

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
- Dvnamically 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 ±5 degree only

Please note:

- Noise-sensitive Areas: High speed 2pole motors can cause higher noise levels and are not recommended for noisesensitive areas
- Technical Precautions for Design, Installation, and Maintenance: pages 80-90
- Environmental Considerations: pages 78-79
- Optional Extras: page 67
- Electrical Connection Diagrams: pages 94-101

SEMI-RUST-FREE options

TS11

- Polyurethane painted mild steel shell at minimum thickness of 4.7 mils
- Polyurethane painted cast iron end housings at min. 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.
- Polyurethane 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 labvrinth seals Х Semi-rust-free option TS12 with standard seals X Regreasable labyrinth seals Χ Dust explosion proof Motorized Pulleys - ATEX 95 - Zone 22 - for applications handling of dusty grain etc. According to European Directive 94/9/EC. Х Standard black rubber lagging (See pages 82-83.) 3/8" full smooth lagging - Hardness 60 ±5 Shore A 0 3/8" full diamond lagging - Hardness 60 ±5 Shore A 0 3/8" partial smooth lagging - Hardness 60 ±5 Shore A 0 White smooth rubber lagging (FDA listed) - Oil, fat & grease resistant 0 Special lagging - e.g. hot vulcanized, partial, and ceramic (See page 80.) 0 External brake shaft (for mechanical brake by others) Mechanical backstop Min. RL = 37.40" for 800M Χ Min. RL = 45.28" for 800H < 100 HP Χ Min. RL = 55.12" for 800H > 100 HP Х 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) Χ Parallel shell Χ Thermal protection switch Std. Temperature monitoring device (PT100 RTD or PTC) Χ Thermal protection switch and temperature monitoring device (PT100 RTD or PTC) Χ 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 Χ Special zinc-rich epoxy paint Χ CSA approved motors Χ

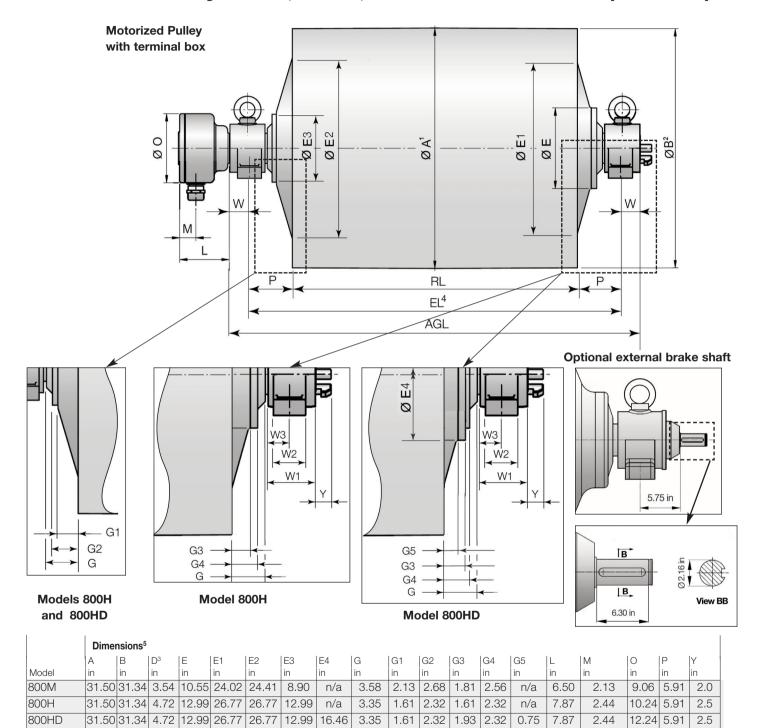
x = Optional extras

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)



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.

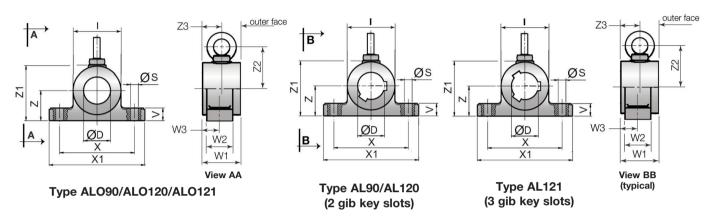
⁴ EL = mounting centers

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	Material	Bracket	Dimen	nensions											Weight		
Pulleys		Size	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	lbs
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

M	otor			Nominal belt	Actual belt	Belt	Max.	Min.	Maight in Iba5				t)							
Powe		No. Gear Stages	Model	speed ¹ at Full Load 60 Hz fpm	speed ¹ at Full Load 60 Hz fpm	Pull ²	Radial Load ³ T1 + T2 lbs	Load ³ T1 + T2	RL in	37.40	39.37	41.34			47.24		51.18	53.15	longer than 53.15	Bracket
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		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			

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 81. Note that "actual belt speed" decreases when lagging is not used due to decreased pulley diameter.

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

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 82.

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.

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.



