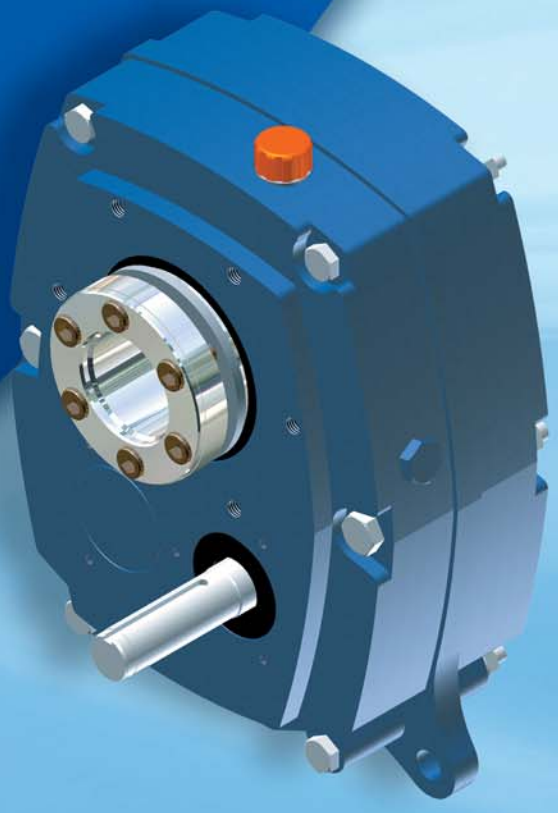
Sumitomo Drive Technologies

Always on the Move

HSM

Shaft Mounted Speed Reducer and CEMA Screw Conveyor Drive

featuring Keyless Taper-Grip® Bushing



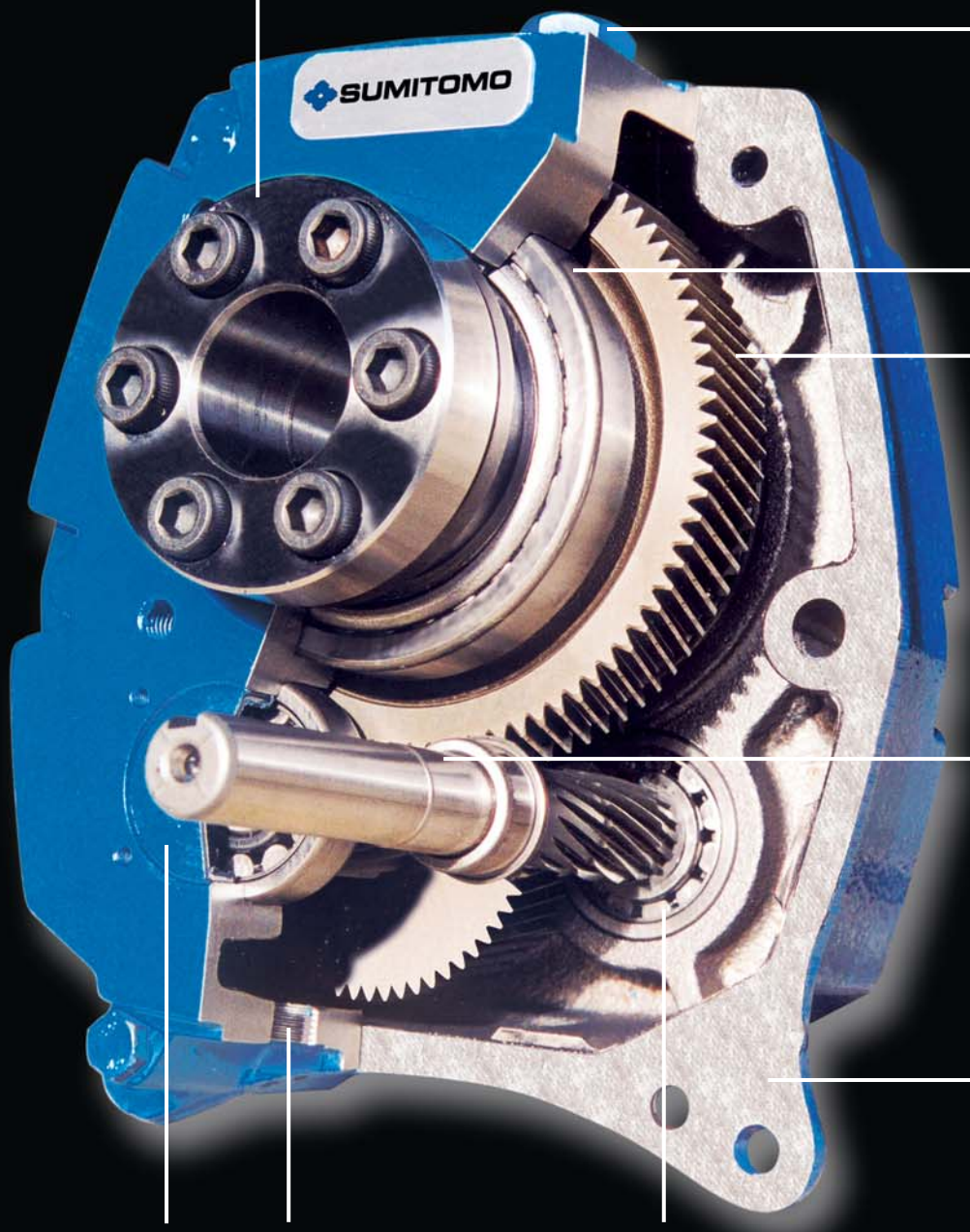
CATALOG 15.001.50.006

HSM

Shaft Mounted Speed Reducer
and CEMA Screw Conveyor Drive

Sumitomo Drive Technologies
Always on the Move

Keyless Taper-Grip® Bushing
Supplied as standard in popular AGMA bore sizes and in metric. Optional keyed hollow bore is also available.



Breather Plug
With integral sealing washer and built-in non-return valve.

Tapered Roller Bearings
Supplied as standard.

Gears
Helical, involute form, alloy steels, gas carburized and hardened, shaved and honed (profile ground on selected sizes) insuring low noise emission. The hunting tooth principle adopted to insure maximum working life.

Shafts
Machined from alloy steels and precision ground on journals, gear seatings and extensions. Tolerances and keyways conform to international standards.

Additional Case Lugs
Eliminate the need for critical tightening of torque arm bolts. Control position of standard torque arm mounting to within recommended limits.

Rubberized End Caps
Self-sealing intermediate cover plates, to standard ISO housing dimensions.

Drain Plugs
With integral sealing washer.

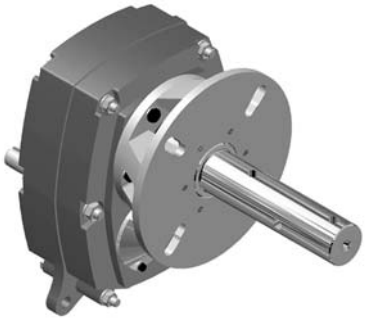
Backstops (anti-run back device)
Available on all units as an add-on option.

HSM

Shaft Mounted Speed Reducer and CEMA Screw Conveyor Drive

Featuring Keyless Taper-Grip® Bushing

Table of Contents

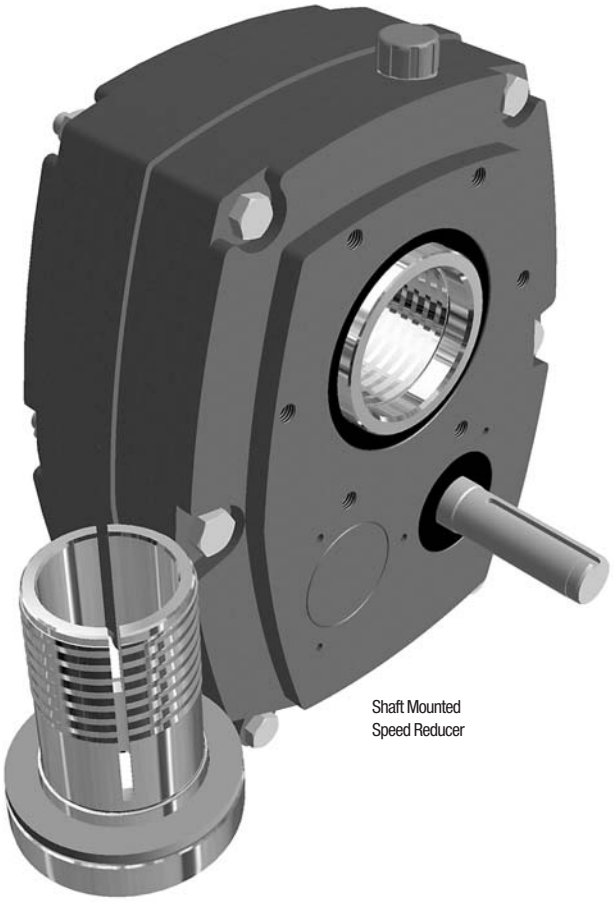


Sumitomo Drive Technologies

HSM Shaft Mounted Speed Reducer and CEMA Screw Conveyor Drive

Featuring Keyless Taper-Grip® Bushing

The Sumitomo **Helical Shaft Mount (HSM)** Speed Reducer provides a convenient installation and removal method for speed reduction by mounting directly on the drive shaft. Sumitomo's Taper-Grip® bushing provides simple keyless mounting and easy removal. HSM is readily adaptable for CEMA screw conveyor and shaft mount options. The HSM features carburized gear teeth with optimal gear geometry and wide gear faces, allowing maximum loading and highest efficiency torque output, for higher rating capacity in the most compact design.



Shaft Mounted Speed Reducer

Keyless Taper-Grip® Bushing

Features & Benefits

- Higher ratings with a 25° pressure angle and wider gear tooth face for maximum torque
- Keyless shaft connection with Taper-Grip® bushing for easy installation and removal, simple replacement
- Heavy duty roller bearings for maximum strength and extended life
- AGMA standard bore sizes in both bushed and through-bore simplify specification and retrofit
- CEMA standard screw conveyor options
- Optional Taconite sealing systems for effective protection in severe applications and extended operation
- Drop in replacement for all AGMA-style units
- Flexible motor mounting capabilities
- Backstops with centrifugal lift-off sprags to maximize reliability

Specifications

Ratios:	5:1, 14:1, 20:1, 25:1
HP:	1/4 to 300
Sizes:	AGMA 107 to 608
Bore Sizes:	1 3/16" to 6 1/2", metric optional
Mounts:	Vertical, Horizontal, and Direct drive mounting configurations
Lubrication:	Oil lubrication, synthetic lubricant optional
Housing:	Cast iron case construction
Screw Conveyor:	CEMA Standards

Applications

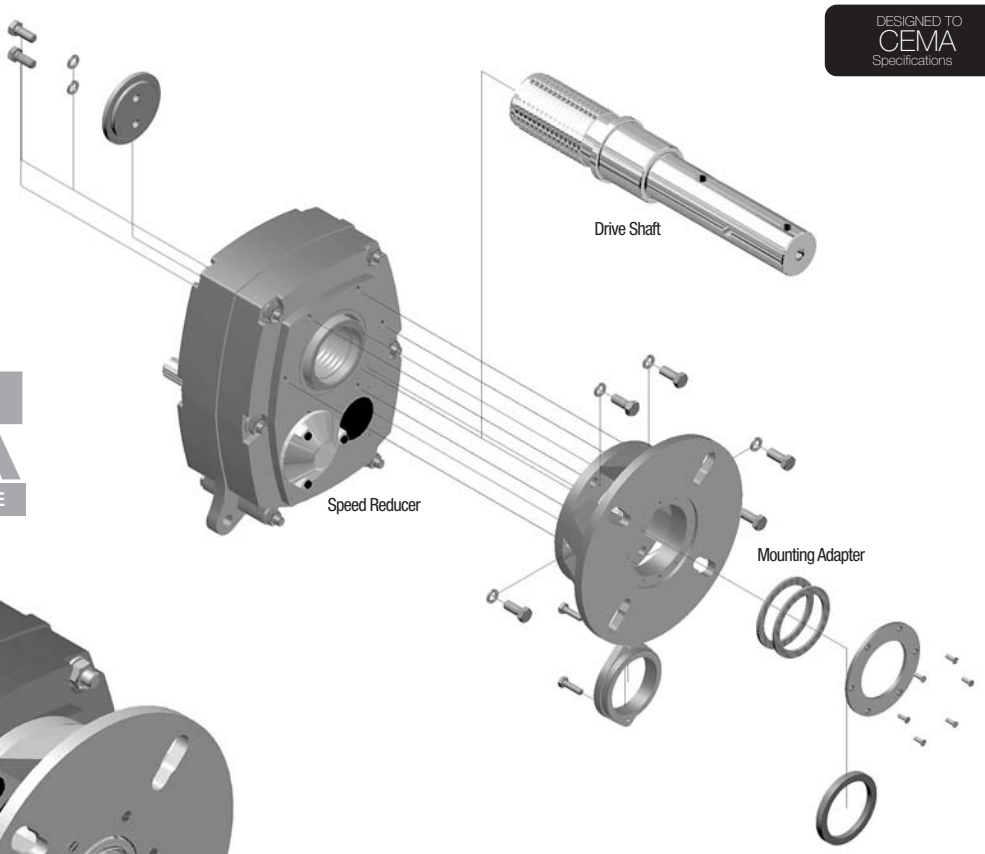
Perfect for screw conveyors, belt conveyor bulk handling machinery and process equipment for:

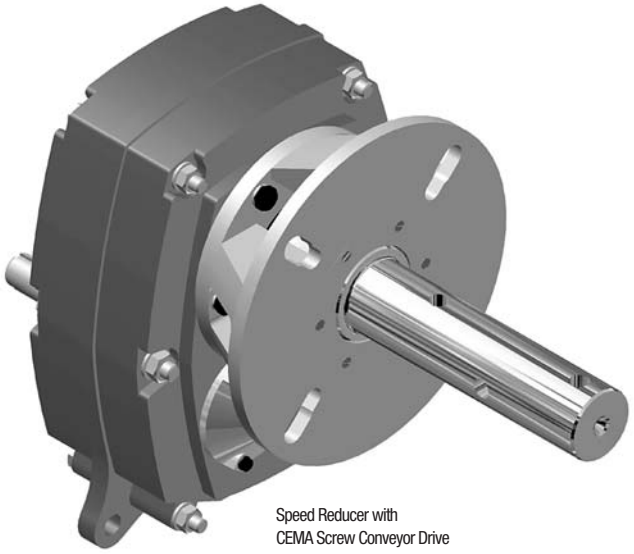
- Baggage Handling
- Pulp, Paper, & Forestry
- Aggregate & Mining
- Mixers & Process Equipment
- Grain & Agriculture

DESIGNED TO CEMA Specifications

HSM CEMA

SCREW CONVEYOR DRIVE





Speed Reducer with
CEMA Screw Conveyor Drive

CEMA Screw Conveyor Drive

- Steel and stainless steel three-hole shafting.
- Double lip seal and braided seal supplied as standard with adjustable packing gland.
- Available for sizes 107C ~ 407S.
- Assembles to standard stock reducer, no modifications required.
- Drive shaft is convenient Taper-Grip style for easy installation. Includes keeper plate.
- Optional waste packing is available for abrasive applications.
- Mounting Adapter with integral gland cartridge, and adjustable packing gland cover. Allows for easy adjustment or replacement without removing trough end or gearbox.

See page 20 to specify CEMA Screw Conveyor Drives

Taper-Grip® Bushing

The HSM Shaft Mounted Speed Reducer is secured to the driven shaft by means of a Taper-Grip® bushing that transmits the torque and shock overload capacity of the selected reducer.

Features

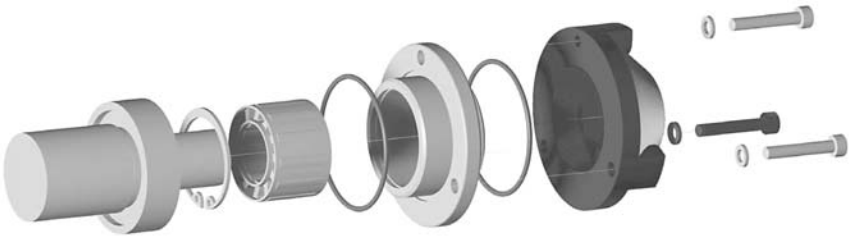
- Requires no key or keyway.
- Resistant to fretting.
- Easy to assemble and position the HSM on the driven shaft.
- Usable from either side of the gearbox as standard.
- Allows the driven shaft diameter tolerances to be a clearance fit.
- Easy to remove the HSM from the driven shaft.
- Both inch and metric shaft bores available.
- Fits a wide selection of shaft diameters.
- May be used with existing keyed shafts.
- Superior shaft gripping capability provided by a series of short tapers in the form of a continuous helix.

