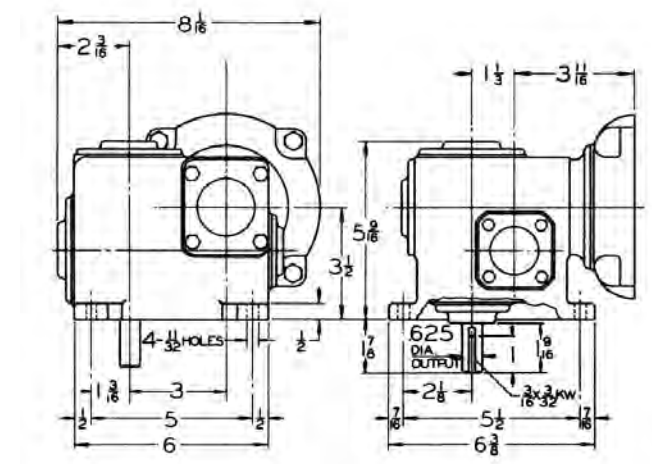
† Maximum size given - see page 332 for available motor sizes. Specify the actual NEMA motor frame number that will be used.

GCDB and GCDV Series

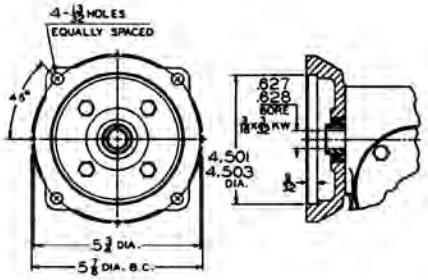
for N.E.M.A. "C" flange motors



13GCDB
Net wt. 10 lbs.
1.33" C.D.



13GCDV
Net wt. 11 lbs.
1.33" C.D.



1.00 Service Factor* - Double Reduction Wormgear
1.33" Centers Primary - 1.33" Centers Secondary

Ratio	Primary Ratio	Secondary Ratio	At 1750 rpm Input			At 1150 rpm Input			NEMA† Motor Frame Number
			Input hp	Output rpm	Output Torque In.-Lbs.	Input hp	Output rpm	Output Torque In.-Lbs.	
75	5	15	0.16	23.33	284	0.11	15.33	291	56C
100	5	20	0.12	17.50	282	0.09	11.50	287	56C
125	5	25	0.10	14.00	277	0.07	9.20	282	56C
150	10	15	0.09	11.67	293	0.06	7.67	296	56C
200	10	20	0.07	8.75	290	0.05	5.75	293	56C
250	10	25	0.06	7.00	285	0.04	4.60	287	56C
300	15	20	0.05	5.83	292	0.04	3.83	294	56C
400	20	20	0.04	4.38	294	0.03	2.88	295	56C
500	25	20	0.03	3.50	295	0.02	2.30	296	56C
600	30	20	0.03	2.92	295	0.02	1.92	296	56C
800	40	20	0.03	2.19	296	0.02	1.44	297	56C
1000	50	20	0.02	1.75	296	0.02	1.15	297	56C
1200	60	20	0.02	1.46	297	0.02	0.96	297	56C
1500	25	60	0.02	1.17	264	0.01	0.77	265	56C
1800	30	60	0.02	0.97	264	0.01	0.64	265	56C
2400	40	60	0.01	0.73	265	0.01	0.48	266	56C
3000	50	60	0.01	0.58	265	0.01	0.38	266	56C
3600	60	60	0.01	0.49	266	0.01	0.32	266	56C

NOTICE: Regardless of the motor size used, exceeding the output torque rating may result in damage to the gearbox.
Overhung load (O.H.L.) for 13GCDB is 232 pounds, for 13GCDV is 191 pounds at one shaft diameter from housing.

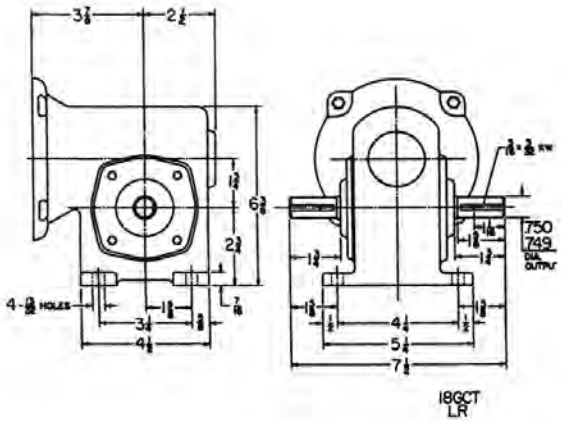
* Refer to page 334 for other service factors. Refer to pages 335 - 339 for shaft arrangements.

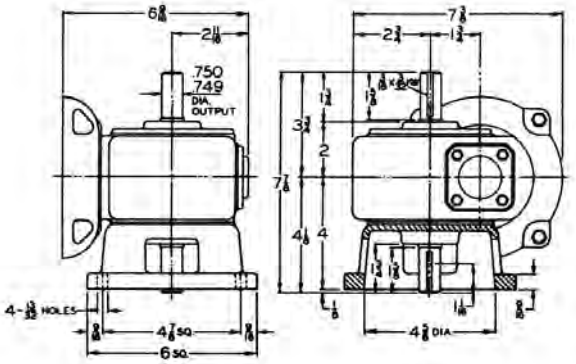
† Maximum size given - see page 332 for available motor sizes. Specify the actual NEMA motor frame number that will be used.

GCT and GCV Series

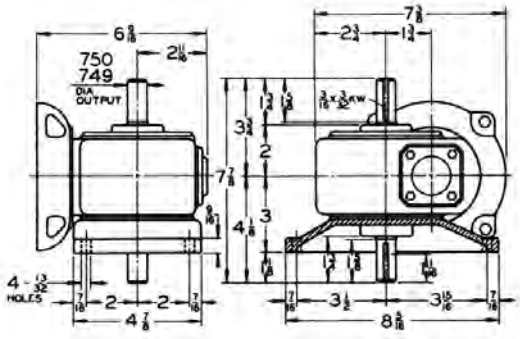
for N.E.M.A. "C" flange motors

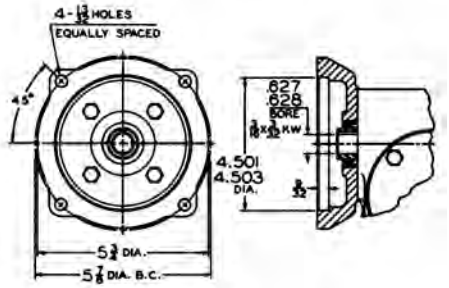
18GCT Net wt. 11 lbs. 1.75" C.D. Net wt. 12 lbs. 18GCV





18GCV LOW BASE Net wt. 12 lbs. 1.75" C.D.





1.00 service factor*

Ratio	At 1750 rpm Input			At 1150 rpm Input			NEMA† Motor Frame No.
	Input hp	Output rpm	Output Torque In.-Lbs.	Input hp	Output rpm	Output Torque In.-Lbs.	
5	2.17	350.0	359	1.73	230.0	430	56C
7 1/2	1.71	233.0	415	1.35	153.3	490	56C
10	1.42	175.0	447	1.12	115.0	527	56C
15	1.06	116.6	479	0.54	76.6	561	56C
20	0.85	87.5	490	0.67	57.5	570	56C
25	0.71	70.0	494	0.56	46.0	570	56C
30	0.63	58.4	494	0.51	38.4	578	56C
40	0.50	43.7	489	0.41	28.7	567	56C
50	0.41	35.0	471	0.33	23.0	543	56C
60	0.34	29.2	446	0.28	19.2	512	56C

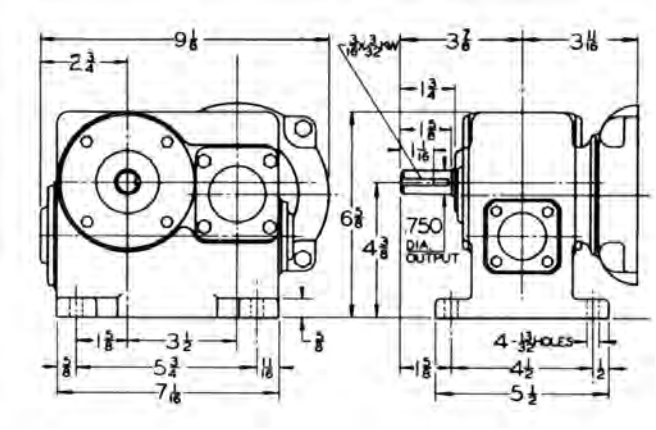
Overhung load (O.H.L.) for 18GCT is 325 pounds, for 18GCV is 274 pounds at one shaft diameter from housing.

* Refer to page 334 for other service factors. Refer to pages 335 - 339 for shaft arrangements.

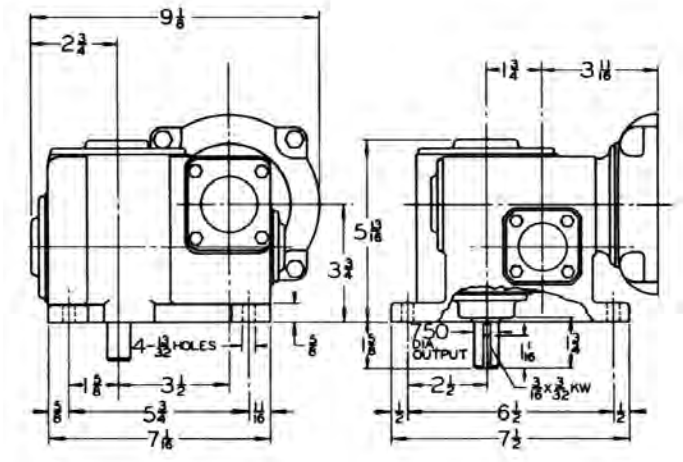
† Maximum size given - see page 332 for available motor sizes. Specify the actual NEMA motor frame number that will be used.

GCDB and GCDV Series

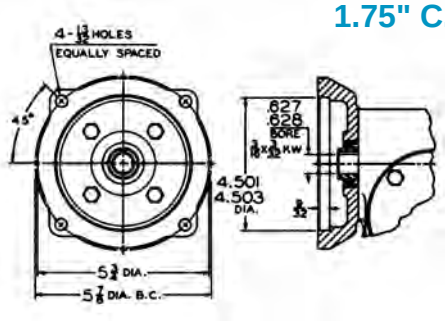
for N.E.M.A. "C" flange motors



18GCDB
Net wt. 14 lbs.
1.75" C.D.



18GCDV
Net wt. 16 lbs.
1.75" C.D.



PoweRgear

1.00 Service Factor* - Double Reduction Wormgear
1.33" Centers Primary - 1.75" Centers Secondary

Ratio	Primary Ratio	Secondary Ratio	At 1750 rpm Input			At 1150 rpm Input			NEMA† Motor Frame Number
			Input hp	Output rpm	Output Torque In.-Lbs.	Input hp	Output rpm	Output Torque In.-Lbs.	
75	5	15	0.37	23.33	687	0.26	15.33	706	56C
100	5	20	0.30	17.50	691	0.21	11.50	710	56C
125	5	25	0.25	14.00	684	0.18	9.20	702	56C
150	10	15	0.21	11.67	915	0.15	7.67	725	56C
200	10	20	0.17	8.75	918	0.12	5.75	728	56C
250	10	25	0.15	7.00	710	0.10	4.60	719	56C
300	15	20	0.13	5.83	728	0.09	3.83	734	56C
400	20	20	0.10	4.38	732	0.07	2.88	737	56C
500	25	20	0.09	3.50	735	0.06	2.30	739	56C
600	30	20	0.08	2.92	737	0.06	1.92	740	56C
800	40	20	0.07	2.19	739	0.05	1.44	742	56C
1000	50	20	0.06	1.75	741	0.04	1.15	742	56C
1200	60	20	0.05	1.46	741	0.04	0.96	743	56C
1500	25	60	0.04	1.17	645	0.03	0.77	648	56C
1800	30	60	0.04	0.97	647	0.03	0.64	649	56C
2400	40	60	0.03	0.73	648	0.02	0.48	650	56C
3000	50	60	0.03	0.58	650	0.02	0.38	651	56C
3600	60	60	0.02	0.49	650	0.02	0.32	652	56C

NOTICE: Regardless of the motor size used, exceeding the output torque rating may result in damage to the gearbox.
Overhung load (O.H.L.) for 18GCT is 324 pounds, for 18GCDV is 280 pounds at one shaft diameter from housing.

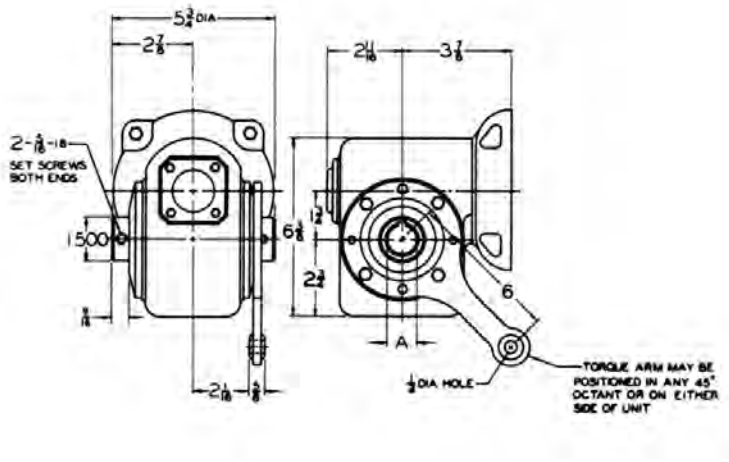
* Refer to page 334 for other service factors. Refer to pages 335 - 339 for shaft arrangements.

† Maximum size given - see page 332 for available motor sizes. Specify the actual NEMA motor frame number that will be used.

GSA and GSF Series

for N.E.M.A. "C" flange motors

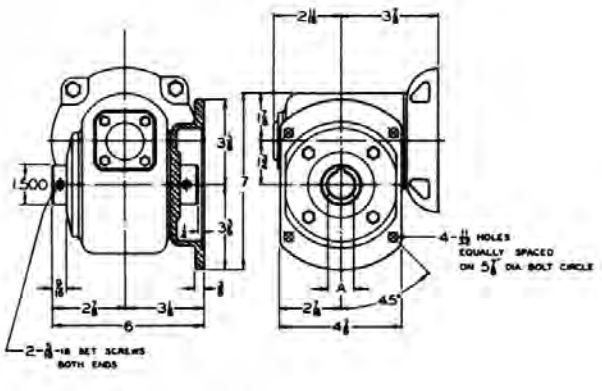
18GSA
Net wt. 14 lbs.
1.75" C.D.



A (BORE)	KEYWAY
.750 .751	3/16 x 3/32
.875 .876	3/16 x 3/32
.9375 .9385	1/4 x 1/8
1.000 1.001	1/4 x 1/8

Shaft mounted units will be furnished with torque arm or mounting flange on the side shown unless otherwise specified on order.

18GSF
Net wt. 14 lbs.
1.75" C.D.



1.00 Service Factor*

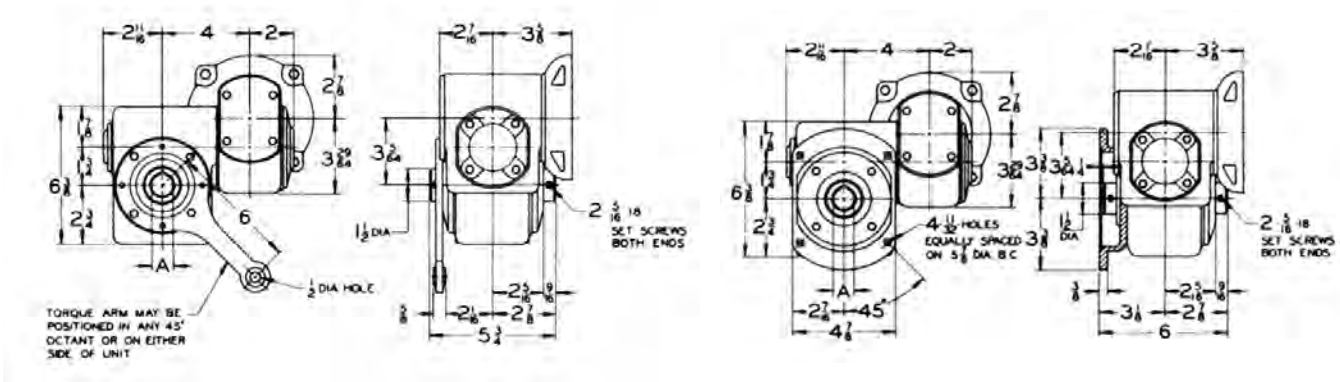
Ratio	At 1750 rpm Input			At 1150 rpm Input			NEMA† Motor Frame No.
	Input hp	Output rpm	Output Torque In.-Lbs.	Input hp	Output rpm	Output Torque In.-Lbs.	
5	2.17	350.0	359	1.73	230.0	430	56C
7 1/2	1.71	233.0	415	1.35	153.3	490	56C
10	1.42	175.0	447	1.12	115.0	527	56C
15	1.06	116.6	479	0.54	76.6	561	56C
20	0.85	87.5	490	0.67	57.5	570	56C
25	0.71	70.0	494	0.56	46.0	570	56C
30	0.63	58.4	494	0.51	38.4	578	56C
40	0.50	43.7	489	0.41	28.7	567	56C
50	0.41	35.0	471	0.33	23.0	543	56C
60	0.34	29.2	446	0.28	19.2	512	56C

* Refer to page 334 for other service factors. Refer to pages 335 - 339 for shaft arrangements.
† Maximum size given - see page 332 for available motor sizes. Specify the actual NEMA motor frame number that will be used.

GDSA and GDSF Series

for N.E.M.A. "C" flange motors

18GDSA Net wt. 19 lbs. 1.75" C.D. Net wt. 12 lbs. 18GDSF



A (BORE)	KEYWAY
.750 .751	3/16 x 3/32
.875 .876	3/16 x 3/32
.9375 .9385	1/4 x 1/8
1.000 1.001	1/4 x 1/8

1.00 Service Factor* - Double Reduction Wormgear
1.33" Centers Primary - 1.75" Centers Secondary

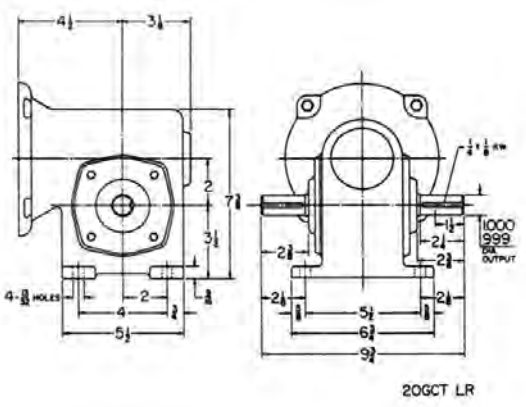
Ratio	Primary Ratio	Secondary Ratio	At 1750 rpm Input			At 1150 rpm Input			NEMA† Motor Frame Number
			Input hp	Output rpm	Output Torque In.-Lbs.	Input hp	Output rpm	Output Torque In.-Lbs.	
75	5	15	0.37	23.33	687	0.26	15.33	706	56C
100	5	20	0.30	17.50	691	0.21	11.50	710	56C
125	5	25	0.25	14.00	684	0.18	9.20	702	56C
150	10	15	0.21	11.67	915	0.15	7.67	725	56C
200	10	20	0.17	8.75	918	0.12	5.75	728	56C
250	10	25	0.15	7.00	710	0.10	4.60	719	56C
300	15	20	0.13	5.83	728	0.09	3.83	734	56C
400	20	20	0.10	4.38	732	0.07	2.88	737	56C
500	25	20	0.09	3.50	735	0.06	2.30	739	56C
600	30	20	0.08	2.92	737	0.06	1.92	740	56C
800	40	20	0.07	2.19	739	0.05	1.44	742	56C
1000	50	20	0.06	1.75	741	0.04	1.15	742	56C
1200	60	20	0.05	1.46	741	0.04	0.96	743	56C
1500	25	60	0.04	1.17	645	0.03	0.77	648	56C
1800	30	60	0.04	0.97	647	0.03	0.64	649	56C
2400	40	60	0.03	0.73	648	0.02	0.48	650	56C
3000	50	60	0.03	0.58	650	0.02	0.38	651	56C
3600	60	60	0.02	0.49	650	0.02	0.32	652	56C

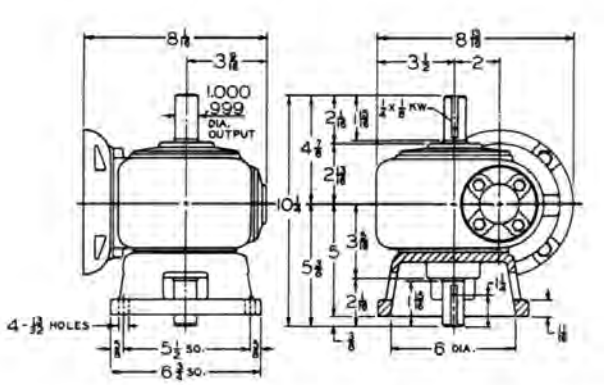
NOTICE: Regardless of the motor size used, exceeding the output torque rating may result in damage to the gearbox.
* Refer to page 333 for other service factors. Refer to pages 335 - 339 for shaft arrangements.
† Maximum size given - see page 332 for available motor sizes. Specify the actual NEMA motor frame number that will be used.

GCT and GCV Series

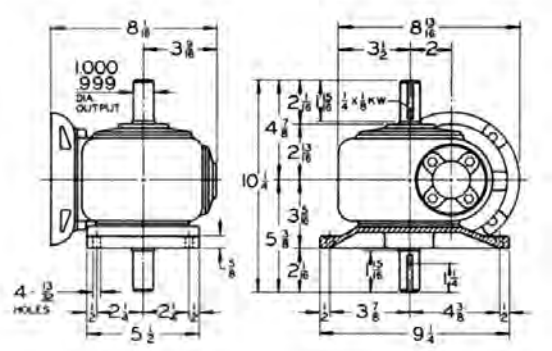
for N.E.M.A. "C" flange motors

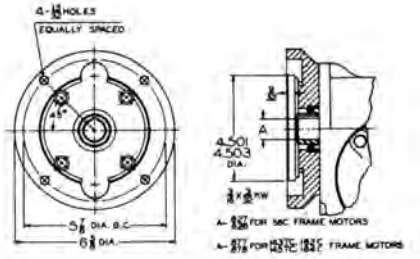
20GCT Net wt. 21 lbs. 2.0" C.D. Net wt. 22 lbs. 20GCV





20GCV LOW BASE Net wt. 22 lbs. 2.0" C.D.





56C Motor Frame
A-.627-.628 Dia. Bore
143TC-145TC Motor Frame
.877-.878 Dia. Bore
3/16 x 3/32 KW

1.00 Service Factor*

Ratio	At 1750 rpm Input			At 1150 rpm Input			NEMA† Motor Frame No.
	Input hp	Output rpm	Output Torque In.-Lbs.	Input hp	Output rpm	Output Torque In.-Lbs.	
5	2.92	350.0	487	2.35	230.0	588	145TC
7 1/2	2.31	233.0	568	1.84	153.3	676	145TC
10	1.92	175.0	616	1.52	115.0	728	145TC
15	1.44	116.6	663	1.14	76.6	779	145TC
20	1.13	87.5	673	0.88	57.5	779	145TC
25	0.94	70.0	677	0.73	46.0	777	145TC
30	0.84	58.4	685	0.67	38.4	803	56C
40	0.65	43.7	672	0.52	28.7	776	56C
50	0.53	35.0	646	0.42	23.0	742	56C
60	0.44	29.2	610	0.35	19.2	699	56C

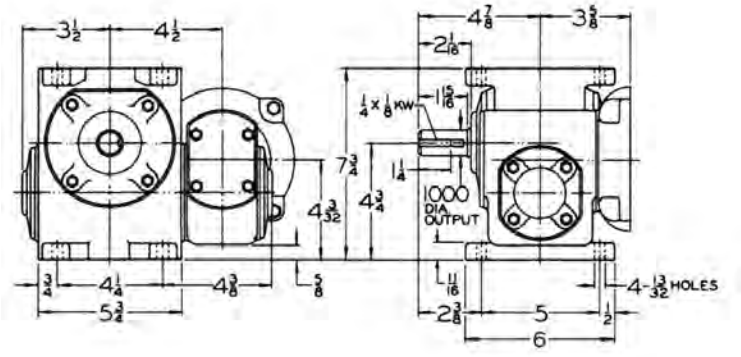
Overhung load (O.H.L.) for 20GCT is 702 pounds, for 20GCDV is 591 pounds at one shaft diameter from housing.

* Refer to page 334 for other service factors. Refer to pages 335 - 339 for shaft arrangements.

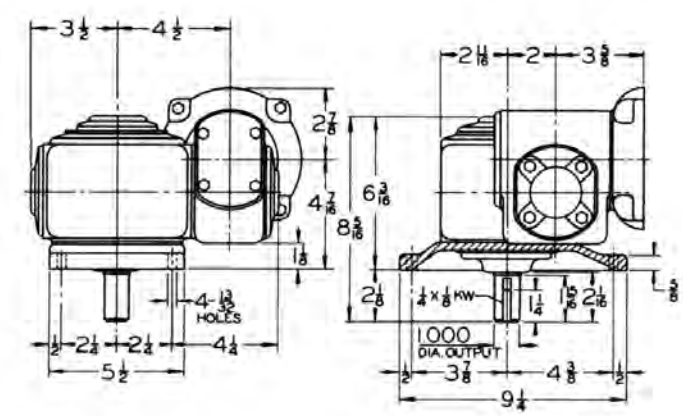
† Maximum size given - see page 332 for available motor sizes. Specify the actual NEMA motor frame number that will be used.

GCDB and GCDV Series

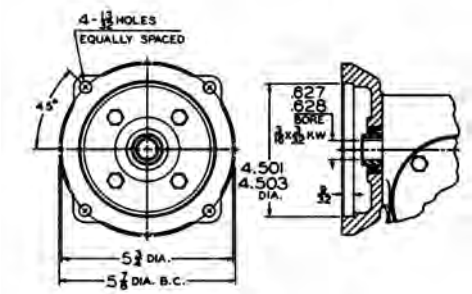
for N.E.M.A. "C" flange motors



20GCDB
Net wt. 25 lbs.
2.0" C.D.



20GCDV
Net wt. 40 lbs.
2.0" C.D.



PoweRgear

1.00 Service Factor* - Double Reduction Wormgear
1.33" Centers Primary - 2.0" Centers Secondary

Ratio	Primary Ratio	Secondary Ratio	At 1750 rpm Input			At 1150 rpm Input			NEMA† Motor Frame Number
			Input hp	Output rpm	Output Torque In.-Lbs.	Input hp	Output rpm	Output Torque In.-Lbs.	
75	5	15	0.50	23.33	956	0.35	15.33	984	56C
100	5	20	0.39	17.50	937	0.27	11.50	962	56C
125	5	25	0.32	14.00	929	0.23	9.20	952	56C
150	10	15	0.29	11.67	996	0.20	7.67	1010	56C
200	10	20	0.22	8.75	973	0.16	5.75	986	56C
250	10	25	0.18	7.00	963	0.13	4.60	975	56C
300	15	20	0.16	5.83	985	0.11	3.83	994	56C
400	20	20	0.13	4.38	991	0.09	2.88	998	56C
500	25	20	0.11	3.50	995	0.08	2.30	1000	56C
600	30	20	0.10	2.92	997	0.07	1.92	1002	56C
800	40	20	0.08	2.19	1000	0.06	1.44	1004	56C
1000	50	20	0.07	1.75	1002	0.05	1.15	1005	56C
1200	60	20	0.06	1.46	1003	0.05	0.96	1006	56C
1500	25	60	0.05	1.17	876	0.04	0.77	880	56C
1800	30	60	0.05	0.97	878	0.03	0.64	882	56C
2400	40	60	0.04	0.73	881	0.03	0.48	883	56C
3000	50	60	0.03	0.58	882	0.02	0.38	884	56C
3600	60	60	0.03	0.49	883	0.02	0.32	885	56C

NOTICE: Regardless of the motor size used, exceeding the output torque rating may result in damage to the gearbox.
Overhung load (O.H.L.) for 18GCT is 702 pounds, for 20GCDV is 670 pounds at one shaft diameter from housing.

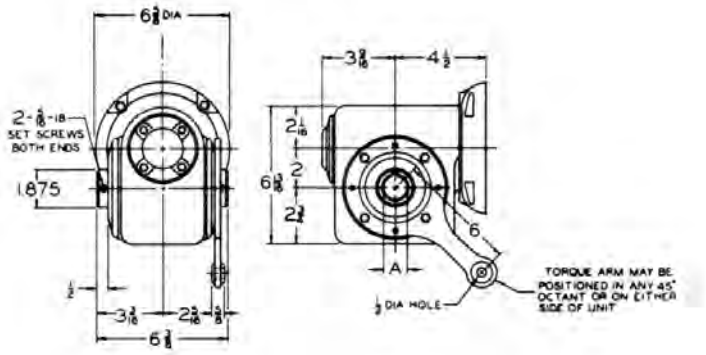
* Refer to page 334 for other service factors. Refer to pages 335 - 339 for shaft arrangements.

† Maximum size given - see page 332 for available motor sizes. Specify the actual NEMA motor frame number that will be used.

GSA and GSF Series

for N.E.M.A. "C" flange motors

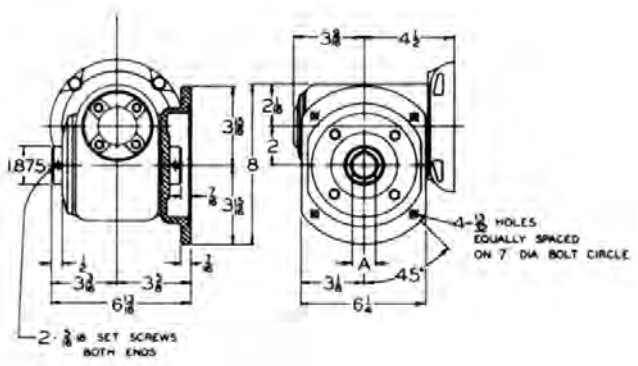
20GSA
Net wt. 27 lbs.
2.0" C.D.



A (BORE)	KEYWAY
.9375 .9385	1/4 x 1/8
1.000 1.001	1/4 x 1/8
1.125 1.126	1/4 x 1/8
1.1875 1.1885	1/4 x 1/8
1.250 1.251	1/4 x 1/8

Shaft mounted units will be furnished with torque arm or mounting flange on the side shown unless otherwise specified on order.

20GSF
Net wt. 27 lbs.
2.0" C.D.



1.00 Service Factor*

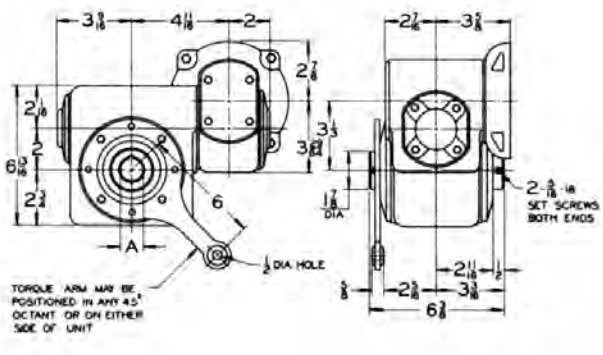
Ratio	At 1750 rpm Input			At 1150 rpm Input			NEMA† Motor Frame No.
	Input hp	Output rpm	Output Torque In.-Lbs.	Input hp	Output rpm	Output Torque In.-Lbs.	
5	2.92	350.0	487	2.35	230.0	588	145TC
7 1/2	2.31	233.0	568	1.84	153.3	676	145TC
10	1.92	175.0	616	1.52	115.0	728	145TC
15	1.44	116.6	663	1.14	76.6	779	145TC
20	1.13	87.5	673	0.88	57.5	779	145TC
25	0.94	70.0	677	0.73	46.0	777	145TC
30	0.84	58.4	685	0.67	38.4	803	56C
40	0.65	43.7	672	0.52	28.7	776	56C
50	0.53	35.0	646	0.42	23.0	742	56C
60	0.44	29.2	610	0.35	19.2	699	56C

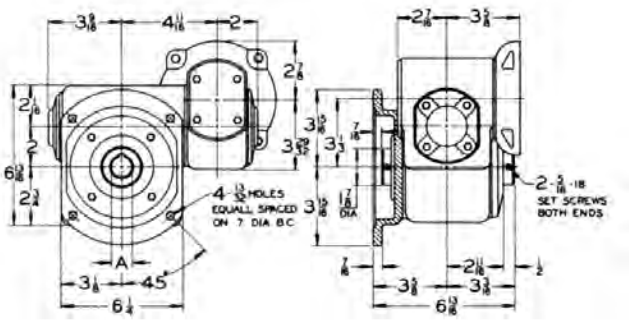
* Refer to page 334 for other service factors. Refer to pages 335 - 339 for shaft arrangements.
** See motors in this book for exact dimensions.
† Maximum size given - see page 332 for available motor sizes. Specify the actual NEMA motor frame number that will be used.

GDSA and GDSF Series

for N.E.M.A. "C" flange motors

20GDSA Net wt. 32 lbs. 2.0" C.D. Net wt. 32 lbs. 20GDSF





1.00 Service Factor* - Double Reduction Wormgear
1.33" Centers Primary - 2.0" Centers Secondary

Ratio	Primary Ratio	Secondary Ratio	At 1750 rpm Input			At 1150 rpm Input			NEMA† Motor Frame Number
			Input hp	Output rpm	Output Torque In.-Lbs.	Input hp	Output rpm	Output Torque In.-Lbs.	
75	5	15	0.50	23.33	956	0.35	15.33	984	56C
100	5	20	0.39	17.50	937	0.27	11.50	962	56C
125	5	25	0.32	14.00	929	0.23	9.20	952	56C
150	10	15	0.29	11.67	996	0.20	7.67	1010	56C
200	10	20	0.22	8.75	973	0.16	5.75	986	56C
250	10	25	0.18	7.00	963	0.13	4.60	975	56C
300	15	20	0.16	5.83	985	0.11	3.83	994	56C
400	20	20	0.13	4.38	991	0.09	2.88	998	56C
500	25	20	0.11	3.50	995	0.08	2.30	1000	56C
600	30	20	0.10	2.92	997	0.07	1.92	1002	56C
800	40	20	0.08	2.19	1000	0.06	1.44	1004	56C
1000	50	20	0.07	1.75	1002	0.05	1.15	1005	56C
1200	60	20	0.06	1.46	1003	0.05	0.96	1006	56C
1500	25	60	0.05	1.17	876	0.04	0.77	880	56C
1800	30	60	0.05	0.97	878	0.03	0.64	882	56C
2400	40	60	0.04	0.73	881	0.03	0.48	883	56C
3000	50	60	0.03	0.58	882	0.02	0.38	884	56C
3600	60	60	0.03	0.49	883	0.02	0.32	885	56C

NOTICE: Regardless of the motor size used, exceeding the output torque rating may result in damage to the gearbox.

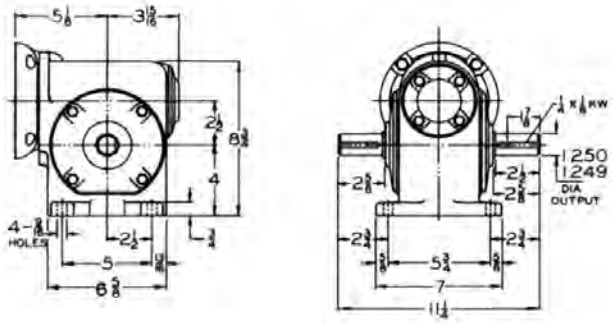
* Refer to page 334 for other service factors. Refer to pages 335 - 339 for shaft arrangements.

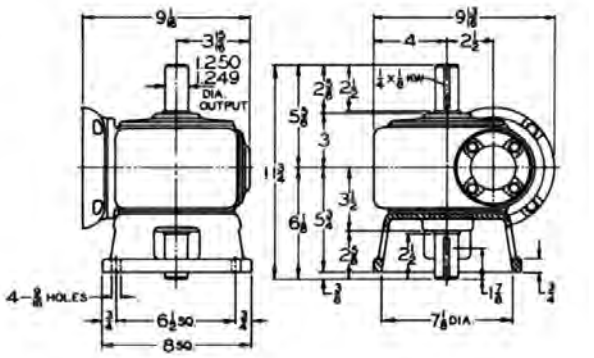
† Maximum size given - see page 332 for available motor sizes. Specify the actual NEMA motor frame number that will be used.

GCT and GCV Series

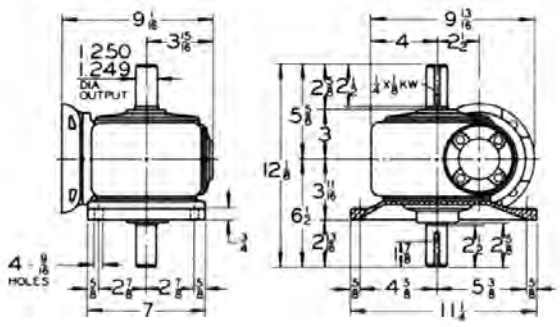
for N.E.M.A. "C" flange motors

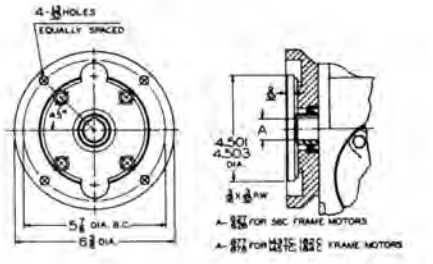
25GCT Net wt. 29 lbs. 2.5" C.D. Net wt. 30 lbs. 25GCV





25GCV LOW BASE Net wt. 30 lbs. 2.5" C.D.





1.00 Service Factor*

Ratio	At 1750 rpm Input			At 1150 rpm Input			NEMA† Motor Frame No.
	Input hp	Output rpm	Output Torque In.-Lbs.	Input hp	Output rpm	Output Torque In.-Lbs.	
5	4.76	350.0	798	3.95	230.0	996	145TC
7 1/2	3.82	233.0	946	3.12	153.3	1152	145TC
10	3.18	175.0	1031	2.58	115.0	1253	145TC
15	2.37	116.6	1113	1.93	76.6	1344	145TC
20	1.88	87.5	1139	1.52	57.5	1364	145TC
25	1.54	70.0	1140	1.24	46.0	1347	145TC
30	1.37	58.4	1155	1.13	38.4	1390	145TC
40	1.07	43.7	1139	0.88	28.7	1361	145TC
50	0.86	35.0	1090	0.70	23.0	1285	56C
60	0.70	29.2	1024	0.57	19.2	1196	56C

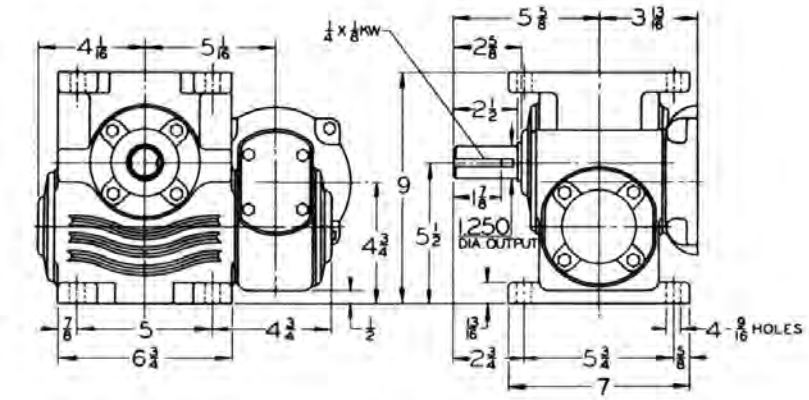
Overhung load (O.H.L.) for 25GSA is 1211 pounds, for 25GSF is 1030 pounds at one shaft diameter from housing.

* Refer to page 334 for other service factors. Refer to pages 335 - 339 for shaft arrangements.

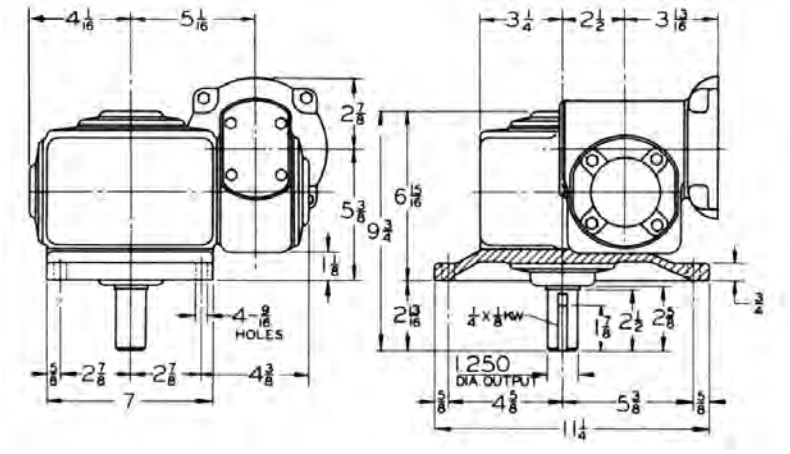
† Maximum size given - see page 332 for available motor sizes. Specify the actual NEMA motor frame number that will be used.

GCDB and GCDV Series

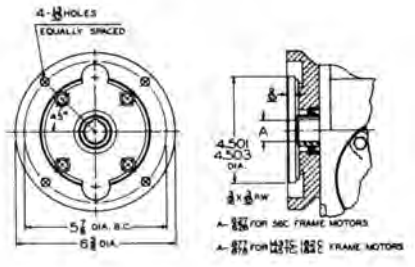
for N.E.M.A. "C" flange motors



25GCDB
Net wt. 57 lbs.
2.5" C.D.



25GCDV
Net wt. 68 lbs.
2.5" C.D.



PoweRgear

1.00 Service Factor* - Double Reduction Wormgear
1.75" Centers Primary - 2.5" Centers Secondary

Ratio	Primary Ratio	Secondary Ratio	At 1750 rpm Input				At 1150 rpm Input		NEMA† Motor Frame Number
			Input hp	Output rpm	Output Torque In.-Lbs.	Input hp	Output rpm	Output Torque In.-Lbs.	
75	5	15	0.88	23.33	1728	0.62	15.33	1790	56C
100	5	20	0.69	17.50	1725	0.49	11.50	1783	56C
125	5	25	0.55	14.00	1667	0.39	9.20	1718	56C
150	10	15	0.51	11.67	1818	0.35	7.67	1849	56C
200	10	20	0.40	8.75	1809	0.28	5.75	1838	56C
250	10	25	0.32	7.00	1741	0.22	4.60	1766	56C
300	15	20	0.29	5.83	1837	0.20	3.83	1857	56C
400	20	20	0.23	4.38	1852	0.17	2.88	1866	56C
500	25	20	0.20	3.50	1860	0.14	2.30	1872	56C
600	30	20	0.18	2.92	1866	0.13	1.92	1875	56C
800	40	20	0.15	2.19	1873	0.11	1.44	1880	56C
1000	50	20	0.13	1.75	1877	0.09	1.15	1883	56C
1200	60	20	0.11	1.46	1880	0.08	0.96	1885	56C
1500	25	60	0.08	1.17	1552	0.06	0.77	1560	56C
1800	30	60	0.07	0.97	1556	0.05	0.64	1562	56C
2400	40	60	0.06	0.73	1561	0.04	0.48	1566	56C
3000	50	60	0.05	0.58	1564	0.04	0.38	1568	56C
3600	60	60	0.05	0.49	1566	0.03	0.32	1569	56C

NOTICE: Regardless of the motor size used, exceeding the output torque rating may result in damage to the gearbox.
Overhung load (O.H.L.) for 25GCDB is 1211 pounds, for 25GCDV is 1030 pounds at one shaft diameter from housing.

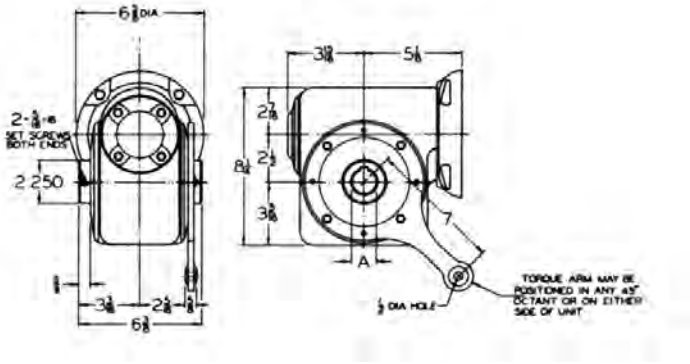
* Refer to page 334 for other service factors. Refer to pages 335 - 339 for shaft arrangements.

† Maximum size given - see page 332 for available motor sizes. Specify the actual NEMA motor frame number that will be used.

GSA and GSF Series

for N.E.M.A. "C" flange motors

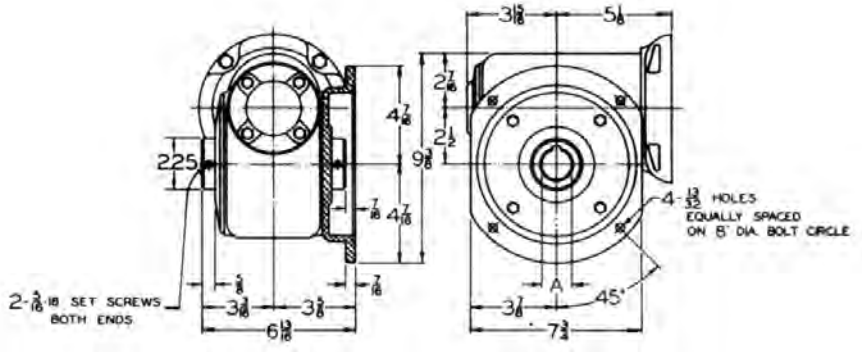
25GSA
Net wt. 33 lbs.
2.5" C.D.



A (BORE)	KEYWAY
.9375 .9385	1/4 x 1/8
1.000 1.001	1/4 x 1/8
1.125 1.126	1/4 x 1/8
1.1875 1.1885	1/4 x 1/8
1.250 1.251	1/4 x 1/8
1.3125 1.3135	5/16 x 5/32
1.4375 1.4385	3/8 x 3/16

Shaft mounted units will be furnished with torque arm or mounting flange on the side shown unless otherwise specified on order.

25GSF
Net wt. 33 lbs.
2.5" C.D.



1.00 Service Factor*

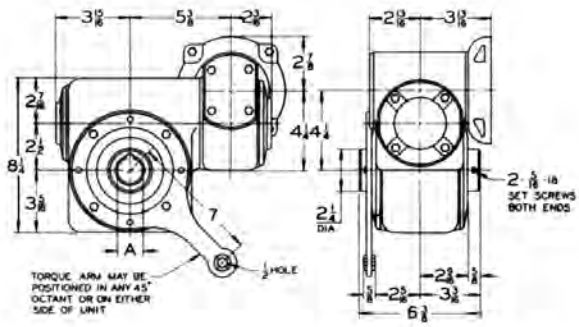
Ratio	At 1750 rpm Input			At 1150 rpm Input			NEMA† Motor Frame No.
	Input hp	Output rpm	Output Torque In.-Lbs.	Input hp	Output rpm	Output Torque In.-Lbs.	
5	4.76	350.0	798	3.95	230.0	996	145TC
7 1/2	3.82	233.0	946	3.12	153.3	1152	145TC
10	3.18	175.0	1031	2.58	115.0	1253	145TC
15	2.37	116.6	1113	1.93	76.6	1344	145TC
20	1.88	87.5	1139	1.52	57.5	1364	145TC
25	1.54	70.0	1140	1.24	46.0	1347	145TC
30	1.37	58.4	1155	1.13	38.4	1390	145TC
40	1.07	43.7	1139	0.88	28.7	1361	145TC
50	0.86	35.0	1090	0.70	23.0	1285	56C
60	0.70	29.2	1024	0.57	19.2	1196	56C

* Refer to page 334 for other service factors. Refer to pages 335 - 339 for shaft arrangements.
† Maximum size given - see page 332 for available motor sizes. Specify the actual NEMA motor frame number that will be used.

GDSA and GDSF Series

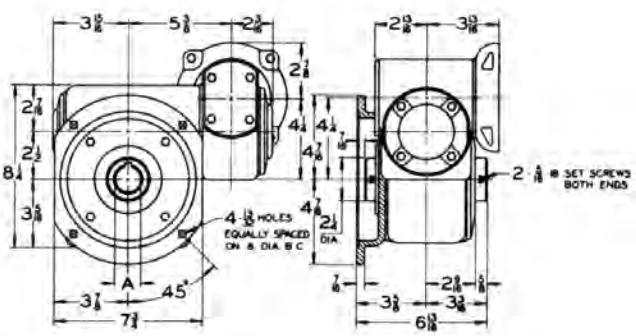
for N.E.M.A. "C" flange motors

25GDSA Net wt. 48 lbs.



2.5" C.D.

Net wt. 48 lbs. 25GDSF



A (BORE)	KEYWAY
.9375 .9385	1/4 x 1/8
1.000 1.001	1/4 x 1/8
1.125 1.126	1/4 x 1/8
1.1875 1.1885	1/4 x 1/8
1.250 1.251	1/4 x 1/8
1.3125 1.3135	5/16 x 5/32
1.4375 1.4385	3/8 x 3/16

1.00 Service Factor* - Double Reduction Wormgear
1.75" Centers Primary - 2.5" Centers Secondary

Ratio	Primary Ratio	Secondary Ratio	At 1750 rpm Input			At 1150 rpm Input			NEMA† Motor Frame Number
			Input hp	Output rpm	Output Torque In.-Lbs.	Input hp	Output rpm	Output Torque In.-Lbs.	
75	5	15	0.88	23.33	1728	0.62	15.33	1790	56C
100	5	20	0.69	17.50	1725	0.49	11.50	1783	56C
125	5	25	0.55	14.00	1667	0.39	9.20	1718	56C
150	10	15	0.51	11.67	1818	0.35	7.67	1849	56C
200	10	20	0.40	8.75	1809	0.28	5.75	1838	56C
250	10	25	0.32	7.00	1741	0.22	4.60	1766	56C
300	15	20	0.29	5.83	1837	0.20	3.83	1857	56C
400	20	20	0.23	4.38	1852	0.17	2.88	1866	56C
500	25	20	0.20	3.50	1860	0.14	2.30	1872	56C
600	30	20	0.18	2.92	1866	0.13	1.92	1875	56C
800	40	20	0.15	2.19	1873	0.11	1.44	1880	56C
1000	50	20	0.13	1.75	1877	0.09	1.15	1883	56C
1200	60	20	0.11	1.46	1880	0.08	0.96	1885	56C
1500	25	60	0.08	1.17	1552	0.06	0.77	1560	56C
1800	30	60	0.07	0.97	1556	0.05	0.64	1562	56C
2400	40	60	0.06	0.73	1561	0.04	0.48	1566	56C
3000	50	60	0.05	0.58	1564	0.04	0.38	1568	56C
3600	60	60	0.05	0.49	1566	0.03	0.32	1569	56C

NOTICE: Regardless of the motor size used, exceeding the output torque rating may result in damage to the gearbox.

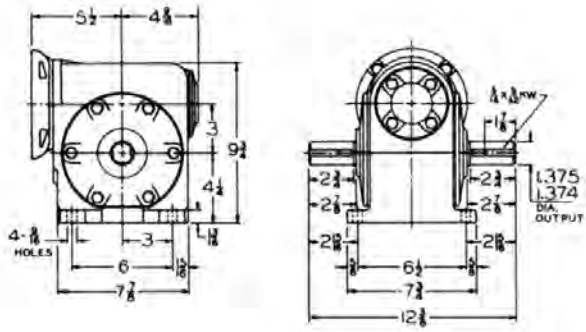
* Refer to page 334 for other service factors. Refer to pages 332 - 339 for shaft arrangements.

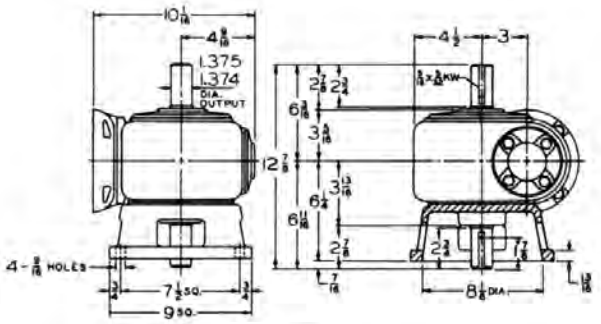
† Maximum size given - see page 334 for available motor sizes. Specify the actual NEMA motor frame number that will be used.

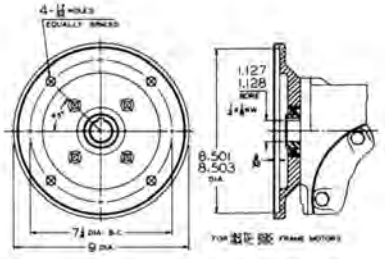
GCT and GCV Series

for N.E.M.A. "C" flange motors

30GCT Net wt. 68 lbs. 3.0" C.D. Net wt. 75 lbs. 30GCV

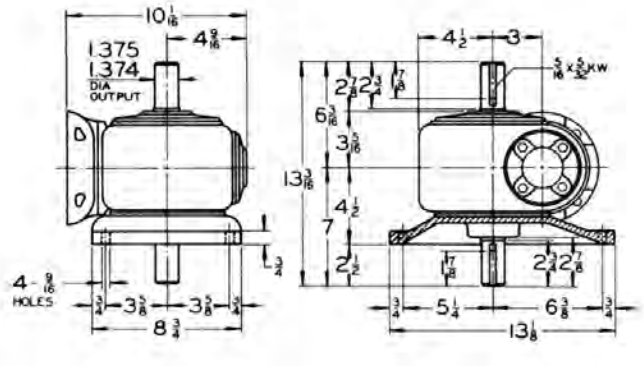


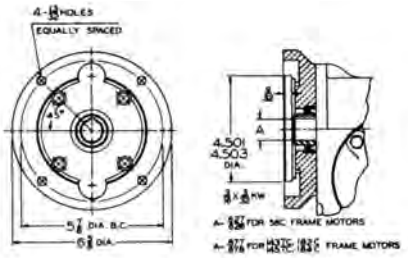




182TC & 184TC MOTOR FRAME

30GCV LOW BASE Net wt. 75 lbs. 3.0" C.D.





56C Motor Frame
A-.627 - .628 Dia. Bore

143TC-145TC Motor Frame
.877-.878 Dia. Bore

3/16 x 3/32 KW

1.00 Service Factor*

Ratio	At 1750 rpm Input			At 1150 rpm Input			NEMA† Motor Frame No.
	Input hp	Output rpm	Output Torque In.-Lbs.	Input hp	Output rpm	Output Torque In.-Lbs.	
5	8.06	350.0	1357	6.82	230.0	1729	184TC
7 1/2	6.44	233.0	1603	5.52	153.3	2026	184TC
10	5.37	175.0	1753	4.50	115.0	2198	184TC
15	4.01	116.6	1899	3.36	76.6	2366	184TC
20	3.19	87.5	1956	2.65	57.5	2412	184TC
25	2.64	70.0	1975	2.18	46.0	2404	145TC
30	2.31	58.4	1975	1.96	38.4	2451	145TC
40	1.81	43.7	1959	1.53	28.7	2406	145TC
50	1.46	35.0	1889	1.23	23.0	2298	145TC
60	1.21	29.2	1791	1.02	19.2	2172	145TC

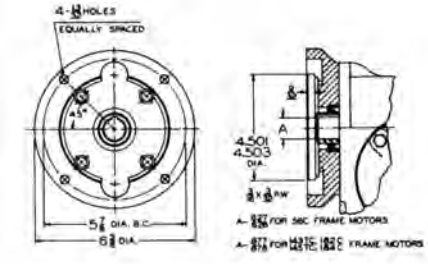
Overhung load (O.H.L.) for 30GCT is 1403 pounds, for 30GCV is 1212 pounds at one shaft diameter from housing.

* Refer to page 334 for other service factors. Refer to pages 335 - 339 for shaft arrangements.

† Maximum size given - see page 332 for available motor sizes. Specify the actual NEMA motor frame number that will be used.

GCDB and GCDV Series

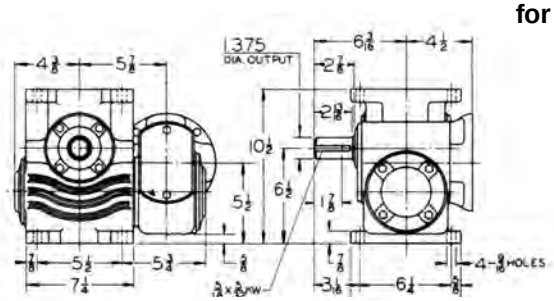
for N.E.M.A. "C" flange motors



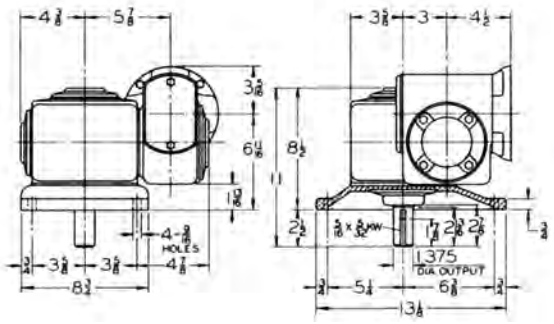
56C MOTOR FRAME
A-.627 - .628 DIA. BORE

143TC-145TC MOTOR FRAME
.877-.878 DIA. BORE

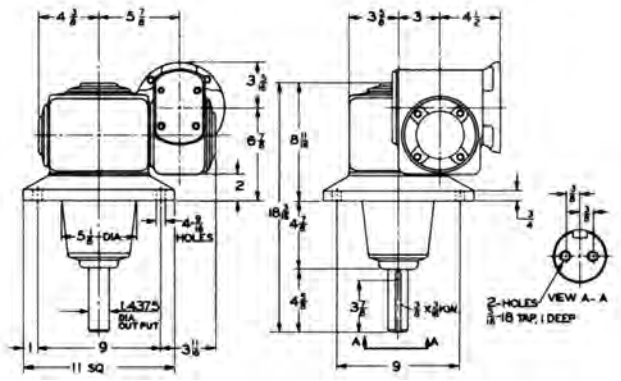
3/16 x 3/32 KW



30GCDB
Net wt. 86 lbs.
3.0" C.D.



30GCDV
Net wt. 94 lbs.
3.0" C.D.



30GCDVX
Net wt. 112 lbs.
3.0" C.D.

PoweRgear

1.00 Service Factor* - Double Reduction Wormgear
2.0" Centers Primary - 3.0" Centers Secondary

Ratio	Primary Ratio	Secondary Ratio	At 1750 rpm Input			At 1150 rpm Input			NEMA† Motor Frame Number
			Input hp	Output rpm	Output Torque In.-Lbs.	Input hp	Output rpm	Output Torque In.-Lbs.	
75	5	15	1.61	23.33	3208	1.15	15.33	3348	145TC
100	5	20	1.26	17.50	3207	0.90	11.50	3337	145TC
125	5	25	1.02	14.00	3132	0.73	9.20	3250	145TC
150	10	15	0.93	11.67	3412	0.65	7.67	3483	56C
200	10	20	0.73	8.75	3398	0.51	5.75	3464	56C
250	10	25	0.59	7.00	3304	0.42	4.60	3363	56C
300	15	20	0.53	5.83	3462	0.37	3.83	3506	56C
400	20	20	0.42	4.38	3494	0.30	2.88	3527	56C
500	25	20	0.35	3.50	3513	0.25	2.30	3540	56C
600	30	20	0.32	2.92	3526	0.23	1.92	3548	56C
800	40	20	0.26	2.19	3542	0.18	1.44	3559	56C
1000	50	20	0.22	1.75	3552	0.16	1.15	3565	56C
1200	60	20	0.20	1.46	3558	0.14	0.96	3569	56C
1500	25	60	0.16	1.17	3044	0.11	0.77	3065	56C
1800	30	60	0.14	0.97	3054	0.10	0.64	3071	56C
2400	40	60	0.12	0.73	3067	0.08	0.48	3080	56C
3000	50	60	0.10	0.58	3074	0.07	0.38	3085	56C
3600	60	60	0.09	0.49	3079	0.06	0.32	3088	56C

NOTICE: Regardless of the motor size used, exceeding the output torque rating may result in damage to the gearbox.
Overhung load (O.H.L.) for 30GCDB is 1403 pounds, for 30GCDV is 1212 pounds at one shaft diameter from housing.

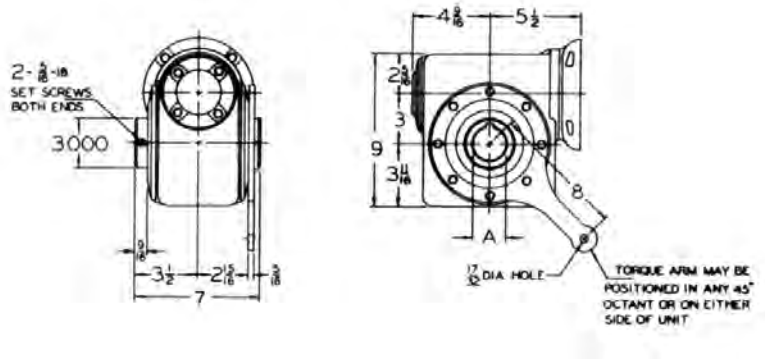
* Refer to page 334 for other service factors. Refer to pages 335 - 339 for shaft arrangements.

† Maximum size given - see page 332 for available motor sizes. Specify the actual NEMA motor frame number that will be used.

GSA and GSF Series

for N.E.M.A. "C" flange motors

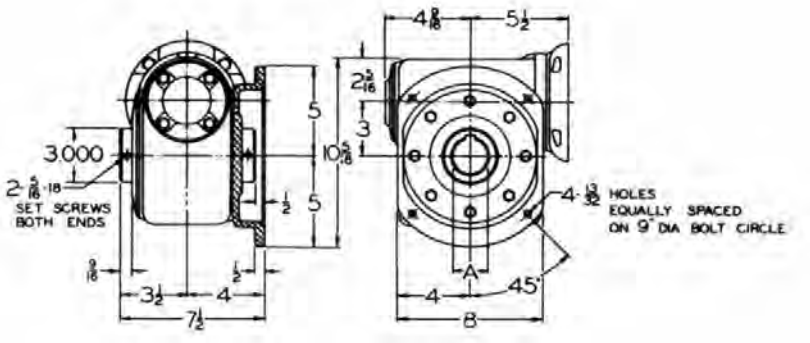
30GSA
Net wt. 50 lbs.
3.0" C.D.



A (BORE)	KEYWAY
2.000-2.001	1/2 x 1/4
1.9375-1.9385	1/2 x 1/4
1.875-1.876	1/2 x 1/4
1.750-7.751	3/8 x 3/16
1.6875-1.6885	3/8 x 3/16
1.625-1.626	3/8 x 3/16
1.500-1.501	3/8 x 3/16
1.4375-1.4385	3/8 x 3/16

Shaft mounted units will be furnished with torque arm or mounting flange on the side shown unless otherwise specified on order.

30GSF
Net wt. 50 lbs.
3.0" C.D.



1.00 Service Factor*

Ratio	At 1750 rpm Input			At 1150 rpm Input			NEMA† Motor Frame No.
	Input hp	Output rpm	Output Torque In.-Lbs.	Input hp	Output rpm	Output Torque In.-Lbs.	
5	8.06	350.0	1357	6.82	230.0	1729	184TC
7 1/2	6.44	233.0	1603	5.52	153.3	2026	184TC
10	5.37	175.0	1753	4.50	115.0	2198	184TC
15	4.01	116.6	1899	3.36	76.6	2366	184TC
20	3.19	87.5	1956	2.65	57.5	2412	184TC
25	2.64	70.0	1975	2.18	46.0	2404	145TC
30	2.31	58.4	1975	1.96	38.4	2451	145TC
40	1.81	43.7	1959	1.53	28.7	2406	145TC
50	1.46	35.0	1889	1.23	23.0	2298	145TC
60	1.21	29.2	1791	1.02	19.2	2172	145TC

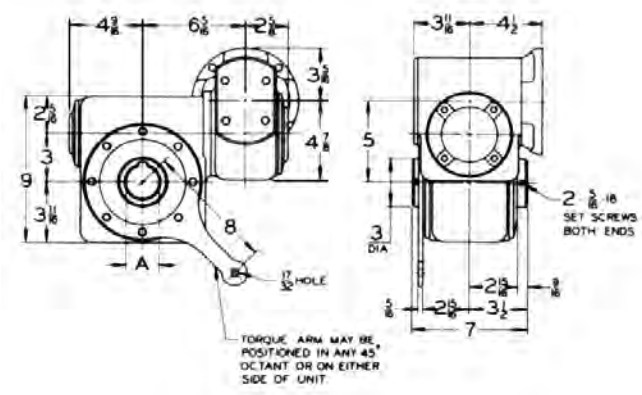
* Refer to page 334 for other service factors. Refer to pages 335 - 339 for shaft arrangements.

† Maximum size given - see page 332 for available motor sizes. Specify the actual NEMA motor frame number that will be used.

GDSA and GDSF Series

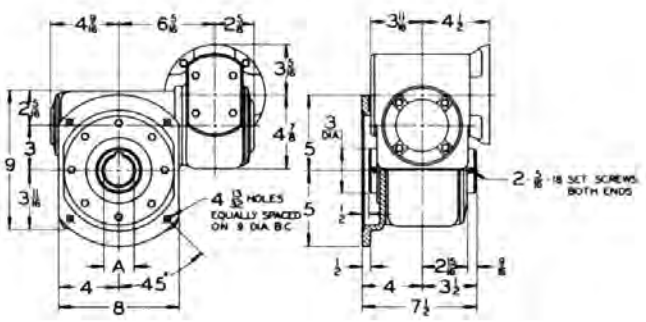
for N.E.M.A. "C" flange motors

30GDSA
Net wt. 72 lbs.
3.0" C.D.



A (BORE)	KEYWAY
1.4375 1.4385	3/8 x 3/16
1.500 1.501	3/8 x 3/16
1.625 1.626	3/8 x 3/16
1.6875 1.6885	3/8 x 3/16
1.750 1.751	3/8 x 3/16
1.875 1.876	1/2 x 1/4
1.9375 1.9385	1/2 x 1/4
2.000 2.001	1/2 x 1/4

30GDSF
Net wt. 72 lbs.
3.0" C.D.



1.00 Service Factor* - Double Reduction Wormgear
2.0" Centers Primary - 3.0" Centers Secondary

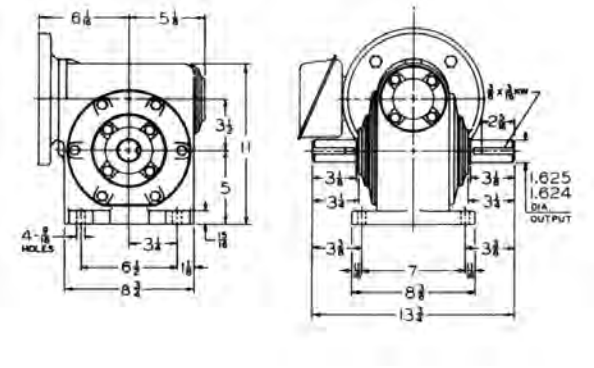
Ratio	Primary Ratio	Secondary Ratio	At 1750 rpm Input			At 1150 rpm Input			NEMA† Motor Frame Number
			Input hp	Output rpm	Output Torque In.-Lbs.	Input hp	Output rpm	Output Torque In.-Lbs.	
75	5	15	1.61	23.33	3208	1.15	15.33	3348	145TC
100	5	20	1.26	17.50	3207	0.90	11.50	3337	145TC
125	5	25	1.02	14.00	3132	0.73	9.20	3250	145TC
150	10	15	0.93	11.67	3412	0.65	7.67	3483	56C
200	10	20	0.73	8.75	3398	0.51	5.75	3464	56C
250	10	25	0.59	7.00	3304	0.42	4.60	3363	56C
300	15	20	0.53	5.83	3462	0.37	3.83	3506	56C
400	20	20	0.42	4.38	3494	0.30	2.88	3527	56C
500	25	20	0.35	3.50	3513	0.25	2.30	3540	56C
600	30	20	0.32	2.92	3526	0.23	1.92	3548	56C
800	40	20	0.26	2.19	3542	0.18	1.44	3559	56C
1000	50	20	0.22	1.75	3552	0.16	1.15	3565	56C
1200	60	20	0.20	1.46	3558	0.14	0.96	3569	56C
1500	25	60	0.16	1.17	3044	0.11	0.77	3065	56C
1800	30	60	0.14	0.97	3054	0.10	0.64	3071	56C
2400	40	60	0.12	0.73	3067	0.08	0.48	3080	56C
3000	50	60	0.10	0.58	3074	0.07	0.38	3085	56C
3600	60	60	0.09	0.49	3079	0.06	0.32	3088	56C

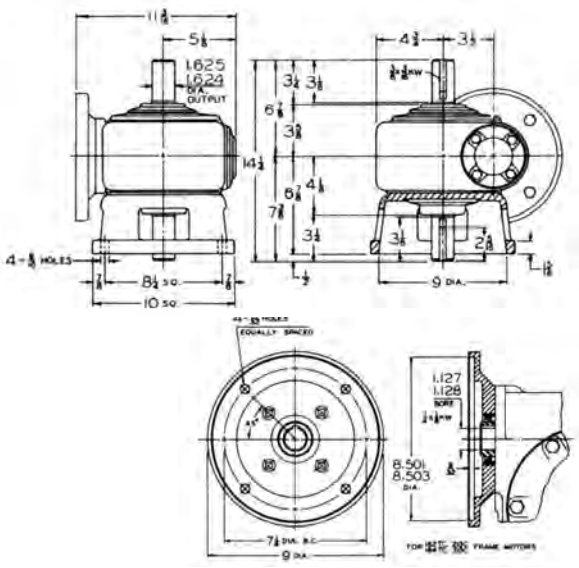
NOTICE: Regardless of the motor size used, exceeding the output torque rating may result in damage to the gearbox.
* Refer to page 334 for other service factors. Refer to pages 335 - 339 for shaft arrangements.
† Maximum size given - see page 332 for available motor sizes. Specify the actual NEMA motor frame number that will be used.

GCT and GCV Series

for N.E.M.A. "C" flange motors

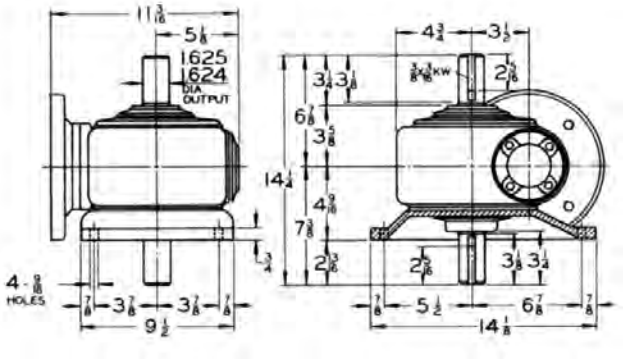
35GCT Net wt. 93 lbs. — 3.5" C.D. — Net wt. 102 lbs. 35GCV

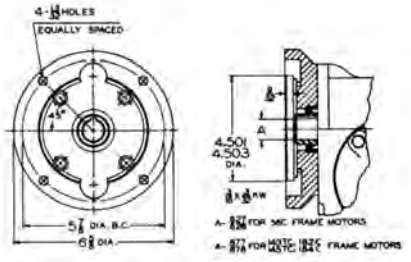




182TC & 184TC MOTOR FRAME

35GCV LOW BASE Net wt. 102 lbs. — 3.5" C.D.





56C MOTOR FRAME
A-.627 - .628 DIA. BORE

143TC-145TC MOTOR FRAME
.877-.878 DIA. BORE

3/16 x 3/32 KW

1.00 Service Factor*

Ratio	At 1750 rpm Input			At 1150 rpm Input			NEMA† Motor Frame No.
	Input hp	Output rpm	Output Torque In.-Lbs.	Input hp	Output rpm	Output Torque In.-Lbs.	
5	11.54	350.0	1951	9.70	230.0	2470	184TC
7 1/2	9.12	233.0	2279	7.74	153.3	2903	184TC
10	7.55	175.0	2474	6.43	115.0	3155	184TC
15	5.60	116.6	2663	4.80	76.6	3396	184TC
20	4.44	87.5	2739	3.80	57.5	3469	184TC
25	3.67	70.0	2773	3.11	46.0	3470	184TC
30	3.22	58.4	2773	2.79	38.4	3516	184TC
40	2.50	43.7	2738	2.16	28.7	3468	145TC
50	2.02	35.0	2657	1.74	23.0	3320	145TC
60	1.67	29.2	2522	1.44	19.2	3138	145TC

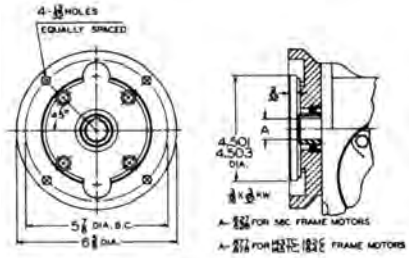
Overhung load (O.H.L.) for 35GCT is 2066 pounds, for 35GCV is 1804 pounds at one shaft diameter from housing.

