Gear Drives | Planetgear™ Planetary Gear Drives

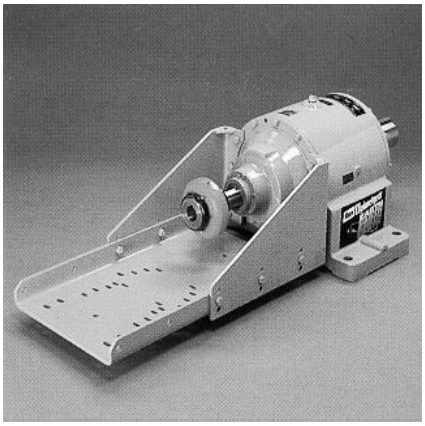
(English-Inch)

REXNORD

Table of Contents

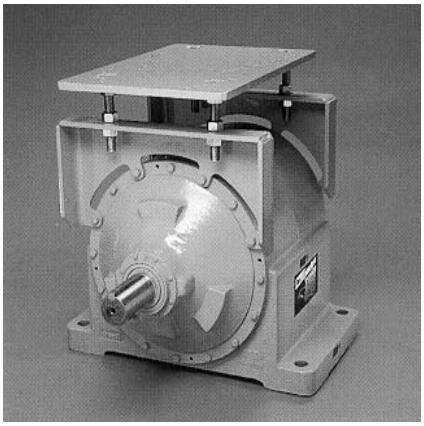
Note: In accordance with our policy to constantly improve products, the specifications in this catalog are subject to change without notice.

Accessories

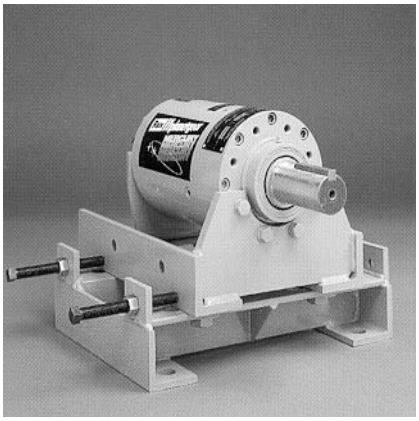


Rigid scoop facilitates mounting and alignment of most motor frame sizes and eases final installation of the drive package.

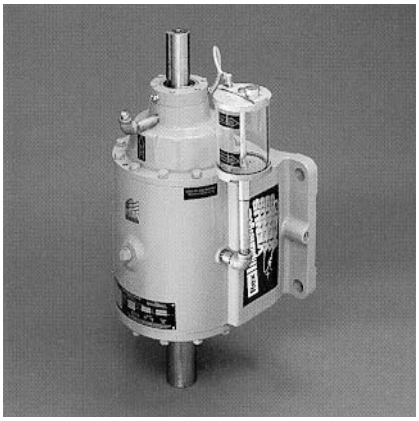
Fans and shrouds furnished to maximize lubricant life and reducer performance.



Planetgear motor mount saves space and allows precise speed adjustment.

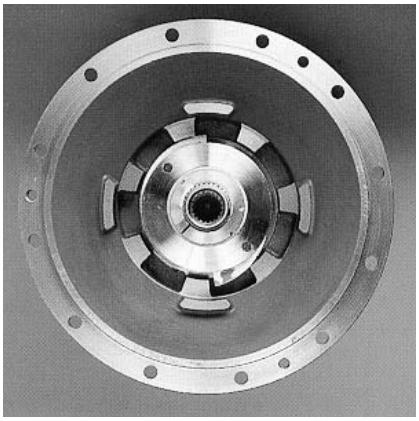


Slidebases available for all reducers to facilitate chain tensioning.

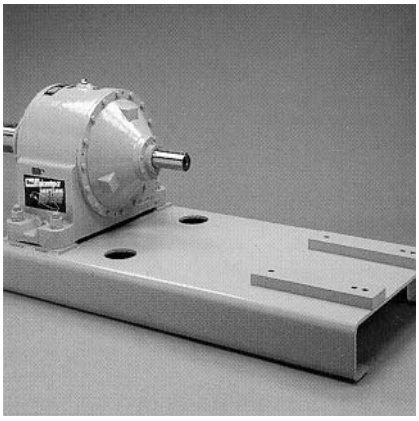


Reducers are easily modified for vertical service with either low speed or high speed shaft down.

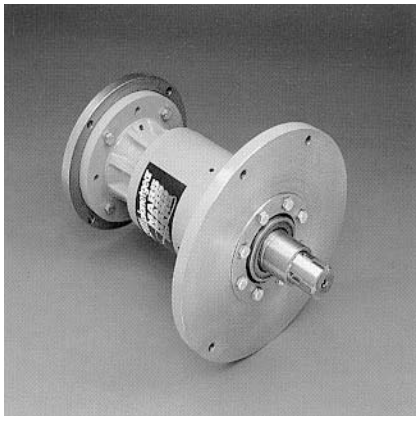
Flanged motor mounts are available in Mercury through Polaris sizes, for NEMA frame sizes 56C to 286TC.



Internally mounted, oil lubricated backstops are available for all Planetgear reducers. Backstops are not limited by load, duration, or frequency of operation. They can operate in extreme pressure oil, and can be installed in the field without removal of gearing.



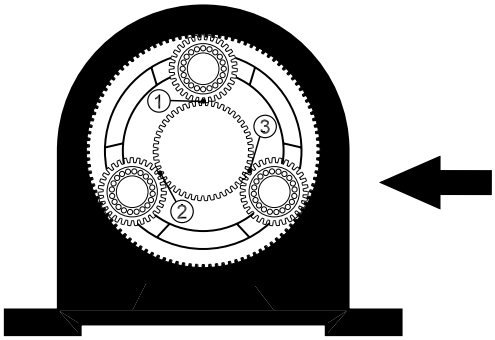
Large motors are easily accommodated on sturdy baseplates. Planetgear will furnish motors or mount those furnished by others.



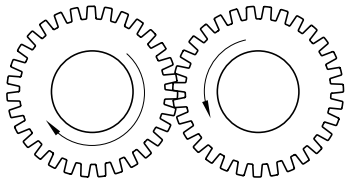
Custom adapters are available to facilitate mounting configurations.

Proven, Reliable Gear Performance

With Planetgear reducers, self-aligning planet carriers float radially and axially to provide perfect alignment of the gear train. Unlike "traditional gears" which have only one point of contact per reduction, Planetgear transmits the torque through three points of contact between sun gears and planet gears. The floating gear train ensures equal loading among the three points. State of the art heat-treating techniques provide hardened, wear-resistant gearing.



Three points of contact



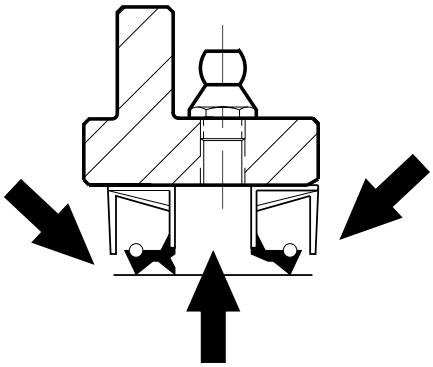
Traditional Gears — only one point of contact

Superior Seal Protection

How many reducer failures are attributed to bearing contamination?

Planetgear reducers are designed with **TWO** seals on both the input and output shafts. Our successful seal layout can be seen in the schematic shown below.

Double-lipped inboard seal:
Keeps the oil in and grease out.



Single-lipped outboard seal:
Keeps the contaminants out.

Grease Purgeable Cavity

Planetgear reducers assure you extended reducer service-life even in the worst environments.

SELECTION PROCEDURES

General Selection Information

INTRODUCTION

Before a reducer can be selected for any application, the equivalent output torque or horsepower must be computed by multiplying the actual or specified torque or horsepower by the service factor (S.F.) for the particular load classification for which the unit is to be used. It is necessary that the unit selected have a capacity equal to or in excess of the equivalent output torque (lb-in) or horsepower.

Reducers can be selected by Service Factor or Load Classification. Both Service Factors and Load Classifications are a means of classifying different equipment and applications into a uniform guideline useful for reducer selection. Due to variations in application, service factors are used to adjust equipment ratings to accommodate differing load conditions. Applications involving unusual or severe loading should be carefully reviewed before a service factor is applied (consult factory). Care must be taken by the customer to isolate the reducer from unplanned transient loads or vibrating conditions.

For unusual application requirements such as those listed below, consult the factory for application assistance.

- Temperatures less than 15°F (-9°C) on more than 125°F (52°C).
- Corrosive, chemical or explosive fumes.
- Tilted, rotated ceiling, wall or submerged mounting requirements.
- Unusual atmosphere such as vacuum, high pressure, or high altitude.

Momentary Overloads

The maximum momentary or starting load applied to a reducer must not exceed 250% of rated load. Rated load is defined as the reducer rating at a service factor of 1.0. Applications with high torque motors and motors for intermittent operations should be referred to the factory. Also, applications where extreme repetitive shock occurs or when high-energy loads must be absorbed, as when stalling, require special considerations and should be referred to the factory.

Brake Loads

When drives are equipped with brakes on the input, and the torque rating of the brake exceeds the rating of the motor, the rating of the brake dictates the selection of the reducer.

Operating Temperature

It is important the maximum oil temperature not exceed 200°F (93°C). If a continuous ambient temperature of 115°F (46°C) or higher exists, please contact the factory. Thermal limitations may exist for some units with low ratios. Heat exchangers are available for these applications that exceed the thermal capacity of reducers with fans and shrouds.

Thermal Capacity

Heat exchangers are available for those applications that are thermally limited, contact factory.

Moment of Inertia

The moment of inertia values are listed in **Table 17**, **page 110**.

Lubrication

Planetgear reducers are shipped without oil and must be filled to the specified oil level before start-up. Lubrication instructions can be found on the reducer nameplate, including required frequency of oil changes. Additional information on lubrication and oil capacities are listed in the Owners Manual.

Multi-Speed Selections

Reducers that will be operated at a variety of input speeds must be selected for the speed that yields the highest output torque requirement.

Backstops

Reverse rotation is prevented through the use of Planetgear backstops on all reducer series. The ratchet mechanism engages at any frequency for any time span, thus providing indexing, or positioning capabilities. The pawls disengage by centrifugal force assuring quiet operation.

Our internally mounted backstops operate in conventional gear oil.

Available as stocked accessories, they are easily installed or reversed in the field without removal of gearing. Conversion of our standard Mercury and Mars models requires a complete backstop input endbell assembly.

When ordering a Planetgear reducer with a backstop, indicate the reducer rotation as clockwise or counter-clockwise when looking towards the reducer from the low speed end. Note: consult factory if using a backstop in an application that has an input speed of 400 RPM or less.

MEMBER OF AGMA

SELECTION PROCEDURES

Motorized Selection (Scoop Mount and C-face)

Three classes designated by Roman Numerals I, II and III were established by NEMA to relate the package or "Drive" to a large variety of applications. These applications were classified by load factors and hours per day of use. A service classification table using this nomenclature for typical applications is located on **pages 3 & 4**. Reducer selections can be made based on applying these service classifications to specific motor ratings and speeds.

Planetgear scoop mounted motor reducers are available for all reducer series with capacities ranging from 1 horsepower (143T) to 250 horsepower (447T). These may be a face mounted or common base type configuration depending upon the motor size. Planetgear can furnish motors or mount those furnished by others.

Rexnord Omega couplings are standard on the high speed shaft of scoop mounted reducers. Selections for the Omega coupling can be found in **Table 7** on **page 98**. A wide choice of accessories including backstops, slidebases, and coupling guards are also available.

Planetgear C-face mounted motor reducers are available for Mercury through Polaris, and Neptune and Orion quadruple and quintuple series. Horsepower capacities range from 1/2 horsepower (56C) to 30 horsepower (286TC). Planetgear can furnish motors or mount those furnished by others. Reference **Figure 1**, **page 114** for sectional view of C-face input.

Planetgear Selection Procedure - Reducer with Scoop or C-face Mount

Step 1 — *Determine the service class*
Table 1, **pages 3 & 4** lists service classes by industry, type of service, and hours per day of operation.

Step 2 — *Selecting the unit size*
Table 3, **pages 11 - 58** list scoop mount selections for service class I, II and III for 1750, 1430, 1170, and 870 RPM motors. **Table 4**, **pages 59 - 70** list C-face mount selections for service class I, II and III for 1750, 1430, 1170, and 870 RPM motors.

Read the series name under the desired motor horsepower and opposite the approximate output speed required. The number following the reducer name in the selection table is the output capacity in (x1000) pound-inches of torque.

Note: If ambient temperature exceeds 84°F (29°C), see Step 6 of Non-motorized selection procedure to determine reducer thermal rating.

Step 3 — *Check for Overhung Load*
Follow the overhung load procedure on **page 9** to confirm the selection when radial loads exist on the output shaft. For units that have a thrust load applied, contact factory with radial and thrust load information.

Step 4 — *Check the Dimensions*
Refer to the dimensional drawings on **pages 77 to 82** for feet mounted motors, and **pages 83 to 84** for C-face reducers. Confirm the spacial requirements of the selected reducer.

Step 5 — *Omega Coupling Selection (scoop mount reducers only)*
Refer to **page 98** for selection information based on reducer series and load classification.

Note: Scoop mount reducers include face scoops and baseplates.

Step 6 — *Order the Planetgear Reducer*
Refer to **page 10** for information required when ordering reducers.

SELECTION EXAMPLE — REDUCER WITH SCOOP MOUNT

REQUIRED:

A drive for a uniformly fed chain conveyor operating 16 hours per day is powered by a 10 hp, 1750 rpm (215T frame) motor. Desired reducer output speed is 41 rpm. A roller chain drive having a 160B17 roller chain sprocket (10.844 inches Pitch Diameter) is mounted so that the centerline of the load is 2 1/2 inches from the reducer seal cage.

SOLUTION:

Step 1 — Determine service class
Since 16 hours per day is greater than 10 hours per day, Class II is chosen from **Table 1** on **pages 3 & 4**.

Step 2 — Determine the unit size
From Class II selection, reference **Table 3** on **pages 15 and 16** for 1750 rpm. Locate the desired input motor horsepower column (10 hp) and read the reducer name opposite the approximate output speed that is closest to the desired value. Select Venus-22 series with 40 rpm approximate output speed and 43.78 nominal ratio. This selection will be a Venus with a 22,000 lb-in torque capacity.

Step 3 — Check for overhung and thrust loads
(See calculation instructions **page 9**)

$$OHL = \frac{(126{,}000)(10)(1.0)(0.96)}{(10.844)40} = 2{,}788 \text{ lbs.}$$

The overhung load capacity from **Table 11** on **page 100** for Venus reducer having 43.78 nominal ratio is 9,630 pounds. The rated capacity is greater that the actual value, therefore the selection is approved.

Step 4 — Check Dimensions
The dimensional drawing on **page 71to 81** shows the Venus reducer with Scoop Mount and Slidebase.

a) Series name = Venus 22
b) Class of service = Class II
c) Input motor hp = 10 hp
d) Motor frame size = 215T
e) Input motor speed = 1750 rpm
f) Nominal ratio = 43.78
g) Desired accessory = Slidebase, Scoop Mount, Coupling and Guard

SELECTION PROCEDURES

Service Class Selections

TABLE 1 - SERVICE CLASSES

APPLICATION	SERVICE 10 HRS/ DAY	SERVICE 24 HRS/ DAY
AGITATORS		
Pure Liquids	I	II
Liquids & Solids	II	II
Liquids - Variable Density	II	II
APRON CONVEYORS		
Uniformly Loaded or Fed	I	II
Heavy Duty	II	II
APRON FEEDERS	II	II
ASSEMBLY CONVEYORS		
Uniformly Loaded or Fed	I	II
Heavy Duty	II	II
BALL MILLS	**	**
BARGE HAUL PULLERS	III	III
BARKING		
Drums (coupling connected)	-	III
Mechanical	-	III
BAR SCREENS (Sewage)	I	II
BATCHERS (Textile)	II	II
BELT CONVEYORS		
Uniformly Loaded or Fed	I	II
Heavy Duty	II	II
BELT FEEDERS	II	II
BENDING ROLLS (Machine)	II	II
BLOWERS		
Centrifugal	I	II
Lobe	II	II
Vane	I	II
BOTTLING MACHINERY	I	II
BREWING & DISTILLING		
Bottling Machinery	I	II
Brew Kettles, Cont. Duty	*	II
Can Filling Machines	*	II
Cookers, Cont. Duty	*	II
Mash Tubs, Cont. Duty	*	II
Scale Hoppers, Freq. Starts	II	II
BRICK PRESS (Clay Working)	III	III
BRIQUETTE MACHINES		
(Clay Working)	III	III
BUCKET		
Conveyors Uniform	I	II
Conveyors Heavy Duty	II	II
Elevators Cont.	I	II
Elevators Uniform	I	II
Elevators Heavy duty	II	II
CALENDERS		
Rubber	II	II
Textile	II	II
CAN FILLING MACHINES	II	II
CANE KNIVES	I	II
CARD MACHINES (Textile)	II	II
CAR DUMPERS	III	III
CAR PULLERS	II	III
CEMENT KILNS	**	**
CENTRIFUGAL		
Blowers, Compressors,		
Discharge Elevators,		
Fans or Pumps	I	II
CHAIN CONVEYORS		
Uniformly Loaded or Fed	I	II
Heavy Duty	II	II
CHEMICAL FEEDERS		
(Sewage)	I	II
CLARIFIERS	I	II
CLASSIFIERS	II	II
CLAY WORKING INDUSTRY		
Brick Press	III	III
Briquette Machines	III	III
Clay Working Machinery	II	II
Pug Mills	II	II
COLLECTORS (Sewage)	I	II
COMPRESSORS		
Centrifugal	I	II
Lobe	II	II
Reciprocating		
Multi-Cylinder	II	II
Single Cylinder	III	III
CONCRETE MIXERS		
Continuous	II	II
Intermittent	II	III
CONVEYORS - Uniformly		
Loaded or Fed: Apron,		
Assembly, Belt, Bucket, Chain		
Flight, Oven, Screw	I	II
CONVEYOR - Heavy Duty		
Not Uniformly Fed: Apron,		
Assembly, Belt, Bucket, Chain		
Flight, Oven, Screw	II	II
CONVEYOR - Severe Duty		
Live Roll	*	*
Reciprocating, Shaker	III	III
COOKERS (Brewing & Distilling)		
(Food)	I	II
COOLING TOWER FANS	*	*
CRANES		
Dry Dock Cranes	◆	◆
Main Hoist	*	*
Bridge and Trolley Travel	*	*
CRUSHERS		
Ore or Stone	III	III
Sugar	-	II
DEWATERING SCREENS		
(Sewage)	II	II
DISC FEEDERS	I	II
DISTILLING (See Brewing)		
DOUBLE ACTING PUMPS		
2 or More Cylinders	II	II
Single Cylinder	*	*
DOUGH MIXER (Food)	II	II
DRAW BENCH (Metal Mills)		
Carriage & Main Drive	II	III
DREDGES		
Cable Reels, Conveyors	II	III
Cutter Head & Jig Drives	III	III
Maneuvering Winches, Pumps	II	II
Screen Drives	III	III
Stackers, Utility Winches	II	II
DRY DOCK CRANES	◆	◆
DRYERS & COOLERS		
(Mills, Rotary)	-	III
DYEING MACHINERY		
(Textile)	II	II
ELEVATORS		
Bucket - Uniform Load	I	II
Bucket - Heavy Duty	II	II
Bucket - Continuous	I	II
Centrifugal Discharge	I	II
Escalators	*	*
Freight	*	*
Gravity Discharge	I	II
Man Lifts, Passenger	*	*
EXTRUDERS □	□	□
FANS		
Centrifugal	I	II
Cooling Towers	*	*
Forced Draft	-	II
Induced Draft	II	II
Large (Mine, etc.)	II	II
Large (Industrial)	II	II
Light (Small Diameter)	I	II
FEEDERS		
Apron, Belt	II	II
Disc	II	II
Reciprocating	III	III
Screw	II	II
FLIGHT		
Conveyors, Uniform	I	II
Conveyors, Heavy	II	II
FOOD INDUSTRY		
Beet Slicers	II	II
Bottling, Can Filling Mach	I	II
Cereal Cookers	I	II
Dough Mixers, Meat Grinders	II	II
GENERATORS (Not Welding)	I	II
GRAVITY DISCHARGE		
ELEVATORS	I	II
HAMMER MILLS	III	III
HOISTS		
Heavy Duty	III	III
Medium Duty	II	III
Skip Hoist	II	III
INDUCED DRAFT FANS	II	II
KILNS	**	**
LAUNDRY WASHERS & TUMBLERS	II	II
LINE SHAFTS		
Driving Processing Equip	II	III
Other Line Shafts, Light	I	II
LIVE ROLL CONVEYORS	*	*
LOBE BLOWERS OR COMPRESSORS	II	II
LOG HAULS (Lumber)		
Incline-well Type	III	III
LOOMS (Textile)	II	II
LUMBER INDUSTRY		
Barkers - Spindle Feed	II	III
Barkers - Main Drive	III	III
Carriage Drive	*	*
Chain - Floor	II	III
Chains - Green	II	III
Conveyors		
Burner	II	III
Main or Heavy Duty	II	III
Main Log	III	III
Re-Saw Merry-Go-Round	II	III
Slab	III	III
Transfer	II	III
Cut-Off Saws–Chain & Drag	II	III
Debarking Drums	III	III
Feeds - Edger	II	III
Feeds - Gang	III	III
Feeds - Trimmer	II	III
Log Deck	III	III
Log Hauls- Incline-well type	III	III
Log Turning devices	III	III
Planer Feed	II	III
Planer Tilting Hoists	II	III
Rolls, Live Off Bearing		
Roll Cases	III	III
Sorting, Table, Tipple Hoist	II	III
Transfers - Chain & Craneway	II	III

◆ DRY DOCK CRANES (Hammerhead, Rotating and Whirler, Stationary or Moving) for *any duration of service:* Main Hoist, Auxiliary Hoist, Boom (Lifting): 3.00 S.F.; Rotating (Swing or Slew): 3.00 S.F.; Tracking (Drive Wheels): 3.00 S.F.

● Service factors for paper mill application are applied to nameplate rating of electric motor at the motor rated base speed - consistent with TAPPI Standards.

Δ When a super calender operates over a speed range of part constant hp and torque and the constant hp speed range is greater than 1.5:1, use a service factor of 1.0 at base speed. When operating at constant torque over the entire speed range or when the constant hp speed range is less than 1.5:1 a 1.25 factor should be applied.

* Consult Factory. ** See Mills, Rotary. ■ Using anti-friction bearings only. □ See Rubber & Plastics Industries

TABLE 1 - SERVICE CLASSES (cont.)

APPLICATION	SERVICE 10 HRS/ DAY	SERVICE 24 HRS/ DAY
Tray Devices	II	III
Veneer Lathe Drives	*	*
MACHINE TOOLS		
Auxiliary Drives	I	II
Bending Rolls	II	II
Main Drives	II	II
Notching Press (Belted)	*	*
Plate Planers	III	III
Punch Press (Geared)	III	III
Tapping Machines	III	III
MANGLE (Textile)	II	II
MAST TUBS (Brewing & Distilling)	I	II
MEAT GRINDERS (Food)	II	II
METAL MILLS		
Draw Bench Carriages & Main Drives	II	III
Pinch, Dryer & Scrubber Rolls Reversing	*	*
Slitters	II	II
Table Conveyors		
Non-Reversing		
Group drives	II	III
Individual	III	III
Reversing	*	*
Wire Drawing & Flattening Machines	II	III
Wire Winding Machines	II	II
MILLS, ROTARY		
Ball and Rod Mills		
with Spur Ring Gear	-	III
with Helical Ring Gear	-	III
Direct connected	-	III
Kilns, Dryers, Coolers		
Pebble, Plain & Cement Kilns	*	*
Wedge bar	-	III
Tumbling Barrels	III	III
MIXERS (Also see Agitators)		
Concrete, Cont.	II	II
Concrete, Int.	II	III
Constant Density	I	II
Variable Density	II	II
NAPPERS (Textile)	II	II
OIL INDUSTRY		
Chillers	II	II
Oil Well Pumping	*	*
Paraffin Filter Press	II	II
Rotary Kilns	II	II
ORE CRUSHERS	III	III
OVEN CONVEYORS		
Uniform	I	II
Heavy Duty	II	II
PAPER MILLS ●		
Agitator (Mixer)	-	II
Agitator for Pure Liquors	-	II
Barking Drums, Barkers –		
Mechanical	-	III
Beater	-	II
Breaker Stack	-	II
Calender ■	-	II
Chipper	-	III
Chip Feeder	-	II
Coating Rolls	-	II
Conveyors –		
Chip, Bark, Chemical	-	II
Log (Including Slab)	-	III
Couch Rolls	-	II
Cutter	-	III
Cylinder Molds	-	II
Dryers ■ –		
Paper Machine & Conveyor Type	-	II
Embosser	-	II
Extruder	-	III
Foundrinier Rolls–		
Lumberbreaker, Wire Turning, Dandy & Return Rolls	-	II
Jordan	-	II
Kiln Drive	-	III
Mt. Hope & Paper Rolls	-	II
Platter	-	II
Presses (Felt & Suction)	-	II
Pulper – continuous	-	II
Repulper – heavy stock	-	III
Vacuum Pumps	-	II
Reel (Surface Type)	-	II
Screens –		
Chip, Rotary	-	II
Vibrating	-	III
Size Press	-	II
Super Calender Δ	-	II
Thickener & Washer –		
AC Motor	-	II
DC Motor	-	II
Wind & Unwind Stand	-	I
Winders (Surface Type)	-	II
Yankee Dryers ■	-	II
PASSENGERS ELEVATORS	*	*
PEBBLE MILLS	-	III
PLASTIC INDUSTRY □	□	□
PLATE PLANNERS	III	III
PRINTING PRESSES	*	*
PROPORTIONING PUMPS	II	II
PUG MILLS (Clay)	II	II
PULLERS (Barge Haul)	III	III
PUMPS		
Centrifugal	I	II
Proportioning	II	II
Reciprocating – Single Action		
3 or More Cylinders	II	II
Reciprocating – Dbl Action		
2 or More Cylinders	II	II
Reciprocating – Single Action		
1 or 2 Cylinders	*	*
Reciprocating – Dbl Action		
1 Cylinder	*	*
Rotary Gear, Lobe, Vane	I	II
PUNCH PRESSES		
(Gear Driven)	III	III
RECIPROCATING		
Conveyors, Feeders	III	III
RECIPROCATING		
COMPRESSORS		
Multi-Cylinder	II	II
Single-Cylinder	III	III
ROD MILLS	**	**
ROTARY		
Pumps	I	II
Screens (Stone or Gravel)	II	II
RUBBER & PLASTICS INDUSTRIES		
Calenders	II	II
Crackers	III	III
Mills (2 on line)	II	II
Mills (3 on line)	II	II
Mixing Mills	III	III
Refiners & Sheeters	II	II
SAND MULLERS	II	II
SCREENS		
Air Washing	I	II
Rotary – Stone or Gravel	II	II
Traveling Water Intake	I	II
SCREW CONVEYORS		
Uniform	I	II
Heavy Duty or Feeder	II	II
SCUM BREAKERS (Sewage)	II	II
SEWAGE DISPOSAL		
Bar screens	I	II
Chemical Feeders	I	II
Collectors	I	II
Dewatering Screens	II	II
Scum Breakers	II	II
Slow or Rapid Mixers	II	II
Thickeners	II	II
Vacuum Filters	II	II
SHAKER CONVEYORS	III	III
SINGLE ACTING PUMPS		
1 or 2 Cylinders	*	*
3 or more Cylinders	II	II
SKIP HOIST	II	III
SLAB PUSHERS	II	II
SLITTERS (Metal Mills)	II	II
SLUDGE COLLECTORS		
(Sewage)	I	II
SOAPERS (Textile)	II	II
SPINNERS (Textile)	II	II
STEERING GEARS	*	*
STOKERS	I	II
STONE CRUSHERS	III	III
SUGAR INDUSTRY		
Cane, Knives, Crushers	II	II
Mills (low speed end)	III	III
TABLE CONVEYORS		
(Non-Reversing)		
Group Drives	II	III
Individual Drives	III	III
Reversing	*	*
TENTER FRAMES (Textile)	II	II
TEXTILE INDUSTRY		
Batchers, Calendars	II	II
Card Machines	II	II
Dry Cans, Dryers	II	II
Dyeing Machinery	II	II
Knitting Machinery	*	*
Looms, Mangles, Nappers, Pads	II	II
Range Drives	*	*
Slashers, Soapers, Spinners	II	II
Tenter Frames, Washers, Winders	II	II
THICKENERS (Sewage)	II	II
TUMBLING BARRELS	III	III
VACUUM FILTERS (Sewage)	II	II
VANE BLOWERS	I	II
WINCHES (Dredges)	II	III
WINDERS (Textile)	II	II
WINDLASS	*	*
WIRE		
Drawing Machines	II	III
Winding Machines	II	II

◆ DRY DOCK CRANES (Hammerhead, Rotating and Whirler, Stationary or Moving) for *any duration of service:* Main Hoist, Auxiliary Hoist, Boom (Lifting): 3.00 S.F.; Rotating (Swing or Slew): 3.00 S.F.; Tracking (Drive Wheels): 3.00 S.F.

● Service factors for paper mill application are applied to nameplate rating of electric motor at the motor rated base speed - consistent with TAPPI Standards.

Δ When a super calender operates over a speed range of part constant hp and torque and the constant hp speed range is greater than 1.5:1, use a service factor of 1.0 at base speed. When operating at constant torque over the entire speed range or when the constant hp speed range is less than 1.5:1 a 1.25 factor should be applied.

* Consult Factory. ** See Mills, Rotary. ■ Using anti-friction bearings only. □ See Rubber & Plastics Industries

SELECTION PROCEDURES

Non-Motorized Selection (For motorized reducer selections, see page 2)

Introduction

Selection and pricing of Planetgear is based solely on the required output torque capacity of the application. The service factor method is used to apply specific industry application standards based on the hours per day of operation. These application standards are cataloged and have been developed based on practical application experience.

The following information demonstrates how this procedure allows the selection of the most economical Planetgear reducer.

Information Required To Make Reducer Selection

- The specific application and hours per day of operation.
- Reducer input speed.
- Input Horsepower.
- Desired reducer output speed.
- If applicable, overhung load.

Step 1 — *Determine Service Factor*

Select the appropriate service factor **Table 2** on **pages 7 & 8** for the industry and specific applications at hand. These service factors are designed for applications driven by electric motors.

If a single or multiple cylinder engine is used, adjust the service factor that is taken from **Table 2** with the corresponding values listed below.

Steam & Gas Turbines Hydraulic or Electric Motors	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

Pre-selection tables are available for horizontal mounting and input speeds of 1750, 1430, 1170 and 870 rpm and service factors of 1.0, 1.25, 1.4, 1.5, 1.75 and 2.0. Use tables for selection purposes when possible. For speeds other than those listed, continue with the selection procedures as follows:

Step 2 — *Calculate the desired reducer ratio (D.R.) using:*

$$D.R. = \frac{\text{Input Speed (RPM)}}{\text{Output Speed (RPM)}}$$

Step 3 — *Select closest nominal ratio (N.R.)*

Table 16 on **page 109** lists the nominal ratios offered by Planetgear. Pick the ratio that is closest to the desired ratio calculated in Step 2.

Step 4 — *Calculate equivalent output torque (E.O.T.) using:*

A. When input motor horsepower is known:

$$E.O.T. = \frac{HP \times N.R. \times S.F. \times 59{,}900}{RPM_{in}}$$

Note: 59,900 is used to represent the average mechanical efficiency of reducers (59,900 = 63,025 x 95%).

B. Where required output torque is known:

$$E.O.T. = T_o \times S.F.$$

where:

HP	=	Motor horsepower
N.R.	=	Nominal ratio from Step 3
S.F.	=	Service factor from Step 2
RPM_{in}	=	Reducer input shaft speed in revolutions per minute
T_o	=	Output torque required in lb-in

Step 5 — *Select reducer*

Reference **Table 5**, **"Technical Information Selection"**, **pages 85 to 92** and locate the nominal ratio determined from Step 3. Locate the smallest series (Mercury, Mars, Venus, Atlas, Earth, Polaris, Neptune, Orion, Saturn, Titan or Jupiter), that offers the output torque (lb-in) rating that is equal to or greater than the equivalent output torque (E.O.T.) determined from Step 4 for the nominal ratio required.

Step 6 — *Check thermal capacity*

The motor horsepower capacity must be compared to the thermal capacity of the reducer. Refer to horizontal or vertical capacity **Table 12 or 13** respectively, on **pages 101 to 108** and select the rating without fan which corresponds to the reducer series and nominal ratio required. If the nominal ratio is not listed, your application will not be thermally limited with respect to horsepower. If no horsepoweris listed under the nominal ratio, your application will not be thermally limited with respect to horsepower. If a number is listed, it may need to be adjusted based on application details before comparing against the motor rating. Use the following formula for comparison:

$$\text{Motor HP Rating vs. } (T_r)(A_C)$$

where:

T_r	=	Thermal rating - **Table 12 or 13, pages 101 to 108**
A_C	=	Ambient Temperature Adjustment Factor **Table 14, page 109**

If the motor horsepower exceeds this rating, refer back to **Table 12 or 13 pages 101 to 108** and check the thermal rating under the with fan column. If no number is listed under the nominal ratio, your application will not be thermally limited with respect to horsepower with a cooling fan. If a number is listed recalculate the thermal rating with fan (Tr) and compare to the motor horsepower. If the motor horsepower is less than or equal to the rating, your application will not be thermally limited with respect to horsepower with a cooling fan. If your motor horsepower exceeds this rating, contact the factory to review the possibility of increasing the thermal capacity by use of a heat exchanger. Thermal ratings can be ignored if continuous running time does not exceed idle time on a per hour basis.

Step 7 — *Check overhung load*

When overhung load exists on either input or output shafts, follow the appropriate explanation on **page 9** to confirm the reducer selection. For units that have a thrust load applied, contact factory with radial and thrust load information.

Step 8 — *Check dimensions*

Dimensional drawings for reducers with and without accessories are found on **pages 71 to 84**.

Step 9 — *Ordering reducers*

See reducer order form **page 10**.

SELECTION PROCEDURES

Selection Examples — Reducer Only (Non-motorized)

When motor horsepower is known:

A 100 hp 1,750 rpm motor is used to drive a heavy duty horizontal apron conveyor 24 hrs/day. The conveyor requires a reducer output speed of 50 rpm. A roller chain drive having a 240B25 tooth roller chain sprocket (23.936" Pitch Diameter) is mounted with the center of the chain pull 4.5 inches from the seal cage. Ambient temperature is 80°F.

Step 1 — *Select service factor*
From **Table 2** on **pages 7 & 8**, the service factor for an apron conveyor 24 hrs/day operation is 1.5.

Step 2 — *Calculate desired ratio (D.R.)*

$$\text{D.R.} = \frac{1{,}750 \text{ RPM}}{50 \text{ RPM}} = 35$$

Step 3 — *Select closest nominal ratio (N.R.)*
Select **Table 16** on **page 109** = 36.56

$$\text{Output Speed} = \frac{1{,}750 \text{ RPM}}{36.56} = 47.9 \text{ RPM}$$

Step 4 — *Calculate equivalent output torque (E.O.T.) hp method*

$$\text{E.O.T.} = \frac{100 \text{ hp} \times 36.56 \text{ N.R.} \times 1.5 \text{ S.F.} \times 59{,}900}{1{,}750 \text{ (input RPM)}} = 187{,}709 \text{ lb.-in.}$$

Step 5 — *Select reducer*
Enter **Table 5**, Reducer Only Selection, located on **pages 85 to 92**. Nominal ratio is 36.56. The smallest series listed for the E.O.T. calculated in Step 4 (187,709 lb.-in.) is an Orion at 200,000 lb.-in.

Step 6 — *Check thermal capacity*
Compare the motor horsepower to the thermal ratings of the reducers with the following formula:

$$\text{Motor HP} \leq (\text{Tr})A_C$$

Since the thermal rating in **Table 12**, **page 101** without fan is less than the motor HP, Tr = 135 with a cooling fan. Note, from **Table 14** $A_C = 1.0$

$$100 \text{ (Motor HP)} \leq 135 \text{ (hp rating)}(1.0)$$
$$100 < 135$$

Since the motor horsepower is less than the thermal rating, the thermal capacities of the reducer with cooling fan exceeds the motor capacity.

Step 7 — *Check for overhung and thrust loads*
The overhung load (O.H.L.) exists on the output shaft. The input shaft is direct connected and does not encounter overhung load. Therefore (from **page 9**):

$$\text{O.H.L.} = \frac{126{,}000 \times 100 \text{ hp} \times 1.0 \text{ Fc} \times 0.96 \text{ Lf}}{23.936\text{" P.D.} \times 47.9 \text{ (output (RPM)}} = 10{,}550 \text{ lbs.}$$

The overhung load capacity from **Table 11**, **page 100** for a Orion series having a output speed approximately 48 rpm is 27,100 lbs. The rated capacity is greater than the actual value, so the selection is approved.

This application does not encounter thrust load.

Step 8 — *Check dimensions*
Dimensions for the Orion series are on **page 72**.

Step 9 — *Order Planetgear reducer by:*
- Series Name - Orion
- Nominal Ratio - 36.56
- Output torque rating - 200,000 lb.-in.
- Input motor horsepower - 100 hp
- Service Factor - 1.5
- Input Speed - 1,750 rpm
- Desired Accessories - none

When required output torque is known:

A heavy duty bucket elevator is operating 24 hrs/day. The elevator requires a reducer including backstop with a 157 rpm output speed (1,750 rpm input) and 24,000 lb-in output torque. Overhung and thrust loads are not a factor. Reducer will be driven with a 60 hp motor.

Step 1 — *Select service factor*
From **Table 2** on **pages 7 & 8**, the service factor for a heavy duty bucket elevator 24 hrs/day operation is 1.5.

Step 2 — *Calculate desired ratio (D.R.)*

$$\text{D.R.} = \frac{1{,}750 \text{ RPM}}{157 \text{ RPM}} = 11.15$$

Step 3 — *Select closest nominal ratio (N.R.)*
Select from **Table 16** on **page 109**, N.R. = 11.02

$$\text{Output Speed} = \frac{1{,}750 \text{ RPM}}{11.02} = 159 \text{ RPM}$$

Step 4 — *Calculate equivalent output torque (E.O.T.)*
Since output torque is known:
E.O.T. = 24,000 (output torque in lb.-in.) x 1.5 (service factor) = 36,000 lb.-in.

Step 5 — *Select reducer*
Enter **Table 5**, **"Reducer Only Selection"**, located on **pages 85 to 92**. Nominal ratio is 11.02. The smallest series listed for the E.O.T. calculated in Step 4 (36,000 lb.-in.) is a Atlas at 36,000 lb.-in.

Step 6 — *Check thermal capacity*
Enter **Table 12**, **"Thermal Capacity"**, on **page 101**. Locate Atlas series, 11.02 ratio in the left hand column. The input speed is 1,750 RPM and maximum horsepower is 20 without a fan 75 with a fan. Thus the application is approved with the inclusion of a fan.

Step 7 — *Check for overhung and thrust loads*
Overhung and thrust loads are not a factor in this example.

Step 8 — *Check dimensions*
Dimensions for the Atlas series are on **page 72**.

Step 9 — *Order Planetgear reducer by (see page 10):*
- Series Name - Atlas
- Nominal Ratio - 11.02
- Output Torque Rating - 36,000 lb.-in.
- Input Motor Horsepower - 60 hp
- Service factor - 1.5
- Input Speed - 1,750 rpm
- Desired Accessories - backstop with desired rotation

SELECTION PROCEDURES

Service Factor Selections

TABLE 2 - SERVICE FACTORS

APPLICATION	SERVICE 10 HRS/ DAY	SERVICE 24 HRS/ DAY
AGITATORS		
Pure Liquids	1.00	1.25
Liquids & Solids	1.25	1.50
Liquids - Variable Density	1.25	1.50
APRON CONVEYORS		
Uniformly Loaded or Fed	1.00	1.25
Heavy Duty	1.25	1.50
APRON FEEDERS	1.25	1.50
ASSEMBLY CONVEYORS		
Uniformly Loaded or Fed	1.00	1.25
Heavy Duty	1.25	1.50
BALL MILLS	**	**
BARGE HAUL PULLERS	1.75	2.00
BARKING		
Drums (coupling connected)	–	2.00
Mechanical	–	2.00
BAR SCREENS (Sewage)	1.00	1.25
BATCHERS (Textile)	1.25	1.50
BELT CONVEYORS		
Uniformly Loaded or Fed	1.00	1.25
Heavy Duty	1.25	1.50
BELT FEEDERS	1.25	1.50
BENDING ROLLS (Machine)	1.25	1.50
BLOWERS		
Centrifugal	1.00	1.25
Lobe	1.25	1.50
Vane	1.00	1.25
BOTTLING MACHINERY	1.00	1.25
BREWING & DISTILLING		
Bottling Machinery	1.00	1.25
Brew Kettles, Cont. Duty	1.00	1.25
Can Filling Machines	1.00	1.25
Cookers, Cont. Duty	1.00	1.25
Mash Tubs, Cont. Duty	1.00	1.25
Scale Hoppers, Freq. Starts	1.25	1.50
BRICK PRESS (Clay Working)	1.75	2.00
BRIQUETTE MACHINES		
(Clay Working)	1.75	2.00
BUCKET		
Conveyors Uniform	1.00	1.25
Conveyors Heavy Duty	1.25	1.50
Elevators Cont.	1.00	1.25
Elevators Uniform	1.00	1.25
Elevators Heavy duty	1.25	1.50
CALENDERS		
Rubber	1.50	1.50
Textile	1.25	1.50
CAN FILLING MACHINES	1.00	1.25
CANE KNIVES	1.50	1.50
CARD MACHINES (Textile)	1.25	1.50
CAR DUMPERS	1.75	2.00
CAR PULLERS	1.25	1.50
CEMENT KILNS	**	**
CENTRIFUGAL		
Blowers, Compressors,		
Discharge Elevators,		
Fans or Pumps	1.00	1.25
CHAIN CONVEYORS		
Uniformly Loaded or Fed	1.00	1.25
Heavy Duty	1.25	1.50
CHEMICAL FEEDERS		
(Sewage)	1.00	1.25
CLARIFIERS	1.00	1.25
CLASSIFIERS	1.25	1.50
CLAY WORKING INDUSTRY		
Brick Press	1.75	2.00
Briquette Machines	1.75	2.00
Clay Working Machinery	1.25	1.50
Pug Mills	1.25	1.50
COLLECTORS (Sewage)	1.00	1.25
COMPRESSORS		
Centrifugal	1.00	1.25
Lobe	1.25	1.50
Reciprocating		
Multi-Cylinder	1.50	1.75
Single Cylinder	2.25	2.50
CONCRETE MIXERS		
Continuous	1.25	1.50
Intermittent	1.25	1.50
CONVEYORS - Uniformly		
Loaded or Fed: Apron,		
Assembly, Belt, Bucket, Chain		
Flight, Oven, Screw	1.00	1.25
CONVEYOR - Heavy Duty		
Not Uniformly Fed: Apron,		
Assembly, Belt, Bucket, Chain		
Flight, Oven, Screw	1.25	1.50
CONVEYOR - Severe Duty		
Live Roll	*	*
Reciprocating, Shaker	1.75	2.00
COOKERS (Brewing & Distilling)		
(Food)	1.00	1.25
COOLING TOWER FANS	*	*
CRANES		
Dry Dock Cranes	◆	◆
Main Hoist	*	*
Bridge and Trolley Travel	*	*
CRUSHERS		
Ore or Stone	1.75	2.00
Sugar	–	1.50
DEWATERING SCREENS		
(Sewage)	1.25	1.50
DISC FEEDERS	1.00	1.25
DISTILLING (See Brewing)		
DOUBLE ACTING PUMPS		
2 or More Cylinders	1.25	1.50
Single Cylinder	*	*
DOUGH MIXER (Food)	1.25	1.50
DRAW BENCH (Metal Mills)		
Carriage & Main Drive	1.25	1.50
DREDGES		
Cable Reels, Conveyors	1.25	1.50
Cutter Head & Jig Drives	1.75	2.00
Maneuvering Winches, Pumps	1.25	1.50
Screen Drives	1.75	2.00
Stackers, Utility Winches	1.25	1.50
DRY DOCK CRANES	◆	◆
DRYERS & COOLERS		
(Mills, Rotary)	–	1.50
DYEING MACHINERY		
(Textile)	1.25	1.50
ELEVATORS		
Bucket - Uniform Load	1.00	1.25
Bucket - Heavy Duty	1.25	1.50
Bucket - Continuous	1.00	1.25
Centrifugal Discharge	1.00	1.25
Escalators	*	*
Freight	*	*
Gravity Discharge	1.00	1.25
Man Lifts, Passenger	*	*
EXTRUDERS □	□	□
FANS		
Centrifugal	1.00	1.25
Cooling Towers	*	*
Forced Draft	–	1.25
Induced Draft	1.25	1.50
Large (Mine, etc.)	1.25	1.50
Large (Industrial)	1.25	1.50
Light (Small Diameter)	1.00	1.25
FEEDERS		
Apron, Belt	1.25	1.50
Disc	1.00	1.25
Reciprocating	1.75	2.00
Screw	1.25	1.50
FLIGHT		
Conveyors, Uniform	1.00	1.25
Conveyors, Heavy	1.25	1.50
FOOD INDUSTRY		
Beet Slicers	1.25	1.50
Bottling, Can Filling Mach	1.00	1.25
Cereal Cookers	1.00	1.25
Dough Mixers, Meat Grinders	1.25	1.50
GENERATORS (Not Welding)	1.00	1.25
GRAVITY DISCHARGE		
ELEVATORS	1.00	1.25
HAMMER MILLS	1.75	2.00
HOISTS		
Heavy Duty	1.75	2.00
Medium Duty	1.25	1.50
Skip Hoist	1.25	1.50
INDUCED DRAFT FANS	1.25	1.50
KILNS	**	**
LAUNDRY WASHERS & TUMBLERS	1.25	1.50
LINE SHAFTS		
Driving Processing Equip	1.25	1.50
Other Line Shafts, Light	1.00	1.25
LIVE ROLL CONVEYORS	*	*
LOBE BLOWERS OR COMPRESSORS	1.25	1.50
LOG HAULS (Lumber)		
Incline-well Type	1.75	1.75
LOOMS (Textile)	1.25	1.50
LUMBER INDUSTRY		
Barkers - Spindle Feed	1.25	1.50
Barkers - Main Drive	1.75	1.75
Carriage Drive	*	*
Chain - Floor	1.50	1.50
Chains - Green	1.50	1.75
Conveyors		
Burner	1.25	1.50
Main or Heavy Duty	1.50	1.50
Main Log	1.75	2.00
Re-Saw Merry-Go-Round	1.25	1.50
Slab	1.75	2.00
Transfer	1.25	1.50
Cut-Off Saws–Chain & Drag	1.50	1.75
Debarking Drums	1.75	2.00
Feeds - Edger	1.25	1.50
Feeds - Gang	1.75	1.75
Feeds - Trimmer	1.25	1.50
Log Deck	2.00	2.00
Log Hauls- Incline-well type	1.75	1.75
Log Turning devices	1.75	1.75
Planer Feed	1.25	1.50
Planer Tilting Hoists	1.50	1.50
Rolls, Live Off Bearing		
Roll Cases	1.75	1.75
Sorting, Table, Tipple Hoist	1.25	1.50
Transfers - Chain & Craneway	1.50	1.75

◆ DRY DOCK CRANES (Hammerhead, Rotating and Whirler, Stationary or Moving) for *any duration of service:* Main Hoist, Auxiliary Hoist, Boom (Lifting): 3.00 S.F.; Rotating (Swing or Slew): 3.00 S.F.; Tracking (Drive Wheels): 3.00 S.F.

● Service factors for paper mill application are applied to nameplate rating of electric motor at the motor rated base speed - consistent with TAPPI Standards.

Δ When a super calender operates over a speed range of part constant hp and torque and the constant hp speed range is greater than 1.5:1, use a service factor of 1.0 at base speed. When operating at constant torque over the entire speed range or when the constant hp speed range is less than 1.5:1 a 1.25 factor should be applied.

* Consult Factory. ** See Mills, Rotary. ■ Using anti-friction bearings only. □ See Rubber & Plastics Industries

TABLE 2 - SERVICE FACTORS (cont.)

APPLICATION	SERVICE 10 HRS/ DAY	SERVICE 24 HRS/ DAY
Tray Devices	1.25	1.50
Veneer Lathe Drives	*	*
MACHINE TOOLS		
Auxiliary Drives	1.00	1.25
Bending Rolls	1.25	1.50
Main Drives	1.25	1.50
Notching Press (Belted)	*	*
Plate Planers	1.75	2.00
Punch Press (Geared)	1.75	2.00
Tapping Machines	1.75	2.00
MANGLE (Textile)	1.25	1.50
MAST TUBS (Brewing & Distilling)	1.00	1.25
MEAT GRINDERS (Food)	1.25	1.50
METAL MILLS		
Draw Bench Carriages & Main Drives	1.25	1.50
Pinch, Dryer & Scrubber Rolls Reversing	*	*
Slitters	1.25	1.50
Table Conveyors		
Non-Reversing		
Group drives	1.25	1.50
Individual	1.75	2.00
Reversing	*	*
Wire Drawing & Flattening Machines	1.25	1.50
Wire Winding Machines	1.25	1.50
MILLS, ROTARY		
Ball and Rod Mills		
with Spur Ring Gear	–	2.00
with Helical Ring Gear	–	1.50
Direct connected	–	2.00
Kilns, Dryers, Coolers		
Pebble, Plain & Cement Kilns	*	*
Wedge bar	–	1.50
Tumbling Barrels	1.75	2.00
MIXERS (Also see Agitators)		
Concrete, Cont.	1.25	1.50
Concrete, Int.	1.25	1.50
Constant Density	1.00	1.25
Variable Density	1.25	1.50
NAPPERS (Textile)	1.25	1.50
OIL INDUSTRY		
Chillers	1.25	1.50
Oil Well Pumping	*	*
Paraffin Filter Press	1.25	1.50
Rotary Kilns	1.25	1.50
ORE CRUSHERS	1.75	2.00
OVEN CONVEYORS		
Uniform	1.00	1.25
Heavy Duty	1.25	1.50
PAPER MILLS ●		
Agitator (Mixer)	–	1.50
Agitator for Pure Liquors	–	1.25
Barking Drums, Barkers –		
Mechanical	–	2.00
Beater	–	1.50
Breaker Stack	–	1.25
Calender ■	–	1.25
Chipper	–	2.00
Chip Feeder	–	1.50
Coating Rolls	–	1.25
Conveyors –		
Chip, Bark, Chemical	–	1.25
Log (Including Slab)	–	2.00
Couch Rolls	–	1.25
Cutter	–	2.00
Cylinder Molds	–	1.25
Dryers ■ –		
Paper Machine & Conveyor Type	–	1.25
Embosser	–	1.25
Extruder	–	1.50
Foundrinier Rolls–		
Lumberbreaker, Wire Turning, Dandy & Return Rolls	–	1.25
Jordan	–	1.50
Kiln Drive	–	1.50
Mt. Hope & Paper Rolls	–	1.25
Platter	–	1.50
Presses (Felt & Suction)	–	1.25
Pulper – continuous	–	1.50
Repulper – heavy stock	–	2.00
Vacuum Pumps	–	1.50
Reel (Surface Type)	–	1.25
Screens –		
Chip, Rotary	–	1.50
Vibrating	–	2.00
Size Press		1.25
Super Calender Δ	–	1.25
Thickener & Washer –		
AC Motor	–	1.50
DC Motor	–	1.25
Wind & Unwind Stand	–	1.00
Winders (Surface Type)	–	1.25
Yankee Dryers ■	–	1.25
PASSENGERS ELEVATORS	*	*
PEBBLE MILLS	–	1.50
PLASTIC INDUSTRY □	□	□
PLATE PLANNERS	1.75	2.00
PRINTING PRESSES	*	*
PROPORTIONING PUMPS	1.25	1.50
PUG MILLS (Clay)	1.25	1.50
PULLERS (Barge Haul)	1.75	2.00
PUMPS		
Centrifugal	1.00	1.25
Proportioning	1.25	1.50
Reciprocating – Single Action		
3 or More Cylinders	1.25	1.50
Reciprocating – Dbl Action		
2 or More Cylinders	1.25	1.50
Reciprocating – Single Action		
1 or 2 Cylinders	*	*
Reciprocating – Dbl Action		
1 Cylinder	*	*
Rotary Gear, Lobe, Vane	1.00	1.25
PUNCH PRESSES		
(Gear Driven)	1.75	2.00
RECIPROCATING		
Conveyors, Feeders	1.75	2.00
RECIPROCATING		
COMPRESSORS		
Multi-Cylinder	1.25	1.50
Single-Cylinder	2.25	2.50
ROD MILLS	**	**
ROTARY		
Pumps	1.00	1.25
Screens (Stone or Gravel)	1.25	1.50
RUBBER & PLASTICS INDUSTRIES		
Calenders	1.50	1.50
Crackers	2.00	2.00
Mills (2 on line)	1.50	1.50
Mills (3 on line)	1.25	1.25
Mixing Mills	1.50	1.50
Refiners & Sheeters	1.50	1.50
SAND MULLERS	1.25	1.50
SCREENS		
Air Washing	1.00	1.25
Rotary – Stone or Gravel	1.25	1.50
Traveling Water Intake	1.00	1.25
SCREW CONVEYORS		
Uniform	1.00	1.25
Heavy Duty or Feeder	1.25	1.50
SCUM BREAKERS (Sewage)	1.25	1.50
SEWAGE DISPOSAL		
Bar screens	1.00	1.25
Chemical Feeders	1.00	1.25
Collectors	1.00	1.25
Dewatering Screens	1.25	1.50
Scum Breakers	1.25	1.50
Slow or Rapid Mixers	1.25	1.50
Thickeners	1.25	1.50
Vacuum Filters	1.25	1.50
SHAKER CONVEYORS	1.75	2.00
SINGLE ACTING PUMPS		
1 or 2 Cylinders	*	*
3 or more Cylinders	1.25	1.50
SKIP HOIST	1.25	1.50
SLAB PUSHERS	1.25	1.50
SLITTERS (Metal Mills)	1.25	1.50
SLUDGE COLLECTORS		
(Sewage)	1.00	1.25
SOAPERS (Textile)	1.25	1.50
SPINNERS (Textile)	1.25	1.50
STEERING GEARS	*	*
STOKERS	1.00	1.25
STONE CRUSHERS	1.75	2.00
SUGAR INDUSTRY		
Cane, Knives, Crushers	1.50	1.50
Mills (low speed end)	2.00	2.00
TABLE CONVEYORS		
(Non-Reversing)		
Group Drives	1.25	1.50
Individual Drives	1.75	2.00
Reversing	*	*
TENTER FRAMES (Textile)	1.25	1.50
TEXTILE INDUSTRY		
Batchers, Calendars	1.25	1.50
Card Machines	1.25	1.50
Dry Cans, Dryers	1.25	1.50
Dyeing Machinery	1.25	1.50
Knitting Machinery	*	*
Looms, Mangles, Nappers, Pads	1.25	1.50
Range Drives	*	*
Slashers, Soapers, Spinners	1.25	1.50
Tenter Frames, Washers, Winders	1.25	1.50
THICKENERS (Sewage)	1.25	1.50
TUMBLING BARRELS	1.75	2.00
VACUUM FILTERS (Sewage)	1.25	1.50
VANE BLOWERS	1.00	1.25
WINCHES (Dredges)	1.25	1.50
WINDERS (Textile)	1.25	1.50
WINDLASS	*	*
WIRE		
Drawing Machines	1.25	1.50
Winding Machines	1.25	1.50

◆ DRY DOCK CRANES (Hammerhead, Rotating and Whirler, Stationary or Moving) for *any duration of service:* Main Hoist, Auxiliary Hoist, Boom (Lifting): 3.00 S.F.; Rotating (Swing or Slew): 3.00 S.F.; Tracking (Drive Wheels): 3.00 S.F.

● Service factors for paper mill application are applied to nameplate rating of electric motor at the motor rated base speed - consistent with TAPPI Standards.

Δ When a super calender operates over a speed range of part constant hp and torque and the constant hp speed range is greater than 1.5:1, use a service factor of 1.0 at base speed. When operating at constant torque over the entire speed range or when the constant hp speed range is less than 1.5:1 a 1.25 factor should be applied.

* Consult Factory. ** See Mills, Rotary. ■ Using anti-friction bearings only. □ See Rubber & Plastics Industries

SELECTION PROCEDURES

Thrust and Overhung Loads

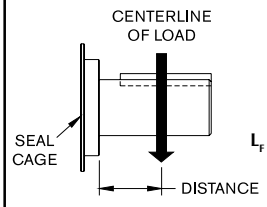
Thrust Loads

Thrust loads applied to reducer shafts through coupling connections often are combined with radial shaft loads. Since this combined loading affects bearing thrust capacities, these values may be obtained by contacting the factory.

Overhung Loads

The center line of the overhung load should be as close as possible to the seal cage to minimize bearing load and improve bearing life. The formula for determining overhung load in pounds is as follows:

$$\text{Overhung Load in Pounds} = \frac{126{,}000 \times HP \times F_C \times L_F}{P.D. \times RPM}$$



F_C = Load Connection Factor
Sprocket (1.00)*
Machined Pinion & Gear (1.25)
Timing Belt (1.30)
V-Belt (1.50)
Flat Belt (2.50)

L_F = Load Location Factor
H.S.S. — **Table 8** on **page 99**
L.S.S. — **Table 9** on **page 99**

* Refer all multiple chain sprocket and pinion mounted applications to the factory for deflection analysis.

Capacities listed on pages:
Table 10 on **page 100** High Speed Shaft
Table 11 on **page 100** Low Speed Shaft

where:
HP = Horsepower without service factor
F_C = Load connection factor -- see above
L_F = Load location factor - see above
P.D. = Pitch Diameter in inches
RPM = Shaft revolutions per minute

If the actual overhung load exceeds the published capactiy, the following may be assistance to reduce the overhung load on the shaft bearings.

1. Increase the pitch diameter of sheave or sprocket.
2. Locate the sprocket or belt closer to the seal cage.
3. Go to the next larger reducer series.

Example:

High Speed Shaft

A 10 HP, 1,750 RPM motor with 5.5" Pitch diameter sheave is V-belt connected to an 8.2" sheave mounted on an Atlas series reducer having a ratio of 54.45, an output torque capacity of 30,000 lb.-in. and a 21.5 RPM output speed. The centerline of the sheave on the reducer is mounted two inches from the seal cage. Calculate the high speed shaft overhung load.

Solution:

$$\text{Reducer input RPM} = \frac{1{,}750 \times 5.5}{8.2} = 1{,}170 \text{ RPM}$$

for L_f reference **Table 8** on **page 99**

$$\text{O.H.L.} = \frac{126{,}000 \times 10 \times 1.5 \times 1.02}{8.2 \times 1{,}170} = 201 \text{ lbs.}$$

Table 10, **page 100** - 1170 RPM yields an overhung load capacity of 1,060 pounds for the Atlas series reducer. The actual load of 201 pounds is less than the capacity rating and is acceptable for this selection.

Low Speed Shaft

The load locations factor (L_F) are shown in **Table 9**, **page 99**. The overhung load capacity ratings for low speed shafts are listed in **Table 11, page 100**.

Example:

A 10 HP, 1,750 RPM motor is directly connected to a Mars reducer having a ratio of 24.00 (72.92 RPM output). A 120B21 10.064" P.D. roller chain sprocket is mounted so that the centerline of the load is 2- 3/4 inches from the seal cage. Calculate the low speed shaft overhung load.

Solution:

$$\text{O.H.L.} = \frac{126{,}000 \times 10 \times 1.0 \times 1.04}{10.064" \times 72.92} = 1{,}786 \text{ lbs.}$$

The overhung load rating listed in **Table 11**, **page 100**, for the Mars reducer at a ratio of 24.00 is 3,620 pounds. The actual load of 1,786 is less than the rated capacity and is acceptable for this application.

Published values of overhung loads in **Tables 10 and 11** are based on the load being applied at 1 shaft diameter away from the seal cage.

Reducer Order Form

The following information is required when ordering a Planetgear speed reducer:

Reducer Series:

☐ Mercury ☐ Mars ☐ Venus ☐ Atlas
☐ Earth ☐ Polaris ☐ Neptune ☐ Orion
☐ Saturn ☐ Titan ☐ Jupiter

Mounting Orientation:

☐ Horizontal

☐ Inclined
- ☐ ____ Degrees High Speed Shaft Up
- ☐ ____ Degrees Low Speed Shaft Up

☐ Vertical
- ☐ High Speed Shaft Up
- ☐ Low Speed Shaft Up

☐ Rotated
- ☐ ____ Degrees Clockwise Rotation (viewing Low Speed Shaft)
- ☐ ____ Degrees Counter Clockwise Rotation (viewing Low Speed Shaft)

Rating Information:

Torque Rating: _____
Input RPM: _____
Ratio: _____
Output RPM: _____

Motorized: Motor HP: _____
Service Class: _____
Non-Motorized: Service HP: _____
Service Factor: _____

Motorized Reducers:

Basic Configuration
☐ Scoop Mount with Omega coupling (Frame Size _____)
or
☐ Input C-face (Frame Size _____)

Optional Accessories
Coupling Guard
Fan & Shroud
Backstop (Rotation CW or CCW)
Slidebase
Vertical Modification
High Temperature Seals
Extended Shafts
Motor

Standard Reducers / Non-motorized

Basic Configuration
☐ Reducer Only
☐ Top Mount (Frame Size _____)
☐ Baseplate (Frame Size _____)

Optional Accessories
Couplings
Coupling Guard
Fan & Shroud
Backstop (Rotation CW or CCW)
Slidebase
Vertical Modification
High Temperature Seals
Extended Shafts
Motor

SELECTION TABLES

1750 RPM - Class I - Service Factor = 1.00

TABLE 3

REDUCERS WITH STANDARD INPUT SHAFT*
LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

continued

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size									
			1 HP 143T	1.5 HP 145T	2 HP 145T	3 HP 182T	5 HP 184T	7.5 HP 213T	10 HP 215T	15 HP 254T	20 HP 256T	25 HP 284T
Single	3.53	496	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	MERC 4
	4.39	399	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	MERC 4	MARS 5
	6.12	286	MERC 1	MERC 1	MERC 1	MERC 1	MERC 3	MERC 3	MERC 3	MARS 5	MARS 5	MARS 7
Double	9.30	188										
	11.02	159	MERC 1	MERC 1	MERC 1	MERC 3	MERC 3	MERC 3	MERC 5	MARS 6	MARS 8	MARS 10
	13.85	126	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	MERC 4	MERC 6	MARS 8	MARS 10	VENS 14
	17.21	102	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	MERC 6	MERC 6	MARS 9	MARS 13	VENS 15
	20.41	86	MERC 2	MERC 2	MERC 2	MERC 4	MERC 4	MERC 6	MARS 8	MARS 12	VENS 15	VENS 17
	24.00	73	MERC 1	MERC 3	MERC 3	MERC 3	MERC 5	MERC 7	MARS 10	MARS 14	VENS 18	VENS 22
	31.63	55	MERC 2	MERC 2	MERC 4	MERC 4	MERC 6	MARS 9	MARS 11	VENS 17	ATLS 24	ATLS 32
Triple	36.56	48	MERC 3	MERC 3	MERC 3	MERC 5	MERC 7	MARS 11	MARS 13	VENS 19	ATLS 25	ATLS 33
	43.78	40	MERC 3d	MERC 3d	MERC 3d	MERC 5d	MARS 8d	MARS 12	MARS 16	VENS 24	ATLS 33	ATLS 41
	54.45	32	MERC 2	MERC 4	MERC 4	MERC 6	MARS 9	MARS 15	VENS 20	ATLS 30	ATLS 38	ERTH 48
	64.42	27	MERC 4	MERC 4	MERC 6	MERC 8	MARS 11	MARS 17	VENS 22	ATLS 34	ERTH 48	ERTH 54
	69.63	25	MERC 3	MERC 5	MERC 5	MERC 7	MARS 13	VENS 18	ATLS 27	ATLS 35	ERTH 50	ERTH 62
	80.01	22	MERC 4	MERC 6	MERC 6	MARS 9	MARS 15	VENS 20	ATLS 30	ATLS 42	ERTH 56	ERTH 68
	91.41	19.1	MERC 4	MERC 6	MERC 8	MARS 11	MARS 17	ATLS 26	ATLS 34	ERTH 48	NEPT 70	NEPT 80
	99.38	17.6	MERC 5	MERC 7	MERC 7	MARS 11	VENS 17	ATLS 28	ATLS 36	ERTH 52	ERTH 70	PLRS 85
	111.5	15.7	MERC 4	MERC 6	MERC 8	MARS 13	VENS 20	ATLS 30	ATLS 38	ERTH 56	ERTH 74	PLRS 100
	121.4	14.4	MERC 5q	MERC 7q	MARS 9q	MARS 13q	ATLS 22q	ATLS 30q	ERTH 44q	ERTH 62q	PLRS 80q	PLRS 100q
	138.5	12.6	MERC 5	MARS 9	MARS 11	MARS 15	VENS 23	ATLS 35	ERTH 46	ERTH 70	PLRS 100	NEPT 120
	159.8	11.0	MERC 6	MERC 8	MARS 11	MARS 17	ATLS 31q	ATLS 43q	ERTH 50q	ERTH 74q	PLRS 100q	NEPT 130q
	193.1	9.1	MERC 7	MARS 11	MARS 15	VENS 20	ATLS 33	ERTH 48	ERTH 64q	PLRS 100q	NEPT 130	NEPT 160q
Quadruple	206.2	8.5	MERC 8	MARS 11	MARS 13	VENS 22	ATLS 35	ERTH 52	ERTH 70	PLRS 110	NEPT 140	ORON 190
	238.2	7.3	MARS 9	MARS 13	MARS 17	VENS 24	ATLS 39	ERTH 58	ERTH 76	PLRS 120	NEPT 160	ORON 205
	265.4	6.6	MARS 10t	MARS 13	VENS 18	ATLS 27	ATLS 43	ERTH 64	PLRS 90	NEPT 130	ORON 190	ORON 215
	295.7	5.9	MARS 11	MARS 15	VENS 20	ATLS 31	ERTH 48	ERTH 72	PLRS 95	NEPT 140	ORON 190	ORON 240
	330.1	5.3	MARS 12	MARS 18	VENS 23	ATLS 32	ERTH 58	PLRS 80	PLRS 110	NEPT 160	ORON 230	SATN 280
	369.8	4.7	MARS 14	VENS 20	VENS 24	ATLS 39	ERTH 64	PLRS 90	PLRS 120	ORON 190	ORON 240	SATN 300
	412.1	4.2	MARS 14	VENS 22	ATLS 27	ATLS 43	ERTH 66	PLRS 105	NEPT 135	ORON 215	SATN 265	TITN 350
	459.0	3.8	MARS 16	VENS 23	ATLS 32	ERTH 46	ERTH 76	PLRS 110	NEPT 150	ORON 230	SATN 300	TITN 400
	532.5	3.3	MARS 18	ATLS 27	ATLS 35	ERTH 60	PLRS 95	NEPT 145	ORON 190	SATN 280	TITN 390	JUPT 450
	617.9	2.8	VENS 21	ATLS 32	ERTH 46	ERTH 64	PLRS 110	NEPT 160	ORON 215	TITN 320	TITN 440	JUPT 550
	660.6	2.6	ERTH 30qu	ERTH 36qu	ERTH 48qu	PLRS 70qu	NEPT 120qu	NEPT 160qu	ORON 240	TITN 320qu	TITN 440qu	JUPT 550
	741.2	2.4	VENS 24	ATLS 35	ERTH 54	PLRS 85	NEPT 135	ORON 190	SATN 265	TITN 390	JUPT 500qu	
	900.3	1.9	ATLS 32	ERTH 48qu	PLRS 65qu	PLRS 95qu	NEPT 150qu	ORON 215	SATN 300	TITN 440qu	JUPT 600	
	1057	1.7	ERTH 36	ERTH 54	PLRS 70qu	PLRS 100qu	ORON 190	SATN 280	TITN 360qu	JUPT 550qu		

If selection falls within shaded area, a cooling fan and shroud are required. Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

* Selections are based on 1750 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

d = double reduction
t = triple reduction
q = quadruple reduction
qu = quintuple reduction

SELECTION TABLES

1750 RPM - Class I - Service Factor = 1.00

TABLE 3

REDUCERS WITH STANDARD INPUT SHAFT*
LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size									
			30 HP 286T	40 HP 324T	50 HP 326T	60 HP 364T	75 HP 365T	100 HP 405T	125 HP 444T	150 HP 445T	200 HP	250 HP
Single	3.53	496	MERC 4	VENS 10	VENS 10	VENS 10	VENS 10	ERTH 18	NEPT 45	† †	† †	† †
	4.39	399	MARS 5	MARS 7	VENS 10	VENS 10	VENS 12	VENS 16	ERTH 20	PLRS 32	† †	† †
	6.12	286	MARS 7	VENS 11	VENS 11	VENS 13	VENS 17	ATLS 22	ERTH 34	NEPT 45	NEPT 45	NEPT 55
Double	9.30	188	ATLS 14	ATLS 14	ATLS 18	ATLS 22	ATLS 26	ERTH 38	PLRS 44	NEPT 70	NEPT 70	† †
	11.02	159	VENS 13	VENS 17	VENS 19	ATLS 24	ATLS 32	ERTH 42	PLRS 50	NEPT 80	TITN 210	† †
	13.85	126	VENS 16	VENS 20	ATLS 26	ATLS 30	ATLS 38	ERTH 52	PLRS 65	PLRS 75	NEPT 95	TITN 220
	17.21	102	VENS 19	ATLS 26	ATLS 30	ATLS 38	ERTH 46	ERTH 58	PLRS 75	NEPT 90	NEPT 120	ORON 150
	20.41	86	VENS 21	ATLS 30	ATLS 34	ERTH 40	ERTH 52	ERTH 70	PLRS 90	PLRS 100	ORON 140	SATN 170
	24.00	73	ATLS 26	ATLS 34	ERTH 42	ERTH 54	ERTH 66	PLRS 90	NEPT 105	NEPT 125	ORON 170	SATN 210
	31.63	55	ATLS 34t	ERTH 50	ERTH 62t	ERTH 66t	PLRS 80t	NEPT 120	ORON 155	ORON 170	TITN 280	JUPT 400
Triple	36.56	48	ATLS 37	ERTH 52	ERTH 64	PLRS 80	PLRS 100	NEPT 130	ORON 170	ORON 185	TITN 280	JUPT 300d
	43.78	40	ERTH 48	ERTH 66	PLRS 85	PLRS 95	PLRS 115	ORON 175	ORON 200	SATN 230	TITN 340	JUPT 500
	54.45	32	ERTH 60	PLRS 80	PLRS 100	PLRS 120	NEPT 150	ORON 195	SATN 240	TITN 320	TITN 400	JUPT 450
	64.42	27	ERTH 66	PLRS 90	PLRS 110	NEPT 135	ORON 180	ORON 230	SATN 270	TITN 340	JUPT 450	JUPT 550
	69.63	25	PLRS 75	PLRS 95	NEPT 125	NEPT 145	ORON 180	SATN 240	TITN 320	TITN 360	JUPT 450	JUPT 550
	80.01	22	PLRS 80	PLRS 110	NEPT 140	NEPT 160	ORON 205	SATN 270	TITN 350	TITN 430	JUPT 550	
	91.41	19.1	NEPT 100	NEPT 130	SATN 180	SATN 210	SATN 240	JUPT 300	JUPT 400	JUPT 450	JUPT 600	
	99.38	17.6	PLRS 105	NEPT 135	ORON 190	ORON 215	SATN 250	TITN 340	TITN 420			
	111.5	15.7	PLRS 110	NEPT 150	ORON 190	ORON 220	SATN 300	TITN 400	JUPT 500	JUPT 550		
	121.4	14.4	PLRS 120q	NEPT 160q	ORON 205q	SATN 260q	SATN 300q	TITN 400q	JUPT 550	JUPT 650		
	138.5	12.6	NEPT 140	ORON 190	ORON 240	SATN 280	TITN 340	JUPT 500				
	159.8	11.0	NEPT 150q	ORON 215	SATN 260q	SATN 300q	TITN 400q	JUPT 550	JUPT 650			
	193.1	9.1	ORON 190q	SATN 260q	TITN 320q	TITN 400q	JUPT 500					
Quadruple	206.2	8.5	ORON 215	SATN 280	TITN 360	TITN 440	JUPT 550					
	238.2	7.3	ORON 230	TITN 320	TITN 400	JUPT 550	JUPT 600					
	265.4	6.6	SATN 280	TITN 360	TITN 440	JUPT 550	JUPT 650					
	295.7	5.9	SATN 280	TITN 380	JUPT 500	JUPT 600						
	330.1	5.3	TITN 320	TITN 440	JUPT 550	JUPT 650						
	369.8	4.7	TITN 360	JUPT 500	JUPT 600							
	412.1	4.2	TITN 430	JUPT 550	JUPT 650							
	459.0	3.8	TITN 440	JUPT 600								
	532.5	3.3	JUPT 500									
	617.9	2.8	JUPT 650									
	660.6	2.6										
	741.2	2.4										
	900.3	1.9										
	1057	1.7										

If selection falls within shaded area, a cooling fan and shroud are required. Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

* Selections are based on 1750 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

† Contact Rexnord for application details.

‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

d = double reduction
t = triple reduction
q = quadruple reduction

SELECTION TABLES

1750 RPM - Service Factor = 1.25

TABLE 3

REDUCERS WITH STANDARD INPUT SHAFT*
LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

continued

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size									
			1 HP 143T	1.5 HP 145T	2 HP 145T	3 HP 182T	5 HP 184T	7.5 HP 213T	10 HP 215T	15 HP 254T	20 HP 256T	25 HP 284T
Single	3.53	496	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	MERC 4	MARS 6
	4.39	399	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	MERC 4	MARS 5	MARS 7
	6.12	286	MERC 1	MERC 1	MERC 1	MERC 1	MERC 3	MERC 3	MERC 3	MARS 5	MARS 7	VENS 11
Double	9.30	188										ATLS 14
	11.02	159	MERC 1	MERC 1	MERC 1	MERC 3	MERC 3	MERC 5	MERC 5	MARS 8	MARS 10	VENS 13
	13.85	126	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	MERC 6	MERC 6	MARS 10	MARS 12	VENS 16
	17.21	102	MERC 2	MERC 2	MERC 2	MERC 4	MERC 4	MERC 6	MARS 9	MARS 13	VENS 15	VENS 19
	20.41	86	MERC 2	MERC 2	MERC 2	MERC 4	MERC 6	MARS 8	MARS 10	VENS 15	VENS 17	VENS 21
	24.00	73	MERC 3	MERC 3	MERC 3	MERC 5	MERC 7	MARS 8	MARS 12	VENS 16	VENS 22	ATLS 26
	31.63	55	MERC 2	MERC 2	MERC 4	MERC 4	MARS 7	MARS 11	MARS 13	ATLS 24	ATLS 32	ATLS 34t
Triple	36.56	48	MERC 3	MERC 3	MERC 5	MERC 5	MARS 9	MARS 13	VENS 17	VENS 23	ATLS 33	ATLS 41
	43.78	40	MERC 3d	MERC 3d	MERC 5d	MERC 7	MARS 10d	MARS 16	VENS 20	ATLS 29	ATLS 41	ERTH 48
	54.45	32	MERC 4	MERC 4	MERC 6	MERC 8	MARS 13	MARS 17	VENS 24	ATLS 38	ERTH 48	ERTH 60
	64.42	27	MERC 4	MERC 6	MERC 6	MARS 9	MARS 15	VENS 20	ATLS 30	ATLS 42	ERTH 54	ERTH 66
	69.63	25	MERC 3	MERC 5	MERC 7	MARS 9	MARS 15	VENS 22	ATLS 31	ERTH 44	ERTH 62	PLRS 75
	80.01	22	MERC 4	MERC 6	MERC 8	MARS 11	MARS 17	ATLS 26	ATLS 34	ERTH 50	ERTH 68	PLRS 90
	91.41	19.1	MERC 4	MERC 6	MERC 8	MARS 13	ATLS 22	ATLS 30	ERTH 42	NEPT 60	NEPT 80	NEPT 100
	99.38	17.6	MERC 5	MERC 7	MARS 9	MARS 13	VENS 21	ATLS 32	ERTH 46	ERTH 64	PLRS 85	PLRS 105
	111.5	15.7	MERC 6	MERC 8	MARS 11	MARS 15	VENS 24	ATLS 38	ERTH 50	ERTH 74	PLRS 100	PLRS 120
	121.4	14.4	MERC 5q	MARS 9q	MARS 11q	MARS 15q	ATLS 26q	ATLS 38q	ERTH 50q	ERTH 74q	PLRS 100q	NEPT 130q
	138.5	12.6	MERC 7	MARS 9	MARS 13	VENS 17	ATLS 31	ATLS 43q	ERTH 58	PLRS 90	NEPT 120	NEPT 150
	159.8	11.0	MERC 8	MARS 11	MARS 15	VENS 22q	ATLS 35q	ERTH 50q	ERTH 62q	PLRS 100q	NEPT 130q	NEPT 160q
	193.1	9.1	MARS 9	MARS 13	VENS 16	ATLS 25	ERTH 42	ERTH 60	ERTH 76q	PLRS 120q	NEPT 160q	ORON 190Q
Quadruple	206.2	8.5	MARS 9	MARS 13	MARS 17	ATLS 27	ATLS 43	ERTH 70	PLRS 90	NEPT 130	ORON 190	ORON 215
	238.2	7.3	MARS 11	MARS 15	VENS 20	ATLS 31	ERTH 52	ERTH 76	PLRS 100	NEPT 150	ORON 205	SATN 260
	265.4	6.6	MARS 13	MARS 17	VENS 22	ATLS 35	ERTH 58	PLRS 80	PLRS 110	NEPT 160	ORON 215	SATN 280
	295.7	5.9	MARS 13	VENS 18	VENS 24	ATLS 39	ERTH 60	PLRS 95	NEPT 120	ORON 190	ORON 240	TITN 300
	330.1	5.3	MARS 14	VENS 21	ATLS 28	ATLS 40	ERTH 70	PLRS 100	NEPT 140	ORON 205	SATN 280	TITN 360
	369.8	4.7	MARS 16	VENS 24	ATLS 31	ERTH 46	ERTH 76	PLRS 120	NEPT 150	ORON 240	SATN 300	TITN 400
	412.1	4.2	MARS 18	ATLS 27	ATLS 35	ERTH 54	PLRS 85	NEPT 125	ORON 190	SATN 250	TITN 350	TITN 430
	459.0	3.8	VENS 19	ATLS 28	ATLS 40	ERTH 58	PLRS 100	NEPT 140	ORON 205	SATN 280	TITN 400	JUPT 500
	532.5	3.3	VENS 22	ATLS 31	ATLS 43	ERTH 72	PLRS 115	ORON 190	ORON 240	TITN 350	JUPT 450	JUPT 550
	617.9	2.8	ATLS 28	ATLS 40	ERTH 52	PLRS 80	NEPT 130	ORON 215	SATN 260	TITN 400	JUPT 550	JUPT 650
	660.6	2.6	ERTH 30qu	ERTH 42qu	ERTH 54qu	PLRS 90qu	NEPT 140qu	ORON 215	SATN 280	TITN 400qu	JUPT 550	
	741.2	2.4	ATLS 31	ERTH 48	ERTH 66	PLRS 95	ORON 190	ORON 240	TITN 350	JUPT 450qu		
	900.3	1.9	ATLS 36	PLRS 65qu	PLRS 75qu	PLRS 115qu	ORON 190	SATN 280	TITN 400qu	JUPT 550		
	1057	1.7	ERTH 48	PLRS 70qu	PLRS 90qu	ORON 190	ORON 240	TITN 320qu	TITN 440qu	JUPT 650qu		

If selection falls within shaded area, a cooling fan and shroud are required. Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

* Selections are based on 1750 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

d = double reduction
t = triple reduction
q = quadruple reduction
qu = quintuple reduction

SELECTION TABLES

1750 RPM - Service Factor = 1.25

TABLE 3

REDUCERS WITH STANDARD INPUT SHAFT*
LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size															
			30 HP 286T	40 HP 324T	50 HP 326T	60 HP 364T	75 HP 365T	100 HP 405T	125 HP 444T	150 HP 445T	200 HP	250 HP
Single	3.53	496	MARS 6	VENS 10	VENS 10	VENS 10	VENS 12	ERTH 18	NEPT 45	† †	† †	† †
	4.39	399	MARS 7	VENS 10	VENS 10	VENS 12	VENS 14	ATLS 20	ERTH 26	PLRS 32	† †	† †
	6.12	286	VENS 11	VENS 11	VENS 13	VENS 17	ATLS 22	ATLS 30	ERTH 34	NEPT 45	NEPT 55	NEPT 65
Double	9.30	188	ATLS 14	ATLS 18	ATLS 22	ATLS 26	ERTH 32	ERTH 44	PLRS 54	NEPT 70	NEPT 90	† †
	11.02	159	VENS 15	VENS 19	ATLS 24	ATLS 32	ATLS 36	ERTH 48	PLRS 60	NEPT 80	TITN 210	ORON 125
	13.85	126	VENS 18	ATLS 26	ATLS 30	ATLS 38	ERTH 46	ERTH 64	PLRS 75	NEPT 95	ORON 120	TITN 220
	17.21	102	ATLS 22	ATLS 30	ATLS 38	ERTH 46	ERTH 58	PLRS 75	NEPT 100	NEPT 110	ORON 150	SATN 190
	20.41	86	ATLS 26	ATLS 34	ERTH 46	ERTH 52	ERTH 64	PLRS 90	NEPT 110	NEPT 130	SATN 190	SATN 210
	24.00	73	ATLS 34	ERTH 42	ERTH 54	ERTH 66	PLRS 80	NEPT 105	NEPT 135	ORON 155	SATN 210	TITN 270
	31.63	55	ERTH 44	ERTH 60t	ERTH 66t	PLRS 80t	NEPT 110	NEPT 140t	ORON 170	SATN 220	TITN 280	JUPT 400
Triple	36.56	48	ERTH 46	ERTH 64	PLRS 80	PLRS 100	NEPT 120	ORON 170	ORON 200	SATN 235	TITN 320	JUPT 400
	43.78	40	ERTH 60	PLRS 85	PLRS 95	PLRS 115	NEPT 150	ORON 200	SATN 245	TITN 300	TITN 380	JUPT 500
	54.45	32	ERTH 72	PLRS 100	PLRS 120	NEPT 150	ORON 180	SATN 240	TITN 320	TITN 360	JUPT 450	JUPT 550
	64.42	27	PLRS 80	PLRS 110	NEPT 135	ORON 180	ORON 205	SATN 270	TITN 340	TITN 420	JUPT 550	
	69.63	25	PLRS 95	NEPT 125	ORON 180	ORON 180	ORON 230	TITN 320	TITN 400	JUPT 450	JUPT 550	
	80.01	22	PLRS 100	NEPT 140	ORON 190	ORON 205	SATN 270	TITN 350	TITN 430	JUPT 500		
	91.41	19.1	NEPT 120	SATN 180	SATN 210	SATN 240	JUPT 300	JUPT 400	JUPT 500	JUPT 600		
	99.38	17.6	NEPT 125	ORON 190	ORON 215	SATN 250	TITN 340	JUPT 450				
	111.5	15.7	NEPT 140	ORON 190	SATN 240	SATN 300	TITN 360	JUPT 500	JUPT 600			
	121.4	14.4	NEPT 150q	ORON 205q	SATN 260q	SATN 300q	TITN 400q	JUPT 550				
	138.5	12.6	ORON 190	ORON 240	TITN 300	TITN 340	JUPT 500					
	159.8	11.0	ORON 190q	SATN 260Q	TITN 320q	TITN 400q	JUPT 500	JUPT 650				
	193.1	9.1	ORON 240q	TITN 320q	TITN 400q	JUPT 500						
Quadruple	206.2	8.5	ORON 240	TITN 360	TITN 440	JUPT 550	JUPT 650					
	238.2	7.3	SATN 260	TITN 400	JUPT 550	JUPT 600						
	265.4	6.6	SATN 300	TITN 440	JUPT 550	JUPT 650						
	295.7	5.9	TITN 380	JUPT 500	JUPT 600							
	330.1	5.3	TITN 400	JUPT 550								
	369.8	4.7	JUPT 450	JUPT 600								
	412.1	4.2	JUPT 550	JUPT 650								
	459.0	3.8	JUPT 600									
	532.5	3.3	JUPT 650									
	617.9	2.8										
	660.6	2.6										
	741.2	2.4										
	900.3	1.9										
	1057	1.7										

If selection falls within shaded area, a cooling fan and shroud are required. Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

* Selections are based on 1750 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

† Contact Rexnord for application details.

‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

t = triple reduction
q = quadruple reduction

SELECTION TABLES

1750 RPM - Class II - Service Factor = 1.40

TABLE 3

REDUCERS WITH STANDARD INPUT SHAFT*
LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

continued

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size									
			1 HP 143T	1.5 HP 145T	2 HP 145T	3 HP 182T	5 HP 184T	7.5 HP 213T	10 HP 215T	15 HP 254T	20 HP 256T	25 HP 284T
Single	3.53	496	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	MERC 4	MARS 6
	4.39	399	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	MERC 4	MARS 5	MARS 7
	6.12	286	MERC 1	MERC 1	MERC 1	MERC 1	MERC 3	MERC 3	MARS 5	MARS 5	MARS 7	VENS 11
Double	9.30	188										ATLS 14
	11.02	159	MERC 1	MERC 1	MERC 1	MERC 3	MERC 3	MERC 5	MERC 5	MARS 8	MARS 10	VENS 15
	13.85	126	MERC 2	MERC 2	MERC 2	MERC 4	MERC 4	MERC 6	MARS 8	MARS 12	VENS 14	VENS 18
	17.21	102	MERC 2	MERC 2	MERC 2	MERC 4	MERC 6	MARS 7	MARS 9	MARS 13	VENS 17	VENS 21
	20.41	86	MERC 2	MERC 2	MERC 4	MERC 4	MERC 6	MARS 8	MARS 12	VENS 15	VENS 19	VENS 23
	24.00	73	MERC 3	MERC 3	MERC 3	MERC 5	MERC 7	MARS 10	MARS 12	VENS 18	ATLS 26	ATLS 30
	31.63	55	MERC 2	MERC 4	MERC 4	MERC 6	MARS 9	MARS 11	VENS 17	ATLS 24	ATLS 32	ATLS 38t
Triple	36.56	48	MERC 3	MERC 3	MERC 5	MERC 7	MARS 9	MARS 15	VENS 19	ATLS 29	ATLS 37	ERTH 46
	43.78	40	MERC 3d	MERC 5d	MERC 5d	MERC 7	MARS 12	MARS 16	VENS 22	ATLS 33	ERTH 48	ERTH 54
	54.45	32	MERC 4	MERC 4	MERC 6	MERC 8	MARS 13	VENS 20	ATLS 30	ATLS 42	ERTH 54	ERTH 66
	64.42	27	MERC 4	MERC 6	MERC 8	MARS 11	MARS 17	VENS 24	ATLS 30	ERTH 48	ERTH 60	PLRS 80
	69.63	25	MERC 5	MERC 5	MERC 7	MARS 11	MARS 17	ATLS 27	ATLS 35	ERTH 50	ERTH 68	PLRS 85
	80.01	22	MERC 4	MERC 6	MERC 8	MARS 13	VENS 20	ATLS 30	ATLS 38	ERTH 56	ERTH 74	PLRS 100
	91.41	19.1	MERC 6	MERC 8	MARS 9	MARS 13	ATLS 22	ATLS 34	ERTH 48	NEPT 70	NEPT 90	NEPT 110
	99.38	17.6	MERC 5	MARS 9	MARS 11	MARS 15	VENS 23	ATLS 36	ERTH 46	ERTH 70	PLRS 95	NEPT 115
	111.5	15.7	MERC 6	MERC 8	MARS 11	MARS 17	ATLS 26	ATLS 42	ERTH 56	PLRS 80	PLRS 110	NEPT 130
	121.4	14.4	MERC 7q	MARS 9q	MARS 13q	ATLS 22q	ATLS 30q	ERTH 44q	ERTH 56q	PLRS 90q	PLRS 120q	NEPT 140q
	138.5	12.6	MERC 7	MARS 11	MARS 15	VENS 19	ATLS 35	ERTH 52	ERTH 64	PLRS 100	NEPT 130	ORON 190
	159.8	11.0	MERC 8	MARS 13	MARS 15	VENS 24q	ATLS 39q	ERTH 56q	ERTH 74q	PLRS 110q	NEPT 140q	ORON 190q
	193.1	9.1	MARS 11	MARS 15	VENS 18	ATLS 29	ERTH 48	ERTH 64q	PLRS 90q	NEPT 140q	ORON 190q	ORON 215q
Quadruple	206.2	8.5	MARS 11	MARS 15	VENS 20	ATLS 31	ERTH 52	ERTH 76	PLRS 100	NEPT 150	ORON 215	ORON 240
	238.2	7.3	MARS 13	MARS 17	VENS 22	ATLS 35	ERTH 58	PLRS 80	PLRS 110	NEPT 160	ORON 230	SATN 270
	265.4	6.6	MARS 13	VENS 18	VENS 24	ATLS 39	ERTH 64	PLRS 90	PLRS 120	ORON 190	ORON 240	SATN 300
	295.7	5.9	MARS 15	VENS 22	ATLS 27	ATLS 43	ERTH 66	PLRS 105	NEPT 140	ORON 215	SATN 280	TITN 340
	330.1	5.3	MARS 16	VENS 23	ATLS 32	ERTH 46	ERTH 76	PLRS 120	NEPT 150	ORON 230	SATN 300	TITN 400
	369.8	4.7	MARS 18	ATLS 27	ATLS 35	ERTH 52	PLRS 90	NEPT 130	ORON 190	SATN 270	TITN 360	TITN 440
	412.1	4.2	VENS 20	ATLS 31	ATLS 39	ERTH 60	PLRS 95	NEPT 145	ORON 190	SATN 280	TITN 390	JUPT 500
	459.0	3.8	VENS 21	ATLS 32	ERTH 46	ERTH 64	PLRS 110	NEPT 160	ORON 205	TITN 320	TITN 440	JUPT 550
	532.5	3.3	VENS 24	ATLS 35	ERTH 54	PLRS 85	NEPT 135	ORON 215	SATN 280	TITN 390	JUPT 500	JUPT 600
	617.9	2.8	ATLS 32	ERTH 46	ERTH 58	PLRS 90	NEPT 150	ORON 215	SATN 300	TITN 440	JUPT 600	
	660.6	2.6	ERTH 36qu	ERTH 48qu	PLRS 70qu	PLRS 100qu	NEPT 150qu	ORON 240	SATN 300qu	TITN 440qu		
	741.2	2.4	ATLS 35	ERTH 54	ERTH 72	PLRS 115	ORON 190	SATN 280	TITN 390	JUPT 500qu		
	900.3	1.9	ERTH 42qu	PLRS 65qu	PLRS 85qu	NEPT 130qu	ORON 215	TITN 320qu	TITN 440qu	JUPT 600		
	1057	1.7	ERTH 54	PLRS 70qu	PLRS 100qu	ORON 190	ORON 240	TITN 360qu	JUPT 500qu			

If selection falls within shaded area, a cooling fan and shroud are required. Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

* Selections are based on 1750 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

d = double reduction
t = triple reduction
q = quadruple reduction
qu = quintuple reduction

SELECTION TABLES

1750 RPM - Class II - Service Factor = 1.40

TABLE 3

REDUCERS WITH STANDARD INPUT SHAFT*
LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size											
			30 HP 286T	40 HP 324T	50 HP 326T	60 HP 364T	75 HP 365T	100 HP 405T	125 HP 444T	150 HP 445T	200 HP	250 HP
Single	3.53	496	MARS 6	VENS 10	VENS 10	VENS 10	VENS 14	ERTH 18	NEPT 45	† †	† †	† †
	4.39	399	MARS 7	VENS 10	VENS 12	VENS 14	VENS 16	ATLS 24	ERTH 26	PLRS 32	† †	† †
	6.12	286	VENS 11	VENS 13	VENS 15	VENS 17	ATLS 22	ERTH 34	ERTH 40	NEPT 45	NEPT 65	NEPT 75
Double	9.30	188	ATLS 14	ATLS 22	ATLS 26	ERTH 32	ERTH 38	ERTH 50	PLRS 64	NEPT 70	NEPT 100	
	11.02	159	VENS 17	ATLS 24	ATLS 28	ATLS 32	ERTH 42	ERTH 54	PLRS 70	NEPT 80	TITN 210	† †
	13.85	126	VENS 20	ATLS 30	ATLS 34	ERTH 40	ERTH 52	PLRS 75	PLRS 85	NEPT 105	ORON 135	TITN 220
	17.21	102	ATLS 26	ATLS 34	ERTH 46	ERTH 52	ERTH 64	PLRS 85	NEPT 110	ORON 130	SATN 175	TITN 240
	20.41	86	ATLS 30	ATLS 38	ERTH 46	ERTH 58	ERTH 70	PLRS 100	NEPT 120	ORON 140	SATN 190	TITN 240
	24.00	73	ATLS 34	ERTH 48	ERTH 60	PLRS 70	PLRS 90	NEPT 115	ORON 155	ORON 170	TITN 230	TITN 310
	31.63	55	ERTH 50	ERTH 62t	PLRS 80t	NEPT 100	NEPT 120	NEPT 150t	SATN 200	TITN 280	TITN 320	JUPT 400
Triple	36.56	48	ERTH 52	ERTH 70	PLRS 90	PLRS 110	NEPT 130	ORON 185	SATN 220	TITN 280	TITN 360	JUPT 450d
	43.78	40	ERTH 66	PLRS 85	PLRS 115	NEPT 130	ORON 175	ORON 225	TITN 300	TITN 340	JUPT 500	JUPT 500
	54.45	32	PLRS 80	PLRS 110	NEPT 140	ORON 180	ORON 210	SATN 270	TITN 360	TITN 400	JUPT 500	JUPT 600
	64.42	27	PLRS 90	PLRS 120	NEPT 155	ORON 180	ORON 230	TITN 300	TITN 380	JUPT 450	JUPT 600	
	69.63	25	PLRS 105	NEPT 135	ORON 180	ORON 205	SATN 260	TITN 360	JUPT 450	JUPT 500	JUPT 640	
	80.01	22	PLRS 110	NEPT 150	ORON 190	ORON 220	SATN 300	TITN 390	JUPT 500	JUPT 600		
	91.41	19.1	SATN 180	SATN 180	SATN 240	SATN 260	JUPT 350	JUPT 450	JUPT 550	JUPT 650		
	99.38	17.6	NEPT 145	ORON 190	SATN 250	SATN 280	TITN 380	JUPT 500				
	111.5	15.7	NEPT 160	ORON 205	SATN 270	TITN 320	TITN 400	JUPT 550	JUPT 650			
	121.4	14.4	ORON 180q	ORON 230q	SATN 280q	TITN 360q	TITN 440q	JUPT 600				
	138.5	12.6	ORON 190	SATN 265	TITN 340	TITN 380	JUPT 500					
	159.8	11.0	ORON 215q	SATN 280q	TITN 360q	TITN 440q	JUPT 550					
	193.1	9.1	SATN 260q	TITN 360q	TITN 440q							
Quadruple	206.2	8.5	SATN 300	TITN 400	JUPT 500	JUPT 600						
	238.2	7.3	TITN 320	TITN 440	JUPT 600							
	265.4	6.6	TITN 360	JUPT 500	JUPT 600							
	295.7	5.9	TITN 420	JUPT 550								
	330.1	5.3	JUPT 450	JUPT 600								
	369.8	4.7	JUPT 500									
	412.1	4.2	JUPT 550									
	459.0	3.8										
	532.5	3.3										
	617.9	2.8										
	660.6	2.6										
	741.2	2.4										
	900.3	1.9										
	1057	1.7										

If selection falls within shaded area, a cooling fan and shroud are required. Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

* Selections are based on 1750 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

† Contact Rexnord for application details.

‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

d = double reduction
t = triple reduction
q = quadruple reduction

SELECTION TABLES

1750 RPM - Service Factor = 1.50

TABLE 3

REDUCERS WITH STANDARD INPUT SHAFT*
LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

continued

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size									
			1 HP 143T	1.5 HP 145T	2 HP 145T	3 HP 182T	5 HP 184T	7.5 HP 213T	10 HP 215T	15 HP 254T	20 HP 256T	25 HP 284T
Single	3.53	496	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	MERC 4	MARS 6
	4.39	399	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	MERC 4	MARS 5	MARS 7
	6.12	286	MERC 1	MERC 1	MERC 1	MERC 3	MERC 3	MERC 3	MARS 5	MARS 7	MARS 7	VENS 11
Double	9.30	188									ATLS 14	ATLS 14
	11.02	159	MERC 1	MERC 1	MERC 3	MERC 3	MERC 3	MERC 5	MARS 6	MARS 8	VENS 15	VENS 15
	13.85	126	MERC 2	MERC 2	MERC 2	MERC 4	MERC 4	MERC 6	MARS 8	MARS 12	VENS 14	VENS 18
	17.21	102	MERC 2	MERC 2	MERC 2	MERC 4	MERC 6	MARS 7	MARS 9	VENS 15	VENS 19	ATLS 22
	20.41	86	MERC 2	MERC 2	MERC 4	MERC 4	MERC 6	MARS 10	MARS 12	VENS 15	VENS 21	ATLS 26
	24.00	73	MERC 3	MERC 3	MERC 3	MERC 5	MERC 7	MARS 10	MARS 14	VENS 20	ATLS 26	ATLS 34
	31.63	55	MERC 2	MERC 4	MERC 4	MERC 6	MARS 9	MARS 13	VENS 17	ATLS 28	ATLS 34t	ERTH 44
Triple	36.56	48	MERC 3	MERC 3	MERC 5	MERC 7	MARS 11	MARS 15	VENS 21	ATLS 29	ATLS 37	ERTH 46
	43.78	40	MERC 3d	MERC 5d	MERC 5d	MERC 7	MARS 12t	VENS 18	VENS 24	ATLS 37	ERTH 48	ERTH 60
	54.45	32	MERC 4	MERC 4	MERC 6	MERC 8	MARS 15	VENS 22	ATLS 30	ERTH 48	ERTH 60	ERTH 72
	64.42	27	MERC 4	MERC 6	MERC 8	MARS 11	MARS 17	VENS 24	ATLS 34	ERTH 48	ERTH 66	PLRS 80
	69.63	25	MERC 5	MERC 7	MERC 7	MARS 11	VENS 18	ATLS 27	ATLS 35	ERTH 56	PLRS 75	PLRS 95
	80.01	22	MERC 6	MERC 8	MARS 9	MARS 13	VENS 20	ATLS 30	ATLS 42	ERTH 62	PLRS 80	PLRS 100
	91.41	19.1	MERC 6	MERC 8	MARS 11	MARS 15	ATLS 26	ATLS 38	ERTH 48	NEPT 80	NEPT 100	NEPT 120
	99.38	17.6	MERC 7	MARS 9	MARS 11	VENS 17	ATLS 28	ATLS 40	ERTH 52	PLRS 75	PLRS 105	NEPT 125
	111.5	15.7	MERC 6	MARS 9	MARS 13	VENS 18	ATLS 30	ATLS 42	ERTH 56	PLRS 90	PLRS 110	NEPT 140
	121.4	14.4	MERC 7	MARS 9	MARS 13	ATLS 22q	ATLS 30q	ERTH 50q	ERTH 62q	PLRS 90q	PLRS 120q	NEPT 150q
	138.5	12.6	MARS 9	MARS 11	MARS 15	VENS 21	ATLS 35	ERTH 52	ERTH 70	PLRS 110	NEPT 140	ORON 190
	159.8	11.0	MERC 8	MARS 13	MARS 17	ATLS 27q	ATLS 43q	ERTH 56q	ERTH 74q	PLRS 120q	NEPT 150q	ORON 190q
	193.1	9.1	MARS 11	MARS 15	VENS 20	ATLS 29	ERTH 48	ERTH 70q	PLRS 100q	NEPT 140q	ORON 190q	ORON 240q
Quadruple	206.2	8.5	MARS 11	MARS 15	VENS 22	ATLS 31	ERTH 52	PLRS 80	PLRS 110	NEPT 160	ORON 215	SATN 260
	238.2	7.3	MARS 13	VENS 18	VENS 24	ATLS 35	ERTH 58	PLRS 90	PLRS 120	ORON 180	ORON 230	SATN 300
	265.4	6.6	MARS 13	VENS 20	ATLS 27	ATLS 39	ERTH 64	PLRS 100	NEPT 130	ORON 215	SATN 260	TITN 320
	295.7	5.9	MARS 15	VENS 22	ATLS 31	ERTH 48	ERTH 72	PLRS 105	NEPT 140	ORON 215	SATN 280	TITN 380
	330.1	5.3	MARS 18	ATLS 24	ATLS 32	ERTH 52	PLRS 80	PLRS 120	NEPT 160	SATN 260	TITN 320	TITN 400
	369.8	4.7	VENS 20	ATLS 27	ATLS 39	ERTH 58	PLRS 90	NEPT 140	ORON 190	SATN 280	TITN 360	JUPT 450
	412.1	4.2	VENS 22	ATLS 31	ATLS 43	ERTH 60	PLRS 105	NEPT 155	ORON 215	TITN 310	TITN 430	JUPT 550
	459.0	3.8	VENS 23	ATLS 36	ERTH 46	ERTH 70	PLRS 110	ORON 180	ORON 230	TITN 360	TITN 440	JUPT 550
	532.5	3.3	ATLS 27	ATLS 39	ERTH 60	PLRS 85	NEPT 145	ORON 215	SATN 280	TITN 430	JUPT 500	JUPT 650
	617.9	2.8	ATLS 32	ERTH 46	ERTH 64	PLRS 100	NEPT 160	ORON 240	TITN 320	JUPT 500	JUPT 650	
	660.6	2.6	ERTH 36qu	ERTH 54qu	PLRS 70qu	PLRS 100qu	NEPT 160qu	ORON 260qu	TITN 320qu	JUPT 500		
	741.2	2.4	ATLS 35	ERTH 60	PLRS 85	PLRS 115	ORON 190	TITN 310	TITN 390	JUPT 550qu		
	900.3	1.9	ERTH 48qu	PLRS 75qu	PLRS 95qu	NEPT 140qu	ORON 240	TITN 360qu	TITN 440qu	JUPT 650		
	1057	1.7	ERTH 54	PLRS 80qu	PLRS 100qu	ORON 190	SATN 280	TITN 400qu	JUPT 550qu			

If selection falls within shaded area, a cooling fan and shroud are required. Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

* Selections are based on 1750 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

d = double reduction
t = triple reduction
q = quadruple reduction
qu = quintuple reduction

SELECTION TABLES

1750 RPM - Service Factor = 1.50

TABLE 3

REDUCERS WITH STANDARD INPUT SHAFT*
LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size											
			30 HP 286T	40 HP 324T	50 HP 326T	60 HP 364T	75 HP 365T	100 HP 405T	125 HP 444T	150 HP 445T	200 HP	250 HP
Single	3.53	496	MARS 6	VENS 10	VENS 10	VENS 12	VENS 14	ERTH 18	NEPT 45	† †	† †	† †
	4.39	399	VENS 10	VENS 10	VENS 12	VENS 14	ATLS 20	ATLS 24	ERTH 32	PLRS 42	† †	† †
	6.12	286	VENS 11	VENS 13	VENS 17	ATLS 22	ATLS 26	ATLS 30	ERTH 40	NEPT 55	NEPT 65	NEPT 85
Double	9.30	188	ATLS 18	ATLS 22	ATLS 26	ERTH 32	ERTH 38	ERTH 50	PLRS 64	NEPT 80	NEPT 100	
	11.02	159	VENS 19	ATLS 24	ATLS 32	ERTH 42	ERTH 48	ERTH 60	PLRS 80	NEPT 90	ORON 125	† †
	13.85	126	VENS 22	ATLS 30	ATLS 38	ERTH 46	ERTH 58	PLRS 75	NEPT 95	NEPT 115	ORON 150	TITN 220
	17.21	102	ATLS 30	ATLS 38	ERTH 46	ERTH 58	PLRS 75	NEPT 90	NEPT 110	ORON 150	SATN 175	TITN 240
	20.41	86	ATLS 30	ERTH 40	ERTH 52	ERTH 64	PLRS 80	PLRS 100	NEPT 130	ORON 160	SATN 210	TITN 280
	24.00	73	ATLS 38	ERTH 54	ERTH 66	PLRS 80	NEPT 95	NEPT 125	ORON 155	SATN 195	TITN 270	TITN 310
	31.63	55	ERTH 56	ERTH 66t	PLRS 80t	NEPT 110	NEPT 130t	ORON 170	SATN 220	TITN 280	TITN 320	JUPT 400
Triple	36.56	48	ERTH 58	PLRS 80	PLRS 100	PLRS 110	NEPT 140	ORON 185	SATN 235	TITN 280	JUPT 400	JUPT 450
	43.78	40	ERTH 72	PLRS 95	PLRS 115	NEPT 140	ORON 175	SATN 230	TITN 300	TITN 380	JUPT 500	JUPT 550
	54.45	32	PLRS 90	PLRS 120	NEPT 150	ORON 180	SATN 240	TITN 320	TITN 360	JUPT 450	JUPT 550	
	64.42	27	PLRS 110	NEPT 135	ORON 180	ORON 205	SATN 240	TITN 340	TITN 420	JUPT 500	JUPT 650	
	69.63	25	PLRS 105	NEPT 145	ORON 180	ORON 230	SATN 280	TITN 360	JUPT 450	JUPT 500		
	80.01	22	PLRS 120	NEPT 160	ORON 205	SATN 240	SATN 300	TITN 430	JUPT 500	JUPT 600		
	91.41	19.1	SATN 180	SATN 210	SATN 240	JUPT 300	JUPT 350	JUPT 450	JUPT 600			
	99.38	17.6	ORON 190	ORON 215	SATN 250	TITN 300	TITN 380					
	111.5	15.7	ORON 190	ORON 220	SATN 300	TITN 360	TITN 440	JUPT 550				
	121.4	14.4	ORON 180q	SATN 260q	SATN 300q	TITN 360q	JUPT 500	JUPT 650				
	138.5	12.6	ORON 215	SATN 280	TITN 340	TITN 420						
	159.8	11.0	ORON 240q	SATN 300q	TITN 400q	JUPT 500	JUPT 600					
	193.1	9.1	SATN 280q	TITN 400q	JUPT 500							
Quadruple	206.2	8.5	TITN 320	TITN 440	JUPT 550	JUPT 650						
	238.2	7.3	TITN 360	JUPT 550	JUPT 600							
	265.4	6.6	TITN 400	JUPT 550	JUPT 650							
	295.7	5.9	TITN 420	JUPT 600								
	330.1	5.3	JUPT 500	JUPT 650								
	369.8	4.7	JUPT 550									
	412.1	4.2	JUPT 550									
	459.0	3.8										
	532.5	3.3										
	617.9	2.8										
	660.6	2.6										
	741.2	2.4										
	900.3	1.9										
	1057	1.7										

If selection falls within shaded area, a cooling fan and shroud are required. Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

* Selections are based on 1750 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

† Contact Rexnord for application details.

‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

t = triple reduction
q = quadruple reduction

SELECTION TABLES

1750 RPM - Service Factor = 1.75

TABLE 3

REDUCERS WITH STANDARD INPUT SHAFT*
LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

continued

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size									
			1 HP 143T	1.5 HP 145T	2 HP 145T	3 HP 182T	5 HP 184T	7.5 HP 213T	10 HP 215T	15 HP 254T	20 HP 256T	25 HP 284T
Single	3.53	496	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	MERC 4	MARS 6	MARS 6
	4.39	399	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	MERC 4	MARS 5	MARS 7	VENS 10
	6.12	286	MERC 1	MERC 1	MERC 1	MERC 3	MERC 3	MERC 3	MARS 5	MARS 7	VENS 11	VENS 11
Double	9.30	188								ATLS 14	ATLS 14	ATLS 18
	11.02	159	MERC 1	MERC 1	MERC 3	MERC 3	MERC 5	MERC 5	MARS 8	MARS 10	VENS 15	VENS 17
	13.85	126	MERC 2	MERC 2	MERC 2	MERC 4	MERC 6	MARS 8	MARS 10	VENS 14	VENS 18	VENS 22
	17.21	102	MERC 2	MERC 2	MERC 4	MERC 4	MERC 6	MARS 9	MARS 11	VENS 17	VENS 21	ATLS 26
	20.41	86	MERC 2	MERC 2	MERC 4	MERC 4	MARS 8	MARS 10	VENS 15	VENS 19	VENS 23	ATLS 30
	24.00	73	MERC 3	MERC 3	MERC 3	MERC 5	MARS 8	MARS 12	VENS 16	VENS 22	ATLS 30	ATLS 38
	31.63	55	MERC 2	MERC 4	MERC 4	MERC 6	MARS 11	VENS 15	ATLS 20	ATLS 32	ATLS 38t	ERTH 50
Triple	36.56	48	MERC 3	MERC 5	MERC 5	MERC 7	MARS 13	VENS 17	VENS 23	ATLS 33	ERTH 46	ERTH 58
	43.78	40	MERC 3d	MERC 5d	MERC 7	MARS 8d	MARS 14	VENS 20	ATLS 29	ATLS 41	ERTH 54	ERTH 72
	54.45	32	MERC 4	MERC 6	MERC 8	MARS 11	MARS 17	ATLS 26	ATLS 34	ERTH 54	ERTH 66	PLRS 90
	64.42	27	MERC 4	MERC 6	MERC 8	MARS 13	VENS 20	ATLS 30	ATLS 38	ERTH 60	PLRS 80	PLRS 100
	69.63	25	MERC 5	MERC 7	MARS 9	MARS 13	VENS 22	ATLS 31	ERTH 44	ERTH 62	PLRS 85	PLRS 105
	80.01	22	MERC 6	MERC 8	MARS 11	MARS 15	VENS 24	ATLS 38	ERTH 50	ERTH 74	PLRS 100	PLRS 120
	91.41	19.1	MERC 6	MERC 8	MARS 11	MARS 17	ATLS 30	ERTH 42	NEPT 60	NEPT 90	NEPT 110	SATN 180
	99.38	17.6	MERC 7	MARS 9	MARS 13	VENS 17	ATLS 32	ERTH 46	ERTH 58	PLRS 95	NEPT 115	NEPT 145
	111.5	15.7	MERC 8	MARS 11	MARS 15	VENS 20	ATLS 34	ERTH 50	ERTH 68	PLRS 100	NEPT 130	NEPT 160
	121.4	14.4	MERC 7q	MARS 11q	MARS 15q	ATLS 22q	ATLS 34q	ERTH 56q	ERTH 74q	PLRS 110q	NEPT 140q	ORON 180q
	138.5	12.6	MARS 9	MARS 13	VENS 17	VENS 24q	ATLS 43q	ERTH 64	PLRS 80	NEPT 120	ORON 190	ORON 215
	159.8	11.0	MARS 11	MARS 15	VENS 20q	ATLS 31q	ERTH 44q	ERTH 68q	PLRS 90q	NEPT 130q	ORON 190q	ORON 215q
	193.1	9.1	MARS 13	VENS 18	ATLS 25	ERTH 36	ERTH 60	PLRS 80q	PLRS 110q	ORON 190q	ORON 215q	SATN 280q
Quadruple	206.2	8.5	MARS 13	MARS 17	ATLS 27	ATLS 39	ERTH 64	PLRS 90	PLRS 120	ORON 190	ORON 240	SATN 300
	238.2	7.3	MARS 15	VENS 22	ATLS 31	ATLS 43	ERTH 70	PLRS 100	NEPT 140	ORON 205	SATN 280	TITN 360
	265.4	6.6	MARS 15	VENS 24	ATLS 31	ERTH 46	ERTH 76	PLRS 120	NEPT 150	ORON 240	SATN 300	TITN 400
	295.7	5.9	VENS 18	ATLS 27	ATLS 35	ERTH 54	PLRS 85	NEPT 130	ORON 190	SATN 250	TITN 340	TITN 420
	330.1	5.3	VENS 19	ATLS 28	ATLS 40	ERTH 58	PLRS 100	NEPT 140	ORON 205	SATN 280	TITN 400	JUPT 500
	369.8	4.7	VENS 22	ATLS 35	ATLS 43	ERTH 64	PLRS 110	NEPT 160	ORON 215	TITN 320	TITN 440	JUPT 550
	412.1	4.2	VENS 24	ATLS 39	ERTH 48	ERTH 72	PLRS 115	ORON 190	ORON 240	TITN 350	JUPT 500	JUPT 550
	459.0	3.8	ATLS 28	ATLS 40	ERTH 52	PLRS 80	NEPT 130	ORON 205	SATN 260	TITN 400	JUPT 550	JUPT 650
	532.5	3.3	ATLS 31	ERTH 48	ERTH 66	PLRS 105	ORON 190	ORON 240	TITN 350	JUPT 450	JUPT 600	
	617.9	2.8	ATLS 36	ERTH 58	ERTH 76	PLRS 110	ORON 190	SATN 280	TITN 360	JUPT 550		
	660.6	2.6	ERTH 42qu	PLRS 70qu	PLRS 80qu	PLRS 120qu	ORON 190	SATN 280	TITN 400qu			
	741.2	2.4	ATLS 43	ERTH 72	PLRS 95	NEPT 135	ORON 240	TITN 350	JUPT 450qu			
	900.3	1.9	ERTH 54qu	PLRS 85qu	PLRS 105qu	NEPT 160qu	SATN 260	TITN 400qu	JUPT 500			
	1057	1.7	PLRS 70qu	PLRS 90qu	PLRS 120qu	ORON 190	TITN 320qu	TITN 440qu	JUPT 600qu			

If selection falls within shaded area, a cooling fan and shroud are required. Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

* Selections are based on 1750 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

d = double reduction
t = triple reduction
q = quadruple reduction
qu = quintuple reduction

TABLE 3

REDUCERS WITH STANDARD INPUT SHAFT*
LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size											
			30 HP 286T	40 HP 324T	50 HP 326T	60 HP 364T	75 HP 365T	100 HP 405T	125 HP 444T	150 HP 445T	200 HP	250 HP
Single	3.53	496	MARS 8	VENS 10	VENS 12	VENS 14	VENS 16	ERTH 24	NEPT 45	† †	† †	† †
	4.39	399	VENS 10	VENS 12	VENS 14	VENS 16	ATLS 20	ATLS 28	ERTH 32	PLRS 42	† †	† †
	6.12	286	VENS 11	VENS 15	ATLS 18	ATLS 22	ATLS 30	ERTH 40	ERTH 46	NEPT 55	NEPT 75	SATN 100
Double	9.30	188	ATLS 18	ATLS 26	ERTH 32	ERTH 38	ERTH 44	PLRS 64	NEPT 80	NEPT 90		
	11.02	159	VENS 21	ATLS 28	ATLS 36	ERTH 42	ERTH 54	PLRS 70	NEPT 90	NEPT 100	ORON 140	† †
	13.85	126	ATLS 26	ATLS 34	ERTH 46	ERTH 52	ERTH 64	PLRS 85	NEPT 105	ORON 135	SATN 175	TITN 220
	17.21	102	ATLS 34	ERTH 46	ERTH 52	ERTH 64	PLRS 85	NEPT 110	ORON 130	SATN 160	TITN 240	TITN 280
	20.41	86	ATLS 38	ERTH 46	ERTH 58	ERTH 70	PLRS 90	NEPT 120	SATN 145	SATN 190	TITN 240	JUPT 300
	24.00	73	ERTH 48	ERTH 60	PLRS 80	PLRS 90	NEPT 115	ORON 155	SATN 180	TITN 230	TITN 310	JUPT 400
	31.63	55	ERTH 56	PLRS 80t	NEPT 100	NEPT 120	NEPT 140t	SATN 200	TITN 280	TITN 280	JUPT 400	JUPT 450
Triple	36.56	48	ERTH 70	PLRS 90	PLRS 110	NEPT 130	ORON 170	SATN 220	TITN 280	TITN 360	JUPT 450	
	43.78	40	PLRS 85	PLRS 115	NEPT 140	ORON 175	ORON 200	TITN 300	TITN 340	JUPT 500	JUPT 500	
	54.45	32	PLRS 100	NEPT 140	ORON 180	ORON 210	SATN 255	TITN 360	JUPT 450	JUPT 450	JUPT 600	
	64.42	27	PLRS 120	NEPT 155	ORON 205	ORON 230	TITN 300	TITN 380	JUPT 500	JUPT 600		
	69.63	25	NEPT 125	ORON 180	ORON 205	SATN 260	TITN 320	JUPT 450	JUPT 500	JUPT 600		
	80.01	22	NEPT 140	ORON 190	SATN 240	SATN 300	TITN 350	JUPT 500	JUPT 600			
	91.41	19.1	SATN 180	SATN 240	JUPT 300	JUPT 350	JUPT 400	JUPT 550	JUPT 650			
	99.38	17.6	ORON 190	ORON 240	TITN 300	TITN 380	JUPT 450					
	111.5	15.7	ORON 205	SATN 270	TITN 320	TITN 400	JUPT 500	JUPT 650				
	121.4	14.4	ORON 230q	SATN 280q	TITN 360q	TITN 440q	JUPT 600					
	138.5	12.6	ORON 240	TITN 340	TITN 420	JUPT 500						
	159.8	11.0	SATN 260q	TITN 360q	TITN 440q	JUPT 550						
	193.1	9.1	TITN 320q	TITN 440q								
Quadruple	206.2	8.5	TITN 360	JUPT 500	JUPT 600							
	238.2	7.3	TITN 400	JUPT 600								
	265.4	6.6	JUPT 450	JUPT 600								
	295.7	5.9	JUPT 550									
	330.1	5.3	JUPT 600									
	369.8	4.7	JUPT 650									
	412.1	4.2	JUPT 650									
	459.0	3.8										
	532.5	3.3										
	617.9	2.8										
	660.6	2.6										
	741.2	2.4										
	900.3	1.9										
	1057	1.7										

If selection falls within shaded area, a cooling fan and shroud are required. Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

* Selections are based on 1750 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

† Contact Rexnord for application details.

‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

t = triple reduction
q = quadruple reduction

SELECTION TABLES

1750 RPM - Class III - Service Factor = 2.00

TABLE 3

REDUCERS WITH STANDARD INPUT SHAFT*
LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

continued

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size									
			1 HP 143T	1.5 HP 145T	2 HP 145T	3 HP 182T	5 HP 184T	7.5 HP 213T	10 HP 215T	15 HP 254T	20 HP 256T	25 HP 284T
Single	3.53	496	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	MERC 4	MARS 6	MARS 8
	4.39	399	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	MERC 4	MARS 5	MARS 7	VENS 10
	6.12	286	MERC 1	MERC 1	MERC 1	MERC 3	MERC 3	MARS 5	MARS 5	MARS 7	VENS 11	VENS 11
Double	9.30	188								ATLS 14	ATLS 14	ATLS 18
	11.02	159	MERC 1	MERC 3	MERC 3	MERC 3	MERC 5	MARS 6	MARS 8	VENS 13	VENS 17	VENS 19
	13.85	126	MERC 2	MERC 2	MERC 2	MERC 4	MERC 6	MARS 8	MARS 10	VENS 16	VENS 20	ATLS 26
	17.21	102	MERC 2	MERC 2	MERC 4	MERC 4	MERC 6	MARS 9	MARS 13	VENS 19	ATLS 26	ATLS 30
	20.41	86	MERC 2	MERC 4	MERC 4	MERC 6	MARS 8	MARS 12	VENS 15	VENS 21	ATLS 30	ATLS 34
	24.00	73	MERC 3	MERC 3	MERC 5	MERC 7	MARS 10	MARS 14	VENS 18	ATLS 26	ATLS 34	ERTH 42
	31.63	55	MERC 4	MERC 4	MERC 6	MARS 7	MARS 11	VENS 17	ATLS 24	ATLS 34t	ERTH 50	ERTH 62t
Triple	36.56	48	MERC 3	MERC 5	MERC 7	MARS 9	MARS 13	VENS 19	ATLS 25	ATLS 37	ERTH 52	ERTH 64
	43.78	40	MERC 3d	MERC 5d	MERC 7	MARS 10d	MARS 16	VENS 24	ATLS 33	ERTH 48	ERTH 66	PLRS 85
	54.45	32	MERC 4	MERC 6	MERC 8	MARS 11	VENS 20	ATLS 30	ATLS 38	ERTH 60	PLRS 80	PLRS 100
	64.42	27	MERC 6	MERC 8	MARS 9	MARS 15	VENS 22	ATLS 34	ERTH 48	ERTH 66	PLRS 90	PLRS 110
	69.63	25	MERC 5	MERC 7	MARS 11	MARS 15	ATLS 27	ATLS 35	ERTH 50	PLRS 75	PLRS 95	NEPT 125
	80.01	22	MERC 6	MARS 9	MARS 11	MARS 17	ATLS 30	ATLS 42	ERTH 56	PLRS 80	PLRS 110	NEPT 140
	91.41	19.1	MERC 8	MARS 11	MARS 13	ATLS 22	ATLS 34	ERTH 48	NEPT 70	NEPT 100	NEPT 130	SATN 180
	99.38	17.6	MERC 7	MARS 11	MARS 15	VENS 21	ATLS 36	ERTH 52	ERTH 70	PLRS 105	NEPT 135	ORON 190
	111.5	15.7	MERC 8	MARS 13	MARS 17	VENS 22	ATLS 38	ERTH 56	ERTH 74	PLRS 110	NEPT 150	ORON 190
	121.4	14.4	MARS 9q	MARS 13q	MARS 17q	ERTH 26q	ERTH 44q	ERTH 62q	PLRS 80q	PLRS 120q	NEPT 160q	ORON 205q
	138.5	12.6	MARS 11	MARS 15	VENS 19	ATLS 31	ERTH 46	ERTH 70	PLRS 100	NEPT 140	ORON 190	ORON 240
	159.8	11.0	MARS 11	MARS 17	VENS 24q	ATLS 35q	ERTH 50q	ERTH 74q	PLRS 100q	NEPT 150q	ORON 215q	SATN 260q
	193.1	9.1	MARS 15	VENS 20	ATLS 29	ERTH 42	ERTH 64q	PLRS 100q	NEPT 130	ORON 190q	SATN 260q	TITN 320q
Quadruple	206.2	8.5	MARS 13	VENS 22	ATLS 31	ATLS 43	ERTH 70	PLRS 110	NEPT 140	ORON 215	SATN 300	TITN 360
	238.2	7.3	MARS 17	VENS 24	ATLS 31	ERTH 46	ERTH 76	PLRS 120	NEPT 160	ORON 230	TITN 320	TITN 400
	265.4	6.6	VENS 18	ATLS 27	ATLS 35	ERTH 52	PLRS 90	NEPT 130	ORON 190	SATN 260	TITN 360	TITN 440
	295.7	5.9	VENS 20	ATLS 31	ATLS 43	ERTH 60	PLRS 95	NEPT 140	ORON 190	SATN 280	TITN 380	JUPT 500
	330.1	5.3	VENS 23	ATLS 32	ERTH 46	ERTH 64	PLRS 110	NEPT 160	ORON 230	TITN 320	TITN 440	JUPT 550
	369.8	4.7	VENS 24	ATLS 39	ERTH 52	ERTH 76	PLRS 120	ORON 190	ORON 240	TITN 360	JUPT 500	JUPT 600
	412.1	4.2	ATLS 27	ATLS 43	ERTH 54	PLRS 85	NEPT 135	ORON 215	SATN 280	TITN 430	JUPT 550	JUPT 650
	459.0	3.8	ATLS 32	ERTH 46	ERTH 64	PLRS 90	NEPT 150	ORON 230	TITN 320	TITN 440	JUPT 600	
	532.5	3.3	ATLS 35	ERTH 60	PLRS 75	PLRS 115	ORON 190	SATN 280	TITN 390	JUPT 500		
	617.9	2.8	ERTH 46	ERTH 64	PLRS 90	NEPT 130	ORON 215	TITN 320	TITN 440	JUPT 650		
	660.6	2.6	ERTH 48qu	PLRS 70qu	PLRS 90qu	NEPT 130qu	ORON 240	TITN 320qu	TITN 440qu			
	741.2	2.4	ERTH 54	PLRS 85	PLRS 105	NEPT 155	SATN 280	TITN 390	JUPT 500qu			
	900.3	1.9	PLRS 65qu	PLRS 95qu	NEPT 120qu	ORON 190	SATN 300qu	TITN 440qu	JUPT 600			
	1057	1.7	PLRS 70qu	PLRS 100qu	ORON 190	ORON 215	TITN 360qu	JUPT 550qu				

If selection falls within shaded area, a cooling fan and shroud are required. Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

* Selections are based on 1750 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

d = double reduction
t = triple reduction
q = quadruple reduction
qu = quintuple reduction

SELECTION TABLES

1750 RPM - Class III - Service Factor = 2.00

TABLE 3

REDUCERS WITH STANDARD INPUT SHAFT*
LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size											
			30 HP 286T	40 HP 324T	50 HP 326T	60 HP 364T	75 HP 365T	100 HP 405T	125 HP 444T	150 HP 445T	200 HP	250 HP
Single	3.53	496	MARS 8	VENS 10	VENS 12	VENS 14	ERTH 18	ERTH 24	NEPT 45	† †	† †	† †
	4.39	399	VENS 10	VENS 12	VENS 16	ATLS 20	ATLS 24	ERTH 32	ERTH 38	PLRS 52	† †	† †
	6.12	286	VENS 13	VENS 17	ATLS 22	ATLS 26	ERTH 34	ERTH 46	NEPT 55	NEPT 65	NEPT 85	SATN 120
Double	9.30	188	ATLS 22	ATLS 26	ERTH 38	ERTH 44	ERTH 50	NEPT 70	NEPT 90	NEPT 100		
	11.02	159	ATLS 24	ATLS 32	ERTH 42	ERTH 48	ERTH 60	PLRS 80	NEPT 100	ORON 125	TITN 210	† †
	13.85	126	ATLS 30	ATLS 38	ERTH 52	ERTH 58	PLRS 75	NEPT 95	ORON 120	ORON 150	SATN 190	TITN 260
	17.21	102	ATLS 38	ERTH 52	ERTH 58	PLRS 75	NEPT 90	NEPT 120	ORON 150	SATN 190	TITN 240	TITN 320
	20.41	86	ERTH 40	ERTH 58	ERTH 70	PLRS 80	PLRS 100	ORON 140	SATN 170	SATN 210	TITN 280	JUPT 350
	24.00	73	ERTH 54	ERTH 66	PLRS 90	NEPT 105	NEPT 125	ORON 170	SATN 210	TITN 270	TITN 350	JUPT 450
	31.63	55	ERTH 66t	NEPT 100	NEPT 120	NEPT 130t	ORON 170	TITN 280	TITN 280	TITN 320	JUPT 400	JUPT 500
Triple	36.56	48	PLRS 80	PLRS 100	NEPT 130	NEPT 150	ORON 185	SATN 250	TITN 320	JUPT 400d	JUPT 500d	
	43.78	40	PLRS 95	NEPT 130	ORON 175	ORON 200	SATN 230	TITN 340	TITN 380	JUPT 500	JUPT 600	
	54.45	32	PLRS 120	ORON 180	ORON 195	SATN 240	TITN 320	TITN 400	JUPT 450	JUPT 550		
	64.42	27	NEPT 135	ORON 180	ORON 230	SATN 255	TITN 340	JUPT 450	JUPT 550	JUPT 650		
	69.63	25	NEPT 145	ORON 205	SATN 240	SATN 280	TITN 360	JUPT 450	JUPT 550			
	80.01	22	NEPT 160	ORON 220	SATN 270	TITN 350	TITN 430	JUPT 550				
	91.41	19.1	SATN 210	SATN 260	JUPT 300	JUPT 400	JUPT 450	JUPT 600				
	99.38	17.6	ORON 215	SATN 265	TITN 340	TITN 420						
	111.5	15.7	ORON 220	SATN 300	TITN 400	TITN 440	JUPT 550					
	121.4	14.4	SATN 240q	TITN 320q	TITN 400q	JUPT 550	JUPT 650					
	138.5	12.6	SATN 280	TITN 380	JUPT 500							
	159.8	11.0	SATN 300q	TITN 400q	JUPT 550	JUPT 650						
	193.1	9.1	TITN 400q									
Quadruple	206.2	8.5	TITN 440	JUPT 550								
	238.2	7.3	JUPT 550	JUPT 650								
	265.4	6.6	JUPT 550									
	295.7	5.9	JUPT 600									
	330.1	5.3	JUPT 650									
	369.8	4.7										
	412.1	4.2										
	459.0	3.8										
	532.5	3.3										
	617.9	2.8										
	660.6	2.6										
	741.2	2.4										
	900.3	1.9										
	1057	1.7										

If selection falls within shaded area, a cooling fan and shroud are required. Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

* Selections are based on 1750 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

† Contact Rexnord for application details.

‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

d = double reduction
t = triple reduction
q = quadruple reduction

SELECTION TABLES

1430 RPM - Class I - Service Factor = 1.00

TABLE 3

REDUCERS WITH STANDARD INPUT SHAFT*
LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

continued

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size									
			1 HP 143T	1.5 HP 145T	2 HP 145T	3 HP 182T	5 HP 184T	7.5 HP 213T	10 HP 215T	15 HP 254T	20 HP 256T	25 HP 284T
Single	3.53	405	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	MERC 4	MARS 6
	4.39	326	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	MERC 4	MARS 5	MARS 7
	6.12	234	MERC 1	MERC 1	MERC 1	MERC 1	MERC 3	MERC 3	MERC 3	MARS 5	MARS 7	MARS 7
Double	9.30	154										ATLS 14
	11.02	130	MERC 1	MERC 1	MERC 1	MERC 3	MERC 3	MERC 5	MERC 5	MARS 8	MARS 10	VENS 13
	13.85	103	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	MERC 6	MERC 6	MARS 10	MARS 12	VENS 16
	17.21	83	MERC 2	MERC 2	MERC 2	MERC 4	MERC 4	MERC 6	MARS 9	MARS 11	VENS 15	VENS 19
	20.41	70	MERC 2	MERC 2	MERC 2	MERC 4	MERC 6	MARS 8	MARS 10	VENS 15	VENS 17	VENS 21
	24.00	60	MERC 3	MERC 3	MERC 3	MERC 5	MERC 7	MARS 8	MARS 12	VENS 16	VENS 20	ATLS 26
	31.63	45	MERC 2	MERC 2	MERC 4	MERC 4	MARS 7	MARS 11	MARS 13	ATLS 24	ATLS 28	ATLS 34t
Triple	36.56	39	MERC 3	MERC 3	MERC 5	MERC 5	MARS 9	MARS 13	VENS 17	VENS 23	ATLS 33	ATLS 41
	43.78	33	MERC 3d	MERC 3d	MERC 5d	MERC 7	MARS 10d	MARS 14	VENS 20	ATLS 29	ATLS 41	ERTH 48
	54.45	26	MERC 4	MERC 4	MERC 6	MERC 8	MARS 11	MARS 17	VENS 24	ATLS 38	ERTH 48	ERTH 60
	64.42	22	MERC 4	MERC 6	MERC 6	MARS 9	MARS 15	VENS 20	ATLS 26	ATLS 42	ERTH 54	ERTH 66
	69.63	21	MERC 3	MERC 5	MERC 7	MARS 9	MARS 15	VENS 22	ATLS 31	ERTH 44	ERTH 62	PLRS 75
	80.01	17.9	MERC 4	MERC 6	MERC 8	MARS 11	MARS 17	ATLS 26	ATLS 34	ERTH 50	ERTH 68	PLRS 90
	91.41	15.6	MERC 4	MERC 6	MERC 8	MARS 13	ATLS 22	ATLS 30	ERTH 42	NEPT 60	NEPT 80	NEPT 100
	99.38	14.4	MERC 5	MERC 7	MARS 9	MARS 13	VENS 21	ATLS 32	ATLS 40	ERTH 64	PLRS 85	PLRS 105
	111.5	12.9	MERC 6	MERC 8	MARS 11	MARS 15	VENS 24	ATLS 34	ERTH 50	ERTH 68	PLRS 90	PLRS 120
	121.4	11.8	MERC 5q	MARS 9q	MARS 11q	MARS 15q	ATLS 26q	ATLS 38q	ERTH 50q	ERTH 74q	PLRS 100q	NEPT 130q
	138.5	10.3	MERC 7	MARS 9	MARS 13	VENS 17	ATLS 31	ATLS 43q	ERTH 58	PLRS 90	NEPT 120	NEPT 140
	159.8	8.9	MERC 8	MARS 11	MARS 13	VENS 22q	ATLS 35q	ERTH 50q	ERTH 62q	PLRS 90q	PLRS 120q	NEPT 150q
	193.1	7.4	MARS 9	MARS 13	VENS 16	ATLS 25	ERTH 42	ERTH 60	ERTH 76q	PLRS 120q	NEPT 150q	ORON 190q
Quadruple	206.2	6.9	MERC 8	MARS 13	MARS 17	ATLS 27	ATLS 43	ERTH 64	PLRS 90	NEPT 130	ORON 190	ORON 215
	238.2	6.0	MARS 11	MARS 15	VENS 20	ATLS 31	ERTH 52	ERTH 70	PLRS 100	NEPT 140	ORON 205	SATN 240
	265.4	5.4	MARS 13	MARS 17	VENS 22	ATLS 35	ERTH 52	PLRS 80	PLRS 110	NEPT 160	ORON 215	SATN 270
	295.7	4.8	MARS 13	VENS 18	VENS 24	ATLS 39	ERTH 60	PLRS 95	PLRS 115	ORON 190	ORON 240	TITN 300
	330.1	4.3	MARS 14	VENS 21	ATLS 28	ATLS 40	ERTH 70	PLRS 100	NEPT 130	ORON 205	SATN 270	TITN 360
	369.8	3.9	MARS 16	VENS 22	ATLS 31	ERTH 46	ERTH 76	PLRS 110	NEPT 150	ORON 240	SATN 300	TITN 400
	412.1	3.5	MARS 18	ATLS 27	ATLS 35	ERTH 48	PLRS 85	NEPT 125	ORON 190	ORON 240	TITN 350	TITN 430
	459.0	3.1	VENS 19	ATLS 28	ATLS 40	ERTH 58	PLRS 90	NEPT 140	ORON 180	SATN 270	TITN 360	JUPT 450
	532.5	2.7	VENS 22	ATLS 31	ATLS 43	ERTH 72	PLRS 115	ORON 190	ORON 240	TITN 350	JUPT 450	JUPT 550
	617.9	2.3	ATLS 28	ATLS 40	ERTH 52	ERTH 76	NEPT 130	ORON 190	SATN 270	TITN 400	JUPT 550	JUPT 650
	660.6	2.2	ERTH 30qu	ERTH 42qu	ERTH 54qu	PLRS 80qu	NEPT 130qu	ORON 215	SATN 270qu	TITN 400qu	JUPT 550	
	741.2	1.9	ATLS 31	ATLS 43	ERTH 66	PLRS 95	NEPT 155	ORON 240	TITN 310	JUPT 450qu		
	900.3	1.6	ATLS 36	ERTH 54qu	PLRS 75qu	PLRS 115qu	ORON 190	SATN 270qu	TITN 360qu	JUPT 550		
	1057	1.4	ERTH 48	PLRS 70qu	PLRS 90qu	NEPT 130	ORON 215	TITN 320qu	TITN 440qu	JUPT 650qu		

If selection falls within shaded area, a cooling fan and shroud are required. Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

* Selections are based on 1430 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

d = double reduction
t = triple reduction
q = quadruple reduction
qu = quintuple reduction

SELECTION TABLES

1430 RPM - Class I - Service Factor = 1.00

TABLE 3

REDUCERS WITH STANDARD INPUT SHAFT*
LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size									
			30 HP 286T	40 HP 324T	50 HP 326T	60 HP 364T	75 HP 365T	100 HP 405T	125 HP 444T	150 HP 445T	200 HP	250 HP
Single	3.53	405	MARS 6	MARS 8	VENS 10	VENS 10	VENS 12	VENS 16	PLRS 34	PLRS 34	† †	† †
	4.39	326	MARS 7	VENS 10	VENS 10	VENS 12	VENS 14	ATLS 20	ERTH 26	PLRS 32	PLRS 42	† †
	6.12	234	VENS 11	VENS 11	VENS 13	VENS 15	ATLS 22	ATLS 26	ERTH 34	NEPT 45	NEPT 55	NEPT 65
Double	9.30	154	ATLS 14	ATLS 18	ATLS 22	ATLS 26	ERTH 32	ERTH 44	PLRS 54	PLRS 64	NEPT 80	† †
	11.02	130	VENS 15	VENS 19	ATLS 24	ATLS 28	ATLS 36	ERTH 48	PLRS 60	POLR 70	NEPT 100	ORON 125
	13.85	103	VENS 18	ATLS 26	ATLS 30	ATLS 38	ERTH 46	ERTH 58	PLRS 75	NEPT 95	NEPT 115	ORON 150
	17.21	83	ATLS 22	ATLS 30	ATLS 38	ERTH 46	ERTH 58	PLRS 75	NEPT 90	NEPT 110	ORON 150	SATN 190
	20.41	70	ATLS 26	ATLS 34	ERTH 40	ERTH 52	ERTH 64	PLRS 80	PLRS 100	NEPT 120	ORON 160	SATN 210
	24.00	60	ATLS 30	ERTH 42	ERTH 54	ERTH 60	PLRS 80	NEPT 105	NEPT 125	ORON 155	SATN 210	TITN 270
	31.63	45	ERTH 44	ERTH 56	ERTH 66t	PLRS 80t	NEPT 110	NEPT 130t	ORON 170	SATN 220	TITN 280	TITN 360
Triple	36.56	39	ERTH 46	ERTH 64	PLRS 80	PLRS 90	NEPT 120	NEPT 150	ORON 200	SATN 235	TITN 320	JUPT 400d
	43.78	33	ERTH 60	PLRS 75	PLRS 95	PLRS 115	NEPT 140	ORON 200	SATN 245	TITN 300	TITN 380	JUPT 500
	54.45	26	ERTH 72	PLRS 100	PLRS 120	NEPT 140	ORON 180	SATN 240	TITN 320	TITN 360	JUPT 450	JUPT 550
	64.42	22	PLRS 80	PLRS 110	NEPT 135	NEPT 155	ORON 205	SATN 270	TITN 340	TITN 420	JUPT 550	JUPT 650
	69.63	21	PLRS 95	NEPT 115	NEPT 145	ORON 180	ORON 230	TITN 320	TITN 360	JUPT 450	JUPT 550	
	80.01	17.9	PLRS 100	NEPT 130	ORON 190	ORON 205	SATN 270	TITN 350	TITN 430	JUPT 500	JUPT 650	
	91.41	15.6	NEPT 120	SATN 180	SATN 210	SATN 240	JUPT 300	JUPT 400	JUPT 500	JUPT 550		
	99.38	14.4	NEPT 125	ORON 190	ORON 215	ORON 240	TITN 300	TITN 420				
	111.5	12.9	NEPT 140	ORON 190	SATN 240	SATN 270	TITN 360	JUPT 450	JUPT 600			
	121.4	11.8	NEPT 150q	ORON 205q	SATN 260q	SATN 300q	TITN 400q	JUPT 550	JUPT 650			
	138.5	10.3	ORON 190	ORON 240	SATN 280	TITN 340	TITN 420					
	159.8	8.9	ORON 190q	ORON 240q	SATN 300q	TITN 360q	JUPT 500	JUPT 650				
	193.1	7.4	ORON 240q	SATN 300q	TITN 400q	JUPT 500						
Quadruple	206.2	6.9	SATN 270	TITN 360	TITN 440	JUPT 550	JUPT 650					
	238.2	6.0	SATN 300	TITN 400	JUPT 550	JUPT 600						
	265.4	5.4	TITN 320	TITN 440	JUPT 550	JUPT 650						
	295.7	4.8	TITN 380	JUPT 500	JUPT 600							
	330.1	4.3	TITN 400	JUPT 550	JUPT 650							
	369.8	3.9	TITN 440	JUPT 600								
	412.1	3.5	JUPT 500	JUPT 600								
	459.0	3.1	JUPT 550									
	532.5	2.7	JUPT 650									
	617.9	2.3										
	660.6	2.2										
	741.2	1.9										
	900.3	1.6										
	1057	1.4										

If selection falls within shaded area, a cooling fan and shroud are required. Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

* Selections are based on 1430 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

† Contact Rexnord for application details.

‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

d = double reduction
t = triple reduction
q = quadruple reduction

SELECTION TABLES

1430 RPM - Service Factor = 1.25

TABLE 3

REDUCERS WITH STANDARD INPUT SHAFT*
LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

continued

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size									
			1 HP 143T	1.5 HP 145T	2 HP 145T	3 HP 182T	5 HP 184T	7.5 HP 213T	10 HP 215T	15 HP 254T	20 HP 256T	25 HP 284T
Single	3.53	405	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	MERC 4	MARS 6	MARS 6
	4.39	326	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	MERC 4	MARS 7	MARS 7
	6.12	234	MERC 1	MERC 1	MERC 1	MERC 3	MERC 3	MERC 3	MARS 5	MARS 7	MARS 7	VENS 11
Double	9.30	154									ATLS 14	ATLS 14
	11.02	130	MERC 1	MERC 1	MERC 3	MERC 3	MERC 3	MERC 5	MARS 6	MARS 10	VENS 13	VENS 15
	13.85	103	MERC 2	MERC 2	MERC 2	MERC 4	MERC 4	MERC 6	MARS 8	MARS 12	VENS 16	VENS 18
	17.21	83	MERC 2	MERC 2	MERC 2	MERC 4	MERC 6	MARS 7	MARS 11	VENS 15	VENS 19	ATLS 26
	20.41	70	MERC 2	MERC 2	MERC 4	MERC 4	MERC 6	MARS 10	MARS 12	VENS 15	VENS 21	ATLS 26
	24.00	60	MERC 3	MERC 3	MERC 3	MERC 5	MERC 7	MARS 10	MARS 14	VENS 20	VENS 26	ATLS 34
	31.63	45	MERC 2	MERC 4	MERC 4	MERC 6	MARS 9	MARS 13	VENS 19	ATLS 28	ATLS 34t	ERTH 44
Triple	36.56	39	MERC 3	MERC 3	MERC 5	MERC 7	MARS 11	MARS 15	VENS 19	ATLS 29	ATLS 41	ERTH 52
	43.78	33	MERC 3d	MERC 5d	MERC 5d	MERC 7	MARS 12	VENS 18	VENS 24	ATLS 37	ERTH 48	ERTH 60
	54.45	26	MERC 4	MERC 6	MERC 6	MARS 9	MARS 15	VENS 22	ATLS 30	ERTH 48	ERTH 60	ERTH 72
	64.42	22	MERC 4	MERC 6	MERC 8	MARS 11	MARS 17	ATLS 26	ATLS 34	ERTH 54	ERTH 66	PLRS 90
	69.63	21	MERC 5	MERC 7	MARS 9	MARS 11	VENS 18	ATLS 27	ATLS 39	ERTH 56	ERTH 75	PLRS 95
	80.01	17.9	MERC 6	MERC 8	MARS 9	MARS 13	VENS 22	ATLS 34	ATLS 42	ERTH 62	PLRS 90	PLRS 110
	91.41	15.6	MERC 6	MERC 8	MARS 11	MARS 15	ATLS 26	ATLS 38	ERTH 48	NEPT 80	PLRS 100	NEPT 120
	99.38	14.4	MERC 7	MARS 9	MARS 11	VENS 17	ATLS 28	ATLS 40	ERTH 52	PLRS 75	PLRS 105	NEPT 125
	111.5	12.9	MERC 6	MARS 9	MARS 13	VENS 18	ATLS 30	ATLS 42	ERTH 56	PLRS 90	PLRS 120	NEPT 140
	121.4	11.8	MERC 7q	MARS 11q	MARS 13q	ATLS 22q	ATLS 30q	ERTH 50q	ERTH 62q	PLRS 100q	NEPT 130q	NEPT 160q
	138.5	10.3	MARS 9	MARS 11	MARS 15	VENS 21	ATLS 35	ERTH 52	ERTH 70	PLRS 110	NEPT 140	ORON 190
	159.8	8.9	MARS 9	MARS 13	MARS 17	ATLS 27q	ATLS 43q	ERTH 62q	PLRS 80q	PLRS 120q	NEPT 150q	ORON 190q
	193.1	7.4	MARS 11	VENS 16	VENS 20	ATLS 29	ERTH 54	ERTH 70q	PLRS 100q	NEPT 140q	ORON 190q	ORON 240q
Quadruple	206.2	6.9	MARS 11	MARS 15	VENS 22	ATLS 35	ERTH 58	PLRS 80	PLRS 110	NEPT 160	ORON 215	SATN 270
	238.2	6.0	MARS 13	VENS 18	VENS 24	ATLS 39	ERTH 58	PLRS 90	PLRS 120	ORON 180	SATN 240	SATN 300
	265.4	5.4	MARS 15	VENS 20	ATLS 27	ATLS 43	ERTH 70	PLRS 100	NEPT 130	ORON 215	SATN 270	TITN 360
	295.7	4.8	MARS 17	VENS 24	ATLS 31	ERTH 48	ERTH 72	PLRS 115	NEPT 150	ORON 215	TITN 300	TITN 380
	330.1	4.3	MARS 18	ATLS 28	ATLS 36	ERTH 52	PLRS 90	PLRS 120	ORON 180	SATN 270	TITN 360	TITN 440
	369.8	3.9	VENS 20	ATLS 31	ATLS 39	ERTH 58	PLRS 100	NEPT 140	ORON 190	SATN 300	TITN 400	JUPT 500
	412.1	3.5	VENS 22	ATLS 31	ATLS 43	ERTH 60	PLRS 105	NEPT 155	ORON 215	TITN 310	TITN 430	JUPT 500
	459.0	3.1	VENS 23	ATLS 36	ERTH 46	ERTH 70	PLRS 120	ORON 180	ORON 230	TITN 360	JUPT 450	JUPT 600
	532.5	2.7	ATLS 27	ATLS 39	ERTH 60	PLRS 85	NEPT 145	ORON 215	SATN 280	TITN 430	JUPT 550	JUPT 650
	617.9	2.3	ATLS 32	ERTH 52	ERTH 64	PLRS 100	NEPT 160	ORON 240	TITN 320	JUPT 500	JUPT 650	
	660.6	2.2	ERTH 36qu	ERTH 54qu	PLRS 70qu	PLRS 100qu	ORON 190	SATN 240qu	TITN 320qu	JUPT 500		
	741.2	1.9	ATLS 39	ERTH 60	PLRS 85	NEPT 125	ORON 215	TITN 310	TITN 390	JUPT 550qu		
	900.3	1.6	ERTH 48qu	PLRS 75qu	PLRS 95qu	NEPT 140qu	ORON 215	TITN 360qu	JUPT 450			
	1057	1.4	ERTH 60	PLRS 80qu	PLRS 110qu	ORON 190	SATN 260	TITN 440qu	JUPT 550qu			

If selection falls within shaded area, a cooling fan and shroud are required. Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

* Selections are based on 1430 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

d = double reduction
t = triple reduction
q = quadruple reduction
qu = quintuple reduction

TABLE 3

REDUCERS WITH STANDARD INPUT SHAFT*
LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size											
			30 HP 286T	40 HP 324T	50 HP 326T	60 HP 364T	75 HP 365T	100 HP 405T	125 HP 444T	150 HP 445T	200 HP	250 HP
Single	3.53	405	MARS 8	VENS 10	VENS 10	VENS 12	VENS 14	ERTH 18	PLRS 34	PLRS 34	† †	† †
	4.39	326	VENS 10	VENS 10	VENS 12	VENS 14	ATLS 20	ATLS 24	ERTH 32	PLRS 42	PLRS 52	† †
	6.12	234	VENS 11	VENS 13	VENS 17	ATLS 22	ATLS 26	ERTH 34	ERTH 40	NEPT 55	NEPT 65	NEPT 85
Double	9.30	154	ATLS 18	ATLS 22	ATLS 26	ERTH 32	ERTH 38	ERTH 50	PLRS 64	NEPT 80	NEPT 100	
	11.02	130	VENS 19	ATLS 24	ATLS 32	ATLS 36	ERTH 48	ERTH 60	PLRS 80	NEPT 90	ORON 120	TITN 210
	13.85	103	VENS 22	ATLS 30	ATLS 38	ERTH 46	ERTH 58	PLRS 75	NEPT 95	NEPT 115	ORON 150	SATN 190
	17.21	83	ATLS 30	ATLS 38	ERTH 46	ERTH 58	PLRS 75	NEPT 90	NEPT 120	ORON 140	SATN 190	TITN 240
	20.41	70	ATLS 30	ERTH 40	ERTH 52	ERTH 64	PLRS 80	PLRS 100	NEPT 130	ORON 150	SATN 210	TITN 280
	24.00	60	ATLS 38	ERTH 54	ERTH 66	PLRS 80	NEPT 95	NEPT 125	ORON 155	SATN 195	TITN 270	TITN 310
	31.63	45	ERTH 56	ERTH 66t	PLRS 80t	NEPT 110	NEPT 130t	ORON 170	SATN 220	TITN 280	TITN 360	JUPT 400
Triple	36.56	39	ERTH 58	PLRS 80	PLRS 100	NEPT 120	NEPT 150	ORON 200	SATN 235	TITN 320	JUPT 400d	JUPT 500d
	43.78	33	ERTH 72	PLRS 95	NEPT 120	NEPT 140	ORON 175	SATN 245	TITN 300	TITN 380	JUPT 500	JUPT 550
	54.45	26	PLRS 90	PLRS 120	NEPT 150	ORON 180	SATN 240	TITN 320	TITN 360	JUPT 450	JUPT 550	
	64.42	22	PLRS 100	NEPT 135	ORON 180	ORON 205	SATN 255	TITN 340	TITN 420	JUPT 500	JUPT 650	
	69.63	21	NEPT 115	NEPT 145	ORON 180	ORON 230	SATN 280	TITN 360	JUPT 450	JUPT 500		
	80.01	17.9	PLRS 120	ORON 190	ORON 205	SATN 270	SATN 300	TITN 430	JUPT 550	JUPT 650		
	91.41	15.6	SATN 180	SATN 210	SATN 240	JUPT 300	JUPT 350	JUPT 500	JUPT 600			
	99.38	14.4	ORON 190	ORON 215	SATN 250	TITN 300	TITN 380					
	111.5	12.9	ORON 190	SATN 240	SATN 300	TITN 360	TITN 440	JUPT 600				
	121.4	11.8	ORON 205q	SATN 260q	TITN 320q	TITN 400q	JUPT 500	JUPT 650				
	138.5	10.3	ORON 215	SATN 280	TITN 380	TITN 420						
	159.8	8.9	ORON 240q	SATN 300q	TITN 400q	JUPT 500	JUPT 600					
	193.1	7.4	SATN 280q	TITN 400q								
Quadruple	206.2	6.9	TITN 320	TITN 440	JUPT 550	JUPT 650						
	238.2	6.0	TITN 360	JUPT 550	JUPT 650							
	265.4	5.4	TITN 400	JUPT 550	JUPT 650							
	295.7	4.8	JUPT 450	JUPT 600								
	330.1	4.3	JUPT 500	JUPT 650								
	369.8	3.9	JUPT 550									
	412.1	3.5	JUPT 600									
	459.0	3.1										
	532.5	2.7										
	617.9	2.3										
	660.6	2.2										
	741.2	1.9										
	900.3	1.6										
	1057	1.4										

If selection falls within shaded area, a cooling fan and shroud are required. Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

* Selections are based on 1430 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

† Contact Rexnord for application details.

‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

t = triple reduction
q = quadruple reduction

SELECTION TABLES

1430 RPM - Class II - Service Factor = 1.40

TABLE 3

REDUCERS WITH STANDARD INPUT SHAFT*
LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

continued

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size									
			1 HP 143T	1.5 HP 145T	2 HP 145T	3 HP 182T	5 HP 184T	7.5 HP 213T	10 HP 215T	15 HP 254T	20 HP 256T	25 HP 284T
Single	3.53	405	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	MERC 4	MARS 6	MARS 6
	4.39	326	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	MERC 4	MARS 5	MARS 7	VENS 10
	6.12	234	MERC 1	MERC 1	MERC 1	MERC 3	MERC 3	MERC 3	MARS 5	MARS 7	VENS 11	VENS 11
Double	9.30	154									ATLS 14	ATLS 14
	11.02	130	MERC 1	MERC 1	MERC 3	MERC 3	MERC 5	MERC 5	MARS 8	MARS 10	VENS 13	VENS 17
	13.85	103	MERC 2	MERC 2	MERC 2	MERC 4	MERC 6	MARS 8	MARS 10	VENS 14	VENS 18	VENS 22
	17.21	83	MERC 2	MERC 2	MERC 4	MERC 4	MERC 6	MARS 9	MARS 11	VENS 15	VENS 21	ATLS 26
	20.41	70	MERC 2	MERC 2	MERC 4	MERC 4	MARS 8	MARS 10	VENS 15	VENS 17	VENS 23	ATLS 30
	24.00	60	MERC 3	MERC 3	MERC 3	MERC 5	MARS 8	MARS 12	VENS 16	VENS 22	ATLS 30	ATLS 38
	31.63	45	MERC 2	MERC 4	MERC 4	MERC 6	MARS 9	VENS 15	ATLS 20	ATLS 32	ATLS 38t	ERTH 50
Triple	36.56	39	MERC 3	MERC 5	MERC 5	MERC 7	MARS 11	VENS 17	VENS 21	ATLS 33	ERTH 46	ERTH 58
	43.78	33	MERC 3d	MERC 5d	MERC 5d	MARS 8d	MARS 14	VENS 20	ATLS 29	ATLS 41	ERTH 54	ERTH 66
	54.45	26	MERC 4	MERC 6	MERC 8	MARS 11	MARS 17	ATLS 26	ATLS 34	ERTH 54	ERTH 66	PLRS 90
	64.42	22	MERC 4	MERC 6	MERC 8	MARS 13	VENS 20	ATLS 30	ATLS 38	ERTH 60	PLRS 80	PLRS 100
	69.63	21	MERC 5	MERC 7	MARS 9	MARS 13	VENS 20	ATLS 31	ERTH 44	ERTH 62	PLRS 85	PLRS 105
	80.01	17.9	MERC 6	MERC 8	MARS 11	MARS 15	VENS 24	ATLS 34	ERTH 50	ERTH 68	PLRS 90	PLRS 120
	91.41	15.6	MERC 6	MERC 8	MARS 11	MARS 17	ATLS 30	ERTH 42	ERTH 54	NEPT 90	NEPT 110	SATN 180
	99.38	14.4	MERC 7	MARS 9	MARS 13	VENS 17	ATLS 28	ERTH 46	ERTH 58	PLRS 85	NEPT 115	NEPT 145
	111.5	12.9	MERC 8	MARS 11	MARS 15	VENS 20	ATLS 34	ERTH 50	ERTH 68	PLRS 100	NEPT 130	NEPT 160
	121.4	11.8	MERC 7q	MARS 11q	MARS 15q	ATLS 22q	ATLS 34q	ERTH 56q	ERTH 68q	PLRS 110q	NEPT 140q	ORON 180q
	138.5	10.3	MARS 9	MARS 13	VENS 17	VENS 24q	ATLS 39	ERTH 64	PLRS 80	NEPT 120	ORON 190	ORON 215
	159.8	8.9	MARS 11	MARS 15	VENS 20q	ATLS 31q	ERTH 44q	ERTH 68q	PLRS 90q	NEPT 130q	ORON 190q	ORON 215q
	193.1	7.4	MARS 13	VENS 18	ATLS 25	ATLS 33	ERTH 60	PLRS 80q	PLRS 110q	NEPT 160q	ORON 215q	SATN 260q
Quadruple	206.2	6.9	MARS 13	MARS 17	VENS 24	ATLS 39	ERTH 64	PLRS 90	PLRS 120	ORON 190	ORON 240	SATN 300
	238.2	6.0	MARS 15	VENS 20	ATLS 27	ATLS 43	ERTH 70	PLRS 100	NEPT 130	ORON 205	SATN 270	TITN 360
	265.4	5.4	MARS 15	VENS 22	ATLS 31	ERTH 46	ERTH 76	PLRS 110	NEPT 150	ORON 240	SATN 300	TITN 400
	295.7	4.8	VENS 18	ATLS 27	ATLS 35	ERTH 48	PLRS 85	NEPT 120	ORON 190	ORON 240	TITN 340	TITN 420
	330.1	4.3	VENS 19	ATLS 28	ATLS 40	ERTH 58	PLRS 90	NEPT 140	ORON 180	SATN 270	TITN 360	JUPT 500
	369.8	3.9	VENS 22	ATLS 31	ATLS 43	ERTH 64	PLRS 110	NEPT 160	ORON 215	TITN 320	TITN 440	JUPT 550
	412.1	3.5	VENS 24	ATLS 35	ERTH 48	ERTH 72	PLRS 115	ORON 190	ORON 240	TITN 350	JUPT 500	JUPT 650
	459.0	3.1	ATLS 28	ATLS 40	ERTH 52	ERTH 76	NEPT 130	ORON 205	SATN 270	TITN 400	JUPT 550	JUPT 650
	532.5	2.7	ATLS 31	ATLS 43	ERTH 66	PLRS 95	ORON 190	ORON 240	TITN 350	JUPT 450	JUPT 600	
	617.9	2.3	ATLS 36	ERTH 58	ERTH 70	PLRS 110	ORON 190	SATN 270	TITN 360	JUPT 550		
	660.6	2.2	ERTH 42qu	PLRS 70qu	PLRS 80qu	PLRS 120qu	ORON 215	SATN 270qu	TITN 360qu	JUPT 550		
	741.2	1.9	ATLS 43	ERTH 66	PLRS 95	NEPT 135	ORON 240	TITN 350	JUPT 450qu			
	900.3	1.6	ERTH 54qu	PLRS 85qu	PLRS 105qu	NEPT 150qu	ORON 240	TITN 400qu	JUPT 500			
	1057	1.4	PLRS 70qu	PLRS 90qu	PLRS 120qu	ORON 190	SATN 280	TITN 440qu	JUPT 600qu			

If selection falls within shaded area, a cooling fan and shroud are required. Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

* Selections are based on 1430 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

d = double reduction
t = triple reduction
q = quadruple reduction
qu = quintuple reduction

SELECTION TABLES

1430 RPM - Class II - Service Factor = 1.40

TABLE 3

REDUCERS WITH STANDARD INPUT SHAFT*
LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size											
			30 HP 286T	40 HP 324T	50 HP 326T	60 HP 364T	75 HP 365T	100 HP 405T	125 HP 444T	150 HP 445T	200 HP	250 HP
Single	3.53	405	MARS 8	VENS 10	VENS 10	VENS 12	VENS 16	ERTH 24	PLRS 34	PLRS 34	† †	† †
	4.39	326	VENS 10	VENS 10	VENS 14	VENS 16	ATLS 20	ATLS 28	ERTH 32	PLRS 42	PLRS 52	† †
	6.12	234	VENS 11	VENS 15	ATLS 18	ATLS 22	ATLS 26	ERTH 40	ERTH 46	NEPT 55	NEPT 75	SATN 100
Double	9.30	154	ATLS 18	ATLS 26	ERTH 32	ERTH 38	ERTH 44	PLRS 64	NEPT 70	NEPT 90		
	11.02	130	VENS 21	ATLS 28	ATLS 36	ERTH 42	ERTH 54	PLRS 70	NEPT 90	NEPT 100	ORON 140	TITN 210
	13.85	103	ATLS 26	ATLS 34	ERTH 46	ERTH 52	ERTH 64	PLRS 85	NEPT 105	ORON 135	SATN 175	TITN 220
	17.21	83	ATLS 30	ERTH 40	ERTH 52	ERTH 64	PLRS 75	NEPT 100	ORON 130	ORON 150	TITN 200	TITN 280
	20.41	70	ATLS 34	ERTH 46	ERTH 58	ERTH 70	PLRS 90	NEPT 120	ORON 140	SATN 170	TITN 240	TITN 280
	24.00	60	ERTH 42	ERTH 60	PLRS 70	PLRS 90	NEPT 105	ORON 140	SATN 180	SATN 210	TITN 310	TITN 350
	31.63	45	ERTH 62t	PLRS 80t	NEPT 100	NEPT 120	NEPT 140t	SATN 200	TITN 280	TITN 280	TITN 360	JUPT 450
Triple	36.56	39	ERTH 64	PLRS 90	PLRS 110	NEPT 130	ORON 170	SATN 220	TITN 280	TITN 320	JUPT 450d	
	43.78	33	PLRS 85	PLRS 105	NEPT 130	ORON 175	ORON 200	SATN 260	TITN 340	JUPT 500	JUPT 500	
	54.45	26	PLRS 100	NEPT 130	ORON 180	ORON 195	SATN 255	TITN 360	JUPT 450	JUPT 450	JUPT 600	
	64.42	22	PLRS 110	NEPT 145	ORON 205	ORON 230	TITN 300	TITN 380	JUPT 500	JUPT 550		
	69.63	21	NEPT 125	ORON 180	ORON 205	SATN 250	TITN 320	TITN 400	JUPT 500	JUPT 600		
	80.01	17.9	NEPT 140	ORON 190	SATN 240	SATN 270	TITN 350	JUPT 450	JUPT 600			
	91.41	15.6	SATN 180	SATN 240	SATN 260	JUPT 350	JUPT 400	JUPT 550	JUPT 650			
	99.38	14.4	ORON 190	ORON 240	SATN 280	TITN 340	TITN 420					
	111.5	12.9	ORON 190	SATN 270	TITN 320	TITN 400	JUPT 500	JUPT 650				
	121.4	11.8	ORON 205	SATN 280q	TITN 360q	TITN 440q	JUPT 550					
	138.5	10.3	ORON 240	TITN 340	TITN 420	JUPT 500						
	159.8	8.9	SATN 260q	TITN 360q	TITN 440q	JUPT 550						
	193.1	7.4	TITN 320q	TITN 440q								
Quadruple	206.2	6.9	TITN 360	JUPT 500	JUPT 600							
	238.2	6.0	TITN 400	JUPT 550								
	265.4	5.4	TITN 440	JUPT 600								
	295.7	4.8	JUPT 500									
	330.1	4.3	JUPT 550									
	369.8	3.9	JUPT 650									
	412.1	3.5										
	459.0	3.1										
	532.5	2.7										
	617.9	2.3										
	660.6	2.2										
	741.2	1.9										
	900.3	1.6										
	1057	1.4										

If selection falls within shaded area, a cooling fan and shroud are required. Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

* Selections are based on 1430 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

† Contact Rexnord for application details.

‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

d = double reduction
t = triple reduction
q = quadruple reduction

SELECTION TABLES

1430 RPM - Service Factor = 1.50

TABLE 3

REDUCERS WITH STANDARD INPUT SHAFT*
LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

continued

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size									
			1 HP 143T	1.5 HP 145T	2 HP 145T	3 HP 182T	5 HP 184T	7.5 HP 213T	10 HP 215T	15 HP 254T	20 HP 256T	25 HP 284T
Single	3.53	405	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	MERC 4	MARS 6	MARS 8
	4.39	326	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	MERC 4	MARS 5	MARS 7	VENS 10
	6.12	234	MERC 1	MERC 1	MERC 1	MERC 3	MERC 3	MARS 5	MARS 5	MARS 7	VENS 11	VENS 11
Double	9.30	154								ATLS 14	ATLS 14	ATLS 18
	11.02	130	MERC 1	MERC 1	MERC 3	MERC 3	MERC 5	MERC 5	MARS 8	MARS 10	VENS 15	VENS 19
	13.85	103	MERC 2	MERC 2	MERC 2	MERC 4	MERC 6	MARS 8	MARS 10	VENS 14	VENS 18	VENS 22
	17.21	83	MERC 2	MERC 2	MERC 4	MERC 4	MERC 6	MARS 9	MARS 11	ATLS 17	ATLS 22	ATLS 30
	20.41	70	MERC 2	MERC 4	MERC 4	MERC 6	MARS 8	MARS 12	VENS 15	VENS 19	ATLS 26	ATLS 30
	24.00	60	MERC 3	MERC 3	MERC 5	MERC 5	MARS 8	MARS 12	VENS 16	ATLS 26	ATLS 30	ATLS 38
	31.63	45	MERC 2	MERC 4	MERC 4	MERC 6	MARS 11	VENS 17	ATLS 24	ATLS 32	ERTH 44	ERTH 50
Triple	36.56	39	MERC 3	MERC 5	MERC 5	MARS 9	MARS 13	VENS 17	VENS 23	ATLS 37	ERTH 46	ERTH 58
	43.78	33	MERC 3d	MERC 5d	MERC 7	MARS 8d	MARS 14	VENS 22	ATLS 29	ERTH 42	ERTH 60	ERTH 72
	54.45	26	MERC 4	MERC 6	MERC 8	MARS 11	MARS 17	ATLS 26	ATLS 38	ERTH 54	ERTH 72	PLRS 90
	64.42	22	MERC 6	MERC 8	MARS 9	MARS 13	VENS 20	ATLS 30	ATLS 42	ERTH 60	PLRS 80	PLRS 100
	69.63	21	MERC 5	MERC 7	MARS 9	MARS 13	VENS 22	ATLS 35	ERTH 44	ERTH 68	PLRS 95	NEPT 115
	80.01	17.9	MERC 6	MERC 8	MARS 11	MARS 15	ATLS 26	ATLS 38	ERTH 50	ERTH 74	PLRS 100	PLRS 120
	91.41	15.6	MERC 6	MARS 9	MARS 13	MARS 17	ATLS 30	ERTH 48	NEPT 60	NEPT 90	NEPT 120	SATN 180
	99.38	14.4	MERC 7	MARS 11	MARS 13	VENS 19	ATLS 32	ERTH 46	ERTH 64	PLRS 95	NEPT 125	ORON 190
	111.5	12.9	MERC 8	MARS 11	MARS 15	VENS 20	ATLS 34	ERTH 56	ERTH 68	PLRS 110	NEPT 140	ORON 190
	121.4	11.8	MARS 9q	MARS 11q	MARS 15q	ATLS 22q	ATLS 38q	ERTH 56q	ERTH 74q	PLRS 110	NEPT 150q	ORON 205q
	138.5	10.3	MARS 9	MARS 13	VENS 17	ATLS 27	ATLS 43q	ERTH 64	PLRS 90	NEPT 130	ORON 190	ORON 215
	159.8	8.9	MARS 11	MARS 15	VENS 22q	ATLS 31q	ERTH 50q	ERTH 70q	PLRS 90q	NEPT 140q	ORON 190q	ORON 240q
	193.1	7.4	MARS 13	VENS 18	ATLS 25	ERTH 36	ERTH 60	PLRS 90q	PLRS 120q	ORON 190q	ORON 240q	SATN 280q
Quadruple	206.2	6.9	MARS 13	VENS 20	ATLS 27	ATLS 39	ERTH 64	PLRS 100	NEPT 130	ORON 190	SATN 270	TITN 320
	238.2	6.0	MARS 15	VENS 22	ATLS 31	ATLS 43	ERTH 70	PLRS 110	NEPT 140	ORON 230	SATN 300	TITN 360
	265.4	5.4	MARS 17	VENS 24	ATLS 35	ERTH 52	ERTH 80	PLRS 120	NEPT 160	ORON 240	TITN 320	TITN 400
	295.7	4.8	VENS 18	ATLS 27	ATLS 39	ERTH 54	PLRS 95	NEPT 130	ORON 190	SATN 280	TITN 380	JUPT 450
	330.1	4.3	VENS 21	ATLS 32	ATLS 40	ERTH 58	PLRS 100	NEPT 150	ORON 205	SATN 300	TITN 400	JUPT 500
	369.8	3.9	VENS 22	ATLS 35	ERTH 46	ERTH 70	PLRS 110	ORON 190	ORON 240	TITN 360	TITN 440	JUPT 550
	412.1	3.5	ATLS 27	ATLS 39	ERTH 48	ERTH 72	NEPT 125	ORON 190	ORON 240	TITN 390	JUPT 500	JUPT 600
	459.0	3.1	ATLS 28	ERTH 46	ERTH 58	PLRS 90	NEPT 140	ORON 205	SATN 280	TITN 440	JUPT 550	
	532.5	2.7	ATLS 31	ERTH 54	ERTH 72	PLRS 105	ORON 190	SATN 250	TITN 350	JUPT 500	JUPT 650	
	617.9	2.3	ATLS 40	ERTH 58	ERTH 76	PLRS 120	ORON 190	SATN 300	TITN 400	JUPT 600		
	660.6	2.2	ERTH 42qu	PLRS 70qu	PLRS 80qu	PLRS 120qu	ORON 215	SATN 300qu	TITN 400qu			
	741.2	1.9	ATLS 43	ERTH 72	PLRS 95	NEPT 145	ORON 240	TITN 350	JUPT 450qu			
	900.3	1.6	ERTH 54qu	PLRS 85qu	PLRS 115qu	SATN 180qu	SATN 270qu	TITN 440qu	JUPT 550			
	1057	1.4	ORON 190	PLRS 100qu	NEPT 130	ORON 190	TITN 360qu	JUPT 500qu	JUPT 650qu			

If selection falls within shaded area, a cooling fan and shroud are required. Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

* Selections are based on 1430 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

d = double reduction
t = triple reduction
q = quadruple reduction
qu = quintuple reduction

SELECTION TABLES

1430 RPM - Service Factor = 1.50

TABLE 3

REDUCERS WITH STANDARD INPUT SHAFT*
LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size															
			30 HP 286T	40 HP 324T	50 HP 326T	60 HP 364T	75 HP 365T	100 HP 405T	125 HP 444T	150 HP 445T	200 HP	250 HP
Single	3.53	405	MARS 8	VENS 10	VENS 12	VENS 14	VENS 16	ERTH 24	PLRS 34	PLRS 34	† †	† †
	4.39	326	VENS 10	VENS 12	VENS 14	VENS 16	ATLS 20	ATLS 28	ERTH 38	PLRS 42	NEPT 60	† †
	6.12	234	VENS 13	VENS 15	ATLS 22	ATLS 26	ATLS 30	ERTH 40	NEPT 55	NEPT 65	NEPT 75	SATN 100
Double	9.30	154	ATLS 18	ATLS 26	ERTH 32	ERTH 38	ERTH 50	PLRS 64	NEPT 80	NEPT 90	ORON 140	
	11.02	130	VENS 21	ATLS 28	ATLS 36	ERTH 42	ERTH 54	PLRS 70	NEPT 90	NEPT 110	ORON 140	TITN 210
	13.85	103	ATLS 26	ATLS 38	ERTH 46	ERTH 52	PLRS 65	NEPT 95	NEPT 115	ORON 135	SATN 175	TITN 220
	17.21	83	ATLS 34	ERTH 46	ERTH 58	ERTH 64	PLRS 85	NEPT 110	ORON 140	SATN 160	TITN 240	TiTN 280
	20.41	70	ATLS 38	ERTH 52	ERTH 64	PLRS 80	PLRS 90	NEPT 120	ORON 150	SATN 190	TITN 240	JUPT 300
	24.00	60	ERTH 48	ERTH 60	PLRS 80	PLRS 90	NEPT 115	ORON 155	SATN 195	TITN 230	TITN 310	JUPT 400
	31.63	45	ERTH 60t	PLRS 80t	NEPT 110	NEPT 120t	NEPT 150t	SATN 220	TITN 280	TITN 320	JUPT 400	JUPT 450
Triple	36.56	39	ERTH 70	PLRS 90	NEPT 120	NEPT 140	ORON 170	SATN 235	TITN 280	TITN 360	JUPT 450d	
	43.78	33	PLRS 85	PLRS 115	NEPT 140	ORON 175	ORON 225	TITN 300	TITN 380	JUPT 500	JUPT 550	
	54.45	26	PLRS 110	NEPT 140	ORON 180	ORON 210	SATN 270	TITN 360	JUPT 450	JUPT 500		
	64.42	22	PLRS 120	NEPT 155	ORON 205	SATN 240	TITN 300	TITN 420	JUPT 500	JUPT 600		
	69.63	21	NEPT 135	ORON 180	ORON 230	SATN 260	TITN 320	JUPT 450	JUPT 500	JUPT 600		
	80.01	17.9	NEPT 150	ORON 205	SATN 240	SATN 300	TITN 390	JUPT 500	JUPT 650			
	91.41	15.6	SATN 180	SATN 240	JUPT 300	JUPT 350	JUPT 450	JUPT 550				
	99.38	14.4	ORON 190	ORON 240	TITN 300	TITN 380	JUPT 500					
	111.5	12.9	ORON 205	SATN 270	TITN 360	TITN 440	JUPT 550					
	121.4	11.8	ORON 230q	SATN 300q	TITN 400q	TITN 440q	JUPT 600					
	138.5	10.3	SATN 250	TITN 340	TITN 420							
	159.8	8.9	SATN 280q	TITN 360q	JUPT 500	JUPT 600						
	193.1	7.4	TITN 360q	JUPT 500								
Quadruple	206.2	6.9	TITN 400	JUPT 550	JUPT 650							
	238.2	6.0	TITN 440	JUPT 600								
	265.4	5.4	JUPT 500	JUPT 650								
	295.7	4.8	JUPT 550									
	330.1	4.3	JUPT 600									
	369.8	3.9	JUPT 650									
	412.1	3.5										
	459.0	3.1										
	532.5	2.7										
	617.9	2.3										
	660.6	2.2										
	741.2	1.9										
	900.3	1.6										
	1057	1.4										

If selection falls within shaded area, a cooling fan and shroud are required. Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

* Selections are based on 1430 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

† Contact Rexnord for application details.

‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

t = triple reduction
q = quadruple reduction

SELECTION TABLES

1430 RPM - Service Factor = 1.75

TABLE 3

REDUCERS WITH STANDARD INPUT SHAFT*
LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

continued

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size									
			1 HP 143T	1.5 HP 145T	2 HP 145T	3 HP 182T	5 HP 184T	7.5 HP 213T	10 HP 215T	15 HP 254T	20 HP 256T	25 HP 284T
Single	3.53	405	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	MERC 4	MARS 6	MARS 6	MARS 8
	4.39	326	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	MERC 4	MARS 7	MARS 7	VENS 10
	6.12	234	MERC 1	MERC 1	MERC 1	MERC 3	MERC 3	MARS 5	MARS 5	VENS 11	VENS 11	VENS 11
Double	9.30	154								ATLS 14	ATLS 14	ATLS 18
	11.02	130	MERC 1	MERC 3	MERC 3	MERC 3	MERC 5	MARS 6	MARS 8	VENS 13	VENS 17	VENS 21
	13.85	103	MERC 2	MERC 2	MERC 4	MERC 4	MERC 6	MARS 8	MARS 12	VENS 16	VENS 20	ATLS 26
	17.21	83	MERC 2	MERC 2	MERC 4	MERC 4	MARS 7	MARS 11	MARS 13	VENS 19	ATLS 26	ATLS 34
	20.41	70	MERC 2	MERC 4	MERC 4	MERC 6	MARS 8	MARS 12	VENS 15	VENS 21	ATLS 30	ATLS 38
	24.00	60	MERC 3	MERC 3	MERC 5	MERC 7	MARS 10	MARS 14	VENS 18	ATLS 26	ATLS 38	ERTH 48
	31.63	45	MERC 2	MERC 4	MERC 6	MARS 7	MARS 13	VENS 19	ATLS 28	ATLS 34t	ERTH 50	ERTH 60t
Triple	36.56	39	MERC 3	MERC 5	MERC 7	MARS 9	MARS 15	VENS 21	ATLS 29	ATLS 41	ERTH 58	ERTH 70
	43.78	33	MERC 5d	MERC 5d	MERC 7	MARS 10d	VENS 18	ATLS 25	ATLS 33	ERTH 54	ERTH 66	PLRS 85
	54.45	26	MERC 4	MERC 6	MERC 8	MARS 13	VENS 20	ATLS 34	ATLS 42	ERTH 66	PLRS 80	PLRS 100
	64.42	22	MERC 6	MERC 8	MARS 11	MARS 15	VENS 24	ATLS 34	ERTH 48	ERTH 72	PLRS 100	PLRS 120
	69.63	21	MERC 5	MARS 9	MARS 11	MARS 15	ATLS 27	ATLS 39	ERTH 50	PLRS 75	PLRS 105	NEPT 125
	80.01	17.9	MERC 6	MARS 9	MARS 13	VENS 18	ATLS 30	ATLS 42	ERTH 56	PLRS 90	PLRS 120	NEPT 140
	91.41	15.6	MERC 8	MARS 11	MARS 13	ATLS 22	ATLS 34	ERTH 54	NEPT 70	NEPT 110	SATN 180	SATN 180
	99.38	14.4	MARS 9	MARS 11	MARS 15	VENS 21	ATLS 36	ERTH 52	ERTH 70	PLRS 105	NEPT 145	ORON 190
	111.5	12.9	MARS 9	MARS 13	MARS 17	VENS 24	ATLS 42	ERTH 62	PLRS 80	PLRS 120	NEPT 160	ORON 205
	121.4	11.8	MARS 9q	MARS 13q	ATLS 22q	ATLS 26q	ERTH 44q	ERTH 68q	PLRS 90q	NEPT 130q	ORON 180q	ORON 230q
	138.5	10.3	MARS 9	VENS 17	VENS 21	ATLS 31	ERTH 52	PLRS 80	PLRS 100	NEPT 150	ORON 215	SATN 250
	159.8	8.9	MARS 11	MARS 17	VENS 24q	ATLS 39q	ERTH 56q	PLRS 80q	PLRS 110q	NEPT 160q	ORON 215q	SATN 280q
	193.1	7.4	MARS 15	ATLS 21	ATLS 29	ERTH 42	ERTH 70q	PLRS 100q	NEPT 140q	ORON 215q	SATN 260q	TITN 360q
Quadruple	206.2	6.9	MARS 15	VENS 24	ATLS 31	ERTH 46	ERTH 76	PLRS 110	NEPT 150	ORON 215	SATN 300	TITN 400
	238.2	6.0	VENS 18	ATLS 27	ATLS 35	ERTH 52	PLRS 90	NEPT 130	ORON 180	SATN 270	TITN 360	TITN 440
	265.4	5.4	VENS 20	ATLS 31	ATLS 39	ERTH 58	PLRS 100	NEPT 140	ORON 190	SATN 300	TITN 400	JUPT 500
	295.7	4.8	VENS 22	ATLS 31	ATLS 43	ERTH 60	PLRS 105	NEPT 150	ORON 215	TITN 300	TITN 420	JUPT 550
	330.1	4.3	VENS 23	ATLS 36	ERTH 46	ERTH 70	PLRS 120	ORON 180	ORON 230	TITN 360	JUPT 450	JUPT 600
	369.8	3.9	ATLS 27	ATLS 39	ERTH 52	ERTH 76	NEPT 130	ORON 190	SATN 270	TITN 400	JUPT 550	JUPT 650
	412.1	3.5	ATLS 31	ATLS 43	ERTH 60	PLRS 85	ORON 215	ORON 215	SATN 280	JUPT 550	JUPT 550	
	459.0	3.1	ATLS 32	ERTH 52	ERTH 64	PLRS 100	NEPT 160	SATN 240	TITN 320	JUPT 500	JUPT 650	
	532.5	2.7	ATLS 39	ERTH 60	PLRS 85	NEPT 125	ORON 215	TITN 310	TITN 390	JUPT 550		
	617.9	2.3	ERTH 46	ERTH 70	PLRS 90	NEPT 140	ORON 240	TITN 360	TITN 440			
	660.6	2.2	ERTH 48qu	PLRS 70qu	PLRS 100qu	NEPT 140qu	ORON 240	TITN 360qu	JUPT 500			
	741.2	1.9	ERTH 60	PLRS 85	PLRS 115	ORON 190	SATN 280	TITN 430	JUPT 500qu			
	900.3	1.6	PLRS 65qu	PLRS 95qu	NEPT 130qu	ORON 190	TITN 320qu	JUPT 500	JUPT 650			
	1057	1.4	PLRS 80qu	PLRS 110qu	ORON 190	ORON 240	TITN 400qu	JUPT 600qu				

If selection falls within shaded area, a cooling fan and shroud are required. Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

* Selections are based on 1430 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

d = double reduction
t = triple reduction
q = quadruple reduction
qu = quintuple reduction

TABLE 3

REDUCERS WITH STANDARD INPUT SHAFT*
LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size													
			30 HP 286T	40 HP 324T	50 HP 326T	60 HP 364T	75 HP 365T	100 HP 405T	125 HP 444T	150 HP 445T	200 HP	250 HP
Single	3.53	405	VENS 10	VENS 10	VENS 14	VENS 16	ERTH 24	ERTH 30	PLRS 34	PLRS 54	† †	† †
	4.39	326	VENS 10	VENS 14	VENS 16	ATLS 20	ATLS 24	ERTH 32	ERTH 44	PLRS 52	NEPT 60	† †
	6.12	234	VENS 13	ATLS 18	ATLS 22	ATLS 26	ERTH 34	ERTH 46	NEPT 55	NEPT 65	SATN 100	SATN 120
Double	9.30	154	ATLS 22	ERTH 32	ERTH 38	ERTH 44	PLRS 54	NEPT 70	NEPT 90			
	11.02	130	ATLS 28	ATLS 36	ERTH 42	ERTH 54	PLRS 70	NEPT 90	NEPT 110	ORON 125	SATN 165	TITN 210
	13.85	103	ATLS 30	ERTH 40	ERTH 52	ERTH 64	PLRS 75	NEPT 105	ORON 135	SATN 160	TITN 220	TITN 260
	17.21	83	ATLS 38	ERTH 52	ERTH 64	PLRS 75	NEPT 100	ORON 130	SATN 170	SATN 190	TITN 280	TiTN 320
	20.41	70	ERTH 46	ERTH 58	ERTH 70	PLRS 90	NEPT 110	ORON 140	SATN 190	SATN 210	TITN 280	JUPT 350
	24.00	60	ERTH 54	PLRS 70	PLRS 90	NEPT 105	NEPT 135	SATN 180	TITN 230	TITN 270	TITN 350	
	31.63	45	PLRS 70t	NEPT 100	NEPT 130t	NEPT 140t	ORON 170	TITN 280	TITN 320	TITN 360	JUPT 450	
Triple	36.56	39	PLRS 80	PLRS 110	NEPT 140	ORON 170	ORON 200	TITN 280	TITN 360	JUPT 400d		
	43.78	33	PLRS 105	NEPT 130	ORON 175	ORON 200	SATN 245	TITN 340	JUPT 500	JUPT 500		
	54.45	26	PLRS 120	ORON 180	ORON 210	SATN 255	TITN 320	JUPT 400	JUPT 500	JUPT 550		
	64.42	22	NEPT 145	ORON 205	ORON 230	TITN 300	TITN 340	JUPT 500	JUPT 600			
	69.63	21	ORON 180	ORON 205	SATN 260	TITN 320	TITN 400	JUPT 500	JUPT 600			
	80.01	17.9	ORON 190	SATN 240	SATN 300	TITN 350	TITN 430	JUPT 600				
	91.41	15.6	SATN 210	SATN 260	JUPT 350	JUPT 400	JUPT 500	JUPT 650				
	99.38	14.4	ORON 215	SATN 280	TITN 380	TITN 420						
	111.5	12.9	SATN 240	TITN 320	TITN 400	JUPT 500	JUPT 600					
	121.4	11.8	SATN 260q	TITN 360q	TITN 440q	JUPT 550						
	138.5	10.3	TITN 300	TITN 420								
	159.8	8.9	TITN 320q	TITN 440q	JUPT 550							
	193.1	7.4	TITN 400q									
Quadruple	206.2	6.9	TITN 440	JUPT 600								
	238.2	6.0	JUPT 550									
	265.4	5.4	JUPT 550									
	295.7	4.8	JUPT 650									
	330.1	4.3										
	369.8	3.9										
	412.1	3.5										
	459.0	3.1										
	532.5	2.7										
	617.9	2.3										
	660.6	2.2										
	741.2	1.9										
	900.3	1.6										
	1057	1.4										

If selection falls within shaded area, a cooling fan and shroud are required. Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

* Selections are based on 1430 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

† Contact Rexnord for application details.

‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

t = triple reduction
q = quadruple reduction

SELECTION TABLES

1430 RPM - Class III - Service Factor = 2.00

TABLE 3

REDUCERS WITH STANDARD INPUT SHAFT*
LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

continued

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size																	
			1 HP 143T		1.5 HP 145T		2 HP 145T		3 HP 182T		5 HP 184T		7.5 HP 213T		10 HP 215T		15 HP 254T		20 HP 256T		25 HP 284T	
Single	3.53	405	MERC	2	MERC	2	MERC	2	MERC	2	MERC	2	MERC	4	MERC	4	MARS	6	MARS	8	VENS	10
	4.39	326	MERC	2	MERC	2	MERC	2	MERC	2	MERC	4	MERC	4	MARS	5	MARS	7	VENS	10	VENS	10
	6.12	234	MERC	1	MERC	1	MERC	3	MERC	3	MERC	3	MARS	5	MARS	7	VENS	11	VENS	11	VENS	13
Double	9.30	154													ATLS	14	ATLS	14	ATLS	18	ATLS	22
	11.02	130	MERC	1	MERC	3	MERC	3	MERC	3	MERC	5	MARS	8	MARS	10	VENS	15	VENS	19	ATLS	24
	13.85	103	MERC	2	MERC	2	MERC	4	MERC	4	MERC	6	MARS	10	MARS	12	VENS	18	ATLS	26	ATLS	30
	17.21	83	MERC	2	MERC	4	MERC	4	MERC	6	MARS	9	MARS	11	VENS	15	ATLS	22	ATLS	30	ATLS	38
	20.41	70	MERC	2	MERC	4	MERC	4	MERC	6	MARS	10	VENS	15	VENS	17	ATLS	26	ATLS	34	ERTH	40
	24.00	60	MERC	3	MERC	5	MERC	5	MERC	7	MARS	12	VENS	16	VENS	20	ATLS	30	ERTH	42	ERTH	54
	31.63	45	MERC	4	MERC	4	MERC	6	MARS	9	MARS	13	ATLS	24	ATLS	28	ERTH	44	ERTH	56	PLRS	70t
Triple	36.56	39	MERC	5	MERC	5	MERC	7	MARS	11	VENS	17	VENS	23	ATLS	33	ERTH	46	ERTH	64	PLRS	80
	43.78	33	MERC	5d	MERC	7	MARS	8d	MARS	12	VENS	20	ATLS	29	ATLS	41	ERTH	60	PLRS	75	PLRS	95
	54.45	26	MERC	6	MERC	8	MARS	9	MARS	13	VENS	24	ATLS	38	ERTH	48	ERTH	72	PLRS	100	PLRS	120
	64.42	22	MERC	6	MARS	9	MARS	11	MARS	17	ATLS	26	ATLS	42	ERTH	54	PLRS	80	PLRS	110	NEPT	135
	69.63	21	MERC	7	MARS	9	MARS	13	VENS	18	ATLS	31	ERTH	44	ERTH	62	PLRS	95	NEPT	115	NEPT	145
	80.01	17.9	MERC	8	MARS	11	MARS	15	VENS	20	ATLS	34	ERTH	50	ERTH	68	PLRS	100	NEPT	130	ORON	190
	91.41	15.6	MERC	8	MARS	13	MARS	15	ATLS	26	ERTH	42	NEPT	60	NEPT	80	NEPT	120	SATN	180	SATN	210
	99.38	14.4	MARS	9	MARS	13	VENS	17	ATLS	24	ATLS	40	ERTH	64	PLRS	85	NEPT	125	ORON	190	ORON	215
	111.5	12.9	MARS	11	MARS	15	VENS	18	ATLS	30	ERTH	50	ERTH	68	PLRS	90	NEPT	140	ORON	190	SATN	240
	121.4	11.8	MARS	11q	MARS	15q	ATLS	22q	ATLS	30q	ERTH	50q	ERTH	74q	PLRS	100q	NEPT	150q	ORON	205q	SATN	260q
	138.5	10.3	MARS	13	VENS	17	VENS	23	ATLS	35	ERTH	58	PLRS	90	NEPT	120	ORON	190	ORON	240	SATN	280
	159.8	8.9	MARS	13	VENS	22q	ATLS	31q	ATLS	43q	ERTH	62q	PLRS	90q	PLRS	120q	ORON	190q	ORON	240q	SATN	300q
	193.1	7.4	VENS	16	ATLS	25	ATLS	33	ERTH	48	ERTH	76q	PLRS	120q	NEPT	160q	ORON	240q	SATN	300q	TITN	400q
Quadruple	206.2	6.9	MARS	17	ATLS	27	ATLS	35	ERTH	52	PLRS	90	NEPT	130	ORON	190	SATN	270	TITN	360	TITN	440
	238.2	6.0	VENS	20	ATLS	31	ATLS	39	ERTH	58	PLRS	100	NEPT	140	ORON	205	SATN	300	TITN	400	JUPT	550
	265.4	5.4	VENS	22	ATLS	35	ATLS	43	ERTH	64	PLRS	110	NEPT	160	ORON	215	TITN	320	TITN	440	JUPT	550
	295.7	4.8	VENS	24	ATLS	39	ERTH	48	ERTH	72	PLRS	115	ORON	190	ORON	240	TITN	380	JUPT	500	JUPT	600
	330.1	4.3	ATLS	28	ATLS	40	ERTH	52	PLRS	80	NEPT	130	ORON	205	SATN	270	TITN	400	JUPT	550	JUPT	650
	369.8	3.9	ATLS	31	ERTH	46	ERTH	58	PLRS	90	NEPT	150	ORON	240	SATN	300	TITN	440	JUPT	600		
	412.1	3.5	ATLS	35	ERTH	48	ERTH	66	PLRS	105	ORON	190	ORON	240	TITN	350	JUPT	450	JUPT	600		
	459.0	3.1	ATLS	40	ERTH	58	ERTH	76	PLRS	110	ORON	180	SATN	270	TITN	360	JUPT	550				
	532.5	2.7	ATLS	43	ERTH	72	PLRS	95	NEPT	135	ORON	240	TITN	350	JUPT	450	JUPT	650				
	617.9	2.3	ERTH	52	ERTH	76	PLRS	100	NEPT	150	SATN	270	TITN	400	JUPT	550						
	660.6	2.2	ERTH	54qu	PLRS	80qu	PLRS	110qu	ORON	190	SATN	270qu	TITN	400qu	JUPT	550						
	741.2	1.9	ERTH	66	PLRS	95	NEPT	125	ORON	190	TITN	310	JUPT	450qu								
	900.3	1.6	PLRS	75qu	PLRS	115qu	NEPT	150qu	ORON	215	TITN	360qu	JUPT	550								
	1057	1.4	PLRS	90qu	NEPT	130	ORON	190	SATN	260	TITN	440qu	JUPT	650qu								

If selection falls within shaded area, a cooling fan and shroud are required. Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

* Selections are based on 1430 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

d = double reduction
t = triple reduction
q = quadruple reduction
qu = quintuple reduction

SELECTION TABLES

1430 RPM - Class III - Service Factor = 2.00

TABLE 3

REDUCERS WITH STANDARD INPUT SHAFT*
LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size									
			30 HP 286T	40 HP 324T	50 HP 326T	60 HP 364T	75 HP 365T	100 HP 405T	125 HP 444T	150 HP 445T	200 HP	250 HP
Single	3.53	405	VENS 10	VENS 12	VENS 16	ERTH 18	ERTH 24	ERTH 30	PLRS 44	PLRS 44	† †	† †
	4.39	326	VENS 12	VENS 16	ATLS 20	ATLS 24	ATLS 28	ERTH 38	PLRS 52	NEPT 60	NEPT 80	ORON 90
	6.12	234	VENS 15	ATLS 22	ATLS 26	ATLS 30	ERTH 40	NEPT 55	NEPT 65	NEPT 75	SATN 100	SATN 140
Double	9.30	154	ATLS 26	ERTH 32	ERTH 44	ERTH 50	PLRS 64	NEPT 80	NEPT 100			
	11.02	130	ATLS 28	ERTH 42	ERTH 48	ERTH 60	PLRS 70	NEPT 100	ORON 125	ORON 140	TITN 210	TITN 250
	13.85	103	ATLS 38	ERTH 46	ERTH 58	PLRS 75	NEPT 95	NEPT 115	ORON 150	SATN 175	TITN 260	JUPT 300
	17.21	83	ERTH 46	ERTH 58	PLRS 75	NEPT 90	NEPT 110	ORON 150	SATN 190	TITN 240	TITN 320	
	20.41	70	ERTH 52	ERTH 64	PLRS 80	PLRS 100	NEPT 120	ORON 160	SATN 210	TITN 240	JUPT 350	JUPT 400
	24.00	60	ERTH 60	PLRS 80	NEPT 105	NEPT 125	ORON 155	SATN 210	TITN 270	TITN 310	JUPT 450	
	31.63	45	NEPT 90	NEPT 120	NEPT 130t	ORON 155	SATN 220	TITN 280	TITN 360	JUPT 400	JUPT 500	
Triple	36.56	39	PLRS 90	NEPT 120	NEPT 150	ORON 185	SATN 235	TITN 320	JUPT 400d	JUPT 450d		
	43.78	33	PLRS 115	NEPT 150	ORON 200	ORON 225	TITN 300	TITN 380	JUPT 500	JUPT 550		
	54.45	26	NEPT 140	ORON 195	SATN 240	TITN 280	TITN 360	JUPT 450	JUPT 550			
	64.42	22	NEPT 155	ORON 230	SATN 270	TITN 340	TITN 420	JUPT 550	JUPT 650			
	69.63	21	ORON 180	ORON 230	TITN 320	TITN 360	JUPT 450	JUPT 550				
	80.01	17.9	ORON 205	SATN 270	TITN 350	TITN 390	JUPT 500	JUPT 650				
	91.41	15.6	SATN 240	JUPT 300	JUPT 400	JUPT 450	JUPT 550					
	99.38	14.4	ORON 240	TITN 340	TITN 420	JUPT 500						
	111.5	12.9	SATN 270	TITN 360	JUPT 450	JUPT 550						
	121.4	11.8	SATN 300q	TITN 400q	JUPT 550	JUPT 650						
	138.5	10.3	TITN 340	JUPT 500								
	159.8	8.9	TITN 360q	JUPT 500	JUPT 650							
	193.1	7.4	JUPT 500									
Quadruple	206.2	6.9	JUPT 550									
	238.2	6.0	JUPT 600									
	265.4	5.4	JUPT 650									
	295.7	4.8										
	330.1	4.3										
	369.8	3.9										
	412.1	3.5										
	459.0	3.1										
	532.5	2.7										
	617.9	2.3										
	660.6	2.2										
	741.2	1.9										
	900.3	1.6										
	1057	1.4										

If selection falls within shaded area, a cooling fan and shroud are required. Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

* Selections are based on 1430 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

† Contact Rexnord for application details.

‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

d = double reduction
t = triple reduction
q = quadruple reduction

SELECTION TABLES

1170 RPM - Class I - Service Factor = 1.00

TABLE 3

REDUCERS WITH STANDARD INPUT SHAFT*
LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

continued

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size									
			1 HP 145T	1.5 HP 182T	2 HP 184T	3 HP 213T	5 HP 215T	7.5 HP 254T	10 HP 256T	15 HP 284T	20 HP 286T	25 HP 324T
Single	3.53	331	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	MERC 4	MARS 6
	4.39	267	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	MERC 4	MARS 5	MARS 7
	6.12	191	MERC 1	MERC 1	MERC 1	MERC 3	MERC 3	MERC 3	MARS 5	MARS 7	MARS 7	VENS 11
Double	9.30	126									ATLS 14	ATLS 14
	11.02	106	MERC 1	MERC 1	MERC 3	MERC 3	MERC 3	MERC 5	MARS 6	MARS 8	VENS 13	VENS 15
	13.85	84	MERC 2	MERC 2	MERC 2	MERC 4	MERC 4	MERC 6	MARS 8	MARS 12	VENS 14	VENS 18
	17.21	68	MERC 2	MERC 2	MERC 2	MERC 4	MERC 6	MARS 7	MARS 9	VENS 15	VENS 19	ATLS 22
	20.41	57	MERC 2	MERC 2	MERC 4	MERC 4	MERC 6	MARS 10	MARS 12	VENS 15	VENS 21	ATLS 26
	24.00	49	MERC 3	MERC 3	MERC 3	MERC 5	MERC 7	MARS 10	MARS 14	VENS 20	ATLS 26	ATLS 34
	31.63	37	MERC 2	MERC 4	MERC 4	MERC 6	MARS 9	MARS 13	VENS 17	ATLS 28	ATLS 34t	ERTH 44
Triple	36.56	32	MERC 3	MERC 3	MERC 5	MERC 7	MARS 11	MARS 15	VENS 19	ATLS 29	ATLS 37	ERTH 46
	43.78	26	MERC 3d	MERC 5d	MERC 5d	MERC 7	MARS 12	VENS 18	VENS 24	ATLS 37	ERTH 48	ERTH 60
	54.45	21	MERC 4	MERC 4	MERC 6	MERC 8	MARS 15	VENS 22	ATLS 30	ERTH 48	ERTH 60	ERTH 72
	64.42	18.2	MERC 4	MERC 6	MERC 8	MARS 11	MARS 17	VENS 24	ATLS 34	ERTH 48	ERTH 66	PLRS 80
	69.63	16.8	MERC 5	MERC 7	MERC 7	MARS 11	VENS 18	ATLS 27	ATLS 35	ERTH 56	PLRS 75	PLRS 95
	80.01	14.6	MERC 6	MERC 8	MARS 9	MARS 13	VENS 20	ATLS 30	ATLS 42	ERTH 62	PLRS 80	PLRS 100
	91.41	12.8	MERC 6	MERC 8	MARS 11	MARS 15	ATLS 26	ATLS 38	ERTH 48	NEPT 80	NEPT 100	NEPT 120
	99.38	11.8	MERC 7	MARS 9	MARS 11	VENS 17	ATLS 28	ATLS 40	ERTH 52	PLRS 75	PLRS 105	NEPT 125
	111.5	10.5	MERC 6	MARS 9	MARS 13	VENS 18	ATLS 30	ATLS 42	ERTH 56	PLRS 90	PLRS 110	NEPT 140
	121.4	9.6	MERC 7q	MARS 9q	MARS 13q	ATLS 22q	ATLS 30q	ERTH 50q	ERTH 62q	PLRS 90q	PLRS 120q	NEPT 150q
	138.5	8.4	MARS 9	MARS 11	MARS 15	VENS 21	ATLS 35	ERTH 52	ERTH 70	PLRS 110	NEPT 140	ORON 190
	159.8	7.3	MERC 8	MARS 13	MARS 17	ATLS 27q	ATLS 43q	ERTH 56q	ERTH 74q	PLRS 110q	NEPT 150q	ORON 190q
	193.1	6.1	MARS 11	MARS 15	VENS 20	ATLS 29	ERTH 48	ERTH 70q	PLRS 100q	NEPT 140q	ORON 190q	ORON 240q
Quadruple	206.2	5.7	MARS 11	MARS 15	VENS 22	ATLS 31	ERTH 52	PLRS 80	PLRS 110	NEPT 160	ORON 230	SATN 270
	238.2	4.9	MARS 13	VENS 18	VENS 24	ATLS 35	ERTH 58	PLRS 90	PLRS 120	ORON 180	SATN 240	SATN 300
	265.4	4.4	MARS 13	VENS 20	ATLS 27	ATLS 39	ERTH 64	PLRS 100	NEPT 130	ORON 190	SATN 270	TITN 320
	295.7	4	MARS 15	VENS 22	ATLS 31	ERTH 48	ERTH 72	PLRS 105	NEPT 140	ORON 215	SATN 280	TITN 380
	330.1	3.5	MARS 18	ATLS 24	ATLS 32	ERTH 52	PLRS 80	PLRS 120	NEPT 160	SATN 240	TITN 320	TITN 400
	369.8	3.2	VENS 20	ATLS 27	ATLS 39	ERTH 58	PLRS 90	NEPT 140	ORON 190	SATN 270	TITN 360	JUPT 450
	412.1	2.8	VENS 22	ATLS 31	ATLS 43	ERTH 60	PLRS 105	NEPT 155	ORON 215	TITN 310	TITN 390	JUPT 550
	459.0	2.5	VENS 23	ATLS 36	ERTH 46	ERTH 70	PLRS 110	ORON 180	ORON 230	TITN 360	TITN 440	JUPT 550
	532.5	2.2	ATLS 27	ATLS 39	ERTH 60	PLRS 85	NEPT 145	ORON 215	SATN 280	TITN 430	JUPT 500	JUPT 650
	617.9	1.9	ATLS 32	ERTH 46	ERTH 64	PLRS 100	NEPT 160	ORON 240	TITN 320	JUPT 500	JUPT 650	
	660.6	1.8	ERTH 36qu	ERTH 54qu	PLRS 70qu	PLRS 100qu	NEPT 160qu	SATN 240qu	TITN 320qu	JUPT 500		
	741.2	1.6	ATLS 35	ERTH 60	PLRS 85	PLRS 115	ORON 190	TITN 310	TITN 390	JUPT 550qu		
	900.3	1.3	ERTH 48qu	PLRS 75qu	PLRS 95qu	NEPT 140qu	ORON 215	TITN 360qu	TITN 440qu	JUPT 650		
	1057	1.1	ERTH 54	PLRS 80qu	PLRS 100qu	ORON 190	SATN 260	TITN 400qu	JUPT 550qu			

If selection falls within shaded area, a cooling fan and shroud are required. Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

* Selections are based on 1170 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

d = double reduction
t = triple reduction
q = quadruple reduction
qu = quintuple reduction

SELECTION TABLES

1170 RPM - Class I - Service Factor = 1.00

TABLE 3

REDUCERS WITH STANDARD INPUT SHAFT*
LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size									
			30 HP 326T	40 HP 364T	50 HP 365T	60 HP 404T	75 HP 405T	100 HP 444T	125 HP 445T	150 HP	200 HP	250 HP
Single	3.53	331	MARS 6	VENS 10	VENS 10	VENS 12	VENS 14	ERTH 18	PLRS 34	PLRS 34	PLRS 44	SATN 60
	4.39	267	VENS 10	VENS 10	VENS 12	VENS 14	ATLS 20	ATLS 24	ATLS 28	ERTH 38	PLRS 52	NEPT 60
	6.12	191	VENS 11	VENS 13	VENS 17	ATLS 22	ATLS 26	ERTH 34	ERTH 40	ERTH 46	NEPT 65	NEPT 85
Double	9.30	126	ATLS 18	ATLS 22	ATLS 26	ERTH 32	ERTH 38	ERTH 50	PLRS 64	NEPT 80	NEPT 100	
	11.02	106	VENS 17	ATLS 24	ATLS 32	ATLS 36	ERTH 48	ERTH 60	PLRS 80	PLRS 90	ORON 125	SATN 150
	13.85	84	VENS 22	ATLS 30	ATLS 38	ERTH 46	ERTH 58	PLRS 75	NEPT 95	NEPT 105	ORON 150	SATN 175
	17.21	68	ATLS 30	ATLS 38	ERTH 46	ERTH 58	PLRS 75	NEPT 90	NEPT 110	ORON 140	SATN 175	TITN 240
	20.41	57	ATLS 30	ERTH 40	ERTH 52	ERTH 64	PLRS 80	PLRS 100	NEPT 130	SATN 150	SATN 210	TITN 280
	24.00	49	ATLS 38	ERTH 54	ERTH 66	PLRS 80	NEPT 95	NEPT 125	ORON 155	SATN 195	TITN 270	TITN 310
	31.63	37	ERTH 56	ERTH 66t	PLRS 80t	NEPT 110	NEPT 130t	ORON 170	SATN 220	TITN 280	TITN 320	JUPT 400
Triple	36.56	32	ERTH 58	PLRS 80	PLRS 100	PLRS 110	NEPT 140	ORON 185	SATN 235	TITN 280	JUPT 400d	JUPT 450d
	43.78	26	ERTH 72	PLRS 95	PLRS 115	NEPT 140	ORON 175	SATN 230	TITN 300	TITN 340	JUPT 500	JUPT 550
	54.45	21	PLRS 90	PLRS 120	NEPT 150	ORON 180	SATN 240	TITN 320	TITN 360	JUPT 450	JUPT 550	
	64.42	18.2	PLRS 100	NEPT 135	ORON 180	ORON 205	SATN 240	TITN 340	TITN 420	JUPT 500	JUPT 650	
	69.63	16.8	PLRS 105	NEPT 145	ORON 180	ORON 230	SATN 280	TITN 360	JUPT 450	JUPT 500		
	80.01	14.6	PLRS 120	NEPT 160	ORON 205	SATN 240	SATN 300	TITN 430	JUPT 500	JUPT 600		
	91.41	12.8	SATN 180	SATN 210	SATN 240	JUPT 300	JUPT 350	JUPT 450	JUPT 600			
	99.38	11.8	ORON 190	ORON 215	SATN 250	TITN 300	TITN 380					
	111.5	10.5	ORON 190	ORON 220	SATN 300	TITN 360	TITN 440	JUPT 550				
	121.4	9.6	ORON 180q	SATN 260q	SATN 300q	TITN 360q	JUPT 500	JUPT 650				
	138.5	8.4	ORON 215	SATN 280	TITN 340	TITN 420						
	159.8	7.3	ORON 240q	SATN 300q	TITN 400q	TITN 440q	JUPT 600					
	193.1	6.1	SATN 280q	TITN 400q	JUPT 500							
Quadruple	206.2	5.7	TITN 320	TITN 440	JUPT 550	JUPT 650						
	238.2	4.9	TITN 360	JUPT 550	JUPT 600							
	265.4	4.4	TITN 400	JUPT 550	JUPT 650							
	295.7	4	TITN 420	JUPT 600								
	330.1	3.5	JUPT 500	JUPT 650								
	369.8	3.2	JUPT 550									
	412.1	2.8	JUPT 550									
	459.0	2.5										
	532.5	2.2										
	617.9	1.9										
	660.6	1.8										
	741.2	1.6										
	900.3	1.3										
	1057	1.1										

If selection falls within shaded area, a cooling fan and shroud are required. Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

* Selections are based on 1170 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

† Contact Rexnord for application details.

‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

d = double reduction
t = triple reduction
q = quadruple reduction

SELECTION TABLES

1170 RPM - Service Factor = 1.25

TABLE 3

REDUCERS WITH STANDARD INPUT SHAFT*
LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

continued

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size									
			30 HP 326T	40 HP 364T	50 HP 365T	60 HP 404T	75 HP 405T	100 HP 444T	125 HP 445T	150 HP	200 HP	250 HP
Single	3.53	331	MARS 8	VENS 10	VENS 12	VENS 14	ERTH 18	ERTH 24	PLRS 34	PLRS 34	PLRS 44	SATN 60
	4.39	267	VENS 10	VENS 12	VENS 14	ATLS 20	ATLS 24	ATLS 28	ERTH 38	ERTH 44	NEPT 60	NEPT 70
	6.12	191	VENS 13	VENS 17	ATLS 22	ATLS 26	ATLS 30	ERTH 40	NEPT 55	NEPT 65	NEPT 85	SATN 100
Double	9.30	126	ATLS 22	ATLS 26	ERTH 32	ERTH 38	ERTH 50	PLRS 64	NEPT 80	NEPT 100		
	11.02	106	ATLS 24	ATLS 32	ATLS 36	ERTH 48	ERTH 54	PLRS 80	NEPT 90	NEPT 110	SATN 150	SATN 180
	13.85	84	ATLS 30	ATLS 38	ERTH 46	ERTH 58	PLRS 75	NEPT 95	NEPT 115	ORON 135	SATN 175	TITN 220
	17.21	68	ATLS 34	ERTH 46	ERTH 58	PLRS 75	PLRS 85	NEPT 110	ORON 140	SATN 175	TITN 240	TITN 280
	20.41	57	ATLS 38	ERTH 52	ERTH 64	PLRS 80	PLRS 100	NEPT 130	ORON 160	SATN 190	TITN 280	JUPT 350
	24.00	49	ERTH 48	ERTH 66	PLRS 80	NEPT 95	NEPT 115	ORON 155	SATN 195	TITN 230	TITN 310	JUPT 400
	31.63	37	ERTH 62t	PLRS 80t	NEPT 110	NEPT 130t	NEPT 150t	SATN 220	TITN 280	TITN 320	JUPT 450	JUPT 500
Triple	36.56	32	ERTH 70	PLRS 100	NEPT 120	NEPT 140	ORON 185	SATN 235	TITN 320	TITN 360	JUPT 450d	
	43.78	26	PLRS 85	PLRS 115	NEPT 150	ORON 175	ORON 225	TITN 300	TITN 380	JUPT 500	JUPT 550	
	54.45	21	PLRS 110	NEPT 150	ORON 180	SATN 240	SATN 270	TITN 360	JUPT 450	JUPT 500		
	64.42	18.2	PLRS 120	ORON 180	ORON 205	SATN 240	TITN 300	TITN 420	JUPT 500	JUPT 600		
	69.63	16.8	NEPT 135	ORON 180	ORON 230	SATN 280	TITN 360	JUPT 450	JUPT 550	JUPT 640		
	80.01	14.6	NEPT 150	ORON 205	SATN 270	SATN 300	TITN 390	JUPT 500	JUPT 650			
	91.41	12.8	SATN 180	SATN 240	JUPT 300	JUPT 350	JUPT 450	JUPT 600				
	99.38	11.8	ORON 190	SATN 250	TITN 340	TITN 380	JUPT 500					
	111.5	10.5	ORON 230	SATN 300	TITN 360	TITN 440	JUPT 550					
	121.4	9.6	ORON 230q	SATN 300q	TITN 400q	JUPT 500	JUPT 600					
	138.5	8.4	SATN 265	TITN 340	JUPT 450							
	159.8	7.3	SATN 280q	TITN 400q	JUPT 500	JUPT 600						
	193.1	6.1	TITN 360q	JUPT 500								
Quadruple	206.2	5.7	TITN 400	JUPT 550	JUPT 650							
	238.2	4.9	TITN 440	JUPT 600								
	265.4	4.4	JUPT 500	JUPT 650								
	295.7	4	JUPT 550									
	330.1	3.5	JUPT 600									
	369.8	3.2										
	412.1	2.8										
	459.0	2.5										
	532.5	2.2										
	617.9	1.9										
	660.6	1.8										
	741.2	1.6										
	900.3	1.3										
	1057	1.1										

If selection falls within shaded area, a cooling fan and shroud are required. Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

* Selections are based on 1170 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

d = double reduction
t = triple reduction
q = quadruple reduction
qu = quintuple reduction

TABLE 3

REDUCERS WITH STANDARD INPUT SHAFT*
LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size									
			30 HP 326T	40 HP 364T	50 HP 365T	60 HP 404T	75 HP 405T	100 HP 444T	125 HP 445T	150 HP	200 HP	250 HP
	3.53	**331**	MARS 8	VENS 10	VENS 12	VENS 14	ERTH 18	ERTH 24	PLRS 34	PLRS 34	PLRS 44	SATN 60
Single	**4.39**	**267**	VENS 10	VENS 12	VENS 14	ATLS 20	ATLS 24	ATLS 28	ERTH 38	ERTH 44	NEPT 60	NEPT 70
	6.12	**191**	VENS 13	VENS 17	ATLS 22	ATLS 26	ATLS 30	ERTH 40	NEPT 55	NEPT 65	NEPT 85	SATN 100
	9.30	**126**	ATLS 22	ATLS 26	ERTH 32	ERTH 38	ERTH 50	PLRS 64	NEPT 80	NEPT 100		
	11.02	**106**	ATLS 24	ATLS 32	ATLS 36	ERTH 48	ERTH 54	PLRS 80	NEPT 90	NEPT 110	SATN 150	SATN 180
	13.85	**84**	ATLS 30	ATLS 38	ERTH 46	ERTH 58	PLRS 75	NEPT 95	NEPT 115	ORON 135	SATN 175	TITN 220
Double	**17.21**	**68**	ATLS 34	ERTH 46	ERTH 58	PLRS 75	PLRS 85	NEPT 110	ORON 140	SATN 175	TITN 240	TITN 280
	20.41	**57**	ATLS 38	ERTH 52	ERTH 64	PLRS 80	PLRS 100	NEPT 130	ORON 160	SATN 190	TITN 280	JUPT 350
	24.00	**49**	ERTH 48	ERTH 66	PLRS 80	NEPT 95	NEPT 115	ORON 155	SATN 195	TITN 230	TITN 310	JUPT 400
	31.63	**37**	ERTH 62t	PLRS 80t	NEPT 110	NEPT 130t	NEPT 150t	SATN 220	TITN 280	TITN 320	JUPT 450	JUPT 500
	36.56	**32**	ERTH 70	PLRS 100	NEPT 120	NEPT 140	ORON 185	SATN 235	TITN 320	TITN 360	JUPT 450d	
	43.78	**26**	PLRS 85	PLRS 115	NEPT 150	ORON 175	ORON 225	TITN 300	TITN 380	JUPT 500	JUPT 550	
	54.45	**21**	PLRS 110	NEPT 150	ORON 180	SATN 240	SATN 270	TITN 360	JUPT 450	JUPT 500		
	64.42	**18.2**	PLRS 120	ORON 180	ORON 205	SATN 240	TITN 300	TITN 420	JUPT 500	JUPT 600		
	69.63	**16.8**	NEPT 135	ORON 180	ORON 230	SATN 280	TITN 360	JUPT 450	JUPT 550	JUPT 640		
	80.01	**14.6**	NEPT 150	ORON 205	SATN 270	SATN 300	TITN 390	JUPT 500	JUPT 650			
Triple	**91.41**	**12.8**	SATN 180	SATN 240	JUPT 300	JUPT 350	JUPT 450	JUPT 600				
	99.38	**11.8**	ORON 190	SATN 250	TITN 340	TITN 380	JUPT 500					
	111.5	**10.5**	ORON 230	SATN 300	TITN 360	TITN 440	JUPT 550					
	121.4	**9.6**	ORON 230q	SATN 300q	TITN 400q	JUPT 500	JUPT 600					
	138.5	**8.4**	SATN 265	TITN 340	JUPT 450							
	159.8	**7.3**	SATN 280q	TITN 400q	JUPT 500	JUPT 600						
	193.1	**6.1**	TITN 360q	JUPT 500								
	206.2	**5.7**	TITN 400	JUPT 550	JUPT 650							
	238.2	**4.9**	TITN 440	JUPT 600								
	265.4	**4.4**	JUPT 500	JUPT 650								
	295.7	**4**	JUPT 550									
	330.1	**3.5**	JUPT 600									
	369.8	**3.2**										
Quadruple	**412.1**	**2.8**										
	459.0	**2.5**										
	532.5	**2.2**										
	617.9	**1.9**										
	660.6	**1.8**										
	741.2	**1.6**										
	900.3	**1.3**										
	1057	**1.1**										

If selection falls within shaded area, a cooling fan and shroud are required. Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

* Selections are based on 1170 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

† Contact Rexnord for application details.

‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

t = triple reduction
q = quadruple reduction

SELECTION TABLES

1170 RPM - Class II - Service Factor = 1.40

TABLE 3

REDUCERS WITH STANDARD INPUT SHAFT*
LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

continued

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size									
			1 HP 145T	1.5 HP 182T	2 HP 184T	3 HP 213T	5 HP 215T	7.5 HP 254T	10 HP 256T	15 HP 284T	20 HP 286T	25 HP 324T
Single	3.53	331	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	MERC 4	MARS 6	MARS 6	MARS 8
	4.39	267	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	MERC 4	MARS 7	MARS 7	VENS 10
	6.12	191	MERC 1	MERC 1	MERC 1	MERC 3	MERC 3	MARS 5	MARS 5	VENS 11	VENS 11	VENS 11
Double	9.30	126								ATLS 14	ATLS 14	ATLS 18
	11.02	106	MERC 1	MERC 3	MERC 3	MERC 3	MERC 5	MARS 6	MARS 8	VENS 13	VENS 17	VENS 21
	13.85	84	MERC 2	MERC 2	MERC 4	MERC 4	MERC 6	MARS 8	MARS 12	VENS 16	VENS 20	ATLS 26
	17.21	68	MERC 2	MERC 2	MERC 4	MERC 4	MARS 7	MARS 11	MARS 13	VENS 19	ATLS 26	ATLS 34
	20.41	57	MERC 2	MERC 4	MERC 4	MERC 6	MARS 8	MARS 12	VENS 15	VENS 21	ATLS 30	ATLS 38
	24.00	49	MERC 3	MERC 3	MERC 5	MARS 7	MARS 10	MARS 14	VENS 18	ATLS 26	ATLS 34	ERTH 48
	31.63	37	MERC 4	MERC 4	MERC 6	MARS 7	MARS 11	VENS 19	ATLS 24	ATLS 34t	ERTH 50	ERTH 62t
Triple	36.56	32	MERC 3	MERC 5	MERC 7	MARS 9	MARS 15	VENS 21	ATLS 29	ATLS 41	ERTH 52	ERTH 64
	43.78	26	MERC 5d	MERC 5d	MERC 7	MARS 10d	MARS 16	VENS 24	ATLS 33	ERTH 48	ERTH 66	PLRS 85
	54.45	21	MERC 4	MERC 6	MERC 8	MARS 13	VENS 20	ATLS 30	ATLS 42	ERTH 60	PLRS 80	PLRS 100
	64.42	18.2	MERC 6	MERC 8	MARS 11	MARS 15	VENS 24	ATLS 34	ERTH 48	ERTH 72	PLRS 90	PLRS 120
	69.63	16.8	MERC 5	MARS 9	MARS 11	MARS 15	ATLS 27	ATLS 39	ERTH 50	PLRS 75	PLRS 105	NEPT 125
	80.01	14.6	MERC 6	MARS 9	MARS 13	VENS 18	ATLS 30	ATLAS 42	ERTH 56	PLRS 90	PLRS 110	NEPT 140
	91.41	12.8	MERC 8	MARS 11	MARS 13	ATLS 22	ATLS 34	ERTH 54	NEPT 70	NEPT 100	SATN 180	SATN 180
	99.38	11.8	MARS 9	MARS 11	MARS 15	VENS 21	ATLS 36	ERTH 52	ERTH 70	PLRS 105	NEPT 145	ORON 190
	111.5	10.5	MERC 8	MARS 13	MARS 17	VENS 24	ATLS 42	ERTH 62	PLRS 80	PLRS 120	NEPT 160	ORON 205
	121.4	9.6	MARS 9q	MARS 13q	MARS 17q	ATLS 26q	ERTH 44q	ERTH 68q	PLRS 90q	NEPT 130q	ORON 180q	ORON 230q
	138.5	8.4	MARS 11	MARS 15	VENS 19	ATLS 31	ERTH 52	PLRS 80	PLRS 100	NEPT 150	ORON 190	ORON 240
	159.8	7.3	MARS 13	MARS 17	VENS 24q	ATLS 35q	ERTH 56q	PLRS 80q	PLRS 110q	NEPT 160q	ORON 215q	SATN 260q
	193.1	6.1	MARS 15	VENS 20	ATLS 29	ERTH 42	ERTH 64q	PLRS 100q	NEPT 140q	ORON 215q	SATN 260q	TITN 320q
Quadruple	206.2	5.7	MARS 15	VENS 22	ATLS 31	ERTH 46	ERTH 76	PLRS 110	NEPT 150	ORON 215	SATN 300	TITN 360
	238.2	4.9	MARS 17	ATLS 27	ATLS 35	ERTH 52	PLRS 80	PLRS 120	NEPT 160	SATN 240	TITN 320	TITN 400
	265.4	4.4	VENS 18	ATLS 27	ATLS 39	ERTH 58	PLRS 90	NEPT 140	ORON 190	SATN 270	TITN 360	JUPT 450
	295.7	4	VENS 22	ATLS 31	ATLS 43	ERTH 60	PLRS 105	NEPT 150	ORON 215	TITN 300	TITN 420	JUPT 500
	330.1	3.5	VENS 23	ATLS 36	ERTH 46	ERTH 70	PLRS 110	ORON 180	ORON 230	TITN 360	TITN 440	JUPT 600
	369.8	3.2	ATLS 27	ATLS 39	ERTH 52	ERTH 76	NEPT 130	ORON 190	SATN 270	TITN 400	JUPT 500	JUPT 650
	412.1	2.8	ATLS 31	ATLS 43	ERTH 60	PLRS 85	NEPT 145	ORON 215	SATN 280	TITN 430	JUPT 550	JUPT 650
	459.0	2.5	ATLS 32	ERTH 46	ERTH 64	PLRS 100	NEPT 160	ORON 230	TITN 320	JUPT 500	JUPT 650	
	532.5	2.2	ATLS 35	ERTH 60	PLRS 85	PLRS 115	ORON 190	TITN 310	TITN 390	JUPT 550		
	617.9	1.9	ERTH 46	ERTH 70	PLRS 90	NEPT 130	ORON 215	TITN 360	TITN 440	JUPT 650		
	660.6	1.8	ERTH 48qu	PLRS 70qu	PLRS 90qu	NEPT 140qu	ORON 240	TITN 360qu	TITN 440qu			
	741.2	1.6	ERTH 54	PLRS 85	PLRS 115	ORON 190	SATN 280	TITN 430	JUPT 500qu			
	900.3	1.3	PLRS 65qu	PLRS 95qu	NEPT 130qu	ORON 190	TITN 320qu	JUPT 450	JUPT 600			
	1057	1.1	PLRS 70qu	PLRS 110qu	ORON 190	ORON 215	TITN 360qu	JUPT 550qu				

If selection falls within shaded area, a cooling fan and shroud are required. Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

* Selections are based on 1170 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

d = double reduction
t = triple reduction
q = quadruple reduction
qu = quintuple reduction

SELECTION TABLES

1170 RPM - Class II - Service Factor = 1.40

TABLE 3

REDUCERS WITH STANDARD INPUT SHAFT*
LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size									
			30 HP 326T	40 HP 364T	50 HP 365T	60 HP 404T	75 HP 405T	100 HP 444T	125 HP 445T	150 HP	200 HP	250 HP
Single	3.53	331	VENS 10	VENS 10	VENS 14	VENS 16	ERTH 24	ERTH 30	PLRS 34	PLRS 44	PLRS 54	SATN 80
	4.39	267	VENS 10	VENS 14	VENS 16	ATLS 20	ATLS 24	ERTH 32	ERTH 38	PLRS 52	NEPT 70	NEPT 80
	6.12	191	VENS 13	VENS 17	ATLS 22	ATLS 26	ERTH 34	ERTH 46	NEPT 55	NEPT 65	NEPT 85	SATN 120
Double	9.30	126	ATLS 22	ERTH 32	ERTH 38	ERTH 44	PLRS 54	NEPT 70	NEPT 90	NEPT 110		
	11.02	106	ATLS 24	ATLS 32	ERTH 42	ERTH 48	ERTH 60	PLRS 80	NEPT 100	ORON 125	SATN 165	TITN 210
	13.85	84	ATLS 30	ERTH 40	ERTH 52	ERTH 64	PLRS 75	NEPT 105	ORON 135	ORON 150	TITN 220	TITN 260
	17.21	68	ATLS 38	ERTH 52	ERTH 64	PLRS 75	NEPT 100	ORON 130	SATN 160	SATN 190	TITN 280	TITN 320
	20.41	57	ERTH 46	ERTH 58	ERTH 70	PLRS 90	NEPT 110	ORON 140	SATN 190	SATN 210	TITN 280	JUPT 350
	24.00	49	ERTH 54	PLRS 70	PLRS 90	NEPT 105	NEPT 135	ORON 170	TITN 230	TITN 270	TITN 350	JUPT 450
	31.63	37	ERTH 66t	NEPT 100	NEPT 120	NEPT 140t	ORON 170	TITN 280	TITN 280	TITN 360	JUPT 450	
Triple	36.56	32	PLRS 80	PLRS 110	NEPT 130	ORON 170	ORON 200	TITN 280	TITN 320	JUPT 400d	JUPT 500d	
	43.78	26	PLRS 105	NEPT 130	ORON 175	ORON 200	SATN 245	TITN 340	JUPT 500	JUPT 500	JUPT 600	
	54.45	21	PLRS 120	ORON 180	ORON 210	SATN 240	TITN 320	TITN 400	JUPT 450	JUPT 550		
	64.42	18.2	NEPT 135	ORON 180	ORON 230	SATN 270	TITN 340	JUPT 450	JUPT 600			
	69.63	16.8	ORON 180	ORON 205	SATN 250	TITN 320	TITN 400	JUPT 500	JUPT 600			
	80.01	14.6	ORON 190	ORON 220	SATN 300	TITN 350	TITN 430	JUPT 550				
	91.41	12.8	SATN 210	SATN 260	JUPT 350	JUPT 400	JUPT 500	JUPT 650				
	99.38	11.8	ORON 215	SATN 280	TITN 340	TITN 420						
	111.5	10.5	SATN 240	TITN 320	TITN 400	JUPT 500	JUPT 600					
	121.4	9.6	SATN 260q	TITN 360q	TITN 440q	JUPT 550						
	138.5	8.4	TITN 300	TITN 380	JUPT 500							
	159.8	7.3	TITN 320q	TITN 440q	JUPT 550	JUPT 650						
	193.1	6.1	TITN 400q									
Quadruple	206.2	5.7	TITN 440	JUPT 600								
	238.2	4.9	JUPT 550									
	265.4	4.4	JUPT 550									
	295.7	4	JUPT 600									
	330.1	3.5										
	369.8	3.2										
	412.1	2.8										
	459.0	2.5										
	532.5	2.2										
	617.9	1.9										
	660.6	1.8										
	741.2	1.6										
	900.3	1.3										
	1057	1.1										

If selection falls within shaded area, a cooling fan and shroud are required. Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

* Selections are based on 1170 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

† Contact Rexnord for application details.

‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

d = double reduction
t = triple reduction
q = quadruple reduction

SELECTION TABLES

1170 RPM - Service Factor = 1.50

TABLE 3

REDUCERS WITH STANDARD INPUT SHAFT*
LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

continued

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size									
			1 HP 145T	1.5 HP 182T	2 HP 184T	3 HP 213T	5 HP 215T	7.5 HP 254T	10 HP 256T	15 HP 284T	20 HP 286T	25 HP 324T
Single	3.53	331	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	MERC 4	MARS 6	MARS 6	MARS 8
	4.39	267	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	MERC 4	MARS 7	VENS 10	VENS 10
	6.12	191	MERC 1	MERC 1	MERC 3	MERC 3	MERC 3	MARS 5	MARS 7	VENS 11	VENS 11	VENS 13
Double	9.30	126							ATLS 14	ATLS 14	ATLS 18	ATLS 22
	11.02	106	MERC 1	MERC 3	MERC 3	MERC 3	MERC 5	MARS 6	MARS 8	VENS 13	VENS 17	ATLS 24
	13.85	84	MERC 2	MERC 2	MERC 4	MERC 4	MERC 6	MARS 10	MARS 12	VENS 16	VENS 22	ATLS 30
	17.21	68	MERC 2	MERC 4	MERC 4	MERC 6	MARS 7	MARS 11	VENS 15	VENS 21	ATLS 30	ATLS 34
	20.41	57	MERC 2	MERC 4	MERC 4	MERC 6	MARS 10	VENS 15	VENS 15	VENS 23	ATLS 30	ATLS 38
	24.00	49	MERC 3	MERC 3	MERC 5	MERC 7	MARS 10	MARS 14	VENS 20	ATLS 30	ATLS 38	ERTH 48
	31.63	37	MERC 4	MERC 4	MERC 6	MARS 7	MARS 13	VENS 19	ATLS 28	ATLS 38t	ERTH 56	ERTH 62t
Triple	36.56	32	MERC 3	MERC 5	MERC 7	MARS 9	MARS 15	VENS 21	ATLS 29	ATLS 41	ERTH 58	ERTH 70
	43.78	26	MERC 5d	MERC 5d	MERC 7	MARS 10d	VENS 18	ATLS 29	ATLS 37	ERTH 54	ERTH 72	PLRS 85
	54.45	21	MERC 4	MERC 6	MERC 8	MARS 13	VENS 22	ATLS 34	ATLS 42	ERTH 66	PLRS 90	PLRS 110
	64.42	18.2	MERC 6	MERC 8	MARS 11	MARS 15	VENS 24	ATLS 38	ERTH 48	ERTH 72	PLRS 100	PLRS 120
	69.63	16.8	MERC 7	MARS 9	MARS 11	MARS 17	ATLS 27	ATLS 39	ERTH 56	PLRS 85	PLRS 105	NEPT 135
	80.01	14.6	MERC 8	MARS 11	MARS 13	VENS 18	ATLS 30	ERTH 50	ERTH 62	PLRS 90	PLRS 120	NEPT 150
	91.41	12.8	MERC 8	MARS 11	MARS 15	ATLS 22	ATLS 38	ERTH 54	NEPT 80	NEPT 110	SATN 180	SATN 180
	99.38	11.8	MARS 9	MARS 13	VENS 17	VENS 23	ATLS 40	ERTH 58	PLRS 75	NEPT 115	ORON 190	ORON 190
	111.5	10.5	MARS 9	MARS 13	MARS 17	ATLS 26	ATLS 42	ERTH 62	PLRS 90	NEPT 130	ORON 190	ORON 205
	121.4	9.6	MARS 9q	MARS 15q	ATLS 22q	ATLS 26q	ERTH 50q	ERTH 68q	PLRS 90q	NEPT 140q	ORON 180q	ORON 230q
	138.5	8.4	MARS 11	VENS 17	VENS 21	ATLS 31	ERTH 52	PLRS 80	PLRS 110	ORON 190	ORON 215	SATN 265
	159.8	7.3	MARS 13	VENS 20q	ATLS 27q	ATLS 39q	ERTH 56q	PLRS 90q	PLRS 110q	ORON 190q	ORON 240q	SATN 280q
	193.1	6.1	MARS 15	ATLS 25	ATLS 29	ERTH 48	ERTH 70q	PLRS 110q	NEPT 140q	ORON 215q	SATN 280q	TITN 360q
Quadruple	206.2	5.7	MARS 15	VENS 24	ATLS 31	ERTH 46	PLRS 80	PLRS 120	NEPT 160	ORON 240	TITN 320	TITN 400
	238.2	4.9	VENS 18	ATLS 27	ATLS 35	ERTH 52	PLRS 90	NEPT 130	ORON 180	SATN 270	TITN 360	TITN 440
	265.4	4.4	VENS 20	ATLS 31	ATLS 39	ERTH 58	PLRS 100	NEPT 150	ORON 190	SATN 300	TITN 400	JUPT 500
	295.7	4	VENS 22	ATLS 35	ATLS 43	ERTH 66	PLRS 105	NEPT 160	ORON 190	TITN 340	TITN 440	JUPT 550
	330.1	3.5	ATLS 24	ATLS 36	ERTH 52	ERTH 76	PLRS 120	ORON 180	SATN 240	TITN 360	JUPT 500	JUPT 600
	369.8	3.2	ATLS 27	ATLS 43	ERTH 58	PLRS 80	NEPT 140	ORON 215	SATN 270	TITN 400	JUPT 550	
	412.1	2.8	ATLS 31	ERTH 48	ERTH 60	PLRS 95	NEPT 155	ORON 240	TITN 310	JUPT 500	JUPT 550	
	459.0	2.5	ATLS 36	ERTH 52	ERTH 70	PLRS 100	ORON 180	SATN 270	TITN 360	JUPT 500		
	532.5	2.2	ATLS 39	ERTH 66	PLRS 85	NEPT 125	ORON 215	TITN 310	TITN 430	JUPT 600		
	617.9	1.9	ERTH 46	ERTH 70	PLRS 100	NEPT 140	ORON 240	TITN 360	JUPT 500			
	660.6	1.8	ERTH 54qu	PLRS 80qu	PLRS 100qu	NEPT 150qu	SATN 240qu	TITN 360qu	JUPT 500			
	741.2	1.6	ERTH 60	PLRS 95	PLRS 115	ORON 190	TITN 310	TITN 430	JUPT 550qu			
	900.3	1.3	PLRS 75qu	PLRS 105qu	NEPT 140qu	ORON 190	TITN 360qu	JUPT 500	JUPT 650			
	1057	1.1	PLRS 80qu	PLRS 120qu	ORON 190	SATN 260	TITN 400qu	JUPT 600qu				

If selection falls within shaded area, a cooling fan and shroud are required. Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

* Selections are based on 1170 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

d = double reduction
t = triple reduction
q = quadruple reduction
qu = quintuple reduction

TABLE 3

REDUCERS WITH STANDARD INPUT SHAFT*
LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size									
			30 HP 326T	40 HP 364T	50 HP 365T	60 HP 404T	75 HP 405T	100 HP 444T	125 HP 445T	150 HP	200 HP	250 HP
Single	3.53	331	VENS 10	VENS 12	VENS 14	VENS 16	ERTH 24	ERTH 30	PLRS 34	PLRS 44	SATN 60	SATN 80
	4.39	267	VENS 10	VENS 14	ATLS 20	ATLS 20	ATLS 28	ERTH 38	ERTH 44	PLRS 52	NEPT 70	SATN 90
	6.12	191	VENS 15	ATLS 22	ATLS 26	ATLS 30	ERTH 34	ERTH 46	NEPT 65	NEPT 75	SATN 100	SATN 120
Double	9.30	126	ATLS 22	ERTH 32	ERTH 38	ERTH 44	PLRS 64	NEPT 80	NEPT 100	NEPT 110		
	11.02	106	ATLS 28	ATLS 36	ERTH 48	ERTH 54	PLRS 70	NEPT 90	NEPT 110	ORON 140	SATN 180	TITN 250
	13.85	84	ATLS 34	ERTH 46	ERTH 58	ERTH 64	PLRS 85	NEPT 105	ORON 135	SATN 160	TITN 220	JUPT 300
	17.21	68	ERTH 40	ERTH 58	PLRS 75	PLRS 85	NEPT 100	ORON 140	SATN 175	TITN 200	TITN 280	
	20.41	57	ERTH 46	ERTH 64	PLRS 80	PLRS 90	NEPT 110	ORON 150	SATN 190	TITN 240	JUPT 300	JUPT 400
	24.00	49	ERTH 60	PLRS 80	NEPT 95	NEPT 115	ORON 140	SATN 195	TITN 230	TITN 310	JUPT 400	
	31.63	37	PLRS 80t	NEPT 110	NEPT 130t	NEPT 150t	SATN 200	TITN 280	TITN 320	TITN 360	JUPT 450	
Triple	36.56	32	PLRS 90	PLRS 110	NEPT 140	ORON 170	SATN 220	TITN 280	TITN 360	JUPT 400d		
	43.78	26	PLRS 105	NEPT 140	ORON 175	ORON 225	SATN 260	TITN 340	JUPT 500	JUPT 500		
	54.45	21	NEPT 130	ORON 180	SATN 240	SATN 255	TITN 320	JUPT 450	JUPT 500	JUPT 600		
	64.42	18.2	NEPT 145	ORON 205	SATN 240	TITN 300	TITN 380	JUPT 500	JUPT 600			
	69.63	16.8	ORON 180	ORON 230	SATN 280	TITN 320	TITN 400	JUPT 500	JUPT 640			
	80.01	14.6	ORON 190	SATN 240	SATN 300	TITN 390	JUPT 450	JUPT 600				
	91.41	12.8	SATN 240	JUPT 300	JUPT 350	JUPT 400	JUPT 500					
	99.38	11.8	ORON 240	TITN 300	TITN 380	JUPT 500						
	111.5	10.5	SATN 270	TITN 360	TITN 440	JUPT 500	JUPT 650					
	121.4	9.6	SATN 280q	TITN 360q	JUPT 500	JUPT 600						
	138.5	8.4	TITN 340	TITN 420								
	159.8	7.3	TITN 360q	TITN 440q	JUPT 600							
	193.1	6.1	TITN 440q									
Quadruple	206.2	5.7	JUPT 500	JUPT 650								
	238.2	4.9	JUPT 550									
	265.4	4.4	JUPT 600									
	295.7	4	JUPT 650									
	330.1	3.5										
	369.8	3.2										
	412.1	2.8										
	459.0	2.5										
	532.5	2.2										
	617.9	1.9										
	660.6	1.8										
	741.2	1.6										
	900.3	1.3										
	1057	1.1										

If selection falls within shaded area, a cooling fan and shroud are required. Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

* Selections are based on 1170 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

† Contact Rexnord for application details.

‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

t = triple reduction
q = quadruple reduction

SELECTION TABLES

1170 RPM - Service Factor = 1.75

TABLE 3

REDUCERS WITH STANDARD INPUT SHAFT*
LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

continued

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size									
			1 HP 145T	1.5 HP 182T	2 HP 184T	3 HP 213T	5 HP 215T	7.5 HP 254T	10 HP 256T	15 HP 284T	20 HP 286T	25 HP 324T
Single	3.53	331	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	MERC 4	MARS 6	MARS 8	VENS 10
	4.39	267	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	MERC 4	MARS 5	MARS 7	VENS 10	VENS 10
	6.12	191	MERC 1	MERC 1	MERC 3	MERC 3	MERC 3	MARS 5	MARS 7	VENS 11	VENS 11	VENS 15
Double	9.30	126							ATLS 14	ATLS 14	ATLS 18	ATLS 22
	11.02	106	MERC 1	MERC 3	MERC 3	MERC 3	MERC 5	MARS 8	MARS 10	VENS 15	VENS 21	ATLS 28
	13.85	84	MERC 2	MERC 2	MERC 4	MERC 4	MARS 8	MARS 10	VENS 14	VENS 20	ATLS 26	ATLS 34
	17.21	68	MERC 2	MERC 4	MERC 4	MERC 6	MARS 9	MARS 13	VENS 17	ATLS 26	ATLS 34	ATLS 38
	20.41	57	MERC 2	MERC 4	MERC 4	MERC 6	MARS 10	VENS 15	VENS 19	ATLS 26	ATLS 38	ERTH 46
	24.00	49	MERC 3	MERC 5	MERC 5	MERC 7	MARS 12	VENS 16	VENS 22	ATLS 34	ERTH 48	ERTH 54
	31.63	37	MERC 4	MERC 6	MERC 6	MARS 9	VENS 15	ATLS 24	ATLS 32	ERTH 50	ERTH 62t	PLRS 70t
Triple	36.56	32	MERC 5	MERC 7	MERC 7	MARS 11	VENS 17	ATLS 25	ATLS 33	ERTH 52	ERTH 64	PLRS 80
	43.78	26	MERC 5d	MERC 7	MARS 8d	MARS 12	VENS 20	ATLS 33	ATLS 41	ERTH 60	PLRS 85	PLRS 105
	54.45	21	MERC 6	MERC 8	MARS 11	MARS 15	ATLS 26	ATLS 38	ERTH 54	PLRS 80	PLRS 100	NEPT 130
	64.42	18.2	MERC 6	MARS 9	MARS 13	VENS 18	ATLS 30	ATLS 42	ERTH 60	PLRS 90	PLRS 120	NEPT 145
	69.63	16.8	MERC 7	MARS 11	MARS 13	VENS 20	ATLS 31	ERTH 50	ERTH 62	PLRS 95	NEPT 125	ORON 180
	80.01	14.6	MERC 8	MARS 11	MARS 15	VENS 22	ATLS 38	ERTH 56	ERTH 74	PLRS 110	NEPT 140	ORON 190
	91.41	12.8	MERC 8	MARS 13	MARS 17	ATLS 26	ERTH 42	NEPT 70	NEPT 90	NEPT 130	SATN 180	SATN 210
	99.38	11.8	MARS 9	MARS 15	VENS 17	ATLS 28	ERTH 46	ERTH 64	PLRS 85	NEPT 135	ORON 190	ORON 215
	111.5	10.5	MARS 11	MARS 15	VENS 20	ATLS 30	ERTH 50	ERTH 74	PLRS 100	NEPT 150	ORON 205	SATN 240
	121.4	9.6	MARS 11q	MARS 17q	ATLS 22q	ATLS 34q	ERTH 56q	PLRS 80q	PLRS 110q	NEPT 160q	ORON 230q	SATN 260q
	138.5	8.4	MARS 13	VENS 19	VENS 24q	ATLS 39	ERTH 64	PLRS 90	NEPT 120	ORON 190	ORON 240	TITN 300
	159.8	7.3	MARS 15	VENS 22q	ATLS 31q	ERTH 44q	ERTH 68q	PLRS 100q	NEPT 130q	ORON 215q	SATN 260q	TITN 360q
	193.1	6.1	VENS 18	ATLS 25	ATLS 33	ERTH 54	PLRS 80q	PLRS 120q	NEPT 160q	ORON 240q	TITN 320q	TITN 400q
Quadruple	206.2	5.7	MARS 17	ATLS 31	ATLS 39	ERTH 58	PLRS 90	NEPT 140	ORON 190	SATN 270	TITN 360	JUPT 450
	238.2	4.9	VENS 22	ATLS 31	ATLS 43	ERTH 64	PLRS 100	NEPT 150	ORON 205	SATN 300	TITN 400	JUPT 550
	265.4	4.4	VENS 24	ATLS 35	ERTH 46	ERTH 70	PLRS 120	ORON 190	ORON 240	TITN 360	JUPT 450	JUPT 600
	295.7	4	ATLS 27	ATLS 39	ERTH 54	PLRS 75	NEPT 130	ORON 190	SATN 250	TITN 380	JUPT 500	JUPT 650
	330.1	3.5	ATLS 28	ERTH 46	ERTH 58	PLRS 90	NEPT 140	ORON 230	SATN 300	TITN 440	JUPT 600	
	369.8	3.2	ATLS 35	ERTH 52	ERTH 64	PLRS 100	NEPT 160	ORON 240	TITN 320	JUPT 500	JUPT 650	
	412.1	2.8	ATLS 39	ERTH 54	ERTH 72	PLRS 105	ORON 190	SATN 280	TITN 350	JUPT 550	JUPT 650	
	459.0	2.5	ATLS 40	ERTH 58	PLRS 80	PLRS 120	ORON 205	SATN 300	TITN 400	JUPT 600		
	532.5	2.2	ERTH 48	ERTH 72	PLRS 95	NEPT 145	ORON 240	TITN 390	JUPT 450	JUPT 650		
	617.9	1.9	ERTH 58	PLRS 90	PLRS 110	ORON 190	SATN 270	TITN 440	JUPT 550			
	660.6	1.8	PLRS 70qu	PLRS 90qu	PLRS 120qu	ORON 190	SATN 300qu	TITN 440qu				
	741.2	1.6	ERTH 72	PLRS 105	NEPT 135	ORON 215	TITN 350	JUPT 500qu				
	900.3	1.3	PLRS 85qu	NEPT 120qu	NEPT 160qu	ORON 240	TITN 400qu	JUPT 600				
	1057	1.1	PLRS 90qu	ORON 190	ORON 190	SATN 260	TITN 440qu					

If selection falls within shaded area, a cooling fan and shroud are required. Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

* Selections are based on 1170 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

d = double reduction
t = triple reduction
q = quadruple reduction
qu = quintuple reduction

TABLE 3

REDUCERS WITH STANDARD INPUT SHAFT*
LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size									
			30 HP 326T	40 HP 364T	50 HP 365T	60 HP 404T	75 HP 405T	100 HP 444T	125 HP 445T	150 HP	200 HP	250 HP
Single	3.53	331	VENS 10	VENS 14	VENS 16	ERTH 24	ERTH 24	ERTH 36	PLRS 44	PLRS 54	SATN 80	SATN 80
	4.39	267	VENS 12	VENS 16	ATLS 20	ATLS 24	ERTH 32	ERTH 38	PLRS 52	NEPT 60	NEPT 80	SATN 110
	6.12	191	VENS 17	ATLS 22	ATLS 30	ERTH 34	ERTH 44	NEPT 55	NEPT 75	NEPT 85	SATN 120	SATN 140
Double	9.30	126	ATLS 26	ERTH 38	ERTH 44	PLRS 54	PLRS 64	NEPT 90	NEPT 110			
	11.02	106	ATLS 32	ERTH 42	ERTH 54	PLRS 60	PLRS 80	NEPT 100	ORON 125	SATN 150	TITN 210	TITN 250
	13.85	84	ATLS 38	ERTH 52	ERTH 64	PLRS 75	NEPT 95	ORON 135	SATN 160	SATN 190	TITN 260	JUPT 300
	17.21	68	ERTH 46	ERTH 64	PLRS 85	NEPT 100	NEPT 120	SATN 160	SATN 190	TITN 240	TITN 320	
	20.41	57	ERTH 52	ERTH 70	PLRS 90	NEPT 110	NEPT 130	SATN 190	TITN 240	TITN 280	JUPT 350	JUPT 450
	24.00	49	ERTH 66	PLRS 90	NEPT 115	NEPT 135	ORON 170	TITN 230	TITN 270	TITN 350	JUPT 450	
	31.63	37	NEPT 90	NEPT 120	NEPT 140t	ORON 170	TITN 280	TITN 280	TITN 360	JUPT 400		
Triple	36.56	32	PLRS 100	NEPT 130	ORON 170	ORON 200	SATN 250	TITN 320	JUPT 400d	JUPT 500d		
	43.78	26	NEPT 120	ORON 175	ORON 200	SATN 245	TITN 300	JUPT 500	JUPT 500	JUPT 600		
	54.45	21	NEPT 150	ORON 210	SATN 255	TITN 320	TITN 400	JUPT 450	JUPT 600			
	64.42	18.2	ORON 180	SATN 240	TITN 300	TITN 340	TITN 420	JUPT 600				
	69.63	16.8	ORON 205	SATN 260	TITN 320	TITN 400	JUPT 450	JUPT 600				
	80.01	14.6	ORON 220	SATN 300	TITN 350	TITN 430	JUPT 550					
	91.41	12.8	SATN 240	JUPT 350	JUPT 400	JUPT 500	JUPT 600					
	99.38	11.8	SATN 265	TITN 340	JUPT 450							
	111.5	10.5	SATN 300	TITN 400	JUPT 500	JUPT 600						
	121.4	9.6	TITN 320q	TITN 440q	JUPT 600							
	138.5	8.4	TITN 380	JUPT 500								
	159.8	7.3	TITN 400q	JUPT 550								
	193.1	6.1										
Quadruple	206.2	5.7	JUPT 550									
	238.2	4.9	JUPT 650									
	265.4	4.4										
	295.7	4										
	330.1	3.5										
	369.8	3.2										
	412.1	2.8										
	459.0	2.5										
	532.5	2.2										
	617.9	1.9										
	660.6	1.8										
	741.2	1.6										
	900.3	1.3										
	1057	1.1										

If selection falls within shaded area, a cooling fan and shroud are required. Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

* Selections are based on 1170 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

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‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

t = triple reduction
q = quadruple reduction

SELECTION TABLES

1170 RPM - Class III - Service Factor = 2.00

TABLE 3

REDUCERS WITH STANDARD INPUT SHAFT*
LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

continued

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size									
			1 HP 145T	1.5 HP 182T	2 HP 184T	3 HP 213T	5 HP 215T	7.5 HP 254T	10 HP 256T	15 HP 284T	20 HP 286T	25 HP 324T
Single	3.53	331	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	MERC 4	MARS 6	MARS 8	VENS 10
	4.39	267	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	MERC 4	MARS 5	VENS 10	VENS 10	VENS 12
	6.12	191	MERC 1	MERC 3	MERC 3	MERC 3	MARS 5	MARS 7	MARS 7	VENS 11	VENS 13	VENS 17
Double	9.30	126						ATLS 14	ATLS 14	ATLS 18	ATLS 22	ATLS 26
	11.02	106	MERC 3	MERC 3	MERC 3	MERC 5	MARS 6	MARS 8	VENS 13	VENS 17	ATLS 24	ATLS 32
	13.85	84	MERC 2	MERC 4	MERC 4	MERC 6	MARS 8	MARS 12	VENS 14	VENS 22	ATLS 30	ATLS 38
	17.21	68	MERC 2	MERC 4	MERC 4	MERC 6	MARS 9	VENS 15	VENS 19	ATLS 30	ATLS 38	ERTH 46
	20.41	57	MERC 4	MERC 4	MERC 6	MARS 8	MARS 12	VENS 15	VENS 21	ATLS 30	ERTH 40	ERTH 52
	24.00	49	MERC 3	MERC 5	MERC 5	MARS 8	MARS 14	VENS 20	ATLS 26	ATLS 38	ERTH 54	ERTH 66
	31.63	37	MERC 4	MERC 6	MARS 7	MARS 11	VENS 17	ATLS 28	ATLS 34t	ERTH 56	ERTH 66t	PLRS 80t
Triple	36.56	32	MERC 5	MERC 7	MARS 9	MARS 13	VENS 19	ATLS 29	ATLS 37	ERTH 58	PLRS 80	PLRS 100
	43.78	26	MERC 5d	MERC 7	MARS 10d	MARS 14	VENS 24	ATLS 37	ERTH 48	ERTH 72	PLRS 95	PLRS 115
	54.45	21	MERC 6	MERC 8	MARS 11	MARS 17	ATLS 30	ERTH 48	ERTH 60	PLRS 90	PLRS 120	NEPT 150
	64.42	18.2	MERC 8	MARS 11	MARS 15	VENS 20	ATLS 34	ERTH 48	ERTH 66	PLRS 100	NEPT 135	ORON 180
	69.63	16.8	MERC 7	MARS 11	MARS 15	VENS 22	ATLS 35	ERTH 56	PLRS 75	PLRS 105	NEPT 145	ORON 180
	80.01	14.6	MARS 9	MARS 13	MARS 17	VENS 24	ATLS 42	ERTH 62	PLRS 80	PLRS 120	NEPT 160	ORON 205
	91.41	12.8	MARS 11	MARS 15	ATLS 22	ATLS 30	ERTH 48	NEPT 80	NEPT 100	SATN 180	SATN 210	SATN 240
	99.38	11.8	MARS 11	VENS 17	VENS 21	ATLS 32	ERTH 52	PLRS 75	PLRS 105	ORON 190	ORON 215	SATN 250
	111.5	10.5	MARS 13	VENS 18	VENS 22	ATLS 34	ERTH 56	PLRS 90	PLRS 110	ORON 190	ORON 220	SATN 300
	121.4	9.6	MARS 13q	ATLS 22q	ATLS 26q	ATLS 38q	ERTH 62q	PLRS 90q	PLRS 120q	ORON 180q	SATN 260q	SATN 300q
	138.5	8.4	MARS 15	VENS 21	ATLS 31	ATLS 43q	ERTH 70	PLRS 110	NEPT 140	ORON 215	SATN 280	TITN 340
	159.8	7.3	MARS 17	ATLS 27	ATLS 35	ERTH 44q	ERTH 74q	PLRS 110q	NEPT 150q	ORON 240q	SATN 300q	TITN 400q
	193.1	6.1	VENS 20	ATLS 29	ERTH 42	ERTH 60	PLRS 100q	NEPT 140q	ORON 190q	SATN 280q	TITN 400q	JUPT 500
Quadruple	206.2	5.7	VENS 22	ATLS 31	ATLS 43	ERTH 64	PLRS 110	NEPT 160	ORON 215	TITN 320	TITN 440	JUPT 550
	238.2	4.9	VENS 24	ATLS 35	ERTH 46	ERTH 70	PLRS 120	ORON 180	ORON 230	TITN 360	JUPT 550	JUPT 600
	265.4	4.4	ATLS 27	ATLS 39	ERTH 52	ERTH 76	NEPT 130	ORON 190	SATN 270	TITN 400	JUPT 550	JUPT 650
	295.7	4	ATLS 31	ERTH 48	ERTH 60	PLRS 85	NEPT 140	ORON 215	SATN 280	TITN 420	JUPT 600	
	330.1	3.5	ATLS 32	ERTH 52	ERTH 64	PLRS 100	NEPT 160	SATN 240	TITN 320	JUPT 500	JUPT 650	
	369.8	3.2	ATLS 39	ERTH 58	ERTH 76	PLRS 110	ORON 190	SATN 270	TITN 360	JUPT 550		
	412.1	2.8	ATLS 43	ERTH 60	PLRS 85	NEPT 125	ORON 215	TITN 310	TITN 390	JUPT 550		
	459.0	2.5	ERTH 46	ERTH 70	PLRS 90	NEPT 140	ORON 230	TITN 360	TITN 440			
	532.5	2.2	ERTH 60	PLRS 85	PLRS 115	ORON 190	SATN 280	TITN 430	JUPT 500			
	617.9	1.9	ERTH 64	PLRS 100	NEPT 130	ORON 190	TITN 320	JUPT 500	JUPT 650			
	660.6	1.8	PLRS 70qu	PLRS 100qu	NEPT 130qu	ORON 215	TITN 320qu	JUPT 500				
	741.2	1.6	PLRS 85	PLRS 115	NEPT 155	SATN 250	TITN 390	JUPT 550qu				
	900.3	1.3	PLRS 95qu	NEPT 140qu	ORON 190	SATN 270qu	TITN 440qu	JUPT 650				
	1057	1.1	PLRS 100qu	ORON 190	ORON 215	SATN 300	JUPT 550qu					

If selection falls within shaded area, a cooling fan and shroud are required. Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

* Selections are based on 1170 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

d = double reduction
t = triple reduction
q = quadruple reduction
qu = quintuple reduction

TABLE 3

REDUCERS WITH STANDARD INPUT SHAFT*
LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size									
			30 HP 326T	40 HP 364T	50 HP 365T	60 HP 404T	75 HP 405T	100 HP 444T	125 HP 445T	150 HP	200 HP	250 HP
Single	3.53	331	VENS 12	VENS 14	ERTH 18	ERTH 24	ERTH 30	ERTH 36	PLRS 44	PLRS 54	SATN 80	SATN 100
	4.39	267	VENS 14	ATLS 20	ATLS 24	ATLS 28	ERTH 38	ERTH 44	NEPT 60	NEPT 70	SATN 90	SATN 110
	6.12	191	ATLS 22	ATLS 26	ERTH 34	ERTH 40	ERTH 46	NEPT 65	NEPT 85	SATN 100	SATN 140	
Double	9.30	126	ERTH 32	ERTH 44	ERTH 50	PLRS 64	NEPT 80	NEPT 100				
	11.02	106	ATLS 36	ERTH 48	ERTH 60	PLRS 70	NEPT 90	ORON 125	SATN 150	SATN 180	TITN 250	
	13.85	84	ERTH 46	ERTH 58	PLRS 75	PLRS 85	NEPT 105	ORON 150	SATN 175	TITN 220	JUPT 300	JUPT 330
	17.21	68	ERTH 58	PLRS 75	NEPT 90	NEPT 110	ORON 140	SATN 175	TITN 240	TITN 280		
	20.41	57	ERTH 64	PLRS 80	PLRS 100	NEPT 120	ORON 150	SATN 210	TITN 280	JUPT 300	JUPT 400	
	24.00	49	PLRS 80	NEPT 105	NEPT 125	ORON 155	SATN 195	TITN 270	TITN 310	JUPT 400		
	31.63	37	NEPT 110	NEPT 130t	ORON 170	SATN 220	TITN 280	TITN 320	JUPT 400	JUPT 450		
Triple	36.56	32	PLRS 110	NEPT 150	ORON 185	SATN 220	TITN 280	JUPT 400d	JUPT 450d			
	43.78	26	NEPT 140	ORON 200	SATN 230	TITN 300	TITN 340	JUPT 500	JUPT 550			
	54.45	21	ORON 180	SATN 240	TITN 320	TITN 360	JUPT 450	JUPT 550				
	64.42	18.2	ORON 205	SATN 255	TITN 340	TITN 380	JUPT 500	JUPT 650				
	69.63	16.8	ORON 230	SATN 280	TITN 360	JUPT 450	JUPT 500					
	80.01	14.6	SATN 240	TITN 350	TITN 430	JUPT 500	JUPT 600					
	91.41	12.8	JUPT 300	JUPT 400	JUPT 450	JUPT 550						
	99.38	11.8	TITN 300	TITN 420								
	111.5	10.5	TITN 360	TITN 440	JUPT 550							
	121.4	9.6	TITN 360q	JUPT 550	JUPT 650							
	138.5	8.4	TITN 420									
	159.8	7.3	TITN 440q	JUPT 650								
	193.1	6.1										
Quadruple	206.2	5.7	JUPT 650									
	238.2	4.9										
	265.4	4.4										
	295.7	4										
	330.1	3.5										
	369.8	3.2										
	412.1	2.8										
	459.0	2.5										
	532.5	2.2										
	617.9	1.9										
	660.6	1.8										
	741.2	1.6										
	900.3	1.3										
	1057	1.1										

If selection falls within shaded area, a cooling fan and shroud are required. Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

* Selections are based on 1170 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

† Contact Rexnord for application details.

‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

d = double reduction
t = triple reduction
q = quadruple reduction

SELECTION TABLES

870 RPM - Class I - Service Factor = 1.00

TABLE 3

REDUCERS WITH STANDARD INPUT SHAFT*
LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

continued

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size									
			1 HP 182T	1.5 HP 184T	2 HP 213T	3 HP 215T	5 HP 254T	7.5 HP 256T	10 HP 284T	15 HP 286TT	20 HP 324T	25 HP 326T
Single	3.53	246	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	MERC 4	MARS 6	MARS 8
	4.39	198	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	MERC 4	MARS 5	MARS 7	VENS 10
	6.12	142	MERC 1	MERC 1	MERC 1	MERC 3	MERC 3	MARS 5	MARS 5	MARS 7	VENS 11	VENS 11
Double	9.30	94								ATLS 14	ATLS 14	ATLS 18
	11.02	79	MERC 1	MERC 3	MERC 3	MERC 3	MERC 5	MARS 6	MARS 8	VENS 13	VENS 17	VENS 19
	13.85	63	MERC 2	MERC 2	MERC 2	MERC 4	MERC 6	MARS 8	MARS 10	VENS 16	VENS 20	ATLS 26
	17.21	51	MERC 2	MERC 2	MERC 4	MERC 4	MARS 7	MARS 11	MARS 13	VENS 19	ATLS 26	ATLS 30
	20.41	43	MERC 2	MERC 4	MERC 4	MERC 6	MARS 8	MARS 12	VENS 15	VENS 21	ATLS 30	ATLS 34
	24.00	36	MERC 3	MERC 3	MERC 5	MERC 7	MARS 10	MARS 14	VENS 18	ATLS 26	ATLS 34	ERTH 42
	31.63	28	MERC 4	MERC 4	MERC 6	MARS 7	MARS 11	VENS 19	ATLS 24	ATLS 34t	ERTH 50	ERTH 60t
Triple	36.56	24	MERC 3	MERC 5	MERC 7	MARS 9	MARS 13	VENS 19	ATLS 25	ATLS 37	ERTH 52	ERTH 64
	43.78	20	MERC 3d	MERC 5d	MERC 7	MARS 10d	MARS 16	VENS 24	ATLS 33	ERTH 48	ERTH 66	PLRS 85
	54.45	16	MERC 4	MERC 6	MERC 8	MARS 11	VENS 20	ATLS 30	ATLS 38	ERTH 60	PLRS 80	PLRS 100
	64.42	13.5	MERC 6	MERC 8	MARS 9	MARS 15	VENS 22	ATLS 34	ERTH 48	ERTH 66	PLRS 90	PLRS 110
	69.63	12.5	MERC 5	MARS 9	MARS 11	MARS 15	ATLS 27	ATLS 39	ERTH 50	PLRS 75	PLRS 95	NEPT 125
	80.01	10.9	MERC 6	MERC 9	MARS 11	MARS 17	ATLS 30	ATLS 42	ERTH 56	PLRS 80	PLRS 110	NEPT 140
	91.41	9.5	MERC 8	MARS 11	MARS 13	ATLS 22	ATLS 34	ERTH 48	NEPT 70	NEPT 100	NEPT 130	SATN 180
	99.38	8.8	MERC 7	MARS 11	MARS 15	VENS 21	ATLS 36	ERTH 52	ERTH 70	PLRS 105	NEPT 135	ORON 190
	111.5	7.8	MERC 8	MARS 13	MARS 17	VENS 24	ATLS 38	ERTH 56	ERTH 74	PLRS 120	NEPT 150	ORON 190
	121.4	7.2	MARS 9q	MARS 13q	MARS 17q	ATLS 26q	ERTH 44q	ERTH 62q	PLRS 80q	PLRS 120q	NEPT 160q	ORON 205q
	138.5	6.3	MARS 11	MARS 15	VENS 19	ATLS 31	ERTH 46	ERTH 70	PLRS 100	NEPT 140	ORON 190	ORON 240
	159.8	5.4	MARS 11	MARS 17	VENS 24	ATLS 35	ERTH 50q	ERTH 74q	PLRS 100q	NEPT 150q	ORON 215q	SATN 260q
	193.1	4.5	MARS 15	VENS 20	ATLS 29	ERTH 42	ERTH 64q	PLRS 100q	NEPT 130	ORON 190q	SATN 260q	TITN 320q
Quadruple	206.2	4.2	MARS 13	VENS 22	ATLS 31	ATLS 43	ERTH 70	PLRS 110	NEPT 140	ORON 215	SATN 300	TITN 360
	238.2	3.7	MARS 17	VENS 24	ATLS 35	ERTH 46	ERTH 76	PLRS 120	NEPT 160	ORON 230	TITN 320	TITN 400
	265.4	3.3	VENS 18	ATLS 27	ATLS 35	ERTH 52	PLRS 90	NEPT 130	ORON 190	SATN 270	TITN 360	TITN 440
	295.7	2.9	VENS 20	ATLS 31	ATLS 39	ERTH 60	PLRS 95	NEPT 150	ORON 190	TITN 300	TITN 380	JUPT 500
	330.1	2.6	VENS 23	ATLS 32	ERTH 46	ERTH 64	PLRS 110	NEPT 160	ORON 230	TITN 320	TITN 440	JUPT 550
	369.8	2.4	VENS 24	ATLS 39	ERTH 52	ERTH 76	PLRS 120	ORON 190	ORON 240	TITN 360	JUPT 500	JUPT 600
	412.1	2.1	ATLS 27	ATLS 43	ERTH 54	PLRS 85	NEPT 135	ORON 215	SATN 280	TITN 430	JUPT 500	JUPT 650
	459.0	1.9	ATLS 32	ERTH 46	ERTH 64	PLRS 90	NEPT 150	ORON 230	SATN 300	JUPT 450	JUPT 600	
	532.5	1.6	ATLS 35	ERTH 60	PLRS 75	PLRS 115	ORON 190	SATN 280	TITN 390	JUPT 500		
	617.9	1.4	ERTH 46	ERTH 64	PLRS 90	NEPT 130	ORON 215	TITN 320	TITN 440	JUPT 650		
	660.6	1.3	ERTH 48qu	PLRS 70qu	PLRS 90qu	NEPT 130qu	ORON 240	TITN 320qu	TITN 440qu			
	741.2	1.2	ERTH 54	PLRS 85	PLRS 105	NEPT 155	SATN 280	TITN 390	JUPT 500qu			
	900.3	0.97	PLRS 65qu	PLRS 95qu	NEPT 120qu	ORON 190	SATN 300qu	TITN 440qu	JUPT 600			
	1057	0.82	PLRS 70qu	PLRS 100qu	SATN 170	ORON 215	TITN 360qu	JUPT 550qu				

If selection falls within shaded area, a cooling fan and shroud are required. Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

* Selections are based on 870 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

d = double reduction
t = triple reduction
q = quadruple reduction
qu = quintuple reduction

TABLE 3

REDUCERS WITH STANDARD INPUT SHAFT*
LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size																	
			30 HP 364T		40 HP 365T		50 HP 404T		60 HP 405T		75 HP 444T		100 HP 445T		125 HP		150 HP		200 HP		250 HP	
Single	3.53	246	MARS	8	VENS	10	VENS	12	VENS	16	ERTH	18	ERTH	24	ERTH	30	ERTH	36	PLRS	54	NEPT	65
	4.39	198	VENS	10	VENS	12	VENS	16	ATLS	20	ATLS	24	ERTH	32	ERTH	38	ERTH	44	NEPT	60	NEPT	80
	6.12	142	VENS	13	VENS	17	ATLS	22	ATLS	26	ERTH	34	ERTH	46	NEPT	55	NEPT	65	NEPT	85	SATN	120
Double	9.30	94	ATLS	22	ERTH	32	ERTH	38	ERTH	44	ERTH	50	NEPT	70	NEPT	90	NEPT	100				
	11.02	79	ATLS	24	ATLS	32	ERTH	42	ERTH	48	ERTH	60	PLRS	80	NEPT	100	ORON	125	SATN	165	TITN	210
	13.85	63	ATLS	30	ATLS	38	ERTH	52	ERTH	58	PLRS	75	NEPT	95	ORON	120	ORON	150	SATN	190	TITN	260
	17.21	51	ATLS	38	ERTH	52	ERTH	64	PLRS	75	NEPT	90	NEPT	120	ORON	150	SATN	175	TITN	240	TITN	320
	20.41	43	ERTH	40	ERTH	58	ERTH	70	PLRS	80	PLRS	100	ORON	140	SATN	170	SATN	210	TITN	280	JUPT	350
	24.00	36	ERTH	54	ERTH	66	PLRS	90	NEPT	105	NEPT	125	ORON	170	SATN	210	TITN	270	TITN	350	JUPT	450
	31.63	28	ERTH	66t	NEPT	100	NEPT	120	NEPT	130t	ORON	170	TITN	280	TITN	280	TITN	320	JUPT	400	JUPT	500
Triple	36.56	24	PLRS	80	PLRS	100	NEPT	130	NEPT	150	ORON	185	SATN	250	TITN	320	JUPT	400d	JUPT	500d		
	43.78	20	PLRS	95	NEPT	130	ORON	175	ORON	200	SATN	230	TITN	340	JUPT	500	JUPT	550	JUPT	600		
	54.45	16	PLRS	120	ORON	180	ORON	195	SATN	240	TITN	320	TITN	400	JUPT	450	JUPT	550				
	64.42	13.5	NEPT	135	ORON	180	ORON	230	SATN	255	TITN	340	JUPT	450	JUPT	550	JUPT	650				
	69.63	12.5	NEPT	145	ORON	205	SATN	240	TITN	320	TITN	360	JUPT	450	JUPT	550						
	80.01	10.9	NEPT	160	ORON	220	SATN	270	TITN	350	TITN	430	JUPT	550								
	91.41	9.5	SATN	210	SATN	240	JUPT	300	JUPT	400	JUPT	450	JUPT	600								
	99.38	8.8	ORON	215	SATN	265	TITN	340	TITN	420												
	111.5	7.8	SATN	240	SATN	300	TITN	400	JUPT	450	JUPT	600										
	121.4	7.2	SATN	260q	TITN	320q	TITN	400q	JUPT	550	JUPT	650										
	138.5	6.3	SATN	280	TITN	380	JUPT	500														
	159.8	5.4	SATN	300q	TITN	400q	JUPT	550	JUPT	650												
	193.1	4.5	TITN	400q																		
Quadruple	206.2	4.2	TITN	440	JUPT	600																
	238.2	3.7	JUPT	550	JUPT	650																
	265.4	3.3	JUPT	550																		
	295.7	2.9	JUPT	600																		
	330.1	2.6	JUPT	650																		
	369.8	2.4																				
	412.1	2.1																				
	459.0	1.9																				
	532.5	1.6																				
	617.9	1.4																				
	660.6	1.3																				
	741.2	1.2																				
	900.3	0.97																				
	1057	0.82																				

If selection falls within shaded area, a cooling fan and shroud are required. Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

* Selections are based on 870 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

† Contact Rexnord for application details.

‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

d = double reduction
t = triple reduction
q = quadruple reduction

SELECTION TABLES

870 RPM - Service Factor = 1.25

TABLE 3

REDUCERS WITH STANDARD INPUT SHAFT*
LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

continued

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size									
			1 HP 182T	1.5 HP 184T	2 HP 213T	3 HP 215T	5 HP 254T	7.5 HP 256T	10 HP 284T	15 HP 286T	20 HP 324T	25 HP 326T
Single	3.53	246	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	MERC 4	MARS 6	MARS 8	VENS 10
	4.39	198	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	MERC 4	MARS 5	MARS 7	VENS 10	VENS 10
	6.12	142	MERC 1	MERC 1	MERC 3	MERC 3	MERC 3	MARS 5	MARS 7	VENS 11	VENS 11	VENS 13
Double	9.30	94							ATLS 14	ATLS 14	ATLS 18	ATLS 22
	11.02	79	MERC 1	MERC 3	MERC 3	MERC 3	MERC 5	MARS 8	MARS 10	VENS 15	VENS 19	ATLS 24
	13.85	63	MERC 2	MERC 2	MERC 4	MERC 4	MARS 8	MARS 10	VENS 14	VENS 18	ATLS 26	ATLS 30
	17.21	51	MERC 2	MERC 4	MERC 4	MERC 6	MARS 9	MARS 13	VENS 15	ATLS 22	ATLS 30	ATLS 38
	20.41	43	MERC 2	MERC 4	MERC 4	MERC 6	MARS 10	VENS 15	VENS 17	ATLS 26	ATLS 34	ERTH 46
	24.00	36	MERC 3	MERC 5	MERC 5	MERC 7	MARS 12	VENS 16	VENS 22	ATLS 34	ERTH 42	ERTH 54
	31.63	28	MERC 4	MERC 4	MERC 6	MARS 9	VENS 15	ATLS 24	ATLS 32	ERTH 44	ERTH 60t	ERTH 66t
Triple	36.56	24	MERC 5	MERC 5	MERC 7	MARS 11	VENS 17	VENS 23	ATLS 33	ERTH 52	ERTH 64	PLRS 80
	43.78	20	MERC 5d	MERC 7	MARS 8d	MARS 12	VENS 20	ATLS 29	ATLS 41	ERTH 60	PLRS 85	PLRS 105
	54.45	16	MERC 6	MERC 8	MARS 9	MARS 15	VENS 24	ATLS 38	ERTH 48	ERTH 72	PLRS 100	PLRS 120
	64.42	13.5	MERC 6	MARS 9	MARS 13	MARS 17	ATLS 30	ATLS 42	ERTH 54	PLRS 80	PLRS 110	NEPT 135
	69.63	12.5	MERC 7	MARS 9	MARS 13	VENS 18	ATLS 31	ERTH 44	ERTH 62	PLRS 95	NEPT 125	ORON 180
	80.01	10.9	MERC 8	MARS 11	MARS 15	VENS 20	ATLS 34	ERTH 50	ERTH 68	PLRS 100	NEPT 140	ORON 190
	91.41	9.5	MERC 8	MARS 13	MARS 17	ATLS 26	ERTH 42	NEPT 60	NEPT 80	NEPT 120	SATN 180	SATN 210
	99.38	8.8	MARS 9	MARS 13	VENS 17	ATLS 28	ERTH 46	ERTH 64	PLRS 85	NEPT 125	ORON 190	ORON 215
	111.5	7.8	MARS 11	MARS 15	VENS 20	ATLS 30	ERTH 50	ERTH 74	PLRS 100	NEPT 140	ORON 190	SATN 240
	121.4	7.2	MARS 11q	MARS 17q	ATLS 22q	ATLS 30q	ERTH 50q	PLRS 80q	PLRS 100q	NEPT 150q	ORON 205q	SATN 260q
	138.5	6.3	MARS 13	VENS 19	VENS 23	ATLS 35	ERTH 58	PLRS 90	NEPT 120	ORON 190	ORON 240	TITN 300
	159.8	5.4	MARS 15	VENS 22q	ATLS 31q	ATLS 43q	ERTH 62q	PLRS 100q	NEPT 130q	ORON 190q	SATN 260q	TITN 320q
	193.1	4.5	VENS 16	ATLS 25	ATLS 33	ERTH 48	ERTH 76q	PLRS 120q	NEPT 160q	ORON 240q	TITN 320q	TITN 400q
Quadruple	206.2	4.2	MARS 17	ATLS 27	ATLS 35	ERTH 52	PLRS 90	NEPT 130	ORON 190	SATN 270	TITN 360	TITN 440
	238.2	3.7	VENS 20	ATLS 31	ATLS 39	ERTH 58	PLRS 100	NEPT 150	ORON 205	SATN 300	TITN 400	JUPT 550
	265.4	3.3	VENS 22	ATLS 35	ATLS 43	ERTH 64	PLRS 110	NEPT 160	ORON 215	JUPT 320	TITN 440	JUPT 550
	295.7	2.9	ATLS 27	ATLS 39	ERTH 48	ERTH 72	NEPT 120	ORON 190	ORON 240	TITN 380	JUPT 500	JUPT 600
	330.1	2.6	ATLS 28	ATLS 40	ERTH 58	PLRS 80	NEPT 140	ORON 205	SATN 270	TITN 400	JUPT 550	
	369.8	2.4	ATLS 31	ERTH 46	ERTH 64	PLRS 90	NEPT 150	ORON 240	SATN 300	JUPT 450	JUPT 600	
	412.1	2.1	ATLS 35	ERTH 54	ERTH 66	PLRS 105	ORON 190	SATN 250	TITN 350	JUPT 500	JUPT 650	
	459.0	1.9	ATLS 40	ERTH 58	ERTH 76	PLRS 120	ORON 205	SATN 300	TITN 400	JUPT 600		
	532.5	1.6	ATLS 43	ERTH 72	PLRS 95	NEPT 145	ORON 240	TITN 350	JUPT 450	JUPT 650		
	617.9	1.4	ERTH 52	PLRS 80	PLRS 110	NEPT 160	SATN 270	TITN 400	JUPT 550			
	660.6	1.3	ERTH 54qu	PLRS 90qu	PLRS 110qu	ORON 190	SATN 270qu	TITN 400qu	JUPT 550			
	741.2	1.2	ERTH 66	PLRS 105	NEPT 135	ORON 190	TITN 350	JUPT 450qu				
	900.3	0.97	PLRS 75qu	PLRS 115qu	NEPT 150qu	ORON 215	TITN 400qu	JUPT 550				
	1057	0.82	PLRS 90qu	SATN 140	ORON 190	SATN 260	TITN 440qu	JUPT 650qu				

If selection falls within shaded area, a cooling fan and shroud are required. Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

* Selections are based on 870 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

d = double reduction
t = triple reduction
q = quadruple reduction
qu = quintuple reduction

SELECTION TABLES

870 RPM - Service Factor = 1.25

TABLE 3

REDUCERS WITH STANDARD INPUT SHAFT*
LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size									
			30 HP 364T	40 HP 365T	50 HP 404T	60 HP 405T	75 HP 444T	100 HP 445T	125 HP	150 HP	200 HP	250 HP
Single	3.53	246	VENS 10	VENS 12	VENS 16	ERTH 18	ERTH 24	ERTH 30	ERTH 42	PLRS 44	NEPT 65	NEPT 75
	4.39	198	VENS 12	VENS 16	ATLS 20	ATLS 24	ATLS 28	ERTH 38	PLRS 52	NEPT 60	NEPT 80	ORON 110
	6.12	142	VENS 17	ATLS 22	ATLS 26	ERTH 34	ERTH 40	NEPT 55	NEPT 65	NEPT 85	SATN 120	SATN 140
Double	9.30	94	ATLS 26	ERTH 38	ERTH 44	ERTH 50	PLRS 64	NEPT 90	NEPT 110			
	11.02	79	ATLS 32	ERTH 42	ERTH 48	ERTH 60	PLRS 80	NEPT 100	ORON 125	SATN 150	TITN 210	TITN 250
	13.85	63	ATLS 38	ERTH 52	ERTH 64	PLRS 75	NEPT 95	ORON 120	ORON 150	SATN 190	TITN 260	JUPT 300
	17.21	51	ERTH 46	ERTH 64	PLRS 75	NEPT 90	NEPT 110	ORON 150	SATN 190	TITN 240	TITN 320	
	20.41	43	ERTH 52	ERTH 70	PLRS 90	PLRS 100	NEPT 130	SATN 170	SATN 210	TITN 280	JUPT 350	JUPT 450
	24.00	36	ERTH 66	PLRS 90	NEPT 105	NEPT 125	ORON 155	SATN 210	TITN 270	TITN 310	JUPT 450	
	31.63	28	PLRS 80t	NEPT 120	NEPT 140t	ORON 170	SATN 220	TITN 280	TITN 360	JUPT 400	JUPT 500	
Triple	36.56	24	PLRS 100	NEPT 130	ORON 170	ORON 185	SATN 235	TITN 320	JUPT 400d	JUPT 450d		
	43.78	20	PLRS 115	ORON 175	ORON 200	SATN 230	TITN 300	JUPT 500	JUPT 500	JUPT 550		
	54.45	16	NEPT 150	ORON 195	SATN 240	TITN 320	TITN 360	JUPT 450	JUPT 550			
	64.42	13.5	ORON 180	ORON 230	SATN 270	TITN 340	TITN 420	JUPT 550				
	69.63	12.5	ORON 180	SATN 240	TITN 320	TITN 360	JUPT 450	JUPT 550				
	80.01	10.9	ORON 205	SATN 270	TITN 350	TITN 430	JUPT 500					
	91.41	9.5	SATN 240	JUPT 300	JUPT 400	JUPT 450	JUPT 600					
	99.38	8.8	SATN 250	TITN 340	TITN 420							
	111.5	7.8	SATN 300	TITN 400	JUPT 500	JUPT 600						
	121.4	7.2	SATN 300q	TITN 400q	JUPT 550	JUPT 650						
	138.5	6.3	TITN 380	JUPT 500								
	159.8	5.4	TITN 400q	JUPT 550	JUPT 650							
	193.1	4.5	JUPT 500									
Quadruple	206.2	4.2	JUPT 550									
	238.2	3.7	JUPT 600									
	265.4	3.3	JUPT 650									
	295.7	2.9										
	330.1	2.6										
	369.8	2.4										
	412.1	2.1										
	459.0	1.9										
	532.5	1.6										
	617.9	1.4										
	660.6	1.3										
	741.2	1.2										
	900.3	0.97										
	1057	0.82										

If selection falls within shaded area, a cooling fan and shroud are required. Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

* Selections are based on 870 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

† Contact Rexnord for application details.

‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

t = triple reduction
q = quadruple reduction

SELECTION TABLES

870 RPM - Class II - Service Factor = 1.40

TABLE 3

REDUCERS WITH STANDARD INPUT SHAFT*
LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

continued

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size									
			1 HP 182T	1.5 HP 184T	2 HP 213T	3 HP 215T	5 HP 254T	7.5 HP 256T	10 HP 284T	15 HP 286T	20 HP 324T	25 HP 326T
Single	3.53	246	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	MERC 4	MARS 6	MARS 8	VENS 10
	4.39	198	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	MERC 4	MARS 5	MARS 7	VENS 10	VENS 12
	6.12	142	MERC 1	MERC 1	MERC 3	MERC 3	MARS 5	MARS 5	MARS 7	VENS 11	VENS 13	VENS 15
Double	9.30	94							ATLS 14	ATLS 14	ATLS 22	ATLS 26
	11.02	79	MERC 1	MERC 3	MERC 3	MERC 3	MERC 5	MARS 8	MARS 10	VENS 17	ATLS 24	ATLS 28
	13.85	63	MERC 2	MERC 4	MERC 4	MERC 6	MARS 8	MARS 12	VENS 14	VENS 20	ATLS 30	ATLS 34
	17.21	51	MERC 2	MERC 4	MERC 4	MERC 6	MARS 9	MARS 13	VENS 17	ATLS 26	ATLS 34	ERTH 46
	20.41	43	MERC 4	MERC 4	MERC 6	MARS 8	MARS 12	VENS 15	VENS 19	ATLS 30	ATLS 38	ERTH 46
	24.00	36	MERC 3	MERC 5	MERC 5	MARS 8	MARS 12	VENS 18	ATLS 26	ATLS 38	ERTH 48	ERTH 60
	31.63	28	MERC 4	MERC 6	MERC 6	MARS 9	VENS 17	ATLS 24	ATLS 32	ERTH 50	ERTH 60t	PLRS 80t
Triple	36.56	24	MERC 5	MERC 7	MARS 9	MARS 11	VENS 19	ATLS 29	ATLS 37	ERTH 52	ERTH 70	PLRS 90
	43.78	20	MERC 5d	MERC 7	MARS 10d	MARS 14	VENS 22	ATLS 33	ERTH 48	ERTH 66	PLRS 95	PLRS 115
	54.45	16	MERC 6	MERC 8	MARS 11	MARS 15	ATLS 30	ATLS 42	ERTH 54	PLRS 80	PLRS 110	NEPT 140
	64.42	13.5	MERC 8	MARS 11	MARS 13	VENS 18	ATLS 30	ERTH 48	ERTH 60	PLRS 90	PLRS 120	NEPT 155
	69.63	12.5	MERC 7	MARS 11	MARS 15	VENS 20	ATLS 35	ERTH 50	ERTH 68	PLRS 105	NEPT 135	ORON 180
	80.01	10.9	MERC 8	MARS 13	MARS 17	VENS 24	ATLS 38	ERTH 56	ERTH 74	PLRS 120	NEPT 150	ORON 190
	91.41	9.5	MARS 9	MARS 13	ATLS 22	ATLS 30	ERTH 48	NEPT 70	NEPT 90	SATN 180	SATN 180	SATN 240
	99.38	8.8	MARS 11	MARS 15	VENS 19	ATLS 28	ERTH 46	ERTH 70	PLRS 95	NEPT 145	ORON 190	ORON 240
	111.5	7.8	MARS 11	MARS 17	VENS 22	ATLS 34	ERTH 56	PLRS 80	PLRS 110	NEPT 160	ORON 205	SATN 270
	121.4	7.2	MARS 13	MARS 17	ATLS 22q	ATLS 34q	ERTH 56	PLRS 90	PLRS 120	ORON 180q	ORON 230q	SATN 300q
	138.5	6.3	MARS 15	VENS 21	ATLS 27	ATLS 39	ERTH 64	PLRS 100	NEPT 130	ORON 215	SATN 265	TITN 340
	159.8	5.4	MARS 15	VENS 24q	ATLS 35q	ERTH 44q	ERTH 74q	PLRS 110q	NEPT 140q	ORON 215q	SATN 280q	TITN 360q
	193.1	4.5	VENS 18	ATLS 29	ERTH 36	ERTH 54	PLRS 90q	NEPT 140q	ORON 190q	SATN 260q	TITN 360q	TITN 440q
Quadruple	206.2	4.2	VENS 20	ATLS 31	ATLS 39	ERTH 58	PLRS 100	NEPT 150	ORON 215	SATN 300	TITN 400	JUPT 500
	238.2	3.7	VENS 22	ATLS 35	ERTH 46	ERTH 64	PLRS 110	NEPT 160	ORON 230	TITN 320	TITN 440	JUPT 600
	265.4	3.3	ATLS 27	ATLS 39	ERTH 52	ERTH 76	PLRS 120	ORON 190	ORON 240	TITN 360	JUPT 500	JUPT 600
	295.7	2.9	ATLS 31	ATLS 43	ERTH 54	PLRS 85	NEPT 140	ORON 215	SATN 280	TITN 420	JUPT 550	
	330.1	2.6	ATLS 32	ERTH 46	ERTH 64	PLRS 90	NEPT 150	ORON 230	SATN 300	TITN 450	JUPT 600	
	369.8	2.4	ATLS 35	ERTH 52	ERTH 70	PLRS 100	ORON 190	SATN 270	TITN 360	JUPT 500		
	412.1	2.1	ATLS 39	ERTH 60	PLRS 75	PLRS 115	ORON 190	SATN 280	TITN 390	JUPT 550		
	459.0	1.9	ERTH 46	ERTH 64	PLRS 90	NEPT 130	ORON 215	TITN 320	TITN 440	JUPT 650		
	532.5	1.6	ERTH 54	PLRS 85	PLRS 105	NEPT 155	SATN 280	TITN 390	JUPT 500			
	617.9	1.4	ERTH 58	PLRS 90	PLRS 120	ORON 190	SATN 300	TITN 440	JUPT 600			
	660.6	1.3	PLRS 70qu	PLRS 100qu	NEPT 130qu	ORON 190	SATN 300qu	JUPT 500				
	741.2	1.2	ERTH 72	PLRS 115	NEPT 145	ORON 215	TITN 390	JUPT 500qu				
	900.3	0.97	PLRS 85qu	NEPT 130qu	SATN 180qu	ORON 240	TITN 440qu	JUPT 650				
	1057	0.82	PLRS 100qu	ORON 190	ORON 190	SATN 280	JUPT 500qu					

If selection falls within shaded area, a cooling fan and shroud are required. Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

* Selections are based on 870 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

d = double reduction
t = triple reduction
q = quadruple reduction
qu = quintuple reduction

TABLE 3

REDUCERS WITH STANDARD INPUT SHAFT*
LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size									
			30 HP 364T	40 HP 365T	50 HP 404T	60 HP 405T	75 HP 444T	100 HP 445T	125 HP	150 HP	200 HP	250 HP
Single	3.53	246	VENS 10	VENS 14	ERTH 18	ERTH 24	ERTH 30	ERTH 36	ERTH 42	PLRS 54	NEPT 75	ORON 85
	4.39	198	VENS 14	ATLS 20	ATLS 24	ATLS 28	ERTH 32	ERTH 44	PLRS 52	NEPT 70	ORON 90	ORON 105
	6.12	142	ATLS 18	ATLS 26	ATLS 30	ERTH 40	ERTH 46	NEPT 65	NEPT 75	SATN 100	SATN 120	
Double	9.30	94	ERTH 32	ERTH 38	ERTH 50	PLRS 64	NEPT 70	NEPT 100				
	11.02	79	ATLS 32	ERTH 48	ERTH 54	PLRS 70	PLRS 80	NEPT 110	ORON 140	SATN 165	TITN 250	
	13.85	63	ERTH 40	ERTH 58	PLRS 75	PLRS 85	NEPT 105	ORON 135	SATN 175	TITN 220	JUPT 300	JUPT 330
	17.21	51	ERTH 52	PLRS 75	PLRS 85	NEPT 100	ORON 130	SATN 175	TITN 240	TITN 280		
	20.41	43	ERTH 58	PLRS 80	PLRS 100	NEPT 120	ORON 140	SATN 190	TITN 240	TITN 280	JUPT 400	
	24.00	36	PLRS 70	NEPT 95	NEPT 115	ORON 140	SATN 180	TITN 230	TITN 310	TITN 350		
	31.63	28	NEPT 100	NEPT 130t	NEPT 150t	SATN 200	TITN 280	TITN 320	JUPT 400	JUPT 450		
Triple	36.56	24	PLRS 110	NEPT 140	ORON 185	SATN 220	TITN 280	TITN 360	JUPT 450d	JUPT 500d		
	43.78	20	NEPT 130	ORON 175	ORON 225	SATN 260	TITN 340	JUPT 500	JUPT 550	JUPT 600		
	54.45	16	ORON 180	SATN 240	SATN 270	TITN 320	TITN 400	JUPT 500				
	64.42	13.5	ORON 180	SATN 240	TITN 300	TITN 380	JUPT 450	JUPT 600				
	69.63	12.5	ORON 205	SATN 280	TITN 360	TITN 400	JUPT 500	JUPT 640				
	80.01	10.9	SATN 240	SATN 300	TITN 390	JUPT 450	JUPT 600					
	91.41	9.5	SATN 260	JUPT 350	JUPT 450	JUPT 500	JUPT 650					
	99.38	8.8	SATN 280	TITN 380	JUPT 500							
	111.5	7.8	TITN 320	TITN 440	JUPT 550	JUPT 650						
	121.4	7.2	TITN 360q	JUPT 500	JUPT 600							
	138.5	6.3	TITN 420									
	159.8	5.4	TITN 440q	JUPT 600								
	193.1	4.5										
Quadruple	206.2	4.2	JUPT 600									
	238.2	3.7										
	265.4	3.3										
	295.7	2.9										
	330.1	2.6										
	369.8	2.4										
	412.1	2.1										
	459.0	1.9										
	532.5	1.6										
	617.9	1.4										
	660.6	1.3										
	741.2	1.2										
	900.3	0.97										
	1057	0.82										

If selection falls within shaded area, a cooling fan and shroud are required. Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

* Selections are based on 870 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

† Contact Rexnord for application details.

‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

d = double reduction
t = triple reduction
q = quadruple reduction

SELECTION TABLES

870 RPM - Service Factor = 1.50

TABLE 3

REDUCERS WITH STANDARD INPUT SHAFT*
LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

continued

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size									
			1 HP 182T	1.5 HP 184T	2 HP 213T	3 HP 215T	5 HP 254T	7.5 HP 256T	10 HP 284T	15 HP 286T	20 HP 324T	25 HP 326T
Single	3.53	246	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	MERC 4	MARS 6	MARS 8	VENS 10
	4.39	198	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	MERC 4	MARS 5	VENS 10	VENS 10	VENS 12
	6.12	142	MERC 1	MERC 3	MERC 3	MERC 3	MARS 5	MARS 7	MARS 7	VENS 11	VENS 13	VENS 17
Double	9.30	94						ATLS 14	ATLS 14	ATLS 18	ATLS 22	ATLS 26
	11.02	79	MERC 3	MERC 3	MERC 3	MERC 5	MARS 6	MARS 8	VENS 13	VENS 19	ATLS 24	ATLS 32
	13.85	63	MERC 2	MERC 4	MERC 4	MERC 6	MARS 8	MARS 12	VENS 16	VENS 22	ATLS 30	ATLS 38
	17.21	51	MERC 2	MERC 4	MERC 4	MERC 6	MARS 11	VENS 15	VENS 19	ATLS 30	ATLS 38	ERTH 46
	20.41	43	MERC 4	MERC 4	MERC 6	MARS 8	MARS 12	VENS 15	VENS 21	ATLS 30	ERTH 40	ERTH 52
	24.00	36	MERC 3	MERC 5	MERC 7	MARS 8	MARS 14	VENS 20	ATLS 26	ATLS 38	ERTH 54	ERTH 66
	31.63	28	MERC 4	MERC 6	MARS 7	MARS 11	VENS 19	ATLS 28	ATLS 34t	ERTH 56	ERTH 66t	PLRS 80t
Triple	36.56	24	MERC 5	MERC 7	MARS 9	MARS 13	VENS 19	ATLS 29	ATLS 37	ERTH 58	PLRS 80	PLRS 100
	43.78	20	MERC 5d	MERC 7	MARS 10d	MARS 14	VENS 24	ATLS 37	ERTH 48	ERTH 72	PLRS 95	PLRS 115
	54.45	16	MERC 6	MERC 8	MARS 11	MARS 17	ATLS 30	ERTH 48	ERTH 60	PLRS 90	PLRS 120	NEPT 150
	64.42	13.5	MERC 8	MARS 11	MARS 15	VENS 20	ATLS 34	ERTH 48	ERTH 66	PLRS 100	NEPT 135	ORON 180
	69.63	12.5	MERC 7	MARS 11	MARS 15	VENS 22	ATLS 39	ERTH 56	PLRS 75	PLRS 105	NEPT 145	ORON 180
	80.01	10.9	MARS 9	MARS 13	MARS 17	VENS 24	ATLS 42	ERTH 62	PLRS 80	PLRS 120	NEPT 160	ORON 205
	91.41	9.5	MARS 11	MARS 15	ATLS 22	ATLS 30	ERTH 48	NEPT 80	NEPT 100	SATN 180	SATN 210	SATN 240
	99.38	8.8	MARS 11	VENS 17	VENS 21	ATLS 32	ERTH 52	PLRS 75	PLRS 105	ORON 190	ORON 215	SATN 250
	111.5	7.8	MARS 13	VENS 18	VENS 24	ATLS 34	ERTH 56	PLRS 90	PLRS 120	ORON 190	SATN 240	SATN 300
	121.4	7.2	MARS 13	ATLS 22q	ATLS 26q	ATLS 38q	ERTH 62q	PLRS 90q	PLRS 120q	ORON 180q	SATN 240q	SATN 300q
	138.5	6.3	MARS 15	VENS 21	ATLS 31	ATLS 43q	ERTH 70	PLRS 110	NEPT 140	ORON 215	SATN 280	TITN 380
	159.8	5.4	MARS 17	ATLS 27q	ATLS 35q	ERTH 50q	ERTH 74q	PLRS 120q	NEPT 150q	ORON 240q	SATN 300q	TITN 400q
	193.1	4.5	VENS 20	ATLS 29	ERTH 42	ERTH 60	PLRS 100q	NEPT 140q	ORON 190q	SATN 280q	TITN 400q	JUPT 500
Quadruple	206.2	4.2	VENS 22	ATLS 35	ATLS 43	ERTH 64	PLRS 110	NEPT 160	ORON 215	TITN 320	TITN 440	JUPT 550
	238.2	3.7	VENS 24	ATLS 39	ERTH 46	ERTH 70	PLRS 120	ORON 180	ORON 230	TITN 360	JUPT 550	JUPT 600
	265.4	3.3	ATLS 27	ATLS 39	ERTH 52	PLRS 80	NEPT 130	ORON 190	SATN 270	TITN 400	JUPT 550	JUPT 650
	295.7	2.9	ATLS 31	ERTH 48	ERTH 60	PLRS 85	NEPT 150	ORON 215	TITN 300	JUPT 450	JUPT 600	
	330.1	2.6	ATLS 32	ERTH 52	ERTH 64	PLRS 100	NEPT 160	SATN 240	TITN 320	JUPT 500	JUPT 650	
	369.8	2.4	ATLS 39	ERTH 58	ERTH 76	PLRS 110	ORON 190	SATN 270	TITN 360	JUPT 550		
	412.1	2.1	ATLS 43	ERTH 60	PLRS 85	NEPT 125	ORON 215	TITN 310	TITN 430	JUPT 550		
	459.0	1.9	ERTH 46	ERTH 70	PLRS 90	NEPT 140	ORON 230	TITN 360	JUPT 450			
	532.5	1.6	ERTH 60	PLRS 85	PLRS 115	ORON 190	SATN 280	TITN 430	JUPT 500			
	617.9	1.4	ERTH 64	PLRS 100	NEPT 130	ORON 190	TITN 320	JUPT 500	JUPT 650			
	660.6	1.3	PLRS 70qu	PLRS 100qu	NEPT 130qu	ORON 215	TITN 320q	JUPT 500				
	741.2	1.2	PLRS 85	PLRS 115	NEPT 155	ORON 240	TITN 390	JUPT 550qu				
	900.3	0.97	PLRS 95qu	NEPT 140qu	ORON 190	SATN 270qu	TITN 440qu	JUPT 650				
	1057	0.82	PLRS 100qu	ORON 190	ORON 215	SATN 300	JUPT 550qu					

If selection falls within shaded area, a cooling fan and shroud are required. Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

* Selections are based on 870 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

d = double reduction
t = triple reduction
q = quadruple reduction
qu = quintuple reduction

TABLE 3

REDUCERS WITH STANDARD INPUT SHAFT*
LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size									
			30 HP 364T	40 HP 365T	50 HP 404T	60 HP 405T	75 HP 444T	100 HP 445T	125 HP	150 HP	200 HP	250 HP
Single	3.53	246	VENS 12	VENS 16	ERTH 18	ERTH 24	ERTH 30	ERTH 36	PLRS 44	PLRS 54	NEPT 75	ORON 100
	4.39	198	VENS 14	ATLS 20	ATLS 24	ATLS 28	ERTH 38	ERTH 44	NEPT 60	NEPT 70	ORON 90	SATN 110
	6.12	142	ATLS 22	ATLS 26	ERTH 34	ERTH 40	ERTH 46	NEPT 65	NEPT 85	SATN 100	SATN 140	
Double	9.30	94	ERTH 32	ERTH 44	ERTH 50	PLRS 64	NEPT 80	NEPT 100				
	11.02	79	ATLS 36	ERTH 48	ERTH 60	PLRS 70	NEPT 90	ORON 125	SATN 150	SATN 180	TITN 250	
	13.85	63	ERTH 46	ERTH 58	PLRS 75	PLRS 85	NEPT 115	ORON 150	SATN 190	TITN 220	JUPT 300	
	17.21	51	ERTH 58	PLRS 75	NEPT 90	NEPT 110	ORON 140	SATN 175	TITN 240	TITN 280		
	20.41	43	ERTH 64	PLRS 80	PLRS 100	NEPT 120	ORON 150	SATN 210	TITN 280	JUPT 300	JUPT 400	
	24.00	36	PLRS 80	NEPT 105	NEPT 125	ORON 155	SATN 195	TITN 270	TITN 310	JUPT 400		
	31.63	28	NEPT 110	NEPT 130t	ORON 170	SATN 220	TITN 280	TITN 320	JUPT 400	JUPT 450		
Triple	36.56	24	NEPT 120	NEPT 150	ORON 185	SATN 235	TITN 280	JUPT 400d	JUPT 450d			
	43.78	20	NEPT 140	ORON 200	SATN 230	TITN 300	TITN 380	JUPT 500	JUPT 550			
	54.45	16	ORON 180	SATN 240	TITN 320	TITN 360	JUPT 450	JUPT 550				
	64.42	13.5	ORON 205	SATN 255	TITN 340	TITN 420	JUPT 500	JUPT 650				
	69.63	12.5	ORON 230	TITN 320	TITN 360	JUPT 450	JUPT 500					
	80.01	10.9	SATN 240	TITN 350	TITN 430	JUPT 500	JUPT 600					
	91.41	9.5	JUPT 300	JUPT 400	JUPT 450	JUPT 550						
	99.38	8.8	TITN 300	TITN 420								
	111.5	7.8	TITN 360	TITN 440	JUPT 600							
	121.4	7.2	TITN 360q	JUPT 550	JUPT 650							
	138.5	6.3	TITN 420									
	159.8	5.4	JUPT 500	JUPT 650								
	193.1	4.5										
Quadruple	206.2	4.2	JUPT 650									
	238.2	3.7										
	265.4	3.3										
	295.7	2.9										
	330.1	2.6										
	369.8	2.4										
	412.1	2.1										
	459.0	1.9										
	532.5	1.6										
	617.9	1.4										
	660.6	1.3										
	741.2	1.2										
	900.3	0.97										
	1057	0.82										

If selection falls within shaded area, a cooling fan and shroud are required. Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

* Selections are based on 870 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

† Contact Rexnord for application details.

‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

t = triple reduction
q = quadruple reduction

SELECTION TABLES

870 RPM - Service Factor = 1.75

TABLE 3

REDUCERS WITH STANDARD INPUT SHAFT*
LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

continued

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size									
			1 HP 182T	1.5 HP 184T	2 HP 213T	3 HP 215T	5 HP 254T	7.5 HP 256T	10 HP 284T	15 HP 286T	20 HP 324T	25 HP 326T
Single	3.53	246	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	MERC 4	MARS 6	MARS 8	VENS 10	VENS 12
	4.39	198	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	MARS 5	MARS 7	VENS 10	VENS 12	VENS 14
	6.12	142	MERC 1	MERC 3	MERC 3	MERC 3	MARS 5	MARS 7	VENS 11	VENS 11	VENS 15	ATLS 18
Double	9.30	94						ATLS 14	ATLS 14	ATLS 18	ATLS 26	ERTH 32
	11.02	79	MERC 3	MERC 3	MERC 3	MERC 5	MARS 8	MARS 10	VENS 15	VENS 21	ATLS 28	ATLS 36
	13.85	63	MERC 2	MERC 4	MERC 4	MERC 6	MARS 10	VENS 14	VENS 18	ATLS 26	ATLS 34	ERTH 46
	17.21	51	MERC 4	MERC 4	MERC 6	MARS 7	MARS 11	VENS 17	VENS 21	ATLS 34	ERTH 46	ERTH 52
	20.41	43	MERC 4	MERC 4	MERC 6	MARS 8	VENS 15	VENS 19	VENS 23	ATLS 38	ERTH 46	ERTH 58
	24.00	36	MERC 3	MERC 5	MERC 7	MARS 10	VENS 16	VENS 22	ATLS 30	ERTH 48	ERTH 60	PLRS 80
	31.63	28	MERC 4	MERC 6	MARS 9	MARS 11	ATLS 20	ATLS 32	ATLS 38t	ERTH 60t	PLRS 80t	NEPT 100
Triple	36.56	24	MERC 5	MERC 7	MARS 11	MARS 15	VENS 23	ATLS 33	ERTH 46	ERTH 70	PLRS 90	PLRS 110
	43.78	20	MERC 7	MARS 8d	MARS 12	MARS 16	ATLS 29	ATLS 41	ERTH 54	PLRS 85	PLRS 115	NEPT 140
	54.45	16	MERC 8	MARS 11	MARS 13	VENS 20	ATLS 34	ERTH 54	ERTH 72	PLRS 100	NEPT 140	ORON 180
	64.42	13.5	MERC 8	MARS 13	MARS 17	VENS 24	ATLS 38	ERTH 60	PLRS 80	PLRS 120	NEPT 155	ORON 205
	69.63	12.5	MARS 9	MARS 13	MARS 17	ATLS 27	ERTH 44	ERTH 62	PLRS 85	NEPT 125	ORON 180	ORON 205
	80.01	10.9	MARS 11	MARS 15	VENS 20	ATLS 30	ERTH 50	ERTH 74	PLRS 100	NEPT 140	ORON 190	SATN 240
	91.41	9.5	MARS 11	MARS 17	ATLS 26	ATLS 34	NEPT 60	NEPT 90	NEPT 120	SATN 180	SATN 240	JUPT 300
	99.38	8.8	MARS 13	VENS 19	VENS 23	ATLS 36	ERTH 58	PLRS 95	NEPT 115	ORON 190	ORON 240	TITN 300
	111.5	7.8	MARS 15	VENS 20	ATLS 26	ATLS 42	ERTH 68	PLRS 100	NEPT 130	ORON 205	SATN 270	TITN 360
	121.4	7.2	MARS 15	ATLS 22q	ATLS 30q	ERTH 44q	ERTH 74q	PLRS 110q	NEPT 140q	ORON 230q	SATN 300q	TITN 360q
	138.5	6.3	VENS 17	VENS 24q	ATLS 35	ERTH 52	PLRS 80	NEPT 120	ORON 190	ORON 240	TITN 340	TITN 420
	159.8	5.4	VENS 20q	ATLS 31q	ATLS 43q	ERTH 56q	PLRS 90q	NEPT 130q	ORON 190q	SATN 260q	TITN 360q	TITN 440q
	193.1	4.5	ATLS 25	ERTH 36	ERTH 48	ERTH 70q	PLRS 110q	ORON 190q	ORON 215q	TITN 360q	TITN 440q	
Quadruple	206.2	4.2	ATLS 27	ATLS 39	ERTH 52	ERTH 76	PLRS 120	ORON 190	SATN 270	TITN 400	JUPT 500	JUPT 650
	238.2	3.7	ATLS 31	ATLS 43	ERTH 58	PLRS 80	NEPT 140	ORON 205	SATN 270	TITN 400	JUPT 600	
	265.4	3.3	ATLS 31	ERTH 46	ERTH 64	PLRS 90	NEPT 150	ORON 240	SATN 300	JUPT 450	JUPT 600	
	295.7	2.9	ATLS 35	ERTH 54	ERTH 66	PLRS 105	ORON 190	SATN 250	TITN 340	JUPT 550		
	330.1	2.6	ATLS 40	ERTH 58	ERTH 76	PLRS 120	ORON 205	SATN 300	TITN 400	JUPT 600		
	369.8	2.4	ATLS 43	ERTH 64	PLRS 90	NEPT 130	ORON 215	TITN 320	TITN 440	JUPT 650		
	412.1	2.1	ERTH 48	ERTH 72	PLRS 95	NEPT 145	ORON 240	TITN 350	JUPT 500	JUPT 650		
	459.0	1.9	ERTH 52	PLRS 80	PLRS 110	NEPT 160	SATN 270	TITN 400	JUPT 550			
	532.5	1.6	ERTH 66	PLRS 105	NEPT 135	ORON 190	TITN 350	JUPT 450	JUPT 600			
	617.9	1.4	ERTH 76	PLRS 110	NEPT 150	ORON 215	TITN 360	JUPT 550				
	660.6	1.3	PLRS 80qu	PLRS 120qu	NEPT 150qu	ORON 240	TITN 400qu					
	741.2	1.2	PLRS 95	NEPT 135	ORON 190	SATN 280	JUPT 450qu					
	900.3	0.97	PLRS 105qu	NEPT 160	ORON 215	TITN 320qu	JUPT 550					
	1057	0.82	PLRS 120qu	ORON 190	ORON 240	TITN 360qu	JUPT 600qu					

If selection falls within shaded area, a cooling fan and shroud are required. Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

* Selections are based on 870 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

d = double reduction
t = triple reduction
q = quadruple reduction
qu = quintuple reduction

TABLE 3

REDUCERS WITH STANDARD INPUT SHAFT*
LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size									
			30 HP 364T	40 HP 365T	50 HP 404T	60 HP 405T	75 HP 444T	100 HP 445T	125 HP	150 HP	200 HP	250 HP
Single	3.53	246	VENS 14	ERTH 18	ERTH 24	ERTH 30	ERTH 36	ERTH 42	PLRS 54	NEPT 65	ORON 85	SATN 120
	4.39	198	VENS 16	ATLS 24	ATLS 28	ERTH 32	ERTH 44	PLRS 52	NEPT 70	NEPT 80	ORON 105	SATN 130
	6.12	142	ATLS 22	ATLS 30	ERTH 40	ERTH 46	NEPT 55	NEPT 75	SATN 100	SATN 120		
Double	9.30	94	ERTH 38	ERTH 50	PLRS 64	NEPT 70	NEPT 90					
	11.02	79	ERTH 42	ERTH 54	PLRS 70	PLRS 80	NEPT 100	ORON 140	SATN 180	TITN 210		
	13.85	63	ERTH 52	PLRS 75	PLRS 85	NEPT 105	ORON 135	SATN 175	TITN 220	TITN 260	JUPT 330	
	17.21	51	ERTH 64	PLRS 85	NEPT 110	ORON 130	SATN 160	TITN 240	TITN 280	TITN 320		
	20.41	43	ERTH 70	PLRS 100	NEPT 120	ORON 140	SATN 190	TITN 240	JUPT 300	JUPT 350		
	24.00	36	PLRS 90	NEPT 115	ORON 155	SATN 180	TITN 230	TITN 310	JUPT 400	JUPT 450		
	31.63	28	NEPT 120	NEPT 150t	SATN 200	TITN 280	TITN 280	JUPT 400	JUPT 450			
Triple	36.56	24	NEPT 130	ORON 185	SATN 220	TITN 280	TITN 360	JUPT 450d				
	43.78	20	ORON 175	ORON 225	TITN 300	TITN 340	JUPT 500	JUPT 500				
	54.45	16	ORON 210	SATN 270	TITN 360	TITN 400	JUPT 500	JUPT 600				
	64.42	13.5	ORON 230	TITN 300	TITN 380	JUPT 450	JUPT 600					
	69.63	12.5	SATN 260	TITN 360	JUPT 450	JUPT 500	JUPT 600					
	80.01	10.9	SATN 300	TITN 390	JUPT 500	JUPT 600						
	91.41	9.5	JUPT 350	JUPT 450	JUPT 550	JUPT 650						
	99.38	8.8	TITN 380	JUPT 500								
	111.5	7.8	TITN 400	JUPT 550	JUPT 650							
	121.4	7.2	TITN 440	JUPT 600								
	138.5	6.3	JUPT 500									
	159.8	5.4	JUPT 550									
	193.1	4.5										
Quadruple	206.2	4.2										
	238.2	3.7										
	265.4	3.3										
	295.7	2.9										
	330.1	2.6										
	369.8	2.4										
	412.1	2.1										
	459.0	1.9										
	532.5	1.6										
	617.9	1.4										
	660.6	1.3										
	741.2	1.2										
	900.3	0.97										
	1057	0.82										

If selection falls within shaded area, a cooling fan and shroud are required. Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

* Selections are based on 870 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

† Contact Rexnord for application details.

‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

t = triple reduction
q = quadruple reduction

SELECTION TABLES

870 RPM - Class III - Service Factor = 2.00

TABLE 3

REDUCERS WITH STANDARD INPUT SHAFT*
LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

continued

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size									
			1 HP 182T	1.5 HP 184T	2 HP 213T	3 HP 215T	5 HP 254T	7.5 HP 256T	10 HP 284T	15 HP 286T	20 HP 324T	25 HP 326T
Single	3.53	246	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	MERC 4	MARS 6	MARS 8	VENS 10	VENS 12
	4.39	198	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	MARS 5	MARS 7	VENS 10	VENS 12	VENS 16
	6.12	142	MERC 1	MERC 3	MERC 3	MERC 3	MARS 5	MARS 7	VENS 11	VENS 13	VENS 17	ATLS 22
Double	9.30	94						ATLS 14	ATLS 14	ATLS 22	ERTH 32	ERTH 38
	11.02	79	MERC 3	MERC 3	MERC 3	MERC 5	MARS 8	VENS 13	VENS 17	ATLS 24	ATLS 32	ERTH 42
	13.85	63	MERC 2	MERC 4	MERC 4	MERC 6	MARS 10	VENS 16	VENS 20	ATLS 30	ATLS 38	ERTH 52
	17.21	51	MERC 4	MERC 4	MERC 6	MARS 9	MARS 13	VENS 19	ATLS 26	ATLS 38	ERTH 52	ERTH 64
	20.41	43	MERC 4	MERC 6	MERC 6	MARS 10	VENS 15	VENS 21	ATLS 30	ERTH 40	ERTH 58	ERTH 70
	24.00	36	MERC 5	MERC 7	MERC 7	MARS 12	VENS 18	ATLS 26	ATLS 34	ERTH 54	ERTH 66	PLRS 90
	31.63	28	MERC 6	MARS 7	MARS 9	MARS 13	ATLS 24	ATLS 34t	ERTH 50	ERTH 66t	NEPT 100	NEPT 120
Triple	36.56	24	MERC 7	MARS 9	MARS 11	VENS 17	ATLS 25	ATLS 37	ERTH 52	PLRS 80	PLRS 100	NEPT 130
	43.78	20	MERC 7	MARS 10d	MARS 14	VENS 20	ATLS 33	ERTH 48	ERTH 66	PLRS 95	NEPT 130	ORON 175
	54.45	16	MERC 8	MARS 11	MARS 15	VENS 24	ATLS 38	ERTH 60	PLRS 80	PLRS 120	ORON 180	ORON 195
	64.42	13.5	MARS 9	MARS 15	VENS 18	ATLS 26	ERTH 48	ERTH 66	PLRS 90	NEPT 135	ORON 180	ORON 230
	69.63	12.5	MARS 11	MARS 15	VENS 20	ATLS 31	ERTH 50	PLRS 75	PLRS 95	NEPT 145	ORON 205	SATN 240
	80.01	10.9	MARS 11	MARS 17	VENS 22	ATLS 34	ERTH 56	PLRS 80	PLRS 110	NEPT 160	ORON 220	SATN 270
	91.41	9.5	MARS 13	ATLS 22	ATLS 26	ATLS 38	NEPT 70	NEPT 100	NEPT 130	SATN 210	SATN 260	JUPT 300
	99.38	8.8	MARS 15	VENS 21	ATLS 28	ATLS 40	ERTH 70	PLRS 105	NEPT 135	ORON 215	SATN 265	TITN 340
	111.5	7.8	MARS 17	VENS 24	ATLS 30	ERTH 50	ERTH 74	PLRS 120	NEPT 150	SATN 240	SATN 300	TITN 400
	121.4	7.2	MARS 17	ATLS 26q	ATLS 34q	ERTH 50q	PLRS 80q	PLRS 120q	NEPT 160q	SATN 240q	TITN 320q	TITN 400q
	138.5	6.3	VENS 19	ATLS 31	ATLS 39	ERTH 58	PLRS 100	NEPT 140	ORON 190	SATN 280	TITN 380	JUPT 500
	159.8	5.4	VENS 24q	ATLS 35q	ERTH 44q	ERTH 62q	PLRS 100q	NEPT 150q	ORON 215q	SATN 300q	TITN 400q	JUPT 550
	193.1	4.5	ATLS 29	ERTH 42	ERTH 54	ERTH 76q	NEPT 130	ORON 215q	SATN 260q	TITN 400q		
Quadruple	206.2	4.2	ATLS 31	ATLS 43	ERTH 58	PLRS 90	NEPT 140	ORON 215	SATN 300	TITN 440	JUPT 600	
	238.2	3.7	ATLS 35	ERTH 46	ERTH 64	PLRS 100	NEPT 160	ORON 230	TITN 320	JUPT 550	JUPT 650	
	265.4	3.3	ATLS 35	ERTH 52	ERTH 70	PLRS 110	ORON 190	SATN 270	TITN 360	JUPT 550		
	295.7	2.9	ATLS 39	ERTH 60	PLRS 85	PLRS 115	ORON 190	TITN 300	TITN 380	JUPT 600		
	330.1	2.6	ERTH 46	ERTH 64	PLRS 90	NEPT 130	ORON 230	TITN 320	TITN 440	JUPT 650		
	369.8	2.4	ERTH 52	ERTH 76	PLRS 100	NEPT 150	ORON 240	TITN 360	JUPT 500			
	412.1	2.1	ERTH 54	PLRS 85	PLRS 105	ORON 190	SATN 280	TITN 430	JUPT 500			
	459.0	1.9	ERTH 64	PLRS 90	PLRS 120	ORON 180	SATN 300	JUPT 450	JUPT 600			
	532.5	1.6	PLRS 75	PLRS 115	NEPT 155	ORON 240	TITN 390	JUPT 500				
	617.9	1.4	PLRS 90	NEPT 130	ORON 190	SATN 270	TITN 440	JUPT 650				
	660.6	1.3	PLRS 90qu	NEPT 130qu	ORON 190	SATN 270qu	TITN 440qu					
	741.2	1.2	PLRS 105	NEPT 155	ORON 215	TITN 310	JUPT 500qu					
	900.3	0.97	NEPT 120qu	ORON 190	ORON 240	TITN 360qu	JUPT 600					
	1057	0.82	ORON 190	ORON 215	SATN 280	TITN 400qu						

If selection falls within shaded area, a cooling fan and shroud are required. Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

* Selections are based on 870 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

d = double reduction
t = triple reduction
q = quadruple reduction
qu = quintuple reduction

TABLE 3

REDUCERS WITH STANDARD INPUT SHAFT*
LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size									
			30 HP 364T	40 HP 365T	50 HP 404T	60 HP 405T	75 HP 444T	100 HP 445T	125 HP	150 HP	200 HP	250 HP
Single	3.53	246	VENS 16	ERTH 24	ERTH 24	ERTH 30	ERTH 36	PLRS 54	NEPT 65	NEPT 75	ORON 100	SATN 120
	4.39	198	ATLS 20	ATLS 24	ERTH 32	ERTH 38	ERTH 44	NEPT 60	NEPT 80	ORON 90	SATN 130	
	6.12	142	ATLS 26	ERTH 34	ERTH 46	NEPT 55	NEPT 65	NEPT 85	SATN 120	SATN 140		
Double	9.30	94	ERTH 44	PLRS 54	NEPT 70	NEPT 80	NEPT 100					
	11.02	79	ERTH 48	PLRS 70	PLRS 80	NEPT 100	ORON 125	SATN 165	TITN 210	TITN 250		
	13.85	63	ERTH 58	PLRS 85	NEPT 95	NEPT 115	ORON 150	SATN 190	TITN 260	JUPT 300		
	17.21	51	PLRS 75	NEPT 100	NEPT 120	ORON 140	SATN 175	TITN 240	TITN 320			
	20.41	43	PLRS 80	NEPT 110	ORON 140	ORON 160	SATN 210	TITN 280	JUPT 350	JUPT 400		
	24.00	36	NEPT 105	NEPT 135	ORON 170	SATN 210	TITN 270	TITN 350	JUPT 450			
	31.63	28	NEPT 130t	ORON 170	TITN 280	TITN 280	TITN 320	JUPT 400	JUPT 500			
Triple	36.56	24	NEPT 150	ORON 200	SATN 250	TITN 320	JUPT 400d	JUPT 500d				
	43.78	20	ORON 200	SATN 245	TITN 340	TITN 380	JUPT 500	JUPT 600				
	54.45	16	SATN 240	TITN 320	TITN 400	JUPT 450	JUPT 550					
	64.42	13.5	SATN 255	TITN 340	JUPT 450	JUPT 550	JUPT 650					
	69.63	12.5	TITN 320	TITN 400	JUPT 450	JUPT 550						
	80.01	10.9	TITN 350	TITN 430	JUPT 550	JUPT 650						
	91.41	9.5	JUPT 400	JUPT 500	JUPT 600							
	99.38	8.8	TITN 420									
	111.5	7.8	JUPT 450	JUPT 600								
	121.4	7.2	JUPT 550									
	138.5	6.3										
	159.8	5.4	JUPT 650									
	193.1	4.5										
Quadruple	206.2	4.2										
	238.2	3.7										
	265.4	3.3										
	295.7	2.9										
	330.1	2.6										
	369.8	2.4										
	412.1	2.1										
	459.0	1.9										
	532.5	1.6										
	617.9	1.4										
	660.6	1.3										
	741.2	1.2										
	900.3	0.97										
	1057	0.82										

If selection falls within shaded area, a cooling fan and shroud are required. Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

* Selections are based on 870 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

† Contact Rexnord for application details.

‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

d = double reduction
t = triple reduction
q = quadruple reduction

C-FACE SELECTION TABLES

1750 RPM - Class I - Service Factor = 1.00

TABLE 4

LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size									
			1 HP 143TC	1.5 HP 145TC	2 HP 145TC	3 HP 182TC	5 HP 184TC	7.5 HP 213TC	10 HP 215TC	15 HP 254TC	20 HP 256TC	25 HP 284TC	30 HP 286TC
Single	3.53	496	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	VENS 10	VENS 10	VENS 10	VENS 10
	4.39	399	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	VENS 10	VENS 10	VENS 10	VENS 10
	6.12	286	MERC 1	MERC 1	MERC 1	MERC 1	MERC 3	MERC 3	MERC 3	VENS 11	VENS 11	VENS 11	VENS 11
Double	9.30	188											ATLS 14
	11.02	159	MERC 1	MERC 1	MERC 1	MERC 3	MERC 3	MERC 3	MERC 5	VENS 13	VENS 13	VENS 13	VENS 13
	13.85	126	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	MERC 4	MERC 6	VENS 14	VENS 14	VENS 14	VENS 16
	17.21	102	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	MERC 6	MERC 6	VENS 15	VENS 15	VENS 15	VENS 19
	20.41	86	MERC 2	MERC 2	MERC 2	MERC 4	MERC 4	MERC 6	MARS 8	VENS 15	VENS 15	VENS 17	VENS 21
	24.00	73	MERC 1	MERC 3	MERC 3	MERC 3	MERC 5	MERC 7	MARS 10	VENS 16	VENS 18	VENS 22	ATLS 26
	31.63	55	MERC 2	MERC 2	MERC 4	MERC 4	MERC 6	MARS 9	MARS 11	VENS 17	ATLS 24	ATLS 32	ATLS 34t
Triple	36.56	48	MERC 3	MERC 3	MERC 3	MERC 5	MERC 7	MARS 11	MARS 13	VENS 19	ATLS 25	ATLS 33	ATLS 37
	43.78	40	MERC 3d	MERC 3d	MERC 3d	MERC 5d	MARS 8d	MARS 12	MARS 16	VENS 24	ATLS 33	ATLS 41	ERTH 48
	54.45	32	MERC 2	MERC 4	MERC 4	MERC 6	MARS 9	MARS 15	VENS 20	ATLS 30	ATLS 38	ERTH 48	ERTH 60
	64.42	27	MERC 4	MERC 4	MERC 6	MERC 8	MARS 11	MARS 17	VENS 22	ATLS 34	ERTH 48	ERTH 54	ERTH 66
	69.63	25	MERC 3	MERC 5	MERC 5	MERC 7	MARS 13	VENS 18	ATLS 27	ATLS 35	ERTH 50	ERTH 62	PLRS 75
	80.01	22	MERC 4	MERC 6	MERC 6	MARS 9	MARS 15	VENS 20	ATLS 30	ATLS 42	ERTH 56	ERTH 68	PLRS 80
	91.41	19.1	MERC 4	MERC 6	MERC 8	MARS 11	MARS 17	ATLS 26	ATLS 34	ERTH 48			
	99.38	17.6	MERC 5	MERC 7	MERC 7	MARS 11	VENS 17	ATLS 28	ATLS 36	ERTH 52	ERTH 70	PLRS 85	PLRS 105
	111.5	15.7	MERC 4	MERC 6	MERC 8	MARS 13	VENS 20	ATLS 30	ATLS 38	ERTH 56	ERTH 74	PLRS 100	PLRS 110
	121.4	14.4	MERC 5q	MERC 7q	MARS 9q	MARS 13q	ATLS 22q	ATLS 30q	ERTH 44q	ERTH 62q	PLRS 80q	PLRS 100q	PLRS 120q
	138.5	12.6	MERC 5	MARS 9	MARS 11	MARS 15	VENS 23	ATLS 35	ERTH 46	ERTH 70	PLRS 100		
	159.8	11.0	MERC 6	MERC 8	MARS 11	MARS 17	ATLS 31q	ATLS 43q	ERTH 50q	ERTH 74q	PLRS 100q	NEPT 130q	
	193.1	9.1	MERC 7	MARS 11	MARS 15	VENS 20	ATLS 33	ERTH 48	ERTH 64q	PLRS 100q	NEPT 140q	NEPT 160q	ORON 190q
Quadruple	206.2	8.5	MERC 8	MARS 11	MARS 13	VENS 22	ATLS 35	ERTH 52	ERTH 70	PLRS 110	NEPT 140	ORON 190	ORON 215
	238.2	7.3	MARS 9	MARS 13	MARS 17	VENS 24	ATLS 39	ERTH 58	ERTH 76	PLRS 120	NEPT 160	ORON 205	ORON 230
	265.4	6.6	MARS 10t	MARS 13	VENS 18	ATLS 27	ATLS 43	ERTH 64	PLRS 90	NEPT 130	ORON 190	ORON 215	
	295.7	5.9	MARS 11	MARS 15	VENS 20	ATLS 31	ERTH 48	ERTH 72	PLRS 95	NEPT 140	ORON 190	ORON 240	
	330.1	5.3	MARS 12	MARS 18	VENS 23	ATLS 32	ERTH 58	PLRS 80	PLRS 110	NEPT 160	ORON 230		
	369.8	4.7	MARS 14	VENS 20	VENS 24	ATLS 39	ERTH 64	PLRS 90	PLRS 120	ORON 190	ORON 240		
	412.1	4.2	MARS 14	VENS 22	ATLS 27	ATLS 43	ERTH 66	PLRS 105	NEPT 135	ORON 215			
	459.0	3.8	MARS 16	VENS 23	ATLS 32	ERTH 46	ERTH 76	PLRS 110	NEPT 150	ORON 230			
	532.5	3.3	MARS 18	ATLS 27	ATLS 35	ERTH 60	PLRS 95	NEPT 145	ORON 190				
	617.9	2.8	VENS 21	ATLS 32	ERTH 46	ERTH 64	PLRS 110	NEPT 160	ORON 215				
	660.6	2.6	ERTH 30qu	ERTH 36qu	ERTH 48qu	PLRS 70qu	NEPT 120qu	NEPT 160qu	ORON 240				
	741.2	2.4	VENS 24	ATLS 35	ERTH 54	PLRS 85	NEPT 135	ORON 190					
	900.3	1.9	ATLS 32	ERHT 48qu	PLRS 65qu	PLRS 95qu	NEPT 150qu	ORON 215					
	1057	1.7	ERTH 36	ERTH 54	PLRS 70qu	PLRS 100qu	ORON 190						

Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

* Selections are based on 1750 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

d = double reduction
t = triple reduction
q = quadruple reduction
qu = quintuple reduction

C-FACE SELECTION TABLES

1750 RPM - Class II - Service Factor = 1.40

TABLE 4

LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size									
			1 HP 143TC	1.5 HP 145TC	2 HP 145TC	3 HP 182TC	5 HP 184TC	7.5 HP 213TC	10 HP 215TC	15 HP 254TC	20 HP 256TC	25 HP 284TC	30 HP 286TC
Single	3.53	496	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	VENS 10	VENS 10	VENS 10	VENS 10
	4.39	399	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	VENS 10	VENS 10	VENS 10	VENS 10
	6.12	286	MERC 1	MERC 1	MERC 1	MERC 1	MERC 3	MERC 3	MARS 5	VENS 11	VENS 11	VENS 11	VENS 11
Double	9.30	188										ATLS 14	ATLS 14
	11.02	159	MERC 1	MERC 1	MERC 1	MERC 3	MERC 3	MERC 5	MERC 5	VENS 13	VENS 13	VENS 15	VENS 17
	13.85	126	MERC 2	MERC 2	MERC 2	MERC 4	MERC 4	MERC 6	MARS 8	VENS 14	VENS 14	VENS 18	VENS 20
	17.21	102	MERC 2	MERC 2	MERC 2	MERC 4	MERC 6	MARS 7	MARS 9	VENS 15	VENS 17	VENS 21	ATLS 26
	20.41	86	MERC 2	MERC 2	MERC 4	MERC 4	MERC 6	MARS 8	MARS 12	VENS 15	VENS 19	VENS 23	ATLS 30
	24.00	73	MERC 3	MERC 3	MERC 3	MERC 5	MERC 7	MARS 10	MARS 12	VENS 18	ATLS 26	ATLS 30	ATLS 34
	31.63	55	MERC 2	MERC 4	MERC 4	MERC 6	MARS 9	MARS 11	VENS 17	ATLS 24	ATLS 32	ATLS 38t	ERTH 50
Triple	36.56	48	MERC 3	MERC 3	MERC 5	MERC 7	MARS 9	MARS 15	VENS 19	ATLS 29	ATLS 37	ERTH 46	ERTH 52
	43.78	40	MERC 3d	MERC 5d	MERC 5d	MERC 7	MARS 12	MARS 16	VENS 22	ATLS 33	ERTH 48	ERTH 54	ERTH 66
	54.45	32	MERC 4	MERC 4	MERC 6	MERC 8	MARS 13	VENS 20	ATLS 30	ATLS 42	ERTH 54	ERTH 66	PLRS 80
	64.42	27	MERC 4	MERC 6	MERC 8	MARS 11	MARS 17	VENS 24	ATLS 30	ERTH 48	ERTH 60	PLRS 80	PLRS 90
	69.63	25	MERC 5	MERC 5	MERC 7	MARS 11	MARS 17	ATLS 27	ATLS 35	ERTH 50	ERTH 68	PLRS 85	PLRS 105
	80.01	22	MERC 4	MERC 6	MERC 8	MARS 13	VENS 20	ATLS 30	ATLS 38	ERTH 56	ERTH 74	PLRS 100	PLRS 110
	91.41	19.1	MERC 6	MERC 8	MARS 9	MARS 13	ATLS 22	ATLS 34	ERTH 48				
	99.38	17.6	MERC 5	MARS 9	MARS 11	MARS 15	VENS 23	ATLS 36	ERTH 46	ERTH 70	PLRS 95		
	111.5	15.7	MERC 6	MERC 8	MARS 11	MARS 17	ATLS 26	ATLS 42	ERTH 56	PLRS 80	PLRS 110		
	121.4	14.4	MERC 7q	MARS 9q	MARS 13q	ATLS 22q	ATLS 30q	ERTH 44q	ERTH 56q	PLRS 90q	PLRS 120q	NEPT 140q	
	138.5	12.6	MERC 7	MARS 11	MARS 15	VENS 19	ATLS 35	ERTH 52	ERTH 64	PLRS 100			
	159.8	11.0	MERC 8	MARS 13	MARS 15	VENS 24q	ATLS 39q	ERTH 56q	ERTH 74q	PLRS 110q	NEPT 140q	ORON 190q	ORON 190q
	193.1	9.1	MARS 11	MARS 15	VENS 18	ATLS 29	ERTH 48	ERTH 64q	PLRS 90q	NEPT 140q	ORON 190q	ORON 215q	
Quadruple	206.2	8.5	MARS 11	MARS 15	VENS 20	ATLS 31	ERTH 52	ERTH 76	PLRS 100	NEPT 150	ORON 215	ORON 240	
	238.2	7.3	MARS 13	MARS 17	VENS 22	ATLS 35	ERTH 58	PLRS 80	PLRS 110	NEPT 160	ORON 230		
	265.4	6.6	MARS 13	VENS 18	VENS 24	ATLS 39	ERTH 64	PLRS 90	PLRS 120	ORON 190	ORON 240		
	295.7	5.9	MARS 15	VENS 22	ATLS 27	ATLS 43	ERTH 66	PLRS 105	NEPT 140	ORON 215			
	330.1	5.3	MARS 16	VENS 23	ATLS 32	ERTH 46	ERTH 76	PLRS 120	NEPT 150	ORON 230			
	369.8	4.7	MARS 18	ATLS 27	ATLS 35	ERTH 52	PLRS 90	NEPT 130	ORON 190				
	412.1	4.2	VENS 20	ATLS 31	ATLS 39	ERTH 60	PLRS 95	NEPT 145	ORON 190				
	459.0	3.8	VENS 21	ATLS 32	ERTH 46	ERTH 64	PLRS 110	NEPT 160	ORON 205				
	532.5	3.3	VENS 24	ATLS 35	ERTH 54	PLRS 85	NEPT 135	ORON 215					
	617.9	2.8	ATLS 32	ERTH 46	ERTH 58	PLRS 90	NEPT 150	ORON 215					
	660.6	2.6	ERTH 36qu	ERTH 48qu	PLRS 70qu	PLRS 100qu	NEPT 150qu	ORON 240					
	741.2	2.4	ATLS 35	ERTH 54	ERTH 72	PLRS 115	ORON 190						
	900.3	1.9	ERTH 42qu	PLRS 65qu	PLRS 85qu	NEPT 130qu	ORON 215						
	1057	1.7	ERTH 54	PLRS 70qu	PLRS 100qu	ORON 190	ORON 240						

Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

* Selections are based on 1750 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

† Contact Rexnord for application details.

‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

d = double reduction
t = triple reduction
q = quadruple reduction
qu = quintuple reduction

C-FACE SELECTION TABLES

1750 RPM - Class III - Service Factor = 2.00

TABLE 4

LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size									
			1 HP 143TC	1.5 HP 145TC	2 HP 145TC	3 HP 182TC	5 HP 184TC	7.5 HP 213TC	10 HP 215TC	15 HP 254TC	20 HP 256TC	25 HP 284TC	30 HP 286TC
Single	3.53	496	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	VENS 10	VENS 10	VENS 10	VENS 10
	4.39	399	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	MERC 4	VENS 10	VENS 10	VENS 10	VENS 10
	6.12	286	MERC 1	MERC 1	MERC 1	MERC 3	MERC 3	MARS 5	MARS 5	VENS 11	VENS 11	VENS 11	VENS 13
Double	9.30	188								ATLS 14	ATLS 14	ATLS 18	ATLS 22
	11.02	159	MERC 1	MERC 3	MERC 3	MERC 3	MERC 5	MARS 6	MARS 8	VENS 13	VENS 17	VENS 19	ATLS 24
	13.85	126	MERC 2	MERC 2	MERC 2	MERC 4	MERC 6	MARS 8	MARS 10	VENS 16	VENS 20	ATLS 26	ATLS 30
	17.21	102	MERC 2	MERC 2	MERC 4	MERC 4	MERC 6	MARS 9	MARS 13	VENS 19	ATLS 26	ATLS 30	ATLS 38
	20.41	86	MERC 2	MERC 4	MERC 4	MERC 6	MARS 8	MARS 12	VENS 15	VENS 21	ATLS 30	ATLS 34	ERTH 40
	24.00	73	MERC 3	MERC 3	MERC 5	MERC 7	MARS 10	MARS 14	VENS 18	ATLS 26	ATLS 34	ERTH 42	ERTH 54
	31.63	55	MERC 4	MERC 4	MERC 6	MARS 7	MARS 11	VENS 17	ATLS 24	ATLS 34t	ERTH 50	ERTH 62t	ERTH 66t
Triple	36.56	48	MERC 3	MERC 5	MERC 7	MARS 9	MARS 13	VENS 19	ATLS 25	ATLS 37	ERTH 52	ERTH 64	PLRS 80
	43.78	40	MERC 3d	MERC 5d	MERC 7	MARS 10d	MARS 16	VENS 24	ATLS 33	ERTH 48	ERTH 66	PLRS 85	PLRS 95
	54.45	32	MERC 4	MERC 6	MERC 8	MARS 11	VENS 20	ATLS 30	ATLS 38	ERTH 60	PLRS 80	PLRS 100	PLRS 120
	64.42	27	MERC 6	MERC 8	MARS 9	MARS 15	VENS 22	ATLS 34	ERTH 48	ERTH 66	PLRS 90	PLRS 110	
	69.63	25	MERC 5	MERC 7	MARS 11	MARS 15	ATLS 27	ATLS 35	ERTH 50	PLRS 75	PLRS 95		
	80.01	22	MERC 6	MARS 9	MARS 11	MARS 17	ATLS 30	ATLS 42	ERTH 56	PLRS 80	PLRS 110		
	91.41	19.1	MERC 8	MARS 11	MARS 13	ATLS 22	ATLS 34	ERTH 48					
	99.38	17.6	MERC 7	MARS 11	MARS 15	VENS 21	ATLS 36	ERTH 52	ERTH 70	PLRS 105			
	111.5	15.7	MERC 8	MARS 13	MARS 17	VENS 22	ATLS 38	ERTH 56	ERTH 74	PLRS 110			
	121.4	14.4	MARS 9q	MARS 13q	MARS 17q	ERTH 26q	ERTH 44q	ERTH 62q	PLRS 80q	PLRS 120q	NEPT 160q	ORON 205q	
	138.5	12.6	MARS 11	MARS 15	VENS 19	ATLS 31	ERTH 46	ERTH 70	PLRS 100				
	159.8	11.0	MARS 11	MARS 17	VENS 24q	ATLS 35q	ERTH 50q	ERTH 74q	PLRS 100q	NEPT 150q	ORON 215q		
	193.1	9.1	MARS 15	VENS 20	ATLS 29	ERTH 42	ERTH 64q	PLRS 100q	NEPT 140q	ORON 190q			
Quadruple	206.2	8.5	MARS 13	VENS 22	ATLS 31	ATLS 43	ERTH 70	PLRS 110	NEPT 140	ORON 215			
	238.2	7.3	MARS 17	VENS 24	ATLS 31	ERTH 46	ERTH 76	PLRS 120	NEPT 160	ORON 230			
	265.4	6.6	VENS 18	ATLS 27	ATLS 35	ERTH 52	PLRS 90	NEPT 130	ORON 190				
	295.7	5.9	VENS 20	ATLS 31	ATLS 43	ERTH 60	PLRS 95	NEPT 140	ORON 230				
	330.1	5.3	VENS 23	ATLS 32	ERTH 46	ERTH 64	PLRS 110	NEPT 160	ORON 240				
	369.8	4.7	VENS 24	ATLS 39	ERTH 52	ERTH 76	PLRS 120	ORON 190	ORON 240				
	412.1	4.2	ATLS 27	ATLS 43	ERTH 54	PLRS 85	NEPT 135	ORON 215					
	459.0	3.8	ATLS 32	ERTH 46	ERTH 64	PLRS 90	NEPT 150	ORON 230					
	532.5	3.3	ATLS 35	ERTH 60	PLRS 75	PLRS 115	ORON 190						
	617.9	2.8	ERTH 46	ERTH 64	PLRS 90	NEPT 130	ORON 215						
	660.6	2.6	ERTH 48qu	PLRS 70qu	PLRS 90qu	NEPT 130qu	ORON 240						
	741.2	2.4	ERTH 54	PLRS 85	PLRS 105	NEPT 155							
	900.3	1.9	PLRS 65qu	PLRS 95qu	NEPT 120qu	ORON 190							
	1057	1.7	PLRS 70qu	PLRS 100qu	ORON 190	ORON 215							

Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

* Selections are based on 1750 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

d = double reduction
t = triple reduction
q = quadruple reduction
qu = quintuple reduction

C-FACE SELECTION TABLES

1430 RPM - Class I - Service Factor = 1.00

TABLE 4

LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size									
			1 HP 143TC	1.5 HP 145TC	2 HP 145TC	3 HP 182TC	5 HP 184TC	7.5 HP 213TC	10 HP 215TC	15 HP 254TC	20 HP 256TC	25 HP 284TC	30 HP 286TC
Single	3.53	405	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	VENS 10	VENS 10	VENS 10	VENS 10
	4.39	326	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	VENS 10	VENS 10	VENS 10	VENS 10
	6.12	234	MERC 1	MERC 1	MERC 1	MERC 1	MERC 3	MERC 3	MERC 3	VENS 11	VENS 11	VENS 11	VENS 11
Double	9.30	154										ATLS 14	ATLS 14
	11.02	130	MERC 1	MERC 1	MERC 1	MERC 3	MERC 3	MERC 5	MERC 5	VENS 13	VENS 13	VENS 13	VENS 15
	13.85	103	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	MERC 6	MERC 6	VENS 14	VENS 14	VENS 16	VENS 18
	17.21	83	MERC 2	MERC 2	MERC 2	MERC 4	MERC 4	MERC 6	MARS 9	VENS 15	VENS 15	VENS 19	ATLS 22
	20.41	70	MERC 2	MERC 2	MERC 2	MERC 4	MERC 6	MARS 8	MARS 10	VENS 15	VENS 17	VENS 21	ATLS 26
	24.00	60	MERC 3	MERC 3	MERC 3	MERC 5	MERC 7	MARS 8	MARS 12	VENS 16	VENS 20	ATLS 26	ATLS 30
	31.63	45	MERC 2	MERC 2	MERC 4	MERC 4	MARS 7	MARS 11	MARS 13	ATLS 24	ATLS 28	ATLS 34t	ERTH 44
Triple	36.56	39	MERC 3	MERC 3	MERC 5	MERC 5	MARS 9	MARS 13	VENS 17	VENS 23	ATLS 33	ATLS 41	ERTH 46
	43.78	33	MERC 3d	MERC 3d	MERC 5d	MERC 7	MARS 10d	MARS 14	VENS 20	ATLS 29	ATLS 41	ERTH 48	ERTH 60
	54.45	26	MERC 4	MERC 4	MERC 6	MERC 8	MARS 11	MARS 17	VENS 24	ATLS 38	ERTH 48	ERTH 60	ERTH 72
	64.42	22	MERC 4	MERC 6	MERC 6	MARS 9	MARS 15	VENS 20	ATLS 26	ATLS 42	ERTH 54	ERTH 66	PLRS 80
	69.63	21	MERC 3	MERC 5	MERC 7	MARS 9	MARS 15	VENS 22	ATLS 31	ERTH 44	ERTH 62	PLRS 75	PLRS 95
	80.01	17.9	MERC 4	MERC 6	MERC 8	MARS 11	MARS 17	ATLS 26	ATLS 34	ERTH 50	ERTH 68	PLRS 90	PLRS 100
	91.41	15.6	MERC 4	MERC 6	MERC 8	MARS 13	ATLS 22	ATLS 30	ERTH 42				
	99.38	14.4	MERC 5	MERC 7	MARS 9	MARS 13	VENS 21	ATLS 32	ATLS 40	ERTH 64	PLRS 85	PLRS 105	
	111.5	12.9	MERC 6	MERC 8	MARS 11	MARS 15	VENS 24	ATLS 34	ERTH 50	ERTH 68	PLRS 90	PLRS 120	
	121.4	11.8	MERC 5q	MARS 9q	MARS 11q	MARS 15q	ATLS 26q	ATLS 38q	ERTH 50q	ERTH 74q	PLRS 100q	NEPT 130q	NEPT 150q
	138.5	10.3	MERC 7	MARS 9	MARS 13	VENS 17	ATLS 31	ATLS 43q	ERTH 58	PLRS 90			
	159.8	8.9	MERC 8	MARS 11	MARS 13	VENS 22q	ATLS 35q	ERTH 50q	ERTH 62q	PLRS 90q	PLRS 120q	NEPT 150q	ORON 190q
	193.1	7.4	MARS 9	MARS 13	VENS 16	ATLS 25	ERTH 42	ERTH 60	ERTH 76q	PLRS 120q	NEPT 150q	ORON 190q	ORON 240q
Quadruple	206.2	6.9	MERC 8	MARS 13	MARS 17	ATLS 27	ATLS 43	ERTH 64	PLRS 90	NEPT 130	ORON 190	ORON 215	
	238.2	6.0	MARS 11	MARS 15	VENS 20	ATLS 31	ERTH 52	ERTH 70	PLRS 100	NEPT 140	ORON 205		
	265.4	5.4	MARS 13	MARS 17	VENS 22	ATLS 35	ERTH 52	PLRS 80	PLRS 110	NEPT 160	ORON 215		
	295.7	4.8	MARS 13	VENS 18	VENS 24	ATLS 39	ERTH 60	PLRS 95	PLRS 115	ORON 190	ORON 240		
	330.1	4.3	MARS 14	VENS 21	ATLS 28	ATLS 40	ERTH 70	PLRS 100	NEPT 130	ORON 205			
	369.8	3.9	MARS 16	VENS 22	ATLS 31	ERTH 46	ERTH 76	PLRS 110	NEPT 150	ORON 240			
	412.1	3.5	MARS 18	ATLS 27	ATLS 35	ERTH 48	PLRS 85	NEPT 125	ORON 190	ORON 240			
	459.0	3.1	VENS 19	ATLS 28	ATLS 40	ERTH 58	PLRS 90	NEPT 140	ORON 180				
	532.5	2.7	VENS 22	ATLS 31	ATLS 43	ERTH 72	PLRS 115	ORON 190	ORON 240				
	617.9	2.3	ATLS 28	ATLS 40	ERTH 52	ERTH 76	NEPT 130	ORON 190					
	660.6	2.2	ERTH 30qu	ERTH 42qu	ERTH 54qu	PLRS 80qu	NEPT 130qu	ORON 215					
	741.2	1.9	ATLS 31	ATLS 43	ERTH 66	PLRS 95	NEPT 155	ORON 240					
	900.3	1.6	ATLS 36	ERTH 54qu	PLRS 75qu	PLRS 115qu	ORON 190						
	1057	1.4	ERTH 48	PLRS 70qu	PLRS 90qu	NEPT 130	ORON 215						

Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

* Selections are based on 1430 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

d = double reduction
t = triple reduction
q = quadruple reduction
qu = quintuple reduction

C-FACE SELECTION TABLES

1430 RPM - Class II - Service Factor = 1.40

TABLE 4

LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size									
			1 HP 143TC	1.5 HP 145TC	2 HP 145TC	3 HP 182TC	5 HP 184TC	7.5 HP 213TC	10 HP 215TC	15 HP 254TC	20 HP 256TC	25 HP 284TC	30 HP 286TC
Single	3.53	405	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	VENS 10	VENS 10	VENS 10	VENS 10
	4.39	326	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	MERC 4	VENS 10	VENS 10	VENS 10	VENS 10
	6.12	234	MERC 1	MERC 1	MERC 1	MERC 3	MERC 3	MERC 3	MARS 5	VENS 11	VENS 11	VENS 11	VENS 11
Double	9.30	154									ATLS 14	ATLS 14	ATLS 18
	11.02	130	MERC 1	MERC 1	MERC 3	MERC 3	MERC 5	MERC 5	MARS 8	VENS 13	VENS 13	VENS 17	VENS 21
	13.85	103	MERC 2	MERC 2	MERC 2	MERC 4	MERC 6	MARS 8	MARS 10	VENS 14	VENS 18	VENS 22	ATLS 26
	17.21	83	MERC 2	MERC 2	MERC 4	MERC 4	MERC 6	MARS 9	MARS 11	VENS 15	VENS 21	ATLS 26	ATLS 30
	20.41	70	MERC 2	MERC 2	MERC 4	MERC 4	MARS 8	MARS 10	VENS 15	VENS 17	VENS 23	ATLS 30	ATLS 34
	24.00	60	MERC 3	MERC 3	MERC 3	MERC 5	MARS 8	MARS 12	VENS 16	VENS 22	ATLS 30	ATLS 38	ERTH 42
	31.63	45	MERC 2	MERC 4	MERC 4	MERC 6	MARS 9	VENS 15	ATLS 20	ATLS 32	ATLS 38t	ERTH 50	ERTH 62t
Triple	36.56	39	MERC 3	MERC 5	MERC 5	MERC 7	MARS 11	VENS 17	VENS 21	ATLS 33	ERTH 46	ERTH 58	ERTH 64
	43.78	33	MERC 3d	MERC 5d	MERC 5d	MARS 8d	MARS 14	VENS 20	ATLS 29	ATLS 41	ERTH 54	ERTH 66	PLRS 85
	54.45	26	MERC 4	MERC 6	MERC 8	MARS 11	MARS 17	ATLS 26	ATLS 34	ERTH 54	ERTH 66	PLRS 90	PLRS 100
	64.42	22	MERC 4	MERC 6	MERC 8	MARS 13	VENS 20	ATLS 30	ATLS 38	ERTH 60	PLRS 80	PLRS 100	PLRS 110
	69.63	21	MERC 5	MERC 7	MARS 9	MARS 13	VENS 20	ATLS 31	ERTH 44	ERTH 62	PLRS 85	PLRS 105	
	80.01	17.9	MERC 6	MERC 8	MARS 11	MARS 15	VENS 24	ATLS 34	ERTH 50	ERTH 68	PLRS 90	PLRS 120	
	91.41	15.6	MERC 6	MERC 8	MARS 11	MARS 17	ATLS 30	ERTH 42	ERTH 54				
	99.38	14.4	MERC 7	MARS 9	MARS 13	VENS 17	ATLS 28	ERTH 46	ERTH 58	PLRS 85			
	111.5	12.9	MERC 8	MARS 11	MARS 15	VENS 20	ATLS 34	ERTH 50	ERTH 68	PLRS 100			
	121.4	11.8	MERC 7q	MARS 11q	MARS 15q	ATLS 22q	ATLS 34q	ERTH 56q	ERTH 68q	PLRS 110q	NEPT 140q	ORON 180q	ORON 205q
	138.5	10.3	MARS 9	MARS 13	VENS 17	VENS 24q	ATLS 39	ERTH 64	PLRS 80				
	159.8	8.9	MARS 11	MARS 15	VENS 20q	ATLS 31q	ERTH 44q	ERTH 68q	PLRS 90q	NEPT 130q	ORON 190q	ORON 215q	
	193.1	7.4	MARS 13	VENS 18	ATLS 25	ATLS 33	ERTH 60	PLRS 80q	PLRS 110q	NEPT 160q	ORON 215q		
Quadruple	206.2	6.9	MARS 13	MARS 17	VENS 24	ATLS 39	ERTH 64	PLRS 90	PLRS 120	ORON 190	ORON 240		
	238.2	6.0	MARS 15	VENS 20	ATLS 27	ATLS 43	ERTH 70	PLRS 100	NEPT 130	ORON 205			
	265.4	5.4	MARS 15	VENS 22	ATLS 31	ERTH 46	ERTH 76	PLRS 110	NEPT 150	ORON 240			
	295.7	4.8	VENS 18	ATLS 27	ATLS 35	ERTH 48	PLRS 85	NEPT 120	ORON 190	ORON 240			
	330.1	4.3	VENS 19	ATLS 28	ATLS 40	ERTH 58	PLRS 90	NEPT 140	ORON 180				
	369.8	3.9	VENS 22	ATLS 31	ATLS 43	ERTH 64	PLRS 110	NEPT 160	ORON 215				
	412.1	3.5	VENS 24	ATLS 35	ERTH 48	ERTH 72	PLRS 115	ORON 190	ORON 240				
	459.0	3.1	ATLS 28	ATLS 40	ERTH 52	ERTH 76	NEPT 130	ORON 205					
	532.5	2.7	ATLS 31	ATLS 43	ERTH 66	PLRS 95	ORON 190	ORON 240					
	617.9	2.3	ATLS 36	ERTH 58	ERTH 70	PLRS 110	ORON 190						
	660.6	2.2	ERTH 42qu	PLRS 70qu	PLRS 80qu	PLRS 120qu	ORON 215						
	741.2	1.9	ATLS 43	ERTH 66	PLRS 95	NEPT 135	ORON 240						
	900.3	1.6	ERTH 54qu	PLRS 85qu	PLRS 105qu	NEPT 150qu	ORON 240						
	1057	1.4	PLRS 70qu	PLRS 90qu	PLRS 120qu	ORON 190							

Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

* Selections are based on 1430 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

† Contact Rexnord for application details.

‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

d = double reduction
t = triple reduction
q = quadruple reduction
qu = quintuple reduction

C-FACE SELECTION TABLES

1430 RPM - Class III - Service Factor = 2.00

TABLE 4

LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size									
			1 HP 143TC	1.5 HP 145TC	2 HP 145TC	3 HP 182TC	5 HP 184TC	7.5 HP 213TC	10 HP 215TC	15 HP 254TC	20 HP 256TC	25 HP 284TC	30 HP 286TC
Single	3.53	405	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	MERC 4	VENS 10	VENS 10	VENS 10	VENS 10
	4.39	326	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	MERC 4	MARS 5	VENS 10	VENS 10	VENS 10	VENS 12
	6.12	234	MERC 1	MERC 1	MERC 3	MERC 3	MERC 3	MARS 5	MARS 7	VENS 11	VENS 11	VENS 13	VENS 15
Double	9.30	154								ATLS 14	ATLS 18	ATLS 22	ATLS 26
	11.02	130	MERC 1	MERC 3	MERC 3	MERC 3	MERC 5	MARS 8	MARS 10	VENS 15	VENS 19	ATLS 24	ATLS 28
	13.85	103	MERC 2	MERC 2	MERC 4	MERC 4	MERC 6	MARS 10	MARS 12	VENS 18	ATLS 26	ATLS 30	ATLS 38
	17.21	83	MERC 2	MERC 4	MERC 4	MERC 6	MARS 9	MARS 11	VENS 15	ATLS 22	ATLS 30	ATLS 38	ERTH 46
	20.41	70	MERC 2	MERC 4	MERC 4	MERC 6	MARS 10	VENS 15	VENS 17	ATLS 26	ATLS 34	ERTH 40	ERTH 52
	24.00	60	MERC 3	MERC 5	MERC 5	MERC 7	MARS 12	VENS 16	VENS 20	ATLS 30	ERTH 42	ERTH 54	ERTH 60
	31.63	45	MERC 4	MERC 4	MERC 6	MARS 9	MARS 13	ATLS 24	ATLS 28	ERTH 44	ERTH 56	PLRS 70t	
Triple	36.56	39	MERC 5	MERC 5	MERC 7	MARS 11	VENS 17	VENS 23	ATLS 33	ERTH 46	ERTH 64	PLRS 80	PLRS 90
	43.78	33	MERC 5d	MERC 7	MARS 8d	MARS 12	VENS 20	ATLS 29	ATLS 41	ERTH 60	PLRS 75	PLRS 95	PLRS 115
	54.45	26	MERC 6	MERC 8	MARS 9	MARS 13	VENS 24	ATLS 38	ERTH 48	ERTH 72	PLRS 100	PLRS 120	
	64.42	22	MERC 6	MARS 9	MARS 11	MARS 17	ATLS 26	ATLS 42	ERTH 54	PLRS 80	PLRS 110		
	69.63	21	MERC 7	MARS 9	MARS 13	VENS 18	ATLS 31	ERTH 44	ERTH 62	PLRS 95			
	80.01	17.9	MERC 8	MARS 11	MARS 15	VENS 20	ATLS 34	ERTH 50	ERTH 68	PLRS 100			
	91.41	15.6	MERC 8	MARS 13	MARS 15	ATLS 26	ERTH 42						
	99.38	14.4	MARS 9	MARS 13	VENS 17	ATLS 24	ATLS 40	ERTH 64	PLRS 85				
	111.5	12.9	MARS 11	MARS 15	VENS 18	ATLS 30	ERTH 50	ERTH 68	PLRS 90				
	121.4	11.8	MARS 11q	MARS 15q	ATLS 22q	ATLS 30q	ERTH 50q	ERTH 74q	PLRS 100q	NEPT 150q	ORON 205q		
	138.5	10.3	MARS 13	VENS 17	VENS 23	ATLS 35	ERTH 58	PLRS 90					
	159.8	8.9	MARS 13	VENS 22q	ATLS 31q	ATLS 43q	ERTH 62q	PLRS 90q	PLRS 120q	ORON 190q	ORON 240q		
	193.1	7.4	VENS 16	ATLS 25	ATLS 33	ERTH 48	ERTH 76q	PLRS 120q	NEPT 160q	ORON 215q			
Quadruple	206.2	6.9	MARS 17	ATLS 27	ATLS 35	ERTH 52	PLRS 90	NEPT 130	ORON 190				
	238.2	6.0	VENS 20	ATLS 31	ATLS 39	ERTH 58	PLRS 100	NEPT 140	ORON 205				
	265.4	5.4	VENS 22	ATLS 35	ATLS 43	ERTH 64	PLRS 110	NEPT 160	ORON 215				
	295.7	4.8	VENS 24	ATLS 39	ERTH 48	ERTH 72	PLRS 115	ORON 190	ORON 240				
	330.1	4.3	ATLS 28	ATLS 40	ERTH 52	PLRS 80	NEPT 130	ORON 205					
	369.8	3.9	ATLS 31	ERTH 46	ERTH 58	PLRS 90	NEPT 150	ORON 2401					
	412.1	3.5	ATLS 35	ERTH 48	ERTH 66	PLRS 105	ORON 190	ORON 240					
	459.0	3.1	ATLS 40	ERTH 58	ERTH 76	PLRS 110	ORON 180						
	532.5	2.7	ATLS 43	ERTH 72	PLRS 95	NEPT 135	ORON 240						
	617.9	2.3	ERTH 52	ERTH 76	PLRS 100	NEPT 150							
	660.6	2.2	ERTH 54qu	PLRS 80qu	PLRS 110qu	NEPT 160qu							
	741.2	1.9	ERTH 66	PLRS 95	NEPT 125	ORON 190							
	900.3	1.6	PLRS 75qu	PLRS 115qu	NEPT 150qu	ORON 215							
	1057	1.4	PLRS 90qu	NEPT 130	ORON 190								

Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

* Selections are based on 1430 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

d = double reduction
t = triple reduction
q = quadruple reduction
qu = quintuple reduction

C-FACE SELECTION TABLES

1170 RPM - Class I - Service Factor = 1.00

TABLE 4

LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size									
			1 HP 145TC	1.5 HP 182TC	2 HP 184TC	3 HP 213TC	5 HP 215TC	7.5 HP 254TC	10 HP 256TC	15 HP 284TC	20 HP 286TC
Single	3.53	331	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	VENS 10	VENS 10	VENS 10	VENS 10
	4.39	267	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	VENS 10	VENS 10	VENS 10	VENS 10
	6.12	191	MERC 1	MERC 1	MERC 1	MERC 3	MERC 3	VENS 11	VENS 11	VENS 11	VENS 11
Double	9.30	126									ATLS 14
	11.02	106	MERC 1	MERC 1	MERC 3	MERC 3	MERC 3	VENS 13	VENS 13	VENS 13	VENS 13
	13.85	84	MERC 2	MERC 2	MERC 2	MERC 4	MERC 4	VENS 14	VENS 14	VENS 14	VENS 14
	17.21	68	MERC 2	MERC 2	MERC 2	MERC 4	MERC 6	VENS 15	VENS 15	VENS 15	VENS 19
	20.41	57	MERC 2	MERC 2	MERC 4	MERC 4	MERC 6	VENS 15	VENS 15	VENS 15	VENS 21
	24.00	49	MERC 3	MERC 3	MERC 3	MERC 5	MERC 7	VENS 16	VENS 16	VENS 20	ATLS 26
	31.63	37	MERC 2	MERC 4	MERC 4	MERC 6	MARS 9	VENS 15	VENS 17	ATLS 28	ATLS 34t
Triple	36.56	32	MERC 3	MERC 3	MERC 5	MERC 7	MARS 11	VENS 17	VENS 19	ATLS 29	ATLS 37
	43.78	26	MERC 3d	MERC 5d	MERC 5d	MERC 7	MARS 12	VENS 18	VENS 24	ATLS 37	ERTH 48
	54.45	21	MERC 4	MERC 4	MERC 6	MERC 8	MARS 15	VENS 22	ATLS 30	ATLS 43	ERTH 60
	64.42	18.2	MERC 4	MERC 6	MERC 8	MARS 11	MARS 17	VENS 24	ATLS 34	ERTH 48	ERTH 66
	69.63	16.8	MERC 5	MERC 7	MERC 7	MARS 11	VENS 18	ATLS 27	ATLS 35	ERTH 56	PLRS 75
	80.01	14.6	MERC 6	MERC 8	MARS 9	MARS 13	VENS 20	ATLS 30	ATLS 42	ERTH 62	PLRS 80
	91.41	12.8	MERC 6	MERC 8	MARS 11	MARS 15	ATLS 26	ATLS 38	ERTH 48		
	99.38	11.8	MERC 7	MARS 9	MARS 11	VENS 17	ATLS 28	ATLS 40	ERTH 52	PLRS 75	PLRS 105
	111.5	10.5	MERC 6	MARS 9	MARS 13	MARS 17	ATLS 30	ATLS 42	ERTH 56	PLRS 90	PLRS 110
	121.4	9.6	MERC 7q	MARS 9q	MARS 13q	ATLS 22q	ATLS 30q	ERTH 50q	ERTH 62q	PLRS 90q	PLRS 120q
	138.5	8.4	MARS 9	MARS 11	MARS 15	VENS 21	ATLS 35	ERTH 52	ERTH 70	PLRS 110	
	159.8	7.3	MERC 8	MARS 13	MARS 17	ATLS 27q	ATLS 43q	ERTH 56q	ERTH 74q	PLRS 110q	NEPT 150q
	193.1	6.1	MARS 11	MARS 15	VENS 20	ATLS 29	ERTH 48	ERTH 70q	PLRS 100q	NEPT 140q	ORON 190q
Quadruple	206.2	5.7	MARS 11	MARS 15	VENS 22	ATLS 31	ERTH 52	PLRS 80	PLRS 110	NEPT 160	ORON 230
	238.2	4.9	MARS 13	VENS 18	VENS 24	ATLS 35	ERTH 58	PLRS 90	PLRS 120	ORON 180	
	265.4	4.4	MARS 13	VENS 20	ATLS 27	ATLS 39	ERTH 64	PLRS 100	NEPT 130	ORON 190	
	295.7	4	MARS 15	VENS 22	ATLS 31	ATLS 43	ERTH 72	PLRS 105	NEPT 140	ORON 215	
	330.1	3.5	MARS 18	ATLS 24	ATLS 32	ERTH 52	PLRS 80	PLRS 120	NEPT 160		
	369.8	3.2	VENS 20	ATLS 27	ATLS 39	ERTH 58	PLRS 90	NEPT 140	ORON 190		
	412.1	2.8	VENS 22	ATLS 31	ATLS 43	ERTH 60	PLRS 105	NEPT 155	ORON 215		
	459.0	2.5	VENS 23	ATLS 36	ERTH 46	ERTH 70	PLRS 110	ORON 180	ORON 230		
	532.5	2.2	ATLS 27	ATLS 39	ERTH 60	PLRS 85	NEPT 145	ORON 215			
	617.9	1.9	ATLS 32	ERTH 46	ERTH 64	PLRS 100	NEPT 160	ORON 240			
	660.6	1.8	ERTH 36qu	ERTH 54qu	PLRS 70qu	PLRS 100qu	NEPT 160qu				
	741.2	1.6	ATLS 35	ERTH 60	PLRS 85	PLRS 115	ORON 190				
	900.3	1.3	ERTH 48qu	PLRS 75qu	PLRS 95qu	NEPT 140qu	ORON 215				
	1057	1.1	ERTH 54	PLRS 80qu	PLRS 100qu	ORON 190					

Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

* Selections are based on 1170 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

d = double reduction
t = triple reduction
q = quadruple reduction
qu = quintuple reduction

C-FACE SELECTION TABLES

1170 RPM - Class II - Service Factor = 1.40

TABLE 4

LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size									
			1 HP 145TC	1.5 HP 182TC	2 HP 184TC	3 HP 213TC	5 HP 215TC	7.5 HP 254TC	10 HP 256TC	15 HP 284TC	20 HP 286TC
Single	3.53	331	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	VENS 10	VENS 10	VENS 10	VENS 10
	4.39	267	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	VENS 10	VENS 10	VENS 10	VENS 10
	6.12	191	MERC 1	MERC 1	MERC 1	MERC 3	MERC 3	VENS 11	VENS 11	VENS 11	VENS 11
Double	9.30	126								ATLS 14	ATLS 14
	11.02	106	MERC 1	MERC 3	MERC 3	MERC 3	MERC 5	VENS 13	VENS 13	VENS 13	VENS 17
	13.85	84	MERC 2	MERC 2	MERC 4	MERC 4	MERC 6	VENS 14	VENS 14	VENS 16	VENS 20
	17.21	68	MERC 2	MERC 2	MERC 4	MERC 4	MARS 7	VENS 15	VENS 15	VENS 19	ATLS 26
	20.41	57	MERC 2	MERC 4	MERC 4	MERC 6	MARS 8	VENS 15	VENS 15	VENS 21	ATLS 30
	24.00	49	MERC 3	MERC 3	MERC 5	MARS 7	MARS 10	VENS 16	VENS 18	ATLS 26	ATLS 34
	31.63	37	MERC 4	MERC 4	MERC 6	MARS 7	MARS 11	VENS 19	ATLS 24	ATLS 34t	ERTH 50
Triple	36.56	32	MERC 3	MERC 5	MERC 7	MARS 9	MARS 15	VENS 21	ATLS 29	ATLS 41	ERTH 52
	43.78	26	MERC 5d	MERC 5d	MERC 7	MARS 10d	MARS 16	VENS 24	ATLS 33	ERTH 48	ERTH 66
	54.45	21	MERC 4	MERC 6	MERC 8	MARS 13	VENS 20	ATLS 30	ATLS 42	ERTH 60	PLRS 80
	64.42	18.2	MERC 6	MERC 8	MARS 11	MARS 15	VENS 24	ATLS 34	ERTH 48	ERTH 72	PLRS 90
	69.63	16.8	MERC 5	MARS 9	MARS 11	MARS 15	ATLS 27	ATLS 39	ERTH 50	PLRS 75	PLRS 105
	80.01	14.6	MERC 6	MARS 9	MARS 13	VENS 18	ATLS 30	ATLS 42	ERTH 56	PLRS 90	PLRS 110
	91.41	12.8	MERC 8	MARS 11	MARS 13	ATLS 22	ATLS 34	ERTH 54			
	99.38	11.8	MARS 9	MARS 11	MARS 15	VENS 21	ATLS 36	ERTH 52	ERTH 70	PLRS 105	
	111.5	10.5	MERC 8	MARS 13	MARS 17	VENS 24	ATLS 42	ERTH 62	PLRS 80	PLRS 120	
	121.4	9.6	MARS 9q	MARS 13q	MARS 17q	ATLS 26q	ERTH 44q	ERTH 68q	PLRS 90q	NEPT 130q	ORON 180q
	138.5	8.4	MARS 11	MARS 15	VENS 19	ATLS 31	ERTH 52	PLRS 80	PLRS 100		
	159.8	7.3	MARS 13	MARS 17	VENS 24q	ATLS 35q	ERTH 56q	PLRS 80q	PLRS 110q	NEPT 160q	ORON 215q
	193.1	6.1	MARS 15	VENS 20	ATLS 29	ERTH 42	ERTH 64q	PLRS 100q	NEPT 140q	ORON 215q	
Quadruple	206.2	5.7	MARS 15	VENS 22	ATLS 31	ERTH 46	ERTH 76	PLRS 110	NEPT 150	ORON 215	
	238.2	4.9	MARS 17	ATLS 27	ATLS 35	ERTH 52	PLRS 80	PLRS 120	NEPT 160		
	265.4	4.4	VENS 18	ATLS 27	ATLS 39	ERTH 58	PLRS 90	NEPT 140	ORON 190		
	295.7	4	VENS 22	ATLS 31	ATLS 43	ERTH 60	PLRS 105	NEPT 150	ORON 215		
	330.1	3.5	VENS 23	ATLS 36	ERTH 46	ERTH 70	PLRS 110	ORON 180	ORON 230		
	369.8	3.2	ATLS 27	ATLS 39	ERTH 52	ERTH 76	NEPT 130	ORON 190			
	412.1	2.8	ATLS 31	ATLS 43	ERTH 60	PLRS 85	NEPT 145	ORON 215			
	459.0	2.5	ATLS 32	ERTH 46	ERTH 64	PLRS 100	NEPT 160	ORON 230			
	532.5	2.2	ATLS 35	ERTH 60	PLRS 85	PLRS 115	ORON 190				
	617.9	1.9	ERTH 46	ERTH 70	PLRS 90	NEPT 130	ORON 215				
	660.6	1.8	ERTH 48qu	PLRS 70qu	PLRS 90qu	NEPT 140qu	ORON 240				
	741.2	1.6	ERTH 54	PLRS 85	PLRS 115	ORON 190					
	900.3	1.3	PLRS 65qu	PLRS 95qu	NEPT 130qu	ORON 190					
	1057	1.1	PLRS 70qu	PLRS 110qu	ORON 190	ORON 215					

Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

* Selections are based on 1170 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

† Contact Rexnord for application details.

‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

d = double reduction
t = triple reduction
q = quadruple reduction
qu = quintuple reduction

C-FACE SELECTION TABLES

1170 RPM - Class III - Service Factor = 2.00

TABLE 4

LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size							
			1 HP 145TC	1.5 HP 182TC	2 HP 184TC	3 HP 213TC	5 HP 215TC	7.5 HP 254TC	10 HP 256TC	15 HP 284TC	20 HP 286TC
Single	3.53	331	MERC 2	MERC 2	MERC 2	MERC 2	MERC 2	VENS 10	VENS 10	VENS 10	VENS 10
	4.39	267	MERC 2	MERC 2	MERC 2	MERC 2	MERC 4	VENS 10	VENS 10	VENS 10	VENS 10
	6.12	191	MERC 1	MERC 3	MERC 3	MERC 3	MARS 5	VENS 11	VENS 11	VENS 11	VENS 13
Double	9.30	126						ATLS 14	ATLS 14	ATLS 18	ATLS 22
	11.02	106	MERC 3	MERC 3	MERC 3	MERC 5	MARS 6	VENS 8	VENS 13	VENS 17	ATLS 24
	13.85	84	MERC 2	MERC 4	MERC 4	MERC 6	MARS 8	VENS 12	VENS 14	VENS 22	ATLS 30
	17.21	68	MERC 2	MERC 4	MERC 4	MERC 6	MARS 9	VENS 15	VENS 19	ATLS 30	ATLS 38
	20.41	57	MERC 4	MERC 4	MERC 6	MARS 8	MARS 12	VENS 15	VENS 21	ATLS 30	ERTH 40
	24.00	49	MERC 3	MERC 5	MERC 5	MARS 8	MARS 14	VENS 20	ATLS 26	ATLS 38	ERTH 54
	31.63	37	MERC 4	MERC 6	MARS 7	MARS 11	VENS 17	ATLS 28	ATLS 34t	ERTH 56	ERTH 66t
Triple	36.56	32	MERC 5	MERC 7	MARS 9	MARS 13	VENS 19	ATLS 29	ATLS 37	ERTH 58	PLRS 80
	43.78	26	MERC 5d	MERC 7	MARS 10d	MARS 14	VENS 24	ATLS 37	ERTH 48	ERTH 72	PLRS 95
	54.45	21	MERC 6	MERC 8	MARS 11	MARS 17	ATLS 30	ATLS 42	ERTH 60	PLRS 90	PLRS 120
	64.42	18.2	MERC 8	MARS 11	MARS 15	VENS 20	ATLS 34	ERTH 48	ERTH 66	PLRS 100	
	69.63	16.8	MERC 7	MARS 11	MARS 15	VENS 22	ATLS 35	ERTH 56	PLRS 75	PLRS 105	
	80.01	14.6	MARS 9	MARS 13	MARS 17	VENS 24	ATLS 42	ERTH 62	PLRS 80	PLRS 120	
	91.41	12.8	MARS 11	MARS 15	ATLS 22	ATLS 30	ERTH 48				
	99.38	11.8	MARS 11	VENS 17	VENS 21	ATLS 32	ERTH 52	PLRS 75	PLRS 105		
	111.5	10.5	MARS 13	MARS 17	VENS 22	ATLS 34	ERTH 56	PLRS 90	PLRS 110		
	121.4	9.6	MARS 13q	ATLS 22q	ATLS 26q	ATLS 38q	ERTH 62q	PLRS 90q	PLRS 120q	ORON 180q	
	138.5	8.4	MARS 15	VENS 21	ATLS 31	ATLS 43q	ERTH 70	PLRS 110			
	159.8	7.3	MARS 17	ATLS 27	ATLS 35	ERTH 44q	ERTH 74q	PLRS 110q	NEPT 150q	ORON 240q	
	193.1	6.1	VENS 20	ATLS 29	ERTH 42	ERTH 60	PLRS 100q	NEPT 140q	ORON 190q		
Quadruple	206.2	5.7	VENS 22	ATLS 31	ATLS 43	ERTH 64	PLRS 110	NEPT 160	ORON 215		
	238.2	4.9	VENS 24	ATLS 35	ERTH 46	ERTH 70	PLRS 120	ORON 180	ORON 230		
	265.4	4.4	ATLS 27	ATLS 39	ERTH 52	ERTH 76	NEPT 130	ORON 190			
	295.7	4	ATLS 31	ATLS 43	ERTH 60	PLRS 85	NEPT 140	ORON 215			
	330.1	3.5	ATLS 32	ERTH 52	ERTH 64	PLRS 100	NEPT 160				
	369.8	3.2	ATLS 39	ERTH 58	ERTH 76	PLRS 110	ORON 190				
	412.1	2.8	ATLS 43	ERTH 60	PLRS 85	NEPT 125	ORON 215				
	459.0	2.5	ERTH 46	ERTH 70	PLRS 90	NEPT 140	ORON 230				
	532.5	2.2	ERTH 60	PLRS 85	PLRS 115	ORON 190					
	617.9	1.9	ERTH 64	PLRS 100	NEPT 130	ORON 190					
	660.6	1.8	PLRS 70qu	PLRS 100qu	NEPT 130qu	ORON 215					
	741.2	1.6	PLRS 85	PLRS 115	NEPT 155						
	900.3	1.3	PLRS 95qu	NEPT 140qu	ORON 190						
	1057	1.1	PLRS 100qu	ORON 190	ORON 215						

Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

* Selections are based on 1170 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

d = double reduction
t = triple reduction
q = quadruple reduction
qu = quintuple reduction

C-FACE SELECTION TABLES

870 RPM - Class I - Service Factor = 1.00

TABLE 4

LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size									
			1 HP 182TC	1.5 HP 184TC	2 HP 213TC	3 HP 215TC	5 HP 254TC	7.5 HP 256TC	10 HP 284TC	15 HP 286TC
Single	3.53	246	MERC 2	MERC 2	MERC 2	MERC 2	VENS 10	VENS 10	VENS 10	VENS 10
	4.39	198	MERC 2	MERC 2	MERC 2	MERC 2	VENS 10	VENS 10	VENS 10	VENS 10
	6.12	142	MERC 1	MERC 1	MERC 1	MERC 3	VENS 11	VENS 11	VENS 11	VENS 11
Double	9.30	94								ATLS 14
	11.02	79	MERC 1	MERC 3	MERC 3	MERC 3	VENS 13	VENS 13	VENS 13	VENS 13
	13.85	63	MERC 2	MERC 2	MERC 2	MERC 4	VENS 14	VENS 14	VENS 14	VENS 16
	17.21	51	MERC 2	MERC 2	MERC 4	MERC 4	VENS 15	VENS 15	VENS 15	VENS 19
	20.41	43	MERC 2	MERC 4	MERC 4	MERC 6	VENS 15	VENS 15	VENS 15	VENS 21
	24.00	36	MERC 3	MERC 3	MERC 5	MERC 7	VENS 16	VENS 16	VENS 18	ATLS 26
	31.63	28	MERC 4	MERC 4	MERC 6	MARS 7	VENS 15	VENS 19	ATLS 24	ATLS 34t
Triple	36.56	24	MERC 3	MERC 5	MERC 7	MARS 9	VENS 17	VENS 19	ATLS 25	ATLS 37
	43.78	20	MERC 3d	MERC 5d	MERC 7	MARS 10d	VENS 18	VENS 24	ATLS 33	ERTH 48
	54.45	16	MERC 4	MERC 6	MERC 8	MARS 11	VENS 20	ATLS 30	ATLS 38	ERTH 60
	64.42	13.5	MERC 6	MERC 8	MARS 9	MARS 15	VENS 22	ATLS 34	ERTH 48	ERTH 66
	69.63	12.5	MERC 5	MARS 9	MARS 11	MARS 15	ATLS 27	ATLS 39	ERTH 50	PLRS 75
	80.01	10.9	MERC 6	MERC 9	MARS 11	MARS 17	ATLS 30	ATLS 42	ERTH 56	PLRS 80
	91.41	9.5	MERC 8	MARS 11	MARS 13	ATLS 22	ATLS 34	ERTH 48		
	99.38	8.8	MERC 7	MARS 11	MARS 15	VENS 21	ATLS 36	ERTH 52	ERTH 70	PLRS 105
	111.5	7.8	MERC 8	MARS 13	MARS 17	VENS 24	ATLS 38	ERTH 56	ERTH 74	PLRS 120
	121.4	7.2	MARS 9q	MARS 13q	MARS 17q	ATLS 26q	ERTH 44q	ERTH 62q	PLRS 80q	PLRS 120q
	138.5	6.3	MARS 11	MARS 15	VENS 19	ATLS 31	ERTH 46	ERTH 70	PLRS 100	
	159.8	5.4	MARS 11	MARS 17	VENS 24	ATLS 35	ERTH 50q	ERTH 74q	PLRS 100q	NEPT 150q
	193.1	4.5	MARS 15	VENS 20	ATLS 29	ERTH 42	ERTH 64q	PLRS 100q	NEPT 140q	ORON 190q
Quadruple	206.2	4.2	MARS 13	VENS 22	ATLS 31	ATLS 43	ERTH 70	PLRS 110	NEPT 140	ORON 215
	238.2	3.7	MARS 17	VENS 24	ATLS 35	ERTH 46	ERTH 76	PLRS 120	NEPT 160	ORON 230
	265.4	3.3	VENS 18	ATLS 27	ATLS 35	ERTH 52	PLRS 90	NEPT 130	ORON 190	
	295.7	2.9	VENS 20	ATLS 31	ATLS 39	ERTH 60	PLRS 95	NEPT 150	ORON 190	
	330.1	2.6	VENS 23	ATLS 32	ERTH 46	ERTH 64	PLRS 110	NEPT 160	ORON 230	
	369.8	2.4	VENS 24	ATLS 39	ERTH 52	ERTH 76	PLRS 120	ORON 190	ORON 240	
	412.1	2.1	ATLS 27	ATLS 43	ERTH 54	PLRS 85	NEPT 135	ORON 215		
	459.0	1.9	ATLS 32	ERTH 46	ERTH 64	PLRS 90	NEPT 150	ORON 230		
	532.5	1.6	ATLS 35	ERTH 60	PLRS 75	PLRS 115	ORON 190			
	617.9	1.4	ERTH 46	ERTH 64	PLRS 90	NEPT 130	ORON 215			
	660.6	1.3	ERTH 48qu	PLRS 70qu	PLRS 90qu	NEPT 130qu	ORON 240			
	741.2	1.2	ERTH 54	PLRS 85	PLRS 105	NEPT 155				
	900.3	0.97	PLRS 65qu	PLRS 95qu	NEPT 120qu	ORON 190				
	1057	0.82	PLRS 70qu	PLRS 100qu	ORON 190	ORON 215				

Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

* Selections are based on 870 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

d = double reduction
t = triple reduction
q = quadruple reduction
qu = quintuple reduction

C-FACE SELECTION TABLES

870 RPM - Class II - Service Factor = 1.40

TABLE 4

LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size							
			1 HP 182TC	1.5 HP 184TC	2 HP 213TC	3 HP 215TC	5 HP 254TC	7.5 HP 256TC	10 HP 284TC	15 HP 286TC
Single	3.53	246	MERC 2	MERC 2	MERC 2	MERC 2	VENS 10	VENS 10	VENS 10	VENS 10
	4.39	198	MERC 2	MERC 2	MERC 2	MERC 2	VENS 10	VENS 10	VENS 10	VENS 10
	6.12	142	MERC 1	MERC 1	MERC 3	MERC 3	VENS 11	VENS 11	VENS 11	VENS 11
Double	9.30	94							ATLS 14	ATLS 14
	11.02	79	MERC 1	MERC 3	MERC 3	MERC 3	VENS 13	VENS 13	VENS 13	VENS 17
	13.85	63	MERC 2	MERC 4	MERC 4	MERC 6	VENS 14	VENS 14	VENS 14	VENS 20
	17.21	51	MERC 2	MERC 4	MERC 4	MERC 6	VENS 15	VENS 15	VENS 17	ATLS 26
	20.41	43	MERC 4	MERC 4	MERC 6	MARS 8	VENS 15	VENS 15	VENS 19	ATLS 30
	24.00	36	MERC 3	MERC 5	MERC 5	MARS 8	VENS 16	VENS 18	ATLS 26	ATLS 38
	31.63	28	MERC 4	MERC 6	MERC 6	MARS 9	VENS 17	ATLS 24	ATLS 32	ERTH 50
Triple	36.56	24	MERC 5	MERC 7	MARS 9	MARS 11	VENS 19	ATLS 29	ATLS 37	ERTH 52
	43.78	20	MERC 5d	MERC 7	MARS 10d	MARS 14	VENS 22	ATLS 33	ERTH 48	ERTH 66
	54.45	16	MERC 6	MERC 8	MARS 11	MARS 15	ATLS 30	ATLS 42	ERTH 54	PLRS 80
	64.42	13.5	MERC 8	MARS 11	MARS 13	VENS 18	ATLS 30	ERTH 48	ERTH 60	PLRS 90
	69.63	12.5	MERC 7	MARS 11	MARS 15	VENS 20	ATLS 35	ERTH 50	ERTH 68	PLRS 105
	80.01	10.9	MERC 8	MARS 13	MARS 17	VENS 24	ATLS 38	ERTH 56	ERTH 74	PLRS 120
	91.41	9.5	MARS 9	MARS 13	ATLS 22	ATLS 30	ERTH 48			
	99.38	8.8	MARS 11	MARS 15	VENS 19	ATLS 28	ERTH 46	ERTH 70	PLRS 95	
	111.5	7.8	MARS 11	MARS 17	VENS 22	ATLS 34	ERTH 56	PLRS 80	PLRS 110	
	121.4	7.2	MARS 13	MARS 17	ATLS 22q	ATLS 34q	ERTH 56	PLRS 90	PLRS 120	ORON 180q
	138.5	6.3	MARS 15	VENS 21	ATLS 27	ATLS 39	ERTH 64	PLRS 100		
	159.8	5.4	MARS 15	VENS 24q	ATLS 35q	ERTH 44q	ERTH 74q	PLRS 110q	NEPT 140q	ORON 215q
	193.1	4.5	VENS 18	ATLS 29	ERTH 36	ERTH 54	PLRS 90q	NEPT 140q	ORON 190q	
Quadruple	206.2	4.2	VENS 20	ATLS 31	ATLS 39	ERTH 58	PLRS 100	NEPT 150	ORON 215	
	238.2	3.7	VENS 22	ATLS 35	ERTH 46	ERTH 64	PLRS 110	NEPT 160	ORON 230	
	265.4	3.3	ATLS 27	ATLS 39	ERTH 52	ERTH 76	PLRS 120	ORON 190	ORON 240	
	295.7	2.9	ATLS 31	ATLS 43	ERTH 54	PLRS 85	NEPT 140	ORON 215		
	330.1	2.6	ATLS 32	ERTH 46	ERTH 64	PLRS 90	NEPT 150	ORON 230		
	369.8	2.4	ATLS 35	ERTH 52	ERTH 70	PLRS 100	ORON 190			
	412.1	2.1	ATLS 39	ERTH 60	PLRS 75	PLRS 115	ORON 190			
	459.0	1.9	ERTH 46	ERTH 64	PLRS 90	NEPT 130	ORON 215			
	532.5	1.6	ERTH 54	PLRS 85	PLRS 105	NEPT 155				
	617.9	1.4	ERTH 58	PLRS 90	PLRS 120	ORON 190				
	660.6	1.3	PLRS 70qu	PLRS 100qu	NEPT 130qu	ORON 190				
	741.2	1.2	ERTH 72	PLRS 115	NEPT 145	ORON 215				
	900.3	0.97	PLRS 85qu	NEPT 130qu	ORON 215	ORON 240				
	1057	0.82	PLRS 100qu	ORON 190	ORON 215					

Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

* Selections are based on 870 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

† Contact Rexnord for application details.

‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

d = double reduction
t = triple reduction
q = quadruple reduction
qu = quintuple reduction

C-FACE SELECTION TABLES

870 RPM - Class III - Service Factor = 2.00

TABLE 4

LOW SPEED SHAFT TORQUE RATING (1000 lb-in)‡
(Horizontal Mounting)

Reduction	Nominal Ratio	Approx. Output RPM	Motor Horsepower & Frame Size							
			1 HP 182TC	1.5 HP 184TC	2 HP 213TC	3 HP 215TC	5 HP 254TC	7.5 HP 256TC	10 HP 284TC	15 HP 286TC
Single	3.53	246	MERC 2	MERC 2	MERC 2	MERC 2	VENS 10	VENS 10	VENS 10	VENS 10
	4.39	198	MERC 2	MERC 2	MERC 2	MERC 2	VENS 10	VENS 10	VENS 10	VENS 10
	6.12	142	MERC 1	MERC 3	MERC 3	MERC 3	VENS 11	VENS 11	VENS 11	VENS 13
Double	9.30	94						ATLS 14	ATLS 14	ATLS 22
	11.02	79	MERC 3	MERC 3	MERC 3	MERC 5	VENS 13	VENS 13	VENS 17	ATLS 24
	13.85	63	MERC 2	MERC 4	MERC 4	MERC 6	VENS 14	VENS 16	VENS 20	ATLS 30
	17.21	51	MERC 4	MERC 4	MERC 6	MARS 9	VENS 15	VENS 19	ATLS 26	ATLS 38
	20.41	43	MERC 4	MERC 6	MERC 6	MARS 10	VENS 15	VENS 21	ATLS 30	ERTH 40
	24.00	36	MERC 5	MERC 7	MERC 7	MARS 12	VENS 18	ATLS 26	ATLS 34	ERTH 54
	31.63	28	MERC 6	MARS 7	MARS 9	MARS 13	ATLS 24	ATLS 34t	ERTH 50	ERTH 66t
Triple	36.56	24	MERC 7	MARS 9	MARS 11	VENS 17	ATLS 25	ATLS 37	ERTH 52	PLRS 80
	43.78	20	MERC 7	MARS 10d	MARS 14	VENS 20	ATLS 33	ERTH 48	ERTH 66	PLRS 95
	54.45	16	MERC 8	MARS 11	MARS 15	VENS 24	ATLS 38	ERTH 60	PLRS 80	PLRS 120
	64.42	13.5	MARS 9	MARS 15	VENS 18	ATLS 26	ERTH 48	ERTH 66	PLRS 90	
	69.63	12.5	MARS 11	MARS 15	VENS 20	ATLS 31	ERTH 50	PLRS 75	PLRS 95	
	80.01	10.9	MARS 11	MARS 17	VENS 22	ATLS 34	ERTH 56	PLRS 80	PLRS 110	
	91.41	9.5	MARS 13	ATLS 22	ATLS 26	ATLS 38				
	99.38	8.8	MARS 15	VENS 21	ATLS 28	ATLS 40	ERTH 70	PLRS 105		
	111.5	7.8	MARS 17	VENS 24	ATLS 30	ERTH 50	ERTH 74	PLRS 120		
	121.4	7.2	MARS 17	ATLS 26q	ATLS 34q	ERTH 50q	PLRS 80q	PLRS 120q	NEPT 160q	
	138.5	6.3	VENS 19	ATLS 31	ATLS 39	ERTH 58	PLRS 100			
	159.8	5.4	VENS 24q	ATLS 35q	ERTH 44q	ERTH 62q	PLRS 100q	NEPT 150q	ORON 215q	
	193.1	4.5	ATLS 29	ERTH 42	ERTH 54	ERTH 76q	NEPT 140q	ORON 190q		
Quadruple	206.2	4.2	ATLS 31	ATLS 43	ERTH 58	PLRS 90	NEPT 140	ORON 215		
	238.2	3.7	ATLS 35	ERTH 46	ERTH 64	PLRS 100	NEPT 160	ORON 230		
	265.4	3.3	ATLS 35	ERTH 52	ERTH 70	PLRS 110	ORON 190			
	295.7	2.9	ATLS 39	ERTH 60	PLRS 85	PLRS 115	ORON 190			
	330.1	2.6	ERTH 46	ERTH 64	PLRS 90	NEPT 130	ORON 230			
	369.8	2.4	ERTH 52	ERTH 76	PLRS 100	NEPT 150	ORON 240			
	412.1	2.1	ERTH 54	PLRS 85	PLRS 105	ORON 190				
	459.0	1.9	ERTH 64	PLRS 90	PLRS 120	ORON 180				
	532.5	1.6	PLRS 75	PLRS 115	NEPT 155	ORON 240				
	617.9	1.4	PLRS 90	NEPT 130	ORON 190					
	660.6	1.3	PLRS 90qu	NEPT 130qu	ORON 190					
	741.2	1.2	PLRS 105	NEPT 155	ORON 215					
	900.3	0.97	NEPT 120qu	ORON 190	ORON 240					
	1057	0.82	ORON 190	ORON 215						

Average ambient temperature below 84 °F. See selection procedures page 5 for higher ambient temperatures.

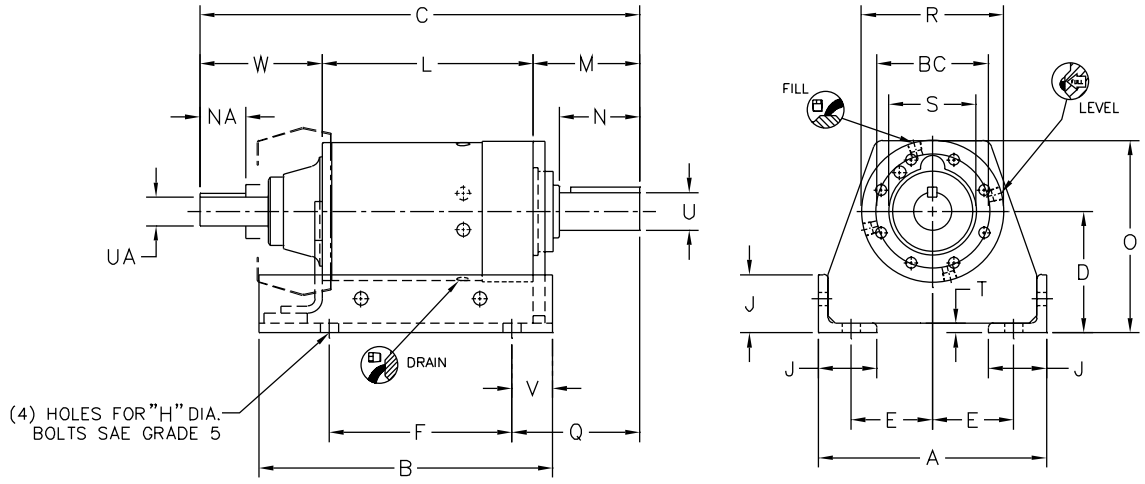
* Selections are based on 870 RPM, NEMA B, T-Frame motors. If other motor types, speeds, or HP's > 250 are required, refer application to factory. Additional ratios are available as standard items. Contact Rexnord for application details.

‡ Example: "VENS 19" requires a Venus size reducer rated for 19,000 lb-in torque.

d = double reduction
t = triple reduction
q = quadruple reduction
qu = quintuple reduction

DIMENSIONAL DRAWINGS

Reducer Only — Mercury & Mars



Shortened lengths (C) available for some ratios - contact factory.

Dimensions are in Inches.

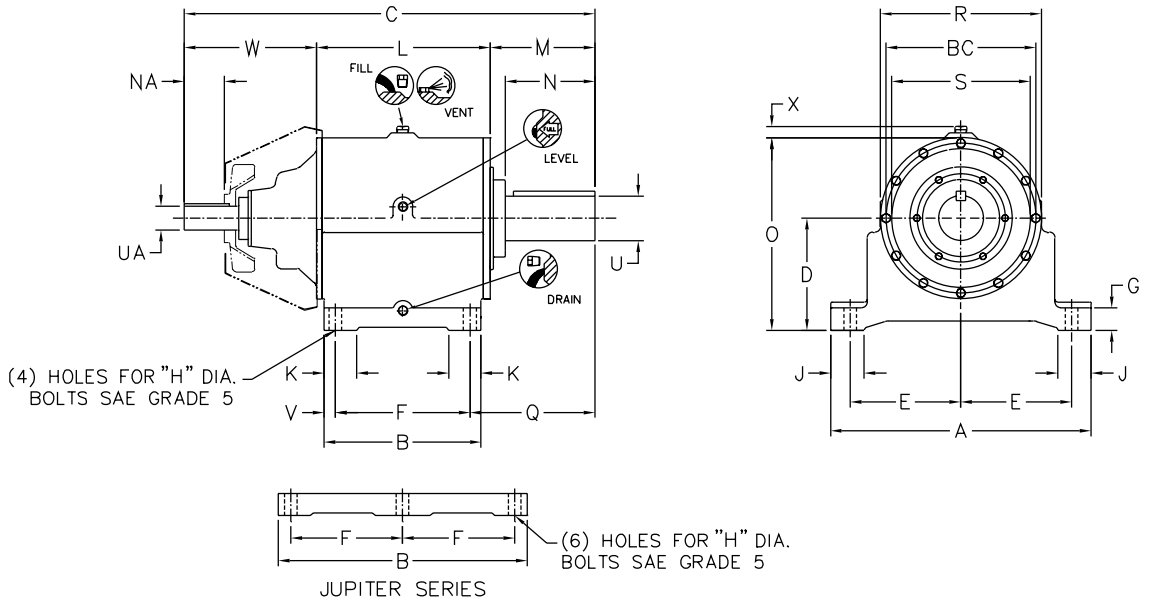
Series	A	B	BC	C[1]		D	E	F	H	J	L[2]		M	O	Q
				s,d,t	quad				bolt		s,d,t	quad			
Mercury	11.75	15.13	5.750	22.13	24.38	6.25	4.19	9.41	7/8	3.00	10.88	13.13	5.50	9.91	6.59
Mars	11.75	15.13	5.750	23.50	25.75	6.25	4.19	9.41	7/8	3.00	10.88	13.13	6.37	9.91	7.46

Series	R	S	T	V	W[3]	Low Speed Shaft			High Speed Shaft				Avg. Wt. Lbs
						N	U*	Key	NA		UA*	Key	
	max.	max.							w/o fan	w/ fan			
Mercury	7.32	4.50	0.50	2.09	5.75	4.15	2.000	1/2 x 1/2 x 3	3.00	1.88	1.375	5/16 x 5/16 x 2	144
Mars	7.32	4.50	0.50	2.09	6.25	4.98	2.500	5/8 x 5/8 x 3 7/8	3.50	2.38	1.625	3/8 x 3/8 x 2 1/2	150

s = single reduction, d = double reduction, t = triple reduction, quad = quadruple reduction
[1] Add 0.66 w/Backstop
[2] Add 1.12 w/Backstop
[3] Subtract 0.46 w/Backstop
* Tolerances: 3.000" diameter or less +.000/-.001 over 3.000" Diameter +.000/-.002
NOTE: Dimensions subject to change. Certified dimensions of ordered material furnished upon request.

DIMENSIONAL DRAWINGS

Reducer Only — Venus through Jupiter



Dimensions are in Inches.

Series	A	B	BC	C		D	E	F	G	H	J	K	L		M
				s,d,t	quad					bolt			s,d,t	quad	
Venus	18.00	11.75	10.500	29.73	28.52[1]	7.75	8.00	9.53	1.25	1	2.25	2.62	13.13	13.13	6.76
Atlas	18.00	11.75	10.500	30.73	29.52[1]	7.75	8.00	9.53	1.25	1	2.25	2.62	13.13	13.13	7.76
Earth	23.25	11.75	13.375	34.08	35.71	8.75	9.88	9.53	2.00	1	3.13	2.62	13.06	13.13	9.58
Polaris	23.25	14.00	13.375	36.30	37.93	10.00	9.88	11.75	2.00	1	3.00	2.88	15.53	15.60	9.33
Neptune	29.25	11.69	18.250	42.79	42.69	11.25	12.88	8.19	2.75	1 1/4	4.00	4.00	13.43	13.43	16.20
Orion	29.25	19.62	18.250	46.21	46.11	11.25	12.88	16.00	2.75	1 1/4	4.00	5.00	21.24	21.24	11.81
Saturn	33.00	14.75	21.625	50.03	52.50	12.88	14.63	11.00	2.75	1 1/2	5.00	5.00	16.48	16.48	19.30
Titan	33.25	19.86	21.625	51.78	54.25	12.88	14.63	16.00	2.75	1 1/2	5.88	5.93	21.58	21.58	15.95
Jupiter	33.25	28.88	28.500	62.94	62.94	16.50	14.63	12.50	2.75	1 1/2	4.50	4.50	30.63	30.63	18.06

Series	O	Q	R	S	V	W		X	Low Speed Shaft		
				max.		s,d,t	quad		N	U*	Key
Venus	13.50	8.63	11.50	7.28	1.11	9.84	8.63[1]	1.00	5.50	2.750	5/8 x 5/8 x 4 1/8
Atlas	13.50	9.63	11.50	7.28	1.11	9.84	8.63[1]	1.00	6.50	3.250	3/4 x 3/4 x 5 1/8
Earth	15.94	11.38	14.38	11.90	1.11	11.44	13.00	1.00	7.00	3.500	7/8 x 7/8 x 5 1/2
Polaris	17.19	11.29	14.38	9.14	1.13	11.44	13.00	1.00	8.00	4.000	1 x 1 x 6 1/2
Neptune	20.94	18.83	19.38	16.52	1.75	13.16	13.06	1.00	9.00	4.500	1 x 1 x 7 1/4
Orion	20.94	14.37	19.38	13.00	1.81	13.16	13.06	1.00	10.00	5.000	1 1/4 x 1 1/4 x 9 1/4
Saturn	24.25	22.04	22.75	20.02	1.88	14.25	16.72	1.00	11.00	5.500	1 1/4 x 1 1/4 x 9 1/4
Titan	24.25	18.74	22.75	20.02	1.93	14.25	16.72	1.00	11.25	6.500	1 1/2 x 1 1/2 x 9 1/4
Jupiter	31.50	20.88	30.00	26.39	1.94	14.25	14.25	3.50	12.25	7.250	1 3/4 x 1 1/2 x 9 3/4

Series	High Speed Shaft								Avg. Wt. Lbs
	NA				UA*		Key		
	w/o fan		w/ fan						
	s,d,t	quad	s,d,t	quad	s,d,t	quad	s,d,t	quad	
Venus	4.25	3.50	2.88	2.50	1.875	1.625	1/2 x 1/2 x 3 3/4	3/8 x 3/8 x 2 1/2	295
Atlas	4.25	3.50	2.88	2.50	1.875	1.625	1/2 x 1/2 x 3 3/4	3/8 x 3/8 x 2 1/2	325
Earth	4.50	4.25	3.25	2.88	2.125	1.875	1/2 x 1/2 x 4	1/2 x 1/2 x 3 3/4	481
Polaris	4.50	4.25	2.88	2.88	2.125	1.875	1/2 x 1/2 x 4	1/2 x 1/2 x 3 3/4	702
Neptune	5.68	4.50	3.56	3.25	2.500	2.125	5/8 x 5/8 x 5 1/8	1/2 x 1/2 x 4	923
Orion	5.68	4.50	3.56	3.25	2.500	2.125	5/8 x 5/8 x 5 1/8	1/2 x 1/2 x 4	1146
Saturn	6.50	5.68	4.38	3.56	3.000	2.500	3/4 x 3/4 x 5 7/8	5/8 x 5/8 x 5 1/8	1512
Titan	6.50	5.68	4.38	3.56	3.000	2.500	3/4 x 3/4 x 5 7/8	5/8 x 5/8 x 5 1/8	2000
Jupiter	6.50	6.50	4.38	4.38	3.000	3.000	3/4 x 3/4 x 5 7/8	3/4 x 3/4 x 5 7/8	3470

s = single reduction, d = double reduction, t = triple reduction, quad = quadruple reduction

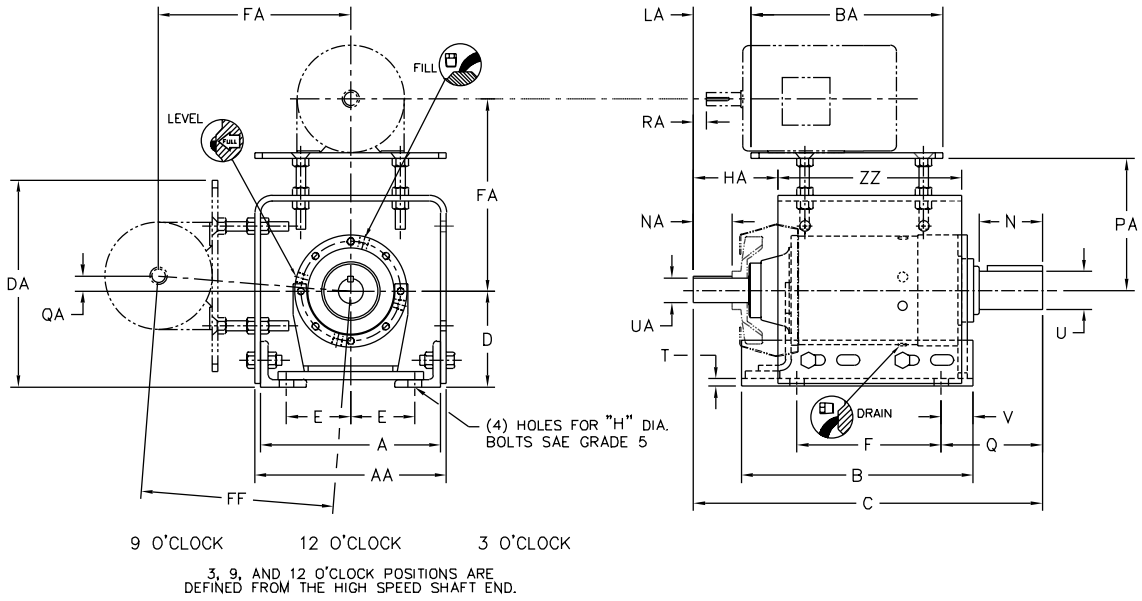
[1] Add 0.66 w/ Backstop

* TOLERANCES: 3.000" Diameter or less +.000/-.001 over 3.000" Diameter +.000/-.002

NOTE: Dimensions subject to change. Certified dimensions of ordered material furnished upon request.

DIMENSIONAL DRAWINGS

Motor Mount — Mercury & Mars



Shortened lengths (C) available for some ratios - contact factory.

Dimensions are in Inches.

Series	A	AA	B	BA	C[1]		D	DA	E	F	H	HA	PA	
					s,d,t	quad					bolt		min.	max.
Mercury	11.75	12.50	15.13	12.50	22.13	24.38	6.25	13.50	4.19	9.41	7/8	5.75	7.53	9.81
Mars	11.75	12.50	15.13	12.50	23.50	25.75	6.25	13.50	4.19	9.41	7/8	6.25	7.53	9.81

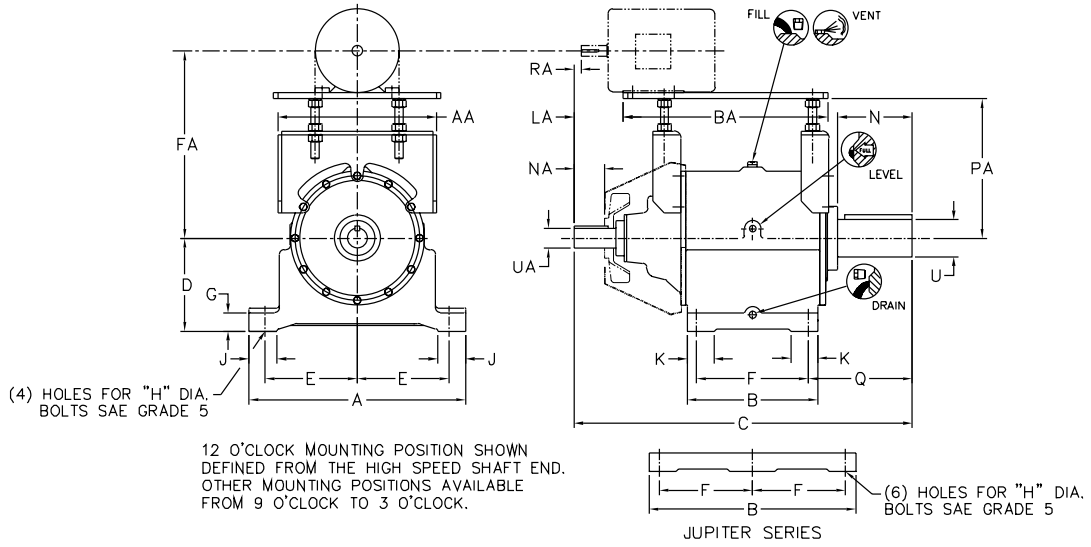
Series	Q	QA	T	V	ZZ	Low Speed Shaft			High Speed Shaft				Avg. Wt. Lbs
						N	U*	Key	NA		UA*	Key	
									w/o fan	w/ fan			
Mercury	6.59	1.00	0.50	2.09	12.00	4.15	2.000	1/2 x 1/2 x 3	3.00	1.88	1.375	5/16 x 5/16 x 2	205
Mars	7.46	1.00	0.50	2.09	12.00	4.98	2.500	5/8 x 5/8 x 3 7/8	3.50	2.38	1.625	3/8 x 3/8 x 2 1/2	211

Motor Frame [2]	Series	FA		FF		LA	RA
		min.	max.	min.	max.		
143T / 145T	**Mercury**	11.41	13.69	11.45	13.73	4.00	0.50
	Mars	11.41	13.69	11.45	13.73	4.50	1.00
182T / 184T	**Mercury**	12.41	14.69	12.45	14.72	4.00	0.13
	Mars	12.41	14.69	12.45	14.72	4.50	0.63
213T / 215T	**Mercury**	13.16	15.44	13.20	15.47	4.00	-0.50
	Mars	13.16	15.44	13.20	15.47	4.50	0.00
254T / 256T	**Mercury**	14.16	16.44	14.20	16.47	6.25	-0.75
	Mars	14.16	16.44	14.20	16.47	6.75	-0.25

s = single reduction, d = double reduction, t = triple reduction, quad = quadruple reduction
[1] Add 0.66 w/Backstop [2] Contact factory for motor frame sizes not listed
* Tolerances: 3.000" diameter or less +.000/-.001 over 3.000" diameter +.000/-.002
NOTE: Dimensions subject to change. Certified dimensions of ordered material furnished upon request.

DIMENSIONAL DRAWINGS

Motor Mount — Venus through Jupiter



Motor mounts for larger motor frames available - contact factory.

Dimensions are in Inches.

Series	A	AA	B	BA	C		D	E	F	G	H	J	K	LA		PA	
					s,d,t	quad					bolt			s,d,t	quad	min.	max.
Venus	18.00	14.50	11.75	17.50	29.73	28.52[1]	7.75	8.00	9.53	1.25	1	2.25	2.62	5.50	4.29[1]	11.47	14.29
Atlas	18.00	14.50	11.75	17.50	30.73	29.52[1]	7.75	8.00	9.53	1.25	1	2.25	2.62	5.50	4.29[1]	11.47	14.29
Earth	23.25	17.00	11.75	19.50	34.08	35.71	8.75	9.88	9.53	2.00	1	3.13	2.62	5.25	6.87	13.22	16.53
Polaris	23.25	17.00	14.00	22.00	36.30	37.93	10.00	9.88	11.75	2.00	1	3.00	2.88	5.25	6.81	13.22	16.53
Neptune	29.25	22.25	11.69	20.50	42.79	42.69	11.25	12.88	8.19	2.75	1 1/4	4.00	4.00	6.50	6.39	16.72	20.52
Orion	29.25	22.25	19.62	29.50	46.21	46.11	11.25	12.88	16.00	2.75	1 1/4	4.00	5.00	6.50	6.39	16.72	20.52
Saturn	33.00	25.50	14.75	24.50	50.03	52.50	12.88	14.63	11.00	2.75	1 1/2	5.00	5.00	6.50	8.97	17.97	21.24
Titan	33.25	25.50	19.86	29.50	51.78	54.25	12.88	14.63	16.00	2.75	1 1/2	5.88	5.93	6.50	8.97	17.97	21.24
Jupiter	33.25	25.50	28.88	38.50	62.94	62.94	16.50	14.63	12.50	2.75	1 1/2	4.50	4.50	6.50	6.50	21.22	24.49

Series	Q	Low Speed Shaft			High Speed Shaft								Avg. Wt. Lbs
		N	U*	Key	NA				UA*		Key		
					w/o fan		w/ fan						
					s,d,t	quad	s,d,t	quad	s,d,t	quad	s,d,t	quad	
Venus	8.63	5.50	2.750	5/8 x 5/8 x 4 1/8	4.25	3.50	2.88	2.50	1.875	1.625	1/2 x 1/2 x 3 3/4	3/8 x 3/8 x 2 1/2	362
Atlas	9.63	6.50	3.250	3/4 x 3/4 x 5 1/8	4.25	3.50	2.88	2.50	1.875	1.625	1/2 x 1/2 x 3 3/4	3/8 x 3/8 x 2 1/2	392
Earth	11.38	7.00	3.500	7/8 x 7/8 x 5 1/2	4.50	4.25	3.25	2.88	2.125	1.875	1/2 x 1/2 x 4	1/2 x 1/2 x 3 3/4	574
Polaris	11.29	8.00	4.000	1 x 1 x 6 1/2	4.50	4.25	2.88	2.88	2.125	1.875	1/2 x 1/2 x 4	1/2 x 1/2 x 3 3/4	820
Neptune	18.83	9.00	4.500	1 x 1 x 7 1/4	5.68	4.50	3.56	3.25	2.500	2.125	5/8 x 5/8 x 5 1/8	1/2 x 1/2 x 4	1066
Orion	14.37	10.00	5.000	1 1/4 x 1 1/4 x 9 1/4	5.68	4.50	3.56	3.25	2.500	2.125	5/8 x 5/8 x 5 1/8	1/2 x 1/2 x 4	1290
Saturn	22.04	11.00	5.500	1 1/4 x 1 1/4 x 9 1/4	6.50	5.68	4.38	3.56	3.000	2.500	3/4 x 3/4 5 7/8	5/8 x 5/8 x 5 1/8	1706
Titan	18.74	11.25	6.500	1 1/2 x 1 1/2 x 9 1/4	6.50	5.68	4.38	3.56	3.000	2.500	3/4 x 3/4 5 7/8	5/8 x 5/8 x 5 1/8	2215
Jupiter	20.88	12.25	7.250	1 3/4 x 1 1/2 x 9 3/4	6.50	6.50	4.38	4.38	3.000	3.000	3/4 x 3/4 5 7/8	3/4 x 3/4 x 5 7/8	3717

Motor [2] Frame	FA																RA													
	Venus & Atlas		Earth		Polaris		Neptune		Orion		Saturn		Titan		Jupiter		Venus & Atlas		Earth		Polaris		Neptune		Orion		Saturn		Titan		Jupiter	
	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	s,d,t	quad	s,d,t	quad	s,d,t	quad	s,d,t	quad	s,d,t	quad	s,d,t	quad	s,d,t	quad	s,d,t	quad
143T/145T	15.47	18.29	—	—	—	—	—	—			—	—	—	—	—	—	2.00	0.79	—	—	—	—	—	—	—	—	—	—	—	—	—	—
182T/184T	16.47	19.29	18.35	21.66	18.35	21.66	—	—			—	—	—	—	—	—	1.00	-0.21	0.75	2.38	0.75	2.38	—	—	—	—	—	—	—	—	—	—
213T/215T	17.22	20.04	19.10	22.41	19.10	22.41	22.60	26.40	22.73	26.53	—	—	—	—	—	—	0.25	—	0.00	1.63	0.00	1.63	1.00	0.90	1.00	0.90	—	—	—	—	—	—
254T/256T	18.22	21.04	20.10	23.41	20.10	23.41	23.60	27.40	23.73	27.53	24.97	28.24	24.97	28.24	28.22	31.49	0.00	—	0.00	—	0.00	—	0.25	0.14	0.25	0.14	-0.25	2.22	-0.25	2.22	-0.25	-0.25
284T/286T	18.97	21.79	20.85	24.16	20.85	24.16	24.35	28.15	24.48	28.28	25.72	28.99	25.72	28.99	28.97	32.22	0.00	—	-0.63	—	-0.63	—	0.25	—	0.25	—	-0.25	2.22	-0.25	2.22	-0.25	-0.25
324T/326T	—	—	21.85	25.16	21.85	25.16	25.35	29.15	25.48	29.28	26.72	29.99	26.72	29.99	29.97	33.22	—	—	-0.50	—	-0.50	—	-0.63	—	-0.63	—	-0.50	—	-0.50	1.97	-0.50	-0.50
364T/365T	—	—	—	—	22.85	26.16	26.35	30.15	26.48	30.28	27.72	30.99	27.72	30.99	30.97	34.22	—	—	—	—	-0.50	—	0.00	—	0.00	—	-1.38	—	-1.38	—	-1.38	-1.38
404T/405T	—	—	—	—	—	—	—	—	27.48	31.28	28.72	31.99	28.72	31.99	31.97	35.22	—	—	—	—	—	—	—	—	-0.38	—	-0.38	—	-0.38	—	-0.38	—

s = single reduction, d = double reduction, t = triple reduction, quad = quadruple reduction

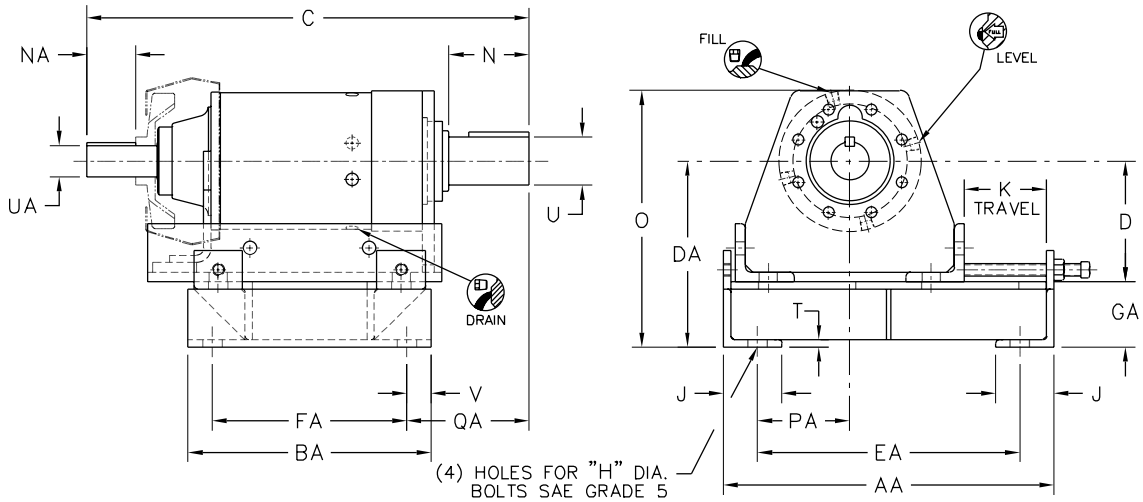
[1] Add 0.66 w/ Backstop [2] Contact factory for motor frame sizes other than "T" frame motors

* TOLERANCES: 3.000" Diameter or less +.000/-.001 over 3.000" Diameter +.000/-.002

NOTE: Dimensions subject to change. Certified dimensions of ordered material furnished upon request.

DIMENSIONAL DRAWINGS

Slidebase — Mercury & Mars



Shortened lengths (C) available for some ratios - contact factory.

Dimensions are in Inches.

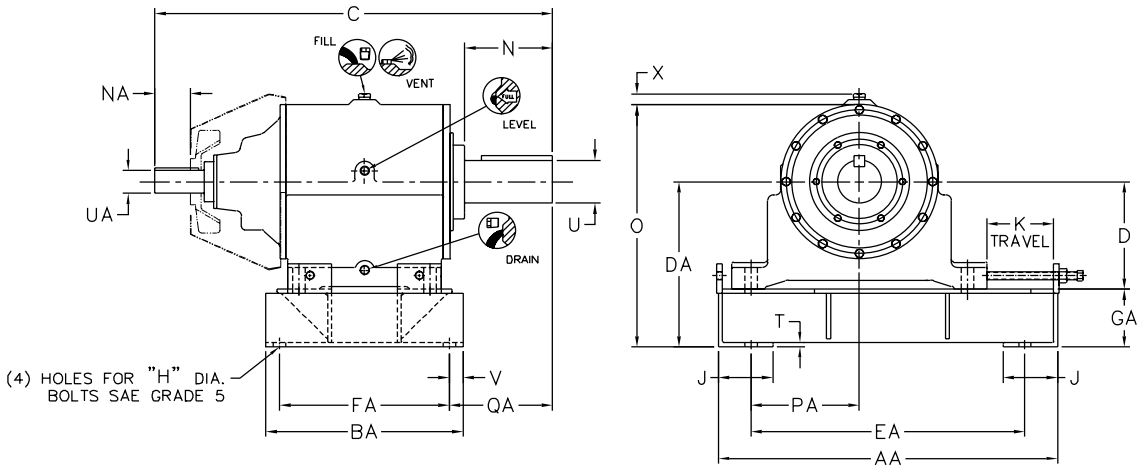
Series	AA	BA	C¹		D	DA	EA	FA	GA	H	J	K	O	PA
			s,d,t	quad						bolt				min.
Mercury	17.00	12.50	22.13	24.38	6.25	9.63	13.50	10.00	3.38	7/8	3.00	4.00	13.29	4.75
Mars	17.00	12.50	23.50	25.75	6.25	9.63	13.50	10.00	3.38	7/8	3.00	4.00	13.29	4.75

Series	QA	T	V	Low Speed Shaft			High Speed Shaft				Avg. Wt. Lbs
				N	U*	Key	NA		UA*	Key	
							w/o fan	w/ fan			
Mercury	6.30	0.38	1.25	4.15	2.000	1/2 x 1/2 x 3	3.00	1.88	1.375	5/16 x 5/16 x 2	181
Mars	7.17	0.38	1.25	4.98	2.500	5/8 x 5/8 x 3 7/8	3.50	2.38	1.625	3/8 x 3/8 x 2 1/2	187

s = single reduction, d = double reduction, t = triple reduction, quad = quadruple reduction
¹ Add 0.66 w/Backstop
* Tolerances: 3.000" diameter or less +.000/-.001 over 3.000" diameter +.000/-.002
NOTE: Dimensions subject to change. Certified dimensions of ordered material furnished upon request.

DIMENSIONAL DRAWINGS

Slidebase — Venus through Titan



Slidebase for Jupiter available - contact factory.

Dimensions are in Inches.

