



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 78. 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 88.
- 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
- 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 10,000 operational hours
- Minimum RL. Please refer to pages 33-34
- 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 76-86
- **Environmental Considerations:** page 72
- **Optional Extras:** page 31 and back cover
- **Electrical Connection Diagrams:** pages 94-96.

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 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.	x
Total acid resistant stainless steel option - AISI 316	x
Black rubber lagging - Standard specifications (See page 80.)	
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)	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 (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: ≤ 5.5 HP dual voltage (230/460) stator (YY/Y winding) wired for 460v/3ph/60 Hz at terminal box	Std.
≤ 5.5 HP dual voltage (230/460) stator (YY/Y winding) wired for 230v/3ph/60 Hz at terminal box	x
≥ 7.5 HP single voltage (460) stator (Y winding) wired for 460v/3ph/60 Hz at terminal box	Std.
≥ 7.5 HP 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

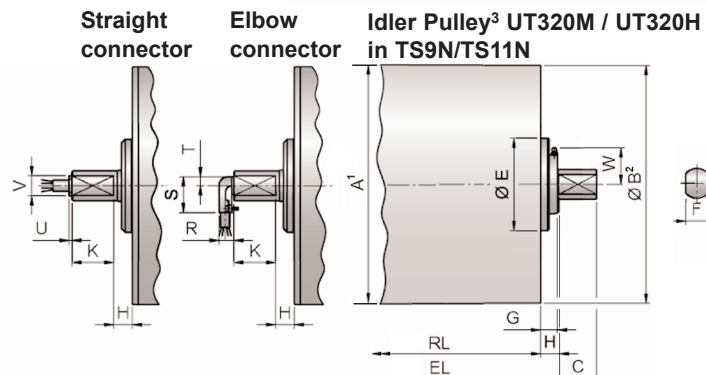
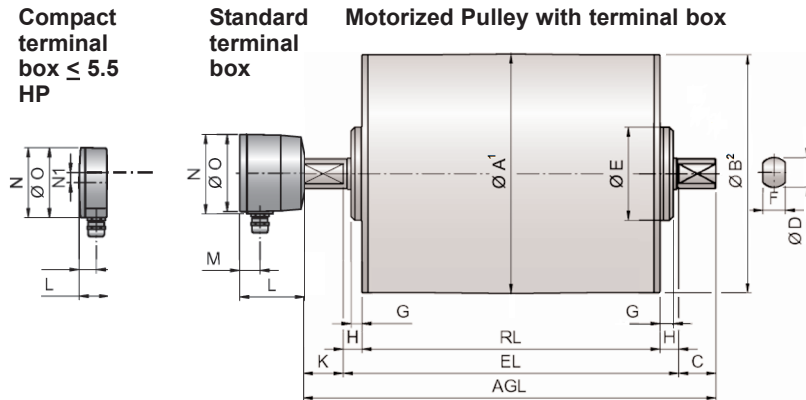
x = Optional extras

o = An option with certain limitations. Please refer to Technical precautions pages 76-86!

Std. = Fitted as standard

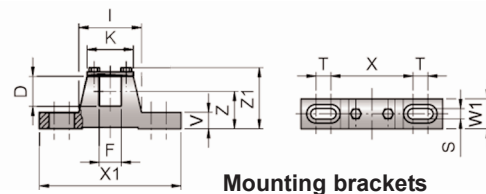


Motorized Pulley 320L, 320M & 320H, Ø 12.64 in. (321 mm)



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 in	B in	C in	D in	E in	F in	G in	G TS9/11 in	H in	K in	W in	L in	M in	N in	O in	L in	M in	N in	N1 in	U in	V in	R in	S in	T 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 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		
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	78	402	2585	17.72	-	180*	190	200	209	219	223	239	249				
				96	100	317															
				120	122	259															
				150	146	216															
				192	186	170															
240	231	137																			
300	300	105																			
1.5	4	2	320L	120	132	349	2585	17.72	-	185	194	204	214	224	234	243	253				
				150	157	294															
				192	199	233															
				240	243	190															
				300	292	159															
384	371	124																			
480	462	100																			
600	602	77																			
2	4	2	320L	120	132	476	2585	17.72	-	189	199	209	218	228	238	248	258				
				150	157	402															
				192	199	317															
				240	243	259															
				300	292	216															
384	371	170																			
480	462	137																			
600	602	105																			
3	4	2	320L	150	157	590	2585	17.72	-	189*	199	208	218	228	238	248	258				
				192	199	466															
				240	243	380															
				300	292	317															
				384	371	249															
480	462	200																			
600	602	154																			
4	4	2	320L	240	243	518	2585	19.69	-	-	207	217	227	237	247	257	266				
				300	292	433															
				384	371	340															
				480	462	273															
				600	602	210															
5.5	2	2	320L	300	314	536	2585	19.69	-	-	207	217	227	237	247	257	266				
				384	397	423															
				480	487	345															
				600	583	289															

