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 power supply
- 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 ± 5 °)
- 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_i [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		
0.24	6 (920)	1.55/0.9	3	66.00	0.10	0.10	14	156	2280	8300	min 300 max 1850
				52.96	0.12	0.13	17	125	1830		
				43.65	0.15	0.16	21	103	1508	4850	
			2	29.56	0.22	0.20	31	70	1021		
				25.20	0.26	0.25	36	60	871		
				20.22	0.33	0.32	45	48	699		
0.37	6 (935)	2.25/1.3	3	51.85	0.13	0.13	17	190	2776	8300	min 320 max 1850
	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		
				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	3650	
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		
0.75	4 (1365)	3.6/2.1	3	52.96	0.22	0.22	31	218	3176	4850	min 320 max 1850
				43.65	0.25	0.25	35	193	2818		
				32.59	0.30	0.32	41	162	2371		
			2	25.20	0.39	0.40	54	126	1834		
				20.22	0.48	0.50	67	101	1471		
				16.67	0.59	0.63	81	83	1213		
	2 (2845)	3.1/1.8	2	25.20	0.81	0.80	112	60	880	3650	
				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	4850	
			2	29.56	0.23	0.20	31.1	61	884		
				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		
				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	3650	
0.45	2 (2740)	1.7/1.0	3	77.41	0.25	0.25	35.0	115	1684	4850	min 300 max 1850
				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		
			2	29.56	0.66	0.63	91.7	44	643		
				25.20	0.78	0.80	107.6	38	548	3650	
				20.22	0.97	1.00	134.0	30	440		
				16.67	1.18	1.25	162.6	25	363		
				12.44	1.58	1.60	217.9	19	271		
0.62	4 (1415)	2.7/1.55	3	52.96	0.23	0.22	32.1	174	2533	4850	min 320 max 1850
				43.65	0.26	0.25	36.1	154	2247		
				32.59	0.31	0.32	42.9	130	1891		
			2	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														
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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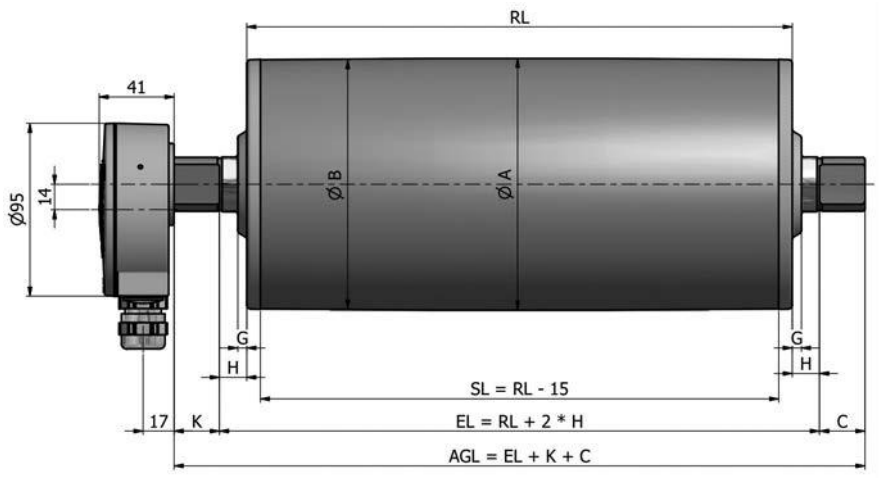
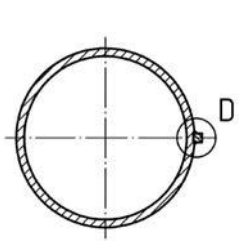
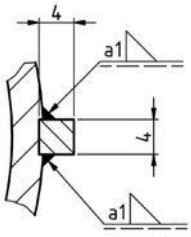


Drum motor with straight connector in stainless steel

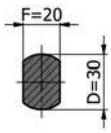
Drum shell shape	ØA [mm]	ØB [mm]
Crowned	137.0	138.5
Cylindrical	137.0	137.0
Cylindrical with key	137.0	137.0

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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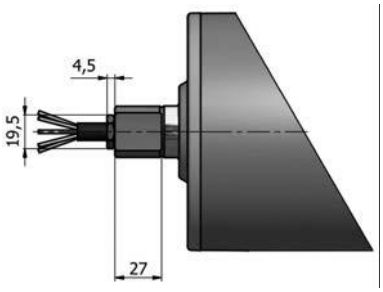
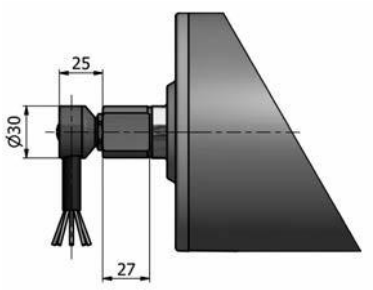
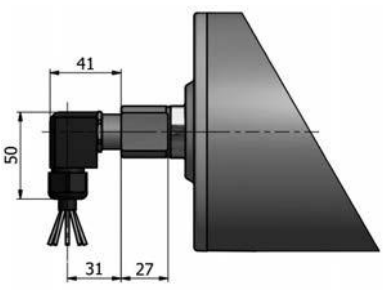


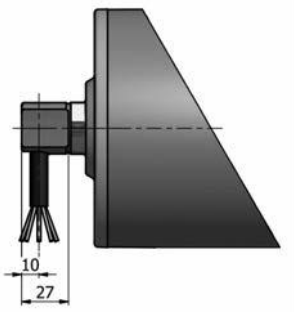
Straight connector in brass or stainless steel



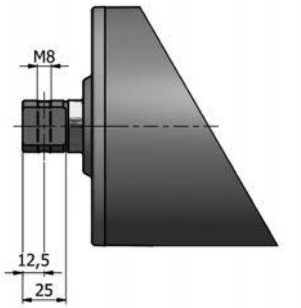
Elbow connector in stainless steel



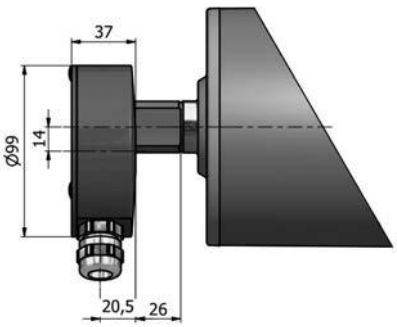
Elbow connector in polyamide



Cable connector 90° with threaded shaft



Cross-drilled and threaded shaft



Terminal box in stainless steel