



# 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 82. 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 37.
- 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 69-70
- Maximum RL - Please inquire
- Non standard RL's available
- To be used in horizontal positions  $\pm 5$  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 80-90
- **Environmental Considerations:** pages 78-79
- **Optional Extras:** page 67
- **Electrical Connection Diagrams:** pages 94-100

## 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 37.
- 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 pages 82-83.)	
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 ≤ 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

x = Optional extras

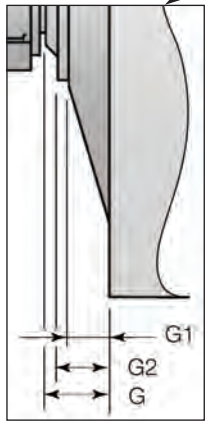
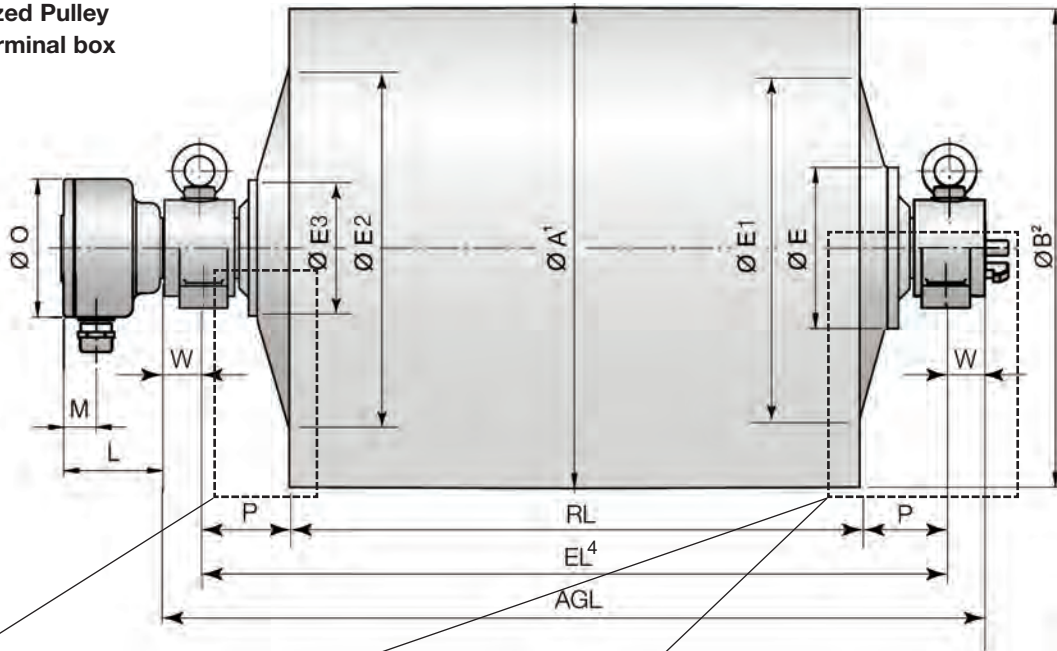
o = An option with certain limitations. Please refer to Technical precautions pages 80-90.

