

MAPEC

M O V I N G S O L U T I O N S



DRUM MOTOR 138LP

135.0Ø 0.06kW - 0.55kW, with planetary gearbox
in polymer or polymer / steel combination for non-continuous operation

Product description

This Pulley is the ideal operator for light and medium conveyors.

Characteristics

- 3-phase or 1-phase AC induction motor
- Single supply voltage
- on request: 3-phase dual supply voltage (possible delta/star connection)
- Integral motor protection
- Gearbox planetary-type polymer or polymer / steel combination
- Low noise operation
- Light and distributed weight
- Maintenance free
- Reversible operation

Applications

- Conveyors for light loads
- Recycling bottles
- Packaging equipment
- X-ray inspection systems at airports
- Pharmaceutical industry
- Food processing
- Cash desks in supermarkets
- 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)
Voltage	230 or 400 V ± 5% (IEC 34/38)
Frequency	50/60 Hz
Internal shaft sealing system	Double-lipped of nitrile rubber, NBR
External shaft sealing system	Deflection seal nitrile rubber, NBR
Protection rate	IP66
Thermal protection	Bimetallic Contact
Ambient temperature, 3-phase motor	+5 to +40 °C
Ambient temperature, 1-phase motor	+10 to +40 °C
General technical data	
Max. Roller length (RL)	1212 mm

Drum motor with RL length greater than 706 mm have reinforced shaft.
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			
		Standard Aluminium	Option		
			Steel	Stainless Steel	Brass /Nickel
Shell	Crowned	Std	✓	✓	
	Cylindrical	✓	✓	✓	
	Special crowns with grooves	✓	✓	✓	
End housing	Standard	Std		✓	
Shaft cap	Standard	Std			
	With cable protection			✓	✓
Electrical connection	Straight or 90° cable connector			✓	✓
	Elbow connector	✓		✓	

Please contact Rulmeca for further versions.

Options

- Rubber lagging for standard belts
- Dynamic balancing
- 3-phase dual supply voltage (possible delta/star connection)
- Oil for Food (EU, FDA and USDA)
- Oil for low temperatures
- Non-horizontal mounting (more than $\pm 5^\circ$)
- For special versions, please contact RULMECA.

Accessories

- Mounting brackets
- Idler Pulleys
- Rollers for conveyors

Cable Specifications

Cable options available:

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

Available lengths: 1,9 m (other lengths available on request).

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TECHNICAL DATA DRUM MOTOR 138LP - 3PHASE - 50HZ - STANDARD RANGE

P_N [kW]	np (rpm)	I_N [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]
0,06	4	0.38/0.22	4	316,81	0,03	0,03	4	110,2	1.636	2000	min 280 max 1212
				185,08	0,05	0,05	7	64,4	956		
				141,38	0,06	0,07	8	49,2	730		
				107,95	0,08	0,09	11	37,6	558		
			3	74,27	0,12	0,13	17	25,8	384		
				56,60	0,16	0,17	23	19,7	292		
				43,07	0,21	0,23	30	15,0	222		
				32,72	0,27	0,30	38	11,4	169		
				28,36	0,31	0,35	44	9,9	146		
				24,56	0,36	0,40	51	8,5	127		
				21,25	0,42	0,46	59	7,4	110		
			2	16,83	0,53	0,59	75	5,9	87	1500	min 275 max 1212
0,12	4	0.7/0.5	4	185,08	0,05	0,05	7	128,8	1.912	2000	min 290 max 1212
				141,38	0,06	0,07	8	98,4	1.460		
				107,95	0,08	0,09	11	75,1	1.115		
			3	74,27	0,12	0,13	17	51,7	767		min 290 max 1212
				56,60	0,16	0,17	23	39,4	585		
				43,07	0,21	0,23	30	30,0	445		
				32,72	0,27	0,30	38	22,8	338		
				28,36	0,31	0,35	44	19,7	293		
				24,56	0,36	0,40	51	17,1	254		
				21,25	0,42	0,46	59	14,8	220		
			2	16,83	0,53	0,59	75	11,7	174	1500	min 295 max 1212
				12,64	0,70	0,78	99	8,8	131		
				10,88	0,82	0,91	116	7,6	112		
				9,44	0,94	1,05	133	6,6	98		
				8,09	1,10	1,22	156	5,6	84		
0,18	4	1.0/0.6	4	141,38	0,06	0,07	8	124,4	2.191	2000	min 310 max 1212
				107,95	0,08	0,09	11	95,0	1.673		
			3	74,27	0,12	0,13	17	65,4	1.151		
				56,60	0,16	0,17	23	49,8	877		
				43,07	0,21	0,23	30	37,9	667		
				32,72	0,27	0,30	38	28,8	507		
				28,36	0,31	0,35	44	25,0	439		
				24,56	0,36	0,40	51	21,6	381		
				21,25	0,42	0,46	59	18,7	329		
			2	16,83	0,53	0,59	75	14,8	261	1500	min 305 max 1212
				12,64	0,70	0,78	99	11,1	196		
				10,88	0,82	0,91	116	9,6	169		
				9,44	0,94	1,05	133	8,3	146		
				8,09	1,10	1,22	156	7,1	125		

