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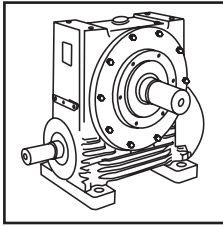
Series X Cone Ring Flexible Couplings



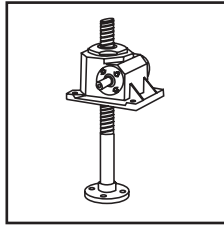
Flexible Couplings  
CX-2.00GB1014

# SERIES E

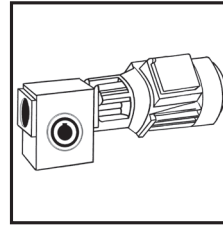
## PRODUCTS IN THE RANGE



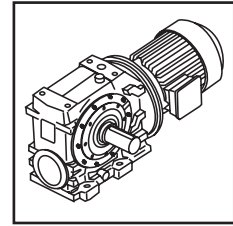
**Series A**  
Worm Gear units  
and geared motors  
in single & double  
reduction types



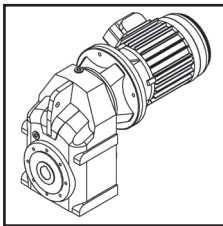
**Series BD**  
Screwjack worm  
gear unit



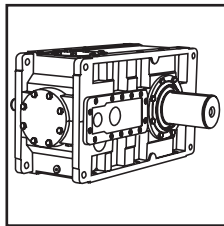
**Series BS**  
Worm gear unit



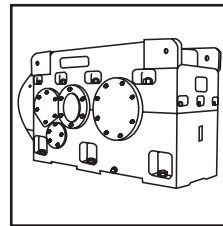
**Series C**  
Right angle drive  
helical worm geared  
motors & reducers



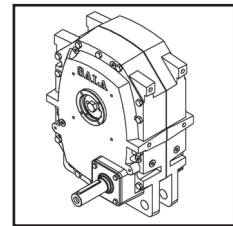
**Series F**  
Parallel shaft helical  
geared motors &  
reducers



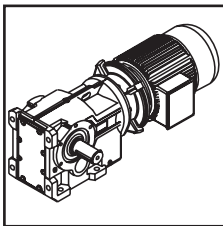
**Series G**  
Helical parallel shaft  
& bevel helical right  
angle drive gear  
units



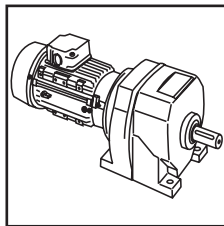
**Series H**  
Large helical parallel  
shaft & bevel helical  
right angle drive units



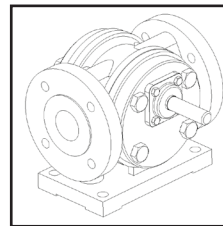
**Series J**  
Shaft mounted  
helical speed  
reducers



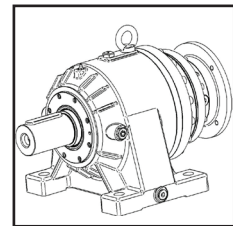
**Series K**  
Right angle helical  
bevel helical geared  
motors & reducers



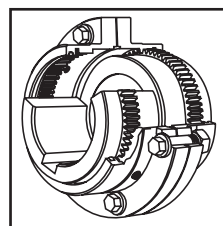
**Series M**  
In-line helical geared  
motors & reducers



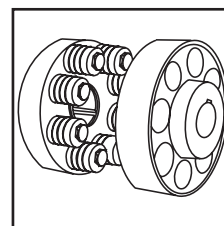
**Roloid Gear Pump**  
Lubrication and fluid  
transportation pump



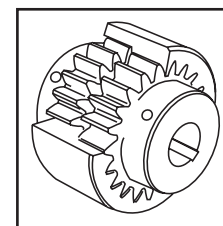
**Series P  
Planetary**  
Foot and flange  
mounted planetary  
units



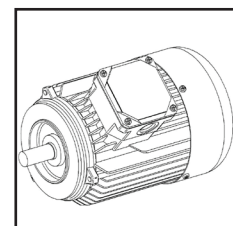
**Series X  
Elign Gear**  
Torsionally rigid,  
high torque coupling



**Series X  
Elflex**  
Pin and bush  
elastomer coupling



**Series X  
Nylicon**  
Gear coupling with  
nylon sleeve



**Motors**  
Full range of IEC  
motors



We offer a wide range of repair services and many years experience of repairing demanding and highly critical transmissions in numerous industries.

We can create custom engineered transmission solutions of any size and configuration.

# SERIES X - CONE RING

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# SERIES X - CONE RING

## GENERAL INFORMATION REFERENCE NOTES

### General Information

- Inch/Metric conversions may not be direct conversions.
- Our standards apply unless otherwise specified.
- All Dimensions are for reference only and are subject to change without notice unless certified.
- Unless otherwise specified, our coupling hubs will be bored for CLEARANCE FIT with a setscrew OVER the keyway or INTERFERENCE FIT without a setscrew.
- Torque ratings of couplings utilising Taper-Lock bushings can differ from those that do not. Refer to our Application Engineers for details.
- If we are to supply coupling hubs bored for Taper-Lock bushings, the bushing manufacturer MUST be noted on the order.
- Consult our Application Engineers when limited end float is required. -Refer to our Application Engineers for bore limitations on hubs requiring Puller Bolt holes.

