



Motorized Pulley 165LS, Ø 6.49 in. (165 mm)

Motorized Pulley 165LS, with machined helical gearbox, performs with a gearbox efficiency of 95% of nominal power, in a compact diameter of 6.49 inches. With a minimum roller length (RL) of 13.78" and powers ranging from 0.15 to 3.0 HP, this Motorized Pulley is suitable for most small diameter applications. These include:

- Light agricultural conveyors
- Light C & D debris conveyors
- Mobile and portable conveyors

Motorized Pulley 165LS features a standard enclosure class of IP66/67 and is also available in stainless steel for wash down applications.

STANDARD SPECIFICATION of Motorized Pulley

- Crowned mild steel 6.49" shell treated with anti-rust wax
- Die cast aluminum bearing housing
- Mild steel shaft treated with anti-rust wax
- Die cast lightweight aluminum gearbox housing
- Sealing system – degree of protection IP66/67 (EN60034-5.) See page 88.
- Compact die cast aluminum terminal box with WAGO connectors
- Voltage: All common voltages available. Please specify.
- Three phase induction motor
- One out of two oil plugs is fitted with a magnet to filter the oil.
- Motor winding insulation class F
- Dynamically balanced rotor
- Oil change recommended every 50,000 operational hours for synthetic oil and 10,000 operational hours for standard oil.
- Maximum RL 70.87"
- Non standard RL lengths available
- Single phase is available in 0.50 and 1.50 HP, supplied with a running capacitor
- To be used in the horizontal position only.

STAINLESS STEEL options

TS7N

- Stainless steel shell – AISI 304 range
- Stainless steel shafts – AISI 303 range
- Stainless steel covered aluminum bearing housings – AISI 304 range
- Stainless steel oil plugs with magnet – AISI 304 range
- Compact stainless steel terminal box – AISI 304 range
- Alternatively, straight stainless steel connector – AISI 303 range with power cord.
- Regreasable stainless steel seals – AISI 303 range
- Degree of protection IP66/67 (EN60034-5.) See page 88.
- FDA & USDA food grade grease
- Option: FDA & USDA food grade recognized oil.
- Special mounting brackets are available.

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:** pg 15 and back cover
- **Electrical Connection Diagrams:** pages 94-96.



OPTIONAL EXTRAS

Motorized Pulley 165LS

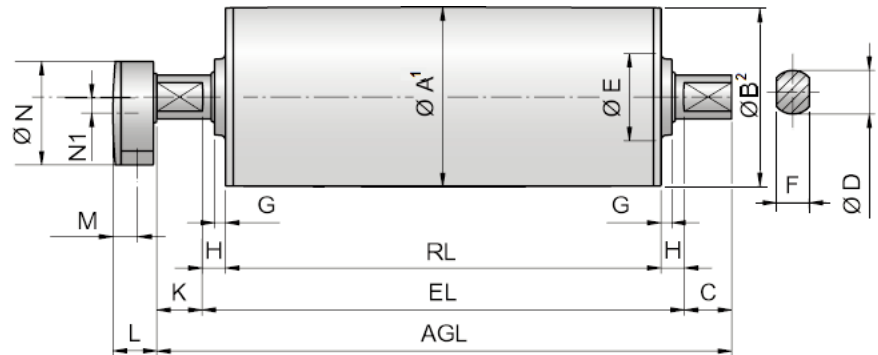
| Specification | Availability | |
|--|--|------|
| Total stainless steel option AISI 304 range | TS7N with regreasable labyrinth seals | x |
| Food grade oil & grease - FDA & USDA recognized | | x |
| Dust explosion proof Motorized Pulleys - ATEX 95 - Zone 22 - for applications handling dusty grain etc. According to European Directive 94/9/EC. | | x |
| Total acid resistant stainless steel option - AISI 316 | | x |
| Black rubber lagging - Standard specifications (See page 80.) 1/8" smooth lagging - Hardness 60 ±5 Shore A | | o |
| White smooth rubber lagging (FDA). Oil, fat & grease resistant | | o |
| Special lagging (e.g. hot vulcanized) | | o |
| Electromagnetic brake | Min. RL increases by 1.97" | x |
| Mechanical backstop | Min. RL does not increase with backstop option | x |
| Modified for vertical mounting | | o |
| Modified for mounting between 5° and 90° (e.g. for magnetic separators) | | o |
| 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 |
| Special motors for applications with no belt contact | | o |
| Low noise drives for noise sensitive areas | | x |
| Parallel shell | | x |
| Thermal protector | | Std. |
| IP66/67 Compact unpainted aluminum terminal box | | Std. |
| IP66/67 Compact stainless steel terminal box- AISI 304 or 316 range | | x |
| Straight or elbow connector with standard power cord | | x |
| Straight connector with screened power cord | (See page 86 for VFD precautions) | x |
| Straight connector with standard power cord | (Stainless steel in AISI 304 range) | x |
| Voltage: single voltage (460) stator (Y winding) wired for 460v/3ph/60 Hz at terminal box | | Std. |
| single voltage (230) stator (YY winding) wired for 230v/3ph/60 Hz at terminal box | | x |
| 2 speed motors | | x |
| Special voltage motors | | x |
| Single phase motors | | o |
| CSA approved motors | | x |