* Refer to page 333 for other service factors. Refer to pages 335 - 339 for shaft arrangements.

† Maximum size given - see page 332 for available motor sizes. Specify the actual NEMA motor frame number that will be used.

GCDB, GCDV and GCDVX Series

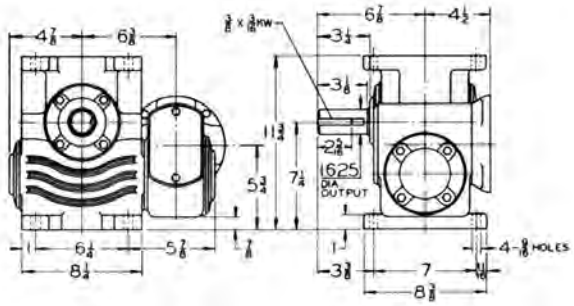
for N.E.M.A. "C" flange motors



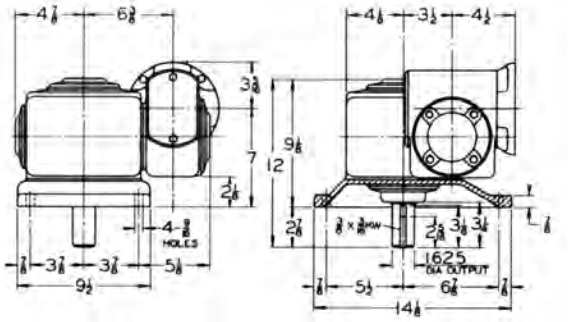
56C MOTOR FRAME
A-.627 - .628 DIA. BORE

143TC-145TC MOTOR FRAME
.877-.878 DIA. BORE

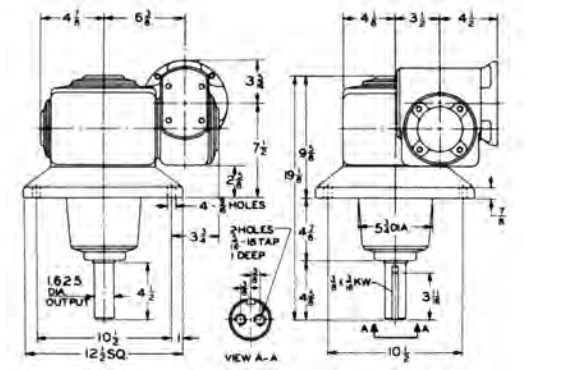
3/16 x 3/32 KW



35GCDB
Net wt. 107 lbs.
3.5" C.D.



35GCDV
Net wt. 113 lbs.
3.5" C.D.



35GCDVX
Net wt. 138 lbs.
3.5" C.D.

1.00 Service Factor* - Double Reduction Wormgear
2.0" Centers Primary - 3.5" Centers Secondary

Ratio	Primary Ratio	Secondary Ratio	At 1750 rpm Input			At 1150 rpm Input			NEMA† Motor Frame Number
			Input hp	Output rpm	Output Torque In.-Lbs.	Input hp	Output rpm	Output Torque In.-Lbs.	
75	5	15	2.47	23.33	4919	1.77	15.33	5187	145TC
100	5	20	1.93	17.50	4903	1.39	11.50	5147	145TC
125	5	25	1.54	14.00	4750	1.11	9.20	4963	145TC
150	10	15	1.44	11.67	5311	1.02	7.67	5446	145TC
200	10	20	1.13	8.75	5260	0.79	5.75	5384	145TC
250	10	25	0.90	7.00	5061	0.63	4.60	5169	56C
300	15	20	0.82	5.83	5381	0.58	3.83	5463	56C
400	20	20	0.65	4.38	5441	0.46	2.88	5503	56C
500	25	20	0.55	3.50	5477	0.39	2.30	5527	56C
600	30	20	0.50	2.92	5501	0.35	1.92	5543	56C
800	40	20	0.40	2.19	5532	0.29	1.44	5563	56C
1000	50	20	0.35	1.75	5550	0.25	1.15	5575	56C
1200	60	20	0.31	1.46	5562	0.22	0.96	5583	56C
1500	25	60	0.24	1.17	4671	0.17	0.77	4709	56C
1800	30	60	0.21	0.97	4691	0.15	0.64	4721	56C
2400	40	60	0.17	0.73	4712	0.13	0.48	4735	56C
3000	50	60	0.15	0.58	4726	0.11	0.38	4744	56C
3600	60	60	0.14	0.49	4735	0.10	0.32	4750	56C

NOTICE: Regardless of the motor size used, exceeding the output torque rating may result in damage to the gearbox.
Overhung load (O.H.L.) for 35GCDB is 2066 pounds, for 35GCDV is 1612 pounds at one shaft diameter from housing.

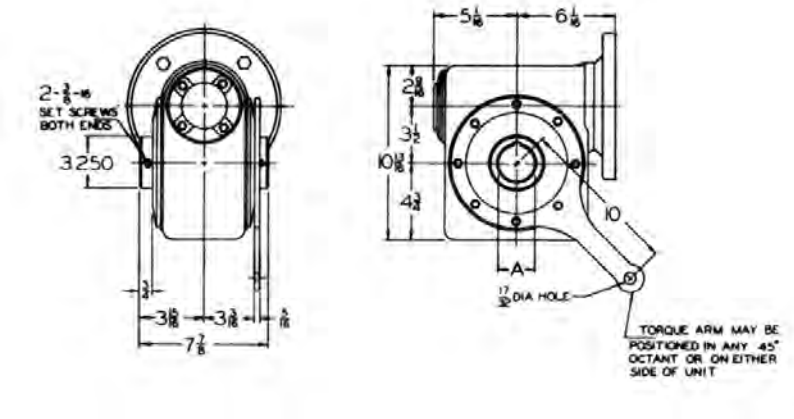
* Refer to page 334 for other service factors. Refer to pages 335 - 339 for shaft arrangements.

† Maximum size given - see page 332 for available motor sizes. Specify the actual NEMA motor frame number that will be used.

GSA and GSF Series

for N.E.M.A. "C" flange motors

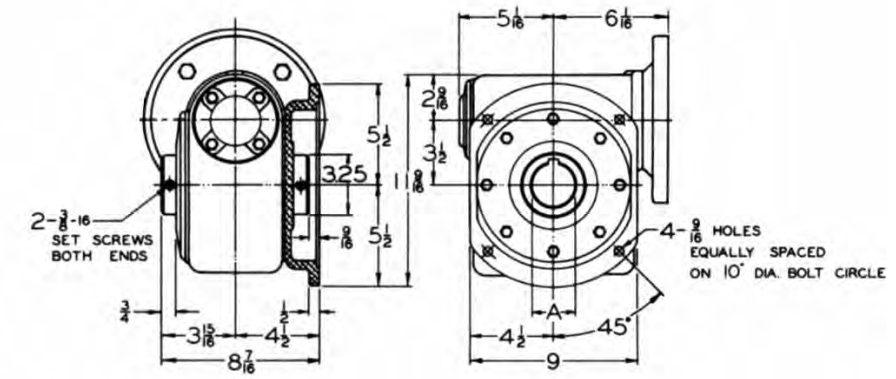
35GSA
Net wt. 65 lbs.
3.5" C.D.



A (BORE)	KEYWAY
2.1875-2.1885	1/2 x 1/4
2.000-2.001	1/2 x 1/4
1.9375-1.9385	1/2 x 1/4
1.875-1.876	1/2 x 1/4
1.750-17.51	3/8 x 3/16

Shaft mounted units will be furnished with torque arm or mounting flange on the side shown unless otherwise specified on order.

35GSF
Net wt. 65 lbs.
3.5" C.D.



1.00 Service Factor*

Ratio	At 1750 rpm Input			At 1150 rpm Input			NEMA† Motor Frame No.
	Input hp	Output rpm	Output Torque In.-Lbs.	Input hp	Output rpm	Output Torque In.-Lbs.	
5	11.54	350.0	1951	9.70	230.0	2470	184TC
7 1/2	9.12	233.0	2279	7.74	153.3	2903	184TC
10	7.55	175.0	2474	6.43	115.0	3155	184TC
15	5.60	116.6	2663	4.80	76.6	3396	184TC
20	4.44	87.5	2739	3.80	57.5	3469	184TC
25	3.67	70.0	2773	3.11	46.0	3470	184TC
30	3.22	58.4	2773	2.79	38.4	3516	184TC
40	2.50	43.7	2738	2.16	28.7	3468	145TC
50	2.02	35.0	2657	1.74	23.0	3320	145TC
60	1.67	29.2	2522	1.44	19.2	3138	145TC

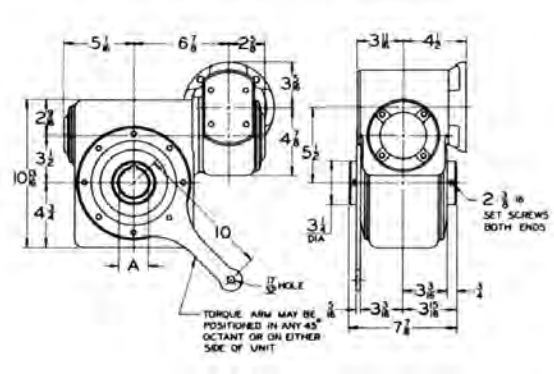
* Refer to page 334 for other service factors. Refer to pages 335 - 339 for shaft arrangements.

† Maximum size given - see page 332 for available motor sizes. Specify the actual NEMA motor frame number that will be used.

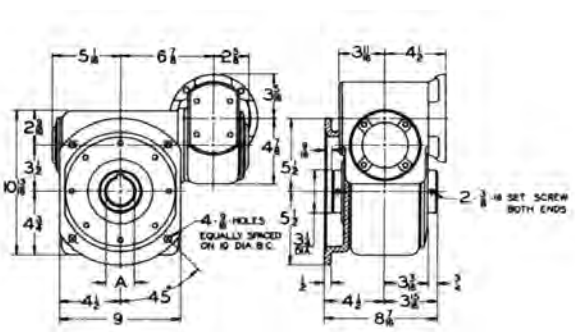
GDSA and GDSF Series

for N.E.M.A. "C" flange motors

35GDSA Net wt. 84 lbs. 3.5" C.D. Net wt. 84 lbs. 35GDSF



A (BORE)	KEYWAY
1.750 1.751	3/8 x 3/16
1.875 1.876	1/2 x 1/4
1.9375 1.9385	1/2 x 1/4
2.000 2.001	1/2 x 1/4
2.1875 2.1865	1/2 x 1/4



1.00 Service Factor* - Double Reduction Wormgear
2.0" Centers Primary - 3.5" Centers Secondary

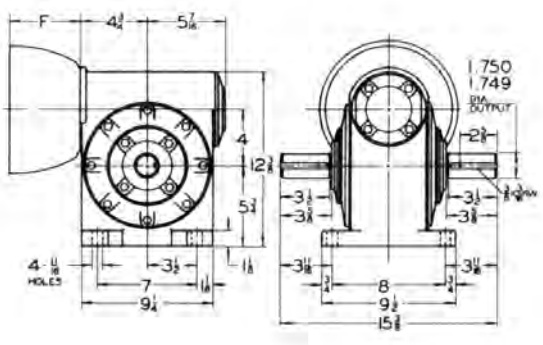
Ratio	Primary Ratio	Secondary Ratio	At 1750 rpm Input			At 1150 rpm Input			NEMA† Motor Frame Number
			Input hp	Output rpm	Output Torque In.-Lbs.	Input hp	Output rpm	Output Torque In.-Lbs.	
75	5	15	2.47	23.33	4919	1.77	15.33	5187	145TC
100	5	20	1.93	17.50	4903	1.39	11.50	5147	145TC
125	5	25	1.54	14.00	4750	1.11	9.20	4963	145TC
150	10	15	1.44	11.67	5311	1.02	7.67	5446	145TC
200	10	20	1.13	8.75	5260	0.79	5.75	5384	145TC
250	10	25	0.90	7.00	5061	0.63	4.60	5169	56C
300	15	20	0.82	5.83	5381	0.58	3.83	5463	56C
400	20	20	0.65	4.38	5441	0.46	2.88	5503	56C
500	25	20	0.55	3.50	5477	0.39	2.30	5527	56C
600	30	20	0.50	2.92	5501	0.35	1.92	5543	56C
800	40	20	0.40	2.19	5532	0.29	1.44	5563	56C
1000	50	20	0.35	1.75	5550	0.25	1.15	5575	56C
1200	60	20	0.31	1.46	5562	0.22	0.96	5583	56C
1500	25	60	0.24	1.17	4671	0.17	0.77	4709	56C
1800	30	60	0.21	0.97	4691	0.15	0.64	4721	56C
2400	40	60	0.17	0.73	4712	0.13	0.48	4735	56C
3000	50	60	0.15	0.58	4726	0.11	0.38	4744	56C
3600	60	60	0.14	0.49	4735	0.10	0.32	4750	56C

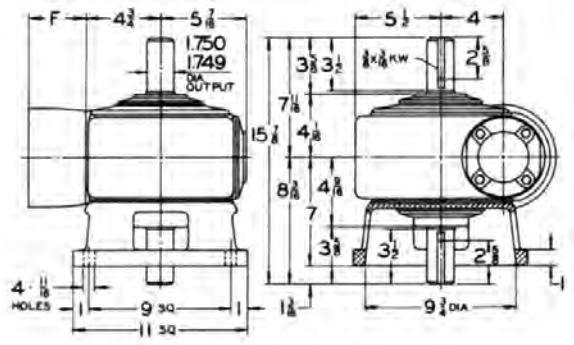
NOTICE: Regardless of the motor size used, exceeding the output torque rating may result in damage to the gearbox.
* Refer to page 334 for other service factors. Refer to pages 335 - 339 for shaft arrangements.
† Maximum size given - see page 332 for available motor sizes. Specify the actual NEMA motor frame number that will be used.

GCT and GCV Series

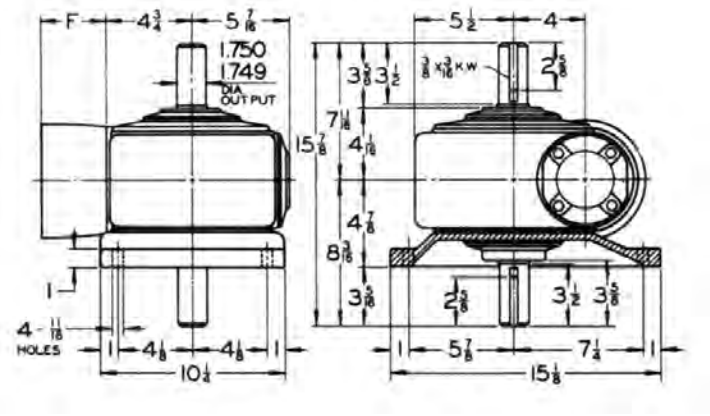
for N.E.M.A. "C" flange motors

40GCT Net wt. 118 lbs. 4.0" C.D. Net wt. 130 lbs. 40GCV





40GCV LOW BASE Net wt. 130 lbs. 4.0" C.D.



Motor mounting coupling for GCT and GCV single reducion units with 4", 5", & 6" center distances is included in the flanged reducer package.

1.00 Service Factor*

Ratio	At 1750 rpm Input			At 1150 rpm Input			NEMA† Motor Frame No.	F
	Input hp	Output rpm	Output Torque In.-Lbs.	Input hp	Output rpm	Output Torque In.-Lbs.		
5	15.15	350.0	2570	12.65	230.0	3233	215TC	5 1/2
10	10.03	175.0	3321	8.52	115.0	4229	215TC	5 1/2
15	7.44	116.6	3592	6.36	76.6	4580	215TC	5 1/2
20	5.89	87.5	3685	5.06	57.5	4702	184TC	5 1/2
25	4.87	70.0	3712	4.14	46.0	4695	184TC	5 1/2
30	4.22	58.4	3733	3.65	38.4	4760	184TC	5 1/2
40	3.31	43.7	3710	2.88	28.7	4705	184TC	3 5/8
50	2.63	35.0	3555	2.29	23.0	4493	145TC	3 5/8
60	2.15	29.2	3372	1.86	19.2	4226	145TC	3 5/8

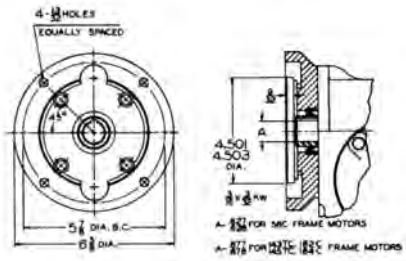
Overhung load (O.H.L.) for 40GCT is 2736 pounds, for 40GCV is 2423 pounds at one shaft diameter from housing.

* Refer to page 334 for other service factors. Refer to pages 335 - 339 for shaft arrangements.

† Maximum size given - see page 332 for available motor sizes. Specify the actual NEMA motor frame number that will be used.

GCDB, GCDV and GCDVX Series

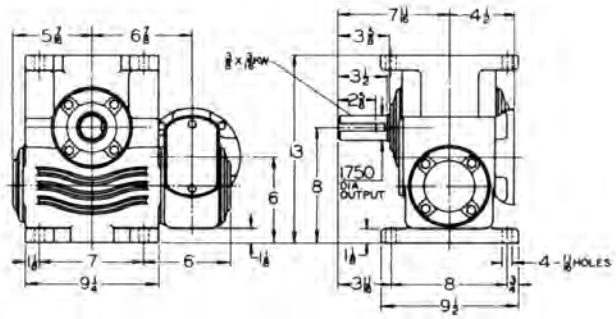
for N.E.M.A. "C" flange motors



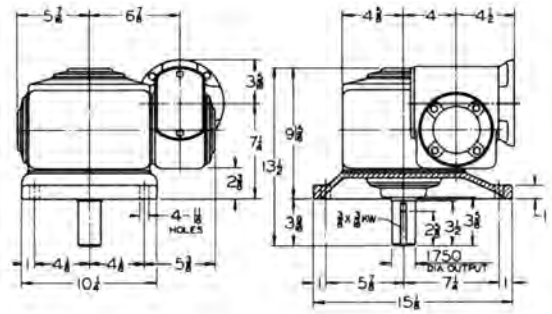
56C MOTOR FRAME
A-.627 - .628 DIA. BORE

143TC-145TC MOTOR FRAME
.877-.878 DIA. BORE

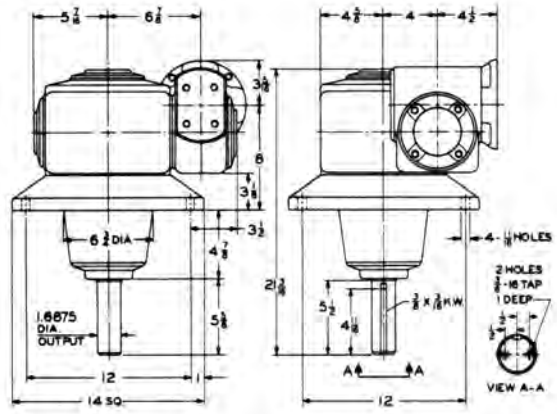
3/16 x 3/32 KW



40GCDB
Net wt. 137 lbs.
4.0" C.D.



40GCDV
Net wt. 156 lbs.
4.0" C.D.



40GCDVX
Net wt. 198 lbs.
4.0" C.D.

PoweRgear

1.00 Service Factor* - Double Reduction Wormgear
2.0" Centers Primary - 4.0" Centers Secondary

Ratio	Primary Ratio	Secondary Ratio	At 1750 rpm Input			At 1150 rpm Input			NEMA† Motor Frame Number
			Input hp	Output rpm	Output Torque In.-Lbs.	Input hp	Output rpm	Output Torque In.-Lbs.	
75	5	15	2.92	23.33	5972	2.35	15.33	7058	145TC
100	5	20	2.62	17.50	6804	1.89	11.50	7172	145TC
125	5	25	2.10	14.00	6597	1.50	9.20	6920	145TC
150	10	15	1.91	11.67	7244	1.34	7.67	7434	145TC
200	10	20	1.53	8.75	7342	1.08	5.75	7529	145TC
250	10	25	1.22	7.00	7069	0.86	4.60	7232	145TC
300	15	20	1.12	5.83	7524	0.79	3.83	7649	145TC
400	20	20	0.89	4.38	7615	0.63	2.88	7708	56C
500	25	20	0.75	3.50	7669	0.53	2.30	7745	56C
600	30	20	0.68	2.92	7706	0.48	1.92	7769	56C
800	40	20	0.55	2.19	7752	0.39	1.44	7799	56C
1000	50	20	0.47	1.75	7797	0.34	1.15	7817	56C
1200	60	20	0.42	1.46	7797	0.30	0.96	7829	56C
1500	25	60	0.30	1.17	6388	0.22	0.77	6441	56C
1800	30	60	0.27	0.97	6414	0.20	0.64	6458	56C
2400	40	60	0.22	0.73	6446	0.16	0.48	6479	56C
3000	50	60	0.19	0.58	6465	0.14	0.38	6492	56C
3600	60	60	0.17	0.49	6478	0.13	0.32	6500	56C

NOTICE: Regardless of the motor size used, exceeding the output torque rating may result in damage to the gearbox.
Overhung load (O.H.L.) for 40GCDB is 2736 pounds, for 40GCDV is 2423 pounds, and 40GCDVX is 2174 pounds at one shaft diameter from housing.

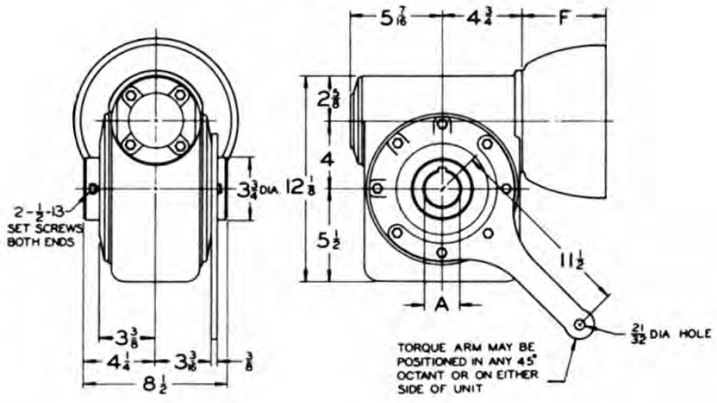
* Refer to page 334 for other service factors. Refer to pages 335 - 339 for shaft arrangements.

† Maximum size given - see page 332 for available motor sizes. Specify the actual NEMA motor frame number that will be used.

GSA and GSF Series

for N.E.M.A. "C" flange motors

40GSA
Net wt. 104 lbs.
4.0" C.D.

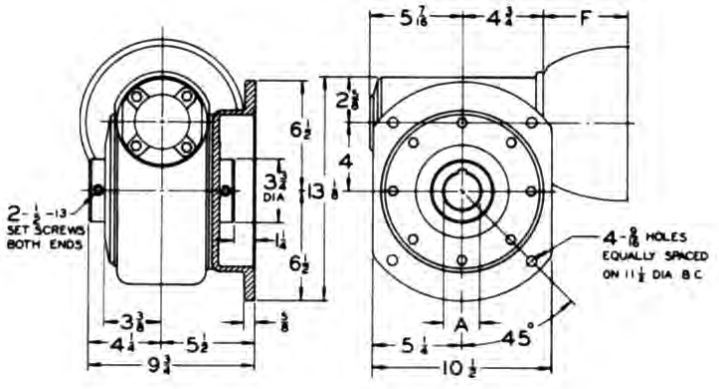


A (BORE)	KEYWAY
2.000-2.001	1/2 x 1/4
2.1875-2.1885	1/2 x 1/4
2.250-2.252	1/2 x 1/4
2.4375-2.4395	5/8 x 5/16
2.500-2.502	5/8 x 5/16

Shaft mounted units will be furnished with torque arm or mounting flange on the side shown unless otherwise specified on order.

Motor mounting coupling for GCT and GCV single reducion units with 4", 5", & 6" center distances is included in the flanged reducer package.

40GSF
Net wt. 127 lbs.
4.0" C.D.



1.00 Service Factor*

Ratio	At 1750 rpm Input			At1150 rpm Input			NEMA† Motor Frame No.	F
	Input hp	Output rpm	Output Torque In.-Lbs.	Input hp	Output rpm	Output Torque In.-Lbs.		
5	15.15	350.0	2570	12.65	230.0	3233	215TC	5 1/2
10	10.03	175.0	3321	8.52	115.0	4229	215TC	5 1/2
15	7.44	116.6	3592	6.36	76.6	4580	215TC	5 1/2
20	5.89	87.5	3685	5.06	57.5	4702	184TC	5 1/2
25	4.87	70.0	3712	4.14	46.0	4695	184TC	5 1/2
30	4.22	58.4	3733	3.65	38.4	4760	184TC	5 1/2
40	3.31	43.7	3710	2.88	28.7	4705	184TC	3 5/8
50	2.63	35.0	3555	2.29	23.0	4493	145TC	3 5/8
60	2.15	29.2	3372	1.86	19.2	4226	145TC	3 5/8

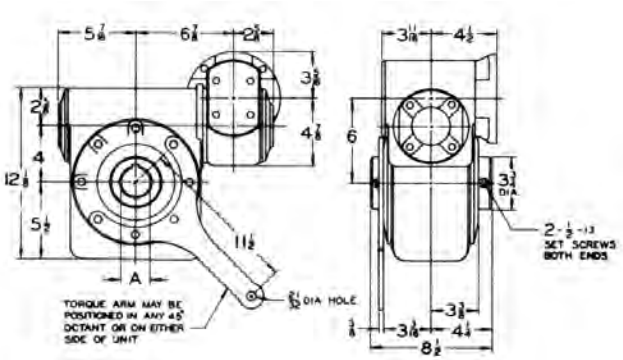
* Refer to page 334 for other service factors. Refer to pages 335 - 339 for shaft arrangements.

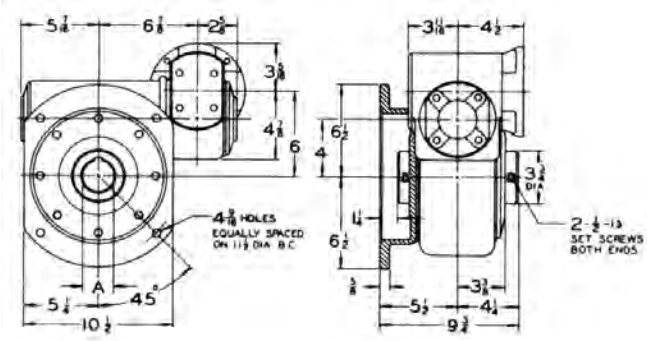
† Maximum size given - see page 332 for available motor sizes. Specify the actual NEMA motor frame number that will be used.

GDSA and GDSF Series

for N.E.M.A. "C" flange motors

40GDSA Net wt. 137 lbs. 4.0" C.D. Net wt. 160 lbs. 40GDSF





A (BORE)	KEYWAY
2.000-2.001	1/2 x 1/4
2.1875-2.1885	1/2 x 1/4
2.250-2.252	1/2 x 1/4
2.4375-2.4395	5/8 x 5/16
2.500-2.502	5/8 x 5/16

PoweRgear

1.00 Service Factor* - Double Reduction Wormgear
2.0" Centers Primary - 4.0" Centers Secondary

Ratio	Primary Ratio	Secondary Ratio	At 1750 rpm Input			At 1150 rpm Input			NEMA† Motor Frame Number
			Input hp	Output rpm	Output Torque In.-Lbs.	Input hp	Output rpm	Output Torque In.-Lbs.	
75	5	15	2.92	23.33	5972	2.35	15.33	7058	145TC
100	5	20	2.62	17.50	6804	1.89	11.50	7172	145TC
125	5	25	2.10	14.00	6597	1.50	9.20	6920	145TC
150	10	15	1.91	11.67	7244	1.34	7.67	7434	145TC
200	10	20	1.53	8.75	7342	1.08	5.75	7529	145TC
250	10	25	1.22	7.00	7069	0.86	4.60	7232	145TC
300	15	20	1.12	5.83	7524	0.79	3.83	7649	145TC
400	20	20	0.89	4.38	7615	0.63	2.88	7708	56C
500	25	20	0.75	3.50	7669	0.53	2.30	7745	56C
600	30	20	0.68	2.92	7706	0.48	1.92	7769	56C
800	40	20	0.55	2.19	7752	0.39	1.44	7799	56C
1000	50	20	0.47	1.75	7797	0.34	1.15	7817	56C
1200	60	20	0.42	1.46	7797	0.30	0.96	7829	56C
1500	25	60	0.30	1.17	6388	0.22	0.77	6441	56C
1800	30	60	0.27	0.97	6414	0.20	0.64	6458	56C
2400	40	60	0.22	0.73	6446	0.16	0.48	6479	56C
3000	50	60	0.19	0.58	6465	0.14	0.38	6492	56C
3600	60	60	0.17	0.49	6478	0.13	0.32	6500	56C

NOTICE: Regardless of the motor size used, exceeding the output torque rating may result in damage to the gearbox.

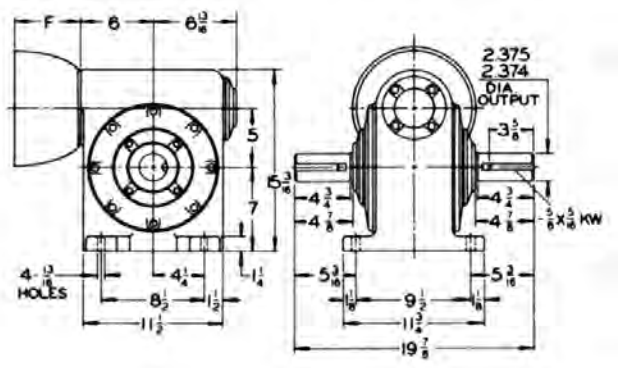
* Refer to page 334 for other service factors. Refer to pages 335 - 339 for shaft arrangements.

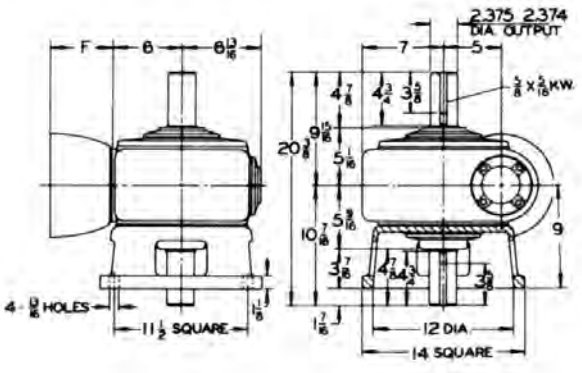
† Maximum size given - see page 332 for available motor sizes. Specify the actual NEMA motor frame number that will be used.

GCT and GCV Series

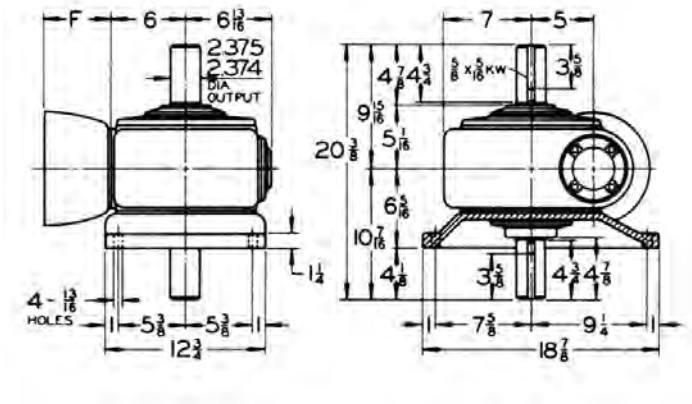
for N.E.M.A. "C" flange motors

50GCT Net wt. 208 lbs. 5.0" C.D. Net wt. 251 lbs. 50GCV





50GCV LOW BASE Net wt. 251 lbs. 5.0" C.D.



Motor mounting coupling for GCT and GCV single reducion units with 4", 5", & 6" center distances is included in the flanged reducer package.

1.00 Service Factor*

Ratio	At 1750 rpm Input			At 1150 rpm Input			NEMA† Motor Frame No.	F
	Input hp	Output rpm	Output Torque In.-Lbs.	Input hp	Output rpm	Output Torque In.-Lbs.		
5	25.25	350.0	4300	20.79	230.0	5344	256TC	5 1/2
10	16.64	175.0	5542	13.84	115.0	6917	256TC	5 1/2
15	12.31	116.6	5991	10.34	76.6	7512	215TC	5 1/2
20	9.61	87.5	6113	8.18	57.5	7737	215TC	5 1/2
25	7.94	70.0	6162	6.80	46.0	7823	215TC	5 1/2
30	6.92	58.4	6224	5.92	38.4	7836	184TC	5 1/2
40	5.31	43.7	6125	4.60	28.7	7771	184TC	5 1/2
50	4.27	35.0	5899	3.73	23.0	7498	184TC	5 1/2
60	3.48	29.2	5577	3.06	19.2	7094	184TC	5 1/2

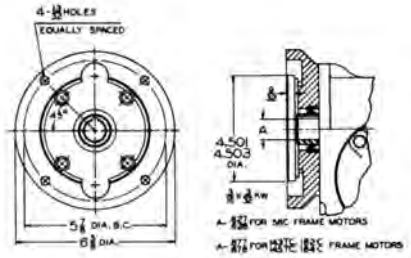
Overhung load (O.H.L.) for 50GCT is 4477 pounds, for 50GCV is 4040 pounds at one shaft diameter from housing.

* Refer to page 332 for other service factors. Refer to pages 335 - 339 for shaft arrangements.

† Maximum size given - see page 334 for available motor sizes. Specify the actual NEMA motor frame number that will be used.

GCDB, GCDV and GCDVX Series

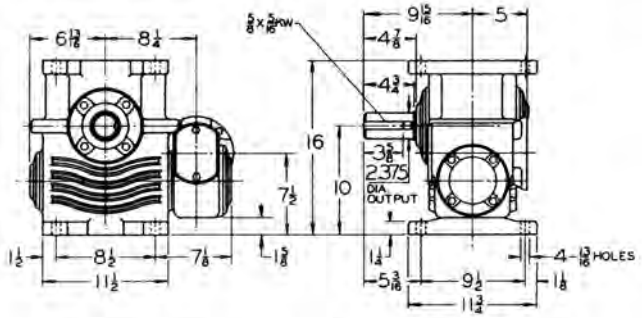
for N.E.M.A. "C" flange motors



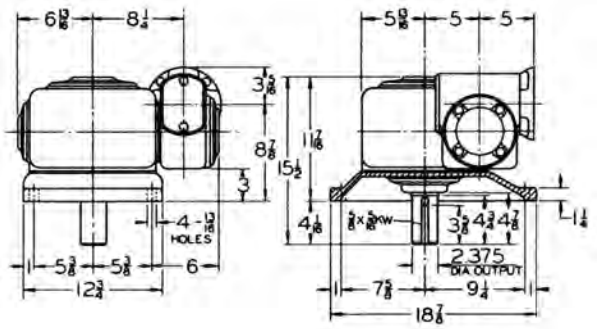
56C MOTOR FRAME
A-.627 - .628 DIA. BORE

143TC-145TC MOTOR FRAME
.877-.878 DIA. BORE

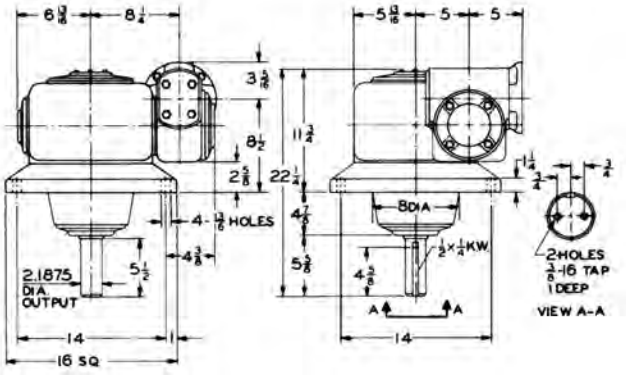
3/16 x 3/32 KW



50GCDB
Net wt. 254 lbs.
5.0" C.D.



50GCDV
Net wt. 261 lbs.
5.0" C.D.



50GCDVX
Net wt. 319 lbs.
5.0" C.D.

PoweRgear

1.00 Service Factor* - Double Reduction Wormgear
2.5" Centers Primary - 5.0" Centers Secondary

Ratio	Primary Ratio	Secondary Ratio	At 1750 rpm Input			At 1150 rpm Input			NEMA† Motor Frame Number
			Input hp	Output rpm	Output Torque In.-Lbs.	Input hp	Output rpm	Output Torque In.-Lbs.	
75	5	15	4.76	23.33	9904	3.95	15.33	12051	145TC
100	5	20	4.47	17.50	11961	3.25	11.50	12751	145TC
125	5	25	3.73	14.00	11963	2.74	9.20	12730	145TC
150	10	15	3.18	11.67	12310	2.44	7.67	13839	145TC
200	10	20	2.64	8.75	13117	1.87	5.75	13518	145TC
250	10	25	2.21	7.00	13085	1.57	4.60	13474	145TC
300	15	20	1.93	5.83	13507	1.36	3.83	13776	145TC
400	20	20	1.55	4.38	13703	1.08	2.88	13905	145TC
500	25	20	1.29	3.50	13820	0.91	2.30	13982	145TC
600	30	20	1.15	2.92	13899	0.82	1.92	14034	145TC
800	40	20	0.94	2.19	13997	0.67	1.44	14099	56C
1000	50	20	0.80	1.75	14057	0.57	1.15	14138	56C
1200	60	20	0.70	1.46	14066	0.50	0.96	14164	56C
1500	25	60	0.55	1.17	12105	0.40	0.77	12235	56C
1800	30	60	0.50	0.97	12168	0.36	0.64	12277	56C
2400	40	60	0.41	0.73	12247	0.30	0.48	12329	56C
3000	50	60	0.35	0.58	12295	0.25	0.38	12360	56C
3600	60	60	0.31	0.49	12326	0.23	0.32	12381	56C

NOTICE: Regardless of the motor size used, exceeding the output torque rating may result in damage to the gearbox.
Overhung load (O.H.L.) for 50GCDB is 4477 pounds, for 50GCDV is 4040pounds, and 50GCDVX is 4941 pounds at one shaft diameter from housing.

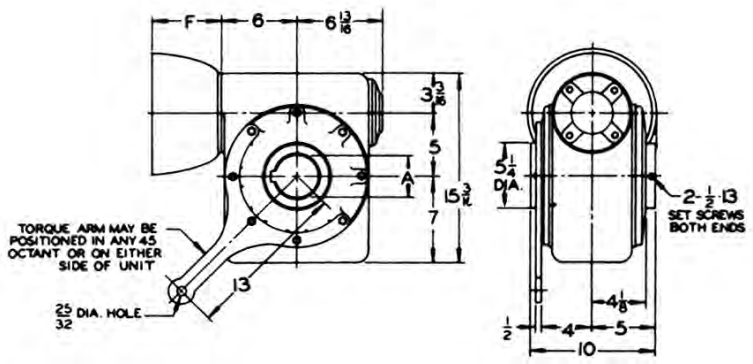
* Refer to page 334 for other service factors. Refer to pages 335 - 339 for shaft arrangements.

† Maximum size given - see page 332 for available motor sizes. Specify the actual NEMA motor frame number that will be used.

GSA and GSF Series

for N.E.M.A. "C" flange motors

50GSA
Net wt. 195 lbs.
5.0" C.D.

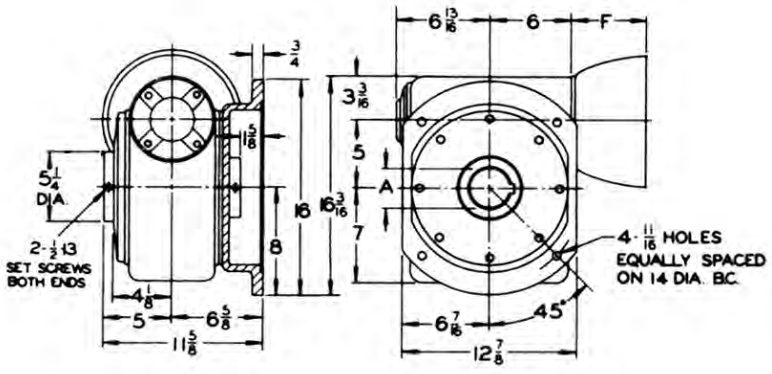


A (BORE)	KEYWAY
2.4375 2.4395	5/8 x 5/16
2.500 2.502	5/8 x 5/16
2.6875 2.6895	5/8 x 5/16
2.750 2.752	5/8 x 5/16
2.9375 2.9395	3/4 x 3/8
3.000 3.002	3/4 x 3/8
3.1875 3.1895	3/4 x 3/8
3.4375 3.4395	7/8 x 7/16

Shaft mounted units will be furnished with torque arm or mounting flange on the side shown unless otherwise specified on order.

Motor mounting coupling for GCT and GCV single reducion units with 4", 5", & 6" center distances is included in the flanged reducer package.

50GSF
Net wt. 236 lbs.
5.0" C.D.



1.00 Service Factor*

Ratio	At 1750 rpm Input			At 1150 rpm Input			NEMA† Motor Frame No.	F
	Input hp	Output rpm	Output Torque In.-Lbs.	Input hp	Output rpm	Output Torque In.-Lbs.		
5	25.25	350.0	4300	20.79	230.0	5344	256TC	5 1/2
10	16.64	175.0	5542	13.84	115.0	6917	256TC	5 1/2
15	12.31	116.6	5991	10.34	76.6	7512	215TC	5 1/2
20	9.61	87.5	6113	8.18	57.5	7737	215TC	5 1/2
25	7.94	70.0	6162	6.80	46.0	7823	215TC	5 1/2
30	6.92	58.4	6224	5.92	38.4	7836	184TC	5 1/2
40	5.31	43.7	6125	4.60	28.7	7771	184TC	5 1/2
50	4.27	35.0	5899	3.73	23.0	7498	184TC	5 1/2
60	3.48	29.2	5577	3.06	19.2	7094	184TC	5 1/2

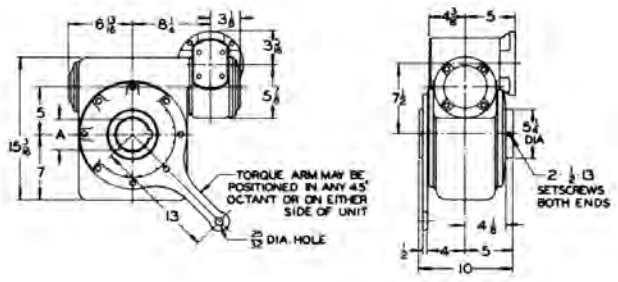
* Refer to page 334 for other service factors. Refer to pages 335 - 339 for shaft arrangements.

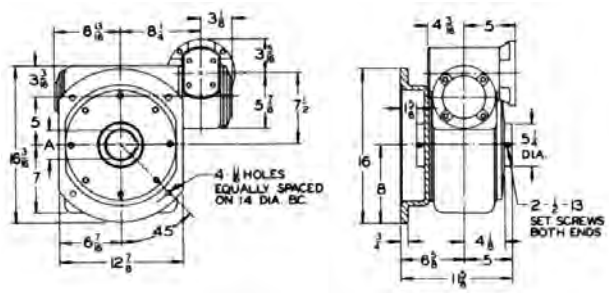
† Maximum size given - see page 332 for available motor sizes. Specify the actual NEMA motor frame number that will be used.

GDSA and GDSF Series

for N.E.M.A. "C" flange motors

50GDSA Net wt. 229 lbs. 5.0" C.D. Net wt. 270 lbs. 50GDSF





A (BORE)	KEYWAY
2.4375 2.4395	5/8 x 5/16
2.500 2.502	5/8 x 5/16
2.6875 2.6895	5/8 x 5/16
2.750 2.752	5/8 x 5/16
2.9375 2.9395	3/4 x 3/8
3.000 3.002	3/4 x 3/8
3.1875 3.1895	3/4 x 3/8
3.4375 3.4395	7/8 x 7/16

PoweRgear

1.00 Service Factor* - Double Reduction Wormgear
2.5" Centers Primary - 5.0" Centers Secondary

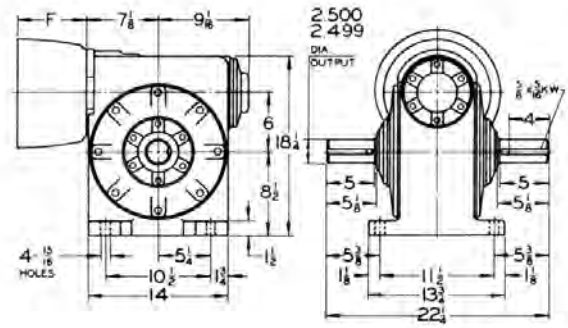
Ratio	Primary Ratio	Secondary Ratio	At 1750 rpm Input			At 1150 rpm Input			NEMA† Motor Frame Number
			Input hp	Output rpm	Output Torque In.-Lbs.	Input hp	Output rpm	Output Torque In.-Lbs.	
75	5	15	4.76	23.33	9904	3.95	15.33	12051	145TC
100	5	20	4.47	17.50	11961	3.25	11.50	12751	145TC
125	5	25	3.73	14.00	11963	2.74	9.20	12730	145TC
150	10	15	3.18	11.67	12310	2.44	7.67	13839	145TC
200	10	20	2.64	8.75	13117	1.87	5.75	13518	145TC
250	10	25	2.21	7.00	13085	1.57	4.60	13474	145TC
300	15	20	1.93	5.83	13507	1.36	3.83	13776	145TC
400	20	20	1.55	4.38	13703	1.08	2.88	13905	145TC
500	25	20	1.29	3.50	13820	0.91	2.30	13982	145TC
600	30	20	1.15	2.92	13899	0.82	1.92	14034	145TC
800	40	20	0.94	2.19	13997	0.67	1.44	14099	56C
1000	50	20	0.80	1.75	14057	0.57	1.15	14138	56C
1200	60	20	0.70	1.46	14066	0.50	0.96	14164	56C
1500	25	60	0.55	1.17	12105	0.40	0.77	12235	56C
1800	30	60	0.50	0.97	12168	0.36	0.64	12277	56C
2400	40	60	0.41	0.73	12247	0.30	0.48	12329	56C
3000	50	60	0.35	0.58	12295	0.25	0.38	12360	56C
3600	60	60	0.31	0.49	12326	0.23	0.32	12381	56C

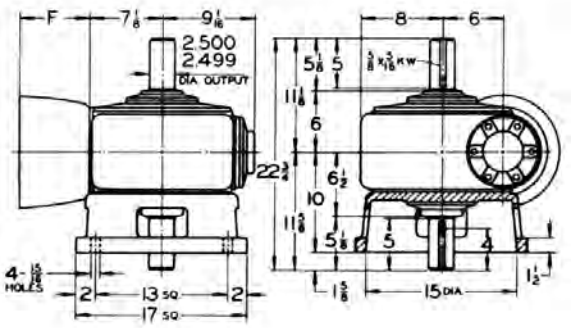
NOTICE: Regardless of the motor size used, exceeding the output torque rating may result in damage to the gearbox.
* Refer to page 334 for other service factors. Refer to pages 335 - 339 for shaft arrangements.
† Maximum size given - see page 332 for available motor sizes. Specify the actual NEMA motor frame number that will be used.

GCT and GCV Series

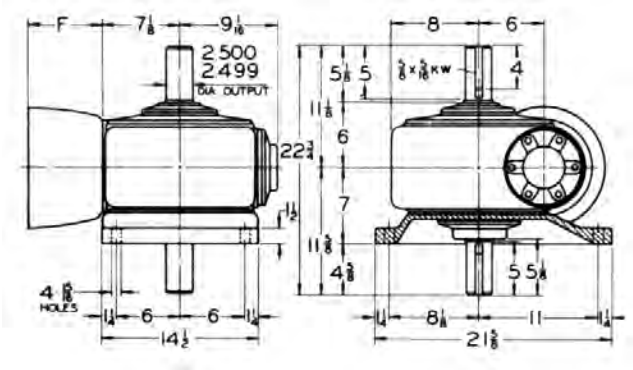
for N.E.M.A. "C" flange motors

60GCT Net wt. 346 lbs. 6.0" C.D. Net wt. 418 lbs. 60GCV





60GCV Low Base Net wt. 438 lbs. 6.0" C.D.



Motor mounting coupling for GCT and GCV single reducion units with 4", 5", and 6" center distances is included in the flanged reducer package.

1.00 Service Factor*

Ratio	At 1750 rpm Input			At 1150 rpm Input			NEMA† Motor Frame No.	F
	Input hp	Output rpm	Output Torque In.-Lbs.	Input hp	Output rpm	Output Torque In.-Lbs.		
5	38.15	350.0	6527	31.40	230.0	8104	286TC	6 3/4
10	25.10	175.0	8408	20.75	115.0	10437	286TC	5 7/8
15	18.54	116.6	9084	15.39	76.6	11275	256TC	5 7/8
20	14.50	87.5	9283	12.12	57.5	11560	215TC	5 7/8
25	11.72	70.0	9254	9.91	46.0	11625	215TC	5 7/8
30	10.37	58.4	9438	8.73	38.4	11728	215TC	5 7/8
40	7.96	43.7	9299	6.76	28.7	11581	215TC	5 7/8
50	6.23	35.0	8867	5.37	23.0	11173	184TC	5 7/8
60	5.12	29.2	8418	4.45	19.2	10603	184TC	5 7/8

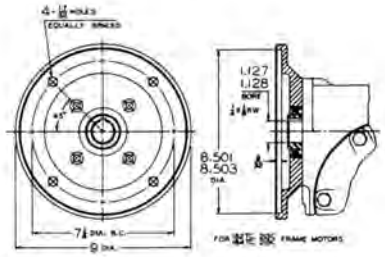
Overhung load (O.H.L.) for 60GCT is 5313 pounds, for 60GCV is 4846 pounds at one shaft diameter from housing.

* Refer to page 334 for other service factors. Refer to pages 335 - 339 for shaft arrangements.

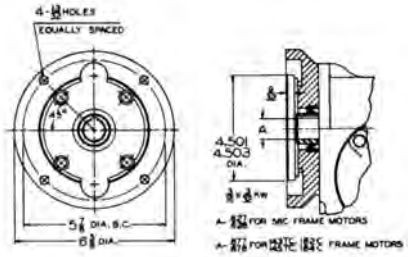
† Maximum size given - see page 332 for available motor sizes. Specify the actual NEMA motor frame number that will be used.

GCDB, GCDV and GCDVX Series

for N.E.M.A. "C" flange motors



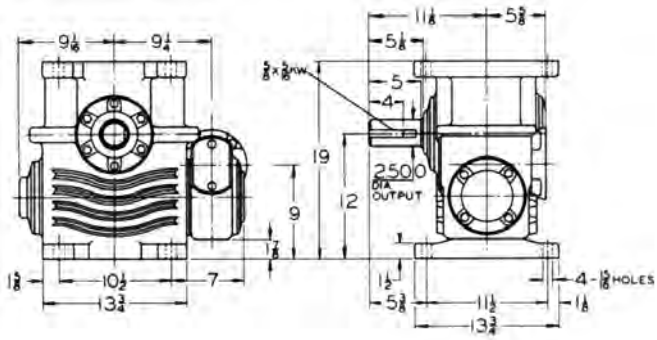
182TC & 184TC MOTOR FRAME



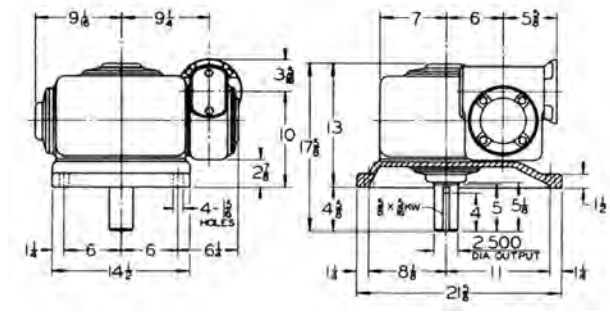
56C MOTOR FRAME
A-.627 - .628 DIA. BORE

143TC-145TC MOTOR FRAME
.877-.878 DIA. BORE

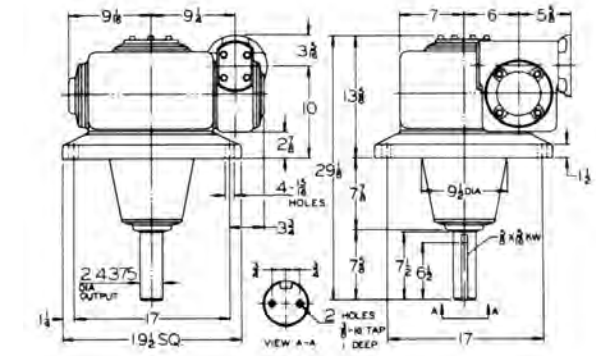
3/16 x 3/32 KW



60GCDB
Net wt. 412 lbs.
6.0" C.D.



60GCDV
Net wt. 443 lbs.
6.0" C.D.



60GCDVX
Net wt. 501 lbs.
6.0" C.D.

PoweRgear

1.00 Service Factor* - Double Reduction Wormgear
3.0" Centers Primary - 6.0" Centers Secondary

Ratio	Primary Ratio	Secondary Ratio	At 1750 rpm Input			At 1150 rpm Input			NEMA† Motor Frame Number
			Input hp	Output rpm	Output Torque In.-Lbs.	Input hp	Output rpm	Output Torque In.-Lbs.	
75	5	15	8.06	23.33	17032	6.79	15.33	21041	184TC
100	5	20	7.11	17.50	19334	5.26	11.50	20907	184TC
125	5	25	5.60	14.00	18581	4.11	9.20	19931	184TC
150	10	15	5.37	11.67	21159	3.95	7.67	22767	184TC
200	10	20	4.30	8.75	21655	3.06	5.75	22476	184TC
250	10	25	3.35	7.00	20556	2.38	4.60	21242	184TC
300	15	20	3.16	5.83	22453	2.23	3.83	23004	184TC
400	20	20	2.52	4.38	22855	1.78	2.88	23269	145TC
500	25	20	2.12	3.50	23096	1.49	2.30	23429	145TC
600	30	20	1.89	2.92	23258	1.34	1.92	23535	145TC
800	40	20	1.53	2.19	23460	1.09	1.44	23668	145TC
1000	50	20	1.30	1.75	23581	0.93	1.15	23748	145TC
1200	60	20	1.16	1.46	23662	0.83	0.96	23801	145TC
1500	25	60	0.86	1.17	19642	0.61	0.77	19887	56C
1800	30	60	0.77	0.97	19761	0.55	0.64	19966	56C
2400	40	60	0.63	0.73	19910	0.46	0.48	20064	56C
3000	50	60	0.54	0.58	2000	0.40	0.38	20124	56C
3600	60	60	0.48	0.49	20060	0.35	0.32	20163	56C

NOTICE: Regardless of the motor size used, exceeding the output torque rating may result in damage to the gearbox.
Overhung load (O.H.L.) for 60GCDB is 5313 pounds, for 60GCDV is 4846pounds, and 60GCDVX is 4681 pounds at one shaft diameter from housing.

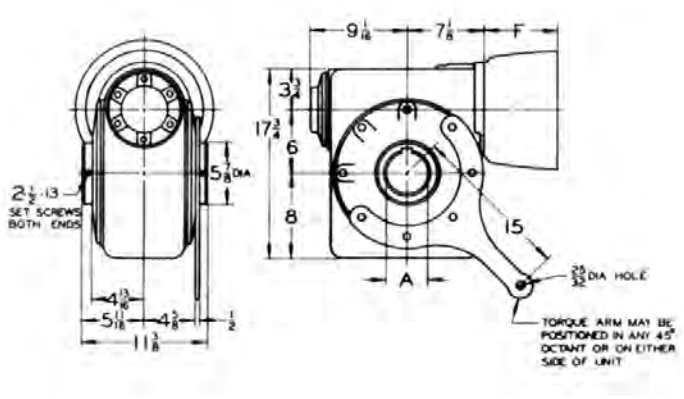
* Refer to page 334 for other service factors. Refer to pages 335 - 339 for shaft arrangements.

† Maximum size given - see page 332 for available motor sizes. Specify the actual NEMA motor frame number that will be used.

GSA and GSF Series

for N.E.M.A. "C" flange motors

60GSA
Net wt. 320 lbs.
6.0" C.D.

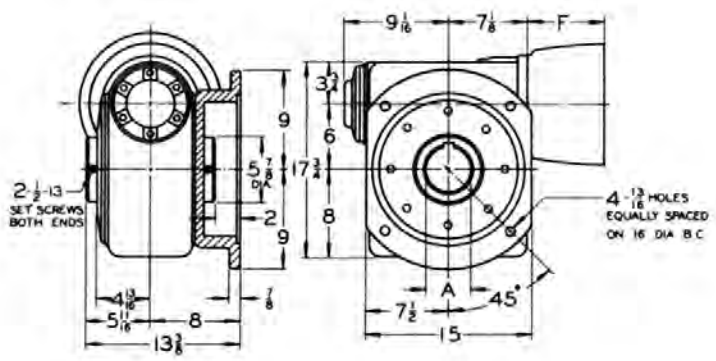


A (BORE)	KEYWAY
2.750 2.752	5/8 x 5/16
2.9375 2.9395	3/4 x 3/8
3.000 3.002	3/4 x 3/8
3.1875 3.1895	3/4 x 3/8
3.4375 3.4395	7/8 x 7/16
3.9375 3.9395	1 x 1/2

Shaft mounted units will be furnished with torque arm or mounting flange on the side shown unless otherwise specified on order.

Motor mounting coupling for GCT and GCV single reducion units with 4", 5", & 6" center distances is included in the flanged reducer package.

60GSF
Net wt. 396 lbs.
6.0" C.D.



1.00 Service Factor*

Ratio	At 1750 rpm Input			At 1150 rpm Input			NEMA† Motor Frame No.	F
	Input hp	Output rpm	Output Torque In.-Lbs.	Input hp	Output rpm	Output Torque In.-Lbs.		
5	38.15	350.0	6527	31.40	230.0	8104	286TC	6 3/4
10	25.10	175.0	8408	20.75	115.0	10437	286TC	5 7/8
15	18.54	116.6	9084	15.39	76.6	11275	256TC	5 7/8
20	14.50	87.5	9283	12.12	57.5	11560	215TC	5 7/8
25	11.72	70.0	9254	9.91	46.0	11625	215TC	5 7/8
30	10.37	58.4	9438	8.73	38.4	11728	215TC	5 7/8
40	7.96	43.7	9299	6.76	28.7	11581	215TC	5 7/8
50	6.23	35.0	8867	5.37	23.0	11173	184TC	5 7/8
60	5.12	29.2	8418	4.45	19.2	10603	184TC	5 7/8

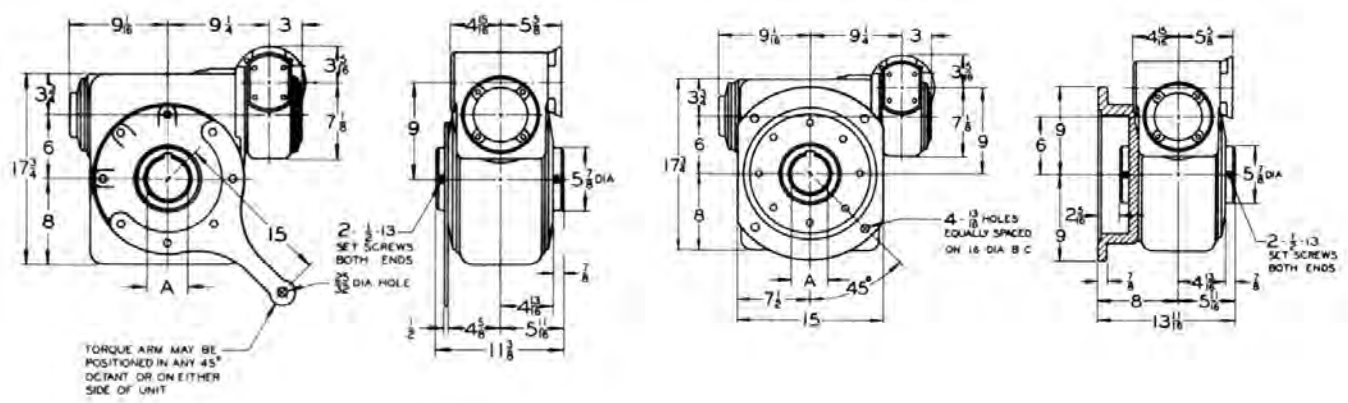
* Refer to page 332 for other service factors. Refer to pages 335 - 339 for shaft arrangements.

† Maximum size given - see page 332 for available motor sizes. Specify the actual NEMA motor frame number that will be used.

GDSA and GDSF Series

for N.E.M.A. "C" flange motors

60GDSA Net wt. 385 lbs. 6.0" C.D. Net wt. 461 lbs. 60GDSF



A (BORE)	KEYWAY
2.750 2.752	5/8 x 5/16
2.9375 2.9395	3/4 x 3/8
3.000 3.002	3/4 x 3/8
3.1875 3.1895	3/4 x 3/8
3.4375 3.4395	7/8 x 7/16
3.9375 3.9395	1 x 1/2

PoweRgear

1.00 Service Factor* - Double Reduction Wormgear
3.0" Centers Primary - 6.0" Centers Secondary

Ratio	Primary Ratio	Secondary Ratio	At 1750 rpm Input			At 1150 rpm Input			NEMA† Motor Frame Number
			Input hp	Output rpm	Output Torque In.-Lbs.	Input hp	Output rpm	Output Torque In.-Lbs.	
75	5	15	8.06	23.33	17032	6.79	15.33	21041	184TC
100	5	20	7.11	17.50	19334	5.26	11.50	20907	184TC
125	5	25	5.60	14.00	18581	4.11	9.20	19931	184TC
150	10	15	5.37	11.67	21159	3.95	7.67	22767	184TC
200	10	20	4.30	8.75	21655	3.06	5.75	22476	184TC
250	10	25	3.35	7.00	20556	2.38	4.60	21242	184TC
300	15	20	3.16	5.83	22453	2.23	3.83	23004	184TC
400	20	20	2.52	4.38	22855	1.78	2.88	23269	145TC
500	25	20	2.12	3.50	23096	1.49	2.30	23429	145TC
600	30	20	1.89	2.92	23258	1.34	1.92	23535	145TC
800	40	20	1.53	2.19	23460	1.09	1.44	23668	145TC
1000	50	20	1.30	1.75	23581	0.93	1.15	23748	145TC
1200	60	20	1.16	1.46	23662	0.83	0.96	23801	145TC
1500	25	60	0.86	1.17	19642	0.61	0.77	19887	56C
1800	30	60	0.77	0.97	19761	0.55	0.64	19966	56C
2400	40	60	0.63	0.73	19910	0.46	0.48	20064	56C
3000	50	60	0.54	0.58	20000	0.40	0.38	20124	56C
3600	60	60	0.48	0.49	20060	0.35	0.32	20163	56C

NOTICE: Regardless of the motor size used, exceeding the output torque rating may result in damage to the gearbox.

* Refer to page 336 for other service factors. Refer to pages 335 - 339 for shaft arrangements.

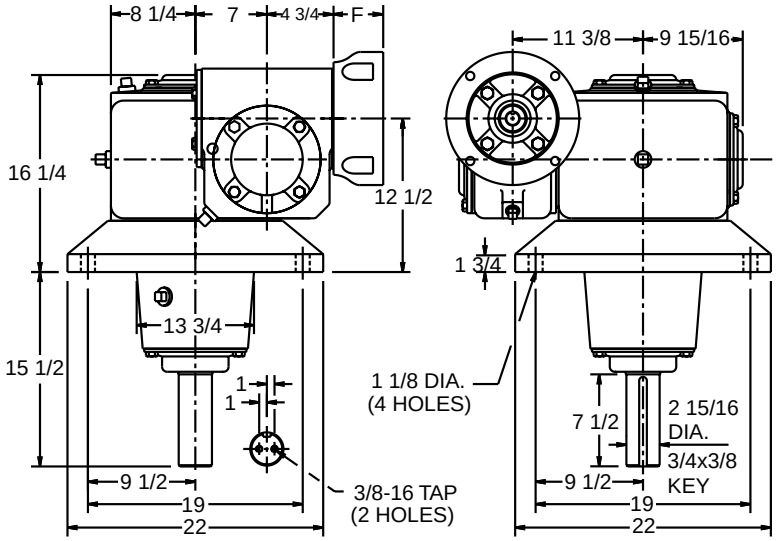
† Maximum size given - see page 334 for available motor sizes. Specify the actual NEMA motor frame number that will be used.

GCDVX Series

for N.E.M.A. "C" flange motors

70GCDVX
Net wt. 727 lbs.
7.0" C.D.





1.00 Service Factor* - Double Reduction Wormgear
4.0" Centers Primary - 7.0" Centers Secondary

Ratio	Primary Ratio	Secondary Ratio	At 1750 rpm Input			At 1150 rpm Input			NEMA† Motor Frame Number	F
			Input hp	Output rpm	Output Torque In.-Lbs.	Input hp	Output rpm	Output Torque In.-Lbs.		
75	5	15	13.17	23.33	28390	9.91	15.33	31304	215TC	5 1/2
100	5	20	10.25	17.50	28472	7.69	11.50	31155	215TC	5 1/2
125	5	25	8.42	14.00	28272	6.31	9.20	30795	215TC	5 1/2
150	10	15	8.13	11.67	32737	5.79	7.67	34314	215TC	5 1/2
200	10	20	6.29	8.75	32548	4.48	5.75	33890	184TC	3 5/8
250	10	25	5.15	7.00	32010	3.68	4.60	33346	184TC	3 5/8
300	15	20	4.61	5.83	33850	3.56	3.83	34811	184TC	3 5/8
400	20	20	3.69	4.38	34550	2.61	2.88	35274	184TC	3 5/8
500	25	20	3.1	3.50	34972	2.18	2.30	35552	184TC	3 5/8
600	30	20	2.73	2.92	35254	1.93	1.92	35738	145TC	3 5/8
800	40	20	2.22	2.19	35607	1.58	1.44	35970	145TC	3 5/8
1000	50	20	1.87	1.75	35819	1.34	1.15	36110	145TC	3 5/8
1200	60	20	1.64	1.46	35960	1.17	0.96	36203	145TC	3 5/8
1500	25	60	1.23	1.17	29743	0.88	0.77	30172	145TC	3 5/8
1800	30	60	1.10	0.97	29952	0.79	0.64	30309	145TC	3 5/8
2400	40	60	0.9	0.73	30212	0.65	0.48	30481	56C	3 5/8
3000	50	60	0.77	0.58	30369	0.56	0.38	30584	56C	3 5/8
3600	60	60	0.68	0.49	30473	0.49	0.32	30653	56C	3 5/8

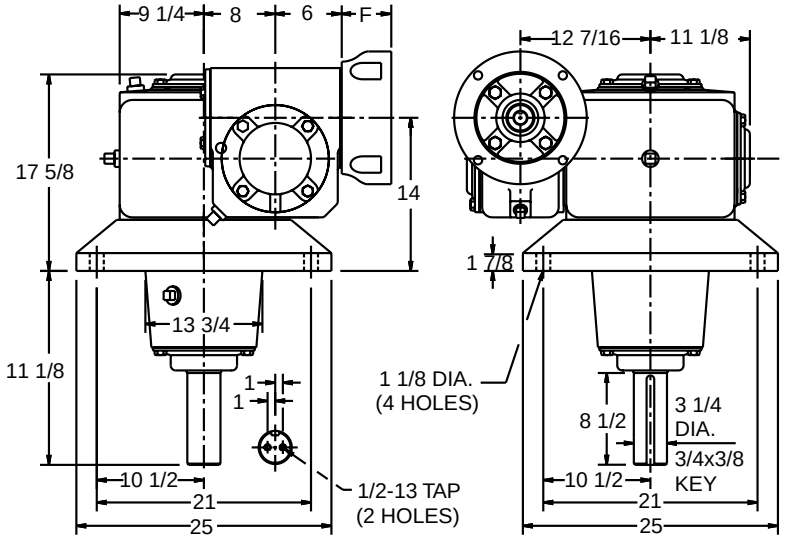
NOTICE: Regardless of the motor size used, exceeding the output torque rating may result in damage to the gearbox.
Overhung load (O.H.L.) for 70GCDVX is 3791 pounds at the end of the Output Shaft Extension.
* Refer to page 334 for other service factors. Refer to pages 335 - 339 for shaft arrangements.
† Maximum size given - see page 332 for available motor sizes. Specify the actual NEMA motor frame number that will be used.

GCDVX Series

for N.E.M.A. "C" flange motors

80GCDVX
Net wt. 995 lbs.
8.0" C.D.





1.00 Service Factor* - Double Reduction Wormgear
5.0" Centers Primary - 8.0" Centers Secondary

Ratio	Primary Ratio	Secondary Ratio	At 1750 rpm Input			At 1150 rpm Input			NEMA† Motor Frame Number	F
			Input hp	Output rpm	Output Torque In.-Lbs.	Input hp	Output rpm	Output Torque In.-Lbs.		
75	5	15	18.52	23.33	40142	14.28	15.33	45374	254TC	5 1/2
100	5	20	14.6	17.50	10722	11.23	11.50	45637	215TC	5 1/2
125	5	25	12.12	14.00	40758	9.31	9.20	45411	215TC	5 1/2
150	10	15	11.85	11.67	47895	8.55	7.67	50780	215TC	5 1/2
200	10	20	9.31	8.75	48020	6 5/7	5.75	50715	213TC	5 1/2
250	10	25	7.73	7.00	47738	5 3/5	4.60	50302	213TC	5 1/2
300	15	20	6.89	5.83	50639	4.92	3.83	52451	184TC	5 1/2
400	20	20	5.52	4.38	51959	3.92	2.88	53324	184TC	5 1/2
500	25	20	4.66	3.50	52754	3.3	2.30	53849	182TC	5 1/2
600	30	20	4.12	2.92	53286	2.92	1.92	54199	182TC	5 1/2
800	40	20	3.31	2.19	53951	2.35	1.44	54638	182TC	5 1/2
1000	50	20	2.82	1.75	54352	2.01	1.15	54902	145TC	3 3/8
1200	60	20	2.48	1.46	54619	1.77	0.96	55077	145TC	3 3/8
1500	25	60	1.96	1.17	46029	1 3/7	0.77	46892	145TC	3 3/8
1800	30	60	1.75	0.97	46448	1 1/4	0.64	47169	145TC	3 3/8
2400	40	60	1.42	0.73	46973	1.03	0.48	47515	143TC	3 3/8
3000	50	60	1.23	0.58	47289	0.89	0.38	47722	143TC	3 3/8
3600	60	60	1.09	0.49	47499	0.79	0.32	47861	143TC	3 3/8

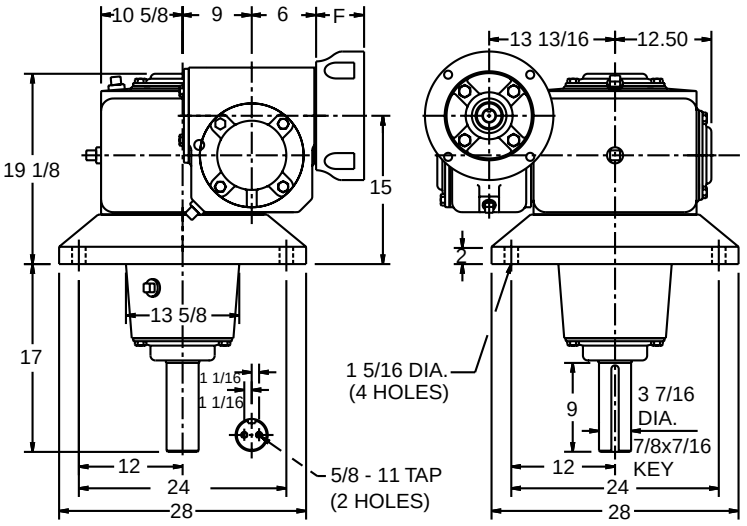
NOTICE: Regardless of the motor size used, exceeding the output torque rating may result in damage to the gearbox.
Overhung load (O.H.L.) for 80GCDVX is 4320 pounds at the end of the Output Shaft Extension.
* Refer to page 334 for other service factors. Refer to pages 335 - 339 for shaft arrangements.
† Maximum size given - see page 332 for available motor sizes. Specify the actual NEMA motor frame number that will be used.

GCDVX Series

for N.E.M.A. "C" flange motors

90GCDVX
Net wt. 1265 lbs.
9.0" C.D.