### Reference Notes

- † Peak torque capacity is two times the published rating.
- ‡ Consult our Application Engineers for higher speeds.
- Maximum bores are reduced for hubs furnished with an INTERFERENCE FIT and a setscrew OVER the keyway. Recommended key sizes for the listed maximum bores are shown in each of the coupling type sections.
- △ Minimum bore is the smallest bore to which a RSB hub (rough stock bore) hub can be bored. Depending upon coupling size, rough stock bore hubs may have only a blind centering hole or a through hole that will permit re-machining of the hubs to the minimum bores specified.
- ◆ Sizes 5R - 50R Nylon cover furnished as standard and Epoxy coated steel cover available upon request. For Sizes 60R - 80R Epoxy coated steel cover is standard (Nylon cover not available).
- ◇ Cover fasteners are ISO 7380 Socket Button Head Capscrews. Two cover fasteners per coupling.
- ♣ To obtain total weight: Basic Coupling + BE times kg per mm of BE.
- ♣ To obtain total  $WR^2$ : Basic Coupling + BE times  $WR^2$  per mm of BE.
- ♥ Values shown are based on no angular misalignment. The axial centering force restricts motor end float and satisfies the requirements of NEMA standards MG1 -14.37, 1-20.81 and 1-21.81.
- § Interpolate for intermediate speeds. Maximum BE is based on 70% of critical speed. Refer to our Application Engineers for higher running speeds.

### Long Term Grease (LTG)

The high centrifugal forces encountered in couplings separate the base oil and thickener of general purpose greases. Heavy thickener, which has no lubrication qualities, accumulates in the tooth mesh area of gear couplings resulting in premature mesh failure unless periodic lubrication cycles are maintained. Long Term Grease (LTG) was developed specifically for couplings. It resists separation of the oil and thickener and is an extreme pressure grease. Although LTG grease is compatible with most other coupling greases, the mixing of greases may dilute the benefits of LTG.

Benefits include: increased coupling life, significantly extended re-lubrication intervals, reduced maintenance costs, reduced downtime, superior lubrication, high load carrying capabilities and it is usable up to 121°C (250°F).

# SERIES X - CONE RING

## SELECTION PROCEDURE

### Standard Selection Method

The standard selection method can be used for most motor, turbine, or engine driven applications. The following information is required to select a gear coupling.

- Kilowatt (kW) or torque (Nm).
- Running rpm.
- Application or type of equipment to be connected (motor to pump, drive to conveyor, etc.).
- Shaft diameters.
- Shaft gaps.
- Physical space limitations.
- Special bore or finish information and type of fit.

Exceptions are High Peak Loads and Brake Applications. For these conditions, use the Formula Selection Method in the next column, or consult one of our Application Engineers for assistance.

1. **RATING:** Determine system torque. If torque is not given, calculate as shown below.

$$\text{System Torque (Nm)} = \frac{\text{kW} \times 9549}{\text{rpm}}$$

Where: kW (Kilowatt) is the actual or transmitted power required by the application (if unknown, use the motor or turbine nameplate rating) and rpm is the actual speed the coupling is rotating. Applications that require rapid changes in direction or torque reversals should be referred to our Application Engineers.

1. **SERVICE FACTOR:** Determine the appropriate service factor from Table 1, Page 6.
2. **REQUIRED MINIMUM COUPLING RATING:** Determine the required minimum coupling rating as shown below Minimum Coupling Rating = S.F. (Service Factor) x Torque (Nm)
3. **SIZE:** Turn to appropriate pages for the coupling type chosen and trace down the torque column to a value that is equal or greater than that determined in Step 3 above. The coupling size is shown in the first column.
4. **CHECK:** Check speed (rpm), bore, gap and dimensions.

### Formula Selection Method

The Standard Selection Method can be used for most coupling selections. The procedure below should be used for:

- High Peak Loads
- Brake Applications (where the disc brake or brakewheel is to be an integral part of the coupling, consult our Application Engineers for design options).

Providing system peak torque and frequency, duty cycle, and brake torque rating will allow for a more refined selection using the Formula Selection Method.

1. **HIGH PEAK LOADS:** Use one of the following formulas for applications using motors with torque characteristics that are higher than normal; applications with intermittent operations, shock loading, inertia effects due to starting and stopping and or system induced repetitive high peak torques. System Peak Torque is the maximum torque that can exist in the system.

Select a coupling with a torque rating equal to or greater than selection torque calculated below.

- A. **NON-REVERSING HIGH PEAK TORQUE**  
Selection Torque (Nm) = System Peak Torque  
or  
Selection Torque (Nm) =  $\frac{\text{System Peak kW} \times 9549}{\text{rpm}}$
  - B. **REVERSING HIGH PEAK TORQUE**  
Selection Torque (Nm) = 1.5 x System Peak Torque  
or  
Selection Torque (Nm) =  $\frac{1.5 \times \text{Peak kW} \times 9549}{\text{rpm}}$
  - C. **OCCASIONAL PEAK TORQUES (Non-Reversing)**  
If a system peak torque occurs less than 1000 times during the expected coupling life, use the following formula:  
  
Selection Torque (Nm) = .5 x System Peak Torque  
or  
Selection Torque (Nm) =  $\frac{.5 \times \text{Peak kW} \times 9549}{\text{rpm}}$   
  
