



Motorized Pulley 500H, Ø 19.72 in. (501 mm)

Our 19.72" diameter Motorized Pulley range offers strong performance BULK applications:

Choose the appropriate pulley motor and speed combination, always checking 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 19.72" diameter model is not strong enough to resist estimated belt tension, then select 24.80" diameter model.

Heavy duty

500H has strong internal components, with gearbox, shaft, and bearings designed for tough, irregular, and extreme operating conditions.

STANDARD SPECIFICATION of Motorized Pulley

- Crowned mild steel 19.72" 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 (AL65 & ALO65) included with 500H
- Oil change recommended every 10,000 operational hours
- Minimum RL. Refer to page 49
- 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 80-90
- **Environmental Considerations:** pages 78-79
- **Optional Extras:** page 47
- **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 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 500H

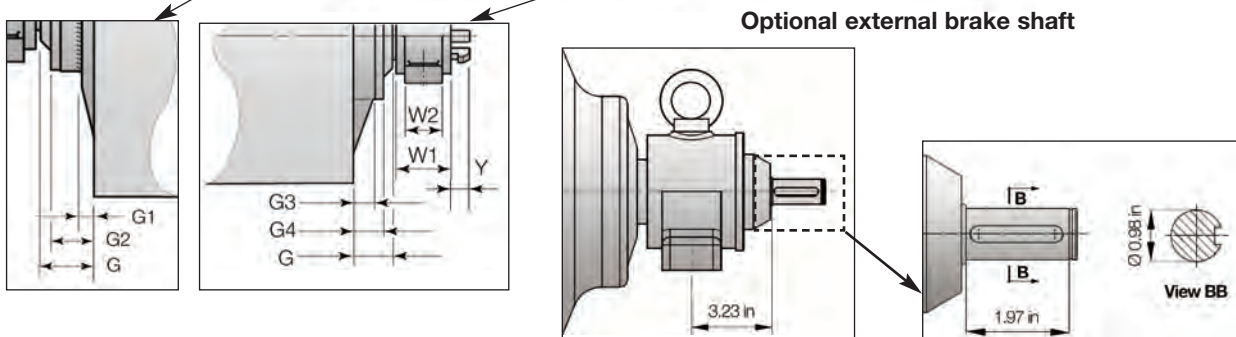
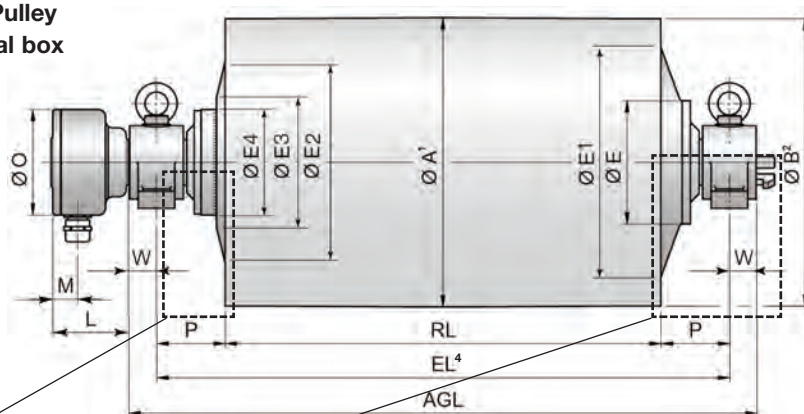
| Specification | Availability |
|---|--------------|
| Semi-rust-free option TS11 with regreasable labyrinth seals | x |
| Semi-rust-free option TS12 with standard seals | x |
| Regreasable labyrinth seals | x |
| Dust explosion proof Motorized Pulleys - ATEX 95 - Zone 22 - for applications handling 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 = 29.53" for 500H | 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



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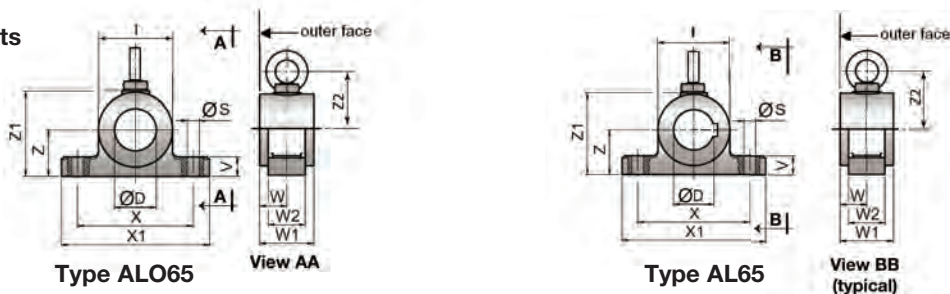
Motorized Pulley with terminal box



| Model | Dimensions | | | | | | | | | | | | | | | | | | |
|-------------------|------------|-------|----------------|------|----|----|----|----|------|----|----|----|----|------|------|------|------|-----|----|
| | A | B | D ³ | E | E1 | E2 | E3 | E4 | G | G1 | G2 | G3 | G4 | L | M | O | P | Y | |
| | in | in | in | in | in | in | in | in | in | in | in | in | in | in | in | in | in | in | in |
| 500H | 19.72 | 19.57 | 2.56 | 7.56 | - | - | - | - | 3.74 | - | - | - | - | 3.94 | 1.44 | 6.14 | 5.91 | 2.0 | |
| 500H (30 & 40 HP) | 19.72 | 19.57 | 2.56 | 9.25 | - | - | - | - | 3.74 | - | - | - | - | 6.50 | 2.13 | 9.06 | 5.91 | 2.0 | |

- 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.