See Foot-note⁴
KL41-HD 6YA0K

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	25	1241	7868	21.65	-	-	308*	317	329	341	354	366	378				
				30	32	984															
		2	320M	38	41	774	4496	19.69	-	251*	261	271	281	291	301	310	320				
				48	54	581															
				60	69	461															
76	83	377																			
96	108	291																			
120	135	233																			
150	166	190																			
192	212	148																			
1.5	12	3	320H	24	25	1821	7868	21.65	-	-	308*	317	329	341	354	366	378				
				30	32	1444															
	2	320M	38	41	1128	4496	19.69	-	251*	261	271	281	291	301	310	320					
			48	54	851																
			60	61	752																
76	81	568																			
96	103	450																			
120	126	368																			
150	162	285																			
192	203	228																			
240	249	186																			
300	319	145																			

See Foot-note⁴
KL42 6YA0J

1 Use "nominal belt speed" to specify pulley. "Actual belt speed" is presented (for pulley lagged with 1/4" 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.

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 78.

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 lbs/in

5 All weights shown above are for pulleys with 1/4" thick lagging. To calculate unlagged pulley weight subtract 0.5 lbs/in of Roller Length from above.

* Special "Short Roller Length" Option



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	38 48	1655 1312	7868	21.65	-	-	308*	317	329	341	354	366	378	See Foot-note ⁴	KL42 6YA0J	
		2	320M	60 76 96 120 150 192 240 300	61 81 103 126 162 203 248 318	1026 774 614 503 389 311 253 198	4496	19.69	-	252*	261	271	281	291	301	310	320		KL41-HD 6YA0K	
3	8	3	320H	38 48	87 48	2427 1925	7868	21.65	-	-	308*	317	329	341	354	369	378	See Foot-note ⁴	KL42 6YA0J	
		2	320M	60 76 96	61 81 103	1505 1136 903	4496	19.69	-	252*	261	271	281	291	301	310	320		KL41-HD 6YA0K	
3	4	2	320M	120 150 192 240 300 384 480 600	123 163 206 251 324 406 498 637	752 568 450 368 285 228 186 145	4496	19.69	-	229*	239	249	258	268	278	288	298	See Foot-note ⁴	KL41-HD 6YA0K	
				3	320H	48 60 76	51 64 78	2483 1969 1613	7868	21.65	-	-	308*	317	329	341	354		366	378
4	4	2	320M	120 150 192 240 300 384 480 600	123 163 206 251 324 406 498 637	1026 774 614 503 389 311 253 198	4496	19.69	-	229*	239	249	258	268	278	288	298	See Foot-note ⁴	KL41-HD 6YA0K	
				3	320H	48 60 76	51 64 78	2483 1969 1613	7868	21.65	-	-	308*	317	329	341	354		366	378
5.5	4	2	320M	150 192 240 300 384 480 600	163 206 251 324 406 498 637	1032 819 670 518 414 338 264	4496	19.69	-	252*	261	271	281	291	301	310	320	See Foot-note ⁴	KL41-HD 6YA0K	
				3	320H	96 120 150	96 117 152	2406 1971 1523	7868	21.65	-	-	308*	317	329	341	354		366	378
7.5	4	2	320M	192 240 300 384 480 600	206 251 324 406 498 637	1125 923 713 569 465 363	4496	19.69	-	252*	261	271	281	291	301	310	320	See Foot-note ⁴	KL41-HD 6YA0K	
				3	320H	150 192 240	153 192 235	2069 1640 1344	7868	21.65	-	-	308*	317	329	341	354		366	378
10	2	2	320M	300 384 480 600	325 411 501 649	968 768 629 486	4496	19.69	-	-	261	271	281	291	301	310	320	See Foot-note ⁴	KL41-HD 6YA0K	
				3	320H	150 192 240	153 192 235	2069 1640 1344	7868	21.65	-	-	308*	317	329	341	354		366	378
Idler Pulley				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		KL42 6YA0J	

1 Use "nominal belt speed" to specify pulley. "Actual belt speed" is presented (for pulley lagged with 1/4" 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.