1.00 Service Factor* - Double Reduction Wormgear
5.0" Centers Primary - 9.0" Centers Secondary

Ratio	Primary Ratio	Secondary Ratio	At 1750 rpm Input			At 1150 rpm Input			NEMA† Motor Frame Number	F
			Input hp	Output rpm	Output Torque In.-Lbs.	Input hp	Output rpm	Output Torque In.-Lbs.		
75	5	15	24.32	23.33	53180	18.99	15.33	60965	256TC	5 1/2
100	5	20	19.04	17.50	53790	14.77	11.50	60941	256TC	5 1/2
125	5	25	15.66	14.00	53671	12.13	9.20	60366	256TC	5 1/2
150	10	15	15.84	11.67	64709	11.51	7.67	69081	356TC	5 1/2
200	10	20	12.30	8.75	64384	8.91	5.75	68337	215TC	5 1/2
250	10	25	10.09	7.00	63599	7.31	4.60	67271	215TC	5 1/2
300	15	20	9.14	5.83	68226	6 1/2	3.83	70886	215TC	5 1/2
400	20	20	7.33	4.38	70164	5.2	2.88	72168	184TC	5 1/2
500	25	20	6.19	3.50	71331	4.39	2.30	72939	184TC	5 1/2
600	30	20	5.46	2.92	72113	3.87	1.92	73454	184TC	5 1/2
800	40	20	4.40	2.19	73090	3.13	1.44	74098	184TC	5 1/2
1000	50	20	3.75	1.75	73678	2.68	1.15	74486	184TC	5 1/2
1200	60	20	3.30	1.46	74070	2.36	0.96	74744	184TC	5 1/2
1500	25	60	2.70	1.17	63974	1.96	0.77	65349	145TC	3 3/8
1800	30	60	2.41	0.97	64642	1.75	0.64	65789	145TC	3 3/8
2400	40	60	1.97	0.73	65478	1.43	0.48	66341	145TC	3 3/8
3000	50	60	1.70	0.58	65981	1.24	0.38	66672	145TC	3 3/8
3600	60	60	1.51	0.49	66316	1.10	0.32	66893	145TC	3 3/8

NOTICE: Regardless of the motor size used, exceeding the output torque rating may result in damage to the gearbox.
Overhung load (O.H.L.) for 90GCDVX is 4850 pounds at the end of the output shaft extension.

* Refer to page 334 for other service factors. Refer to pages 335 - 339 for shaft arrangements.

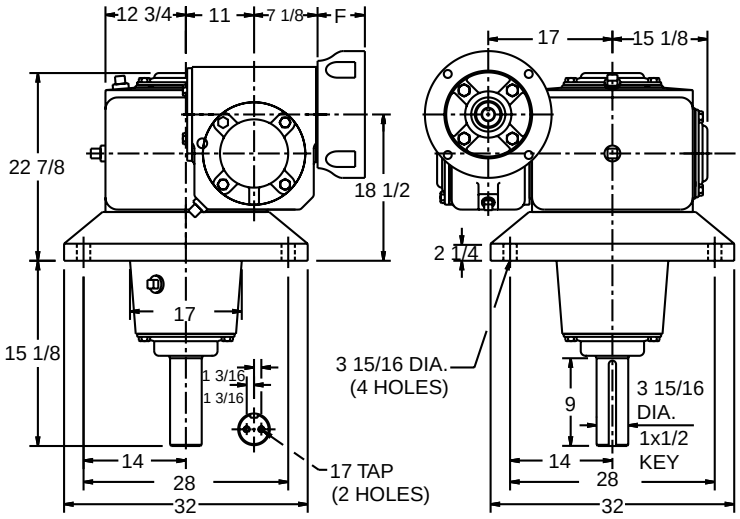
† Maximum size given - see page 332 for available motor sizes. Specify the actual NEMA motor frame number that will be used.

GCDVX Series

for N.E.M.A. "C" flange motors



110GCDVX
Net wt. 2120 lbs.
11.0" C.D.



1.00 Service Factor* - Double Reduction Wormgear
6.0" Centers Primary - 11.0" Centers Secondary

Ratio	Primary Ratio	Secondary Ratio	At 1750 rpm Input			At 1150 rpm Input			NEMA† Motor Frame Number	F
			Input hp	Output rpm	Output Torque In.-Lbs.	Input hp	Output rpm	Output Torque In.-Lbs.		
75	5	15	38.15	23.33	84103	31.4	15.33	101920	286TC	6 3/4
100	5	20	30.86	17.50	87696	24.95	11.50	103773	286TC	6 3/4
125	5	25	25.19	14.00	87512	20.08	9.20	101737	286TC	6 3/4
150	10	15	25.1	11.67	103641	20.06	7.67	120830	286TC	6 3/4
200	10	20	21.21	8.75	111865	15.81	5.75	121167	256TC	5 7/8
250	10	25	16.95	7.00	108720	12.54	4.60	116769	256TC	5 7/8
300	15	20	16.17	5.83	120898	11.71	3.83	127362	256TC	5 7/8
400	20	20	13.08	4.38	125605	9.4	2.88	130482	215TC	5 7/8
500	25	20	11.02	3.50	128446	7.88	2.30	132361	215TC	5 7/8
600	30	20	9.83	2.92	130347	7	1.92	133617	215TC	5 7/8
800	40	20	7.95	2.19	132729	5 5/7	1.44	135190	215TC	5 7/8
1000	50	20	6.23	1.75	124514	4.79	1.15	136136	184TC	5 7/8
1200	60	20	5.12	1.46	116738	4.25	0.96	136766	184TC	5 7/8
1500	25	60	4.72	1.17	113770	3.45	0.77	116980	184TC	5 7/8
1800	30	60	4.25	0.97	115329	3.12	0.64	118009	184TC	5 7/8
2400	40	60	3.5	0.73	117282	2.55	0.48	119298	184TC	5 7/8
3000	50	60	2.98	0.58	118457	2.18	0.38	120073	145TC	4
3600	60	60	2.65	0.49	119241	1.95	0.32	120589	145TC	4

NOTICE: Regardless of the motor size used, exceeding the output torque rating may result in damage to the gearbox.
Overhung load (O.H.L.) for 110GCDVX is 8500 pounds at the end of the output shaft extension.
* Refer to page 334 for other service factors. Refer to pages 335 - 339 for shaft arrangements.
† Maximum size given - see page 332 for available motor sizes. Specify the actual NEMA motor frame number that will be used.


4/5 BU.



POWERGEAR®
S Series

The SA and SF models are single reduction worm gear units with hollow output shafts and are customarily mounted directly on the driven shaft. The SA units have a torque-arm for support, whereas the SF units have a mounting flange for more rigid support on long driven shafts. Both of these units are available with "C" Flange motor mounts for attaching NEMA "C" Flange, end-mounted motors and are called the GSA and GSF models.



- Shaft input/hollow output reducers available in four configurations:
  - SA - Shaft mounted with torque arm.
  - SF - Flange mounted.
  - DSA - Double reduction shaft mounted with torque arm.
  - DSF - Double reduction flange mounted.
- Center distance range: 1.75" through 6.00".
- Output bores from 3/4" through 3 15/16".

for PoweRgear S Series

1. Determine Service Factor
From service factor tables on pages 384 and 385 determine service factor for the application.

2. Determine the Overall Drive Ratio

$$\text{Overall Drive Ratio} = \frac{\text{rpm of driver}}{\text{rpm of driven}}$$

When over-all drive ratio is not one of the stock speed reducer ratios shown in tables on page 390 through 397, a chain, belt, or gear drive with further reduction for either the input or output side will be necessary.

3. Determine Equivalent Horsepower or Normal Torque

A. HP Method:

Equivalent hp = Actual Motor hp × Service Factor (Step # 1)

B. Torque Method:

Normal Torque = Actual Torque × Service Factor (Step # 1)

4. Determine the Size of Speed Reducer Required

A. HP Method:

Refer to pages 390 through 397 and select a speed reducer having a mechanical input horsepower equal to or slightly greater than the equivalent hp calculated in Step No. 3 above.

B. Torque Method:

Refer to pages 392 through 399 and select a speed reducer having a mechanical output torque rating equal to or slightly greater than the normal torque calculated in Step No. 3 above. If the required input and output speeds are not listed in these tables, the ratings can be determined by straight line interpolation. When the input speed is less than 100 rpm, ratings for 100 rpm must be used.

5. Determine the Motor Horsepower

Use the following equation when motor hp is not known:

$$\text{Motor Horsepower} = \frac{\text{Actual Torque} \times \text{Input hp}}{\text{Output Torque}}$$

6. Check the Overhung Load
Calculate the overhung load for drives to be mounted directly on the reducer shafts by following instructions on page 385. Check this and any existing thrust loads against the load values shown on pages 390 through 397, and if the calculated load is greater than the values in the table, select a larger speed reducer.

Note: Refer combined overhung and thrust loads to the Application Engineering (1 800 626 2093) Department.

Example No. 1 - Horsepower Method

Select a worm gear speed reducer for a dough mixer in a bakery. The speed reducer will be driven by a 1.0 hp, 1750 rpm motor, directly coupled to the reducer input speed. The hollow reducer output quill will be directly mounted onto the 1.25" mixer shaft. The mixer will operate 8 - 10 hours daily and the shaft speed is 58 rpm. The reducer also requires a torque arm.

1. Determine the Service Factor
From the table on page 384, note that the service factor for a dough mixer (Food Industry) operating 3 - 10 hours per day is 1.25.

2. Determine Overall Drive Ratio

$$\text{Overall Drive Ratio} = \frac{\text{rpm of Driver}}{\text{rpm of Driven}} = \frac{1750}{58} = 30.17$$

Since there is not an auxiliary input or output drive required, the reducer ratio needed is 30:1.

3. Determine Equivalent Horsepower

$$\text{Equivalent hp} = \text{Actual Motor hp} \times \text{S F} = 1.0 \times 1.25 = 1.25 \text{ hp}$$

4. Determine the Size of Speed Reducer Required
From page 392 under “1750 rpm Driver -30:1 Ratio - 175 rpm Output” and under “Input hp Mechanical” find the rating equal to or greater than the 1.25 equivalent hp calculated in Step No. 3. Note that a 25 reducer has mechanical rating of 1.37 hp. The correct part numbers required are:

Reducer: **25SA, 30, L, 1.25 Bore**

5. Determine the Motor Horsepower
The motor horsepower is already known to be 1.0 hp.

6. Check Overhung Load
The unit will be coupling connected on the output shaft. Overhung load does not need to be calculated. There is not any thrust on the output shaft. There is neither thrust nor overhung load on the input shaft because it is directly coupled with a motor. Therefore, the reducer selected is the proper size.

Example No. 2 - Torque Method

Select a worm gear speed reducer for a belt conveyor (general purpose), not uniformly fed. The speed reducer will be driven by a 1750 rpm electric motor directly connected by a coupling, with a 1.23:1 ratio chain drive from the reducer to the head shaft of the conveyor. A 5.032 pitch diameter drive sprocket and reducer are mounted on a 2" jack shaft. The conveyor will operate 10 hours per day, and the head shaft speed is 140 rpm. The reducer will also require a torque arm withe the worm on top. Conveyor calculations indicate that 1710 inch pounds of torque is needed at the conveyor head shaft.

1. Determine the Service Factor

From the table on page 384, note that the service factor for a belt conveyor (general purpose) operating 3 - 10 hours per day is 1.25.

2. Determine the Overall Drive Ratio

$$\text{Overall Drive Ratio} = \frac{\text{rpm of Driver}}{\text{rpm of Driven}} = \frac{1750}{140} = 12.5 : 1$$

$$\text{Speed Reducer Ratio} = \frac{\text{Overall Drive Ratio}}{\text{Chain Drive Ratio}} = \frac{12.5}{1.23} = 10.16 : 1$$

3. Determine the Normal Torque

The normal torque required for reducer selection is the actual torque required at the reducer output shaft. Therefore, we must convert the 1710 inch pounds of actual torque at the conveyor head shaft to the actual required torque at the reducer output shaft, and then multiply by the service factor.

Actual Torque at Reducer Output Shaft =

$$\frac{\text{Actual Torque At Conveyor Head Shaft}}{\text{Chain Drive Ratio}} = \frac{1710}{1.23} = 1{,}390 \text{ In/lbs.}$$

Normal Torque =

Actual Reducer Output Torque × S F =

1,390 × 1.25 = 1738 in/lbs.

4. Determine Size of Speed Reducer Required

From page 394 under “1750 rpm Driver - 10 to 1 ratio - 175 rpm Driven” and under “Mechanical Output Torque” find the rating equal to or greater than the 1738 inch-pounds normal torque calculated in step no. 3. Note that a 3.5 inch center distance reducer has a mechanical rating of 2474 inch-pounds.

The correct part number required is:

Reducer:
30SA 10-L, 2.00 Bore, Position 1, Torque Arm A

5. Determine the Motor Horsepower

$$\text{Motor Horsepower} = \frac{\text{Actual Torque x Input hp}}{\text{Output Torque}}$$

$$= \frac{1{,}390 \times 5.25}{1743}$$

$$= 4.19$$

Use a 5 horsepower motor.

6. Check Overhung

$$\text{OL (See below)} = \frac{2 \times T \times K}{\text{P.D. of Sprocket}}$$

$$= \frac{2 \times 1390 \times 1.0}{5.032}$$

$$= 552.50 \text{ Pounds}$$

From rating table on page 394, note the maximum overhung load for the output shaft of the 35SA reducer is 2066 lbs., which is greater than the calculated load on shaft of 553 lbs. There is no thrust on the output shaft. There is neither thrust or overhung load on the input shaft because it is direct couple connected. The reducer selection size is ample.

Overhung Loads

When a speed reducer is driven by any belt, chain or gear drive, or when the speed reducer drives a driven unit through a belt, chain or gear drive, overhung loads must not exceed those shown on pages 390 through 397. Use the following formula to calculate the overhung loads:

$$OL = \frac{2TK}{D}$$

where
- OL = Overhung Load
- T = Actual Shaft Torque (inch-pounds)
- D = P. D. of Sprocket, Sheave, Pulley or Gear
- K = 1.0 for Chain Drive
- = 1.25 for Gear Drive
- = 1.25 for Gearbelt Drive
- = 1.50 for V-Belt Drive
- = 2.50 for Flat Belt Drive

No overhung loads are encountered when the speed reducer is coupling connected to the driver and/or driven machine. However, care should be taken in aligning the shafts to avoid pre-loading bearings in misalignment.

Service Factors for Enclosed Worm Gear Applications

(Service factors shown apply only if electric or hydraulic motors are used. For single or multi-cylinder engines, see Conversion table on next page for conversion.)

APPLICATION	Up to 3 Hrs. Day	3-10 Hrs. Day	Over 10 Hrs. Day
AGITATORS (Mixers)			
Pure Liquids	–	1.00	1.25
Liquids and Solids	1.00	1.25	1.50
Liquids-Variable Density	1.00	1.25	1.50
BLOWERS			
Centrifugal	1.00	1.25	–
Lobe	1.00	1.25	1.50
Vane	–	1.00	1.25
BREWING AND DISTILLING			
Bottling Machinery	–	1.00	1.25
Brew Kettles, Continuous Duty	–	1.00	1.25
Cookers, Continuous Duty	–	1.00	1.25
Mash Tubs, Continuous Duty	–	1.00	1.25
Scale Hopper, Frequent Starts	1.00	1.25	1.50
CAN FILLING MACHINES	–	1.00	1.25
CAR DUMPERS	1.25	1.50	1.75
CAR PULLERS	1.00	1.25	1.50
CLARIFIERS	–	1.00	1.25
CLASSIFIERS	1.00	1.25	1.50
CLAY WORKING MACHINERY			
Brick Press	1.25	1.50	1.75
Briquette Machine	1.25	1.50	1.75
Pug Mill	1.00	1.25	1.50
COMPACTORS	1.50	1.75	2.00
COMPRESSORS			
Centrifugal	–	1.00	1.25
Lobe	1.00	1.25	1.50
Reciprocating, Multi-Cylinder	1.00	1.25	1.50
Reciprocating, Single-Cylinder	1.25	1.50	1.75
CONVEYORS - GENERAL PURPOSE			
Uniformly Loaded or Fed	–	1.00	1.25
Not Uniformly Fed	1.00	1.25	1.50
Reciprocating or Shaker	1.25	1.50	1.75
CRANES			
Dry Dock			
Main Hoist	1.25	1.50	1.75
Auxiliary	1.25	1.50	1.75
Boom Hoist	1.25	1.50	1.75
Slewing Drive	1.25	1.50	1.75
Traction Drive	1.50	1.50	1.50
Container			
Main Hoist	Refer to Application Engr.		
Boom Hoist	Refer to Application Engr.		
Trolley Drive	Refer to Application Engr.		
(Gantry Drive)			
(Traction Drive)	Refer to Application Engr.		
Mill Duty			
Main Hoist	Refer to Application Engr.		
Auxiliary	Refer to Application Engr.		
Bridge and			
Trolley Travel	Refer to Application Engr.		
Industrial Duty			
Main	1.00	1.25	1.50
Auxiliary	Refer to Application Engr.		
Bridge and Trolley Travel	Refer to Application Engr.		
CRUSHER			
Stone or Ore	1.50	1.75	2.00
DREDGES			
Cable Reels	1.00	1.25	1.50
Conveyors	1.00	1.25	1.50
Cutter Head Drives	1.25	1.50	1.75
Pumps	1.00	1.25	1.50
Screen Drives	1.25	1.50	1.75
Stackers	1.00	1.25	1.50
Winches	1.00	1.25	1.50
ELEVATORS			
Bucket	1.00	1.25	1.50
Centrifugal Discharge	–	1.00	1.25
Escalators	Refer to Application Engr.		
Freight	Refer to Application Engr.		
Gravity Discharge	–	1.00	1.25
EXTRUDERS			
General	1.25	1.25	1.25
Plastics			
(a) Variable Speed Drive	1.50	1.50	1.50
(b) Fixed Speed Drive	1.75	1.75	1.75
Rubber			
(a) Continuous Screw Operation	1.50	1.50	1.50
(b) Intermittent Screw Operation	1.75	1.75	1.75

APPLICATION	Up to 3 Hrs. Day	3-10 Hrs. Day	Over 10 Hrs. Day
FANS			
Centrifugal	–	1.00	1.25
Cooling Towers	Refer to Application Engr.		
Forced Draft	1.25	1.25	1.25
Induced Draft	1.00	1.25	1.50
Industrial & Mine	1.00	1.25	1.50
FEEDERS			
Apron	–	1.25	1.50
Belt	1.00	1.25	1.50
Disc	–	1.00	1.25
Reciprocating	1.25	1.50	1.75
Screw	1.00	1.25	1.50
FOOD INDUSTRY			
Cereal Cooker	–	1.00	1.25
Dough Mixer	1.00	1.25	1.50
Meat Grinders	1.00	1.25	1.50
Slicers	1.00	1.25	1.50
GENERATORS AND EXCITERS	–	1.00	1.25
HAMMER MILLS	1.50	1.50	1.75
HOISTS			
Heavy Duty	1.25	1.50	1.75
Medium Duty	1.00	1.25	1.50
Skip Hoist	1.00	1.25	1.50
LAUNDRY TUMBLERS	1.00	1.25	1.50
LAUNDRY WASHERS	1.25	1.25	1.50
LUMBER INDUSTRY			
Barkers			
-Spindle Feed	1.25	1.25	1.25
- Main Drive	1.50	1.50	1.50
Conveyors			
- Burner	1.25	1.25	1.50
- Main or Heavy Duty	1.50	1.50	1.50
- Main Log	1.50	1.50	1.50
- Re-saw, Merry-Go-Round	1.25	1.25	1.50
- Slab	1.50	1.50	1.75
- Transfer	1.25	1.25	1.50
Chains			
- Floor	1.50	1.50	1.50
- Green	1.50	1.50	1.50
Cut-Off Saws			
- Chain	1.50	1.50	1.50
- Drag	1.50	1.50	1.50
Debarking Drums	1.50	1.50	1.75
Feeds			
- Edger	1.25	1.25	1.50
- Gang	1.50	1.50	1.50
- Trimmer	1.25	1.25	1.50
Log Deck	1.50	1.50	1.50
Log Hauls-Incline-Well Type	1.50	1.50	1.50
Log Turning Devices	1.50	1.50	1.50
Planer Feed	1.25	1.25	1.50
Planer Tilting Hoists	1.50	1.50	1.50
Rolls-Live-off Brg.-Roll Cases	1.50	1.50	1.50
Sorting Table	1.25	1.25	1.50
Tipple Hoist	1.25	1.25	1.50
Transfers			
- Chain	1.50	1.50	1.50
- Causeway	1.50	1.50	1.50
Tray Drives	1.25	1.25	1.50
Veneer Lathe Drives	Refer to Application Engr.		
METAL MILLS			
Draw Bench Carriage and Main Drive	1.00	1.25	1.50
Runout Table			
Non-reversing			
Group Drives	1.00	1.25	1.50
Individual Drives	1.50	1.50	1.75
Reversing	1.50	1.50	1.75
Slab Pushers	1.25	1.25	1.50
Shears	1.50	1.50	1.75
Wire Drawing	1.00	1.25	1.50
Wire Winding Machine	1.00	1.25	1.50
METAL STRIP PROCESSING MACHINERY			
Bridles	1.25	1.25	1.50
Coilers & Uncoilers	1.00	1.00	1.25
Edge Trimmers	1.00	1.25	1.50
Flatteners	1.00	1.25	1.50
Loopers(Accumulators)	1.00	1.00	1.00
Pinch Rolls	1.00	1.25	1.50
Scrap Choppers	1.00	1.25	1.50
Shears	1.50	1.50	1.75
Slitters	1.00	1.25	1.50

Service Factors for Enclosed Worm Gear Applications

APPLICATION	Up to 3 Hrs. Day	3-10 Hrs. Day	Over 10 Hrs. Day
MILLS, ROTARY TYPE			
Ball & Rod			
Spur Ring Gear	1.50	1.50	1.75
Helical Ring Gear	1.50	1.50	1.50
Direct Connected	1.50	1.50	1.75
Cement Kilns	1.50	1.50	1.50
Dryers & Coolers	1.50	1.50	1.50
MIXERS, CONCRETE	1.00	1.25	1.50
PAPER MILLS			
Agitator(Mixer)	1.50	1.50	1.50
Agitator for Pure Liquids	1.25	1.25	1.25
Barking Drums	1.75	1.75	1.75
Barkers - Mechanical	1.75	1.75	1.75
Beater	1.50	1.50	1.50
Breaker Stack	1.25	1.25	1.25
❖ Calender	1.25	1.25	1.25
Chipper	1.75	1.75	1.75
Chip Feeder	1.50	1.50	1.50
Coating Rolls	1.25	1.25	1.25
Conveyors			
Chip, Bark, Chemical	1.25	1.25	1.25
Log(Including Slab)	1.75	1.75	1.75
Couch Rolls	1.25	1.25	1.25
Cutter	1.75	1.75	1.75
Cylinder Molds	1.25	1.25	1.25
❖ Dryers			
Paper Machine	1.25	1.25	1.25
Conveyor Type	1.25	1.25	1.25
Embosser	1.25	1.25	1.25
Extruder	1.50	1.50	1.50
Fourdrinier Rolls (Includes Lump Breaker, Dandy Roll, Wire Turning, and Return Rolls)	1.25	1.25	1.25
Jordan	1.25	1.25	1.25
Kiln Drive	1.50	1.50	1.50
Mt. Hope Roll	1.25	1.25	1.25
Paper Rolls	1.25	1.25	1.25
Platter	1.50	1.50	1.50
Presses- Felt & Suction	1.25	1.25	1.25
Pulper	1.50	1.50	1.75
Pumps- Vacuum	1.50	1.50	1.50
Reel (Surface Type)	1.25	1.25	1.50
Screens			
Chip	1.50	1.50	1.50
Rotary	1.50	1.50	1.50
Vibrating	1.75	1.75	1.75
Size Press	1.25	1.25	1.25
Super Calender (See Note)	1.25	1.25	1.25
Thickener			
(AC Motor)	1.50	1.50	1.50
(DC Motor)	1.25	1.25	1.25
Washer			
(AC Motor)	1.50	1.50	1.50
(DC Motor)	1.25	1.25	1.25
Wind and Unwind Stand	1.00	1.00	1.00
Winders (Surface Type)	1.25	1.25	1.25
❖ Yankee Dryers	1.25	1.25	1.25
PLASTICS INDUSTRY - PRIMARY PROCESSING			
Intensive Internal Mixers			
(a) Batch Mixers	1.75	1.75	1.75
(b) Continuous Mixers	1.50	1.50	1.50
Batch Drop Mill - 2 Smooth Rolls	1.25	1.25	1.25
Continuous Feed, Holding & Blend Mill	1.25	1.25	1.25
Compounding Mills	1.25	1.25	1.25
Calenders	1.50	1.50	1.50
PLASTICS INDUSTRY - SECONDARY PROCESSING			
Blow Molders	1.50	1.50	1.50
Coating	1.25	1.25	1.25
Film	1.25	1.25	1.25
Pipe	1.25	1.25	1.25
Pre-Plasticizers	1.50	1.50	1.50
Rods	1.25	1.25	1.25
Sheet	1.25	1.25	1.25
Tubing	1.25	1.25	1.50
PULLERS - BARGE HAUL	1.00	1.50	1.75
PUMPS			
Centrifugal	–	1.00	1.25
Proportioning	1.00	1.25	1.50
Reciprocating			
Single Acting, 3 or More Cylinders	1.00	1.25	1.50
Double Acting, 2 or More Cylinders	1.00	1.25	1.50
Rotary			
- Gear Type	–	1.00	1.50
- Lobe	–	1.00	1.25
- Vane	–	1.00	1.25
RUBBER INDUSTRY			
Intensive Internal Mixers			
(a) Batch Mixers	1.50	1.75	1.75
(b) Continuous Mixers	1.25	1.50	1.50
Mixing Mill - 2 Smooth Rolls - (If corrugated rolls are used, then use the same service factors that are used for a Cracker-Warmer)	1.50	1.50	1.50
Batch Drop Mill - 2 Smooth Rolls	1.50	1.50	1.50
Cracker Warmer - 2 Roll: 1 Corrugated Roll	1.75	1.75	1.75

APPLICATION	Up to 3 Hrs. Day	3-10 Hrs. Day	Over 10 Hrs. Day
RUBBER INDUSTRY (Cont'd.)			
Cracker - 2 Corrugated Rolls	1.75	1.75	1.75
Holding, Feed & Blend Mill - 2 Rolls	1.25	1.25	1.25
Refiner - 2 Rolls	1.50	1.50	1.50
Calenders	1.50	1.50	1.50
SAND MILLER	1.00	1.25	1.50
SEWAGE DISPOSAL EQUIPMENT			
Bar Screens	–	1.00	1.25
Chemical Feeders	–	1.00	1.25
Dewatering Screens	1.00	1.25	1.50
Scum Breakers	1.00	1.25	1.50
Slow Or Rapid Mixers	1.00	1.25	1.50
Sludge Collectors	1.00	1.00	1.25
Thickener	1.00	1.25	1.50
Vacuum Filters	1.00	1.25	1.50
SCREENS			
Air Washing	–	1.00	1.25
Rotary - Stone Or Gravel	1.00	1.25	1.50
Traveling Water Intake	–	1.00	1.25
SUGAR INDUSTRY			
Beet Slicer	1.50	1.50	1.75
Cane Knives	1.50	1.50	1.50
Crushers	1.50	1.50	1.50
Mills (Low Speed End)	1.50	1.50	1.50
TEXTILE INDUSTRY			
Batchers	1.00	1.25	1.50
Calenders	1.00	1.25	1.50
Cards	1.00	1.25	1.50
Dry Cans	1.00	1.25	1.50
Dryers	1.00	1.25	1.50
Dyeing Machinery	1.00	1.25	1.50
Looms	1.00	1.25	1.50
Mangles	1.00	1.25	1.50
Nappers	1.00	1.25	1.50
Pads	1.00	1.25	1.50
Slashers	1.00	1.25	1.50
Soapers	1.00	1.25	1.50
Spinners	1.00	1.25	1.50
Tenter Frames	1.00	1.25	1.50
Washers	1.00	1.25	1.50
Winders	1.00	1.25	1.50

❖ Anti-Friction Bearings Only.

Note: A Service Factor of 1.0 may be applied at the base of a super calender, operating over a speed range where part of the range is constant horsepower and part of the range is constant torque, provided that the constant horsepower part is greater than 1.5 to 1. A service factor of 1.25 is applicable to super calenders operating over the entire speed range at constant torque, or where the constant horsepower speed range is less than 1.5 to 1.

PoweRgear

Service Factors for Electric and Hydraulic Motors

(For Service Factors For Single Or Multi-Cylinder Engines, Consult Conversion Table below)

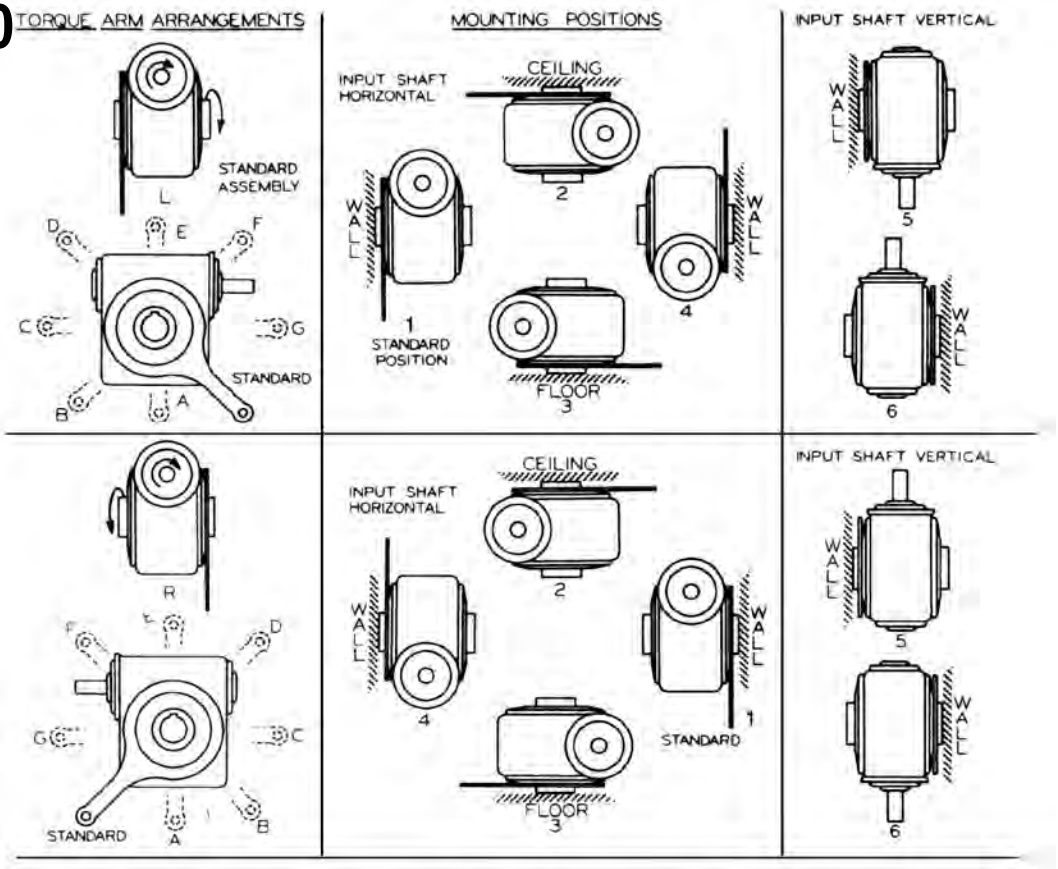
Duration of Service (Hours Per Day)	Uniform Load	Moderate Shock	Heavy Shock	Extreme Shock
Occasional 1/2 Hour	–	–	1.0	1.25
Less Than 3 Hours	1.0	1.0	1.25	1.50
3 - 10 Hours	1.0	1.25	1.50	1.75
Over 10 Hours	1.25	1.50	1.75	2.00

Conversion Table for Single or Multi-Cylinder Engines to find Equivalent Single or Multi-Cylinder Service Factors

Hydraulic or Electric Motor	Single Cylinder Engines	Multi-Cylinder Engines
1.00	1.50	1.25
1.25	1.75	1.50
1.50	2.00	1.75
1.75	2.25	2.00
2.00	2.50	2.25

Load and operating characteristics of both the driver and driven units must be considered throughly when selecting speed reducers. It is essential that all speed reducers be selected for maximum load conditions to be encountered. Worm gear speed reducers will safely transmit momentary starting loads as great as 300% of the mechanical input ratings.

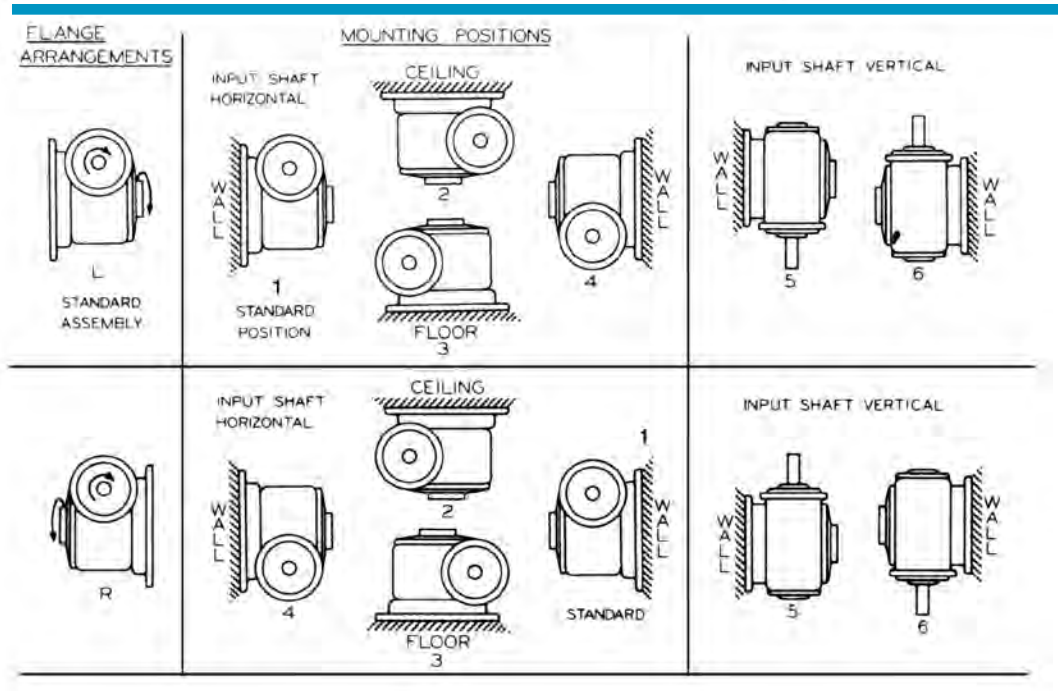
SA, SF, DSA and DSF Series



Model S Type A

Arrows indicate relative rotation. Input Shaft may be rotated in either direction.





Model S Type F

Arrows indicate relative rotation. Input Shaft may be rotated in either direction.



Shaft Tolerances
+ .000
-.001

To Order, Specify:

Example: 30SA25-R, 1.625 bore, position3, torque armC.

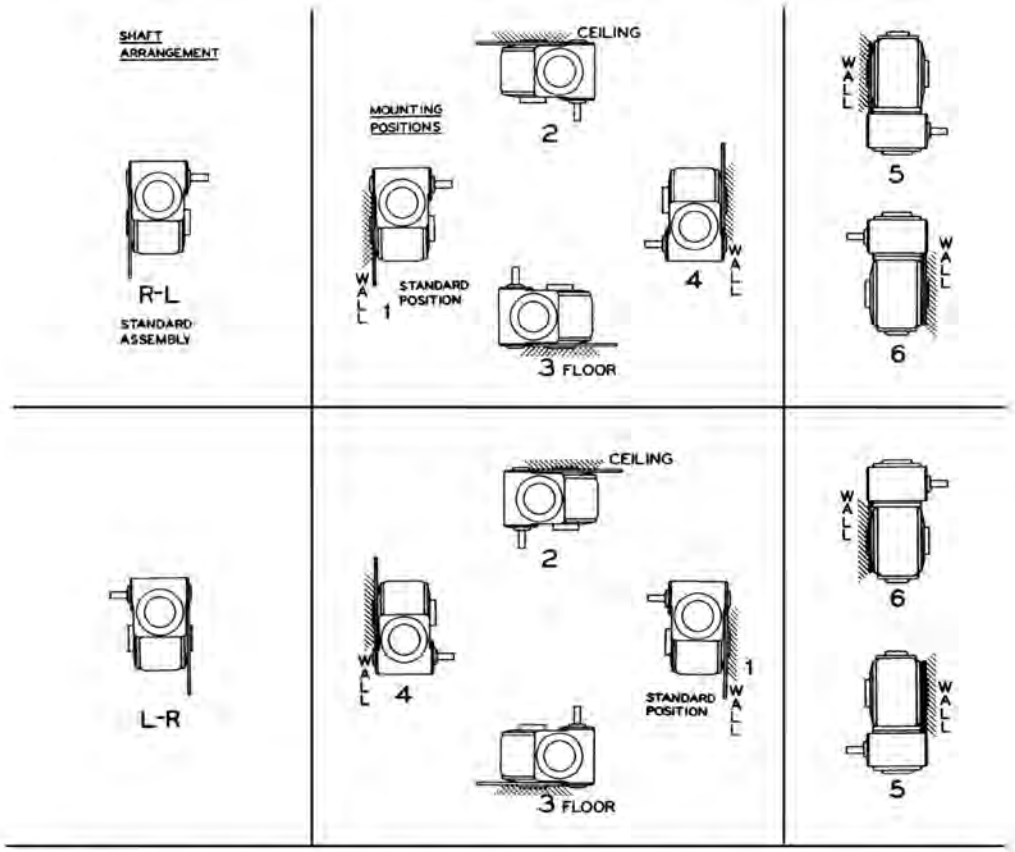
Series .....as, SA
Size..... as 30
Ratio ..... as, 25:1
Torque arm arrangement.....as, C
Mounting position ..... as, Floor 3
Assembly.....as, R

No extra charge for Standard Position shaft arrangements.

DSA and DSF Series Torque Arm and Flange Arrangements

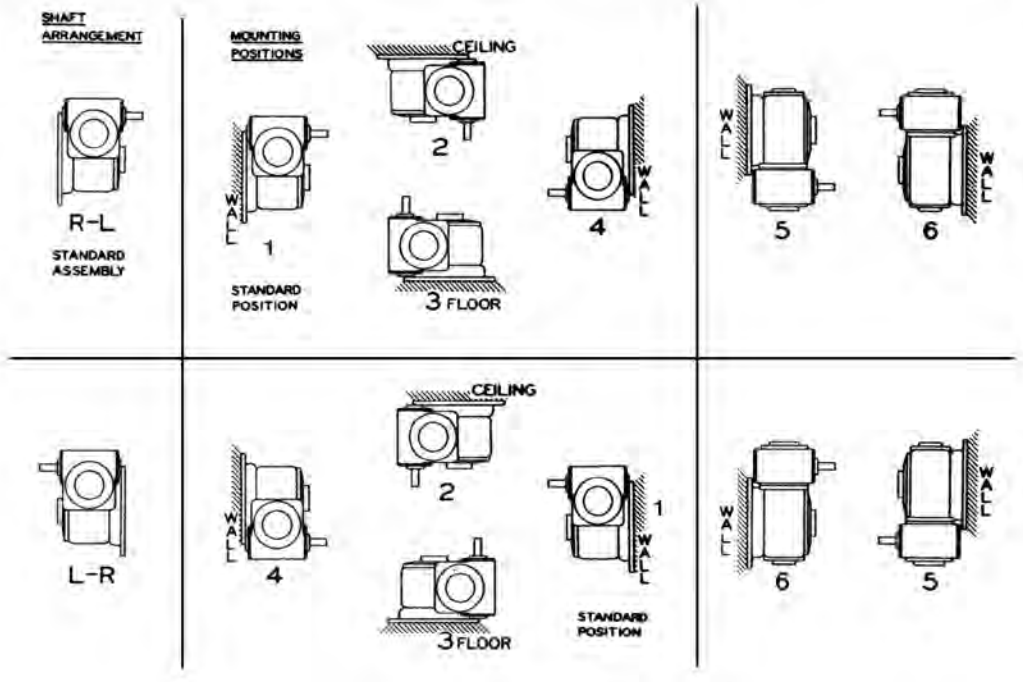
MODEL DS TYPE A





MODEL DS TYPE F





To Order, Specify:
Example: 30DSF100L-R, 1.750 bore, position 3

No extra charge for Standard Position shaft arrangements.

Series	as, DSF
Type	as, 30
Ratio	as, 100:1
Assembly	as, L-R
Mounting position	as, Floor 3
Quill bore size	as, 1.750

Lubrication

For enclosed worm gear units only. A worm gear unit is only as good as the oil which is used. During the first few days of operation, a worm gear unit will run hot. Unless the temperature exceeds 200 degrees F. there is no cause for alarm.

The oils shown below are typical. Any make of oil meeting American Gear Manufactureers Association (AGMA) standards #7C & #8C will be satisfactory. Consult Application Engineering (1 800 626 2093) if you have any questions.

Ambient Temp. 15° to 60°F	Ambient Temp. 50° to 125°F
AGMA #7C	AGMA #8C

The following are some general recommendations regarding relubrication. Your experience in your specific application is the best determination of relubrication intervals.

Maintenance Schedule:

1. Change initial oil fill after 2 weeks.
2. Change oil every 6 to 12 months depending on service conditions.

Additional Lubrication notes:

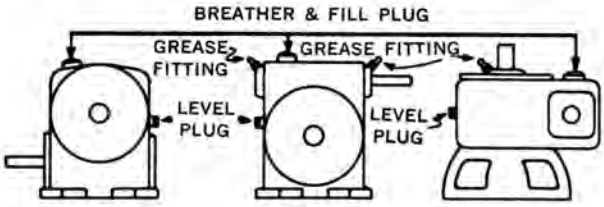
1. E.P. oils are not preferred. If an E.P. oil must be used, customer must determine that it is not corrosive to a bronze gear.
2. For ambient temperatures ouside of these temperature ranges, contact Application Engineering.
3. Units running at slow speeds should carry extra high oil level contact Application Engineering.
4. For slow input speeds (less than 100 RPM) use AGMA #8C oil in ambient temperatures of 15 to 60 degrees F.

Grease Fittings:

1. Grease every 100 hours of running time with about 3/8” ball of grease meeting NLGI #2 standards.
2. Do not over-lubricate.

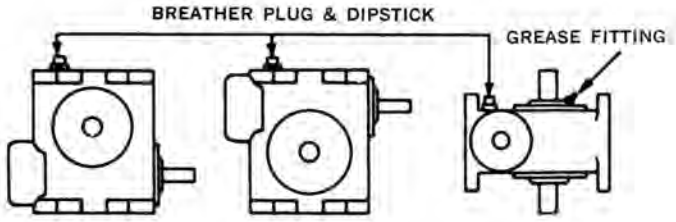
Lubrication

Lubricating Instructions - Reducers Other Than "RW"



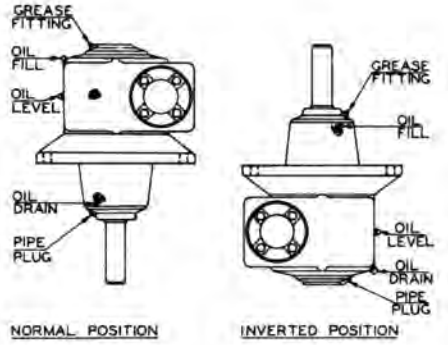
Many Morse units are equipped with plug type oil holes. Remove level plug and fill unit with oil until oil runs out level hole. Breather and fill plug is at top of unit. Grease fittings are used to lubricate bearings above oil level. Grease every 100 hours running time.

Lubricating Instructions - "RW" Reducers



RW units are equipped with a breather-dipstick fill plug. This fill plug should always be located at top of unit. Fill unit with oil to appropriate oil level line as indicated on dipstick. Units equipped with special dipsticks: fill with oil so dipstick dips into oil 1/4". Grease fittings are used to lubricate bearings above oil level. Grease every 100 hours running time. When mounting units in inverted position or on walls, be sure all bearings get proper lubrication. Miter boxes do not require breather plugs.

Lubrication fittings VX conveyor drives



Oil Capacities Chart - U.S.A. Measure - Approximate Quantities, Fill To Oil Level

10WB.....1/4 Pt.
10WT.....1/4 Pt.
10WV.....1/4 Pt.
13WB.....1/2 Pt.
13WT.....1/2 Pt.
13WV.....1/2 Pt.
18WB.....1 Pt.
18WT.....3/4 Pt.
18WV.....1 Pt.
20WB.....1 3/4 Pts.
20WT.....1 1/2 Pts.
20WV.....1 1/2 Pts.
20WDB.....2 Pts.
20WDV.....1 3/4 Pts.
25RWB.....2 1/2 Pts.
25RWT.....2 1/2 Pts.
25RWV.....2 1/4 Pts.
25WDB.....3 1/4 Pts.
25WDV.....3 Pts.
30RWB.....3 3/4 Pts.
30RWT.....3 3/4 Pts.
30WDB.....2 1/2 Qts.
30WDV.....2 1/4 Qts.
35RWB.....3 1/4 Qts.
35RWT.....3 1/2 Qts.
35RWV.....2 1/2 Qts.
35WDB.....3 3/4 Qts.
35WDV.....3 Qts.
40RWB.....3 1/2 Qts.
40RWT.....3 1/2 Qts.
40RWV.....3 Qts.
40WDB.....3 3/4 Qts.
40WDV.....3 1/4 Qts.

50RWB.....1 3/4 Gals.
50RWT.....1 3/4 Gals.
50WDB.....2 1/4 Gals.
50WDV.....2 Gals.
60RWB.....2 3/4 Gals.
60RWT.....3 Gals.
60RWV.....2 1/2 Gals.
60WDB.....3 3/4 Gals.
60WDV.....3 1/2 Gals.
70RWB.....5 3/4 Gals.
70RWT.....5 3/4 Gals.
70RWV.....4 1/2 Gals.
70WDB.....7 Gals.
70WDV.....6 1/4 Gals.
80RWB.....7 1/2 Gals.
80RWT.....7 1/2 Gals.
80WDB.....10 Gals.
80WDV.....9 Gals.
100RWB.....15 1/2 Gals.
100RWT.....11 1/2 Gals.
100RWV.....10 Gals.
100WDB.....19 Gals.
100WDV.....12 1/2 Gals.
18V.....1 Pt.
20V.....1 1/2 Pts.
20DV.....1 Qt.
25V.....1 Qt.
25DV.....1 1/4 Qts.
30V.....1 3/4 Qts.
30DV.....2 1/2 Qts.
35V.....2 1/4 Qts.
35DV.....2 3/4 Qts.
40V.....3 1/2 Qts.
40DV.....4 1/4 Qts.

50V.....1 1/2 Gals.
50DV.....1 3/4 Gals.
60V.....2 1/2 Gals.
60DV.....2 3/4 Gals.
70V.....4 Gals.
70DV.....4 1/2 Gals.
30VX..... Std. 3 Qts.
Inverted..... 2 Qts.
30DVX ..... Std. 3 3/4 Qts.
Inverted..... 2 3/4 Qts.
35VX..... Std. 4 1/4 Qts.
Inverted..... 3 3/4 Qts.
35DVX ..... Std. 4 1/2 Qts.
Inverted..... 4 Qts.
40VX..... Std. 1 1/4 Gals.
Inverted..... 1 Gal.
40DVX ..... Std. 1 1/2 Gals.
Inverted.....1 1/4 Gals.
50VX..... Std. 2 Gals.
Inverted.....1 3/4 Gals.
50DVX ..... Std. 2 1/4 Gals.
Inverted.....2 Gals.
60VX..... Std. 3 3/4 Gals.
Inverted.....2 3/4 Gals.
60DVX ..... Std. 4 1/4 Gals.
Inverted .....3 1/4 Gals.
70VX..... Std. 6 Gals.
Inverted.....5 Gals.
70DVX ..... Std. 7 Gals.
Inverted.....5 1/2 Gals.
90VX.....11 Gals.
90DVX .....12 1/2 Gals.
110VX.....20 Gals.
110DVX .....18 1/2 Gals.

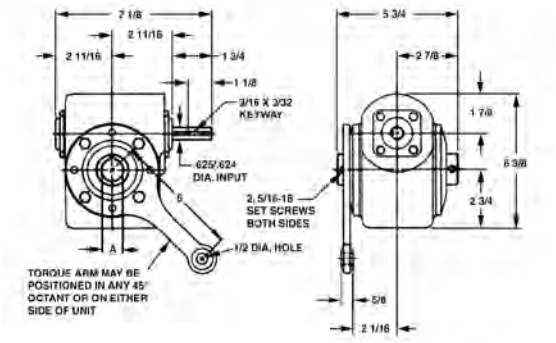
13GCT.....1/2 Pt.
13GCV.....1/2 Pt.
Low Base.....1/2 Pt.
18GCT.....3/4 Pt.
18GCV.....1 Pt.
Low Base.....1 Pt.
20GCT.....1 1/2 Pts.
20GCV..... 1 Qt.
Low Base..... 1 Qt.
25GCT..... 1 1/4 Qts.
25GCV..... 1 1/2Qts.
Low Base..... 1 1/2 Qts.
30GCT..... 2 Qts.
30GCV..... 2 1/2 Qts.
Low Base..... 2 1/2 Qts.
35GCT..... 3 Qts.
35GCV..... 3 3/4 Qts.
Low Base..... 3 3/4 Qts.
40GCT..... 3 1/2Qts.
40GCV..... 3 1/2 Qts.
Low Base..... 3 1/2 Qts.
50GCT.....1 3/4 Gals.
60GCT.....2 3/4 Gals.
50GCV.....1 1/2 Gals.
Low Base.....1 1/2 Gals.
60GCV.....
Low Base.....2 3/4 Gals.
18SA,SF.....3/4 Pts.
18GSA,GSF.....3/4 Pts.
20SA,SF .....1 1/2 Pts.
20GSA,GSF.....1 1/2 Pts.
25SA,SF ..... 1 1/4 Pts.
25GSA,GSF..... 1 1/4 Qts.
30SA,SF ..... 2 Qts.
30GSA,GSF..... 2 Qts.

35SA,SF ..... 3 Qts.
35GSA,GSF..... 3 Qts.
40SA.SF ..... 3 1/2 Qts.
40GSA,GSF..... 3 1/2 Qts.
50SA ,SF .....1 3/4 Gals.
50GSA,GSF.....1 3/4 Gals.
60SA, SF .....2 3/4 Gals.
60GSA,GSF.....2 3/4 Gals.
13GCDB .....3/4 Pt.
13GCDV .....3/4 Pt.
18DSA,DSF.....1 Pt.
18 GDSA,
GDSF.....1 Pt.
18GCDB .....1 Pt.
18GCDV .....1 Pt.
20DSA,DSF..... 1 Qt.
20GDSA,GDSF ..... 1 Qt.
20GCDB ..... 1 Qt.
20GCDV ..... 1 Qt.
25DSA,DSF.....3 1/4 Pts.
25GDSA,
GDSF.....3 1/4 Pts.
25GCDB .....3 1/4 Pts.
25GCDV ..... 1 1/4 Qts.
30DSA,DSF..... 2 1/2 Qts.
30GDSA,
GDSF..... 2 1/2 Qts.
30GCDB ..... 2 1/2 Qts.
30GCDV ..... 2 1/2 Qts.
35DSA,DSF..... 2 3/4 Qts.
35GDSA,
GDSF..... 2 3/4 Qts.
35GCDB ..... 3 3/4 Qts.
35GCDV ..... 2 3/4 Qts.

40DSA,DSF..... 4 1/4 Qts.
40GDSA,
GDSF..... 4 1/4 Qts.
40GCDB ..... 3 3/4 Qts.
50DSA,DSF.....2 1/4 Gals.
50GDSA,
GDSF.....2 1/4 Gals.
50GCDB .....2 1/4 Gals.
50GCDV .....1 3/4 Gals.
60DSA,DSF.....3 3/4 Gals.
60GDSA,
GDSF.....2 3/4 Gals.
60GCDB .....3 3/4 Gals.
60GCDV .....2 3/4 Gals.
30GCDVX.. Std. 3 3/4 Qts.
Inverted..... 2 3/4 Qts.
35GCDVX... Std. 4 1/2 Qts.
Inverted..... 4 Qts.
40GCDVX.. Std. 1 1/2 Gals.
Inverted.....1 1/4 Gals.
50GCDVX. Std. 2 1/4 Gals.
Inverted..... 2 Gals.
60GCDVX. Std. 4 1/4 Gals.
Inverted.....3 1/4 Gals.
4M.....3/4 Pt.
6M..... 1 Qt.
8M..... 2 Qts.
12M.....1 1/2 Gals.

SA, SF, DSA and DSF Series

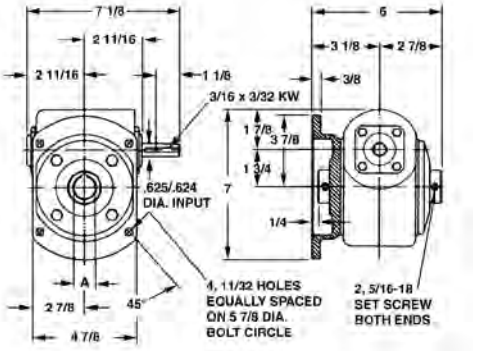
18SA Net wt. 13 lbs.



1.75" C.D.

A (BORE)		KEYWAY
.750	.751	3/16 x 3/32
.875	.876	3/16 x 3/32
.9375	.9385	1/4 x 1/8
1.000	1.001	1/4 x 1/8

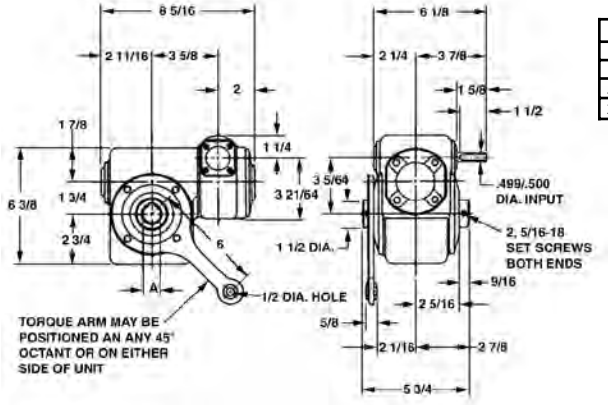
Net wt. 13 lbs. 18SF



1.00 Service Factor* - Single Reduction Wormgear - Models 18SA and 18SF

TORQUE and HORSEPOWER RATINGS																	
RATIO	AT 1750 RPM INPUT			AT 1150 RPM INPUT			AT 870 RPM INPUT			AT 580 RPM INPUT			AT 300 RPM INPUT			AT 100 RPM INPUT		
	Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output	
		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque
5	2.17	350.0	359	1.73	230.0	430	1.44	174.0	468	1.06	116.0	509	.61	60.0	551	.22	20.0	580
7.5	1.71	233.3	415	1.35	153.3	490	1.12	116.0	530	.82	77.3	571	.47	40.0	614	.17	13.3	643
10	1.42	175.0	447	1.12	115.0	527	.93	87.0	567	.68	58.0	610	.39	30.0	654	.14	10.0	682
15	1.06	116.6	479	.84	76.6	531	.70	58.0	603	.52	38.7	648	.30	20.0	693	.11	6.6	727
20	.85	87.5	490	.67	57.5	570	.56	43.5	611	.41	29.0	654	.24	15.0	698	.09	5.0	722
25	.71	70.0	494	.56	46.0	570	.47	34.8	608	.35	23.2	649	.20	12.0	688	.08	4.0	715
30	.63	58.4	494	.51	38.4	578	.43	29.0	620	.32	19.3	667	.19	10.0	711	.07	3.3	745
40	.50	43.7	489	.41	28.7	567	.34	21.8	607	.26	14.5	648	.15	7.5	694	.06	2.5	715
50	.41	35.0	471	.33	23.0	543	.28	17.4	578	.21	11.6	616	.13	6.0	658	.05	2.0	679
60	.34	29.2	446	.28	19.2	512	.24	14.5	545	.18	9.7	578	.11	5.0	615	.04	1.6	630

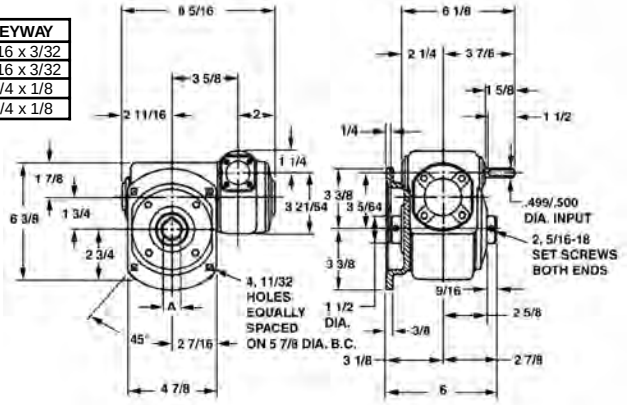
18DSA Net wt. 18 lbs.



1.75" C.D.

A (BORE)		KEYWAY
.750	.751	3/16 x 3/32
.875	.876	3/16 x 3/32
.9375	.9385	1/4 x 1/8
1.000	1.001	1/4 x 1/8

Net wt. 18 lbs. 18DSF



1.00 Service Factor* - Double Reduction Wormgear - Models 18DSA and 18DSF
1.33" Centers Primary - 1.75" Centers Secondary

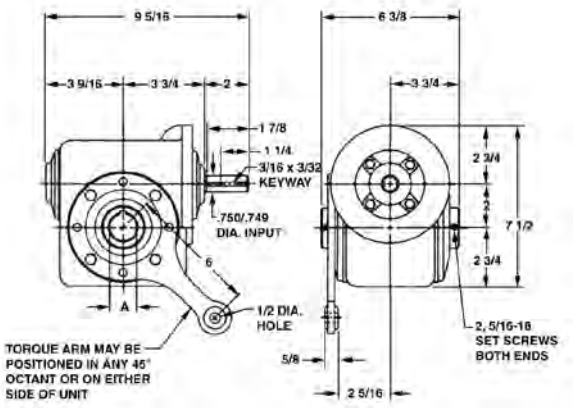
TORQUE and HORSEPOWER RATINGS															
RATIO	Primary Ratio	Secondary Ratio	AT 1750 RPM INPUT			AT 1150 RPM INPUT			AT 870 RPM INPUT			AT 580 RPM INPUT			
			Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output		
				R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque	
75	5	15	.37	23.33	687	.26	15.33	706	.21	11.60	716	.15	7.73	725	
100	5	20	.30	17.50	691	.21	11.50	710	.17	8.70	719	.12	5.80	728	
125	5	25	.25	14.00	684	.18	9.20	702	.14	6.96	710	.10	4.64	719	
150	10	15	.21	11.67	715	.15	7.67	725	12	5.80	730	.08	3.87	735	
200	10	20	.17	8.75	718	.12	5.75	728	.10	4.35	732	.07	2.90	737	
250	10	25	.15	7.00	710	.10	4.60	719	.08	3.48	723	.06	2.32	727	
300	15	20	.13	5.83	728	.09	3.83	734	.07	2.90	737	.05	1.93	740	
400	20	20	.10	4.38	732	.07	2.88	737	.06	2.18	739	.04	1.45	742	
500	25	20	.09	3.50	735	.06	2.30	739	.05	1.74	741	.03	1.16	742	
600	30	20	.08	2.92	737	.06	1.92	740	.05	1.45	742	.03	.97	743	
800	40	20	.07	2.19	739	.05	1.44	742	.04	1.09	743	.03	.73	744	
1000	50	20	.06	1.75	741	.04	1.15	742	.03	.87	743	.02	.58	744	
1200	60	20	.05	1.46	741	.04	.96	743	.03	.73	744	.02	.48	745	
1500	25	60	.04	1.17	645	.03	.77	648	.02	.58	650	.02	.39	651	
1800	30	60	.04	.97	647	.03	.64	649	.02	.48	650	.02	.32	652	
2400	40	60	.03	.73	648	.02	.48	650	.02	.36	651	.01	.24	652	
3000	50	60	.03	.58	650	.02	.38	651	.02	.29	652	.01	.19	653	
3600	60	60	.02	.49	650	.02	.32	652	.02	.24	652	.01	.16	653	

▲ Inch-pounds

* Refer to page 386 for other service factors. Refer to pages 388 and 389 for torque arm and flange arrangements. Shaft mounted units will be furnished with torque arm or mounting flange on the side shown unless otherwise specified on order.
Consult Application Engineering (1 800 626 2093) for OHL and thrust load values.

SA, SF, DSA and DSF Series

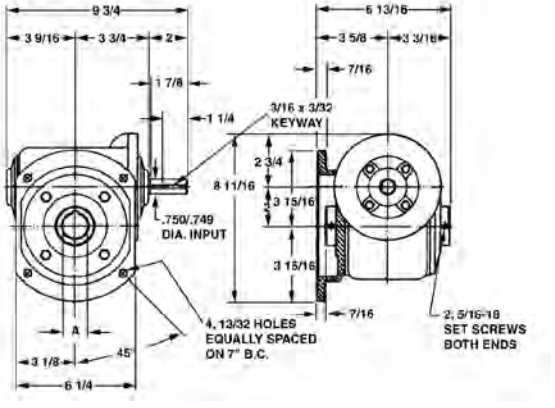
20SA Net wt. 21 lbs.



2.0" C.D.

A (BORE)	KEYWAY
.9375 .9385	1/4 x 1/8
1.000 1.001	1/4 x 1/8
1.125 1.126	1/4 x 1/8
1.1875 1.1885	1/4 x 1/8
1.250 1.251	1/4 x 1/8

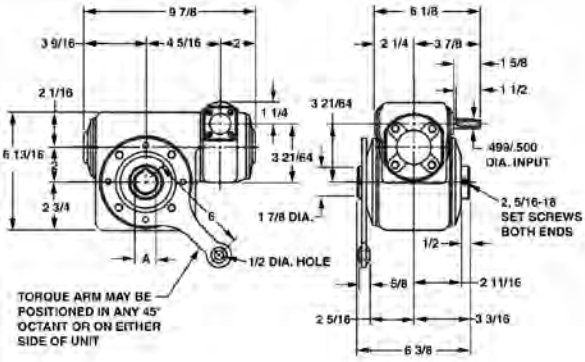
Net wt. 21 lbs. 20SF



1.00 Service Factor* - Single Reduction Wormgear - Models 20SA and 20SF

TORQUE and HORSEPOWER RATINGS																		
RATIO	AT 1750 RPM INPUT			AT 1150 RPM INPUT			AT 870 RPM INPUT			AT 580 RPM INPUT			AT 300 RPM INPUT			AT 100 RPM INPUT		
	Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output	
		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque
5	2.92	350.0	487	2.35	23.0	588	1.96	174.0	643	1.45	116.0	702	.83	60.0	763	.30	20.0	808
7.5	2.31	233.3	568	1.84	153.3	676	1.52	116.0	732	1.12	77.3	793	.64	40.0	854	.23	13.3	896
10	1.92	175.0	616	1.52	115.0	728	1.26	87.0	785	.92	58.0	847	.53	30.0	910	.19	10.0	954
15	1.44	116.6	663	1.14	76.6	779	.94	58.0	837	.70	38.7	902	.40	20.0	964	.15	6.6	1011
20	1.13	87.5	673	.88	57.5	779	.73	43.5	830	.54	29.0	890	.31	15.0	944	.12	5.0	987
25	.94	70.0	677	.73	46.0	777	.61	34.8	827	.45	23.2	882	.26	12.0	936	.10	4.0	971
30	.84	58.4	685	.67	38.4	803	.57	29.0	862	.42	19.3	928	.25	10.0	992	.10	3.3	1037
40	.65	43.7	672	.52	28.7	776	.43	21.8	828	.32	14.5	883	.19	7.5	937	.07	2.5	979
50	.53	35.0	646	.42	23.0	742	.35	17.4	788	.27	11.6	839	.16	6.0	887	.06	2.0	921
60	.44	29.2	610	.35	19.2	699	.30	14.5	741	.22	9.7	789	.13	5.0	835	.05	1.6	869

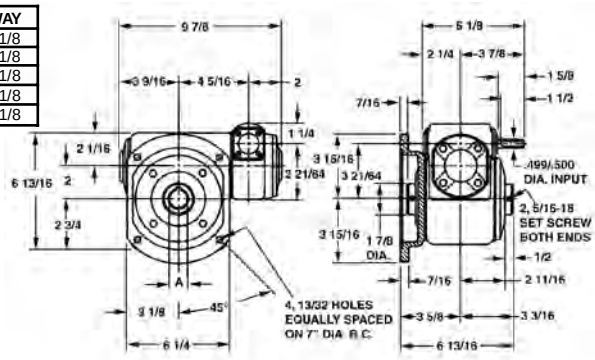
20DSA Net wt. 26 lbs.



2.0" C.D.

A (BORE)	KEYWAY
.9375 .9385	1/4 x 1/8
1.000 1.001	1/4 x 1/8
1.125 1.126	1/4 x 1/8
1.1875 1.1885	1/4 x 1/8
1.250 1.251	1/4 x 1/8

Net wt. 26 lbs. 20DSF



1.00 Service Factor* - Double Reduction Wormgear - Models 20DSA and 20DSF
1.33" Centers Primary - 2.0" Centers Secondary

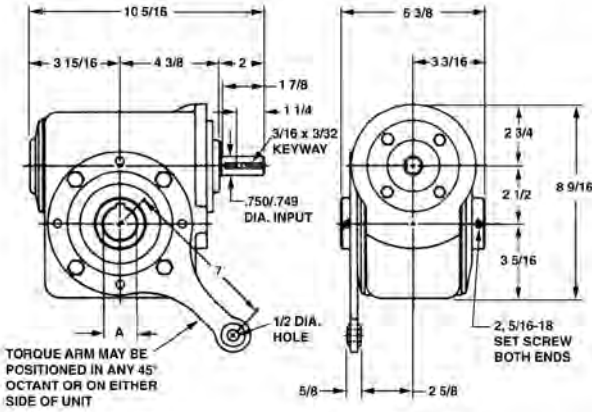
TORQUE and HORSEPOWER RATINGS															
RATIO	Primary Ratio	Secondary Ratio	AT 1750 RPM INPUT			AT 1150 RPM INPUT			AT 870 RPM INPUT			AT 580 RPM INPUT			
			Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output		
				R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque	
75	5	15	.50	23.33	956	.35	15.33	984	.28	11.60	997	.20	7.73	1010	
100	5	20	.39	17.50	937	.27	11.50	962	.21	8.70	973	.15	5.80	985	
125	5	25	.32	14.00	929	.23	9.20	952	.18	6.96	963	.13	4.64	975	
150	10	15	.29	11.67	996	.20	7.67	1010	.16	5.80	1017	.11	3.87	1024	
200	10	20	.22	8.75	973	.16	5.75	986	.12	4.35	991	.09	2.90	997	
250	10	25	.18	7.00	963	.13	4.60	975	.10	3.48	980	.07	2.32	986	
300	15	20	.16	5.83	985	.11	3.83	994	.09	2.90	997	.06	1.93	1001	
400	20	20	.13	4.38	991	.09	2.88	998	.07	2.18	1000	.05	1.45	1003	
500	25	20	.11	3.50	995	.08	2.30	1000	.06	1.74	1002	.04	1.16	1005	
600	30	20	.10	2.92	997	.07	1.92	1002	.06	1.45	1003	.04	.97	1005	
800	40	20	.08	2.19	1000	.06	1.44	1004	.05	1.09	1005	.03	.73	1006	
1000	50	20	.07	1.75	1002	.05	1.15	1005	.04	.87	1006	.03	.58	1007	
1200	60	20	.06	1.46	1003	.05	.96	1006	.04	.73	1006	.03	.48	1007	
1500	25	60	.05	1.17	876	.04	.77	880	.03	.58	882	.02	.39	884	
1800	30	60	.05	.97	878	.03	.64	882	.03	.48	883	.02	.32	885	
2400	40	60	.04	.73	881	.03	.48	883	.02	.36	884	.02	.24	886	
3000	50	60	.03	.58	882	.02	.38	884	.02	.29	885	.01	.19	886	
3600	60	60	.03	.49	883	.02	.32	885	.02	.24	886	.01	.16	886	

▲ Inch-pounds

* Refer to page 384 for other service factors. Refer to pages 386 and 387 for torque arm and flange arrangements. Shaft mounted units will be furnished with torque arm or mounting flange on the side shown unless otherwise specified on order.
Consult Application Engineering (1 800 626 2093) for OHL and thrust load values.

SA, SF, DSA and DSF Series

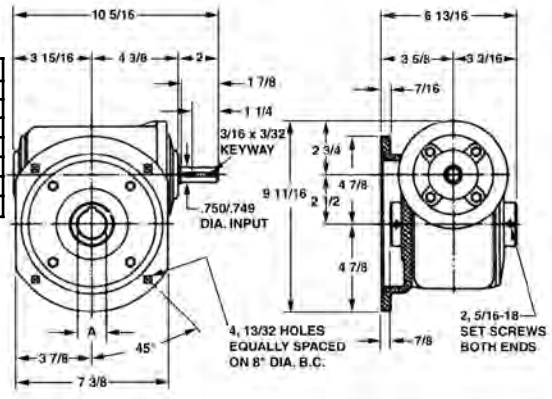
25SA Net wt. 30 lbs.



2.5" C.D.

A (BORE)	KEYWAY
.9375 .9385	1/4 x 1/8
1.000 1.001	1/4 x 1/8
1.125 1.126	1/4 x 1/8
1.1875 1.1885	1/4 x 1/8
1.250 1.251	1/4 x 1/8
1.3125 1.3135	5/16 x 5/32
1.4375 1.4385	3/8 x 3/16

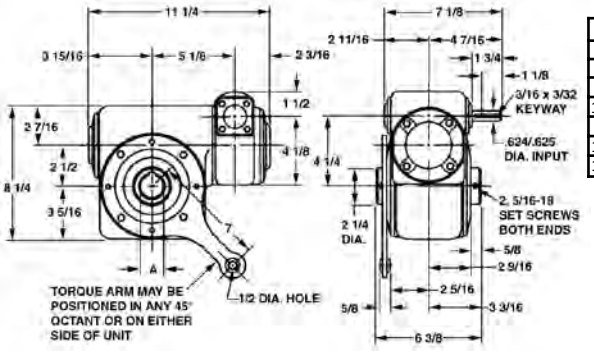
Net wt. 30 lbs. 25SF



1.00 Service Factor* - Single Reduction Wormgear - Models 25SA and 25SF

TORQUE and HORSEPOWER RATINGS																	
RATIO	AT 1750 RPM INPUT			AT 1150 RPM INPUT			AT 870 RPM INPUT			AT 580 RPM INPUT			AT 300 RPM INPUT			AT 100 RPM INPUT		
	Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output	
		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque
5	4.76	350.0	798	3.95	230.0	996	3.36	174.0	1112	2.54	116.0	1243	1.49	60.0	1379	.55	20.0	1479
7.5	3.82	233.3	946	3.12	153.3	1158	2.63	116.0	1277	1.97	77.3	1409	1.14	40.0	1545	.42	13.3	1644
10	3.18	175.0	1031	2.58	115.0	1253	2.17	87.0	1376	1.63	58.0	1510	.94	30.0	1648	.35	10.0	1751
15	2.37	116.6	1113	1.93	76.6	1344	1.63	58.0	1472	1.22	38.7	1610	.71	20.0	1750	.27	6.6	1855
20	1.88	87.5	1139	1.52	57.5	1364	1.28	43.5	1484	.96	29.0	1614	.56	15.0	1745	.21	5.0	1835
25	1.54	70.0	1140	1.24	46.0	1347	1.03	34.8	1454	.77	23.2	1569	.45	12.0	1683	.17	4.0	1765
30	1.37	58.4	1155	1.13	38.4	1390	.96	29.0	1518	.73	19.3	1659	.44	10.0	1797	.17	3.3	1897
40	1.07	43.7	1139	.88	28.7	1361	.75	21.8	1479	.58	14.5	1607	.34	7.5	1737	.14	2.5	1828
50	.86	35.0	1090	.70	23.0	1285	.59	17.4	1386	.45	11.6	1495	.27	6.0	1605	.11	2.0	1684
60	.70	29.2	1024	.57	19.2	1196	.48	14.5	1281	.36	9.7	1376	.22	5.0	1472	.09	1.6	1533

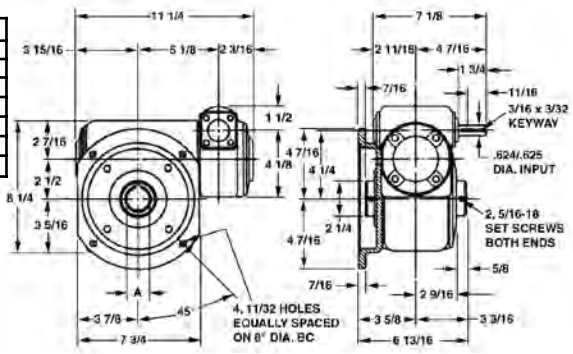
25DSA Net wt. 45 lbs.



