



Motorized Pulley 320M & 320H, Ø 12.64 in. (321 mm)

Our 12.64" diameter Motorized Pulley range offers 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 12.64" diameter model is not strong enough to resist estimated belt tension, then select 15.91" diameter model.

M for Medium duty

The internal parts of 320M are designed for tough and irregular operating conditions (e.g. crushing & screening applications, asphalt, cement, and concrete plants.)

H for Heavy duty

A solid 3-stage gearbox, larger shafts, and stronger bearings enable the 320H to provide low speed at high torque and handle irregular loadings in harsh operating conditions.

STANDARD SPECIFICATION of Motorized Pulley

- Crowned mild steel 12.64" diameter steel shell treated with anti-rust wax
- Powder coated cast iron bearing housings
- Mild steel shafts treated with anti-rust wax
- Shaft sealing system – degree of protection IP66/67 (EN60034-5.) See page 37.
- Powder coated die cast aluminum terminal box
- 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 fitted with a magnet to capture the oil.
- Oil change recommended every 10,000 operational hours
- Minimum RL. Please refer to pages 31-32
- 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 29
- **Electrical Connection Diagrams:** pages 94-100

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
- Stainless steel oil plugs – AISI 304 range – one out of two with magnet
- Stainless steel exterior bolts – AISI 304 range
- Regreasable labyrinth seals with grease nipples in stainless steel – AISI 304 range
- Shaft sealing system – degree of protection IP66/67 (EN60034-5).

TS10N

- As TS9N, but without regreasable labyrinth seals.

SEMI-RUST-FREE options

TS11N

- As TS9N, but with crowned mild steel shell treated with anti-rust wax.

TS12N

- As TS10N, but with crowned mild steel shell treated with anti-rust wax.

Other Stainless Options:

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

Electrical connection options:

- Salt water resistant powder coated aluminum terminal box with zinc plated exterior bolts
- Stainless steel terminal box – AISI 304 range (max. 5.5 HP)
- Straight stainless steel connector with flying lead – AISI 304 range.

Please specify required TS-number when ordering Stainless Steel options.



OPTIONAL EXTRAS

Motorized Pulley 320M & 320H

Specification	Availability
Total stainless steel option AISI 304 range TS9N with regreasable labyrinth seals	x
Total stainless steel option AISI 304 range TS10N standard seals	x
Semi-rust free option TS11N with regreasable labyrinth seals	x
Semi-rust free option TS12N with standard seals	x
Regreasable labyrinth seals	x
Food grade oil & grease - FDA & USDA regognized	x
Dust explosion proof Motorized Pulleys - ATEX 95 - Zone 22 - fpr applications handling dusty grain etc. According to European Directive 94/9/EC.	o
Total acid resistant stainless steel option - AISI 316	x
Black rubber lagging - Standard specifications (See pages 82-83.)	
5/16" diamond lagging - Hardness 60 +/- 5 Shore A <= 7.5 HP	x
1/4" diamond lagging - Hardness 60 +/- 5 Shore A 10 HP	o
White smooth rubber lagging (FDA listed) Oil, fat & grease resistant	o
Special lagging (e.g. hot vulcanized)	o
Electromagnetic brake Min RL increases by 3.94"	x
Mechanical backstop Min RL increases by 1.97"	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)	x
Insulation class H with sunthetic oil: (Allowable ambient temperature -13°F /+120°F)	Std.
Special motors for applications with no belt contact	o
Low noise drives for noise senstitive areas	x
Parallel shell (i.e. no crown)	x
Thermal protector	Std.
IP66/67 Yellow powder coated aluminum terminal box	Std.
IP66/67 Compact powder coated aluminum terminal box (food grade approved) <= 5.5 HP only	o
IP66/67 Compact stainless steel terminal box - AISI 304 or 316 range <= 5.5 HP only	o
Straight or elbow connector with standard power cord (stainless steel in AISI 304 range) <= 5.5 HP only	x
Straight connector with screened power cord <= 5.5 HP only	x
Voltage: single voltage (460) stator (Y winding) wired for 460v/3ph/60Hz at terminal box	Std.
single voltage (230) stator (YY winding) wired for 230v/3ph/60Hz at terminal box	x
Special voltage motors	x
CSA approved motors	x

