Motorized Pulley 800M, 800H, & 800HD Ø 31.50 in. (800 mm)

Our 31.50" diameter Motorized Pulley range offers two different performance levels for BULK applications:

- M for Medium duty
- H for Heavy duty

It is important to note the product differences and choose the appropriate pulley based on estimated belt tension (radial load.) See page 78. The actual radial load must be less than the maximum allowable radial load shown in this catalog.

Be aware of increased belt tensions required to drive multi-ply thick heavy belts and/or larger belt widths.

If the 800M is not strong enough to resist estimated belt tension, then select 800H.

M for Medium duty

A solid 2-stage gearbox enables the 800M to handle irregular loadings in harsh operating conditions. 800M uses motor and gearbox from 630H. Note that 800M outer dimensions do not match 800H

H for Heavy duty

800H has stronger internal components with gearbox, shaft, and bearings designed for tough, irregular, and extreme operating conditions.

STANDARD SPECIFICATION of Motorized Pulley

- Crowned mild steel 31.50" diameter steel shell painted yellow at a minimum thickness of 2.4 mils
- Bolted powder coated cast iron bearing housings and covers, all painted yellow at a minimum thickness of 2.4 mils
- Mild steel shafts
- Shaft sealing system - degree of protection IP66/67 (EN60034-5.) See page 88.
- Cast iron terminal box for painted yellow at min.thickness of 2.4 mils
- 3-phase induction motors with thermal protector
- Voltage: All common voltages available. Please specify.
- Motor winding insulation Class F
- Dynamically balanced rotor
- Two oil plugs each fitted with a magnet to filter the oil
- Yellow painted mounting brackets (AL & ALO) included with pulley
- Oil change recommended every 10,000 operational hours
- Minimum RL. Refer to pages 67
- Maximum RL - Please inquire
- Non standard RL's available
- To be used in horizontal positions ±5 degree only

Please note:

- **Noise-sensitive Areas:** High speed 2-pole motors can cause higher noise levels and are not recommended for noise-sensitive areas
- **Technical Precautions for Design, Installation, and Maintenance:** pages 76-86
- **Environmental Considerations:** page 72
- **Optional Extras:** page 65 and back cover
- **Electrical Connection Diagrams:** pages 94-96.

SEMI-RUST-FREE options

TS11

- Painted mild steel shell at minimum thickness of 4.7 mils
- Painted cast iron end housings at minimum thickness of 4.7 mils
- Stainless steel bearing covers with labyrinth grooves – AISI 304 range
- Nitrided shaft sleeves
- Zinc-plated oil plugs - each with magnet
- Zinc-plated exterior bolts
- Shaft sealing system – degree of protection P66/67 (EN60034-5) See pg 88.
- Painted terminal box at minimum thickness of 4.7 mils
- Nickel plated mounting brackets with labyrinth grooves

TS12

- As TS11, but without regreasable seals.
- Covers - standard

Please note:

- FDA & USDA food grade recognized oil and grease are not included in TS11 & TS12, but available on request.

Please specify required TS number when ordering Stainless Steel options.