Series	AA	BA	C		D	DA	EA	FA	GA	H	J	K	O	PA	QA
			s,d,t	quad						bolt				min.	
Venus	24.00	13.50	29.73	28.52[1]	7.75	11.63	20.00	11.00	3.88	1	3.50	4.50	17.38	7.75	7.90
Atlas	24.00	13.50	30.73	29.52[1]	7.75	11.63	20.00	11.00	3.88	1	3.50	4.50	17.38	7.75	8.90
Earth	30.00	13.50	34.08	35.71	8.75	13.25	25.00	11.00	4.50	1	4.00	5.25	20.44	9.88	10.65
Polaris	31.00	17.75	36.30	37.93	10.00	15.38	25.00	15.25	5.38	1	5.00	5.38	22.56	9.82	9.54
Neptune	38.00	15.00	42.79	42.69	11.25	17.00	32.00	12.00	5.75	1 1/4	5.00	6.25	26.69	12.88	16.93
Orion	38.00	24.00	46.21	46.11	11.25	17.00	32.00	19.00	5.75	1 1/4	5.00	6.25	26.69	12.88	12.87
Saturn	42.00	18.00	50.03	52.50	12.88	19.63	35.00	14.00	6.75	1 1/2	6.00	6.50	31.00	14.25	20.54
Titan	42.00	22.00	51.78	54.25	12.88	19.63	35.00	18.00	6.75	1 1/2	6.00	6.50	31.00	14.25	17.74

Series	T	V	X	Low Speed Shaft			High Speed Shaft								Avg. Wt. Lbs
				N	U*	Key	NA				UA*		Key		
							w/o fan		w/ fan						
							s,d,t	quad	s,d,t	quad	s,d,t	quad	s,d,t	quad	
Venus	0.38	1.25	1.00	5.50	2.750	5/8 x 5/8 x 4 1/8	4.25	3.50	2.88	2.50	1.875	1.625	1/2 x 1/2 x 3 3/4	3/8 x 3/8 x 2 1/2	351
Atlas	0.38	1.25	1.00	6.50	3.250	3/4 x 3/4 x 5 1/8	4.25	3.50	2.88	2.50	1.875	1.625	1/2 x 1/2 x 3 3/4	3/8 x 3/8 x 2 1/2	381
Earth	0.50	1.25	1.00	7.00	3.500	7/8 x 7/8 x 5 1/2	4.50	4.25	3.25	2.88	2.125	1.875	1/2 x 1/2 x 4	1/2 x 1/2 x 3 3/4	578
Polaris	0.38	1.25	1.00	8.00	4.000	1 x 1 x 6 1/2	4.50	4.25	2.88	2.88	2.125	1.875	1/2 x 1/2 x 4	1/2 x 1/2 x 3 3/4	860
Neptune	0.75	1.50	1.00	9.00	4.500	1 x 1 x 7 1/4	5.68	4.50	3.56	3.25	2.500	2.125	5/8 x 5/8 x 5 1/8	1/2 x 1/2 x 4	1141
Orion	0.75	2.50	1.00	10.00	5.000	1 1/4 x 1 1/4 x 9 1/4	5.68	4.50	3.56	3.25	2.500	2.125	5/8 x 5/8 x 5 1/8	1/2 x 1/2 x 4	1361
Saturn	0.75	2.00	1.00	11.00	5.500	1 1/4 x 1 1/4 x 9 1/4	6.50	5.68	4.38	3.56	3.000	2.500	3/4 x 3/4 5 7/8	5/8 x 5/8 x 5 1/8	1812
Titan	0.75	2.00	1.00	11.25	6.500	1 1/2 x 1 1/2 x 9 1/4	6.50	5.68	4.38	3.56	3.000	2.500	3/4 x 3/4 5 7/8	5/8 x 5/8 x 5 1/8	2329

s = single reduction, d = double reduction, t = triple reduction, quad = quadruple reduction

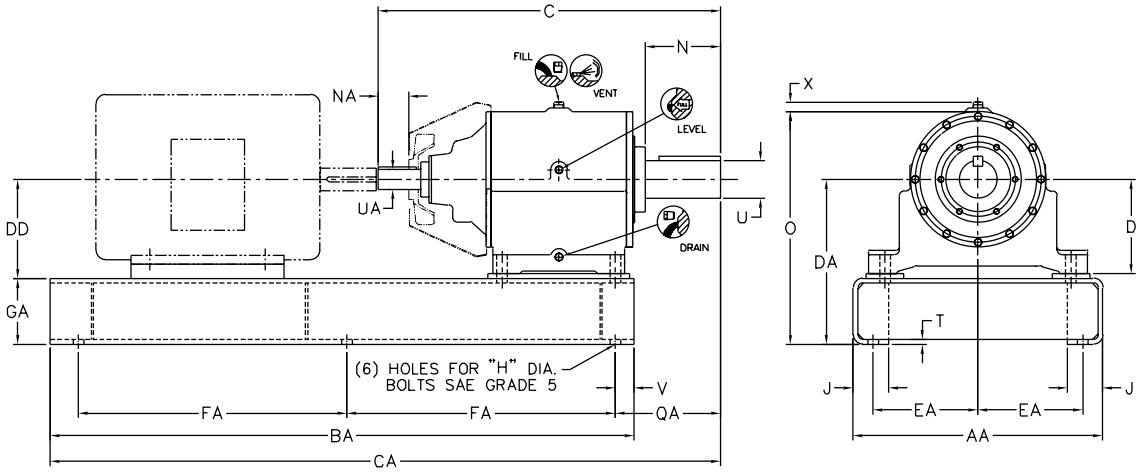
[1] Add 0.66 w/ Backstop

* TOLERANCES: 3.000" Diameter or less +.000/-.001 over 3.000" Diameter +.000/-.002

NOTE: Dimensions subject to change. Certified dimensions of ordered material furnished upon request.

DIMENSIONAL DRAWINGS

Baseplate — Venus through Jupiter



Dimensions are in Inches.

Series	AA	BA	C		CA	D	DA	DD	EA	FA	GA	H	J	O	QA	T
			s,d,t	quad								bolt				
Venus	20.00	54.00	29.73	28.52[1]	60.63	7.75	13.00[2]	8.13[2]	8.25	25.00	4.88	1	3.00	18.75[2]	8.63	0.25
Atlas	20.00	54.00	30.73	29.52[1]	61.63	7.75	13.00[2]	8.13[2]	8.25	25.00	4.88	1	3.00	18.75[2]	9.63	0.25
Earth	25.50	58.00	34.08	35.71	67.38	8.75	15.00[3]	9.13[3]	10.75	27.00	5.88	1	3.25	22.19[3]	11.38	0.38
Polaris	26.50	62.00	36.30	37.93	71.16	10.00	17.50	10.50	11.13	28.50	7.00	1	3.75	24.69	11.29	0.50
Neptune	32.50	62.00	42.79	42.69	78.33	11.25	19.00	11.75	13.50	28.50	7.25	1 1/4	4.25	28.69	18.83	0.50
Orion	32.50	70.00	46.21	46.11	81.87	11.25	20.00	11.75	13.50	32.50	8.25	1 1/4	4.75	29.69	14.37	0.50
Saturn	36.50	70.00	50.03	52.50	89.04	12.88	22.00	13.50	15.25	32.00	8.50	1 1/2	4.75	33.38	22.04	0.50
Titan	38.00	82.00	51.78	54.25	97.74	12.88	23.00	13.50	15.50	38.00	9.50	1 1/2	5.25	34.38	18.74	0.63
Jupiter	40.00	90.00	62.94	62.94	107.88	16.50	27.00	17.13	16.00	42.00	9.87	1 1/2	5.75	42.00	20.88	0.75

Series	V	X	Low Speed Shaft			High Speed Shaft								Avg. Wt. Lbs	†Motor Frame Size Range
			N	U*	Key	NA				UA*		Key			
						w/o fan		w/ fan							
						s,d,t	quad	s,d,t	quad	s,d,t	quad	s,d,t	quad		
Venus	2.00	1.00	5.50	2.750	5/8 x 5/8 x 4 1/8	4.25	3.50	2.88	2.50	1.875	1.625	1/2 x 1/2 x 3 3/4	3/8 x 3/8 x 2 1/2	474	324T - 405T
Atlas	2.00	1.00	6.50	3.250	3/4 x 3/4 x 5 1/8	4.25	3.50	2.88	2.50	1.875	1.625	1/2 x 1/2 x 3 3/4	3/8 x 3/8 x 2 1/2	504	324T - 405T
Earth	2.00	1.00	7.00	3.500	7/8 x 7/8 x 5 1/2	4.50	4.25	3.25	2.88	2.125	1.875	1/2 x 1/2 x 4	1/2 x 1/2 x 3 3/4	808	364T - 444T
Polaris	2.00	1.00	8.00	4.000	1 x 1 x 6 1/2	4.50	4.25	2.88	2.88	2.125	1.875	1/2 x 1/2 x 4	1/2 x 1/2 x 3 3/4	1167	364T - 444T
Neptune	2.50	1.00	9.00	4.500	1 x 1 x 7 1/4	5.68	4.50	3.56	3.25	2.500	2.125	5/8 x 5/8 x 5 1/8	1/2 x 1/2 x 4	1526	365T - 445T
Orion	2.50	1.00	10.00	5.000	1 1/4 x 1 1/4 x 9 1/4	5.68	4.50	3.56	3.25	2.500	2.125	5/8 x 5/8 x 5 1/8	1/2 x 1/2 x 4	1682	365T - 445T
Saturn	3.00	1.00	11.00	5.500	1 1/4 x 1 1/4 x 9 1/4	6.50	5.68	4.38	3.56	3.000	2.500	3/4 x 3/4 x 5 7/8	5/8 x 5/8 x 5 1/8	2323	404T - 447T
Titan	3.00	1.00	11.25	6.500	1 1/2 x 1 1/2 x 9 1/4	6.50	5.68	4.38	3.56	3.000	2.500	3/4 x 3/4 x 5 7/8	5/8 x 5/8 x 5 1/8	3180	404T - 449T
Jupiter	3.00	3.50	12.25	7.250	1 3/4 x 1 1/2 x 9 3/4	6.50	6.50	4.38	4.38	3.000	3.000	3/4 x 3/4 x 5 7/8	3/4 x 3/4 x 5 7/8	5133	404T - 449T

s = single reduction, d = double reduction, t = triple reduction, quad = quadruple reduction

[1] Add 0.66 w/ Backstop

[2] Add 1.00 in. for 364T / 365T and 2.00 in. for 404T / 405T

[3] Add 1.00 in. for 404T / 405T and 2.00 in. for 444T

† Contact factory for motor frame sizes other than "T" frame motors.

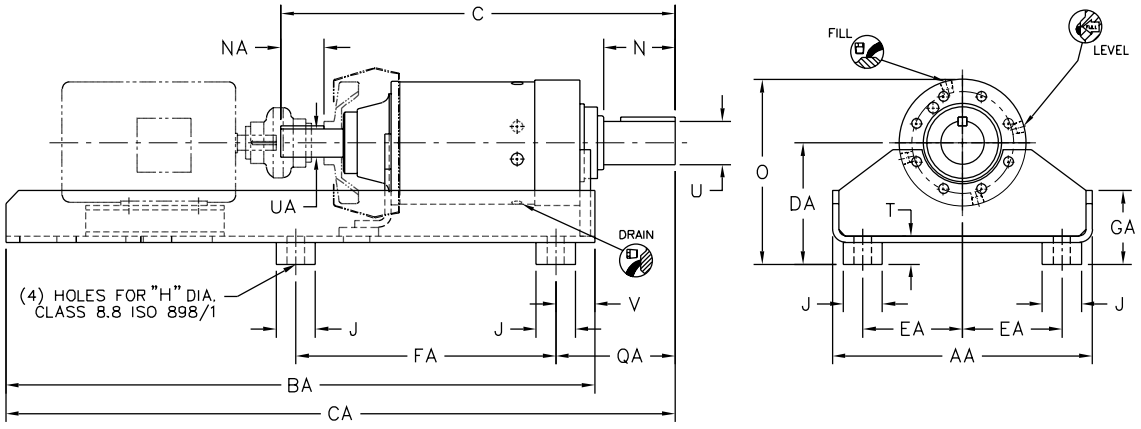
* TOLERANCES: 3.000" Diameter or less +.000/-.001 over 3.000" Diameter +.000/-.002

NOTE: Dimensions subject to change. Certified dimensions of ordered material furnished upon request.

DIMENSIONAL DRAWINGS

Scoop Mount — Mercury & Mars

Motor Frame Size Range [2]		
Series	**Assy 1**	**Assy 2**
Mercury	143T - 215T	254T - 286T
Mars	143T - 215T	254T - 324T



Shortened lengths (C) available for some ratios - contact factory.

Dimensions are in Inches.

Series	AA		BA		C[1]		CA		DA		EA		FA		GA	H	J
	Assy 1	Assy 2	Assy 1	Assy 2	s,d,t	quad	Assy 1	Assy 2	Assy 1	Assy 2	Assy 1	Assy 2	Assy 1	Assy 2		bolt	
Mercury	15.00	21.00	34.00	42.00	22.13	24.38	38.50	46.50	7.00	9.75	5.75	8.75	15.00	20.00	4.25	7/8	2.25
Mars	15.00	21.00	34.00	42.00	23.50	25.75	39.37	47.37	7.00	9.75	5.75	8.75	15.00	20.00	4.25	7/8	2.25

Series	O		QA	T	V	Low Speed Shaft			High Speed Shaft				Avg. Wt. Lbs	
						N	U*	Key	NA		UA*	Key		
	Assy 1	Assy 2							w/o fan	w/ fan			Assy 1	Assy 2
Mercury	10.66	13.41	6.75	1.63	2.25	4.15	2.000	1/2 x 1/2 x 3	3.00	1.88	1.375	5/16 x 5/16 x 2	207	280
Mars	10.66	13.41	7.62	1.63	2.25	4.98	2.500	5/8 x 5/8 x 3 7/8	3.50	2.38	1.625	3/8 x 3/8 x 2 1/2	213	286

s = single reduction, d = double reduction, t = triple reduction, quad = quadruple reduction

[1] Add 0.66 w/ Backstop [2] Contact factory for motor frame sizes other than "T" frame motors

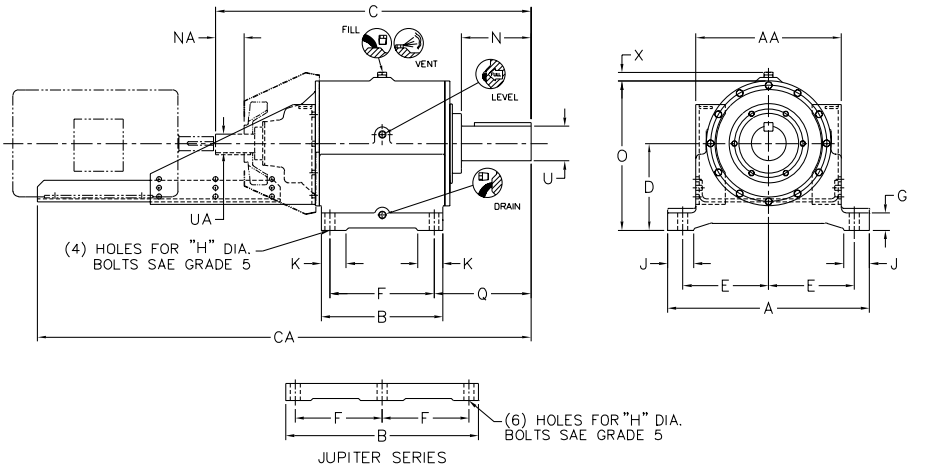
* TOLERANCES: 3.000" Diameter or less +.000/-.001 over 3.000" Diameter +.000/-.002

NOTE: Dimensions subject to change. Certified dimensions of ordered material furnished upon request.

DIMENSIONAL DRAWINGS

Scoop Mount — Venus through Jupiter

Motor Frame Size Range ²		
Series	**Assy 1**	**Assy 2**
Venus (s,d,t,q), Atlas (s,d,t,q), Earth(q), Polaris (q)	143T - 256T	284T - 286T
Earth (s,d,t), Polaris (s,d,t), Neptune (q), Orion (q)	145T - 256T	284T - 326T
Neptune (s,d,t), Orion (s,d,t), Saturn (q), Titan (q)	213T - 286T	324T - 326T
Saturn (s,d,t), Titan (s,d,t), Jupiter (s,d,t,q)	254T - 326T	364T - 365T



Dimensions are in Inches.

Series	A	AA				B	C		CA				D
		Assy 1		Assy 2					Assy 1		Assy 2		
		s,d,t	quad	s,d,t	quad		s,d,t	quad	s,d,t	quad	s,d,t	quad	
Venus	18.00	15.25	15.25	17.00	17.00	11.75	29.73	28.52[1]	49.89	49.89	52.89	52.89	7.75
Atlas	18.00	15.25	15.25	17.00	17.00	11.75	30.73	29.52[1]	50.89	50.89	53.89	53.89	7.75
Earth	23.25	16.75	15.25	19.00	17.00	11.75	34.08	35.71	54.64	55.87	59.64	58.87	8.75
Polaris	23.25	16.75	15.25	19.00	17.00	14.00	36.30	37.93	56.86	58.08	61.86	61.08	10.00
Neptune	29.25	23.00	16.75	23.00	19.00	11.69	42.79	42.69	65.63	63.25	68.63	68.25	11.25
Orion	29.25	23.00	16.75	23.00	19.00	19.62	46.21	46.11	69.05	66.67	72.05	71.67	11.25
Saturn	33.00	27.25	23.00	27.25	23.00	14.75	50.03	52.50	75.28	75.33	78.28	78.33	12.88
Titan	33.25	27.25	23.00	27.25	23.00	19.86	51.78	54.25	77.03	77.08	80.03	80.08	12.88
Jupiter	33.25	27.25	27.25	27.25	27.25	28.88	62.94	62.94	88.19	88.19	90.19	90.19	16.50

Series	E	F	G	H	J	K	O	Q	X	Low Speed Shaft		
				bolt						N	U*	Key
Venus	8.00	9.53	1.25	1	2.25	2.62	13.50	8.63	1.00	5.50	2.750	5/8 x 5/8 x 4 1/8
Atlas	8.00	9.53	1.25	1	2.25	2.62	13.50	9.63	1.00	6.50	3.250	3/4 x 3/4 x 5 1/8
Earth	9.88	9.53	2.00	1	3.13	2.62	15.94	11.38	1.00	7.00	3.500	7/8 x 7/8 x 5 1/2
Polaris	9.88	11.75	2.00	1	3.00	2.88	17.19	11.29	1.00	8.00	4.000	1 x 1 x 6 1/2
Neptune	12.88	8.19	2.75	1 1/4	4.00	4.00	20.94	18.83	1.00	9.00	4.500	1 x 1 x 7 1/4
Orion	12.88	16.00	2.75	1 1/4	4.00	5.00	20.94	14.37	1.00	10.00	5.000	1 1/4 x 1 1/4 x 9 1/4
Saturn	14.63	11.00	2.75	1 1/2	5.00	5.00	24.25	22.04	1.00	11.00	5.500	1 1/4 x 1 1/4 x 9 1/4
Titan	14.63	16.00	2.75	1 1/2	5.88	5.93	24.25	18.74	1.00	11.25	6.500	1 1/2 x 1 1/2 x 9 1/4
Jupiter	14.63	12.50	2.75	1 1/2	4.50	4.50	31.50	20.88	3.50	12.25	7.250	1 3/4 x 1 1/2 x 9 3/4

Series	High Speed Shaft								Avg. Wt. Lbs	
	NA				UA*		Key			
	w/o fan		w/ fan							
	s,d,t	quad	s,d,t	quad	s,d,t	quad	s,d,t	quad	Assy 1	Assy 2
Venus	4.25	3.50	2.88	2.50	1.875	1.625	1/2 x 1/2 x 3 3/4	3/8 x 3/8 x 2 1/2	381	407
Atlas	4.25	3.50	2.88	2.50	1.875	1.625	1/2 x 1/2 x 3 3/4	3/8 x 3/8 x 2 1/2	411	437
Earth	4.50	4.25	3.25	2.88	2.125	1.875	1/2 x 1/2 x 4	1/2 x 1/2 x 3 3/4	577	620
Polaris	4.50	4.25	2.88	2.88	2.125	1.875	1/2 x 1/2 x 4	1/2 x 1/2 x 3 3/4	836	858
Neptune	5.68	4.50	3.56	3.25	2.500	2.125	5/8 x 5/8 x 5 1/8	1/2 x 1/2 x 4	1094	1095
Orion	5.68	4.50	3.56	3.25	2.500	2.125	5/8 x 5/8 x 5 1/8	1/2 x 1/2 x 4	1316	1318
Saturn	6.50	5.68	4.38	3.56	3.000	2.500	3/4 x 3/4 x 5 7/8	5/8 x 5/8 x 5 1/8	1745	1779
Titan	6.50	5.68	4.38	3.56	3.000	2.500	3/4 x 3/4 x 5 7/8	5/8 x 5/8 x 5 1/8	2233	2267
Jupiter	6.50	6.50	4.38	4.38	3.000	3.000	3/4 x 3/4 x 5 7/8	3/4 x 3/4 x 5 7/8	3703	3737

s = single reduction, d = double reduction, t = triple reduction, quad (q) = quadruple reduction

[1] Add 0.66 w/ Backstop [2] Contact factory for motor frame sizes other than "T" frame motors

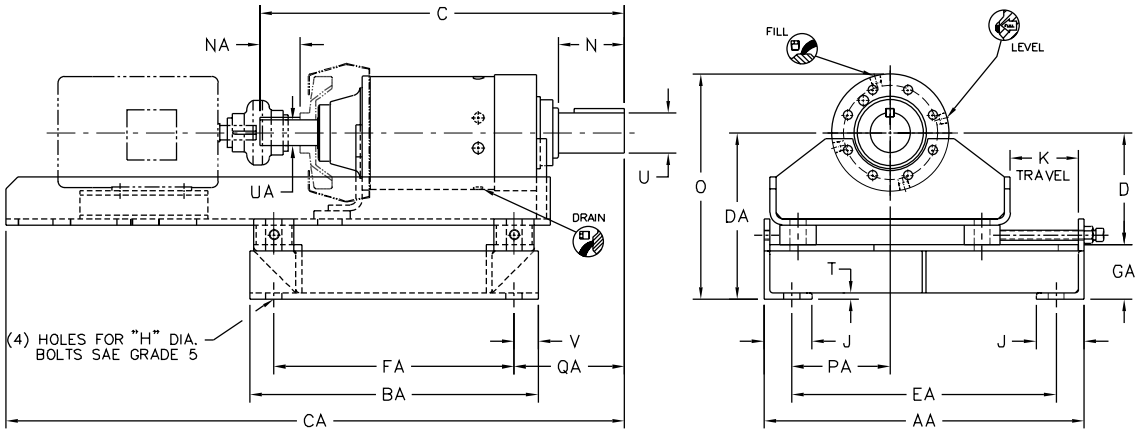
* TOLERANCES: 3.000" Diameter or less +.000/-.001 over 3.000" Diameter +.000/-.002

NOTE: Dimensions subject to change. Certified dimensions of ordered material furnished upon request.

DIMENSIONAL DRAWINGS

Scoop Mount with Slidebase — Mercury & Mars

Motor Frame Size Range [2]		
Series	**Assy 1**	**Assy 2**
Mercury	143T - 215T	254T - 286T
Mars	143T - 215T	254T - 324T



Shortened lengths (C) available for some ratios - contact factory.

Dimensions are in Inches.

Series	AA		BA		C[1]		CA		D		DA		EA		FA		GA	H	J
	Assy 1	Assy 2	Assy 1	Assy 2	s,d,t	quad	Assy 1	Assy 2	Assy 1	Assy 2	Assy 1	Assy 2	Assy 1	Assy 2	Assy 1	Assy 2		bolt	
Mercury	20.00	26.00	18.00	23.00	22.13	24.38	38.50	46.50	7.00	9.75	10.38	13.13	16.50	22.50	15.00	20.00	3.38	7/8	3.00
Mars	20.00	26.00	18.00	23.00	23.50	25.75	39.37	47.37	7.00	9.75	10.38	13.13	16.50	22.50	15.00	20.00	3.38	7/8	3.00

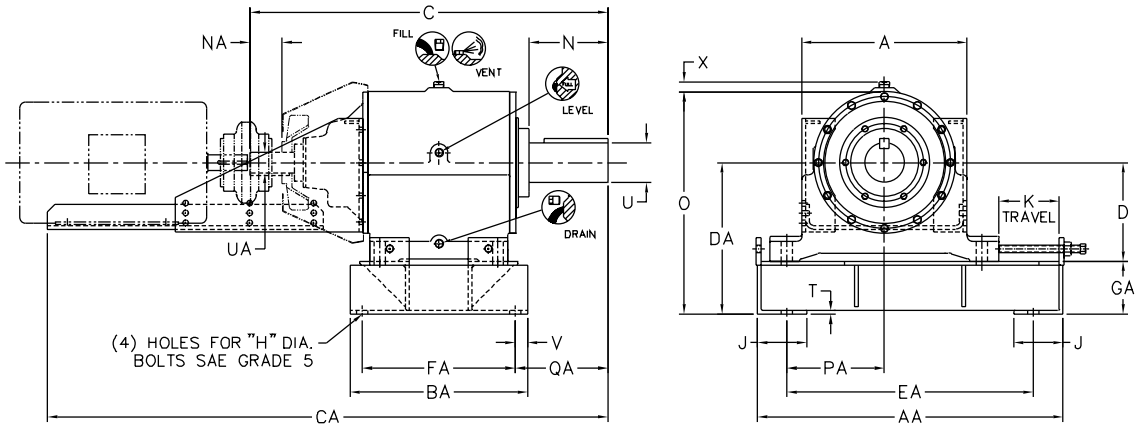
Series	K	O		PA		QA	T	V	Low Speed Shaft			High Speed Shaft				Avg. Wt. Lbs	
		Assy 1	Assy 2	Assy 1	Assy 2				N	U*	Key	NA w/o fan	NA w/ fan	UA*	Key	Assy 1	Assy 2
Mercury	4.25	14.04	16.79	6.13	9.13	6.75	0.38	1.50	4.15	2.000	1/2 x 1/2 x 3	3.00	1.88	1.375	5/16 x 5/16 x 2	255	341
Mars	4.25	14.04	16.79	6.13	9.13	7.62	0.38	1.50	4.98	2.500	5/8 x 5/8 x 3 7/8	3.50	2.38	1.625	3/8 x 3/8 x 2 1/2	261	347

s = single reduction, d = double reduction, t = triple reduction, quad = quadruple reduction
[1] Add 0.66 w/ Backstop [2] Contact factory for motor frame sizes other than "T" frame motors
* TOLERANCES: 3.000" Diameter or less +.000/-.001 over 3.000" Diameter +.000/-.002
NOTE: Dimensions subject to change. Certified dimensions of ordered material furnished upon request.

DIMENSIONAL DRAWINGS

Scoop Mount with Slidebase — Venus through Titan

Motor Frame Size Range ²		
Series	**Assy 1**	**Assy 2**
Venus (s,d,t,q), Atlas (s,d,t,q), Earth(q), Polaris (q)	143T - 256T	284T - 286T
Earth (s,d,t), Polaris (s,d,t), Neptune (q), Orion (q)	145T - 256T	284T - 326T
Neptune (s,d,t), Orion (s,d,t), Saturn (q), Titan (q)	213T - 286T	324T - 326T
Saturn (s,d,t), Titan (s,d,t)	254T - 326T	364T - 365T



Scoop Mount with Slidebase for Jupiter available - contact factory.

Dimensions are in Inches.

Series	A				AA	BA	C		CA				D	DA
	Assy 1		Assy 2						Assy 1		Assy 2			
	s,d,t	quad	s,d,t	quad			s,d,t	quad	s,d,t	quad	s,d,t	quad		
Venus	15.25	15.25	17.00	17.00	24.00	13.50	29.73	28.52[1]	49.89	49.89	52.89	52.89	7.75	11.63
Atlas	15.25	15.25	17.00	17.00	24.00	13.50	30.73	29.52[1]	50.89	50.89	53.89	53.89	7.75	11.63
Earth	16.75	15.25	19.00	17.00	30.00	13.50	34.08	35.71	54.64	55.87	59.64	58.87	8.75	13.25
Polaris	16.75	15.25	19.00	17.00	31.00	17.75	36.30	37.93	56.86	58.08	61.86	61.08	10.00	15.38
Neptune	23.00	16.75	23.00	19.00	38.00	15.00	42.79	42.69	65.63	63.25	68.63	68.25	11.25	17.00
Orion	23.00	16.75	23.00	19.00	38.00	24.00	46.21	46.11	69.05	66.67	72.05	71.67	11.25	17.00
Saturn	27.25	23.00	27.25	23.00	42.00	18.00	50.03	52.50	75.28	75.33	78.28	78.33	12.88	19.63
Titan	27.25	23.00	27.25	23.00	42.00	22.00	51.78	54.25	77.03	77.08	80.03	80.08	12.88	19.63

Series	EA	FA	GA	H bolt	J	K	O	PA min.	QA	T	V	X
Venus	20.00	11.00	3.88	1	3.50	4.50	17.38	7.75	7.90	0.38	1.25	1.00
Atlas	20.00	11.00	3.88	1	3.50	4.50	17.38	7.75	8.90	0.38	1.25	1.00
Earth	25.00	11.00	4.50	1	4.00	5.25	20.44	9.88	10.65	0.50	1.25	1.00
Polaris	25.00	15.25	5.38	1	5.00	5.38	22.56	9.82	9.54	0.38	1.25	1.00
Neptune	32.00	12.00	5.75	1 1/4	5.00	6.25	26.69	12.88	16.93	0.75	1.50	1.00
Orion	32.00	19.00	5.75	1 1/4	5.00	6.25	26.69	12.88	12.87	0.75	2.50	1.00
Saturn	35.00	14.00	6.75	1 1/2	6.00	6.50	31.00	14.25	20.54	0.75	2.00	1.00
Titan	35.00	18.00	6.75	1 1/2	6.00	6.50	31.00	14.25	17.74	0.75	2.00	1.00

Series	Low Speed Shaft			High Speed Shaft								Avg. Wt. Lbs	
	N	U*	Key	NA				UA*		Key			
				w/o fan		w/ fan							
				s,d,t	quad	s,d,t	quad	s,d,t	quad	s,d,t	quad	Assy 1	Assy 2
Venus	5.50	2.750	5/8 x 5/8 x 4 1/8	4.25	3.50	2.88	2.50	1.875	1.625	1/2 x 1/2 x 3 3/4	3/8 x 3/8 x 2 1/2	437	463
Atlas	6.50	3.250	3/4 x 3/4 x 5 1/8	4.25	3.50	2.88	2.50	1.875	1.625	1/2 x 1/2 x 3 3/4	3/8 x 3/8 x 2 1/2	467	493
Earth	7.00	3.500	7/8 x 7/8 x 5 1/2	4.50	4.25	3.25	2.88	2.125	1.875	1/2 x 1/2 x 4	1/2 x 1/2 x 3 3/4	674	717
Polaris	8.00	4.000	1 x 1 x 6 1/2	4.50	4.25	2.88	2.88	2.125	1.875	1/2 x 1/2 x 4	1/2 x 1/2 x 3 3/4	993	1015
Neptune	9.00	4.500	1 x 1 x 7 1/4	5.68	4.50	3.56	3.25	2.500	2.125	5/8 x 5/8 x 5 1/8	1/2 x 1/2 x 4	1312	1313
Orion	10.00	5.000	1 1/4 x 1 1/4 x 9 1/4	5.68	4.50	3.56	3.25	2.500	2.125	5/8 x 5/8 x 5 1/8	1/2 x 1/2 x 4	1531	1533
Saturn	11.00	5.500	1 1/4 x 1 1/4 x 9 1/4	6.50	5.68	4.38	3.56	3.000	2.500	3/4 x 3/4 x 5 7/8	5/8 x 5/8 x 5 1/8	2045	2079
Titan	11.25	6.500	1 1/2 x 1 1/2 x 9 1/4	6.50	5.68	4.38	3.56	3.000	2.500	3/4 x 3/4 x 5 7/8	5/8 x 5/8 x 5 1/8	2562	2596

s = single reduction, d = double reduction, t = triple reduction, quad (q) = quadruple reduction

[1] Add 0.66 w/ Backstop [2] Contact factory for motor frame sizes other than "T" frame motors listed.

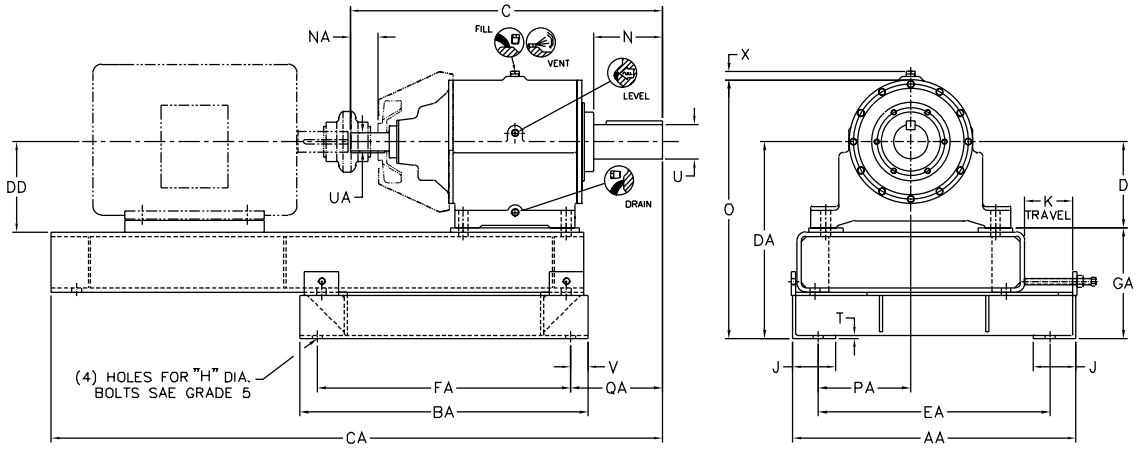
* TOLERANCES: 3.000" Diameter or less +.000/-.001 over 3.000" Diameter +.000/-.002

NOTE: Dimensions subject to change. Certified dimensions of ordered material furnished upon request.

DIMENSIONAL DRAWINGS

Baseplate with Slidebase — Venus through Titan

Motor Frame Size Range ²	
Series	**Motor Frame**
Venus	324T - 405T
Atlas	324T - 405T
Earth	364T - 444T
Polaris	364T - 444T
Neptune	364T - 445T
Orion	364T - 445T
Saturn	404T - 447T
Titan	404T - 449T



Baseplate with Slidebase for Jupiter available - contact factory.

Dimensions are in Inches.

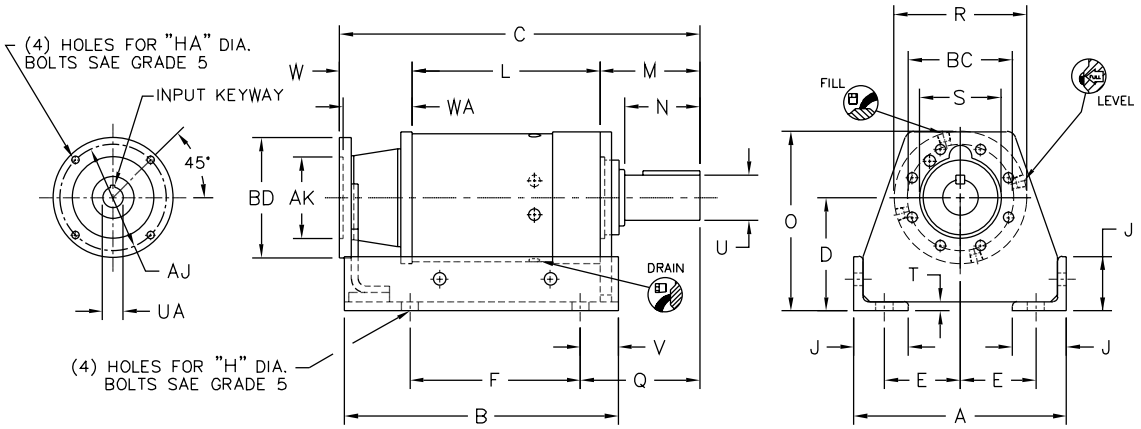
Series	AA	BA	C		CA	D	DA	DD	EA	FA	GA	H	J	K	O	PA	QA
			s,d,t	quad								bolt				min.	
Venus	26.00	29.00	29.73	28.52[1]	60.63	7.75	16.88[2]	8.13[2]	22.00	25.00	9.13	1	3.50	5.25	22.63[2]	8.38	8.63
Atlas	26.00	29.00	30.73	29.52[1]	61.63	7.75	16.88[2]	8.13[2]	22.00	25.00	9.13	1	3.50	5.25	22.63[2]	8.38	9.63
Earth	32.00	31.00	34.08	35.71	67.38	8.75	19.50[3]	9.13[3]	27.00	27.00	10.75	1	4.00	5.50	26.69[3]	10.75	11.38
Polaris	33.00	33.50	36.30	37.93	71.16	10.00	22.88	10.50	27.00	29.50	12.88	1	5.00	5.63	30.06	10.69	10.79
Neptune	41.00	33.50	42.79	42.69	78.33	11.25	24.75	11.75	35.00	28.50	13.50	1 1/4	5.00	7.00	34.44	14.00	18.83
Orion	41.00	37.50	46.21	46.11	81.87	11.25	25.75	11.75	35.00	32.50	14.50	1 1/4	5.00	7.00	35.44	14.00	14.37
Saturn	45.00	38.00	50.03	52.50	89.04	12.88	28.75	13.50	38.00	32.00	15.87	1 1/2	6.00	7.00	40.13	15.50	22.04
Titan	47.00	44.00	51.78	54.25	97.74	12.88	29.75	13.50	40.00	38.00	16.87	1 1/2	6.00	7.50	41.13	16.25	18.74

Series	T	V	X	Low Speed Shaft			High Speed Shaft								Avg. Wt. Lbs
				N	U*	Key	NA				UA*		Key		
							w/o fan		w/ fan						
							s,d,t	quad	s,d,t	quad	s,d,t	quad	s,d,t	quad	
Venus	0.38	2.00	1.00	5.50	2.750	5/8 x 5/8 x 4 1/8	4.25	3.50	2.88	2.50	1.875	1.625	1/2 x 1/2 x 3 3/4	3/8 x 3/8 x 2 1/2	555
Atlas	0.38	2.00	1.00	6.50	3.250	3/4 x 3/4 x 5 1/8	4.25	3.50	2.88	2.50	1.875	1.625	1/2 x 1/2 x 3 3/4	3/8 x 3/8 x 2 1/2	585
Earth	0.50	2.00	1.00	7.00	3.500	7/8 x 7/8 x 5 1/2	4.50	4.25	3.25	2.88	2.125	1.875	1/2 x 1/2 x 4	1/2 x 1/2 x 3 3/4	947
Polaris	0.38	2.00	1.00	8.00	4.000	1 x 1 x 6 1/2	4.50	4.25	2.88	2.88	2.125	1.875	1/2 x 1/2 x 4	1/2 x 1/2 x 3 3/4	1389
Neptune	0.75	2.50	1.00	9.00	4.500	1 x 1 x 7 1/4	5.68	4.50	3.56	3.25	2.500	2.125	5/8 x 5/8 x 5 1/8	1/2 x 1/2 x 4	1830
Orion	0.75	2.50	1.00	10.00	5.000	1 1/4 x 1 1/4 x 9 1/4	5.68	4.50	3.56	3.25	2.500	2.125	5/8 x 5/8 x 5 1/8	1/2 x 1/2 x 4	2008
Saturn	0.75	3.00	1.00	11.00	5.500	1 1/4 x 1 1/4 x 9 1/4	6.50	5.68	4.38	3.56	3.000	2.500	3/4 x 3/4 x 5 7/8	5/8 x 5/8 x 5 1/8	2735
Titan	0.75	3.00	1.00	11.25	6.500	1 1/2 x 1 1/2 x 9 1/4	6.50	5.68	4.38	3.56	3.000	2.500	3/4 x 3/4 x 5 7/8	5/8 x 5/8 x 5 1/8	3632

s = single reduction, d = double reduction, t = triple reduction, quad = quadruple reduction
[1] Add 0.66 w/ Backstop
[2] Add 1.00 in. for 364T / 365T and 2.00 in. for 404T / 405T
[3] Add 1.00 in. for 404T / 405T and 2.00 in. for 444T
† Contact factory for motor frame sizes other than "T" frame motors
* TOLERANCES: 3.000" Diameter or less +.000/-.001 over 3.000" Diameter +.000/-.002
NOTE: Dimensions subject to change. Certified dimensions of ordered material furnished upon request.

DIMENSIONAL DRAWINGS

C-face Reducer — Mercury & Mars



Shortened lengths (C) available for some ratios - contact factory.

Dimensions are in Inches.

Series	A	B	BC	D	E	F	H	J	L		M	O	Q
							bolt		s,d,t	quad			
Mercury	11.75	15.13	5.750	6.25	4.19	9.41	7/8	3.00	10.38	12.63	5.50	9.91	6.59
Mars	11.75	15.13	5.750	6.25	4.19	9.41	7/8	3.00	10.38	12.63	6.37	9.91	7.46

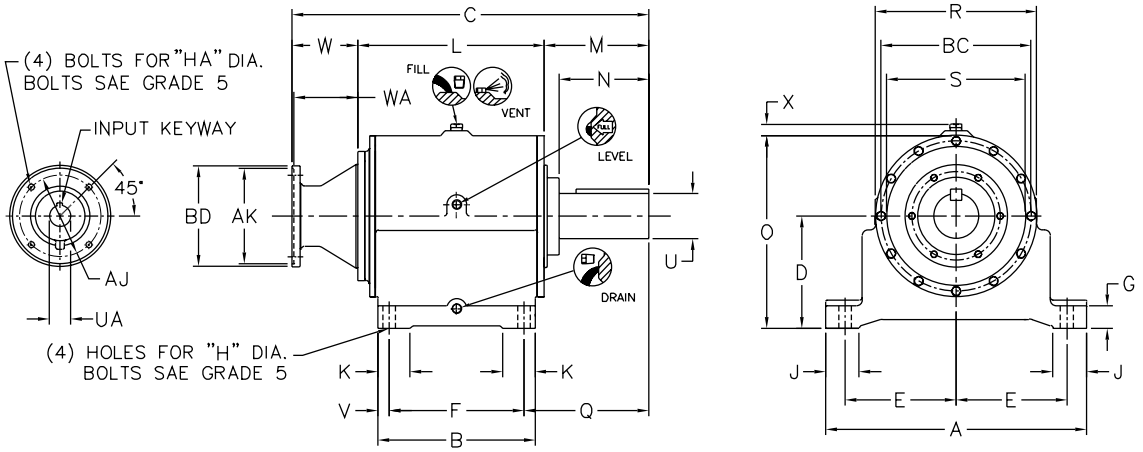
Series	R	S	T	V	Low Speed Shaft			Avg. Wt. Lbs
	max.	max.			N	U*	Key	
Mercury	7.32	4.50	0.50	2.09	4.15	2.000	1/2 x 1/2 x 3	149
Mars	7.32	4.50	0.50	2.09	4.98	2.500	5/8 x 5/8 x 3 7/8	155

Motor Frame	AJ	AK	BD	HA	UA	W	WA	C			
								Mercury		Mars	
				bolt				s, d, t	quad	s, d, t	quad
56C	5.875	4.50	6.63	3/8	5/8	4.00	–	19.88	22.13	20.75	23.00
143TC, 145TC, 182C, 184C	5.875	4.50	6.63	3/8	7/8	4.00	–	19.88	22.13	20.75	23.00
182TC, 184TC, 213C, 215C	7.250	8.50	9.00	1/2	1 1/8	4.69	4.50	20.57	22.82	21.44	23.69
213TC, 215TC	7.250	8.50	9.00	1/2	1 3/8	4.69	4.50	20.57	22.82	21.44	23.69

s = single reduction, d = double reduction, t = triple reduction, quad = quadruple reduction
* TOLERANCES: 3.000" Diameter or less +.000/-.001 over 3.000" Diameter +.000/-.002
NOTE: Dimensions subject to change. Certified dimensions of ordered material furnished upon request.

DIMENSIONAL DRAWINGS

C-face Reducer — Venus through Orion



Dimensions are in Inches.

Series	A	B	BC	D	E	F	G	H bolt	J	K	L s,d,t	L quad	M
Venus	18.00	11.75	10.500	7.75	8.00	9.53	1.25	1	2.25	2.62	13.19	15.63	6.76
Atlas	18.00	11.75	10.500	7.75	8.00	9.53	1.25	1	2.25	2.62	13.19	15.63	7.76
Earth	23.25	11.75	13.375	8.75	9.88	9.53	2.00	1	3.13	2.62	14.12	16.34	9.58
Polaris	23.25	14.00	13.375	10.00	9.88	11.75	2.00	1	3.00	2.88	16.59	18.82	9.33
Neptune	29.25	11.69	18.250	11.25	12.88	8.19	2.75	1 1/4	4.00	4.00	—	16.12	16.20
Orion	29.25	19.62	18.250	11.25	12.88	16.00	2.75	1 1/4	4.00	5.00	—	23.92	11.81

Series	O	Q	R	S max.	V	X	Low Speed Shaft N	Low Speed Shaft U*	Low Speed Shaft Key	Avg. Wt. Lbs
Venus	13.50	8.63	11.50	7.28	1.11	1.00	5.50	2.750	5/8 x 5/8 x 4 1/8	295
Atlas	13.50	9.63	11.50	7.28	1.11	1.00	6.50	3.250	3/4 x 3/4 x 5 1/8	325
Earth	15.94	11.38	14.38	11.90	1.11	1.00	7.00	3.500	7/8 x 7/8 x 5 1/2	491
Polaris	17.19	11.29	14.38	9.14	1.13	1.00	8.00	4.000	1 x 1 x 6 1/2	702
Neptune	20.94	19.00	19.38	16.52	1.75	1.00	9.00	4.500	1 x 1 x 7 1/4	923
Orion	20.94	14.37	19.38	13.00	1.81	1.00	10.00	5.000	1 1/4 x 1 1/4 x 9 1/4	1146

Motor Frame	AJ	AK	BD	HA bolt	UA	W s,d,t †	W quad Venus & Atlas	W quad Earth & Polaris	W quad Neptune & Orion	WA s,d,t †	WA quad Venus & Atlas	WA quad Earth & Polaris	WA quad Neptune & Orion
56C	5.875	4.50	6.63	3/8	5/8	—	3.38	—	—	—	3.19	—	—
143TC, 145TC, 182C, 184C	5.875	4.50	6.63	3/8	7/8	4.86	3.38	4.86	4.86	4.67	3.19	4.67	4.67
182TC, 184TC 213C, 215C	7.250	8.50	9.00	1/2	1 1/8	5.91	4.06	5.91	5.91	5.72	3.88	5.72	5.72
210TC	7.250	8.50	9.00	1/2	1 3/8	5.91	4.06	5.91	5.91	5.72	3.88	5.72	5.72
250TC	7.250	8.50	9.00	1/2	1 5/8	5.91	—	5.91	5.91	5.72	—	5.72	5.72
280TC	9.000	10.50	11.00	1/2	1 7/8	6.06	—	6.06	6.06	5.87	—	5.87	5.87

Motor Frame	C Venus s,d,t	C Venus quad	C Atlas s,d,t	C Atlas quad	C Earth s,d,t	C Earth quad	C Polaris s,d,t	C Polaris quad	C Neptune s,d,t	C Neptune quad	C Orion s,d,t	C Orion quad
56C	—	25.77	—	26.77	—	—	—	—	—	—	—	—
143TC, 145TC, 182C, 184C	24.81	25.77	25.81	26.77	28.56	30.78	30.78	33.01	—	37.18	—	40.60
182TC, 184TC, 213C, 215C	25.86	26.45	26.86	27.45	29.61	31.83	31.83	34.06	—	38.23	—	41.64
210TC	25.86	26.45	26.86	27.45	29.61	31.83	31.83	34.06	—	38.23	—	41.64
250TC	25.86	—	26.86	—	29.61	31.83	31.83	34.06	—	38.23	—	41.64
280TC	26.01	—	27.01	—	29.76	31.98	31.98	34.21	—	38.38	—	41.79

s = single reduction, d = double reduction, t = triple reduction, quad = quadruple reduction

* TOLERANCES: 3.000" Diameter or less +.000/-.001 over 3.000" Diameter +.000/-.002

† Neptune & Orion are not available in single, double, or triple reductions.

NOTE: Dimensions subject to change. Certified dimensions of ordered material furnished upon request.

TECHNICAL INFORMATION

Low Speed Shaft Torque Ratings

TABLE 5

Reducer Only Selection*
Low Speed Shaft Torque Ratings (lb-in)

3.53 Nominal Ratio Single Reduction				1750 RPM in = 496 RPM out 1430 RPM in = 405 RPM out				1170 RPM in = 331 RPM out 870 RPM in = 246 RPM out		
MERCURY	**MARS**	**VENUS**	**ATLAS**	**EARTH**	**POLARIS**	**NEPTUNE**	**ORION**	**SATURN**	**TITAN**	**JUPITER**
2,000	6,000	10,000	—	18,000	34,000	45,000	85,000	80,000	—	—
4,000	8,000	12,000	—	24,000	44,000	55,000	100,000	100,000	—	—
—	—	14,000	—	30,000	54,000	65,000	—	120,000	—	—
—	—	16,000	—	36,000	—	75,000	—	—	—	—
—	—	—	—	42,000	—	—	—	—	—	—

4.39 Nominal Ratio Single Reduction				1750 RPM in = 399 RPM out 1430 RPM in = 326 RPM out				1170 RPM in = 267 RPM out 870 RPM in = 198 RPM out		
MERCURY	**MARS**	**VENUS**	**ATLAS**	**EARTH**	**POLARIS**	**NEPTUNE**	**ORION**	**SATURN**	**TITAN**	**JUPITER**
2,000	5,000	10,000	20,000	20,000	32,000	30,000	90,000	90,000	—	—
4,000	7,000	12,000	24,000	26,000	42,000	40,000	105,000	110,000	—	—
—	—	14,000	28,000	32,000	52,000	50,000	—	130,000	—	—
—	—	16,000	—	38,000	—	60,000	—	—	—	—
—	—	—	—	44,000	—	70,000	—	—	—	—
—	—	—	—	—	—	80,000	—	—	—	—

6.12 Nominal Ratio Single Reduction				1750 RPM in = 286 RPM out 1430 RPM in = 234 RPM out				1170 RPM in = 191 RPM out 870 RPM in = 142 RPM out		
MERCURY	**MARS**	**VENUS**	**ATLAS**	**EARTH**	**POLARIS**	**NEPTUNE**	**ORION**	**SATURN**	**TITAN**	**JUPITER**
1,000	5,000	11,000	18,000	34,000	—	35,000	—	100,000	—	—
3,000	7,000	13,000	22,000	40,000	—	45,000	—	120,000	—	—
—	—	15,000	26,000	46,000	—	55,000	—	140,000	—	—
—	—	17,000	30,000	—	—	65,000	—	—	—	—
—	—	—	—	—	—	75,000	—	—	—	—
—	—	—	—	—	—	85,000	—	—	—	—

9.30 Nominal Ratio Double Reduction				1750 RPM in = 188 RPM out 1430 RPM in = 154 RPM out				1170 RPM in = 126 RPM out 870 RPM in = 94 RPM out		
MERCURY	**MARS**	**VENUS**	**ATLAS**	**EARTH**	**POLARIS**	**NEPTUNE**	**ORION**	**SATURN**	**TITAN**	**JUPITER**
—	—	—	14,000	32,000	44,000	70,000	—	—	—	—
—	—	—	18,000	38,000	54,000	80,000	—	—	—	—
—	—	—	22,000	44,000	64,000	90,000	—	—	—	—
—	—	—	26,000	50,000	—	100,000	—	—	—	—
—	—	—	—	—	—	110,000	—	—	—	—

11.02 Nominal Ratio Double Reduction				1750 RPM in = 159 RPM out 1430 RPM in = 130 RPM out				1170 RPM in = 106 RPM out 870 RPM in = 79 RPM out		
MERCURY	**MARS**	**VENUS**	**ATLAS**	**EARTH**	**POLARIS**	**NEPTUNE**	**ORION**	**SATURN**	**TITAN**	**JUPITER**
1,000	6,000	13,000	24,000	42,000	50,000	80,000	110,000	150,000	210,000	—
3,000	8,000	15,000	28,000	48,000	60,000	90,000	125,000	165,000	250,000	—
5,000	10,000	17,000	32,000	54,000	70,000	100,000	140,000	180,000	—	—
—	—	19,000	36,000	60,000	80,000	110,000	—	—	—	—
—	—	21,000	—	—	—	—	—	—	—	—

* Contact Rexnord for input speeds above 2,500 RPM.

TABLE 5

Reducer Only Selection*
Low Speed Shaft Torque Ratings (lb-in)

13.85 Nominal Ratio Double Reduction				1750 RPM in = 126 RPM out 1430 RPM in = 103 RPM out				1170 RPM in = 84 RPM out 870 RPM in = 63 RPM out		
MERCURY	**MARS**	**VENUS**	**ATLAS**	**EARTH**	**POLARIS**	**NEPTUNE**	**ORION**	**SATURN**	**TITAN**	**JUPITER**
2,000	8,000	14,000	26,000	40,000	65,000	85,000	120,000	160,000	220,000	300,000
4,000	10,000	16,000	30,000	46,000	75,000	95,000	135,000	175,000	260,000	330,000
6,000	12,000	18,000	34,000	52,000	85,000	105,000	150,000	190,000	—	—
—	—	20,000	38,000	58,000	—	115,000	—	—	—	—
—	—	22,000	—	64,000	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
17.21 Nominal Ratio Double Reduction				1750 RPM in = 102 RPM out 1430 RPM in = 83 RPM out				1170 RPM in = 68 RPM out 870 RPM in = 51 RPM out		
MERCURY	**MARS**	**VENUS**	**ATLAS**	**EARTH**	**POLARIS**	**NEPTUNE**	**ORION**	**SATURN**	**TITAN**	**JUPITER**
2,000	7,000	15,000	22,000	40,000	65,000	90,000	130,000	160,000	200,000	—
4,000	9,000	17,000	26,000	46,000	75,000	100,000	140,000	175,000	240,000	—
6,000	11,000	19,000	30,000	52,000	85,000	110,000	150,000	190,000	280,000	—
—	13,000	21,000	34,000	58,000	—	120,000	—	—	320,000	—
—	—	—	38,000	64,000	—	—	—	—	—	—

20.41 Nominal Ratio Double Reduction				1750 RPM in = 86 RPM out 1430 RPM in = 70 RPM out				1170 RPM in = 57 RPM out 870 RPM in = 43 RPM out		
MERCURY	**MARS**	**VENUS**	**ATLAS**	**EARTH**	**POLARIS**	**NEPTUNE**	**ORION**	**SATURN**	**TITAN**	**JUPITER**
2,000	8,000	15,000	26,000	40,000	80,000	110,000	140,000	170,000	240,000	300,000
4,000	10,000	17,000	30,000	46,000	90,000	120,000	150,000	190,000	280,000	350,000
6,000	12,000	19,000	34,000	52,000	100,000	130,000	160,000	210,000	—	400,000
—	—	21,000	38,000	58,000	—	—	—	—	—	450,000
—	—	23,000	—	64,000	—	—	—	—	—	—
—	—	—	—	70,000	—	—	—	—	—	—
24.00 Nominal Ratio Double Reduction				1750 RPM in = 73 RPM out 1430 RPM in = 60 RPM out				1170 RPM in = 49 RPM out 870 RPM in = 36 RPM out		
MERCURY	**MARS**	**VENUS**	**ATLAS**	**EARTH**	**POLARIS**	**NEPTUNE**	**ORION**	**SATURN**	**TITAN**	**JUPITER**
1,000	8,000	16,000	26,000	42,000	70,000	95,000	140,000	180,000	230,000	300,000
3,000	10,000	18,000	30,000	48,000	80,000	105,000	155,000	195,000	270,000	350,000
5,000	12,000	20,000	34,000	54,000	90,000	115,000	170,000	210,000	310,000	400,000
7,000	14,000	22,000	38,000	60,000	—	125,000	—	—	350,000	450,000
—	—	—	—	66,000	—	135,000	—	—	—	—

31.63 Nominal Ratio Double (d) or Triple (t) Reduction				1750 RPM in = 55 RPM out 1430 RPM in = 45 RPM out				1170 RPM in = 37 RPM out 870 RPM in = 28 RPM out		
MERCURY	**MARS**	**VENUS**	**ATLAS**	**EARTH**	**POLARIS**	**NEPTUNE**	**ORION**	**SATURN**	**TITAN**	**JUPITER**
2,000d	7,000d	15,000d	20,000d	38,000d	70,000t	90,000d	155,000t	200,000d	280,000d	400,000d
4,000d	9,000d	17,000d	24,000d	44,000d	80,000t	100,000d	170,000t	220,000d	320,000d	450,000d
6,000d	11,000d	19,000d	28,000d	50,000d	—	110,000d	—	—	360,000d	500,000d
—	13,000d	—	32,000d	56,000d	—	120,000d	—	—	—	—
—	—	—	34,000t	60,000t	—	130,000t	—	—	—	—
—	—	—	38,000t	66,000t	—	140,000t	—	—	—	—
—	—	—	—	—	—	150,000t	—	—	—	—

* Contact Rexnord for input speeds above 2,500 RPM.

TECHNICAL INFORMATION

Low Speed Shaft Torque Ratings

TABLE 5

Reducer Only Selection*
Low Speed Shaft Torque Ratings (lb-in)

36.56 Nominal Ratio Double (d) or Triple (t) Reduction				1750 RPM in = 48 RPM out 1430 RPM in = 39 RPM out				1170 RPM in = 32 RPM out 870 RPM in = 24 RPM out		
MERCURY	**MARS**	**VENUS**	**ATLAS**	**EARTH**	**POLARIS**	**NEPTUNE**	**ORION**	**SATURN**	**TITAN**	**JUPITER**
1,000t	9,000t	17,000t	25,000t	46,000t	80,000t	110,000t	170,000t	220,000t	280,000t	300,000d
3,000t	11,000t	19,000t	29,000t	52,000t	90,000t	120,000t	185,000t	235,000t	320,000t	350,000d
5,000t	13,000t	21,000t	33,000t	58,000t	100,000t	130,000t	200,000t	250,000t	360,000t	400,000d
7,000t	15,000t	23,000t	37,000t	64,000t	110,000t	140,000t	—	—	—	450,000d
—	—	—	41,000t	70,000t	—	150,000t	—	—	—	500,000d

43.78 Nominal Ratio Double (d) or Triple (t) Reduction				1750 RPM in = 40 RPM out 1430 RPM in = 33 RPM out				1170 RPM in = 26 RPM out 870 RPM in = 20 RPM out		
MERCURY	**MARS**	**VENUS**	**ATLAS**	**EARTH**	**POLARIS**	**NEPTUNE**	**ORION**	**SATURN**	**TITAN**	**JUPITER**
1,000d	8,000d	18,000t	25,000t	42,000t	75,000t	120,000t	175,000t	230,000t	300,000t	500,000t
3,000d	10,000d	20,000t	29,000t	48,000t	85,000t	130,000t	200,000t	245,000t	340,000t	550,000t
5,000d	12,000t	22,000t	33,000t	54,000t	95,000t	140,000t	225,000t	260,000t	380,000t	600,000t
7,000t	14,000t	24,000t	37,000t	60,000t	105,000t	150,000t	—	—	—	—
—	16,000t	—	41,000t	66,000t	115,000t	—	—	—	—	—
—	—	—	—	72,000t	—	—	—	—	—	—

54.45 Nominal Ratio Triple Reduction				1750 RPM in = 32 RPM out 1430 RPM in = 26 RPM out				1170 RPM in = 21 RPM out 870 RPM in = 16 RPM out		
MERCURY	**MARS**	**VENUS**	**ATLAS**	**EARTH**	**POLARIS**	**NEPTUNE**	**ORION**	**SATURN**	**TITAN**	**JUPITER**
2,000	9,000	18,000	26,000	48,000	80,000	130,000	180,000	240,000	280,000	450,000
4,000	11,000	20,000	30,000	54,000	90,000	140,000	195,000	255,000	320,000	500,000
6,000	13,000	22,000	34,000	60,000	100,000	150,000	210,000	270,000	360,000	550,000
8,000	15,000	24,000	38,000	66,000	110,000	—	—	—	400,000	600,000
—	17,000	—	42,000	72,000	120,000	—	—	—	—	—

64.42 Nominal Ratio Triple Reduction				1750 RPM in = 27 RPM out 1430 RPM in = 22 RPM out				1170 RPM in = 18.2 RPM out 870 RPM in = 13.5 RPM out		
MERCURY	**MARS**	**VENUS**	**ATLAS**	**EARTH**	**POLARIS**	**NEPTUNE**	**ORION**	**SATURN**	**TITAN**	**JUPITER**
2,000	9,000	18,000	26,000	48,000	80,000	125,000	180,000	240,000	300,000	450,000
4,000	11,000	20,000	30,000	54,000	90,000	135,000	205,000	255,000	340,000	500,000
6,000	13,000	22,000	34,000	60,000	100,000	145,000	230,000	270,000	380,000	550,000
8,000	15,000	24,000	38,000	66,000	110,000	155,000	—	—	420,000	600,000
—	17,000	—	42,000	72,000	120,000	—	—	—	—	650,000

69.63 Nominal Ratio Triple Reduction				1750 RPM in = 25 RPM out 1430 RPM in = 21 RPM out				1170 RPM in = 16.8 RPM out 870 RPM in = 12.5 RPM out		
MERCURY	**MARS**	**VENUS**	**ATLAS**	**EARTH**	**POLARIS**	**NEPTUNE**	**ORION**	**SATURN**	**TITAN**	**JUPITER**
1,000	9,000	18,000	23,000	44,000	75,000	115,000	180,000	240,000	320,000	450,000
3,000	11,000	20,000	27,000	50,000	85,000	125,000	205,000	260,000	360,000	500,000
5,000	13,000	22,000	31,000	56,000	95,000	135,000	230,000	280,000	400,000	550,000
7,000	15,000	—	35,000	62,000	105,000	145,000	—	—	—	600,000
—	17,000	—	39,000	68,000	—	—	—	—	—	640,000

* Contact Rexnord for input speeds above 2,500 RPM.

TABLE 5

Reducer Only Selection*
Low Speed Shaft Torque Ratings (lb-in)

80.01 Nominal Ratio Triple Reduction				1750 RPM in = 22 RPM out 1430 RPM in = 17.9 RPM out				1170 RPM in = 14.6 RPM out 870 RPM in = 10.9 RPM out		
MERCURY	**MARS**	**VENUS**	**ATLAS**	**EARTH**	**POLARIS**	**NEPTUNE**	**ORION**	**SATURN**	**TITAN**	**JUPITER**
2,000	9,000	18,000	26,000	44,000	80,000	130,000	190,000	240,000	310,000	450,000
4,000	11,000	20,000	30,000	50,000	90,000	140,000	205,000	270,000	350,000	500,000
6,000	13,000	22,000	34,000	56,000	100,000	150,000	220,000	300,000	390,000	550,000
8,000	15,000	24,000	38,000	62,000	110,000	160,000	—	—	430,000	600,000
—	17,000	—	42,000	68,000	120,000	—	—	—	—	650,000
—	—	—	—	74,000	—	—	—	—	—	—

91.41 Nominal Ratio Triple Reduction				1750 RPM in = 19.1 RPM out 1430 RPM in = 15.6 RPM out				1170 RPM in = 12.8 RPM out 870 RPM in = 9.5 RPM out		
MERCURY	**MARS**	**VENUS**	**ATLAS**	**EARTH**	**POLARIS**	**NEPTUNE**	**ORION**	**SATURN**	**TITAN**	**JUPITER**
2,000	9,000	—	22,000	42,000	—	80,000	—	180,000	—	300,000
4,000	11,000	—	26,000	48,000	—	90,000	—	210,000	—	350,000
6,000	13,000	—	30,000	54,000	—	100,000	—	240,000	—	400,000
8,000	15,000	—	34,000	—	—	110,000	—	260,000	—	450,000
—	17,000	—	38,000	—	—	120,000	—	—	—	500,000
—	—	—	—	—	—	130,000	—	—	—	550,000
—	—	—	—	—	—	—	—	—	—	600,000
—	—	—	—	—	—	—	—	—	—	650,000

99.38 Nominal Ratio Triple Reduction				1750 RPM in = 17.6 RPM out 1430 RPM in = 14.4 RPM out				1170 RPM in = 11.8 RPM out 870 RPM in = 8.8 RPM out		
MERCURY	**MARS**	**VENUS**	**ATLAS**	**EARTH**	**POLARIS**	**NEPTUNE**	**ORION**	**SATURN**	**TITAN**	**JUPITER**
1,000	9,000	17,000	24,000	46,000	75,000	115,000	190,000	250,000	300,000	450,000
3,000	11,000	19,000	28,000	52,000	85,000	125,000	215,000	265,000	340,000	500,000
5,000	13,000	21,000	32,000	58,000	95,000	135,000	240,000	280,000	380,000	—
7,000	15,000	23,000	36,000	64,000	105,000	145,000	—	—	420,000	—
—	—	—	40,000	70,000	—	—	—	—	—	—

111.5 Nominal Ratio Triple Reduction				1750 RPM in = 15.7 RPM out 1430 RPM in = 12.9 RPM out				1170 RPM in = 10.5 RPM out 870 RPM in = 7.8 RPM out		
MERCURY	**MARS**	**VENUS**	**ATLAS**	**EARTH**	**POLARIS**	**NEPTUNE**	**ORION**	**SATURN**	**TITAN**	**JUPITER**
2,000	9,000	18,000	26,000	44,000	80,000	130,000	190,000	240,000	320,000	450,000
4,000	11,000	20,000	30,000	50,000	90,000	140,000	205,000	270,000	360,000	500,000
6,000	13,000	22,000	34,000	56,000	100,000	150,000	220,000	300,000	400,000	550,000
8,000	15,000	24,000	38,000	62,000	110,000	160,000	—	—	440,000	600,000
—	17,000	—	42,000	68,000	120,000	—	—	—	—	650,000
—	—	—	—	74,000	—	—	—	—	—	—

121.4 Nominal Ratio Triple (t) or Quadruple (q) Reduction				1750 RPM in = 14.4 RPM out 1430 RPM in = 11.8 RPM out				1170 RPM in = 9.6 RPM out 870 RPM in = 7.2 RPM out		
MERCURY	**MARS**	**VENUS**	**ATLAS**	**EARTH**	**POLARIS**	**NEPTUNE**	**ORION**	**SATURN**	**TITAN**	**JUPITER**
1,000q	9,000q	—	22,000q	44,000q	80,000q	130,000q	180,000q	260,000q	320,000q	450,000t
3,000q	11,000q	—	26,000q	50,000q	90,000q	140,000q	205,000q	280,000q	360,000q	500,000t
5,000q	13,000q	—	30,000q	56,000q	100,000q	150,000q	230,000q	300,000q	400,000q	550,000t
7,000q	15,000q	—	34,000q	62,000q	110,000q	160,000q	—	—	440,000q	600,000t
—	17,000q	—	38,000q	68,000q	120,000q	—	—	—	—	650,000t
—	—	—	—	74,000q	—	—	—	—	—	—

* Contact Rexnord for input speeds above 2,500 RPM.

TECHNICAL INFORMATION

Low Speed Shaft Torque Ratings

TABLE 5

Reducer Only Selection*
Low Speed Shaft Torque Ratings (lb-in)

138.5 Nominal Ratio Triple (t) or Quadruple (q) Reduction				1750 RPM in = 12.6 RPM out 1430 RPM in = 10.3 RPM out				1170 RPM in = 8.4 RPM out 870 RPM in = 6.3 RPM out		
MERCURY	**MARS**	**VENUS**	**ATLAS**	**EARTH**	**POLARIS**	**NEPTUNE**	**ORION**	**SATURN**	**TITAN**	**JUPITER**
1,000t	9,000t	17,000t	27,000t	46,000t	80,000t	120,000t	190,000t	250,000t	300,000t	450,000t
3,000t	11,000t	19,000t	31,000t	52,000t	90,000t	130,000t	215,000t	265,000t	340,000t	500,000t
5,000t	13,000t	21,000t	35,000t	58,000t	100,000t	140,000t	240,000t	280,000t	380,000t	—
7,000t	15,000t	23,000t	39,000t	64,000t	110,000t	150,000t	—	—	420,000t	—
—	—	24,000q	43,000q	70,000t	—	—	—	—	—	—

159.8 Nominal Ratio Triple (t) or Quadruple (q) Reduction				1750 RPM in = 11.0 RPM out 1430 RPM in = 8.9 RPM out				1170 RPM in = 7.3 RPM out 870 RPM in = 5.4 RPM out		
MERCURY	**MARS**	**VENUS**	**ATLAS**	**EARTH**	**POLARIS**	**NEPTUNE**	**ORION**	**SATURN**	**TITAN**	**JUPITER**
2,000t	9,000t	18,000q	27,000q	44,000q	80,000q	130,000q	190,000q	260,000q	320,000q	450,000t
4,000t	11,000t	20,000q	31,000q	50,000q	90,000q	140,000q	215,000q	280,000q	360,000q	500,000t
6,000t	13,000t	22,000q	35,000q	56,000q	100,000q	150,000q	240,000q	300,000q	400,000q	550,000t
8,000t	15,000t	24,000q	39,000q	62,000q	110,000q	160,000q	—	—	440,000q	600,000t
—	17,000t	—	43,000q	68,000q	120,000q	—	—	—	—	650,000t
—	—	—	—	74,000q	—	—	—	—	—	—

193.1 Nominal Ratio Triple (t) or Quadruple (q) Reduction				1750 RPM in = 9.1 RPM out 1430 RPM in = 7.4 RPM out				1170 RPM in = 6.1 RPM out 870 RPM in = 4.5 RPM out		
MERCURY	**MARS**	**VENUS**	**ATLAS**	**EARTH**	**POLARIS**	**NEPTUNE**	**ORION**	**SATURN**	**TITAN**	**JUPITER**
1,000t	9,000t	16,000t	21,000t	36,000t	80,000q	130,000t	190,000q	230,000t	320,000q	450,000t
3,000t	11,000t	18,000t	25,000t	42,000t	90,000q	140,000q	215,000q	260,000q	360,000q	500,000t
5,000t	13,000t	20,000t	29,000t	48,000t	100,000q	150,000q	240,000q	280,000q	400,000q	—
7,000t	15,000t	—	33,000t	54,000t	110,000q	160,000q	—	300,000q	440,000q	—
—	—	—	—	60,000t	120,000q	—	—	—	—	—
—	—	—	—	64,000q	—	—	—	—	—	—
—	—	—	—	70,000q	—	—	—	—	—	—
—	—	—	—	76,000q	—	—	—	—	—	—

206.2 Nominal Ratio Quadruple Reduction				1750 RPM in = 8.5 RPM out 1430 RPM in = 6.9 RPM out				1170 RPM in = 5.7 RPM out 870 RPM in = 4.2 RPM out		
MERCURY	**MARS**	**VENUS**	**ATLAS**	**EARTH**	**POLARIS**	**NEPTUNE**	**ORION**	**SATURN**	**TITAN**	**JUPITER**
2,000	9,000	18,000	27,000	46,000	80,000	130,000	190,000	260,000	320,000	450,000
4,000	11,000	20,000	31,000	52,000	90,000	140,000	215,000	280,000	360,000	500,000
6,000	13,000	22,000	35,000	58,000	100,000	150,000	240,000	300,000	400,000	550,000
8,000	15,000	24,000	39,000	64,000	110,000	160,000	—	—	440,000	600,000
—	17,000	—	43,000	70,000	120,000	—	—	—	—	650,000
—	—	—	—	76,000	—	—	—	—	—	—

238.2 Nominal Ratio Quadruple Reduction				1750 RPM in = 7.3 RPM out 1430 RPM in = 6.0 RPM out				1170 RPM in = 4.9 RPM out 870 RPM in = 3.7 RPM out		
MERCURY	**MARS**	**VENUS**	**ATLAS**	**EARTH**	**POLARIS**	**NEPTUNE**	**ORION**	**SATURN**	**TITAN**	**JUPITER**
2,000	9,000	18,000	27,000	46,000	80,000	130,000	180,000	260,000	320,000	550,000
4,000	11,000	20,000	31,000	52,000	90,000	140,000	205,000	280,000	360,000	600,000
6,000	13,000	22,000	35,000	58,000	100,000	150,000	230,000	300,000	400,000	650,000
8,000	15,000	24,000	39,000	64,000	110,000	160,000	—	—	440,000	—
—	17,000	—	43,000	70,000	120,000	—	—	—	—	—
—	—	—	—	76,000	—	—	—	—	—	—

* Contact Rexnord for input speeds above 2,500 RPM.

TABLE 5

Reducer Only Selection*
Low Speed Shaft Torque Ratings (lb-in)

265.4 Nominal Ratio Triple (t) or Quadruple (q) Reduction				1750 RPM in = 6.6 RPM out 1430 RPM in = 5.4 RPM out				1170 RPM in = 4.4 RPM out 870 RPM in = 3.3 RPM out		
MERCURY	**MARS**	**VENUS**	**ATLAS**	**EARTH**	**POLARIS**	**NEPTUNE**	**ORION**	**SATURN**	**TITAN**	**JUPITER**
1,000t	8,000t	18,000q	27,000q	46,000q	80,000q	130,000q	190,000q	260,000q	320,000q	450,000q
3,000t	10,000t	20,000q	31,000q	52,000q	90,000q	140,000q	215,000q	280,000q	360,000q	500,000q
5,000t	13,000q	22,000q	35,000q	58,000q	100,000q	150,000q	240,000q	300,000q	400,000q	550,000q
7,000q	15,000q	24,000q	39,000q	64,000q	110,000q	160,000q	—	—	440,000q	600,000q
—	17,000q	—	43,000q	70,000q	120,000q	—	—	—	—	650,000q
—	—	—	—	76,000q	—	—	—	—	—	—

295.7 Nominal Ratio Quadruple Reduction				1750 RPM in = 5.9 RPM out 1430 RPM in = 4.8 RPM out				1170 RPM in = 4.0 RPM out 870 RPM in = 2.9 RPM out		
MERCURY	**MARS**	**VENUS**	**ATLAS**	**EARTH**	**POLARIS**	**NEPTUNE**	**ORION**	**SATURN**	**TITAN**	**JUPITER**
2,000	9,000	18,000	27,000	48,000	75,000	120,000	190,000	250,000	300,000	450,000
4,000	11,000	20,000	31,000	54,000	85,000	130,000	215,000	265,000	340,000	500,000
6,000	13,000	22,000	35,000	60,000	95,000	140,000	240,000	280,000	380,000	550,000
8,000	15,000	24,000	39,000	66,000	105,000	150,000	—	—	420,000	600,000
—	17,000	—	43,000	72,000	115,000	—	—	—	—	650,000

330.1 Nominal Ratio Quadruple Reduction				1750 RPM in = 5.3 RPM out 1430 RPM in = 4.3 RPM out				1170 RPM in = 3.5 RPM out 870 RPM in = 2.6 RPM out		
MERCURY	**MARS**	**VENUS**	**ATLAS**	**EARTH**	**POLARIS**	**NEPTUNE**	**ORION**	**SATURN**	**TITAN**	**JUPITER**
2,000	10,000	19,000	24,000	46,000	80,000	130,000	180,000	260,000	320,000	450,000
4,000	12,000	21,000	28,000	52,000	90,000	140,000	205,000	280,000	360,000	500,000
6,000	14,000	23,000	32,000	58,000	100,000	150,000	230,000	300,000	400,000	550,000
8,000	16,000	—	36,000	64,000	110,000	160,000	—	—	440,000	600,000
—	18,000	—	40,000	70,000	120,000	—	—	—	—	650,000
—	—	—	—	76,000	—	—	—	—	—	—

369.8 Nominal Ratio Quadruple Reduction				1750 RPM in = 4.7 RPM out 1430 RPM in = 3.9 RPM out				1170 RPM in = 3.2 RPM out 870 RPM in = 2.4 RPM out		
MERCURY	**MARS**	**VENUS**	**ATLAS**	**EARTH**	**POLARIS**	**NEPTUNE**	**ORION**	**SATURN**	**TITAN**	**JUPITER**
2,000	10,000	20,000	27,000	46,000	80,000	130,000	190,000	260,000	320,000	450,000
4,000	12,000	22,000	31,000	52,000	90,000	140,000	215,000	280,000	360,000	500,000
6,000	14,000	24,000	35,000	58,000	100,000	150,000	240,000	300,000	400,000	550,000
8,000	16,000	—	39,000	64,000	110,000	160,000	—	—	440,000	600,000
—	18,000	—	43,000	70,000	120,000	—	—	—	—	650,000
—	—	—	—	76,000	—	—	—	—	—	—

412.1 Nominal Ratio Quadruple Reduction				1750 RPM in = 4.2 RPM out 1430 RPM in = 3.5 RPM out				1170 RPM in = 2.8 RPM out 870 RPM in = 2.1 RPM out		
MERCURY	**MARS**	**VENUS**	**ATLAS**	**EARTH**	**POLARIS**	**NEPTUNE**	**ORION**	**SATURN**	**TITAN**	**JUPITER**
2,000	10,000	20,000	27,000	48,000	75,000	125,000	190,000	250,000	310,000	450,000
4,000	12,000	22,000	31,000	54,000	85,000	135,000	215,000	265,000	350,000	500,000
6,000	14,000	24,000	35,000	60,000	95,000	145,000	240,000	280,000	390,000	550,000
8,000	16,000	—	39,000	66,000	105,000	155,000	—	—	430,000	600,000
—	18,000	—	43,000	72,000	115,000	—	—	—	—	650,000

* Contact Rexnord for input speeds above 2,500 RPM.

TECHNICAL INFORMATION

Low Speed Shaft Torque Ratings

TABLE 5

Reducer Only Selection*
Low Speed Shaft Torque Ratings (lb-in)

459.0 Nominal Ratio Quadruple Reduction				1750 RPM in = 3.8 RPM out 1430 RPM in = 3.1 RPM out				1170 RPM in = 2.5 RPM out 870 RPM in = 1.9 RPM out		
MERCURY	**MARS**	**VENUS**	**ATLAS**	**EARTH**	**POLARIS**	**NEPTUNE**	**ORION**	**SATURN**	**TITAN**	**JUPITER**
1,000	8,000	17,000	24,000	46,000	80,000	130,000	180,000	260,000	320,000	450,000
3,000	10,000	19,000	28,000	52,000	90,000	140,000	205,000	280,000	360,000	500,000
5,000	12,000	21,000	32,000	58,000	100,000	150,000	230,000	300,000	400,000	550,000
7,000	14,000	23,000	36,000	64,000	110,000	160,000	—	—	440,000	600,000
—	16,000	—	40,000	70,000	120,000	—	—	—	—	650,000
—	—	—	—	76,000	—	—	—	—	—	—

532.5 Nominal Ratio Quadruple Reduction				1750 RPM in = 3.3 RPM out 1430 RPM in = 2.7 RPM out				1170 RPM in = 2.2 RPM out 870 RPM in = 1.6 RPM out		
MERCURY	**MARS**	**VENUS**	**ATLAS**	**EARTH**	**POLARIS**	**NEPTUNE**	**ORION**	**SATURN**	**TITAN**	**JUPITER**
2,000	10,000	20,000	27,000	48,000	75,000	125,000	190,000	250,000	310,000	450,000
4,000	12,000	22,000	31,000	54,000	85,000	135,000	215,000	265,000	350,000	500,000
6,000	14,000	24,000	35,000	60,000	95,000	145,000	240,000	280,000	390,000	550,000
8,000	16,000	—	39,000	66,000	105,000	155,000	—	—	430,000	600,000
—	18,000	—	43,000	72,000	115,000	—	—	—	—	650,000

617.9 Nominal Ratio Quadruple Reduction				1750 RPM in = 2.8 RPM out 1430 RPM in = 2.3 RPM out				1170 RPM in = 1.9 RPM out 870 RPM in = 1.4 RPM out		
MERCURY	**MARS**	**VENUS**	**ATLAS**	**EARTH**	**POLARIS**	**NEPTUNE**	**ORION**	**SATURN**	**TITAN**	**JUPITER**
2,000	10,000	19,000	24,000	46,000	80,000	130,000	190,000	260,000	320,000	450,000
4,000	12,000	21,000	28,000	52,000	90,000	140,000	215,000	280,000	360,000	500,000
6,000	14,000	23,000	32,000	58,000	100,000	150,000	240,000	300,000	400,000	550,000
8,000	16,000	—	36,000	64,000	110,000	160,000	—	—	440,000	600,000
—	18,000	—	40,000	70,000	120,000	—	—	—	—	650,000
—	—	—	—	76,000	—	—	—	—	—	—

660.6 Nominal Ratio Quadruple (q) or Quintuple (qu) Reduction				1750 RPM in = 2.6 RPM out 1430 RPM in = 2.2 RPM out				1170 RPM in = 1.8 RPM out 870 RPM in = 1.3 RPM out		
MERCURY	**MARS**	**VENUS**	**ATLAS**	**EARTH**	**POLARIS**	**NEPTUNE**	**ORION**	**SATURN**	**TITAN**	**JUPITER**
1,000q	8,000q	—	—	30,000qu	70,000qu	130,000qu	190,000qu	260,000qu	320,000qu	450,000q
3,000q	10,000q	—	—	36,000qu	80,000qu	140,000qu	215,000qu	280,000qu	360,000qu	500,000q
5,000q	12,000q	—	—	42,000qu	90,000qu	150,000qu	240,000qu	300,000qu	400,000qu	550,000q
7,000q	14,000q	—	—	48,000qu	100,000qu	160,000qu	—	—	440,000qu	—
—	16,000q	—	—	54,000qu	110,000qu	—	—	—	—	—
—	—	—	—	—	120,000qu	—	—	—	—	—

741.2 Nominal Ratio Quadruple (q) or Quintuple (qu) Reduction				1750 RPM in = 2.4 RPM out 1430 RPM in = 1.9 RPM out				1170 RPM in = 1.6 RPM out 870 RPM in = 1.2 RPM out		
MERCURY	**MARS**	**VENUS**	**ATLAS**	**EARTH**	**POLARIS**	**NEPTUNE**	**ORION**	**SATURN**	**TITAN**	**JUPITER**
2,000q	10,000q	20,000q	27,000q	48,000q	75,000q	125,000q	190,000q	250,000q	310,000q	450,000qu
4,000q	12,000q	22,000q	31,000q	54,000q	85,000q	135,000q	215,000q	265,000q	350,000q	500,000qu
6,000q	14,000q	24,000q	35,000q	60,000q	95,000q	145,000q	240,000q	280,000q	390,000q	550,000qu
8,000q	16,000q	—	39,000q	66,000q	105,000q	155,000q	—	—	430,000q	—
—	18,000q	—	43,000q	72,000q	115,000q	—	—	—	—	—

* Contact Rexnord for input speeds above 2,500 RPM.