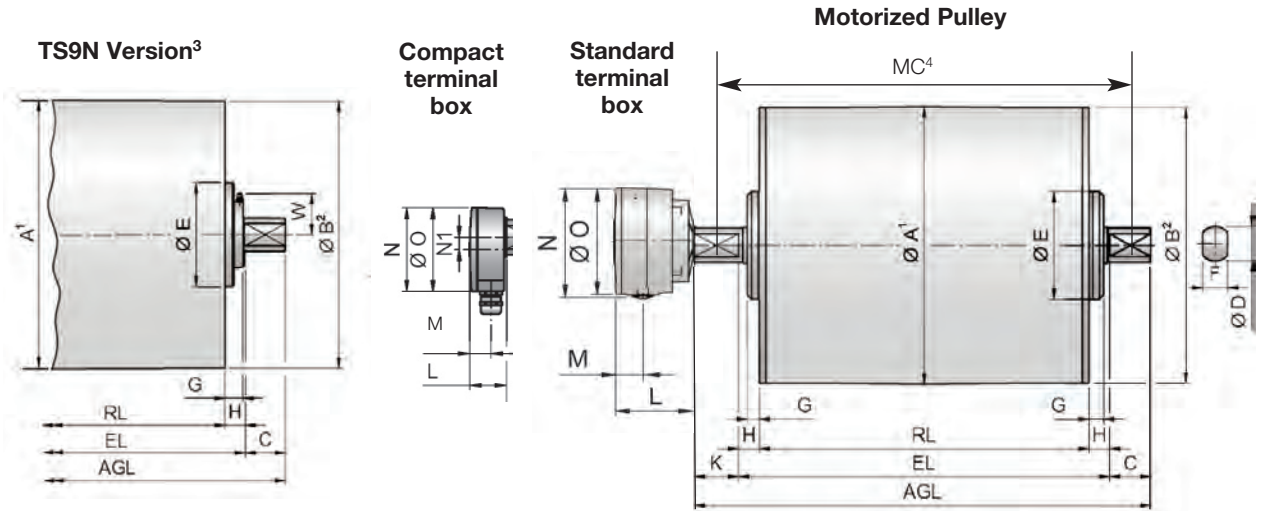
x = Optional extras

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

Std. = Fitted as standard.



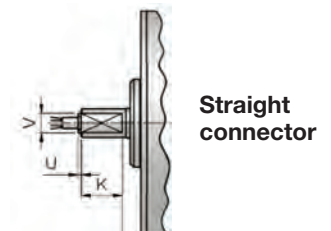
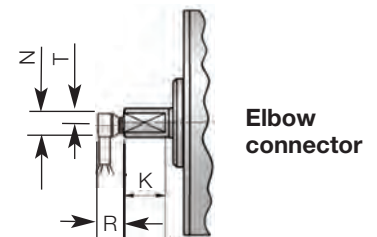
Motorized Pulley 320M & 320H, Ø 12.64 in. (321 mm)



Model/Version	Dimensions									Standard terminal box				
	A in	B in	C in	D in	E in	F in	G in	H in	W in	K in	L in	M in	N in	O in
320M Stan.	12.64	12.56	1.97	1.57	4.92	1.18	0.69	0.98	-	2.13	3.43	1.06	5.08	5.04
320H Stan.	12.64	12.56	1.97	1.97	5.83	1.57	0.43	0.98	-	2.13	3.43	1.06	5.08	5.04
320M TS9N	12.64	12.56	1.97	1.57	4.92	1.18	0.89	0.98	2.20	2.13	3.43	1.06	5.08	5.04
320H TS9N	12.64	12.56	1.97	1.97	5.83	1.57	0.81	0.98	2.20	2.13	3.43	1.06	5.08	5.04

- 1 A dimension is outer diameter of crowned unlagged pulley shell at pulley centerline.
- 2 B dimension is outer diameter of crowned unlagged pulley shell at each end of shell.
- 3 Pulley shown is TS9N version with regreasable seals.
- 4 Mounting centers = MC = RL + W1.

