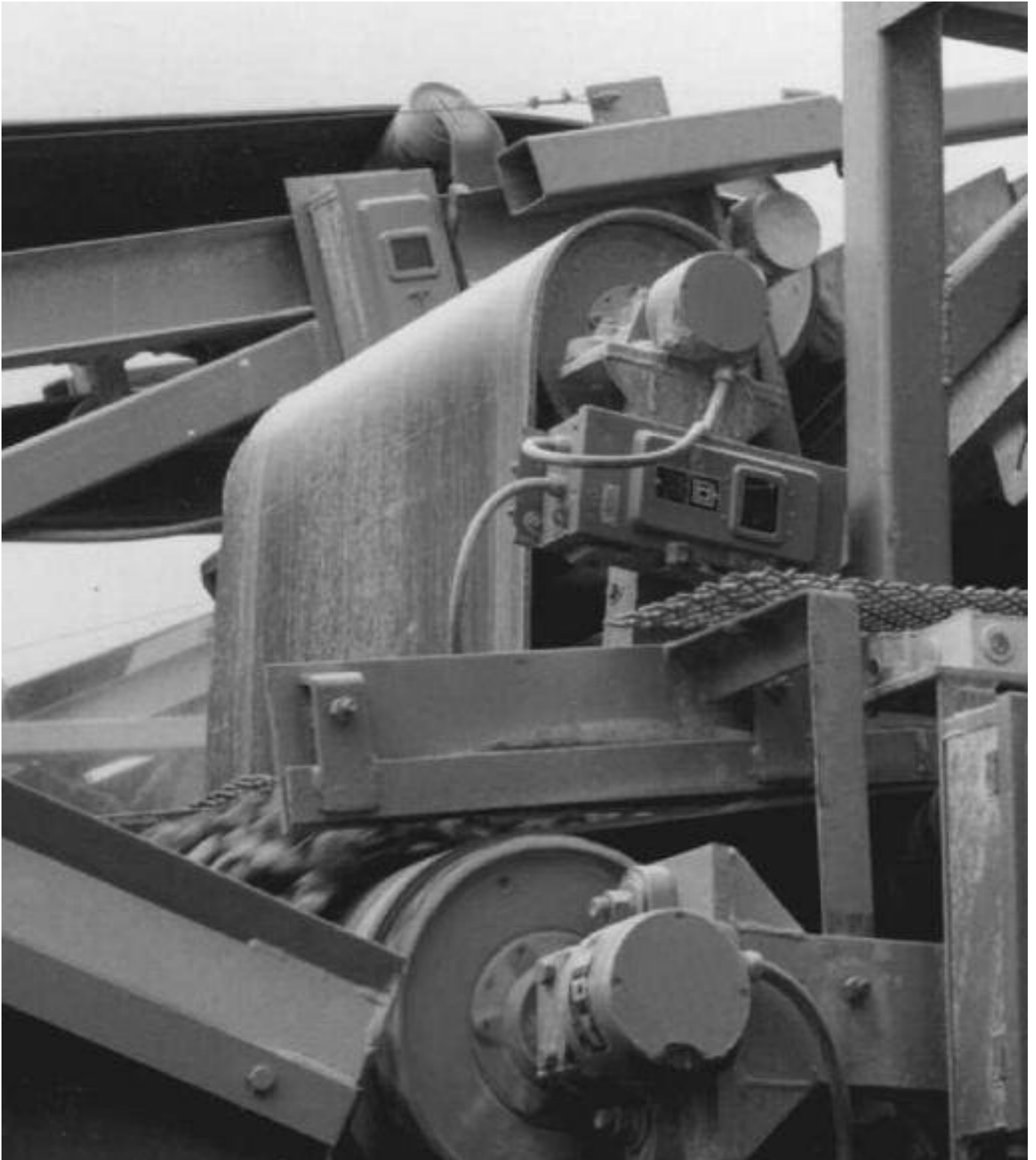


MOTORIZED PULLEYS FOR BELT CONVEYORS BULK HANDLING

GENERAL CATALOGUE

Moving ahead.





Rulmecca Motorized Pulleys in mobile Crushing & Screening. Features: Compact, reliable and requires NO maintenance!



Motorized Pulley 400L, 400M & 400H, Ø 400 mm

To match your requirements in diameter 400 mm, our product range offers three different loading performances for your BULK applications:

- L for Light-duty
- M for Medium-duty
- H for Heavy-duty

You have a choice.

Therefore, it is important to notice the differences to choose the right type of pulley for the right application based on estimated belt tension (radial load) = T1+T2. The actual radial load **MUST** be **LESS** than the max. allowable radial load shown in this catalogue.