Mounting brackets



| Motorized Pulleys | Material | Bracket Type | Dimensions | | | | | | | | | | | | Weight | | |
|-------------------|-----------|--------------|------------|------|------|------|------|------|------|------|------|------|------|------|--------|----|-----|
| | | | D | I | S | V | W | W1 | W2 | X | X1 | Z | Z1 | Z2 | | | |
| | | | in | in | in | in | in | in | in | in | in | in | in | in | in | in | lbs |
| 500H | Cast iron | AL65 / ALO65 | 2.56 | 4.53 | 0.91 | 1.34 | 1.85 | 3.54 | 2.36 | 7.09 | 9.45 | 3.15 | 5.55 | 3.65 | 17.64 | | |



Motorized Pulley 500H, Ø 19.72 in. (501 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 | | | | | | | | 29.53 | 31.50 | 33.46 | 35.43 | 37.40 | 39.37 | 41.34 | 43.31 | 45.28 | longer than 45.28 | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| 7.5 | 8 | 2 | 500H | 120* 150* 192 | 126 161 211 | 1839 1442 1097 | 10,340 | 29.53 | | | | | | | | | | | | | See Foot-note ⁴ AL65& ALO65 | |
| | 6 | 2 | 500H | 240 300 384 480 600 | 281 313 390 476 626 | 823 739 592 486 369 | | | 775 | 797 | 819 | 839 | 861 | 878 | 897 | 916 | 936 | | | | | |
| 10 | 8 | 2 | 500H | 120* 150 192 | 126 161 211 | 2509 1966 1496 | | | | | | | | | | | | | | | | |
| | 6 | 2 | 500H | 240 300 384 480 600 | 281 313 390 476 626 | 1122 1007 807 662 504 | | | 797 | 819 | 841 | 861 | 883 | 898 | 917 | 936 | 956 | | | | | |
| 15 | 6 | 2 | 500H | 192 240 300 384 480 600 | 214 281 313 390 476 626 | 2163 1645 1477 1185 970 739 | | | | | | | | | | | | | | | | |
| | | | | 240* 300 384 480 600 760 | 251 321 421 469 585 715 | 2509 1966 1496 1343 1077 882 | | | 819 | 841 | 863 | 883 | 905 | 920 | 939 | 958 | 978 | | | | | |
| 20 | 4 | 2 | 500H | 300 384 480 600 760 | 321 421 469 585 715 | 2425 1845 1656 1328 1089 | | | | | | | | | | | | | | | | |
| | | | | 240* 300 384 480 600 760 | 251 321 421 469 585 715 | 2509 1966 1496 1343 1077 882 | | | 844 | 863 | 881 | 900 | 918 | 940 | 959 | 978 | 999 | | | | | |
| 25 | 4 | 2 | 500H | 300 384 480 600 760 | 321 421 469 585 715 | 2425 1845 1656 1328 1089 | | | | | | | | | | | | | | | | |
| | | | | 300 384 480 600 760 | 321 421 469 585 715 | 2425 1845 1656 1328 1089 | | | 866 | 885 | 903 | 922 | 940 | 962 | 981 | 1000 | 1020 | | | | | |
| 30 | 4 | 2 | 500H | 300 384 | 321 421 | 2877 2210 | | | | 33.46 | - | - | | | | | | | | | | |
| | 2 | | | 480* 600* 760 | 502 642 843 | 1839 1442 1097 | | | 29.53 | 866 | 885 | 903 | 922 | 940 | 959 | 978 | 997 | 1017 | | | | |
| 40 | 4 | 2 | 500H | 384 480 600 760 | 421 469 585 715 | 2925 2626 2105 1722 | | 33.46 | - | - | 1090 | 1109 | 1127 | 1146 | 1165 | 1184 | 1204 | | | | | |

- Use "nominal belt speed" to specify pulley. "Actual belt speed" is presented (for pulley lagged with 3/8" thick material) 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, specified per Roller Length: $45.28 \leq RL \leq 78.74$ Wt = 9.8 lbs/in.
 - All weights shown above include mounting brackets and are for pulleys "fully lagged" with 3/8" thick material (i.e. rubber for 7.5 - 30 HP and solid ceramic for 40 HP). For "partially lagged" pulleys add 6% to 10% to the weights shown above. See pages 45, 82, & 83 for "partial lagging." To calculate unlagged pulley weight subtract 0.9 lbs/in of Roller Length from above.
- * External brake shaft option is not available in these belt speeds.

