



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

Our 12.64" diameter Motorized Pulley range offers three different performance levels for BULK applications:

- L for Light duty
- 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 80. 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.

L for Light duty

320L is designed for regular and continuous operating conditions. It is advisable to rubber lag these pulleys to grip the belt and limit belt tension. Typical applications are portable conveyors and cross belts in mobile crushing and screening equipment. 320L should not be used for low speed high torque feeder conveyors. 320L uses motor and gearbox from 220M.

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 H
- Dynamically balanced rotor
- One out of two oil plugs fitted with a magnet to filter the oil in 320L
- Two oil plugs fitted with a magnet to filter the oil in 320M & 320H
- Oil change recommended every 50,000 operational hours for synthetic oil. (or 20,000 operational hours for mineral oil)
- 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 78-98.
- **Environmental Considerations:** page 76-77.
- **Optional Extras:** page 29 and back cover
- **Electrical Connection Diagrams:** pages 92-98.

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). Page 37.

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

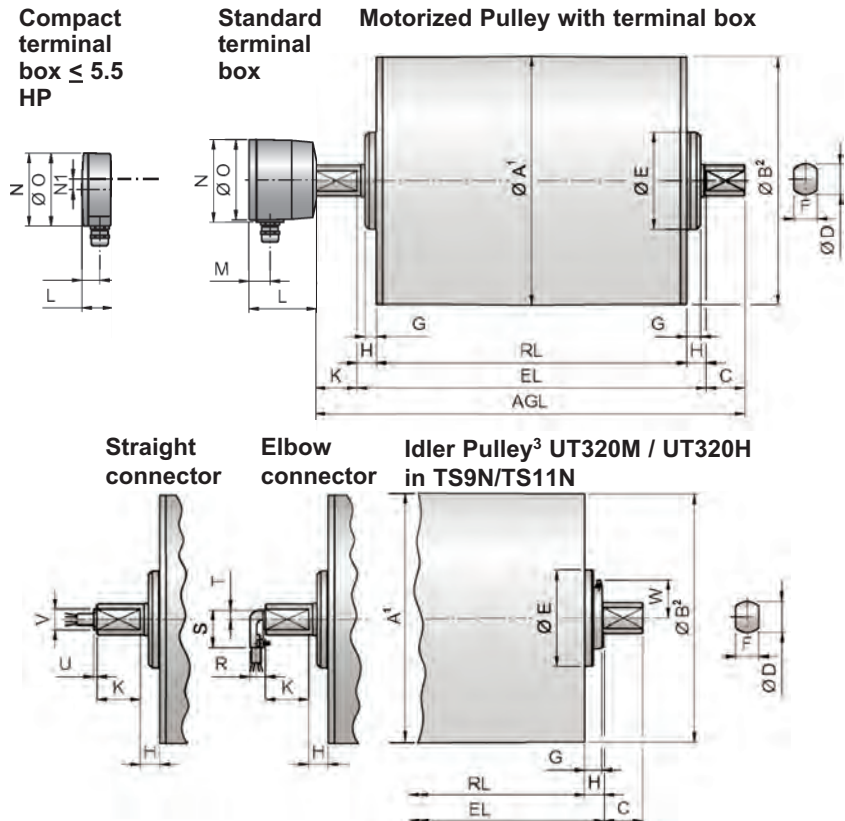
Motorized Pulley 320L, 320M & 320H

Specification	Availability
Total stainless steel option AISI 304 range TS9N with regreasable labyrinth seals	x
Total stainless steel option AISI 304 range TS10N with 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 recognized	x
Dust explosion proof Motorized Pulleys - ATEX 95 - Zone 22 - for applications handling of 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 page 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 does not increase for 320L,	x
Min. RL increases by 1.97" for 320 M & 320H	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 synthetic oil: (Allowable ambient temperature -13°F/+120°F)	Std.
Special motors for applications with no belt contact	o
Low noise drives for noise sensitive areas	x
Parallel shell (i.e. no crown)	x
Thermal protector	Std.
IP66/67 Yellow powder coated aluminum terminal box	Std.
IP66/67 Gray powder coated aluminum terminal box (food grade approved)	x
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 ≤ 5.5 HP only	x
Straight connector with screened power cord (See page 86 for VFD precautions) ≤ 5.5 HP only	x
Straight connector with power cord (Stainless steel in AISI 304 range) ≤ 5.5 HP only	x
Voltage: single voltage (460) stator (Y winding) wired for 460v/3ph/60 Hz at terminal box	Std