Be aware of increased belt tensions using **multi-ply thick heavy belts** and/or larger belt widths.

If you do not find the belt tension needed in this diameter, you might have to choose a larger one.

L for Light-duty

400L is meant for applications with regular and constant operating conditions. Max. allowable radial load has to be respected. A popular application is magnetic separators! (Motor/gearbox origin from 320M).

M for Medium-duty

The internal parts of 400M are designed for tough, irregular and extreme working conditions.

400M are typically used in grain storage, cement, steel, fertilities and heavy mobile crushing & screening applications.

H for Heavy-duty

Due to a solid 3-stage gearbox, 400H provides the necessary forces needed for low speeds, combined with high power, and is designed to handle irregular loadings in BRUTAL conditions.

STANDARD SPECIFICATION of Motorized Pulley

- Crowned mild steel Ø 400 mm steel shell painted yellow – min. layer of 60 µm
- Bolted powder coated cast iron bearing housings and covers, all painted yellow – min. layer of 60µm
- Mild steel shafts treated with anti-rust wax
- Shaft sealing system - degree of protection IP66/67 (EN60034-5)
- Powder coated aluminium terminal box – 400L
- Cast iron terminal box 400M & 400H painted yellow – min. layer of 60µm
- 3-phase induction motors with thermal protector
- Voltage: 3-phase single voltage. Most 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
- Oil change recommended every 20.000 operational hours
- Minimum RL. Please refer to pages 43-44
- Maximum RL – Please inquire!
- Non standard RL's available
- To be used in horizontal positions ±5 degree only!

Please note:

- Straight or elbow connector available – 400L ≤4.0 kW
- Special speeds available on request.
- Parallel shell available. Diameter equal to dimension Ø A.
- Motorized Pulleys for non-horizontal positions available on request.

STAINLESS STEEL options

TS9N

- Stainless steel shell – AISI 304 range
- Stainless steel shafts – AISI 303/4 range
- Stainless steel covered bearing housings – AISI 316 range
- Re-greasable bearing covers with labyrinth grooves and labyrinth seals with grease nipples in stainless steel – AISI 304 range

- Stainless steel oil plugs – AISI 304 range – one out of two with magnet
- Stainless steel exterior bolts – AISI 304 range
- Shaft sealing system – degree of protection IP66/67 (EN60034-5)

TS10N

- As TS9, but WITHOUT re-greasable labyrinth seals

SEMI-RUST-FREE options

TS11N

- Painted mild steel shell – min. layer of 120 µm
- Stainless steel shafts – AISI 303/4 range
- Stainless steel covered cast iron bearing housing – AISI 316 range
- Re-greasable bearing covers with labyrinth grooves and grease nipples in stainless steel
- Zinc plated oil plugs one out of two with magnet
- Zinc plated exterior bolts
- Shaft sealing system – degree of protection IP66/67 (EN60034-5)
- Powder coated terminal box - 400L
- Painted terminal box – min. thickness layer of 120 µm – 400M & 400H

TS12N

- As TS11N, but without re-greasable seals.
- Covers - standard

Other Options:

- FDA & USDA food grade recognized oil and grease are NOT included in TS9N - TS12N, but available on request
- Complete Motorized Pulleys in acid resistant stainless steel – AISI 316 range – on request.

Electrical connection options:

- Salt water resistant powder coated aluminium terminal box with zinc plated exterior bolts
- Stainless steel terminal box – AISI 304 range (400L - ≤4.0 kW only)
- Straight stainless steel connector with flying lead – AISI 304 range - ≤4.0 kW.

When ordering, please specify the required voltage, electrical connection and eventual TS-number, options, brackets and idler pulleys.

- Environmental considerations: page 77-78
- Technical precautions: pages 81-92
- Optional extras: page 41 and back cover
- Connection Diagrams: pages 98-100.