Std. = Fitted as standard

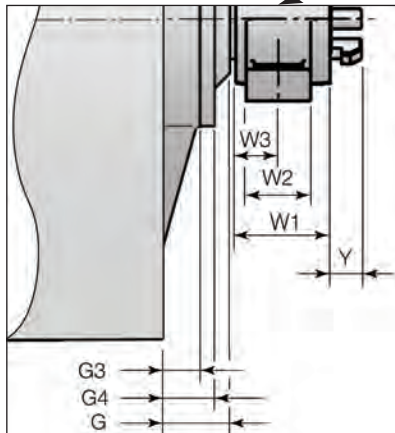


# Motorized Pulley 800M, 800H, & 800HD Ø 31.50 in. (800 mm)

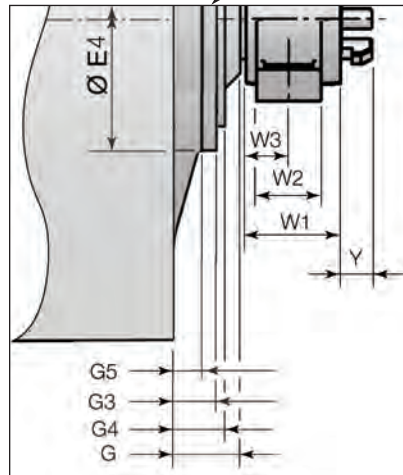
Motorized Pulley with terminal box



Models 800H and 800HD

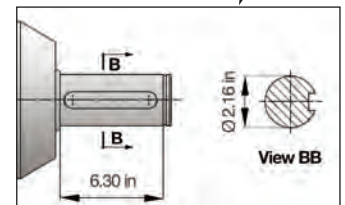
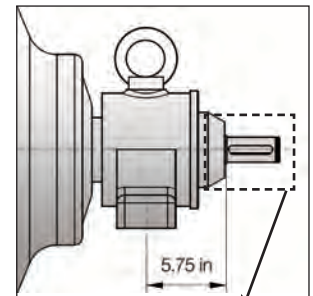


Model 800H



Model 800HD

Optional external brake shaft



Model	Dimensions <sup>5</sup>																		
	A in	B in	D <sup>3</sup> in	E in	E1 in	E2 in	E3 in	E4 in	G in	G1 in	G2 in	G3 in	G4 in	G5 in	L in	M in	O in	P in	Y in
800M	31.50	31.34	3.54	10.55	24.02	24.41	8.90	n/a	3.58	2.13	2.68	1.81	2.56	n/a	6.50	2.13	9.06	5.91	2.0
800H	31.50	31.34	4.72	12.99	26.77	26.77	12.99	n/a	3.35	1.61	2.32	1.61	2.32	n/a	7.87	2.44	10.24	5.91	2.5
800HD	31.50	31.34	4.72	12.99	26.77	26.77	12.99	16.46	3.35	1.61	2.32	1.93	2.32	0.75	7.87	2.44	12.24	5.91	2.5

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 D dimension is shaft diameter.

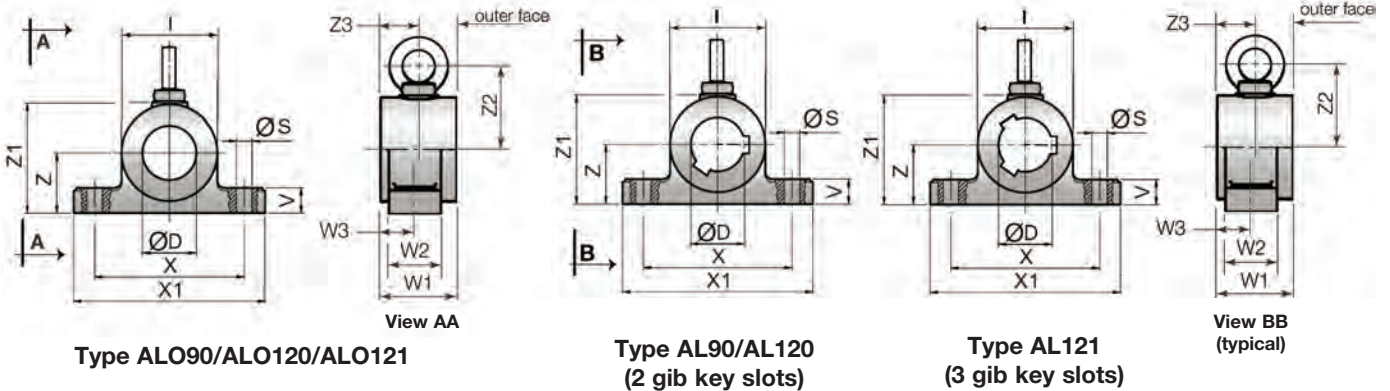
4 EL = mounting centers

5 Dimensions E, E1, E2, E3, E4, G, and G3 may vary +/- 0.25 in because they do not refer to machined parts. G dimension does not apply to lab seals (see pg 73).