single voltage (230) stator (Y winding) wired for 230v/3ph/60 Hz 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 precautions pages 78-98!
Std. = Fitted as standard

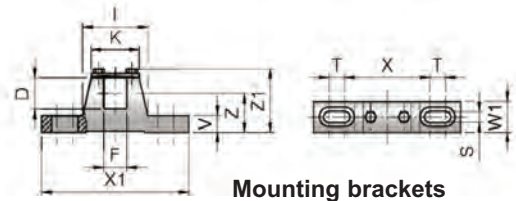


Motorized Pulley 320L, 320M & 320H, Ø 12.64 in. (321 mm)



Model	Motorized Pulley or idler Pulley											Standard terminal box				Compact terminal box ≤ 5.5 HP				Straight connector ≤ 5.5 HP		Elbow connector ≤ 5.5 HP		
	A	B	C	D	E	F	G	G	H	K	W	L	M	N	O	L	M	N	N1	U	V	R	S	T
	in	in	in	in	in	in	in	TS9/11	in	in	in	in	in	in	in	in	in	in	in	in	in	in	in	in
320L	12.72	12.56	1.97	1.57	3.78	1.18	0.59	0.75	0.98	2.13	—	—	—	—	1.61	0.95	3.74	0.55	0.16	1.06	0.79	1.89	0.47	
320M	12.64	12.56	1.97	1.57	4.92	1.18	0.69	0.89	0.98	2.13	—	3.43	1.06	4.21	4.13	1.61	0.95	3.74	0.55	0.16	1.06	0.79	1.89	0.47
320H	12.64	12.56	1.97	1.97	5.83	1.57	0.43	0.81	0.98	2.17	—	3.43	1.06	4.21	4.13	1.61	0.95	3.74	0.55	0.16	1.06	0.79	1.89	0.47
UT320M	12.64	12.64	1.97	1.57	4.92	1.18	0.57	0.89	0.98	-2.05														
UT320H	12.64	12.64	1.97	1.97	5.83	1.57	0.43	0.81	0.98	-2.05														

- 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 TS9N/TS11N version with regreasable seals.



Motorized Pulleys	Material	Bracket Size	Part Number	Dimensions													Weight
				D	F	I	K	S	T	V	W1	X	X1	Z	Z1	lbs	
320L & 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 320L, 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	Min. RL in	RL Dimension inches (RL>78.74" available on request)											Type of Bracket									
Power HP	No. of Poles								Weight in lbs ⁵																				
									15.75	17.72	19.69	21.65	23.62	25.59	27.56	29.53	31.50	longer than 31.50"											
1	8	2	320L	76 96 120 150 192 240 300	78 100 122 146 186 231 300	402 317 259 216 170 137 105	2585	17.72	-	180	190	200	209	219	223	239	249	See Foot-note ⁴	KL41-HD 6YA0K										
		6	2	320L	120	132			349	2585	17.72	-	185	194	204	214	224			234	243	253							
1.5	4	2	320L	150 192 240 300 384 480 600	157 199 243 292 371 462 602	294 233 190 159 124 100 77	2585	15.75	168	176	185	195	205	215	225	234	244												
				6	2	320L			120	132	476	2585	17.72	-	189	199	209			218	228	238	248	258					
				4	2	320L			150 192 240 300 384 480 600	157 199 243 292 371 462 602	402 317 259 216 170 137 105	2585	15.75	172	180	190	200			209	219	229	239	249					
									4	2	320L			150 192 240 300 384 480 600	157 199 243 292 371 462 602	590 466 380 317 249 200 154	2585			17.72	-	189	199	208	218	228	238	248	258
														4	2	320L					240 300 384 480 600	243 292 371 462 602	518 433 340 273 210	2585	19.69	-	-	207	217
5.5	2	2	320L				300 384 480 600	314 397 487 583													536 423 345 289	2585	19.69			-	-	207	217
				← Special RL		Standard RL →																							