Model/Version	Compact terminal box ⁶					Straight connector ⁶			Elbow connector ⁶			
	K in	L in	M in	N in	N1 in	K in	U in	V in	K in	N in	R in	T in
320M Stan.	2.13	1.61	0.95	3.74	0.55	2.13	0.16	1.06	2.13	1.18	0.98	0.59
320H Stan.	2.13	1.61	0.95	3.74	0.55	2.13	0.16	1.06	2.13	1.18	0.98	0.59
320M TS9N	2.13	1.61	0.95	3.74	0.55	2.13	0.16	1.06	2.13	1.18	0.98	0.59
320H TS9N	2.13	1.61	0.95	3.74	0.55	2.13	0.16	1.06	2.13	1.18	0.98	0.59

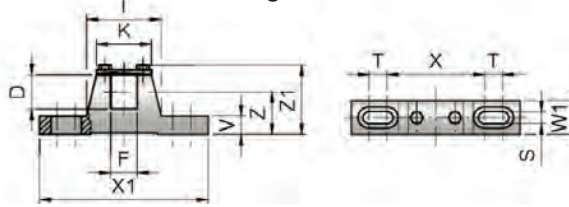


⁶ These connection options are only available in Motorized Pulleys at 5.5 HP and less.



Motorized Pulley 320M & 320H, Ø 12.64 in. (321 mm) 60 Hz

Mounting brackets



Model	Material	Bracket Size	Part Number	Dimensions												Weight lbs
				D in	F in	I in	K in	S in	T in	V in	W1 in	X in	X1 in	Z in	Z1 in	
320M	Steel painted	KL41-HD	6YA0K	1.57	1.18	3.31	2.44	0.55	0.79	0.87	1.57	4.33	7.48	1.97	3.27	4.63
	Steel Ni plated		6YA0W													
	Stainless steel		6YA0U													
320H	Steel painted	KL42	6YA0J	1.97	1.57	4.76	3.54	0.71	1.18	0.98	1.97	5.91	9.84	2.76	4.33	9.92
	Steel Ni plated		6YA0S													

Motorized Pulley 320M & 320H, Ø 12.64 in. (321 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	Special min. RL in	RL Dimension inches (RL > 78.74" available on request) Weight in lbs ⁵											Type of Bracket
Power HP	No. of Poles								17.72	19.69	21.65	23.62	25.59	27.56	29.53	31.50	33.46	longer than 33.46		
1	12	3	320H	24	25	1241 984	7868	21.65	-	-	308	317	329	341	354	366	378	See Foot-note ⁴	KL42 6YA0J	
				30	32															
				38	41															
		2	320M	48	54	4496	19.69	-	251	261	271	281	291	301	310	320	KL41-HD 6YA0K			
				60	69															
				76	83															
1.5	12	3	320H	24	25	1821 1444	7868	21.65	-	-	308	317	329	341	354	366	378	See Foot-note ⁴	KL42 6YA0J	
				30	32															
				38	41															
		2	320M	48	54	4496	19.69	-	251	261	271	281	291	301	310	320	KL41-HD 6YA0K			
				60	61															
				76	81															
8	2	320M	96	103	4496	19.69	-	251	261	271	281	291	301	310	320	KL41-HD 6YA0K				
			120	126																
			150	162																
			192	203																
			240	249																
			300	319																

← Special RL | Standard RL →

- Use "nominal belt speed" to specify pulley. "Actual belt speed" is presented (for pulley lagged with 5/16" 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, specified per Roller Length: 31.50" ≤ RL < 62.99" Wt = 6.1 lbs/in; 62.99" ≤ RL ≤ 78.74" Wt = 11.7 lbs/in
- Weights above are for pulleys with 5/16" lagging and do not include mounting brackets. To calculate unlagged pulley wt. subtract 0.5 lbs/in of RL from above.