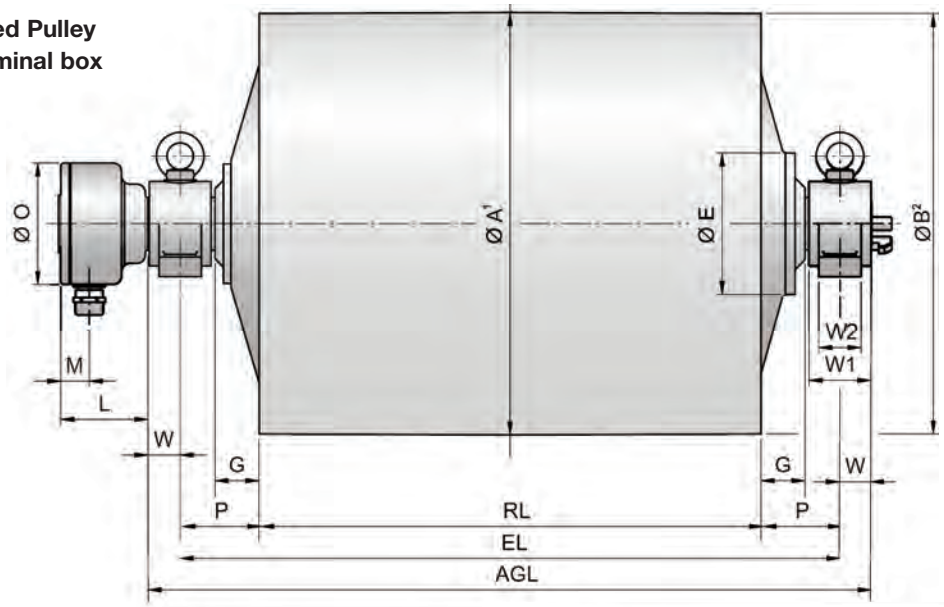
OPTIONAL EXTRAS
Motorized Pulley 800M, 800H, & 800HD

Specification		Availability
Semi-rust-free option	TS11 with regreasable labyrinth seals	x
Semi-rust-free option	TS12 with standard seals	x
Regreasable labyrinth seals		x
Dust explosion proof Motorized Pulleys - ATEX 95 - Zone 22 - for applications handling of dusty grain etc. According to European Directive 94/9/EC.		x
Standard black rubber lagging (See page 80.)		
3/8" full smooth lagging -	Hardness 60 ±5 Shore A	o
3/8" full diamond lagging -	Hardness 60 ±5 Shore A	o
3/8" partial smooth lagging -	Hardness 60 ±5 Shore A	o
White smooth rubber lagging (FDA listed) - Oil, fat & grease resistant		o
Special lagging - e.g. hot vulcanized, partial, and ceramic (See page 80.)		o
External brake shaft (for mechanical brake by others)		x
Mechanical backstop	Min. RL = 37.40" for 800M	x
	Min. RL = 45.28" for 800H $\leq$ 100 HP	x
	Min. RL = 55.12" for 800H > 100 HP	x
Insulation class F with standard oil: (allowable ambient temperature: -13°F/+104°F)		Std.
Insulation class H with synthetic oil: (allowable ambient temperature: -13°F/+120°F)		x
Parallel shell		x
Thermal protector		Std.
Voltage: Single voltage (460) stator (Y winding) wired for 460v/3ph/60 Hz at terminal box		Std.
IP66/67 Standard yellow powder coated cast iron terminal box		Std.
Special voltage motors		x
CSA approved motors		x

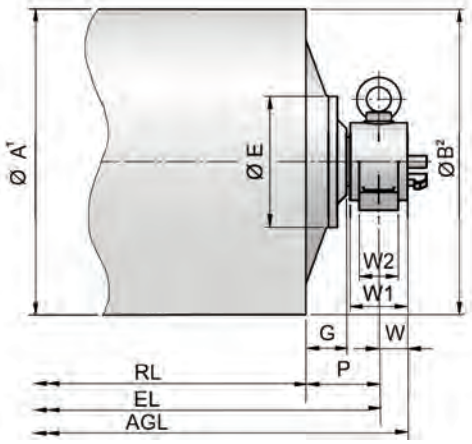
= Optional extras
= An option with certain limitations. Please refer to Technical precautions pages 76-86
= Fitted as standard

Motorized Pulley 800M, 800H, & 800HD Ø 31.50 in. (800 mm)