OPTIONAL EXTRAS

Motorized Pulley 400L, 400M & 400H

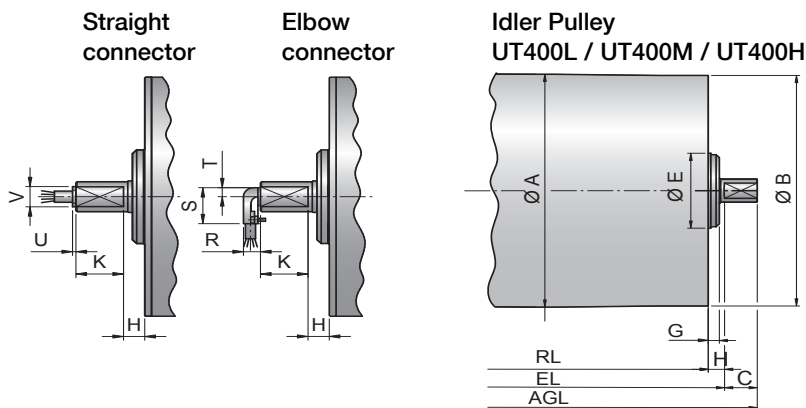
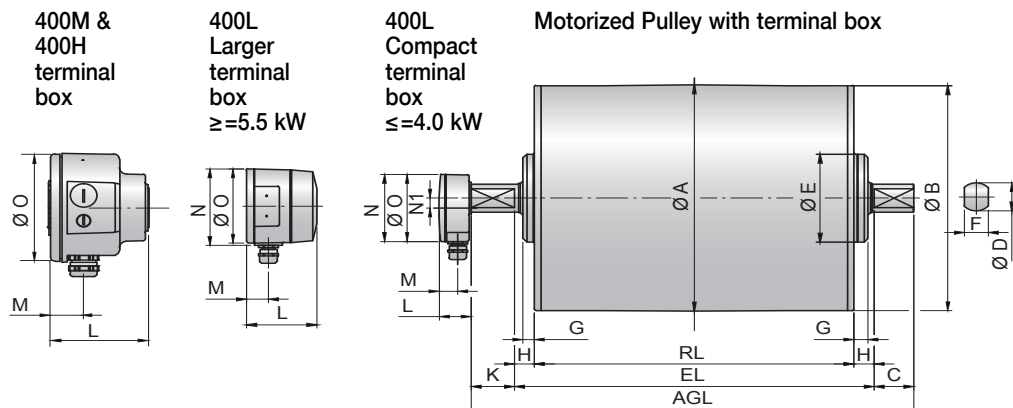
Specification	400L	400M & 400H
Total stainless steel option AISI 304 range TS9N Re-greasable labyrinth seals!	x	x
Total stainless steel option AISI 304 range TS10N Standard seals!	x	x
Semi-rust-free option TS11N Re-greasable labyrinth seals!	x	x
Semi-rust-free option TS12N Standard seals!	x	x
Food grade oil & grease - FDA & USDA recognized - available on request	x	x
Dust explosion proof Motorized Pulleys - ATEX 95 - Zone 22 - for applications handling of dusty grain etc. According to European Directive 94/9/EC.	On request	On request
TOTAL acid resistant stainless steel option - AISI 316	x	x
Re-greasable labyrinth seals - mild steel	x	x
Black rubber lagging - STANDARD specifications:	o	o
- Smooth lagging - Hardness 60 ±5 Shore A	8 mm	8 mm
- Diamond lagging - Hardness 60 ±5 Shore A	8 mm	8 mm
White smooth rubber lagging (FDA). Oil, fat & grease resistant	x	x
SPECIAL lagging available on request - e.g. hot vulcanized, ceramic etc.	x	x
Electromagnetic brake	x	x
Min. RL dimensions increases by (mm)	100	100
Mechanical backstop - 400M from RL750mm & 400H from RL800 mm	x	x
Min. RL dimensions increases by (mm)	50	
Modified for vertical mounting	o	
Modified for mounting between 5° - ≤ 90° - e.g. for magnetic separators	o	
Insulation class F - Allowable ambient temperature: -25°C-+40°C	Std.	Std.
Insulation class H with synthetic oil	x	x
Parallel shell	x	x
Thermal protector	Std.	Std.
IP66/67 Compact powder coated aluminium terminal box - food grade approved	Std. ≤ 4.0 kW	
IP66/67 Compact stainless steel - AISI 304 or 316 range - terminal box	≤ 4.0 kW	
IP66/67 Larger powder coated aluminium terminal box - food grade approved	Std. ≥ 5.5 kW	
IP66/67 cast iron terminal box painted yellow		Std.
Straight or elbow connector with flying lead	≤ 4.0 kW	
Straight connector with flying lead - Stainless steel - AISI 304 range -	≤ 4.0 kW	
Shaft sealing system - degree of protection IP66/67 (EN60034-5)	Std.	Std.
Screened cables - a MUST together with Frequency Converters	x	
3-phase single voltage (3 x 400V) or (3 x 690V) 50Hz +/- 10% tolerance - DIN IEC 38	Std.	Std.
Euro wide range voltage (3x220-240V / 380-415V 50 Hz) with +/-10% tolerance - DIN IEC 38 or (3x380-400V / 660-690V 50 Hz) with +/-10% tolerance - DIN IEC 38	x	-
Euro-voltage (3x230/400V or 400/690V 50 Hz) with +/-10% tolerance - DIN IEC 38	Std.	Std.
Special voltages - 50 and/or 60Hz Please specify!	x	x
Dual voltage - delta/star - connection possibility!	x	x
CSA approved motors - available on request only!	x	x

x = Optional extra's

o = An option with certain limitations. Please refer to Technical precautions pages 81-92!

