

DRUM MOTOR 113LP

113.5Ø 0.06kW - 0.37kW, 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, for non-continuous use.

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, non continuous use
- 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 113LP - 3PHASE - 50HZ - STANDARD RANGE

P_N [kW]	np (rpm)	I_r [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	0,02	0,03	3	110,2	1.940	2000	min 253 max 1212			
				185,08	0,04	0,04	7	64,4	1.134					
				141,38	0,05	0,06	8	49,2	866					
				107,95	0,07	0,08	12	37,6	661					
			3	74,27	0,10	0,11	17	25,8	455		min 240 max 1212			
				56,60	0,13	0,15	22	19,7	347					
				43,07	0,17	0,19	29	15,0	264					
				32,72	0,23	0,25	39	11,4	200					
				28,36	0,26	0,29	44	9,9	174					
				24,56	0,31	0,34	52	8,5	150					
				2	16,83	0,45	0,49	76	5,9			103	1500	min 235 max 1212
					12,64	0,59	0,66	100	4,4			77		
0,12	4	0.7/0.4	4	185,08	0,04	0,04	7	128,8	2.267	2000	min 265 max 1213			
				141,38	0,05	0,06	8	98,4	1.732					
				107,95	0,07	0,08	12	75,1	1.322					
			3	74,27	0,10	0,11	17	51,7	910		min 256 max 1212			
				56,60	0,13	0,15	22	39,4	693					
				43,07	0,17	0,19	29	30,0	528					
				32,72	0,23	0,25	39	22,8	401					
				28,36	0,26	0,29	44	19,7	347					
				24,56	0,31	0,34	52	17,1	301					
			2	16,83	0,45	0,49	76	11,7	206		1500	min 251 max 1212		
				12,64	0,59	0,66	100	8,8	155					
				10,88	0,69	0,77	117	7,6	133					
9,44	0,79	0,88		134	6,6	116								
8,09	0,93	1,03		157	5,6	99								
0,18	4	1.0/0.6	4	107,95	0,07	0,08	12	112,7	1.983	2000	min 270 max 1212			
				74,27	0,10	0,11	17	77,5	1.365					
			3	56,60	0,13	0,15	22	59,1	1.040		min 266 max 1212			
				43,07	0,17	0,19	29	44,9	791					
				32,72	0,23	0,25	39	34,1	601					
				28,36	0,26	0,29	44	29,6	521					
				24,56	0,31	0,34	52	25,6	451					
				16,83	0,45	0,49	76	17,6	309					
			2	12,64	0,59	0,66	100	13,2	232		1500	min 261 max 1212		
				10,88	0,69	0,77	117	11,4	200					
				9,44	0,79	0,88	134	9,9	173					
				8,09	0,93	1,03	157	8,4	149					
74,27	0,10	0,11		17	107,7	1.895	2000	min 276 max 1212						
3	56,60	0,13	0,15	22	82,0	1.444								
	43,07	0,17	0,19	29	62,4	1.099								
	32,72	0,23	0,25	39	47,4	835								
	28,36	0,26	0,29	44	41,1	724								
	24,56	0,31	0,34	52	35,6	627								
	16,83	0,45	0,49	76	24,4	429								
2	12,64	0,59	0,66	100	18,3	323			1500	min 271 max 1212				
	10,88	0,69	0,77	117	15,8	278								
	9,44	0,79	0,88	134	13,7	241								
	8,09	0,93	1,03	157	11,7	206								

