

## DRUM MOTOR 80LP

85.5Ø 0.06kW - 0.12kW,

with planetary gearbox in polymer for non-continuous operation

### Product description

Due to its strength, reliability and no need for maintenance this drum motor is used in small conveyors, packaging machines and simple transfer units.

### Characteristics

- Asynchronous motor AC three-phase or single-phase
- Single supply voltage
- On request: 3-phase dual 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
- Lifetime lubrication
- Reversible operation

### Applications

- Small conveyors for light loads, non-continuous use
- Transfer Conveyors
- Packaging machines for light loads
- Food processing equipment, metal detection, x-ray
- Cash desks in supermarkets
- Dry, damp and 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)	912 mm

Drum motor with RL length greater than 550 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 (with straight/90° free position cable)	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)
- Food grade Oil (EU, FDA and USDA)
- Low temperature Oil
- 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, shielded
- Standard, unshielded
- Halogen-free, shielded
- Halogen-free, unshielded

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

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**TECHNICAL DATA DRUM MOTOR 80LP - 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 <sup>-1</sup> ]	$M_N$ [Nm]	$F_T$ [N]	TE [N]	RL [mm]	
0,06	4	0.47/0.27	3	90,13	0,06	0,07	14	31,6	739	2000	min 269 max 912	
				75,95	0,07	0,08	16	26,6	622			
				63,98	0,09	0,10	20	22,4	524			
				53,87	0,10	0,12	23	18,9	442			
				50,30	0,11	0,12	25	17,6	412			
				42,32	0,13	0,15	29	14,8	347			
				39,50	0,14	0,16	32	13,8	324			
			33,20	0,16	0,19	36	11,6	272				
			26,00	0,21	0,24	47	9,1	213	min 253 max 912			
			19,25	0,28	0,32	63	6,7	158				
			16,10	0,34	0,39	77	5,6	132				
			13,44	0,41	0,46	93	4,7	110				
			12,50	0,44	0,50	99	4,4	102				
			10,40	0,53	0,60	120	3,6	85				
8,00	0,68	0,78	154	2,8	66							
0,12	4	0.85/0.5	3	53,87	0,10	0,11	23	37,8	883	2000	min 295 max 912	
				50,30	0,11	0,12	25	35,2	825			
				42,32	0,13	0,14	29	29,7	694			
				39,50	0,14	0,15	32	27,7	648			
				33,20	0,16	0,18	36	23,3	544			
				26,00	0,21	0,23	47	18,2	426			
				19,25	0,28	0,32	63	13,5	316			
			16,10	0,33	0,38	77	11,3	264	min 276 max 912			
			13,44	0,40	0,45	93	9,4	220				
			12,50	0,43	0,49	99	8,8	205				
			10,40	0,52	0,59	120	7,3	170				
			8,00	0,67	0,76	154	5,6	131				
												1500

$P_N$  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 80LP - 1PHASE - 50HZ - STANDARD RANGE**