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

Мо	tor			Nominal belt	Actual belt	Belt	Max.	Min.	RL	Dimen.	inches	(RL>7	8.74" a	vail. on	reques	st) Wei	ght in I	bs ⁵	
Power	No. of Poles	No. Gear Stages	Model	speed ¹ at Full Load 60 Hz fpm	speed ¹ at Full Load 60 Hz fpm	Pull ²	Radial Load ³ T1 + T2 lbs	RL in	55.12	57.09	59.06	61.02	62.99	64.96	66.93	68.90	70.87	longer than 70.87	Type of Bracket
	8	3	800HD	240	248	9331	74,000	51.18	5323	5381	5439	5497	5555	5614	5672	5730	5788		AL121 & ALO121
	8			300 384	330 380	7013 6087		55.12											ALUTZT
	0			480	507	4565		00.12											
75	6	2	800H	600 760 960 1064	617 740 879 1036	3749 3124 2630 2231	45,000	45.28	4823	4881	4939	4997	5055	5114	5172	5230	5288		AL120 & ALO120
	8	0	000110	240	248	12442	74.000	61.02	-	-	-	- 40-							AL121 &
	6	3	800HD	300	330	9350	74,000	51.18	5323	5181	5439	5497	5555	5614	5672	5730	5788		ALO121
	8	2	800H	384	380	8300		55.12											
100	6	2	800H	480 600 760 960 1064	507 617 740 879 1036	6226 5111 4260 3587 3043	45,000	45.28	4823	4881	4939	4997	7 5055 5	5114	5172	5230	5288	See -	AL120 & ALO120
	6	3	800HD	384	399	9434	74,000	61.02	-	-	-	5608	5666	5724	5782	5840	5898	Note ⁴	AL121 & ALO121
122	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		AL120 & ALO120
	4	3	800HD	480 600	495 654	9300 7039	74,000	61.02	-	-	-	5552	5611	5669	5827	5785	5843		AL121 & ALO121
150	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		AL120 & ALO120
	4	3	800HD	480 600	495 654	11160 8447	74,000	61.02	-	-	-	5641	5699	5757	5815	5873	5931		AL121 & ALO121
180	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	51	AL120 & ALO120

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 $^{4 \}qquad \text{Additional Motorized Pulley weight:} \qquad \text{Model 800M: } 53.15\text{"} \leq \text{RL} \leq 78.74\text{"} \text{ Wt} = 16.1 \text{ lbs/in; Model 800H \& 800HD: } 66.93\text{"} \leq \text{RL} \leq 78.74\text{"} \text{ Wt} = 31.5 \text{ lbs/in.}$

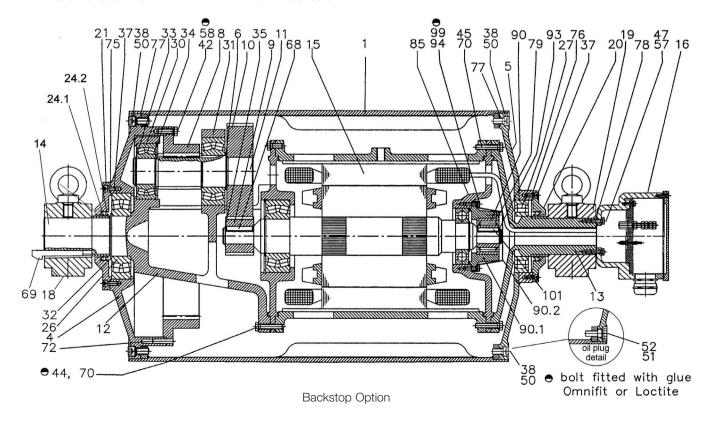
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Motorized Pulley 800M & 800H 31.50 in. (800mm)

Spare parts list and sectional drawings

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





Motorized Pulley 800HD 31.50 in. (800mm)

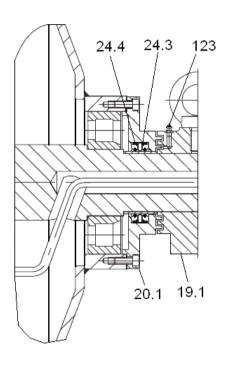
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Spare parts list and sectional drawings										
Pos.	Description	Pos.	Description	Pos.	Description					
1 4 5 6 8 9 10 11 12 13 14 15 16 18 18.1 19 19.1 20 20.1 21.1	Shell End housing with geared rim End housing Distance washer Geared rim Rotor pinion Input wheel Output pinion Gear box – cast steel Front shaft Rear haft Stator complete Terminal box complete Mounting bracket rear side Mounting bracket read side (lab option) Mounting bracket front side Mounting bracket front side (lab option) Cover – front side Cover with labyrinth groove Cover – rear side Cover with labyrinth groove Intermediate stage	24.1 24.2 24.3 24.4 26 27 28 33 34 35 37 38 44 45 51 55 88 69 72 73 75 67 77 85 91 130	Shaft oil seal outer Shaft oil seal inner Shaft oil seal inner (lab option) Shaft oil seal outer (lab option) Bearing Bearing Bearing Bearing Bearing Retaining ring Retaining ring Retaining ring Retaining ring Hexagon socket screw Hexagon socket screw Hexagon head screw Hexagon head screw Hexagon head screw Hexagon head screw Gasket Magnetic oil plug Spring washer key Waved spring washer Grooved pin Set screw Gasket Grooved pin Backstop complete Grease nipple Brake shaft	131 132 133 134 135 136 137 138 139 140 188 189 190 180 181 182 183 184 185 191 192 193 194 195 196 207 208 209 210 211 220	Mounting bracket bearing cover Roller bearing Brake shaft seal Brake shaft seal Retaining ring Bolts – bearing cover Spring lock washer Key Retaining ring Retaining ring Retaining ring Retaining ring Retaining ring Intermediate pinion shaft Intermediate pinion Distance bushing Washer Roller bearing Roller bearing Retaining ring Retaining ring Retaining ring Distance washer Set screw Prevailing torque type hex nut Key Retaining ring Protective ring Eye bolt Washer Cable gland Retaining ring Insulation plate					
6 14 31	9 18 26 33 42 11 20	31 3 06 212	510 9 15 1	13 2	5 19 208 16 27 20 209 16 37 211 76 210					



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

Labyrinth Seal Option



External Brake Shaft Option