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 78.

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 lbs/in

5 All weights shown above are for pulleys with 1/4" thick lagging. To calculate unlagged pulley weight subtract 0.5 lbs/in of Roller Length from above.

* Special "Short Roller Length" Option

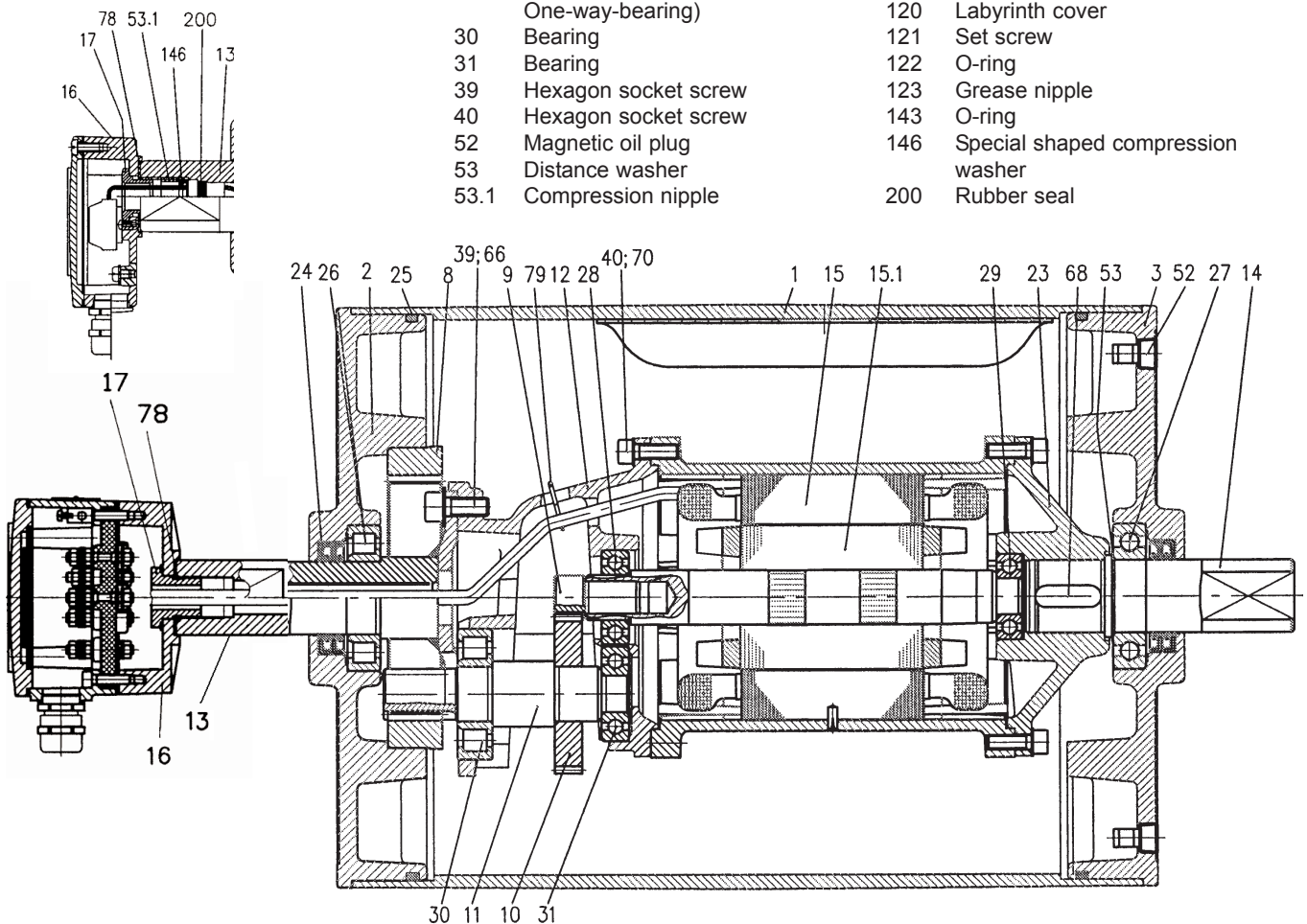


Motorized Pulley 320L, Ø 12.64 in. (321 mm)