TABLE 5

Reducer Only Selection*
Low Speed Shaft Torque Ratings (lb-in)

900.3 Nominal Ratio Quadruple (q) or Quintuple (qu) Reduction				1750 RPM in = 1.9 RPM out 1430 RPM in = 1.6 RPM out				1170 RPM in = 1.3 RPM out 870 RPM in = 0.97 RPM out		
MERCURY	**MARS**	**VENUS**	**ATLAS**	**EARTH**	**POLARIS**	**NEPTUNE**	**ORION**	**SATURN**	**TITAN**	**JUPITER**
1,000q	8,000q	17,000q	24,000q	42,000qu	65,000qu	120,000qu	190,000qu	260,000qu	320,000qu	450,000q
3,000q	10,000q	19,000q	28,000q	48,000qu	75,000qu	130,000qu	215,000qu	280,000qu	360,000qu	500,000q
5,000q	12,000q	21,000q	32,000q	54,000qu	85,000qu	140,000qu	240,000qu	300,000qu	400,000qu	550,000q
7,000q	14,000q	23,000q	36,000q	—	95,000qu	150,000qu	—	—	440,000qu	600,000q
—	16,000q	—	40,000q	—	105,000qu	160,000qu	—	—	—	650,000q
—	—	—	—	—	115,000qu	—	—	—	—	—

1057 Nominal Ratio Quadruple (q) or Quintuple (qu) Reduction				1750 RPM in = 1.7 RPM out 1430 RPM in = 1.4 RPM out				1170 RPM in = 1.1 RPM out 870 RPM in = 0.82 RPM out		
MERCURY	**MARS**	**VENUS**	**ATLAS**	**EARTH**	**POLARIS**	**NEPTUNE**	**ORION**	**SATURN**	**TITAN**	**JUPITER**
2,000q	10,000q	20,000q	21,000q	36,000q	70,000qu	130,000q	190,000qu	260,000qu	280,000qu	450,000qu
4,000q	12,000q	—	25,000q	42,000q	80,000qu	—	215,000qu	280,000qu	320,000qu	500,000qu
6,000q	14,000q	—	29,000q	48,000q	90,000qu	—	240,000qu	300,000qu	360,000qu	550,000qu
8,000q	16,000q	—	33,000q	54,000q	100,000qu	—	—	—	400,000qu	600,000qu
—	18,000q	—	—	60,000q	110,000qu	—	—	—	440,000qu	650,000qu
—	—	—	—	—	120,000qu	—	—	—	—	—

1255 Nominal Ratio Quadruple (q) or Quintuple (qu) Reduction				1750 RPM in = 1.4 RPM out 1430 RPM in = 1.1 RPM out				1170 RPM in = 0.93 RPM out 870 RPM in = 0.69 RPM out		
MERCURY	**MARS**	**VENUS**	**ATLAS**	**EARTH**	**POLARIS**	**NEPTUNE**	**ORION**	**SATURN**	**TITAN**	**JUPITER**
1,000q	8,000q	18,000q	21,000q	36,000qu	65,000qu	120,000qu	190,000qu	260,000qu	320,000qu	450,000qu
3,000q	10,000q	20,000q	25,000q	42,000qu	75,000qu	130,000qu	215,000qu	280,000qu	360,000qu	500,000qu
5,000q	12,000q	—	29,000q	48,000qu	85,000qu	140,000qu	240,000qu	300,000qu	400,000qu	550,000qu
7,000q	14,000q	—	33,000q	54,000qu	95,000qu	150,000qu	—	—	440,000qu	600,000qu
—	16,000q	—	—	—	105,000qu	160,000qu	—	—	—	650,000qu
—	—	—	—	—	115,000qu	—	—	—	—	—

1785 Nominal Ratio Quadruple (q) or Quintuple (qu) Reduction				1750 RPM in = 0.98 RPM out 1430 RPM in = 0.80 RPM out				1170 RPM in = 0.66 RPM out 870 RPM in = 0.49 RPM out		
MERCURY	**MARS**	**VENUS**	**ATLAS**	**EARTH**	**POLARIS**	**NEPTUNE**	**ORION**	**SATURN**	**TITAN**	**JUPITER**
2,000q	8,000q	—	—	30,000qu	65,000qu	120,000qu	190,000qu	260,000qu	320,000qu	450,000qu
4,000q	10,000q	—	—	36,000qu	75,000qu	130,000qu	215,000qu	280,000qu	360,000qu	500,000qu
6,000q	—	—	—	42,000qu	85,000qu	140,000qu	240,000qu	300,000qu	400,000qu	550,000qu
—	—	—	—	48,000qu	95,000qu	150,000qu	—	—	440,000qu	600,000qu
—	—	—	—	54,000qu	105,000qu	160,000qu	—	—	—	650,000qu
—	—	—	—	—	115,000qu	—	—	—	—	—

* Contact Rexnord for input speeds above 2,500 RPM.

TECHNICAL INFORMATION

Maximum Mechanical Input HP Ratings at 1750 RPM

TABLE 6

Reduction	Nominal Ratio	Maximum Mechanical Input HP Ratings at 1750 RPM*										
		Mercury	Mars	Venus	Atlas	Earth	Polaris	Neptune	Orion	Saturn	Titan	Jupiter
Single	3.53	30.38	60.75	137.25		360.27	463.21	643.34	857.79	1029.35		
	4.39	24.39	42.69	110.87	194.02	304.88	360.31	554.33	727.56	900.79		
	6.12	13.14	30.67	84.34	148.84	228.23		421.72		694.60		
Double	9.30				80.36	154.54	197.82	340.00				
	11.02	14.26	28.52	55.66	95.42	159.03	212.04	291.56	371.08	477.10	662.64	
	13.85	12.46	24.93	47.04	81.25	136.85	181.75	245.90	320.74	406.27	555.95	753.04
	17.21	10.01	21.70	36.23	65.56	110.42	146.65	207.03	258.79	327.80	552.09	
	20.41	8.05	16.09	35.27	58.26	107.33	153.33	199.33	245.32	321.99	429.32	688.89
	24.00	8.39	16.77	27.22	47.01	81.65	111.34	167.01	210.31	259.80	433.00	532.36
	31.63	5.78	12.52	16.85	28.38	49.66		106.41		195.08	344.76	511.54
	43.78	3.46	6.91									
Triple	31.63				36.29	63.03	76.40	143.25	162.35			
	36.56	5.46	11.70	18.84	33.59	57.34	90.11	122.88	163.84	204.80	294.91	424.18d
	43.78	4.84	11.06	15.86	27.10	47.58	77.00	99.13	148.70	171.83	251.14	423.03
	54.45	4.55	9.66	12.80	22.40	38.39	58.66	79.99	111.98	143.98	213.30	351.89
	64.42	3.65	7.76	11.37	19.90	34.11	52.12	73.44	108.97	127.92	198.99	307.58
	69.63	3.01	7.31	9.46	16.78	29.25	45.17	62.38	98.94	120.45	172.07	293.66
	80.01	2.93	6.24	9.17	16.06	28.29	43.96	61.16	84.10	114.68	164.37	248.12
	91.41	2.62	5.57		12.14	17.25		41.52		85.87		220.48
	99.38	2.06	4.42	7.09	12.33	21.59	32.38	44.71	74.01	86.34	129.51	147.49
	111.5	2.11	4.48	6.58	11.51	20.28	31.51	43.85	60.29	82.21	120.58	177.86
	121.4	1.75	4.25			18.73	29.11	40.51	58.23	75.95	111.39	153.27
	138.5	1.48	3.17	5.08	8.62	15.48	24.32	33.16	53.06	61.90	92.85	105.73
				5.38	9.64							
	159.8	1.51	3.21	4.32q	7.74q	15.11q	23.49q	32.68q	49.02q	61.27q	89.87q	127.51
	193.1	1.06	2.28	3.17	5.23	9.51		20.60		36.45	72.50	75.79
Quad	193.1					12.52	18.95	26.36	39.54	49.43		
	206.2	1.24	2.64	3.49	6.25	11.13	16.84	23.43	35.14	43.92	64.42	95.04
	238.2	1.00	2.12	3.10	5.56	10.10	15.29	21.27	30.57	39.88	58.49	81.90
	265.4	0.55t	1.09t	2.81	5.04	8.98	13.58	18.90	28.35	35.44	51.97	76.67
		0.82	2.00									
	295.7	0.80	1.71	2.50	4.48	7.72	11.80	16.08	25.74	30.02	45.04	68.13
	330.1	0.72	1.61	2.17	3.78	7.24	10.96	15.25	21.92	28.59	41.93	61.85
	369.8	0.64	1.45	2.02	3.62	6.44	9.74	13.55	20.32	25.40	37.26	54.96
	412.1	0.58	1.30	1.79	3.21	5.53	8.46	11.92	18.45	21.52	33.06	53.30
	459.0	0.45	1.04	1.56	2.71	5.19	7.86	10.93	15.71	20.49	30.06	44.34
	532.5	0.46	1.04	1.45	2.59	3.97	6.06	8.54	13.23	15.43	23.70	39.40
	617.9	0.41	0.93	1.12	1.95	3.72	5.63	7.84	11.75	14.69	21.55	31.79
	660.6	0.33	0.74			2.51qu	5.35qu	7.66qu	10.86qu	14.36qu	21.07qu	25.76
	741.2	0.33	0.75	1.04	1.86	2.84	4.35	6.12	9.48	11.06	16.99	23.80qu
	900.3	0.23	0.53	0.80	1.40	1.84qu	3.75qu	5.49qu	8.76qu	10.30qu	15.10qu	22.79
	1057	0.24	0.54	0.57	0.94	1.70	3.49qu	3.68	7.07qu	9.15qu	13.42qu	19.11qu
	1255	0.17	0.38	0.50	0.83	1.32qu	2.69qu	3.94qu	6.28qu	7.38qu	10.83qu	16.47qu
	1785	0.10	0.17			0.95qu	1.93qu	2.82qu	4.09qu	5.29qu	7.76qu	11.81qu

t=triple reduction q=quadruple reduction qu=quintuple reduction

This table reflects maximum mechanical input horsepower ratings at 1750 RPM.

* Horsepower ratings in this table do not reflect thermal limitations. Refer to Table 12 for horizontal service and Table 13 for vertical service thermal horsepower limitations.

Selections in shaded areas are transmitted horsepowers that produce maximum rated output torque and may require a torque limiting device. Contact Planetgear for input horsepower rating and motor sizing requirements.

Maximum Mechanical Input HP Ratings at 1430 RPM

TABLE 6

Reduction	Nominal Ratio	Maximum Mechanical Input HP Ratings at 1430 RPM*										
		Mercury	Mars	Venus	Atlas	Earth	Polaris	Neptune	Orion	Saturn	Titan	Jupiter
Single	3.53	24.82	49.65	112.15		294.39	378.51	525.70	700.94	841.13		
	4.39	19.93	34.88	90.59	158.54	249.13	294.43	452.97	594.52	736.07		
	6.12	10.74	25.06	68.92	121.63	186.49		344.61		567.59		
Double	9.30				65.67	126.29	161.64	277.83				
	11.02	11.65	23.31	45.48	77.97	129.95	173.27	238.25	303.22	389.86	541.47	
	13.85	10.19	20.37	38.44	66.40	111.83	148.52	200.94	269.02	331.98	454.29	615.34
	17.21	8.18	17.73	29.61	53.57	90.23	119.83	169.18	211.47	267.86	451.14	
	20.41	6.58	13.15	28.82	47.61	87.70	125.29	162.88	200.47	263.11	350.81	562.92
	24.00	6.85	13.71	22.24	38.42	66.72	90.98	136.47	171.86	212.29	353.82	435.02
	31.63	4.72	10.23	13.77	23.19	40.58		86.95		159.41	281.72	418.01
	43.78	2.82	5.65									
Triple	31.63				29.65	51.50	62.43	117.05	132.66			
	36.56	4.46	9.56	15.4	27.45	46.86	73.63	100.41	133.88	167.35	240.98	346.61d
	43.78	3.95	9.04	12.96	22.14	38.88	59.4	81.01	121.51	140.41	205.21	345.68
	54.45	3.71	7.89	10.46	18.30	31.37	47.93	65.36	91.51	117.65	174.30	287.55
	64.42	2.98	6.34	9.29	16.26	27.88	42.59	60.01	89.05	104.53	162.61	251.33
	69.63	2.46	5.97	7.73	13.71	23.90	36.91	50.97	80.85	98.43	140.61	239.96
	80.01	2.40	5.10	7.50	13.12	23.11	35.92	49.98	68.72	93.71	134.32	202.75
	91.41	2.14	4.55		9.92	14.09		33.93		70.17		180.16
	99.38	1.69	3.61	5.80	10.08	17.64	26.46	36.54	60.48	70.55	105.83	120.52
	111.5	1.72	3.66	5.37	9.41	16.57	25.75	35.83	49.26	67.18	98.53	145.34
	121.4	1.43	3.47			15.31	23.79	33.10	47.58	62.06	91.02	125.24
	138.5	1.21	2.59	4.15	7.05	12.65	19.87	27.10	43.36	50.58	75.87	86.4
				4.39	7.87							
	159.8	1.24	2.63	3.53q	6.33q	12.35q	19.19q	26.70q	40.05q	50.07q	73.43q	104.2
	193.1	0.87	1.86	2.59	4.27	7.77		16.84		29.79	59.24	61.93
Quad	193.1					10.23	15.48	21.54	32.31	40.39		
	206.2	1.02	2.16	2.85	5.10	9.09	13.76	19.14	28.71	35.89	52.64	77.66
	238.2	0.82	1.73	2.54	4.54	8.25	12.49	17.38	24.98	32.58	47.79	66.92
	265.4	0.45t	0.89t	2.30	4.12	7.34	11.10	15.44	23.16	28.96	42.47	62.65
		0.67	1.63									
	295.7	0.66	1.39	2.05	3.66	6.31	9.64	13.14	21.03	24.53	36.80	55.67
	330.1	0.59	1.32	1.78	3.09	5.92	8.95	12.46	17.91	23.36	34.26	50.54
	369.8	0.53	1.19	1.65	2.96	5.26	7.96	11.07	16.61	20.76	30.44	44.91
	412.1	0.47	1.06	1.47	2.63	4.52	6.91	9.74	15.08	17.59	27.01	43.55
	459.0	0.37	0.85	1.28	2.22	4.24	6.42	8.93	12.84	16.75	24.56	36.23
	532.5	0.38	0.85	1.18	2.12	3.24	4.95	6.98	10.81	12.61	19.36	32.2
	617.9	0.34	0.76	0.91	1.59	3.04	4.60	6.40	9.60	12.00	17.61	25.97
	660.6	0.27	0.61			2.05qu	4.38qu	6.26qu	8.87qu	11.74qu	17.21qu	21.05
	741.2	0.27	0.61	0.85	1.52	2.32	3.55	5.00	7.75	9.04	13.88	19.45qu
	900.3	0.19	0.44	0.66	1.14	1.50qu	3.06qu	4.49qu	7.16qu	8.41qu	12.34qu	18.62
	1057	0.20	0.44	0.46	0.77	1.39	2.85qu	3.01	5.77qu	7.48qu	10.97qu	15.62qu
	1255	0.14	0.31	0.41	0.67	1.08qu	2.20qu	3.22qu	5.13qu	6.03qu	8.85qu	13.46qu
	1785	0.08	0.14			0.77qu	1.58qu	2.31qu	3.34qu	4.32qu	6.34qu	9.65qu

t=triple reduction q=quadruple reduction qu=quintuple reduction

This table reflects maximum mechanical input horsepower ratings at 1430 RPM.

* Horsepower ratings in this table do not reflect thermal limitations. Refer to Table 12 for horizontal service and Table 13 for vertical service thermal horsepower limitations.

Selections in shaded areas are transmitted horsepowers that produce maximum rated output torque and may require a torque limiting device. Contact Planetgear for input horsepower rating and motor sizing requirements.

TECHNICAL INFORMATION

Maximum Mechanical Input HP Ratings at 1170 RPM

TABLE 6

Reduction	Nominal Ratio	Maximum Mechanical Input HP Ratings at 1170 RPM*										
		Mercury	Mars	Venus	Atlas	Earth	Polaris	Neptune	Orion	Saturn	Titan	Jupiter
Single	3.53	20.31	40.62	91.76		240.87	309.69	430.12	573.50	688.20		
	4.39	16.31	28.54	74.12	129.71	203.84	240.90	370.61	486.42	602.24		
	6.12	8.79	20.50	56.39	99.51	152.59		281.95		464.39		
Double	9.30				53.73	103.32	132.25	227.31				
	11.02	9.54	19.07	37.21	63.79	106.32	141.77	194.93	248.09	318.97	443.02	
	13.85	8.33	16.67	31.45	54.32	91.49	121.52	164.40	214.44	271.62	371.69	503.46
	17.21	6.70	14.51	24.22	43.83	73.82	98.05	138.42	173.02	219.16	369.11	
	20.41	5.38	10.76	23.58	38.95	71.76	102.51	133.26	164.02	215.27	287.03	460.57
	24.00	5.61	11.21	18.20	31.43	54.59	74.44	111.66	140.61	173.69	289.49	355.92
	31.63	3.86	8.37	11.26	18.97	33.20		71.14		130.43	230.50	342.00
	43.78	2.31	4.62									
Triple	31.63				24.26	42.14	51.08	95.77	108.54			
	36.56	3.65	7.82	12.60	22.46	38.34	60.25	82.15	109.54	136.92	197.17	283.59d
	43.78	3.24	7.40	10.60	18.12	31.81	48.60	66.28	99.42	114.88	167.90	282.83
	54.45	3.04	6.46	8.56	14.97	25.67	39.22	53.48	74.87	96.26	142.61	235.27
	64.42	2.44	5.19	7.60	13.30	22.81	34.84	49.10	72.86	85.53	133.04	205.64
	69.63	2.01	4.89	6.33	11.22	19.56	30.20	41.70	66.15	80.53	115.04	196.33
	80.01	1.96	4.17	6.13	10.73	18.91	29.39	40.89	56.23	76.67	109.89	165.89
	91.41	1.75	3.72		8.11	11.53		27.76		57.41		147.41
	99.38	1.38	2.96	4.74	8.25	14.43	21.65	29.89	49.48	57.73	86.59	98.61
	111.5	1.41	2.99	4.40	7.70	13.56	21.07	29.31	40.31	54.96	80.61	118.92
	121.4	1.17	2.84			12.52	19.46	27.08	38.93	50.78	74.47	102.47
	138.5	0.99	2.12	3.40	5.76	10.35	16.26	22.17	35.47	41.39	62.08	70.69
				3.60	6.44							
	159.8	1.01	2.15	2.89q	5.18q	10.10q	15.70q	21.85q	32.77q	40.96q	60.08q	85.25q
	193.1	0.71	1.52	2.12	3.50	6.36		13.77		24.37	48.47	50.67
Quad	193.1					8.37	12.67	17.63	26.44	33.05		
	206.2	0.83	1.77	2.33	4.18	7.44	11.26	15.66	23.49	29.37	43.07	63.54
	238.2	0.67	1.42	2.07	3.72	6.75	10.22	14.22	20.44	26.66	39.10	54.75
	265.4	0.36t	0.73t	1.88	3.37	6.00	9.08	12.64	18.95	23.69	34.75	51.26
		0.55	1.34									
	295.7	0.54	1.14	1.67	3.00	5.16	7.89	10.75	17.21	20.07	30.11	45.55
	330.1	0.48	1.08	1.45	2.53	4.84	7.33	10.19	14.65	19.11	28.03	41.35
	369.8	0.43	0.97	1.35	2.42	4.30	6.51	9.06	13.59	16.98	24.91	36.75
	412.1	0.39	0.87	1.20	2.15	3.70	5.65	7.97	12.33	14.39	22.10	35.63
	459.0	0.30	0.69	1.04	1.82	3.47	5.25	7.31	10.50	13.70	20.10	29.65
	532.5	0.31	0.70	0.97	1.73	2.65	4.05	5.71	8.84	10.32	15.84	26.34
	617.9	0.28	0.62	0.75	1.30	2.49	3.77	5.24	7.86	9.82	14.41	21.25
	660.6	0.22	0.50			1.68qu	3.58qu	5.12qu	7.26qu	9.60qu	14.08qu	17.22
	741.2	0.22	0.50	0.69	1.24	1.90	2.91	4.09	6.34	7.40	11.36	15.91qu
	900.3	0.16	0.36	0.54	0.93	1.23qu	2.50qu	3.67qu	5.86qu	6.88qu	10.10qu	15.24
	1057	0.16	0.36	0.38	0.63	1.14	2.33qu	2.46	4.72qu	6.11qu	8.97qu	12.78qu
	1255	0.11	0.26	0.33	0.55	0.88qu	1.80qu	2.63qu	4.20qu	4.94qu	7.24qu	11.01qu
	1785	0.07	0.12			0.63qu	1.29qu	1.89qu	2.73qu	3.54qu	5.19qu	7.89qu

t=triple reduction q=quadruple reduction qu=quintuple reduction

This table reflects maximum mechanical input horsepower ratings at 1170 RPM.

* Horsepower ratings in this table do not reflect thermal limitations. Refer to Table 12 for horizontal service and Table 13 for vertical service thermal horsepower limitations.

Selections in shaded areas are transmitted horsepowers that produce maximum rated output torque and may require a torque limiting device. Contact Planetgear for input horsepower rating and motor sizing requirements.

Maximum Mechanical Input HP Ratings at 870 RPM

TABLE 6

Reduction	Nominal Ratio	Maximum Mechanical Input HP Ratings at 870 RPM*										
		Mercury	Mars	Venus	Atlas	Earth	Polaris	Neptune	Orion	Saturn	Titan	Jupiter
Single	3.53	15.10	30.20	68.23		179.11	230.28	319.83	426.45	511.73		
	4.39	12.13	21.22	55.12	96.45	151.57	179.13	275.58	361.70	447.82		
	6.12	6.53	15.25	41.93	74.00	113.46		209.66		345.32		
Double	9.30				39.95	76.83	98.34	169.03				
	11.02	7.09	14.18	27.67	47.44	79.06	105.42	144.95	184.48	237.19	329.42	
	13.85	6.20	12.39	23.39	40.40	68.03	90.36	122.25	159.45	201.98	276.39	374.37
	17.21	4.98	10.79	18.01	32.59	54.89	72.91	102.93	128.66	162.96	274.47	
	20.41	4.00	8.00	17.53	28.97	53.36	76.23	99.09	121.96	160.07	213.43	342.48
	24.00	4.17	8.34	13.53	23.37	40.59	55.35	83.03	104.56	129.16	215.26	264.66
	31.63	2.87	6.22	8.38	14.11	24.69		52.90		96.98	171.40	254.31
	43.78	1.72	3.44									
Triple	31.63				18.04	31.33	37.98	71.21	80.71			
	36.56	2.71	5.82	9.37	16.7	28.51	44.8	61.09	81.45	101.81	146.41	210.88d
	43.78	2.41	5.5	7.89	13.47	23.66	36.14	49.28	73.92	85.42	124.85	210.31
	54.45	2.26	4.80	6.36	11.13	19.09	29.16	39.77	55.67	71.58	106.04	174.94
	64.42	1.82	3.86	5.65	9.89	16.96	25.91	36.51	54.17	63.60	98.93	152.91
	69.63	1.50	3.63	4.70	8.34	14.54	22.46	31.01	49.19	59.88	85.54	145.99
	80.01	1.46	3.10	4.56	7.98	14.06	21.85	30.41	41.81	57.01	81.72	123.35
	91.41	1.30	2.77		6.03	8.57		20.64		42.69		109.61
	99.38	1.03	2.20	3.53	6.13	10.73	16.10	22.23	36.79	42.92	64.39	73.32
	111.5	1.05	2.23	3.27	5.72	10.08	15.67	21.80	29.97	40.87	59.94	88.42
	121.4	0.87	2.11			9.31	14.47	20.14	28.95	37.76	55.38	76.2
	138.5	0.74	1.58	2.53	4.29	7.69	12.09	16.49	26.38	30.77	46.16	52.56
				2.67	4.79							
	159.8	0.75	1.60	2.15q	3.85q	7.51q	11.68q	16.25q	24.37q	30.46q	44.68q	63.39q
	193.1	0.53	1.13	1.58	2.60	4.73		10.24		18.12	36.04	37.68
Quad	193.1					6.23	9.42	13.11	19.66	24.57		
	206.2	0.62	1.31	1.73	3.11	5.53	8.37	11.65	17.47	21.84	32.03	47.25
	238.2	0.50	1.06	1.54	2.76	5.02	7.60	10.57	15.20	19.82	29.08	40.71
	265.4	0.27t	0.54t	1.40	2.51	4.46	6.75	9.40	14.09	17.62	25.84	38.12
		0.41	0.99									
	295.7	0.40	0.85	1.24	2.23	3.84	5.86	8.00	12.79	14.93	22.39	33.87
	330.1	0.36	0.80	1.08	1.88	3.60	5.45	7.58	10.90	14.21	20.84	30.75
	369.8	0.32	0.72	1.00	1.80	3.20	4.84	6.74	10.10	12.63	18.52	27.32
	412.1	0.29	0.64	0.89	1.60	2.75	4.20	5.92	9.17	10.70	16.43	26.5
	459.0	0.23	0.52	0.78	1.35	2.58	3.91	5.43	7.81	10.19	14.94	22.04
	532.5	0.23	0.52	0.72	1.29	1.97	3.01	4.25	6.58	7.67	11.78	19.59
	617.9	0.21	0.46	0.56	0.97	1.85	2.80	3.90	5.84	7.30	10.71	15.8
	660.6	0.16	0.37			1.25qu	2.66qu	3.81qu	5.40qu	7.14qu	10.47qu	12.81
	741.2	0.17	0.37	0.52	0.92	1.41	2.16	3.04	4.71	5.50	8.45	11.83qu
	900.3	0.12	0.27	0.40	0.69	0.91qu	1.86qu	2.73qu	4.35qu	5.12qu	7.51qu	11.33
	1057	0.12	0.27	0.28	0.47	0.84	1.73qu	1.83	3.51qu	4.55qu	6.67qu	9.50qu
	1255	0.08	0.19	0.25	0.41	0.66qu	1.34qu	1.96qu	3.12qu	3.67qu	5.38qu	8.19qu
	1785	0.05	0.09			0.47qu	0.96qu	1.40qu	2.03qu	2.63qu	3.86qu	5.87qu

t=triple reduction q=quadruple reduction qu=quintuple reduction

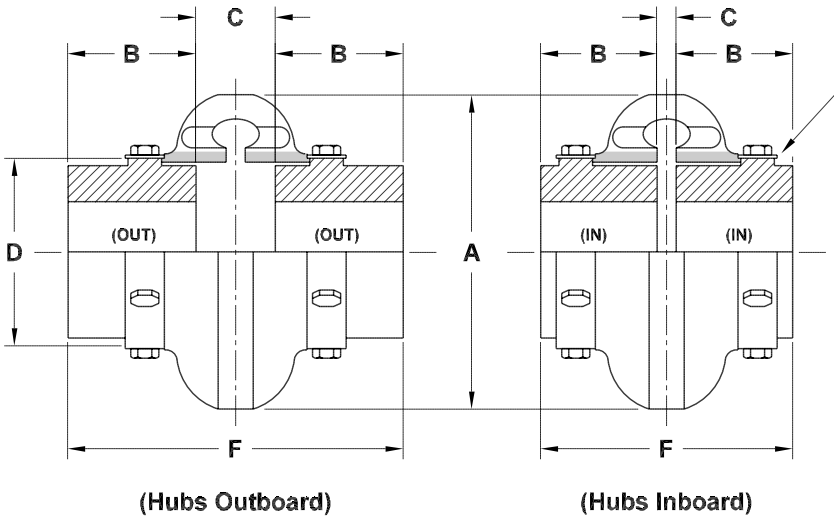
This table reflects maximum mechanical input horsepower ratings at 870 RPM.

* Horsepower ratings in this table do not reflect thermal limitations. Refer to Table 12 for horizontal service and Table 13 for vertical service thermal horsepower limitations.

Selections in shaded areas are transmitted horsepowers that produce maximum rated output torque and may require a torque limiting device. Contact Planetgear for input horsepower rating and motor sizing requirements.

TECHNICAL INFORMATION

Couplings with Straight Bore Hubs



SPECIFICATION DATA WITH STRAIGHT BORE HUBS

Standard Omega No.	Recomm. Max. Bore (In.)	HP/100 RPM 1	Torque (In. Lbs.) 1	Max. RPM	Dimensions in Inches							Weight (Lbs.) 2
					A	B	C		D	F		
							(IN)	(OUT)		(IN)	(OUT)	
V110	1.44	0.88	550	5400	4.32	1.51	0.34	2.16	23.7	3.36	5.18	3.1
V125	1.88	1.48	925	5400	4.74	1.51	0.36	2.18	2.75	3.38	5.20	3.8
V130	2.13	2.30	1450	5100	5.09	1.60	0.26	2.16	3.13	3.46	5.36	4.7
V170	2.50	3.65	2722	4800	6.62	2.00	0.36	2.36	3.75	4.36	6.36	9.4
V190	2.88	5.76	3650	4600	7.48	2.05	0.26	2.36	4.62	4.36	6.46	12.2
V215	3.13	8.85	5500	4300	8.38	2.50	0.44	2.51	6.88	5.44	7.51	21.1
V245	3.75	13.17	8297	4100	9.65	2.54	0.28	2.86	6.75	5.36	7.95	31.7
V290	4.38	17.86	11,250	3900	11.40	2.88	0.32	3.72	8.47	6.08	9.48	55.0
E70	4.50	35.12	22,125	3600	14.00	3.62	0.75	3.75	9.25	8.00	11.00	86
E80	6.00	62.70	39,500	2000	16.00	4.87	0.75	5.00	11.25	10.50	14.75	170
E100	6.75	135	85,050	1900	21.00	5.50	1.75	3.75	14.13	12.75	14.75	244
E120	7.50	270	170,100	1800	25.00	6.00	2.25	4.88	17.63	14.24	16.88	425
E140	9.00	540	340,200	1500	30.00	7.00	3.00	5.00	20.88	17.00	19.00	746

(1) Service factor = 1.0
(2) With max. bore standard hubs

NO OTHER COUPLING CAN OFFER ALL THESE FEATURES

- **Rapid and Easy Assembly/Disassembly** — Element consists of two halves split longitudinally. Allows for "inplace" removal/ installation. No need to move connected equipment.
- **Protects Equipment** — The super flexible polyurethane element "cushions shock loads" and accommodates up to 4° angular or 3/16" parallel misalignment.
- **Reduces Vibration** — Less "wear and tear" on connected equipment. Longer system life.
- **Safe** — No metal-to-metal contact between driver and driven components. Non-sparking. Reduces the risk of fire.
- **Visual Inspection** — No need to disassemble coupling. The element can even be inspected "on-the-fly" using a strobe light.
- **Chemical Resistance** — Highly resistant to oils, corrosion and most chemicals.
- **Less Inventory** — Standard and spacer hubs are interchangeable. Adjustable spacer design meets most shaft spacing requirements without additional parts.
- **Lower Maintenance Cost** — No lubrication or service required.

Table 7 - Viva Coupling Selection for Scoop Mount Reducers

1750 RPM Motor Speed - Class I (S.F. = 1.00)

Motor HP	Frame Size	Motor Shaft Dia. (in.)	Reducer Series and Input Shaft Diameters					
			Mercury 1 3/8"	Mars Venus (q) & Atlas (q) 1 5/8"	Venus & Atlas (s,d,t) Earth (q) & Polaris (q) 1 7/8"	Earth & Polaris (s,d,t) Neptune (q) & Orion (q) 2 1/8"	Neptune & Orion (s,d,t) Titan (q) & Saturn (q) 2 1/2"	Saturn & Titan (s,d,t) Jupiter 3"
1	143T	7/8	V110	V125	V125			
1.5	145T	7/8	V110	V125	V125			
2	145T	7/8	V110	V125	V125	V130		
3	182T	1 1/8	V110	V125	V125	V130		
5	184T	1 1/8	V110	V125	V125	V130	V170	
7.5	213T	1 3/8	V110	V125	V125	V130	V170	
10	215T	1 3/8	V110	V125	V125	V130	V170	
15	254T	1 5/8	V125	V125	V125	V130	V170	
20	256T	1 5/8	V125	V125	V125	V130	V170	V215
25	284T	1 7/8	V125	V125	V125	V130	V170	V215
30	286T	1 7/8	V130	V130	V130	V130	V170	V215
40	324T	2 1/8		V130	V130	V130	V170	V215
50	326T	2 1/8			V170	V170	V170	V215
60	364T	2 3/8			V170	V170	V170	V215
75	365T	2 3/8			V190	V190	V170	V215
100	404T	2 7/8			V190	V190	V190	V215
125	405T	2 7/8				V215	V215	V215
150	444T	3 3/8					V245	V245
200	445T	3 3/8					V245	V245
250	447T	3 3/8					V290	V290

1750 RPM Motor Speed - Class II (S.F. = 1.40)

Motor HP	Frame Size	Motor Shaft Dia. (in.)	Reducer Series and Input Shaft Diameters					
			Mercury 1 3/8"	Mars Venus (q) & Atlas (q) 1 5/8"	Venus & Atlas (s,d,t) Earth (q) & Polaris (q) 1 7/8"	Earth & Polaris (s,d,t) Neptune (q) & Orion (q) 2 1/8"	Neptune & Orion (s,d,t) Titan (q) & Saturn (q) 2 1/2"	Saturn & Titan (s,d,t) Jupiter 3"
1	**143T**	7/8	V110	V125	V125			
1.5	**145T**	7/8	V110	V125	V125	V130		
2	**145T**	7/8	V110	V125	V125	V130		
3	**182T**	1 1/8	V110	V125	V125	V130	V170	
5	**184T**	1 1/8	V110	V125	V125	V130	V170	
7.5	**213T**	1 3/8	V110	V125	V125	V130	V170	
10	**215T**	1 3/8	V110	V125	V125	V130	V170	
15	**254T**	1 5/8	V125	V125	V125	V130	V170	V215
20	**256T**	1 5/8	V130	V130	V130	V130	V170	V215
25	**284T**	1 7/8		V130	V130	V130	V170	V215
30	**286T**	1 7/8		V170	V170	V170	V170	V215
40	**324T**	2 1/8		V170	V170	V170	V170	V215
50	**326T**	2 1/8			V190	V190	V170	V215
60	**364T**	2 3/8			V190	V190	V170	V215
75	**365T**	2 3/8			V215	V215	V215	V215
100	**404T**	2 7/8				V215	V215	V215
125	**405T**	2 7/8				V245	V245	V245
150	**444T**	3 3/8					V245	V245
200	**445T**	3 3/8					V290	V290
250	**447T**	3 3/8						E70

1750 RPM Motor Speed - Class III (S.F. = 2.00)

Motor HP	Frame Size	Motor Shaft Dia. (in.)	Reducer Series and Input Shaft Diameters					
			Mercury 1 3/8"	Mars Venus (q) & Atlas (q) 1 5/8"	Venus & Atlas (s,d,t) Earth (q) & Polaris (q) 1 7/8"	Earth & Polaris (s,d,t) Neptune (q) & Orion (q) 2 1/8"	Neptune & Orion (s,d,t) Titan (q) & Saturn (q) 2 1/2"	Saturn & Titan (s,d,t) Jupiter 3"
1	**143T**	7/8	V110	V125	V125	V130		
1.5	**145T**	7/8	V110	V125	V125	V130		
2	**145T**	7/8	V110	V125	V125	V130	V190	
3	**182T**	1 1/8	V110	V125	V125	V130	V190	
5	**184T**	1 1/8	V110	V125	V125	V130	V190	
7.5	**213T**	1 3/8	V110	V125	V125	V130	V190	
10	**215T**	1 3/8	V125	V125	V125	V130	V190	V215
15	**254T**	1 5/8	V130	V130	V130	V130	V190	V215
20	**256T**	1 5/8		V130	V130	V130	V190	V215
25	**284T**	1 7/8		V170	V170	V170	V190	V215
30	**286T**	1 7/8		V170	V170	V170	V190	V215
40	**324T**	2 1/8			V190	V190	V190	V215
50	**326T**	2 1/8			V190	V190	V190	V215
60	**364T**	2 3/8			V215	V215	V215	V215
75	**365T**	2 3/8				V215	V215	V215
100	**404T**	2 7/8				V245	V245	V245
125	**405T**	2 7/8				V290	V290	V290
150	**444T**	3 3/8					V290	V290
200	**445T**	3 3/8					E70	E70
250	**447T**	3 3/8						E70

Note: Taper-Lock® hub (reducer side only) required on Polaris (s,d,t) when a fan is used.

TECHNICAL INFORMATION

Load Location Factors — High Speed and Low Speed Shafts

TABLE 8

Load Location Factor (L_f)*
High Speed Shafts

Distance in Inches‡	Reducer Series					
	Mercury	Mars Venus (q) Atlas (q) Earth (qu) Polaris (qu)	Venus Atlas Earth (q) Polaris (q) Neptune (qu) Orion (qu) Saturn (qu) Titan (qu)	Earth Polaris Neptune(q) Orion (q)	Neptune Orion Saturn (q) Titan (q)	Saturn Titan Jupiter
3/4	0.85	0.80	0.80	0.73	0.70	0.73
1	0.91	0.86	0.85	0.78	0.74	0.76
1 1/4	0.97	0.91	0.89	0.82	0.79	0.79
1 1/2	1.03	0.97	0.93	0.87	0.83	0.82
1 3/4	1.09	1.03	0.98	0.92	0.87	0.85
2	1.15	1.09	1.02	0.97	0.91	0.88
2 1/4	1.21	1.14	1.07	1.03	0.96	0.91
2 1/2	1.27	1.20	1.11	1.08	1.00	0.94
2 3/4	1.33	1.26	1.15	1.13	1.04	0.97
3	1.39	1.31	1.20	1.18	1.09	1.00
3 1/4		1.37	1.25	1.23	1.13	1.03
3 1/2		1.43	1.31	1.28	1.17	1.06
3 3/4			1.38	1.33	1.21	1.09
4			1.44	1.38	1.26	1.12
4 1/4			1.50	1.43	1.31	1.15
4 1/2				1.49	1.37	1.18
4 3/4					1.42	1.21
5					1.47	1.24
5 1/2					1.58	1.30
6						1.36
6 1/2						1.42

* Factor based on the distance from load centerline to reducer seal cage.

‡ Interpolate for intermediate values.

q = quadruple reduction (values do not pertain to other reductions within this particular reducer series.)

qu = quintuple reduction (values do not pertain to other reductions within this particular reducer series.)

TABLE 9

Load Location Factor (L_f)*
Low Speed Shafts

Distance in Inches‡	Reducer Series										
	Mercury	Mars	Venus	Atlas	Earth	Polaris	Neptune	Orion	Saturn	Titan	Jupiter
1	0.84	0.77	0.71	0.72	0.67	0.70	0.72	0.72	0.69	0.63	0.61
1 1/4	0.88	0.81	0.75	0.74	0.70	0.73	0.74	0.74	0.71	0.65	0.63
1 1/2	0.92	0.85	0.80	0.78	0.72	0.75	0.76	0.75	0.72	0.67	0.65
1 3/4	0.96	0.89	0.84	0.81	0.75	0.78	0.78	0.77	0.74	0.69	0.67
2	1.00	0.92	0.88	0.84	0.78	0.80	0.80	0.79	0.76	0.70	0.69
2 1/4	1.04	0.96	0.92	0.87	0.81	0.83	0.82	0.81	0.78	0.72	0.70
2 1/2	1.08	1.00	0.96	0.90	0.83	0.85	0.84	0.82	0.79	0.73	0.72
2 3/4	1.12	1.04	1.00	0.93	0.86	0.88	0.86	0.84	0.81	0.75	0.73
3	1.16	1.08	1.04	0.97	0.90	0.90	0.88	0.86	0.83	0.77	0.75
3 1/4	1.20	1.11	1.08	1.00	0.95	0.93	0.90	0.88	0.85	0.78	0.77
3 1/2	1.25	1.15	1.12	1.03	1.00	0.95	0.92	0.89	0.86	0.80	0.78
3 3/4	1.29	1.19	1.16	1.06	1.05	0.97	0.94	0.91	0.88	0.82	0.80
4	1.33	1.23	1.10	1.09	1.10	1.00	0.96	0.93	0.90	0.83	0.82
4 1/4		1.26	1.25	1.12	1.14	1.02	0.98	0.95	0.91	0.85	0.89
4 1/2		1.30	1.29	1.16	1.19	1.05	1.00	0.96	0.93	0.87	0.85
4 3/4		1.34	1.33	1.19	1.24	1.07	1.02	0.98	0.95	0.88	0.87
5		1.38	1.37	1.22	1.29	1.10	1.06	1.00	0.97	0.90	0.88
5 1/2			1.45	1.28	1.38	1.15	1.12	1.04	1.00	0.93	0.91
6				1.35	1.48	1.20	1.19	1.07	1.03	0.97	0.95
6 1/2				1.41	1.57	1.25	1.25	1.11	1.07	1.00	0.97
7					1.67	1.30	1.32	1.14	1.10	1.03	1.00
7 1/2						1.35	1.39	1.18	1.14	1.07	1.03
8						1.40	1.45	1.21	1.17	1.10	1.07
8 1/2							1.52	1.25	1.21	1.13	1.10
9							1.58	1.28	1.24	1.17	1.13
9 1/2								1.32	1.28	1.20	1.17
10								1.35	1.31	1.23	1.20
10 1/2									1.34	1.27	1.23
11									1.38	1.30	1.27
12											1.30

* Factor based on the distance from load centerline to reducer seal cage.

‡ Interpolate for intermediate values.

Overhung Load Capacity — High Speed and Low Speed Shafts

TABLE 10

Overhung Load Capacity - POUNDS*
High Speed Shafts

H.S. Shaft RPM ‡	Reducer Series					
	Mercury	Mars Venus (q) Atlas (q) Earth (qu) Polaris (qu)	Venus Atlas Earth (q) Polaris (q) Neptune (qu) Orion (qu) Saturn (qu) Titan (qu)	Earth Polaris Neptune (q) Orion (q)	Neptune Orion Saturn (q) Titan (q)	Saturn Titan Jupiter
1750	720	679	941	1,500	1,900	2,500
1430	765	721	999	1,600	2,040	2,660
1170	813	766	1,060	1,700	2,160	2,830
870	888	837	1,160	1,860	2,360	3,100
720	940	886	1,230	1,960	2,500	3,270
580	1,000	946	1,310	2,100	2,670	3,490

* Capacities are for pure radial loads. If overhung and thrust loads are applied together or if radial loads exceed listed capacities, consult factory.

‡ If desired speed is not shown, use next higher speed.

q = quadruple reduction (values do not pertain to other reductions within this particular reducer series.)

qu = quintuple reduction (values do not pertain to other reductions within this particular reducer series.)

TABLE 11

Overhung Load Capacity - POUNDS*
Low Speed Shafts

Approximate L.S. Shaft RPM†	Reducer Series										
	Mercury	Mars	Venus	Atlas	Earth	Polaris	Neptune	Orion	Saturn	Titan	Jupiter
496	2,230	2,060	4,390	3,970	6,150	6,550	11,500	13,450	14,300	15,400	16,000
399	2,380	2,200	4,680	4,200	6,560	7,000	12,250	14,350	15,300	16,400	17,000
286	2,630	2,430	5,180	4,700	7,250	7,750	13,600	15,850	16,950	18,200	18,800
159	3,080	2,850	6,300	5,600	8,820	9,250	16,200	18,900	20,200	21,700	22,400
126	3,320	3,070	6,720	6,000	9,410	9,950	17,400	20,300	21,650	23,200	24,000
102	3,540	3,270	7,160	6,390	10,000	10,600	18,500	21,600	23,000	24,700	25,600
86	3,780	3,500	7,420	6,720	10,400	11,100	19,500	22,750	24,300	26,000	27,000
73	3,910	3,620	7,920	7,060	11,100	11,700	20,500	23,900	25,500	27,300	28,300
55	4,180	3,860	8,750	7,680	12,200	12,700	22,300	26,000	27,750	29,800	30,900
48	4,420	4,080	9,030	8,000	12,600	13,200	23,250	27,100	28,900	31,000	32,200
40	4,610	4,270	9,630	8,460	13,500	14,000	24,500	28,600	30,500	32,800	34,000
32	4,930	4,560	10,300	9,040	14,400	15,000	26,250	29,700	32,400	35,000	36,300
27	5,260	4,870	10,600	9,500	14,900	15,800	27,500	29,700	32,400	36,900	38,200
25	5,360	4,960	11,000	9,740	15,300	16,100	27,500	29,700	32,400	37,700	39,100
22	5,630	5,200	11,400	10,100	15,900	16,800	27,500	29,700	32,400	38,000	40,600
19.1	5,820	5,380	11,900	10,600	16,600	17,500	27,500	29,700	32,400	38,000	42,400
17.6	6,010	5,550	12,100	11,800	16,900	17,900	27,500	29,700	32,400	38,000	43,500
15.7	6,210	5,590	12,500	11,800	17,600	18,500	27,500	29,700	32,400	38,000	45,000
14.4	6,390	5,590	12,700	11,800	18,200	19,000	27,500	29,700	32,400	38,000	46,200
12.6	6,630	5,590	12,700	11,800	18,300	19,800	27,500	29,700	32,400	38,000	48,000
11.0	6,870	5,590	12,700	11,800	18,300	20,600	27,500	29,700	32,400	38,000	50,000
9.1	7,020	5,590	12,700	11,800	18,300	21,800	27,500	29,700	32,400	38,000	53,000
6.4‡	7,020	5,590	12,700	11,800	18,300	23,000	27,500	29,700	32,400	38,000	58,900

* Capacities are for pure radial loads. If overhung and thrust loads are applied together or if radial loads exceed listed capacities, consult factory.

† Interpolate for intermediate values for a min. of 5,000 hr L10 life.

‡ For slower speeds, use the capacity at 6.4 RPM.

TECHNICAL INFORMATION

Horizontal Service — Thermal HP Limits - 1750 RPM Input Speed

TABLE 12

Thermal HP Limits

Maximum motor HP (without service factor) that reducer will transmit continuously without overheating. Based on 80°F ambient temperature. See page 109 for adjustment factors at different temperatures.

Nominal Ratio	Reducer Series																											
	Mercury			Mars			Venus			Atlas			Earth			Polaris			Neptune		Orion		Saturn		Titan		Jupiter	
	Without Fan	With Fan	C-Face	Without Fan	With Fan	C-Face	Without Fan	With Fan	C-Face	Without Fan	With Fan	C-Face	Without Fan	With Fan	C-Face	Without Fan	With Fan	C-Face	Without Fan	With Fan	Without Fan	With Fan	Without Fan	With Fan	Without Fan	With Fan	Without Fan	With Fan
3.53	12		12**		32		20	75	30				*	100	*	*	30	*	20	125	*	*	*	*				
4.39	13		13**	11	40	11*	38	100	38**	25	100	25	15	125	20	15	150	15	20	210	20	150	25	150				
6.12	15		15**	14		14**	43	103	43**	44	104	44**	15	135	30				20	250			25	375				
9.30										20	75	25	15	100	40**	15	125	20	25	200								
11.02	10		10	10	25	10	31		31**	20	75	30	15	100	20	15	125	30	25	185	25	185	25	150	25	200		
13.85	10		10	10		10	52		52**	46	81	46**	20	100	30	20	150	30	25	230	25	230	25	230	25	310	25	155
17.21				10		10				50		50**	30	100	40**	30	140	30	25	260	25	275	25	285	25	380		
20.41				10		10				70		70**	45	105	45**	40	160	30	25	240	25	250	35	350	55	470	40	445
24.00				11		11**							50	110	50**	40		40**	30		30	275	35		55	515	60	490
31.63d				11		11**							55		55**				40				35				25	500
31.63t													30		30	30		30	25	100	25	150	25	150	40	200		
36.56				7.5		10					33		55		55**	30	85	30	25	115	25	135	25	150	40	200	155	
43.78				7.5		10							65		65**	30	100	30	30	120	35	145	35	165	55	205	20	260
54.45				7.5		10				31		31				40		40**	30		40	145	50	180	70	225	40	260
64.42																40		40**	30		35	140	45	175	60	215	85	320
69.63																35		35**	30		45		55		70	230	95	335
80.01																50		50**	30		45		65		70		100	335
91.41																			30		40		40				140	
99.38																			30		50		70		70		105	
111.5																			30		45		80		100		150	
121.4																									75		155	
138.5																			30		50		80		105		125	

If the nominal ratio is not listed or no value is given above, your application will not be thermally limited. Refer to page 5 and 109 for other conditions.

* Contact factory for heat exchanger selection.
** Check for available motor frame sizes.
d = double reduction
t = triple reduction

Horizontal Service — Thermal HP Limits - 1430 RPM Input Speed

TABLE 12

Thermal HP Limits

Maximum motor HP (without service factor) that reducer will transmit continuously without overheating. Based on 80°F ambient temperature. See page 109 for adjustment factors at different temperatures.

Nominal Ratio	Reducer Series																											
	Mercury			Mars			Venus			Atlas			Earth			Polaris			Neptune		Orion		Saturn		Titan		Jupiter	
	Without Fan	With Fan	C-Face	Without Fan	With Fan	C-Face	Without Fan	With Fan	C-Face	Without Fan	With Fan	C-Face	Without Fan	With Fan	C-Face	Without Fan	With Fan	C-Face	Without Fan	With Fan	Without Fan	With Fan	Without Fan	With Fan	Without Fan	With Fan	Without Fan	With Fan
3.53	14		14**		42		40	101	40**				10	100	10	10	155	10	20	165	20	65	25	50				
4.39	14		14**	14		14**	57	122	57**	43	108	43**	20	135	20	15	245	15	30	270	25	270	25	270				
6.12				16		16**	61		61**	62	127	62**	70	175	70**				40	300			65	470				
9.30										30		30	50	100	50**	30	150	30	25	200								
11.02				10		10	47		47**	40	92	40**	40	100	40**	40	145	40**	25	235	25	235	25	200	25	275		
13.85				10		10				59		59**	50	110	50**	40	170	40**	40	275	40	300	25	320	35	410	25	350
17.21				11		11**				63		63**	60	115	60**	40		40**	55		55		30	370	40	465		
20.41				11		11**							75		75**	50		50**	50		50		40		85		75	590
24.00				13		13**							70		70**	60		60**	60		60		40		85		100	
31.63d																			75				40				50	
31.63t													30		30	30		30	30		30		30		60			
36.56				7.5		7.5				30		30				50	100	50**	30	125	40	155	40	180	65	220	210	
43.78																40		40**	40		50	160	50	190	75	235	60	305
54.45																45		45**	40		55		65		90		65	305
64.42																50		50**	40		50		60		85		85	355
69.63																45		45**	40		60		70		95		85	
80.01																			40		60		75		105		125	
91.41																											160	
99.38																			40		60		80		110		130	
111.5																			40		60		85		115		170	
121.4																											175	
138.5																												

If the nominal ratio is not listed or no value is given above, your application will not be thermally limited. Refer to page 5 and 109 for other conditions.

* Contact factory for heat exchanger selection.
** Check for available motor frame sizes.
d = double reduction
t = triple reduction

TECHNICAL INFORMATION

Horizontal Service — Thermal HP Limits - 1170 RPM Input Speed

TABLE 12

Thermal HP Limits

Maximum motor HP (without service factor) that reducer will transmit continuously without overheating. Based on 80°F ambient temperature. See page 109 for adjustment factors at different temperatures.

Nominal Ratio	Reducer Series																											
	Mercury			Mars			Venus			Atlas			Earth			Polaris			Neptune		Orion		Saturn		Titan		Jupiter	
	Without Fan	With Fan	C-Face	Without Fan	With Fan	C-Face	Without Fan	With Fan	C-Face	Without Fan	With Fan	C-Face	Without Fan	With Fan	C-Face	Without Fan	With Fan	C-Face	Without Fan	With Fan	Without Fan	With Fan	Without Fan	With Fan	Without Fan	With Fan	Without Fan	With Fan
3.53	22		22**		49		55	124	55**				30	140	30	30	250	40**	30	235	30	240	30	250				
4.39				16		16**	72		75**	61	130	61**	60	205	60	40	325	75**	40	325	40	330	50	380				
6.12				18		18**	75		75**	76		76**	115		115**				60	345			105	545				
9.30										40		40**	75		75**	30		40**	30									
11.02				11		11**				52		52**	75	130	75**	50	180	50**	35		50	340	50	290	50	380		
13.85				12		12**				70		70**	75		75**	50		50**	65		65		55		70	490	30	510
17.21				13		13**							70		70**	55		55**	85		65		70		70			
20.41													85		85**	70		70**	75		75		70		140		115	
24.00																75		75**	90		90		70		140		150	
31.63d																			90				50					
31.63t																			40				50		100			
36.56																35		35**	40		60		60		100	245	305	
43.78																50		50**	50		65		70		100		95	340
54.45																50		50**	50		65		80		105		100	
64.42																			45		65		75		100		105	
69.63																			50		70		85		110		105	
80.01																			50		70		90		120		150	
91.41																											175	
99.38																												
111.5																												
121.4																												
138.5																												

If the nominal ratio is not listed or no value is given above, your application will not be thermally limited. Refer to page 5 and 109 for other conditions.

* Contact factory for heat exchanger selection.
** Check for available motor frame sizes.
d = double reduction
t = triple reduction

TABLE 12

Thermal HP Limits

Maximum motor HP (without service factor) that reducer will transmit continuously without overheating Based on 80°F ambient temperature. See page 109 for adjustment factors at different temperatures.

Nominal Ratio	Reducer Series																											
	Mercury			Mars			Venus			Atlas			Earth			Polaris			Neptune		Orion		Saturn		Titan		Jupiter	
	Without Fan	With Fan	C-Face	Without Fan	With Fan	C-Face	Without Fan	With Fan	C-Face	Without Fan	With Fan	C-Face	Without Fan	With Fan	C-Face	Without Fan	With Fan	C-Face	Without Fan	With Fan	Without Fan	With Fan	Without Fan	With Fan	Without Fan	With Fan	Without Fan	With Fan
3.53							77		77**				105		105**	75		75**	30	315	30	330	30	370				
4.39				20		20**				82		82**	130		130**	100		100*	90	385	90	400	40	510				
6.12										93		93**							110				140					
9.30																50		50**	75									
11.02				13									85		85**	75		75**	80		80		55		70			
13.85													90		90**	75		75**	105		105		105		140		100	
17.21																85		85**	120		140		140		140			
20.41																95		95**	110		145		210		210		210	
24.00																									210		220	
31.63d																									125		265	
31.63t																									125			
36.56																45		45**	50		75		80		110			
43.78																			55		80		90		115		150	
54.45																							100		125		140	
64.42																									120		170	
69.63																											175	
80.01																												
91.41																												
99.38																												
111.5																												
121.4																												
138.5																												

If the nominal ratio is not listed or no value is given above, your application will not be thermally limited. Refer to page 5 and 109 for other conditions.

* Contact factory for heat exchanger selection.
** Check for available motor frame sizes.
d = double reduction
t = triple reduction

* Contact factory for heat exchanger selection.

TECHNICAL INFORMATION

Vertical Service — Thermal HP Limits - 1750 RPM Input Speed

TABLE 13

Thermal HP Limits

Maximum motor HP (without service factor) that reducer will transmit continuously without overheating. Based on 80°F ambient temperature. See page 109 for adjustment factors at different temperatures.

Nominal Ratio	Reducer Series																									
	Mercury			Mars			Venus			Atlas			Earth			Polaris			Neptune		Orion		Saturn		Titan	
	Without Fan	With Fan	C-Face	Without Fan	With Fan	C-Face	Without Fan	With Fan	C-Face	Without Fan	With Fan	C-Face	Without Fan	With Fan	C-Face	Without Fan	With Fan	C-Face	Without Fan	With Fan	Without Fan	With Fan	Without Fan	With Fan	Without Fan	With Fan
3.53	10		10	10	34	10	*	34	*				*	*	*	*	*	*	*	*	*	*	*	*		
4.39	10		10	10	40	10	*	85	*	*	60	*	*	50	*	*	50	*	*	70	*	*	*	*		
6.12	10		10	12		12**	9	94	9	12	101	12	15	100	15				*	140		175	*	175		
9.30										*	40	*	*	50	*	*	50	*	*	75						
11.02	10		10	10	25	10	*	70	*	*	50	*	*	60	*	*	60	*	*	100	*	100	*	75	*	100
13.85	10		10	10		10	40		40**	30	103	30	20	75	20	20	85	20	*	175	*	175	*	100	*	150
17.21				10		10	51		51**	37		37**	15	100	15	30	110	30	*	210	*	210	*	135	*	210
20.41				10		10				76		76**	20	80	20	30	150	30	*	210	*	210	*	210	*	285
24.00				10		10							20	90	20	40		40**	*		*	250	*		*	350
31.63d				10		10							25		25				*				35		*	350
31.63t													15		15	30		30	*	100		100	*	75	*	150
36.56				7.5		10				27		27	30		30	30	80	30	*	115	*	115	*	105	*	170
43.78				7.5		10				31		31**	30		30	30		30	20	130	20	140	*	140	*	205
54.45				7.5		10							35		35**	40		40**	30		25		*	175	20	235
64.42													35		35**	40		40**	30		20		20	165	20	220
69.63													35		35**	25		25	30		30		30		35	
80.01																55		55**	30		35		40		55	
91.41																			30				40			
99.38																			30		40		40		65	
111.5																			30		35		55		75	
121.4																									75	
138.5																			15		40		60		85	

If the nominal ratio is not listed or no value is given above, your application will not be thermally limited. Refer to page 5 and109 for other conditions.

* Contact factory for heat exchanger selection.
** Check for available motor frame sizes.
d = double reduction
t = triple reduction

Contact factory for Jupiter and Neptune/Saturn/Titan low speed shaft up applications.

Vertical Service — Thermal HP Limits - 1430 RPM Input Speed

TABLE 13

Thermal HP Limits

Maximum motor HP (without service factor) that reducer will transmit continuously without overheating. Based on 80°F ambient temperature. See page 109 for adjustment dfactors at different temperatures.

Nominal Ratio	Reducer Series																									
	Mercury			Mars			Venus			Atlas			Earth			Polaris			Neptune		Orion		Saturn		Titan	
	Without Fan	With Fan	C-Face	Without Fan	With Fan	C-Face	Without Fan	With Fan	C-Face	Without Fan	With Fan	C-Face	Without Fan	With Fan	C-Face	Without Fan	With Fan	C-Face	Without Fan	With Fan	Without Fan	With Fan	Without Fan	With Fan	Without Fan	With Fan
3.53	10		10	12	46	12**	*	83	*				*	50	*	*	50	*	*	*	*	*	*	*		
4.39	10		10	11		11**	34	125	34	30	100	30	*	75	*	*	105	*	*	140	*	50	*	50		
6.12				15		15**	41		41	44	138	44**	20	125	20				*	260			*	350		
9.30										30		30	15	60	15	15	60	15	*	150						
11.02				10		10	30		30	30	87	30	20	75	20	20	105	20	*	200	*	200	*	100	*	150
13.85				10		10				52		52**	30	85	30	30	140	30	*	265	*	250	*	195	*	285
17.21				10		10				59		59**	40	95	40**	40		40**	*		*		*	285	*	350
20.41				10		10							50		50**	50		50**	*		*		*		*	300
24.00				12		12**							*		*	60		60**	*		*		*		*	
31.63d													*		*				*				*		*	
31.63t																30		30	*						*	
36.56				7.5		7.5				34		34**	35		35**	50		50**	30	140	35	170	*	170	*	225
43.78													45		45**	35		35**	40		45		30	195	*	250
54.45																40		40**	40		50		50		*	
64.42																50		50**	40		40		40		45	
69.63																40		40**	40		55		55		70	
80.01																			40		55		60		85	
91.41																										
99.38																			35		60		65		95	
111.5																			30		55		75		105	
121.4																										
138.5																			35							

If the nominal ratio is not listed or no value is given above, your application will not be thermally limited. Refer to page 5 and 109 for other conditions.

* Contact factory for heat exchanger selection.
** Check for available motor frame sizes.
d = double reduction
t = triple reduction

Contact factory for Jupiter and Neptune/Saturn/Titan low speed shaft up applications.

TECHNICAL INFORMATION

Vertical Service — Thermal HP Limits - 1170 RPM Input Speed

TABLE 13

Thermal HP Limits

Maximum motor HP (without service factor) that reducer will transmit continuously without overheating Based on 80°F ambient temperature. See page 109 for adjustment factors at different temperatures.

Nominal Ratio	Reducer Series																									
	Mercury			Mars			Venus			Atlas			Earth			Polaris			Neptune		Orion		Saturn		Titan	
	Without Fan	With Fan	C-Face	Without Fan	With Fan	C-Face	Without Fan	With Fan	C-Face	Without Fan	With Fan	C-Face	Without Fan	With Fan	C-Face	Without Fan	With Fan	C-Face	Without Fan	With Fan	Without Fan	With Fan	Without Fan	With Fan	Without Fan	With Fan
3.53	15		15**	19	55	19**	30	122	30				20	75	20	20	105	20	*	125	*	100	*	100		
4.39				15		15**	57		57**	40	137	40**	30	110	30	30	140	30	*	210	*	210	*	210		
6.12				19		19**	68		68**	70		70**	50		50**				*	345			*	545		
9.30										40		40**	40		40**	40	75	40**	*							
11.02				10		10	51		51**	50		50**	50	110	50**	50	140	50**	*	270	*		*	150	*	230
13.85				11		11**				71		71**	75	125	75**	50		50**	20		20		*	285	*	450
17.21				12		12**							75		75**	50		50**	45		65		*		*	300
20.41													15		15	60		60**	50		30		*		*	
24.00													20		20	50		50**	75		65		*		*	
31.63d													30		30				55				40		130	
31.63t																			40				40		40	
36.56													50		50**	25		25	40		55		50		50	270
43.78																45		45**	50		65		50		70	
54.45																50		50**	50		70		75		90	
64.42																			35		60		60		80	
69.63																			45		75		70		85	
80.01																			45		75		85		85	
91.41																										
99.38																									120	
111.5																										
121.4																										
138.5																										

If the nominal ratio is not listed or no value is given above, your application will not be thermally limited. Refer to page 5 and 109 for other conditions.

* Contact factory for heat exchanger selection.
** Check for available motor frame sizes.
d = double reduction
t = triple reduction

Contact factory for Jupiter and Neptune/Saturn/Titan low speed shaft up applications.

Vertical Service — Thermal HP Limits - 870 RPM Input Speed

TABLE 13

Thermal HP Limits

Maximum motor HP (without service factor) that reducer will transmit continuously without overheating Based on 80°F ambient temperature. See page 109 for adjustment factors at different temperatures.

Nominal Ratio	Reducer Series																									
	Mercury			Mars			Venus			Atlas			Earth			Polaris			Neptune		Orion		Saturn		Titan	
	Without Fan	With Fan	C-Face	Without Fan	With Fan	C-Face	Without Fan	With Fan	C-Face	Without Fan	With Fan	C-Face	Without Fan	With Fan	C-Face	Without Fan	With Fan	C-Face	Without Fan	With Fan	Without Fan	With Fan	Without Fan	With Fan	Without Fan	With Fan
3.53				26		26**	69		69**				50	200	50**	50		50**	*	210	*	210	*	200		
4.39				20		20**				78		78**	75		75**	75		75**	30		*	375	*	460		
6.12										100		100**	30		30				60				*			
9.30																50		50**	40							
11.02				13						67		67**	15		15	75		75**	50		50		30		30	460
13.85													30		30	75		75**	80		80		50		70	
17.21													35		35**	65		65**	105		105		90		105	
20.41													35		35**	85		85**	90		120		180		140	
24.00																			110		145				210	
31.63t																									220	
36.56																									125	
43.78																45		45**	50		80		65		95	
54.45																			55		90		85		110	
64.42																							100		125	
69.63																									115	
80.01																										
91.41																										
99.38																										
111.50																										
121.40																										
138.50																										

If the nominal ratio is not listed or no value is given above, your application will not be thermally limited. Refer to page 5 and 109 for other conditions.

* Contact factory for heat exchanger selection.
** Check for available motor frame sizes.
d = double reduction
t = triple reduction

Contact factory for Jupiter and Neptune/Saturn/Titan low speed shaft up applications.

TECHNICAL INFORMATION

Tables

TABLE 14

Ambient Temperature Adjustment Factor (A_c)

Ambient Temperature (°F)	Percent of Operational Time Per Hour		
	100%	75%	50%
below 54	1.20	1.27	1.40
55 to 69	1.10	1.17	1.29
70 to 84	1.00	1.06	1.17
85 to 99	0.85	0.90	0.99
100 to 114	0.70	0.74	0.81
above 115	Consult Factory		

TABLE 15

Extended Usable Input Shaft Lengths

Reducer Series	Mercury	Mars Venus Quad Atlas Quad	Venus Earth Quad Polaris Quad	Atlas Earth Quad Polaris Quad	Earth, Polaris Neptune Quad Orion Quad	Neptune, Orion Saturn Quad Titan Quad	Saturn Titan Jupiter
Shaft Length	6.00	7.00	8.50	8.50	9.00	11.56	13.00

Extended Usable Output Shaft Lengths

Reducer Series	Mercury	Mars	Venus	Atlas	Earth	Polaris	Neptune	Orion	Saturn
Shaft Length	7.15	12.44	11.00	13.00	12.00	14.00	16.00	17.00	19.00

TABLE 16

Nominal and Actual Reduction Ratios

Reduction	Nominal Ratio	Reducer Type										
		Mercury	Mars	Venus	Atlas	Earth	Polaris	Neptune	Orion	Saturn	Titan	Jupiter
Single	3.53	3.75	3.75	3.32		3.32	3.32	3.32	3.32	3.32		
	4.39	4.67	4.67	4.11	4.11	4.11	4.11	4.11	4.11	4.11		
	6.12	6.50	6.50	5.74	5.74	5.74		5.74		5.74		
Double	9.30				9.45	9.45	9.45	9.45				
	11.02	10.24	10.24	11.02	11.02	11.02	11.02	11.02	11.02	11.02	11.02	
	13.85	14.06	14.06	13.66	13.66	13.66	13.66	13.66	13.66	13.66	13.66	12.80
	17.21	17.50	17.50	16.93	16.93	16.93	16.93	16.93	16.93	16.93	16.93	
	20.41	21.78	21.78	19.05	19.05	19.05	19.05	19.05	19.05	19.05	19.05	19.08
	24.00	24.38	24.38	23.61	23.61	23.61	23.61	23.61	23.61	23.61	23.61	24.69
	31.63	30.33	30.33	32.94	32.94	32.94		32.94		32.94	30.50	28.55
					t31.37	t31.37	t31.37	t31.37	t31.37			
Triple	36.56	38.40	38.40	36.57	36.57	36.57	36.57	36.57	36.57	36.57	36.57	d34.43
	43.78	d42.25	d42.25	45.33	45.33	45.33	45.33	45.33	45.33	45.33	45.33	42.49
		45.00	45.00									
	54.45	52.73	52.73	56.18	56.18	56.18	56.18	56.18	56.18	56.18	56.18	51.08
	64.42	65.63	65.63	63.23	63.23	63.23	63.23	63.23	63.23	63.23	63.23	63.31
	69.63	69.69	69.69	69.64	69.64	69.64	69.64	69.64	69.64	69.64	69.64	65.29
	80.01	81.67	81.67	78.37	78.37	78.37	78.37	78.37	78.37	78.37	78.37	78.48
	91.41	91.41	91.41		93.79	93.79		93.79		90.71		88.32
	99.38	101.63	101.63	97.15	97.15	97.15	97.15	97.15	97.15	97.15	97.15	101.56
	111.5	113.75	113.75	109.32	109.32	109.32	109.32	109.32	109.32	109.32	109.32	109.48
	121.4	q122.88	q122.88			q121.37	q121.37	q121.37	121.37	q121.37	q121.37	127.05
	138.50	141.56	141.56	135.51	135.51	135.51	135.51	135.51	135.51	135.51	135.51	141.67
				q137.12	q137.12							
	159.8	158.44	158.44	q170.64	q170.64	q150.44	q150.44	q150.44	150.44	q150.44	q150.44	152.71
	193.1	197.17	197.17	189.03	189.03	189.03		189.03		189.03	q186.48	197.63
						q186.48	q186.48	q186.48	186.48	q186.48		
Quadruple	206.2	197.75	197.75	211.52	211.52	209.86	209.86	209.86	209.86	209.86	209.86	210.15
	238.2	246.09	246.09	237.68	237.68	231.16	231.16	231.16	231.16	231.16	231.16	243.87
	265.4	t274.63	t274.63	262.19	262.19	260.13	260.13	260.13	260.13	260.13	260.13	260.49
		261.33	261.33									
	295.7	306.25	306.25	294.62	294.62	286.54	286.54	286.54	286.54	286.54	286.54	293.14
	330.1	342.77	342.77	325.01	325.01	322.45	322.45	322.45	322.45	322.45	322.45	322.89
	369.8	381.11	381.11	365.20	365.20	362.87	362.87	362.87	362.87	362.87	362.87	363.37
	412.1	426.56	426.56	410.97	410.97	399.70	399.70	399.70	399.70	399.70	399.70	374.71
	459.0	474.27	474.27	452.69	452.69	449.79	449.79	449.79	449.79	449.79	449.79	450.41
	532.5	530.83	530.83	509.43	509.43	557.55	557.55	557.55	557.55	557.55	557.55	506.87
	617.9	594.14	594.14	631.46	631.46	627.43	627.43	627.43	627.43	627.43	627.43	628.30
	660.6	660.59	660.59			qu676.79	qu676.79	qu658.21	qu696.55	qu658.21	qu658.21	655.95
	741.2	739.38	739.38	710.61	710.61	777.74	777.74	777.74	777.74	777.74	777.74	qu728.21
	900.3	920.11	920.11	880.85	880.85	qu925.44	qu925.44	qu918.16	qu863.42	qu918.16	qu918.16	876.43
	1057	1029.84	1029.84	1080.19	1080.19	1084.89	qu1039.89	1084.89	qu1070.26	qu1033.24	qu1033.24	qu1071.74
	1255	1281.58	1281.58	1228.72	1228.72	qu1289.00	qu1289.00	qu1280.77	qu1204.40	qu1280.77	qu1280.77	qu1243.73
	1785	1785.06	1785.06			qu1798.07	qu1798.07	qu1786.58	qu1850.58	qu1786.58	qu1786.58	qu1734.92

d = double reduction, t = triple reduction, q = quadruple reduction, qu = quintuple reduction

TABLE 17

Reduction	Nominal Ratio	Reducer Type										
		Mercury (lb-in²)	Mars (lb-in²)	Venus (lb-in²)	Atlas (lb-in²)	Earth (lb-in²)	Polaris (lb-in²)	Neptune (lb-in²)	Orion (lb-in²)	Saturn (lb-in²)	Titan (lb-in²)	Jupiter (lb-in²)
	3.53	4.62	6.95	30.29		132.47	165.91	624.57	798.12	1246.99		
Single	**4.39**	3.67	5.36	21.73	27.59	89.11	113.42	413.40	543.23	884.49		
	6.12	2.87	3.97	14.59	18.07	51.72		237.13		526.26		
	9.30				19.81	46.14	67.77	205.27				
	11.02	5.45	6.10	16.31	18.56	40.59	50.31	201.01	216.50	764.45	822.27	
	13.85	4.25	4.77	12.69	14.33	29.07	36.08	140.79	151.59	528.88	566.60	1334.77
Double	**17.21**	3.42	3.89	12.19	13.70	26.44	32.97	128.28	136.50	503.47	529.87	
	20.41	3.37	3.82	9.51	10.55	19.22	23.31	89.45	95.25	330.11	349.44	914.02
	24.00	2.73	3.16	9.26	10.22	17.87	21.72	83.03	87.51	317.08	330.61	880.62
	31.63	2.70	3.12	9.04	9.93	16.76		77.68		306.20	251.50	706.16
	43.78	2.68	3.08									
	31.63				15.09	19.23	22.75	73.09	75.02			
	36.56	4.27	4.67	14.77	14.97	18.72	21.17	66.05	67.45	276.01	281.26	524.27d
	43.78	4.19	4.59	12.43	12.56	15.68	16.63	53.15	54.07	213.49	216.92	772.43
	54.45	4.18	4.58	12.21	12.31	15.00	15.79	49.58	50.22	199.53	201.76	768.56
	64.42	3.36	3.75	8.88	8.95	11.50	12.55	42.01	42.48	160.09	161.84	531.56
	69.63	3.33	3.72	12.18	12.27	14.85	15.60	48.84	49.33	198.02	199.59	506.87
Triple	**80.01**	3.33	3.71	8.77	8.82	11.15	12.12	40.18	40.51	152.93	154.07	505.22
	91.41	2.68	3.07		8.72	10.91		42.92		158.42		331.48
	99.38	3.32	3.71	8.76	8.80	11.07	12.02	39.80	40.05	152.16	152.96	503.24
	111.5	2.7	3.0	8.68	8.71	10.85	11.73	38.62	38.80	146.89	147.48	317.98
	138.5	2.66	3.04	8.67	8.70	10.81	11.68	38.43	38.56	146.49	146.91	316.96
	193.1	2.58	2.97	8.66	8.69	10.78		38.27		146.16		306.14
	121.4	4.27	4.65		4.69	14.84	15.06	19.10	19.23	66.62	63.24	307.09t
	138.50			4.66	4.68	12.47	12.61	15.93	16.01	53.53	53.31	306.14
	159.8*	2.64	3.03	3.67	3.68	12.24	12.35	15.16	15.22	49.83	50.04	
	206.2	4.18	4.57	3.53	3.53	8.90	8.98	11.62	11.67	42.20	42.36	213.72
	238.2	3.36	3.75	2.40	2.40	12.20	12.30	14.95	14.99	49.00	49.14	160.32
	265.4	3.33	3.71	3.52	3.52	8.79	8.84	11.23	11.26	40.30	40.41	199.68
	295.7	3.32	3.71	2.76	2.77	12.19	12.28	14.91	14.94	48.91	49.01	
	330.1	2.68	3.06	3.52	3.52	8.77	8.81	11.12	11.14	39.88	39.95	198.12
	369.8	3.32	3.71	2.76	2.76	8.68	8.72	10.89	10.91	38.68	.	153.00
Quad / Quint	**412.1**	2.66	3.04	2.70	2.70	8.76	8.81	11.10	11.12	39.83	39.88	152.26
	459.0	3.32	3.71	2.76	2.76	8.67	8.70	10.84	10.85	38.47	38.50	152.21
	532.5	2.66	3.04	2.70	2.70	8.67	8.70	10.83	10.83	38.44	38.47	146.93
	617.9	2.64	3.03	2.70	2.70	8.66	8.69	10.79	10.80	38.28	38.30	146.52
	660.6	2.66	3.04			2.11	2.12	16.03	8.92	13.42	13.44	146.88
	741.2	2.64	3.03	2.70	2.70	8.66	8.69	10.78	10.79	38.27	38.28	66.62
	900.3	2.64	3.03	2.70	2.70	3.52	3.53	11.93	8.80	9.38	9.40	146.18
	1057	2.64	3.03	2.92	2.92	8.66	1.86	10.78	8.77	38.26	9.03	38.95
	1255	2.64	3.03	2.70	2.70	2.01	2.03	11.84	8.69	8.99	9.01	39.88
	1785	2.64	3.03			1.96	1.97	11.82	8.67	8.97	8.93	38.46

To attain WR² at reducer low speed shaft (output), multiply WR² of reducer input by the exact ratio squared.

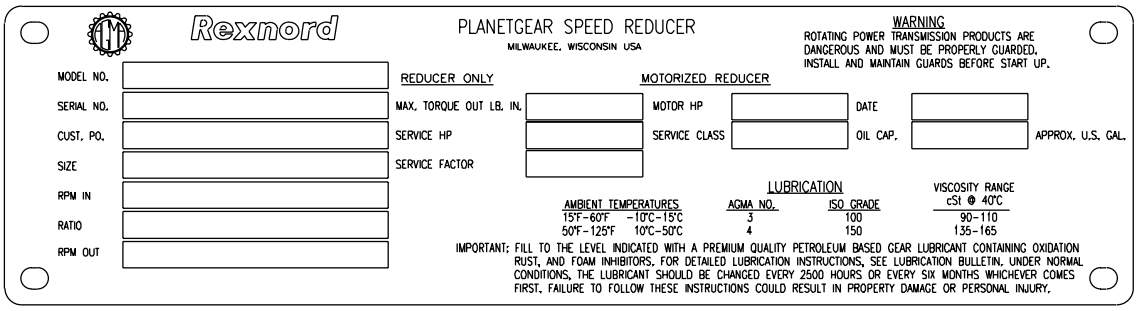
* Mercury/Mars 159.8 ratio is a triple reduction.

INSTALLATION AND MAINTENANCE INFORMATION

Introduction

The following instructions apply to all standard horizontally mounted Planetgear speed reducers. To assure long life and performance of Planetgear speed reducers, the following practices should be followed.

Nameplate



Operation of the reducer shall not differ from the application data warranted on the nameplate. Any change from this data requires submittal of new application information along with all nameplate data to the factory for engineering approval. All data changes require a new nameplate be issued and installed on the reducer. Note location of serial number and model number on the nameplate. When contacting the factory or sales representative, have the serial number and model number available as these unique numbers fully describe the reducer and allow for the fastest and most accurate exchange of information.

Spare and Repair Parts

When ordering parts, always give complete data from the nameplate on the Planetgear reducer. Model number and serial number information is necessary. Complete nameplate data will assure that you are receiving the correct parts. If a new nameplate is received with the new parts, (as when a drive ratio is changed), replace the old nameplate on the drive with the new nameplate for future reference. Sun gears and carrier assemblies are stamped with a part number for easy identification.

Installation

All speed reducers should be mounted on a vibration-free, solid, level foundation. The normal method of mounting is horizontal. However, the unit may be oriented in other positions, including vertical. Relocation of the oil fill, oil drain, and oil level plugs may be necessary. Vertical mounting requires an oil reservoir kit. Please indicate mounting orientation if other than horizontal when ordering.

Foundation, Steel

When mounting the unit on structural steel, use of a rigid baseplate is strongly recommended. The baseplate should be designed to minimize bending, twisting, and localized bending between stiffeners. The baseplate must be flat to prevent distortion of the reducer. The baseplate should extend the entire length of the unit. Bolt the unit securely to the structural steel support.

Foundation, Concrete

For best results, grout structural steel mounting pads into the mounting base. The reducer is then installed and shimmed off the structural pads. If shims are used to level or align the unit, they should be distributed evenly under all mounting pads to equalize the support load. Use a feeler gauge to determine thickness of required shims. All pads must be squarely supported to prevent distortion of the housing when the unit is bolted down.

Alignment

Align reducer with driven equipment by placing broad flat shims under all mounting pads of the reducer. Start at the low speed end and level across the length and width of the reducer. Check with feeler gauge to make certain that all pads are supported to prevent distortion of housing when reducer is bolted down. After reducer is aligned with driven equipment and bolted down, align prime mover to the reducer input shaft.

If reducer is received coupled to a motor, it has been aligned at the factory. However, because alignment may have been disturbed in shipment, it is best to check alignment and realign if necessary. The reliability and long life of the reducer requires careful installation of accessories and accurate alignment of the connecting shafts.

If the reducer is mounted onto a Planetgear baseplate and must be direct coupled to a drive shaft, shimming should be done underneath the baseplate. Shim under the baseplate until the baseplate is level and all feet are on the same plane.

After first week — Check alignment of the total system and realign if necessary. Also tighten all bolts and plugs as required. Remember to remove the load from the system before attempting to service the reducer. This action reduces the possibility of unexpected motion in the system. Check coupling for alignment to make sure that setting or vibration has not caused excessive misalignment.

Coupling Alignment

Detailed instruction for installation of Rexnord Elastomer couplings are available from the factory, your Sales Engineer, or local distributor. The following are general instruction:

- Correct for angular misalignment by measuring the distance from coupling hub (on motor shaft) to coupling hub (on reducer input shaft) at four places each 90 degrees apart. Adjust or shim until the four readings are equal.

- Correct for parallel offset misalignment by placing a straight edge across the hub flange in two places 90 degrees apart. Adjust or shim until the straight edge lays flat on both ends.

- Recheck for angular misalignment, adjust if necessary and tighten down the connected equipment.

- Install Elastomer center member elements. Tighten all cap screws to the correct torque value listed in the coupling installation sheet.

Face Mounted Scoops

The scoops have been designed to accommodate the motor weight and the starting torque based on the correct selections in this catalog and using standard 1750, 1430, 1170 and 950 AC motors. If a customer feels deflection is excessive, we suggest either placing a support under the end of the scoop, or drilling a hole in the end of the face scoop and installing a jack screw.

Sprocket, Pulley and Sheave Connections

Mount power takeoff as close as possible to the gear case in order to reduce the cantilever effect of overhung loads on the shaft bearings. If the power takeoff has only one hub, that hub should be on the outside with the plate closest to the seal cage of the reducer. Adjust belts or chains to manufacturer specifications to prevent overtightening.

INSTALLATION AND MAINTENANCE INFORMATION

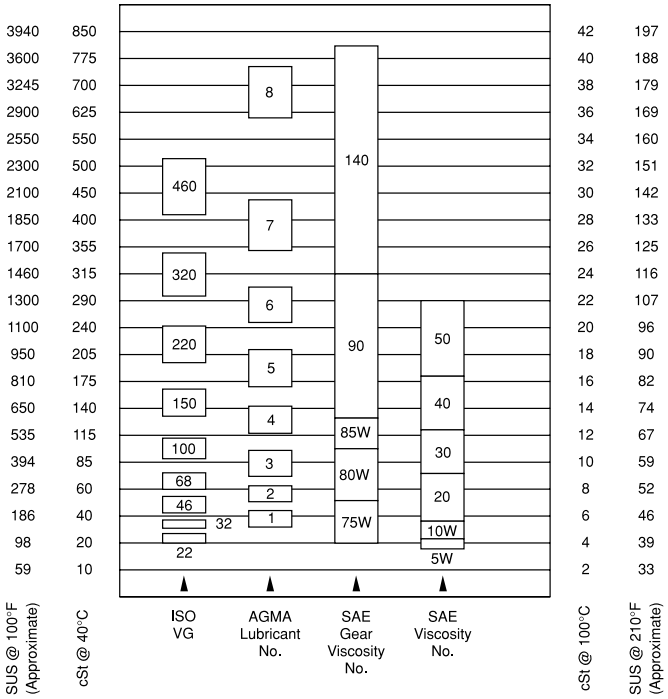
Lubrication

Reducer Lubrication

Read and carry out all instructions on the nameplate and review all warning tags. Determine minimum and maximum ambient temperatures the unit is to operate in. From the nameplate or the **Ambient Temperature Table** below, determine the proper AGMA or ISO grade lubricant for those temperature conditions and select an appropriate oil. SAE oils apply to gear lubricants only. Automotive oils are not recommended. All reducers are splash lubricated by gear rotation with even distribution to all gear meshes and bearings.

Ambient Temp.		Viscosity @ 40°C Centistokes	AGMA Grade #	ISO Grade #
-10°C to 15°C	15°F to 60°F	90 - 110	3	100
10°C to 50°C	50°F to 125°F	135 - 165	4	150

Comparative Viscosity Classifications



Petroleum Based R&O Gear Oils

Maximum operating temperature of lubricants: 93°C (200°F)

Manufacturer	AGMA Viscosity Grade 3 Lubricant	AGMA Viscosity Grade 4 Lubricant
Amco Oil Co.	American Ind. Oil #100	American Ind. Oil #150
Chevron U.S.A. Inc.	AW Machine Oil 100	AW Machine Oil 150
Cities Service Co.	Citgo Pacemaker 100	Citgo Pacemaker 150
Conco Inc.	Dectol R&O Oil 100	Dectol R&O Oil 150
Exxon Company, U.S.A.	Teresstic 100	Teresstic 150
Gulf Oil Corp.	Harmony 100	Harmony 150 D
Gulf Canada Limited	Harmony 66	Harmony 77
Imperial Oil Ltd.	Teresso 100	Teresso 150
Mobil Oil Corp.	DTE Heavy	DTE Extra Heavy
Phillips Petroleum Co.	Magnus Oil 100	Magnus Oil 150
Shell Oil Co.	Morlina 100	Morlina 150
Shell Canada Limited	Tellus 100	Tellus 150
Standard Oil Co. (Ohio)	Industron 66	Industron 80
Texaco Inc.	Regal Oil R&O 100	Regal Oil R&O 150
Texas Canada Inc.	Regal R&O 100	Regal R&O 150
Union Oil Co. of Calif. (East)	Unax RX 100	Unax RX 150
Union Oil Co. of Calif. (West)	Turbine Oil 100	Turbine Oil 150

Operating Temperature

If the speed reducer operates under extreme conditions or is exposed to large temperature fluctuations, the use of a synthetic oil is recommended. Contact lubrication supplier for recommendations.

