

DRUM MOTOR 138LS

138.5Ø 0.10kW - 1.00kW, with steel helical gearbox

Product description

The drum motor 138LS is a very flexible component thanks to the wide range of powers and speeds.

Characteristics

- Salt water resistant aluminum bearing housing
- Induction motor three phases alternating current
- Dual voltage
- Integral motor protection
- Steel- hardened helical spur gear
- Low noise operation
- Maintenance free
- Lifetime lubrication
- Reversible operation
- Reinforced shaft for RL greater than 800 mm

Applications

- Conveyors for heavy and frequent use
- Conveyors for transportation of packages
- Logistics applications
- Check-in desks at airports
- Conveyors for furniture manufacture
- Manufacturing of food processes
- Modular belts, steel or plastic applications
- Dry, damp and frequent wash down applications

TECHNICAL DATA

Motor Data

Type of Motor	Asynchronous squirrel-cage, IEC 34 (VDE 0530)
Insulation class of motor windings	Class F, IEC 34 (VDE 0530)
Derated windings (20% power reduction)	On request for applications without belt
Voltage	230/400 V ± 5% (IEC 34/38) Special voltage on request
Frequency	50/60 Hz
Internal shaft sealing system	Double-lipped FPM or nitrile rubber, NBR
Protection rate	IP66
Thermal protection	Bimetallic Contact
Ambient temperature, 3-phase motor	-25 to +40 °C
General technical data	
Max. Roller length (RL)	1800 mm

All data and values declared in the catalogue refer to operation with a frequency of 50 Hz.



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Materials

The following drum motor components are available in different versions, as shown in the below chart, with further options for the material type as indicated.

Components	Version	Material				
		Aluminium	Steel	Stainless Steel	Brass /Nickel	Polymer
Shell	Crowned		Std	TS8N		
	Cylindrical		Std	TS8N		
	Cylindrical + key (for sprockets)		Std	TS8N		
	Special crowns and grooves		Std	TS8N		
End housing	Standard	Std		TS8N		
	With V-grooves		Std	TS8N		
	With O-grooves		Std	TS8N		
	With chain sprockets		Std	TS8N		
Shaft	Standard		Std	TS8N		
	Cross-drilled and threaded, M8		Std	TS8N		
Electrical connection	Straight connector			TS8N	Std	Std
	Elbow connector			TS8N		
	Terminal box	Std		TS8N		

Please contact Rulmeca for further versions.

TS8N Version - End Caps in stainless steel with PTFE lip seals.

Options

- Rubber Lagging for standard belts
- Profiled lagging for plastic modular belts
- Profiled lagging for thermoplastic belts
- Sprockets for plastic modular belts
- Backstop / Anti run-back bearing
- Electromagnetic brake
- Rectifiers
- Encoder
- Food-grade Oil (EU, FDA and USDA)
- Non-horizontal mounting
(more than $\pm 5^\circ$)
- TS8N with mild steel shell is possible
- Dynamical balancing

Note

The combination of encoder and electromagnetic brake is not possible.

Accessories

- Mounting brackets
- Idler Pulleys
- Rollers for conveyors
- Frequency Converters