Motorized Pulley with terminal box



Idler Pulley³ UT630M / UT630H



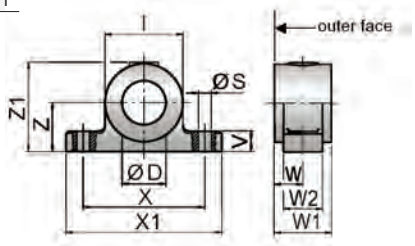
Model	Motorized Pulleys or Idler Pulleys A in	B in	C in	D⁴ in	E in	G in	L in	M in	O in	P in
800M	31.50	31.34	-	3.54	10.55	3.46	6.50	2.13	9.06	5.91
800H	31.50	31.34	-	4.72	12.99	3.15	7.87	2.44	10.24	5.91
UT630M	24.80	24.80	-	3.54	8.90	3.35	-	-	-	5.91
UT630H	24.80	24.80	-	4.72	12.99	2.95	-	-	-	5.91

1 A dimension is outer diameter of unlagged pulley shell at pulley centerline.

2 B dimension is outer diameter of unlagged pulley shell at each end of shell.

3 Idler pulley shown is non-crowned version.

4 D dimension is shaft diameter.



Mounting brackets*

Motorized Pulleys & Idler Pulleys Model	Material	Bracket Size*	Dimensions D in	I in	S in	V in	W in	W1 in	W2 in	X in	X1 in	Z in	Z1 in	Weight lbs
800M & UT630M	Cast steel	AL90/ALO90	3.54	6.30	1.02	1.65	2.40	4.61	3.15	9.84	12.60	3.94	7.20	41.89
800H & UT630H	Cast steel	AL120/ALO120	4.72	7.87	1.30	1.97	3.74	6.30	4.72	11.81	14.57	4.33	8.39	83.78

* Type AL bracket has gib key. Type ALO has no gib key. See position 69 on page 70.

Motorized Pulley 800M, 800H, & 800HD, Ø 31.50 in. (800 mm) 60 Hz

Motor		No. Gear Stages	Model	Nominal belt speed[1] at Full Load 60 Hz fpm	Actual belt speed[1] at Full Load 60 Hz fpm	Belt Pull[2] lbs	Max. Radial Load[3] T1 + T2 lbs	Min. RL in	RL Dimension inches (RL>78.74" available on request) Weight in lbs[5]									Type of Bracket
Power HP	No. of Poles								37.40	39.37	41.34	43.31	45.28	47.24	49.21	51.18	53.15	longer than 53.15
30	8	2	800M	300 384 480 600 760	312 396 515 621 806	2966 2333 1797 1489 1148	16,500	37.40	2118	2150	2179	2211	2241	2266	2291	2323	2354		
40	8	2	800M	300 384 480 600 760	312 396 515 621 806	4045 3182 2451 2030 1565	22,000	37.40	2207	2239	2268	2300	2329	2354	2379	2411	2443	See Note[4]	AL90 & ALO90
50	6	2	800M	384 480 600 760 960	416 528 686 828 1075	3741 2944 2267 1877 1448	22,000	37.40	2207	2239	2268	2300	2329	2354	2379	2411	2443		
61	4	2	800M	600 760 960	614 786 983	3034 2386 1838	19,900	37.40	2251	2282	2312	2343	2373	2398	2423	2455	2486		