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)											Type of Bracket
Power HP	No. of Poles								Weight in lbs ⁵											
									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 30	25 32	1241 984	7868	21.65	-	-	308	317	329	341	354	366	378	See Foot-note ⁴	KL42 6YA0J	
		2	320M	38 48 60 76 96 120 150 192	41 54 69 83 108 135 166 212	774 581 461 377 291 233 190 148			4496	19.69	-	251	261	271	281	291	301			310
1.5	12	3	320H	24 30	25 32	1821 1444	7868	21.65			-	-	308	317	329	341	354	366	378	See Foot-note ⁴
		2	320M	38 48	41 54	1128 851			4496	19.69	-	251	261	271	281	291	301	310	320	
	8	2	320M	60 76 96 120 150 192 240 300	61 81 103 126 162 203 249 319	752 568 450 368 285 228 186 145	4496	19.69			-	251	261	271	281	291	301	310	320	
				← Special RL		Standard RL →														

Idler Pulley		Model	Max. Radial Load ³ lbs	Min. RL in	17.72	19.69	21.65	23.62	25.59	27.56	29.53	31.50	33.46	longer than 33.46"	Type of Bracket
		Model UT320M	4496	17.72	118	128	138	148	158	167	177	187	197	See Foot-note ⁴	KL41-HD 6YA0K
		Model UT320H	7868	17.72	131	143	153	163	173	183	193	202	212	See Foot-note ⁴	KL42 6YA0J

Refer to page 32 for all footnotes cited on page 31.



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	
4	2	320M	120 150 192 240 300 384 480 600	136 168 207 253 328 410 502 643	903 731 593 485 374 299 245 191														
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	
		4	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	← Special RL		Standard RL →						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 79. Note that "actual belt speed" decreases when lagging is not used due to decreased pulley diameter.
- 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 80.
- 4 Additional Motorized Pulley and Idler Pulley weight, specified per Roller Length: 31.50" ≤ RL < 62.99" Wt = 6.1 lbs/in; 62.99" ≤ RL ≤ 78.74" Wt = 11.7
- 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.