For reversing service, select per Step B, above.
2. **BRAKE APPLICATIONS:** If the torque rating of the brake exceeds the motor torque, use the brake rating as follows:

$$\text{Selection Torque (Nm)} = \text{Brake Torque Rating} \times \text{S.F.}$$

# SERIES X - CONE RING

## SELECTION PROCEDURE

### Table 1 - Coupling Service Factors for Motor ♦ and Turbine Drives

Alphabetical listing of applications					Alphabetical listing of applications				
Service Factor		Service Factor			Service Factor		Service Factor		
<b>AERATOR</b> .....	2.0	<b>FEEDERS</b> .....	1.75	<b>AGGREGATE PROCESSING,</b>	Thrust Block .....	2.0	<b>CEMENT, MINING KILNS;</b>	Tube Conveyor Rolls .....	2.0
<b>AGITATORS</b>		<b>LAUNDRY WASHER OR</b>		<b>TUBE, ROD AND BALL MILLS</b>	Reeler .....	2.0	<b>TUMBLERS</b> .....	Kick Out .....	2.0
Vertical and Horizontal		<b>TUMBLERS</b> .....	2.0	Direct or on L.S. shaft of	Shear, Croppers ....Refer to Application Engineer		<b>LINE SHAFTS</b>	Sideguards .....	3.0
Screw, Propeller, Paddle .....	1.0	Any Processing Machinery .....	1.5	Reducer, with final drive	Skelp Mills .....Refer to Application Engineer		<b>MACHINE TOOLS</b>	Slitters, Steel Mills only .....	1.75
<b>BARGE HAUL PULLER</b> .....	1.5	<b>MACHINE TOOLS</b>		Machined Spur Gears .....	Soaking Pit Cover Drives -		Auxiliary and Traverse Drive .....	Lift .....	1.0
<b>BLOWERS</b>		Bending Roll, Notching Press,	1.0	Single Helical or	Travel .....	2.0	Main Drive .....	Straighteners .....	2.0
Centrifugal .....	1.0	Punch Press, Planer, Plate		Herringbone Gears .....			Reversing .....	Unscramblers (Billet Bundle	
Lobe or Vane .....	1.25	Conveyors, Feeders, Screens,		Conveyors, Feeders, Screens,			Main Drive .....	Busters) .....	2.0
<b>CAR DUMPERS</b> .....	2.5	Elevators .....	1.5	Elevators .....	See General		MAN LIFTS .....	Wire Drawing Machinery .....	1.75
<b>CAR PULLERS</b> .....	1.5			Listing			MAN LIFTS .....		
<b>CLARIFIER OR CLASSIFIER</b> .....	1.0			Crushers, Ore or Stone .....	2.5		MAN LIFTS .....		
<b>COMPRESSORS</b>				Dryer, Rotary .....	1.75		MAN LIFTS .....		
Centrifugal .....	1.0			Grizzly .....	2.0		MAN LIFTS .....		
Lobe or Vane .....	1.25			Hammermill or Hog .....	1.75		MAN LIFTS .....		
Rotary, Screw .....	1.0			Tumbling Mill or Barrel .....	1.75		MAN LIFTS .....		
Reciprocating							MAN LIFTS .....		
Direct Connected.. Refer to Application Engineer							MAN LIFTS .....		
Without Flywheel.. Refer to Application Engineer							MAN LIFTS .....		
With Flywheel and Gear between							MAN LIFTS .....		
Compressor and Prime Mover ♦							MAN LIFTS .....		
1 cylinder, single acting .....	3.0						MAN LIFTS .....		
1 cylinder, double acting .....	3.0						MAN LIFTS .....		
2 cylinder, single acting .....	3.0						MAN LIFTS .....		
2 cylinder, double acting .....	3.0						MAN LIFTS .....		
3 cylinder, single acting .....	3.0						MAN LIFTS .....		
3 cylinder, double acting .....	2.0						MAN LIFTS .....		
4 or more cyl., single acting .....	1.75						MAN LIFTS .....		
4 or more cyl., double acting ...	1.75						MAN LIFTS .....		
<b>CONVEYORS ♦</b>							MAN LIFTS .....		
Apron, Assembly, Belt, Chain							MAN LIFTS .....		
Flight, Screw .....	1.0						MAN LIFTS .....		
Bucket .....	1.25						MAN LIFTS .....		
Live Roll, Shaker and							MAN LIFTS .....		
Reciprocating .....	3.0						MAN LIFTS .....		
<b>CRANES AND HOIST ♦♦</b>							MAN LIFTS .....		
Main Hoist .....	1.75♦						MAN LIFTS .....		
Skip Hoist .....	1.75♦						MAN LIFTS .....		
Slope .....	1.5						MAN LIFTS .....		
Bridge, Travel or Trolley .....	1.75						MAN LIFTS .....		
<b>DYNAMOMETER</b> .....	1.0						MAN LIFTS .....		
<b>ELEVATORS</b>							MAN LIFTS .....		
Bucket, Centrifugal Discharge .....	1.25						MAN LIFTS .....		
Freight or Passenger ..... <b>Not Approved</b>							MAN LIFTS .....		
Gravity Discharge .....	1.25						MAN LIFTS .....		
<b>ESCALATORS</b> .....	<b>Not Approved</b>						MAN LIFTS .....		
<b>EXCITER, GENERATOR</b> .....	1.0						MAN LIFTS .....		
<b>EXTRUDER, PLASTIC</b> .....	1.0						MAN LIFTS .....		
<b>FANS</b>							MAN LIFTS .....		
Centrifugal .....	1.0						MAN LIFTS .....		
Cooling Tower .....	2.0						MAN LIFTS .....		
Forced Draft - Across the							MAN LIFTS .....		
Line star .....	1.5						MAN LIFTS .....		
Forced Draft Motor Driven thru							MAN LIFTS .....		
fluid or electric slip clutch .....	1.0						MAN LIFTS .....		
Gas Recirculating .....	1.5						MAN LIFTS .....		
Induced Draft with damper							MAN LIFTS .....		
control or blade cleaner .....	1.25						MAN LIFTS .....		
Induced Draft without controls .....	2.0						MAN LIFTS .....		
<b>FEEDERS</b>							MAN LIFTS .....		
Apron, Belt, Disc, Screw .....	1.0						MAN LIFTS .....		
Reciprocating .....	2.5						MAN LIFTS .....		
<b>GENERATORS</b>							MAN LIFTS .....		
Even Load .....	1.0						MAN LIFTS .....		
Hoist or Railway Service .....	1.5						MAN LIFTS .....		
Welder Load .....	2.0						MAN LIFTS .....		