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TECHNICAL DATA DRUM MOTOR 138LP - 3PHASE - 50HZ - STANDARD RANGE

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]
0,25	4	1.3/0.75	4	107,95	0,08	0,09	11	156,5	2.323	2000	min 320 max 1212
			3	74,27	0,12	0,13	17	107,7	1.598		
			3	56,60	0,16	0,17	23	82,0	1.218		
			3	43,07	0,21	0,23	30	62,4	927		
			3	32,72	0,27	0,30	38	47,4	704		
			3	28,36	0,31	0,35	44	41,1	610		
			3	24,56	0,36	0,40	51	35,6	529		
			3	21,25	0,42	0,46	59	30,8	457		
			2	16,83	0,53	0,59	75	24,4	362	1500	min 315 max 1212
			2	12,64	0,70	0,78	99	18,3	272		
			2	10,88	0,82	0,91	116	15,8	234		
			2	9,44	0,94	1,05	133	13,7	203		
			2	8,09	1,10	1,22	156	11,7	174		
0,37	4	2.4/1.4	3	74,27	0,12	0,13	17	159,3	2.366	2000	min 330 max 1212
			3	56,60	0,16	0,17	23	121,4	1.803		
			3	43,07	0,21	0,23	30	92,4	1.372		
			3	32,72	0,27	0,30	38	70,2	1.042		
			3	28,36	0,31	0,35	44	60,8	903		
			3	24,56	0,36	0,40	51	52,7	782		
			3	21,25	0,42	0,46	59	45,6	677		
			2	16,83	0,53	0,59	75	36,1	536	1500	min 325 max 1212
			2	12,64	0,70	0,78	99	27,1	403		
			2	10,88	0,82	0,91	116	23,3	347		
			2	9,44	0,94	1,05	133	20,3	301		
			2	8,09	1,10	1,22	156	17,4	258		
0,55	4	2.9/1.7	3	43,07	0,21	0,23	30	137,4	2.039	2000	min 340 max 1212
			3	32,72	0,27	0,30	38	104,3	1.549		
			3	28,36	0,31	0,35	44	90,4	1.343		
			3	24,56	0,36	0,40	51	78,3	1.163		
			3	21,25	0,42	0,46	59	67,8	1.006		
			2	16,83	0,53	0,59	75	53,7	797	1500	min 335 max 1212
			2	12,64	0,70	0,78	99	40,3	598		
			2	10,88	0,82	0,91	116	34,7	515		
			2	9,44	0,94	1,05	133	30,1	447		
			2	8,09	1,10	1,22	156	25,8	383		

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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TECHNICAL DATA DRUM MOTOR 138LP - 1PHASE - 50HZ - STANDARD RANGE