2.5" C.D.

A (BORE)	KEYWAY
.9375 .9385	1/4 x 1/8
1.000 1.001	1/4 x 1/8
1.125 1.126	1/4 x 1/8
1.1875 1.1885	1/4 x 1/8
1.250 1.251	1/4 x 1/8
1.3125 1.3135	5/16 x 5/32
1.4375 1.4385	3/8 x 3/16

Net wt. 45 lbs. 25DSF



1.00 service factor* - Double Reduction Wormgear - Models 25DSA and 25DSF
1.75" Centers Primary - 2.5" Centers Secondary

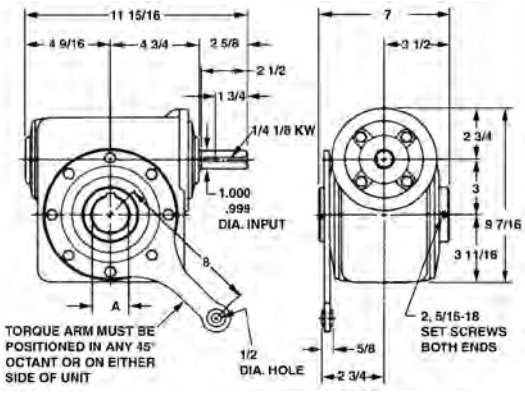
TORQUE and HORSEPOWER RATINGS															
RATIO	Primary Ratio	Secondary Ratio	AT 1750 RPM INPUT			AT 1150 RPM INPUT			AT 870 RPM INPUT			AT 580 RPM INPUT		
			Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output	
				R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque
75	5	15	.88	23.33	1728	.62	15.33	1790	.49	11.60	1819	.35	7.73	1849
100	5	20	.69	17.50	1725	.49	11.50	1783	.39	8.70	1810	.27	5.80	1838
125	5	25	.55	14.00	1667	.39	9.20	1718	.31	6.96	1741	.22	4.64	1766
150	10	15	.51	1.67	1818	.35	7.67	1849	.28	5.80	1864	.20	3.87	1879
200	10	20	.40	8.75	1809	.28	5.75	1838	.22	4.35	1852	.16	2.90	1866
250	10	25	.32	7.00	1741	.22	4.60	1766	.18	3.48	1778	.12	2.32	1791
300	15	20	.29	5.83	1837	.20	3.83	1857	.16	2.90	1866	.11	1.93	1875
400	20	20	.23	4.38	1852	.17	2.88	1866	.13	2.18	1873	.09	1.45	1880
500	25	20	.20	3.50	1860	.14	2.30	1872	.11	1.74	1877	.08	1.16	1883
600	30	20	.18	2.92	1866	.13	1.92	1875	.10	1.45	1880	.07	.97	1885
800	40	20	.15	2.199	1873	.11	1.44	1880	.08	1.09	1883	.06	.73	1887
1000	50	20	.13	1.75	1877	.09	1.15	1883	.07	.87	1886	.05	.58	1888
1200	60	20	.11	1.46	1880	.08	.96	1885	.07	.73	1887	.05	.48	1889
1500	25	60	.08	1.17	1552	.06	.77	1560	.05	.58	1564	.03	.39	1568
1800	30	60	.07	.97	1556	.05	3.64	1562	.04	.48	1566	.03	.32	1569
2400	40	60	.06	.73	1561	.04	.48	1566	.04	.36	1568	.03	.24	1571
3000	50	60	.05	.58	1564	.04	.38	1568	.03	.29	1570	.02	.19	1572
3600	60	60	.05	.49	1566	.03	.32	1569	.03	.24	1571	.02	.16	1572

▲ Inch-pounds

* Refer to page 384 for other service factors. Refer to pages 386 and 387 for torque arm and flange arrangements. Shaft mounted units will be furnished with torque arm or mounting flange on the side shown unless otherwise specified on order.
Consult Application Engineering (1 800 626 2093) for OHL and thrust load values.

SA, SF, DSA and DSF Series

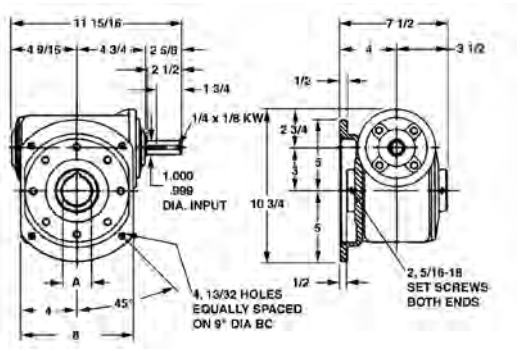
30SA Net wt. 44 lbs.



3.0" C.D.

A (BORE)	KEYWAY
1.4375 1.4385	3/8 x 3/16
1.500 1.501	3/8 x 3/16
1.625 1.626	3/8 x 3/16
1.6875 1.6885	3/8 x 3/16
1.750 1.751	3/8 x 3/16
1.875 1.876	1/2 x 1/4
1.9375 1.9385	1/2 x 1/4
2.000 2.001	1/2 x 1/4

Net wt. 44 lbs. 30SF

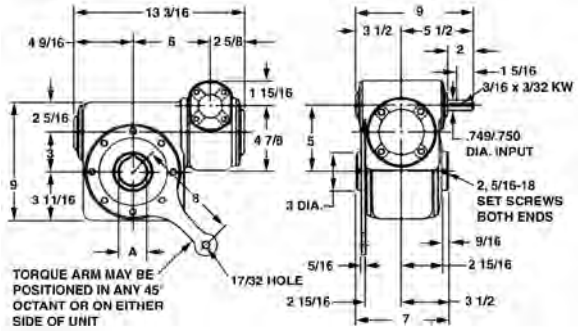


1.00 Service Factor* - Single Reduction Wormgear Models 30SA and 30SF

TORQUE and HORSEPOWER RATINGS																	
RATIO	AT 1750 RPM INPUT			AT 1150 RPM INPUT			AT 870 RPM INPUT			AT 580 RPM INPUT			AT 300 RPM INPUT			AT 100 RPM INPUT		
	Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output	
		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque
5	8.06	350.0	1357	6.82	230.0	1729	5.92	174.0	1968	4.58	116.0	2254	2.75	60.0	2557	1.03	20.0	2783
7.5	6.44	233.3	1603	5.42	153.3	2026	4.65	116.0	2279	3.56	77.3	2571	2.11	40.0	2874	.79	13.3	3100
10	5.37	175.0	1753	4.50	115.0	2198	3.85	87.0	2461	2.94	58.0	2760	1.74	30.0	3069	.66	10.0	3298
15	4.01	116.6	1899	3.36	76.6	2366	2.88	58.0	2639	2.20	38.7	2947	1.31	20.0	3264	.50	6.6	3499
20	3.19	87.5	1956	2.65	57.5	2412	2.27	43.5	2671	1.73	29.0	2955	1.03	15.0	3254	.39	5.0	3476
25	2.64	70.0	1975	2.18	46.0	2404	1.85	34.8	2643	1.41	23.2	2907	.84	12.0	3175	.32	4.0	3373
30	2.31	58.4	1975	1.96	38.4	2451	1.69	29.0	2725	1.31	19.3	3033	.80	10.0	3349	.31	3.3	3584
40	1.81	43.7	1959	1.53	28.7	2406	1.33	21.8	2665	1.03	14.5	2946	.63	7.5	3240	.25	2.5	3454
50	1.46	35.0	1889	1.23	23.0	2298	1.06	17.4	2525	.82	11.6	2770	.50	6.0	3020	.20	2.0	3198
60	1.21	29.2	1791	1.02	19.2	2172	.88	14.5	2380	.69	9.7	2612	.42	5.0	2844	.17	1.6	3016

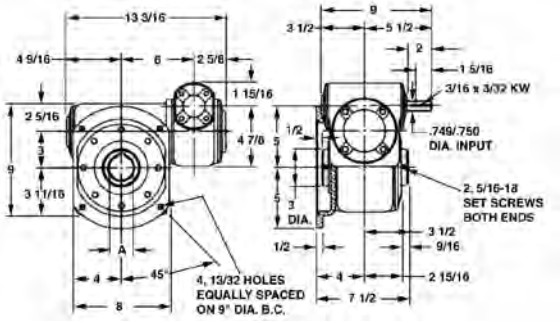
30DSA Net wt. 66 lbs.

3.0" C.D.



A (BORE)	KEYWAY
1.4375 1.4385	3/8 x 3/16
1.500 1.501	3/8 x 3/16
1.625 1.626	3/8 x 3/16
1.6875 1.6885	3/8 x 3/16
1.750 1.751	3/8 x 3/16
1.875 1.876	1/2 x 1/4
1.9375 1.9385	1/2 x 1/4
2.000 2.001	1/2 x 1/4

Net wt. 66 lbs. 30DSF



1.00 Service Factor* - Double Reduction Worm Gear - Models 30DSA and 30DSF
2.0" Centers Primary - 3.0" Centers Secondary

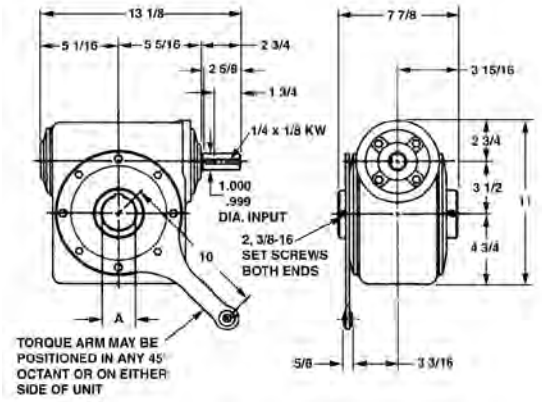
TORQUE and HORSEPOWER RATINGS												
RATIO	Primary Ratio	Secondary Ratio	AT 1750 RPM INPUT			AT 1150 RPM INPUT			AT 870 RPM INPUT			AT 580 RPM INPUT		
			Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output	
				R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque
75	5	15	1.61	23.33	3208	1.15	15.33	3348	.91	11.60	3413	.64	7.73	3481
100	5	20	1.26	17.50	3207	.90	11.50	3337	.71	8.70	3399	.51	5.80	3462
125	5	25	1.02	14.00	3132	.73	9.20	3250	.58	6.96	3305	.41	4.64	3362
150	10	15	.93	11.67	3412	.65	7.67	3483	.51	5.80	3516	.36	3.87	3550
200	10	20	.73	8.75	3398	.51	5.75	3464	.40	4.35	3494	.28	2.90	3526
250	10	25	.59	7.00	3304	.42	4.60	3363	.33	3.48	3391	.23	2.32	3420
300	15	20	.53	5.83	3462	.37	3.83	3506	.29	2.90	3526	.21	1.93	3548
400	20	20	.42	4.38	3494	.30	2.88	3527	.23	2.18	3542	.16	1.45	3558
500	25	20	.35	3.50	3513	.25	2.30	3540	.20	1.74	3552	.14	1.16	3565
600	30	20	.32	2.92	3526	.23	1.92	3548	.18	1.45	3558	.13	.97	3569
800	40	20	.26	2.19	3542	.18	1.44	3559	.15	1.09	3566	.10	.73	3574
1000	50	20	.22	1.75	3552	.16	1.15	3565	.13	.87	3571	.09	.58	3578
1200	60	20	.20	1.46	3558	.14	.96	3569	.11	.73	3574	.08	.48	3580
1500	25	60	.16	1.17	3044	.11	.77	3065	.09	.58	3074	.06	.39	3084
1800	30	60	.14	.97	3054	.10	.64	3074	.08	.48	3079	.06	.32	3088
2400	40	60	.12	.73	3067	.08	.48	3080	.07	.36	3086	.05	.24	3092
3000	50	60	.10	.58	3074	.07	.38	3085	.06	.29	3089	.04	.19	3094
3600	60	60	.09	.49	3079	.06	.32	3088	.05	.24	3092	.04	.16	3096

▲Inch-pounds

* Refer to page 384 for other service factors. Refer to pages 386 and 387 for torque arm and flange arrangements. Shaft mounted units will be furnished with torque arm or mounting flange on the side shown unless otherwise specified on order.
Consult Application Engineering (1 800 626 2093) for OHL and thrust load values.

SA, SF, DSA and DSF Series

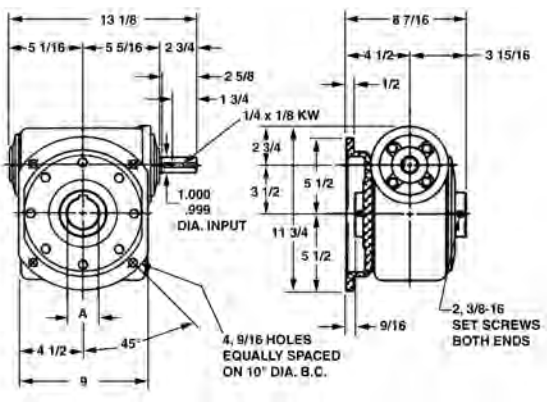
35SA Net wt. 57 lbs.



3.5" C.D.

A (BORE)	KEYWAY
1.750 1.751	3/8 x 3/16
1.875 1.876	1/2 x 1/4
1.9375 1.9385	1/2 x 1/4
2.000 2.001	1/2 x 1/4
2.1875 2.1865	1/2 x 1/4

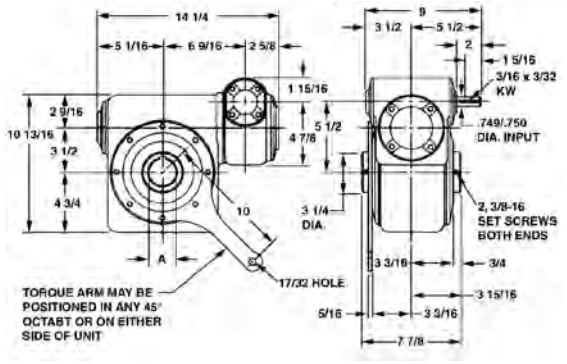
Net wt. 57 lbs. 35SF



1.00 Service Factor*- Single Reduction Wormgear - Models 35SA and 35SF

TORQUE and HORSEPOWER RATINGS																	
RATIO	AT 1750 RPM INPUT			AT 1150 RPM INPUT			AT 870 RPM INPUT			AT 580 RPM INPUT			AT 300 RPM INPUT			AT 100 RPM INPUT		
	Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output	
		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque
5	11.54	350.0	1951	9.70	230.0	2470	8.58	174.0	2861	6.82	116.0	3373	4.21	60.0	3927	1.61	20.0	4356
7.5	9.12	233.3	2279	7.74	153.3	2903	6.78	116.0	3328	5.33	77.3	3868	3.25	40.0	4424	1.24	13.3	4854
10	7.55	175.0	2474	6.43	115.0	3155	5.62	87.0	3601	4.40	58.0	4150	2.68	30.0	4726	1.03	10.0	5167
15	5.60	116.6	2663	4.80	76.6	3396	4.20	58.0	3864	3.30	38.7	4429	2.02	20.0	5027	.78	6.6	5476
20	4.44	87.5	2739	3.80	57.5	3469	3.31	43.5	3921	2.58	29.0	4448	1.58	15.0	5003	.61	5.0	5401
25	3.67	70.0	2773	3.11	46.0	3470	2.69	34.8	3884	2.08	23.2	4349	1.26	12.0	4830	.49	4.0	5185
30	3.22	58.4	2773	2.79	38.4	3516	2.46	29.0	3995	1.97	19.3	4570	.24	10.0	5165	.50	3.3	5625
40	2.50	43.7	2738	2.18	28.7	3468	1.92	21.8	3914	1.53	14.5	4428	.96	7.5	4969	.39	2.5	5364
50	2.02	35.0	2657	1.74	23.0	3320	1.52	17.4	3707	1.21	11.6	4144	.75	6.0	4603	.30	2.0	4934
60	1.67	29.2	2522	1.44	19.2	3138	1.26	14.5	3497	1.00	9.7	3900	.63	5.0	4308	.26	1.6	4637

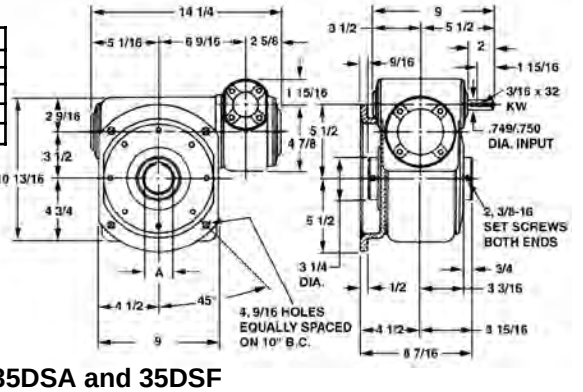
35DSA Net wt. 76 lbs.



3.5" C.D.

A (BORE)	KEYWAY
1.750 1.751	3/8 x 3/16
1.875 1.876	1/2 x 1/4
1.9375 1.9385	1/2 x 1/4
2.000 2.001	1/2 x 1/4
2.1875 2.1865	1/2 x 1/4

Net wt. 76 lbs. 35DSF



1.00 Service Factor* - Double Reduction Wormgear - models 35DSA and 35DSF
2.0" Centers Primary - 3.5" Centers Secondary

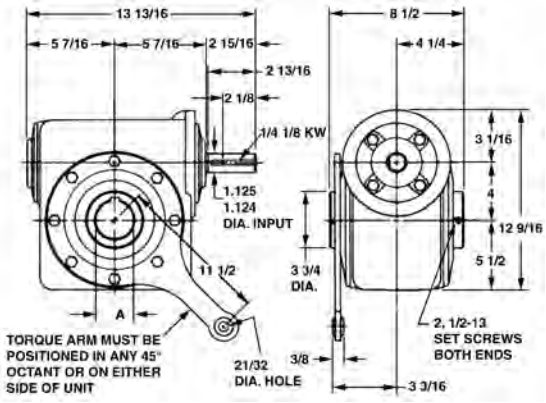
TORQUE and HORSEPOWER RATINGS															
RATIO	Primary Ratio	Secondary Ratio	AT 1750 RPM INPUT			AT 1150 RPM INPUT			AT 870 RPM INPUT			AT 580 RPM INPUT		
			Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output	
				R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque
75	5	15	2.47	23.33	4919	1.77	15.33	5187	1.41	11.60	5313	1.00	7.73	5444
100	5	20	1.93	17.50	4903	1.39	11.50	5147	1.10	8.70	5262	.79	5.80	5382
125	5	25	1.54	14.00	4750	1.11	9.20	4963	.88	6.96	5063	.63	4.64	5167
150	10	15	1.44	11.67	5311	1.02	7.67	5446	.80	5.80	5509	.57	3.87	5575
200	10	20	1.13	8.75	5260	.79	5.75	5384	.3	4.35	5442	.44	2.90	5502
250	10	25	.90	7.00	5061	.63	4.60	5169	.50	3.48	5219	.35	2.32	5272
300	15	20	.82	5.83	5381	.58	3.83	5463	.46	2.90	5502	.33	1.93	5542
400	20	20	.65	4.38	5441	.46	2.88	5503	.37	2.18	5532	.26	1.45	5562
500	25	20	.55	3.50	5477	.39	2.30	5527	.31	1.74	5550	.22	1.16	5574
600	30	20	.50	2.92	5501	.35	1.92	5543	.28	1.45	5562	.20	.97	5582
800	40	20	.40	2.19	5532	.29	1.44	5563	.23	1.09	5577	.16	.73	5593
1000	50	20	.35	1.75	5550	.25	1.15	5575	.20	.87	5586	.14	.58	5599
1200	60	20	.31	1.46	5562	.22	.96	5583	.18	.73	5593	.13	.48	5603
1500	25	60	.24	1.17	4671	.17	.77	4709	.14	.58	4726	.10	.39	4744
1800	30	60	.21	.97	4690	.15	.64	4721	.12	.48	4735	.09	.32	4750
2400	40	60	.17	.73	4712	.13	.48	4735	.10	.36	4746	.07	.24	4757
3000	50	60	.15	.58	4726	.11	.38	4744	.09	.29	4753	.06	.19	4762
3600	60	60	.14	.49	4735	.10	.32	4750	.08	.24	4757	.06	.16	4765

▲ Inch-pounds

* Refer to page 3384 for other service factors. Refer to pages 386 and 387 for torque arm and flange arrangements. Shaft mounted units will be furnished with torque arm or mounting flange on the side shown unless otherwise specified on order.
Consult Application Engineering (1 800 626 2093) for OHL and thrust load values.

SA, SF, DSA and DSF Series

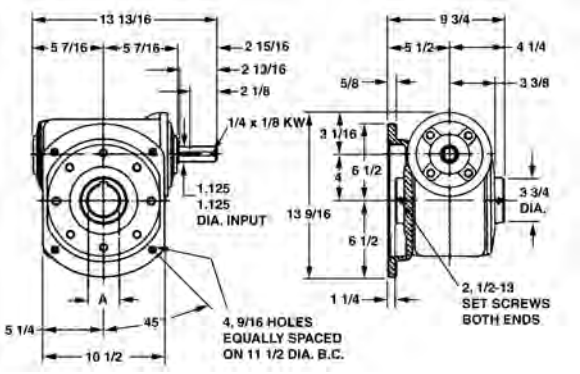
40SA Net wt. 95 lbs.



4.0" C.D.

A (BORE)	KEYWAY
2.000 2.001	1/2 x 1/4
2.1875 2.1885	1/2 x 1/4
2.250 2.252	1/2 x 1/4
2.4375 2.4395	5/8 x 5/16
2.500 2.502	5/8 x 5/16

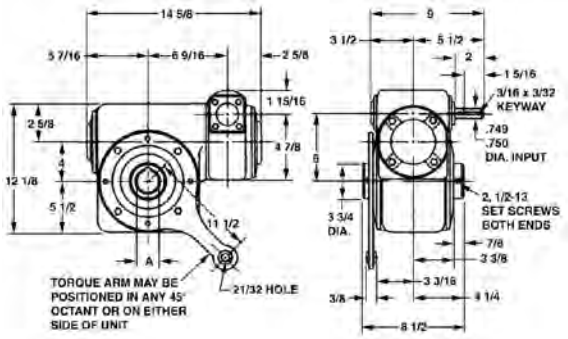
Net wt. 118 lbs. 40SF



1.00 Service Factor* - Single Reduction Wormgear - Models 40SA and 40SF

TORQUE and HORSEPOWER RATINGS																	
RATIO	AT 1750 RPM INPUT			AT 1150 RPM INPUT			AT 870 RPM INPUT			AT 580 RPM INPUT			AT 300 RPM INPUT			AT 100 RPM INPUT		
	Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output	
		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque
5	15.15	350.0	2570	12.65	230.0	3233	11.27	174.0	3781	9.05	116.0	4498	5.65	60.0	6306	2.18	20.0	5925
10	10.03	175.0	3321	8.52	115.0	4229	7.46	87.0	4845	5.87	58.0	5608	3.58	30.0	6427	1.37	10.0	7041
15	7.44	116.6	3592	6.36	76.6	4580	5.57	58.0	5222	4.38	38.7	6014	2.68	20.0	6846	1.04	6.6	7483
20	5.89	87.45	3685	5.06	57.5	4702	4.43	43.5	5344	3.49	29.0	6127	2.15	15.0	6949	.84	5.0	7566
25	4.84	70.0	3712	4.14	46.0	4695	3.60	34.8	5299	2.81	23.2	6002	1.71	12.0	6722	.67	4.0	7262
30	4.22	58.4	3733	3.65	38.4	4760	3.23	29.0	5412	2.57	19.3	6213	1.61	10.0	7043	.64	3.3	7679
40	3.31	43.7	3710	2.88	29.7	4705	2.55	21.8	5340	2.04	14.5	6106	1.29	7.5	6916	.52	2.5	7515
50	2.63	35.0	3555	2.29	23.0	4493	2.02	17.4	5066	1.61	11.6	5724	1.01	6.0	6408	.41	2.0	6904
60	2.15	29.2	3372	1.86	19.2	4226	1.63	14.5	4724	1.30	9.7	5293	.81	5.0	5877	.33	1.6	6345

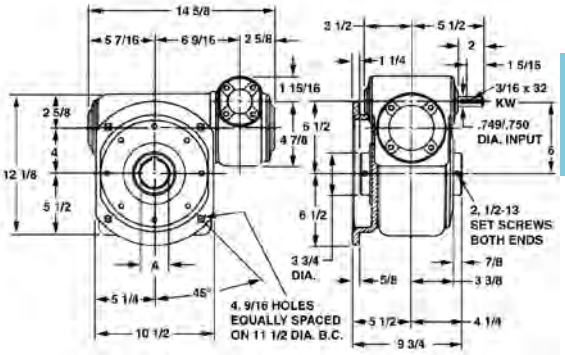
40DSA Net wt. 128 lbs.



4.0" C.D.

A (BORE)	KEYWAY
2.000 2.001	1/2 x 1/4
2.1875 2.1885	1/2 x 1/4
2.250 2.252	1/2 x 1/4
2.4375 2.4395	5/8 x 5/16
2.500 2.502	5/8 x 5/16

Net wt. 151lbs. 40DSF



1.00 Service Factor* - Double Reduction Wormgear - Models 40DSA and 40DSF
2.0" Centers Primary - 4.0" Centers Secondary

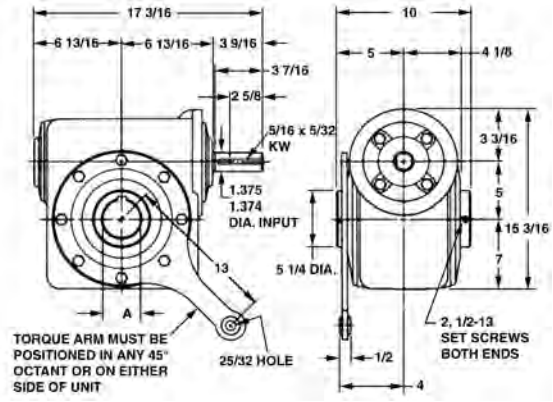
TORQUE and HORSEPOWER RATINGS															
RATIO	Primary Ratio	Secondary Ratio	AT 1750 RPM INPUT			AT 1150 RPM INPUT			AT 870 RPM INPUT			AT 580 RPM INPUT			
			Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output		
				R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque
75	5	15	2.92	23.33	59972	2.35	15.33	7058	1.87	11.60	7247	1.33	7.73	7431
100	5	20	2.62	17.50	6804	1.89	11.50	7172	1.50	8.70	7345	1.07	5.80	7526
125	5	25	2.10	14.00	6497	1.50	9.20	6920	1.20	6.96	7071	.85	4.64	7229
150	10	15	1.91	11.67	7244	1.34	7.67	74.4	1.06	5.80	7523	.75	3.87	7615
200	10	20	1.53	8.75	7342	1.08	5.75	7529	.86	4.35	7616	.61	2.90	7707
250	10	25	1.22	7.00	7069	.86	4.60	7232	.68	3.48	7308	.48	2.32	7388
300	15	20	1.12	5.83	7524	.79	3.83	7649	.63	2.90	7707	.44	1.93	7769
400	20	20	.89	4.38	7615	.63	2.88	7708	.50	2.18	7752	.35	1.45	7798
500	25	20	.75	3.50	7669	.53	2.30	7745	.42	1.74	7780	.30	1.16	7816
600	30	20	.68	2.92	7706	.48	1.92	7769	.38	1.45	7798	.27	.97	7828
800	40	20	.55	2.19	7752	.39	1.44	7799	.31	1.09	7821	.22	.73	7843
1000	50	20	.47	1.75	7779	.34	1.15	7817	.27	.87	7834	.19	.58	7853
1200	60	20	.42	1.46	7797	.30	.96	7829	.24	.73	7843	.17	.48	7859
1500	25	60	.30	1.17	6388	.22	.77	6441	.17	.58	6466	.12	.39	6491
1800	30	60	.27	.97	6414	.20	.64	6458	.16	.48	6478	.11	.32	6500
2400	40	60	.22	.73	6446	.16	.48	6479	.13	.36	6494	.09	.24	6510
3000	50	60	.19	.58	6465	.14	.38	6492	.11	.29	6504	.08	.19	6517
3600	60	60	.17	.49	6478	.13	.32	6500	.10	.24	6510	.07	.16	6521

▲Inch-pounds

* Refer to page 3384 for other service factors. Refer to pages 386 and 387 for torque arm and flange arrangements. Shaft mounted units will be furnished with torque arm or mounting flange on the side shown unless otherwise specified on order.
Consult Application Engineering (1 800 626 2093) for OHL and thrust load values.

SA, SF, DSA and DSF Series

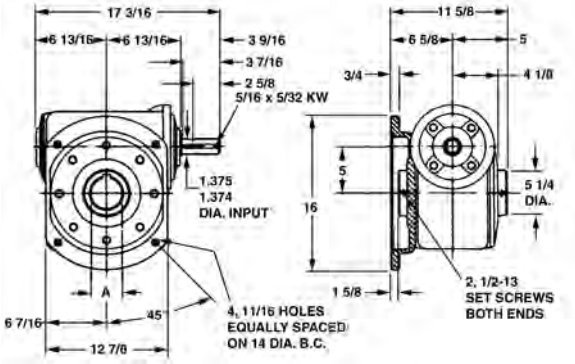
50SA Net wt. 186 lbs.



5.0" C.D.

A (BORE)	KEYWAY
2.4375 2.4395	5/8 x 5/16
2.500 2.502	5/8 x 5/16
2.6875 2.6895	5/8 x 5/16
2.750 2.752	5/8 x 5/16
2.9375 2.9395	3/4 x 3/8
3.000 3.002	3/4 x 3/8
3.1875 3.1895	3/4 x 3/8
3.4375 3.4395	7/8 x 7/16

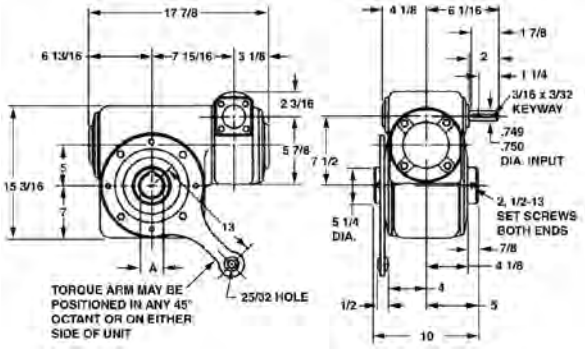
Net wt. 227 lbs. 50SF



1.00 Service Factor* - Single Reduction Wormgear - Models 50SA and 50SF

TORQUE and HORSEPOWER RATINGS																	
RATIO	AT 1750 RPM INPUT			AT 1150 RPM INPUT			AT 870 RPM INPUT			AT 580 RPM INPUT			AT 300 RPM INPUT			AT 100 RPM INPUT		
	Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output	
		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque
5	25.25	350.0	4300	20.79	230.0	5344	18.60	174.0	6274	15.47	116.0	7743	10.11	60.0	9570	4.02	20.0	11029
10	16.64	175.0	5542	13.84	115.0	6917	12.47	87.0	8155	10.13	58.0	9790	6.45	30.0	11670	2.53	10.0	13139
15	12.31	116.6	5991	10.4	76.6	7512	9.30	58.0	8813	7.56	38.7	10511	4.83	20.0	12448	1.91	6.6	13958
20	9.61	87.5	6113	8.18	57.5	7737	7.29	43.5	8964	5.87	29.0	10547	3.71	15.0	12286	1.47	5.0	13610
25	7.94	70.0	6162	6.80	46.0	7823	6.06	34.8	9040	4.88	23.2	10592	3.09	12.0	12273	1.23	4.0	13558
30	6.92	58.4	6224	5.92	38.4	7836	5.36	29.0	9154	4.41	19.3	10877	2.88	10.0	12810	1.18	3.3	14338
40	5.31	43.7	6125	4.60	28.7	7771	4.14	21.8	8981	3.38	14.5	10531	2.20	7.5	12222	.90	2.5	13507
50	4.57	35.0	5899	3.73	23.0	7498	3.36	17.4	8644	2.76	11.6	10111	1.81	6.0	11686	.75	2.0	12904
60	3.48	29.2	5577	3.06	19.2	7094	2.76	14.5	8140	2.26	9.7	9470	1.48	5.0	10854	.62	1.6	11974

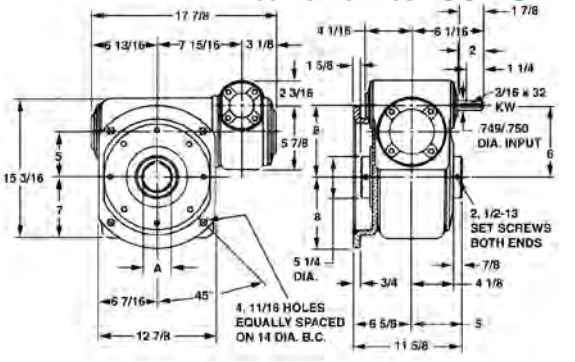
50DSA Net wt. 220 lbs.



5.0" C.D.

A (BORE)	KEYWAY
2.4375 2.4395	5/8 x 5/16
2.500 2.502	5/8 x 5/16
2.6875 2.6895	5/8 x 5/16
2.750 2.752	5/8 x 5/16
2.9375 2.9395	3/4 x 3/8
3.000 3.002	3/4 x 3/8
3.1875 3.1895	3/4 x 3/8
3.4375 3.4395	7/8 x 7/16

Net wt. 261 lbs. 50DSF



1.00 Service Factor* - Double Reduction Wormgear - Models 50DSA and 50DSF
2.5" Centers Primary - 5.0" Centers Secondary

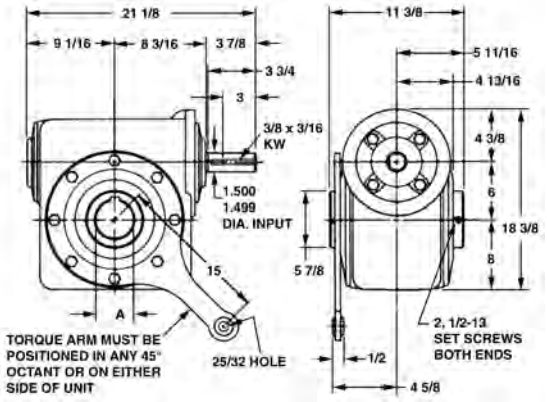
TORQUE and HORSEPOWER RATINGS															
RATIO	Primary Ratio	Secondary Ratio	AT 1750 RPM INPUT			AT 1150 RPM INPUT			AT 870 RPM INPUT			AT 580 RPM INPUT		
			Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output	
				R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque
75	5	15	4.76	23.33	9904	3.95	15.33	12051	3.36	11.60	13276	2.42	7.73	13832
100	5	20	4.47	17.50	11961	3.25	11.50	12751	2.60	8.70	13124	1.85	5.80	13511
125	5	25	3.73	14.00	11963	2.71	9.20	12730	2.17	6.96	13091	1.56	4.64	13468
150	10	15	3.18	11.67	12310	2.44	7.67	13839	1.93	5.80	14052	1.36	3.87	14273
200	10	20	2.64	8.75	13117	1.87	5.75	13518	1.48	4.35	13706	1.05	2.90	13901
250	10	25	2.21	7.00	13085	1.57	4.60	13474	1.24	3.48	13656	.88	2.32	13846
300	15	20	1.93	5.83	13507	1.36	3.83	13776	1.07	2.90	13901	.76	1.93	14032
400	20	20	1.55	4.38	13703	1.08	2.88	13905	.86	2.18	13999	.61	1.45	14097
500	25	20	1.29	3.50	13820	.91	2.30	13982	.72	1.74	14058	.51	1.16	14136
600	30	20	1.15	2.92	13899	.82	1.92	14034	.65	1.45	14097	.47	.97	14163
800	40	20	.94	2.19	13997	.67	1.44	14099	.53	1.09	14146	.38	.73	14195
1000	50	20	.80	1.75	14057	.57	1.15	14138	.45	.87	14176	.33	.58	14215
1200	60	20	.70	1.46	14066	.50	.96	14164	.400	.73	14195	.29	.48	14228
1500	25	60	.55	1.17	12105	.40	.77	12235	.32	.58	12296	.23	.39	12359
1800	30	60	.50	.97	12168	.36	.64	12277	.29	.48	12327	.21	.32	12380
2400	40	60	.41	.73	12247	.30	.48	12329	.24	.36	12367	.17	.24	12406
3000	50	60	.35	.58	12295	.25	.38	12360	.20	.29	12390	.15	.19	12422
3600	60	60	.31	.49	12326	.23	.32	12381	.18	.24	12406	.13	.16	12432

▲ Inch-pounds

* Refer to page 3384 for other service factors. Refer to pages 386 and 387 for torque arm and flange arrangements. Shaft mounted units will be furnished with torque arm or mounting flange on the side shown unless otherwise specified on order.
Consult Application Engineering (1 800 626 2093) for OHL and thrust load values.

SA, SF, DSA and DSF Series

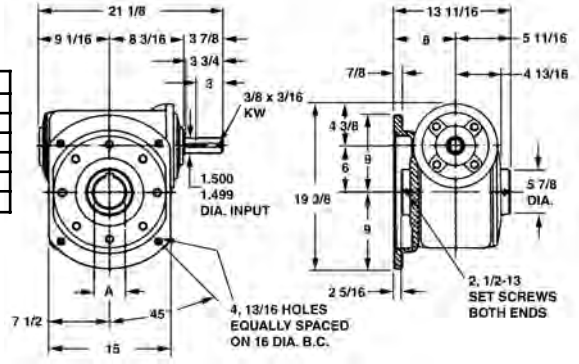
60SA Net wt. 310 lbs.



6.0" C.D.

A (BORE)	KEYWAY
2.750 2.752	5/8 x 5/16
2.9375 2.9395	3/4 x 3/8
3.000 3.002	3/4 x 3/8
3.1875 3.1895	3/4 x 3/8
3.4375 3.4395	7/8 x 7/16
3.9375 3.9395	1 x 1/2

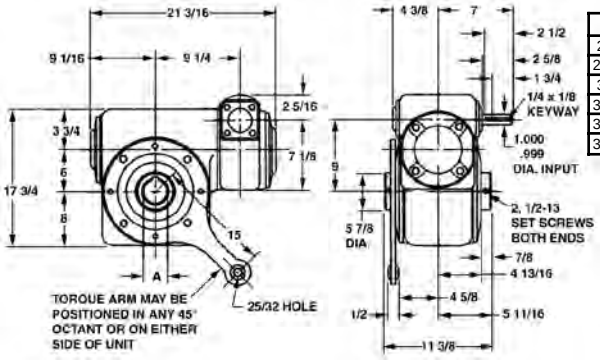
Net wt. 378 lbs. 60SF



1.00 Service Factor* - Single Reduction Wormgear - Models 60SA and 60SF

TORQUE and HORSEPOWER RATINGS																	
RATIO	AT 1750 RPM INPUT			AT 1150 RPM INPUT			AT 870 RPM INPUT			AT 580 RPM INPUT			AT 300 RPM INPUT			AT 100 RPM INPUT		
	Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output	
		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque
5	38.15	350.0	6527	31.40	230.0	8104	27.71	174.0	9384	23.55	116.0	11849	16.02	60.0	15260	6.57	20.0	18127
10	25.10	175.0	8408	50.75	115.0	10437	18.60	87.0	12245	15.56	58.0	15129	10.27	30.0	18747	4.14	10.0	21641
15	18.54	116.6	9084	15.39	76.6	11275	13.90	58.0	13288	11.61	38.7	16315	7.68	20.0	20026	3.12	6.6	23008
20	14.50	87.5	9283	12.12	57.5	11560	10.99	43.5	13640	9.10	5.87	16535	5.96	15.0	19955	2.42	5.0	22655
25	11.72	70.0	9254	9.91	46.0	11625	8.93	34.8	13623	7.28	4.88	16204	4.69	12.0	19127	1.88	40	21394
30	10.37	58.4	9438	8.73	38.4	11728	7.97	29.0	13843	6.74	4.41	16909	4.55	10.0	20627	1.92	3.3	23631
40	7.96	43.7	9299	6.76	28.7	11581	6.20	21.8	13672	5.22	14.5	16531	3.52	7.5	19879	1.48	2.5	22507
50	6.23	35.0	8867	5.37	23.0	11173	4.89	17.4	13038	4.05	11.6	15499	2.69	6.0	18232	1.12	2.0	20366
60	5.12	29.2	8418	4.45	19.2	10603	4.06	14.5	12374	3.39	9.7	14717	2.27	5.0	17305	.96	1.6	19390

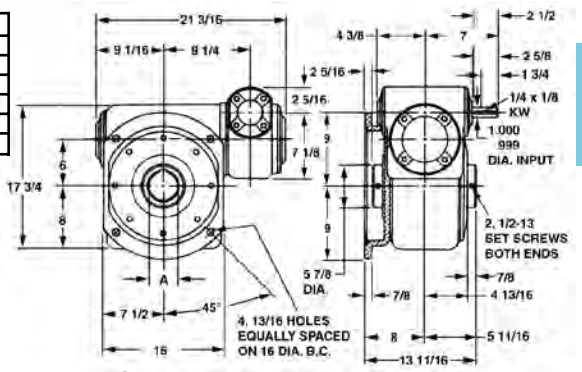
60DSA Net wt. 375 lbs.



6.0" C.D.

A (BORE)	KEYWAY
2.750 2.752	5/8 x 5/16
2.9375 2.9395	3/4 x 3/8
3.000 3.002	3/4 x 3/8
3.1875 3.1895	3/4 x 3/8
3.4375 3.4395	7/8 x 7/16
3.9375 3.9395	1 x 1/2

Net wt. 448lbs. 60DSF



1.00 Service Factor* - Double Reduction Wormgear - Models 60DSA and 60 DSF
3.0" Centers Primary - 6.0" Centers Secondary

TORQUE and HORSEPOWER RATINGS												
RATIO	Primary Ratio	Secondary Ratio	AT 1750 RPM INPUT			AT 1150 RPM INPUT			AT 870 RPM INPUT			AT 580 RPM INPUT		
			Input HP	Output		Input HP	Output		Input HP	Output		Input HP	Output	
				R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque		R.P.M.	▲Torque
75	5	15	8.06	23.33	17032	6.79	15.33	21041	5.46	11.60	21878	3.92	7.73	22752
100	5	20	7.11	17.50	19334	5.26	11.50	20907	4.23	8.70	21668	3.04	5.80	22463
125	5	25	5.60	14.00	18581	4.11	9.20	19931	3.29	6.96	20567	2.36	4.64	21230
150	10	15	5.37	11.67	21159	3.95	7.67	22767	3.13	5.80	23192	2.22	3.87	23633
200	10	20	4.30	8.75	21655	3.06	5.75	22476	2.43	4.35	22862	1.72	2.90	23262
250	10	25	3.35	7.00	20556	2.38	4.60	21242	1.89	3.48	21563	1.34	2.32	21897
300	15	20	3.16	5.83	22453	2.23	3.83	23004	1.77	2.90	23262	1.25	1.93	23530
400	20	20	2.52	4.38	22855	1.78	2.88	23269	1.41	2.18	23463	1.01	1.45	23665
500	25	20	2.12	3.50	23096	1.49	2.30	23429	1.19	1.74	23584	.85	1.16	23745
600	30	20	1.89	2.92	23258	1.34	1.92	23535	1.07	1.45	23665	.76	.97	23799
800	40	20	1.53	2.19	23460	1.09	1.44	23668	.87	1.09	23765	.63	.73	23866
1000	50	20	1.30	1.75	23581	.93	1.15	23748	.75	.87	23826	.54	.58	23906
1200	60	20	1.16	1.46	23662	.83	.96	23801	.67	.73	23866	.49	.48	23933
1500	25	60	.86	1.17	19642	.61	.77	19887	.49	.58	20002	.36	.39	20121
1800	30	60	.77	.97	19761	.55	.64	19966	.45	.48	20062	.32	.32	20161
2400	40	60	.63	.73	19910	.46	.48	20064	.37	.36	20136	.27	.24	20211
3000	50	60	.54	.58	20000	.39	.38	20124	.32	.29	20191	.23	.19	20241
3600	60	60	.48	.49	20060	.35	.32	20163	.28	.24	20211	.21	.16	20261

▲ Inch-pounds

* Refer to page 3384 for other service factors. Refer to pages 386 and 387 for torque arm and flange arrangements. Shaft mounted units will be furnished with torque arm or mounting flange on the side shown unless otherwise specified on order.
Consult Application Engineering (1 800 626 2093) for OHL and thrust load values.


1
2
3
4
5



Browning®

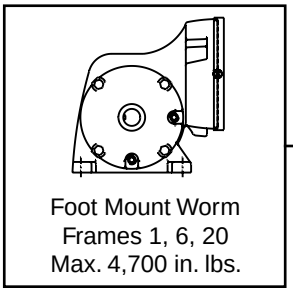
IRA Gearmotors

1. Innovative self-locking taper shaft connection (motor to gear) allows on-site replacement without removing oil, primary pinion, or disconnecting the load. This helps ensure precision alignment and eliminates fretting to expedite motor removal.
2. Forged "LMS" bronze worm wheel provides extra strength and life.
3. Roller bearings on output shaft provide ample rating for high overhung load.
4. Factory filled with oil.
5. Two double lipped oil seals at input and output shafts.

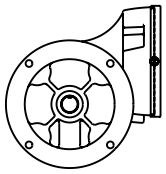


- 1/16 to 5 hp
- Worm and worm/helical ratios of 7:1 to 354:1
- Compact rugged physical envelope
- Three and single phase motors

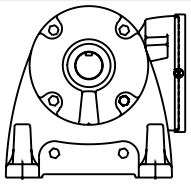
Type



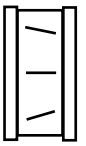
Foot Mount Worm
Frames 1, 6, 20
Max. 4,700 in. lbs.



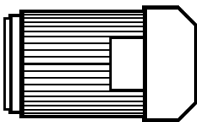
Flange Mount Worm
Frames 6, 20
Max. 4,700 in. lbs.



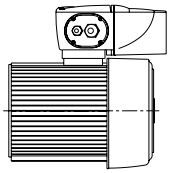
Foot Mount Worm Helical
Frames 6
Max. 2,700 in. lbs.



NEMA C - Face Adapter
Frames 6, 20



Motors
1/6 – 5 HP



IntelliGear
1/3 – 5 HP

Type IRA

General
IRA worm and helical-worm speed reducers and gearmotors adapt the speed of an electric motor to the driven machine.
Selection depends on motor power (*P*) expressed in hp and on the required speed (*n*) in rpm.
Output torque of the driven system can be calculated using the following formulas, based on reducer efficiency:

$$T\ (in.lbs.) = \frac{P \times 63025 \times eff.}{n}$$

The overall ratio (i) of the drive system =

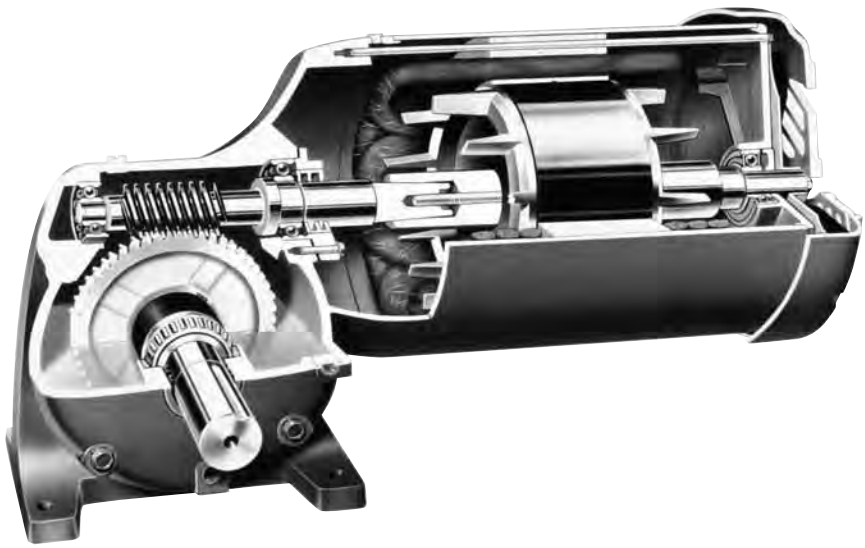
$$\frac{\text{motor speed (n)}}{\text{reducer output speed (n)}}$$

Design
Housing manufactured of high strength die-cast aluminum.
Roller bearings on output shaft provide greater overhung load.
Forged "LMS" bronze worm wheel provides extra strength.
Excellent reversibility.

Performances
This unique "worm-first" helical worm reducer (available only in frame size 6) provides for a higher efficiency than competitive units.
A range of three frame sizes: 1, 6, 20.
Output torque up to 4,300 in. lbs.
Numerous reduction ratios from 7:1 to 350:1.
High efficiency.
Low noise level.

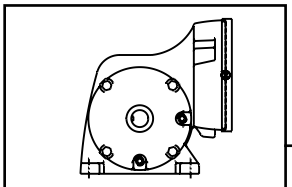
Exceptional flexibility
Speed Reducers
- C-face input
- Output flange
- Multiple mounting positions available.

Gearmotors
- TEFC - three phase
- TEFC - single phase
- Corro-Duty
- Explosionproof
- Brakemotor
- Inverter duty
- Washdown

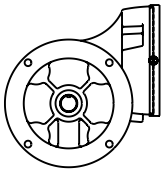


IRA Worm Drive

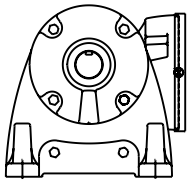
IRA Gearmotors



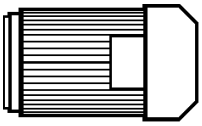
Foot Mount Worm
Frames 1, 6, 20
Max. 3,500 in. lbs.



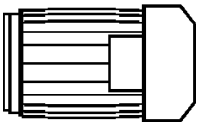
Flange Mount Worm
Frames 6, 20
Max. 3,500 in. lbs.



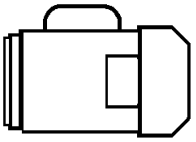
Foot Mount Worm Helical
Frames 6
Max. 2,700 in. lbs.



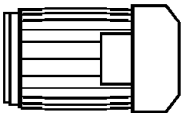
Three Phase TEFC
1/6 – 5 HP



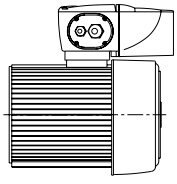
Corro-Duty
1/3 – 5 HP



Single Phase TEFC
1/6 – 5 HP



Explosionproof
1/3 – 5 HP



IntelliGear
1/3 – 5 HP

Motor Options



TEFC - Three Phase

- Suitable for general purpose industrial applications
- Premium class F insulation standard
- 40°C ambient, NEMA B design, continuous duty
- High efficiency available
- Washdown duty treatment available for food processors, meat packing, baking, drug, and cosmetic industries; includes N/C breather and USDA approved white paint



Corro-Duty

- Designed for applications in waste treatment, mining, and lumber industries
- All cast iron construction (56 and 140 frames are rolled steel)
- High efficiency standard an all HP's
- 1.15 service factor, class F insulation
- Condensation drains in motor and conduit box
- 40°C ambient, NEMA design B, continuous duty



TEFC - Single Phase

- For agricultural, light material handling, textile, and light pumping applications
- 1.25 service factor
  (1.15 service factor, 1 HP, 48 frame)
  (1.0 service factor, 2 thru 5 HP)
- Capacitor start
  (capacitor run above 1/2 HP, 48 frame)
  (capacitor run above 1 HP)
- Class B insulation, continuous duty, reversible



Explosionproof

- Ideal for the petro-chemical, grain, mining, and chemical industries
- Class I, group D, class II, groups F and G
- All cast iron construction (plastic fan cover)
- 1.0 service factor, class B insulation
- 40°C ambient, NEMA B design, continuous duty



IntelliGear Plus

- Variable speed gearmotor with NEMA 4/12 enclosure
- "Onboard" pushbutton and remote speed changing options
- Pre-programmed 6:1 an wider C/T speed range
- Versions for 3/460V input power supplies from 1/3 to 5 HP
- 1/230V and 3/230V through 2 HP
- 1/115V through 3/4 HP
- UL, CUL and CE

Selection and Ordering Information

Selection Information

1. Input hp
   - Based on application data.

2. Speed / Ratio
   - Obtain either desired output speed (rpm) or gearbox ratio based on application.

3. Service Factor
   - The tables on pages 410 - 412 are based on past operating experience within the industries listed and information gathered by AGMA. If the user has data reflecting greater severity than normal industry usage, then service factor should be increased.

   - Choose the AGMA class for your given application based on this criteria. If your application cannot be found, use the following table to determine service factor.

Prime Mover	Duration Of Service	Nature of Load From Driven Machine		
		Uniform	Mod. Shock	Heavy Shock
Electric Motor	Occasional 1/2 hour per day	0.80	0.90	1.00
	Intermittent 2 hours per day	0.90	1.00	1.25
	10 hours per day	1.00	1.25	1.50
	24 hours per day	1.25	1.50	1.75

The following service factors apply to applications involving frequent starts and stops.

Electric Motor	Occasional 1/2 hour per day	0.90	1.00	1.25
	Intermittent 2 hours per day	1.00	1.25	1.50
	10 hours per day	1.25	1.50	1.75
	24 hours per day	1.50	1.75	2.00

Size Selection

Step 1 - Locate appropriate gearmotor selection table (pages 416 - 423) based on input hp.

Step 2 - Choose the appropriate nominal speed required.

Step 3 - Select the correct gearmotor based on service factor determined in selection information.

Step 4 - Verify overhung load ratings where required (see below).

Overhung Load

When a sprocket, sheave, pulley, or pinion is mounted on the take-off shaft of a gearmotor, it is necessary to calculate the overhung load. This calculated load must be compared with the gearbox capacity listed to make sure the gearbox will not be overloaded. To calculate the overhung load you need to know the torque or horsepower at the take-off shaft and the location along the shaft at which the load is applied.

A. If torque is known:

$$OHL = \frac{T \times K \times LLF}{r}$$

B. If horsepower is known:

$$OHL = \frac{63025 \times hp \times K \times LLF}{rpm \times r}$$

Where:

OHL = Overhung load (pounds)
T = Torque (in. lbs.)
r = Radius of driving member (in.)
hp = Horsepower
K = Drive type factor
LLF = Load location factor

Driving Member	Value of K
Chain Drive	1.00
Pinion	1.25
Gearbelt	1.25
V-Belt	1.50
Flat Belt	2.50

Load Location	Value of LLF
End of shaft extension	1.20
Center of shaft extension	1.00
Shaft extension shoulder	0.80

Example

A right angle, foot mounted gearmotor is required to operate a uniformly loaded conveyor at 68 rpm, 24 hours per day. An 8" diameter sprocket is mounted at the end of the shaft and drives the conveyor with a chain. The load is .80 hp and customer requests a standard 230/460 volt TEFC motor end. Shaft extension is to be on the right, viewed opposite the input. The gearmotor will be mounted on the floor.

Step 1 – AGMA service classification tables on page 419 indicate that this is a 1.25 service factor application.

Step 2 – Page 420 IRA gearmotor table indicates that a frame 143T-6 will do the job.

Output RPM	Service Factor	Output Torque in-lb	Output Horsepower	OHL Δ lb	Nominal Ratio	Frame Size Gear	Frame Size Motor	Std. Motor Types ◊
68	1.5	796	0.86	980	25	6	143T	T,C,S,X,IG

Step 3 – To check overhung load for the example:

$$r = \frac{\text{Sprocket Diameter}}{2} = \frac{8}{2} = 4$$

K = 1.0 (chain drive)

LLF = 1.2 (sprocket on end of shaft)

HP = 1

Torque formula:

$$OHL = \frac{63025 \times HP \times K \times LLF}{RPM \times r}$$

$$OHL = \frac{63025 \times 1 \times 1.0 \times 1.2}{68 \times 4} = 278 \text{ lbs.}$$

Overhung load capacity of 980 lbs. listed is greater than the calculated value of 278 lbs.

Step 4 – Catalog designation (see "Ordering" page 408):

IRA-6-GW-F1-25-MT-143T-1

Selection and Ordering Information

Selection Information

1. Determine Installation Environment
   - Control enclosure is NEMA 4/12

2. Input hp
   - For constant torque loads this is at maximum speed of range

3. Speed Range
   - Confirm maximum and mininum of 6:1 range.

4. Determine Control Power Supply
   - Phase and voltage.

Power Supply	Input HP's
1 ph / 115 v	.33 to .75
1 ph / 230 v	.33 to 2
3 ph / 230 v	.33 to 2
3 ph / 460 v	.33 to 5

5. Mechanical Service Factoring of Gear
   - Refer to Page 404 for this procedure.

   Note: IntelliGear application for 1 phase power supply is limited to 10 starts per hour.

6. Determine Speed Adjustment Option
   - Select from:

   PD = Digital keypad with forward/reverse/stop/ speed up/speed down/speed display on IntelliGear enclosure
   P1 = Run/Stop/Speed Pot. mounted on INTELLIGEAR enclosure
   P2 = Forward/Reverse/Stop/Pot. mounted on INTELLIGEAR enclosure
   P3 - Speed Pot. (only) mounted on INTELLIGEAR enclosure (start/stop by others)
   P4 = Speed Pot. (only) mounted inside INTELLIGEAR enclosure (start/stop by others)
   R = Remote Signal Following (0-10VDC or 4-20mA supplied by others)
   RP = Remote From Fieldbus - Profibus DP

Size Selection

Step 1 - Locate gearmotor selection tables based on the input HP required at maximum speed of the range.

Step 2 - Select the "output rpm" closest to the maximum speed of the range desired. If the motor hp is 5, make the rpm selection using the following formula:

$$\text{"Output rpm" Selection } * = \frac{\text{Max. Speed of Range}}{1.2}$$

Step 3 - Note the gear ratio after step 2.

Step 4 - Select correct gearmotor that meets or exceeds the AGMA service factor determined in the selection information.

Step 5 - Verify overhung load rating where applicable per formulas on Page 404.

Step 6 - Confirm input power supply is compatible with hp of selection and record speed adjustment option desired for the applicaiton.

Step 7 - Refering to Page 414, determine if an alternate controller location is required for the application. Default location is "FO" (at 12 o'clock).

* Maximum motor rpm will be 2150 @ 74 Hz for 5hp IntelliGear.

Selection and Ordering Information

Selection Example

A foot mounted IRA worm gearmotor is required to operate a non-uniformly fed assembly conveyor from 38 to 6 rpm, 8-10 hours per day. The output shaft will be chain/sprocket connected to the conveyor shaft in a 3:1 ratio and a 3.5" radius sprocket mounted mid-shaft. The conveyor will require at least 0.51 hp at the maximum rpm of the range. The jobsite power supply is 3/230 VAC and speed control with start/stop push-buttons and speed knob on the controller enclosure. The enclosure requirement for the site is NEMA 12. Referencing the motor fan cover guard, the reducer output shaft should be at the left, the controller should be at the right, and the speed knob should be at the upper side on the control enclosure. Final mounting will be C-1.

Step 1...

The closest gearmotor hp is a 0.75 HP unit and this unit @ 37 rpm 60 Hz has an output of 0.55 hp.

Step 2...

The ratio that will more closely provide the desired speed range is 45:1.

Step 3...

AGMA service factor requirements for this application is a minimum of 1.25 S.F. and the selection from page 419 will be gear frame 6 GW.

Output RPM	Service Factor	Output Torque in-lb	Output Horsepower	OHL Δ lb	Nominal Ratio	Frame Size Gear	Frame Size Motor	Std. Motor Types ◊
37	1.3	944	.55	980	45	6	56	T,S,C,X,IG

Step 4...

OHL with HP known = $\frac{63025 \times HP \times K \times LLF}{RPM \times R}$

= $\frac{63025 \times .51 \times 1.00 \times 1.00}{37 \times 3.5"}$

= 248 Lbs. (Less than 980 Lb OHL capacity)

Step 5...

The power supply of 3/230 VAC is ok for .75 HP IRA gearmotor with "T2" motor input, plus include F1 controller location plus "B" cable entry.

Step 6...

Catalog designation will be:

IRA • 6 • GW • C1 • 45 • +T2 • 56 • 3/4 **w/F1 controller and "B" cable entry. Supply "P1" speed control option.**

Catalog Designation

IRA • 6 • GW • F1 • 25 • MT • 143T • 1 • ___

Based on Application

Based on Selection

Choose one

Type	Gear Frame	Mounting Configuration	Mounting Positions	Ratio	Input	Motor Frame	Horsepower	Modification Code(s)
IRA	1 6 20	GW = Footed Worm GWV = Flanged Worm GWB = Footed Worm-Helical (Frame 6 only)	See page 413	Use Nominal Ratio Selected	Use Catalog Designation From Table Below	48 56 143T/145T 182T/184T	1/6 1.5 1/4 2 1/3 1/2 3 3/4 5 1	Number of Modification(s) From Pages 424 - 425

Input

Motor Type	Catalog Designation	Motor Description (for reference)		
		Type	Voltage	Poles
S (Single phase TEFC)	MR MR2	Frames 48 to 145TY 184T	115/230 230	4 4
T (Three phase TEFC)	MT MTB MV MVB MY MZ	Any Frame 56 to 145T (with brake) Any Frame 56 to 145T (with brake) 143T to 184T (High Effic.) 143T to 184T (High Effic.)	208-230/460 575 230/460 575 208-230/460 575	4 4 4 4 4 4
C (Corro-Duty)	MC MG	56 to 184T** 56 to 184T**	230/460 575	4 4
X (Explosionproof)	MX ME	56 to 184T 56 to 184T	230/460 575	4 4

**Will be high efficiency.

Ordering Information
Additional IRA Gearmotor Inputs

MOTOR TYPE	DESIGN	CATALOG DESIGNATION	FRAME(S)	VOLTAGE	POLES
S Single Phase TEFC	Capacitor Start No Brake	MR	48 - 145TY	115/230	4
		MR2	184T	230V	4
	Capacitor Start w/Brake	MRB	48 - 145TY	115/230	4
		MR2B	184T	230V	4
T TEFC Three Phase	Standard Efficiency No Brake	MT	48 - 184T	230/460V	4
		MV	48 - 184T	575	4
		M38	56 - 184T	380V (50 hz)	4
		Z1	56 - 184T	Special	4
	Standard Efficiency w/Brake	MTB	48 - 184T	230/460V	4
		MVB	48 - 184T	575	4
	High Efficiency No Brake	MY	143T- 184T	230/460V	4
		MZ	143T- 184T	575V	4
	Inverter Duty No Brake	MI	56- 184T	230/460V	4
		MD	56- 184T	575V	4
	Inverter Duty w/ Brake	MIB	56- 184T	230/460V	4
		MDB	56- 184T	575V	4
	Washdown Service No Brake	WT **	56 - 184T	230/460V	4
		WV **	56 - 184T	575V	4
C Corro-Duty Three Phase	Standard Efficiency No Brake	C38	56 - 184T	380V (50 hz)	4
	High Efficiency No Brake	MC	56 - 184T	230/460V	4
		MG	56 - 184T	575V	4
	High Efficiency w/Brake	MCB	56 - 184T	230/460V	4
		MGB	56 - 184T	575V	4
	Inverter Duty No Brake	CI	56 - 184T	230/460V	4
		CD	56 - 184T	575V	4
	Inverter Duty w/ Brake	CIB	56 - 184T	230/460V	4
		CDB	56 - 184T	575V	4
X Explosionproof Three Phase	Standard Efficiency No Brake	MX	56 - 184T	230/460V	4
		ME	56 - 184T	575V	4
	Inverter Duty No Brake	XI	56 - 184T	230/460V	4
		XD	56 - 184T	575V	4
IG IntelliGear TEFC Motor NEMA 4/12 Control	Constant Torque Variable Speed	+TS1	56	115V /1*	4
		+TS2	56 - 145T	230V / 1*	4
		+T2	56 - 184T	230V / 3	4
		+T4	56 - 184T	460V / 3	4

* Controller input power. Controller output is 3 phase.
** add the suffix "+" to get this unit with foodgrade lubricant

AGMA Application Classification

Application	Up to 3 hrs/day	3-10 hrs/day	Over 10 hrs/day
AGITATORS (Mixers)			
Pure Liquids	- - -	1.00	1.25
Liquids & Solids	1.00	1.25	1.50
Liquids - Variable Density	1.00	1.25	1.50
BLOWERS			
Centrifugal	1.00	1.25	- - -
Lobe	1.00	1.25	1.50
Vane	- - -	1.00	1.25
BREWING & DISTILLING			
Bottling Machinery	- - -	1.00	1.25
Brew Kettles (Continuous Duty)	- - -	1.00	1.25
Cookers (Continuous Duty)	- - -	1.00	1.25
Mush Tubs (Continuous Duty)	- - -	1.00	1.25
Scale Hopper (Frequent Starts)	1.00	1.25	1.50
CAN FILLING MACHINES	- - -	1.00	1.25
CAR DUMPERS	1.25	1.50	1.75
CAR PULLERS	1.00	1.25	1.50
CLARIFIERS	- - -	1.00	1.25
CLASSIFIERS	1.00	1.25	1.50
CLAY WORKING MACHINERY			
Brick Press	1.25	1.50	1.75
Briquette Machine	1.25	1.50	1.75
Pug Mill	1.00	1.25	1.50
COMPACTORS	1.50	1.75	2.00
COMPRESSORS			
Centrifugal	- - -	1.00	1.25
Lobe	1.00	1.25	1.50
Reciprocating, Multi - Cylinder	1.00	1.25	1.50
Reciprocating, Single - Cylinder	1.25	1.50	1.75
CONVEYORS - GENERAL PURPOSE			
Uniformly loaded or fed	- - -	1.00	1.25
Not uniformly fed	1.00	1.25	1.50
Reciprocating or Shaker	1.25	1.50	1.75
CRANES			
Dry Dock			
Main Hoist	1.25	1.50	1.75
Auxiliary Hoist	1.25	1.50	1.75
Boom Hoist	1.25	1.50	1.75
Slewing Drive	1.25	1.50	1.75
Traction Drive	1.50	1.50	1.50
Container			
Main Hoist	◆	◆	◆
Boom Hoist	◆	◆	◆
Trolley Travel			
Gantry Drive	◆	◆	◆
Traction Drive	◆	◆	◆
Mill Duty			
Main Hoist	◆	◆	◆
Auxiliary	◆	◆	◆
Bridge and Trolley Travel	◆	◆	◆

Application	Up to 3 hrs/day	3-10 hrs/day	Over 10 hrs/day
CRANES (cont.)			
Industrial Duty			
Main	1.00	1.25	1.50
Auxiliary	◆	◆	◆
Bridge and Trolley Travel	◆	◆	◆
CRUSHER			
Stone or Ore	1.50	1.75	2.00
DREDGES			
Cable Reels	1.00	1.25	1.50
Conveyors	1.00	1.25	1.50
Cutter Head Drives	1.25	1.50	1.75
Pumps	1.00	1.25	1.50
Screen Drives	1.25	1.50	1.75
Stackers	1.00	1.25	1.50
Winches	1.00	1.25	1.50
ELEVATORS			
Bucket	1.00	1.25	1.50
Centrifugal Discharge	- - -	1.00	1.25
Escalators	◆	◆	◆
Freight	◆	◆	◆
Gravity Discharge	- - -	1.00	1.25
EXTRUDERS			
General	1.25	1.25	1.25
Plastics			
(a) Variable Speed Drive	1.50	1.50	1.50
(b) Fixed Speed Drive	1.75	1.75	1.75
Rubber			
(a) Continuous Screw Operation	1.50	1.50	1.50
(b) Intermittent Screw Operation	1.75	1.75	1.75
FANS			
Centrifugal	- - -	1.00	1.25
Cooling Towers	◆	◆	◆
Forced Draft	1.25	1.25	1.25
Induced Draft	1.00	1.25	1.50
Industrial & Mine	1.00	1.25	1.50
FEEDERS			
Apron	- - -	1.25	1.50
Belt	1.00	1.25	1.50
Disc	- - -	1.00	1.25
Reciprocating	1.25	1.50	1.75
Screw	1.00	1.25	1.50
FOOD INDUSTRY			
Cereal Cooker	- - -	1.00	1.25
Dough Mixer	1.00	1.25	1.50
Meat Grinders	1.00	1.25	1.50
Slicers	1.00	1.25	1.50
GENERATORS & EXCITERS	- - -	1.00	1.25
HAMMER MILLS	1.50	1.50	1.75
HOISTS			
Heavy Duty	1.25	1.50	1.75
Medium Duty	1.00	1.25	1.50
Skip Hoist	1.00	1.25	1.50

◆ Refer to Application Engineering (1 800 626 2093)

AGMA Application Classification

Application	Recommended Service Factors		
	Up to 3 hrs/day	3-10 hrs/day	Over 10 hrs/day
LAUNDRY TUMBLERS	1.00	1.25	1.50
LAUNDRY WASHERS	1.25	1.25	1.50
LUMBER INDUSTRY			
Barkers - Spindle Feed	1.25	1.25	1.50
- Main Drive	1.50	1.50	1.50
Conveyors - Burner	1.25	1.25	1.50
- Main or Heavy Duty	1.50	1.50	1.50
- Main Log	1.50	1.50	1.75
- Re-Saw, Merry-Go-Round	1.25	1.25	1.50
- Slab	1.50	1.50	1.75
- Transfer	1.25	1.25	1.50
Chains - Floor	1.50	1.50	1.50
- Green	1.50	1.50	1.50
Cut-Off Saws - Chain	1.50	1.50	1.50
- Drag	1.50	1.50	1.50
Debarking Drums	1.50	1.50	1.75
Feeds - Edger	1.25	1.25	1.50
- Gang	1.50	1.50	1.50
- Trimmer	1.25	1.25	1.50
Log Deck	1.50	1.50	1.50
Log Hauls - Incline - Well Type	1.50	1.50	1.50
Log Turning Devices	1.50	1.50	1.50
Planer Feed	1.25	1.25	1.50
Planer Tilting Hoist	1.50	1.50	1.50
Rolls - Live, Off Brg., Roll Cases	1.50	1.50	1.50
Sorting Table	1.25	1.25	1.50
Tipple Hoist	1.25	1.25	1.50
Transfers - Chain	1.50	1.50	1.50
- Craneway	1.50	1.50	1.50
Tray Drives	1.25	1.25	1.50
Veneer Lathe Drives	◆	◆	◆
METAL MILLS			
Draw Bench Carriage & Main Drive	1.00	1.25	1.50
Run Out Tables			
Non-Reversing			
Group Drives	1.00	1.25	1.50
Individual Drives	1.50	1.50	1.75
Reversing	1.50	1.50	1.75
Slab Pushers	1.25	1.25	1.50
Shears	1.50	1.50	1.75
Wire Drawing	1.00	1.25	1.50
Wire Winding Machine	1.00	1.25	1.50
METAL STRIP PROCESSING MACHINERY			
Bridles	1.25	1.25	1.50
Coilers & Uncoilers	1.00	1.00	1.25
Edge Trimmers	1.00	1.25	1.50
Flatteners	1.00	1.25	1.50
Loopers (Accumulators)	1.00	1.00	1.00
Pinch Rolls	1.00	1.25	1.50
Scrap Choppers	1.00	1.25	1.50
Shears	1.50	1.50	1.75
Slitters	1.00	1.25	1.50
MILLS, ROTARY TYPE			
Bell & Rod			
Spur Ring Gear	1.50	1.50	1.75
Helical Ring Gear	1.50	1.50	1.50
Direct Connected	1.50	1.50	1.75
Cement Kilns	1.50	1.50	1.50
Dryers & Coolers	1.50	1.50	1.50
MIXERS, CONCRETE	1.00	1.25	1.50

◆ **Refer to Application Engineering (1 800 626 2093).**

Application	Recommended Service Factors		
	Up to 3 hrs/day	3-10 hrs/day	Over 10 hrs/day
PAPER MILLS			
Agitator (Mixer)	1.50	1.50	1.50
Agitator for Pure Liquids	1.25	1.25	1.25
Barker Drums	1.75	1.75	1.75
Barker - Mechanical	1.75	1.75	1.75
Beater	1.50	1.50	1.50
Breaker Stack	1.25	1.25	1.25
Calender			
(Anti-Friction Bearings Only)	1.25	1.25	1.25
Chipper	1.75	1.75	1.75
Chip Feeder	1.50	1.50	1.50
Coating Rolls	1.25	1.25	1.25
Conveyors			
Chip, Bark, Chemical	1.25	1.25	1.25
Log (Including Slab)	1.75	1.75	1.75
Couch Rolls	1.25	1.25	1.25
Cutter	1.75	1.75	1.75
Cylinders Molds	1.25	1.25	1.25
Dryers (Anti-Friction Bearings Only)			
Paper Machine	1.25	1.25	1.25
Conveyor Type	1.25	1.25	1.25
Embosser	1.25	1.25	1.25
Extruder	1.50	1.50	1.50
Fourdrinier Rolls (Includes			
Lump Breaker, Dandy Roll,			
Wire Turning & Return Rolls)	1.25	1.25	1.25
Jordan	1.25	1.25	1.25
Kiln Drive	1.50	1.50	1.50
Mt. Hope Rolls	1.25	1.25	1.25
Paper Rolls	1.25	1.25	1.25
Platter	1.50	1.50	1.50
Pressers - Felt & Suction	1.25	1.25	1.25
Pulper	1.50	1.50	1.75
Pumps - Vacuum	1.50	1.50	1.50
Reel (Surface Type)	1.25	1.25	1.50
Screens			
Chip	1.50	1.50	1.50
Rotary	1.50	1.50	1.50
Vibrating	1.75	1.75	1.75
Size Press	1.25	1.25	1.25
Super Calender	1.25	1.25	1.25
Thickener (AC Motor)	1.50	1.50	1.50
(DC Motor)	1.25	1.25	1.25
Washer (AC Motor)	1.50	1.50	1.50
(DC Motor)	1.25	1.25	1.25
Wind & Unwind Stand	1.00	1.00	1.00
Winders (Surface Type)	1.25	1.25	1.25
Yankee Dryers (Anti-Friction			
Bearings Only)	1.25	1.25	1.25
PLASTICS INDUSTRY-PRIMARY PROCESSING			
Intensive Internal Mixers			
(a) Batch Mixers	1.75	1.75	1.75
(b) continuous Mixers	1.50	1.50	1.50
Batch Drop Mill - 2 Smooth Rolls	1.25	1.25	1.25
Continuous Feed, Holding &			
Blend Mill	1.25	1.25	1.25
Compounding Mills	1.25	1.25	1.25
Calenders	1.50	1.50	1.50
PLASTICS INDUSTRY - SECONDARY PROCESSING			
Blow Molders	1.50	1.50	1.50
Coating	1.25	1.25	1.25
Film	1.25	1.25	1.25
Pipe	1.25	1.25	1.25

AGMA Application Classification

Application	Recommended Service Factors		
	Up to 3 hrs/day	3-10 hrs/day	Over 10 hrs/day
PLASTICS INDUSTRY - SECONDARY PROCESSING (Cont.)			
Pre-Plasticizers	1.50	1.50	1.50
Rods	1.25	1.25	1.25
Sheets	1.25	1.25	1.25
Tubing	1.25	1.25	1.50
PULLERS - BARGE HAUL	1.00	1.50	1.75
PUMPS			
Centrifugal	- - -	1.00	1.25
Proportioning	1.00	1.25	1.50
Reciprocating			
Single Acting, 3 or more cylinders	1.00	1.25	1.50
Double Acting, 2 or more cylinders	1.00	1.25	1.50
Rotary - Gear Type	- - -	1.00	1.50
- Lobe Type	- - -	1.00	1.25
- Vane	- - -	1.00	1.25
RUBBER INDUSTRY			
Intensive Internal Mixers			
(a) Batch Mixers	1.50	1.75	1.75
(b) Continuous Mixers	1.25	1.50	1.50
Mixing Mill -			
2 Smooth Rolls (if corrugated rolls are used, than the same service factors that are used for a Cracker Warmer)	1.50	1.50	1.50
Batch Drop Mill - 2 Smooth Rolls	1.50	1.50	1.50
Cracker Warmer - 2 Rolls; 1 corrugated roll	1.75	1.75	1.75
Cracker - 2 corrugated rolls	1.75	1.75	1.75
Holding, Feed & Blend Mill - 2 Rolls	1.25	1.25	1.25
Refiner - 2 Rolls	1.50	1.50	1.50
Calenders	1.50	1.50	1.50
SAND MILLER	1.00	1.25	1.50

Application	Recommended Service Factors		
	Up to 3 hrs/day	3-10 hrs/day	Over 10 hrs/day
SEWAGE DISPOSAL EQUIPMENT			
Bar Screens	- - -	1.00	1.25
Chemical Feeders	- - -	1.00	1.25
Dewatering Screens	1.00	1.25	1.50
Scum Breakers	1.00	1.25	1.50
Slow or Rapid Mixers	1.00	1.25	1.50
Sludge Collectors	1.00	1.00	1.25
Thickeners	1.00	1.25	1.50
Vacuum Filters	1.00	1.25	1.50
SCREENS			
Air Washing	- - -	1.00	1.25
Rotary - Stone or Gravel	1.00	1.25	1.50
Traveling Water Intake	- - -	1.00	1.25
SUGAR INDUSTRY			
Beet Slicer	1.50	1.50	1.75
Cane Knives	1.50	1.50	1.50
Crushers	1.50	1.50	1.50
Mills (Low Speed End)	1.50	1.50	1.50
TEXTILE INDUSTRY			
Batchers	1.00	1.25	1.50
Calenders	1.00	1.25	1.50
Cards	1.00	1.25	1.50
Dry Cans	1.00	1.25	1.50
Dryers	1.00	1.25	1.50
Dyeing Machinery	1.00	1.25	1.50
Looms	1.00	1.25	1.50
Mangles	1.00	1.25	1.50
Nappers	1.00	1.25	1.50
Pads	1.00	1.25	1.50
Slashers	1.00	1.25	1.50
Soapers	1.00	1.25	1.50
Spinners	1.00	1.25	1.50
Tenter Frames	1.00	1.25	1.50
Washers	1.00	1.25	1.50
Winders	1.00	1.25	1.50

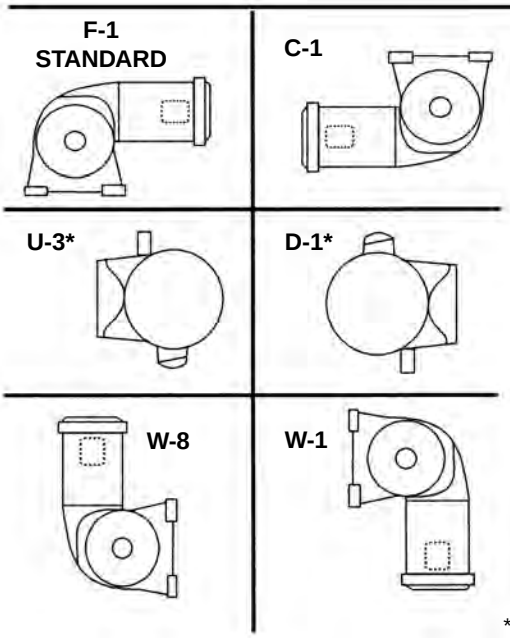
Applications not listed in this table or where the user has data indicating the severity of his usage to be greater than average should be referred to Application Engineering (1 800 626 2093).