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



Motorized Pulley 165LS, Ø 6.49 in. (165 mm)

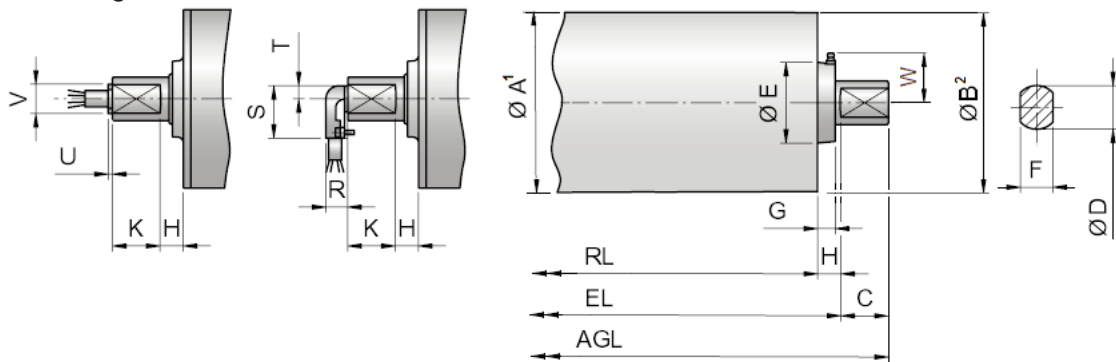
Motorized Pulley with Terminal Box



Motorized Pulley with cable straight connector

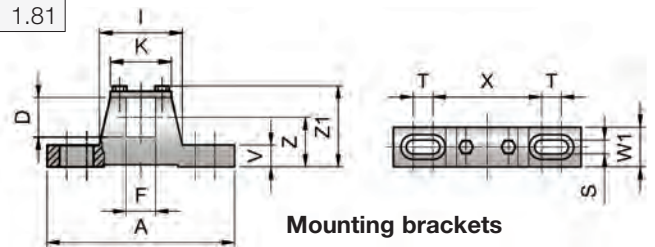
Elbow connector (not for TS7N)

Idler Pulley³ TS7N version



| Model | Motorized Pulley or idler Pulley (UT) | | | | | | | | | | Compact terminal box | | | | Straight connector | | Elbow connector | | |
|---------|---------------------------------------|------|------|------|------|------|------|------|------|------|----------------------|------|------|-------|--------------------|------|-----------------|------|------|
| | A in | B in | C in | D in | E in | F in | G in | H in | K in | W in | L in | M in | N in | N1 in | U in | V in | R in | S in | T in |
| 165LS | 6.49 | 6.44 | 1.71 | 1.57 | 3.15 | 1.18 | 0.39 | 0.85 | 1.63 | - | 1.61 | 0.95 | 3.74 | 0.55 | 0.16 | 1.06 | 0.79 | 1.89 | 0.47 |
| UT165LS | 6.49 | 6.49 | 1.71 | 1.57 | 2.95 | 1.18 | 0.65 | 0.85 | - | 1.81 | | | | | | | | | |

- 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 TS7N version with regreasable seals.