Spare parts list and sectional drawings

Pos.	Description	Pos.	Description	Pos.	Description
1	Shell	17	Nipple	59	Countersunk head screw
2	End housing with geared rim	20	Cover	66	Waved spring washer
3	End housing	20.1	Cover with labyrinth groove	68	Key
8	Geared rim	23	Rear flange	70	Toothed washer
9	Rotor pinion	23.1	Rear flange for backstop	78	Gasket
10	Input wheel	23.2	Rear flange for electromagnetic brake	79	Holding clip or plastic tie
11	Output pinion	24	2 Dust lip seals each side	85	Intermediate flange for backstop
12	Gear box	24	1 Double lip seal for labyrinth option	85.1	Intermediate flange for brake assembly
13	Front shaft	25	O-ring	91	Electromagnetic brake
14	Rear shaft	26	Bearing	93	Retaining ring
15	Stator complete	27	Bearing	95	Straight connector
15.1	Rotor	28	Bearing	96	Elbow connector
16	Terminal box complete	29	Bearing (Backstop solution: One-way-bearing)	101	Key
		30	Bearing	104	Distance washer
		31	Bearing	120	Labyrinth cover
		39	Hexagon socket screw	121	Set screw
		40	Hexagon socket screw	122	O-ring
		52	Magnetic oil plug	123	Grease nipple
		53	Distance washer	143	O-ring
		53.1	Compression nipple	146	Special shaped compression washer
				200	Rubber seal