Mounting Positions

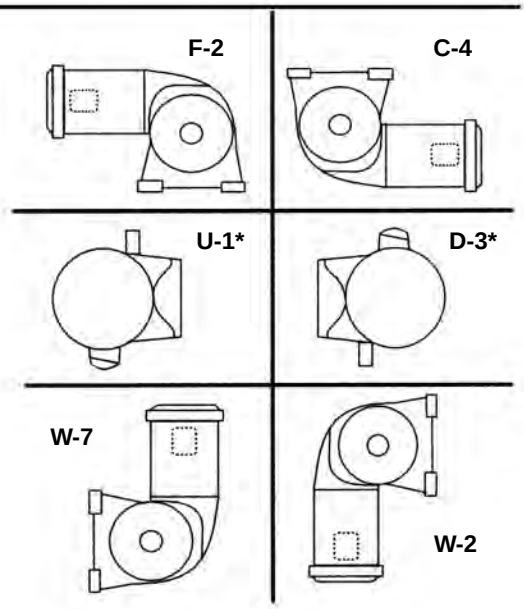
Type IRA

Foot Mount Worm and Worm Helical

Universal No. 1



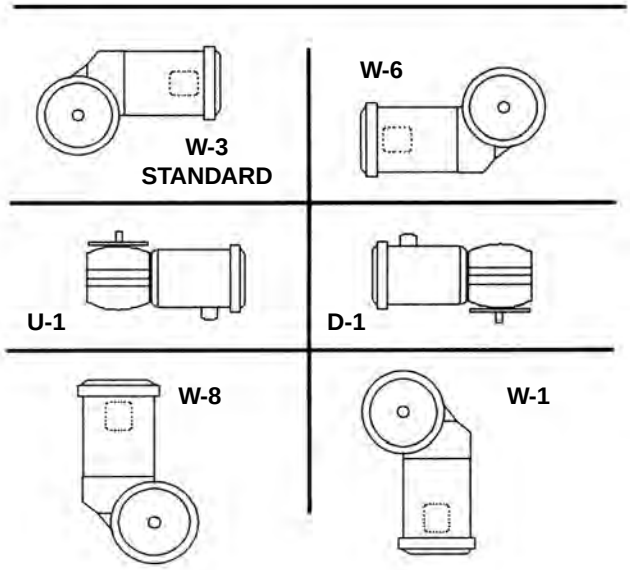
Universal No. 2



* Viewed from fan end of motor.

Flange Mount Worm

Universal No. 1



Availability and Electrical Connection Options - Type IRA

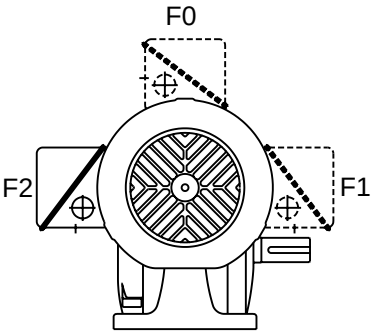
Availability

Gear Frame	Footed		Flanged
	Universal #1	Universal #2	Universal #1
1 GW (worm)	●	◊	-
6 GW (worm)	●	◊	●
6 GWB (worm helical)	●	●	✱
20 GW (worm)	●	◊	●

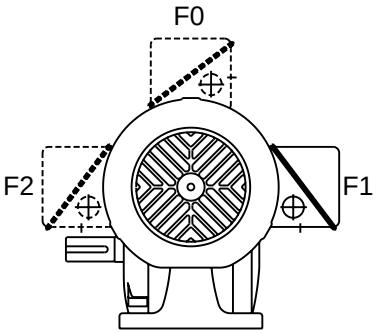
● Normally Stocked
◊ Available thru conversion of stock unit
x Available thru production only
✱ Refer application to Type HWN Product

Electrical Connections Conduit Box Locations:

Shaft Orientation	Conduit Box Location	
	Std.	Optional
Universal #2	F2	F1 or F0
Universal #1	F1	F2 OR F0



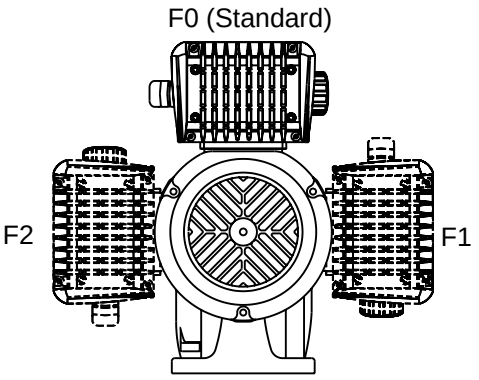
Universal #2



Universal #1

IntelliGear Controller Location

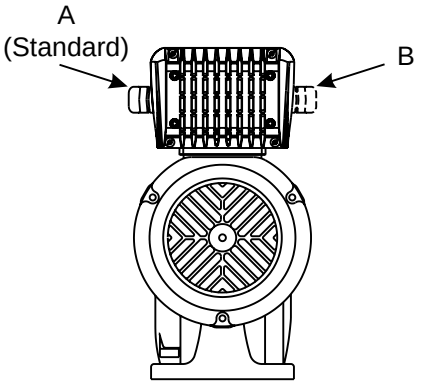
When ordering an IntelliGear IRA gearmotor, you can specify the controller location and conduit entry location when viewing the unit fan cover guard. If no options are specified, the "F0" controller location will be supplied.



IntelliGear Controller

IntelliGear Cable Entry

IntelliGear Cable Entry can be from either side of enclosure. If no option is specified, "A" will be supplied.



Cable Entry

Type IRA

The IRA gearbox is filled at the factory with oil according to the mounting position specified when ordered. The oil used depends on the order description at entry. Non¬washdown units are filled with an AGMA 8 mineral oil. Washdown units will be filled with a synthetic 460 series lubricant classified as a Polyglycol (PAG) oil.

In the event that a gearbox needs to be refilled, see the appropriate maintenance manual for the proper procedure and correct quantity of oil. If synthetic oil is used, the gearbox must be refilled with the same lubricant or must be completely drained and flushed.

Mineral Oils

Ambient Temperature	15 to 60 F	50 to 125 F
ISO Grade	460	680
AGMA	7	8

Synthetic Oils

Ambient Temperature	-30 to 200 F	-30 to 200 F
ISO Grade	460	680
AGMA	7	8

General Specifications: Totally enclosed, 60 hertz, 40°C ambient, continuous duty.

1/6 HP

Output rpm	Service Factor	Output Torque in-lbs	Output Horsepower	OHL Δ lb	Nominal Ratio	Frame Size Gear	Frame Size Motor	Std. Motor Types ◊
230	3.0+	29	0.11	670	7.1	1	48	T,S
190	3.0+	35	0.11	670	9	1	48	T,S
155	3.0+	42	0.10	670	11.2	1	48	T,S
125	3.0+	53	0.10	670	14	1	48	T,S
100	3.0+	66	0.10	670	18	1	48	T,S
84	3.0+	75	0.10	670	20	1	48	T,S
68	3.0+	90	0.10	670	25	1	48	T,S
56	3.0+	104	0.09	670	31.5	1	48	T,S
45	3.0+	124	0.09	670	40	1	48	T,S
37	3.0+	140	0.08	670	45	1	48	T,S
30	2.6	163	0.08	670	56	1	48	T,S
25	2.2	185	0.07	670	71	1	48	T,S

General Specifications: Totally enclosed, 60 hertz, 40°C ambient, continuous duty.

1/4 HP

Output rpm	Service Factor	Output Torque in-lbs	Output Horsepower	OHL Δ lb	Nominal Ratio	Frame Size Gear	Frame Size Motor	Std. Motor Types ◊
230	3.0+	58	0.21	670	7.1	1	48	T,S
190	3.0+	69	0.21	670	9	1	48	T,S
155	3.0+	84	0.21	670	11.2	1	48	T,S
125	3.0+	102	0.20	670	14	1	48	T,S
100	3.0+	123	0.20	670	18	1	48	T,S
84	3.0+	143	0.19	670	20	1	48	T,S
68	3.0+	168	0.18	670	25	1	48	T,S
56	2.8	193	0.17	670	31.5	1	48	T,S
45	2.5	225	0.16	670	40	1	48	T,S
37	2.0	254	0.15	670	45	1	48	T,S
30	1.8	292	0.14	670	56	1	48	T,S
25	1.4	327	0.13	670	71	1	48	T,S

Refer to Series 1000 HWN for higher ratios.

◊ **Standard Motor Types** (see page 409 for product codes)
T TEFC, three phase, 208-230/460 or 575 volts
S TEFC, single phase, 115/230 volts

Δ Overhung loads are at shaft midpoint

1/3 HP

General Specifications: Totally enclosed, 60 hertz, 40°C ambient, continuous duty.

Output rpm	Service Factor	Output Torque in-lbs	Output Horsepower	OHL Δ lb	Nominal Ratio	Frame Size Gear	Frame Size Motor	Std. Motor Types ◊
230	3.0+	76	0.28	670	7.1	1	48	T,S
230	3.0+	83	0.30	696	7.1	6	56	T,C,S,X,IG
190	3.0+	91	0.27	670	9	1	48	T,S
190	3.0+	100	0.30	738	9	6	56	T,C,S,X,IG
155	3.0+	111	0.27	670	11.2	1	48	T,S
155	3.0+	121	0.30	804	11.2	6	56	T,C,S,X,IG
125	3.0+	134	0.27	670	14	1	48	T,S
125	3.0+	144	0.29	832	14	6	56	T,C,S,X,IG
100	3.0+	163	0.26	670	18	1	48	T,S
100	3.0+	179	0.28	942	18	6	56	T,C,S,X,IG
84	2.8	189	0.25	670	20	1	48	T,S
84	3.0+	210	0.28	980	20	6	56	T,C,S,X,IG
68	2.5	222	0.24	670	25	1	48	T,S
68	3.0+	250	0.27	980	25	6	56	T,C,S,X,IG
56	2.1	254	0.23	670	31.5	1	48	T,S
56	3.0+	292	0.26	980	31.5	6	56	T,C,S,X,IG
45	1.9	299	0.21	670	40	1	48	T,S
45	3.0+	350	0.25	980	40	6	56	T,C,S,X,IG
37	1.5	337	0.20	670	45	1	48	T,S
37	2.8	405	0.24	980	45	6	56	T,C,S,X,IG
30	1.3	381	0.18	670	56	1	48	T,S
30	2.3	475	0.23	980	56	6	56	T,C,S,X,IG
25	1.1	427	0.17	670	71	1	48	T,S
25	1.9	401	0.16	980	71	6	56	T,C,S,X,IG
20	1.5	461	0.15	980	90	6	56	T,C,S,X,IG
20	2.0	557	0.18	980	56	6*	56†	T,C,X
17	1.6	625	0.17	980	71	6	56†	T,C,X
17	2.5	763	0.21	1234	100	6*	56	T,C,S,X,IG
13	1.2	708	0.15	980	90	6	56†	T,C,X
13	2.2	881	0.18	1231	125	6*	56	T,C,S,X,IG
11	2.0	1058	0.18	1140	160	6*	56	T,C,S,X,IG
9	1.7	1213	0.17	1216	200	6*	56	T,C,S,X,IG
7.5	1.5	1416	0.17	1220	224	6*	56	T,C,S,X,IG
6	1.5	1599	0.15	1064	280	6*	56	T,C,S,X,IG
5	1.2	1837	0.15	1229	355	6*	56	T,C,S,X,IG

Refer to HWN Product for higher ratios and/or capacities.

† 6 pole motor
* Worm-helical reducer (GWB)

◊ **Standard Motor Types** (see page 409 for product codes)
T TEFC, three phase, 208-230/460 or 575 volts
C Corro-Duty, three phase, 230/460 or 575 volts
S TEFC, single phase, 115/230 volts
X Explosionproof, Cls I Grp D, Cls II Grps F&G, three phase 230/460 or 575 volts
IG IntelliGear variable speed for 1/115, 1/230, 3/230, or 3/460V power supplies

Δ Overhung loads are at shaft midpoint

1/2 hp

General Specifications: Totally enclosed, 60 hertz, 40°C ambient, continuous duty.

Output rpm	Service Factor	Output Torque in-lbs	Output Horsepower	OHL Δ lb	Nominal Ratio	Frame Size Gear	Frame Size Motor	Std. Motor Types ◊
230	3.0+	119	0.43	670	7.1	1	48	T,S
230	3.0+	125	0.46	696	7.1	6	56	T,C,S,X,IG
190	3.0+	141	0.43	670	9	1	48	T,S
190	3.0+	147	0.44	738	9	6	56	T,C,S,X,IG
155	3.0+	173	0.43	670	11.2	1	48	T,S
155	3.0+	180	0.44	804	11.2	6	56	T,C,S,X,IG
125	2.6	210	0.42	670	14	1	48	T,S
125	3.0+	219	0.43	832	14	6	56	T,C,S,X,IG
100	2.2	254	0.40	670	18	1	48	T,S
100	3.0+	265	0.42	942	18	6	56	T,C,S,X,IG
84	1.7	292	0.39	670	20	1	48	T,S
84	3.0+	308	0.41	980	20	6	56	T,C,S,X,IG
68	1.6	344	0.37	670	25	1	48	T,S
68	3.0+	367	0.40	980	25	6	56	T,C,S,X,IG
56	1.4	390	0.35	670	31.5	1	48	T,S
56	2.6	428	0.38	980	31.5	6	56	T,C,S,X,IG
45	1.2	456	0.33	670	40	1	48	T,S
45	2.2	507	0.36	980	40	6	56	T,C,S,X,IG
37	1.9	405	0.24	980	45	6	56	T,C,S,X,IG
37	3.0+	601	0.35	913	45	6*	56	T,C,S,X,IG
30	1.6	680	0.32	980	56	6	56	T,C,S,X,IG
30	2.8	738	0.35	883	56	6*	56	T,C,S,X,IG
25	1.2	668	0.26	980	71	6	56	T,C,S,X,IG
25	2.3	911	0.36	1228	71	6*	56	T,C,S,X,IG
20	1.0	726	0.23	980	90	6	56	T,C,S,X,IG
20	2.0	1062	0.34	1228	90	6*	56	T,C,S,X,IG
16.5	1.0	1000	0.26	980	71	6*	56†	T,C,X
16.5	1.7	1276	0.33	1234	112	6*	56	T,C,S,X,IG
16.5	2.0	1432	0.37	1074	71	6*	56†	T,C,X
13.5	1.6	1472	0.32	1231	125	6*	56	T,C,S,X,IG
11.0	1.3	1768	0.31	1140	160	6*	56	T,C,S,X,IG
9.0	1.1	2029	0.29	1216	200	6*	56	T,C,S,X,IG
7.5	1.0	2357	0.28	1220	250	6*	56	T,C,S,X,IG
6.0	1.0	2666	0.25	1064	280	6*	56	T,C,S,X,IG

Refer to HWN Product for higher ratios and/or capacities.

† 6 pole motor
* Worm-helical reducer (GWB)

◊ **Standard Motor Types** (see page 409 for product codes)
- T TEFC, three phase, 208-230/460 or 575 volts
- C Corro-Duty, three phase, 230/460 or 575 volts
- S TEFC, single phase, 115/230 volts
- X Explosionproof, Cls I Grp D, Cls II Grps F&G, three phase 230/460 or 575 volts
- IG IntelliGear variable speed for 1/115, 1/230, 3/230, or 3/460V power supplies

Δ Overhung loads are at shaft midpoint

3/4 hp

General Specifications: Totally enclosed, 60 hertz, 40°C ambient, continuous duty.

Output rpm	Service Factor	Output Torque in-lbs	Output Horsepower	OHL Δ lb	Nominal Ratio	Frame Size Gear	Frame Size Motor	Std. Motor Types ◊
230	2.6	177	0.65	670	7.1	1	48	T,S
230	3.0+	186	0.68	696	7.1	6	56	T,C,S,X,IG
190	2.3	210	0.63	670	9	1	48	T,S
190	3.0+	223	0.67	738	9	6	56	T,C,S,X,IG
155	2.1	253	0.62	670	11.2	1	48	T,S
155	3.0+	269	0.66	804	11.2	6	56	T,C,S,X,IG
125	1.7	315	0.62	670	14	1	48	T,S
125	3.0+	324	0.64	832	14	6	56	T,C,S,X,IG
100	1.5	394	0.63	670	18	1	48	T,S
100	2.7	394	0.63	942	18	6	56	T,C,S,X,IG
84	1.2	444	0.59	670	20	1	48	T,S
84	2.4	456	0.61	980	20	6	56	T,C,S,X,IG
68	2.0	537	0.58	980	25	6	56	T,C,S,X,IG
56	1.7	633	0.56	980	31.5	6	56	T,C,S,X,IG
56	3.0+	666	0.59	816	31.5	6*	56	T,C,S,X,IG
45	1.5	743	0.53	980	40	6	56	T,C,S,X,IG
45	2.6	784	0.56	894	40	6*	56	T,C,S,X,IG
37	1.3	944	0.55	980	45	6	56	T,C,S,X,IG
37	2.2	968	0.57	913	45	6*	56	T,C,S,X,IG
30	1.0	1120	0.56	980	56	6	56	T,C,S,X,IG
30	1.8	1187	0.57	883	56	6*	56	T,C,S,X,IG
25	1.5	1464	0.58	1097	71	6*	56	T,C,S,X,IG
20	1.3	1705	0.54	1228	90	6*	56	T,C,S,X,IG
16.5	1.1	2046	0.54	1234	112	6*	56	T,C,S,X,IG
13.5	1.0	2357	0.50	1231	125	6*	56	T,C,S,X,IG
11	1.0	2828	0.49	1140	160	6*	56	T,C,S,X,IG

Refer to HWN Product for higher ratios and/or capacities.

* Worm-helical reducer (GWB)

◊ **Standard Motor Types** (see page 409 for product codes)
- T TEFC, three phase, 208-230/460 or 575 volts
- C Corro-Duty, three phase, 230/460 or 575 volts
- S TEFC, single phase, 115/230 volts
- X Explosionproof, Cls I Grp D, Cls II Grps F&G, three phase 230/460 or 575 volts
- IG IntelliGear variable speed for 1/115, 1/230, 3/230, or 3/460V power supplies

Δ Overhung loads are at shaft midpoint

1 hp

General Specifications: Totally enclosed, 60 hertz, 40°C ambient, continuous duty.

Output rpm	Service Factor	Output Torque in-lbs	Output Horsepower	OHL Δ lb	Nominal Ratio	Frame Size Gear	Frame Size Motor	Std. Motor Types ◊
230	3.0+	248	0.91	696	7.1	6	143T	T,C,S,X,IG
190	3.0+	297	0.90	738	9	6	143T	T,C,S,X,IG
155	2.8	357	0.88	804	11.2	6	143T	T,C,S,X,IG
125	2.4	430	0.85	832	14	6	143T	T,C,S,X,IG
100	2.0	522	0.83	942	18	6	143T	T,C,S,X,IG
84	1.8	605	0.81	980	20	6	143T	T,C,S,X,IG
84	3.0+	600	0.80	753	20	6*	143T	T,C,S,X,IG
68	1.5	796	0.86	980	25	6	143T	T,C,S,X,IG
68	2.8	740	0.80	827	25	6*	143T	T,C,S,X,IG
56	1.3	835	0.74	980	31.5	6	143T	T,C,S,X,IG
56	2.4	921	0.82	816	31.5	6*	143T	T,C,S,X,IG
45	1.1	966	0.69	980	40	6	143T	T,C,S,X,IG
45	2.0	1082	0.77	894	40	6*	143T	T,C,S,X,IG
37	1.7	1455	0.85	913	45	6*	143T	T,C,S,X,IG
30	1.4	1670	0.83	883	56	6*	143T	T,C,S,X,IG
25	1.1	2015	0.80	1097	71	6*	143T	T,C,S,X,IG
20	1.0	2345	0.74	1228	90	6*	143T	T,C,S,X,IG

Refer to HWN Product for higher ratios and/or capacities.

* Worm-helical reducer (GWB)

◊ **Standard Motor Types** (see page 409 for product codes)
- T TEFC, three phase, 208-230/460 or 575 volts
- C Corro-Duty, three phase, 230/460 or 575 volts
- S TEFC, single phase, 115/230 volts
- X Explosionproof, Cls I Grp D, Cls II Grps F&G, three phase 230/460 or 575 volts
- IG IntelliGear variable speed for 1/230, 3/230, or 3/460V power supplies

Δ Overhung loads are at shaft midpoint

1 1/2 hp

General Specifications: Totally enclosed, 60 hertz, 40°C ambient, continuous duty.

Output rpm	Service Factor	Output Torque in-lbs	Output Horsepower	OHL Δ lb	Nominal Ratio	Frame Size Gear	Frame Size Motor	Std. Motor Types ◊
230	2.4	372	1.36	696	7.1	6	145T	T,C,S,X,IG
190	2.3	444	1.34	738	9	6	145T	T,C,S,X,IG
155	1.9	534	1.31	804	11.2	6	145T	T,C,S,X,IG
125	1.6	644	1.28	832	14	6	145T	T,C,S,X,IG
100	1.3	779	1.24	942	18	6	145T	T,C,S,X,IG
100	2.4	785	1.25	720	18	6*	145T	T,C,S,X,IG
84	1.2	900	1.20	980	20	6	145T	T,C,S,X,IG
84	2.3	931	1.24	753	20	6*	145T	T,C,S,X,IG
68	1.0	1021	1.10	980	25	6	145T	T,C,S,X,IG
68	1.9	1148	1.24	827	25	6*	145T	T,C,S,X,IG
56	1.6	1480	1.32	816	31.5	6*	145T	T,C,S,X,IG
56	2.6	1194	1.06	2850	31.5	20	145T	T,C,S,X,IG
45	1.3	1820	1.30	894	40	6*	145T	T,C,S,X,IG
45	2.0	1523	1.09	2850	40	20	145T	T,C,S,X,IG
37	1.1	2160	1.27	913	45	6*	145T	T,C,S,X,IG
37	1.7	1815	1.07	2850	45	20	145T	T,C,S,X,IG

Refer to HWN Product for higher ratios and/or capacities.

* Worm-helical reducer (GWB)

◊ **Standard Motor Types** (see page 409 for product codes)
- T TEFC, three phase, 208-230/460 or 575 volts
- C Corro-Duty, three phase, 230/460 or 575 volts
- S TEFC, single phase, 115/230 volts, 145TY
- X Explosionproof, Cls I Grp D, Cls II Grps F&G, three phase 230/460 or 575 volts
- IG IntelliGear variable speed for 1/230, 3/230, or 3/460V power supplies

Δ Overhung loads are at shaft midpoint

2 hp

General Specifications: Totally enclosed, 60 hertz, 40°C ambient, continuous duty.

Output rpm	Service Factor	Output Torque in-lbs	Output Horsepower	OHL Δ lb	Nominal Ratio	Frame Size Gear	Frame Size Motor	Std. Motor Types ◊
230	1.8	495	1.81	696	7.1	6	145T	T,C,S,X,IG
190	1.7	591	1.78	738	9	6	145T	T,C,S,X,IG
155	1.4	711	1.75	804	11.2	6	145T	T,C,S,X,IG
125	1.2	852	1.69	832	14	6	145T	T,C,S,X,IG
100	1.8	1100	1.75	720	18	6*	145T	T,C,S,X,IG
84	1.7	1300	1.73	753	20	6*	145T	T,C,S,X,IG
68	1.4	1570	1.69	827	25	6*	145T	T,C,S,X,IG
68	2.3	1439	1.55	2850	25	20	145T	T,C,S,X,IG
56	1.2	1965	1.75	815	31.5	6*	145T	T,C,S,X,IG
56	2.0	1670	1.48	2850	31.5	20	145T	T,C,S,X,IG
45	1.0	2410	1.72	894	40	6*	145T	T,C,S,X,IG
37	1.2	2547	1.50	2850	45	20	145T	T,C,S,X,IG

Refer to HWN Product for higher ratios and/or capacities.

* Worm-helical reducer (GWB)

◊ **Standard Motor Types** (see page 409 for product codes)
- T TEFC, three phase, 208-230/460 or 575 volts
- C Corro-Duty, three phase, 230/460 or 575 volts
- S TEFC, single phase, 115/230 volts, 145TY
- X Explosionproof, Cls I Grp D, Cls II Grps F&G, three phase 230/460 or 575 volts
- IG IntelliGear variable speed for 1/230, 3/230, or 3/460V power supplies

Δ Overhung loads are at shaft midpoint

General Specifications: Totally enclosed, 60 hertz, 40°C ambient, continuous duty.

3 hp

Output rpm	Service Factor	Output Torque in-lbs	Output Horsepower	OHL Δ lb	Nominal Ratio	Frame Size Gear	Frame Size Motor	Std. Motor Types ◊
175	3.0+	938	2.60	2743	9	20	182T	T,C,X,S,IG
117	2.3	1374	2.55	2850	14	20	182T	T,C,X,S,IG
100	2.0	1663	2.64	2850	18	20	182T	T,C,X,S,IG
88	1.9	1784	2.49	2850	20	20	182T	T,C,X,S,IG
68	1.5	2122	2.29	2850	25	20	182T	T,C,X,S,IG
58	1.3	2550	2.35	2850	31.5	20	182T	T,C,X,S,IG

General Specifications: Totally enclosed, 60 hertz, 40°C ambient, continuous duty.

5 hp

Output rpm	Service Factor	Output Torque in-lbs	Output Horsepower	OHL Δ lb	Nominal Ratio	Frame Size Gear	Frame Size Motor	Std. Motor Types ◊
175	1.9	1613	4.48	2743	9	20	184T	T,C,X,S,IG
117	1.4	2358	4.38	2850	14	20	184T	T,C,X,S,IG
100	1.2	2819	4.47	2850	18	20	184T	T,C,X,S,IG
88	1.2	2950	4.12	2850	20	20	184T	T,C,X,S,IG

Refer to HWN Product for higher ratios and/or capacities.

◊ **Standard Motor Types** (see page 409 for product codes)
- T TEFC, three phase, 208-230/460 or 575 volts
- C Corro-Duty, three phase, 230/460 or 575 volts
- S TEFC, single phase, 230 volts, 184T frame
- X Explosionproof, Cls I Grp D, Cls II Grps F&G, three phase 230/460 or 575 volts
- IG IntelliGear variable speed for 3/460V power supplies

Δ Overhung loads are at shaft midpoint

Modifications

Inverter Duty Gearmotors

IRA three phase gearmotors in frame sizes 56 through 184T frame now incorporate upgraded wire and insulating materials for inverter service. A one year limited warranty as covered in the Standard Terms & Conditions will be extended for 3:1 (60 – 20 Hz) constant torque for standard efficiency motor designs and 4:1 (60 – 15 Hz) constant torque for high efficiency motor design providing the following conditions are met:

- Motor is non-hazardous 3 phase > 48 frame
- Cable length to controller < 100 ft.
- Line voltage is < 480VAC
- Thermal protection is not required

For all other conditions of operation/construction, including up to 575V, hazardous environment services, and/or thermostats in winding, select an inverter duty motor design. These designs include N/C thermostats in winding, a three (3) limited warranty as covered in the Standard Terms & Conditions on the motor and full compliance with NEMA MG1 Part 31.

Motor Modifications

M1 Brakes

Design

These mounted brakes have a direct acting, spring set, electromagnetically released disc design. When power to the brake is interrupted, the brake will immediately set and hold. When power is restored, the brake will automatically release.

Enclosures For Brakes

Open - suitable for indoor, relatively dry, clean and non-hazardous applications.

IP 55 - suitable for outdoors or indoors applications where the gearmotor can be exposed to splashing liquids, dusts and some chemicals. Not suitable for washdown.

Explosionproof - When brake is to be mounted on an explosion proof gearmotor, the brake must have UL approval equal to that of the motor end. Brakes are rated Class I, group D, Class II groups F & G code T3B. Subject to production lead-time.

Standard Enclosures For Brake

Non-Hazardous Motor Type	Motor Frame Size	
	48	56 and Larger
S	Open	Open
T	Open	IP55
C	N/A	IP55
IG	N/A	IP55

Motor Modifications (Continued)

Operating Voltage

Brakemotors for fixed frequency operation will be arranged for powering brake from the motor. If another voltage is to be supplied to brake, state that voltage on the order.

Brakes for inverter duty brakemotors require a separate fixed frequency AC power source for the brake, but interlocked with the starting of the motor. The standard brake voltage for inverter duty gearmotors will be arranged for 115/230 volts single phase.

Mounting

Brakes for IRA gearmotors are suitable for the mounting positions specified for the gear.

M2 High Efficiency Motor

High efficiency three phase motors are available to meet the energy legislations in the USA and Canada on 140T and larger motors in “T” and “X” types. The Corroduty “C” motors are standard as high efficiency designs and available from stock.

M3 Washdown Motor

See GM1 under Gearmotor Modifications

M4 Canopy Cap

A canopy cap can be supplied for protection from dripping liquids entering fan end of gearmotors. It is recommended but not standard when mounting is required to be in the W8 or W7 positions.

M5 Frequency - 50 Hz

Motors for operation at 3 phase 50 Hz are available. Standard 50 Hz voltage (detailed in M6) do not require voltage modification. The published output speed based on 1750 rpm input will be reduced by a factor of (1.2) at the same gear ratio. Example: 100 rpm output, 60 Hz, 1750 rpm input is 83 rpm output, 50 Hz, 1450 rpm input.

M6 Voltage (3 Phase Only)

Standard voltages available are listed in the table below. Other voltages are available and must be specified at order entry and require special voltage adder.

Frequency	3 Phase Voltages Thru 30 hp
60 Hz	200, 230, 230/460, 460, 575
50 Hz	200, 220, 230, 220/380, 220/440, 380, 415, 460, 500, 575

3/50/380V is available from stock on "T" and "C" motor types.

Modifications

Motor Modifications (Continued)

M7 Insulation

Standard 3 phase TEFC and Corro-Duty motor ends have premium class F insulation standard. Single phase TEFC and explosionproof motor ends have class B insulation as standard. Class H insulation and tropical protection are available from production on 3 phase motors only (Class H not available on explosionproof).

M8 Space Heaters

Space heaters are recommended for gearmotors installed in damp locations to prevent condensation on the motor windings when the motor is not operating. Leads are brought to the standard motor conduit box. Space heater voltage (115, 230, 460 volts) must be specified when order is entered. Available in gearmotors > 3/4 hp.

M9 Thermal Protection - Thermostats

This protection uses a bi-metal disc thermostat, embedded in the motor winding, connected into the holding circuit of the motor starter. The sensor opens the control circuit, shutting down the motor on over temperature. Thermostats give protection for running overload, abnormally high ambient, voltage unbalance, high or low voltage, and ventilation failure. Thermostats will not give protection for locked rotor, starting overload, and single phasing.

Gear Modifications

G1 Food Grade Lubricant

When this modification is specified, the IRA gear sump will be filled with the required volume of a synthetic lubricant classified as a Polyglycol (PAG), 460 series that is approved for USDA H-1 food grade use.

G2 Normally Closed Breather

For applications involving very dusty environments specify this breather design. The breather has a protected spring loaded valve construction opening only to relieve any pressure built up greater that 3 PSI and then closing..

G3 Double Extended Output Shafts

Double end output shafts are available on single reduction type GW worm-only units.

G4 Special Output Shafts

Special output shafts are available on all units. Refer applications to Gear Estimating office for pricing.

Gear Modifications (Continued)

G5 Special Nameplates

Units can be provided with limited additional special information on the standard product nameplate. When requested, a special nameplate may be provided, stamped with custom markings.

G6 Low Ambient Temperature

Gearmotors can be supplied for low ambient down to -20F. Refer complete details of the applications to the Applications Department for review

Gearmotor Modifications

GM1 Washdown Duty Gearmotor

This gearmotor design combines special features of gear and motor required for washdown duty. These include: special treatment coating of winding and internal surfaces of motor frame, drains in motor frame, labyrinth seal at motor SE bracket/ shaft extension, special “protected”gearcase breather design, (2) double lipped oil seals at each gear shaft extension, exterior surfaces of gearmotor receive Corroduty Stainless Steel paint (option for epoxy white at no added cost). Specify input configuration “WT” or “WV” based on voltage needed on motor.

For inclusion of a food grade USDA H-1 approved lubricant, add “+” to input code for a washdown motor (i.e. change “WT” to “WT+”, and refer to G1 Food Grade Lubrican for specifics on this lubricant

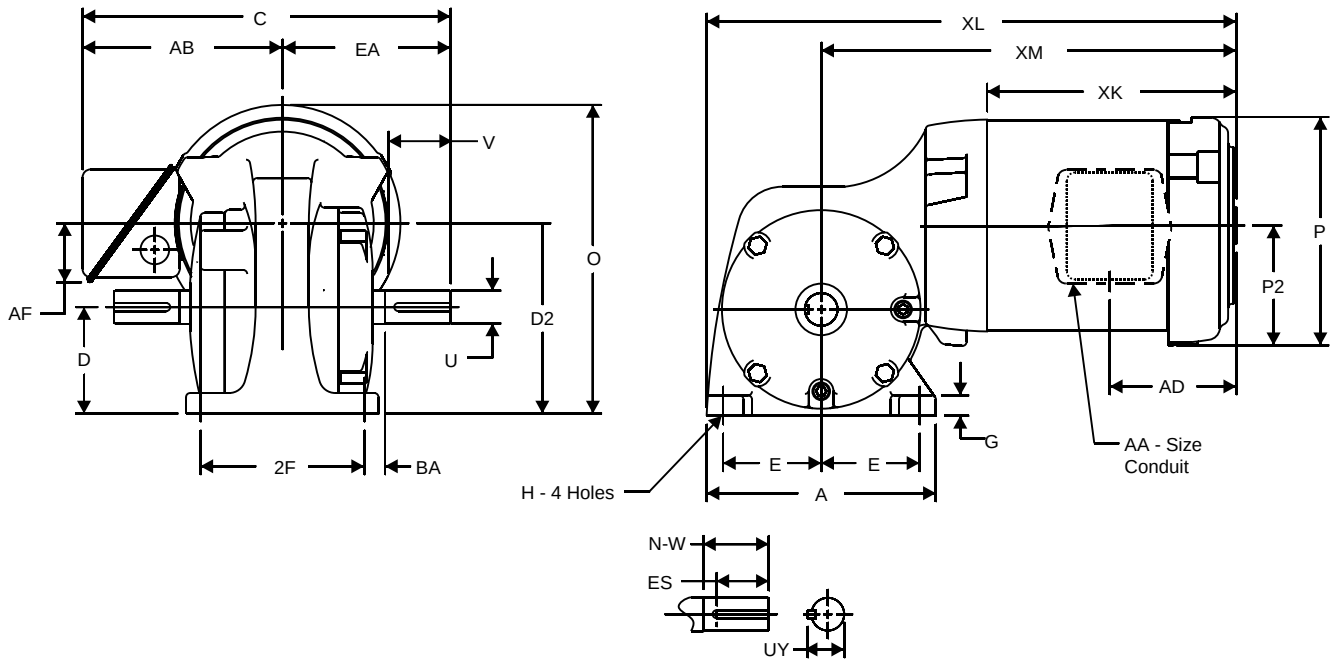
GM2 Export Boxing

Export boxing can be provided for "underdeck" transport. When the quantity of IRA gearmotors exceeds five(5) units, refer to the International Sales department for most economical accommodations.

Type IRA

Overall dimensions

Worm (GW)



Basic Frame	A	D	D2	E	2F	G	H	N-W	U	V Min.	BA	ES	UY	AH	Sq. Key
1	5 5/8	2 1/2	4 1/2	2 3/8	4 3/4	1/2	11/32	1 5/8	3/4	1 13/32	5/16	1.25	0.837	1.88	3/16
6	7	3 1/4	5 13/16	3	5	5/8	13/32	2	1	1 15/16	7/16	1.25	1.114	2.176	1/4
20	10 1/4	4 1/2	8 1/4	4 3/8	8	1	11/16	3 1/4	1 5/8	2 15/16	29/32	2.38	1.796	3.38	3/8

Frame	Motor Type	hp	C	XL	XM	XK	P	P2	AB	EA	AA	O	AD	AF
48-1	T	1/6, 1/2	8.66	15.79	12.98	9.03	6.72	2.79	4.34	4.32	0.50	8.00	4.43	1.16
48-1	T	3/4	8.66	16.79	13.98	10.03	6.72	2.79	4.34	4.32	0.50	8.00	4.43	1.16
48-1	T	1	8.66	17.29	14.48	10.53	6.72	2.79	4.34	4.32	0.50	8.00	4.43	1.16
56-6	T	Any	11.04	16.30	12.80	7.72	7.22	3.31	6.10	4.94	0.75	9.47	3.30	0.94
143T, 145T-6	T	Any	11.04	17.55	14.05	8.97	7.22	3.31	6.10	4.94	0.75	9.47	3.30	0.94
145TY-6	T	Any	11.04	18.44	14.94	9.86	7.22	3.31	6.10	4.94	0.75	9.47	3.30	0.94
143T, 145T-20	T	Any	14.23	20.28	15.15	8.97	7.22	3.31	6.10	8.13	0.75	11.91	3.30	0.94
145TY-20	T	Any	14.23	21.17	16.04	9.86	7.22	3.31	6.10	8.13	0.75	11.91	3.30	0.94
182T, 184T-20	T	Any	15.65	21.57	18.07	11.89	9.56	4.39	7.52	8.13	0.75	13.03	5.13	2.13

Dimension "D" will never be exceeded, but may be less than values shown. When exact dimensions are required, shims up to 1/16" may be necessary.

All rough casting dimensions may vary by 1/4" due to casting variations.

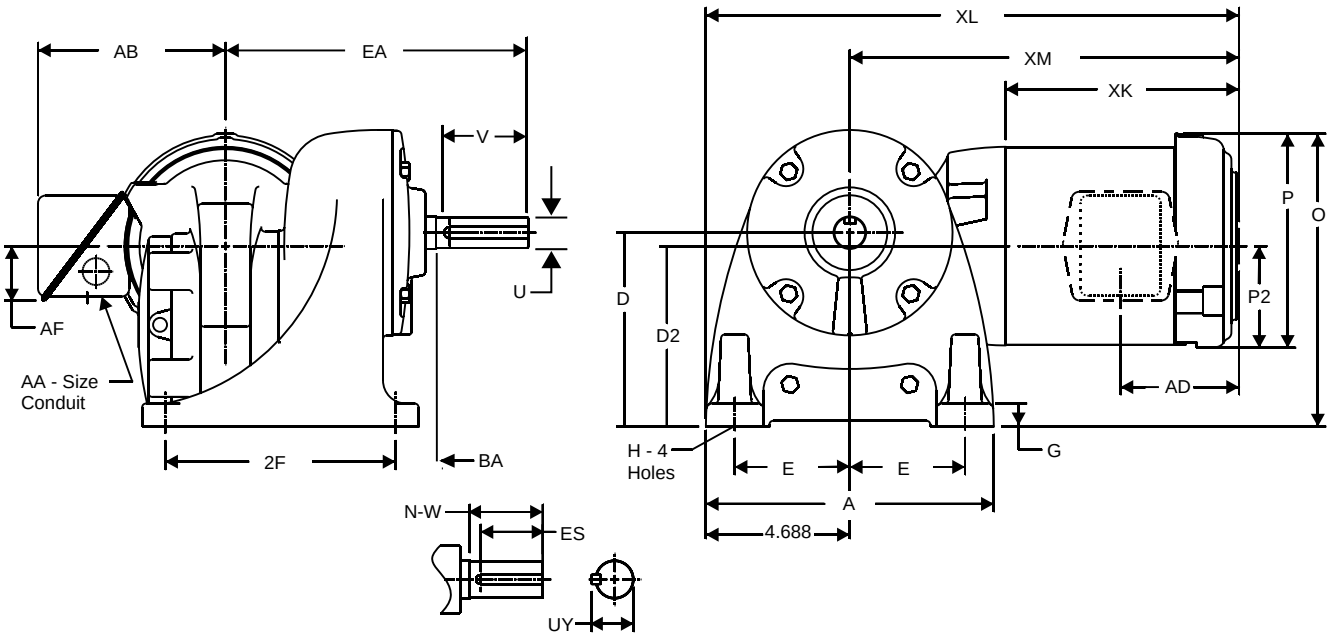
Shaft diameter tolerances: +.0000"; -.0005" up to 1 1/2" diameter inclusive. Larger diameters: +.000"; -.001".

See page 429 - 431 for alternate motor enclosures and brakes.

Type IRA

Overall dimensions

Worm-Helical (GWB)



Basic Frame	A	D	D2	E	2F	G	H	N-W	U	V Min.	BA	ES	UY	Sq. Key
6	9 3/8	6 5/16	5	7/8	3 3/4	3/4	9/16	3	1 1/2	2 29/32	1 5/16	2 1/2	1 21/32	3/8

Frame	Motor Type	hp	C	XL	XM	XK	P	P2	AB	EA	AA	O	AD	AF
56-6	T	Any	15.96	17.20	12.51	7.72	7.22	3.31	6.10	10.03	0.75	9.79	3.30	0.94
143T, 145T-6	T	Any	15.96	18.45	13.76	8.97	7.22	3.31	6.10	10.03	0.75	9.79	3.30	0.94
145TY-6	T	Any	15.96	19.63	14.94	9.86	7.22	3.31	6.10	10.03	0.75	9.79	3.30	0.94

Dimension "D" is the maximum value, but may be less than values shown. When exact dimensions are required, shims up to 1/16" may be necessary.

Shaft diameter tolerances: +.0000"; -.0005" up to 1-1/2" diameter inclusive. Larger diameters: +.000"; -.001".

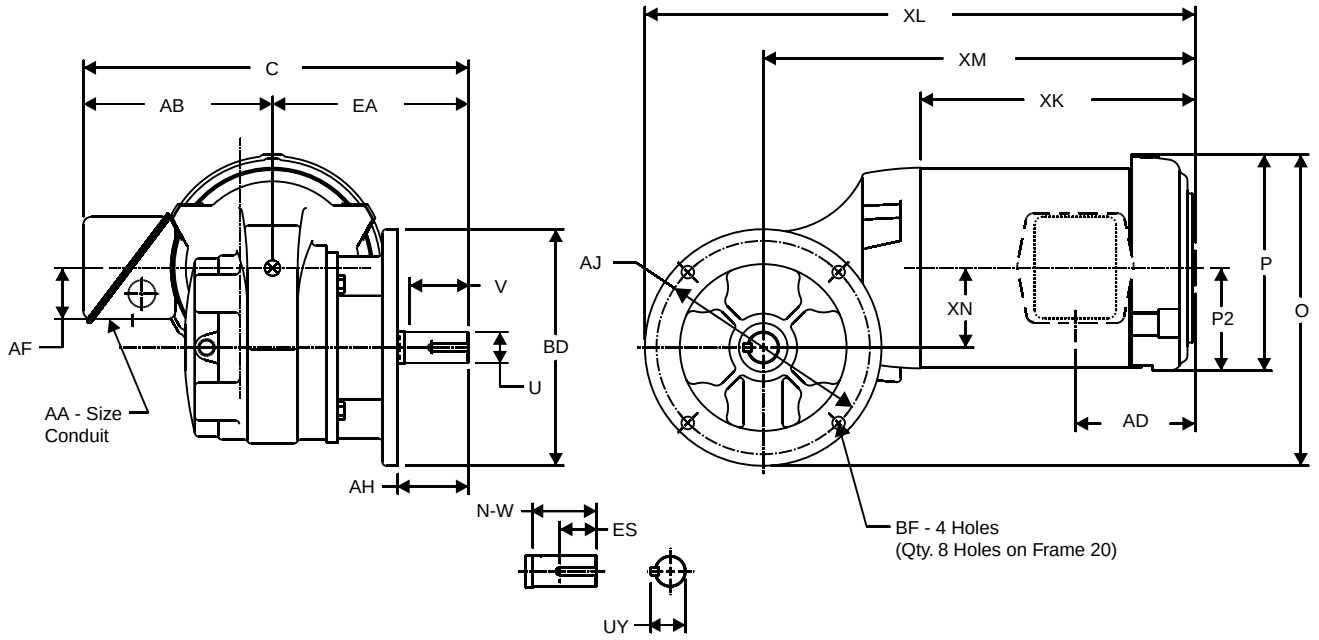
All rough casting dimensions may vary by 1/4" due to casting variations.

See page 429 - 431 for alternate motor enclosures and brakes.

Type IRA

Overall dimensions

Worm (GW)



Basic Frame	AJ	BD	DH	SN	BF	N-W	U	V Min.	ES	UY	Sq. Key
6	6.88	7.63	2.00	2.56	0.406	2.08	1.00	2.00	1.19	1.114	0.25
20	8.50	10.00	3.06	3.75	0.560	3.25	1.63	2.94	2.34	1.796	0.38

Motor Frame	Type	hp	C	XL	XM	XK	P	P2	AB	EA	AA	O	AD	AF
56-6	T	Any	12.11	15.83	12.80	7.72	7.22	3.31	6.10	6.01	0.75	9.98	3.30	0.94
143T, 145T-6	T	Any	12.11	17.08	14.05	8.97	7.22	3.31	6.10	6.01	0.75	9.98	3.30	0.94
145TY-6	T	Any	12.11	17.97	14.94	9.86	7.22	3.31	6.10	6.01	0.75	9.98	3.30	0.94
143T, 145T-20	T	Any	15.59	20.15	15.15	8.97	7.22	3.31	6.10	9.49	0.75	12.36	3.30	0.94
145TY-20	T	Any	15.59	21.04	16.04	9.86	7.22	3.31	6.10	9.49	0.75	12.36	3.30	0.94
182T, 184T-20	T	Any	17.01	23.07	18.07	11.89	11.89	4.39	7.52	9.49	0.75	13.53	5.13	2.13

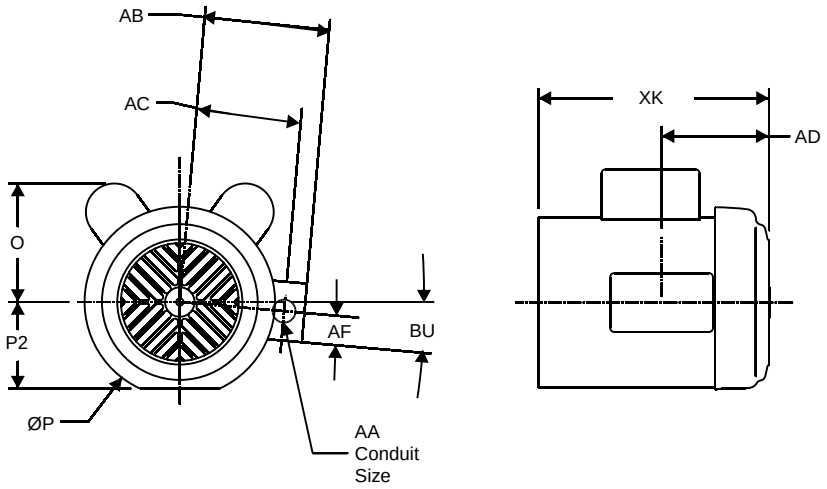
All rough casting dimensions may vary by 1/4" due to casting variations.

Shaft diameter tolerances: +.0000"; -.0005" up to 1 1/2" diameter inclusive. Larger diameters: +.000"; -.001".

See page 429 - 431 for alternate motor enclosures and brakes.

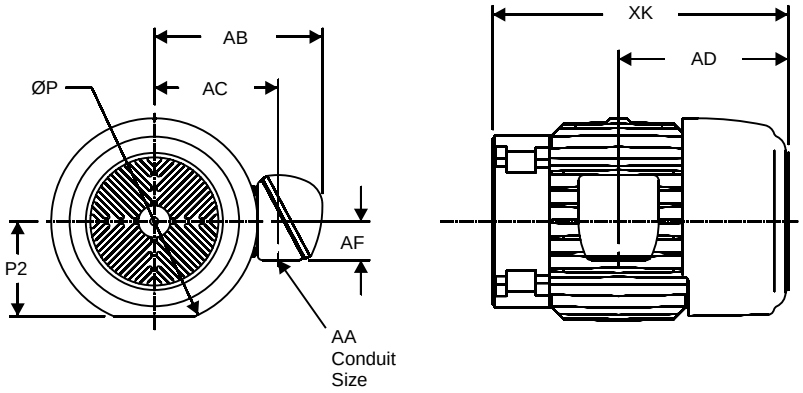
Alternate Motor Dimensions

Single Phase



Motor Frame	HP	O	P	P2	AA	AB	AC	AD	AF	BU	XK
48	1/6, 1/4	4.40	6.72	2.79	1/2	4.34	3.55	5.29	1.16	12°	8.03
	1/3, 1/2	4.40	6.72	2.79	1/2	4.72	3.79	5.29	1.13	N/A	8.03
	3/4, 1	3.87	6.72	2.79	1/2	4.34	3.55	5.29	1.16	10°	9.03
56	1/3, 1/2	4.78	7.28	3.31	3/4	4.78	4.00	4.14	1.13	N/A	7.34
	3/4	4.78	7.28	3.31	3/4	4.78	4.00	4.14	1.13	N/A	8.84
143T	1	5.09	7.28	3.31	3/4	4.78	4.00	4.14	1.13	N/A	8.84
145TY	1 1/2, 2	4.53	7.28	3.31	3/4	4.78	3.83	4.14	1.13	5°	10.34
184T	3, 5	5.11	9.56	4.39	3/4	8.58	6.45	7.14	3.09	N/A	14.33

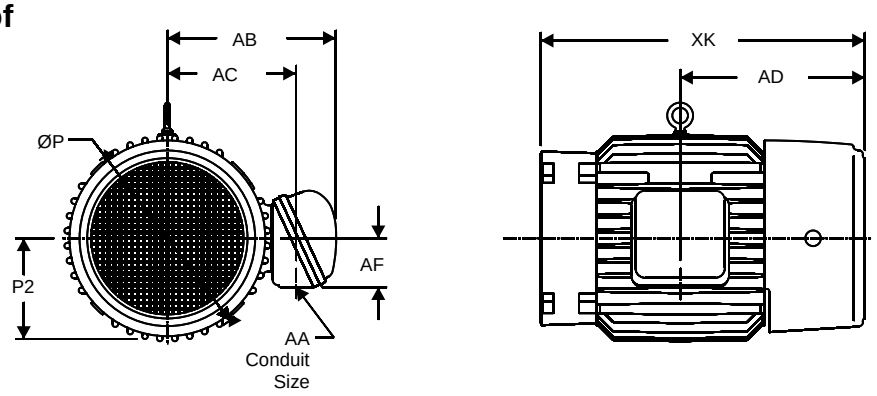
CorroDuty



Motor Frame	P	P2	AA	AB	AC	AD	AF	XK
56	7.41	3.44	3/4	6.50	4.59	3.72	1.25	8.03
143T, 145T	7.41	3.44	3/4	6.50	4.59	3.72	1.25	9.03
145TY	7.41	3.44	3/4	6.50	4.59	3.72	1.25	10.53
182T, 184T	9.50	4.56	3/4	7.74	5.69	7.81	1.78	13.76

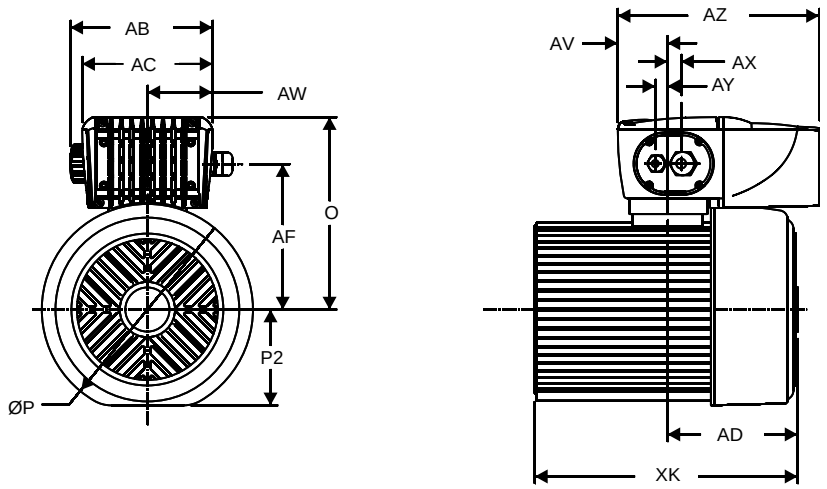
Alternate Motor Dimensions

Explosion Proof



Motor Frame	P	P2	AA	AB	AC	AD	AF	XK
56	7.88	3.38	3/4	6.79	5.31	4.37	1.78	10.97
143T, 145T	7.88	3.38	3/4	6.79	5.31	4.37	1.78	11.72
182T, 184T	9.50	4.56	3/4	7.70	5.79	7.75	2.25	13.69

IntelliGear Plus

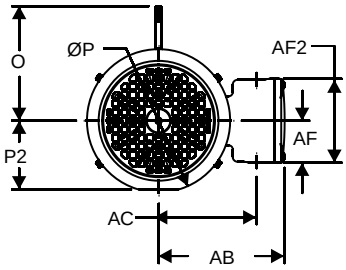


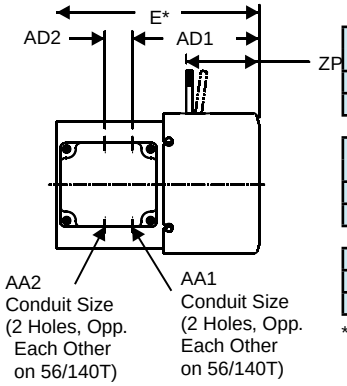
Motor Frame	Controller	O	P	P2	AB	AC	AD	AF	AV	AW	AX	AY	AZ	XK
56	1, 1M	7.74	7.33	3.67	6.45	5.91	4.35	5.61	2.25	2.95	0.62	.55	8.53	7.72
143T,145T	1, 1M	7.74	7.33	3.67	6.45	5.91	4.35	5.61	2.25	2.95	0.62	.55	8.53	8.97
145TY	1	7.74	7.33	3.67	6.45	5.91	4.35	5.61	2.25	2.95	0.62	.55	8.53	9.86
56	2M	7.74	7.33	3.67	6.45	5.91	4.35	5.61	2.25	2.95	0.62	.55	9.12	7.72
145T	2, 2M	7.74	7.33	3.67	6.45	5.91	4.35	5.61	2.25	2.95	0.62	.55	9.12	8.97
145TY	2, 2M	7.74	7.33	3.67	6.45	5.91	4.35	5.61	2.25	2.95	0.62	.55	9.12	9.86
182T,184T	2	8.72	9.56	4.78	6.45	5.91	5.89	6.58	2.25	2.95	0.62	.55	9.12	11.89
	3	11.16	9.56	4.78	8.97	8.44	10.01	7.37	2.83	4.22	0.62	.55	13.10	11.89

Input Power Phase/Voltage	Motor HP @ Max. Hz				
	0.33 to 0.50	0.75	1	1.5 to 2	3 to 5
1/115	1M	2M	-	-	-
1/230	1M	1M	1M	2M	-
3/230	1	1	1	2	3
3/460	1	1	1	1	2

Dimensional Supplement

DC FCR Brake (IP55)





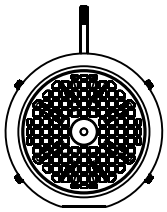
Motor Frame	E*	O	P	AA1	
				Size	Qty
56-143/145T	2.63	5.80	7.24	3/4 NPT	2
182/184T	1.95	7.30	9.23	3/4 NPT	1

Motor Frame	AA2		AB	AC	AD1
	Size	Qty			
56-143/145T	1/2 NPT	2	6.38	4.94	6.43
182/184T	3/4 NPT	1	7.80	6.14	8.84

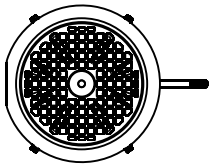
Motor Frame	AD2	AF	AF2	P2	ZP
56-143/145T	1.38	2.13	4.25	3.46	3.54
182/184T	1.81	2.32	4.65	N/A	4.41

* Add "E" to XK, XM or XL of equivalent three phase frame motor.

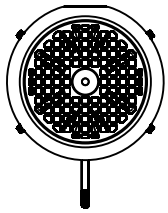
Manual Release Lever Position



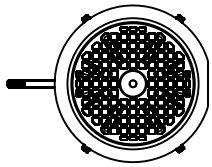
12 o'clock
(standard)



3 o'clock

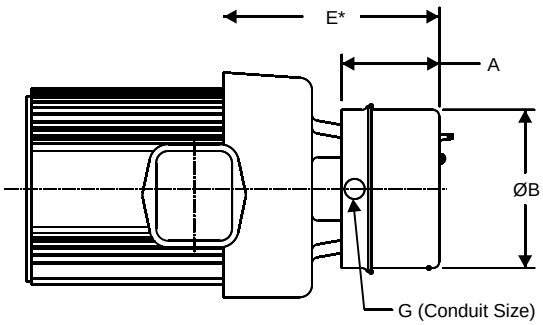


6 o'clock



9 o'clock

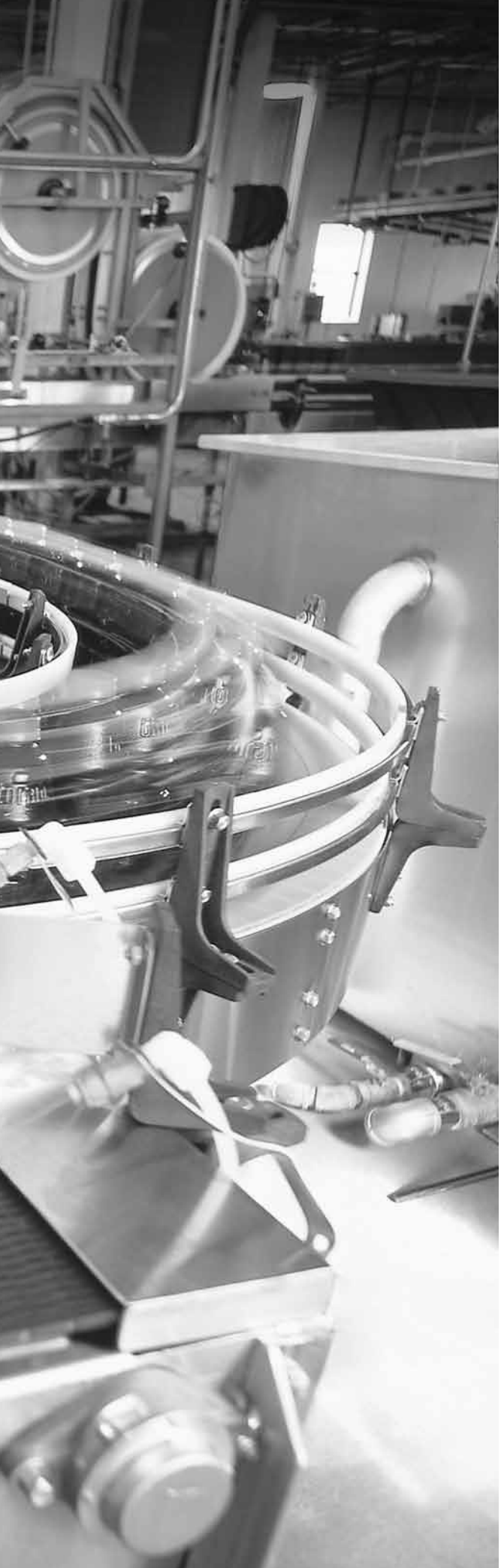
AC Brake (Open)



Motor Frame	Brake Torque (ft. lbs.)	A	B	E*	G
56	3	4.01	6.54	4.56	1/2
	6	4.01	6.54	4.56	1/2
143T/145T	3	4.01	6.54	4.56	1/2
	6	4.01	6.54	4.56	1/2
	10	4.01	6.54	4.56	1/2
182T/184T	15	4.01	6.54	4.56	1/2

* Dimension "E" represents the additional length of motor with brake mounted. Add this amount to the gearmotor XK, XM or XL of equivalent three phase frame motor.





Browning®

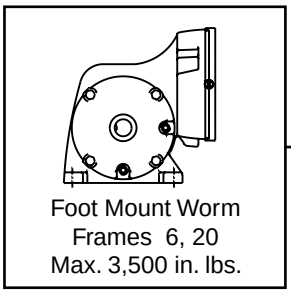
IRA Worm and Helical Reducers

These right-angle gear reducers offer a standard NEMA C-Face alternative to the IRA gearmotor products. Where an application requires a DC or another type motor not available as an IRA gearmotor, this C-Face reducer may be used with the same mounting. The flexible IRA gear reducers are available in a foot mount configuration with worm or worm-helical gearing or as a flange mount worm gear.

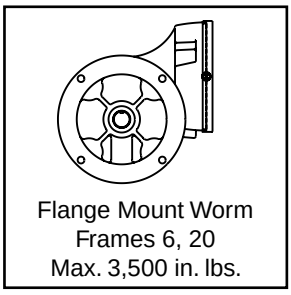


- Forged "LMS" bronze worm wheel provides extra strength and life.
- Roller bearings on output shaft provide ample rating for high overhung load.
- Factory filled with oil.
- Two double lipped oil seals at input and output shafts.

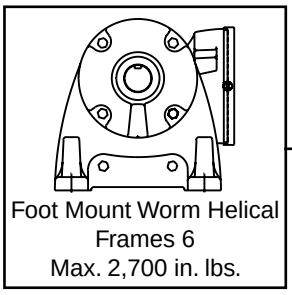
IRA Reducers



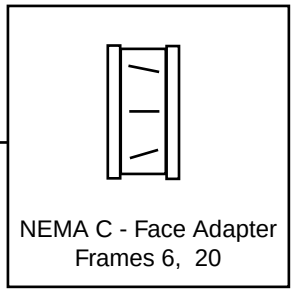
Foot Mount Worm
Frames 6, 20
Max. 3,500 in. lbs.



Flange Mount Worm
Frames 6, 20
Max. 3,500 in. lbs.



Foot Mount Worm Helical
Frames 6
Max. 2,700 in. lbs.



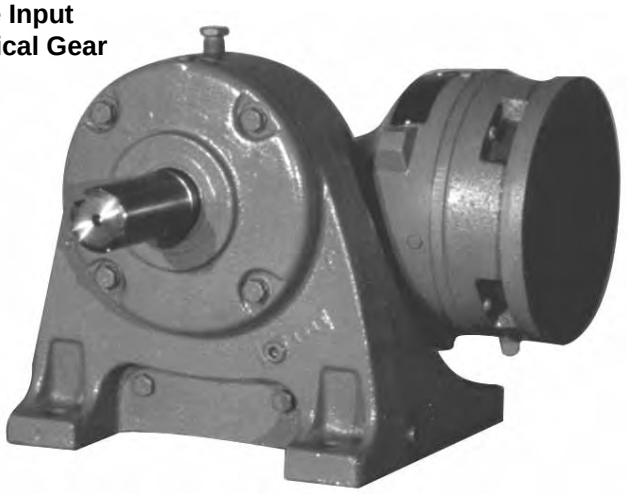
NEMA C - Face Adapter
Frames 6, 20

Type IRA

"C" Face Input Worm Gear



"C" Face Input
Worm - Helical Gear



Selection and Ordering Information

Selection Information

1. Required Output Torque
- Based on application data.

2. Speed / Ratio
- Obtain either desired output speed (rpm) or gearbox ratio based on application.

3. Service Factor
- Determine the required service factor using either the AGMA Application Classification chart (pages 439 - 441), or the duration of operation, load type, and motor type with the table below.

Prime Mover	Duration Of Service	Nature of Load From Driven Machine		
		Uniform	Mod. Shock	Heavy Shock
Electric Motor	Occasional 1/2 hour per day	0.80	0.90	1.00
	Intermittent 2 hours per day	0.90	1.00	1.25
	10 hours per day	1.00	1.25	1.50
	24 hours per day	1.25	1.50	1.75

The following service factors apply to applications involving frequent starts and stops.

Electric Motor	Occasional 1/2 hour per day	0.90	1.00	1.25
	Intermittent 2 hours per day	1.00	1.25	1.50
	10 hours per day	1.25	1.50	1.75
	24 hours per day	1.50	1.75	2.00

Size Selection

Step 1
- Locate speed reducer selection tables (pages 444 - 447) based on input speed to gearbox.

Step 2
- Choose the nominal ratio appropriate for the speeds required.

Step 3 Calculate Equivalent Load
- Determine the service factored horsepower or output torque needed to drive the load. (equivalent brake horsepower)

Brake Horsepower (Horsepower at load) x service factor = Equivalent BHP

Output torque x service factor = Equivalent output torque

Step 4 Size Reducer from Rating Tables
- Size reducer or gearmotor from rating tables using the equivalent BHP or output torque and output speed.

Step 5 Selecting the Motor
- To select the proper motor horsepower, the reducer efficiency needs to be calculated for the reducer at the rating selected.

$$\text{HP motor} = \frac{\text{Torque output x rpm output}}{63025 \times \text{efficiency}} \quad \text{or hp motor} = \frac{\text{hp output}}{\text{efficiency}}$$

$$\text{Efficiency} = \frac{\text{Max. Output Torque x Output rpm}}{\text{Max. Input hp x 63025}} \times 100\%$$

Step 6
- Verify thermal limitations.

Step 7
- Verify overhung load ratings where required (see page 438).

Example

1. Application Data:

Uniformly loaded conveyor, 24 hrs./ day operation. Right angle hollow base speed reducer directly coupled to head pulley. Customer prefers C-Face motors.

Motor Rating: TEFC, 230/460V 1 hp, 1750 rpm, 143TC frame footless

Output Speed: 56 rpm

2. Size Selection

56 RPM REQUIRED OUTPUT

EQUALS 31.5:1 RATIO

PM • SF = P

1 HP • 1.25 = 1.25 HP

6 GW (1.3 HP) ^{3} 1.25

SELECT IRA 6 GW (1.3 HP) ^{3} 1.25

31.0	**6 GW(V)**
EXAMPLE	
1.3	1244

3. Catalog Designation (see "Ordering" page 437)

IRA • 6 • GW • F1 • 25 • U • 143TC

Catalog Designation

IRA • 6 • GW • F1 • 25 • U • 143TC • ___

Based on Selection — Choose one of each — Based on Application

Type	Gear Frame	Mounting Configuration	Mounting Positions	Ratio	Input	Motor Frame	Modification Code(s)
IRA	6 20	GW = Foot Mounted GWV = Flanged Worm GWB = Footed Worm-Helical (Frame 6 Only)	See page 442	Use Nominal Ratio Selected	U* = C-Face *Must specify NEMA Frame Size	Req'd on U	Number of Modification(s) From Page 449

Type IRA

Overhung Load

When a sprocket, sheave, pulley, or pinion is mounted on the take-off shaft of a reducer, it is necessary to calculate the overhung load. This calculated load must be compared with the gearbox capacity listed to make sure the gearbox will not be overloaded. To calculate the overhung load you need to know the torque or horsepower at the take-off shaft and the location along the shaft at which the load is applied.