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



Motorized Pulley 320M & 320H, Ø 12.64 in. (321 mm) 60 Hz

Motor			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	No. Gear Stages							17.72	19.69	21.65	23.62	25.59	27.56	29.53	31.50	33.46	longer than 33.46"	
2	8	3	320H	38 48	39 49	1574 1253	7868	21.65	-	-	308*	317	329	341	354	366	378	KL42 6YA0J	
		2	320M	60 76 96 120 150 192 240 300	68 84 104 127 164 205 251 322	903 731 590 483 374 299 245 191	4496	19.69	-	252*	261	271	281	291	301	310	320	KL41-HD 6YA0K	
3	8	3	320H	38 48	39 49	2361 1879	7868	21.65	-	-	308*	317	329	341	354	369	378	KL42	
		2	320M	60 76 96	68 84 104	1354 1096 885	4496	19.69	-	252*	261	271	281	291	301	310	320	KL41-HD 6YA0K	
	4	2	320M	120 150 192 240 300 384 480 600	136 168 207 253 328 410 502 643	677 548 445 364 281 225 183 143	4496	19.69	-	229*	239	249	258	268	278	288	298	KL41-HD 6YA0K	
4	6	3	320H	48 60 76	52 65 79	2361 1889 1554	7868	21.65	-	-	308*	317	329	341	354	366	378	KL42 6YA0J	
		2	320M	96	91	1349	4496	19.69	-	229*	239	249	258	268	278	288	298	See Foot-note ⁴	
5.5	6	3	320H	76 96 120	79 102 128	2137 1655 1319	7868	21.65	-	-	308*	317	329	341	354	366	378	KL42 6YA0J	
		2	320M	150 192 240 300 384 480 600	168 207 253 328 410 502 643	1005 815 667 515 412 336 263	4496	19.69	-	252*	261	271	281	291	301	310	320	KL41-HD 6YA0K	
7.5	4	3	320H	96 120 150	97 118 153	2373 1951 1504	7868	21.65	-	-	308*	317	329	341	354	366	378	KL42 6YA0J	
		2	320M	192 240 300 384 480 600	207 253 328 410 502 643	1112 910 702 561 459 358	4496	19.69	-	252*	261	271	281	291	301	310	320	KL41-HD 6YA0K	
10	2	3	320H	150 192 240	157 194 237	1955 1582 1295	7868	21.65	-	-	308*	317	329	341	354	366	378	KL42 6YA0J	
		2	320M	300 384 480 600	335 415 506 655	916 740 607 469	4496	19.69	-	252*	261	271	281	291	301	310	320	KL41-HD 6YA0K	
15	2	3	320H	240 300 384 480	237 307 384 470	1942 1500 1199 979	7868	43.31	-	-	-	-	-	-	-	-	-	KL42 6YA0J	
		2	320M	600	655	703	4496	43.31	-	-	-	-	-	-	-	-	-	-	KL41-HD

1 Use "nominal belt speed" to specify pulley. "Actual belt speed" is presented (for pulley lagged with 5/16" 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.

2 Belt pull value allows for gearbox loss on a lagged pulley.

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, specified per Roller Length: 31.50" ≤ RL < 62.99" Wt = 6.1 lbs/in; 62.99" ≤ RL ≤ 78.74" Wt = 11.7 lbs/in

5 Weights above are for pulleys with 5/16" lagging and do not include mounting brackets. To calculate unlagged pulley wt. subtract 0.5 lbs/in of RL from above.