Compact Terminal Box

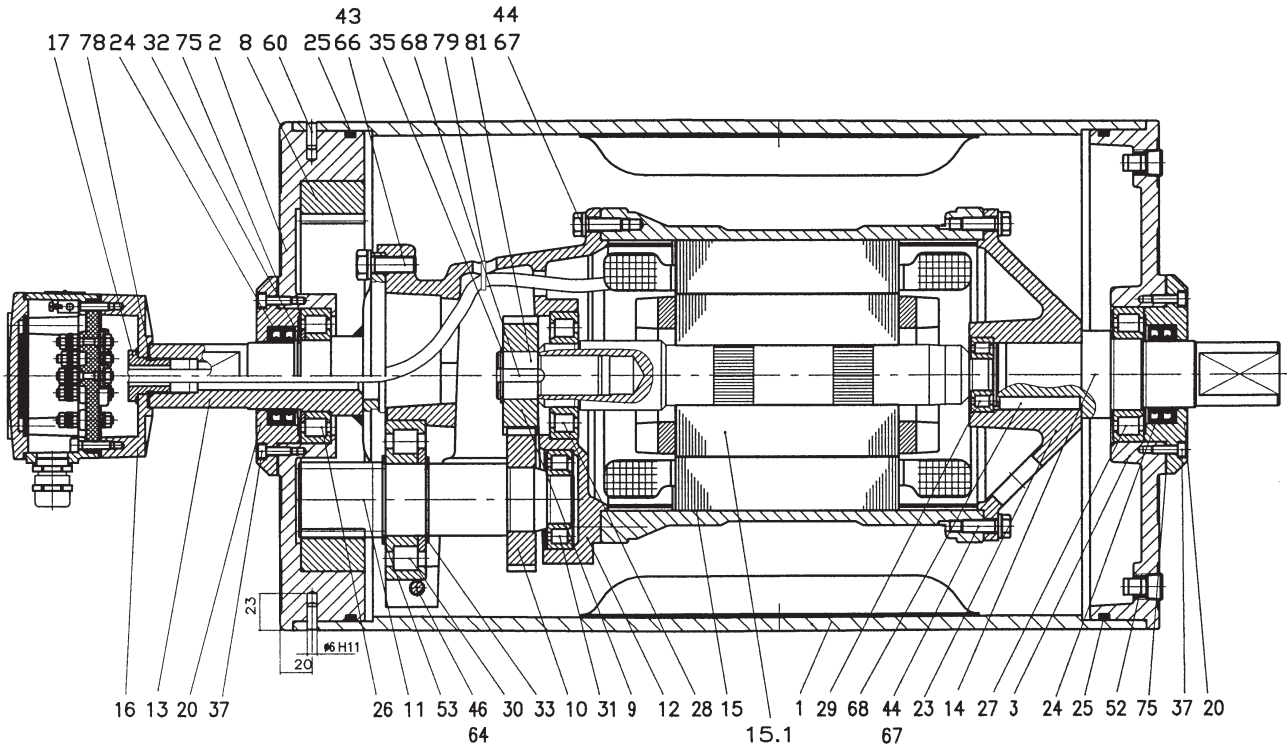




Motorized Pulley 320M, Ø 12.64 in. (321 mm)

Spare parts list and sectional drawings

Pos.	Description	Pos.	Description	Pos.	Description
1	Shell	29	Bearing	78	Gasket
2	End housing with geared rim	30	Bearing	79	Holding clip or plastic tie
3	End housing	31	Bearing	85	Intermediate flange for back-stop
8	Geared rim	32	Retaining ring	85.1	Intermediate flange for brake assembly
9	Rotor pinion	33	Retaining ring	91	Electromagnetic brake
10	Input wheel	35	Retaining ring	93	Retaining ring
11	Output pinion	37	Hexagon socket screw	94	Hexagon head screw
12	Gear box	43	Hexagon socket screw	95	Straight connector
13	Front shaft	44	Hexagon socket screw	96	Elbow connector
14	Rear shaft	45	Hexagon head screw	99	Waved spring washer
15	Stator complete	46	Hexagon head screw	101	Key
15.1	Rotor	49	Washer	104	Distance washer
16	Terminal box complete	52	Magnetic oil plug	120	Labyrinth cover
17	Nipple	53	Distance washer	121	Set screw
20	Cover	53.1	Compression nipple	122	O-ring
20.1	Cover with labyrinth groove	60	Parallel pin	123	Grease nipple
23	Rear flange	64	Prevailing torque type hexagon nut	143	O-ring
23.1	Rear flange for backstop/Brake	66	Waved spring washer	146	Special shaped compression washer
24	2 Dust lip seals each side	67	Waved spring washer	200	Rubber seal
25	O-ring	68	Key		
26	Bearing	70	Waved spring washer		
27	Bearing	75	Gasket		
28	Bearing				



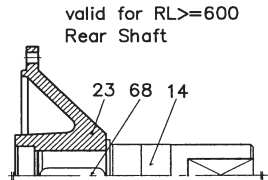
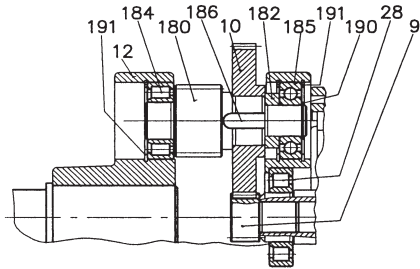
Pos: 52 sealed with plumber sealing tape