A. If torque is known:

$$OHL = \frac{T \times K \times LLF}{r}$$

B. If horsepower is known:

$$OHL = \frac{63025 \times hp \times K \times LLF}{rpm \times r}$$

Where:
OHL = Overhung load (pounds)
T = Torque (in. lbs.)
r = Radius of driving member (in.)
hp = Horsepower
K = Drive type factor
LLF = Load location factor

Driving Member	Value of K
Chain Drive	1.00
Pinion	1.25
Gearbelt	1.25
V-Belt	1.50
Flat Belt	2.50

Load Location	Value of LLF
End of shaft extension	1.20
Center of shaft extension	1.00
Shaft extension shoulder	0.80

Output Speed rpm	Overhung Load (In Pounds) by Frame and Type		
	6 GW, GWV	6 GWB	20 GW, GWV
230	696	-	-
190	738	-	2743
155	804	-	2800
125	832	-	2850
100	942	745	2850
84	980	753	2850
68	980	827	2850
56	980	816	2850
45	980	894	2850
37	980	913	2850
30	980	883	2850
25	980	1097	2850
20	980	1228	2850
16.5	980	1234	2850
11	980	1234	2850
9	980	1234	2850
7.5	980	1234	2850

AGMA Application Classification

Application	Recommended Service Factors		
	Up to 3 hrs/day	3-10 hrs/day	Over 10 hrs/day
AGITATORS (Mixers)			
Pure Liquids	- - -	1.00	1.25
Liquids & Solids	1.00	1.25	1.50
Liquids - Variable Density	1.00	1.25	1.50
BLOWERS			
Centrifugal	1.00	1.25	- - -
Lobe	1.00	1.25	1.50
Vane	- - -	1.00	1.25
BREWING & DISTILLING			
Bottling Machinery	- - -	1.00	1.25
Brew Kettles (Continuous Duty)	- - -	1.00	1.25
Cookers (Continuous Duty)	- - -	1.00	1.25
Mush Tubs (Continuous Duty)	- - -	1.00	1.25
Scale Hopper (Frequent Starts)	1.00	1.25	1.50
CAN FILLING MACHINES	- - -	1.00	1.25
CAR DUMPERS	1.25	1.50	1.75
CAR PULLERS	1.00	1.25	1.50
CLARIFIERS	- - -	1.00	1.25
CLASSIFIERS	1.00	1.25	1.50
CLAY WORKING MACHINERY			
Brick Press	1.25	1.50	1.75
Briquette Machine	1.25	1.50	1.75
Pug Mill	1.00	1.25	1.50
COMPACTORS	1.50	1.75	2.00
COMPRESSORS			
Centrifugal	- - -	1.00	1.25
Lobe	1.00	1.25	1.50
Reciprocating, Multi - Cylinder	1.00	1.25	1.50
Reciprocating, Single - Cylinder	1.25	1.50	1.75
CONVEYORS - GENERAL PURPOSE			
Uniformly loaded or fed	- - -	1.00	1.25
Not uniformly fed	1.00	1.25	1.50
Reciprocating or Shaker	1.25	1.50	1.75
CRANES			
Dry Dock			
Main Hoist	1.25	1.50	1.75
Auxiliary Hoist	1.25	1.50	1.75
Boom Hoist	1.25	1.50	1.75
Slewing Drive	1.25	1.50	1.75
Traction Drive	1.50	1.50	1.50
Container			
Main Hoist	◆	◆	◆
Boom Hoist	◆	◆	◆
Trolley Travel			
Gantry Drive	◆	◆	◆
Traction Drive	◆	◆	◆
Mill Duty			
Main Hoist	◆	◆	◆
Auxiliary	◆	◆	◆
Bridge and Trolley Travel	◆	◆	◆

Application	Recommended Service Factors		
	Up to 3 hrs/day	3-10 hrs/day	Over 10 hrs/day
CRANES (cont.)			
Industrial Duty			
Main	1.00	1.25	1.50
Auxiliary	◆	◆	◆
Bridge and Trolley Travel	◆	◆	◆
CRUSHER			
Stone or Ore	1.50	1.75	2.00
DREDGES			
Cable Reels	1.00	1.25	1.50
Conveyors	1.00	1.25	1.50
Cutter Head Drives	1.25	1.50	1.75
Pumps	1.00	1.25	1.50
Screen Drives	1.25	1.50	1.75
Stackers	1.00	1.25	1.50
Winches	1.00	1.25	1.50
ELEVATORS			
Bucket	1.00	1.25	1.50
Centrifugal Discharge	- - -	1.00	1.25
Escalators	◆	◆	◆
Freight	◆	◆	◆
Gravity Discharge	- - -	1.00	1.25
EXTRUDERS			
General	1.25	1.25	1.25
Plastics			
(a) Variable Speed Drive	1.50	1.50	1.50
(b) Fixed Speed Drive	1.75	1.75	1.75
Rubber			
(a) Continuous Screw Operation	1.50	1.50	1.50
(b) Intermittent Screw Operation	1.75	1.75	1.75
FANS			
Centrifugal	- - -	1.00	1.25
Cooling Towers	◆	◆	◆
Forced Draft	1.25	1.25	1.25
Induced Draft	1.00	1.25	1.50
Industrial & Mine	1.00	1.25	1.50
FEEDERS			
Apron	- - -	1.25	1.50
Belt	1.00	1.25	1.50
Disc	- - -	1.00	1.25
Reciprocating	1.25	1.50	1.75
Screw	1.00	1.25	1.50
FOOD INDUSTRY			
Cereal Cooker	- - -	1.00	1.25
Dough Mixer	1.00	1.25	1.50
Meat Grinders	1.00	1.25	1.50
Slicers	1.00	1.25	1.50
GENERATORS & EXCITERS	- - -	1.00	1.25
HAMMER MILLS	1.50	1.50	1.75
HOISTS			
Heavy Duty	1.25	1.50	1.75
Medium Duty	1.00	1.25	1.50
Skip Hoist	1.00	1.25	1.50

◆ Refer to Application Engineering (1 800 626 2093).

Application	Recommended Service Factors		
	Up to 3 hrs/day	3-10 hrs/day	Over 10 hrs/day
LAUNDRY TUMBLERS	1.00	1.25	1.50
LAUNDRY WASHERS	1.25	1.25	1.50
LUMBER INDUSTRY			
Barkers - Spindle Feed	1.25	1.25	1.50
- Main Drive	1.50	1.50	1.50
Conveyors - Burner	1.25	1.25	1.50
- Main or Heavy Duty	1.50	1.50	1.50
- Main Log	1.50	1.50	1.75
- Re-Saw, Merry-Go-Round	1.25	1.25	1.50
- Slab	1.50	1.50	1.75
- Transfer	1.25	1.25	1.50
Chains - Floor	1.50	1.50	1.50
- Green	1.50	1.50	1.50
Cut-Off Saws - Chain	1.50	1.50	1.50
- Drag	1.50	1.50	1.50
Debarking Drums	1.50	1.50	1.75
Feeds - Edger	1.25	1.25	1.50
- Gang	1.50	1.50	1.50
- Trimmer	1.25	1.25	1.50
Log Deck	1.50	1.50	1.50
Log Hauls - Incline - Well Type	1.50	1.50	1.50
Log Turning Devices	1.50	1.50	1.50
Planer Feed	1.25	1.25	1.50
Planer Tilting Hoist	1.50	1.50	1.50
Rolls - Live, Off Brg., Roll Cases	1.50	1.50	1.50
Sorting Table	1.25	1.25	1.50
Tipple Hoist	1.25	1.25	1.50
Transfers - Chain	1.50	1.50	1.50
- Craneway	1.50	1.50	1.50
Tray Drives	1.25	1.25	1.50
Veneer Lathe Drives	◆	◆	◆
METAL MILLS			
Draw Bench Carriage & Main Drive	1.00	1.25	1.50
Run Out Tables			
Non-Reversing			
Group Drives	1.00	1.25	1.50
Individual Drives	1.50	1.50	1.75
Reversing	1.50	1.50	1.75
Slab Pushers	1.25	1.25	1.50
Shears	1.50	1.50	1.75
Wire Drawing	1.00	1.25	1.50
Wire Winding Machine	1.00	1.25	1.50
METAL STRIP PROCESSING MACHINERY			
Bridles	1.25	1.25	1.50
Coilers & Uncoilers	1.00	1.00	1.25
Edge Trimmers	1.00	1.25	1.50
Flatteners	1.00	1.25	1.50
Loopers (Accumulators)	1.00	1.00	1.00
Pinch Rolls	1.00	1.25	1.50
Scrap Choppers	1.00	1.25	1.50
Shears	1.50	1.50	1.75
Slitters	1.00	1.25	1.50
MILLS, ROTARY TYPE			
Bell & Rod			
Spur Ring Gear	1.50	1.50	1.75
Helical Ring Gear	1.50	1.50	1.50
Direct Connected	1.50	1.50	1.75
Cement Kilns	1.50	1.50	1.50
Dryers & Coolers	1.50	1.50	1.50
MIXERS, CONCRETE	1.00	1.25	1.50

Application	Recommended Service Factors		
	Up to 3 hrs/day	3-10 hrs/day	Over 10 hrs/day
PAPER MILLS			
Agitator (Mixer)	1.50	1.50	1.50
Agitator for Pure Liquids	1.25	1.25	1.25
Barker Drums	1.75	1.75	1.75
Barker - Mechanical	1.75	1.75	1.75
Beater	1.50	1.50	1.50
Breaker Stack	1.25	1.25	1.25
Calender (Anti-Friction Bearings Only)	1.25	1.25	1.25
Chipper	1.75	1.75	1.75
Chip Feeder	1.50	1.50	1.50
Coating Rolls	1.25	1.25	1.25
Conveyors			
Chip, Bark, Chemical	1.25	1.25	1.25
Log (Including Slab)	1.75	1.75	1.75
Couch Rolls	1.25	1.25	1.25
Cutter	1.75	1.75	1.75
Cylinders Molds	1.25	1.25	1.25
Dryers (Anti-Friction Bearings Only)			
Paper Machine	1.25	1.25	1.25
Conveyor Type	1.25	1.25	1.25
Embosser	1.25	1.25	1.25
Extruder	1.50	1.50	1.50
Fourdrinier Rolls (Includes			
Lump Breaker, Dandy Roll,			
Wire Turning & Return Rolls)	1.25	1.25	1.25
Jordan	1.25	1.25	1.25
Kiln Drive	1.50	1.50	1.50
Mt. Hope Rolls	1.25	1.25	1.25
Paper Rolls	1.25	1.25	1.25
Platter	1.50	1.50	1.50
Pressers - Felt & Suction	1.25	1.25	1.25
Pulper	1.50	1.50	1.75
Pumps - Vacuum	1.50	1.50	1.50
Reel (Surface Type)	1.25	1.25	1.50
Screens			
Chip	1.50	1.50	1.50
Rotary	1.50	1.50	1.50
Vibrating	1.75	1.75	1.75
Size Press	1.25	1.25	1.25
Super Calender	1.25	1.25	1.25
Thickener (AC Motor)	1.50	1.50	1.50
(DC Motor)	1.25	1.25	1.25
Washer (AC Motor)	1.50	1.50	1.50
(DC Motor)	1.25	1.25	1.25
Wind & Unwind Stand	1.00	1.00	1.00
Winders (Surface Type)	1.25	1.25	1.25
Yankee Dryers (Anti-Friction			
Bearings Only)	1.25	1.25	1.25
PLASTICS INDUSTRY-PRIMARY PROCESSING			
Intensive Internal Mixers			
(a) Batch Mixers	1.75	1.75	1.75
(b) continuous Mixers	1.50	1.50	1.50
Batch Drop Mill - 2 Smooth Rolls	1.25	1.25	1.25
Continuous Feed, Holding &			
Blend Mill	1.25	1.25	1.25
Compounding Mills	1.25	1.25	1.25
Calenders	1.50	1.50	1.50
PLASTICS INDUSTRY - SECONDARY PROCESSING			
Blow Molders	1.50	1.50	1.50
Coating	1.25	1.25	1.25
Film	1.25	1.25	1.25
Pipe	1.25	1.25	1.25

◆ Refer to Application Engineering (1 800 626 2093).

AGMA Application Classification

Application	Recommended Service Factors		
	Up to 3 hrs/day	3-10 hrs/day	Over 10 hrs/day
PLASTICS INDUSTRY - SECONDARY PROCESSING (Cont.)			
Pre-Plasticizers	1.50	1.50	1.50
Rods	1.25	1.25	1.25
Sheets	1.25	1.25	1.25
Tubing	1.25	1.25	1.50
PULLERS - BARGE HAUL	1.00	1.50	1.75
PUMPS			
Centrifugal	- - -	1.00	1.25
Proportioning	1.00	1.25	1.50
Reciprocating			
Single Acting, 3 or more cylinders	1.00	1.25	1.50
Double Acting, 2 or more cylinders	1.00	1.25	1.50
Rotary - Gear Type	- - -	1.00	1.50
- Lobe Type	- - -	1.00	1.25
- Vane	- - -	1.00	1.25
RUBBER INDUSTRY			
Intensive Internal Mixers			
(a) Batch Mixers	1.50	1.75	1.75
(b) Continuous Mixers	1.25	1.50	1.50
Mixing Mill - 2 Smooth Rolls (if corrugated rolls are used, than the same service factors that are used for a Cracker Warmer)	1.50	1.50	1.50
Batch Drop Mill - 2 Smooth Rolls	1.50	1.50	1.50
Cracker Warmer - 2 Rolls; 1 corrugated roll	1.75	1.75	1.75
Cracker - 2 corrugated rolls	1.75	1.75	1.75
Holding, Feed & Blend Mill - 2 Rolls	1.25	1.25	1.25
Refiner - 2 Rolls	1.50	1.50	1.50
Calenders	1.50	1.50	1.50
SAND MILLER	1.00	1.25	1.50

Application	Recommended Service Factors		
	Up to 3 hrs/day	3-10 hrs/day	Over 10 hrs/day
SEWAGE DISPOSAL EQUIPMENT			
Bar Screens	- - -	1.00	1.25
Chemical Feeders	- - -	1.00	1.25
Dewatering Screens	1.00	1.25	1.50
Scum Breakers	1.00	1.25	1.50
Slow or Rapid Mixers	1.00	1.25	1.50
Sludge Collectors	1.00	1.00	1.25
Thickeners	1.00	1.25	1.50
Vacuum Filters	1.00	1.25	1.50
SCREENS			
Air Washing	- - -	1.00	1.25
Rotary - Stone or Gravel	1.00	1.25	1.50
Traveling Water Intake	- - -	1.00	1.25
SUGAR INDUSTRY			
Beet Slicer	1.50	1.50	1.75
Cane Knives	1.50	1.50	1.50
Crushers	1.50	1.50	1.50
Mills (Low Speed End)	1.50	1.50	1.50
TEXTILE INDUSTRY			
Batchers	1.00	1.25	1.50
Calenders	1.00	1.25	1.50
Cards	1.00	1.25	1.50
Dry Cans	1.00	1.25	1.50
Dryers	1.00	1.25	1.50
Dyeing Machinery	1.00	1.25	1.50
Looms	1.00	1.25	1.50
Mangles	1.00	1.25	1.50
Nappers	1.00	1.25	1.50
Pads	1.00	1.25	1.50
Slashers	1.00	1.25	1.50
Soapers	1.00	1.25	1.50
Spinners	1.00	1.25	1.50
Tenter Frames	1.00	1.25	1.50
Washers	1.00	1.25	1.50
Winders	1.00	1.25	1.50

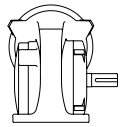
Applications not listed in this table or where the user has data indicating the severity of his usage to be greater than average should be referred to Application Engineering (1 800 626 2093).

Type IRA

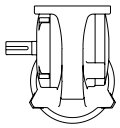
Foot Mount Worm and Worm - Helical

Universal No. 1

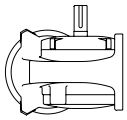
F1



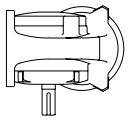
C1



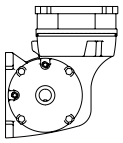
U3



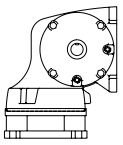
D1



W8

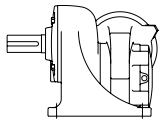


W1

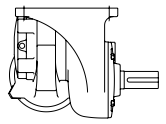


Universal No. 2

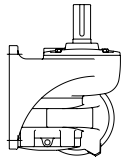
F2



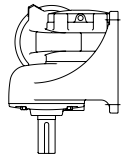
C4



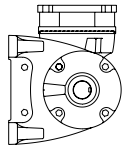
U1



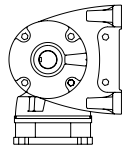
D3



W7



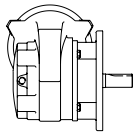
W2



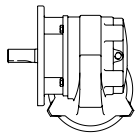
Flange Mount Worm

Universal No. 1

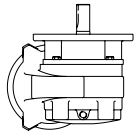
W3



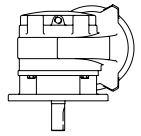
W6



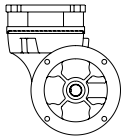
U1



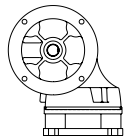
D1



W8



W1



Type IRA

Availability

Gear Frame	Footed		Flanged
	Universal #1	Universal #2	Universal #1
6 GW (worm)	●	◊	●
6 GWB (worm helical)	●	●	✶
20 GW (worm)	●	◊	●

● Normally Stocked
◊ Available thru conversion of stock unit
✶ Refer application to Type HWN product

The IRA gearbox is filled at the factory with oil according to the mounting position specified when ordered. The oil used depends on the order description at entry. Non¬washdown units are filled with an AGMA 8 mineral oil. Washdown units will be filled with a synthetic 460 series lubricant classified as a Polyglycol (PAG) oil.

In the event that a gearbox needs to be refilled, see the appropriate maintenance manual for the proper procedure and correct quantity of oil. If synthetic oil is used, the gearbox must be refilled with the same lubricant or must be completely drained and flushed.

Mineral Oils

Ambient Temperature	15 to 60 F	50 to 125 F
ISO Grade	460	680
AGMA	7	8

Synthetic Oils

Ambient Temperature	-30 to 200 F	-30 to 200 F
ISO Grade	460	680
AGMA	7	8

Type IRA

Motor rpm 1750

Exact ratio rpm, hp and Torque: IRA reducers

Output speed (rpm)	Reduction ratio	6 GW(V)		6 GWB		20 GW(V)	
230	**7.1**	7.5 3.63	**6 GW(V)** 888				
190	**9**	9.0 3.42	**6 GW(V)** 996			10.0 9.4	**20 GW(V)** 3082
155	**11.2**	11.25 2.79	**6 GW(V)** 994				
125	**14**	14.0 2.37	**6 GW(V)** 1026			15.0 7.0	**20 GW(V)** 3316
100	**18**	17.6 1.99	**6 GW(V)** 1056	17.0 3.63	**6 GWB** 1969	18.0 6.0	**20 GW(V)** 3418
84	**20**	21.0 1.77	**6 GW(V)** 1083	20.3 3.42	**6 GWB** 2212	20.0 5.6	**20 GW(V)** 3459
68	**25**	26.0 1.50	**6 GW(V)** 1076	25.4 2.79	**6GWB** 2199	25.0 4.6	**20 GW(V)** 3411
56	**31.5**	31.0 1.30	**6 GW(V)** 1244	31.0 2.36	**6GWB** 2317	30.0 4.0	**20 GW(V)** 3469
45	**40**	39.0 1.09	**6 GW(V)** 1067	36.6 2.01	**6GWB** 2332	40.0 3.1	**20 GW(V)** 3368
37	**45**	47.0 0.94	**6 GW(V)** 1041	45.8 1.65	**6GWB** 2297	50.0 2.5	**20 GW(V)** 3232
30	**56**	58.0 0.78	**6 GW(V)** 981	57.0 1.38	**6GWB** 2307	60.0 2.1	**20 GW(V)** 3112
25	**71**	70.0 0.64	**6 GW(V)** 889	71.9 1.14	**6GWB** 2316		
20	**90**	87.0 0.50	**6 GW(V)** 726	85.5 1.00	**6GWB** 2365		
16.5	**112**			106.0 0.84	**6GWB** 2360		
13.5	**125**			126.0 0.74	**6GWB** 2358		
11.0	**160**			159.0 0.64	**6GWB** 2342		
9.0	**200**			191.0 0.57	**6GWB** 2407		
7.5	**250**			236.0 0.50	**6GWB** 2378		
6.0	**280**			285.0 0.50	**6GWB** 2684		
5.0	**355**			354.0 0.41	**6GWB** 2416		
4.0	**450**						
3.25	**560**						

If shaded, mechanical hp may exceed thermal hp limit.
Refer to page 448.

Exact ratio	Size
Max Input hp	Max. Output Torque (in.lbs.)

Type IRA

Motor rpm 1450

Exact ratio rpm, hp and Torque: IRA reducers

Output speed (rpm)	Reduction ratio	6 GW(V)		6GWB		20 GW(V)	
193	**7.1**	7.5	**6 GW(V)**				
		3.33	979				
161	**9**	9.0	**6 GW(V)**			10.0	**20 GW(V)**
		3.14	1098			8.68	3414
132	**11.2**	11.25	**6 GW(V)**				
		2.56	1093				
104	**14**	14.0	**6 GW(V)**			15.0	**20 GW(V)**
		2.17	1128			6.44	3674
81	**18**	17.6	**6 GW(V)**	17.0	**6GWB**	18.0	**20 GW(V)**
		1.83	1156	3.33	2168	5.63	3781
69	**20**	21.0	**6 GW(V)**	20.3	**6GWB**	20.0	**20 GW(V)**
		1.63	1190	3.14	2431	5.22	3832
56	**25**	26.0	**6 GW(V)**	25.4	**6GWB**	25.0	**20 GW(V)**
		1.36	1182	2.56	2422	4.25	3773
47	**31.5**	31.0	**6 GW(V)**	31.0	**6GWB**	30.0	**20 GW(V)**
		1.20	1184	2.00	2327	3.72	3838
37	**40**	39.0	**6 GW(V)**	36.6	**6GWB**	40.0	**20 GW(V)**
		1.00	1173	1.74	2338	2.88	3723
31	**45**	47.0	**6 GW(V)**	45.8	**6GWB**	50.0	**20 GW(V)**
		0.87	1144	1.39	2305	2.43	3710
25	**56**	58 .0	**6 GW(V)**	57.0	**6GWB**	60.0	**20 GW(V)**
		0.72	1079	1.16	2314	1.98	3439
21	**71**	70.0	**6 GW(V)**	71.9	**6GWB**		
		0.59	993	0.96	2323		
17	**90**	87.0	**6 GW(V)**	85.5	**6GWB**		
		0.44	798	0.85	2365		
14	**112**			106.0	**6GWB**		
				0.73	2386		
12	**125**			126.0	**6GWB**		
				0.66	2378		
9	**160**			159.0	**6GWB**		
				0.54	2347		
8	**200**			191.0	**6GWB**		
				0.49	2396		
6	**250**			236.0	**6GWB**		
				0.43	2405		
5	**280**			285.0	**6GWB**		
				0.38	2359		
4	**355**			354.0	**6GWB**		
				0.37	2457		
3	**450**						
1	**560**						

If shaded, mechanical hp may exceed thermal hp limit.
Refer to page 448.

Exact ratio	Size
Max Input hp	Max. Output Torque (in.lbs.)

Type IRA

Motor rpm 1160

Exact ratio rpm, hp and Torque: IRA reducers

Output speed (rpm)	Reduction ratio	6 GW(V)		6GWB		20 GW(V)	
155	**7.1**	7.5	**6 GW(V)**				
		2.98	1090				
129	**9**	9.0	**6 GW(V)**			10.0	**20 GW(V)**
		2.81	1220			7.9	3845
105	**11.2**	11.25	**6 GW(V)**				
		2.29	1212				
83	**14**	14.0	**6 GW(V)**			15.0	**20 GW(V)**
		1.94	1249			5.8	4128
64	**18**	17.6	**6 GW(V)**	17.0	**6GWB**	18.0	**20 GW(V)**
		1.64	1283	2.98	2420	5.0	4244
55	**20**	21.0	**6 GW(V)**	20.3	**6GWB**	20.0	**20 GW(V)**
		1.46	1315	2.81	2698	4.7	4302
45	**25**	26.0	**6 GW(V)**	25.4	**6GWB**	25.0	**20 GW(V)**
		1.22	1306	2.29	2681	3.9	4228
37	**31.5**	31.0	**6 GW(V)**	31.0	**6GWB**	30.0	**20 GW(V)**
		1.07	1308	1.60	2336	3.4	4301
30	**40**	39.0	**6 GW(V)**	36.6	**6GWB**	40.0	**20 GW(V)**
		0.90	1294	1.36	2344	2.6	4165
25	**45**	47.0	**6 GW(V)**	45.8	**6GWB**	50.0	**20 GW(V)**
		0.78	1263	1.13	2315	2.2	4006
20	**56**	58.0	**6 GW(V)**	57.0	**6GWB**	60.0	**20 GW(V)**
		0.65	1190	0.94	2323	1.8	3848
17	**71**	70.0	**6 GW(V)**	71.9	**6GWB**		
		0.53	1078	0.78	2330		
13	**90**	87.0	**6 GW(V)**	85.5	**6GWB**		
		0.40	880	0.68	2364		
11	**112**			106.0	**6GWB**		
				0.59	2411		
9	**125**			126.0	**6GWB**		
				0.51	2397		
7	**160**			159.0	**6GWB**		
				0.44	2352		
6	**200**			191.0	**6GWB**		
				0.40	2385		
5	**250**			236.0	**6GWB**		
				0.35	2431		
4	**280**			285.0	**6GWB**		
				0.32	2363		
3.2	**355**			354.0	**6GWB**		
				0.30	2497		
2.6	**450**						
2	**560**						

If shaded, mechanical hp may exceed thermal hp limit.
Refer to page 448.

Exact ratio	Size
Max Input hp	Max. Output Torque (in.lbs.)

Type IRA

Motor rpm 870

Exact ratio rpm, hp and Torque: IRA reducers

Output speed (rpm)	Reduction ratio	6 GW(V)		6GWB		20 GW(V)	
117	**7.1**	7.5 2.52	**6 GW(V)** 1212				
97	**9**	9.0 2.37	**6 GW(V)** 1352			10.0 6.9	**20 GW(V)** 4413
80	**11.2**	11.25 1.92	**6 GW(V)** 1337				
62	**14**	14.0 1.63	**6 GW(V)** 1374			15.0 5.1	**20 GW(V)** 4725
49	**18**	17.6 .38	**6 GW(V)** 1409	17.0 2.52	**6GWB** 2693	18.0 4.4	**20 GW(V)** 4842
42	**20**	21.0 1.23	**6 GW(V)** 1433	20.3 2.17	**6GWB** 2793	20.0 4.2	**20 GW(V)** 4919
34	**25**	26.0 1.03	**6 GW(V)** 1432	25.4 1.79	**6GWB** 2805	25.0 3.4	**20 GW(V)** 4808
28	**31.5**	31.0 0.91	**6 GW(V)** 1433	31.0 1.23	**6GWB** 2351	30.0 3.0	**20 GW(V)** 4893
22	**40**	39.0 0.77	**6 GW(V)** 1418	36.6 1.05	**6GWB** 2370	40.0 2.3	**20 GW(V)** 4714
19	**45**	47.0 0.67	**6 GW(V)** 1382	45.8 0.87	**6GWB** 2325	50.0 1.9	**20 GW(V)** 4554
15	**56**	58.0 0.56	**6 GW(V)** 1303	57.0 0.72	**6GWB** 2332	60.0 1.6	**20 GW0I)** 4352
12	**71**	70.0 0.46	**6 GW(V)** 1180	71.9 0.60	**6GWB** 2339		
10	**90**	87.0 0.34	**6 GW(V)** 964	85.5 0.53	**6GWB** 2394		
8	**112**			106.0 0.44	**6GWB** 2364		
7	**125**			126.0 0.39	**6GWB** 2359		
6	**160**			159.0 0.34	**6GWB** 2358		
5	**200**			191.0 0.32	**6GWB** 2478		
4	**250**			236.0 0.27	**6GWB** 2374		
3	**280**			285.0 0.25	**6GWB** 2367		
2.4	**355**			354.0 0.22	**6GWB** 2295		
1.9	**450**						
1.6	**560**						

If shaded, mechanical hp may exceed thermal hp limit.
Refer to page 448.

Exact ratio	Size
Max Input hp	Max. Output Torque (in.lbs.)

Type IRA

Thermal Power Ratings (hp)

Motor rpm 1750

Output (RPM)	Reduction Ratio	6 GW(V)	6 GWB	20 GW(V)
230	7.1	2.67	-	-
190	9	2.46	-	9.0
155	11.2	2.08	-	-
125	14	2.00	-	6.7
100	18	1.51	2.67	5.0
84	20	1.50	2.46	5.0
68	25	1.50	2.08	3.1
56	31.5	1.00	-	-
45	40	1.00	-	2.1
37	45	0.76	-	-
30	56	0.68	-	-
25	71	0.61	-	-
20	90	-	-	-

Motor rpm 1450

Output (RPM)	Reduction Ratio	6 GW(V)	6 GWB	20 GW(V)
193	7.1	2.66	-	-
161	9	2.45	-	8.68
132	11.2	2.07	-	-
104	14	1.78	-	-
81	18	1.50	2.66	-
69	20	1.32	2.45	-
56	25	1.13	2.07	-
47	31.5	1.00	-	-
37	40	0.85	-	-
31	45	0.76	-	-
25	56	0.67	-	-

Motor rpm 1160

Output (RPM)	Reduction Ratio	6 GW(V)	6 GWB	20 GW(V)
155	7.1	2.61	-	-
129	9	2.39	-	-
105	11.2	2.02	-	-
83	14	1.90	-	-
64	18	1.46	2.61	-
55	20	1.40	2.39	-
45	25	-	2.02	-
37	31.5	0.97	-	-
30	40	-	-	-
25	45	0.74	-	-

Motor rpm 870

Output (RPM)	Reduction Ratio	6 GW(V)	6 GWB	20 GW(V)
117	7.1	2.49	-	-
97	9	2.28	-	-
80	11.2	1.93	-	-
49	18	-	2.49	-

Modifications

Gear Modifications

G1 Food Grade Lubricant

When this modification is specified, the IRA gear sump will be filled with the required volume of a synthetic lubricant classified as a Polyglycol (PAG), 460 series that is approved for USDA H-1 food grade use.

G2 Normally Closed Breather

For applications involving very dusty environments specify this breather design. The breather has a protected spring loaded valve construction opening only to relieve any pressure built up greater that 3 PSI and then closing..

G3 Double Extended Output Shafts

Double end output shafts are available on single reduction type GW worm-only units.

G4 Special Output Shafts

Special output shafts are available on all units. Refer applications to Gear Estimating office for pricing.

G5 Special Nameplates

Units can be provided with limited additional special information on the standard product nameplate. When requested, a special nameplate may be provided, stamped with custom markings.

G6 Low Ambient Temperature

Gearmotors can be supplied for low ambient down to -20F. Refer complete details of the applications to the Applications Department for review.

G7 Washdown Duty Reducer

This reducer design combines special features required for washdown duty. These include: special “protected” gearcase breather design, tandem double lipped oil seals at any shaft extension, exterior surfaces of the reducer receive Corroduty Stainless Steel paint (option for epoxy white at no added cost).

If it is required that food grade lubricant be supplied, specify G1

G8 Export Boxing

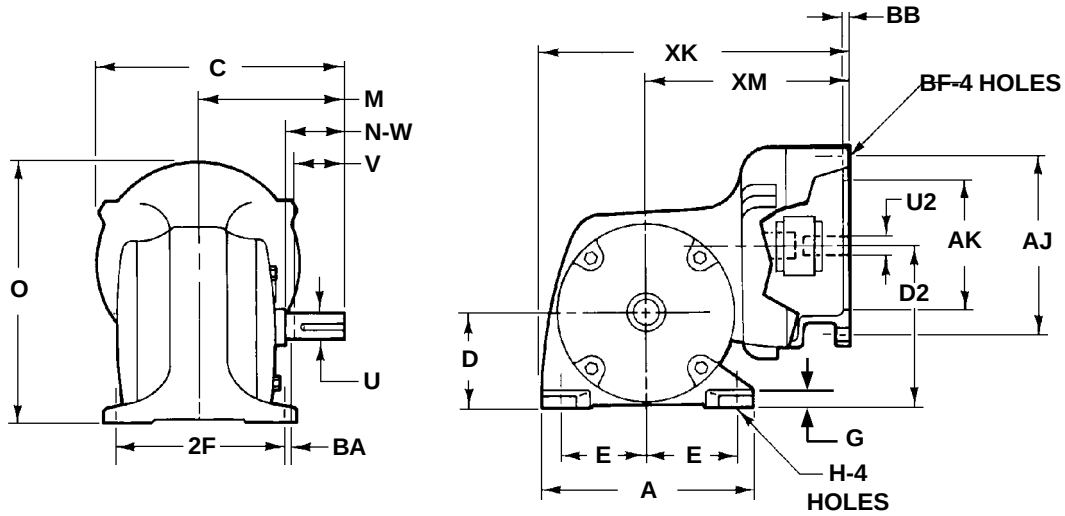
Export boxing can be provided for "underdeck" transport. When the quantity of IRA gearmotors exceeds five(5) units, refer to the International Sales department for most economical accommodations

Type IRA

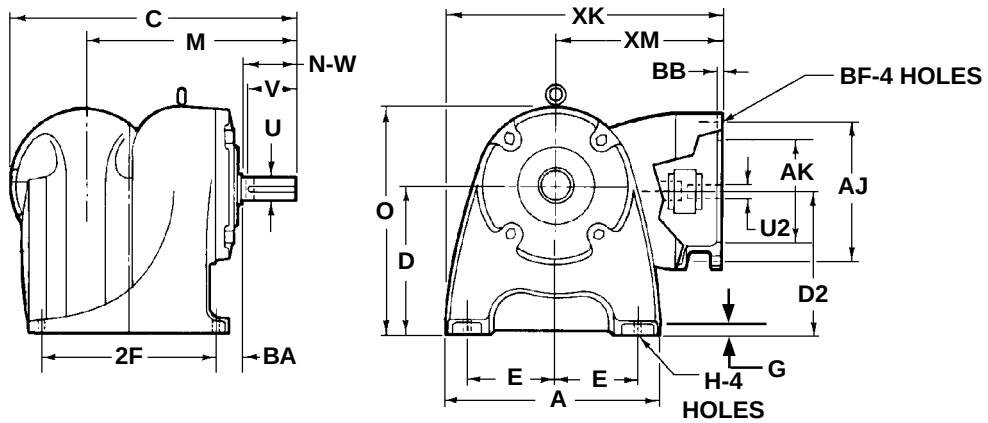
Overall dimensions

Standard F-1 Assembly

Worm (GW)



Worm-Helical (GWB)



GEAR FRAME	A	C	D	D2	E	2F	G	H	M	N-W	O	U	V MIN	BA	SQ. KEY
6 GW	7	8-7/32	3-1/4	5-13/32	3	5	5/8	13/32	5	2	9-3/32	1	1-15/16	7/16	1/4
6 GWB	9-3/8	13-11/32	6-5/16	5-7/8	3-3/4	7-1/2	3/4	9/16	10-1/32	3	9-11/16	1-1/2	2-7/8	1-3/8	3/8
20 GW	10-1/2	12-7/8	4-1/2	8-1/4	4-3/8	8	1	11/16	8-1/8	3-1/4	12-3/4	1-5/8	2-15/16	7/8	3/8

GEAR FRAME	MOTOR FRAME	XK	XM
6 GW	56C	12-13/16	9-5/16
6 GW	143TC-145TC	12-13/16	9-5/16
6 GWB	56C	14	9-5/16
6 GWB	143TC-145TC	14	9-5/16
20 GW	182TC-184TC	17-15/32	12-7/32

MOTOR FRAME	U2 +.001	AJ	AK	BB	BF	SQ KEY 2
56C	5/8	5-7/8	4-1/2	7/32	7/16	3/16
143TC-145TC	7/8	5 7/8	4 1/2	7/32	7/16	3/16
182TC-184TC	1 1/8	7 1/4	8 1/2	7/32	7/16	1/4

Dimension "D" is the maximum value, but may be less than values shown. When exact dimensions are required, shims up to 1/16" may be necessary.

All rough casting dimensions may vary by 1/4" due to casting variations.

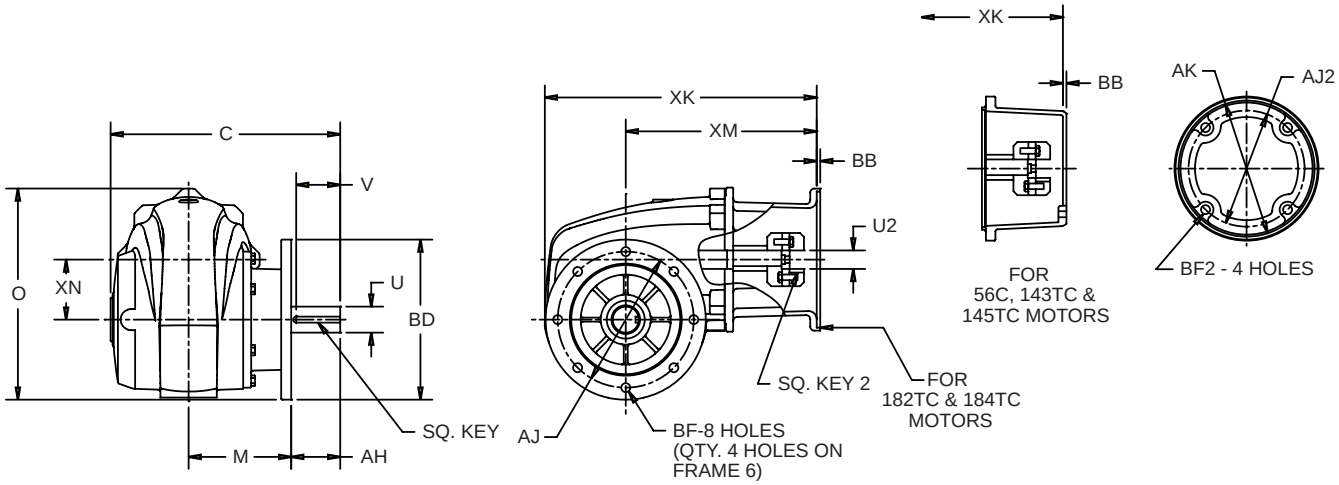
Shaft diameter tolerances: .0000"; -.0005" up to 1-1/2" diameter inclusive. Larger diameters: +.000"; -.001.

Type IRA

Overall dimensions

Standard W-3 Assembly

Worm (GW)



FRAME	C	M	U	V MIN	AH	AJ	BB	BD ■	BF	SQ KEY
6 GWV	9-9/32	4	1	2	2	6-7/8	7/32	7-5/8	13/32	1/4
20 GWV	14-3/8	6-7/16	1-5/8	2-15/16	3-1/16	8-1/2	7/32	10	9/16	3/8

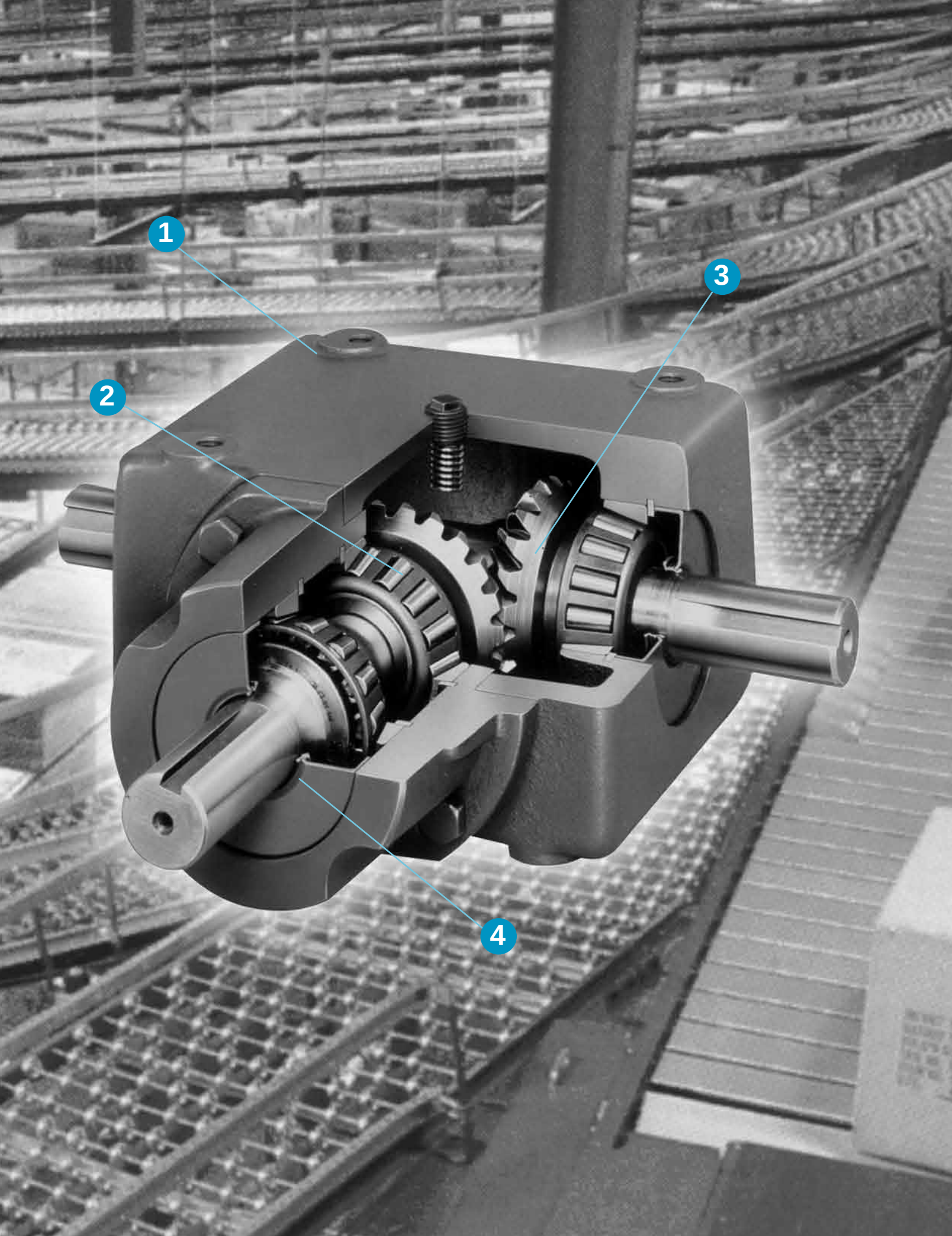
FRAME	MOTOR FRAME	O	XK	XM	XN
6 GWV	56C	9-11/16	13-1/8	9-5/16	2-9/16
6 GWV	143TC-145TC	9-11/16	13-1/8	9-5/16	2-9/16
20 GWV	182TC-184TC	13-9/32	17-1/32	12-1/32	3-3/4

MOTOR FRAME	U2 +.001	AJ2	AK	BF2	SQ KEY 2
56C	5/8	5-7/8	4-1/2	7/16	3/16
143TC-145TC	7/8	5-7/8	4-1/2	7/16	3/16
182TC-184TC	1-1/8	7-1/4	8-1/2	7/16	1/4

■ "BD" diameter is not machined.

Shaft diameter tolerances: +.0000"; -.0005" up to 1-1/2" diameter inclusive.
Larger diameters: +.000"; -.001".

All rough casting dimensions may vary by 1/4" due to casting variations.


1
2
3
4



Browning®

HB and HSB
Bevel and Spiral Bevel

1. Rugged cast iron housings, line bored for precise gear and bearing alignment.
2. Commercially available tapered roller and ball bearings provide maximum catalog load capacity.
3. Carburized alloy steel straight or spiral gears manufactured to AGMA standard for long life and quiet operation.
4. Double lip contact oil seals ride on hardened plunge ground shafts.



- 6 Sizes
- Spiral bevel and straight bevel gears
- Ratios 1:1 to 3:1 with speed up ratios available
- Torque ratings from 99 to 5,942 in.-lbs.

Selection and Ordering Information

Overload Service Factors

Load and operating characteristics of both driver and driven units must be considered thoroughly when selecting Browning Bevel Gear Boxes. It is essential that all gear boxes be selected for maximum load conditions to be encountered. Browning Bevel Gear Boxes will safely transmit momentary starting loads as great as 200% of the mechanical input ratings.

First determine the load classification of the driven unit from the table on page 455. Then from the table below, select an overload service factor for this classification, for duration of service to be involved and for the type of prime mover to be used.

Prime Mover	Duration of Service	Driven Machine Load Classification		
		U Uniform	M Moderate Shock	H Heavy Shock
Electric Motor	Occasional - 1/2 hour per day	0.50	0.80	1.25
	Intermittent - 3 hours per day	0.80	1.00	1.50
	Up to 10 hours per day	1.00	1.25	1.75
	24 hours per day	1.25	1.50	2.00
Multi-Cylinder Internal Combustion Engine	Occasional - 1/2 hour per day	0.80	1.00	1.50
	Intermittent - 3 hours per day	1.00	1.25	1.75
	Up to 10 hours per day	1.25	1.50	2.00
	24 hours per day	1.50	1.75	2.25
Single Cylinder Internal Combustion Engine	Occasional - 1/2 hour per day	1.00	1.25	1.75
	Intermittent - 3 hours per day	1.25	1.50	2.00
	Up to 10 hours per day	1.50	1.75	2.25
	24 hours per day	1.75	2.00	2.50

Overhung Loads

When a gear box is driven by any belt, chain, or gear drive, or when the gear box drives a driven unit through a belt, chain or gear drive, overhung loads must not exceed those shown in the tables on pages 456 - 459. Use the following formula to calculate the overhung load.

$$OL = \frac{2TK}{D}$$

Where:

OL = Overhung Load (pounds)
T = Actual Shaft Torque (Inch-Pounds)
D = P.D. of Sprocket, Sheave, Pulley or Gear
K = 1.0 for Chain Drives
1.25 for Gear Drives
1.25 for Gearbelt Drives
1.50 for V-Belt Drives

No overhung loads are encountered when the gear box is coupling connected to the driver and/or driven machine. However, care should be taken in aligning the shafts to avoid pre-loading bearings by misalignment.

Selection Example

A right angle gear box is needed for a line shaft driving processing machinery which requires 1330 inch-pounds torque and will operate about 10 hours per day. This line shaft will be coupling connected at a right angle to an existing line shaft which is driven by an 1150 rpm electric motor. Existing line shaft is 1 7/16" diameter and the new line shaft is 1 3/16" diameter.

1. **Determine the Load Classification of the driven unit.**

   From page 455, the load class for a line shaft driving processing machinery is “M”.

2. **Determine the Overload Service Factor.**

   From the table on this page, the service factor for a moderate shock (M) load driven by an electric motor 10 hours per day is 1.25.

3. **Determine the Normal Torque (or the Normal hp)**.

   Multiply the required torque by the service factor:

   1330 x 1.25 =1662.5 Normal Torque

4. **Select the Gear Box**.

   From page 457 under the 1150 RPM column, select a gear box which has a mechanical rating of 1663, or slightly greater, which in this case is 1759 and the gear box is 12HSB1-LR10. Check to see that the thermal rating (1671) exceeds the transmitted load (1330).

5. **Select the Couplings Required.**

   Note: If a chain drive or the other drive has been specified for either or both input or output shafts, the overhung loads would have to be checked from the formula above and from the table on page 457.

6. **List Components**

   1, **12HSB1-LR10** Spiral Bevel Gear Box

Caution: Install guards according to applicable local and national codes for rotating shafts.

Load Classifications - Typical Applications

Application	Load Class
AGITATORS	
Pure Liquids	U
Liquids and Solids	M
Liquids - Variable Density	M
BLOWERS	
Centrifugal	U
Lobe	M
Vane	U
BREWING AND DISTILLING	
Bottling Machinery	U
Brew Kettles, Continuous Duty	U
Cookers, Continuous Duty	U
Mash Tubs, Continuous Duty	U
Scale Hopper, Frequent Starts	M
CAN FILLING MACHINES	U
CANE KNIVES	M*
CAR DUMPERS	H
CAR PULLERS	M
CLARIFIERS	U
CLASSIFIERS	M
CLAY WORKING MACHINERY	
Brick Press	H
Briquette Machine	H
Clay Working Machinery	M
Pub Mill	M
COMPRESSORS	
Centrifugal	U
Lobe	M
Reciprocating, Multi-Cylinder	M
Reciprocating, Single Cylinder	H
CONVEYORS-UNIFORMLY LOADED OR FED	
Apron	U
Assembly	U
Belt	U
Bucket	U
Chain	U
Flight	U
Oven	U
Screw	U
CONVEYORS-HEAVY DUTY NOT UNIFORMLY FED	
Apron	M
Assembly	M
Belt	M
Bucket	M
Chain	M
Flight	M
Live Roll	★
Oven	M
Reciprocating	H
Screw	M
Shaker	H
CRANES	
Main Hoists	U
Bridge	★
Trolley Travel	★
CRUSHER	
Ore	H
Stone	H
Sugar	M*
DREDGES	
Cable Reels	M
Conveyors	M
Cutter Head Drives	H
Jig Drives	H
Maneuvering Winches	M
Pumps	M
Screen Drive	H
Stackers	M
Utility Winches	M
ELEVATORS	
Bucket-Uniform Load	U
Bucket-Heavy Load	M
Bucket-Continuous	U
Centrifugal Discharge	U
Escalators	U
Freight	M
Gravity Discharge	U
Man Lifts	★
Passenger	★
EXTRUDERS (Plastic)	
Film	U
Sheet	U
Coating	U
Rods	U
EXTRUDERS (Plastic)-Continued	
Pipe	U
Tubing	U
Blow Molders	M
Pre-plasticizers	M
FANS	
Centrifugal	U
Cooling Towers-Induced Draft	★
Forced Draft	U*
Induced Draft	M
Large (Mine, etc.)	M
Large (Industrial)	M
Light (Small Diameter)	U
FEEDERS	
Apron	M
Belt	M
Disc	U
Reciprocating	H
Screw	M
FOOD INDUSTRY	
Beet Slicers	M
Cereal Cookers	U
Dough Mixers	M
Meat Grinders	M
GENERATORS - (Not Welding)	U
HAMMER MILLS	H
HOISTS	
Heavy Duty	H
Medium Duty	M
Skip Hoist	M
LAUNDRY WASHERS	
Reversing	M
LAUNDRY TUMBLERS	M
LINE SHAFTS	
Driving Processing Equipment	M
Light	U
Other Line Shafts	U
LUMBER INDUSTRY (See Table 3, Page 5)	
MACHINE TOOLS	
Bending Roll	M
Punch Press-Gear Driven	H
Notching Press-Belt Driven	★
Plate Planers	H
Tapping Machine	H
Other Machine Tools	
Main Drives	M
Auxiliary Drives	U
METAL MILLS	
Draw Bench Carriage and Main Drive	M
Pinch, Dryer and Scrubber Rolls, Reversing	★
Slitters	M
Table Conveyors	
Non-Reversing	
Group Drives	M
Individual Drives	H
Reversing	★
Wire Drawing and Flattening Machines	M
Wire Winding Machines	M
MILLS, ROTARY TYPE	
Ball	M*
Cement Kilns	M*
Dryers and Coolers	M*
Kilns	M
Pebble	M*
Rod, Plain and Wedge Bar	M*
Tumbling Barrels	H
MIXERS	
Concrete, Continuous	M
Concrete, Intermittent	M
Constant Density	U
Variable Density	M
OIL INDUSTRY	
Chillers	M
Oil Well Pumping	★
Paraffin Filter Presses	M
Rotary Kilns	M
PAPER MILLS	
Agitators (Mixers)	M
Barker-Auxiliaries-Hydraulic	M
Barker-Mechanical	M
Barking Drum	H
Beater and Pulper	M
Bleacher	U
Calenders	M
PAPER MILLS-Continued	
Calendars-Super	H
Converting Machine, Except Cutters, Platers	M
Conveyors	U
Couch	M
Cutters-Platers	H
Cylinders	M
Dryers	M
Felt Stretchers	M
Felt Whippers	H
Jordons	H
Log Haul	H
Presses	U
Pulp Machine Reel	M
Stock Chests	M
Suction Roll	U
Washers and Thickeners	M
Winders	U
PRINTING PRESSES	★
PULLERS	
Barge Haul	H
PUMPS	
Centrifugal	U
Proportioning	M
Reciprocating	
Single Acting, 3 or more cylinders	M
Double Acting, 2 or more cylinders	M
Single Acting, 1 or 2 cylinders	★
Double Acting, Single cylinder	★
Rotory-Gear Type	U
-Lobe, Vane	U
RUBBER AND PLASTIC INDUSTRIES	
Crackers	H*
Laboratory Equipment	M
Mixing Mills	H*
Refiners	M*
Rubber Calenders	M*
Rubber Mill (2 on line)	M*
Rubber Mill (3 on line)	U*
Sheeter	M*
Tire Building Machines	★
Tire and Tube Press Openers	★
Tubers and Strainers	M*
Warming Mills	M*
SAND MULLER	M
SEWAGE DISPOSAL EQUIPMENT	
Bar Screens	U
Chemical Feeders	U
Collectors	U
Dewatering Screens	M
Scum Breakers	M
Slow or Rapid Mixers	M
Thickeners	M
Vacuum Filters	M
SCREENS	
Air Washing	U
Rotory-Stone and Gravel	M
Traveling Water Intake	U
SLAB PUSHERS	M
STEERING GEAR	★
STOKERS	U
SUGAR INDUSTRY	
Cane Knives	M*
Crushers	M*
Mills	H*
TEXTILE INDUSTRY	
Batchers	M
Calenders	M
Cards	M
Dry Cans	M
Dryers	M
Dyeing Machinery	M
Knitting Machines	★
Looms	M
Mangles	M
Nappers	M
Range Drives	★
Slashers	M
Soapers	M
Spinners	M
Tenter Frames	M
Washers	M
Winders	M
WINDLASS	★

* Select Service Factor for 24 hours service only.

★ Refer to Application Engineering (1 800 626 2093).

Determine Load Class from the table above. Determine Service Factor from the table on page 454.

Speed, Horsepower, Torque and Overhung Loads

Part No.	Ratio	Gearing	Rating	Revolutions per Minute — Input Shaft**						
				1750	1150	850	690	400	300	100
3HSB1-LR10 3HSB1-SN10 3HSB1-SF10	1:1	Spiral	Output Speed (RPM)	1750	1150	850	690	400	300	100
			Mechanical Horsepower	2.74	2.10	1.72	1.50	1.04	.79	.27
			Thermal Horsepower	2.74	2.10	1.72	1.50	1.04	.79	.27
			Mechanical Output Torque (In.-Lbs.)	99	115	127	137	163	166	170
			Thermal Output Torque (In.-Lbs.)	99	115	127	137	163	166	170
			Maximum Input Overhung Load (Lbs.)	100	100	100	100	101	129	166
			Maximum Output Overhung Load (Lbs.)	153	153	153	153	153	153	153
3HB1-LR10 3HB1-SN10 3HB1-SF10	1:1	Straight	Output Speed (RPM)	1750	1150	850	690	400	300	100
			Mechanical Horsepower	2.48	1.65	1.24	1.05	.73	.55	.18
			Thermal Horsepower	2.48	1.65	1.24	1.05	.73	.55	.18
			Mechanical Output Torque (In.-Lbs.)	89	90	92	96	116	116	116
			Thermal Output Torque (In.-Lbs.)	89	90	92	96	116	116	116
			Maximum Input Overhung Load (Lbs.)	81	100	113	120	130	149	166
			Maximum Output Overhung Load (Lbs.)	153	153	153	153	153	153	153
3HB1-LR15 3HB1-SN15 3HB1-SF15	1.5:1	Straight	Output Speed (RPM)	1166	766	566	460	266	200	66
			Mechanical Horsepower	1.73	1.13	.88	.72	.54	.41	.14
			Thermal Horsepower	1.73	1.13	.88	.72	.54	.41	.14
			Mechanical Output Torque (In.-Lbs.)	93	93	98	99	128	128	128
			Thermal Output Torque (In.-Lbs.)	93	93	98	99	128	128	128
			Maximum Input Overhung Load (Lbs.)	74	92	101	110	113	130	158
			Maximum Output Overhung Load (Lbs.)	153	153	153	153	153	153	153
3HB1-LR20 3HB1-SN20 3HB1-SF20	2:1	Straight	Output Speed (RPM)	875	575	425	345	200	150	50
			Mechanical Horsepower	1.30	.86	.63	.51	.30	.22	.075
			Thermal Horsepower	1.30	.86	.63	.51	.30	.22	.075
			Mechanical Output Torque (In.-Lbs.)	94	94	94	94	94	94	94
			Thermal Output Torque (In.-Lbs.)	94	94	94	94	94	94	94
			Maximum Input Overhung Load (Lbs.)	77	94	108	118	144	157	158
			Maximum Output Overhung Load (Lbs.)	153	153	153	153	153	153	153
6HSB1-LR10 6HSB1-SN10 6HSB1-SF10	1:1	Spiral	Output Speed (RPM)	1750	1150	850	690	400	300	100
			Mechanical Horsepower	20.3	13.7	10.4	8.52	5.08	3.85	1.33
			Thermal Horsepower	13.9*	13.7	10.4	8.52	5.08	3.85	1.33
			Mechanical Output Torque (In.-Lbs.)	731	750	771	778	800	808	838
			Thermal Output Torque (In.-Lbs.)	500	750	771	778	800	808	838
			Maximum Input Overhung Load (Lbs.)	152	152	235	308	516	580	580
			Maximum Output Overhung Load (Lbs.)	500	508	508	508	508	508	508
6HB1-LR10 6HB1-SN10 6HB1-SF10	1:1	Straight	Output Speed (RPM)	1750	1150	850	690	400	300	100
			Mechanical Horsepower	21.8	14.3	10.6	8.58	4.98	3.73	1.24
			Thermal Horsepower	15.2*	14.3	10.6	8.58	4.98	3.73	1.24
			Mechanical Output Torque (In.-Lbs.)	784	784	784	784	784	784	784
			Thermal Output Torque (In.-Lbs.)	547*	784	784	784	784	784	784
			Maximum Input Overhung Load (Lbs.)	549	559	559	559	559	559	559
			Maximum Output Overhung Load (Lbs.)	536	536	536	536	536	536	536
6HB1-LR15 6HB1-SN15 6HB1-SF15	1.4615:1	Straight	Output Speed (RPM)	1197	786	581	472	273	205	68
			Mechanical Horsepower	9.37	6.16	4.55	3.70	2.14	1.61	.54
			Thermal Horsepower	8.00*	6.16	4.55	3.70	2.14	1.61	.54
			Mechanical Output Torque (In.-Lbs.)	492	492	492	492	492	492	492
			Thermal Output Torque (In.-Lbs.)	421	492	492	492	492	492	492
			Maximum Input Overhung Load (Lbs.)	559	559	559	559	559	559	559
			Maximum Output Overhung Load (Lbs.)	536	536	536	536	536	536	536
6HB1-LR18 6HB1-SN18 6HB1-SF18	1.8:1	Straight	Output Speed (RPM)	972	638	472	383	222	166	55
			Mechanical Horsepower	6.38	4.91	3.10	2.52	1.46	1.09	.36
			Thermal Horsepower	6.38	4.91	3.10	2.52	1.46	1.09	.36
			Mechanical Output Torque (In.-Lbs.)	412	412	412	412	412	412	412
			Thermal Output Torque (In.-Lbs.)	412	412	412	412	412	412	412
			Maximum Input Overhung Load (Lbs.)	559	559	559	559	559	559	559
			Maximum Output Overhung Load (Lbs.)	536	536	536	536	536	536	536
9HSB1-LR10 9HSB1-SN10 9HSB1-SF10	1:1	Sprial	Output Speed (RPM)	1750	1150	850	690	400	300	100
			Mechanical Horsepower	20.3	13.7	10.4	8.52	5.08	3.85	1.33
			Thermal Horsepower	13.9*	13.7	10.4	8.52	5.08	3.85	1.33
			Mechanical Output Torque (In.-Lbs.)	731	750	771	778	800	808	838
			Thermal Output Torque (In.-Lbs.)	500*	750	771	778	800	808	838
			Maximum Input Overhung Load (Lbs.)	235	235	335	421	550	550	550
			Maximum Output Overhung Load (Lbs.)	486	486	486	486	486	486	486
9HB1-LR10 9HB1-SN10 9HB1-SF10	1:1	Straight	Output Speed (RPM)	1750	1150	850	690	400	300	100
			Mechanical Horsepower	34.9	22.9	17.0	13.8	7.97	5.98	1.99
			Thermal Horsepower	12.9*	19.1*	17.0	13.8	7.97	5.98	1.99
			Mechanical Output Torque (In.-Lbs.)	1256	1256	1256	1256	1256	1256	1256
			Thermal Output Torque (In.-Lbs.)	465*	1046*	1256	1256	1256	1256	1256
			Maximum Input Overhung Load (Lbs.)	502	550	550	550	550	550	550
			Maximum Output Overhung Load (Lbs.)	486	486	486	486	486	486	486

**The input shaft is the shaft at a right angle to the cross shaft.

*Mechanical rating exceeds thermal rating; do not exceed thermal rating except for very short intermittent periods.

Speed, Horsepower, Torque and Overhung Loads

Part No.	Ratio	Gearing	Rating	Revolutions per Minute — Input Shaft**						
				1750	1150	850	690	400	300	100
9HB1-LR15 9HB1-SN15 9HB1-SF15	1.5:1	Straight	Output Speed (RPM)	1166	766	566	460	266	200	66
			Mechanical Horsepower	10.9	7.16	5.29	4.30	2.49	1.87	.62
			Thermal Horsepower	10.9	7.16	5.29	4.30	2.49	1.87	.62
			Mechanical Output Torque (In.-Lbs.)	588	588	588	588	588	588	588
			Thermal Output Torque (In.-Lbs.)	588	588	588	588	588	588	588
			Maximum Input Overhung Load (Lbs.)	550	550	550	550	550	550	550
			Maximum Output Overhung Load (Lbs.)	486	486	486	486	486	486	486
9HB1-LR20 9HB1-SN20 9HB1-SF20	2:1	Straight	Output Speed (RPM)	875	575	425	345	200	150	50
			Mechanical Horsepower	6.62	4.35	3.22	2.61	1.51	1.14	.38
			Thermal Horsepower	6.62	4.35	3.22	2.61	1.51	1.14	.38
			Mechanical Output Torque (In.-Lbs.)	477	477	477	477	477	477	477
			Thermal Output Torque (In.-Lbs.)	477	477	477	477	477	477	477
			Maximum Input Overhung Load (Lbs.)	550	550	550	550	550	550	550
			Maximum Output Overhung Load (Lbs.)	486	486	486	486	486	486	486
12HSB1-LR10 12HSB1-SN10 12HSB1-SF10	1:1	Spiral	Output Speed (RPM)	1750	1150	850	690	400	300	100
			Mechanical Horsepower	47.1	32.1	24.3	20.0	11.9	9.08	3.14
			Thermal Horsepower	30.6*	30.5*	24.3	20.0	11.9	9.08	3.14
			Mechanical Output Torque (In.-Lbs.)	1696	1759	1801	1826	1875	1907	1979
			Thermal Output Torque (In.-Lbs.)	1102*	1671*	1801	1826	1875	1907	1979
			Maximum Input Overhung Load (Lbs.)	217	217	357	470	821	900	900
			Maximum Output Overhung Load (Lbs.)	697	780	780	780	780	780	780
12HB1-LR10 12HB1-SN10 12HB1-SF10	1:1	Straight	Output Speed (RPM)	1750	1150	850	690	400	300	100
			Mechanical Horsepower	52.6	34.5	25.5	20.7	12.0	9.01	3.00
			Thermal Horsepower	32.2*	29.2*	25.5	20.7	12.0	9.01	3.00
			Mechanical Output Torque (In.-Lbs.)	1891	1891	1891	1891	1891	1891	1891
			Thermal Output Torque (In.-Lbs.)	1160*	1600*	1891	1891	1891	1891	1891
			Maximum Input Overhung Load (Lbs.)	721	900	900	900	900	900	900
			Maximum Output Overhung Load (Lbs.)	748	780	780	780	780	780	780
12HB1-LR15 12HB1-SN15 12HB1-SF15	1.5:1	Straight	Output Speed (RPM)	1166	766	566	460	266	200	66
			Mechanical Horsepower	24.6	16.2	12.0	9.70	5.62	4.22	1.41
			Thermal Horsepower	24.6	16.2	12.0	9.70	5.62	4.22	1.41
			Mechanical Output Torque (In.-Lbs.)	1329	1329	1329	1329	1329	1329	1329
			Thermal Output Torque (In.-Lbs.)	1329	1329	1329	1329	1329	1329	1329
			Maximum Input Overhung Load (Lbs.)	900	900	900	900	900	900	900
			Maximum Output Overhung Load (Lbs.)	780	780	780	780	780	780	780
12HB1-LR20 12HB1-SN20 12HB1-SF20	2:1	Straight	Output Speed (RPM)	875	575	425	345	200	150	50
			Mechanical Horsepower	10.9	7.17	5.30	4.30	2.49	1.87	.62
			Thermal Horsepower	10.9	7.17	5.30	4.30	2.49	1.87	.62
			Mechanical Output Torque (In.-Lbs.)	786	786	786	786	786	786	786
			Thermal Output Torque (In.-Lbs.)	786	786	786	786	786	786	786
			Maximum Input Overhung Load (Lbs.)	900	900	900	900	900	900	900
			Maximum Output Overhung Load (Lbs.)	780	780	780	780	780	780	780
12HB1-LR15-A 12HB1-SN15-A 12HB1-SF15-A	1:1.5 Speed-Up	Straight	Output Speed (RPM)	—	1725	1275	1035	600	450	150
			Mechanical Horsepower	—	15.5	11.5	9.32	5.41	4.05	1.35
			Thermal Horsepower	—	15.5	11.5	9.32	5.41	4.05	1.35
			Mechanical Output Torque (In.-Lbs.)	—	567	567	567	567	567	567
			Thermal Output Torque (In.-Lbs.)	—	567	567	567	567	567	567
			Maximum Input Overhung Load (Lbs.)	—	900	900	900	900	900	900
			Maximum Output Overhung Load (Lbs.)	—	780	780	780	780	780	780
15HSB1-LR10 15HSB1-SN10 15HSB1-SF10	1:1	Spiral	Output Speed (RPM)	1750	1150	850	690	400	300	100
			Mechanical Horsepower	93.0	63.3	48.0	39.5	23.6	18.1	6.30
			Thermal Horsepower	29.4*	38.5*	39.5*	36.8*	23.6	18.1	6.30
			Mechanical Output Torque (In.-Lbs.)	3349	3469	3559	3608	3718	3802	3970
			Thermal Output Torque (In.-Lbs.)	1058*	2110*	2928*	3361*	3718	3802	3970
			Maximum Input Overhung Load (Lbs.)	400	400	419	580	1071	1352	1860
			Maximum Output Overhung Load (Lbs.)	1029	1336	1539	1620	1620	1620	1620
15HB1-LR10 15HB1-SN10 15HB1-SF10	1:1	Straight	Output Speed (RPM)	—	1150	850	690	400	300	100
			Mechanical Horsepower	—	74.8	55.3	44.9	26.0	19.5	6.51
			Thermal Horsepower	—	33.1*	39.4*	40.7*	26.0	19.5	6.51
			Mechanical Output Torque (In.-Lbs.)	—	4101	4101	4101	4101	4101	4101
			Thermal Output Torque (In.-Lbs.)	—	1814*	2921*	3717*	4101	4101	4101
			Maximum Input Overhung Load (Lbs.)	—	1306	1494	1634	1860	1860	1860
			Maximum Output Overhung Load (Lbs.)	—	1374	1604	1620	1620	1620	1620
15HSB1-LR15 15HSB1-SN15 15HSB1-SF15	1.5:1	Spiral	Output Speed (RPM)	1166	766	566	460	266	200	66
			Mechanical Horsepower	68.3	46.4	35.1	28.9	17.3	13.1	4.55
			Thermal Horsepower	34.1*	39.4*	35.1	28.9	17.3	13.1	4.55
			Mechanical Output Torque (In.-Lbs.)	3690	3814	3904	3960	4089	4128	4301
			Thermal Output Torque (In.-Lbs.)	1842*	3239*	3904	3960	4089	4128	4301
			Maximum Input Overhung Load (Lbs.)	1061	1360	1533	1664	1860	1860	1860
			Maximum Output Overhung Load (Lbs.)	1462	1620	1620	1620	1620	1620	1620

**The input shaft is the shaft at a right angle to the cross shaft.

*Mechanical rating exceeds thermal rating; do not exceed thermal rating except for very short intermittent periods.