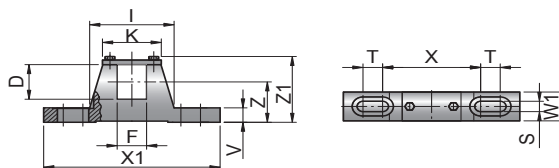
Std. = Fitted as standard

Motorized Pulley 400L, 400M & 400H, Ø 400 mm



Type	Motorized Pulley or idler Pulley (UT)									Compact terminal box ≤4.0 kW				Larger terminal box ≥5.5 kW				Straight connector ≤4.0 kW		Elbow connector ≤4.0 kW		
	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	K mm	L mm	M mm	N mm	N1 mm	L mm	M mm	N mm	O mm	U mm	V mm	R mm	S mm	T mm
400L	404	400	50	40	125	30	20	25	54	41	24	95	14	87	27	107	105	4	27	20	48	12
400M & 400H	404	400	50	60	194	45	23	25	50	-	-	-	-	131	46	-	165	-	-	-	-	-
UT400L	404	400	50	40	125	30	17	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UT400M & UT400H	404	400	50	60	168	45	20	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Mounting brackets KL41-HD & KL60



Motorized Pulleys Type	Material	Bracket description	Dimensions													Weight kg
			D mm	F mm	I mm	K mm	S mm	T mm	V mm	W1 mm	X mm	X1 mm	Z mm	Z1 mm		
400L	Steel	KL41-HD	40	30	84	62	14	20	22	40	110	190	50	83	2.1	
400M & 400H	Steel	KL60	60	45	132	90	18	30	25	50	150	270	70	115	4.8	