| Motorized Pulleys | Material | Bracket Size | Part Number | Dimensions | | | | | | | | | | | | | Weight lbs |
|-------------------|-----------------|--------------|-------------|------------|------|------|------|------|------|------|------|-------|------|------|-------|------|------------|
| | | | | A in | D in | F in | I in | K in | S in | T in | V in | W1 in | X in | Z in | Z1 in | | |
| 165LS | Steel painted | KL41-HD | 6YA0K | 7.48 | 1.57 | 1.18 | 3.31 | 2.44 | 0.55 | 0.79 | 0.87 | 1.57 | 4.33 | 1.97 | 3.27 | 4.63 | |
| | Steel Ni plated | | 6YA0W | | | | | | | | | | | | | | |
| | Stainless steel | | 6YA0U | | | | | | | | | | | | | | |



Motorized Pulley 165LS, Ø 6.49 in. (165 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 _{max} = 70.87") Weight in lbs ⁵ | | | | | | | | | | Type of Bracket |
|--------------|---------------|-----------------|-------|--|---|----------------------------|---|------------|--|-------|-------|-------|----------------------------|---------------|-------|-------|-------|----------------------------|-----------------|
| Power HP | No. of Poles | | | | | | | | 15.75 | 17.72 | 19.69 | 21.65 | 23.62 | 25.59 | 27.56 | 29.53 | 31.50 | longer than 31.50 | |
| 0.15 | 12 | 3 | 165E | 12 | 14 | 351 | 2,097 | 15.75 | 66 | 69 | 72 | 76 | 78 | 80 | 83 | 87 | 90 | See Foot-note ⁴ | KL41-HD 6YA0K |
| | | | | 14 | 16 | 288 | | | | | | | | | | | | | |
| | | | | 18 | 20 | 233 | | | | | | | | | | | | | |
| 0.50 | 6 | 3 | 165E | 24 | 25 | 624 | 2,097 | 15.75 | 68 | 71 | 75 | 78 | 80 | 83 | 86 | 89 | 92 | See Foot-note ⁴ | KL41-HD 6YA0K |
| | | | | 30 | 30 | 512 | | | | | | | | | | | | | |
| | 4 | 3 | 165E | 38 | 37 | 414 | | | | | | | | | | | | | |
| | | | | 48 | 48 | 328 | | | | | | | | | | | | | |
| | | 2 | 165E | 60 | 59 | 265 | | | | | | | | | | | | | |
| | | | | 76 | 77 | 202 | | | | | | | | | | | | | |
| 1.00 | 4 | 3 | 165E | 96 | 98 | 160 | 2,097 | 15.75 | 64 | 67 | 70 | 73 | 76 | 78 | 81 | 84 | 88 | See Foot-note ⁴ | KL41-HD 6YA0K |
| | | | | 120 | 123 | 126 | | | | | | | | | | | | | |
| | | | | 150 | 152 | 102 | | | | | | | | | | | | | |
| 1.50 | 4 | 3 | 165E | 192 | 199 | 78 | 2,097 | 15.75 | 70 | 74 | 77 | 80 | 82 | 84 | 88 | 91 | 94 | See Foot-note ⁴ | KL41-HD 6YA0K |
| | | | | 240 | 251 | 62 | | | | | | | | | | | | | |
| | 2 | 3 | 165E | 38 | 38 | 810 | | | | | | | | | | | | | |