Accessories

Simple, Reliable, Modular Accessory Kits Provide Maximum Inventory Flexibility

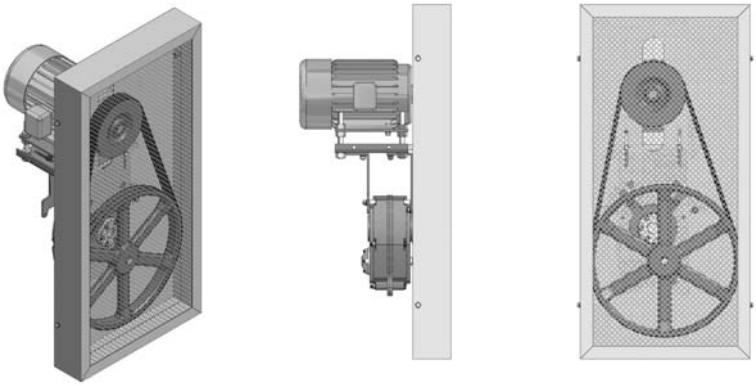
Backstops

- New centrifugal design maximizes reliability, minimizes wear and extends life.
- Simple field installation insures correct direction of operation.
- Internal mounting minimizes maintenance, insures continual flow of fresh lubrication.
- Easily reversed for operation in either direction.



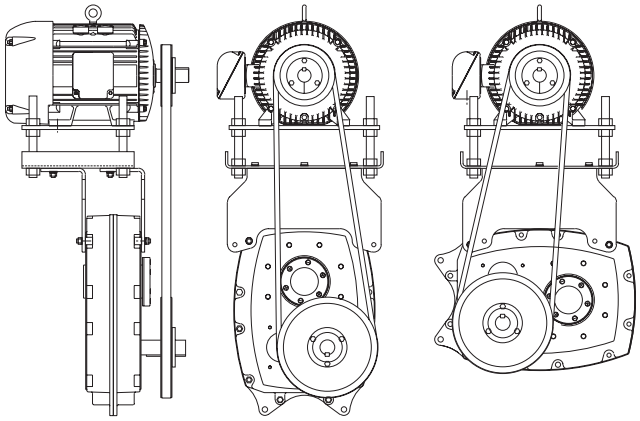
Belt Guards

- Minimum number of parts allow for quick installation.
- Constructed with expanded metal grill.
- Painted safety yellow.
- Assembles using existing reducer and top mount holes.
- Sized to fit a wide range of sheave diameters.
- Includes mounting hardware.



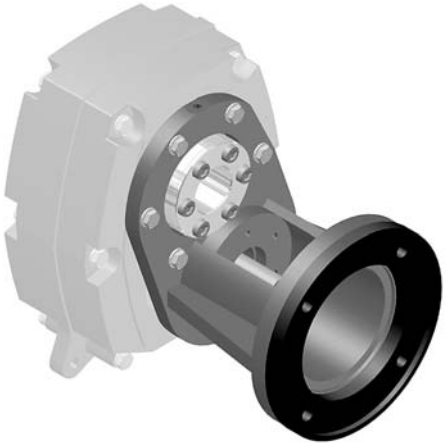
Motor Mounts

- Wrap-around, wide base design provides added stability.
- Rugged all steel construction and four bolt mounting provide maximum rigidity.
- Accommodates both shaft mounted and screw conveyor drive requirements.
- Pre-drilled top plates facilitate using a wide variety of NEMA motors.
- Faster, more economical and more reliable than remote motor mounting.



Direct Drive

- Direct mount NEMA or IEC C-face motors.
- Allows for compact geared motor design.
- Eliminates need for belts, pulleys and guards.



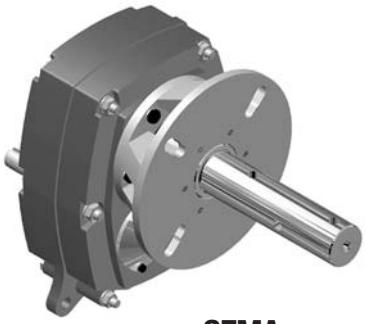
Severe Duty Sealing System

- Outdoor service, washdown duty and taconite type systems available.
- Extends reducer life by providing additional barriers to contaminants.
- Targeted to specific application requirements.
- Includes both seals and breather elements.

HSM

Selection & Specifications

Shaft Mounted
Speed Reducers



CEMA
Screw Conveyor Drives

How to Select

How to select an HSM Speed Reducer

Step 1: Collect data about your application

Before starting you need to know the:

- **Application** (e.g. Conveyor, Mixer, etc.)
- **Hours of Operation per day**
- **Motor Horsepower** (HP)
- **Desired Output Speed**

Step 2: Find the Load Classification of your application

Use the ***AGMA Load Classification Tables*** on page 8, based on the application and number of working hours per day.

Step 3: Select an HSM Speed Reducer Unit Size

Refer to the ***Speed Reducer Selection Tables*** for your Classification (I, II or III). Select the **Unit Size** based on the application's Motor Horsepower (HP) and Output Speed (RPM). Determine the **Unit Size** and the **Nominal Ratio.**

Note: The selection table ratings are based on a starting load or momentary overload of:

2 times for Class I
2-3 times for Class II
4 times for Class III

If the application peak loads will exceed these values, select a Speed Reducer from the next higher class of service, or consult Sumitomo for exact Power Ratings data.

Step 4: Select a Bushing

Use the tables on the right to configure a Bushing model number.

How to select an CEMA Screw Conveyor Drive (Optional)

To select a **Screw Conveyor Drive Shaft Assembly** and **Mounting Adapter**, you will need to know the **Unit Size** (from Step 3 above) and the **Screw Diameter** for your application.

Refer to the ***Screw Conveyor Selection Table*** (page 20) to make this selection, and to determine the Shaft Diameter (for installation purposes).

How to select a Belt Drive (from third-party vendor)

Use this selection data to specify a Belt Drive from a belt drive vendor

Step 1: Calculate the **Input Shaft Speed**

Multiply the ***Output Speed*** by the ***Exact Ratio***
(from page 25 or 27, based on Speed Reducer Size)

Output Speed x Exact Ratio = Input Shaft Speed	***Example: 48 x 23.235 = 1211 RPM***

Step 2: Calculate the **Belt Drive Ratio**

Divide the ***Motor Speed*** by the ***Input Shaft Speed.***

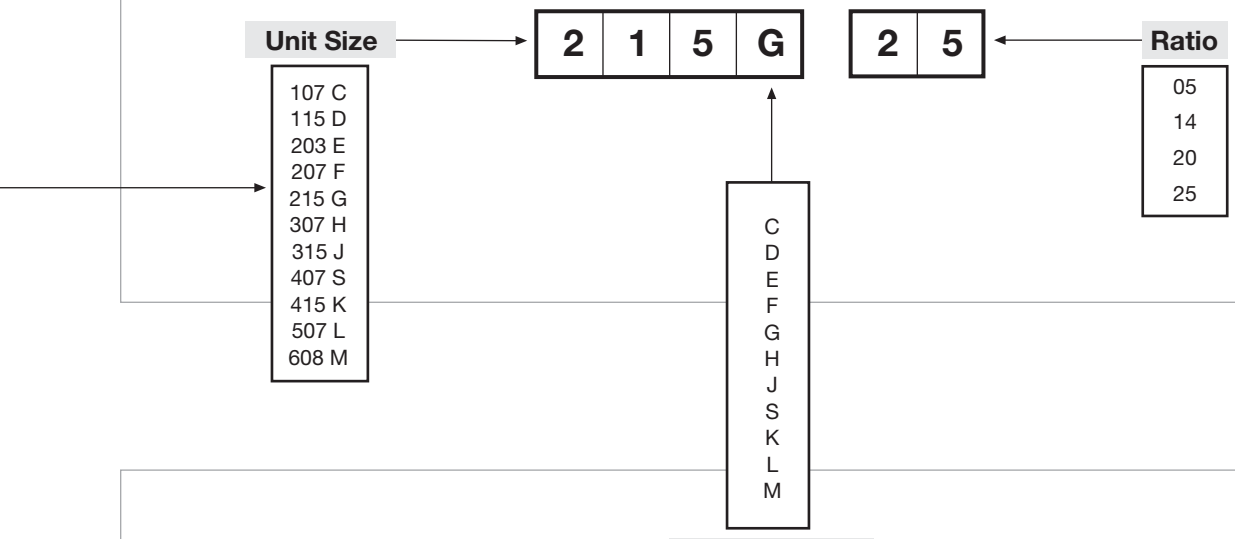
Motor Speed/Input Shaft Speed = Belt Drive Ratio	***Example: 1750 / 1211 = 1.45:1***

Step 3: Determine the **Minimum Input Shaft Sheave Diameter**

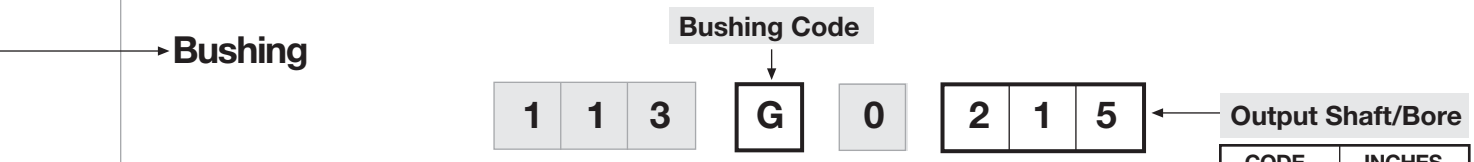
Refer to the **Sheave Diameter Table** on page 22. Based on the **HSM Speed Reducer Unit Size** selected, and the Output Speed RPM.

Nomenclature

Reducer



Bushing



CODE	INCHES
107	$1\frac{7}{16}$
115	$1\frac{15}{16}$
203	$2\frac{3}{16}$
207	$2\frac{7}{16}$
215	$2\frac{15}{16}$
307	$3\frac{7}{16}$
315	$3\frac{15}{16}$
407	$4\frac{7}{16}$
415	$4\frac{15}{16}$
507	$5\frac{7}{16}$
608	$6\frac{1}{2}$

Taper-Grip® Bushing Bore Sizes

Use this table to verify compatibility of Unit Size and Bushing Bore Size

Unit Size	Max.	Med.	Min.
107C	$1\frac{7}{16}$	$1\frac{3}{8}$	$1\frac{3}{16}$
115D	$1\frac{15}{16}$	$1\frac{1}{2}$	$1\frac{7}{16}$
203E	$2\frac{3}{16}$	$1\frac{15}{16}$	$1\frac{11}{16}$
207F	$2\frac{7}{16}$	$2\frac{3}{16}$	$1\frac{15}{16}$
215G	$2\frac{15}{16}$	$2\frac{7}{16}$	$2\frac{3}{16}$
307H	$3\frac{7}{16}$	$2\frac{15}{16}$	$2\frac{7}{16}$
315J	$3\frac{15}{16}$	$3\frac{7}{16}$	$2\frac{15}{16}$
407S	$4\frac{7}{16}$	$3\frac{15}{16}$	$3\frac{7}{16}$
415K	$4\frac{15}{16}$	$4\frac{7}{16}$	$3\frac{15}{16}$
507L	$5\frac{7}{16}$	$4\frac{15}{16}$	$4\frac{7}{16}$
608M	$6\frac{1}{2}$	$5\frac{15}{16}$	$4\frac{15}{16}$

Note: A range of output shaft bores are available in both the Taper-Grip bushing and keyed hollow bore shafts. CONSULT FACTORY.

For screw torques and shaft tolerances, see page 33.

AGMA Load Classification Tables

APPLICATION	CLASS NUMBERS Up to 3 Hrs per Day	3-10 Hrs per Day	Over 10 Hrs per Day
AGITATORS (Mixers)			
Pure Liquids	I	I	II
Liquids and Solids	I	II	II
Liquids – Variable Density	I	II	II
BLOWERS			
Centrifugal	I	I	II
Lobe	I	II	II
Vane	I	II	II
BREWING AND DISTILLING			
Bottling Machinery	I	I	II
Brew Kettles – Continuous Duty	II	II	II
Cookers – Continuous Duty	II	II	II
Mash Tubs – Continuous Duty	II	II	II
Scale Hopper – Frequent Starts	II	II	II
CAN FILLING MACHINES	I	I	II
CAR DUMPERS	I	III	III
CAR PULLERS	I	II	II
CLARIFIERS	I	I	II
CLASSIFIERS	I	II	II
CLAY WORKING MACHINERY			
Brick Press	II	III	III
Briquette Machine	II	III	III
Pug Mill	I	II	II
COMPACTORS	III	III	III
COMPRESSORS			
Centrifugal	I	I	II
Lobe	I	II	II
Reciprocating, Multi-Cylinder	II	II	III
Reciprocating, Single-Cylinder	III	III	III
CONVEYORS – GENERAL PURPOSE Includes Apron, Assembly, Belt, Bucket, Chain, Flight, Oven and Screw			
Uniformly Loaded or Fed	I	I	II
Heavy Duty – Not Uniformly Fed	I	II	II
Severe Duty – Reciprocating or Shaker	II	III	III
CRANES [1]			
Dry Dock			
Main Hoist	2.50	2.50	2.50
Auxiliary Hoist	2.50	2.50	3.00
Boom Hoist	2.50	2.50	3.00
Slewing Drive	2.50	2.50	3.00
Traction Drive	3.00	3.00	3.00
Container			
Main Hoist	3.00	3.00	3.00
Boom Hoist	2.00	2.00	2.00
Trolley Drive			
Gantry Drive	3.00	3.00	3.00
Traction Drive	2.00	2.00	2.00
Mill Duty			
Main Hoist	3.50	3.50	3.50
Auxiliary	3.50	3.50	3.50
Bridge	2.50	3.00	3.00
Trolley Travel	2.50	3.00	3.00
Industrial Duty			
Main	2.50	2.50	3.00
Auxiliary	2.50	2.50	3.00
Bridge	2.50	3.00	3.00
Trolley Travel	2.50	3.00	3.00

APPLICATION	CLASS NUMBERS Up to 3 Hrs per Day	3-10 Hrs per Day	Over 10 Hrs per Day
CRUSHER			
Stone or Ore	III	III	III
DREDGES			
Cable Reels	II	II	II
Conveyors	II	II	II
Cutter Head Drives	III	III	III
Pumps	III	III	III
Screen Drives	III	III	III
Stackers	II	II	II
Winches	II	II	II
ELEVATORS			
Bucket	I	II	II
Centrifugal Discharge	I	I	II
Escalators	I	I	II
Freight	I	II	II
Gravity Discharge	I	I	II
EXTRUDERS			
General	II	II	II
Plastics			
Variable Speed Drive	III	III	III
Fixed Speed Drive	III	III	III
Rubber			
Continuous Screw Operation	III	III	III
Intermittent Screw Operation	III	III	III
FANS			
Centrifugal	I	I	II
Cooling Towers	III	III	III
Forced Draft	II	II	II
Induced Draft	II	II	II
Industrial & Mine	II	II	II
FEEDERS			
Apron	I	II	II
Belt	I	II	II
Disc	I	I	II
Reciprocating	II	III	III
Screw	I	II	II
FOOD INDUSTRY			
Cereal Cooker	I	I	II
Dough Mixer	II	II	II
Meat Grinders	II	II	II
Slicers	I	II	II
GENERATORS AND EXCITERS	II	II	II
HAMMER MILLS	III	III	III
HOISTS			
Heavy	III	III	III
Medium Duty	II	II	II
Skip Hoist	II	II	II
LAUNDRY TUMBLERS	II	II	II
LAUNDRY WASHERS	II	II	III

Note: [1] Because crane drive selections may require a service factor greater than 2.0, Class Numbers are not applicable. Crane drives are to be selected based upon the gear tooth bending strength using the numeric service factor shown in the table. In all cases, the pitting resistance service factor shall be a minimum of 1.0.