$P_N$ [kW]	np (rpm)	$I_r$ [A]	gs	i	$V_A$ [m/s]	$V_N$ [m/s]	$n_A$ [min <sup>-1</sup> ]	$M_N$ [Nm]	$F_T$ [N]	TE [N]	RL [mm]
0,06	4	0,27	3	90,13	0,06	0,07	14	31,6	739	2000	min 280 max 912
			3	75,95	0,07	0,08	16	26,6	622		
			3	63,98	0,08	0,09	18	22,4	524		
			3	53,87	0,10	0,11	23	18,9	442		
			3	50,30	0,11	0,12	25	17,6	412		
			3	42,32	0,13	0,14	28	14,8	347		
			3	39,50	0,13	0,15	31	13,8	324		
			3	33,20	0,16	0,18	36	11,6	272		
			3	26,00	0,20	0,23	45	9,1	213		
			2	19,25	0,28	0,31	63	6,7	158		
			2	16,10	0,33	0,37	75	5,6	132		
			2	13,44	0,40	0,44	90	4,7	110		
			2	12,50	0,43	0,47	97	4,4	102		
			2	10,40	0,51	0,57	115	3,6	85		
0,075	4	0,8	3	90,13	0,06	0,06	14	39,5	923	2000	min 292 max 912
			3	75,95	0,07	0,08	16	33,3	778		
			3	63,98	0,08	0,09	18	28,0	656		
			3	53,87	0,10	0,11	23	23,6	552		
			3	50,30	0,10	0,11	25	22,0	515		
			3	42,32	0,12	0,14	28	18,5	434		
			3	39,50	0,13	0,15	31	17,3	405		
			3	33,20	0,16	0,17	36	14,5	340		
			3	26,00	0,20	0,22	45	11,4	266		
			2	19,25	0,27	0,30	61	8,4	197		
			2	16,10	0,32	0,36	72	7,1	165		
			2	13,44	0,39	0,43	88	5,9	138		
			2	12,50	0,41	0,46	93	5,5	128		
			2	10,40	0,50	0,55	113	4,6	107		
0,09	4	0,9	4	90,13	0,06	0,06	14	47,4	1.108	2000	min 297 max 912
			4	75,95	0,07	0,08	16	39,9	934		
			4	63,98	0,08	0,09	18	33,6	787		
			4	53,87	0,10	0,11	23	28,3	662		
			3	50,30	0,10	0,11	25	26,4	618		
			3	42,32	0,12	0,13	28	22,2	520		
			3	39,50	0,13	0,14	31	20,8	486		
			3	33,20	0,15	0,17	36	17,4	408		
			3	26,00	0,20	0,22	45	13,7	320		
			3	19,25	0,27	0,30	61	10,1	237		
			2	16,10	0,32	0,35	72	8,5	198		
			2	13,44	0,38	0,42	86	7,1	165		
			2	12,50	0,41	0,46	93	6,6	154		
			2	10,40	0,49	0,55	111	5,5	128		
			2	8,00	0,64	0,71	145	4,2	98	1500	min 285 max 912

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

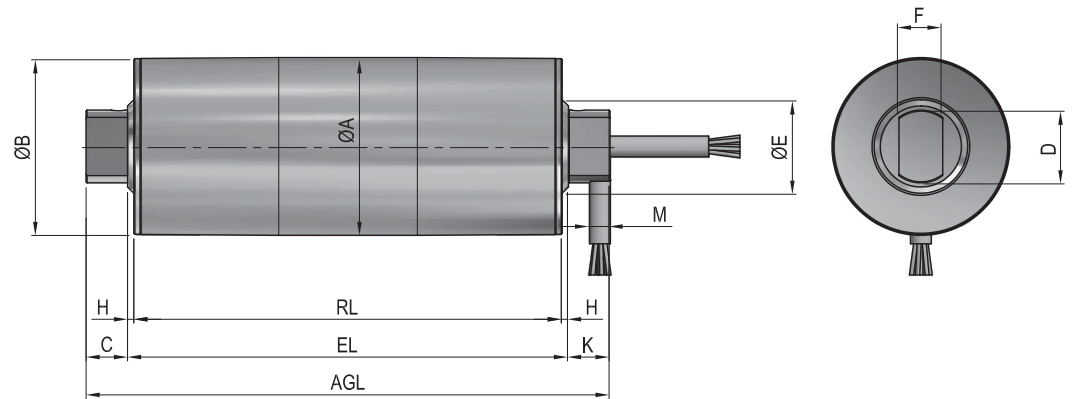
$V_N$  Nominal belt (tangential) speed  
 $n_A$  Revolutions of shell at full load\*  
 $M_N$  Nominal Torque at full load  
 $F_T$  Belt pull (tangential force) on shell at full load\*  
 TE Maximum allowable belt tension (radial load)

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

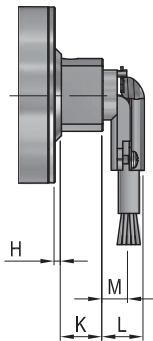
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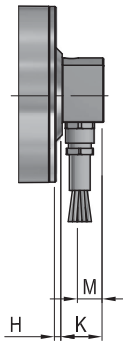
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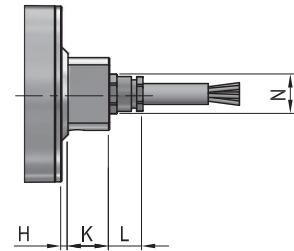
Drum motor Standard Version



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 Version	85.5	84.5	20	35	45	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 80LP

RL [mm]	300	350	400	450	500	550	600	650	700	750	800	850	900
all motors	4.3	4.5	4.7	4.9	5.1	5.3	5.5	5.7	5.9	6.1	6.3	6.5	6.7
idler 80LP	1.5	2.0	2.2	2.5	2.7	3.0	3.2	3.5	3.7	4.0	4.2	4.5	4.7

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