Speed, Horsepower, Torque and Overhung Loads

Part No.	Ratio	Gearing	Rating	Revolutions per Minute — Input Shaft**						
				1750	1150	850	690	400	300	100
15HB1-LR15 15HB1-SN15 15HB1-SF15	1.5:1	Straight	Output Speed (RPM)	-	766	566	460	266	200	66
			Mechanical Horsepower	-	44.9	33.2	26.2	15.6	11.7	3.90
			Thermal Horsepower	-	44.9	33.2	26.2	15.6	11.7	3.90
			Mechanical Output Torque (In.-Lbs.)	-	3687	3687	3687	3687	3687	3687
			Thermal Output Torque (In.-Lbs.)	-	3687	3687	3687	3687	3687	3687
			Maximum Input Overhung Load (Lbs.)	-	1380	1568	1725	1860	1860	1860
			Maximum Output Overhung Load (Lbs.)	-	1620	1620	1620	1620	1620	1620
15HB1-LR20 15HB1-SN20 15HB1-SF20	2:1	Straight	Output Speed (RPM)	875	575	425	345	200	150	50
			Mechanical Horsepower	58.6	38.5	28.5	23.1	13.4	10.1	3.35
			Thermal Horsepower	22.8*	30.1*	28.5	23.1	13.4	10.1	3.35
			Mechanical Output Torque (In.-Lbs.)	4222	4222	4222	4222	4222	4222	4222
			Thermal Output Torque (In.-Lbs.)	1642*	3299*	4222	4222	4222	4222	4222
			Maximum Input Overhung Load (Lbs.)	1009	1294	1483	1623	1860	1860	1860
			Maximum Output Overhung Load (Lbs.)	1620	1620	1620	1620	1620	1620	1620
15HB1-LR30 15HB1-SN30 15HB1-SF30	3:1	Straight	Output Speed (RPM)	583	383	283	230	133	100	33
			Mechanical Horsepower	20.8	13.7	10.1	8.21	4.76	3.57	1.19
			Thermal Horsepower	20.8	13.7	10.1	8.21	4.76	3.57	1.19
			Mechanical Output Torque (In.-Lbs.)	2251	2251	2251	2251	2251	2251	2251
			Thermal Output Torque (In.-Lbs.)	2251	2251	2251	2251	2251	2251	2251
			Maximum Input Overhung Load (Lbs.)	1356	1614	1803	1860	1860	1860	1860
			Maximum Output Overhung Load (Lbs.)	1620	1620	1620	1620	1620	1620	1620
15HSB1-LR15--A 15HSB1-SN15--A 15HSB1-SF15--A	1:1.5 Speed-Up	Spiral	Output Speed (RPM)	-	1725	1275	1035	600	450	150
			Mechanical Horsepower	-	65.9	50.0	41.2	24.8	18.9	6.59
			Thermal Horsepower	-	39.7*	44.5*	41.2	24.8	18.9	6.59
			Mechanical Output Torque (In.-Lbs.)	-	2408	2472	2509	2605	2647	2769
			Thermal Output Torque (In.-Lbs.)	-	1452*	2200*	2509	2605	2647	2769
			Maximum Input Overhung Load (Lbs.)	-	1579	1757	1860	1860	1860	1860
			Maximum Output Overhung Load (Lbs.)	-	1306	1488	1620	1620	1620	1620
15HB1-LR15-A 15HB1-SN15-A 15HB1-SF15-A	1:1.5 Speed-Up	Straight	Output Speed (RPM)	-	-	1275	1035	600	450	150
			Mechanical Horsepower	-	-	48.6	39.5	22.9	17.2	5.72
			Thermal Horsepower	-	-	34.2*	36.1*	22.9	17.2	5.72
			Mechanical Output Torque (In.-Lbs.)	-	-	2404	2404	2404	2404	2404
			Thermal Output Torque (In.-Lbs.)	-	-	1691*	2198*	2404	2404	2404
			Maximum Input Overhung Load (Lbs.)	-	-	1768	1860	1860	1860	1860
			Maximum Output Overhung Load (Lbs.)	-	-	1514	1620	1620	1620	1620
15HB1-LR20-A 15HB1-SN20-A 15HB1-SF20-A	1:2 Speed-Up	Straight	Output Speed (RPM)	-	-	1700	1380	800	600	200
			Mechanical Horsepower	-	-	38.6	31.4	18.2	13.6	4.54
			Thermal Horsepower	-	-	20.3*	26.2*	18.2	13.6	4.54
			Mechanical Output Torque (In.-Lbs.)	-	-	1433	1433	1433	1433	1433
			Thermal Output Torque (In.-Lbs.)	-	-	753*	1197*	1433	1433	1433
			Maximum Input Overhung Load (Lbs.)	-	-	1860	1860	1860	1860	1860
			Maximum Output Overhung Load (Lbs.)	-	-	1530	1620	1620	1620	1620
18HSB1-LR10 18HSB1-SN10 18HSB1-SF10	1:1	Spiral	Output Speed (RPM)	1750	1150	850	690	400	300	100
			Mechanical Horsepower	135.0	92.3	70.0	57.7	34.6	26.4	9.23
			Thermal Horsepower	18.3*	37.4*	42.8*	44.7*	34.6	26.4	9.23
			Mechanical Output Torque (In.-Lbs.)	4862	5058	5190	5270	5451	5546	5817
			Thermal Output Torque (In.-Lbs.)	659*	2049*	3173*	4083*	5451	5546	5817
			Maximum Input Overhung Load (Lbs.)	600	600	886	1122	1841	2273	2460
			Maximum Output Overhung Load (Lbs.)	1288	1678	1941	2142	2440	2440	2440
18HB1-LR10 18HB1-SN10 18HB1-SF10	1:1	Straight	Output Speed (RPM)	-	-	-	690	400	300	100
			Mechanical Horsepower	-	-	-	65.1	37.7	28.3	9.4
			Thermal Horsepower	-	-	-	42.8*	37.7	28.3	9.4
			Mechanical Output Torque (In.-Lbs.)	-	-	-	5942	5942	5942	5942
			Thermal Output Torque (In.-Lbs.)	-	-	-	3909*	5942	5942	5942
			Maximum Input Overhung Load (Lbs.)	-	-	-	2183	2460	2460	2460
			Maximum Output Overhung Load (Lbs.)	-	-	-	2221	2440	2440	2440
18HB1-LR12 18HB1-SN12 18HB1-SF12	1.2105:1	Straight	Output Speed (RPM)	-	-	699	570	330	247	82.6
			Mechanical Horsepower	-	-	72.5	58.9	34.1	25.6	8.5
			Thermal Horsepower	-	-	28.9*	36.5*	34.1	25.6	8.5
			Mechanical Output Torque (In.-Lbs.)	-	-	6508	6508	6508	6508	6508
			Thermal Output Torque (In.-Lbs.)	-	-	2593*	4035*	6508	6508	6508
			Maximum Input Overhung Load (Lbs.)	-	-	1881	2081	2460	2460	2460
			Maximum Output Overhung Load (Lbs.)	-	-	2213	2440	2440	2440	2440

**The Input Shaft is the Shaft at a Right Angle to the Cross Shaft.

*Mechanical rating exceeds thermal rating; do not exceed thermal rating except for very short intermittent periods.

Speed, Horsepower, Torque and Overhung Loads

Part No.	Ratio	Gearing	Rating	Revolutions per Minute — Input Shaft**						
				1750	1150	850	690	400	300	100
18HB1-LR13 18HB1-SN13 18HB1-SF13	1.3333:1	Straight	Output Speed (RPM)	-	-	637	517	300	225	75
			Mechanical Horsepower	-	-	53.1	43.1	25.0	18.8	6.25
			Thermal Horsepower	-	-	29.5*	33.2*	25.0	18.8	6.25
			Mechanical Output Torque (In.-Lbs.)	-	-	5252	5252	5252	5252	5252
			Thermal Output Torque (In.-Lbs.)	-	-	2909*	4033*	5252	5252	5252
			Maximum Input Overhung Load (Lbs.)	-	-	2121	2321	2460	2460	2460
			Maximum Output Overhung Load (Lbs.)	-	-	2440	2440	2440	2440	2440
18HSB1-LR15 18HSB1-SN15 18HSB1-SF15	1.5:1	Spiral	Output Speed (RPM)	1166	766	566	460	266	200	66.6
			Mechanical Horsepower	68.3	46.4	35.1	28.9	17.3	13.1	4.55
			Thermal Horsepower	12.3*	24.5*	30.7*	28.9	17.3	13.1	4.55
			Mechanical Output Torque (In.-Lbs.)	3690	3814	3904	3960	4089	4128	4301
			Thermal Output Torque (In.-Lbs.)	664*	2104*	3414*	3960	4089	4128	4301
			Maximum Input Overhung Load (Lbs.)	1701	2122	2375	2460	2460	2460	2460
			Maximum Output Overhung Load (Lbs.)	2157	2440	2440	2440	2440	2440	2440
18HB1-LR15 18HB1-SN15 18HB1-SF15	1.5:1	Straight	Output Speed (RPM)	-	766	566	460	266	200	66.6
			Mechanical Horsepower	-	63.5	47.0	38.1	22.1	16.6	5.52
			Thermal Horsepower	-	41.3*	47.0	38.1	22.1	16.6	5.52
			Mechanical Output Torque (In.-Lbs.)	-	5223	5223	5223	5223	5223	5223
			Thermal Output Torque (In.-Lbs.)	-	3399*	5223	5223	5223	5223	5223
			Maximum Input Overhung Load (Lbs.)	-	1874	2142	2342	2460	2460	2460
			Maximum Output Overhung Load (Lbs.)	-	2440	2440	2440	2440	2440	2440
18HB1-LR17 18HB1-SN17 18HB1-SF17	1.7143:1	Straigjt	Output Speed (RPM)	-	766	495	402	233	175	58.3
			Mechanical Horsepower	-	51.8	38.3	31.1	18.0	13.5	4.50
			Thermal Horsepower	-	19.5*	28.8*	31.1	18.0	13.5	4.50
			Mechanical Output Torque (In.-Lbs.)	-	4867	4867	4867	4867	4867	4867
			Thermal Output Torque (In.-Lbs.)	-	1832*	3660*	4867	4867	4867	4867
			Maximum Input Overhung Load (Lbs.)	-	1939	2207	2408	2460	2460	2460
			Maximum Output Overhung Load (Lbs.)	-	2440	2440	2440	2440	2440	2440
18HB1-LR12-A 18HB1-SN12-A 18HB1-SF12-A	1:1.2105 Speed-Up	Straight	Output Speed (RPM)	-	-	-	835	484	363	121
			Mechanical Horsepower	-	-	-	70.2	40.7	30.5	10.2
			Thermal Horsepower	-	-	-	37.5*	40.7	30.5	10.2
			Mechanical Output Torque (In.-Lbs.)	-	-	-	5298	5298	5298	2598
			Thermal Output Torque (In.-Lbs.)	-	-	-	2830*	5298	5298	5298
			Maximum Input Overhung Load (Lbs.)	-	-	-	2267	2460	2460	2460
			Maximum Output Overhung Load (Lbs.)	-	-	-	1959	2440	2440	2440
18HB1-LR13-A 18HB1-SN13-A 18HB1-SF13-A	1:1.3333 Speed-Up	Straight	Output Speed (RPM)	-	-	-	920	533	400	133
			Mechanical Horsepower	-	-	-	56.5	32.7	24.6	8.17
			Thermal Horsepower	-	-	-	44.0*	32.7	24.6	8.17
			Mechanical Output Torque (In.-Lbs.)	-	-	-	3870	3870	3870	3870
			Thermal Output Torque (In.-Lbs.)	-	-	-	3091*	3870	3870	3870
			Maximum Input Overhung Load (Lbs.)	-	-	-	2460	2460	2460	2460
			Maximum Output Overhung Load (Lbs.)	-	-	-	2126	2440	2440	2440
18HSB1-LR15-A 18HSB1-SN15-A 18HSB1-SF15-A	1:1.5 Speed-Up	Spiral	Output Speed (RPM)	-	1725	1275	1035	600	450	150
			Mechanical Horsepower	-	65.9	50.0	41.2	24.8	18.9	6.59
			Thermal Horsepower	-	20.2*	31.5*	41.2	24.8	18.9	6.59
			Mechanical Output Torque (In.-Lbs.)	-	2408	2472	2509	2605	2647	2769
			Thermal Output Torque (In.-Lbs.)	-	738*	1557*	2509	2605	2647	2769
			Maximum Input Overhung Load (Lbs.)	-	2330	2460	2460	2460	2460	2460
			Maximum Output Overhung Load (Lbs.)	-	1923	2163	2343	2440	2440	2440
18HB1-LR15-A 18HB1-SN15-A 18HB1-SF15-A	1:1.5 Speed-Up	Straight	Output Speed (RPM)	-	-	-	1035	600	450	150
			Mechanical Horsepower	-	-	-	55.9	32.4	24.3	8.10
			Thermal Horsepower	-	-	-	33.3*	32.4	24.3	8.10
			Mechanical Output Torque (In.-Lbs.)	-	-	-	3405	3405	3405	3405
			Thermal Output Torque (In.-Lbs.)	-	-	-	2027*	3405	3405	3405
			Maximum Input Overhung Load (Lbs.)	-	-	-	2460	2460	2460	2460
			Maximum Output Overhung Load (Lbs.)	-	-	-	2071	2440	2440	2440
18HB1-LR17-A 18HB1-SN17-A 18HB1-SF17-A	1:1.7143 Speed-Up	Straight	Output Speed (RPM)	-	-	-	1182	685	514	171
			Mechanical Horsepower	-	-	-	37.1	21.5	16.1	5.36
			Thermal Horsepower	-	-	-	36.8*	21.5	16.1	5.36
			Mechanical Output Torque (In.-Lbs.)	-	-	-	1974	1974	1974	1974
			Thermal Output Torque (In.-Lbs.)	-	-	-	1961*	1974	1974	1974
			Maximum Input Overhung Load (Lbs.)	-	-	-	2460	2460	2460	2460
			Maximum Output Overhung Load (Lbs.)	-	-	-	2322	2440	2440	2440

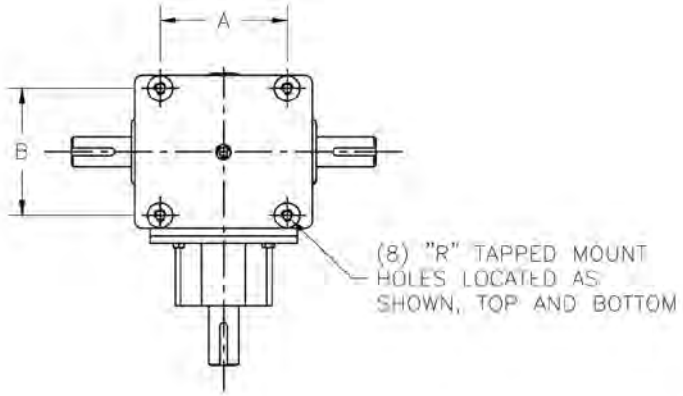
**The Input Shaft is the Shaft at a Right Angle to the Cross Shaft.

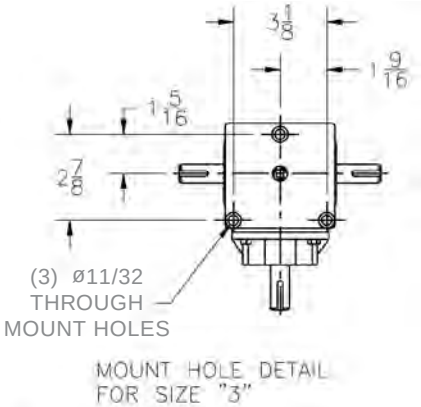
*Mechanical rating exceeds thermal rating; do not exceed thermal rating except for very short intermittent periods.

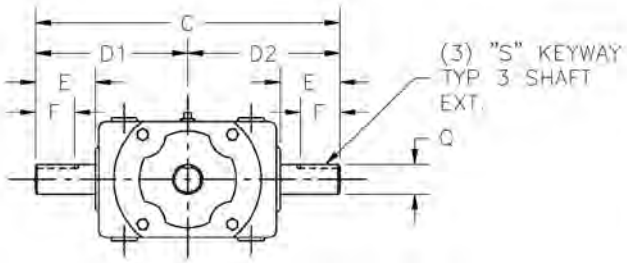


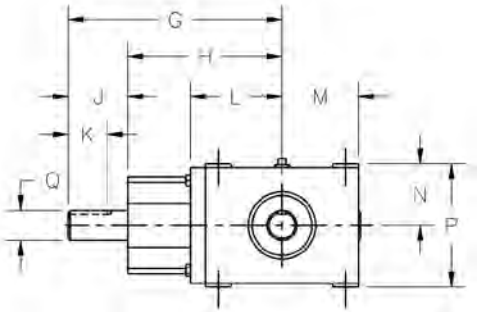


Cast Iron Housing Hardened Gears









Specifications

Size No.	Wt. Lbs.	Dimensions							
		A	B	C	D_1	D_2	E	F	G
3	10	▲	▲	7 1/2"	3 3/4"	3 3/4"	1 1/2"	7/8"	4 9/16"
6	23	4 3/8"	2 3/4"	9 3/32	4 35/64	4 35/64	1 5/8	7/8	6 1/8
9	28	4 1/4	4 1/4	10 3/16	5 3/32	5 3/32	2	1 5/16	7 5/32
12	48	4 1/2	4 1/2	12 1/4	6 1/8	6 1/8	2 3/8	1 5/8	8 15/32
15	105	6 1/2	6 1/2	15 13/16	7 29/32	7 29/32	3	2 1/8	10 7/8
18	125	6 1/2	6 1/2	16 3/32	8 3/64	8 3/64	3	2 1/8	11 15/32

Size No.	Dimensions								Tap Size	Tap Depth	Keyway
	H	J	K	L	M	N	P	Q ✱	R		S
3	3 1/16"	1 1/2"	7/8"	2 13/64"	1 11/16"	1 19/32"	3 3/16"	.625"	-	-	3/16" x 3/32"
6	4 3/8	1 3/4	1	2 15/16	2 1/16	2 1/8	4 1/4	1.000	3/8-16NC	.56	1/4 x 1/8
9	5 5/32	2	1 5/16	3 1/16	2 9/16	2 1/16	4 1/8	1.000	3/8-16NC	.56	1/4 x 1/8
12	5 31/32	2 1/2	1 5/8	3 31/32	2 7/8	2 13/16	5 5/8	1.250	1/2-13NC	.88	1/4 x 1/8
15	7 7/8	3	2 1/8	4 17/32	3 27/32	4 3/32	8 3/16	1.375	1/2-13NC	.88	5/16 x 5/32
18	8 15/32	3	2 1/8	4 27/32	3 27/32	4 3/32	8 3/16	1.500	1/2-13NC	.88	3/8 x 3/16

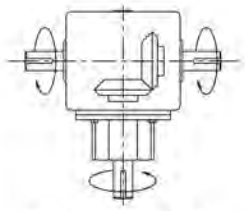
▲ **See Mount Hole Detail Drawing for 3HSB1.**

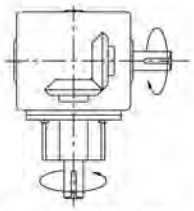
✱ **Shaft Tolerances are: +.000 to -.001".**

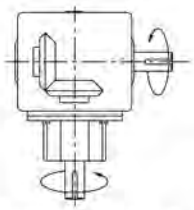
Select Part No. from the table and Figures 1-6 on page 461.

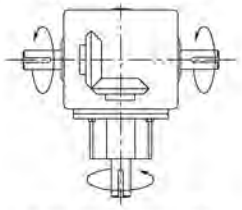
Note — If gear box is to be mounted with either shaft vertical, provision must be made to lubricate the top bearings. Contact the Application Engineering (1 800 626 2093).

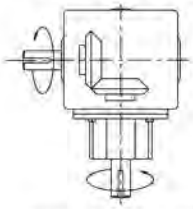
Note — In order to obtain maximum reducer life, all applications applying axial force on the input shaft of these reducers should be referred to Application Engineering.

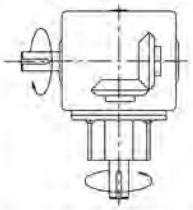

FIG. 1-TYPE LR


FIG. 3-TYPE SN


FIG. 5-TYPE SF


FIG. 2-TYPE LR


FIG. 4-TYPE SN


FIG. 6-TYPE SF

Ratios, Types and Part Numbers

Ratio	Fig.	Type	Part No.
Size No. 3			
1:1 Sprial	1 and 2 3 and 4 5 and 6	LR SN SF	3HSB1-LR10 3HSB1-SN10 3HSB1-SF10
1:1 Straight	1 and 2 3 and 4 5 and 6	LR SN SF	3HB1-LR10 3HB1-SN10 3HB1-SF10
1.5:1 Straight	1 and 2 3 and 4 5 and 6	LR SN SF	3HB1-LR15 3HB1-SN15 3HB1-SF15
2:1 Straight	1 and 2 3 and 4 5 and 6	LR SN SF	3HB1-LR20 3HB1-SN20 3HB1-SF20
Size No. 6			
1:1 Spiral	1 and 2 3 and 4 5 and 6	LR SN SF	6HSB1-LR10 6HSB1-SN10 6HSB1-SF10
1:1 Straight	1 and 2 3 and 4 5 and 6	LR SN SF	6HB1-LR10 6HB1-SN10 6HB1-SF10
1.4615:1 Straight	1 and 2 3 and 4 5 and 6	LR SN SF	6HB1-LR15 6HB1-SN15 6HB1-SF15
1.8:1 Straight	1 and 2 3 and 4 5 and 6	LR SN SF	6HB1-LR18 6HB1-SN18 6HB1-SF18
Size No. 9			
1:1 Spiral	1 and 2 3 and 4 5 and 6	LR SN SF	9HSB1-LR10 9HSB1-SN10 9HSB1-SF10
1:1 Straight	1 and 2 3 and 4 5 and 6	LR SN SF	9HB1-LR10 9HB1-SN10 9HB1-SF10
1.5:1 Straight	1 and 2 3 and 4 5 and 6	LR SN SF	9HB1-LR15 9HB1-SN15 9HB1-SF15
2:1 Straight	1 and 2 3 and 4 5 and 6	LR SN SF	9HB1-LR20 9HB1-SN20 9HB1-SF20
Size No. 12			
1:1 Spiral	1 and 2 3 and 4 5 and 6	LR SN SF	12HSB1-LR10 12HSB1-SN10 12HSB1-SF10
1:1 Straight	1 and 2 3 and 4 5 and 6	LR SN SF	12HB1-LR10 12HB1-SN10 12HB1-SF10
1.5:1 Straight	1 and 2 3 and 4 5 and 6	LR SN SF	12HB1-LR15 12HB1-SN15 12HB1-SF15
2:1 Straight	1 and 2 3 and 4 5 and 6	LR SN SF	12HB1-LR20 12HB1-SN20 12HB1-SF20
1:1.5 Straight (Speed-Up)	1 and 2 3 and 4 5 and 6	LR SN SF	12HB1-LR15-A 12HB1-SN15-A 12HB1-SF15-A
Size No. 15			
1:1 Spiral	1 and 2 3 and 4 5 and 6	LR SN SF	15HSB1-LR10 15HSB1-SN10 15HSB1-SF10
1:1 Straight	1 and 2 3 and 4 5 and 6	LR SN SF	15HB1-LR10 15HB1-SN10 15HB1-SF10
1.5:1 Spiral	1 and 2 3 and 4 5 and 6	LR SN SF	15HSB1-LR15 15HSB1-SN15 15HSB1-SF15
1.5:1 Straight	1 and 2 3 and 4 5 and 6	LR SN SF	15HB1-LR15 15HB1-SN15 15HB1-SF15
2:1 Straight	1 and 2 3 and 4 5 and 6	LR SN SF	15HB1-LR20 15HB1-SN20 15HB1-SF20
3:1 Straight	1 and 2 3 and 4 5 and 6	LR SN SF	15HB1-LR30 15HB1-SN30 15HB1-SF30
1:1.5 Spiral (Speed-Up)	1 and 2 3 and 4 5 and 6	LR SN SF	15HSB1-LR15-A 15HSB1-SN15-A 15HSB1-SF15-A
1:1.5 Straight (Speed-Up)	1 and 2 3 and 4 5 and 6	LR SN SF	15HB1-LR15-A 15HB1-SN15-A 15HB1-SF15-A
1:2 Straight (Speed-Up)	1 and 2 3 and 4 5 and 6	LR SN SF	15HB1-LR20-A 15HB1-SN20-A 15HB1-SF20-A
Size No. 18			
1:1 Spiral	1 and 2 3 and 4 5 and 6	LR SN SF	18HSB1-LR10 18HSB1-SN10 18HSB1-SF10
1:1 Straight	1 and 2 3 and 4 5 and 6	LR SN SF	18HB1-LR10 18HB1-SN10 18HB1-SF10
1.2105:1 Straight	1 and 2 3 and 4 5 and 6	LR SN SF	18HB1-LR12 18HB1-SN12 18HB1-SF12
1.3333:1 Straight	1 and 2 3 and 4 5 and 6	LR SN SF	18HB1-LR13 18HB1-SN13 18HB1-SF13
1.5:1 Spiral	1 and 2 3 and 4 5 and 6	LR SN SF	18HSB1-LR15 18HSB1-SN15 18HSB1-SF15
1.5:1 Straight	1 and 2 3 and 4 5 and 6	LR SN SF	18HB1-LR15 18HB1-SN15 18HB1-SF15
1.7131:1 Straight	1 and 2 3 and 4 5 and 6	LR SN SF	18HB1-LR17 18HB1-SN17 18HB1-SF17
1:1.2105 Straight (Speed-Up)	1 and 2 3 and 4 5 and 6	LR SN SF	18HB1-LR12-A 18HB1-SN12-A 18HB1-SF12-A
1:1.3333 Straight (Speed-Up)	1 and 2 3 and 4 5 and 6	LR SN SF	18HB1-LR13-A 18HB1-SN13-A 18HB1-SF13-A
1:1.5 Spiral (Speed-Up)	1 and 2 3 and 4 5 and 6	LR SN SF	18HSB1-LR15-A 18HSB1-SN15-A 18HSB1-SF15-A
1:1.5 Straight (Speed-Up)	1 and 2 3 and 4 5 and 6	LR SN SF	18HB1-LR15-A 18HB1-SN15-A 18HB1-SF15-A
1:1.7143 Straight (Speed-Up)	1 and 2 3 and 4 5 and 6	LR SN SF	18HB1-LR17-A 18HB1-SN17-A 18HB1-SF17-A

Determine the size reducer and ratio needed from Engineering Data on pages 456 to 459. Then from the sketches above determine the Type needed for the desired shaft extension and rotation. Then from the table above, determine the Reducer Part Number. Example: For a Size 12, 2:1 Ratio Reducer with single output left and output to rotate CCW when input rotates CW (looking at the shaft ends) note from Fig. 4 that a Type SN is needed and from the table the Part Number is 12HB1-SN20.

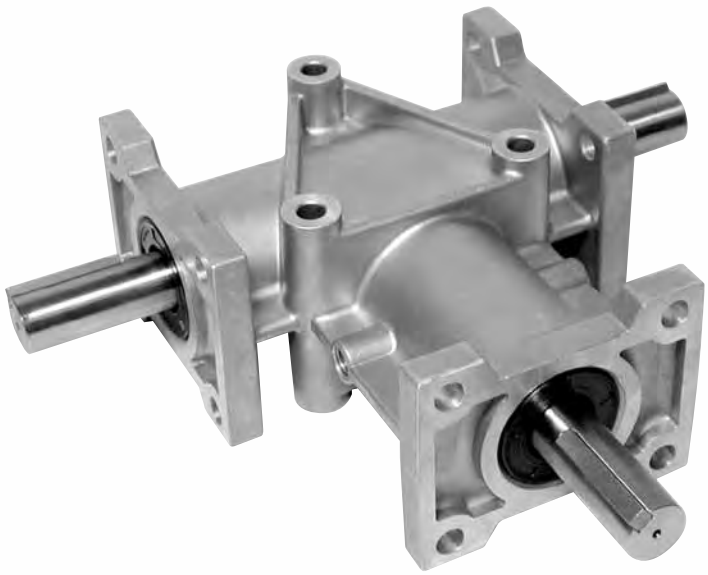

1
3
4
2



Browning®

ARA Aluminum Right Angle Bevel

1. Light weight, corrosion resistant aluminum housings.
2. Double sealed bearings for long life.
3. Alloy steel case hardened spiral bevel gears provide quiet operation.
4. Corrosion resistant stainless steel shafts.
5. Grease filled from the factory.



- 3 Sizes
- Spiral bevel gears
- Ratios 1:1 or 2:1
- Torque ratings from 17 to 157 in.-lbs.

Selection and Rating Information

Selection Example

A 3/4 hp, 1750 rpm electric motor is to drive a uniformly fed belt conveyor 16 hours per day. The output drive is a V-belt drive with a 3.4" P.D. driver sheave mounted on the gear box output shaft. Gear box input rotates clockwise and output rotates counter clockwise with output on the right side of the gear box. Gear box ratio is 1:1.

1. **Determine the Service Factor.**

   From the table on page 455, note that the load class for uniformly fed conveyor is “U”. From the table on page 454, note that the service factor is 1.25 for class “U” load 16 hours per day.

2. **Determine the Normal Horsepower.**

   Multiply the motor hp by the service factor

   3/4 x 1.25 = .9375 Normal hp

3. **Select the Aluminum Right Angle Gear Box.**

   Refer to the table at the right and read down the input rpm column to 1750, then read to the right to an input hp equal to or greater than the .9375 determined in Step 2, which in this case is 1.85 hp. Reading upward note that the gear box is 5ARA2. (This is the Basic Part Number and must be completed later.)

4. **Check the Overhung Load.**

   Solve the overhung load formula from this page.

$$OL = \frac{2TK}{D}$$

$$T = \frac{63025 \times hp}{rpm}$$

$$= \frac{63025 \times 3/4}{1750}$$

$$= 27 \text{ in lbs.}$$

$K = 1.50$

$D = 3.4$

$$OL = \frac{2 \times 27 \times 1.50}{3.4} = 23.8$$

Since this is less than the overhung load capacity from the bottom table on the right, the 5ARA2 gear box meets the requirements of the application.

6. **Complete the Gear Box Part Number.**

   Refer to the type sketch on page 465 and note that a Type SN gear box is needed for output right with input rotating Clockwise and output rotating Counter-Clockwise (Fig. 5).

   Find the Basic Part No. 5ARA2 in the table on page 465, and reading to the right note that the complete part number for a Type SN Gear Box with 1:1 ratio is **5ARA2-SN10**.

Note: If a chain drive or the other drive has been specified for either or both input or output shafts, the overhung loads would have to be checked from the formula above and from the table at right.

CAUTION — Install guards according to applicable local and national codes for rotating shafts.

Input hp and Output Torque

Basic Part No.			3ARA2		5ARA2		6ARA2	
Input RPM	Ratio	Output RPM	Input H.P.	Output Torque In.-Lbs.	Input H.P.	Output Torque In.-Lbs.	Input H.P.	Output Torque In.-Lbs.
3600	1:1	3600	1.60	28	3.60	63	7.80	136
3600	2:1	1800	.48	17	1.95	68	3.25	112
2800	1:1	2800	1.25	28	2.85	64	6.20	139
2800	2:1	1400	.38	17	1.55	69	2.55	114
1750	1:1	1750	.80	29	1.85	66	4.00	143
1750	2:1	875	.24	17	.98	70	1.65	118
1150	1:1	1150	.53	29	1.22	67	2.70	147
1150	2:1	575	.16	17	.65	71	1.09	119
850	1:1	850	.40	30	.90	67	2.00	148
850	2:1	425	.12	17	.48	71	.80	119
690	1:1	690	.33	30	.75	68	1.65	150
690	2:1	345	.10	18	.40	73	.65	119
400	1:1	400	.20	31	.45	71	.96	151
400	2:1	200	.06	18	.24	75	.40	125
200	1:1	200	.10	32	.23	72	.50	157
200	2:1	100	.03	18	.12	74	.20	125
100	1:1	100	.05	34	.12	75	.25	157
100	2:1	50	.01	19	.06	76	.10	125

Overhung Loads

When a gear box is driven by any belt, chain, or gear drive, or when the gear box drives a driven unit through a belt, chain or gear drive, overhung loads must not exceed those shown in the table below. Use the following formula to calculate the overhung load.

$$OL = \frac{2TK}{D}$$

Where:

OL = Overhung Load (pounds)

T = Actual Shaft Torque (Inch-Pounds)

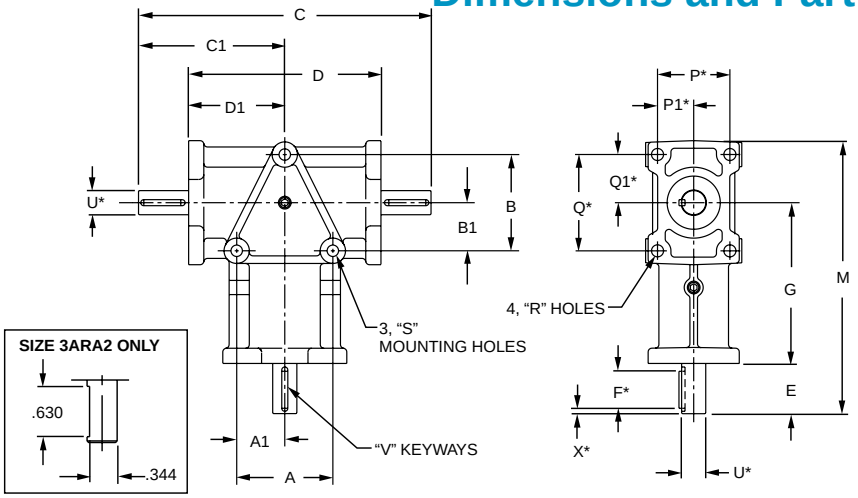
D = P.D. of Sprocket, Sheave, Pulley or Gear

K = 1.0 for Chain Drives
1.25 for Gear Drives
1.25 for Gearbelt Drives
1.50 for V-Belt Drives
2.50 for Flat Belt Drives

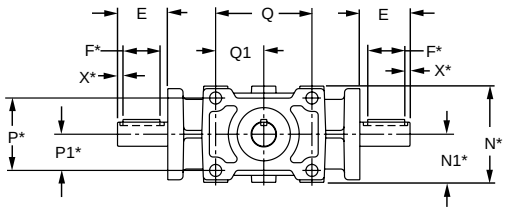
No overhung loads are encountered when the gear box is coupling connected to the driver and/or driven machine. However, care should be taken in aligning the shafts to avoid pre-loading bearings by misalignment.

Gear Box	Max. Overhung Load
3ARA2	25 Lbs.
5ARA2	50 Lbs.
6ARA2	100 Lbs.

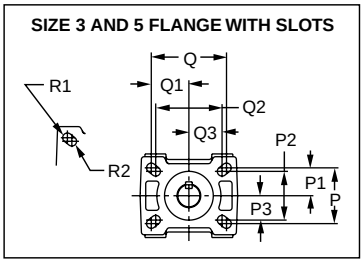
Dimensions and Part Numbers







* TYPICAL DIMENSIONS, ALL 3 SHAFTS AND FLANGES

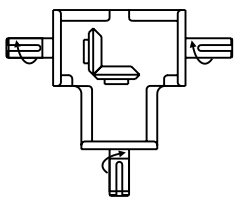


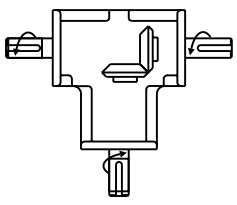
Specifications

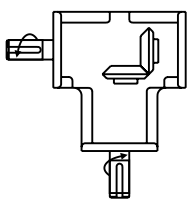
Basic ★ Part No.	Wt. Lbs.	A	A_1	B	B_1	C	C_1	D	D_1	E	F	G	M	N	N_1
3ARA2	.8	1.326	.663	1.326	.663	4.310	2.155	2.756	1.378	.780	-	2.165	3.890	1.575	.7875
5ARA2	3.5	1.890	.945	1.890	.945	7.370	3.685	4.250	2.125	1.560	1.150	3.250	6.180	2.362	1.181
6ARA2	7.5	2.992	1.496	2.992	1.496	9.100	4.550	5.984	2.992	1.560	1.150	5.000	8.480	2.992	1.496

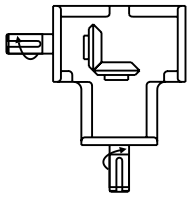
Basic ★ Part No.	P	P_1	P_2	P_3	Q	Q_1	Q_2	Q_3	R	R_1	R_2	S	U	V	X
3ARA2	1.100	.550	.880	.440	1.500	.750	1.190	.595	-	.108	.094	.230	.375	-	-
5ARA2	1.570	.785	1.380	.690	2.130	1.065	1.880	.940	-	.130	.130	.270	.625	.187 x .093	.160
6ARA2	2.250	1.125	-	-	3.000	1.500	-	-	.370	-	-	.350	.750	.187 x .093	.160

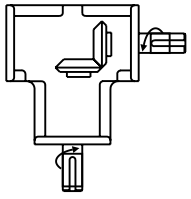
★ Basic Part No. means — 3 = 3/8" Shaft, 5 = 5/8" Shaft, 6 = 6/8 or 3/4" Shaft
ARA = Aluminum Right Angle
2 = Input shaft one end only.
Select Complete Part No. from the table below after determining the ratio, type and relative shaft rotation from Figs. 1-6 below.

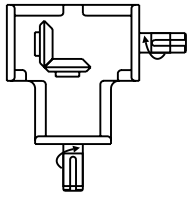

Fig. 1-Type LR


Fig. 2-Type LR


Fig. 3-Type SF


Fig. 4-Type SN


Fig. 5-Type SN

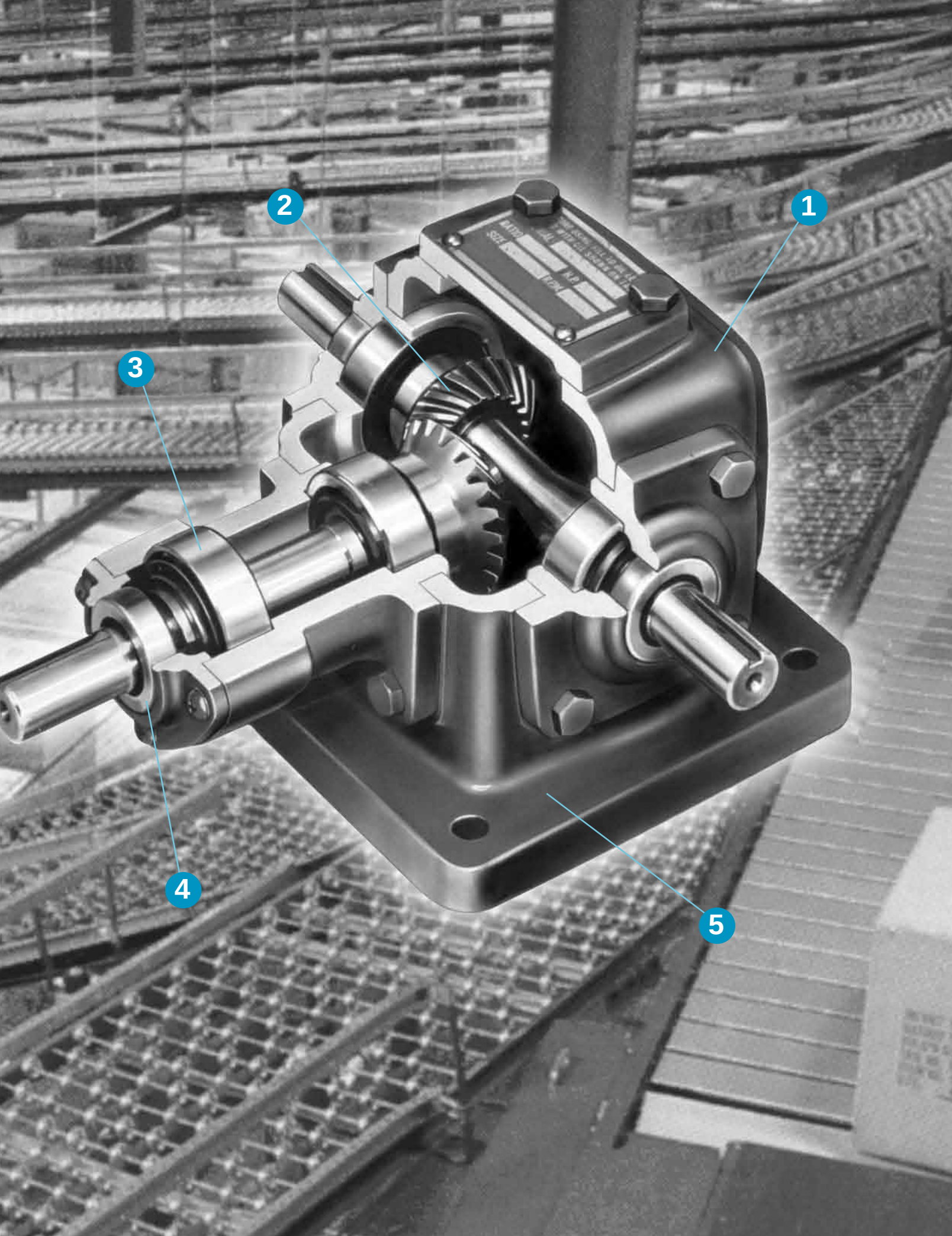

Fig. 6-Type SF

Part Numbers, Types and Ratios

Basic Part No.	Fig.	Type▲	Ratio■	Part No.
3ARA2	1 and 2	LR	1:1	3ARA2 - LR10
	1 and 2	LR	2:1	3ARA2 - LR20
	3 and 6	SF	1:1	3ARA2 - SF10
	3 and 6	SF	2:1	3ARA2 - SF20
	4 and 5	SN	1:1	3ARA2 - SN10
	4 and 5	SN	2:1	3ARA2 - SN20
5ARA2	1 and 2	LR	1:1	5ARA2 - LR10
	1 and 2	LR	2:1	5ARA2 - LR20
	3 and 6	SF	1:1	5ARA2 - SF10
	3 and 6	SF	2:1	5ARA2 - SF20
	4 and 5	SN	1:1	5ARA2 - SN10
	4 and 5	SN	2:1	5ARA2 - SN20
6ARA2	1 and 2	LR	1:1	6ARA2 - LR10
	1 and 2	LR	2:1	6ARA2 - LR20
	3 and 6	SF	1:1	6ARA2 - SF10
	3 and 6	SF	2:1	6ARA2 - SF20
	4 and 5	SN	1:1	6ARA2 - SN10
	4 and 5	SN	2:1	6ARA2 - SN20

▲ LR means output shaft extension left and right sides, SF means single output extension with gear mounted on far side from extension, and SN means single output extension with gear mounted on side near to extension.

■ 10 = 1:1 Ratio, 20 = 2:1 Ratio


1
2
3
4
5



M Series Spiral Bevel



1. Corrosion resistant aluminum and rugged cast iron housings are line bored for precise gear and bearing alignment.
2. Carburized, lapped and matched AGMA rated spiral bevel gears provide long life and quiet operation.
3. Commercially available tapered roller bearings provide maximum catalog load capacity.
4. Double lip contact oil seals ride on hardened plunge ground shafts.
5. Integral machined base provides a precision mounting surface for critical shaft alignment.

Overload Service Factors

Load and operating characteristics of both driver and driven units must be considered thoroughly when selecting Morse spiral gear boxes. It is essential that all gear boxes be selected for maximum load conditions to be encountered. Morse bevel gear boxes will safely transmit momentary starting loads as great as 200% of the mechanical input ratings.

First determine the load classification of the driven unit from the table on page 469. Then from the table below, select an overload service factor for this classification, for duration of service to be involved and for the type of prime mover to be used.

Prime Mover	Duration of Service	Driven Machine Load Classification		
		U Uniform	M Moderate Shock	H Heavy Shock
Electric Motor	Occasional - 1/2 hour per day	0.50	0.80	1.25
	Intermittent - 3 hours per day	0.80	1.00	1.50
	Up to 10 hours per day	1.00	1.25	1.75
	24 hours per day	1.25	1.50	2.00
Multi-Cylinder Internal Combustion Engine	Occasional - 1/2 hour per day	0.80	1.00	1.50
	Intermittent - 3 hours per day	1.00	1.25	1.75
	Up to 10 hours per day	1.25	1.50	2.00
	24 hours per day	1.50	1.75	2.25
Single Cylinder Internal Combustion Engine	Occasional - 1/2 hour per day	1.00	1.25	1.75
	Intermittent - 3 hours per day	1.25	1.50	2.00
	Up to 10 hours per day	1.50	1.75	2.25
	24 hours per day	1.75	2.00	2.50

Overhung Loads

When a gear box is driven by any belt, chain, or gear drive, or when the gear box drives a driven unit through a belt, chain or gear drive, overhung loads must not exceed those shown in the tables on page 470. Use the following formula to calculate the overhung load.

$$OL = \frac{2TK}{D}$$

Where:

OL = Overhung load (pounds)
T = Actual shaft torque (inch-pounds)
D = P.D. of sprocket, sheave, pulley or gear
K = 1.0 for chain drives
1.25 for gear drives
1.25 for gearbelt drives
1.50 for v-belt drives

No overhung loads are encountered when the gear box is coupling connected to the driver and/or driven machine. However, care should be taken in aligning the shafts to avoid pre-loading bearings by misalignment.

Selection Example

A right angle gear box is needed for a line shaft driving processing machinery which requires 1744 inch-pounds torque and will operate about 10 hours per day. This line shaft will be coupling connected at a right angle to an existing line shaft which is driven by an 1150 rpm electric motor. Existing line shaft is 1 7/16" diameter and the new line shaft is 1 3/16" diameter. Unit will be floor mounted with the output shaft to the left. Shafts to rotate clockwise.

1. **Determine the Load Classification of the driven unit.**

   From page 469, the load class for a line shaft driving processing machinery is “M”.

2. **Determine the Overload Service Factor.**

   From the table at the left, the service factor for a moderate shock (M) load driven by an electric motor 10 hours per day is 1.25.

3. **Determine the Normal Torque (or the Normal hp)**.

   Multiply the required torque by the service factor:

   1744 x 1.25 =2180 normal torque

4. **Select the Gear Box**.

   From page 470 under the 1150 rpm column, select a gear box which has a mechanical rating of 2180, or slightly greater, which in this case is 2187 and the gear box is an 8M. Check to see that the horsepower rating of the selected unit is not thermally limited. In this selection there is not a thermal limitation.

5. **Select the Couplings Required.**

   Note: If a chain drive or the other drive has been specified for either or both input or output shafts, the overhung loads would have to be checked from the formula above and from the table on page 470.

6. **List Components**

   1. 8M 1:1 1-L-O spiral bevel gear box

   See page 472-473 for shaft arrangements and mounting positions.

CAUTION—Install guards according to applicable local and national codes for rotating shafts.

Load Classifications — Typical Applications

Application	Load Class
AGITATORS	
Pure Liquids	U
Liquids and Solids	M
Liquids — Variable Density	M
BLOWERS	
Centrifugal	U
Lobe	M
Vane	U
BREWING AND DISTILLING	
Bottling Machinery	U
Brew Kettles, Continuous Duty	U
Cookers, Continuous Duty	U
Mash Tubs, Continuous Duty	U
Scale Hopper, Frequent Starts	M
CAN FILLING MACHINES	U
CANE KNIVES	M*
CAR DUMPERS	H
CAR PULLERS	M
CLARIFIERS	U
CLASSIFIERS	M
CLAY WORKING MACHINERY	
Brick Press	H
Briquette Machine	H
Clay Working Machinery	M
Pub Mill	M
COMPRESSORS	
Centrifugal	U
Lobe	M
Reciprocating, Multi-Cylinder	M
Reciprocating, Single Cylinder	H
CONVEYORS—UNIFORMLY LOADED OR FED	
Apron	U
Assembly	U
Belt	U
Bucket	U
Chain	U
Flight	U
Oven	U
Screw	U
CONVEYORS—HEAVY DUTY NOT	
UNIFORMLY FED	
Apron	M
Assembly	M
Belt	M
Bucket	M
Chain	M
Flight	M
Live Roll	★
Oven	M
Reciprocating	H
Screw	M
Shaker	H
CRANES	
Main Hoists	U
Bridge	★
Trolley Travel	★
CRUSHER	
Ore	H
Stone	H
Sugar	M*
DREDGES	
Cable Reels	M
Conveyors	M
Cutter Head Drives	H
Jig Drives	H
Maneuvering Winches	M
Pumps	M
Screen Drive	H
Stackers	M
Utility Winches	M
ELEVATORS	
Bucket—Uniform Load	U
Bucket—Heavy Load	M
Bucket—Continuous	U
Centrifugal Discharge	U
Escalators	U
Freight	M
Gravity Discharge	U
Man Lifts	★
Passenger	★
EXTRUDERS (Plastic)	
Film	U
Sheet	U
Coating	U
Rods	U
EXTRUDERS (Plastic)—Continued	
Pipe	U
Tubing	U
Blow Molders	M
Pre-plasticizers	M
FANS	
Centrifugal	U
Cooling Towers—Induced Draft	★
Forced Draft	U*
Induced Draft	M
Large (Mine, etc.)	M
Large (Industrial)	M
Light (Small Diameter)	U
FEEDERS	
Apron	M
Belt	M
Disc	U
Reciprocating	H
Screw	M
FOOD INDUSTRY	
Beet Slicers	M
Cereal Cookers	U
Dough Mixers	M
Meat Grinders	M
GENERATORS — (Not Welding)	U
HAMMER MILLS	H
HOISTS	
Heavy Duty	H
Medium Duty	M
Skip Hoist	M
LAUNDRY WASHERS	
Reversing	M
LAUNDRY TUMBLERS	M
LINE SHAFTS	
Driving Processing Equipment	M
Light	U
Other Line Shafts	U
LUMBER INDUSTRY (See Table 3, Page 5)	
MACHINE TOOLS	
Bending Roll	M
Punch Press—Gear Driven	H
Notching Press—Belt Driven	★
Plate Planers	H
Tapping Machine	H
Other Machine Tools	
Main Drives	M
Auxiliary Drives	U
METAL MILLS	
Draw Bench Carriage and Main Drive	M
Pinch, Dryer and Scrubber Rolls, Reversing	★
Slitters	M
Table Conveyors	
Non-Reversing	
Group Drives	M
Individual Drives	H
Reversing	★
Wire Drawing and Flattening Machines	M
Wire Winding Machines	M
MILLS, ROTARY TYPE	
Ball	M*
Cement Kilns	M*
Dryers and Coolers	M*
Kilns	M
Pebble	M*
Rod, Plain and Wedge Bar	M*
Tumbling Barrels	H
MIXERS	
Concrete, Continuous	M
Concrete, Intermittent	M
Constant Density	U
Variable Density	M
OIL INDUSTRY	
Chillers	M
Oil Well Pumping	★
Paraffin Filter Presses	M
Rotary Kilns	M
PAPER MILLS	
Agitators (Mixers)	M
Barker—Auxiliaries—Hydraulic	M
Barker—Mechanical	M
Barking Drum	H
Beater and Pulper	M
Bleacher	U
Calenders	M
PAPER MILLS—Continued	
Calendars—Super	H
Converting Machine, Except Cutters, Platers	M
Conveyors	U
Couch	M
Cutters—Platers	H
Cylinders	M
Dryers	M
Felt Stretchers	M
Felt Whippers	H
Jordons	H
Log Haul	H
Presses	U
Pulp Machine Reel	M
Stock Chests	M
Suction Roll	U
Washers and Thickeners	M
Winders	U
PRINTING PRESSES	★
PULLERS	
Barge Haul	H
PUMPS	
Centrifugal	U
Proportioning	M
Reciprocating	
Single Acting, 3 or more cylinders	M
Double Acting, 2 or more cylinders	M
Single Acting, 1 or 2 cylinders	★
Double Acting, Single cylinder	★
Rotory—Gear Type	U
—Lobe, Vane	U
RUBBER AND PLASTIC INDUSTRIES	
Crackers	H*
Laboratory Equipment	M
Mixing Mills	H*
Refiners	M*
Rubber Calenders	M*
Rubber Mill (2 on line)	M*
Rubber Mill (3 on line)	U*
Sheeter	M*
Tire Building Machines	★
Tire and Tube Press Openers	★
Tubers and Strainers	M*
Warming Mills	M*
SAND MULLER	M
SEWAGE DISPOSAL EQUIPMENT	
Bar Screens	U
Chemical Feeders	U
Collectors	U
Dewatering Screens	M
Scum Breakers	M
Slow or Rapid Mixers	M
Thickeners	M
Vacuum Filters	M
SCREENS	
Air Washing	U
Rotory—Stone and Gravel	M
Traveling Water Intake	U
SLAB PUSHERS	M
STEERING GEAR	★
STOKERS	U
SUGAR INDUSTRY	
Cane Knives	M*
Crushers	M*
Mills	H*
TEXTILE INDUSTRY	
Batchers	M
Calenders	M
Cards	M
Dry Cans	M
Dryers	M
Dyeing Machinery	M
Knitting Machines	★
Looms	M
Mangles	M
Nappers	M
Range Drives	★
Slashers	M
Soapers	M
Spinners	M
Tenter Frames	M
Washers	M
Winders	M
WINDLASS	★

* Select Service Factor for 24 hours service only.

★ Refer to Application Engineering (1 800 626 2093).

Determine load class from the table above. Determine service factor from the table on page 468.

Speed, Horsepower, Torque and Overhung Loads

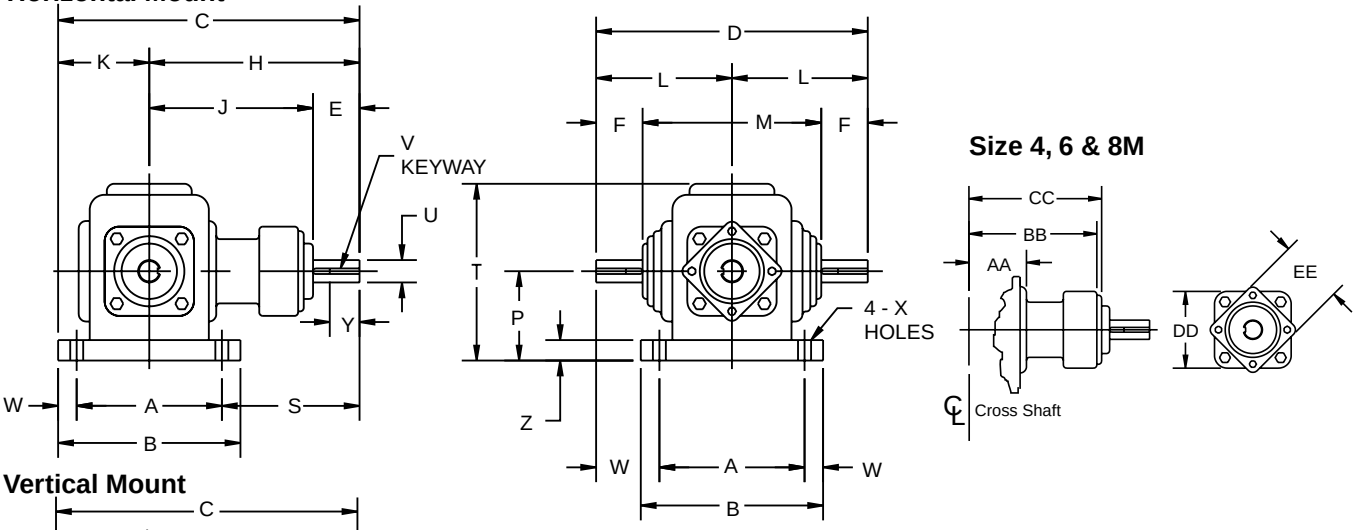
Input Speed	3600 RPM		2700 RPM	1900 RPM	1750 RPM				1460 RPM			
Unit Size	4M	6M	8M	12M	4M	6M	8M	12M	4M	6M	8M	12M
Horsepower	11.97	36.5	73.45*	114.9*	7.22	22.03*	53.53*	108.5*	6.36	19.4	47.16	95.57
Torque (In Lbs.)	210	639	1683	3812	260	793	1928	3910	275	838	2036	4125
Lateral Shaft												
Overhung Load	187	426	750	1270	233	530	858	1300	245	559	903	1370
Thrust Load	110	301	700	774	138	374	801	794	145	395	844	837
Cross Shaft												
Overhung Load	317	631	905	2110	317	631	1040	2170	317	631	1090	2290
Thrust Load	165	453	980	1080	206	562	1120	1100	217	593	1180	1160

Input Speed	1150 RPM				870 RPM				580 RPM			
Unit Size	4M	6M	8M	12M	4M	6M	8M	12M	4M	6M	8M	12M
Horsepower	5.38	16.42	39.9	80.86	4.42	13.51	37.82	66.52	2.94	9.38	24.24	50.08
Torque (In Lbs.)	295	900	2187	4431	320	978	2378	4818	320	1020	2634	5442
Lateral Shaft												
Overhung Load	264	600	972	1480	287	652	1060	1600	435	867	1204	1810
Thrust Load	156	424	907	900	169	461	987	979	257	613	1100	1100
Cross Shaft												
Overhung Load	317	631	1180	2460	317	631	1280	2670	317	631	1460	2750
Thrust Load	165	637	1180	1250	253	693	1180	1360	341	854	1180	1530

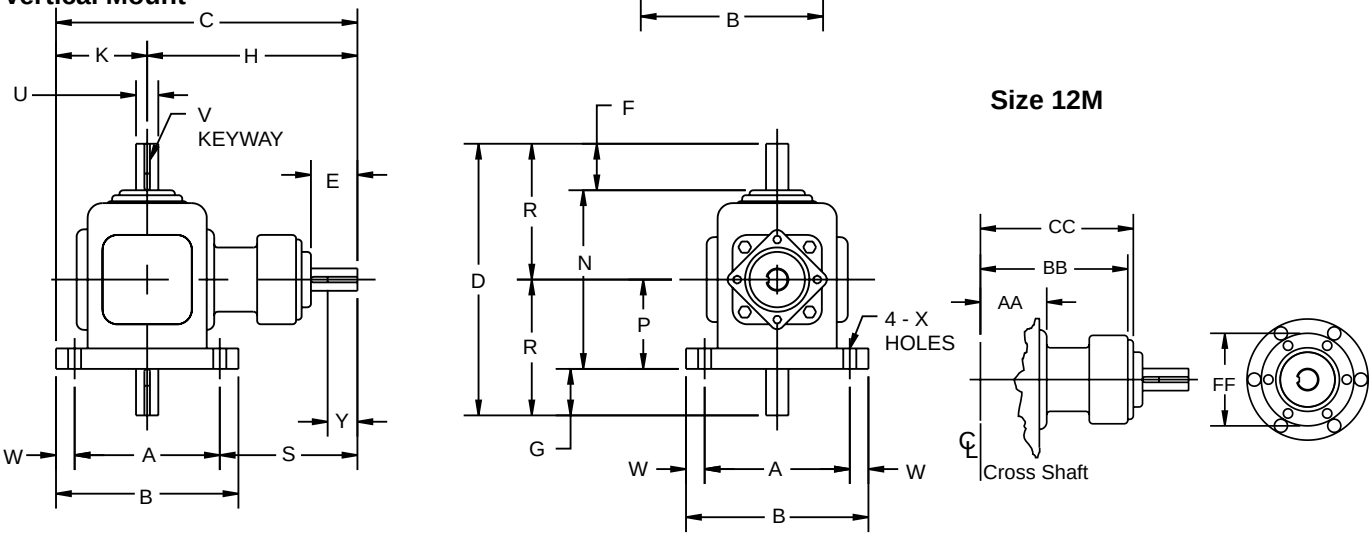
Input Speed	300 RPM				200 RPM				100 RPM			
Unit Size	4M	6M	8M	12M	4M	6M	8M	12M	4M	6M	8M	12M
Horsepower	1.52	4.85	12.54	31.57	1.02	3.23	8.35	23.77	.51	1.61	4.16	12.52
Torque (In Lbs.)	320	1020	2634	6633	320	1020	2634	7490	320	1020	2634	7893
Lateral Shaft												
Overhung Load	450	908	2090	2210	450	908	2450	2500	450	908	2450	3870
Thrust Load	422	992	1100	1350	537	1010	1100	1520	776	1010	1100	2540
Cross Shaft												
Overhung Load	317	631	1930	2750	317	631	1930	2750	317	631	1930	2750
Thrust Load	506	1080	1180	1870	621	1080	1180	2120	860	1080	1180	3170

* Mechanical rating exceeds thermal rating and additional cooling may be required. Contact Application Engineering (1 800 626 2093) for assistance.
All selections based on a 1:1 Ratio, 1.5:1 and 2:1 Ratios are available on a made to order basis.
Horsepower and torque ratings include a 1.0 service factor.
Overhung load rating is calculated from the middle of the shaft.

Horizontal Mount



Vertical Mount



Size No.	Weight Lbs.*	Dimensions													
		A	B	C	D	E	F	G	H	J	K	L	M	N	P
4M	12	4 7/8	6 1/8	10 1/8	9 1/8	1 9/16	1 9/16	1 9/16	7 1/16	5 1/2	3 1/16	4 9/16	6	6	3
6M	43	6	7 3/8	12 7/16	12 3/8	2 1/8	2 1/8	2 11/16	8 3/4	6 5/8	3 11/16	6 3/16	8 1/8	8 1/8	3 1/2
8M	91	7 1/2	9	16 3/8	15 7/8	3 1/8	3 1/8	3 1/8	11 7/8	8 3/4	4 1/2	7 15/16	9 5/8	9 5/8	4 1/2
12M	272	11	13	22 7/8	21 1/4	4 1/8	4 1/8	3 7/8	16 3/8	12 1/4	6 1/2	10 5/8	13 1/4	13 1/4	6 3/4

Size No.	Dimensions														
	R	S	T	U **	V	W	X	Y	Z	AA	BB	CC	DD	EE	FF
4M	4 9/16	4 5/8	5 15/16	.750	3/16x3/32	5/8	4-7/16	1	11/16	2 1/4	5	4 9/16	3	2 1/2	-
6M	6 3/16	6	7	1.000	1/4x1/8	11/16	4-9/16	1 5/16	3/4	2 7/8	6	6 3/16	4 5/8	3 7/8	-
8M	7 15/16	7 1/2	8 3/4	1.500	3/8x3/16	3/4	4-9/16	2 3/16	7/8	3 5/8	8	7 15/16	5 7/8	5 1/8	-
12M	10 5/8	11	13	2.000	1/2x1/4	1	4-25/32	3	1 1/4	5 3/8	11	10 5/8	-	-	6 3/8

Shaft tolerances +.000 to -.001.

* Size 4M - aluminum housing.

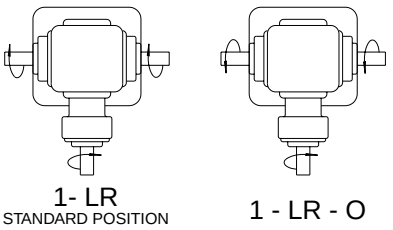
** For 1:1 ratio only. 1.5:1 and 2:0 are MTO and shaft sizes differ.

Assembly Positions and Part Numbers



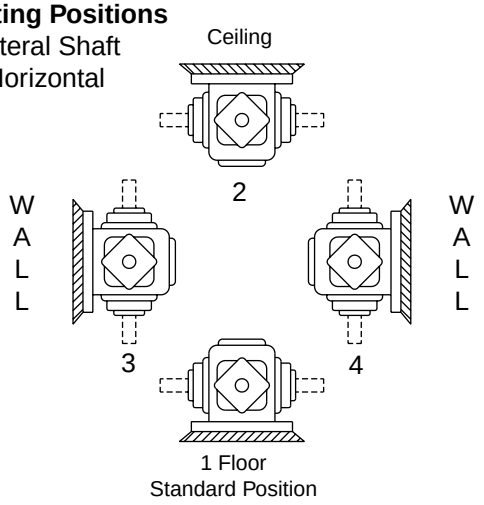
Horizontal Mount

Shaft Arrangements

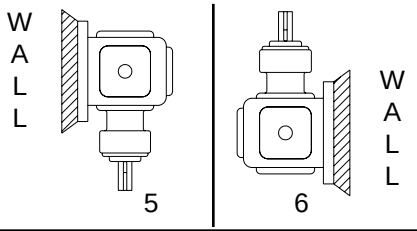


Mounting Positions

Lateral Shaft Horizontal



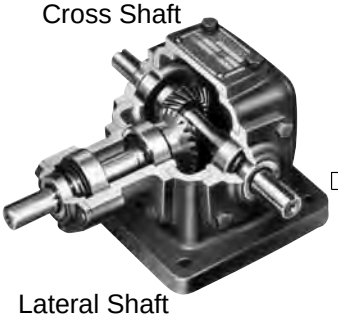
Lateral Shaft Vertical



Vertical Mount

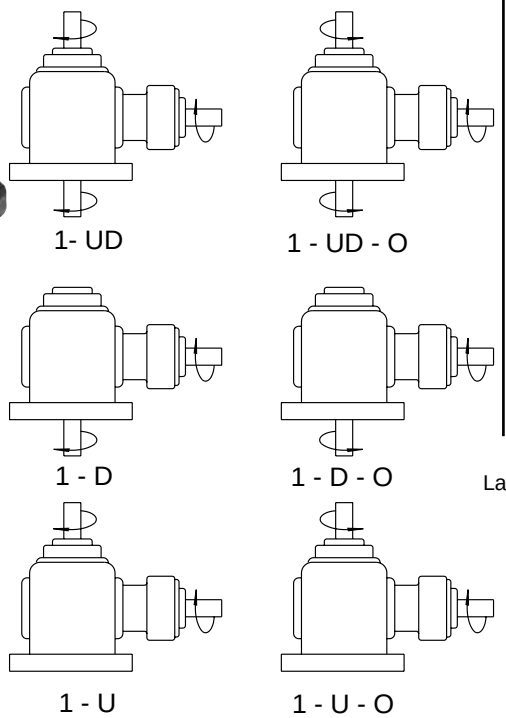


Cross Shaft



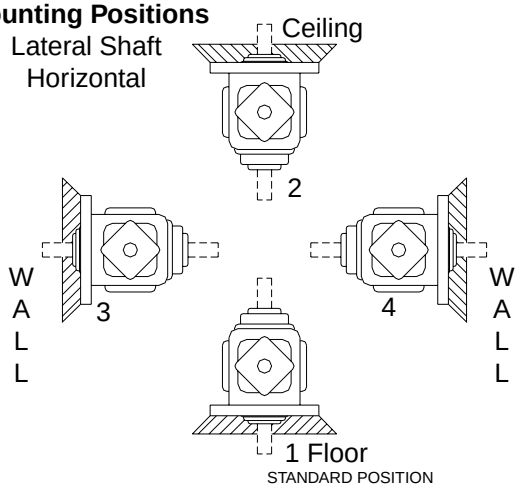
Lateral Shaft

Shaft Arrangements

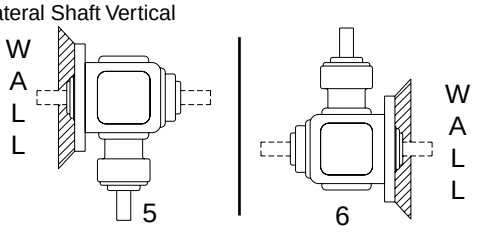


Mounting Positions

Lateral Shaft Horizontal



Lateral Shaft Vertical



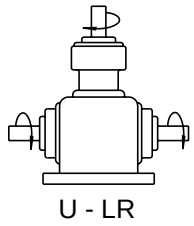
In describing a miter or bevel gear box, the shaft carried in the long housing projection is called the lateral shaft. The cross shaft is shorter and is supported by close-in housing covers. The cross shaft **only** may have double extensions as standard.

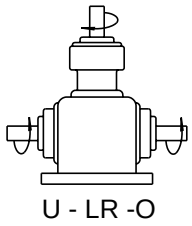
Part numbers for completed assemblies are a combination of unit size, example **8M, Gear Ratio** shaft arrangement **1 - LR - O** and mounting position **6**, for a complete part number **8M 1:1 - LR - O - 6.**

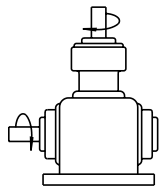
Shafts may be rotate in either direction. Arrows show relative rotation only.

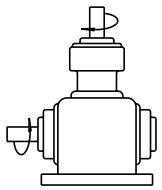
Assembly Positions and Part Numbers

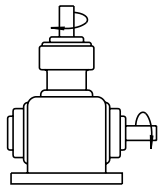
Shaft Arrangements

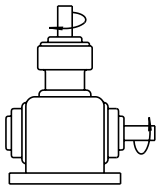

U - LR


U - LR -O


U - L

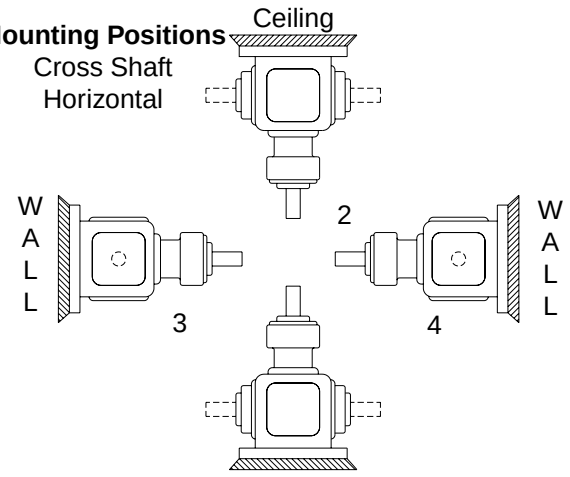

U - L - O


U - R

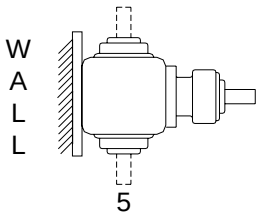

U - R - O

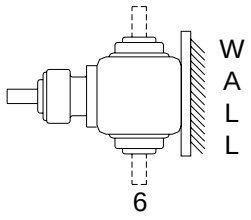
Mounting Positions

Cross Shaft Horizontal

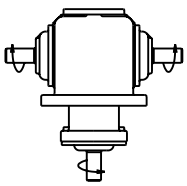


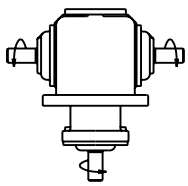
Cross Shaft Vertical

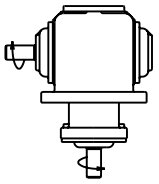


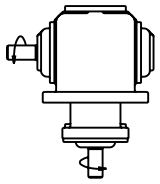


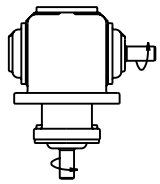
Shaft Arrangements

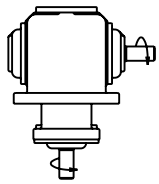

D - LR


D - LR -O

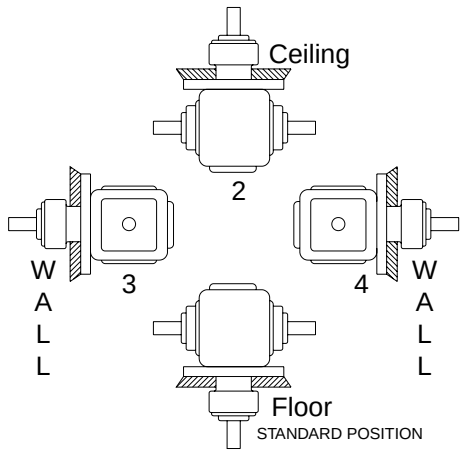

D - L


D - L - O

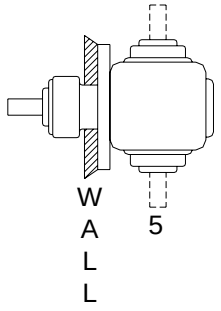

D - R

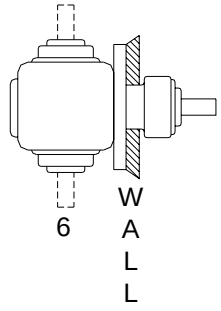

D - R - O

Mounting Positions



Cross Shaft Vertical









Emerson Industrial Automation

Heavy Industrial Duty C-Face Motors

1/3 - 2 HP 3 Phase, Frames 56 through 145TC, High Efficiency.

Applications: Constructed for all general industrial applications in conjunction with other C-Face gear products.

Features:

- High efficiency motor designs
- 4 pole suitable for 60 and 50 Hz voltages (as shown by model number below)
- Class "F" insulation, Class "B" temperature rise
- Design B (ratings 1 thru 2 hp are design C)
- Will accept cast iron conduit box and/or cast iron fan cover guard kits (see at bottom of page)
- Will accept appropriate SHUR STOP brake kits (see also CTFB motors with FCR DC brakes)
- Cast iron short end bracket with 4 position drain holes with plugs

CTEF

- TEFC High Efficiency Motors
- Footless NEMA C-Face frame
- Class "F" insulation, Class "B" rise
- Design B minimum (1 to 2 hp are Design C high torque)
- UL®, CSA
- 60 Hz 230/460V and 50/380V at same hp (on nameplate)
- Will accept Shur Stop brake kits for frame size noted
- Will accept cast iron C/B and fan cover guard kits

CTIF

- TEFC Inverter Duty motors per NEMA MG1 Part 31
- Footless NEMA C-Face frame
- Suitable for 10:1 constant torque from 60 to 6 Hz
- Constant hp from 60 to 90 Hz minimum
- Class "F" insulation
- Three normally closed thermostats in motor windings
- UL, CSA
- Three year warranty off inverter power

CTFB

- TEFC Brake Motors
- Footless NEMA C-Face frame
- Class "F" insulation, Class "B" rise
- DC brake with IP55 encapsulated 180VDC coil
- Rectifier supplied in oversized main conduit box
- Manual release lever supplied, mount 90° from C/B
- Brake leads pre-wired to motor C/B
- Brake torque rating 150% of motor FL torque
- UL, CSA
- 60 Hz 230/460V and 50/380V at same hp (on nameplate)

UL is believed to be a registered trade name and/or trademark of Underwriters Laboratories, Inc. and is NOT owned or controlled by Emerson Power Transmission.
Emerson Power Transmission Corporation cannot and does not represent or warrant the accuracy of this information.


1
2
3
4
5
6
7
8
9
10
11



EMERSON
Industrial Automation

Stainless Steel Motors



1. 1/2 - 2 HP
2. Stainless steel frame, thru-bolts, nuts and screws help prevent rust due to moisture.
3. Laser-etched oversized nameplate is easy to read and will not trap food particles or dirt.
4. Inverter Grade® insulation system for use with adjustable frequency drives enables improved efficiency and control.
5. T-type drains help prevent need to remove plugs after installation and allow for all-position mounting.
6. "VBX" Inpro/Seal™ bearing isolator on drive end helps protect against water and contaminants.
7. 303 stainless shaft helps prevent connected drive components from rusting to shaft.
8. Rust inhibitor on stator and rotor provides added protection against corrosion.
9. Double-contact, double sealed ball bearings and moisture-resistant grease help assure long bearing life.
10. RTV-sealed exit holes help eliminate a major point of water entry.
11. Waterproof nitrile gasket helps prevent moisture and chemicals from entering the wiring assembly.
12. Easy-to-read connection leads make wiring easier.

Inverter Grade is a registered trademark of Emerson Electric Co.