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TECHNICAL DATA DRUM MOTOR 138LS - 3PHASE - 50HZ - STANDARD

P_N [kW]	np (rpm)	I_T [A]	gs	i	V_A [m/s]	V_N [m/s]	n_A [min ⁻¹]	M_N [Nm]	F_T [N]	TE [N]	RL [mm]					
0.10	12 (440)	1.3/0.75	3	78.40	0.04	0.04	6	162	2360	8300	min 300 max 1850					
				66.00	0.05	0.05	7	136	1987							
				52.96	0.06	0.06	8	109	1594							
			2	29.56	0.11	0.10	15	61	890							
0.18	8 (670)	2.0/1.15	3	66.00	0.07	0.08	10	160	2331	8300	min 300 max 1850					
				52.96	0.09	0.10	13	128	1870							
				43.65	0.11	0.13	15	106	1542							
			2	29.56	0.16	0.16	23	72	1044	4850						
				25.20	0.19	0.20	26	61	890							
				66.00	0.10	0.10	14	156	2280							
0.24	6 (920)	1.55/0.9	3	52.96	0.12	0.13	17	125	1830	8300	min 300 max 1850					
				43.65	0.15	0.16	21	103	1508							
				29.56	0.22	0.20	31	70	1021							
			2	25.20	0.26	0.25	36	60	871	4850						
				20.22	0.33	0.32	45	48	699							
				6	6	2.25/1.3	3	51.85	0.13			0.13	17	190	2776	8300
0.37	4 (1400)	2.1/1.2	3	66.00	0.15	0.16	21	158	2310	4850	min 300 max 1850					
				52.96	0.19	0.20	26	127	1854							
				43.65	0.23	0.25	32	105	1528							
			2	29.56	0.34	0.32	47	71	1035			3650				
				25.20	0.40	0.40	55	60	882							
				20.22	0.50	0.50	68	48	708							
				16.67	0.60	0.63	83	40	583							
			12.44	0.81	0.80	111	30	435								
			0.55	2 (2730)	2.3/1.3	3	77.41	0.25	0.25			35	141	2065	4850	min 300 max 1850
							66.00	0.30	0.32			41	121	1761		
52.96	0.37	0.40					51	97	1413							
43.65	0.45	0.50					62	80	1165							
2	29.56	0.66				0.63	91	54	789	3650						
	25.20	0.78				0.80	107	46	672							
	20.22	0.97				1.00	134	37	539							
	16.67	1.17				1.25	162	30	445							
	12.44	1.57				1.60	217	23	332							
	52.96	0.22				0.22	31	218	3176		4850					
43.65	0.25	0.25	35	193	2818											
32.59	0.30	0.32	41	162	2371											
25.20	0.39	0.40	54	126	1834											
0.75	4 (1365)	3.6/2.1	2	20.22	0.48	0.50	67	101	1471	3650	min 320 max 1850					
				16.67	0.59	0.63	81	83	1213							
				25.20	0.81	0.80	112	60	880							
			20.22	1.01	1.00	139	48	706								
			16.67	1.22	1.25	169	40	582								
			12.44	1.64	1.60	226	30	434								
1.0	2 (2810)	4.1/2.35	3	52.96	0.38	0.40	52	171	2496	4850	min 350 max 1850					
				43.65	0.46	0.50	64	141	2057							
				32.59	0.68	0.63	94	95	1393							
			2	25.20	0.80	0.80	110	81	1188	3650						
				20.22	1.00	1.00	137	65	953							
				16.67	1.21	1.25	167	54	786							
				12.44	1.62	1.60	223	40	586							
				10.00	2.02	2.00	278	32	471							

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TECHNICAL DATA DRUM MOTOR 138LS - 3PHASE - 50HZ - DERATED

P_N [kW]	np (rpm)	I_f [A]	gs	i	V_A [m/s]	V_N [m/s]	n_A [min ⁻¹]	M_N [Nm]	F_T [N]	TE [N]	RL [mm]	
0.21	6 (930)	1.15/0.65	3	66.00	0.10	0.10	13.9	135	1974	8300	min 300 max 1850	
				52.96	0.13	0.13	17.4	108	1584			
				43.65	0.15	0.16	21.1	89	1305			
			2	29.56	0.23	0.20	31.1	61	884	4850		
				25.20	0.26	0.25	36.5	52	754			
				20.22	0.33	0.32	45.5	41	605			
0.31	4 (1380)	1.4/0.8	3	66.00	0.15	0.16	20.7	134	1964	4850	min 300 max 1850	
				52.96	0.19	0.20	25.8	108	1576			
				43.65	0.23	0.25	31.3	89	1299			
			2	29.56	0.33	0.32	46.2	60	879	3650		
				25.20	0.39	0.40	54.2	51	750			
				20.22	0.49	0.50	67.5	41	602			
				16.67	0.59	0.63	81.9	34	496			
				12.44	0.80	0.80	109.7	25	370			
				77.41	0.25	0.25	35.0	115	1684			4850
66.00	0.30	0.32	41.1	98	1436							
52.96	0.37	0.40	51.2	79	1152							
43.65	0.45	0.50	62.1	65	949							
29.56	0.66	0.63	91.7	44	643	3650						
25.20	0.78	0.80	107.6	38	548							
20.22	0.97	1.00	134.0	30	440							
0.45	2 (2740)	1.7/1.0	3	29.56	0.66	0.63	91.7	44	643	4850	min 300 max 1850	
				25.20	0.78	0.80	107.6	38	548			
				20.22	0.97	1.00	134.0	30	440			
			2	16.67	1.18	1.25	162.6	25	363	3650		
				12.44	1.58	1.60	217.9	19	271			
				52.96	0.23	0.22	32.1	174	2533			4850
				43.65	0.26	0.25	36.1	154	2247			
				32.59	0.31	0.32	42.9	130	1891			
				25.20	0.40	0.40	55.5	100	1462			
20.22	0.50	0.50	69.2	80	1173							
16.67	0.61	0.63	84.0	66	967							