AGMA Load Classification Tables

APPLICATION	CLASS NUMBERS Up to 3 Hrs per Day	3-10 Hrs per Day	Over 10 Hrs per Day
LUMBER INDUSTRY			
Barkers			
Spindle Feed	II	II	II
Main Drive	III	III	III
Conveyors			
Burner	II	II	II
Main or Heavy Duty	II	II	II
Main Log	III	III	III
Re-saw, Merry-Go-Round	II	II	II
Slab	III	III	III
Transfer	II	II	II
Chains			
Floor	II	II	II
Green	II	II	III
Cut-Off Saws			
Chain	II	II	III
Drag	II	II	III
Debarking Drums	III	III	III
Feeds			
Edger	II	II	II
Gang	III	III	III
Trimmer	II	II	II
Log Deck	III	III	III
Log Hauls – Incline – Well Type	III	III	III
Log Turning Devices	III	III	III
Planer Feed	II	II	II
Planer Tilting Hoists	II	II	II
Rolls – Live-off brg. – Roll Cases	III	III	III
Sorting Table	II	II	II
Tipple Hoist	II	II	II
Transfers			
Chain	II	II	III
Craneway	II	II	III
Tray Drives	II	II	II
Veneer Lathe Drives	II	II	II
METAL MILLS			
Draw Bench Carriage and Main Drive	II	II	II
Runout Table			
Non-reversing			
Group Drives	II	II	II
Individual Drives	III	III	III
Reversing	III	III	III
Slab Pushers	II	II	II
Shears	III	III	III
Wire Drawing	II	II	II
Wire Winding Machine	II	II	II
METAL STRIP PROCESSING MACHINERY			
Bridles	II	II	II
Coilers & Uncoilers	I	I	II
Edge Trimmers	I	II	II
Flatteners	II	II	II
Loopers (Accumulators)	I	I	I
Pinch Rolls	II	II	II
Scrap Choppers	II	II	II
Shears	III	III	III
Slitters	I	II	II

APPLICATION	CLASS NUMBERS Up to 3 Hrs per Day	3-10 Hrs per Day	Over 10 Hrs per Day
MILLS, ROTARY TYPE			
Ball & Rod			
Spur Ring Gear	III	III	III
Helical Ring Gear	II	II	II
Direct Connected	III	III	III
Cement Kilns	II	II	II
Dryers & Coolers	II	II	II
MIXERS, CEMENT	II	II	II
PAPER MILLS [1]			
Agitator (Mixer)	II	II	II
Agitator for Pure Liquors	II	II	II
Barking Drums	III	III	III
Barkers – Mechanical	III	III	III
Beater	II	II	II
Breaker Stack	II	II	II
Calender [1]	II	II	II
Chipper	III	III	III
Chip Feeder	II	II	II
Coating Rolls	II	II	II
Conveyors			
Chip, Bark, Chemical	II	II	II
Log (including Slab)	III	III	III
Couch Rolls	II	II	II
Cutter	III	III	III
Cylinder Molds	II	II	II
Dryers [1]			
Paper Machine	II	II	II
Conveyor Type	II	II	II
Embosser	II	II	II
Extruder	II	II	II
Fourdrinier Rolls (Includes Lump breaker, dandy roll, wire turning, and return rolls)	II	II	II
Jordan	II	II	II
Kiln Drive	II	II	II
Mt. Hope Roll	II	II	II
Paper Rolls	II	II	II
Platter	II	II	II
Presses – Felt & Suction	II	II	II
Pulper	III	III	III
Pumps – Vacuum	II	II	II
Reel (Surface Type)	II	II	II
Screens			
Chip	II	II	II
Rotary	II	II	II
Vibrating	III	III	III
Size Press	II	II	II
Supercalender [2]	II	II	II
Thickener (AC Motor)	II	II	II
(DC Motor)	II	II	II
Washer (AC Motor)	II	II	II
(DC Motor)	II	II	II
Wind and Unwind Stand	I	I	I
Winders (Surface Type)	II	II	II
Yankee Dryers [1]	II	II	II

Notes: [1] Anti-Friction Bearings only.

[2] A Class Number of I may be applied at base speed of a supercalender operating over a speed range of part-range constant horsepower and part-range constant torque where the constant horsepower speed range is greater than 1.5 to 1. A Class Number of II is applicable to supercalenders operating over the entire speed range at constant torque or where the constant horsepower speed range is less than 1.5 to 1.

AGMA Load Classification Tables

APPLICATION	CLASS NUMBERS Up to 3 Hrs per Day	3-10 Hrs per Day	Over 10 Hrs per Day
PLASTIC INDUSTRY – PRIMARY PROCESSING			
Intensive Internal Mixers			
Batch Mixers	III	III	III
Continuous Mixers	II	II	II
Batch Drop Mill – 2 smooth rolls	II	II	II
Continuous Feed, Holding & Blend Mill	II	II	II
Calenders	II	II	II
PLASTIC INDUSTRY – SECOND PROCESSING			
Blow Molders	II	II	II
Coating	II	II	II
Film	II	II	II
Pipe	II	II	II
Pre-Plasticizers	II	II	II
Rods	II	II	II
Sheet	II	II	II
Tubing	II	II	II
PULLERS – BARGE HAUL	II	II	II
PUMPS			
Centrifugal	I	I	II
Proportioning	II	II	II
Reciprocating			
Single Acting, 3 or more cyliners	II	II	II
Double Acting, 2 or more cylinders	II	II	II
Rotary			
Gear Type	I	I	II
Lobe	I	I	II
Vane	I	I	II
RUBBER INDUSTRY			
Intensive Internal Mixers			
Batch Mixers	III	III	III
Continuous Mixers	II	II	II
Mixing Mill			
2 smooth rolls	II	II	II
1 or 2 corrugated rolls	III	III	III
Batch Drop Mill – 2 smooth rolls	II	II	II
Cracker Warmer – 2 roll; 1 corrugated roll	III	III	III
Cracker – 2 corrugated rolls	III	III	III
Holding, Feed & Blend Mill – 2 rolls	II	II	II
Refiner – 2 rolls	II	II	II
Calenders	II	II	II
SAND MULLER	II	II	II

APPLICATION	CLASS NUMBERS Up to 3 Hrs per Day	3-10 Hrs per Day	Over 10 Hrs per Day
SEWAGE DISPOSAL EQUIPMENT			
Bar Screens	II	II	II
Chemical Feeders	II	II	II
Dewatering Screens	II	II	II
Scum Breakers	II	II	II
Slow or Rapid Mixers	II	II	II
Sludge Collectors	II	II	II
Thickener	II	II	II
Vacuum Filters	II	II	II
SCREENS			
Air Washing	I	I	II
Rotary – Stone or Gravel	II	II	II
Traveling Water Intake	I	I	I
SCREW CONVEYORS			
Uniformly Loaded or Fed	I	I	II
Heavy Duty	I	II	II
SUGAR INDUSTRY			
Beet Slicer	III	III	III
Cane Knives	II	II	II
Crushers	II	II	II
Mills (low speed end)	III	III	III
TEXTILE INDUSTRY			
Batchers	II	II	II
Calenders	II	II	II
Cards	II	II	II
Dry Cans	II	II	II
Dyeing Machinery	II	II	II
Looms	II	II	II
Mangles	II	II	II
Nappers	II	II	II
Pads	II	II	II
Slashers	II	II	II
Soapers	II	II	II
Spinners	II	II	II
Tenter Frames	II	II	II
Washers	II	II	II
Winders	II	II	II

Notes

CLASS I Speed Reducer Size Selection Tables

OUTPUT SPEED RPM	REDUCER SIZE	NOMINAL RATIO†
1/4 HP (.18 kW) Motor		
10 - 100	107C	25
	107C	20
	107C	14
101 - 400	107C	5
1/3 HP (.25 kW) Motor		
10 - 100	107C	25
	107C	20
	107C	14
101 - 400	107C	5
1/2 HP (.37 kW) Motor		
10 - 13	107C	25
	107C	20
	107C	14
14 - 100	107C	25
	107C	20
	107C	14
101 - 400	107C	5
3/4 HP (.55 kW) Motor		
10 - 11	115D	25
	115D	20
	115D	14
12 - 19	107C	25
	107C	20
	107C	14
20 - 100	107C	25
	107C	20
	107C	14
101 - 400	107C	5
1 HP (.75 kW) Motor		
10 - 13	115D	25
	115D	20
	115D	14
14 - 25	107C	25
	107C	20
	107C	14
26 - 100	107C	25
	107C	20
	107C	14
101 - 400	107C	5
1 1/2 HP (1.1 kW) Motor		
10 - 13	203E	25
	203E	20
	203E	14
14 - 19	115D	25
	115D	20
	115D	14
20 - 39	107C	25
	107C	20
	107C	14
40 - 100	107C	25
	107C	20
	107C	14
101 - 400	107C	5
2 HP (1.5 kW) Motor		
10 - 11	207F	25
	207F	20
	207F	14
12 - 17	203E	25
	203E	20
	203E	14
18 - 25	115D	25
	115D	20
	115D	14
26 - 53	107C	25
	107C	20
	107C	14

OUTPUT SPEED RPM	REDUCER SIZE	NOMINAL RATIO†
2 HP (1.5 kW) Motor (cont.)		
54 - 100	107C	25
	107C	20
	107C	14
101 - 400	107C	5
3 HP (2.2 kW) Motor		
10 - 11	215G	25
	215G	20
	215G	14
12 - 15	207F	25
	207F	20
	207F	14
16 - 24	203E	25
	203E	20
	203E	14
25 - 39	115D	25
	115D	20
	115D	14
40 - 84	107C	25
	107C	20
	107C	14
85 - 100	107C	25
	107C	20
	107C	14
101 - 400	107C	5
5 HP (3.7 kW) Motor		
10 - 11	307H	25
	307H	20
	307H	14
12 - 17	215G	25
	215G	20
	215G	14
18 - 25	207F	25
	207F	20
	207F	14
26 - 41	203E	25
	203E	20
	203E	14
42 - 79	115D	25
	115D	20
	115D	14
80 - 100	107C	25
	107C	20
	107C	14
101 - 400	107C	5
7 1/2 HP (5.5 kW) Motor		
10 - 11	315J	25
	315J	20
	315J	14
12 - 15	307H	25
	307H	20
	307H	14
16 - 27	215G	25
	215G	20
	215G	14
28 - 41	207F	25
	207F	20
	207F	14
42 - 77	203E	25
	203E	20
	203E	14
78 - 100	115D	25
	115D	20
	115D	14
101 - 149	115D	5
150 - 400	107C	5

OUTPUT SPEED RPM	REDUCER SIZE	NOMINAL RATIO†
10 HP (7.5 kW) Motor		
10 - 15	315J	25
	315J	20
	315J	14
16 - 21	307H	25
	307H	20
	307H	14
22 - 37	215G	25
	215G	20
	215G	14
38 - 61	207F	25
	207F	20
	207F	14
62 - 100	203E	25
	203E	20
	203E	14
101 - 109	203E	5
110 - 239	115D	5
240 - 400	107C	5
15 HP (11 kW) Motor		
10 - 11	415K	25
	415K	20
	415K	14
12 - 14	407S	25
	407S	20
	407S	14
15 - 21	315J	25
	315J	20
	315J	14
22 - 32	307H	25
	307H	20
	307H	14
33 - 61	215G	25
	215G	20
	215G	14
62 - 95	207F	25
	207F	20
	207F	14
96 - 100	203E	25
	203E	20
	203E	14
101 - 219	203E	5
220 - 400	115D	5
20 HP (15 kW) Motor		
10 - 11	507L	25
	507L	14
12 - 14	415K	25
	415K	20
	415K	14
15 - 18	407S	25
	407S	20
	407S	14
19 - 28	315J	25
	315J	20
	315J	14
29 - 42	307H	25
	307H	20
	307H	14
43 - 84	215G	25
	215G	20
	215G	14
85 - 100	207F	25
	207F	20
	207F	14
101 - 169	207F	5
170 - 329	203E	5
330 - 400	115D	5

Note: †Consult factory for delivery on units with 20:1 ratio.

OUTPUT SPEED RPM	REDUCER SIZE	NOMINAL RATIO†
25 HP (18.5 kW) Motor		
10 - 13	507L	25
	507L	14
14 - 17	415K	25
	415K	20
	415K	14
18 - 23	407S	25
	407S	20
	407S	14
24 - 37	315J	25
	315J	20
	315J	14
38 - 85	307H	25
	307H	20
	307H	14
86 - 100	307H	14
101 - 129	215G	5
130 - 239	207F	5
240 - 400	203E	5
30 HP (22 kW) Motor		
10 - 15	507L	25
	507L	20
	507L	14
16 - 21	415K	25
	415K	20
	415K	14
22 - 27	407S	25
	407S	20
	407S	14
28 - 45	315J	25
	315J	20
	315J	14
46 - 76	307H	25
	307H	20
	307H	14
77 - 85	215G	25
	215G	20
	215G	14
86 - 100	215G	14
101 - 179	215G	5
180 - 309	207F	5
310 - 400	203E	5
40 HP (30 kW) Motor		
10 - 11	608M	25
	608M	20
	608M	14
12 - 21	507L	25
	507L	20
	507L	14
22 - 27	415K	25
	415K	20
	415K	14
28 - 39	407S	25
	407S	20
	407S	14
40 - 69	315J	25
	315J	20
	315J	14
70 - 80	307H	25
	307H	20
	307H	14
81 - 100	307H	14
101 - 109	307H	5
110 - 279	215G	5
280 - 400	207F	5
50 HP (37 kW) Motor		
10 - 15	608M	25
	608M	20

OUTPUT SPEED RPM	REDUCER SIZE	NOMINAL RATIO†
50 HP (37 kW) Motor (cont.)		
	608M	14
16 - 25	507L	25
	507L	20
	507L	14
26 - 33	415K	25
	415K	20
	415K	14
34 - 51	407S	25
	407S	20
	407S	14
52 - 74	315J	25
	315J	20
	315J	14
75 - 84	315J	14
85 - 100	307H	14
101 - 162	307H	5
163 - 369	215G	5
370 - 400	207F	5
60 HP (45 kW) Motor		
10 - 17	608M	25
	608M	20
	608M	14
18 - 31	507L	25
	507L	20
	507L	14
32 - 44	415K	25
	415K	20
	415K	14
45 - 65	407S	25
	407S	20
	407S	14
66 - 74	315J	25
	315J	20
	315J	14
75 - 100	315J	14
101 - 119	315J	5
120 - 219	307H	5
220 - 400	215G	5
75 HP (55 kW) Motor		
13 - 23	608M	25
	608M	20
	608M	14
24 - 41	507L	25
	507L	20
	507L	14
42 - 57	415K	25
	415K	20
	415K	14
58 - 78	407S	25
	407S	20
	407S	14
79 - 84	407S	14
85 - 100	315J	14
101 - 179	315J	5
180 - 309	307H	5
310 - 400	215G	5
100 HP (75 kW) Motor		
17 - 30	608M	25
	608M	20
	608M	14
31 - 61	507L	25
	507L	20
	507L	14

OUTPUT SPEED RPM	REDUCER SIZE	NOMINAL RATIO†
100 HP (75 kW) Motor (cont.)		
62 - 74	415K	25
	415K	20
	415K	14
75 - 80	415K	14
81 - 100	407S	14
101 - 139	407S	5
140 - 272	315J	5
273 - 380	307H	5
381 - 400	307H	5*
125 HP (90 kW) Motor		
21 - 39	608M	25
	608M	20
	608M	14
40 - 58	507L	25
	507L	20
	507L	14
59 - 79	507L	14
80 - 100	415K	14
101 - 119	415K	5
120 - 199	407S	5
200 - 370	315J	5
371 - 400	315J	5*
150 HP (110 kW) Motor		
26 - 48	608M	25
	608M	20
	608M	14
49 - 58	507L	25
	507L	20
	507L	14
59 - 100	507L	14
101 - 168	415K	5
169 - 269	407S	5
270 - 295	315J	5*
200 HP Motor		
36 - 54	608M	25
	608M	20
	608M	14
55 - 68	608M	14
69 - 78	507L	14
79 - 82	507L	14*
170 - 250	415K	5
251 - 257	415K	5*
258 - 280	407S	5
281 - 320	407S	5*
321 - 370	415K	5*
250 HP Motor		
47 - 54	608M	25
	608M	20
	608M	14
55 - 78	608M	14
79 - 95	608M	14*
239 - 250	415K	5
251 - 270	415K	5*
300 HP Motor		
58 - 78	608M	14
79 - 83	608M	14*

Notes: †Consult factory for delivery on units with 20:1 ratio.
*Indicates that power is constrained by thermal limitations. Please consult factory for ratings with cooling fans.

CLASS II Speed Reducer Size Selection Tables

OUTPUT SPEED RPM	REDUCER SIZE	NOMINAL RATIO†
1/4 HP (.18 kW) Motor		
10 - 100	107C	25
	107C	20
	107C	14
101 - 400	107C	5
1/3 HP (.25 kW) Motor		
10 - 100	107C	25
	107C	20
	107C	14
101 - 400	107C	5
1/2 HP (.37 kW) Motor		
10 - 100	107C	25
	107C	20
	107C	14
101 - 400	107C	5
3/4 HP (.55 kW) Motor		
10 - 13	115D	25
	115D	20
	115D	14
14 - 100	107C	25
	107C	20
	107C	14
101 - 400	107C	5
1 HP (.75 kW) Motor		
10 - 11	203E	25
	203E	20
	203E	14
12 - 19	115D	25
	115D	20
	115D	14
20 - 100	107C	25
	107C	20
	107C	14
101 - 400	107C	5
1 1/2 HP (1.1 kW) Motor		
10 - 11	207F	25
	207F	20
	207F	14
12 - 17	203E	25
	203E	20
	203E	14
18 - 27	115D	25
	115D	20
	115D	14
28 - 100	107C	25
	107C	20
	107C	14
101 - 400	107C	5
2 HP (1.5 kW) Motor		
10 - 11	215G	25
	215G	20
	215G	14
12 - 15	207F	25
	207F	20
	207F	14
16 - 23	203E	25
	203E	20
	203E	14
24 - 37	115D	25
	115D	20
	115D	14
38 - 100	107C	25
	107C	20
	107C	14
101 - 400	107C	5

OUTPUT SPEED RPM	REDUCER SIZE	NOMINAL RATIO†
3 HP (2.2 kW) Motor		
10 - 15	215G	25
	215G	20
	215G	14
16 - 21	207F	25
	207F	20
	207F	14
22 - 33	203E	25
	203E	20
	203E	14
34 - 65	115D	25
	115D	20
	115D	14
66 - 100	107C	25
	107C	20
	107C	14
101 - 400	107C	5
5 HP (3.7 kW) Motor		
10 - 11	315J	25
	315J	20
	315J	14
12 - 15	307H	25
	307H	20
	307H	14
16 - 25	215G	25
	215G	20
	215G	14
26 - 37	207F	25
	207F	20
	207F	14
38 - 69	203E	25
	203E	20
	203E	14
70 - 100	115D	25
	115D	20
	115D	14
101 - 129	115D	5
140 - 400	107C	5
7 1/2 HP (5.5 kW) Motor		
10 - 11	407S	25
	407S	20
	407S	14
12 - 15	315J	25
	315J	20
	315J	14
16 - 21	307H	25
	307H	20
	307H	14
22 - 39	215G	25
	215G	20
	215G	14
40 - 65	207F	25
	207F	20
	207F	14
66 - 100	203E	25
	203E	20
	203E	14
101 - 119	203E	5
120 - 249	115D	5
250 - 400	107C	5
10 HP (7.5 kW) Motor		
10 - 11	415K	25
	415K	20
	415K	14
12 - 13	407S	25
	407S	20
	407S	14

OUTPUT SPEED RPM	REDUCER SIZE	NOMINAL RATIO†
10 HP (7.5 kW) Motor (cont.)		
14 - 21	315J	25
	315J	20
	315J	14
22 - 29	307H	25
	307H	20
	307H	14
30 - 57	215G	25
	215G	20
	215G	14
58 - 89	207F	25
	207F	20
	207F	14
90 - 100	203E	25
	203E	20
	203E	14
101 - 199	203E	5
200 - 369	115D	5
370 - 400	107C	5
15 HP (11 kW) Motor		
10 - 11	507L	25
	507L	14
12 - 15	415K	25
	415K	20
	415K	14
16 - 19	407S	25
	407S	20
	407S	14
20 - 29	315J	25
	315J	20
	315J	14
30 - 45	307H	25
	307H	20
	307H	14
46 - 85	215G	25
	215G	20
	215G	14
86 - 89	215G	14
90 - 100	207F	25
	207F	20
	207F	14
101 - 189	207F	5
190 - 349	203E	5
350 - 400	115D	5
20 HP (15 kW) Motor		
10 - 14	507L	25
	507L	20
	507L	14
15 - 19	415K	25
	415K	20
	415K	14
20 - 25	407S	25
	407S	20
	407S	14
26 - 41	315J	25
	315J	20
	315J	14
42 - 69	307H	25
	307H	20
	307H	14
70 - 85	215G	25
	215G	20
	215G	14
86 - 100	215G	14
101 - 159	215G	5
160 - 279	207F	5
280 - 400	203E	5

Note: †Consult factory for delivery on units with 20:1 ratio.