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TECHNICAL DATA DRUM MOTOR 113LP - 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]
0,37	4	2.4/1.4	3	56,60	0,13	0,15	22	121,4	2.138	2000	min 286 max 1213
				43,07	0,17	0,19	29	92,4	1.627		
				32,72	0,23	0,25	39	70,2	1.236		
				28,36	0,26	0,29	44	60,8	1.071		
				24,56	0,31	0,34	52	52,7	928		
			2	16,83	0,45	0,49	76	36,1	636	1500	min 281 max 1212
				12,64	0,59	0,66	100	27,1	477		
				10,88	0,69	0,77	117	23,3	411		
				9,44	0,79	0,88	134	20,3	357		
				8,09	0,93	1,03	157	17,4	306		
0,55	4	2.9/1.7	3	43,07	0,17	0,19	29	137,3	2.418	2000	min 296 max 1214
				32,72	0,23	0,25	39	104,3	1.837		
				28,36	0,26	0,29	44	90,4	1.592		
				24,56	0,31	0,34	52	78,3	1.379		
			2	16,83	0,45	0,49	76	53,7	945	1500	min 291 max 1212
				12,64	0,59	0,66	100	40,3	710		
				10,88	0,69	0,77	117	34,7	611		
				9,44	0,79	0,88	134	30,1	530		
				8,09	0,93	1,03	157	25,8	454		

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 113LP - 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	0,04	0,04	7	96,6	1.700	2000	min 253 max 1213	
				141,38	0,05	0,06	8	73,8	1.299			
				107,95	0,07	0,08	12	56,3	992			
			3	74,27	0,10	0,11	17	38,8	682		min 240 max 1212	
				56,60	0,13	0,15	22	29,5	520			
				43,07	0,17	0,19	29	22,5	396			
				32,72	0,23	0,25	39	17,1	301			
				28,36	0,26	0,29	44	14,8	261			
				24,56	0,31	0,34	52	12,8	226			
			2	16,83	0,45	0,49	76	8,8	155	1500	min 235 max 1212	
				12,64	0,59	0,66	100	6,6	116			
				10,88	0,69	0,77	117	5,7	100			
				9,44	0,79	0,88	134	4,9	87			
				8,09	0,93	1,03	157	4,2	74			
0,12	4	1,05	4	185,08	0,04	0,04	7	128,8	2.267	2000	min 260 max 1213	
				141,38	0,05	0,06	8	98,4	1.732			
				107,95	0,07	0,08	12	75,1	1.322			
			3	74,27	0,10	0,11	17	51,7	910		min 256 max 1212	
				56,60	0,13	0,15	22	39,4	693			
				43,07	0,17	0,19	29	30,0	528			
				32,72	0,23	0,25	39	22,8	401			
				28,36	0,26	0,29	44	19,7	347			
				24,56	0,31	0,34	52	17,1	301			
			2	16,83	0,45	0,49	76	11,7	206	1500	min 251 max 1212	
				12,64	0,59	0,66	100	8,8	155			
				10,88	0,69	0,77	117	7,6	133			
				9,44	0,79	0,88	134	6,6	116			
				8,09	0,93	1,03	157	5,6	99			
0,18	4	1,6	4	141,38	0,05	0,06	8	147,5	2.598	2000	min 280 max 1214	
				107,95	0,07	0,08	12	112,7	1.983			
				74,27	0,10	0,11	17	77,5	1.365			
			3	56,60	0,13	0,15	22	59,1	1.040		min 276 max 1212	
				43,07	0,17	0,19	29	44,9	791			
				32,72	0,23	0,25	39	34,1	601			
				28,36	0,26	0,29	44	29,6	521			
				24,56	0,31	0,34	52	25,6	451			
				16,83	0,45	0,49	76	17,6	309			
			2	12,64	0,59	0,66	100	13,2	232	1500	min 271 max 1212	
				10,88	0,69	0,77	117	11,4	200			
				9,44	0,79	0,88	134	9,9	173			
				8,09	0,93	1,03	157	8,4	149			