Motorized Pulley 400L, Ø 400 mm

50 Hz

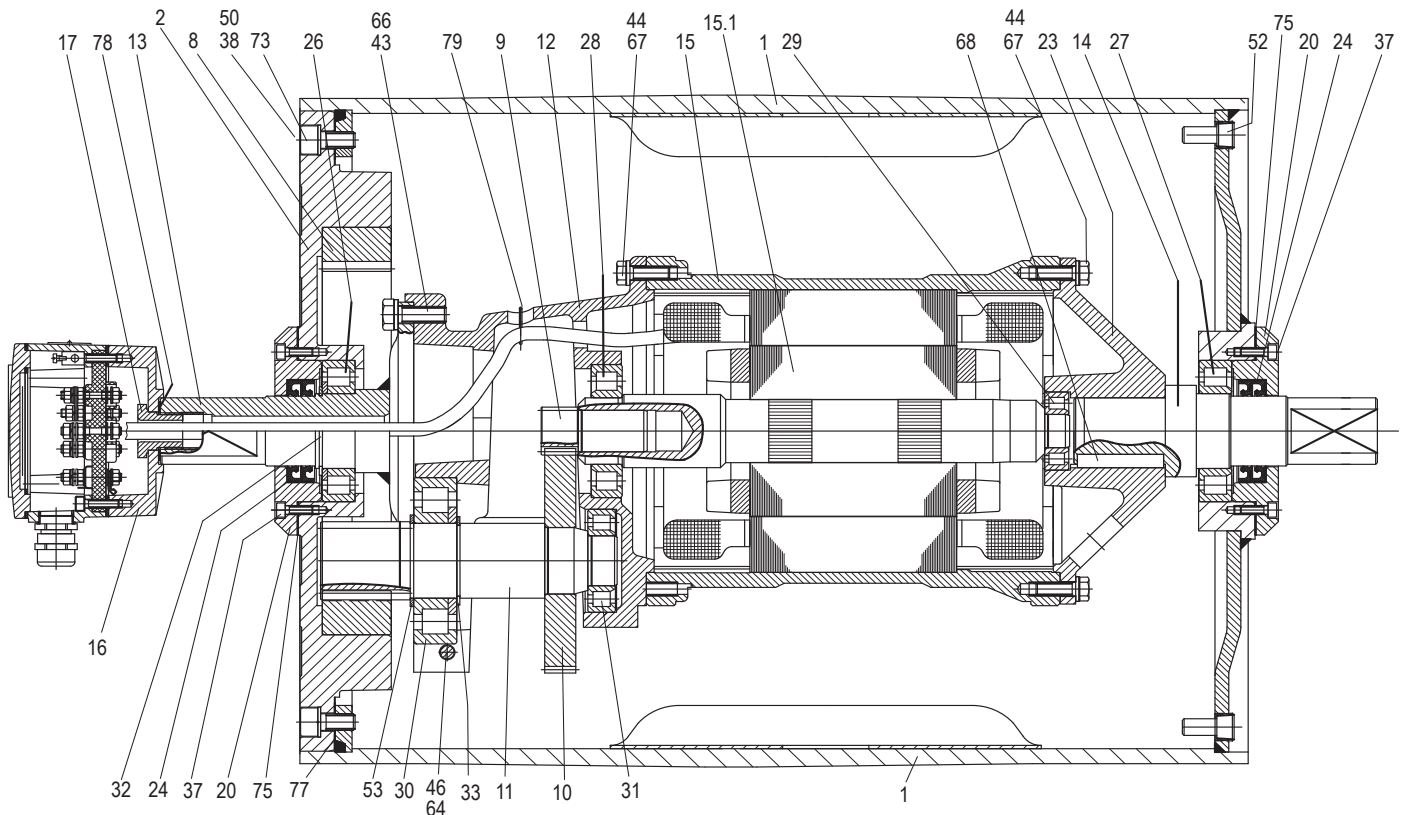
Power kW/HP	Motor		Nominal belt speed at Full Load 50Hz m/sec	Torque Nm	Belt Pull N	Max. Radial Load T1+T2 N	Special min. RL	Type	Weight in kg for STANDARD width											per 50 mm up to 2000	Type of Bracket			
	No. of Poles	Gear stages							Dimension RL in mm (RL >2000 mm available on request)															
									500	550	600	650	700	750	800	850	900	950	1000					
2.20/ 3.00	4	2	0.80	522	2584	20000	500	400L															5 kg	KL41-HD
			1.00	418	2090																			
			1.25	334	1670																			
			1.60	265	1325																			
			2.00	209	1045																			
3.00/ 4.00	4	2	2.50	167	835	20000	500	400L	120	125	130	135	140	145	150	155	160	165	170			5 kg	KL41-HD	
			0.80	712	3562																			
			1.00	570	2850																			
			1.25	456	2280																			
			1.60	356	1780																			
			2.00	285	1425																			
4.00/ 5.50	4	2	2.50	228	1140	20000	500	400L															5 kg	KL41-HD
			0.80	950	4750																			
			1.00	760	3800																			
			1.25	608	3040																			
			1.60	475	2375																			
5.50/ 7.50	4	2	2.00	380	1900	20000	500	400L	130	135	140	145	150	155	160	165	170	175	180			5 kg	KL41-HD	
			2.50	304	1520																			
			1.25	836	4180																			
			1.60	653	3265																			
7.50/ 10.00	2	2	2.00	524	2620	20000	500	400L	130	135	140	145	150	155	160	165	170	175	180			5 kg	KL41-HD	
			2.50	570	2822																			
			3.15	452	2238																			

Idler Pulley						20000	500	UT400L	80	85	90	95	100	105	110	115	120	125	130	5 kg	KL41-HD
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Motorized Pulley 400L, Ø 400 mm