| | | | | 48 | 48 | 664 | | | | | | | | | | | | | |
| | | 2 | 165E | 60 | 59 | 537 | | | | | | | | | | | | | |
| | | | | 76 | 77 | 409 | | | | | | | | | | | | | |
| 2.00 | 2 | 3 | 165E | 96 | 98 | 325 | 2,097 | 15.75 | 75 | 78 | 81 | 84 | 87 | 89 | 92 | 95 | 99 | See Foot-note ⁴ | KL41-HD 6YA0K |
| | | | | 120 | 123 | 256 | | | | | | | | | | | | | |
| | | | | 150 | 152 | 207 | | | | | | | | | | | | | |
| 3.00 | 4 | 3 | 165E | 192 | 199 | 158 | 2,097 | 15.75 | 77 | 80 | 83 | 87 | 89 | 91 | 94 | 98 | 101 | See Foot-note ⁴ | KL41-HD 6YA0K |
| | | | | 240 | 251 | 125 | | | | | | | | | | | | | |
| | 2 | 3 | 165E | 76 | 81 | 569 | | | | | | | | | | | | | |
| | | | | 96 | 99 | 467 | | | | | | | | | | | | | |
| | | 2 | 165E | 120 | 123 | 378 | | | | | | | | | | | | | |
| | | | | 150 | 161 | 288 | | | | | | | | | | | | | |
| 3.00 | 2 | 3 | 165E | 192 | 203 | 228 | 2,097 | 17.72 | - | 84 | 87 | 91 | 93 | 95 | 98 | 102 | 105 | See Foot-note ⁴ | KL41-HD 6YA0K |
| | | | | 240 | 257 | 180 | | | | | | | | | | | | | |
| | | | | 300 | 318 | 145 | | | | | | | | | | | | | |
| Idler Pulley | Model UT165LS | 2,097 | 15.75 | 33 | 35 | 39 | 43 | 45 | 47 | 50 | 54 | 58 | See Foot-note ⁴ | KL41-HD 6YA0K | | | | | |
| | | | | | | | | | | | | | | | 384 | 416 | 111 | | |
| | | | | | | | | | | | | | | | 480 | 525 | 88 | | |
| | | | | | | | | | | | | | | | 600 | 646 | 74 | | |
| | | | | | | | | | | | | | | | 768 | 787 | 88 | | |
| | | | | | | | | | | | | | | | 120 | 132 | 717 | | |
| 150 | 161 | 588 | | | | | | | | | | | | | | | | | |
| 192 | 192 | 466 | | | | | | | | | | | | | | | | | |
| 240 | 250 | 378 | | | | | | | | | | | | | | | | | |
| 300 | 302 | 314 | | | | | | | | | | | | | | | | | |
| 384 | 417 | 227 | | | | | | | | | | | | | | | | | |
| 480 | 527 | 180 | | | | | | | | | | | | | | | | | |
| 600 | 648 | 146 | | | | | | | | | | | | | | | | | |
| 768 | 783 | 121 | | | | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | |
|---------------------|---------------|-------|-------|----|----|----|----|----|----|----|----|----|----------------------------|---------------|
| Idler Pulley | Model UT165LS | 2,097 | 15.75 | 33 | 35 | 39 | 43 | 45 | 47 | 50 | 54 | 58 | See Foot-note ⁴ | KL41-HD 6YA0K |
|---------------------|---------------|-------|-------|----|----|----|----|----|----|----|----|----|----------------------------|---------------|