P_N [kW]	np (rpm)	I_N [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]
0,09	4	0,7	4	185,08	0,05	0,05	7	96,6	1.434	2000	min 290 max 1212
				141,38	0,06	0,07	8	73,8	1.095		
				107,95	0,08	0,09	11	56,3	836		
			3	74,27	0,12	0,13	17	38,8	575		
				56,60	0,16	0,17	23	29,5	439		
				43,07	0,21	0,23	30	22,5	334		
				32,72	0,27	0,30	38	17,1	254		
				28,36	0,31	0,35	44	14,8	220		
				24,56	0,36	0,40	51	12,8	190		
				21,25	0,42	0,46	59	11,1	165		
			2	16,83	0,53	0,59	75	8,8	130	1500	min 285 max 1212
				12,64	0,70	0,78	99	6,6	98		
				10,88	0,82	0,91	116	5,7	84		
				9,44	0,94	1,05	133	4,9	73		
0,12	4	1,05	4	185,08	0,05	0,05	7	128,8	1.912	2000	min 290 max 1212
				141,38	0,06	0,07	8	98,4	1.460		
				107,95	0,08	0,09	11	75,1	1.115		
			3	74,27	0,12	0,13	17	51,7	767		min 300 max 1212
				56,60	0,16	0,17	23	39,4	585		
				43,07	0,21	0,23	30	30,0	445		
				32,72	0,27	0,30	38	22,8	338		
				28,36	0,31	0,35	44	19,7	293		
				24,56	0,36	0,40	51	17,1	254		
				21,25	0,42	0,46	59	14,8	220		
			2	16,83	0,53	0,59	75	11,7	174	1500	min 295 max 1212
				12,64	0,70	0,78	99	8,8	131		
				10,88	0,82	0,91	116	7,6	112		
				9,44	0,94	1,05	133	6,6	98		
				8,09	1,10	1,22	156	5,6	84		
0,18	4	1,6	4	141,38	0,06	0,07	8	147,6	2.191	2000	min 300 max 1212
				107,95	0,08	0,09	11	112,7	1.673		
			3	74,27	0,12	0,13	17	77,5	1.151		min 320 max 1212
				56,60	0,16	0,17	23	59,1	877		
				43,07	0,21	0,23	30	45,0	667		
				32,72	0,27	0,30	38	34,1	507		
				28,36	0,31	0,35	44	29,6	439		
				24,56	0,36	0,40	51	25,6	381		
				21,25	0,42	0,46	59	22,2	329		
			2	16,83	0,53	0,59	75	17,6	261	1500	min 315 max 1212
				12,64	0,70	0,78	99	13,2	196		
				10,88	0,82	0,91	116	11,4	169		
				9,44	0,94	1,05	133	9,9	146		
				8,09	1,10	1,22	156	8,4	125		

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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]
0,25	4	2,1	4	107,95	0,08	0,09	11	156,5	2.323	2000	min 315 max 1212
			3	74,27	0,12	0,13	17	107,7	1.598		min 330 max 1212
			3	56,60	0,16	0,17	23	82,0	1.218		
			3	43,07	0,21	0,23	30	62,4	927		
			3	32,72	0,27	0,30	38	47,4	704		
			3	28,36	0,31	0,35	44	41,1	610		
			3	24,56	0,36	0,40	51	35,6	529		
			3	21,25	0,42	0,46	59	30,8	457	1500	min 325 max 1212
			2	16,83	0,53	0,59	75	24,4	362		
			2	12,64	0,70	0,78	99	18,3	272		
			2	10,88	0,82	0,91	116	15,8	234		
			2	9,44	0,94	1,05	133	13,7	203		
			2	8,09	1,10	1,22	156	11,7	174		
0,37	4	2,6	3	74,27	0,12	0,13	17	159,3	2.366	2000	min 340 max 1212
			3	56,60	0,16	0,17	23	121,4	1.803		
			3	43,07	0,21	0,23	30	92,4	1.372		
			3	32,72	0,27	0,30	38	70,2	1.042		
			3	28,36	0,31	0,35	44	60,8	903		
			3	24,56	0,36	0,40	51	52,7	782		
			3	21,25	0,42	0,46	59	45,6	677		
			2	16,83	0,53	0,59	75	36,1	536	1500	min 335 max 1212
			2	12,64	0,70	0,78	99	27,1	403		
			2	10,88	0,82	0,91	116	23,3	347		
			2	9,44	0,94	1,05	133	20,3	301		
			2	8,09	1,10	1,22	156	17,4	258		
0,5	4	3,6	3	56,60	0,16	0,17	23	164,1	2.436	2000	min 350 max 1212
			3	43,07	0,21	0,23	30	124,9	1.854		
			3	32,72	0,27	0,30	38	94,9	1.408		
			3	28,36	0,31	0,35	44	82,2	1.221		
			3	24,56	0,36	0,40	51	71,2	1.057		
			3	21,25	0,42	0,46	59	61,6	915		
			2	16,83	0,53	0,59	75	48,8	724	1500	min 345 max 1212
			2	12,64	0,70	0,78	99	36,6	544		
			2	10,88	0,82	0,91	116	31,5	468		
			2	9,44	0,94	1,05	133	27,4	406		
			2	8,09	1,10	1,22	156	23,5	348		