OUTPUT SPEED RPM	REDUCER SIZE	NOMINAL RATIO†
25 HP (18.5 kW) Motor		
10 - 19	507L	25
	507L	20
	507L	14
20 - 23	415K	25
	415K	20
	415K	14
24 - 31	407S	25
	407S	20
	407S	14
32 - 57	315J	25
	315J	20
	315J	14
58 - 80	307H	25
	307H	20
	307H	14
81 - 89	307H	14
90 - 100	215G	14
101 - 229	215G	5
230 - 379	207F	5
380 - 400	203E	5
30 HP (22 kW) Motor		
10 - 11	608M	25
	608M	20
	608M	14
12 - 21	507L	25
	507L	20
	507L	14
22 - 29	415K	25
	415K	20
	415K	14
30 - 41	407S	25
	407S	20
	407S	14
42 - 77	315J	25
	315J	20
	315J	14
78 - 80	307H	25
	307H	20
	307H	14
81 - 100	307H	14
101 - 119	307H	5
120 - 289	215G	5
290 - 400	207F	5
40 HP (30 kW) Motor		
10 - 17	608M	25
	608M	20
	608M	14
18 - 29	507L	25
	507L	20
	507L	14
30 - 39	415K	25
	415K	20
	415K	14

OUTPUT SPEED RPM	REDUCER SIZE	NOMINAL RATIO†
40 HP (30 kW) Motor (cont.)		
40 - 61	407S	25
	407S	20
	407S	14
62 - 74	315J	25
	315J	20
	315J	14
75 - 100	315J	14
101 - 109	315J	5
110 - 199	307H	5
200 - 400	215G	5
50 HP (37 kW) Motor		
12 - 21	608M	25
	608M	20
	608M	14
22 - 37	507L	25
	507L	20
	507L	14
38 - 53	415K	25
	415K	20
	415K	14
54 - 78	407S	25
	407S	20
	407S	14
79	407S	14
80 - 100	315J	14
101 - 159	315J	5
160 - 279	307H	5
280 - 400	215G	5
60 HP (45 kW) Motor		
14 - 25	608M	25
	608M	20
	608M	14
26 - 47	507L	25
	507L	20
	507L	14
48 - 69	415K	25
	415K	20
	415K	14
70 - 78	407S	25
	407S	20
	407S	14
79 - 94	407S	14
95 - 100	315J	14
101 - 219	315J	5
220 - 359	307H	5
360 - 390	215G	5
391 - 400	215G	5*
75 HP (55 kW) Motor		
18 - 31	608M	25
	608M	20
	608M	14
32 - 64	507L	25
	507L	20

OUTPUT SPEED RPM	REDUCER SIZE	NOMINAL RATIO†
75 HP (55 kW) Motor (cont.)		
	507L	14
65 - 74	415K	25
	415K	20
	415K	14
75 - 89	415K	14
90 - 100	407S	14
101 - 149	407S	5
150 - 299	315J	5
300 - 360	307H	5
361 - 400	307H	5
100 HP (75 kW) Motor		
24 - 45	608M	25
	608M	20
	608M	14
46 - 58	507L	25
	507L	20
	507L	14
59 - 87	507L	14
88 - 100	415K	14
101 - 149	415K	5
150 - 239	407S	5
240 - 320	315J	5
321 - 400	315J	5*
125 HP (90 kW) Motor		
32 - 54	608M	25
	608M	20
	608M	14
55 - 57	608M	14
58 - 85	507L	14
86 - 100	507L	14*
140 - 209	415K	5
210 - 370	407S	5
371 - 400	407S	5*
150 HP (110 kW) Motor		
38 - 54	608M	25
	608M	20
	608M	14
55 - 73	608M	14
74 - 78	507L	14
79 - 100	507L	14*
190 - 279	415K	5
280 - 300	407S	5
301 - 400	407S	5*
200 HP Motor		
54	608M	25
	608M	20
	608M	14
55 - 85	608M	14
86 - 100	608M	14*
250 HP Motor		
74 - 78	608M	14
79 - 100	608M	14*

Notes: †Consult factory for delivery on units with 20:1 ratio.
*Indicates that power is constrained by thermal limitations. Please consult factory for ratings with cooling fans.

CLASS III Speed Reducer Size Selection Tables

OUTPUT SPEED RPM	REDUCER SIZE	NOMINAL RATIO†
1/4 HP (.18 kW) Motor		
10 - 100	107C	25
	107C	20
	107C	14
101 - 400	107C	5
1/3 HP (.25 kW) Motor		
10 - 100	107C	25
	107C	20
	107C	14
101 - 400	107C	5
1/2 HP (.37 kW) Motor		
10 - 13	115D	25
	115D	20
	115D	14
14 - 100	107C	25
	107C	20
	107C	14
101 - 400	107C	5
3/4 HP (.55 kW) Motor		
10 - 13	203E	25
	203E	20
	203E	14
14 - 19	115D	25
	115D	20
	115D	14
20 - 100	107C	25
	107C	20
	107C	14
101 - 400	107C	5
1 HP (.75 kW) Motor		
10 - 11	207F	25
	207F	20
	207F	14
12 - 17	203E	25
	203E	20
	203E	14
18 - 25	115D	25
	115D	20
	115D	14
26 - 100	107C	25
	107C	20
	107C	14
101 - 400	107C	5
1 1/2 HP (1.1 kW) Motor		
10 - 11	215G	25
	215G	20
	215G	14
12 - 15	207F	25
	207F	20
	207F	14
16 - 25	203E	25
	203E	20
	203E	14
26 - 39	115D	25
	115D	20
	115D	14
40 - 100	107C	25
	107C	20
	107C	14
101 - 400	107C	5
2 HP (1.5 kW) Motor		
10 - 15	215G	25
	215G	20
	215G	14
16 - 21	207F	25
	207F	20
	207F	14

OUTPUT SPEED RPM	REDUCER SIZE	NOMINAL RATIO†
2 HP (1.5 kW) Motor (cont.)		
22 - 33	203E	25
	203E	20
	203E	14
34 - 57	115D	25
	115D	20
	115D	14
58 - 100	107C	25
	107C	20
	107C	14
101 - 400	107C	5
3 HP (2.2 kW) Motor		
10 - 13	307H	25
	307H	20
	307H	14
14 - 21	215G	25
	215G	20
	215G	14
22 - 31	207F	25
	207F	20
	207F	14
32 - 53	203E	25
	203E	20
	203E	14
54 - 94	115D	25
	115D	20
	115D	14
95 - 100	107C	25
	107C	20
	107C	14
101 - 400	107C	5
5 HP (3.7 kW) Motor		
10 - 15	315J	25
	315J	20
	315J	14
16 - 21	307H	25
	307H	20
	307H	14
22 - 37	215G	25
	215G	20
	215G	14
38 - 61	207F	25
	207F	20
	207F	14
62 - 100	203E	25
	203E	20
	203E	14
101 - 109	203E	5
110 - 239	115D	5
240 - 400	107C	5
7 1/2 HP (5.5 kW) Motor		
10 - 11	415K	25
	415K	20
	415K	14
12 - 15	407S	25
	407S	20
	407S	14
16 - 21	315J	25
	315J	20
	315J	14
22 - 31	307H	25
	307H	20
	307H	14
32 - 61	215G	25
	215G	20
	215G	14
62 - 94	207F	25
	207F	20
	207F	14

OUTPUT SPEED RPM	REDUCER SIZE	NOMINAL RATIO†
7 1/2 HP (5.5 kW) Motor (cont.)		
95 - 100	203E	25
	203E	20
	203E	14
101 - 219	203E	5
220 - 400	115D	5
10 HP (7.5 kW) Motor		
10 - 11	507L	25
	507L	14
12 - 15	415K	25
	415K	20
	415K	14
16 - 19	407S	25
	407S	20
	407S	14
20 - 29	315J	25
	315J	20
	315J	14
30 - 45	307H	25
	307H	20
	307H	14
46 - 84	215G	25
	215G	20
	215G	14
85 - 100	207F	25
	207F	20
	207F	14
101 - 169	207F	5
170 - 329	203E	5
330 - 400	115D	5
15 HP (11 kW) Motor		
10 - 15	507L	25
	507L	20
	507L	14
16 - 21	415K	25
	415K	20
	415K	14
22 - 27	407S	25
	407S	20
	407S	14
28 - 45	315J	25
	315J	20
	315J	14
46 - 77	307H	25
	307H	20
	307H	14
78 - 85	215G	25
	215G	20
	215G	14
86 - 100	215G	14
101 - 179	215G	5
180 - 309	207F	5
310 - 400	203E	5
20 HP (15 kW) Motor		
10 - 11	608M	25
	608M	20
	608M	14
12 - 21	507L	25
	507L	20
	507L	14
22 - 27	415K	25
	415K	20
	415K	14
28 - 39	407S	25
	407S	20
	407S	14
40 - 69	315J	25
	315J	20
	315J	14

Note: †Consult factory for delivery on units with 20:1 ratio.

OUTPUT SPEED RPM	REDUCER SIZE	NOMINAL RATIO†
20 HP (15 kW) Motor (cont.)		
70 - 80	307H	25
	307H	20
	307H	14
81 - 100	307H	14
101 - 109	307H	5
110 - 269	215G	5
270 - 400	207F	5
25 HP (18.5 kW) Motor		
10 - 15	608M	25
	608M	20
	608M	14
16 - 25	507L	25
	507L	20
	507L	14
26 - 33	415K	25
	415K	20
	415K	14
34 - 51	407S	25
	407S	20
	407S	14
52 - 77	315J	25
	315J	20
	315J	14
78 - 84	315J	14
85 - 100	307H	14
101 - 169	307H	5
170 - 369	215G	5
370 - 400	207F	5
30 HP (22 kW) Motor		
10 - 17	608M	25
	608M	20
	608M	14
18 - 31	507L	25
	507L	20
	507L	14
32 - 45	415K	25
	415K	20
	415K	14
46 - 69	407S	25
	407S	20
	407S	14
70 - 74	315J	25
	315J	20
	315J	14
75 - 100	315J	14
101 - 119	315J	5

OUTPUT SPEED RPM	REDUCER SIZE	NOMINAL RATIO†
30 HP (22 kW) Motor (cont.)		
120 - 219	307H	5
220 - 400	215G	5
40 HP (30 kW) Motor		
14 - 23	608M	25
	608M	20
	608M	14
24 - 44	507L	25
	507L	20
	507L	14
45 - 65	415K	25
	415K	20
	415K	14
66 - 78	407S	25
	407S	20
	407S	14
79 - 89	407S	14
90 - 100	315J	14
101 - 199	315J	5
200 - 329	307H	5
330 - 400	215G	5
50 HP (37 kW) Motor		
18 - 31	608M	25
	608M	20
	608M	14
32 - 59	507L	25
	507L	20
	507L	14
60 - 74	415K	25
	415K	20
	415K	14
75 - 84	415K	14
85 - 100	407S	14
101 - 149	407S	5
140 - 279	315J	5
280 - 400	307H	5
60 HP (45 kW) Motor		
22 - 37	608M	25
	608M	20
	608M	14
38 - 77	507L	25
	507L	20
	507L	14

OUTPUT SPEED RPM	REDUCER SIZE	NOMINAL RATIO†
60 HP (45 kW) Motor (cont.)		
78 - 100	415K	14
101 - 109	415K	5
110 - 189	407S	5
190 - 390	315J	5
391 - 400	315J	5*
75 HP (55 kW) Motor		
26 - 49	608M	25
	608M	20
	608M	14
50 - 58	507L	25
	507L	20
	507L	14
59 - 94	507L	14
95	415K	14
96 - 100	415K	14*
101 - 169	415K	5
170 - 269	407S	5
270 - 290	315J	5
291 - 400	315J	5*
100 HP (75 kW) Motor		
38 - 54	608M	25
	608M	20
	608M	14
55 - 69	608M	14
70 - 80	507L	14
81 - 100	507L	14*
170 - 259	415K	5
260 - 320	407S	5
321 - 400	407S	5*
125 HP (90 kW) Motor		
50 - 54	608M	25
	608M	20
	608M	14
55 - 95	608M	14
96 - 100	608M	14*
240 - 250	415K	5
251 - 400	415K	5*
150 HP (110 kW) Motor		
58 - 80	608M	14
81 - 100	608M	14*

Notes: †Consult factory for delivery on units with 20:1 ratio.
*Indicates that power is constrained by thermal limitations. Please consult factory for ratings with cooling fans.

Power Rating (Input HP)

5:1 Single Reduction Units

Output RPM	107C	115D	203E	207F	215G	307H	315J	407S	415K
100	6.20	9.7	15.2	22.3	38.6	55.4	85.2	115.9	152.5
110	6.49	10.2	15.9	23.4	40.4	58.1	89.2	121.2	159.6
120	6.77	10.6	16.7	24.4	42.2	60.6	93.2	126.7	166.7
130	7.07	11.1	17.4	25.4	44.0	63.2	97.1	132.1	173.9
140	7.36	11.5	18.1	26.5	45.8	65.8	101.1	137.5	181.0
150	7.64	12.0	18.8	27.5	47.6	68.4	105.1	142.8	188.1
160	7.94	12.4	19.5	28.6	49.4	70.9	109.0	148.3	195.2
170	8.22	12.9	20.2	29.6	51.2	73.6	113.0	153.7	202.4
180	8.52	13.3	20.9	30.7	53.0	76.2	117.1	159.0	209.5
190	8.81	13.8	21.6	31.7	54.8	78.7	121.0	164.5	216.6
200	9.09	14.2	22.3	32.7	56.6	81.3	125.0	169.9	223.7
210	9.39	14.7	23.1	33.8	58.4	83.9	129.0	175.3	230.8
220	9.67	15.1	23.8	34.8	60.2	86.5	132.9	180.8	237.9
230	9.96	15.6	24.5	35.9	62.0	89.0	136.9	186.1	245.0
240	10.2	16.1	25.2	36.9	63.8	91.7	140.8	191.5	252.1
250	10.5	16.5	25.9	37.9	65.6	94.3	144.8	197.0	259.2
260	10.8	17.0	26.6	39.0	67.5	96.8	148.9	202.4	**262.2**
270	11.1	17.4	27.3	40.0	69.2	99.4	152.7	207.7	**253.4**
280	11.4	17.9	28.0	41.1	71.1	102.1	**155.4**	213.2	**246.7**
290	11.7	18.3	28.7	42.1	72.9	104.6	**152.2**	**214.8**	**241.8**
300	12.0	18.8	29.4	43.2	74.7	107.1	**149.9**	**211.7**	**238.2**
310	12.3	19.2	30.2	44.2	76.5	109.8	**143.4**	**202.4**	**227.7**
320	12.6	19.7	30.9	45.2	78.3	112.4	**142.1**	**200.6**	**225.7**
330	12.9	20.1	31.6	46.3	80.1	**112.2**	**136.2**	**192.3**	**216.3**
340	13.1	20.6	32.3	47.3	81.9	**111.8**	**136.2**	**191.9**	**215.8**
350	13.4	21.0	33.0	48.4	83.7	**107.5**	**130.9**	**184.8**	**207.9**
360	13.7	21.5	33.7	49.4	85.5	**107.8**	**130.9**	**184.8**	**207.9**
370	14.0	21.9	34.4	50.4	87.3	**103.8**	**126.1**	**178.0**	**200.2**
380	14.3	22.4	35.1	51.5	**85.8**	**100.0**	**122.4**	**171.5**	**194.4**
390	14.6	22.9	35.8	52.5	**86.5**	**100.8**	**122.4**	**172.9**	**194.4**
400	14.9	23.3	36.6	53.6	**83.5**	**97.4**	**118.3**	**167.0**	**187.9**
Torque at 100 RPM (ft*lb)	326	510	800	1172	2028	2913	4476	6085	8012

Note: [1] Those power ratings highlighted in bold indicate that the power is constrained by thermal limitations. Please consult factory for ratings with cooling fans.