- Use "nominal belt speed" to specify pulley. "Actual belt speed" is presented (for pulley lagged with 1/8" thick rubber) to assist with process design calculations. See Technical Precautions page 77. 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 78.
- Additional Motorized Pulley and Idler Pulley weight, specified per inch of Roller Length:
 - 31.50" ≤ RL < 45.28" Wt = 1.5 lbs/in
 - 45.28" ≤ RL < 64.96" Wt = 2.1 lbs/in
 - 64.96" ≤ RL < 70.87" Wt = 2.9 lbs/in
- All weights shown above are for pulleys with 1/8" thick rubber lagging. To calculate unlagged pulley weight subtract 0.1 lbs/in of Roller Length from above.

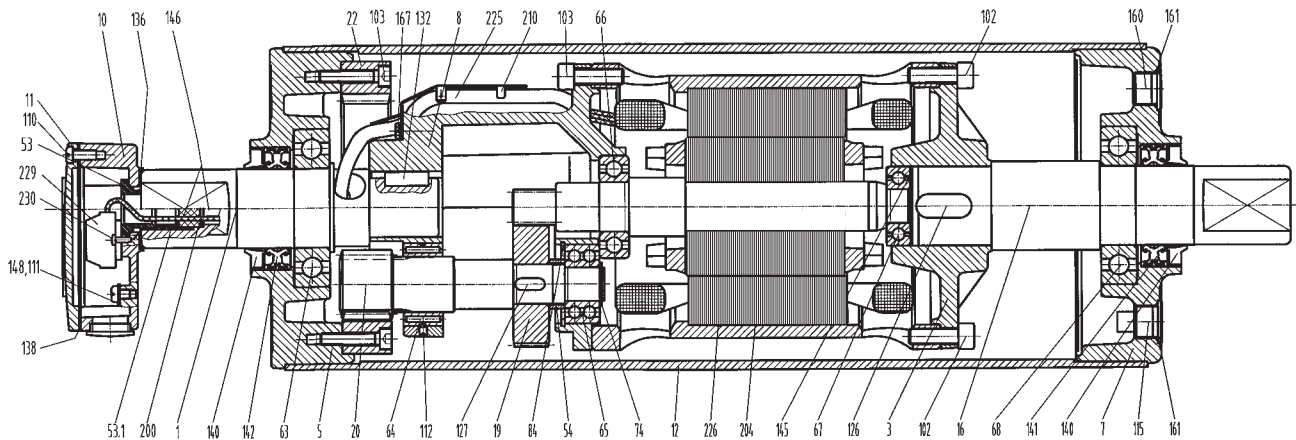


Motorized Pulley 165LS, Ø 6.49 in. (165 mm)

Spare parts list and sectional drawings

| Pos. | Description | Pos. | Description | Pos. | Description |
|------|--|-------|----------------------------------|------|----------------------|
| 1 | Front shaft | 53 | Cable seal nipple (cable option) | 102 | Screw |
| 3 | Rear flange | 53.1 | Nipple (terminal box) | 103 | Screw |
| 5 | Bearing housing complete with geared rim | 55 | Spacer bushing | 110 | Screw |
| 7 | Bearing housing complete | 56 | Spacer bushing | 111 | Screw |
| 8 | Gearbox | 63 | Ball bearing | 112 | Socket set screw |
| 10 | Terminal box – bottom part | 64 | Needle bearing | 113 | Screw |
| 11 | Terminal box cover | 65-70 | Ball bearing | 114 | Socket set screw |
| 12 | Shell | 71 | Inner race | 115 | Oil plug with magnet |
| 16 | Rear shaft | 73 | Locking ring | 126 | Key |
| 19 | Input wheel | 74 | Locking ring | 127 | Key |
| 20 | Output pinion | 74 | Locking ring | 131 | Key |
| 22 | Geared rim | 81 | Locking ring | 132 | Key |
| 23 | Intermediate pinion shaft | 84 | Locking ring | 136 | O-ring/Rubber seal |
| 24 | Intermediate wheel | 85 | Locking ring | 138 | Rubber seal |
| 31 | Labyrinth seal cover | 86 | Locking ring | | |
| | | 93 | Elbow or straight connector | | |

2-stage gearbox

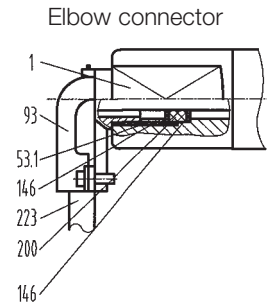
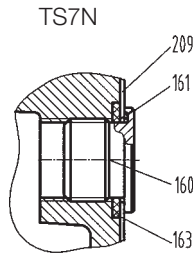




Motorized Pulley 165LS, Ø 6.49 in. (165 mm)

Spare parts list and sectional drawings

| Pos. | Description | Pos. | Description | Pos. | Description |
|-------|-----------------------|------|--------------------------------------|------|--------------------------------------|
| 139 | Grease nipple | 156 | Rectifier (not shown) | 209 | Stainless steel cover – oil plug end |
| 140 | Deflection seal | 160 | Oil plug | 210 | Fixing guard |
| 141 | Double lip seal | 161 | O-ring | 223 | Cable |
| 142 | Double lip seal | 163 | O-ring | 226 | Stator complete |
| 143 | O-ring | 167 | Screw | 240 | Distance ring |
| 145 | Distance washer | 200 | Rubber seal | | |
| 146 | Washer | 204 | Rotor complete with pinion | | |
| 148 | Washer | 206 | Insulated sleeve for wire protection | | |
| 150 | Electromagnetic brake | 208 | Stainless steel cover – gear end | | |
| 150.1 | Friction disc | | | | |



TS7N with cable connection

3-stage gearbox

Electromagnetic brake