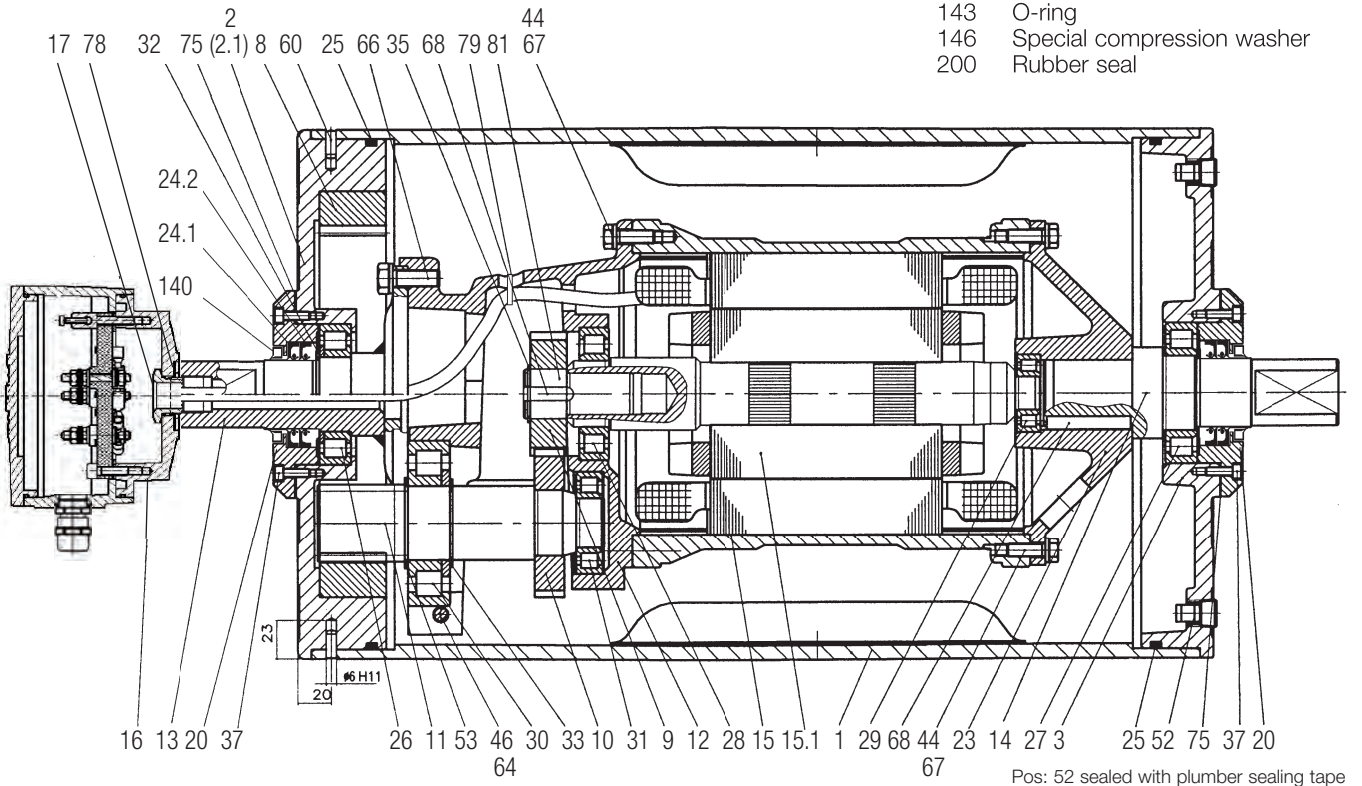
* Special "Short Roller Length" option.



Motorized Pulley 320M, Ø 12.64 in. (321 mm)

Spare parts list and sectional drawings

Pos.	Description	Pos.	Description	Pos.	Description
1	Shell	24.2	Shaft oil seal inner	64	Prevailing torque type hex.nut
1.1	Shell (ss option)	24.3	Shaft oil seal outer (lab. option)	66	Waved spring washer
2	End housing	24.4	Shaft oil seal inner (lab. option)	67	Waved spring washer
2.1	End housing (ss option)	25	O-ring	68	Key
3	End housing	26	Bearing	70	Waved spring washer
3.1	End housing (ss option)	27	Bearing	75	Gasket
8	Geared rim	28	Bearing	78	Gasket
9	Rotor pinion	29	Bearing	79	Holding clip or plastic tie
10	Input wheel	30	Bearing	81	Pinion shaft
11	Output pinion	31	Bearing	85	Intermediate flange for backstop
12	Gear box	32	Retaining ring	85.1	Intermediate flange for brake assy
13	Front shaft	33	Retaining ring	90	Backstop
13.1	Front shaft (ss option)	35	Retaining ring	91	Electromagnetic brake
14	Rear shaft	37	Hexagon socket screw	93	Retaining ring
14.1	Rear shaft (ss option)	43	Hexagon socket screw	94	Hexagon head screw
15	Stator complete	44	Hexagon socket screw	95	Straight connector
15.1	Rotor	45	Hexagon head screw	96	Elbow connector
16	Terminal box complete	46	Hexagon head screw	99	Waved spring washer
17	Nipple	49	Washer	101	Key
20	Cover	52	Magnetic oil plug	104	Distance washer
20.1	Cover with labyrinth groove	52.1	Magnetic oil plug (ss option)	120	Labyrinth cover
23	Rear flange	53	Distance washer	121	Set screw
23.1	Rear flange for backstop/Brake	53.1	Compression nipple	122	O-ring
24.1	Shaft oil seal outer	60	Parallel pin	123	Grease nipple
				140	Deflection seal
				143	O-ring
				146	Special compression washer
				200	Rubber seal

