



## Motorized Pulley 138LS, Ø 5.45 in. (138 mm)

Motorized Pulley 138LS, with machined helical gearbox, performs with a gearbox efficiency of 95% of nominal power, in a compact diameter of 5.45 inches. With a minimum roller length (RL) of 11.81” and powers ranging from 0.13 to 1.0 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 138LS 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 5.45” 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 0.33, 0.50, and 0.75 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 9 and back cover
- **Electrical Connection Diagrams:** pages 94-96.



## OPTIONAL EXTRAS

### Motorized Pulley 138LS

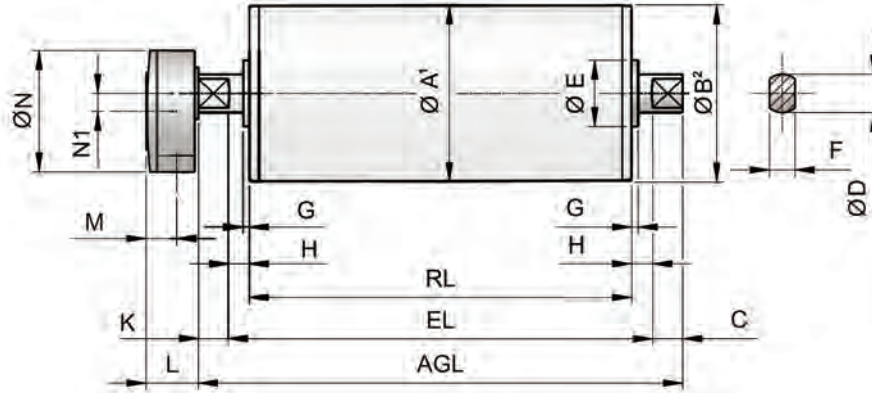
Specification	Availability	
Total stainless steel option AISI 304 range	TS7N with regreasable labyrinth seals	x
Food grade oil & grease - FDA & USDA recognized		x
Dust explosion proof Motorized Pulleys - ATEX 95 - Zone 22 - for applications handling dusty grain etc. According to European Directive 94/9/EC.		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 72-86
- = Fitted as standard



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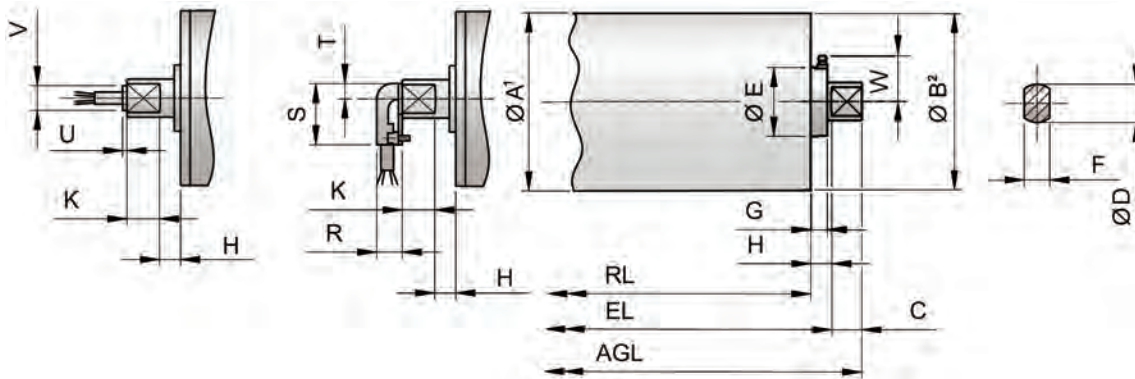
Motorized Pulley with Terminal box



Motorized Pulley with cable straight connector

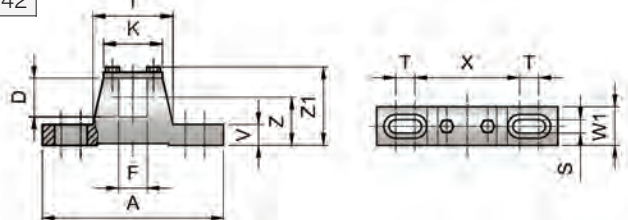
Elbow connector (not for TS7N)