♦ For engine drives, refer to Table 2. Electric motors, generators, engines, compressors and other machines fitted with sleeve or straight roter bearings, usually require limited end float couplings. If in doubt, provide axial clearances and centering forces to one of our Application Engineers for a recommendation.

◇ For balanced opposed design, refer to our Application Engineers.

▲ If people are occasionally transported, refer to our Application Engineers for the selection of the proper size coupling.

◆ For high peak load applications (such as Metal Rolling Mills) refer to our Application Engineers.

### Table 2 ♥ - Engine Drive Service Factors

Service Factors for engine drives are those required for applications where good flywheel regulation prevents torque fluctuations greater than ±20%. For drives where torque fluctuations are greater or where the operation is near a serious critical or torsional vibration, a mass elastic study is necessary.

No. of Cylinders	4 or 5 ♥					6 or more ♥				
	1.0	1.25	1.5	1.75	2.0	1.0	1.25	1.5	1.75	2.0
Table 1 S.F.	1.0	1.25	1.5	1.75	2.0	1.0	1.25	1.5	1.75	2.0
Engine S.F.	2.0	2.25	2.5	2.75	3.0	1.5	1.75	2.0	2.25	2.5

♥ To use Table 2, first determine application service factor from Table 1. Use that factor to determine ENGINE Service Factor from table 2. When service factor from Table 1. is greater than 2.0 or where 1, 2 or 3 cylinder engines are involved, refer complete application details to our Application Engineers for engineering review.







# SERIES X - CONE RING

## SELECTION PROCEDURE

SERVICE FACTORS: are a guide, based on experience of the ratio between coupling catalogue rating and system characteristics.

The system characteristics are best measured with a torque meter.

Table 3 . Service Factors

Torque Demands Driven Machine	Typical applications for electric motor or turbine driven equipment	Typical Service Factor
	Constant Torque such as Centrifugal Pumps, Blowers, and Compressors.	1
	Continuous duty with some torque variations including Extruders, Forced Draft Fans.	1.5
	Light shock loads from Briquetting Machine, Rubber Calender, or Crane and Hoist.	2
	Moderate shock loading as expected from a Car Dumper, Ball Mill, or Vibrating Screen.	2.5
	Heavy shock load with some negative torques from Crushers, Hammer Mill, and Barking Drum.	3
	Applications like Reciprocating Compressors with frequent torque reversals, which do not necessarily cause reverse rotations.	Consult Our Application Engineers

The following information is necessary to quote or ship to your characteristics. exact requirements. Prompt service is assured if this information is given on your inquiry or order.

1. Application: Driver & Driven
2. Power: Normal kW, Maximum kW or Torque (Nm)
3. Speed (RPM)
4. Quantity
5. Coupling Size and Type, e. g., Size 1070G20
6. Shaft Gap or distance between shaft ends (BE Dimension)
7. Bore Sizes: Must Specify clearance or interference fits. Bore tolerances will be furnished as per appropriate table for the coupling type unless specified differently
8. Shaft Dimensions as follows: (see diagram below) For Straight Shafts

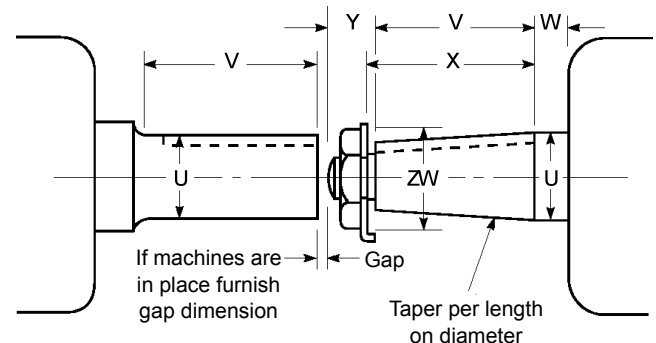
For Straight Shafts

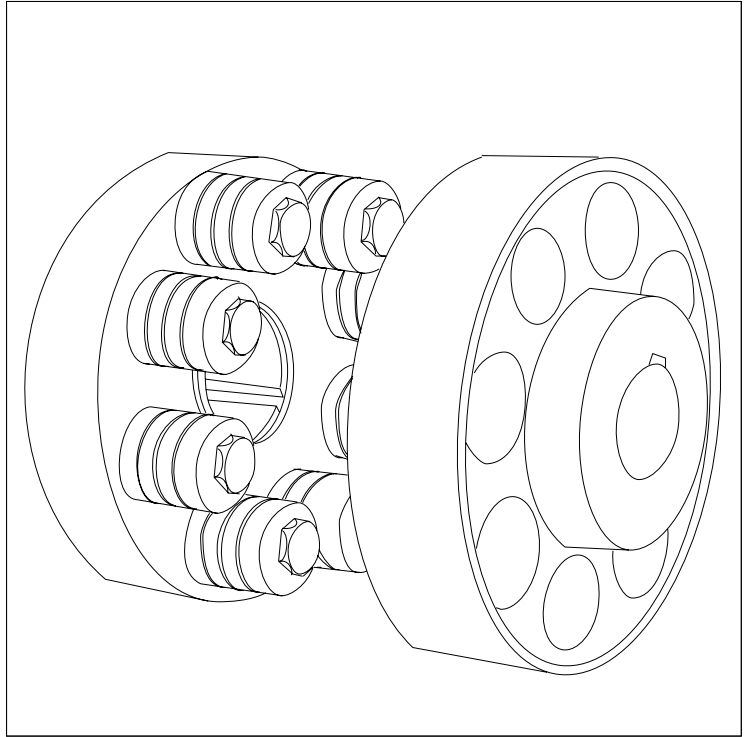
Driving Shaft	Diameter U _____	Driven Shaft	Diameter U _____
	Length V _____		Length V _____
	Keyway _____		Keyway _____

**Note: Provide shaft tolerances if different than those shown. Unless otherwise specified, keyway sizes in inch shafts will be furnished based on key sizes listed, to our tolerances; metric keyways will be furnished per ISO/ R773-1969 and Js9 width tolerances. For other shaft/bore requirements consult our Application Engineers.**

For Taper Shafts: Specify if keyway is to be parallel to the axis or to the bore.