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

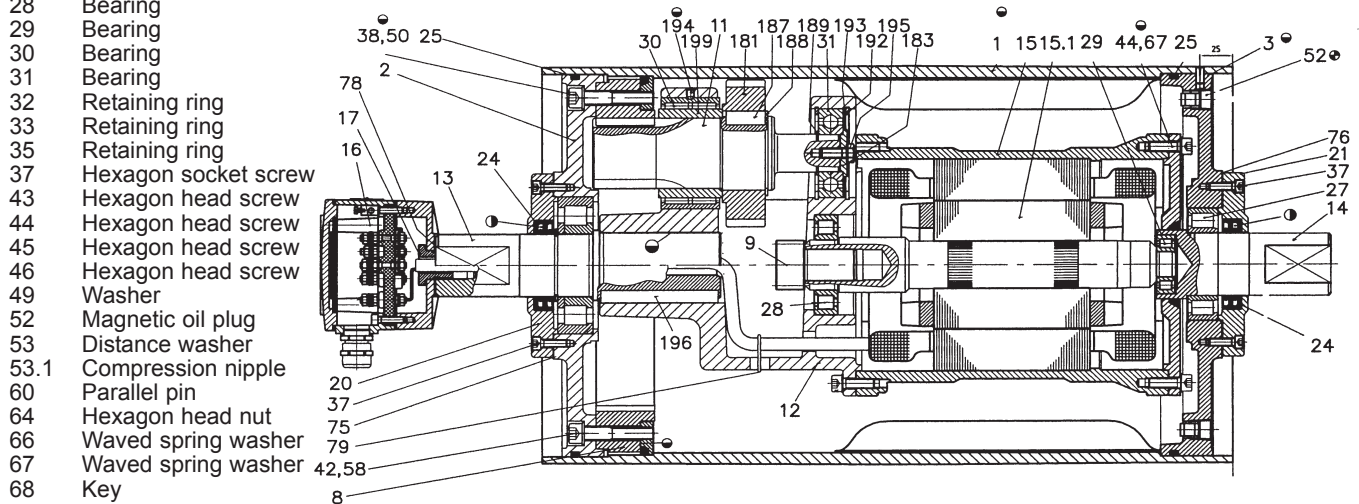
Spare parts list and sectional drawings

Pos.	Description	Pos.	Description	Pos.	Description
1	Shell	70	Waved spring washer	143	O-ring
2	End housing with geared rim	73	Set screw	146	Special shaped compression washer
3	End housing	75	Gasket	180	Intermediate pinion shaft
8	Geared rim	78	Gasket	181	Intermediate pinion
9	Rotor pinion	79	Holding clip or plastic tie	182	Distance bushing
10	Input wheel	80	Hexagon head screw	183	Washer
11	Output pinion	84	Rear flange for brake	184	Roller bearing
12	Gear box	85	Intermediate flange for backstop	185	Roller bearing
13	Front shaft	85.1	Intermediate flange for brake assembly	186	Key
14	Rear shaft	90	Backstop	187	Key
15	Stator complete	91	Electromagnetic brake	188	Retaining ring
15.1	Rotor	93	Retaining ring	190	Retaining ring
16	Terminal box complete	94	Hexagon head screw	191	Retaining ring
17	Nipple	95	Straight connector	192	Retaining ring
20	Cover front side	96	Elbow connector	193	Distance washer
20.1	Cover with labyrinth groove	99	Waved spring washer	194	Set screw
21	Cover – rear side	101	Key	195	Prevailing torque type hexagon nut
21.1	Cover with labyrinth groove	104	Distance washer	196	Key
23	Rear flange	120	Labyrinth cover	197	Retaining ring
23.1	Rear flange for brake option	121	Set screw	198	Distance ring
24	2 Dust lip seals each side	122	O-ring	200	Rubber seal
25	O-ring	123	Grease nipple		
26	Bearing				
27	Bearing				
28	Bearing				
29	Bearing				
20	Cover front side				
20.1	Cover with labyrinth groove				
21	Cover – rear side				
21.1	Cover with labyrinth groove				
23	Rear flange				
23.1	Rear flange for brake option				
24	2 Dust lip seals each side				
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				
43	Hexagon head screw				
44	Hexagon head screw				
45	Hexagon head screw				
46	Hexagon head screw				
49	Washer				
52	Magnetic oil plug				
53	Distance washer				
53.1	Compression nipple				
60	Parallel pin				
64	Hexagon head nut				
66	Waved spring washer				
67	Waved spring washer				
68	Key				