Idler Pulley<sup>3</sup> 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
138LS	5.45	5.39	0.93	1.18	2.13	0.79	0.20	0.65	0.93	-	1.61	0.95	3.74	0.55	0.14	0.77	0.79	1.89	0.47
UT138LS	5.45	5.45	0.93	1.18	2.13	0.79	0.53	0.65	-	1.42									

- 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 Model	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				
138LS	Cast iron painted	KL30	S2YAKL																
	Cast iron Ni plated		S2YAKM	7.09	1.18	0.79	3.39	2.24	0.43	0.67	0.47	0.95	4.33	1.75	2.83	1.54			
	Stainless steel		S3KL33																



# Motorized Pulley 138LS, Ø 5.45 in. (138 mm)

# 60 Hz

Motor		No. Gear Stages	Model	Nominal belt speed <sup>1</sup> at Full Load 60 Hz fpm	Actual belt speed <sup>1</sup> at Full Load 60 Hz fpm	Belt Pull <sup>2</sup> lbs	Max. Radial Load <sup>3</sup> T1 + T2 lbs	Min. RL in	RL Dimension inches (RL <sub>max</sub> = 70.87") Weight in lbs <sup>5</sup>										Type of Bracket												
Power HP	No. of Poles								11.81	12.60	13.78	15.75	17.72	19.69	21.65	23.62	25.59	longer than 25.59													
0.13	12	3	138E	10 12 14	10 14 16	397 318 263	1,066	11.81	32	33	34	37	40	42	44	46	49	See Foot-note <sup>4</sup>	KL30 S2YAKL												
		2	138E	24 30	24 28	178 152																									
0.25	8	3	138E	18 24 30	20 24 29	384 309 254																									
		2	138E	38 48	44 51	172 147																									
0.33	6	3	138E	24 30 38	25 31 38	404 325 265																									
		2	138E	48 60 76	55 65 82	182 155 124																									
0.50	4	3	138E	38 48 60	38 47 58	412 331 273																									
		2	138E	76 96 120 150	85 98 126 104	185 158 126 104																									
0.75	2	3	138E	48 60 76 96 120	55 64 74 93 113	416 363 310 249 205																									
		2	138E	150 192 240 300	166 196 244 296	139 119 95 78																									
1.0	4	3	138E	76 96 120 150	88 104 129 157	357 304 244 201														12.60	-	34	37	41	43	45	47	49	53		
				2	2	138E																									

<b>Idler Pulley</b>	Model UT138LS	1,066	11.81	15	16	18	21	23	25	27	29	32	See Foot-note <sup>4</sup>	KL30 S2YAKL
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- 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 Roller Length:
  - 25.59" ≤ RL < 39.37" Wt = 1.3 lbs/inch
  - 39.37" ≤ RL < 59.06" Wt = 1.5 lbs/inch
  - 59.06" ≤ RL < 70.87" Wt = 2.0 lbs/inch
- 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.