Diameter U \_\_\_\_\_ Across Flats \_\_\_\_\_  
 Length V \_\_\_\_\_ Corners ZW \_\_\_\_\_  
 Length W \_\_\_\_\_ Taper per Foot \_\_\_\_\_  
 Length X \_\_\_\_\_ Keyway \_\_\_\_\_  
 Length Y \_\_\_\_\_





# CONE RING

Pin and bush elastomer couplings

# SERIES X

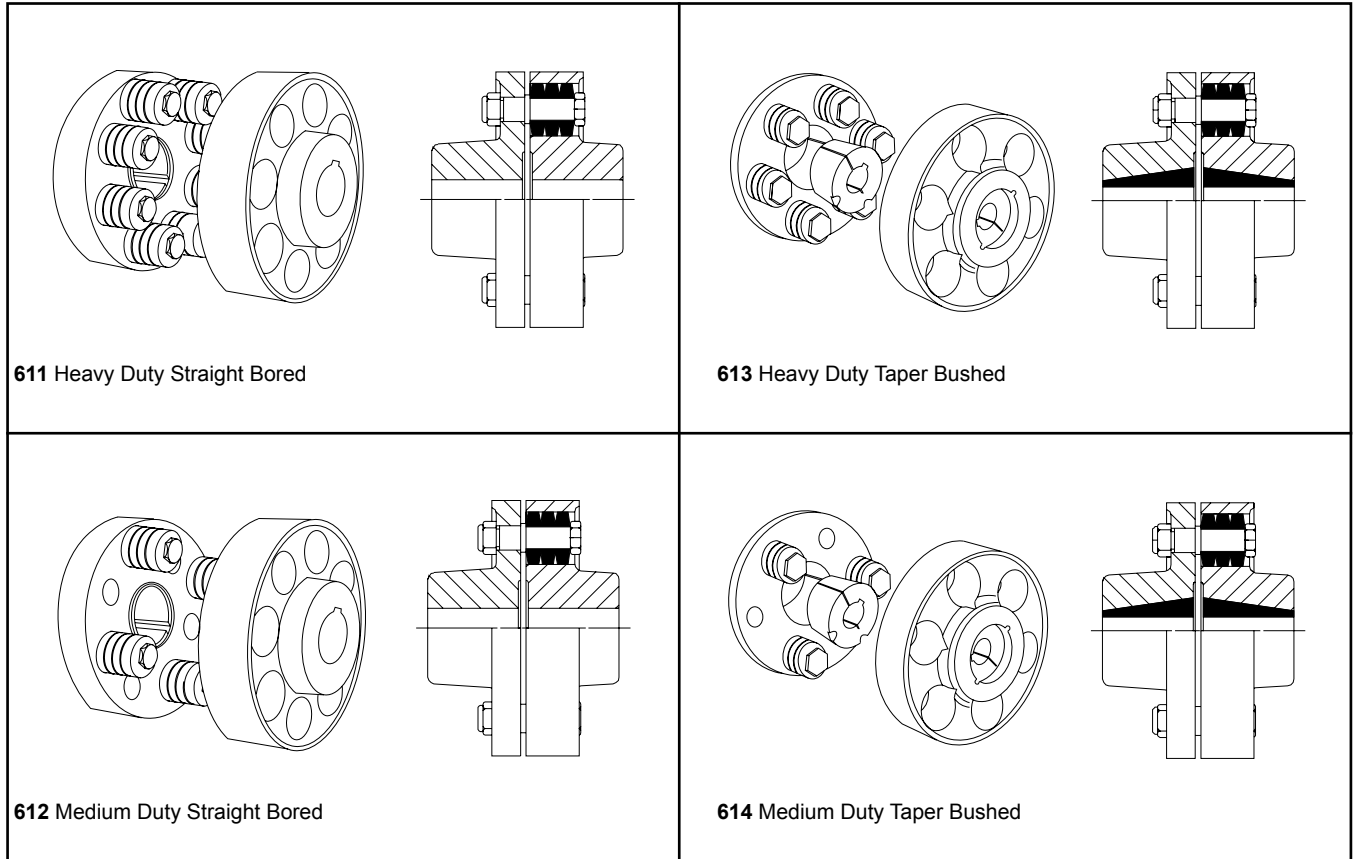


# SERIES X - CONE RING

## GENERAL DESCRIPTION

### Cone Ring Couplings

Pin and bush elastomer Couplings



### General Description

Flexible Cone Ring couplings, types 61,612,613, 614 are available with bore sizes up to 355 mm diameter and a basic rated torque up to 188700 Nm.

### Operational Details

They accommodate all types of shaft misalignment met in normal operation, being a development of the old pin and bush design which it resembles in simplicity and ease of assembly and dismantling. It differs fundamentally in the way in which the resilient material behaves by substituting the parallel bush with a series of rubber rings of conical section. This provides greatly improved torsional flexibility together with a limited freedom of axial movement of one connected shaft relative to the other.

### Types Available

Two options are available, MEDIUM DUTY and HEAVY DUTY.