Standard RL →

Motor		No. Gear Stages	Model	Nominal belt speed[1] at Full Load 60 Hz fpm	Actual belt speed[1] at Full Load 60 Hz fpm	Belt Pull[2] lbs	Max. Radial Load[3] T1 + T2 lbs	Min. RL in	RL Dimen. inches (RL>78.74" avail. on request) Weight in lbs[5]									Type of Bracket
Power HP	No. of Poles								55.12	57.09	59.06	61.02	62.99	64.96	66.93	68.90	70.87	longer than 70.87
75	8	3	800HD	240	248	9331	74,000	51.18	5323	5381	5439	5497	5555	5614	5672	5730	5788	See Note[4]	AL90 & ALO90
	6			300	330	7013													
	8	2	800H	384	380	6087	45,000	55.12	4823	4881	4939	4997	5055	5114	5172	5230	5288		
	6			480 600 760 960 1064	507 617 740 879 1036	4565 3749 3124 2630 2231		45.28											
100	8	3	800HD	240	248	12442	74,000	61.02	-	-	-	5497	5555	5614	5672	5730	5788		
	6			300	330	9350		51.18	5323	5181	5439								
	8	2	800H	384	380	8300	45,000	55.12	4823	4881	4939	4997	5055	5114	5172	5230	5288		
	6			480 600 760 960 1064	507 617 740 879 1036	6226 5111 4260 3587 3043		45.28											
122	6	3	800HD	384	399	9434	74,000	61.02	-	-	-	5608	5666	5724	5782	5840	5898		
	6	2	800H	480 600 760 960 1064	507 617 740 879 1036	7470 6134 5111 4305 3651	45,000	55.12	4933	4991	5049	5108	5166	5224	5282	5340	5398		
150	4	3	800HD	480 600	495 654	9300 7039	74,000	61.02	-	-	-	5552	5611	5669	5827	5785	5843		
	4	2	800H	760 960 1064	760 926 1111	6087 4998 4165	40,500	55.12	4878	4936	4994	5052	5111	5169	5227	5285	5343		
180	4	3	800HD	480 600	495 654	11160 8447	74,000	61.02	-	-	-	5641	5699	5757	5815	5873	5931		
	4	2	800H	760 960 1064	760 926 1111	7304 5997 4998	40,500	55.12	4966	5024	5062	5141	5199	5257	5315	5373	5431		

Standard RL →

Idler Pulley	Model UT630M	22,000	29.53	765	788	810	832	852	874	897	919	941	See Note[4]	AL90 & ALO90
	Model UT630H	45,000	45.28	1608	1643	1678	1713	1749	1784	1819	1854	1889		

1 Use "nominal belt speed" to specify pulley. "Actual belt speed" is presented (for pulley lagged with 3/8" thick rubber) to assist with process design calculations. See Technical Precautions page 79. Note that "actual belt speed" decreases when lagging is not used due to decreased pulley diameter.

2 Belt pull value allows for gearbox loss.

3 Pulley must not be subjected to radial load exceeding "Maximum radial load" defined above. See "Belt Tension" section in Technical Precautions, page 80.

4 Additional Motorized Pulley weight: Model 800M: 53.15"≤ RL ≤ 78.74" Wt = 16.1 lbs/in; Model 800H & 800HD: 66.93"≤ RL ≤ 78.74" Wt = 31.5 lbs/in.
Additional Idler Pulley weight: Model UT630M: 53.15"≤ RL ≤ 78.74" Wt = 11.2 lbs/in; Model UT630H: 66.93"≤ RL ≤ 78.74" Wt = 18.0 lbs/in.

5 Weights above include mounting brackets and are for pulleys "fully lagged" with 3/8" thick rubber. For "partially lagged" model 800M add 5% to 8% (for 800H add 3% to 4%) to the weights shown above. See pages 47, 82, & 83 for "partial lagging." To calculate unlagged pulley weight subtract 0.9 lbs/in of RL from above.