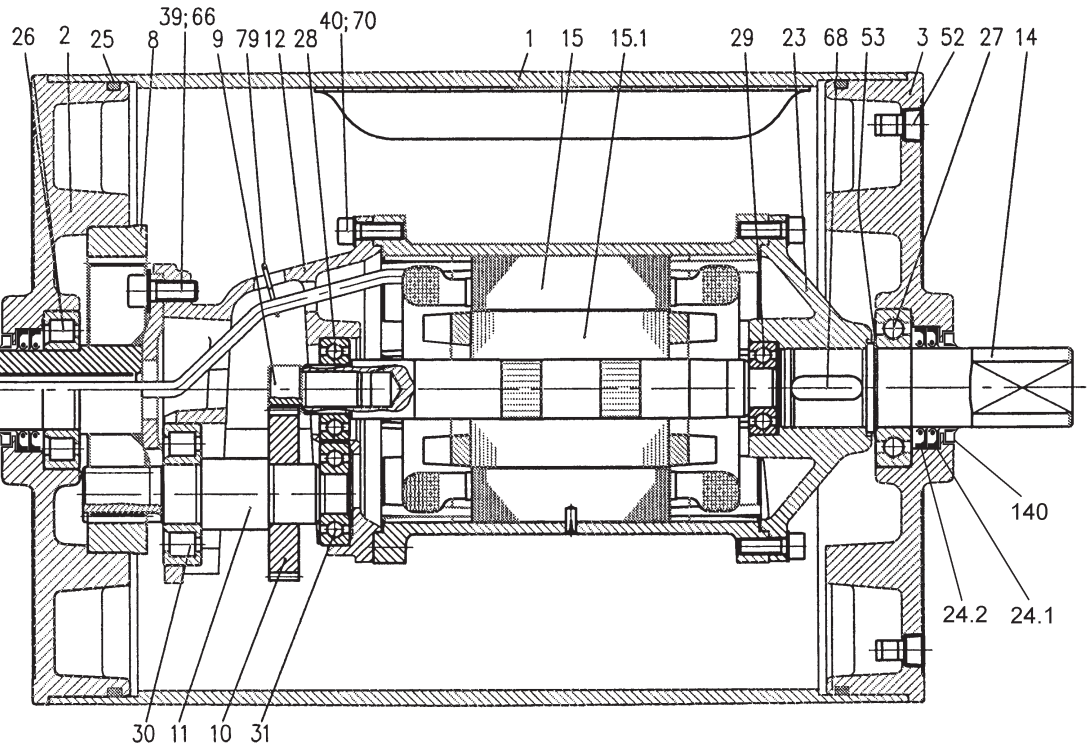
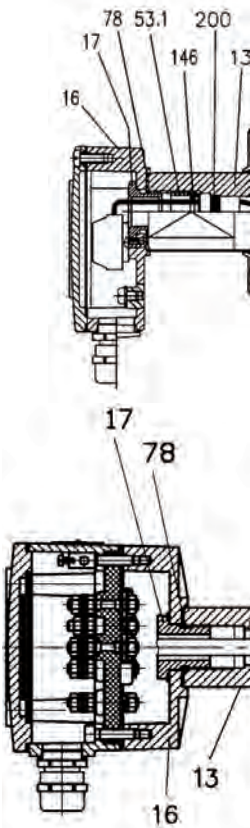


Motorized Pulley 320L, Ø 12.64 in. (321 mm)

Spare parts list and sectional drawings

Pos.	Description	Pos.	Description	Pos.	Description
1	Shell	14	Rear shaft	53	Distance washer
1.1	Shell (ss option)	14.1	Rear shaft (ss option)	53.1	Compression nipple
2	End housing with geared rim	15	Stator complete	59	Countersunk head screw
2.1	End hsg w/geared rim (ss option)	15.1	Rotor	66	Waved spring washer
3	End housing	16	Terminal box complete	68	Key
3.1	End housing (ss option)	17	Nipple	70	Toothed washer
8	Geared rim	20	Cover	78	Gasket
9	Rotor pinion	20.1	Cover with labyrinth groove	79	Holding clip or plastic tie
10	Input wheel	23	Rear flange	85	Intermediate flange for backstop
11	Output pinion	23.1	Rear flange for backstop	85.1	Intermediate flange for brake
12	Gear box	23.2	Rear flange for brake	91	Electromagnetic brake
13	Front shaft	24.1	Shaft oil seal outer	93	Retaining ring
13.1	Front shaft (ss option)	24.2	Shaft oil seal inner	95	Straight connector
		24.5	Shaft oil seal (labyrinth option)	96	Elbow connector
		25	O-ring	101	Key
		26	Bearing	104	Distance washer
		27	Bearing	120	Labyrinth cover
		28	Bearing	121	Set screw
		29	Bearing (Backstop:One-way-brg)	122	O-ring
		30	Bearing	123	Grease nipple
		31	Bearing	124	Washer
		39	Hexagon socket screw	140	Deflection seal
		40	Hexagon socket screw	143	O-ring
		52	Magnetic oil plug	146	Special shaped compression washer
		52.1	Magnetic oil plug (ss option)	200	Rubber seal