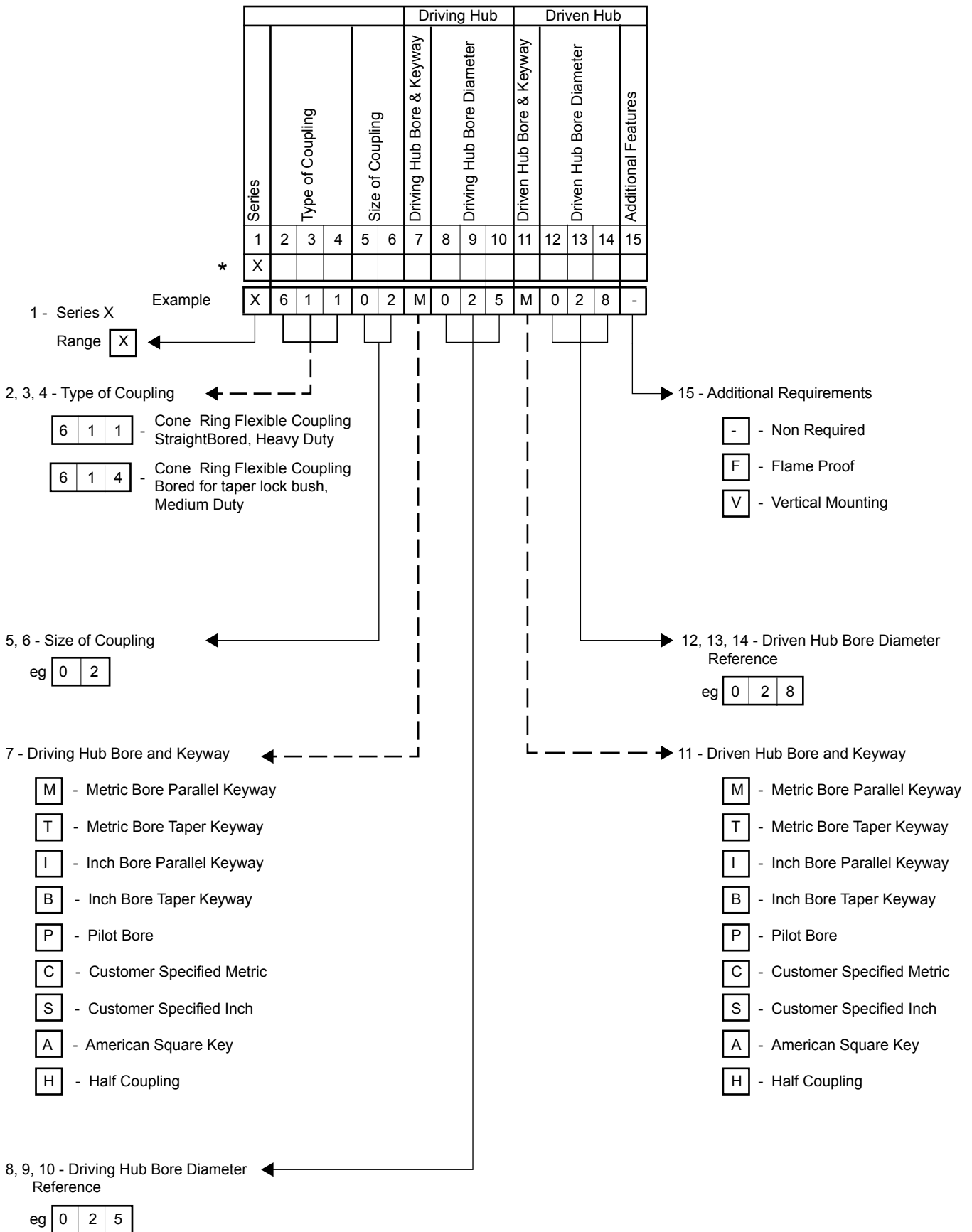
Medium duty couplings (types 612 and 614) are identical to heavy duty couplings (types 611 and 613) except that they are supplied with only half the standard number of pin and ring assemblies. This enables a useful cost saving to be made when the size of coupling is determined by the shaft diameter rather than the coupling's torque capacity.

### Taper Bushing

Flexible Cone Ring couplings are also available with taper bushes (types 613 and 614) with bore sizes up to 125mm (4.92 inch) diameter, providing ease of assembly and dismantling together with flexibility to change shaft sizes by changing only the taper bushes.

# SERIES X - CONE RING

## UNIT DESIGNATIONS

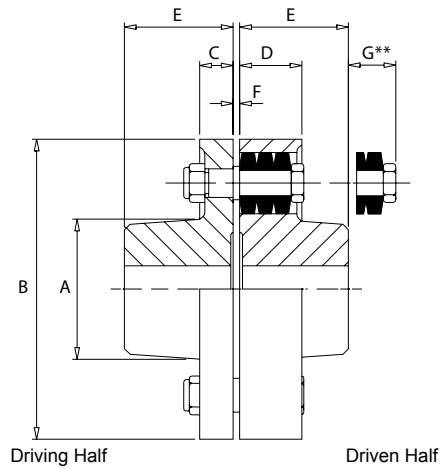


\* This Page May Be Photocopied Allowing The Customer To Enter Their Order

# SERIES X - CONE RING

## COUPLING DIMENSIONS & PIN AND CONE RING DIMENSIONS

### Type 611 Cone Ring Heavy Duty Straight Bored



Coupling Size	Torque Rating (Nm)	Allow Speed (rpm)‡	Coupling Weight With No Bore (kg)	Max. Bore	Min. Bore *		Hub length E	G **	A	B	C	D	F	No of pins
					Driving Half	Driven Half								
01	181	4,780	4.9	38	*	19	48	20	64	134	12	26	3	6
02	279	4,355	6.3	42	*	22	56	12	70	147	12	26	3	8
03	465	3,745	10.4	48	*	25	61	26	83	171	19	35	3	6
04	717	3,320	14.2	60	*	28	68	19	97	193	19	35	3	8
05	1018	3,000	19.8	70	*	32	76	11	117	215	19	35	3	10
06	2438	2,520	36.9	80	28	42	88	46	127	254	31	56	3	8
07	3362	2,295	48.5	90	35	55	100	34	147	279	31	56	3	10
08	5047	1,940	76.4	100	40	60	122	22	180	330	30	61	3	12
09	8433	1,725	121	120	50	65	137	45	206	371	46	81	6	10
10	11530	1,530	163	140	80	80	152	30	230	419	46	81	6	12
11	15060	1,400	209	150	90	90	170	12	256	457	46	81	6	14
12	23500	1,200	305	170	100	100	193	0	296	533	46	81	6	18