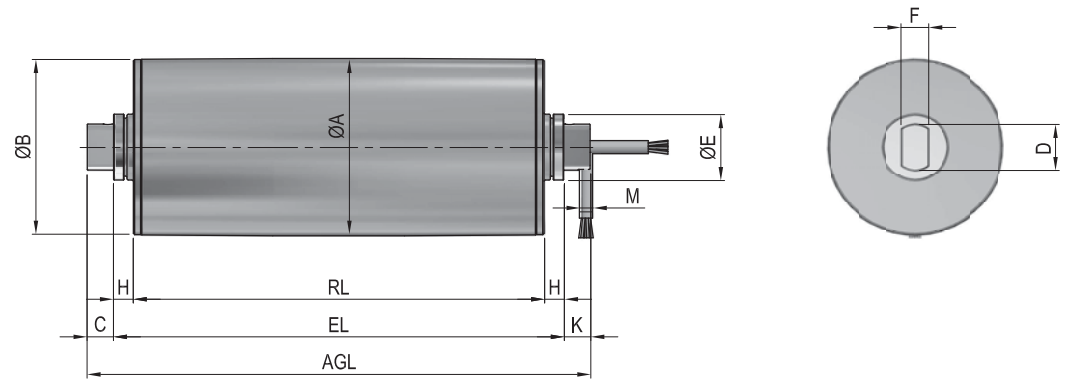
P_N Nominal mechanical power
np Number of poles
rpm Actual rotor rpm at full load
 I_f Amperage (230/400V) at full load
gs Gear stages
i Gear ratio
 V_A Theoretical actual belt (tangential) speed at full load*

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)

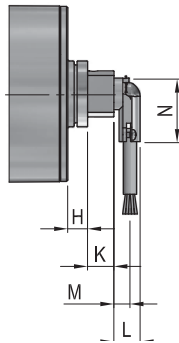
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DRUM MOTOR 138LP

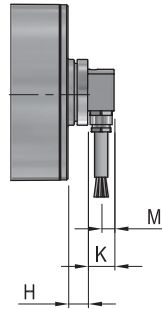
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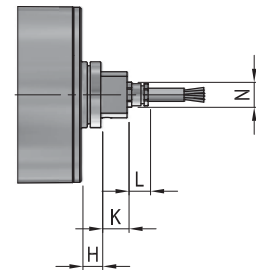
Drum motor Standard Version



Elbow connector in aluminium



Cable connection 90°



Straight connector

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Type/Option	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	K mm	L mm	M mm	N mm	Q mm	T mm
Drum Motor Standard EL=11 Version	134,7	133,5	20	35	50	21		15	20		8			
Drum Motor Alternative EL=6 Version														
Elbow connector in aluminium									20	18	12	48		
Cable connection 90°									20		10			
Straight Connector									20	15		20		

Average weights for drum motor & idler type 138LP

RL [mm]	300	350	400	450	500	550	600	650	700	750	800	+50mm up to	1200
all motors	6.8	7.2	7.5	7.9	8.2	8.6	8.9	9.3	9.6	11.0	11.4	+0.45 kg up to	14.9
idler 80LP	2.0	2.4	2.8	3.2	3.6	4.0	4.4	4.8	5.2	5.6	6.0	+0.35 kg up to	8.8

- Weights are orientative due to different shell executions and motor powers

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