Compact Terminal Box

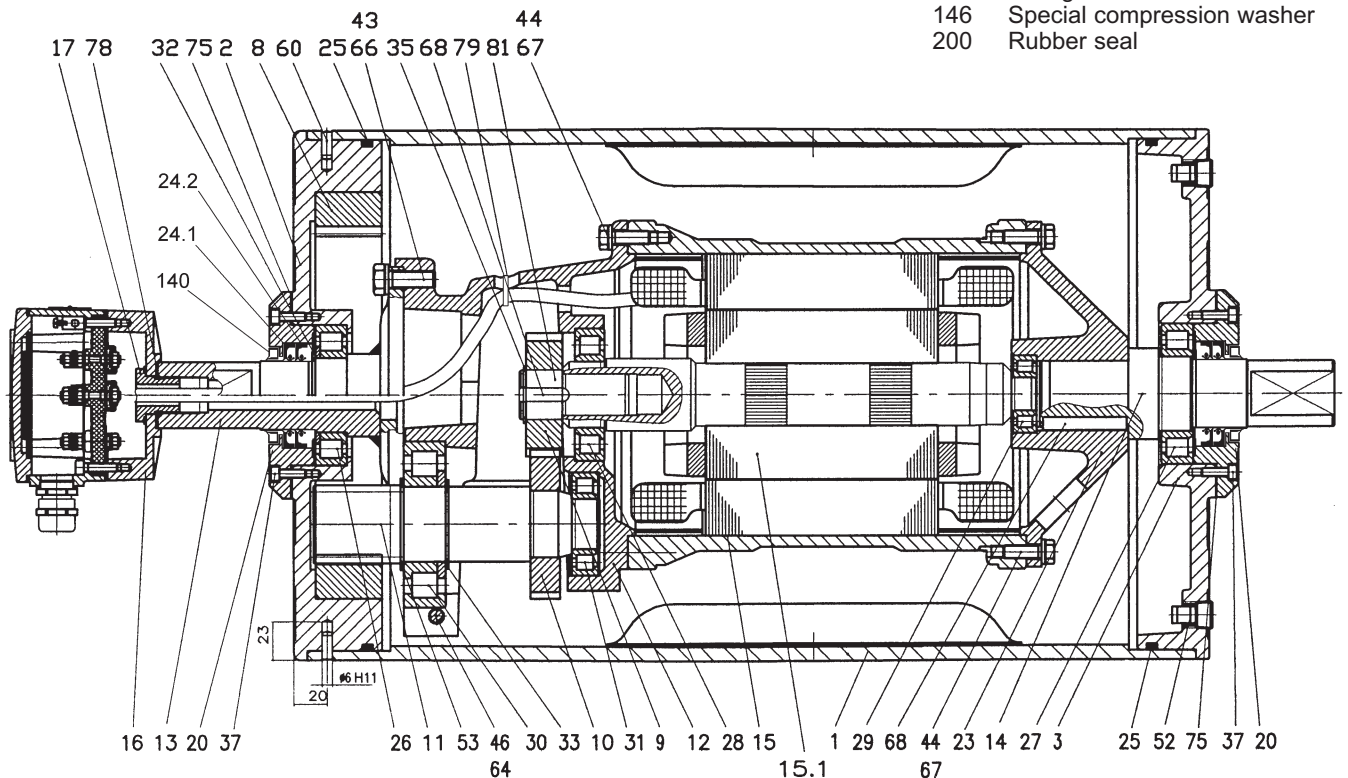




Motorized Pulley 320M, Ø 12.64 in. (321 mm)