Note: The synthetic lubricant should conform to the requirements of ANSI/AGMA 9005-D94.

If the speed reducer operates in an environment where the temperature fluctuations are predictable, choose an oil viscosity that is recommended for that given temperature (i.e. for cold weather operation, use an oil that will circulate freely at all times). The pour point of the oil should be 9°F(5°C) less than the minimum external temperature during reducer operation. During hot weather, use a higher viscosity oil that will not thin out and lose its lubricating qualities.

Special measures should be taken to protect drives operating in direct sunlight at ambient temperatures over 38°F (100°F). This protection can consist of a canopy over the drive or reflective paint on the drive. If neither is possible, a heat exchanger or other cooling device may be required to prevent the reducer sump temperature from exceeding the allowable maximum oil temperature of 200°F(93°C).

Temperatures in excess of 120°F(49°C) feel hot to the human hand. Planetgear reducers can be operated with reducer sump oil temperatures of up to 200°F (93°C).

Oil Levels

Determine specific oil quantity needed. From the nameplate or the oil capacity chart below, determine the quantity of oil in gallons needed to operate the reducer.

Reducer Series	Reduction Type				
	Single	Double	Triple	Quadruple	Quintuple
Mercury	0.25 (0.50)	0.25 (0.50)	0.25 (0.50)	0.38 (0.61)	—
Mars	0.25 (0.50)	0.25 (0.50)	0.25 (0.50)	0.38 (0.61)	—
Venus	3.8 (5.0)	3.8 (5.0)	3.8 (5.0)	3.5 (4.5)	—
Atlas	3.8 (5.0)	3.8 (5.0)	3.8 (5.0)	3.5 (4.5)	—
Earth	5.0 (7.0)	5.0 (7.0)	5.0 (7.0)	5.0 (7.0)	5.0 (7.0)
Polaris	6.8 (8.8)	6.8 (8.8)	6.8 (8.8)	6.8 (8.8)	6.8 (8.8)
Neptune	7.8 (14.0)	7.8 (14.0)	7.8 (14.0)	8.5 (15.5)	8.3 (15.3)
Orion	12.0 (19.0)	12.0 (19.0)	12.0 (19.0)	12.7 (20.0)	12.8 (21.0)
Saturn	13.0 (22.5)	13.0 (22.5)	13.0 (22.5)	15.0 (25.5)	—
Titan	—	15.5 (34.0)	15.5 (34.0)	17.5 (38.0)	—
Jupiter	—	32.0	32.0	32.0	—

( ) - Gallon capacities for vertically orientated speed reducers

LUBRICATION CHANGES

Oil

For normal conditions, **change oil every six months or 2,500 hours**, whichever comes first. If operating under abnormal conditions such as high temperature, severe duty, moisture or particle contamination, oil may need to be changed more frequently. **Reference Owners' Manual** for maintenance**.**

INSTALLATION AND MAINTENANCE INFORMATION

Note: Most lubricant suppliers can test oil from the unit periodically and recommend economical oil change schedules. Oil samples should be taken from the oil level hole, not the drain hole.

Grease

All reducers are furnished with grease purgeable seals, thus minimizing entry of water or abrasive dust into the reducer. The reducers are shipped with the grease cavity filled with K2K (No. 2). For normal conditions, change grease every six months or 2,500 hours, whichever comes first. Under extreme conditions, grease may need to be changed more frequently.

STORED AND INACTIVE REDUCERS

Preparation For Storage — If a reducer is to be stored or is inactive after installation, drain oil from housing and spray all internal parts with a rust preventative oil that is soluble in a lubricating oil. Seal the reducer completely, and replace the vent plug with a solid pipe plug to keep rust inhibiting atmosphere sealed inside.

Periodically inspect stored or inactive reducers and add rust inhibitor every six months or more often if necessary. Dry indoor storage is recommended.

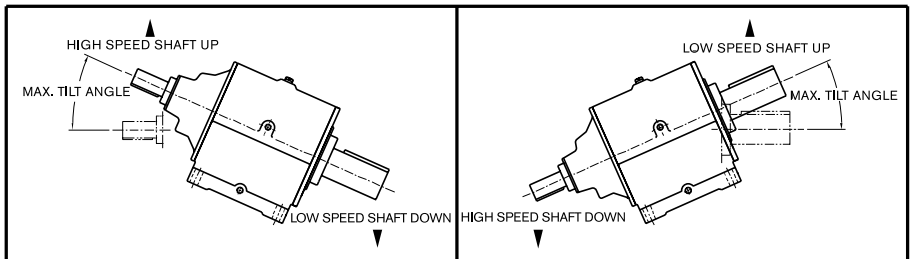
Rotate shafts every three months to keep the bearings from becoming lacquered.

Preparation For Start-up — Fill reducer to proper oil level, using enclosed oil capacity chart, with the recommended lubricant. Remember, reducers are supplied from the factory without oil. Rotate shafts until the bearings move freely. You are now ready to start the unit up.

NON-HORIZONTAL SERVICE

Planetgear speed reducers can be installed on an incline or in the vertical orientation. Contact factory or sales representative if the reducer is mounted in a rotated position with respect to the drive line.

MAXIMUM REDUCER TILT ANGLES DURING OPERATION
(STANDARD UNITS)



REDUCER SERIES	MAX. REDUCER TILT (DEGREES) HIGH SPEED SHAFT UP	REDUCER SERIES	MAX. REDUCER TILT (DEGREES) LOW SPEED SHAFT UP
MERCURY/MARS SHORT	14°	MERCURY/MARS SHORT	30°
MERCURY/MARS STANDARD	11°	MERCURY/MARS STANDARD	30°
MERCURY/MARS QUAD	8°	MERCURY/MARS QUAD	30°
VENUS (S,D,T)	10°	VENUS (S,D,T)	20°
VENUS QUAD	9°	VENUS QUAD	20°
ATLAS (S,D,T)	10°	ATLAS (S,D,T)	20°
ATLAS QUAD	9°	ATLAS QUAD	20°
EARTH (S,D,T)	9°	EARTH (S,D,T)	26°
EARTH QUAD	7°	EARTH QUAD	26°
POLARIS (S,D,T)	7°	POLARIS (S,D,T)	20°
POLARIS QUAD	5°	POLARIS QUAD	20°
NEPTUNE (S,D,T)	0°	NEPTUNE (S,D,T)	8°
NEPTUNE QUAD	0°	NEPTUNE QUAD	8°
ORION (S,D,T)	0°	ORION (S,D,T)	8°
ORION QUAD	0°	ORION QUAD	8°
SATURN (S,D,T)	0°	SATURN (S,D,T)	11°
SATURN QUAD	0°	SATURN QUAD	11°
TITAN (S,D,T)	0°	TITAN (S,D,T)	10°
TITAN QUAD	0°	TITAN QUAD	10°
JUPITER	0°	JUPITER	13°

Note: If any reducer application exceeds max. allowable tilt, consult factory or sales representative for possible modifications.

INSTALLATION AND MAINTENANCE INFORMATION

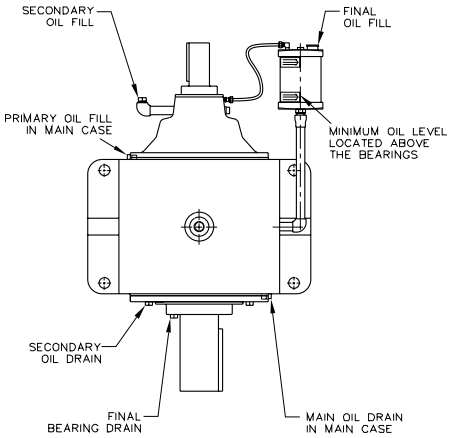
VERTICAL SERVICE

Mercury, Mars, Venus, Atlas, Earth, and Polaris speed reducers can be mounted vertically with the high speed shaft up or down. Vertical service for the Neptune, Orion, and Saturn speed reducers is available with input shaft up only. Contact factory or sales representative for all other vertical options. Standard reducers are not designed for vertical applications. **Modifications are made at the factory to convert a standard reducer for vertical service. Contact factory or sales representative with any other applications.**

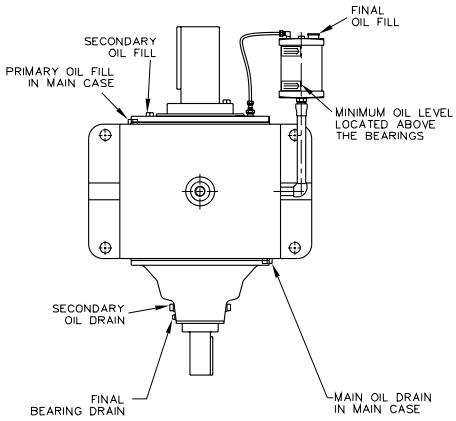
Planetgear speed reducers used in a vertical orientation or most inclined orientations require an oil reservoir lubrication system. Any mounting orientation other than horizontal must be stated during order placement so Planetgear can determine if a reservoir kit is required.

The reservoir kit works by providing an adequate head of oil to lubricate the uppermost bearing, while allowing for oil expansion. A plastic tube acts as a purge line to eliminate trapped air below the seals.

Assemble components as shown in the figure below. It is difficult to determine all potential field installation interference points. If necessary, please substitute different pipe fittings as required. In doing so, **it is important that the bottom of the reservoir is at or above the uppermost bearing**. Holes have been drilled by the factory to facilitate both right hand or left hand oil reservoir mounting. Apply pipe sealant to all threaded connections during assembly.

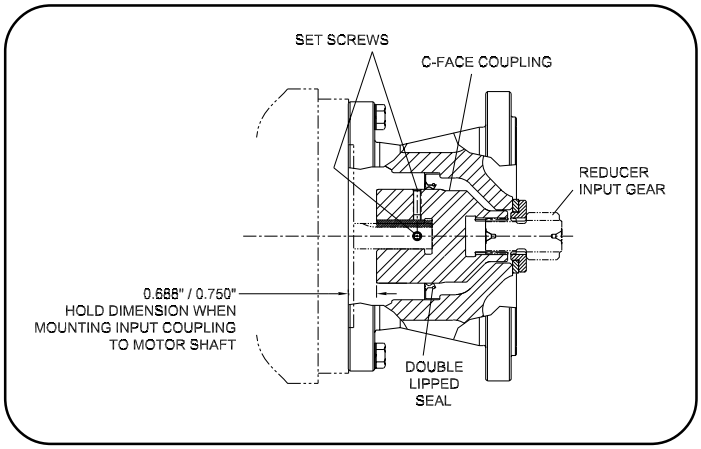


HIGH SPEED
SHAFT UP ORIENTATION

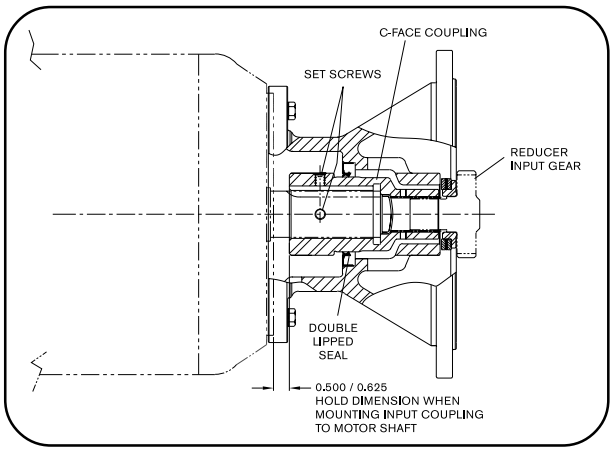


LOW SPEED
SHAFT UP ORIENTATION

FIGURE 1
C-FACE SECTIONAL VIEWS



Mercury/Mars (single, double, triple, & quadruple reductions)
Venus/Atlas (quadruple reduction)
Earth/Polaris (quadruple reduction)



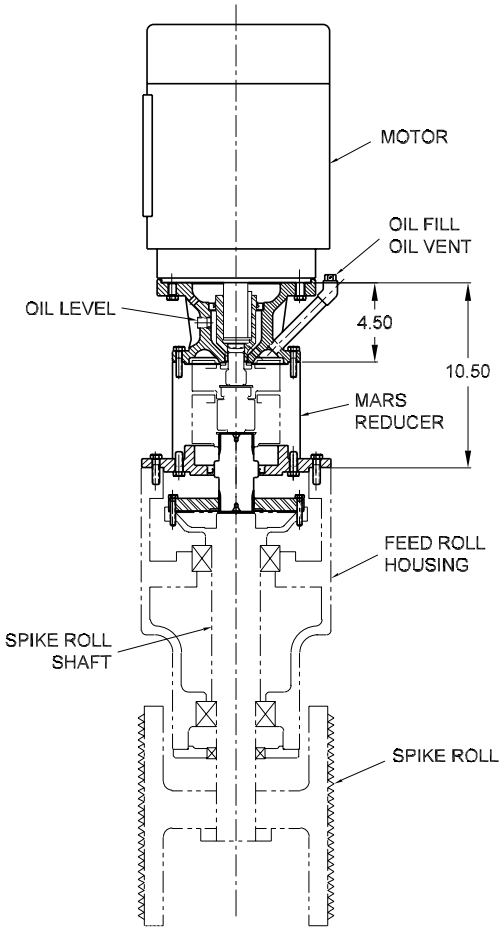
Venus/Atlas (single, double, triple, & quadruple reductions)
Earth/Polaris (single, double, triple, & quadruple reductions)
Neptune/Orion (quadruple & quintuple reductions)

SPECIALTY ENGINEERED PRODUCTS

Feed Roll Drives

FEED ROLL DRIVE REPLACEMENT

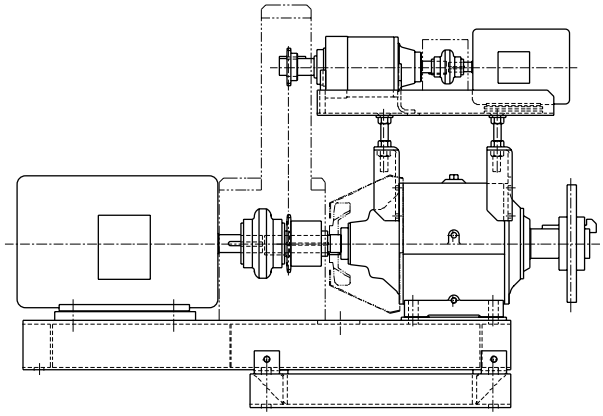
- ✓ No timing of gears required
- ✓ Durable, reliable operation due to self-aligning gear train
- ✓ Drop-in replacement
- ✓ Vertical or horizontal service
- ✓ Exact ratios: (10.24, 14.06, 17.50, 18.29, 21.78, 24.38, 26.67, or 30.33)

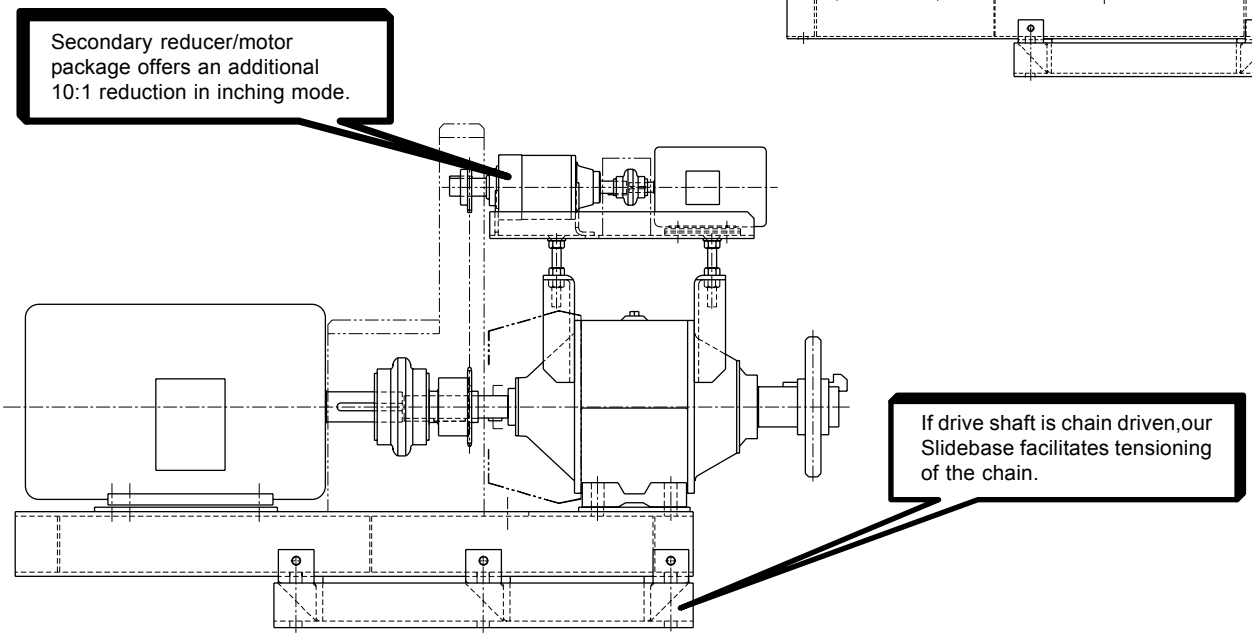


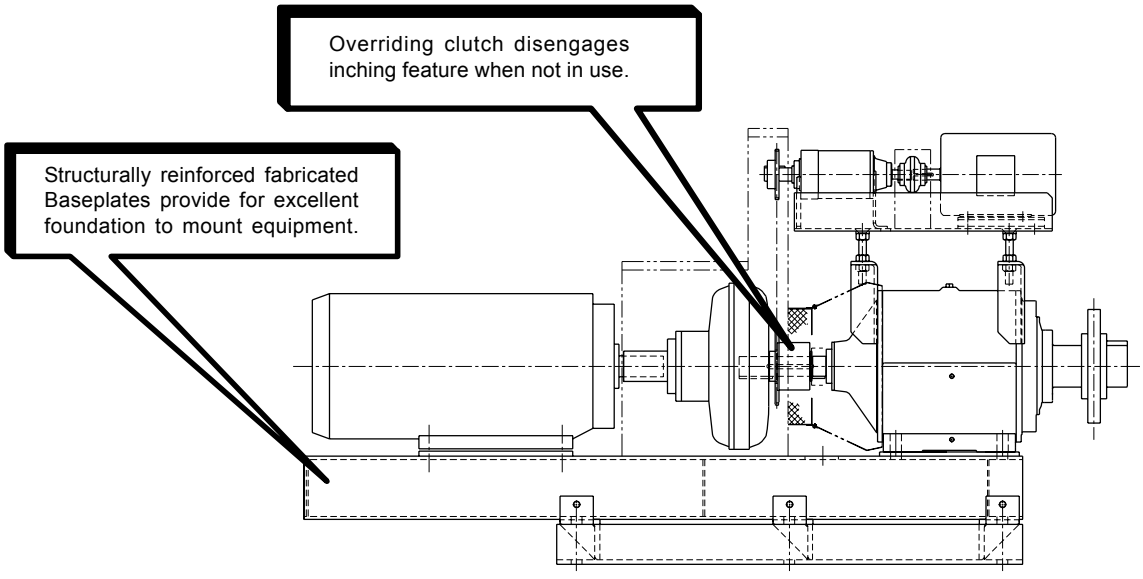
PURPOSE

Primarily used for inspection of equipment to eliminate shock to the system caused by jogging the main motor.

- **Available in all sizes and ratios**
- **Supplied with or without motors**
- **Consult Factory for detailed information**



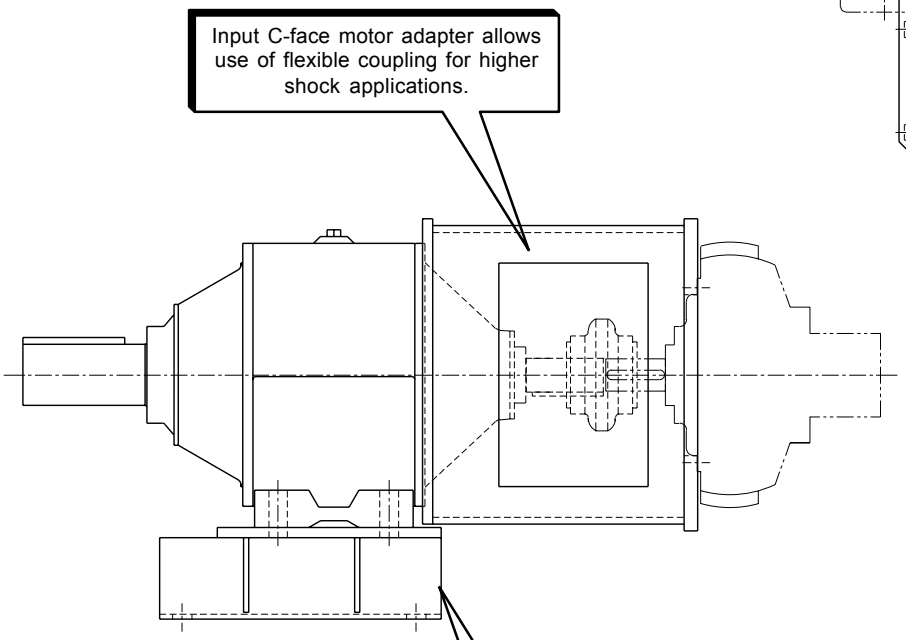


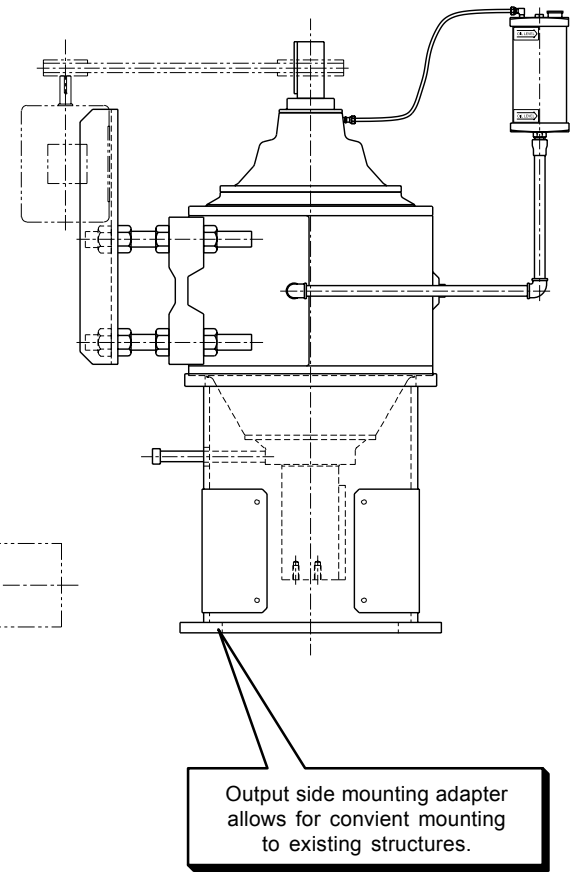


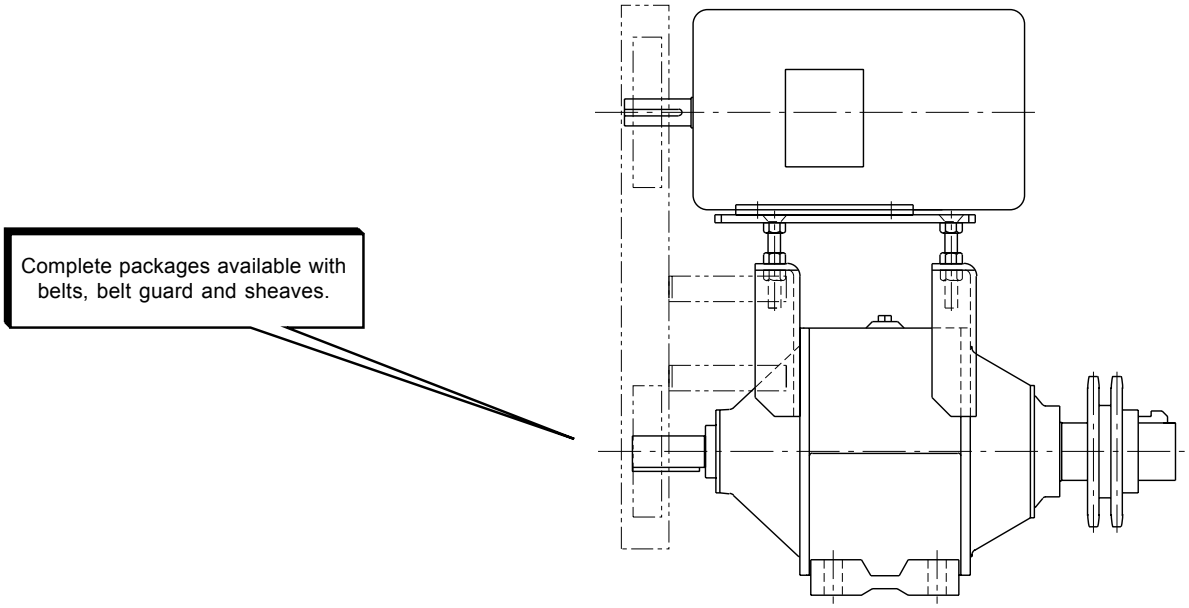
SPECIALTY ENGINEERED PRODUCTS

Custom Designed Adapters

Planetgear can offer special and standard input, output and reducer mounting adapters to meet most customer needs. Contact Factory with requirements.





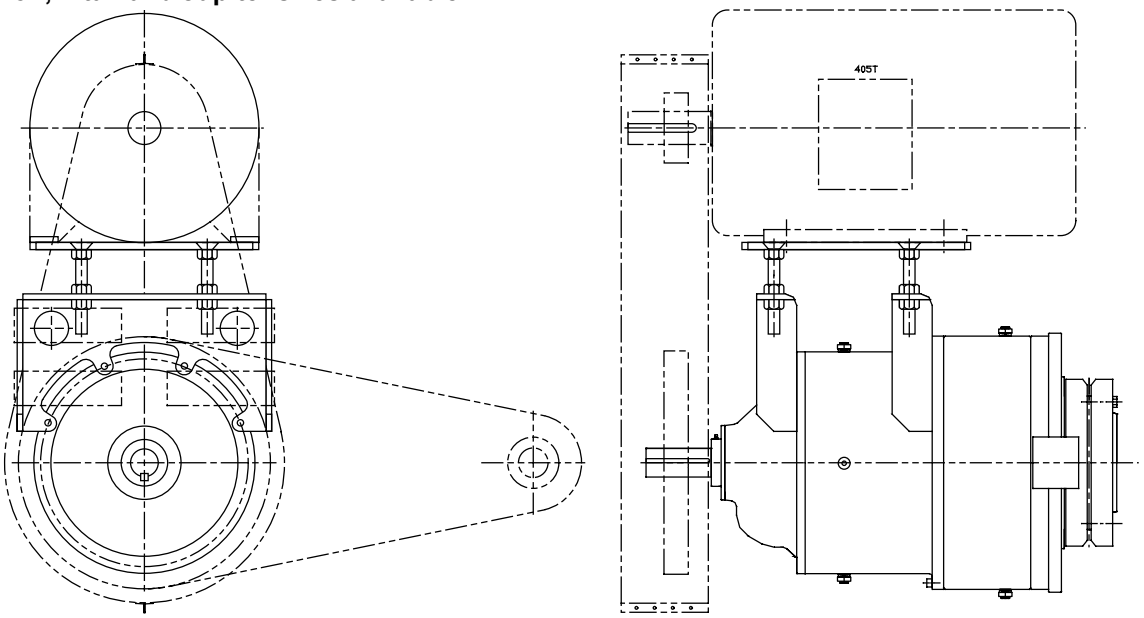


SPECIALLY DESIGNED REDUCERS

✓ **Hollow shaft output available with top motor mounting option**

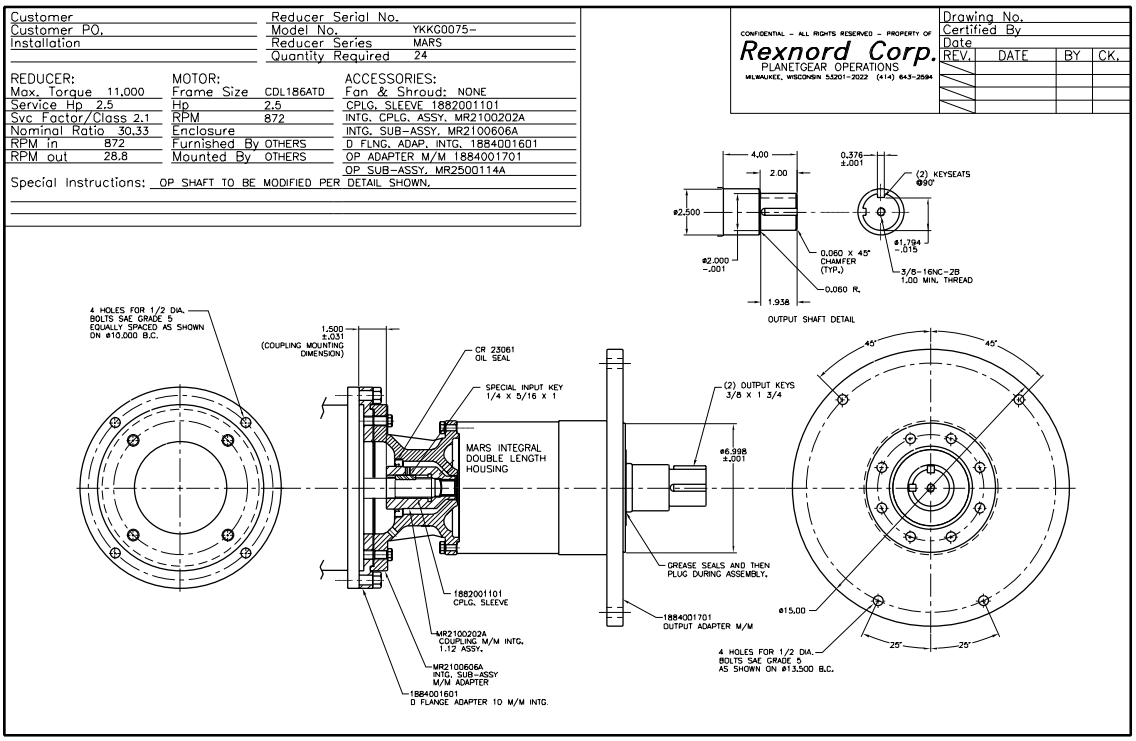
✓ **Torque arm**

✓ **Orion, Titan and Jupiter sizes available**



CERTIFIED REDUCER DRAWINGS

✓ **Available upon request**

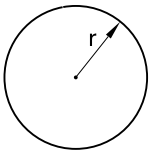
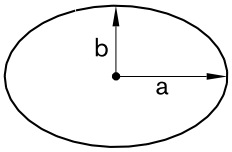
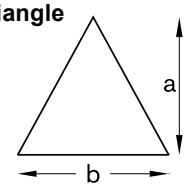
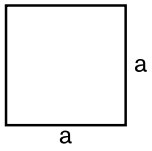


GENERAL ENGINEERING INFORMATION

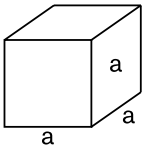
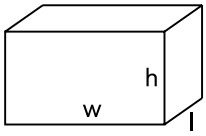
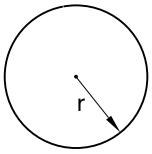
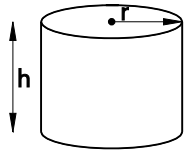
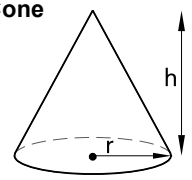
General Power Transmission Formulas

The following information helps to solve technical problems frequently encountered in the selection of power transmission components.

AREAS OF PLANE FIGURES

FIGURE	AREA
Circle 	πr^2 circumference = $2\pi r$
Ellipse 	πab
Triangle 	$\frac{1}{2}ab$
Square 	a^2
Rectangle 	lw

VOLUMES AND SURFACE AREAS OF SOLIDS

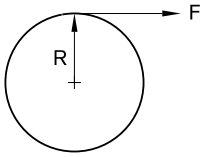
SOLID	SURFACE AREA	VOLUME
Cube 	$6a^2$	a^3
Rectangular Prism 	$2hw + 2hl + 2lw$	$l \times w \times h$
Sphere 	$4\pi r^2$	$\frac{4\pi r^3}{3}$
Cylinder 	$2\pi rh + 2\pi r^2$	$\pi r^2 h$
Cone 	$\pi r \sqrt{r^2 + h^2}$ (+ πr^2 if you add the base)	$\frac{\pi r^2 h}{3}$

General Power Transmission Formulas

WEIGHT

FORMULA	VARIABLES
WEIGHT (W) = V x p (lbs)	V = Volume (cubic inches) p = Material density (lbs per cubic inches)

TORQUE

TORQUE (T) = F x R (lb-in) 	F = Force (lbs) R = Perpendicular distance from the center of rotation to the force (in)

HORSEPOWER (HP)

• Rotating Objects $HP = \frac{T \times RPM}{63{,}025}$	T = Torque in inch-pounds (lb-in) RPM = Shaft speed revolutions per minute (rpm)
• Objects in Linear Motion $HP = \frac{F \times V}{33{,}000}$	F = Force in pounds (lbs) V = Velocity in feet per minute (fpm)
• Hydraulic $HP = \frac{GPM \times PSI}{1{,}714}$	GPM = Flow rate in gallons per minute (gal/min) PSI = Pressure in pounds per square inch (lb/in^2)

LINEAR TO ROTARY MOTION

FORMULA	VARIABLES
$N = \frac{V}{0.262D}$	N = Speed of shaft rotation (rpm) V = Velocity of material (fpm) D = Diameter of pulley or sprocket (in)

ACCELERATION / DECELERATION OF TORQUE AND FORCE

• Rotating Objects $T = \frac{(WK^2)\Delta N}{308t}$	T = Torque required (lb-ft) WK^2 = Total inertia of load to be accelerated ($lb\text{-}ft^2$) ΔN = Change in speed (rpm) *t* = Time to accelerate load
• Objects in Linear Motion $F = \frac{W\Delta V}{1{,}933t}$	F = Force required (lbs) W = Weight (lbs) ΔV = Change in velocity (fpm) *t* = Time to accelerate load

TEMPERATURE

TO CONVERT FROM	TO	USE FORMULA
temperature Celsius, t_C	temperature Kelvin, t_K	$t_K = t_C + 273.15$
temperature Fahrenheit, t_F	temperature Kelvin, t_K	$t_K = (t_F + 459.67) / 1.8$
temperature Celsius, t_C	temperature Fahrenheit, t_F	$t_F = 1.8\ t_C + 32$
temperature Fahrenheit, t_F	temperature Celsius, t_C	$t_C = (t_F - 32) / 1.8$
temperature Kelvin, t_K	temperature Celsius, t_C	$t_C = t_K - 273.15$
temperature Kelvin, t_K	temperature Fahrenheit, t_F	$t_F = 1.8\ t_K - 459.67$
temperature Kelvin, t_K	temperature Rankine, t_R	$t_R = 9/5\ t_K$
temperature Rankine, t_R	temperature Kelvin, t_K	$t_K = 5/9\ t_R$

GENERAL ENGINEERING INFORMATION

Metric Conversion Factors

LENGTH

MULTIPLY:	BY	TO OBTAIN:
centimeters	0.0328084	feet
centimeters	0.3937008	inches
feet	0.3048*	meters
feet	30.48*	centimeters
feet	304.8*	millimeters
inches	0.0254*	meters
inches	2.54*	centimeters
inches	25.4*	millimeters
kilometers	0.6213712	miles (U.S.)
meters	39.37008	inches
meters	3.280840	feet
meters	1.093613	yards
meters	0.00062137	miles (U.S.)
miles (U.S.)	1609.344*	meters
miles (U.S.)	1.609344*	kilometers
millimeters	0.003280840	feet
millimeters	0.03937008	inches
yards	0.9144*	meters

* Where an asterisk is shown, the figure is exact.

AREA

MULTIPLY:	BY	TO OBTAIN:
square centimeters	0.1550003	square inches
square centimeters	0.001076391	square feet
square feet	0.09290304*	square meters
square feet	929.0304	square centimeters
square feet	92,903.04*	square millimeters
square inches	645.16*	square millimeters
square inches	6.4516*	square centimeters
square inches	0.00064516*	square meters
square meters	1550.003	square inches
square meters	10.763910	square feet
square meters	1.195990	square yards
square millimeters	0.00001076391	square feet
square millimeters	0.001550003	square inches

* Where an asterisk is shown, the figure is exact.

VOLUME

MULTIPLY:	BY	TO OBTAIN:
cubic centimeters	0.06102376	cubic inches
cubic feet	0.02831685	cubic meters
cubic feet	28.31685	liters
gallons (U.K.)	0.004546092	cubic meters
gallons (U.K.)	4.546092	liters
gallons (U.S.)	0.003785412	cubic meters
gallons (U.S.)	3.785412	liters
cubic inches	16,387.06	cubic millimeters
cubic inches	16.38706	cubic centimeters
cubic inches	0.000016387	cubic meters
liters	0.001*	cubic meters
liters	0.2199692	gallons(U.K.)
liters	0.2641720	gallons (U.S.)
liters	0.03531466	cubic feet
cubic meters	219.9692	gallons (U.K.)
cubic meters	264.172	gallons (U.S.)
cubic meters	35.31466	cubic feet
cubic meters	1000.*	liters
cubic meters	61,023.76	cubic inches
cubic millimeters	0.00006102	cubic inches

* Where an asterisk is shown, the figure is exact.

VELOCITY, ACCELERATION, AND FLOW

MULTIPLY:	BY	TO OBTAIN:
centimeters/second	1.968504	feet/minute
centimeters/second	0.03280840	feet/second
centimeters/minute	0.3937008	inches/minute
feet/hour	0.00008467	meters/second
feet/hour	0.00508*	meters/minute
feet/hour	0.3048	meters/hour
feet/minute	0.508*	centimeters/second
feet/minute	18.288*	meters/hour
feet/minute	0.3048*	meters/minute
feet/minute	0.00508*	meters/second
feet/second	30.48*	centimeters/second
feet/second	18.288*	meters/minute
feet/second	0.3048*	meters/second
feet/second squared	0.3048*	meters/second squared
cubic feet/minute	28.31685	cubic liters/minute
cubic feet/minute	0.000471947	cubic meters/second
gallons (U.S.)/min.	0.003785412	cubic meters/minute
gallons (U.S.)/min.	0.00006309000	cubic meters/second
gallons (U.S.)/min.	0.06309020	liters/second
gallons (U.S.)/min.	3.785412	liters/minute
gallons (U.K.)/min.	0.004546092	cubic meters/minute
gallons (U.K.)/min.	0.000075768	cubic meters/second
inches/minute	25.4*	millimeters/minute
inches/minute	2.54*	centimeters/ minute
inches/minute	0.0254*	meters/minute
inches/second squared	0.0254*	meters/second squared
kilometer/hour	0.6213712	miles/hour (U.S.)
liters/minute	0.03531466	cubic feet/minute
liters/minute	0.2641720	gallons (U.S.)/minute
liters/second	15.85032	gallons (U.S.)/minute
miles/hour	1.609344*	kilometers/hour
millimeters/minute	0.03937008	inches/minute
meters/second	11,811.02	feet/hour
meters/second	196.8504	feet/minute
meters/second	3.28084	feet/second
meter/second squared	3.280840	feet/second squared
meter/second squared	39.37008	inches/second squared
meters/minute	3.280840	feet/minute
meters/minute	0.05468067	feet/second
meters/minute	39.37008	inches/minute
meters/hour	3.280840	feet/hour
meters/hour	0.5468067	feet/minute
cubic meters/second	2118.880	cubic feet/minute
cubic meters/second	13,198.15	gallons (U.K.)/minute
cubic meters/second	15,850.32	gallons (U.S.)/minute
cubic meters/minute	219.9692	gallons (U.K.)/minute
cubic meters/minute	264.1720	gallons (U.S.)/minute

* Where an asterisk is shown, the figure is exact.

MASS AND DENSITY

MULTIPLY:	BY	TO OBTAIN:
grams	15.43236	grains
grams	0.001*	kilograms
grams/cubic centimeter	0.03612730	pounds/cubic inch
kilograms	1000*	grams
kilograms	35.27397	ounces
kilograms	32.15074	ounces (troy)
kilograms	2.204622	pounds
kilograms	0.06852178	slugs
kilograms	0.0009842	tons (long)
kilograms	0.0011023	tons (short)
kilograms	0.001*	tons (metric)
kilograms/cubic meter	0.06242797	pounds/cubic foot
kilograms/cubic meter	0.01002242	pounds/gallon (U.K.)
kilograms/cubic meter	0.008345406	pounds/gallon (U.S.)
ounces	28.34952	grams
ounces	0.02834952	kilograms
pounds	0.4535924	kilograms
pounds/cubic foot	16.01846	kilograms/cubic meter
pounds/cubic inch	27.67990	grams/cubic centimeter
pounds/gallon (U.S)	119.8264	kilograms/cubic meter
pounds/gallon (U.K.)	99.77633	kilograms/cubic meter
slug	14.59390	kilograms
tons (long 2240 lbs)	1016.047	kilograms
tons (short 2000 lbs)	907.1847	kilograms
tons (metric)	1000.*	kilograms

* Where an asterisk is shown, the figure is exact.

FORCE AND FORCE/LENGTH

MULTIPLY:	BY	TO OBTAIN:
kilograms-force	9.806650*	newtons
newtons	0.1019716	kilograms-force
newtons	0.2248089	pounds-force
newtons/meter	0.00571015	pounds/inch
newtons/meter	0.06852178	pounds/foot
pounds-force	4.448222	newtons
pounds/inch	175.1268	newtons/meter
pounds/foot	14.59390	newtons/meter

* Where an asterisk is shown, the figure is exact.

BENDING MOMENT OR TORQUE

MULTIPLY:	BY	TO OBTAIN:
kilograms-meters	9.806650*	newton-meters
ounce-inches	7.061552	newton-millimeters
ounce-inches	0.00706155	newton-meters
newton-meters	0.7375621	pound-feet
newton-meters	0.1019716	kilogram-meters
newton-meters	141.6119	ounce-inches
newton-millimeters	0.1416119	ounce-inches
pound-feet	1.355818	newton-meters

* Where an asterisk is shown, the figure is exact.

MOMENT OF INERTIA

MULTIPLY:	BY	TO OBTAIN:
kilogram-meters squared	23.73036	pound-feet squared
kilogram-meters squared	3417.171	pound-inches squared
pound-feet squared	0.04214011	kilogram-meters squared
pound-inches squared	0.00029264	kilogram-meters squared

MOMENTUM

MULTIPLY:	BY	TO OBTAIN:
kilogram-meters/second	7.233011	pound-feet/second
kilogram-meters/second	86.79614	pound-inches/second
pound-feet/second	0.1382550	kilogram-meters/second
pound-inches/second	0.01152125	kilogram-meters/second

PRESSURE AND STRESS

MULTIPLY:	BY	TO OBTAIN:
bars	14.50377	pounds/square inch
kilograms/square centimeter	14.22334	pounds/square inch
kilograms/square meter	9.806650*	newtons/square meter
kilograms/square meter	0.2048161	pounds/square foot
newtons/square centimeter	1.450377	pounds/square inch
newtons/square meter	0.00014504	pounds/square inch
newtons/square meter	0.1019716	kilograms/square meter
pounds/cubic foot	4.882429	kilograms/square meter
pounds/cubic inch	0.07030697	kilograms/square centimeter
pounds/cubic inch	0.6894757	newtons/square centimeter
pounds/cubic inch	6.894757	kilonewtons/square meter
pounds/cubic inch	6894.757	newtons/square meter
pounds/cubic inch	0.00689476	newtons/square millimeter

* Where an asterisk is shown, the figure is exact.

ENERGY AND WORK

MULTIPLY:	BY	TO OBTAIN:
Btu (mean)	1055.87	joule
calorie (mean)	4.19002	joule
foot-pound	1.355818	joule
joule	0.0009471	Btu (mean)
joule	0.2386623	calorie (mean)
joule	0.7375621	foot-pound
joule	0.999818	joule (International U.S.)
joule	0.999983	joule (U.S. legal, 1948)
joule (International U.S.)	1.000182	joule
joule (U.S. legal, 1948)	1.000017	joule
joule	0.00027778	watt-hour
watt-hour	3600.*	joule

* Where an asterisk is shown, the figure is exact.

POWER

MULTIPLY:	BY	TO OBTAIN:
Btu (International Talbe)hour	0.2930711	watt
foot-pound/hour	0.000376616	watt
foot-pound/minute	0.02259697	watt
horsepower (550 ft-lb/s)	0.7456999	kilowatt
horsepower (550 ft-lb/s)	745.6999	watt
horsepower (electric)	746*	watt
horsepower (metric)	735.499	watt
horsepower (U.K.)	745.7	watt
kilowatt	1.341022	horsepower (550 ft-lb/s)
watt	2655.224	foot-pound/hour
watt	44.25372	foot-pound/minute
watt	0.001341022	horsepower (550 ft-lb/s)
watt	0.001340483	horsepower (electric)
watt	0.001359621	horsepower (metric)
watt	0.001341022	horsepower (U.K.)
watt	3.412141	Btu (International Table)/hour

* Where an asterisk is shown, the figure is exact.

VISCOSITY

MULTIPLY:	BY	TO OBTAIN:
centipoise	0.001*	pascal-second
centistoke	0.000001*	meters squared/second
meters squared/second	1,000,000	centistoke
meters squared/second	10,000.*	stoke
pascal-second	1000.*	centipoise
pascal-second	10.*	poise
poise	0.1*	pascal-second
stoke	0.0001	meters squared/second

* Where an asterisk is shown, the figure is exact.

GENERAL ENGINEERING INFORMATION

STANDARD KEY AND SETSCREW SIZES

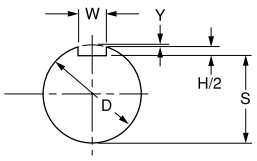
KEYSEATS AND KEYS Drawings and formulas at right illustrate how the depth and width of standard keyseats in shafts and hubs are determined. Refer below to explanation of symbols.

SYMBOLS:

C = Allowance or clearance for key (normally 0.005" for parallel keys).
D = Nominal shaft or bore diameter (in)
H = Nominal key height (in)
W = Nominal key width (in)
Y = Chordal height (in)

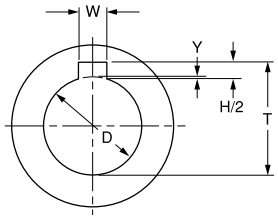
$$Y = \frac{D - \sqrt{D^2 - W^2}}{2}$$

SHAFTS



S = D - Y + (H/2)

HUBS



T = D - Y + (H/2) + C

Shaft Diameters		Key	Set	Shaft Diameters		Key	Set	Shaft Diameters		Key	Set	Shaft Diameters		Key
Over	Thru	W x H	Screw	Over	Thru	W x H	Screw	Over	Thru	W x H	Screw	Over	Thru	W x H
7/16	9/16	1/8 x 1/8	#10	1 3/4	2 1/4	1/2 x 1/2	1/2	4 1/2	5 1/2	1 1/4 x 1 1/4	7/8	11	13	3 x 2
9/16	7/8	3/16 x 3/16	1/4	2 1/4	2 3/4	5/8 x 5/8	1/2	5 1/2	6 1/2	1 1/2 x 1 1/2	1	13	15	3 1/2 x 2 1/2
7/8	1 1/4	1/4 x 1/4	5/16	2 3/4	3 1/4	3/4 x 3/4	5/8	6 1/2	7 1/2	1 3/4 x 1 1/2	Ñ-	15	18	4 x 3
1 1/4	1 3/8	5/16 x 5/16	3/8	3 1/4	3 3/4	7/8 x 7/8	3/4	7 1/2	9	2 x 1 1/2	Ñ-	18	22	5 x 3 1/2
1 3/8	1 3/4	3/8 x 3/8	3/8	3 3/4	4 1/2	1 x 1	3/4	9	11	2 1/2 x 1 3/4	Ñ-	22	26	6 x 4

DIAMETERS AND AREAS OF UNIFIED SCREW THREADS UNC & UNF

Size Designation	Nominal Major Diameter (in)	Coarse Series — UNC			Fine Series — UNF		
		Threads per inch (N)	Tensile Stress Area (in²)	Area of Minor Dia. (in²)	Threads per inch (N)	Tensile Stress Area (in²)	Area of Minor Dia. (in²)
0	0.0600				80	0.00180	0.00151
1	0.0730	64	0.00263	0.00218	72	0.00278	0.00237
2	0.0860	56	0.00370	0.00310	64	0.00394	0.00339
3	0.0990	48	0.00487	0.00406	56	0.00523	0.00451
4	0.1120	40	0.00604	0.00496	48	0.00661	0.00566
5	0.1250	40	0.00796	0.00672	44	0.00830	0.00716
6	0.1380	32	0.00909	0.00745	40	0.01015	0.00874
8	0.1640	32	0.0140	0.01196	36	0.01474	0.01285
10	0.1900	24	0.0175	0.01450	32	0.0200	0.0175
12	0.2160	24	0.0242	0.0206	28	0.0258	0.0226
1/4	0.2500	20	0.0318	0.0269	28	0.0364	0.0326
5/16	0.3125	18	0.0524	0.0454	24	0.0580	0.0524
3/8	0.3750	16	0.0775	0.0678	24	0.0878	0.0809
7/16	0.4375	14	0.1063	0.0933	20	0.1187	0.1090
1/2	0.5000	13	0.1419	0.1257	20	0.1599	0.1486
9/16	0.5625	12	0.182	0.162	18	0.203	0.189
5/8	0.6250	11	0.226	0.202	18	0.256	0.240
3/4	0.7500	10	0.334	0.302	16	0.373	0.351
7/8	0.8750	9	0.462	0.419	14	0.509	0.480
1	1.0000	8	0.606	0.551	12	0.663	0.625
1 1/4	1.2500	7	0.969	0.890	12	1.073	1.024
1 1/2	1.5000	6	1.405	1.294	12	1.581	1.521

BOLT TORQUES

TORQUE REQUIREMENTS FOR DRY BLACK FASTENERS		
SAE	GENERAL PURPOSE GRADE 2	HIGH STRENGTH GRADE 5
DIA.	TORQUE (ft. lbs.)	TORQUE (ft. lbs.)
1/4	6	9
5/16	12	18
3/8	21	33
7/16	34	53
1/2	52	80
9/16	75	116
5/8	104	160
3/4	184	285
7/8	178	460
1	265	690
1 1/8	380	850
1 1/4	530	1200
1 3/8	700	1570
1 1/2	930	2080

- The torques shown produce a clamp load of 80% of proof load. They assume clean, dry threads with a torque coefficient of 0.2.
- Plated threads need only 3/4 torque shown.
- Well lubricated threads need only 1/2 torque shown.

ALL PLANETGEAR SPEED REDUCERS USE GRADE 5 FASTENERS.

GENERAL ENGINEERING INFORMATION

Motor Operating Parameters and Formulas

NEMA STANDARDS Electric motors are required to meet certain industrial safety and manufacturing standards. The accepted authority in the U.S.A. is the National Electrical Manufacturers Association — an organization that sets voluntary standards for acceptable practice for the motor industry. For example, they specify standard frame sizes, ratings, torque, and horsepower classifications — as well as dimensions, performance, testing, etc.

MOTOR ELECTRICAL FORMULAS

TO FIND	Alternating Current	
	Single-Phase	Three-Phase
Amperes when Horsepower is known	$\frac{HP \times 746}{E \times Eff \times pf}$	$\frac{HP \times 746}{1.73 \times E \times Eff \times pf}$
Amperes when kilowatts are known	$\frac{KW \times 1{,}000}{E \times pf}$	$\frac{KW \times 1{,}000}{1.73 \times E \times pf}$
Amperes when Kva are known	$\frac{Kva \times 1{,}000}{E}$	$\frac{Kva \times 1{,}000}{1.73 \times E}$
Kilowatts	$\frac{I \times E \times pf}{1{,}000}$	$\frac{1.73 \times I \times E \times pf}{1{,}000}$
Kva	$\frac{I \times E}{1{,}000}$	$\frac{1.73 \times I \times E}{1{,}000}$
Horsepower = (Output)	$\frac{I \times E \times Eff \times pf}{746}$	$\frac{1.73 \times I \times E \times Eff \times pf}{746}$

For variable descriptions, see chart at right.

TO FIND	ALTERNATING OR DIRECT CURRENT
Amperes when voltage and resistance are known:	E / R
Voltage when resistance and current are known:	IR
Resistance when voltage and current are known:	E / I

I = Amperes
E = Volts
Eff = Efficiency
pf = Power Factor
KW = Kilowatts
R = Ohms
Kva = Kilovolt Amperes

General Information (Approximation)
All Voltages at 100% Load
At 1,800 rpm, a motor develops a 36 lb-in per HP
At 1,200 rpm, a motor develops a 54 lb-in per HP
At 575 volts, a three-phase motor draws 1 amp per HP
At 460 volts, a three-phase motor draws 1.25 amp per HP
At 230 volts, a three-phase motor draws 2.5 amp per HP
At 230 volts, a single-phase motor draws 5 amp per HP
At 115 volts, a single-phase motor draws 10 amp per HP

MOTOR AMPS AT FULL LOAD

HP	Alternating Current		DC	HP	Alternating Current		DC	HP	Alternating Current		DC	HP	Alternating Current		DC
	Single Phase	Three Phase			Single Phase	Three Phase			Single Phase	Three Phase			Single Phase	Three Phase	
1/2	4.9	2.0	2.7	5	28	14.4	20	25	—	60	92	75	—	180	268
1	8.0	3.4	4.8	7 1/2	40	21.0	29	30	—	75	110	100	—	240	355
1 1/2	10.0	4.8	6.6	10	50	26.0	38	40	—	100	146	125	—	300	443
2	12.0	6.2	8.5	15	—	38.0	56	50	—	120	180	150	—	360	534
3	17.0	8.6	12.5	20	—	50.0	74	60	—	150	215	200	—	480	712

Values are for all speeds and frequencies at 230 volts.
Amperage for other than 230 volts can be calculated as follows:

$$I = \frac{230 \times \text{Amps from Table}}{\text{New Voltage}}$$

Example: For 40 HP, three-phase at 550 volts

$$I = \frac{230 \times 100}{550} = 42 \text{ amps}$$

Power Factor estimated at 80% for most motors. Efficiency is usually 80-90%.

OBSOLETE MOTOR SHAFT DIMENSIONS

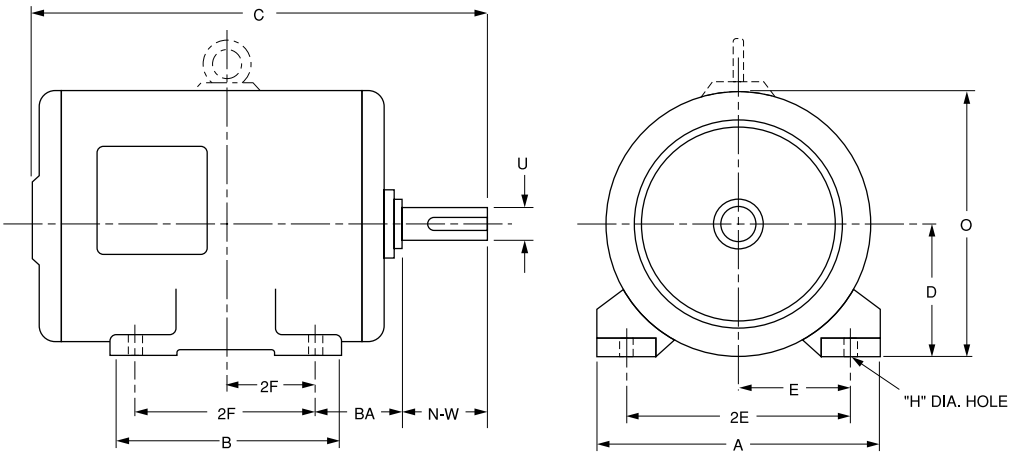
Motor ratings and dimensions shown in the table below are the obsolete or 1953 NEMA "U" frame standards. These were replaced by the 1963 re-rating program which established the present "T" frames. In effect, a larger motor shaft and hp rating is obtained compared to the corresponding "U" frame sizes.

U-FRAME NEMA ASSIGNMENTS AND DIMENSIONS

Horsepower Ratings		U-Frame No.	U	Shaft Keyseat		Key Length	N-W	Horsepower Ratings		U-Frame No.	U	Shaft Keyseat		Key Length	N-W
1800	1200			Width	Depth			1800	1200			Width	Depth		
1	3/4	**182**	7/8	3/16	3/32	1 3/8	2 1/4	40	25	**364U**	2 1/8	1/2	1/4	5	6 3/8
1 1/2 & 2	1 & 1 1/2	**184**	7/8	3/16	3/32	1 3/8	2 1/4	—	—	**364US**	1 7/8	1/2	1/4	2	3 3/4
3	2	**213**	1 1/8	1/4	1/8	2	3	50	30	**365U**	2 1/8	1/2	1/4	5	6 3/8
5	3	**215**	1 1/8	1/4	1/8	2	3	—	—	**365US**	1 7/8	1/2	1/4	2	3 3/4
7 1/2	5	**254U**	1 3/8	1/4	1/8	2 3/4	3 3/4	60	40	**404U**	2 3/8	5/8	1/4	5 1/2	7 1/8
10	7 1/2	**256U**	1 3/8	1/4	1/8	2 3/4	3 3/4	—	—	**404US**	2 1/8	1/2	1/4	2 3/4	4 1/4
15	10	**284U**	1 5/8	3/8	3/16	3 3/4	4 7/8	75	50	**405U**	2 3/8	5/8	1/4	5 1/2	7 1/8
20	—	**286U**	1 5/8	3/8	3/16	3 3/4	4 7/8	—	—	**405US**	2 1/8	1/2	1/4	2 3/4	4 1/4
25	15	**324U**	1 7/8	1/2	1/4	4 1/4	5 5/8	100	60	**444U**	2 7/8	3/4	3/8	7	8 5/8
—	—	**324S**	1 5/8	3/8	3/16	1 7/8	3 1/4	—	—	**444US**	2 1/8	1/2	1/4	2 3/4	4 1/4
30	20	**326U**	1 7/8	1/2	1/4	4 1/4	5 5/8	125	75	**445U**	2 7/8	3/4	3/8	7	8 5/8
—	—	**326S**	1 5/8	3/8	3/16	1 7/8	3 1/4	—	—	**445US**	2 1/8	1/2	1/4	2 1/4	4 1/4

GENERAL ENGINEERING INFORMATION

NEMA Electric T-Frame & TS-Frame Motor Dimensions



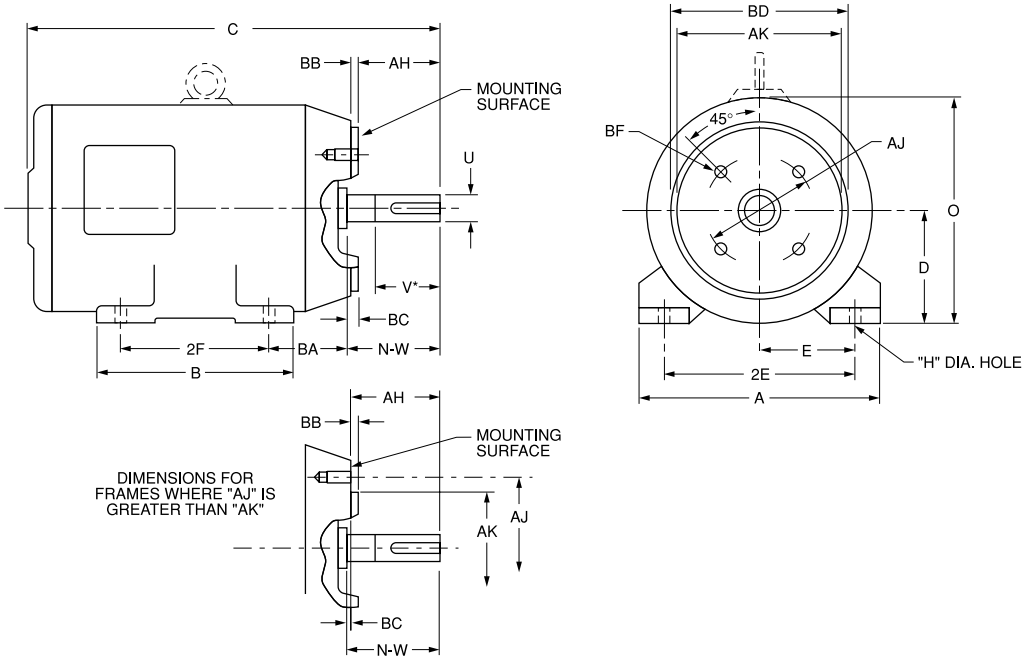
T-FRAME & TS-FRAME NEMA ASSIGNMENTS AND DIMENSIONS

Horsepower Ratings				T-Frame No.	U	Shaft Keyseat		Key Length	N-W *	A Max.	B Max.	C ‡	D	E	F	H	BA	O ‡
TEFC	Open	Open & TEFC				Width	Depth											
1800	1800	1200	900															
1	1	3/4	1/2	**143T**	0.875	0.19	0.09	1.38	2.25	7.00	6.00	12.63	3.50	2.75	2.00	0.34	2.25	7.00
1 1/2 & 2	1 1/2 & 2	1	3/4	**145T**	0.875	0.19	0.09	1.38	2.25	7.00	6.00	12.63	3.50	2.75	2.50	0.34	2.25	7.00
3	3	1 1/2	1	**182T**	1.125	0.25	0.13	1.75	2.75	9.00	6.50	12.75	4.50	3.75	2.25	0.41	2.75	9.00
5	5	2	1 1/2	**184T**	1.125	0.25	0.13	1.75	2.75	9.00	7.50	13.75	4.50	3.75	2.75	0.41	2.75	9.00
7 1/2	7 1/2	3	2	**213T**	1.375	0.31	0.16	2.38	3.38	10.50	7.50	15.81	5.25	4.25	2.75	0.41	3.50	10.50
10	10	5	3	**215T**	1.375	0.31	0.16	2.38	3.38	10.50	9.00	17.31	5.25	4.25	3.50	0.41	3.50	10.50
15	15	7 1/2	5	**254T**	1.625	0.38	0.19	2.88	4.00	12.50	10.75	20.50	6.25	5.00	4.13	0.53	4.25	12.50
20	20	10	7 1/2	**256T**	1.625	0.38	0.19	2.88	4.00	12.50	12.50	22.25	6.25	5.00	5.00	0.53	4.25	12.50
25	25	15	10	**284T**	1.875	0.50	0.25	3.25	4.63	14.00	12.50	23.31	7.00	5.50	4.75	0.53	4.75	14.00
25	25	15	10	**284TS**	1.625	0.38	0.19	1.88	3.25	14.00	12.50	22.00	7.00	5.50	4.75	0.53	4.75	14.00
30	30	20	15	**286T**	1.875	0.50	0.25	3.25	4.63	14.00	14.00	24.88	7.00	5.50	5.50	0.53	4.75	14.00
30	30	20	15	**286TS**	1.625	0.38	0.19	1.88	3.25	14.00	14.00	23.50	7.00	5.50	5.50	0.53	4.75	14.00
40	40	25	20	**324T**	2.125	0.50	0.25	3.88	5.25	16.00	14.00	26.50	8.00	6.25	5.25	0.66	5.25	16.00
40	40	25	20	**324TS**	1.875	0.50	0.25	2.00	3.75	16.00	14.00	24.63	8.00	6.25	5.25	0.66	5.25	16.00
50	50	30	25	**326T**	2.125	0.50	0.25	3.88	5.25	16.00	15.50	27.75	8.00	6.25	6.00	0.66	5.25	16.00
50	50	30	25	**326TS**	1.875	0.50	0.25	2.00	3.75	16.00	15.50	26.13	8.00	6.25	6.00	0.66	5.25	16.00
60	60	40	30	**364T**	2.375	0.63	0.31	4.25	5.88	18.00	15.25	28.75	9.00	7.00	5.63	0.66	5.88	18.00
60	60	40	30	**364TS**	1.875	0.50	0.25	2.00	3.75	18.00	15.25	26.56	9.00	7.00	5.63	0.66	5.88	18.00
75	75	50	40	**365T**	2.375	0.63	0.31	4.25	5.88	18.00	16.25	29.75	9.00	7.00	6.13	0.66	5.88	18.00
75	75	50	40	**365TS**	1.875	0.50	0.25	2.00	3.75	18.00	16.25	27.56	9.00	7.00	6.13	0.66	5.88	18.00
—	100	60	50	**404T**	2.875	0.75	0.38	5.63	7.25	20.00	16.25	32.63	10.00	8.00	6.13	0.81	6.63	20.00
—	100	60	50	**404TS**	2.125	0.50	0.25	2.75	4.25	20.00	16.25	29.63	10.00	8.00	6.13	0.81	6.63	20.00
100	125	75	60	**405T**	2.875	0.75	0.38	5.63	7.25	20.00	17.75	34.13	10.00	8.00	6.88	0.81	6.63	20.00
100	125	75	60	**405TS**	2.125	0.50	0.25	2.75	4.25	20.00	17.75	31.13	10.00	8.00	6.88	0.81	6.63	20.00
125	150	100	75	**444T**	3.375	0.88	0.44	6.88	8.50	22.00	18.50	37.88	11.00	9.00	7.25	0.81	7.50	22.00
125	150	100	75	**444TS**	2.375	0.63	0.31	3.00	4.75	22.00	18.50	34.13	11.00	9.00	7.25	0.81	7.50	22.00
150	200	125	100	**445T**	3.375	0.88	0.44	6.88	8.50	22.00	20.50	39.88	11.00	9.00	8.25	0.81	7.50	22.00
150	200	125	100	**445TS**	2.375	0.63	0.31	3.00	4.75	22.00	20.50	36.13	11.00	9.00	8.25	0.81	7.50	22.00
—	—	—	—	**447T**	3.375	0.88	0.44	6.88	8.50	22.00	23.00	43.25	11.00	9.00	10.00	0.81	7.50	22.00
—	—	—	—	**447TS**	2.375	0.63	0.31	3.00	4.75	22.00	23.00	39.50	11.00	9.00	10.00	0.81	7.50	22.00
—	—	—	—	**449T**	3.375	0.88	0.44	6.88	8.50	22.00	28.00	48.25	11.00	9.00	12.50	0.81	7.50	22.00
—	—	—	—	**449TS**	2.375	0.63	0.31	3.00	4.75	22.00	28.00	44.50	11.00	9.00	12.50	0.81	7.50	22.00

NOTE: Suffix "S" indicates short shaft for direct coupled service only. Motors of 25 hp and up listed as T-Frame may also be available in TS-Frames.

‡ These dimensions are not NEMA standard, but they are average and common to a number of manufactures for Open (Drip Proof) motors. TEFC motors will be up to 5 inches longer, and may be slightly taller (less than an inch difference).

* Usable length of shaft **"V"** is 1/4 inch shorter than **"N-W"**.



TC-FRAME NEMA ASSIGNMENTS AND DIMENSIONS†

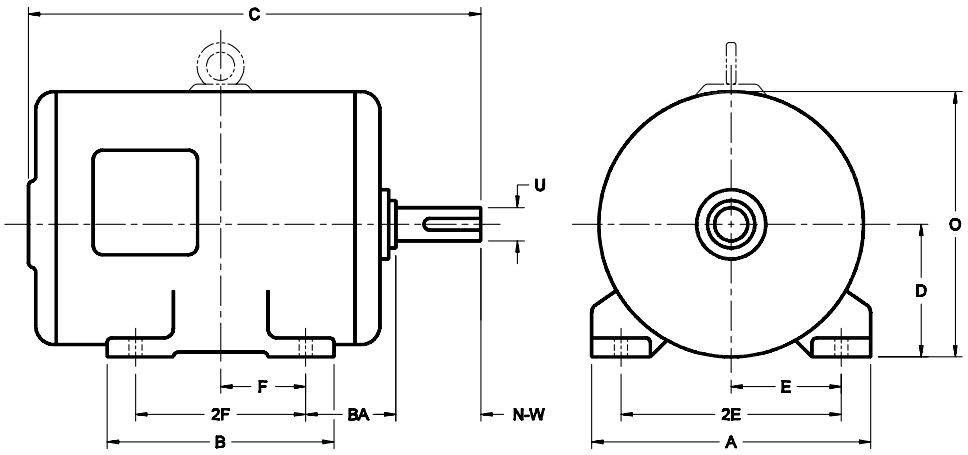
Frame No.	AJ	AK	BA	BB min.	BC	BD max.	BF (hole)			AH	U	Shaft Keyseat		Key Length
							Number of Holes	Tap Size	Bolt Penetration Allowance			Width	Depth	
56C	5.875	4.500	2.75	0.16	-0.19	6.50	4	3/8-16	Ñ-	2.06	0.625	0.19	0.09	1.38
143TC and 145TC	5.875	4.500	2.75	0.16	0.12	6.50	4	3/8-16	0.56	2.12	0.875	0.19	0.09	1.38
182TC and 184TC	7.250	8.500	3.50	0.25	0.12	9.00	4	1/2-13	0.75	2.62	1.125	0.25	0.13	1.75
182TCH and 184TCH	5.875	4.500	3.50	0.16	0.12	6.50	4	3/8-16	0.56	2.62	1.125	0.25	0.13	1.75
213TC and 215TC	7.250	8.500	4.25	0.25	0.25	9.00	4	1/2-13	0.75	3.12	1.375	0.31	0.16	2.38
254TC and 256TC	7.250	8.500	4.75	0.25	0.25	10.00	4	1/2-13	0.75	3.75	1.625	0.38	0.19	2.88
284TC and 286TC	9.000	10.500	4.75	0.25	0.25	11.25	4	1/2-13	0.75	4.38	1.875	0.50	0.25	3.25
284TSC and 286TSC	9.000	10.500	4.75	0.25	0.25	11.25	4	1/2-13	0.75	3.00	1.625	0.38	0.19	1.88
324TC and 326TC	11.000	12.500	5.25	0.25	0.25	14.00	4	5/8-11	0.94	5.00	2.125	0.50	0.25	3.88
324TSC and 326TSC	11.000	12.500	5.25	0.25	0.25	14.00	4	5/8-11	0.94	3.50	1.875	0.50	0.25	2.00
364TC and 365TC	11.000	12.500	5.88	0.25	0.25	14.00	8	5/8-11	0.94	5.62	2.375	0.63	0.31	4.25
364TSC and 365TSC	11.000	12.500	5.88	0.25	0.25	14.00	8	5/8-11	0.94	3.50	1.875	0.50	0.25	2.00
404TC and 405TC	11.000	12.500	6.62	0.25	0.25	15.50	8	5/8-11	0.94	7.00	2.875	0.75	0.38	5.63
404TSC and 405TSC	11.000	12.500	6.62	0.25	0.25	15.50	8	5/8-11	0.94	4.00	2.125	0.50	0.25	2.75
444TC and 445TC	14.000	16.000	7.50	0.25	0.25	18.00	8	5/8-11	0.94	8.25	3.375	0.88	0.44	6.88
444TSC and 445TSC	14.000	16.000	7.50	0.25	0.25	18.00	8	5/8-11	0.94	4.50	2.375	0.63	0.31	3.00

* Usable length of shaft **"V"** is 1/4 inch shorter than **"N-W"**.

† Refer to T-Frame chart (page 118) for dimensions not listed.

GENERAL ENGINEERING INFORMATION

IEC Electric Motor Dimensions



IEC STANDARDS Many countries have adopted IEC Standards, IEC stands for "The International Electrotechnical Commission". The object of the commission is to facilitate the coordination and unification of National Electrotechnical Standards.

IEC motors are in service worldwide. The standards have been incorporated into individual national standards. Outputs are in KW and dimensions are in millimeters. Table below shows the common IEC frame sizes of one motor manufacturer.

Mechanically, the major mounting dimensions of NEMA vs IEC are similar. Each standard has adopted units of dimensions predominant with the country used in.

IEC THREE-PHASE MOTORS WITH SQUIRREL CAGE ROTOR

KW Rating RPM				IEC Frame No.*			N - W	E	F	BA
3000	1500	1000	750	D (mm)	C	U (mm)	(mm)	(mm)	(mm)	(mm)
0.75	—	.25, .37	—	80	—	19	40	63	50	50
1.5	1.1	0.75	—	90	S	24	50	70	50	56
2.2	1.5	1.1	—	90	L	24	50	70	62	56
3	2.2, 3	1.5	.75, 1.1	100	L	28	60	80	70	63
4	4	2.2	1.5	112	M	28	60	95	70	70
5.5, 7.5	5.5	3	2.2	132	S	38	80	108	70	89
—	7.5	4, 5.5	3	132	M	38	80	108	89	89
11, 15	11	7.5	4, 5.5	160	M	42	110	127	105	108
18.5	15	11	7.5	160	L	42	110	127	127	108
22	18.5	—	—	180	M	48	110	140	120	121
—	22	15	11	180	L	48	110	140	140	121
30, 37	30	18.5, 22	15	200	L	55	110	159	152	133
—	37	—	18.5	225	S	60	140	178	143	149
45	—	—	—	225	M	55	110	178	156	149
—	45	30	22	225	M	60	140	178	156	149
55	—	—	—	250	M	60	140	203	174	168
—	55	37	30	250	M	65	140	203	174	168
75	—	—	—	280	S	65	140	229	184	190
—	75	45	37	280	S	75	140	229	184	190
90	—	—	—	280	M	65	140	229	210	190
—	90	55	45	280	M	75	140	229	210	190
110	—	—	—	315	S	65	140	254	203	216
—	110	75	55	315	S	80	170	254	203	216
132	—	—	—	315	M	65	140	254	228	216
—	132	90	75	315	M	80	170	254	228	216

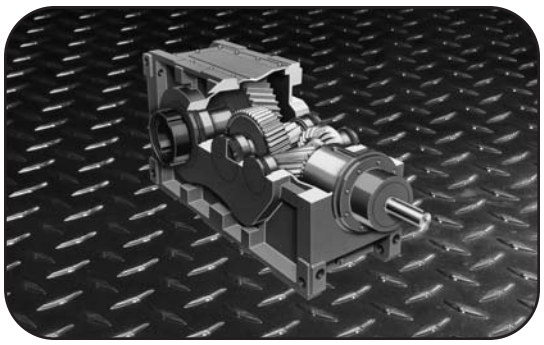
* IEC frame sizes are made up of shaft height, (mm), length (letter) and shaft diameter (mm), for example 90S-24. Three frame lengths may be offered, S = Short, M = Medium, L = Long.

KEY SIZES

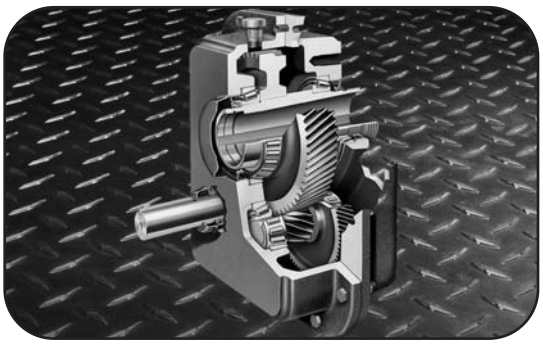
Shaft Size Dia. U † (mm)	Shaft Length (N-W) † (mm)	Key Size (Square: W, H) (mm)
7	16	2
9	20	3
11	23	4
14	30	5
16	40	5
18	40	6
19	40	6
22	50	6
24	50	8
28	60	8
32	80	10
38	80	10
42	110	12
48	110	14
55	110	16
60	140	18
65	140	18
70	140	20
75	140	20
80	170	22
85	170	22
90	170	25
95	170	25
100	210	28
110	210	28

† From motor sketch.

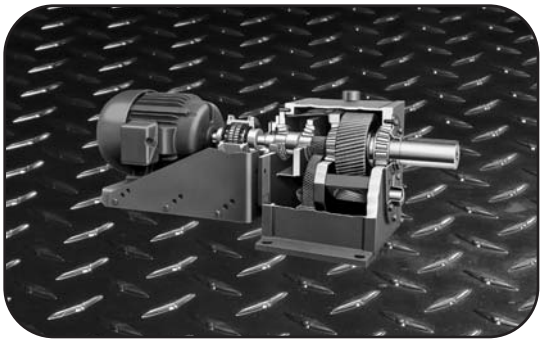
OTHER DRIVE PRODUCTS



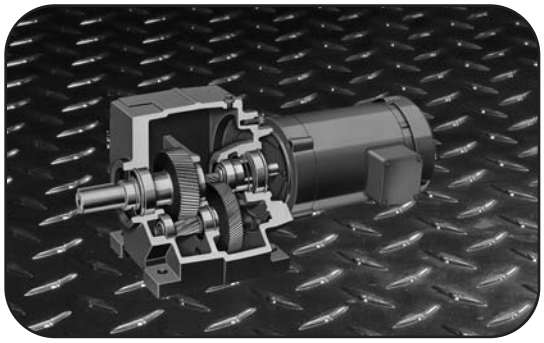
Falk Drive One Parallel & Right-Angle Shaft



Falk Quadrive Shaft-Mounted Drive



Falk UltraMax Concentric Gear Drive



Falk Ultramite Gearmotor Drive

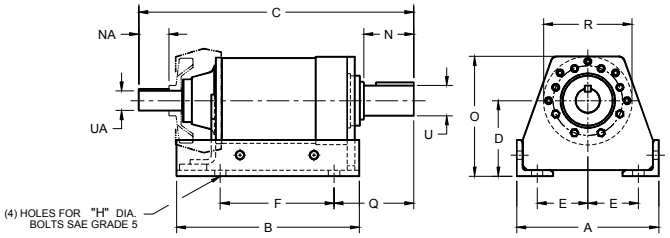
Shaft Coupling Family of Elastomer, Grid, Gear, Disc, and Composite Types

Complete packages are available with Electric Motor, Couplings, Sheaves, Belts, Sprockets, and Guards

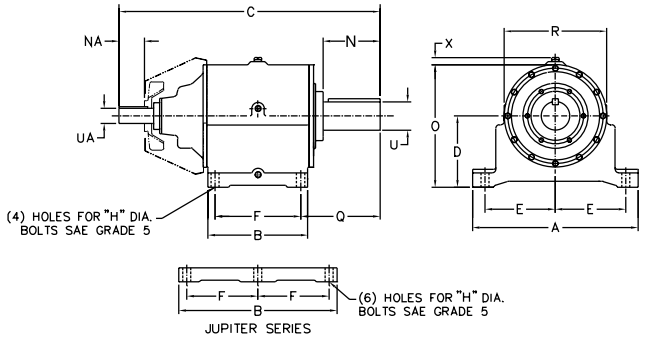
QUICK REFERENCE SHEET

Dimensional Information and Nominal Ratio Listing

MERCURY AND MARS



VENUS, ATLAS, EARTH, POLARIS, NEPTUNE, ORION SATURN, TITAN, AND JUPITER



Nominal Ratios Available*
with Corresponding
Output Torque Range

Nominal Ratio	Output Torque Range (lb-in)
3.53	2,000-120,000
4.39	2,000-130,000
6.12	1,000-140,000
9.30	14,000-110,000
11.02	1,000-250,000
13.85	2,000-330,000
17.21	2,000-320,000
20.41	2,000-450,000
24.00	1,000-450,000
31.63	2,000-360,000
36.56	1,000-500,000
43.78	1,000-600,000
54.45	2,000-600,000
64.42	2,000-650,000
69.63	1,000-640,000
80.01	2,000-650,000
91.41	2,000-650,000
99.38	1,000-500,000
111.5	2,000-650,000
121.4	1,000-650,000
138.5	1,000-500,000
159.8	2,000-650,000
193.1	1,000-500,000
206.2	2,000-650,000
238.2	2,000-650,000
265.4	1,000-650,000
295.7	2,000-650,000
330.1	2,000-650,000
369.8	2,000-650,000
412.1	2,000-650,000
459.0	1,000-650,000
532.5	2,000-650,000
617.9	2,000-650,000
660.6	1,000-550,000
741.2	2,000-550,000
900.3	1,000-650,000
1057	2,000-650,000
1255	1,000-650,000
1785	2,000-650,000

- SEE TABLE 5, PAGES 85-92 -

* Ratios listed may not be available in all speed reducer series

Series	A	B	C*		D	E	F	H	O	Q	R
			s,d,t	quad				bolt			
Mercury	11.75	15.13	22.13	24.38	6.25	4.19	9.41	7/8	9.91	6.59	7.32
Mars	11.75	15.13	23.50	25.75	6.25	4.19	9.41	7/8	9.91	7.46	7.32
Venus	18.00	11.75	29.73	28.52	7.75	8.00	9.53	1	13.50	8.63	11.50
Atlas	18.00	11.75	30.73	29.52	7.75	8.00	9.53	1	13.50	9.63	11.50
Earth	23.25	11.75	34.08	35.71	8.75	9.88	9.53	1	15.94	11.38	14.38
Polaris	23.25	14.00	36.30	37.92	10.00	9.88	11.75	1	17.19	11.29	14.38
Neptune	29.25	11.69	42.80	42.69	11.25	12.88	8.19	1 1/4	20.94	18.83	19.38
Orion	29.25	19.62	46.21	46.11	11.25	12.88	16.00	1 1/4	20.94	14.37	19.38
Saturn	33.00	14.75	50.03	52.50	12.88	14.63	11.00	1 1/2	24.25	22.04	22.75
Titan	33.25	19.86	51.78	54.25	12.88	14.63	16.00	1 1/2	24.25	18.74	22.75
Jupiter	33.25	28.88	62.94	62.94	16.50	14.63	12.50‡	1 1/2	31.50	20.88	30.00

Series	X	Low Speed Shaft		High Speed Shaft						Avg. Wt. Lbs.
		N	U	NA				UA		
				w/o fan		w/ fan				
				s,d,t	quad	s,d,t	quad	s,d,t	quad	
Mercury	—	4.15	2.000	3.00	3.00	1.88	1.88	1.375	1.375	144
Mars	—	4.98	2.500	3.50	3.50	2.38	2.38	1.625	1.625	150
Venus	1.00	5.50	2.750	4.25	3.50	2.88	2.50	1.875	1.625	295
Atlas	1.00	6.50	3.250	4.25	3.50	2.88	2.50	1.875	1.625	325
Earth	1.00	7.00	3.500	4.50	4.25	3.25	2.88	2.125	1.875	481
Polaris	1.00	8.00	4.000	4.50	4.25	2.88	2.88	2.125	1.875	702
Neptune	1.00	9.00	4.500	5.68	4.50	3.56	3.25	2.500	2.125	923
Orion	1.00	10.00	5.000	5.68	4.50	3.56	3.25	2.500	2.125	1146
Saturn	1.00	11.00	5.500	6.50	5.68	4.38	3.56	3.000	2.500	1512
Titan	1.00	11.25	6.500	6.50	5.68	4.38	3.56	3.000	2.500	2000
Jupiter	3.50	12.25	7.250	6.50	6.50	4.38	4.38	3.000	3.000	3470

* Mercury and Mars: Add 0.66 in. with backstop
* Venus Quad: Add 0.66 in. with backstop
* Atlas Quad: Add 0.66 in. with backstop

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