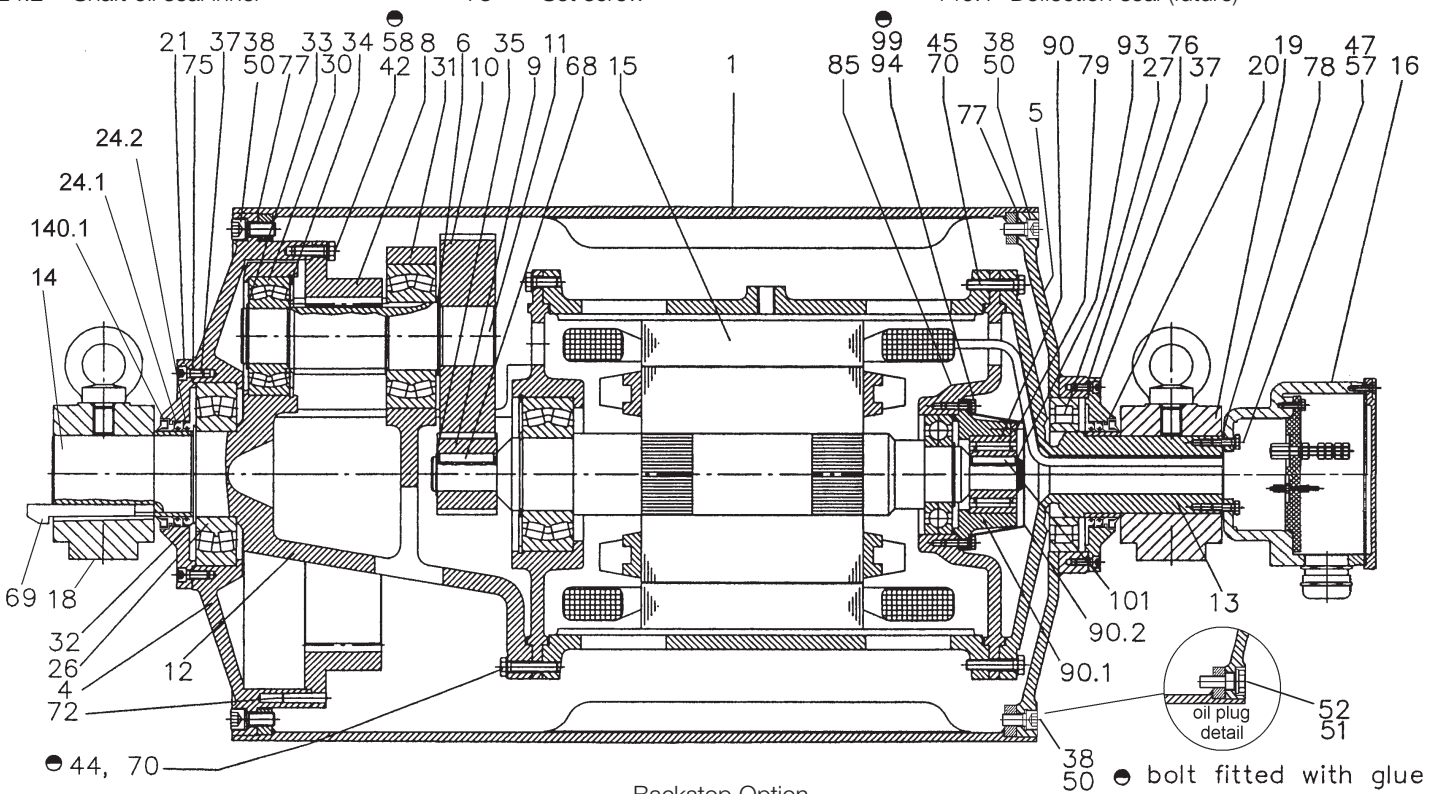
Motorized Pulley 800M & 800H 31.50 in. (800mm)

Spare parts list and sectional drawings

Pos.	Description
1	Shell
4	End housing with geared rim
5	End housing
6	Distance washer
8	Geared rim
9	Rotor pinion
10	Input wheel
11	Output pinion
12	Gear box including rear shaft
13	Front shaft
14	Rear shaft
15	Stator complete
15.1	Rotor
16	Terminal box complete
17	Nipple (for 500H/630M only)
18	Mounting bracket rear side
18.1	Mtg bracket rear side (lab option)
19	Mounting bracket front side
19.1	Mtg bracket front side (lab option)
20	Cover – front side
20.1	Cover with labyrinth groove
21	Cover – rear side
22.1	Cover with labyrinth groove
23	Rear flange
24.1	Shaft oil seal outer
24.2	Shaft oil seal inner