Spare parts list and sectional drawings

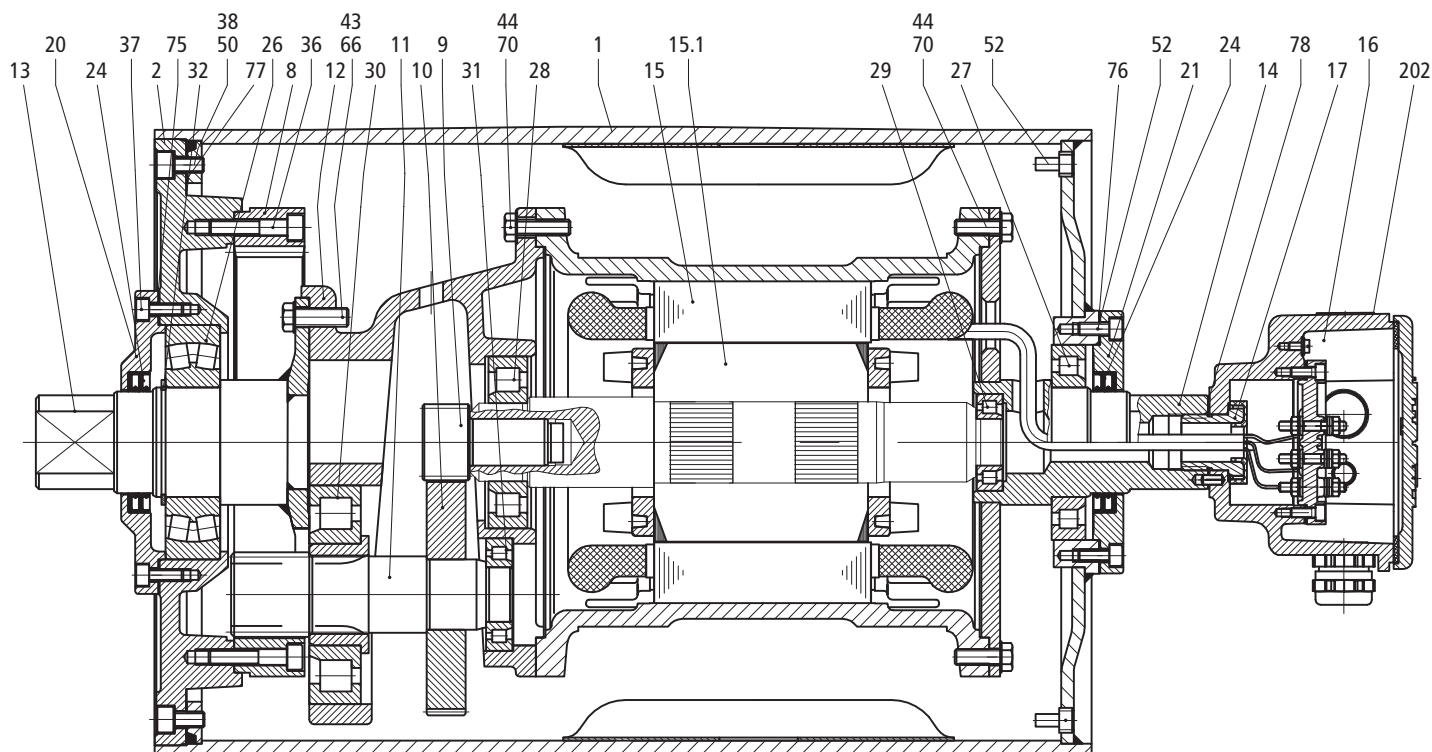
Pos.	Description	Pos.	Description	Pos.	Description
1	Shell	30	Bearing	78	Gasket
2	End housing with geared rim	31	Bearing	79	Holding clip or plastic tie
8	Geared rim	32	Retaining ring	85	Intermediate flange for backstop
9	Rotor pinion	33	Retaining ring	85.1	Intermediate flange for brake assembly
10	Input wheel	37	Hexagon socket screw	90	Backstop
11	Output pinion	38	Hexagon socket screw	91	Electromagnetic brake
12	Gear box – cast aluminium	43	Hexagon screw	93	Retaining ring
13	Front shaft	44	Hexagon screw	94	Hexagon head screw
14	Rear shaft	45	Hexagon socket head screw	95	Straight connector
15	Stator complete	46	Hexagon screw	96	Elbow connector
15.1	Rotor	50	Washer	99	Waved spring washer
16	Terminal box complete	52	Magnetic oil plug	101	Key
17	Nipple	53	Distance washer	104	Distance washer
20	Cover	53.1	Compression nipple	120	Labyrinth cover
20.1	Cover with labyrinth groove	64	Prevailing torque type hexagon nut	121	Set screw
23	Rear flange	66	Waved spring washer	122	O-ring
23.1	Rear flange for E-brake	67	Toothed washer	123	Grease nipple
24	2 Dust lip seals each side	68	Key	143	O-ring
26	Bearing	73	Set screw	146	Special compression washer
27	Bearing	75	Gasket	200	Rubber seal
28	Bearing	76	Gasket	202	Motor data plate
29	Bearing	77	Gasket		