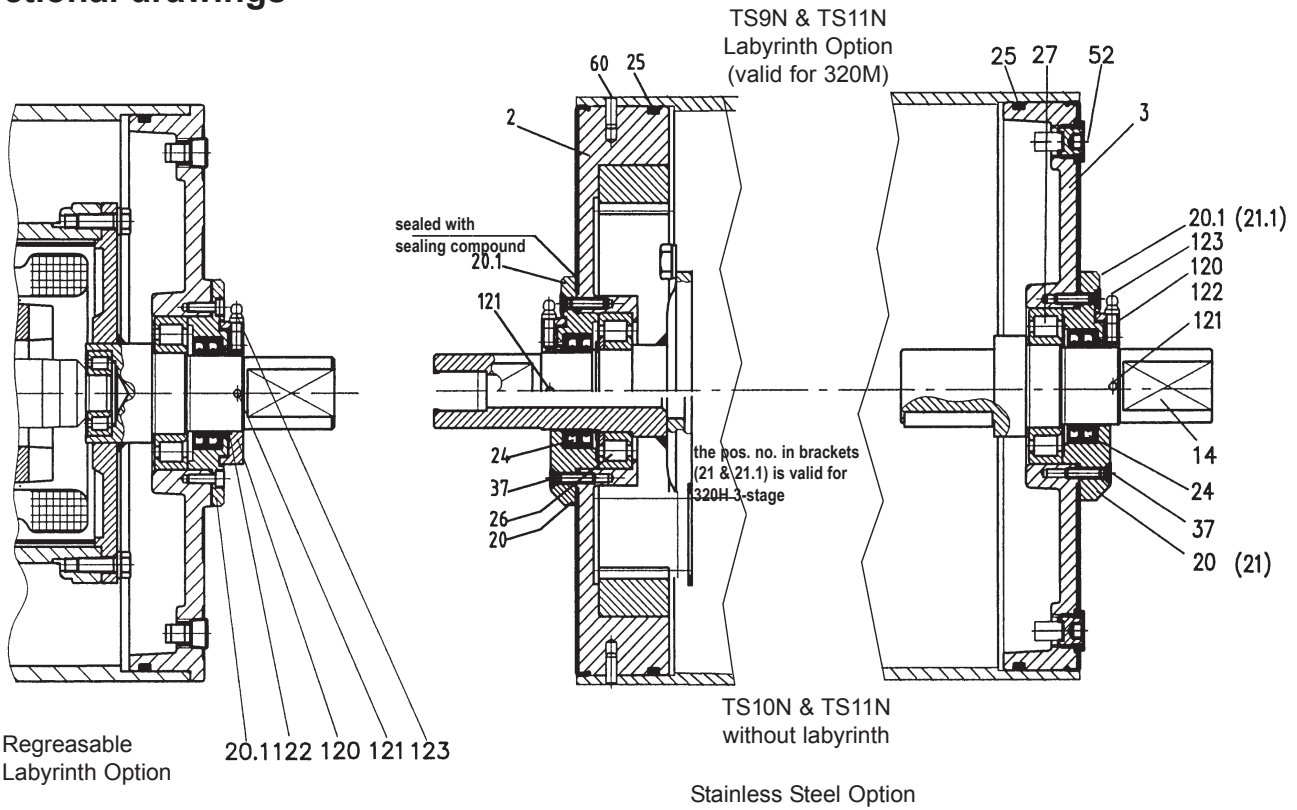
valid for RL >= 600
Rear Shaft

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





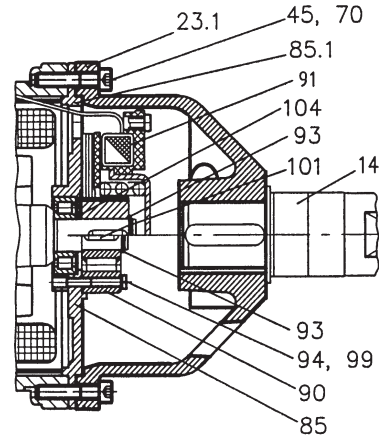
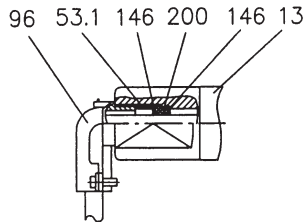
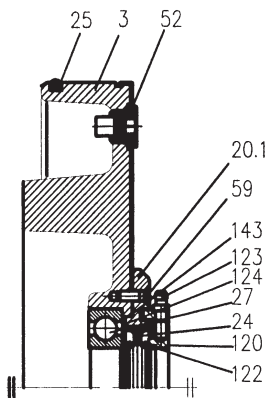
Motorized Pulley 320L, 320M & 320H, Ø 12.64 in. (321 mm) Sectional drawings



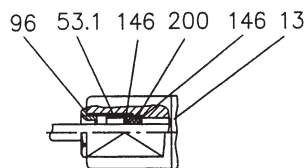
320L TS9N

Elbow Connector

Electromagnetic Brake Option



Straight Connector



Backstop Option