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

## Mounting Brackets



Motorized Pulleys	Material	Bracket Size	Dimensions														Weight lbs	
			D	I	S	V	W	W1	W2	W3	X	X1	Z	Z1	Z2	Z3		
Model			in	in	in	in	in	in	in	in	in	in	in	in	in	in	in	in
800M	Cast steel	AL90/ALO90	3.54	6.30	1.02	1.65	2.40	4.60	3.15	2.30	9.84	12.60	3.94	7.20	5.14	2.30	41.89	
800H	Cast steel	AL120/ALO120	4.72	7.87	1.30	1.97	3.74	6.30	4.72	2.56	11.81	14.57	4.33	8.39	6.31	3.15	83.78	
800HD	Cast steel	AL121/ALO121	4.72	7.87	1.30	1.97	3.74	6.30	4.72	2.56	11.81	14.57	4.33	8.39	6.31	3.15	83.78	

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

- 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 81. Note that "actual belt speed" decreases when lagging is not used due to decreased pulley diameter.
- Belt pull value allows for gearbox loss.
- Pulley must not be subjected to radial load exceeding "Maximum radial load" defined above. See "Belt Tension" section in Technical Precautions, page 82.
- 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.
- 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 45, 82, & 83 for "partial lagging." To calculate unlagged pulley weight subtract 0.9 lbs/in of RL from above.

Rulmeca offers return, snub, and idler pulleys with dimensions to match our Motorized Pulleys on request.



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

Motor		No. Gear Stages	Model	Nominal belt speed <sup>1</sup> at Full Load 60 Hz fpm	Actual belt speed <sup>1</sup> at Full Load 60 Hz fpm	Belt Pull <sup>2</sup> lbs	Max. Radial Load <sup>3</sup> T1 + T2 lbs	Min. RL in	RL Dimen. inches (RL>78.74" avail. on request)										Weight in lbs <sup>5</sup> longer than 70.87	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			
75	8	3	800HD	240	248	9331	74,000	51.18	5323	5381	5439	5497	5555	5614	5672	5730	5788	See Note <sup>4</sup>	AL121 & ALO121	
	6			300	330	7013														
	8			384	380	6087														
	6	2	800H	480	507	4565	45,000	45.28	4823	4881	4939	4997	5055	5114	5172	5230	5288		AL120 & ALO120	
				600	617	3749														
				760	740	3124														
				960	879	2630														
				1064	1036	2231														
100	8	3	800HD	240	248	12442	74,000	61.02	-	-	-	5497	5555	5614	5672	5730	5788	See Note <sup>4</sup>	AL121 & ALO121	
	6			300	330	9350														
	8			384	380	8300														
	6	2	800H	480	507	6226	45,000	45.28	4823	4881	4939	4997	5055	5114	5172	5230	5288		AL120 & ALO120	
				600	617	5111														
				760	740	4260														
				960	879	3587														
				1064	1036	3043														
122	6	3	800HD	384	399	9434	74,000	61.02	-	-	-	5608	5666	5724	5782	5840	5898	See Note <sup>4</sup>	AL121 & ALO121	
	6	2	800H	480	507	7470	45,000	55.12	4933	4991	5049	5108	5166	5224	5282	5340	5398		AL120 & ALO120	
				600	617	6134														
				760	740	5111														
				960	879	4305														
				1064	1036	3651														
150	4	3	800HD	480	495	9300	74,000	61.02	-	-	-	5552	5611	5669	5827	5785	5843	See Note <sup>4</sup>	AL121 & ALO121	
	4	2	800H	760	760	6087	40,500	55.12	4878	4936	4994	5052	5111	5169	5227	5285	5343		AL120 & ALO120	
				960	926	4998														
				1064	1111	4165														
180	4	3	800HD	480	495	11160	74,000	61.02	-	-	-	5641	5699	5757	5815	5873	5931	See Note <sup>4</sup>	AL121 & ALO121	
	4	2	800H	760	760	7304	40,500	55.12	4966	5024	5062	5141	5199	5257	5315	5373	5431		AL120 & ALO120	
				960	926	5997														
				1064	1111	4998														

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- 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 45, 82, & 83 for "partial lagging." To calculate unlagged pulley weight subtract 0.9 lbs/in of RL from above.