P_N Nominal mechanical power
 np Number of poles
 rpm Actual rotor rpm at full load
 I_f Amperage (230/400V) at full load
 gs Gear stages
 i Gear ratio
 V_A Theoretical actual belt (tangential) speed at full load*
 V_N Nominal belt (tangential) speed
 n_A Revolutions of shell at full load*

M_N Nominal Torque at full load
 F_T Belt pull (tangential force) on shell at full load*
 TE Maximum allowable belt tension (radial load)
 RL Reference length
 * Valid for unlagged shells/ values can deviate at partly or no load conditions

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Standard weight data drum motor 138LS

P _N	np	Standard weight [kg] for standard RL [mm]													
		300	320	350	400	450	500	550	600	650	700	750	800	900	1000
0.10	12	14.0	14.5	15.0	16.0	17.0	18.0	19.0	20.0	21.5	23.0	24.0	25.0	27.0	29.0
0.18	8	14.0	14.5	15.0	16.0	17.0	18.0	19.0	20.0	21.5	23.0	24.0	25.0	27.0	29.0
0.24	6	14.0	14.5	15.0	16.0	17.0	18.0	19.0	20.0	21.5	23.0	24.0	25.0	27.0	29.0
0.37	6	---	15.0	15.6	16.5	17.5	18.5	19.5	20.5	22.0	23.5	24.5	25.5	27.5	29.5
	4	14.0	14.5	15.0	16.0	17.0	18.0	19.0	20.0	21.5	23.0	24.0	25.0	27.0	29.0
0.55	2	14.0	14.5	15.0	16.0	17.0	18.0	19.0	20.0	21.5	23.0	24.0	25.0	27.0	29.0
0.75	4	---	15.0	15.6	16.5	17.5	18.5	19.5	20.5	22.0	23.5	24.5	25.5	27.5	29.5
	2	---	---	18.0	19.0	20.0	21.0	22.0	23.0	24.5	26.0	27.0	28.0	30.0	32.0
1.0	2	---	---	18.0	19.0	20.0	21.0	22.0	23.0	24.5	26.0	27.0	28.0	30.0	32.0
Idler (UT138LS)	-	6.5	7.0	7.5	8.5	9.5	10.5	11.5	12.5	13.5	14.5	15.5	16.5	19.5	21.5

Cable specification

Available cable options:

- Standard, screened
- Standard, unscreened
- Halogen-free, screened
- Halogen-free, unscreened

Available lengths: 1/3/5 m.