Motorized Pulley 400M, Ø 400 mm

Spare parts list and sectional drawings

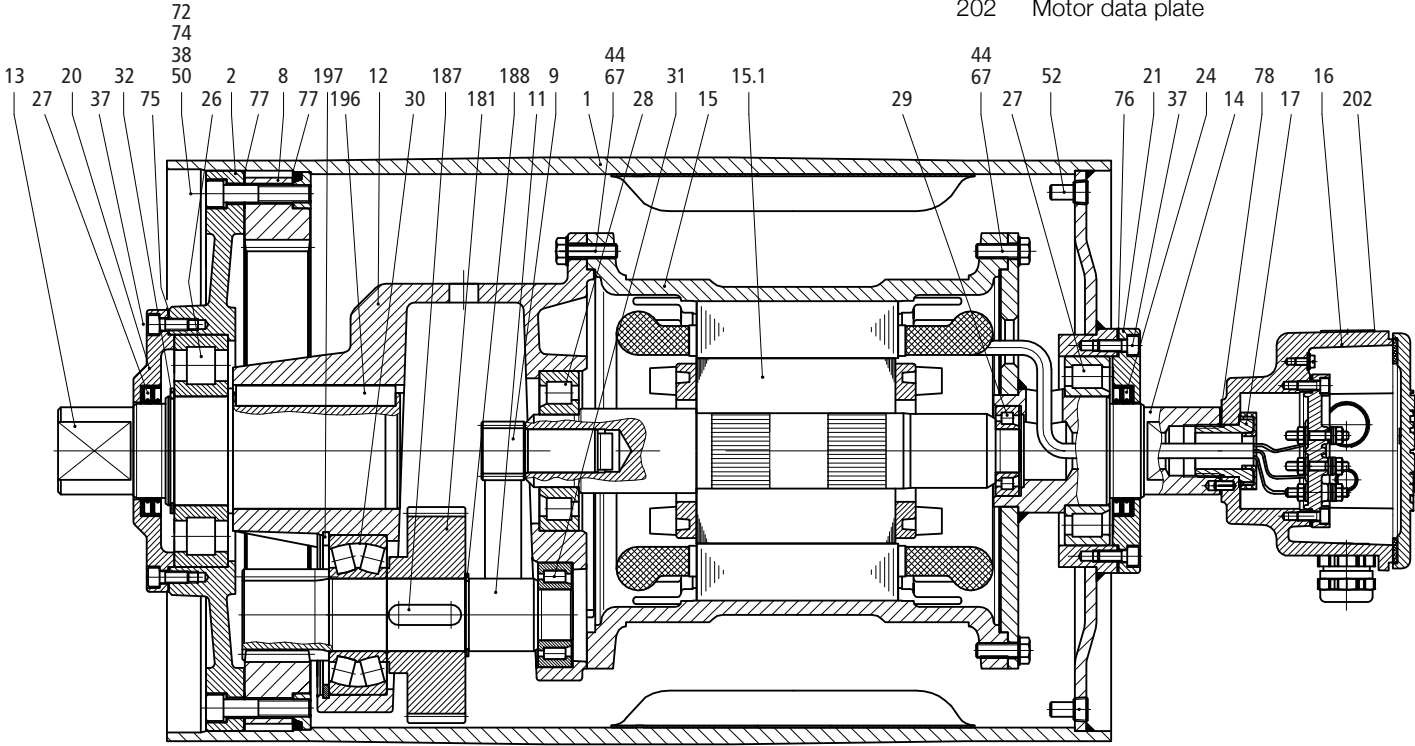
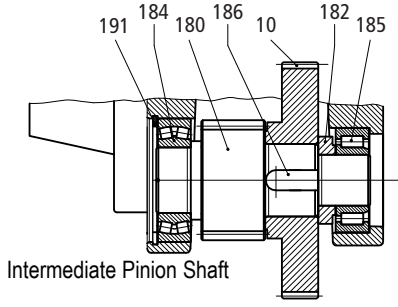
Pos.	Description	Pos.	Description	Pos.	Description
1	Shell	26	Bearing	75	Gasket
2	End housing with geared rim	27	Bearing	76	Gasket
8	Geared rim	28	Bearing	77	Gasket
9	Rotor pinion	29	Bearing	78	Gasket
10	Input wheel	30	Bearing	85	Intermediate flange
11	Output pinion	31	Bearing	90	Backstop
12	Gear box – cast aluminium	32	Retaining ring	91	Electromagnetic brake
13	Rear shaft	36	Hexagon socket screw	93	Retaining ring
14	Front shaft	37	Hexagon socket screw	94	Hexagon head screw
15	Stator complete	38	Hexagon socket screw	99	Waved spring washer
15.1	Rotor	43	Hexagon socket screw	101	Key
16	Terminal box complete	44	Hexagon socket screw	104	Distance washer
17	Nipple	50	Washer	120	Labyrinth cover
20	Cover – rear side	52	Magnetic oil plug	121	Set screw
20.1	Cover with labyrinth groove	53	Distance washer	122	O-ring
21	Cover – front side	66	Waved spring washer	123	Grease nipple
21.1	Cover with labyrinth groove	70	Toothed washer	202	Motor data plate
24	2 Dust lip seals each side	73	Set screw		