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 with geared rim	24.4	Shaft oil seal inner (lab. option)	67	Waved spring washer
2.1	End hsg w/geared rim (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	85	Intermediate flange for backstop
11	Output pinion	31	Bearing	85.1	Intermediate flange for brake assy
12	Gear box	32	Retaining ring	90	Backstop
13	Front shaft	33	Retaining ring	91	Electromagnetic brake
13.1	Front shaft (ss option)	35	Retaining ring	93	Retaining ring
14	Rear shaft	37	Hexagon socket screw	94	Hexagon head screw
14.1	Rear shaft (ss option)	43	Hexagon socket screw	95	Straight connector
15	Stator complete	44	Hexagon socket screw	96	Elbow connector
15.1	Rotor	45	Hexagon head screw	99	Waved spring washer
16	Terminal box complete	46	Hexagon head screw	101	Key
17	Nipple	49	Washer	104	Distance washer
20	Cover	52	Magnetic oil plug	120	Labyrinth cover
20.1	Cover with labyrinth groove	52.1	Magnetic oil plug (ss option)	121	Set screw
23	Rear flange	53	Distance washer	122	O-ring
23.1	Rear flange for backstop/Brake	53.1	Compression nipple	123	Grease nipple
24.1	Shaft oil seal outer	60	Parallel pin	140	Deflection seal
				143	O-ring
				146	Special compression washer
				200	Rubber seal



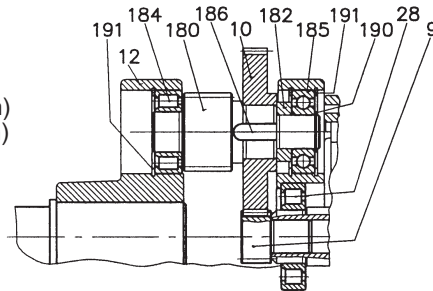
Pos: 52 sealed with plumber sealing tape



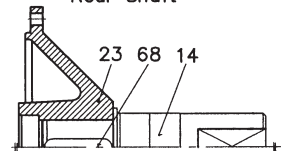
Motorized Pulley 320H, Ø 12.64 in. (321 mm)