Pos.	Description
24.3	Shaft oil seal inner (lab option)
24.4	Shaft oil seal outer (lab option)
26	Bearing
27	Bearing
30	Bearing
31	Bearing
32	Retaining ring
33	Retaining ring
34	Retaining ring
35	Retaining ring
37	Hexagon socket screw
38	Hexagon socket screw
42	Hexagon head screw
44	Hexagon head screw
45	Hexagon head screw
47	Hexagon head screw
50	Washer
51	Gasket
52	Magnetic oil plug
57	Washer
58	Spring washer
68	Key
69	Gib key
70	Waved spring washer
72	Grooved pin
73	Set screw

Pos.	Description
75	Gasket
76	Gasket
77	Gasket
78	Gasket
79	Holding plate
85	Motor flange for backstop/brake
90	Backstop
90.1	Backstop housing
90.2	Backstop cover
93	Retaining ring
94	Hexagon head screw
99	Spring washer
101	Key
123	Grease nipple
130	Brake shaft
131	Mounting bracket bearing cover
132	Roller bearing
133	Brake shaft seal
134	Brake shaft seal
135	Retaining ring
136	Bolts - bearing cover
137	Spring lock washer
138	Key
139	Retaining ring
140	Key
140.1	Deflection seal (future)



Backstop Option

Motorized Pulley 800HD 31.50 in. (800mm)

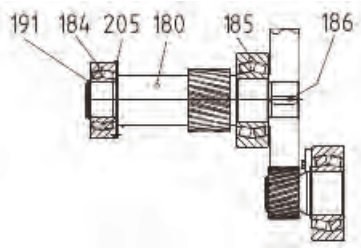
Spare parts list and sectional drawings

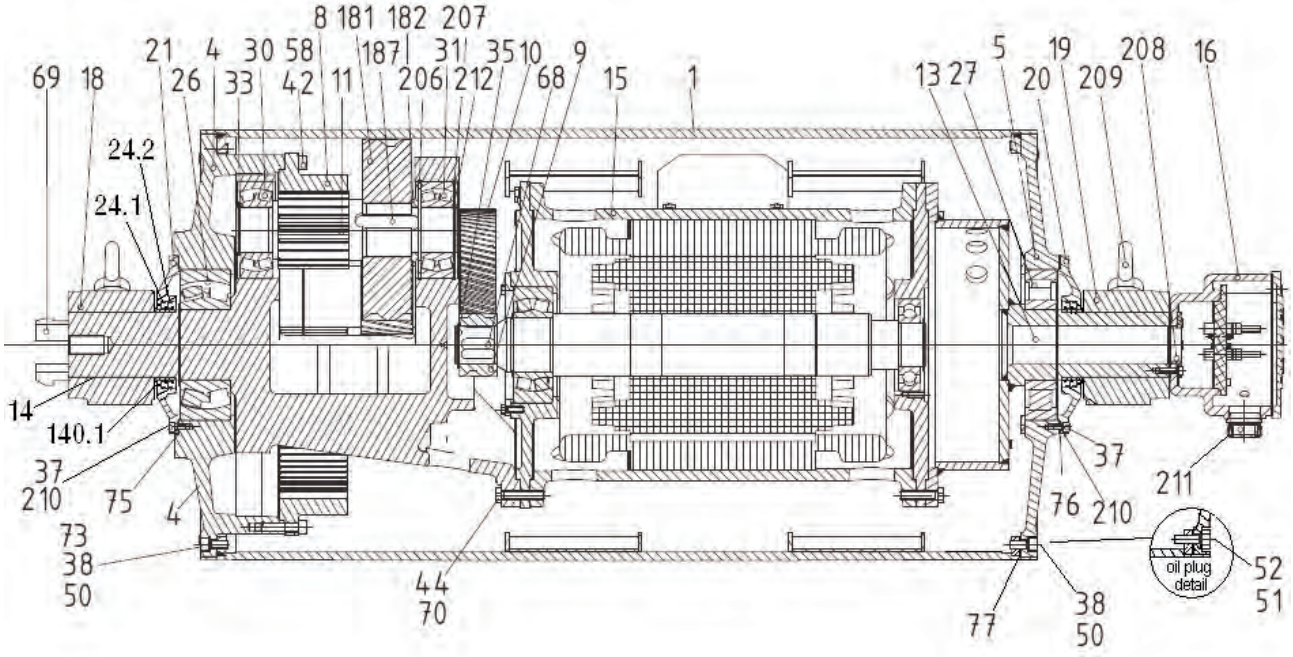
Pos.	Description
1	Shell
4	End housing with geared rim
5	End housing
6	Distance washer
8	Geared rim
9	Rotor pinion
10	Input wheel
11	Output pinion
12	Gear box – cast steel
13	Front shaft
14	Rear haft
15	Stator complete
16	Terminal box complete
20	Cover – front side
20.1	Cover with labyrinth groove
21	Cover – rear side
21.1	Cover with labyrinth groove
24.1	Shaft oil seal outer
24.2	Shaft oil seal inner
24.3	Shaft oil seal inner (lab option)
24.4	Shaft oil seal outer (lab option)