Power Rating (Input HP)

14:1, 20:1, and 25:1 Double Reduction Units

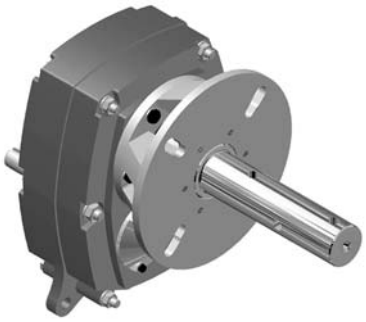
Output RPM	107C	115D	203E	207F	215G	307H	315J	407S	415K	507L	608M
10	0.72	1.14	1.80	2.63	4.55	6.52	10.1	13.7	18.0	35.4	61.8
12	0.90	1.39	2.20	3.22	5.58	8.01	12.3	16.8	22.0	42.1	73.6
14	1.06	1.66	2.60	3.81	6.60	9.48	14.6	19.8	26.0	48.7	85.2
16	1.22	1.92	3.00	4.41	7.63	11.0	16.9	22.9	30.2	55.4	96.7
18	1.39	2.17	3.42	5.00	8.66	12.4	19.0	26.0	34.2	61.8	108.0
20	1.56	2.44	3.82	5.61	9.68	13.9	21.3	29.1	38.2	68.4	119.2
22	1.72	2.70	4.22	6.20	10.7	15.4	23.6	32.2	42.4	74.7	130.2
24	1.89	2.95	4.64	6.79	11.7	16.9	25.9	35.3	46.4	81.0	141.2
26	2.05	3.20	5.04	7.39	12.8	18.3	28.2	38.4	50.4	87.3	151.5
28	2.21	3.47	5.44	7.98	13.8	19.8	30.4	41.4	54.6	93.5	161.7
30	2.39	3.73	5.85	8.57	14.8	21.3	32.7	44.5	58.6	99.8	171.6
32	2.55	3.98	6.26	9.17	15.9	22.8	35.0	47.6	62.6	105.7	181.3
34	2.71	4.25	6.66	9.76	16.9	24.2	37.3	50.7	66.6	111.8	191.1
38	2.88	4.51	7.07	10.4	17.9	25.7	39.6	53.8	70.8	124.0	210.5
40	3.04	4.76	7.47	11.0	18.9	27.2	41.8	56.9	74.8	129.8	220.2
42	3.20	5.02	7.89	11.5	20.0	28.7	44.1	59.9	78.9	135.6	230.0
46	3.37	5.28	8.29	12.1	21.0	30.2	46.4	63.0	83.0	146.7	249.4
50	3.54	5.54	8.69	12.7	22.0	31.6	48.7	66.1	87.0	157.6	267.1
52	3.70	5.79	9.09	13.3	23.1	33.1	50.8	69.2	91.1	162.0	276.9
54	3.86	6.06	9.51	13.9	24.1	34.6	53.1	72.3	95.2	168.4	286.6
58	4.04	6.32	9.91	14.5	25.1	36.1	55.4	75.4	99.2	178.1	302.8
62	4.20	6.57	10.3	15.1	26.1	37.5	57.7	78.4	103.3	187.9	319.0
66	4.36	6.83	10.7	15.7	27.2	39.0	59.9	81.5	107.3	197.5	333.5
70	4.53	7.09	11.1	16.3	28.2	40.5	62.2	84.6	111.4	207.3	348.1
74	4.69	7.35	11.5	16.9	29.2	42.0	64.5	87.7	115.5	210.5	362.7
78	4.99	7.82	12.3	18.0	31.1	44.7	68.7	93.3	122.8	225.0	375.6
80	5.30	8.29	13.0	19.1	33.0	47.4	72.8	99.0	130.3	**207.7**	**330.6**
85	5.59	8.77	13.8	20.2	34.9	50.1	77.0	104.6	137.7	**187.9**	**298.1**
90	5.90	9.24	14.5	21.2	36.7	52.8	81.1	110.2	145.1	**168.0**	**265.5**
95	6.20	9.71	15.2	22.3	38.6	55.5	85.2	115.9	**152.3**	**159.2**	**250.5**
100	6.20	9.71	15.2	22.3	38.6	55.5	**81.7**	115.9	**142.8**	**150.3**	**235.5**
Torque at 10 RPM (ft*lb)	383	600	941	1379	2386	3426	5266	7159	9425	18627	32492

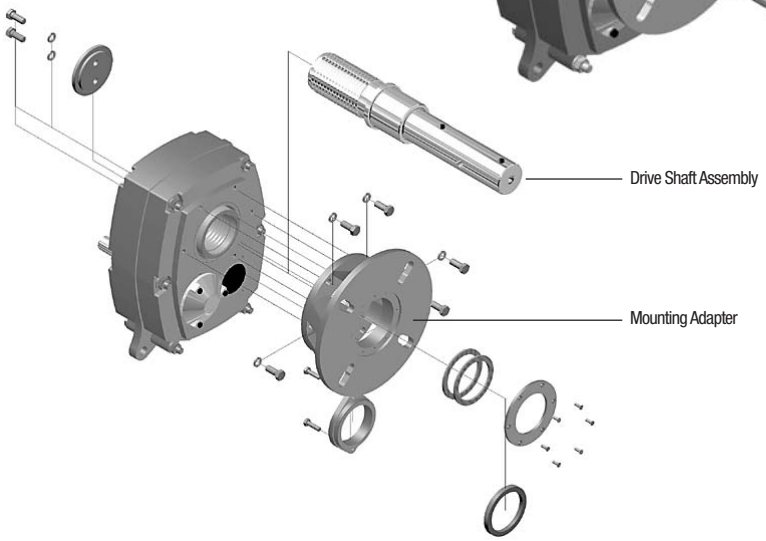
Notes:

[1] Those power ratings highlighted in bold indicate that the power is constrained by thermal limitations. Please consult factory for ratings with cooling fans.

[2] Those power ratings in shaded cells indicate the limit of recommended output speed for 20:1 and 25:1 reducers.

CEMA Screw Conveyor Drive





Use the Selection Table below to select a Screw Conveyor Drive Shaft Assembly and Mounting Adapter.

1. Based on the **Reducer Size**, **Screw Conveyor Diameter**, and preferred **Drive Shaft Diameter**, find the **Drive Shaft Assembly** part number.

2. Specify the corresponding **Mounting Adapter** part number.

3. **Optional:** For **Top Mount** motor applications, select a **Motor bracket** part number and (optional) **Belt Guard** part number based on the Reducer Size and NEMA Motor Frame size.

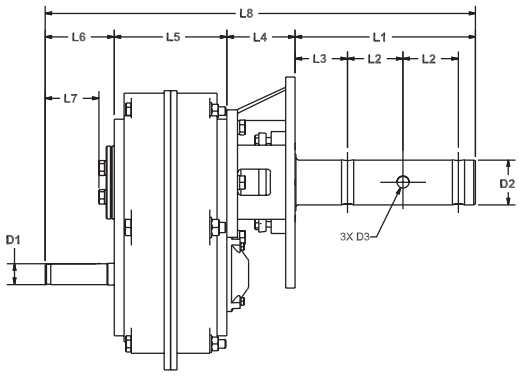
Selection Table

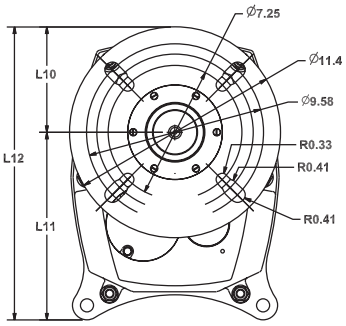
Drive Shaft Assembly and Mounting Adapter

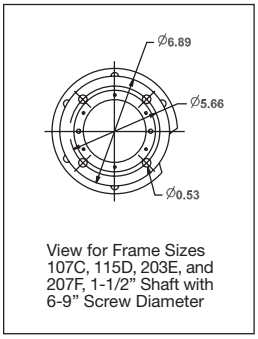
Optional Top Mount Motor Parts

Reducer Size	Screw Conveyor Diameter (inches)	Drive Shaft Diameter (inches)	PART NO. Drive Shaft Assembly	PART NO. Mounting Adapter	NEMA Motor Frame Range	PART NO. Top Mount	PART NO. Top Mount Belt Guard (Optional)	PART NO. Side Mount Belt Guard (Optional)
107C	6 - 9[1]	1-1/2"	**116C4108-C3**	**116C4041**	56~184T	**116C0220-X**	**116C6061-X**	**116C6161-X**
	9 - 12 12 - 14 12 - 20	2" 2-7/16" 3"	**116C4200-C3** **116C4207-C3** **116C4300-C3**	**116C4040**				
115D	6 - 9[1]	1-1/2"	**116D4108-C3**	**116D4041**	56~215T	**116D0220-X**	**116D6061-X**	**116D6161-X**
	9 - 12 12 - 14 12 - 20	2" 2-7/16" 3"	**116D4200-C3** **116D4207-C3** **116D4300-C3**	**116D4040**				
203E	6 - 9[1]	1-1/12"	**116E4108-C3**	**116E4041**	56~215T	**116E0220-X**	**116E6061-X**	**116E6161-X**
	9 - 12 12 - 14 12 - 20	2" 2-7/16" 3"	**116E4200-C3** **116E4207-C3** **116E4300-C3**	**116E4040**				
207F	6 - 9[1]	1-1/2"	**116F4108-C3**	**116F4041**	56~215T	**116F0220-X**	**116F6061-X**	**116F6161-X**
	9 - 12 12 - 14 12 - 20	2" 2-7/16" 3"	**116F4200-C3** **116F4207-C3** **116F4300-C3**	**116F4040**				
215G	9 - 12 12 - 14 12 - 20 18 - 24	2" 2-7/16" 3" 3-7/16"	**116G4200-C3** **116G4207-C3** **116G4300-C3** **116G4307-C3**	**116G4040**	143T~286T	**116G0220-X**	**116G6061-X**	**116G6161-X**
307H	9 - 12 12 - 14 12 - 20 18 - 24	2" 2-7/16" 3" 3-7/16"	**116H4200-C3** **116H4207-C3** **116H4300-C3** **116H4307-C3**	**116H4040**	143T~286T	**116H0220-X**	**116H6061-X**	**116H6161-X**
315J	12 - 14 12 - 20 18 - 24	2-7/16" 3" 3-7/16"	**116J4207-C3** **116J4300-C3** **116J4307-C3**	**116J4040**	143T~326T	**116J0220-X**	**116J6061-X**	**116J6161-X**
407S	12 - 14 12 - 20 18 - 24	2-7/16" 3" 3-7/16"	**116S4207-C3** **116S4300-C3** **116S4307-C3**	**116S4040**	143T~326T	**116S0220-X**	**116S6061-X**	**116S6161-X**

Note: [1] See view on page 21 for Frame Sizes 107C, 115D, 203E, and 207F, 1-1/2" Shaft with 6-9" Screw Diameter.







View for Frame Sizes 107C, 115D, 203E, and 207F, 1-1/2" Shaft with 6-9" Screw Diameter

Dimensions shown are for reference only and are subject to change without notice, unless certified.

Certified prints are available after receipt of an order; consult factory.

Dimensions (inches)

Unit	107C				115D				203E				207F			
D2	**Ø1-1/2"**	**Ø2"**	**Ø2-7/16"**	**Ø3"**	**Ø1-1/2"**	**Ø2"**	**Ø2-7/16"**	**Ø3"**	**Ø1-1/2"**	**Ø2"**	**Ø2-7/16"**	**Ø3"**	**Ø1-1/2"**	**Ø2"**	**Ø2-7/16"**	**Ø3"**
Screw Dia.	**6-9" [1]**	**9-12"**	**12-14"**	**12-20"**	**6-9" [1]**	**9-12"**	**12-14"**	**12-20"**	**6-9" [1]**	**9-12"**	**12-14"**	**12-20"**	**6-9" [1]**	**9-12"**	**12-14"**	**12-20"**
D1	3/4	3/4	3/4	3/4	15/16	15/16	15/16	15/16	1-1/16	1-1/16"	1-1/16	1-1/16	1-1/8	1-1/8	1-1/8	1-1/8
D3	17/32	21/32	21/32	25/32	17/32	21/32	21/32	25/32	17/32	21/32	21/32	25/32	17/32	21/32	21/32	25/32
D4	6.89	11.42	11.42	11.42	6.89	11.4	11.4	11.4	6.89	11.4	11.4	11.4	11.4	11.4	11.4	11.4
L1	9.00	9.00	9.69	9.88	9.00	9.00	9.69	9.88	9.00	9.00	9.69	9.88	9.00	9.00	9.69	9.88
L2	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
L3	2.13	2.13	2.76	2.87	2.13	2.13	2.76	2.87	2.13	2.13	2.76	2.87	2.13	2.13	2.76	2.87
L4	3.22	3.22	3.22	3.22	3.22	3.22	3.22	3.22	3.56	3.56	3.56	3.56	3.69	3.69	3.69	3.69
L5	4.65	4.65	4.65	4.65	5.00	5.00	5.00	5.00	5.31	5.31	5.31	5.31	6.10	6.10	6.10	6.10
L6	2.87	2.87	2.87	2.87	3.23	3.23	3.23	3.23	3.43	3.43	3.43	3.43	3.74	3.74	3.74	3.74
L7	1.41	1.41	1.41	1.41	2.48	2.48	2.48	2.48	2.60	2.60	2.60	2.60	2.91	2.91	2.91	2.91
L8	19.74	19.74	20.43	20.61	20.4	20.4	21.1	21.3	21.3	21.3	22.0	22.2	22.5	22.5	23.2	23.4
L10	3.50	5.71	5.71	5.71	3.50	5.71	5.71	5.71	3.50	5.71	5.71	5.71	5.71	5.71	5.71	5.71
L11	6.02	6.02	6.02	6.02	7.28	7.28	7.28	7.28	8.50	8.50	8.50	8.50	10.2	10.2	10.2	10.2
L12	9.52	11.73	11.73	11.73	10.8	13.0	13.0	13.0	12.0	14.2	14.2	14.2	15.9	15.9	15.9	15.9

Unit	215G				307H				315J			407S		
D2	**Ø2"**	**Ø2-7/16"**	**Ø3"**	**Ø3-7/16"**	**Ø2"**	**Ø2-7/16"**	**Ø3"**	**Ø3-7/16"**	**Ø2-7/16"**	**Ø3"**	**Ø3-7/16"**	**Ø2-7/16"**	**Ø3"**	**Ø3-7/16"**
Screw Dia.	**9-12"**	**12-14"**	**12-20"**	**18-24"**	**9-12"**	**12-14"**	**12-20"**	**18-24"**	**12-14"**	**12-20"**	**18-24"**	**12-14"**	**12-20"**	**18-24"**
D1	1-5/16	1-5/16	1-5/16	1-5/16	1-11/16	1-11/16	1-11/16	1-11/16	1-7/8	1-7/8	1-7/8	2-3/16	2-3/17	2-3/18
D3	21/32	21/32	25/32	29/32	21/32	21/32	25/32	29/32	21/32	25/32	29/32	21/32	25/32	29/32
D4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4
L1	9.00	9.69	9.88	13.13	9.00	9.69	9.88	13.13	9.69	9.88	13.13	9.69	9.88	13.13
L2	3.00	3.00	3.00	4.00	3.00	3.00	3.00	4.00	3.00	3.00	4.00	3.00	3.00	4.00
L3	2.13	2.76	2.87	3.87	2.13	2.76	2.87	3.87	2.76	2.87	3.87	2.76	2.87	3.87
L4	4.00	4.00	4.00	4.00	4.25	4.25	4.25	4.25	5.49	5.49	5.49	6.31	6.31	6.31
L5	6.85	6.85	6.85	6.85	7.99	7.99	7.99	7.99	8.43	8.43	8.43	8.66	8.66	8.66
L6	3.94	3.94	3.94	3.94	4.53	4.53	4.53	4.53	4.96	4.96	4.96	5.71	5.71	5.71
L7	2.91	2.91	2.91	2.91	3.50	3.50	3.50	3.50	3.74	3.74	3.74	4.49	4.49	4.49
L8	23.8	24.5	24.7	27.9	25.8	26.5	26.6	29.9	28.6	28.8	32.0	30.4	30.6	33.8
L10	5.71	5.71	5.71	5.71	5.71	5.71	5.71	5.71	5.71	5.71	5.71	5.71	5.71	5.71
L11	11.1	11.1	11.1	11.1	12.5	12.5	12.5	12.5	14.8	14.8	14.8	19.1	19.1	19.1
L12	16.8	16.8	16.8	16.8	18.2	18.2	18.2	18.2	20.6	20.6	20.6	24.8	24.8	24.8

Note: [1] See view above for Frame Sizes 107C, 115D, 203E, and 207F, 1-1/2" Shaft with 6-9" Screw Diameter.