Spare parts list and sectional drawings

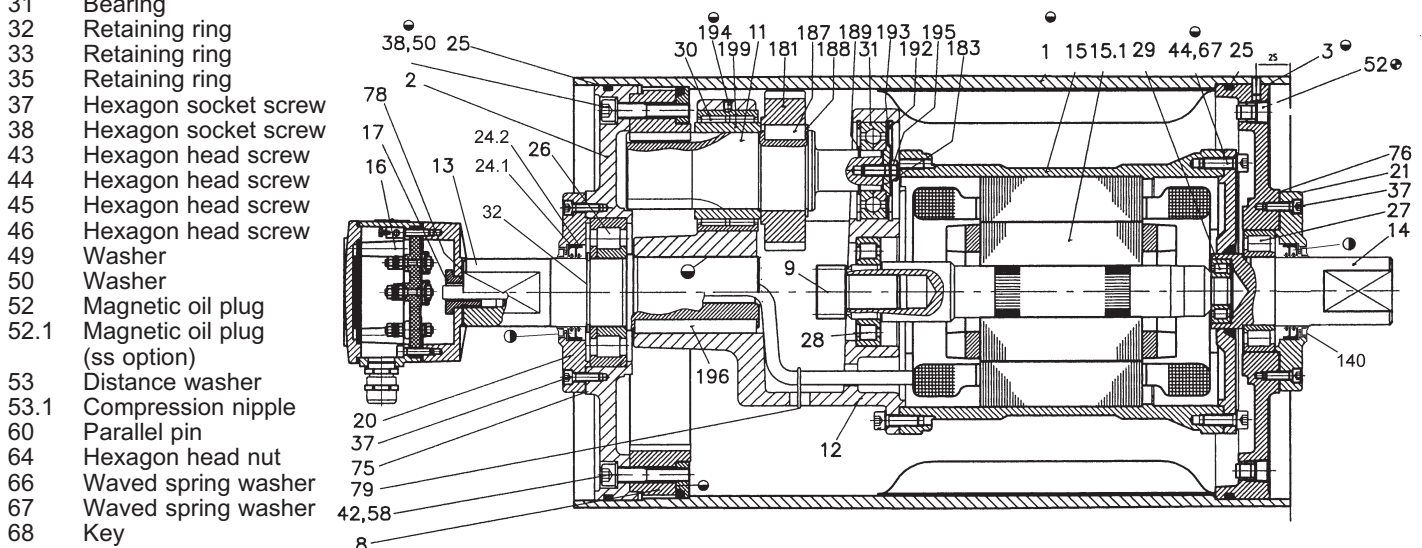
Pos.	Description	Pos.	Description	Pos.	Description
1	Shell	70	Waved spring washer	123	Grease nipple
1.1	Shell (ss option)	73	Set screw	143	O-ring
2	End housing with geared rim	75	Gasket	146	Special shaped compression washer
2.1	End hsg w/geared rim (ss option)	78	Gasket	180	Intermediate pinion shaft
3	End housing	79	Holding clip or plastic tie	181	Intermediate pinion
3.1	End housing (ss option)	80	Hexagon head screw	182	Distance bushing
8	Geared rim	84	Rear flange for brake	183	Washer
9	Rotor pinion	85	Intermediate flange for backstop assembly	184	Roller bearing
10	Input wheel	85.1	Intermediate flange for brake assembly	185	Roller bearing
11	Output pinion	90	Backstop	186	Key
12	Gear box	91	Electromagnetic brake	187	Key
13	Front shaft	93	Retaining ring	188	Retaining ring
13.1	Front shaft (ss option)	94	Hexagon head screw	190	Retaining ring
14	Rear shaft	95	Straight connector	191	Retaining ring
14.1	Rear shaft (ss option)	96	Elbow connector	192	Retaining ring
15	Stator complete	99	Waved spring washer	193	Distance washer
15.1	Rotor	101	Key	194	Set screw
16	Terminal box complete	104	Distance washer	195	Prevailing torque type hexagon nut
17	Nipple	120	Labyrinth cover	196	Key
20	Cover front side	121	Set screw	197	Retaining ring
20.1	Cover with labyrinth groove	122	O-ring	198	Distance ring
21	Cover — rear side			200	Rubber seal
21.1	Cover with labyrinth groove				
23	Rear flange				
23.1	Rear flange for brake option				
24.1	Shaft oil seal outer				
24.2	Shaft oil seal inner				
24.3	Shaft oil seal outer (lab. option)				
24.4	Shaft oil seal inner (lab. option)				
25	O-ring				
26	Bearing				
27	Bearing				
28	Bearing				
29	Bearing				
30	Bearing				
31	Bearing				
32	Retaining ring				
33	Retaining ring				
35	Retaining ring				
37	Hexagon socket screw				
38	Hexagon socket screw				
43	Hexagon head screw				
44	Hexagon head screw				
45	Hexagon head screw				
46	Hexagon head screw				
49	Washer				
50	Washer				
52	Magnetic oil plug				
52.1	Magnetic oil plug (ss option)				
53	Distance washer				
53.1	Compression nipple				
60	Parallel pin				
64	Hexagon head nut				
66	Waved spring washer				
67	Waved spring washer				
68	Key				