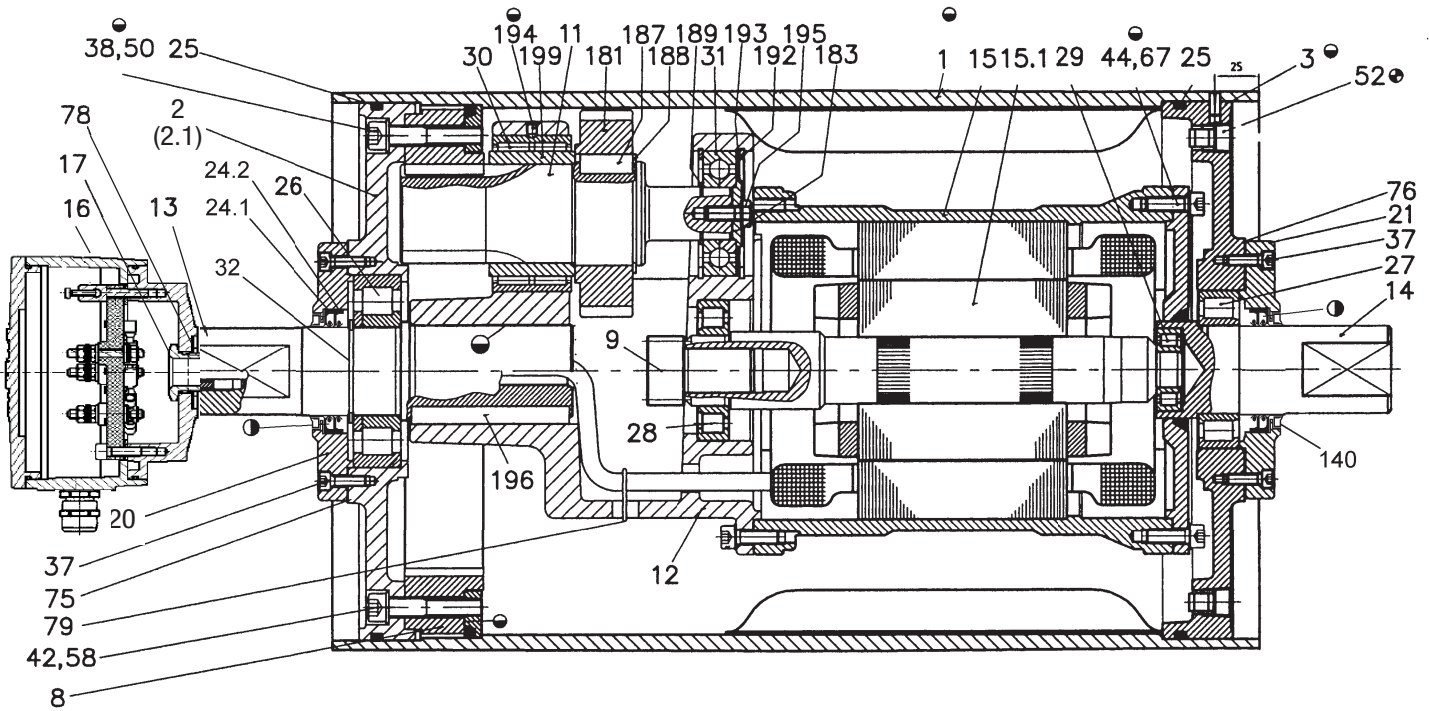




Motorized Pulley 320H, Ø 12.64 in. (321 mm)