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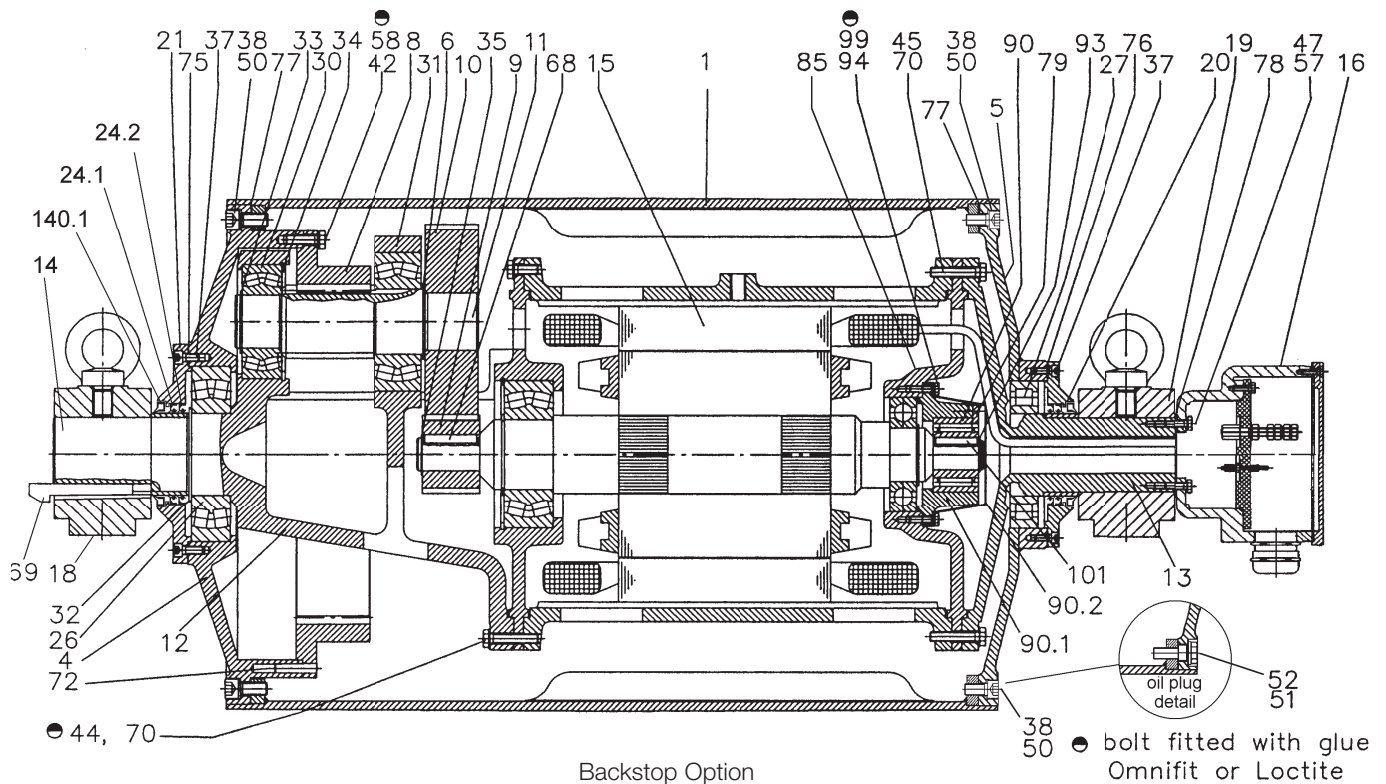