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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	0,07	0,08	12	156,5	2.755	2000	min 300 max 1212
				3	74,27	0,10	0,11	17	107,7		1.895
			56,60		0,13	0,15	22	82,0	1.444		
			43,07		0,17	0,19	29	62,4	1.099		
			32,72		0,23	0,25	39	47,4	835		
			28,36		0,26	0,29	44	41,1	724		
			24,56		0,31	0,34	52	35,6	627		
			2	16,83	0,45	0,49	76	24,4	429		
				12,64	0,59	0,66	100	18,3	323		
				10,88	0,69	0,77	117	15,8	278		
				9,44	0,79	0,88	134	13,7	241		
				8,09	0,93	1,03	157	11,7	206		
				8,09	0,93	1,03	157	11,7	206		
			0,37	4	2,6	3	56,60	0,13	0,15	22	121,4
43,07	0,17	0,19					29	92,4	1.627		
32,72	0,23	0,25					39	70,2	1.236		
28,36	0,26	0,29					44	60,8	1.071		
24,56	0,31	0,34					52	52,7	928		
16,83	0,45	0,49					76	36,1	636		
2	12,64	0,59				0,66	100	27,1	477		
	10,88	0,69				0,77	117	23,3	411		
	9,44	0,79				0,88	134	20,3	357		
	8,09	0,93				1,03	157	17,4	306		
	8,09	0,93				1,03	157	17,4	306		
	8,09	0,93				1,03	157	17,4	306		
	8,09	0,93				1,03	157	17,4	306		
	8,09	0,93				1,03	157	17,4	306		

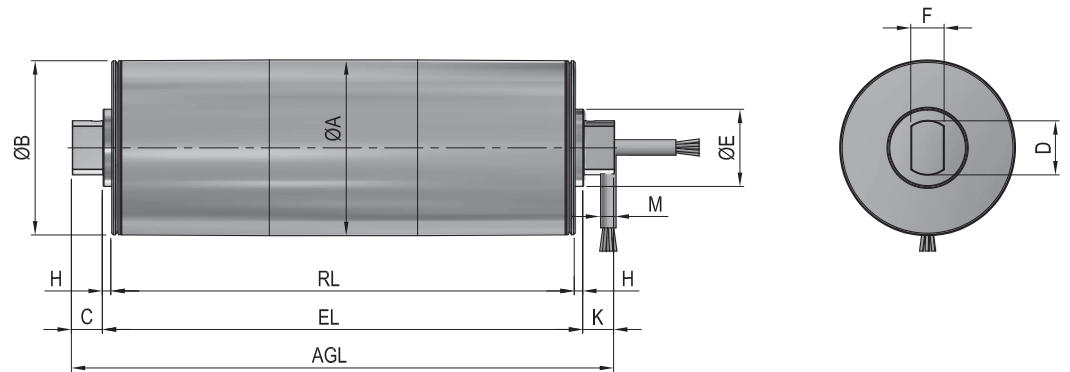
P_N Nominal mechanical power
 np Number of poles
 rpm Actual rotor rpm at full load
 I_f Amperage (230/400V) at full load
 gs Gear stages
 i Gear ratio
 V_A Theoretical actual belt (tangential) speed at full load*

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)

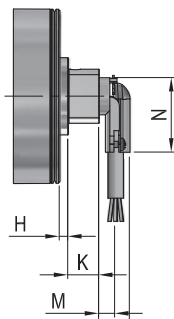
RL Reference length
 * Valid for unlagged shells/ values can deviate at partly or no load conditions

DRUM MOTOR 113LP

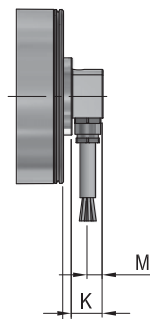
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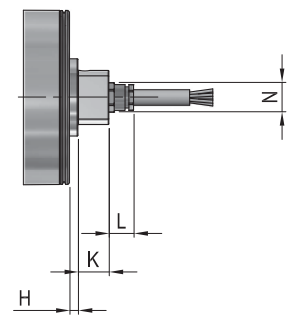
Drum motor Standard Version



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	113,6	112,6	20	35	50	21		5,5	20		8			
Drum Motor Alternative EL=6 Version	113,6	112,6	20	35	50	21		3	20		8			
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 113LP

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