Spare parts list and sectional drawings

Pos.	Description	Pos.	Description	Pos.	Description
1	Shell	17	Nipple	42	Hexagon socket screw
1.1	Shell (ss option)	20	Cover front side	43, 44	Hexagon head screw
2	End housing	20.1	Cover with labyrinth groove	45, 46	Hexagon head screw
2.1	End housing (ss option)	21	Cover – rear side	49, 50	Washer
3	End housing	21.1	Cover with labyrinth groove	52	Magnetic oil plug
3.1	End housing (ss option)	23	Rear flange	52.1	Magnetic oil plug (ss option)
8	Gear rim	23.1	Rear flange for brake option	53	Distance washer
9	Rotor pinion	24.1	Shaft oil seal outer	53.1	Compression nipple
10	Input wheel	24.2	Shaft oil seal inner	58	Washer
11	Output pinion	24.3	Shaft oil seal outer (lab. option)	60	Parallel pin
12	Gear box	24.4	Shaft oil seal inner (lab. option)	64	Hexagon head nut
13	Front shaft	25	O-ring	66	Waved spring washer
13.1	Front shaft (ss option)	26, 27	Bearing	67	Waved spring washer
14	Rear shaft	28, 29	Bearing	68	Key
14.1	Rear shaft (ss option)	30, 31	Bearing	70	Waved spring washer
15	Stator complete	32, 33	Retaining ring	73	Set screw
15.1	Rotor	35	Retaining ring	75, 76	Gasket
16	Terminal box complete	37, 38	Hexagon socket screw	78	Gasket



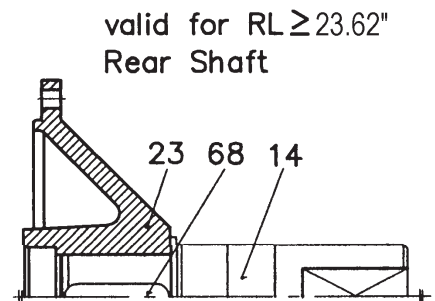
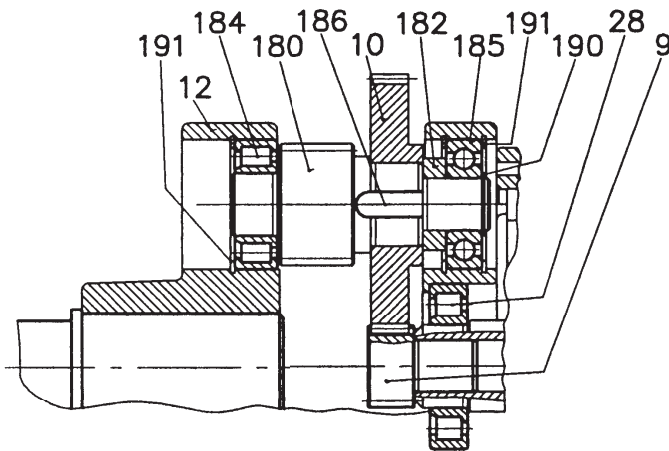
- ⊕ sealed with plumber plastic tape
- ⊖ fitted with metal glue
- ⊙ filled with grease



Motorized Pulley 320H, Ø 12.64 in. (321 mm)

Spare parts list and sectional drawings

Pos.	Description	Pos.	Description	Pos.	Description
79	Holding clip or plastic tie	123	Grease nipple	194	Set screw
80	Hexagon head screw	143	O-ring	195	Prevailing torque type hexagon screw
84	Rear flange for brake	146	Special shaped compression washer	196	Key
85	Intermediate flange for backstop	180	Intermediate pinion shaft	197	Retaining ring
85.1	Intermediate flange for brake assembly	181	Intermediate pinion	198	Distance ring
90	Backstop	182	Distance bushing	199	Bushing, output pinion
91	Electromagnetic brake	183	Washer	200	Rubber seal
93	Retaining ring	184	Roller bearing		
94	Hexagon head screw	185	Roller bearing		
95	Straight connector	186	Key		
96	Elbow connector	187	Key		
99	Waved spring washer	188	Retaining ring		
101	Key	189	Retaining ring		
104	Distance washer	190	Retaining ring		
120	Labyrinth cover	191	Retaining ring		
121	Set screw	192	Retaining ring		
122	O-ring	193	Distance washer		