# Motorized Pulley 800M & 800H 31.50 in. (800mm)

## Spare parts list and sectional drawings

Pos.	Description	Pos.	Description	Pos.	Description
1	Shell	24.3	Shaft oil seal inner (lab option)	75	Gasket
4	End housing with geared rim	24.4	Shaft oil seal outer (lab option)	76	Gasket
5	End housing	26	Bearing	77	Gasket
6	Distance washer	27	Bearing	78	Gasket
8	Geared rim	30	Bearing	79	Holding plate
9	Rotor pinion	31	Bearing	85	Motor flange for backstop/brake
10	Input wheel	32	Retaining ring	90	Backstop
11	Output pinion	33	Retaining ring	90.1	Backstop housing
12	Gear box including rear shaft	34	Retaining ring	90.2	Backstop cover
13	Front shaft	35	Retaining ring	93	Retaining ring
14	Rear shaft	37	Hexagon socket screw	94	Hexagon head screw
15	Stator complete	38	Hexagon socket screw	99	Spring washer
15.1	Rotor	42	Hexagon head screw	101	Key
16	Terminal box complete	44	Hexagon head screw	123	Grease nipple
17	Nipple (for 500H/630M only)	45	Hexagon head screw	130	Brake shaft
18	Mounting bracket rear side	47	Hexagon head screw	131	Mounting bracket bearing cover
18.1	Mtg bracket rear side (lab option)	50	Washer	132	Roller bearing
19	Mounting bracket front side	51	Gasket	133	Brake shaft seal
19.1	Mtg bracket front side (lab option)	52	Magnetic oil plug	134	Brake shaft seal
20	Cover – front side	57	Washer	135	Retaining ring
20.1	Cover with labyrinth groove	58	Spring washer	136	Bolts - bearing cover
21	Cover – rear side	68	Key	137	Spring lock washer
22.1	Cover with labyrinth groove	69	Gib key	138	Key
23	Rear flange	70	Waved spring washer	139	Retaining ring
24.1	Shaft oil seal outer	72	Grooved pin	140	Key
24.2	Shaft oil seal inner	73	Set screw	140.1	Deflection seal (future)



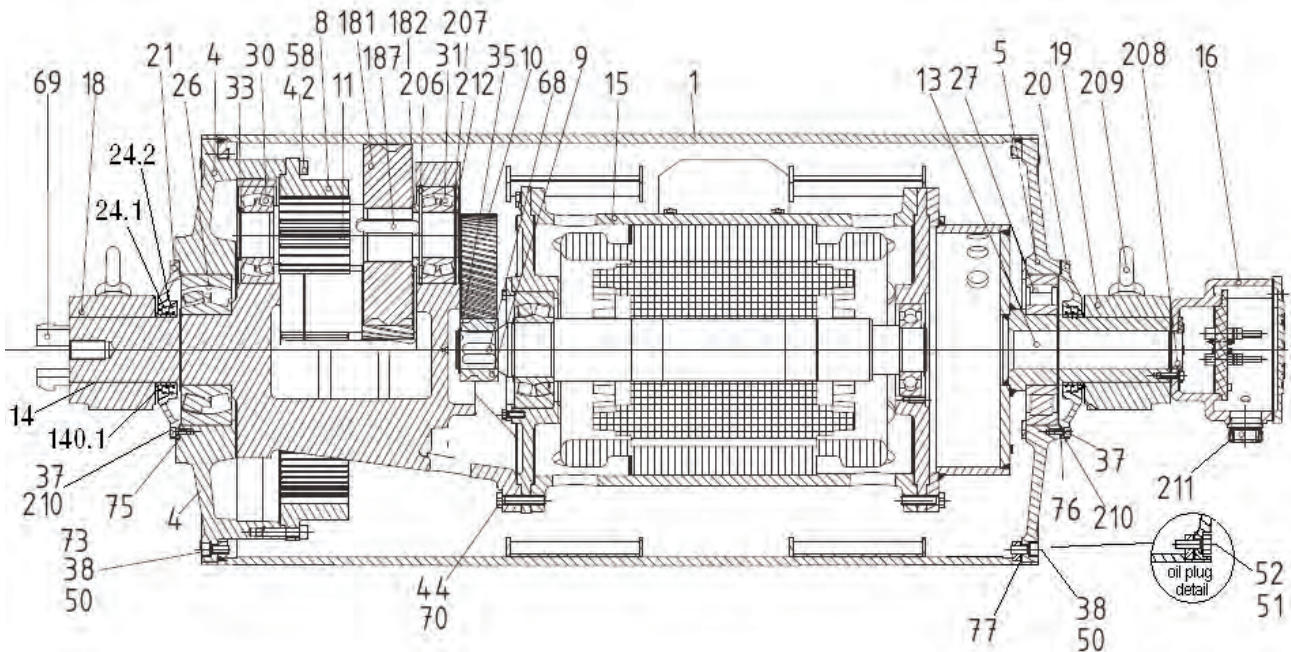
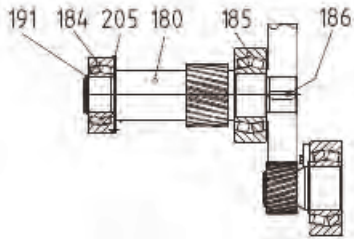