Motorized Pulley 400H, Ø 400 mm

Spare parts list and sectional drawings

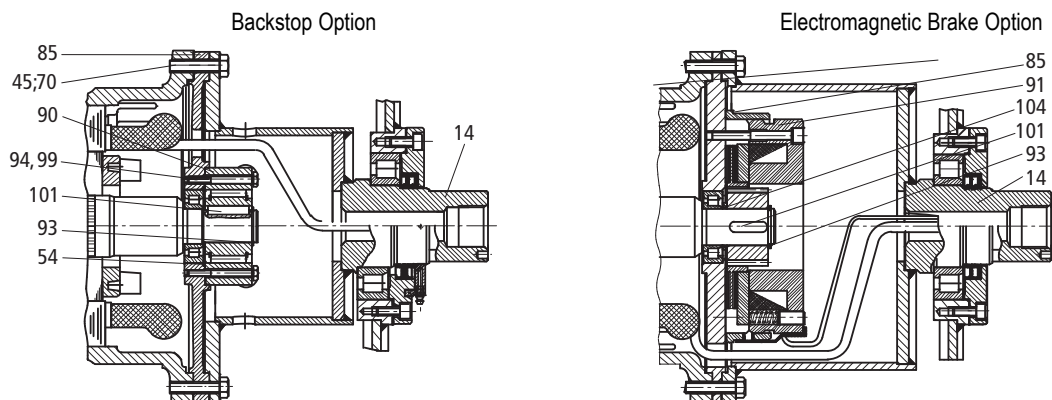
Pos.	Description	Pos.	Description	Pos.	Description
1	Shell	20.1	Cover with labyrinth groove	78	Gasket
2	End housing with geared rim	21	Cover front side	85	Intermediate flange for E-brake
8	Geared rim	21.1	Cover with labyrinth groove	90	Backstop
9	Rotor pinion	24	2 Dust lip seals on each side	91	Electromagnetic brake
10	Input wheel	26	Bearing	93	Retaining ring
11	Output pinion	27	Bearing	94	Hexagon head screw
12	Gear box – graphite cast iron	28	Bearing	99	Waved spring washer
13	Rear shaft	29	Bearing	101	Key
14	Front shaft	30	Bearing	104	Distance washer
15	Stator complete	31	Bearing	120	Labyrinth cover
15.1	Rotor	32	Retaining ring	121	Set screw
16	Terminal box complete	37	Hexagon socket screw	122	O-ring
17	Nipple	38	Hexagon socket screw	123	Grease nipple
20	Cover rear side	44	Hexagon socket screw	143	O-ring
		50	Waved spring washer	146	Special compression washer
		52	Magnetic oil plug	180	Intermediate pinion shaft
		53	Distance washer	181	Intermediate pinion
		54	Distance washer	182	Distance bushing
		66	Waved spring washer	184	Bearing
		70	Toothed washer	185	Bearing
		72	Taper grooved pin with internal thread	186	Key
		73	Set screw	187	Key
		75	Gasket	188	Retaining ring
		76	Gasket	196	Key
		77	Gasket	197	Retaining ring
				198	Distance ring
				202	Motor data plate



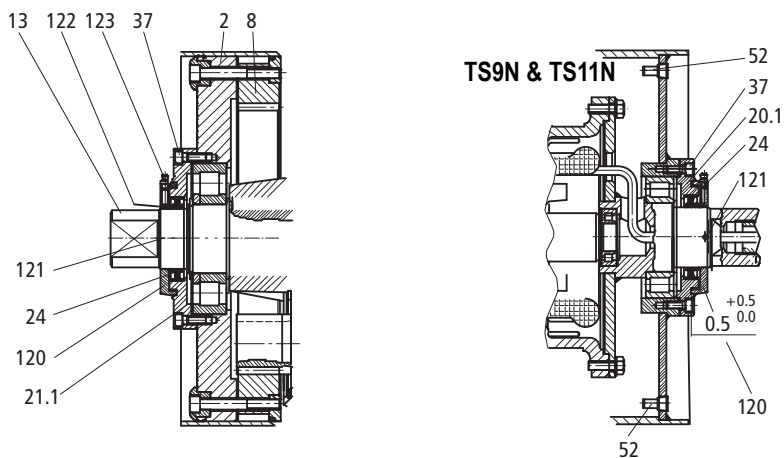
Motorized Pulley 400L, 400M & 400H, Ø 400 mm

Sectional drawings

400M - 400H Electromagnetic Brake & Backstop Option



400M - 400H Labyrinth Option



400M - 400H Stainless steel Option without Labyrinth