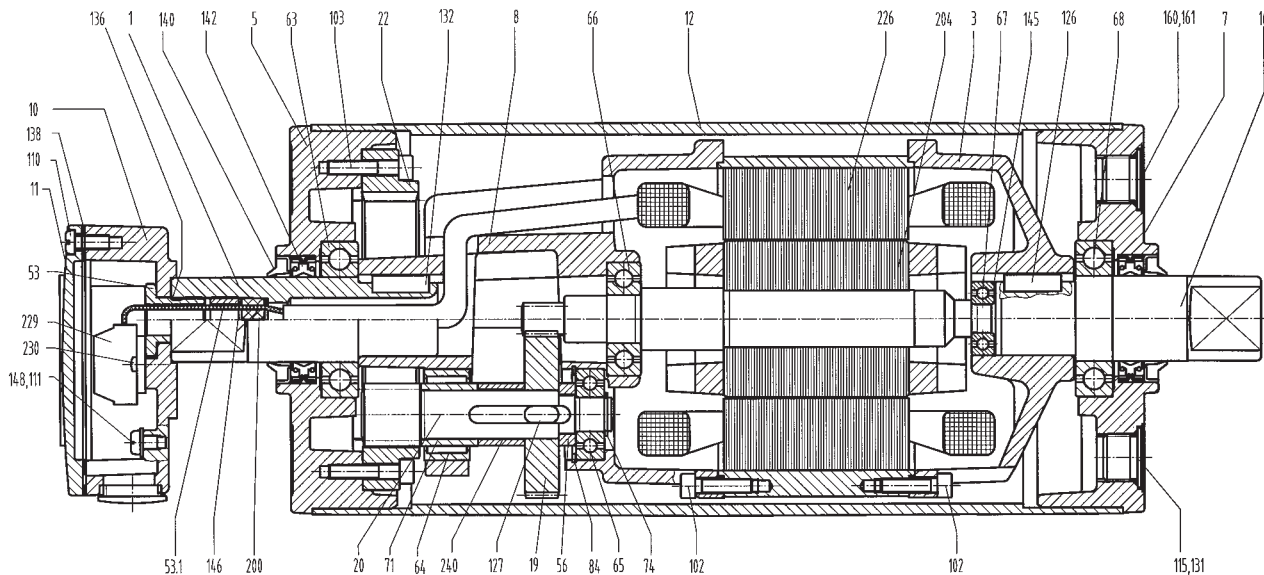


# Motorized Pulley 138LS, Ø 5.45 in. (138 mm)

## Spare parts list and sectional drawings

Pos.	Description	Pos.	Description	Pos.	Description
1	Front shaft	31	Labyrinth seal cover	110	Screw
3	Rear flange	53	Nipple (terminal box)	111	Screw
5	Bearing housing complete with geared rim	53.1	Cable seal nipple (cable option)	113	Screw
7	Bearing housing complete	55	Spacer bushing	114	Socket set screw
8	Gearbox	56	Spacer bushing	115	Oil plug with magnet
10	Terminal box – bottom part	63	Ball bearing	126	Key
11	Terminal box cover	64	Needle bearing	127	Key
12	Shell	65-70	Ball bearing	131	Key
16	Rear shaft	71	Inner race	132	Key
19	Input wheel	74	Locking ring	136	O-ring/Rubber seal
20	Output pinion	84	Locking ring	138	Rubber seal
22	Geared rim	86	Locking ring	139	Grease nipple
23	Intermediate pinion shaft	93	Elbow or straight connector	140	Deflection seal
24	Intermediate wheel	102	Screw	142	Double lip seal
		103	Screw	143	O-ring

2-stage gearbox



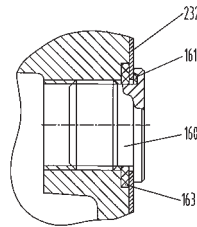


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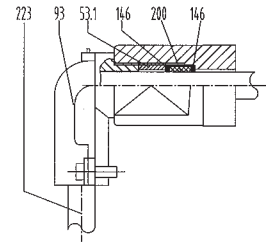
## Spare parts list and sectional drawings

Pos.	Description	Pos.	Description	Pos.	Description
145	Distance washer	160	Oil plug	208	Stainless steel cover – gear end
146	Washer	161	O-ring	210	Fixing guard
148	Washer	163	O-ring	223	Cable
150	Electromagnetic brake	167	Screw	226	Stator complete
150.1	Friction disc	200	Rubber seal	240	Distance ring
156	Rectifier (not shown)	204	Rotor complete with pinion		

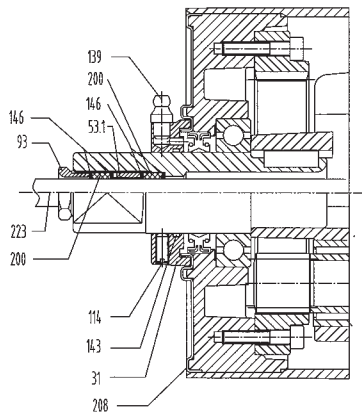
TS7N with cable connection



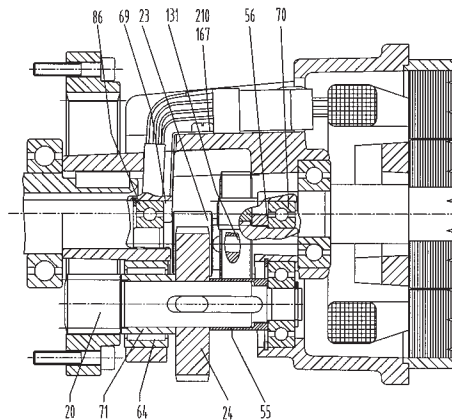
Elbow connector



TS7N with cable connection



3-stage gearbox



Electromagnetic brake