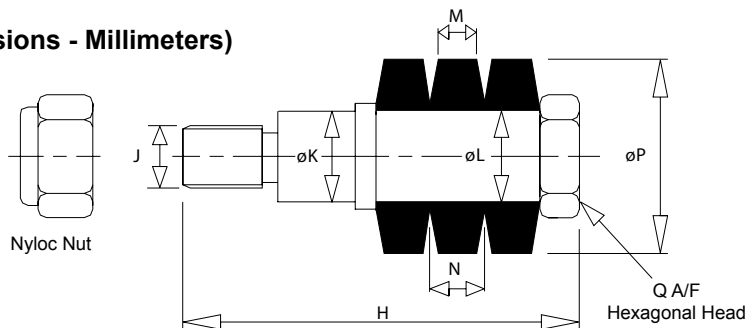
Larger sizes available upon request.

\* Up to size 05 the driving half hubs are solid.

\*\* The coupling pin withdrawal distance.

Refer to Page 4 for General Information and Reference Notes.

### Pin and Cone Ring Dimensions - Millimeters)

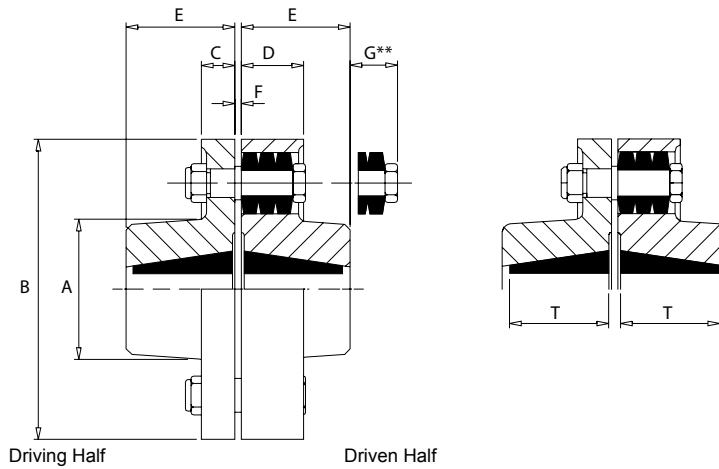


Coupling size	Pin Assembly Number	Cone Ring Number	H	J	K	L	M	N	P	Q	Max Bolt Tightening Torque (Nm)	No of Rubber Rings Per Pin
01 - 02	41111-2-024	32213-9-102	58	M10	12.7	12.7	5.1	7.6	28.2	17	15	3
03 - 05	41111-2-025	32213-9-103	75	M12	15.9	17.8	6.4	10.2	38.1	24	25	3
06 - 08	41111-2-026	32213-9-104	118	M20	25.4	25.4	8.9	12.7	50.8	36	115	4
09 - 12	41111-2-027	32213-9-105	161	M24	28.6	30.5	12.7	17.8	63.5	36	200	4
13 - 14	41111-2-028	32213-9-106	208	M36	41.3	43.2	15.2	22.9	85.3	51	710	4
15 - 20	41111-2-029	32213-9-107	259	M48	57.2	58.4	20.3	30.5	113.7	70	1725	4

# SERIES X - CONE RING

## COUPLING DIMENSIONS & PIN AND CONE RING DIMENSIONS

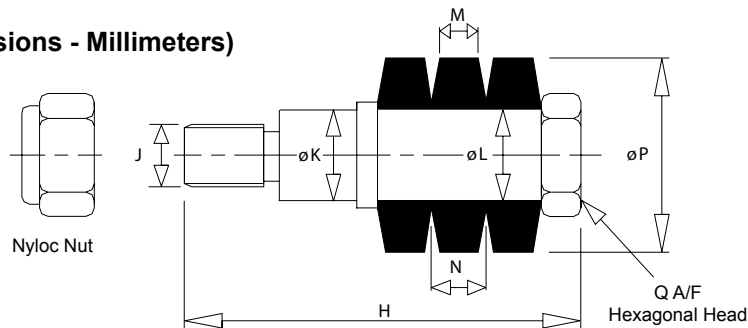
### Type 613 Cone Ring Heavy Duty Taper Bushed



Coupling Size	Torque Rating (Nm)	Allow Speed (rpm)‡	Coupling Weight With No Bore (kg)	Max. Bore	Min. Bore *	Hub length E	Hub length T	G **	A	B	C	D	F	No of pins
1	181	4,780	4.9	25	9	40	22.3	28	64	134	12	26	3	6
2	279	4,355	6.3	32	11	45	38.1	23	70	147	12	26	3	8
3	465	3,745	10.4	40	14	50	38.1	37	83	171	19	35	3	6
4	717	3,320	14.2	48	18	50	44.5	37	97	193	19	35	3	8
5	1018	3,000	19.8	60	16	50	44.5	37	117	215	19	35	3	10
6	2438	2,520	36.9	60	19	75	63.5	59	127	254	31	56	3	8
7	3362	2,295	48.5	75	35	82	76.2	52	147	279	31	56	3	10
8	5047	1,940	76.4	90	35	98	88.9	41	180	330	30	61	3	12
9	8433	1,725	121	110	55	124	114.3	53	206	371	46	81	6	10
10	11530	1,530	163	125	70	136	127	41	230	419	46	81	6	12
11	Not available as taper bushed													
12														

\*\* The coupling pin withdrawal distance.  
Refer to Page 4 for General Information and Reference Notes.