EMERSON
Industrial Automation

Heavy Industrial Duty C-Face Motors

without Base - 1750 rpm

HP	NEMA Frame	Volts	Catalog Number	Type	SF	Amps	Overall Length Including Shaft	Shaft Diameter "U"	Shaft Length "AH"	Ship Weight Lbs.
1/3	56C	230/460 +	RC0102	CTEF	1.35	1.27/0.64	11.28	0.625	2.06	28
			RC0103	CTIF	1.0 *	1.35/0.67 *	11.28	0.625	2.06	28
			RC0100	CTFB	1.35	1.27/0.64	14.45	0.625	2.06	56
			RC0151	CTIFB	1.0 *	1.35/0.67 *	14.45	0.625	2.06	56
		575	RC0602	CTEF	1.35	0.53	11.28	0.625	2.06	28
			RC0603	CTIF	1.0 *	0.56 *	11.28	0.625	2.06	28
			RC0600	CTFB	1.35	0.53	14.45	0.625	2.06	56
			RC0651	CTIFB	1.0 *	0.56 *	14.45	0.625	2.06	56
1/2	56C	230/460 +	RD0102	CTEF	1.35	1.76/0.88	11.28	0.625	2.06	30
			RD0103	CTIF	1.0 *	1.87/0.93 *	11.28	0.625	2.06	30
			RD0100	CTFB	1.35	1.76/0.88	14.45	0.625	2.06	58
			RD0151	CTIFB	1.0 *	1.87/0.93 *	14.45	0.625	2.06	58
		575	RD0602	CTEF	1.35	0.73	11.28	0.625	2.06	30
			RD0603	CTIF	1.0 *	0.77 *	11.28	0.625	2.06	30
			RD0600	CTFB	1.35	0.73	14.45	0.625	2.06	58
			RD0651	CTIFB	1.0 *	0.77 *	14.45	0.625	2.06	58
3/4	56C	230/460 +	RE0102	CTEF	1.25	2.42	11.28	0.625	2.06	32
			RE0103	CTIF	1.0 *	2.57/1.28 *	11.28	0.625	2.06	32
			RE0100	CTFB	1.25	2.42	14.45	0.625	2.06	58
			RE0151	CTIFB	1.0 *	2.57/1.28 *	14.45	0.625	2.06	58
		575	RE0602	CTEF	1.25	0.95	11.28	0.625	2.06	32
			RE0603	CTIF	1.0 *	1.01 *	11.28	0.625	2.06	32
			RE0600	CTFB	1.25	0.95	14.45	0.625	2.06	32
			RE0651	CTIFB	1.0 *	1.01 *	14.45	0.625	2.06	58
1	B56C	230/460 +	RF0152	CTEF	1.25	3.10/1.55	13.07	0.625	2.06	34
			RF0153	CTIF	1.0 *	3.29/1.64 *	13.07	0.625	2.06	34
			RF0108	CTFB	1.25	3.10/1.55	15.7	0.625	2.06	61
			RF0159	CTIFB	1.0 *	3.29/1.64 *	15.7	0.625	2.06	61
		575	RF0652	CTEF	1.25	1.21	13.07	0.625	2.06	34
			RF0653	CTIF	1.0 *	1.28 *	13.07	0.625	2.06	34
			RF0608	CTFB	1.25	1.21	15.7	0.625	2.06	61
			RF0659	CTIFB	1.0 *	1.28 *	15.7	0.625	2.06	61
	143TC	230/460 +	RF0102	CTEF	1.25	3.10/1.55	13.13	0.875	2.12	32
			RF0103	CTIF	1.0 *	3.29/1.64 *	13.13	0.875	2.12	32
			RF0100	CTFB	1.25	3.10/1.55	15.76	0.875	2.12	61
			RF0151	CTIFB	1.0 *	3.29/1.64 *	15.76	0.875	2.12	61
		575	RF0602	CTEF	1.25	1.21	13.13	0.875	2.12	32
			RF0603	CTIF	1.0 *	1.28 *	13.13	0.875	2.12	32
			RF0600	CTFB	1.25	1.21	15.76	0.875	2.12	61
			RF0651	CTIFB	1.0 *	1.28 *	15.76	0.875	2.12	61
1 1/2	B56C	230/460 +	RG0152	CTEF	1.25	4.36/2.18	13.07	0.625	2.06	35
			RG0153	CTIF	1.0 *	4.62/2.31 *	13.07	0.625	2.06	35
		575	RG0652	CTEF	1.25	1.71	13.07	0.625	2.06	35
			RG0653	CTIF	1.0 *	1.81 *	13.07	0.625	2.06	35
	145TC	230/460 +	RG0102	CTEF	1.25	4.36/2.18	13.13	0.875	2.12	35
			RG0103	CTIF	1.0 *	4.62/2.31 *	13.13	0.875	2.12	35
			RG0100	CTFB	1.25	4.36/2.18	15.76	0.875	2.12	62
			RG0151	CTIFB	1.25	4.36/2.18	15.76	0.875	2.12	62
		575	RG0602	CTEF	1.25	1.71	13.13	0.875	2.12	35
			RG0603	CTIF	1.0 *	1.81*	13.13	0.875	2.12	35
			RG0600	CTFB	1.25	1.71	15.76	0.875	2.12	35
			RG0651	CTIFB	1.0 *	1.81 *	15.76	0.875	2.12	62
2	145TC	230/460 +	RH0102	CTEF	1.25	5.78/2.89	13.13	0.875	2.12	47
			RH0103	CTIF	1.0 *	6.13/3.06 *	13.13	0.875	2.12	47
			RH0100	CTFB	1.25	5.78/2.89	15.76	0.875	2.12	63
			RH0151	CTIFB	1.0 *	6.13/3.06 *	15.76	0.875	2.12	63
		575	RH0602	CTEF	1.25	2.33	13.13	0.875	2.12	47
			RH0603	CTIF	1.0 *	2.47 *	13.13	0.875	2.12	47
			RH0600	CTFB	1.25	2.33	15.76	0.875	2.12	63
			RH0651	CTIFB	1.0 *	2.47 *	15.76	0.875	2.12	63

\+ These ratings are suitable for full HP @ 3/50, 380V sine wave power and nameplated accordingly with 1.0 SF.
* Suitable for 1.0 SF constant torque over 10 to 1 range from 60 to 6 Hz. Brakes designed for separate 115 or 230V power supply.

Part Number Description

C T E F

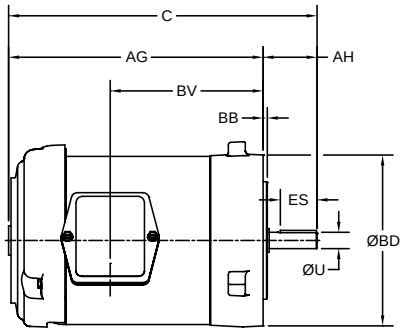
- F = Footless C-Face
  FB = Footless C-Face w/Brake
- E = High Efficiency Design
  I = Inverter Duty Design
- T = Totally Enclosed Fan Cooled
- C = Heavy Industrial Duty

State-of-the-Art Features Built into Every Paint Free Washdown Motor

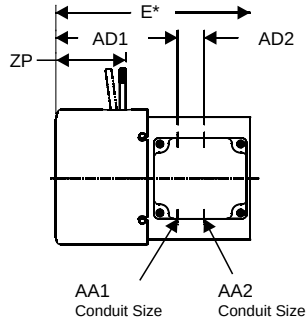
C-Face without Base – 1725 rpm

hp	NEMA Frame	Volts	Catalog Number	SF	Amps	Overall Length Including Shaft	Shaft Dia.	Shaft Length	Ship Wgt.
1/2	56C	208-230/460	**WDP12S2ACR**	1.15	2.0-1.9/0.9	12.38	.625	2.06	36
3/4	56C	208-230/460	**WDP34S2ACR**	1.15	2.8-2.7/1.3	12.38	.625	2.06	38
1	56C	208-230/460	**WDP1S2AFCR**	1.15	3.5-3.4/1.7	12.75	.625	2.06	37
1	145TC	208-230/460	**WDP1S2ACR**	1.15	3.5-3.4/1.7	14.06	.875	2.13	37
1 1/2	56C	208-230/460	**WDP32S2AFCR**	1.00	4.9-4.8/2.4	13.75	.625	2.06	39
1 1/2	145TC	208-230/460	**WDP32S2ACR**	1.00	4.9-4.8/2.4	13.81	.875	2.13	39
2	56C	208-230/460	**WDP2S2AFCR**	1.00	6.5-6.3/3.3	14.00	.625	1.90	44
2	145TC	208-230/460	**WDP2S2ACR**	1.00	6.5-6.3/3.3	14.00	.875	1.90	44

C-Face Motor



Brakemotor Supplement



Standard C-Face Motor

FRAME	C	P2	U	AA		AB
			-0.001	Size	Qty	
56C	11.81	7.22	0.625	3/4	1	6.09
B56C	13.06	7.22	0.625	3/4	1	6.09
140TC	13.12	7.22	0.875	3/4	1	6.09
180TC	16.02	4.33	1.250	3/4 NPT	2	7.80

FRAME	AC	AF	AG	AH	AJ	AK
						-.003
56C	4.50	1.57	9.74	2.06	5.875	4.500
B56C	4.50	1.57	11.00	2.06	5.875	4.500
140TC	4.50	1.57	11.00	2.13	5.875	4.500
180TC	4.94	2.32	13.4	2.62	7.250	8.500

FRAME	BB min.	BV	BF	ES	SQ
56C	0.16	5.85	3/8-16 x 0.56	1.38	0.188
B56C	0.16	7.10	3/8-16 x 0.56	1.38	0.188
140TC	0.16	7.10	3/8-16 x 0.56	1.38	0.188
180TC	0.25	5.85	1/2-13 x 0.75	1.78	0.250

Brakemotor Supplement

FRAME	E 7	O	P	AA1	
				Size	Qty
56C	2.63	5.80	7.24	3/4 NPT	2
B56C	2.63	5.80	7.24	3/4 NPT	2
140TC	2.63	5.80	7.24	3/4 NPT	2
180TC	1.95	7.30	9.23	3/4 NPT	1

FRAME	AA2		AB	AC	AD1
	Size	Qty			
56C	1/2 NPT	2	6.38	4.94	6.43
B56C	1/2 NPT	2	6.38	4.94	6.43
140TC	1/2 NPT	2	6.38	4.94	6.43
180TC	3/4 NPT	1	7.8	6.14	8.84

FRAME	AD2	AF	AF2	P2	ZP
56C	1.38	2.13	4.25	3.46	3.54
B56C	1.38	2.13	4.25	3.46	3.54
140TC	1.38	2.13	4.25	3.46	3.54
180TC	1.81	2.32	4.65	N/A	4.41

[1] All rough dimensions may vary by .25 due to casting and/or fabrication variations.
[2] Largest motor width.
[3] Tap size and bolt penetration allowance.
[4] All tapped holes are unified national course, right hand thread.
[5] Conduit box may be located on either side of motor. Conduit openings may be located in steps of 180 degrees regardless of location. Standard as shown with conduit opening down.
[6] Tolerances shown are in inches only.
[7] Add "E" to C and AG of equivalent three phase frame


WARNING
HOT SURFACE
Contact with skin
may cause burns.
Do not touch.



Browning®

C-Face IntelliGear Plus

Innovative C-Face Motor with Point-of-Use Variable Speed Controls



- 1/3 - 10 hp
- TEFC Motor
- Built-In NEMA 4 Variable Frequency Drive
- Factory pre-wired and pre-programmed
- Multiple Operator Control Options:
  - Digital keypad
  - Start/Stop/Speed Pot
  - Run Fwd/Run Rev/Stop/Speed Pot
  - Speed Pot with Start/Stop via Starter
- Open Loop Vector Control
  - High breakaway torque
  - Wide speed range
  - Quick response
  - Can be controlled locally or remotely

General Information

1 - General Information

1.1 - General operating principle

The IntelliGear Plus is a combination of a 3-phase induction motor and an integrated open loop vector variable speed drive. The motor can be combined with many gear types from Emerson's range.

In the standard product version, the integrated drive does not require any connection other than the power supply. The options may be used to broaden the application range of the IntelliGear Plus. Based on the advanced technology of the IGBT power module, very high efficiency and reduced noise levels are achieved.

1.2 - Product name

IntelliGear Plus Range							
115V Single Phase Power Supply		230V Single Phase Power Supply		230V Three Phase Power Supply		460V Three Phase Power Supply	
Catalog Number	Motor HP	Catalog Number	Motor HP	Catalog Number	Motor HP	Catalog Number	Motor HP
310 M 033	0.33	31 M 033	0.33	31 T 033	0.33	31 T 033	0.33
310 M 050	0.50	31 M 050	0.50	31 T 050	0.50	31 T 050	0.50
32 M 075	0.75	31 M 075	0.75	31 T 075	0.75	31 T 075	0.75
		31 M 100	1	31 T 100	1	31 T 100	1
		32 M 150	1.5	32 T 150	1.5	31 T 150	1.5
		32 M 200	2	32 T 200	2	31 T 200	2
				33 T 300	3	32 T 300	3
				33 T 500	5	32 T 500	5
						33 T 750	7.5
						33 T 1000	10

IntelliGear Plus Speed Controlling Options	
Designation	Description
PD	Digital keypad on enclosure For./Rev./stop/speed-up/speed-down/speed display
P1	Run/Stop/Control knob mounted on enclosure
P2	For./Rev./Stop/Control knob mounted on enclosure
P3	Control knob (only) mounted on enclosure
P4	Control knob (only) mounted inside enclosure w/trim potentiometers
R	Remore signal following (either 0-10 vDC or 4-20 mA)
RP	Fieldbus controlled by customer's PROFIBUS DP

IntelliGear Plus Options	
Part ID	Description
KEYPAD LCD	Parameter setting console w/cable to locally to customize parameters
PX KEY	Drive parameter set-up key storage Fob
AEM904KA006	DC Braking resistors 100W
AEM904KA007	DC Braking resistors 200W
VMA30SOFT	CD w/cable and USB to locally to customize parameters

1.3 - Characteristics

1.3.1 - Electrical Data

Single Phase Design

Power supply	115 V ± 10%, 50 - 60 Hz	230 V ± 10%, 50 - 60 Hz
Output voltage	From input voltage down to (input voltage/speed range)	
Power range	0.33, 0.50, 0.75 HP	0.33, 0.50, 0.75. 1.0, 1.5, 2.0 HP
Maximum numbers of power-ups per hour	10	

Three Phase Design

Power supply	230 V ± 10%, 50 - 60 Hz	460 V ± 10%, 50 - 60 Hz
Output voltage	From input voltage down to (input voltage/speed range)	
Power range	0.33, 0.50, 0.75. 1.0, 1.5, 2.0, 3, 5 HP	0.33, 0.50, 0.75. 1.0, 1.5, 2.0, 3.0, 5.0, 7.5, 10 HP
Maximum numbers of power-ups per hour	1500	

1.3.2 - Characteristics and Functions

Characteristic	**IntelliGear Plus**	
Overload	150 % of full load setting for 60 seconds, 10 times per hour	
Motor Frequency Variation Ranges	Standard	60 to 10 Hz 6:1 constant torque up through 3 HP
		74 to 12 Hz 6:1 constant torque for 5 through 10 HP
	Optional	60 to 6 Hz 10:1 constant torque up through 1.5 HP
		90 to 9 Hz 10:1 constant torque for 2 through 10 HP
	Special	120 to 2 Hz depending on thermal and mechanical limits
Efficiency	97.5 % x motor efficiency x gear efficiency (if applicable)	

Drive Control	**IntelliGear Plus**
Speed Reference	• Analog reference (0V or 4mA = minimum speed) (10V or 20mA = maximum speed) - 0 to 10V with integral potentiometer on enclosure (P1,P2 and P3) - 0 to 10V with integral potentiometer in enclosure (P4) - 4 to mA with external reference - Digital references - Fieldbus using Profibus DP
Speed regulation	- Speed regulation with encoder feedback option (only size 33) - Regulation of a reference with integrated PI loop

Variable Speed Gearmotors

Drive Control	IntelliGear Plus
Run/Stop	- With power supply - With remote volt-free contact - With fieldbus - With local run/stop control
Forward/Reverse	- With internal connection on the terminal block - With remote volt-free contact - With fieldbus - With local For./Rev. controls
Stop Mode	- On ramps (using volt-free contact of integrated control) - Freewheel - With electromechanical brake
Ramps	- Ramps are adjustable from 3 to 600 seconds
Fieldbus	- PROFIBUS DP

Protection	IntelliGear Plus
Power	- Undervoltage - Overvoltage - Overloads • thermal of motor or drive • protection from locked rotor - Short-circuit • motor windings - Overspeed
Control	- Short circuit on 0 - 10V/24V inputs or outputs
Drive reset	- By switching off the IntelliGear Plus or by opening/closing the connection between the 24V and ENA (size 31 and 32) terminals, or SD1 and SDI 2 (size 33)

Characteristics	Level - IntelliGear Plus	
Degree of protection	TEFC Version	TEFC motor and NEMA 4/12 Controller
Storage temperature	-40 oC to +70 oC	
Transport temperature	-40 oC to +70 oC	
Ambient operating temperature	-20 oC to +40 oC (above 40 oC requires derating 1% per oC	
Altitude	Up to 3000 feet above sea level without derating	
Ambient humidity	95% non-condensing	
Humidity during storage	93%, 40 oC, 4 days	
Vibration	- Exposed product: 0.01 g2 /Hz 1 hr. in accordance with IEC 60068-2-34	
	- Sinusoidal vibration: 2-9 Hz 3.5 ms-2 - 9-200 Hz 10 ms-2 in accordance with IEC 60068-2-6	
Shocks	Packaged product: 15 g, 6 ms, 500 times/direction in all 6 directions in accordance with Standard IEC 600068-2-29	
Immunity	Conforming to EN61000-6-2	
Radiated and conducted emissions	Conforming to EN500081-2 with internal filters	
UL and cUL Standards	Conforming to UL 508 C (E211799)	

* C-Face motors

2 - Faults - Diagnostics

Information relating to the status of the IntelliGear Plus is provided by two indicator lamps located on the control options P1, P2 or P3 or by the internal LED in 31/32.

Color and state of indicator lamp	IntelliGear Plus	Checks to be performed
Steady green	No trip Mains present	
Flashing green	Current limiting	• Check that the motor is not overloaded or stalled.
Flashing red	IGBT temperature alarm Motor overload Braking resistor option overload	• Check that air is able to circulate around the motor fins and IntelliGear Plus casing. • The motor is overloaded: check the motor current using a clamp ammeter. • Check that the deceleration ramp is long enough for applications with high inertia.
Steady red	• Short-circuit of a motor winding • Locked motor rotor • Faulty insulation of a winding • (I^2T) overheating • Internal fault • Undervoltage • Overvoltage	• Check that no incident has occurred. • Switch off and then on again to clear the fault. • Check the main voltage. • Check that the deceleration ramp is long enough for applications with high inertia. • If the fault remains, consult Emerson Power Transmission Application Engineering.

The fault is cleared by switching off the IntelliGear Plus or by opening/closing the connection between terminals 12: ENA and 11: +24V (31/32) or SDI1 and SDI2 (33).

3 - Operating Extensions

3.1 - Digital Keypad on enclosure with For./Rev./Stop/ Speedup and down/Speed display/Fault Display



Ref.	Function
A	Display comprising 4 x 7 segment digits for indicating: - the drive operating status - certain operating data - the adjustment parameters (01 to 80) and their value
B	LED providing a sign for the data (the lit LED corresponds to the "-" sign)
C	Keys which can be used to scroll up and down through the parameters or their value. These keys can also be used to vary the speed.
D	Keys which can be used to switch from standard mode to parameter-setting mode. In parameter-setting mode, the parameter number and value are displayed alternately on the display.
E F G	In keypad mode, these buttons are used for the following commands: -Reverse (standerly disabled) - Stop, clear fault - Forward

3.2 - Control knob with integrated run/stop control option (P1)

In addition to speed control, a run button and a stop button make it possible to control the IntelliGear Plus locally, once it is has been switched on, as required. For a run command to be taken into account, the button must be held down for one second.

- It is connected on the P2 connector.
- Has two indicator lights.



3.3 - Control knob with forward/reverse/stop control option (P2)

In addition to speed control, a forward button, a reverse button and a stop button make it possible to control the IntelliGear Plus locally, once it has been switched on, as required. For a run command to be taken into account, the button must be held down for one second.

- Connected on the P2 connector
- Has two indicator lights



3.4 - Speed control knob option (P3)

The speed is set using a knob with graduations from 15 to 100 percent. Has two indicator lamps. It is connected on the P2 connector.



3.5 - Internal speed control option (P4)

The speeds are set on potentiometers, which are accessible once the cover has been removed.
- a max. spd potentiometer: calibration of the maximum speed
- a min. spd potentiometer: calibration of the minimum speed
- an int. spd potentiometer: speed control, which replaces control via the control knob.

There are also two indicator lights.



3.6 - Braking resistor option (RF100 - RF200)

For operation in four quadrants and energy dissipation, resistors are mounted directly onto the IntelliGear Plus.



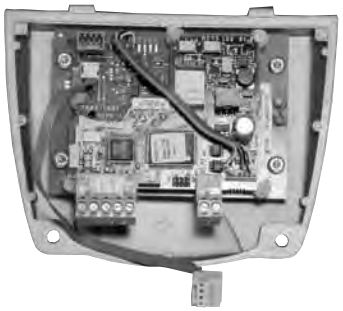
	RF100	RF200 (2x100)		Minimum ohmic value
	P peak kW	P peak kW	Resistor connection	
I31	5.6	2.8	series	100Ω
I31M	1.3	2.6	parallel	50Ω
I32	5.6	11.2	parallel	50Ω

RF100 = thermal power 100W
RF200 = thermal power 200W

External resistors with greater thermal power can be used, provided that the minimum ohmic value is maintained.

3.7 - Fieldbus options

The interface card is fixed inside the casing cover. Protocols: Profibus DP.



3.8 - Parameter-setting console option (Keypad LCD)

The console option provides access to the drive Internet settings (terminal block configuration, ramp, speed and P1 settings, etc.).

See IntelliGear Plus parameter-setting manual included.

Description of the option:
1 Keypad LCD console
1 cable (3m long)



3.9 - Programming CD (VMA30SOFT)

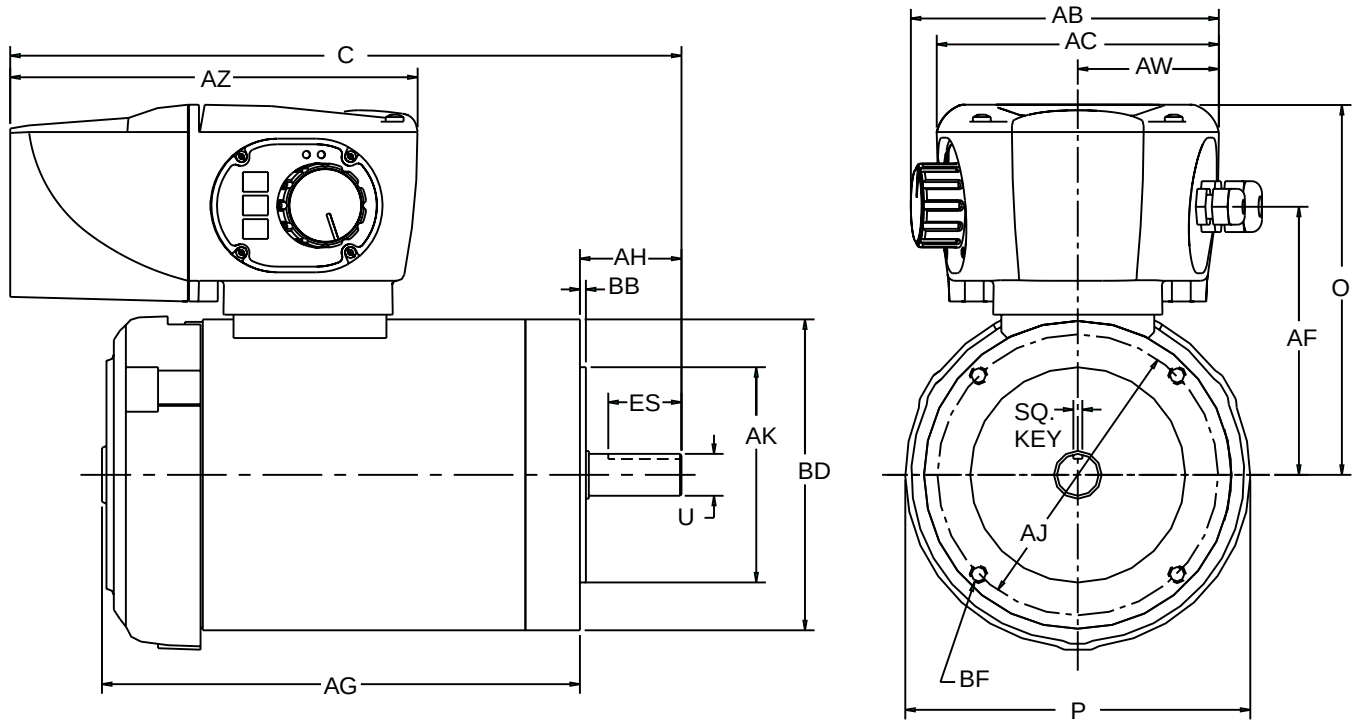
This CD with manual provides access to the drive internal settings (terminal block configuration, range, speed and PI settings, etc.).
Descriptions of the option:
1 CD in case
1 cable (3m long)

3.10 - XPress Key (PX Key)

The XPress Key option is used to save a copy of all the IntelliGear Plus parameters so that they can be duplicated very simply in another drive.

IntelliGear Plus C-Face Footless Motor

TEFC Designs



Note: Illustration is with cable entry A. Cable entry will be reversed if cable entry B is specified.

Motor HP	Frame Size	Line Voltage	AB [2]	AC	AF	AG	AH	AK	AJ	AW	AZ	BB
1/3 or 1/2	56C	All	6.45	5.91	5.61	10	2.06	4.5	5.875	2.95	8.53	0.13
3/4	56C	115 V	6.45	5.91	5.61	10	2.06	4.5	5.875	2.95	9.12	0.13
1/2 or 3/4	56C	230 or 460 V	6.45	5.91	5.61	10	2.06	4.5	5.875	2.95	8.53	0.13
1	56C	All	6.45	5.91	5.61	11	2.06	4.5	5.875	2.95	8.53	0.13
1	143TC	All	6.45	5.91	5.61	11	2.13	4.5	5.875	2.95	8.53	0.13
1 1/2 or 2	145TC	230 V	6.45	5.91	5.61	11	2.13	4.5	5.875	2.95	9.12	0.13
1 1/2 or 2	145TC	460 V	6.45	5.91	5.61	11	2.13	4.5	5.875	2.95	8.53	0.13
3 or 5	182TC, 184TC	460 V	6.45	5.91	6.58	13.5	2.53	8.5	7.25	2.95	9.12	0.25
7 1/2	213TC	460 V	8.97	8.44	7.08	16.85	3.12	8.5	7.25	4.22	13.10	0.25
10	215TC	460 V	8.97	8.44	7.08	17	3.12	8.5	7.25	4.22	13.10	0.25

Motor HP	Frame Size	Line Voltage	BD	BF	C	O	P	SQ-Key	U [1]	ES Min.
1/3 or 1/2	56C	All	6.5	3/8-16 NC x .75 deep	13.98	7.74	7.31	0.188	0.626	1.53
3/4	56C	115 V	6.5	3/8-16 NC x .75 deep	14.57	7.74	7.31	0.188	0.626	1.53
1/2 or 3/4	56C	230 & 460 V	6.5	3/8-16 NC x .75 deep	13.98	7.74	7.31	0.188	0.626	1.53
1	56C	All	6.5	3/8-16 NC x .75 deep	14.98	7.74	7.31	0.188	0.626	1.53
1	143TC	All	6.5	3/8-16 NC x .75 deep	15.05	7.74	7.31	0.188	0.875	1.53
1 1/2 or 2	145TC	230 V	6.5	3/8-16 NC x .75 deep	15.64	7.74	7.31	0.188	0.875	1.53
1 1/2 or 2	145TC	460 V	6.5	3/8-16 NC x .75 deep	15.05	7.74	7.31	0.188	0.875	1.53
3 or 5	182TC, 184TC	460 V	9	1/2-13 NC x .75 deep	19.62	9.71	9.5	0.25	1.125	1.78
7 1/2	213TC	460 V	9	1/2-13 NC x .75 deep	11.97	11.98	11.25	0.312	1.375	2.41
10	215TC	460 V	9	1/2-13 NC x .75 deep	12.12	11.98	11.25	0.312	1.375	2.41

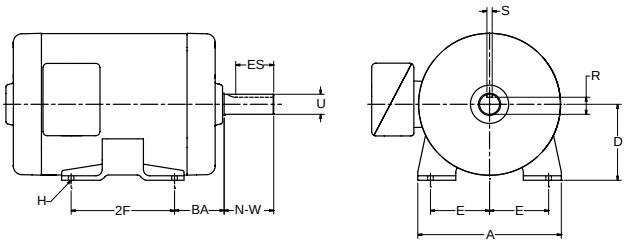
[1] Shaft extension tolerance: +.0000"; –.0005" up to 1.5" diameter inclusive. Larger diameters: +.000"; –.001".
[2] Speed pot knob applies only if P1, P2, or P3 is required.

EMERSON
Industrial Automation

General Information

A Guide to NEMA Motor Frames and Shaft Dimensions

The motor dimensions and ratings shown in the table below are for "General Purpose Motors". They are shown as a guide only and are subject to change without notice. Before finalizing a drive system design, consult with the motor manufacturer to obtain current motor dimensions.



NEMA FRAME No.	DIMENSIONS (in.)								KEYSEAT			APPROX. MAX HP FOR TEFC MOTORS AT VARIOUS RPM			
	A Max	D	E	2F	BA	H	U	N-W	ES Min	S	R	3600	1800	1200	900
FRACTIONAL HORSEPOWER MOTORS															
48	-	3.00	2.12	2.75	2.50	0.34◆	0.500	1.50	-	FLAT	0.453	0.5	0.333	0.167	-
56	-	3.50	2.44	3.00	2.75	0.34◆	0.625	1.88	1.41	0.188	0.517	1	1	0.5	-
INTEGRAL HORSEPOWER MOTORS															
143T	7.0	3.50	2.75	4.00	2.25	0.34	0.875	2.25	1.41	0.188	0.771	1.5	1	.75	.5
145T	7.0	3.50	2.75	5.00	2.25	0.34	0.875	2.25	1.41	0.188	0.771	2	2	1	.75
182T	9.0	4.50	3.75	4.50	2.75	0.41	1.125	2.75	1.78	0.250	0.986	3	3	1.5	1
184T	9.0	4.50	3.75	5.50	2.75	0.41	1.125	2.75	1.78	0.250	0.986	5	5	2	1.5
213T	10.5	5.25	4.25	5.50	3.50	0.41	1.375	3.38	2.41	0.312	1.201	7.5	7.5	3	2
215T	10.5	5.25	4.25	7.00	3.50	0.41	1.375	3.38	2.41	0.312	1.201	10	10	5	3
254T	12.5	6.25	5.00	8.25	4.25	0.53	1.625	4.00	2.91	0.375	1.416	15	15	7.5	5
256T	12.5	6.25	5.00	10.00	4.25	0.53	1.625	4.00	2.91	0.375	1.416	20	20	10	7.5
284T	14.0	7.00	5.50	9.50	4.75	0.53	1.875	4.62	3.28	0.500	1.591	-	25	15	10
284TS*	14.0	7.00	5.50	9.50	4.75	0.53	1.625	3.25	1.91	0.375	1.416	25	-	-	-
286T	14.0	7.00	5.50	11.00	4.75	0.53	1.875	4.62	3.28	0.500	1.591	-	30	20	15
286TS*	14.0	7.00	5.50	11.00	4.75	0.53	1.625	3.25	1.91	0.375	1.416	30	-	-	-
324T	16.0	8.00	6.25	10.50	5.25	0.66	2.125	5.25	3.91	0.500	1.845	-	40	25	20
324TS*	16.0	8.00	6.25	10.50	5.25	0.66	1.875	3.75	2.03	0.500	1.591	40	-	-	-
326T	16.0	8.00	6.25	12.00	5.25	0.66	2.125	5.25	3.91	0.500	1.845	-	50	30	25
326TS*	16.0	8.00	6.25	12.00	5.25	0.66	1.875	3.75	2.03	0.500	1.591	50	-	-	-
364T	18.0	9.00	7.00	11.25	5.88	0.66	2.375	5.88	4.28	0.625	2.021	-	60	40	30
364TS*	18.0	9.00	7.00	11.25	5.88	0.66	1.875	3.75	2.03	0.500	1.591	60	60	-	-
365T	18.0	9.00	7.00	12.25	5.88	0.66	2.375	5.88	4.28	0.625	2.021	-	75	50	40
365TS*	18.0	9.00	7.00	12.25	5.88	0.66	1.875	3.75	2.03	0.500	1.591	75	75	-	-
404T	20.0	10.00	8.00	12.25	6.62	0.81	2.875	7.25	5.65	0.750	2.45	-	-	60	50
404TS*	20.0	10.00	8.00	12.25	6.62	0.81	2.125	4.25	2.78	0.500	1.845	-	-	-	-
405T	20.0	10.00	8.00	13.75	6.62	0.81	2.875	7.25	5.65	0.750	2.45	-	100	75	60
405TS*	20.0	10.00	8.00	13.75	6.62	0.81	2.125	4.25	2.78	0.500	1.845	100	100	-	-
444T	22.0	11.00	9.00	14.50	7.50	0.81	3.375	8.50	6.91	0.875	2.88	-	125	100	75
444TS*	22.0	11.00	9.00	14.50	7.50	0.81	2.375	4.75	3.03	0.625	2.021	125	125	-	-
445T	22.0	11.00	9.00	16.50	7.50	0.81	3.375	8.50	6.91	0.875	2.88	-	150	125	100
445TS*	22.0	11.00	9.00	16.50	7.50	0.81	2.375	4.75	3.03	0.625	2.021	150	150	-	-

"*" Standard short shaft for direct coupled connection.

"◆" Indicates slots rather than holes.

Decimal - Millimeter Equivalents

Fractional	Decimal	M.M.	Fractional	Decimal	M. M.
1/64	.015625	.397	33/64	.515625	13.097
1/32	.03125	.794	17/32	.53125	13.494
3/64	.046875	1.191	35/64	.546875	13.891
1/16	.0625	1.588	9/16	.5625	14.288
5/64	.078125	1.985	37/64	.578125	14.684
3/32	.09375	2.381	19/32	.59375	15.081
7/64	.109375	2.778	39/64	.609375	15.478
1/8	.125	3.175	5/8	.625	15.875
9/64	.140625	3.572	41/64	.640625	16.272
5/32	.15625	3.969	21/32	.65625	16.669
11/64	.171875	4.366	43/64	.671875	17.066
3/16	.1875	4.763	11/16	.6875	17.463
13/64	.203125	5.159	45/64	.703125	17.859
7/32	.21875	5.556	23/32	.71875	18.256
15/64	.234375	5.953	47/64	.734375	18.653
1/4	.250	6.350	3/4	.750	19.050
17/64	.265625	6.747	49/64	.765625	19.447
9/32	.28125	7.144	25/32	.78125	19.844
19/64	.296875	7.541	51/64	.796875	20.241
5/16	.3125	7.938	13/16	.8125	20.638
21/64	.328125	8.334	53/64	.828125	21.034
11/32	.34375	8.731	27/32	.84375	21.431
23/64	.359375	9.128	55/64	.859375	21.828
3/8	.375	9.525	7/8	.875	22.225
25/64	.390625	9.922	57/64	.890625	22.622
13/32	.40625	10.319	29/32	.90625	23.019
27/64	.421875	10.716	59/64	.921875	23.416
7/16	.4375	11.113	15/16	.9375	23.813
29/64	.453125	11.509	61/64	.953125	24.209
15/32	.46875	11.906	31/32	.96875	24.606
31/64	.484375	12.303	63/64	.984375	25.003
1/2	.500	12.700	1	1.000	25.400

HP and Torque

HP is the common unit of mechanical power.

$$HP = \frac{\text{Force x Feet per Minute}}{33000}$$

$$HP = \frac{\text{Torque in In.-Lbs. x rpm}}{63025}$$

One HP = .746 kilowatt

One kilowatt = 1.34 HP

Torque is a twisting moment or turning effort.

Torque in inch-pounds = Force x Lever Arm (Inches)

$$\text{Torque in inch-pounds} = \frac{63025 \times HP}{rpm}$$

The following table gives the torque in Inch-Pounds for one HP at various speeds.

Torque at One HP

R.P.M.	In.-Lbs.	R.P.M.	In.-Lbs.	R.P.M.	In.-Lbs.	R.P.M.	In.-Lbs.
3500	18	580	109	90	700	14	4502
3000	21	500	126	80	788	12	5252
2400	26	400	158	70	900	10	6300
2000	32	300	210	60	1050	8	7878
1750	36	200	315	50	1260	6	10504
1600	39	180	350	40	1576	5	12605
1200	53	160	394	30	2101	4	15756
1160	54	140	450	20	3151	3	21008
1000	63	120	525	18	3501	2	31513
870	72	100	630	16	3939	1	63025

Minimum Sheave Sizes NEMA Standards

The National Electrical Manufacturers Association recommends certain limitations on sheave diameter and width for satisfactory motor operation. The selected sheave diameter should not be smaller nor the width greater than the dimensions below. These dimensions are from NEMA Standard MG1-14.42.

NEMA Frame Number	Horsepower at Synchronous Speed, RPM				V-Belt Sheave (inches)			
					Conventional A, B, C, and D Sections		Narrow (358) 3V, 5V, and 8V Sections	
	3600	1800	1200	900	Min. Pitch Dia.	Max. Width	Min. Outside Dia.	Max Width
143T	1 1/2	1	3/4	.5	2.2	4.25	2.2	2.25
145T	2-3	1.5-2	1	.75	2.4	4.25	2.4	2.25
182T	3	3	1.5	1	2.4	5.25	2.4	2.75
182T	5	-	-	-	2.6	5.25	2.4	2.75
184T	-	-	2	1.5	2.4	5.25	2.4	2.75
184T	5	-	-	-	2.6	5.25	2.4	2.75
184T	7.5	5	-	-	3.0	5.25	3.0	2.75
213T	7.5-10	7.5	3	2	3.0	6.51	3.0	3.38
215T	10	-	5	3	3.0	6.51	3.0	3.38
215T	15	10	-	-	3.8	6.45	3.8	3.35
254T	15	-	7.5	-	3.8	7.75	3.8	4.00
254T	20	15	-	-	4.4	7.75	4.4	4.00
256T	20-25	-	10	7.5	4.4	7.75	4.4	4.00
256T	-	20	-	-	4.6	7.75	4.4	4.00
284T	-	-	15	10	4.6	8.99	4.4	4.62
284T	-	25	-	-	5.0	8.99	4.4	4.62
286T	-	30	20	15	5.4	8.99	5.2	4.62
324T	-	40	25	20	6.0	10.25	6.0	5.25
326T	-	50	30	25	6.8	10.25	6.8	5.25
364T	-	-	40	30	6.8	11.51	6.8	5.88
364T	-	60	-	-	7.4	11.51	7.4	5.88
365T	-	-	50	40	8.2	11.51	8.2	5.88
365T	-	75	-	-	9.0	11.51	8.6	5.88
404T	-	-	60	-	9.0	14.25	8.0	7.25
404T	-	-	-	50	9.0	14.25	8.4	7.25
404T	-	100	-	-	10.0	14.25	8.6	7.25
405T	-	-	75	60	10.0	14.25	10.0	7.25
405T	-	100	-	-	10.0	14.25	8.6	7.25
405T	-	125	-	-	11.5	14.25	10.5	7.25
444T	-	-	100	-	11.0	16.75	10.0	8.50
444T	-	-	-	75	10.5	16.75	9.5	8.50
444T	-	125	-	-	11.0	16.75	9.5	8.50
444T	-	150	-	-	-	-	10.5	8.50
445T	-	-	125	-	12.5	16.75	12.0	8.50
445T	-	-	-	100	12.5	16.75	12.0	8.50
445T	-	150	-	-	-	-	10.5	8.50
445T	-	200	-	-	-	-	13.2	8.50

To obtain the minimum pitch diameters for flat belt, gearbelt, Poly-V®, chain or gear drives, multiply the 358 sheave pitch diameters in the table above by the following factors:

Drive	Factor
Chain	0.70
Flat Belt (Single Ply)	1.33
Gearbelt	0.90
Helical Gear	0.85
Poly-V	1.00
Spur Gear	0.75

Poly-V is believed to be a trademark and/or a trade name of Goodyear Tire and Rubber Co. and is not owned or controlled by Emerson Power Transmission Corporation. This trademark and/or registered trademark of others is used herein for product comparison purposes only, is the property of their respective owners and is not owned or controlled by Emerson Power Transmission Corporation. While reasonable efforts have been made to confirm ownership of the marks and names listed above, Emerson Power Transmission Corporation cannot and does not represent or warrant the accuracy of this information.

Time-tested Brand Performance

Power Transmission Solutions is a family of respected product brands that supply a variety of power transmission components designed to increase both uptime and productivity. Each of our brands brings years of time-tested reliability and proven performance results. Together they deliver a product line unparalleled in its breadth.

Browning

Founded in 1886, Browning is the world leader in V-belt drives and helical shaft-mounted speed reducers. Browning also offers a broad range of other products, including gearing, bearings and sprockets.

JAURE

Founded in 1958 in Spain, Jaure is a leader in the European marketplace. Jaure provides highly engineered couplings for industries ranging from steel and paper, hoisting to windmills and marine applications.

KOP-FLEX

Founded in 1920, Kop-Flex brings over 80 years of design and application experience to a wide range of industries. Kop-Flex products include gear, disc and resilient shaft couplings.

McGILL

Founded in 1905, McGill patented the CAMROL® cam-follower bearing, which today is offered in more than 1,400 different combinations and configurations. McGill products also include aerospace bearings, needle and spherical bearings.

Morse

Founded in 1880, Morse is well known for its performance-proven roller-chain drives, clutches, worm-gear speed reducers and couplings.

ROLLWAY

Founded in 1908, Rollway provides over 2,000 different types of cylindrical roller bearings, cylindrical and tapered thrust bearings and extra-large roller bearings. Rollway also offers a mounted metric ball bearing.

SEALMASTER

Founded in 1935, Sealmaster is the industry's preferred bearing product, known for its premium-quality mounted ball-bearing line, as well as its mounted roller bearings.

SYSTEM™ PLAST

Founded in 1985, System Plast S.p.A. is a global supplier of steel and engineered plastic conveying chains and chain tracks, modular plastic belts, composite housed bearings and Valu Guide® conveyor components and guide rails.

Put it all together.

Our family of product brands bring you a crucial advantage: the opportunity to look to a single source for all of your power transmission solutions. With the broadest product lines available anywhere, we offer you the ability to bundle products and develop custom solutions that save you both time and money.

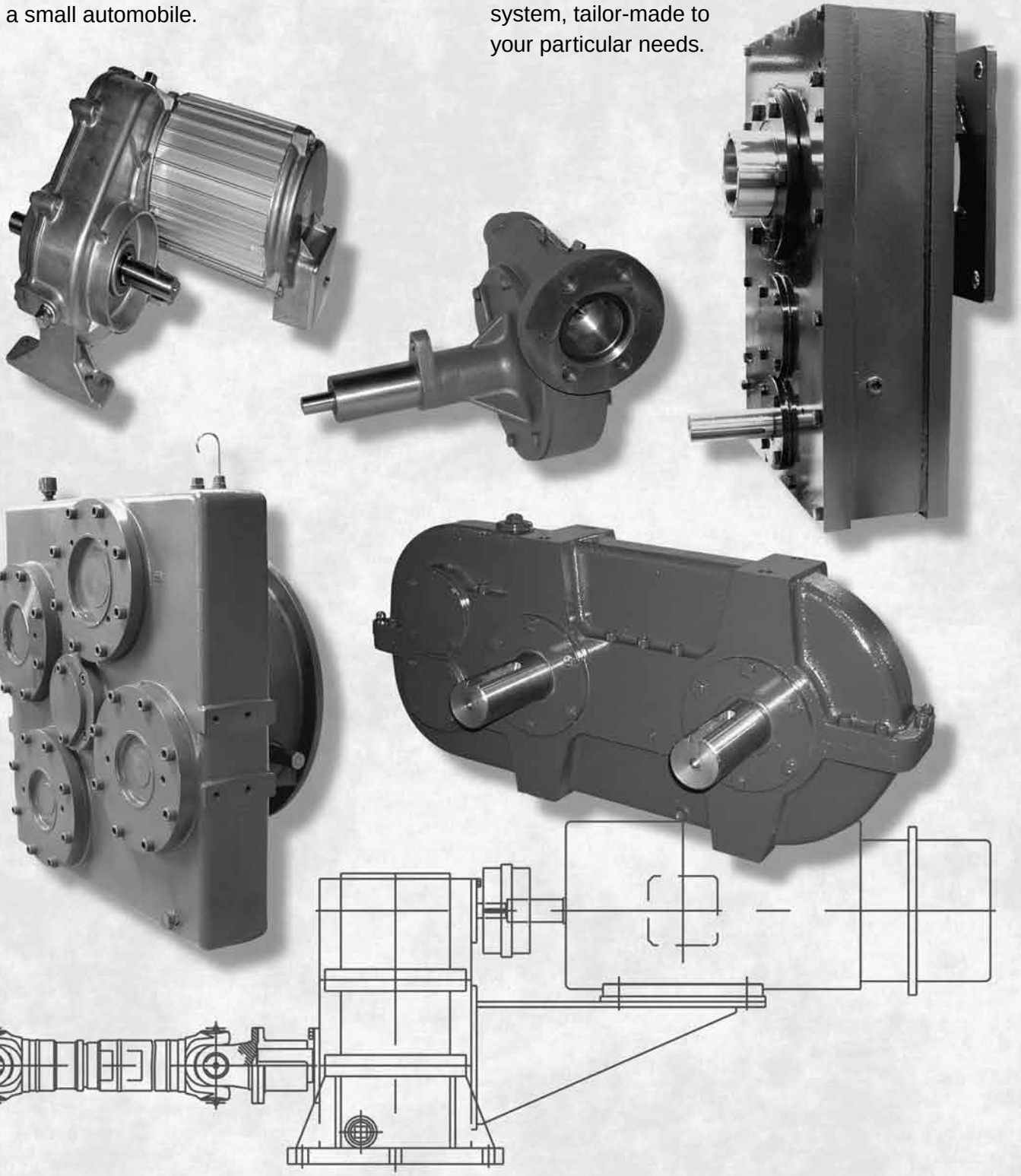


Complete Gearing Solutions...

Custom Enclosed Gearboxes Limited Only by the Imagination

We've made gearboxes small enough to fit in the palm of your hand - and as big as a small automobile.

The possible combinations of Emerson gearbox components are virtually endless. We can design and manufacture gearboxes to order - and package them to work together in a completely integrated drive system, tailor-made to your particular needs.



One Source

Emerson Has the Industry's Broadest Line of Standard Gearmotors and Speed Reducers

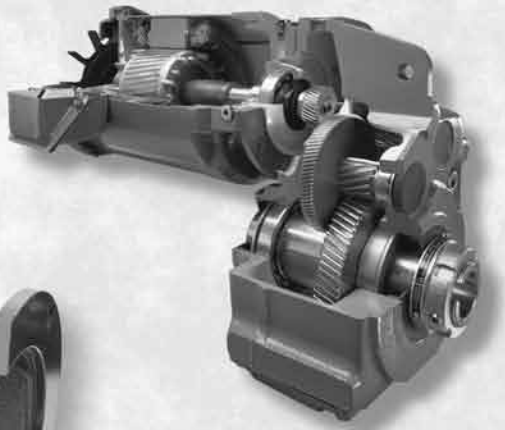


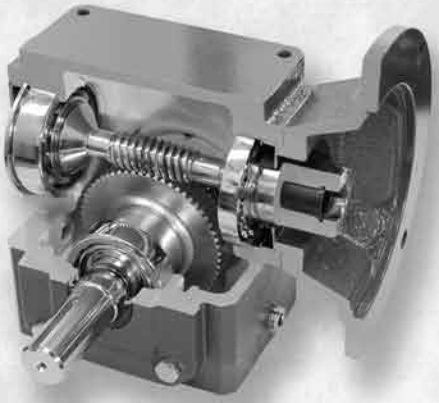
Browning
CbN In-line
Concentric Gearmotor



Morse
Cobra
Worm Gear Reducer

Morse
Raider Plus
Worm Gear Reducer

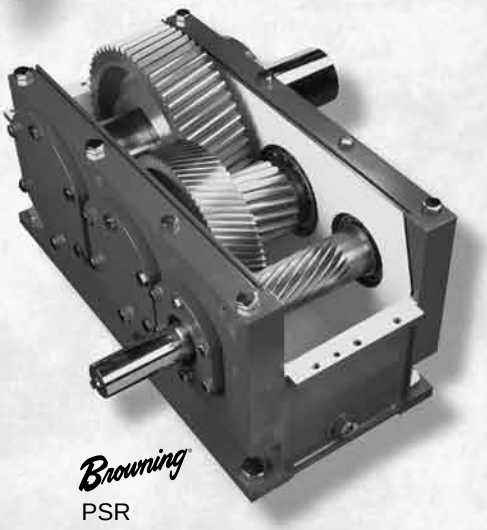




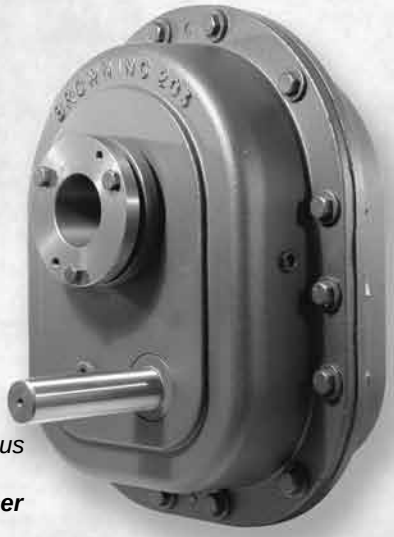
Browning
MbN Helical
Shaft Mount Gearmotor



Morse
PoweRgear
Worm Gear Reducer



Browning
PSR
Helical Parallel Shaft Gear Reducer



Browning
TORQ TAPER *Plus*
Shaft Mount Speed Reducer

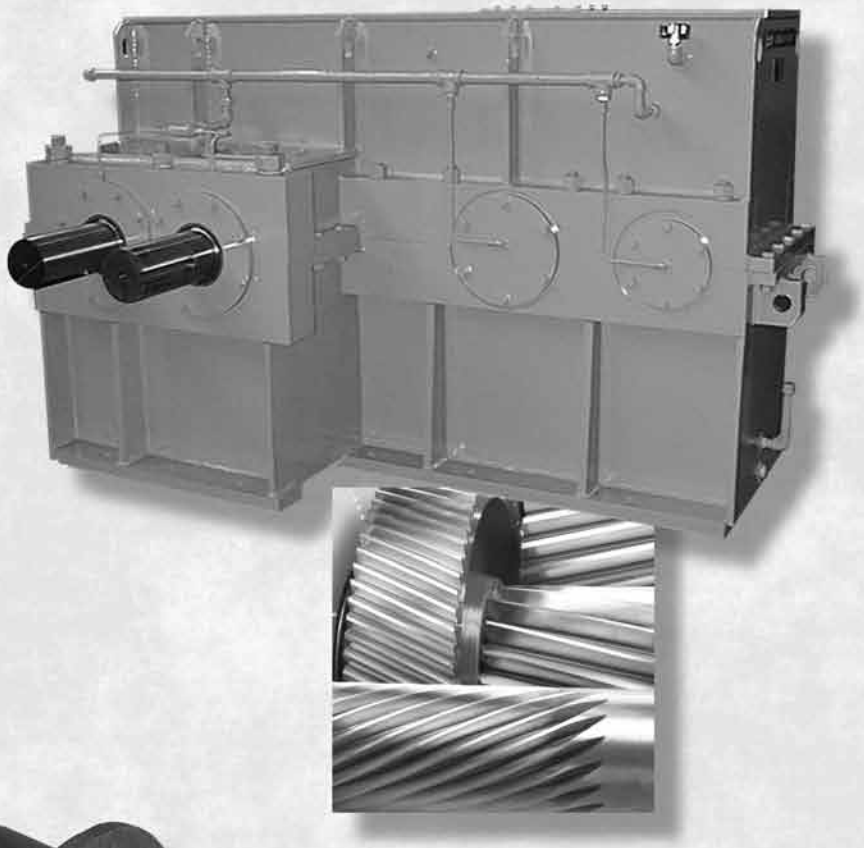
Complete Gearing Solutions... One Source

Gear Types

- Helical
- Worm
- Spiral Bevel
- Bevel
- Spur
- Combination Gearboxes

Housing Materials

- Fabricated Steel
- Cast Iron
- Ductile Iron
- Aluminum
- Stainless Steel







All sales are made on our STANDARD TERMS AND CONDITIONS OF SALE in effect at the time a customer's order is accepted. The current Terms and Conditions are set forth below:

STANDARD TERMS AND CONDITIONS OF SALE (September 2, 2009)

These Terms and Conditions, the attendant quotation or acknowledgment and all documents incorporated by specific reference therein, will be the complete and exclusive statement of the terms of the agreement governing the sale of goods ("Goods") by Emerson Power Transmission Corporation and its divisions and subsidiaries ("Seller") to Customer ("Buyer"). Buyer's acceptance of the Goods will manifest Buyer's assent to these Terms and Conditions. If these Terms and Conditions differ in any way from the terms and conditions of Buyer's order, or other documentation, this document will be construed as a counteroffer and will not be deemed an acceptance of Buyer's terms and conditions which conflict herewith.

1. PRICES: Unless otherwise specified in writing by Seller, Seller's price for the goods shall remain in effect for thirty (30) days after the date of Seller's quotation or acknowledgment of Buyer's order for the Goods, whichever occurs first, provided an unconditional, complete authorization for the immediate shipment of the Goods is received and accepted by Seller within such time period. If such authorization is not received by Seller within such thirty (30) day period, Seller shall have the right to change the price for the Good to Seller's price for the Goods at the time of shipment.

2. TAXES: Any tax or governmental charge or increase in same hereafter becoming effective increasing the cost to Seller of producing, selling or delivering the Goods or of procuring material used therein, and any tax now in effect or increase in same payable by the Seller because of the manufacture, sale or delivery of the Goods, may at Seller's option, be added to the price.

3. TERMS OF PAYMENT: Subject to the approval of Seller's Credit Department, terms are net thirty (30) days from date of Seller's invoice in U.S. currency. If any payment owed to Seller is not paid when due, it shall bear interest, at a rate to be determined by Seller, which shall not exceed the maximum rate permitted by law, from the date on which it is due until it is paid. Seller shall have the right, among other remedies, either to terminate the Agreement or to suspend further performance under this and/or other agreements with Buyer in the event Buyer fails to make any payment when due. Buyer shall be liable for all expenses, including attorneys' fees, relating to the collection of past due amounts.

4. SHIPMENT AND DELIVERY: Shipments are made F.O.B. Seller's shipping point. Any claims for shortages or damages suffered in transit shall be submitted by the Buyer directly to the carrier. While Seller will use all reasonable commercial efforts to maintain the delivery date acknowledged or quoted by Seller, all shipping dates are approximate. Seller reserves the right to make partial shipments and to segregate "specials" and made-to-order Goods from normal stock Goods. Seller shall not be bound to tender delivery of any Goods for which Buyer has not provided shipping instructions.

5. QUANTITY: Buyer agrees to accept overruns of up to ten percent (10%) of the order on "made-to-order" Goods, including parts. Any such additional items shall be priced at the price per item charged for the specific quantity ordered.

6. LIMITED WARRANTY: Subject to the limitations of Section 7, Seller warrants that the Goods will be free from defects in material and workmanship under normal use, service and maintenance for a period of one year (unless otherwise specified by Seller in writing) from the date of shipment of the Goods by Seller. **THIS IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY SELLER WITH RESPECT TO THE GOODS AND IS IN LIEU OF AND EXCLUDES ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, ARISING BY OPERATION OF LAW OR OTHERWISE, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOS WHETHER OR NOT THE PURPOSE OR USE HAS BEEN DISCLOSED TO SELLER IN SPECIFICATIONS, DRAWINGS OR OTHERWISE, AND WHETHER OR NOT SELLER'S PRODUCTS ARE SPECIFICALLY DESIGNED AND/OR MANUFACTURED BY SELLER FOR BUYER'S USE OR PURPOSE.**

This warranty does not extend to any losses or damages due to misuse, accident, abuse, neglect, normal wear and tear, unauthorized modification or alteration, use beyond rated capacity, or improper installation, maintenance or application. To the extent that Buyer or its agents has supplied specifications, information, representation of operating conditions or other data to Seller in the selection or design of the Goods and the preparation of Seller's quotation, and in the event that actual operating conditions or other conditions differ from those represented by Buyer, any warranties or other provisions contained herein which are affected by such conditions shall be null and void. If within thirty (30) days after Buyer's discovery of any warranty defects within the warranty period, Buyer notifies Seller thereof in writing, Seller shall, at its option, repair or replace F.O.B. point of manufacture, or refund the purchase price for, that portion of the goods found by Seller to be defective. Failure by Buyer to give such written notice within the applicable time period shall be deemed an absolute and unconditional waiver of Buyer's claim for such defects. Goods repaired or replaced during the warranty period shall be covered by the foregoing warranty for the remainder of the original warranty period or ninety (90) days, whichever is longer. Buyer assumes all other responsibility for any loss, damage, or injury to persons or property arising out of, connected with, or resulting from the use of Goods, either alone or in combination with other products/components.

SECTIONS 6 AND 7 APPLY TO ANY ENTITY OR PERSON WHO MAY BUY, ACQUIRE OR USE SELLER'S GOODS, INCLUDING ANY ENTITY OR PERSON WHO BUYS THE GOODS FROM SELLER'S DISTRIBUTOR AND SUCH ENTITY OR PERSON SHALL BE BOUND BY THE LIMITATIONS THEREIN.

7. LIMITATION OF REMEDY AND LIABILITY: **THE SOLE AND EXCLUSIVE REMEDY FOR BREACH OF ANY WARRANTY HEREUNDER (OTHER THAN THE WARRANTY PROVIDED UNDER SECTION 13) SHALL BE LIMITED TO REPAIR, REPLACEMENT OR REFUND OF THE PURCHASE PRICE UNDER SECTION 6. SELLER SHALL NOT BE LIABLE FOR DAMAGES CAUSED BY DELAY IN PERFORMANCE AND IN NO EVENT, REGARDLESS OF THE FORM OF THE CLAIM OR CAUSE OF ACTION (WHETHER BASED IN CONTRACT, INFRINGEMENT, NEGLIGENCE, STRICT LIABILITY, OTHER TORT OR OTHERWISE), SHALL SELLER'S LIABILITY TO BUYER AND/OR ITS CUSTOMERS EXCEED THE PRICE TO BUYER OF THE SPECIFIC GOODS PROVIDED BY SELLER GIVING RISE TO THE CLAIM OR CAUSE OF ACTION. BUYER AGREES THAT IN NO EVENT SHALL SELLER'S LIABILITY TO BUYER AND/OR ITS CUSTOMERS EXTEND TO INCLUDE INCIDENTAL, CONSEQUENTIAL OR PUNITIVE DAMAGES. THE TERM "CONSEQUENTIAL DAMAGES" SHALL INCLUDE, BUT NOT BE LIMITED TO, LOSS OF ANTICIPATED PROFITS, LOSS OF USE, LOSS OF REVENUE, COST OF CAPITAL AND DAMAGE OR LOSS OF OTHER PROPERTY OR EQUIPMENT.**

It is expressly understood that any technical advice furnished by Seller with respect to the use of the Goods is given without charge, and Seller assumes no obligation or liability for the advice given, or results obtained, all such advice being given and accepted at Buyer's risk.

GOODS AND/OR SERVICES SOLD HEREUNDER ARE NOT FOR USE IN ANY NUCLEAR AND RELATED APPLICATIONS. Buyer accepts goods and/or services with the foregoing understanding, agrees to communicate the same in writing to any subsequent purchaser or users and to defend, indemnify and hold harmless Seller from any claims, losses, suits, judgments and damages, including incidental and consequential damages, arising from such use, whether the cause of action be based in tort, contract or otherwise, including allegations that the Seller's liability is based on negligence or strict liability.

8. EXCUSE OF PERFORMANCE: Seller shall not be liable for delays in performance or for non-performance due to acts of God, acts of Buyer, war, riot, fire, flood, other severe weather, sabotage, or epidemics; strikes or labor disturbances; governmental requests, restrictions, laws, regulations, orders or actions; unavailability of or delays in transportation; default of suppliers; or unforeseen circumstances or any events or causes beyond Seller's reasonable control. Deliveries may be suspended for an appropriate period of time as a result of the foregoing. If Seller determines that its ability to supply the total demand for the Goods, or to obtain material used directly or indirectly in the manufacture of the Goods, is hindered, limited or made impracticable due to causes addressed in this Section 8, Seller may allocate its available supply of the Goods or such material (without obligation to acquire other supplies of any such Goods or material) among itself and its purchasers on such basis as Seller determines to be equitable without liability for any failure of performance which may result therefrom. Deliveries suspended or not made by reason of this section may be canceled by Seller upon notice to Buyer without liability, but the balance of the agreement shall otherwise remain unaffected.

9. CANCELLATIONS AND DELAYS: The Buyer may cancel orders only upon written notice and upon payment to Seller of cancellation charges which include, among other things, all costs and expenses incurred and commitments made by the Seller and a reasonable profit thereon. Any request by Buyer to extend the delivery schedule must be agreed to in writing by the Seller. If agreement cannot be reached, Seller may deliver product to the last known ship to address and invoice the Buyer upon completion of the product or prior delivery date, whichever is later.

10. CHANGES: Buyer may request changes or additions to the Goods consistent with Seller's specifications and criteria. In the event such changes or additions are accepted by Seller, Seller may revise the price and delivery schedule. Seller reserves the right to change designs and specifications for the Goods without prior notice to Buyer, except with respect to Goods being made-to-order for Buyer.

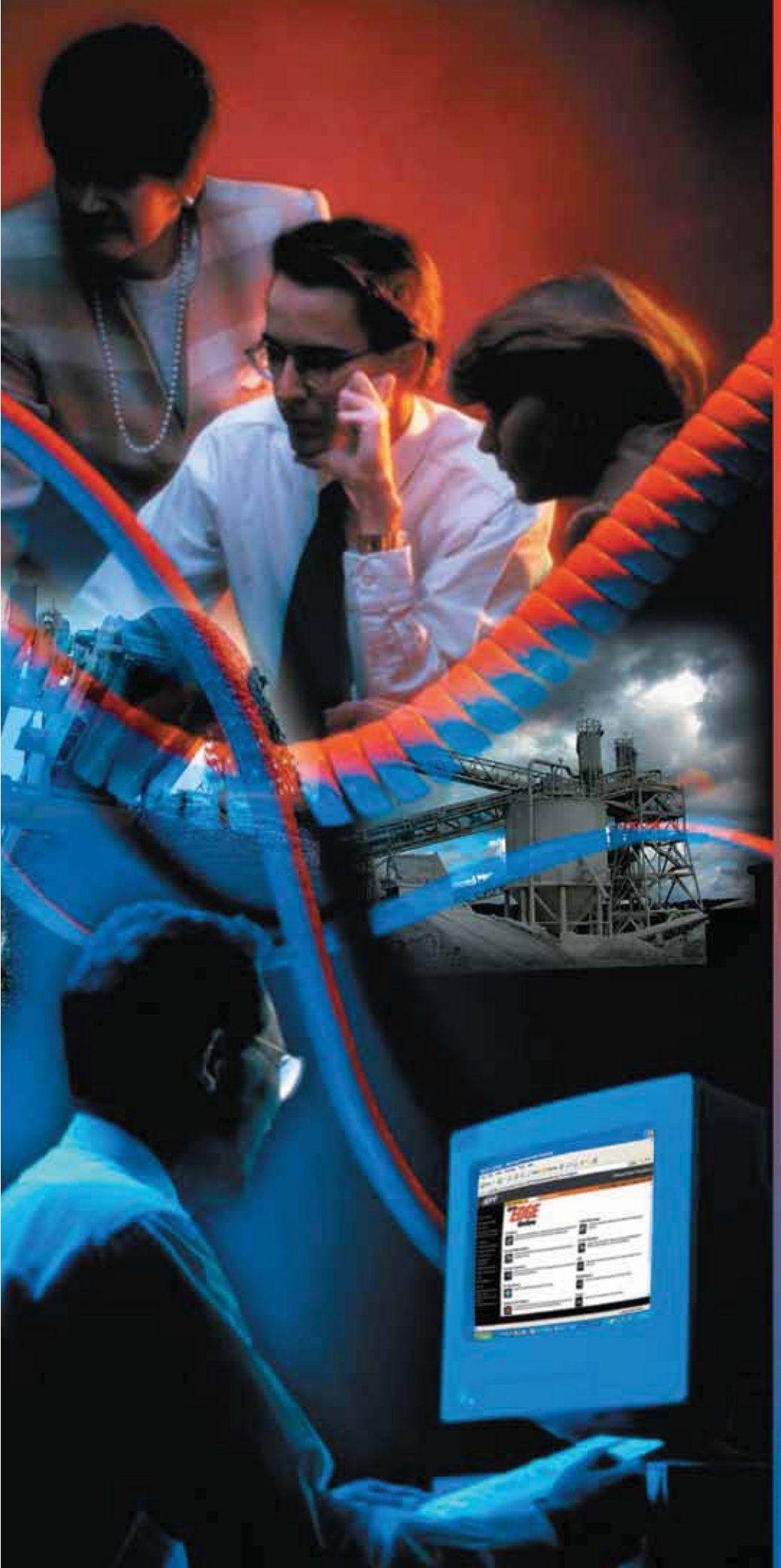
11. TOOLING: Tool, die, and pattern charges, if any, are in addition to the price of the Goods and are due and payable upon completion of the tooling. All such tools, dies and patterns shall be and remain the property of Seller. Charges for tools, dies, and patterns do not convey to Buyer, title, ownership interests in, or rights to possession or removal, nor prevent their use by Seller for other purchasers, except as otherwise expressly provided by Seller and Buyer in writing with reference to this provision.

12. ASSIGNMENT: Buyer shall not assign its rights or delegate its duties hereunder or any interest therein or any rights hereunder without the prior written consent of the Seller, and any such assignment, without such consent, shall be void.

13. PATENTS AND COPYRIGHTS: Subject to Section 7, Seller warrants that the Goods sold, except as are made specifically for Buyer according to Buyer's specifications, do not infringe any valid U.S. patent or copyright in existence as of the date of delivery. This warranty is given upon the condition that Buyer promptly notify Seller of any claim or suit involving Buyer in which such infringement is alleged, and, that Buyer cooperate fully with Seller and permit Seller to control completely the defense or compromise of any such allegation of infringement. Seller's warranty as to use only applies to infringements arising solely out of the inherent operation (i) of such Goods, or (ii) of any combination of Goods in a system designed by Seller. In the event such Goods, singularly or in combination, are held to infringe a U.S. patent or copyright in such suit, and the use of such Goods is enjoined, or in the case of a compromise by Seller, Seller shall have the right, at its option and expense, to procure for Buyer the right to continue using such Goods, or replace them with non-infringing Goods; or modify same to become non-infringing; or grant Buyer a credit for the depreciated value of such Goods and accept return of them.

14. MISCELLANEOUS: These terms and conditions set forth the entire understanding and agreement between Seller and Buyer, and supersede all other communications, negotiations and prior oral or written statements regarding the subject matter of these terms and conditions. No change, modification, rescission, discharge, abandonment, or waiver of these terms and conditions of Sale shall be binding upon the Seller unless made in writing and signed on its behalf by an officer of the Seller. No conditions, usage or trade, course of dealing or performance, understanding or agreement purporting to modify, vary, explain, or supplement these Terms and Conditions shall be binding unless hereafter made in writing and signed by the party to be bound, and no modification shall be affected by the acceptance of purchase orders or shipping instruction forms containing terms at variance with or in addition to those set forth herein. Any such modifications or additional terms are specifically rejected by Seller. No waiver by Seller with respect to any breach or default or any right or remedy and no course of dealing, shall be deemed to constitute a continuing waiver of any other breach or default or of any other right or remedy, unless such waiver be expressed in writing and signed by the party to be bound. Seller is not responsible for typographical or clerical errors made in any quotation, orders or publications. All such errors are subject to correction. The validity, performance, and all other matters relating to the interpretation and effect of this contract shall be governed by the law of the state of New York. The United Nations Convention on the International Sale of Goods shall not apply to any transaction hereunder.

SMTP
TorqTaper Plus Shaft Mount Reducers
HMTP
Hydraulic Input TorqTaper Plus Shaft Mount Reducers
CMTP
C-Face Input TorqTaper Plus Shaft Mount Reducers
Shaft Mount Accessories
TorqTaper Plus Accessories
Shaft Mount Engineering
TorqTaper Plus Engineering Data
Raider Plus
Raider Plus Worm Gear Reducers
WD Raider Plus
Washdown Duty Raider Plus Worm Gear Reducers
SS Raider Plus
Stainless Steel Raider Plus Worm Gear Reducers
Cobra
Cobra Worm Gear Reducers
PoweRgear
PoweRgear W, V, G and S Worm Gear Reducers
IRA Gearmotors
IRA Industrial Right Angle Worm Gearmotors
IRA Reducers
IRA Industrial Right Angle Worm Gear Reducers
Bevel Red. Cast Iron
Cast Iron Right Angle Bevel Reducers
ARA Reducers
ARA Aluminum Right Angle Bevel Reducers
Bevel Red. M Series
M Series Right Angle Bevel Reducers
C-Face Motors
C-Face Standard and Stainless Steel Motors
C-Face IntelliGear
C-Face IntelliGear Plus Variable Speed Motors

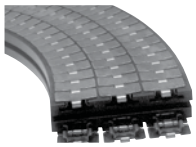


Experience the Power of Power Transmission Solutions Edge® Online

- **eCatalog (an industry first)** - an interactive, robust electronic "database" with over 100,000 part numbers searchable by part number or general description providing features and benefits of each product line
- **Product Selection (an industry first)** - selection tools with extensive engineering efficiency benefits
- **Smart Interchange** - a dynamic tool that provides the user an intelligent interchange for competitive parts
- **Media Library** - digital (PDF) version of paper catalogs, documents and downloadable installation and maintenance instructions
- **CAD** - an online service that allows users to view and upload a 2D or 3D CAD template drawing in a number of customer-compatible formats to be integrated into your drawings

Application Engineering

1 800 626 2093



SYSTEM™ PLAST

Conveying Chain



SEALMASTER®

Mounted Ball Bearings



Morse®

Clutches



Browning®

Shaft Mount Reducers



SEALMASTER®

Mounted Roller Bearings



ROLLWAY®

Roller Bearings



Browning®

V-Belt Drives



Morse®

Chain



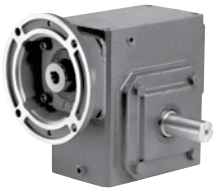
KOP-FLEX®

Couplings



JAURE®

Wind Couplings



Morse®

Worm Gearing



McGILL®

Precision Bearings

Emerson Industrial Automation
Power Transmission Solutions

Corporate Headquarters
7120 New Buffington Road
Florence, KY 41042
Telephone 859 342 7900

www.emerson-ept.com

EMERSON™
Industrial Automation

Shaft Mount Worm Gear and Bevel Reducer Catalog
MC09006 • Form 9242

APPLICATION CONSIDERATIONS

The proper selection and application of power transmission products and components, including the related area of product safety, is the responsibility of the customer. Operating and performance requirements and potential associated issues will vary appreciably depending upon the use and application of such products and components. The scope of the technical and application information included in this publication is necessarily limited. Unusual operating environments and conditions, lubrication requirements, loading supports, and other factors can materially affect the application and operating results of the products and components and the customer should carefully review its requirements. Any technical advice or review furnished by Emerson Power Transmission Corporation and its divisions with respect to the use of products and components is given in good faith and without charge, and Emerson assumes no obligation or liability for the advice given, or results obtained, all such advice and review being given and accepted at customer's risk.

For a copy of our Standard Terms and Conditions of Sale, Disclaimers of Warranty, Limitation of Liability and Remedy, please contact Emerson Power Transmission Customer Service at 1-800-626-2120. These terms and conditions of sale, disclaimers and limitations of liability apply to any person who may buy, acquire or use an Emerson Power Transmission Corporation product referred to herein, including any person who buys from a licensed distributor of these branded products.

Emerson Power Transmission does not warrant the accuracy of the information contained in this document. All interchanges should be compared with actual current specifications and/or manufacturing drawings. For a copy of our standard terms and conditions, contact Emerson Power Transmission at 1-800-626-2120.

Browning, McGill and Sealmaster are registered trademarks of Emerson Power Transmission Manufacturing. Jaure is a registered trademark of Jaure, S.A. Kop-Flex is a registered trademark of Kop-Flex Inc. Rollway is a registered trademark of Emerson Power Transmission Ithaca, Inc. Solus is a registered trademark of Solus Industrial Innovations, LLC. System Plast is a registered trademark of System Plast S.p.A. Morse is a registered trademark of Borg-Warner Corporation, used herein under exclusive license.

The Emerson logo is a trademark and a service mark of Emerson Electric Co.
© 2009 Emerson Power Transmission Manufacturing, L.P. or affiliates. All rights reserved. Printed in U.S.