Sheave Diameters

Minimum Sheave Diameters

To keep the overhung load imposed by the V-Belt on the input shaft within the capacity of the bearings, the minimum pitch diameter of the sheave mounted on the HSM input shaft must comply with the limitation detailed in the tables below.

Unit Size	Ratio	Output Speed RPM	Min. Input Shaft Sheave Pitch Diameter (in.)
107C	5:1	100-109	5.75
		110-139	5.50
		140-280	5.25
		281-390	5.50
		391-400	5.75
	14:1	10-14	2.50
		15-78	2.75
		79-100	3.00
	20:1	10-26	1.75
		27-50	2.00
		51-85	2.25
		86-100	2.50
	25:1	10-22	1.50
		23-32	1.75
		33-78	2.00
		79-100	2.25
115D	5:1	100-119	7.25
		120-209	7.00
		210-230	6.75
		231-330	7.00
		331-390	7.25
		391-400	7.50
	14:1	10-16	3.25
		17-52	3.50
		53-80	3.75
		81-100	4.00
	20:1	10-16	2.25
		17-30	2.50
		31-52	2.75
		53-80	3.00
		81-100	3.25
	25:1	10-12	1.75
		13-24	2.00
		25-32	2.25
		33-74	2.50
		75-85	2.75
		86-100	3.00
203E	5:1	100-119	8.75
		120-169	8.50
		170-240	8.25
		241-310	8.50
		311-380	8.75
		381-400	9.00
	14:1	10-16	4.00
		17-52	4.25
		53-78	4.50
		79-100	4.75
	20:1	10-24	2.75
		25-30	3.00
		31-52	3.25
		53-78	3.50
		79-100	3.75
	25:1	10-20	2.25
		21-26	2.50
		27-38	2.75
		39-74	3.00
		75-85	3.25
		86-100	3.50

Unit Size	Ratio	Output Speed RPM	Min. Input Shaft Sheave Pitch Diameter (in.)
207F	5:1	100-109	7.00
		110-139	6.75
		140-280	6.50
		281-390	6.75
		391-400	7.00
	14:1	10-50	3.25
		51-78	3.50
		79-85	3.75
		86-100	4.00
	20:1	10-28	2.25
		29-50	2.50
		51-80	2.75
		81-100	3.00
	25:1	10-20	1.75
		21-28	2.00
		29-74	2.25
		75-85	2.50
		86-100	2.75
215G	5:1	100-109	10.00
		110-119	9.75
		120-159	9.50
		160-270	9.25
		271-350	9.50
		351-400	9.75
	14:1	10-14	4.50
		15-52	4.75
		53-78	5.00
		79-85	5.25
		86-100	5.50
	20:1	10-18	3.00
		19-26	3.25
		27-30	3.50
		31-74	3.75
		75-85	4.00
		86-100	4.25
	25:1	10-20	2.50
		21-24	2.75
		25-28	3.00
		29-74	3.25
		75-80	3.50
		81-100	3.75
307H	5:1	100-109	8.50
		110-126	8.25
		127-339	8.00
		340-349	7.75
		350-369	7.00
		370-379	6.75
		380-400	6.50
	14:1	10-12	3.75
		13-52	4.00
		53-78	4.25
		79-100	4.50
	20:1	10-12	2.50
		13-28	2.75
		29-40	3.00
		41-78	3.25
		79-100	3.50
	25:1	10-11	2.00
		12-24	2.25
		25-30	2.50
		31-74	2.75
		75-85	3.00
		86-100	3.25

Unit Size	Ratio	Output Speed RPM	Min. Input Shaft Sheave Pitch Diameter (in.)
315J	5:1	100-109	12.00
		110-119	11.75
		120-159	11.50
		160-259	11.25
		260-289	11.50
		290-299	11.00
		300-309	10.50
		310-319	10.00
		320-329	9.75
		330-349	9.00
		350-359	8.50
		360-369	8.25
		370-379	7.75
		380-400	7.50
	14:1	10-21	5.50
		22-53	5.75
		54-79	6.00
		80-84	6.25
		85-100	6.50
	20:1	10-11	3.50
		12-24	3.75
		25-30	4.00
		31-38	4.25
		39-70	4.50
		71-78	4.75
		79-85	5.00
		86-100	5.25
	25:1	10-20	3.00
		21-24	3.25
		25-28	3.50
		29-38	3.75
		39-74	4.00
		75-78	4.25
		79-90	4.50
		91-100	4.75
407S	5:1	100-109	12.25
		110-119	12.00
		120-139	11.75
		140-299	11.50
		300-309	11.00
		310-319	10.25
		320-329	10.00
		330-339	9.50
		340-349	9.25
		350-359	8.75
		360-369	8.50
		370-379	8.25
		380-400	7.75
	14:1	10-14	5.50
		15-50	5.75
		51-78	6.00
		79-80	6.25
		81-90	6.50
		91-100	6.75

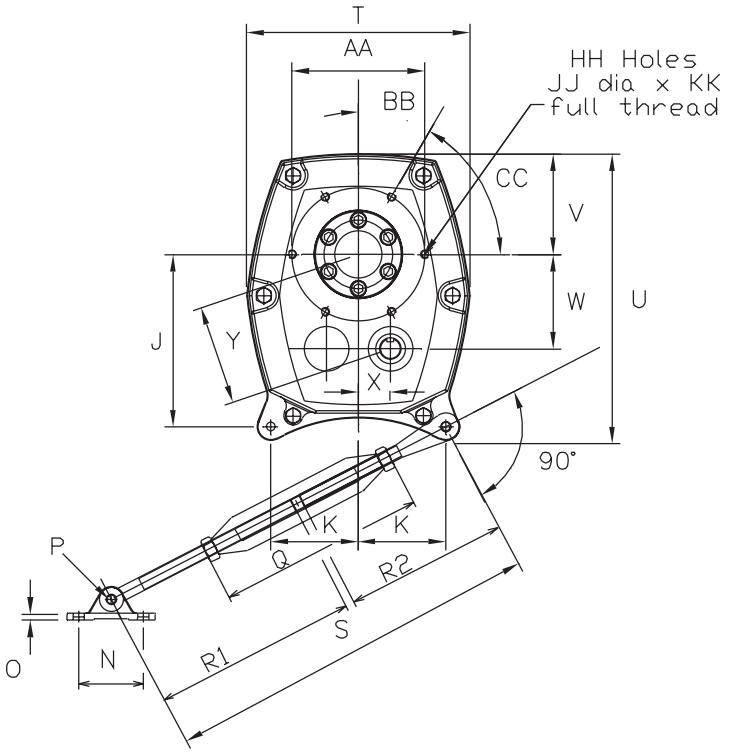
Minimum Sheave Diameters (cont.)

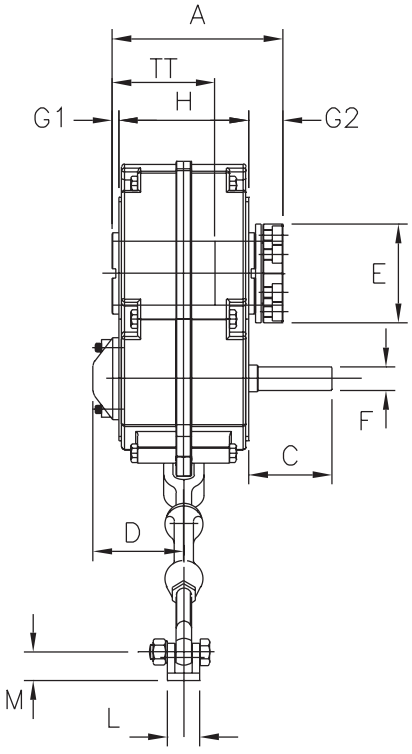
Unit Size	Ratio	Output Speed RPM	Min. Input Shaft Sheave Pitch Diameter (in.)
407S (cont.)	20:1	10-22	3.75
		23-28	4.00
		29-32	4.25
		33-70	4.50
		71-78	4.75
		79-85	5.00
		86-100	5.25
	25:1	10-18	3.00
		19-24	3.25
		25-28	3.50
		29-38	3.75
		39-74	4.00
		75-78	4.25
		79-90	4.50
		91-100	4.75
415K	5:1	100-109	15.75
		110-119	15.50
		120-129	15.25
		130-149	15.00
		150-229	14.75
		230-269	14.50
		270-279	13.50
		280-289	13.00
		290-299	12.50
		300-309	12.00
		310-319	11.25
		320-329	11.00
		330-339	10.25
		340-349	10.00
		350-369	9.50
		370-379	9.00
		380-400	8.50
	14:1	10-14	6.75
		15-26	7.00
		27-37	7.25
		38-40	7.00
		41-45	7.25
		46-50	7.00
		51-74	7.25
		75-78	7.50
		79-80	7.75
		81-100	8.00

Unit Size	Ratio	Output Speed RPM	Min. Input Shaft Sheave Pitch Diameter (in.)
415K (cont.)	20:1	10-12	4.50
		13-24	4.75
		25-28	5.00
		29-32	5.25
		33-50	5.50
		51-78	5.75
		79-80	6.00
		81-90	6.25
		91-100	6.50
	25:1	10-20	4.00
		21-24	4.25
		25-28	4.50
		29-32	4.75
		33-52	5.00
		53-78	5.25
		79-80	5.50
		81-90	5.75
		91-100	6.00
507L	14:1	10-15	9.25
		16-25	9.00
		26-46	8.75
		47-52	9.00
		53-66	9.25
		67-79	9.50
		80-84	8.75
		85-89	7.50
		90-94	6.50
		95-100	6.00
	20:1	10-21	6.25
		22-26	6.00
		27-32	6.25
		33-38	6.50
		39-46	6.75
		47-58	7.00
		59-79	7.25
		80-84	6.50
		85-89	5.75
		90-100	4.75
	25:1	10-24	5.00
		25-30	5.25
		31-34	5.50
		35-46	5.75
		47-79	6.00
		80-84	5.25
		85-89	4.50
		90-94	4.00
		95-100	3.50

Unit Size	Ratio	Output Speed RPM	Min. Input Shaft Sheave Pitch Diameter (in.)
608M	14:1	10-11	17.50
		12-15	17.25
		16-19	17.00
		20-23	16.75
		24-27	16.50
		28-31	16.25
		32-37	16.00
		38-42	15.75
		43-46	16.00
		47-50	16.25
		51-52	16.50
		53-54	16.75
		55-70	17.00
		71-79	17.25
		80-84	15.00
		85-89	12.75
		90-94	11.00
		95-100	10.00
	20:1	10-17	11.50
		18-23	11.25
		24-28	11.00
		29-30	11.25
		31-34	11.50
		35-42	12.00
		43-50	12.50
		51-62	12.75
		63-79	13.00
		80-84	11.00
		85-89	9.50
		90-94	8.00
		95-100	7.25
	25:1	10-13	10.00
		14-24	9.75
		25-28	10.00
		29-32	10.25
		33-34	10.50
		35-40	10.75
		41-42	11.00
		43-52	11.25
		53-77	11.50
		78-79	11.25
		80-84	9.75
		85-89	8.25
		90-94	7.00
		95-100	6.50

Dimensions – Unit Sizes 107 ~ 307





Dimensions – Unit Sizes 107 ~ 307

DIMENSION	UNIT SIZE					
	107C	115D	203E	207F	215G	307H
A	6.38	6.69	7.24	7.91	9.09	10.28
B	Refer to Bore Size table on page 7					
C	2.87	3.23	3.43	3.74	3.94	4.53
D [1]	3.23	3.66	3.74	4.25	4.49	5.00
E	3.23	3.62	4.09	4.49	5.43	5.98
F (key)	Ø3/4 (3/16 x 3/16)	Ø15/16 (1/4 x 1/4)	Ø1-1/16 (1/4 x 1/4)	Ø1-1/8 (1/4 x 1/4)	Ø1-5/16 (5/16 x 5/16)	Ø1-11/16 (3/8 x 3/8)
G1	0.16	0.16	0.16	0.28	0.28	0.28
G2	1.46	1.42	1.65	1.54	1.97	2.01
H	4.65	5.00	5.31	6.10	6.85	7.99
J	5.45	6.65	7.91	9.35	10.28	11.57
K	3.01	3.31	4.02	4.76	5.24	5.98
L	0.94	1.34	1.34	1.65	1.65	2.76
M	0.79	0.94	0.94	1.26	1.26	1.97
N	2.56	2.95	2.95	3.94	3.94	4.72
O	0.20	0.31	0.31	0.47	0.47	0.71
P	0.39	0.51	0.51	0.67	0.67	0.63
Q	7.87	8.50	8.50	8.50	8.50	8.74
R1	11.8	13.8	13.8	14.8	14.8	14.8
R2	6.57	7.44	7.44	9.69	9.69	10.4
S Min.	18.4	21.2	21.2	24.4	24.4	25.1
S Max.	24.3	27.1	27.1	30.4	30.4	31.0
T	7.32	8.58	10.16	10.9	12.5	14.4
U	9.21	11.10	12.99	15.2	16.6	18.8
V	3.19	3.78	4.61	5.08	5.63	6.38
W	2.95	3.54	4.33	4.94	5.55	6.14
X	1.00	1.22	1.46	1.71	1.96	2.20
Y	3.11	3.74	4.57	5.24	5.88	6.54
AA	4.72	5.31	6.10	6.89	8.35	10.04
BB	45°	45°	30°	30°	30°	0°
CC	90°	90°	60°	60°	60°	60°
HH	4	4	6	6	6	5
JJ	M10	M10	M10	M12	M16	M20
KK	0.59	0.59	0.59	0.71	0.83	0.98
TT	2.9	3.2	3.6	3.8	4.4	4.9
Single Red. Wt. (lbs)	30.9	48.5	68.4	99.2	141.1	220.5
Double Red. Wt. (lbs)	33.1	52.9	75.0	108.0	152.1	238.1

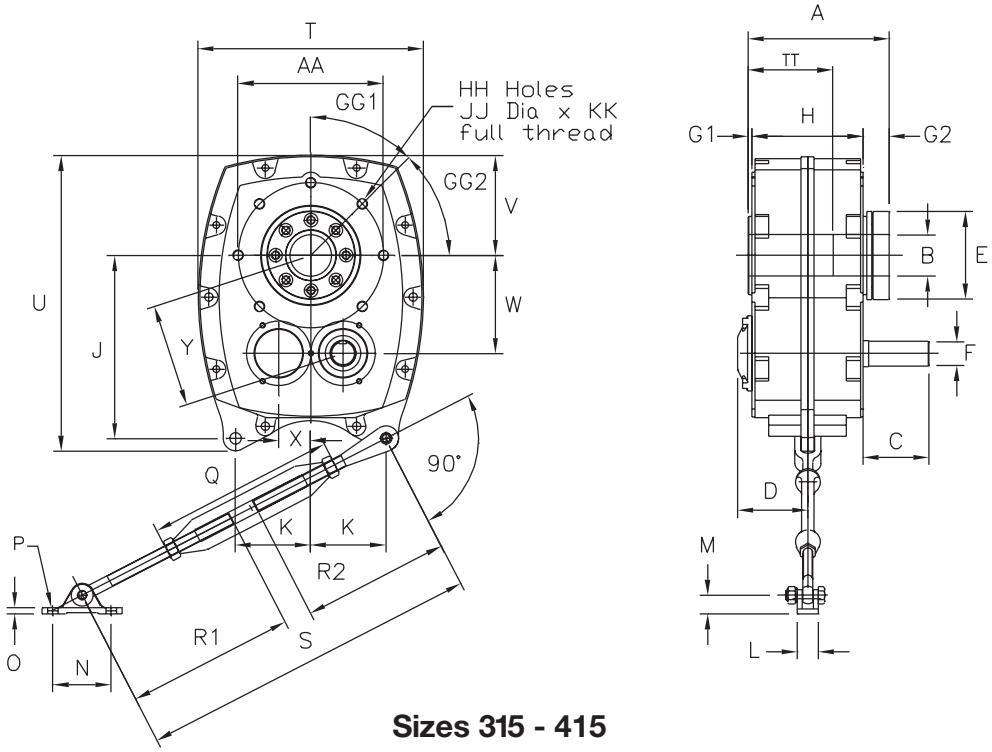
Note: [1] Dimension D is increased by 0.28 inches when a backstop is fitted.