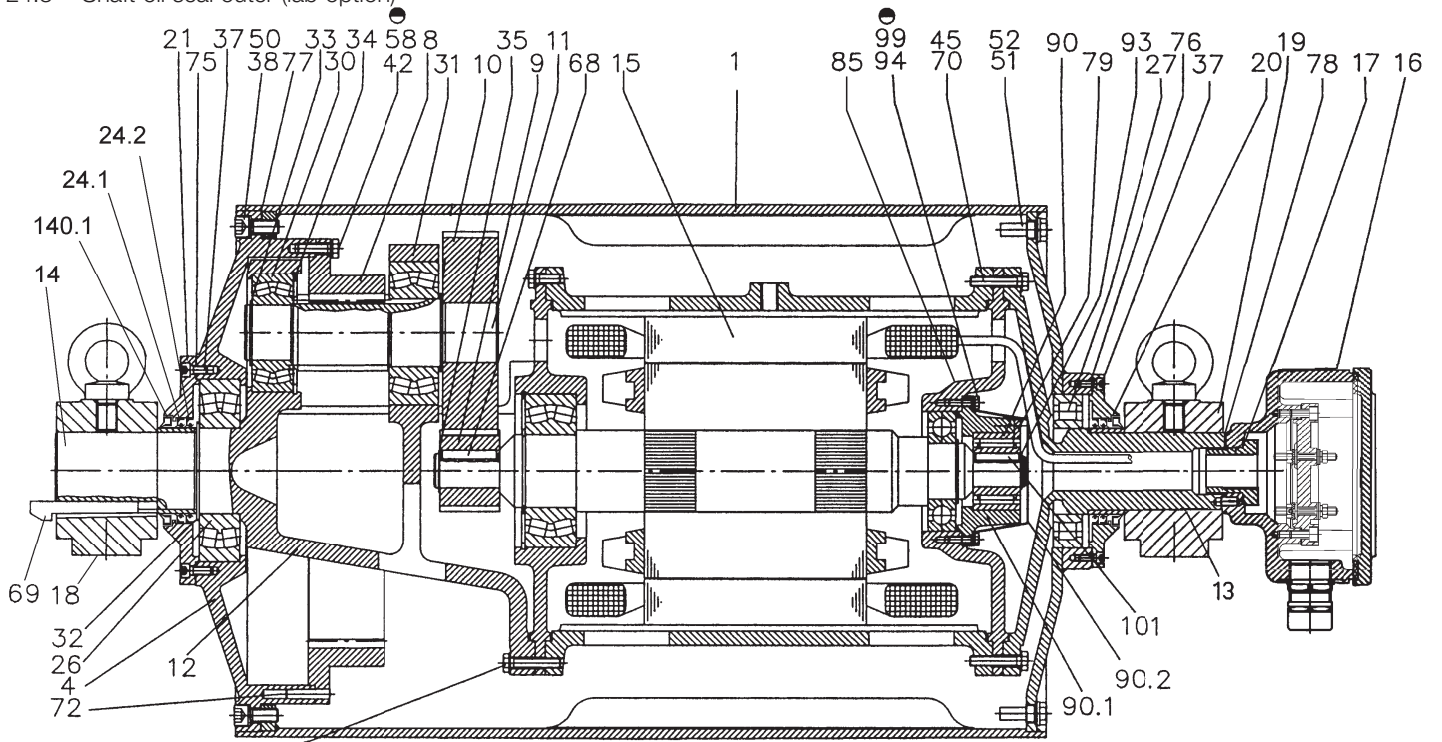
Rulmeca offers return, snub, and idler pulleys with dimensions to match our Motorized Pulleys on request.



Motorized Pulley 500H, Ø 19.72 in. (501 mm)

Spare parts list and sectional drawings

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



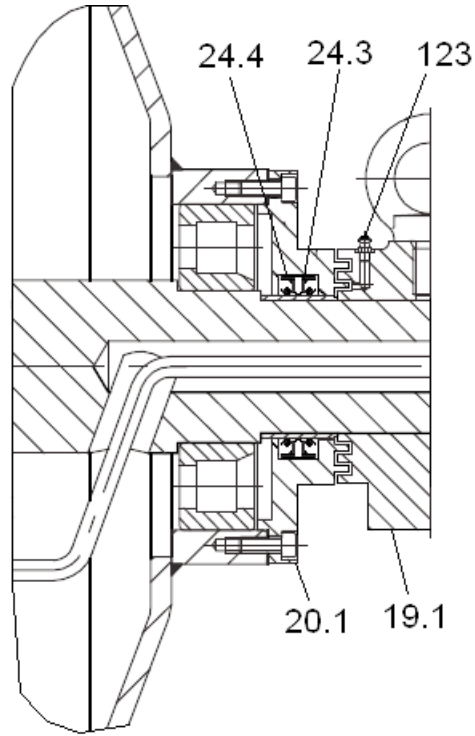
Cross sectional drawing shows optional backstop.



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Sectional drawings (See parts list on page 50.)

Labyrinth Seal Option



External Brake Shaft Option