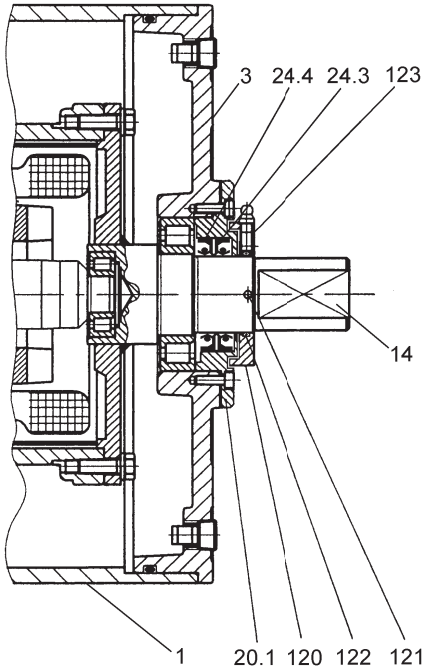




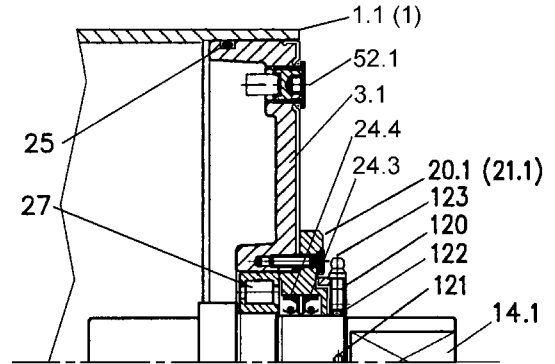
Motorized Pulley 320M & 320H, Ø 12.64 in. (321 mm)

Sectional drawings

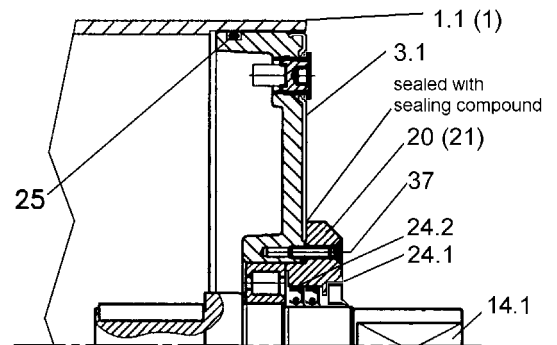
Carbon Steel Shell & Shaft
with Labyrinth Option



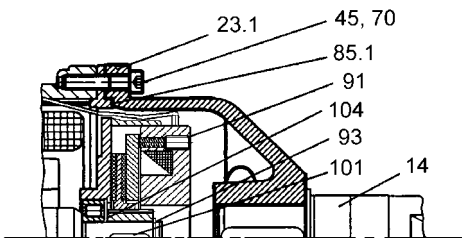
320M & 320H Stainless Steel with Labyrinth Options TS9N
(Position 1 for carbon steel shell valid for TS11N only)
(Position 21.1 valid for 320H only)



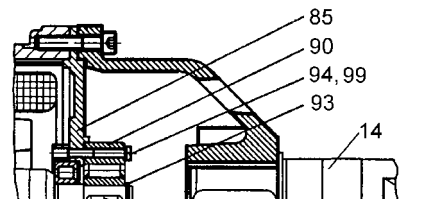
320M & 320H Stainless Steel Non-Labyrinth Options TS10N
(Position 1 for carbon steel shell valid for TS12N only)
(Position 21 valid for 320H only)



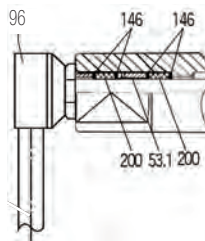
Electromagnetic Brake Option



Backstop Option



Elbow Connector



Straight Connector