Exact Ratio

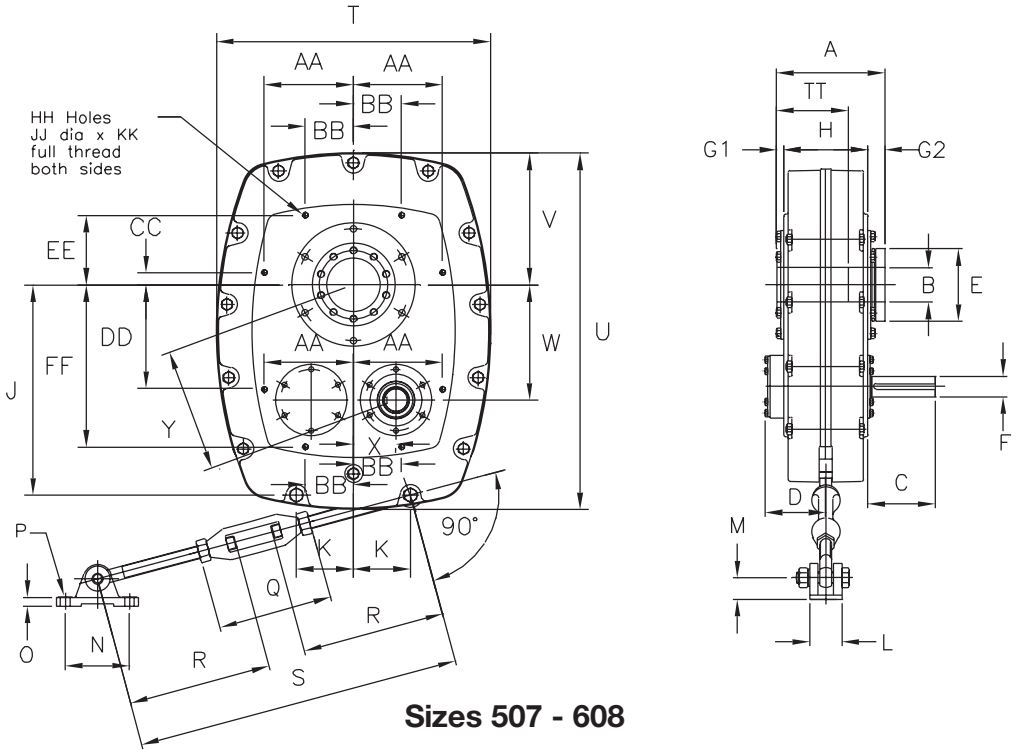
Nominal Ratio	Unit Size					
	107C	115D	203E	207F	215G	307H
5:1	4.941	5.050	5.047	5.047	5.047	5.047
14:1	13.410	13.596	13.587	13.587	13.395	13.587
20:1	20.421	20.466	20.455	20.455	20.455	20.455
25:1	23.544	25.250	25.235	25.235	25.235	25.235

Dimensions shown are for reference only and are subject to change without notice, unless certified.
Certified prints are available after receipt of an order; consult factory.

Dimensions – Unit Sizes 315 ~ 608



Sizes 315 - 415



Sizes 507 - 608

Dimensions – Unit Sizes 315 ~ 608

DIMENSION	UNIT SIZE 315J	407S	415K	507L	608M
A	10.7	10.9	11.4	14.0	16.0
B	Refer to Bore Size table on page 7				
C	4.96	5.71	7.09	8.50	9.49
D [1]	5.24	5.28	5.55	7.99	8.86
E	6.69	7.32	8.15	9.37	10.9
F (key)	Ø1-7/8 (1/2 x 1/2)	Ø2-3/16 (1/2 x 1/2)	Ø2-7/16 (5/8 x 5/8)	Ø2-9/16 (5/8 x 5/8)	Ø3-3/8 (7/8 x 7/8)
G1	0.26	0.28	0.30	0.87	0.87
G2	1.97	2.01	2.32	2.17	2.17
H	8.46	8.66	8.82	10.6	12.5
J	13.9	18.0	20.4	23.2	26.7
K	5.71	6.18	6.30	6.30	7.48
L	2.76	2.76	2.76	4.33	4.33
M	1.97	1.97	1.97	2.99	2.99
N	4.72	4.72	4.72	7.09	7.09
O	0.71	0.71	0.71	1.02	1.02
P	0.63	0.63	0.63	M24	M24
Q	8.74	8.74	8.74	10.4	10.4
R	–	–	–	15.7	15.7
R1	14.8	14.8	14.8	–	–
R2	10.4	10.4	10.4	–	–
S Min.	25.1	25.1	25.1	31.5	31.5
S Max.	31.0	31.0	31.0	37.4	37.4
T	17.1	21.3	22.4	30.3	34.6
U	22.4	28.9	32.0	39.4	44.9
V	7.68	10.0	11.1	14.6	16.1
W	7.44	10.0	10.5	12.8	14.7
X	2.44	2.95	3.67	4.69	5.24
Y	7.87	10.5	11.1	13.6	15.6
AA	11.0	11.0	12.60	9.84	12.4
BB	–	–	-	5.31	5.12
CC	–	–	-	1.34	-1.57
DD	–	–	-	11.6	11.0
EE	–	–	-	7.68	8.46
FF	–	–	-	17.9	21.1
GG1	0°	22.5°	22.5°	–	–
GG2	45°	45°	45°	–	–
HH	7	8	8	8	8
JJ	M20	M20	M20	M16	M16
KK	0.94	1.18	0.94	1.06	1.06
TT	5.62	5.12	5.24	6.50	7.40
Single Red. Wt. (lbs)	324	443	567	–	–
Double Red. Wt. (lbs)	342	483	622	1202	1632

Note: [1] Dimension D is increased by 0.28 inches when a backstop is fitted.

Exact Ratio

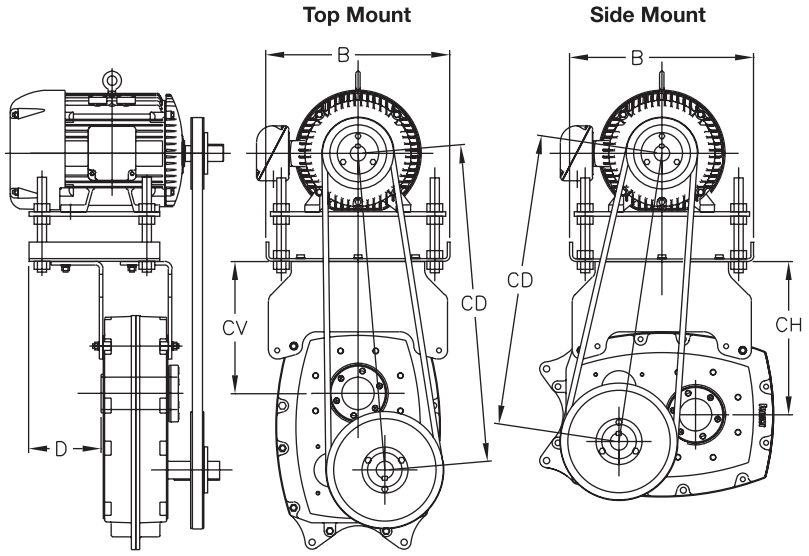
Nominal Ratio	Unit Size 315J	407S	415K	507L	608M
5:1	5.047	5.047	–	–	–
14:1	13.587	13.587	13.270	13.260	12.850
20:1	20.455	20.455	19.970	19.580	19.330
25:1	25.235	25.235	24.000	24.733	22.601

Dimensions shown are for reference only and are subject to change without notice, unless certified.
Certified prints are available after receipt of an order; consult factory.

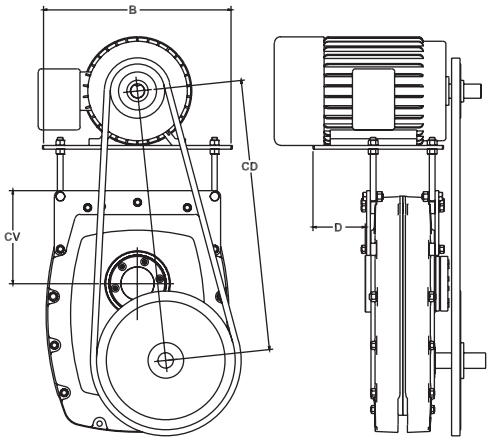
Motor Mounts

The Sumitomo motor mounting assembly provides a rigid baseplate that is designed to accommodate a wide range of motor frame sizes. Each size of motor mount has sufficient adjustment available to insure that a standard belt can be fitted and re-tensioned as required through its working life. Refer to the Belt Guard Dimensions page for additional information.

Sizes 107C – 415K



Sizes 507L – 608M



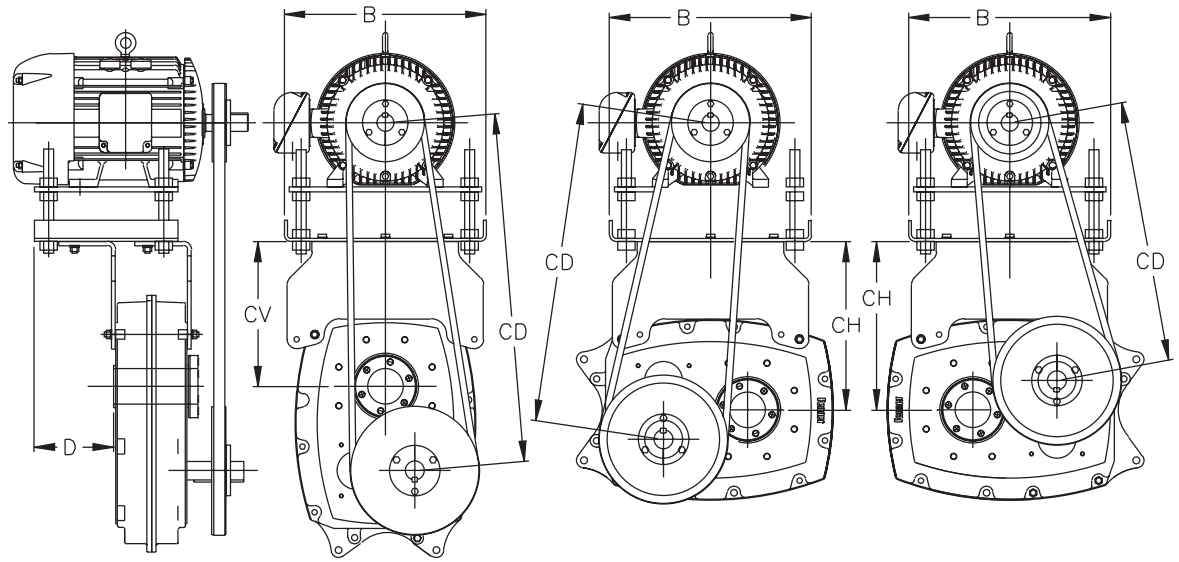
Dimensions (Inch)

Model	NEMA Frame Size	CD TOP MOUNT Min.	CD TOP MOUNT Max.	CD SIDE MOUNT Min.	CD SIDE MOUNT Max.	B	CV	D CH	Weight Max.	(lb)
107C	56~184T	16.75	21.00	15.25	19.00	13.62	7.87	8.15	5.40	40
115D	56~215T	17.75	23.00	16.50	21.25	14.63	8.62	9.25	6.38	52
203E	56~215T	20.50	25.50	18.50	23.00	14.63	10.31	11.02	5.86	55
207F	56~215T	22.25	27.25	20.00	24.75	14.63	11.36	12.20	4.76	56
215G	143T~286T	24.50	32.00	22.00	29.25	18.62	12.40	13.31	11.07	130
307H	143T~286T	25.00	32.25	22.25	29.50	18.62	12.09	13.31	9.33	129
315J	143T~326T	27.75	36.00	24.00	32.25	20.50	13.50	14.65	10.57	144
407S	143T~326T	30.75	39.00	25.00	33.25	20.50	13.94	14.80	9.61	138
415K	213T~365T	38.25	47.75	34.50	44.00	25.20	18.09	21.02	11.95	265
507L	254T~405T	39.00	44.50	-	-	31.50	28.19	-	14.86	206
608M	254T~445T	43.00	48.50	-	-	33.07	31.54	-	18.01	239

Dimensions shown are for reference only and are subject to change without notice, unless certified.
Certified prints are available after receipt of an order; consult factory.

Extended Motor Mounts

HSM CEMA SCREW CONVEYOR DRIVE



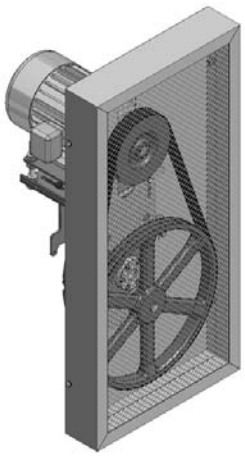
Extended Motor Top-Mounted for use with CEMA Screw Conveyor Drive Option

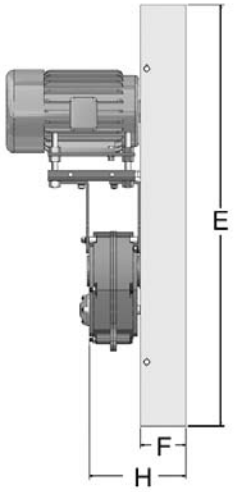
Dimensions (in)

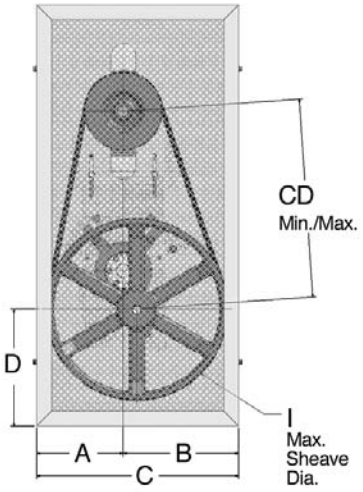
Model	NEMA Frame Size	CD TOP MOUNT Min.	CD TOP MOUNT Max.	CD SIDE MOUNT Input On Left Min.	CD SIDE MOUNT Input On Left Max.	CD SIDE MOUNT Input On Right Min.	CD SIDE MOUNT Input On Right Max.	B	CV	CH	D Max	Weight (lb)
107C	56~184T	24.6	29.6	23.3	28.4	21.3	26.4	13.62	16.14	16.81	5.40	57
115D	56~215T	25.1	31.1	23.5	29.5	21.1	27.0	14.62	16.10	16.73	6.38	70
203E	56~215T	26.4	32.4	24.4	30.3	21.5	27.4	14.62	16.61	17.33	5.86	70
207F	56~215T	26.9	32.9	24.6	30.6	21.2	27.2	14.62	16.48	17.32	4.76	70
215G	143T~286T	31.6	40.1	29.0	37.5	25.1	33.6	18.62	19.88	20.79	11.07	158
307H	143T~286T	32.3	40.8	29.8	38.3	25.5	33.9	18.62	19.96	21.38	9.33	165
315J	143T~326T	33.4	42.9	29.8	39.2	25.0	34.4	20.50	19.80	20.94	10.57	177
407S	143T~326T	36.1	45.6	30.4	39.7	24.6	33.9	20.50	19.84	20.71	9.61	169

Dimensions shown are for reference only and are subject to change without notice, unless certified.
Certified prints are available after receipt of an order; consult factory.

Belt Guards Dimensions







Top Mount Reducer

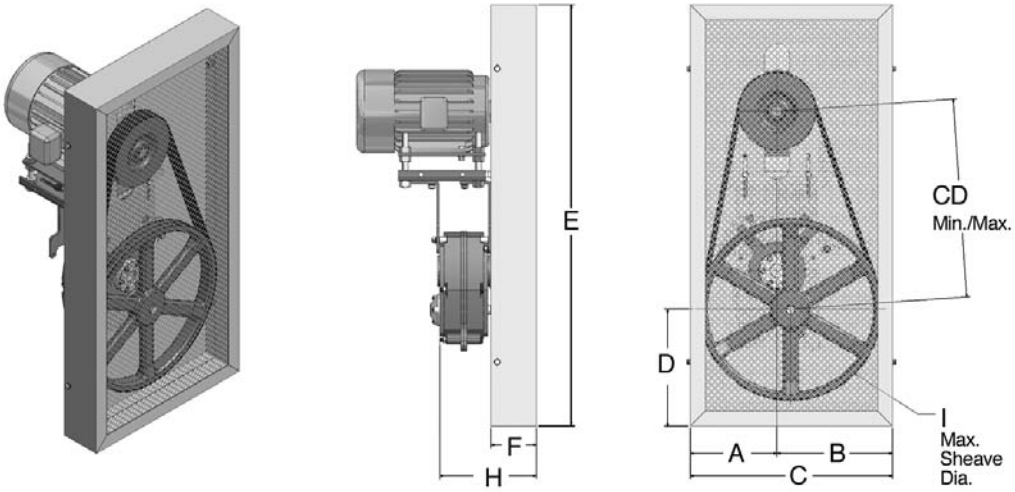
Unit Size	107C	115D	203E	207F	215G	307H	315J	407S	415K
Belt Guard Part No.	116C6061	116D6061	116E6061	116F6061	116G6061	116H6061	116J6061	116S6061	116K6061
A	7.3	11.0	11.0	11.0	12.0	12.0	12.0	12.0	12.0
B	9.7	14.5	14.5	14.5	18.0	18.0	18.0	18.0	18.0
C	17.0	25.5	25.5	25.5	30.0	30.0	30.0	30.0	30.0
D	9.5	15.9	15.0	14.5	19.2	18.6	17.3	14.8	14.3
E	40.0	53.0	53.0	53.0	61.0	61.0	61.0	61.0	71.0
F	5.0	6.0	6.0	6.0	8.0	8.0	8.0	8.0	9.0
H	10.0	10.9	11.6	12.4	15.2	16.4	16.8	17.0	18.3
I Max[1]	14.0	23.0	23.0	23.0	27.0	27.0	27.0	27.0	27.0
CD MIN	16.8	17.8	20.5	22.3	24.5	25.0	27.8	30.8	38.3
CD MAX	21.0	23.0	25.5	27.3	32.0	32.3	36.0	39.0	47.8

Side Mount Reducer

Unit Size	107C	115D	203E	207F	215G	307H	315J	407S	415K
Belt Guard Part No.	116C6161	116D6161	116E6161	116F6161	116G6161	116H6161	116J6161	116S6161	116K6161
A	10.3	16.5	16.5	16.5	20.7	20.7	20.7	20.7	20.7
B	7.7	13.5	13.5	13.5	10.0	10.0	10.0	10.0	10.0
C	18.0	30.0	30.0	30.0	30.7	30.7	30.7	30.7	30.7
D	9.7	13.2	13.1	12.9	15.3	15.0	14.8	14.3	13.6
E	40.0	48.0	48.0	48.0	56.0	56.0	56.0	56.0	65.0
F	5.0	6.0	6.0	6.0	8.0	8.0	8.0	8.0	9.0
H	10.0	10.9	11.6	12.4	15.2	16.4	16.8	17.0	18.3
I Max[1]	14.0	23.0	23.0	23.0	27.0	27.0	27.0	27.0	27.0
CD MIN	15.3	16.5	18.5	20.0	22.0	22.3	24.0	25.0	34.5
CD MAX	19.0	21.3	23.0	24.8	29.3	29.5	32.3	33.3	44.0

Note: [1] The belt guard should be selected based on the maximum sheave diameter (I Max) that will be used in the application.