Pos.	Description
26	Bearing
27	Bearing
28	Bearing
30	Bearing
31	Bearing
32	Retaining ring
33	Retaining ring
34	Retaining ring
35	Retaining ring
37	Hexagon socket screw
38	Hexagon socket screw
42	Hexagon head screw
44	Hexagon head screw
45	Hexagon head screw
47	Hexagon head screw
50	Washer
51	Gasket
52	Magnetic oil plug
58	Spring washer
68	key
69	Gib key
70	Waved spring washer
72	Grooved pin
73	Set screw
75	Gasket
76	Gasket
77	Gasket
78	Gasket
85	Motor flange for backstop
90	Backstop complete
123	Grease nipple
130	Brake shaft
131	Mounting bracket bearing cover
132	Roller bearing

Pos.	Description
133	Brake shaft seal
134	Brake shaft seal
135	Retaining ring
136	Bolts – bearing cover
137	Spring lock washer
138	Key
139	Retaining ring
140	Key
140.1	Deflection seal (future)
188	Retaining ring
189	Retaining ring
190	Retaining ring
180	Intermediate pinion shaft
181	Intermediate pinion
182	Distance bushing
183	Washer
184	Roller bearing
185	Roller bearing
187	Key
191	Retaining ring
192	Retaining ring
193	Distance washer
194	Set screw
195	Prevailing torque type hex nut
196	Key
197	Retaining ring
205	Retaining ring
206	Retaining ring
207	Retaining ring
208	Protective ring
209	Eye bolt
210	Washer
211	Cable gland
212	Retaining ring
220	Insulation plate

Intermediate stage

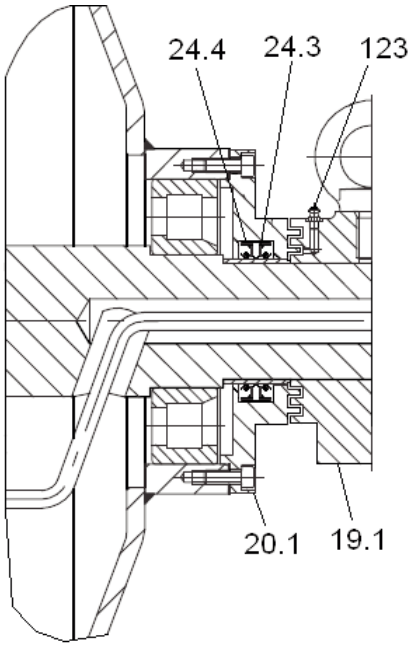




Motorized Pulley 800M, 800H, & 800HD Ø31.50 in. (800mm)

Sectional drawings

Labyrinth Seal Option



External Brake Shaft Option