# Motorized Pulley 800HD 31.50 in. (800mm)

## Spare parts list and sectional drawings

Pos.	Description	Pos.	Description	Pos.	Description
1	Shell	26	Bearing	133	Brake shaft seal
4	End housing with geared rim	27	Bearing	134	Brake shaft seal
5	End housing	28	Bearing	135	Retaining ring
6	Distance washer	30	Bearing	136	Bolts – bearing cover
8	Geared rim	31	Bearing	137	Spring lock washer
9	Rotor pinion	32	Retaining ring	138	Key
10	Input wheel	33	Retaining ring	139	Retaining ring
11	Output pinion	34	Retaining ring	140	Key
12	Gear box – cast steel	35	Retaining ring	140.1	Deflection seal (future)
13	Front shaft	37	Hexagon socket screw	188	Retaining ring
14	Rear shaft	38	Hexagon socket screw	189	Retaining ring
15	Stator complete	42	Hexagon head screw	190	Retaining ring
16	Terminal box complete	44	Hexagon head screw	180	Intermediate pinion shaft
20	Cover – front side	45	Hexagon head screw	181	Intermediate pinion
20.1	Cover with labyrinth groove	47	Hexagon head screw	182	Distance bushing
21	Cover – rear side	50	Washer	183	Washer
21.1	Cover with labyrinth groove	51	Gasket	184	Roller bearing
24.1	Shaft oil seal outer	52	Magnetic oil plug	185	Roller bearing
24.2	Shaft oil seal inner	58	Spring washer	187	Key
24.3	Shaft oil seal inner (lab option)	68	key	191	Retaining ring
24.4	Shaft oil seal outer (lab option)	69	Gib key	192	Retaining ring
		70	Waved spring washer	193	Distance washer
		72	Grooved pin	194	Set screw
		73	Set screw	195	Prevailing torque type hex nut
		75	Gasket	196	Key
		76	Gasket	197	Retaining ring
		77	Gasket	205	Retaining ring
		78	Gasket	206	Retaining ring
		85	Motor flange for backstop	207	Retaining ring
		90	Backstop complete	208	Protective ring
		123	Grease nipple	209	Eye bolt
		130	Brake shaft	210	Washer
		131	Mounting bracket bearing cover	211	Cable gland
		132	Roller bearing	212	Retaining ring
				220	Insulation plate

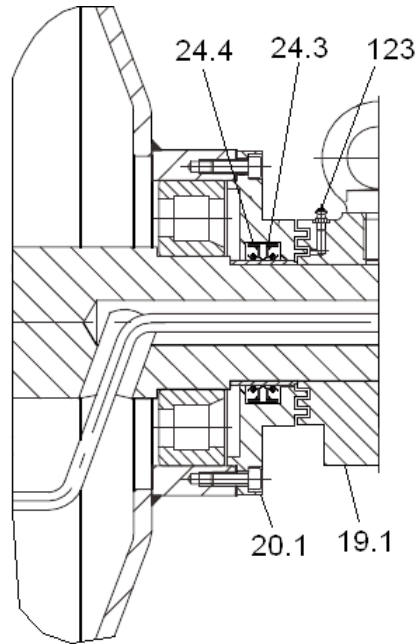
Intermediate stage





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

Labyrinth Seal Option



External Brake Shaft Option