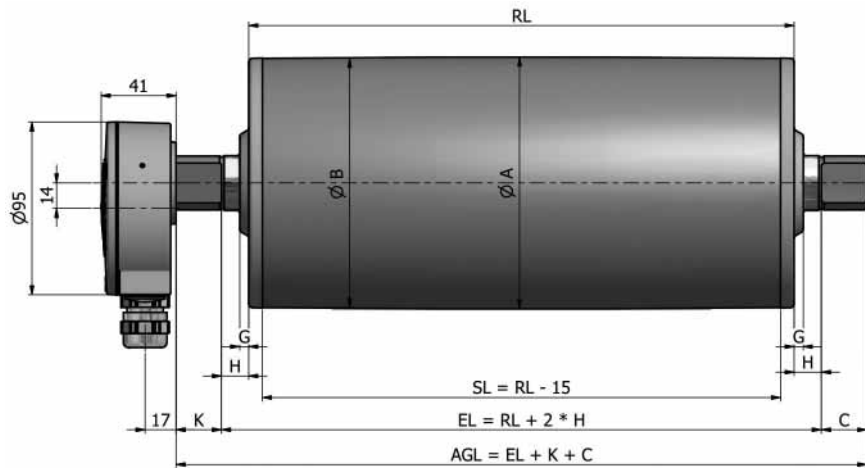
Min. length with option

The following options increase the minimum length of the drum motor

Option	RL min with option mm
Brake	RL min. + 50 mm
Encoder SKF	RL min. + 0 mm
Encoder RLS	RL min. + 50 mm

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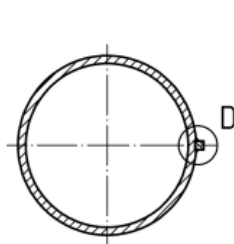
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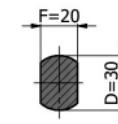
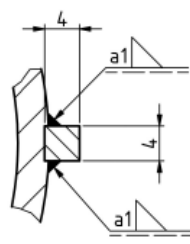
Drum motor with straight connector in stainless steel

Drum shell shape	ØA [mm]	ØB [mm]
Crowned	138.5	137.0
Cylindrical	138.0	138.0
Cylindrical with key	137.0	137.0

Shaft dimension	Width across flats [mm]	H [mm]	K [mm]	C [mm]
Ø30mm	20	15	25	25



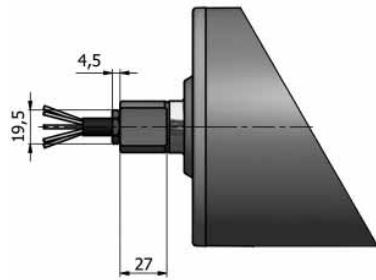
Drum motor with key 4x4



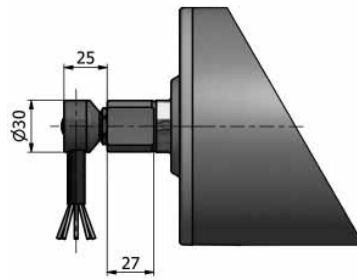
Standard shaft

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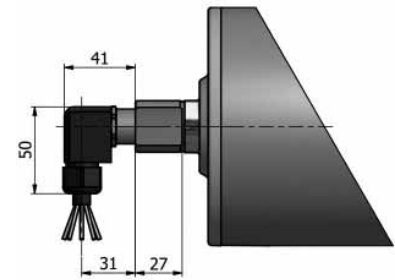
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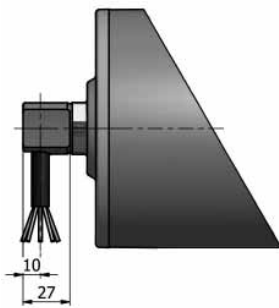
Straight connector in brass or stainless steel



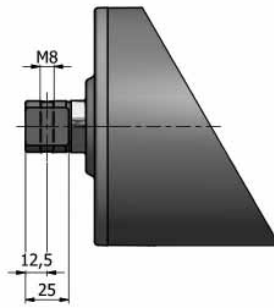
Elbow connector in stainless steel



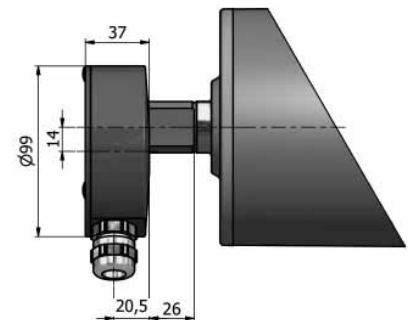
Elbow connector in polyamide



Cable connector 90° with threaded shaft



Cross-drilled and threaded shaft



Terminal box in stainless steel