valid for RL ≥ 23.62"
Rear Shaft



- sealed with plumber plastic tape
- fitted with metal glue
- filled with grease

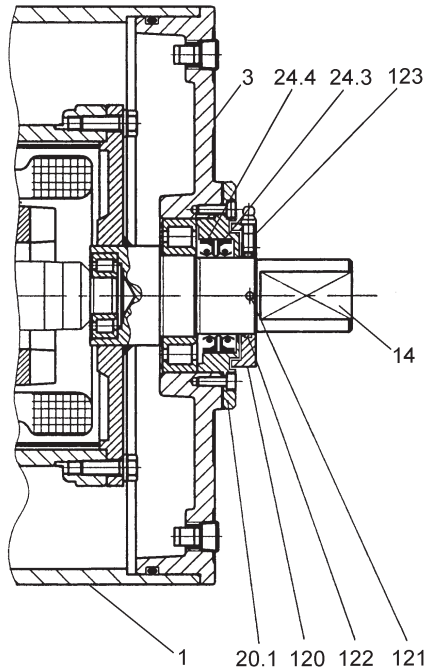




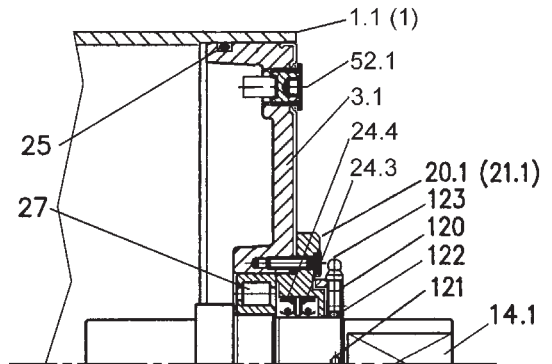
Motorized Pulley 320L, 320M & 320H, Ø 12.64 in. (321 mm)

Sectional drawings

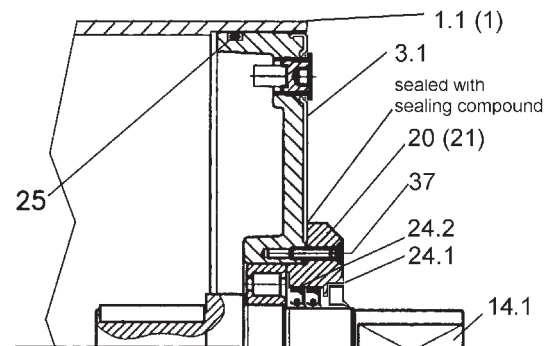
Carbon Steel Shell & Shaft
with Labyrinth Option



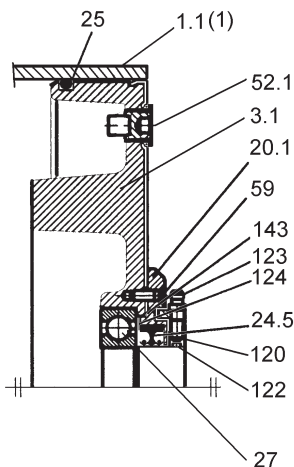
320M & 320H Stainless Steel with Labyrinth Options TS9N
(Position 1 for carbon steel shell valid for TS11N only)
(Position 21.1 valid for 320H only)



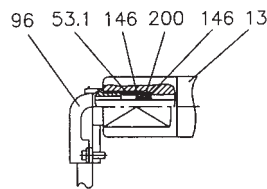
320M & 320H Stainless Steel Non-Labyrinth Options TS10N
(Position 1 for carbon steel shell valid for TS12N only)
(Position 21 valid for 320H only)



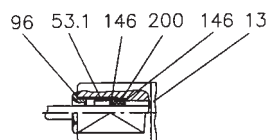
320L Stainless Steel with Labyrinth Options TS9N
(Position 1 for carbon steel shell valid for TS11N only)



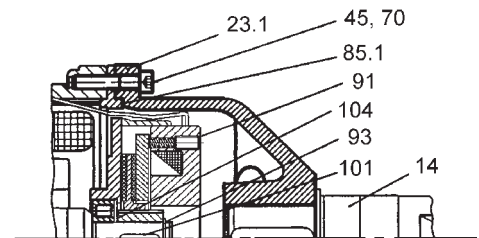
Elbow Connector



Straight Connector



Electromagnetic Brake Option



Backstop Option