### Pin and Cone Ring Dimensions - Millimeters)



Coupling size	Pin Assembly Number	Cone Ring Number	H	J	K	L	M	N	P	Q	Max Bolt Tightening Torque (Nm)	No of Rubber Rings Per Pin
01 - 02	41111-2-024	32213-9-102	58	M10	12.7	12.7	5.1	7.6	28.2	17	15	3
03 - 05	41111-2-025	32213-9-103	75	M12	15.9	17.8	6.4	10.2	38.1	24	25	3
06 - 08	41111-2-026	32213-9-104	118	M20	25.4	25.4	8.9	12.7	50.8	36	115	4
09 - 12	41111-2-027	32213-9-105	161	M24	28.6	30.5	12.7	17.8	63.5	36	200	4
13 - 14	41111-2-028	32213-9-106	208	M36	41.3	43.2	15.2	22.9	85.3	51	710	4
15 - 20	41111-2-029	32213-9-107	259	M48	57.2	58.4	20.3	30.5	113.7	70	1725	4

# SERIES X - CONE RING

## ENGINEERING DATA

**Table 19 - Recommended Commercial Keys for Bores with One Key  
Millimeters & Inches**

MILLIMETERS (Bores per ISO 286 - 2 - 1988 (E), Keyway to BS 4235 pt 1 : 1972 and DIN 6885)

Shaft Diameter		Key	Shaft Diameter		Key	Shaft Diameter		Key	Shaft Diameter		Key
Over	Through		Over	Through		Over	Through		Over	Through	
6	8	2 x 2	38	44	12 x 8	95	110	28 x 16	260	290	63 x 32
8	10	3 x 3	44	50	14 x 9	110	130	32 x 18	290	330	70 x 36
10	12	4 x 4	50	58	16 x 10	130	150	36 x 20	330	380	80 x 40
12	17	5 x 5	58	65	18 x 11	150	170	40 x 22	380	440	90 x 45
17	22	6 x 6	65	75	20 x 12	170	200	45 x 25	440	500	100 x 50
22	30	8 x 7	75	85	22 x 14	200	230	50 x 28	...	...	...
30	38	10 x 8	85	95	25 x 14	230	260	56 x 32	...	...	...

INCHES (Bores per ANSI B17.1 Standard)

Shaft Diameter		Key	Shaft Diameter		Key	Shaft Diameter		Key	Shaft Diameter		Key
Over	Through		Over	Through		Over	Through		Over	Through	
.438	.562	.125 x .125	1.750	2.250	.500 x .500	4.500	5.500	1.250 x 1.250	11.000	13.000	3.000 x 2.000
.562	.875	.188 x .188	2.250	2.750	.625 x .625	5.500	6.500	1.500 x 1.500	13.000	15.000	3.500 x 2.500
.875	1.250	.250 x .250	2.750	3.250	.750 x .750	6.500	7.500	1.750 x 1.500	15.000	18.000	4.000 x 3.000
1.250	1.375	.312 x .312	3.250	3.750	.875 x .875	7.500	9.000	2.000 x 1.500	18.000	22.000	5.000 x 3.500
1.375	1.750	.375 x .375	3.750	4.500	1.000 x 1.000	9.000	11.000	2.500 x 1.750	...	...	...

**Table 20 - Recommended Bores Tolerances Coupling Hubs - Millimeters & Inches**

Nominal	Bore Diameter Tolerance
Up to 50	M7
Over 50 to 80	K7
Over 80 to 100	K7
Over 100 to 200	K7
Over 200 to 355	K7
Over 355 to 500	K7

# SERIES X - CONE RING

## ENGINEERING DATA

### Coupling Misalignment

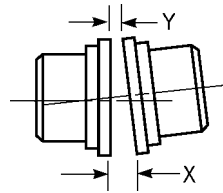
Maximum life and minimum maintenance for the coupling and connected machinery will result if couplings are accurately aligned. Coupling life expectancy between initial alignment and maximum operating limits is a function of load, speed and lubrication. For applications requiring greater misalignment, refer application details to our Application Engineers.

**Table 32 - Cone Ring Coupling  
Misalignment Capacity \***

Coupling Size	Angular Misalignment Degrees	Parallel Misalignment mm
	Operational	Operational
01	1	± 0.1
02	1	± 0.1
03	1	± 0.15
04	1	± 0.15
05	1	± 0.15
06	1	± 0.2
07	1	± 0.2
08	1	± 0.2
09	1	± 0.25
10	1	± 0.25
11	1	± 0.25
12	1	± 0.25

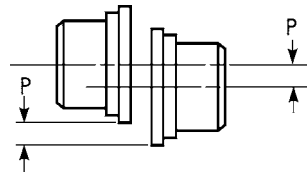
### ANGULAR MISALIGNMENT

Angular misalignment is expressed in degrees and as the difference between the value of X minus Y, as illustrated.



### PARALLEL OFFSET MISALIGNMENT

Parallel misalignment is the distance P between shaft centerlines as shown.



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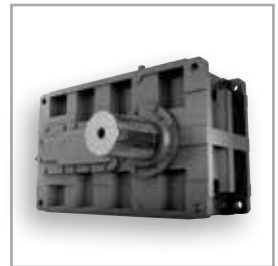
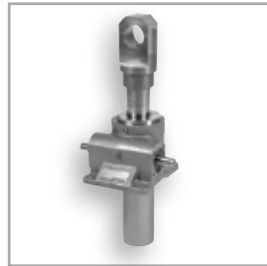
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