Dimensions shown are for reference only and are subject to change without notice, unless certified.
Certified prints are available after receipt of an order; consult factory.



HSM
CEMA
SCREW CONVEYOR DRIVE

Top Mount Reducer, CEMA Screw Conveyor Extended Belt Guard

Unit Size	107C	115D	203E	207F	215G	307H	315J	407S
Belt Guard Part No.	116C6061-X	116D6061-X	116E6061-X	116F6061-X	116G6061-X	116H6061-X	116J6061-X	116S6061-X
A	8.5	11.3	11.3	11.3	13.2	13.2	12.2	12.2
B	8.5	14.2	14.2	14.2	16.8	16.8	17.8	17.8
C	17.0	25.5	25.5	25.5	30.0	30.0	30.0	30.0
D	7.8	13.9	13.1	12.5	19.4	18.8	17.5	14.9
E	41.3	53.0	53.0	53.0	68.4	68.4	68.4	68.4
F	5.0	6.0	6.0	6.0	8.0	8.0	8.0	8.0
H	10.0	11.3	11.5	12.4	15.3	16.4	16.9	17.1
I Max[1]	13.0	23.0	23.0	23.0	27.0	27.0	27.0	27.0
CD MIN	24.6	25.1	26.4	26.9	31.6	32.3	33.4	36.1
CD MAX	29.6	31.1	32.4	32.9	40.1	40.8	42.9	45.6

Side Mount Reducer, CEMA Screw Conveyor Extended Belt Guard

Unit Size	107C	115D	203E	207F	215G	307H	315J	407S
Belt Guard Part No.	116C6161-X	116D6161-X	116E6161-X	116F6161-X	116G6161-X	116H6161-X	116J6161-X	116S6161-X
A^L	10.3	16.6	16.9	17.4	20.0	20.4	23.7	24.3
A^R	7.7	13.4	13.1	12.6	15.0	14.6	17.3	16.6
B^L	7.7	13.4	13.1	12.6	15.0	14.6	17.3	16.6
B^R	10.3	16.6	16.9	17.4	20.0	20.4	23.7	24.3
C	18.0	30.0	30.0	30.0	35.0	35.0	40.9	40.9
D^L	7.4	12.6	12.3	12.2	14.5	14.3	14.8	14.3
D^R	9.4	15.2	15.2	15.6	18.5	18.7	19.7	20.2
E	40.0	48.0	48.0	48.0	58.3	58.3	60.2	60.2
F	5.0	6.0	6.0	6.0	8.0	8.0	8.0	8.0
H	10.0	11.4	11.6	12.5	15.3	16.4	16.9	17.1
I Max[1]	13.0	23.0	23.0	23.0	27.0	27.0	27.0	27.0
CD^L MIN	23.3	23.5	24.4	24.6	29.0	29.8	29.8	30.4
CD^R MIN	21.3	21.1	21.5	21.2	25.1	25.5	25.0	24.6
CD^L MAX	28.4	29.5	30.3	30.6	37.5	38.3	39.2	39.7
CD^R MAX	26.4	27.0	27.4	27.2	33.6	33.9	34.4	33.9

Notes:
[1] The belt guard should be selected based on the maximum sheave diameter (I Max) that will be used in the application.
[L] Input Shaft on left side.
[R] Input Shaft on right side.

Dimensions shown are for reference only and are subject to change without notice, unless certified.
Certified prints are available after receipt of an order; consult factory.

Installation

Gearbox Installation

Satisfactory performance depends on proper installation, lubrication and maintenance. Therefore it is important that the instructions in the Installation and Maintenance leaflet, supplied with each gearbox, are followed carefully. Some of the important aspects of belt and torque-arm installation are listed below.

Install pulley on gearbox input shaft as close to the reducer as possible. See Fig 1. Failure to do this will cause excess loads in the input shaft bearings and could cause their premature failure.

Install motor and belt drive with the belt pull at approximately 90° to the center line between driven and input shafts. See Fig 2. This will permit tensioning of the belt drive with the torque arm, which should preferably be in tension. If output hubs runs counter-clockwise, torque arm should be positioned to the right. See Fig 3.

Install torque-arm on a rigid support so that the torque arm will be at approximately right angles to the center line through the driven shaft and the torque-arm case bolt. See Fig 4. Make sure there is sufficient take-up in the turn-buckle for belt tension adjustment.

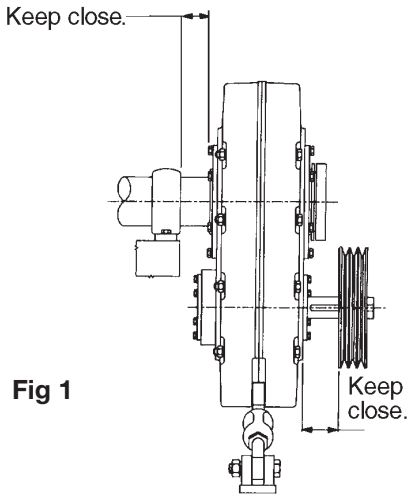


Fig 1

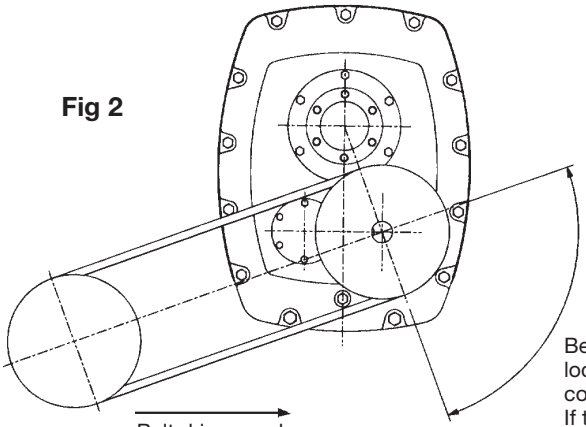


Fig 2

Belt drive may be located to the right if desired.

Belt drive may be located in any convenient position. If the Torque arm is to be used to tighten the belts, the drive should be at about 90° to line between the Input and Output Shafts.

If output hub rotates clockwise, position Belt drive and Torque arm in opposite direction to that shown in the illustration.

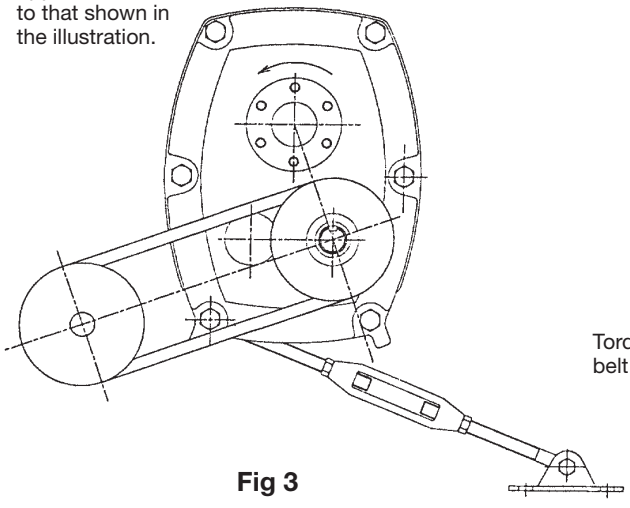


Fig 3

This angle should be a right angle but may vary up to a maximum of 15° either way.

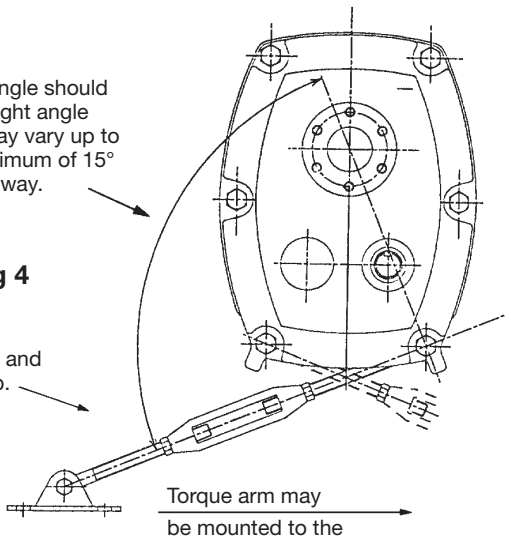


Fig 4

Torque arm and belt take up.

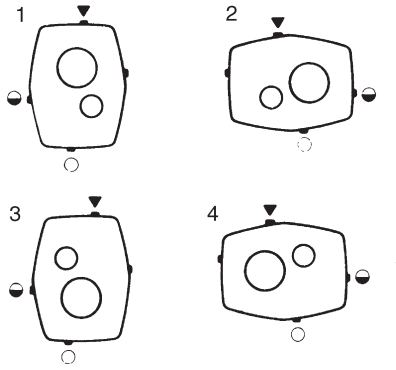
Torque arm may be mounted to the right if desired.

Lubrication

HSM Shaft Mount Speed Reducers are shipped **without oil.** Before running they should be filled with an appropriate amount of the correct lubricant as shown in the tables.

Table 4. Approximate Oil Quantity (gallons) Required for Mounting Positions

Unit Size	Approximate Capacity (gallons)							
	Ratio = 5:1				Ratio = 14:1, 20:1 and 25:1			
	Mounting Position				Mounting Position			
	1	2	3	4	1	2	3	4
107C	0.13	0.13	0.13	0.16	0.11	0.16	0.13	0.16
115D	0.21	0.24	0.21	0.26	0.18	0.24	0.21	0.24
203E	0.32	0.45	0.37	0.48	0.26	0.48	0.37	0.42
207F	0.66	0.69	0.63	0.66	0.61	0.69	0.63	0.58
215G	0.87	0.85	0.85	0.87	0.79	0.85	0.85	0.85
307H	1.08	1.40	1.08	1.53	1.00	1.45	1.11	1.35
315J	1.51	2.27	1.56	2.27	1.43	2.25	1.56	2.19
407S	2.88	4.86	3.59	4.86	2.40	4.33	3.33	4.07
415K	4.02	5.73	6.66	5.47	3.36	5.73	4.15	5.07
507L	–	–	–	–	5.94	9.11	13.7	7.13
608M	–	–	–	–	9.51	13.2	20.9	11.9



Units are fitted with filter, level and drain plugs generally in the position shown.

Recommended Lubricants

Table 5. Mineral Oil

	Ambient Temp. °F	5:1 RATIO REDUCERS				14, 20 & 25:1 RATIO REDUCERS						
		0-100 RPM	101-200 RPM	201-400 RPM		0-20 RPM	21-50 RPM		51-120 RPM		0-50 RPM	51-80 RPM
		107C-407S	107C-407S	107C	115D-407S	107C-407S	107C-115D	203E-407S	107C-115D	203E-407S	415K-608M	
I.S.O. Viscosity Grade	14 to 40	100	100	100	68	150	150	150	100	100	100	100
	41 to 80	460	320	320	220	680	680	460	460	320	320	220
	81 to 105	800	680	680	460	800	800	800	680	460	460	320

Table 6. Manufacturers and Types

BP ENERGOL GR-XP	CASTROL ALPHAZN ORSP	MOBIL MOBILGEAR & SHC	SHELL OMALA	TEXACO MEROPA	EXXON SPARTAN

Note: Do not use E.P. mineral oils other than those recommended when using a backstop.

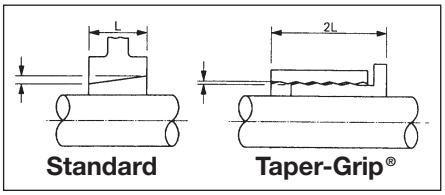
Taper-Grip Bushing®

Table 1. Taper-Grip® Bushing Screw Torques

SM-Shaft Mount Size	Original Taper-Grip® Bushing Screw Torque		New STEEL Taper-Grip® Bushing Screw Torque	
	Nm	lb. ft.	Nm	lb. ft.
107C	31	23	50	37
115D	31	23	55	41
203E	51	37.5	75	56
207F	51	37.5	140	104
215G	128	94	250	185
307H	245	180	250	185
315J	245	180	250	185
407S	245	180	250	185
415K	245	180	300	223
507L	245	180	300	223
608M	245	180	330	223

Table 2. Shaft Tolerances

Shaft Dia.	Tolerance
3/4 - 1 1/8	+0 -.005″
1 3/16 - 2	+0 -.006″
2 1/16 - 3 1/8	+0 -.007″
3 3/16 - 4 3/4	+0 -.008″
4 13/16 - 6 1/2	+0 -.009″



WORLDWIDE LOCATIONS

Sumitomo Machinery Corporation of America

Headquarters & Manufacturing

4200 Holland Boulevard
Chesapeake, VA 23323
Tel: 757-485-3355 • Fax: 757-485-7490

www.smcyclo.com
E-mail: customercare@suminet.com

U.S. Sales and Support

Mid-West
Sumitomo Machinery Corporation of America
175 West Lake Drive
Glendale Heights, IL 60139
Tel: 630-752-0200 • Fax: 630-752-0208

West
Sumitomo Machinery Corporation of America
2375 Railroad Street
Corona, CA 92880-5411
Tel: 951-340-4100 • Fax: 951-340-4108

Southwest
Sumitomo Machinery Corporation of America
1420 Halsey Way #130
Carrollton, TX 75007
Tel: 972-323-9600 • Fax: 972-323-9308

Canada

Toronto (East)
SM-Cyclo of Canada, Ltd.
870 Equestrian Court
Oakville, Ontario, Canada L6L 6L7
Tel: 905-469-1050 • Fax: 905-469-1055

Vancouver (West)
SM-Cyclo of Canada, Ltd.
740 Chester Road, Annacis Island, Delta
B.C., Canada V3M 6J1
Tel: 604-525-5403 • Fax: 604-525-0879

Montreal
SM-Cyclo of Canada, Ltd.
226 Migneron Street
St. Laurent, Quebec, Canada H4T 1Y7
Tel: 514-340-1300 • Fax: 514-340-1343

Mexico

Monterrey
SM-Cyclo de Mexico, S.A. de C.V.
Calle "C" No. 506A
Parque Industrial Almacentro
Apodaca, N.L., Mexico 66600
Tel: 011-52-81-8144-5130 • Fax: 011-52-81-8369-3699

Mexico City
SM-Cyclo de Mexico, S.A. de C.V.
Privada Ceylan No. 59-B Bis
Colonia Industrial Vallejo
Delegacion Azcapotzalco, DF Mexico 2300
Tel: 011-52-55-5368-7172 • Fax: 011-52-55-5368-6699

South America

Brazil
SM-Cyclo Redutores do Brasil Ltda.
Av. Fagundes Filho, 191
Ed. Houston Office Center–cj. H123
CEP: 04304-010–São Paulo, Brazil
Tel: 011-55-11-5585-3600 • Fax: 011-55-11-5585-9990

Chile
SM-Cyclo de Chile Ltda.
San Pablo N. 3507
Comuna de Quinta Normal - Santiago, Chile
Tel: 011-562-786-6963 • Fax: 011-562-786-6964

Argentina
SM-Cyclo de Argentina SA
Manuel Montes de Oca 6719
B1606 BMG, Munro
Buenos Aires, Argentina
Tel: 011-54-11-4765-5332 • Fax: 011-54-11-4765-5517

Europe

Austria
Belgium
France
Germany
Italy
Netherlands
Spain
Sweden

Asia

China
Hong Kong
Indonesia
Korea
Malaysia
Philippines
Taiwan
Thailand

Other Locations

Australia
India
New Zealand
South Africa

World Headquarters

Japan
Sumitomo Heavy Industries, Ltd.
Power Transmission & Controls Group
5-9-11, KITA-Shinagawa, Shinagawa-Ku
Tokyo 141-8686 Japan
Tel: 011-813-5488-8363 • Fax: 011-813-5488-8365

For Worldwide contact information:
www.sumitomodrive.com