

## DRUM MOTOR 80LS

81.5Ø 0.035kW - 0.16kW, with steel helical gearbox

### Product description

This drum motor is perfect for high torque applications with limited space or access.

#### Characteristics

- Salt water resistant aluminum bearing housings
- Three phase AC induction motor
- 3-phase dual voltage is standard
- Integral motor protection
- Hardened steel helical gear box
- Low noise operation
- Maintenance free
- Lifetime lubrication
- Reversible operation
- Reinforced internal shaft for RL exceeding 500 mm

#### Applications

- Small conveyors for feeding materials with frequent cycle
- Packaging equipment
- Dynamic weighing equipment
- Metal detectors
- Ideal for pharmaceutical industry
- Meat processing
- Steel or plastic modular belts applications
- Dry, humid 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)
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	-5°C to +40°C mineral oil -25°C to +40°C synthetic oil
<b>General technical data</b>	
Max. Roller length (RL)	1200 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			TS8N		
	With O-grooves			TS8N		
Shaft cap	Standard			Std		
	Cross-drilled and threaded, M6			Std		
Electrical connection	Straight connector			TS8N	Std	
	Elbow connector			TS8N		Std
	Terminal box*	Std		TS8N		

\* Shaft cap version.

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  $\pm 5^\circ$ )
- Dynamical balancing

## Note

The combination of encoder and electromagnetic brake is not possible.

## Accessories

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

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**TECHNICAL DATA DRUM MOTOR 80LS - 3PHASE - 50HZ - STANDARD RANGE**

$P_N$ [kW]	$n_p$ (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]
0.035	4 (1390)	0.49/0.28	3	53.89	0.11	0.11	25.8	12.3	303.9	3600	min 200 max 249
				37.78	0.16	0.14	36.8	8.6	213.1		
				30.88	0.19	0.18	45.0	7.1	174.2		
			2	21.23	0.28	0.25	65.5	4.8	119.7	2650	
0.07	4 (1360)	0.75/0.43	3	53.89	0.11	0.10	25.2	25.2	621.3	3600	min 250 max 1200
				37.78	0.15	0.14	36.0	17.6	435.6		
				30.88	0.19	0.18	44.0	14.4	356.0		
			2	21.23	0.27	0.25	64.1	9.9	244.8	2650	
				14.88	0.39	0.38	91.4	6.9	171.6		
				12.16	0.47	0.45	111.8	5.7	140.2		
	2 (2650)	0.54/0.31	3	53.89	0.21	0.22	49.2	12.9	318.9	2650	min 200 max 249
				37.78	0.30	0.32	70.1	9.1	223.5		
30.88				0.36	0.38	85.8	7.4	182.7			
2			21.23	0.53	0.55	124.8	5.1	125.6	2100		
0.12	2 (2690)	0.67/0.39	3	53.89	0.21	0.22	49.9	21.8	538.5	2650	min 250 max 1200
				37.78	0.30	0.32	71.2	15.3	377.5		
				30.88	0.37	0.38	87.1	12.5	308.6		
			2	21.23	0.54	0.55	126.7	8.6	212.1	2100	
				14.88	0.77	0.80	180.8	6.0	148.7		
				12.16	0.94	1.00	221.2	4.9	121.5		
0.16	2 (2650)	0.88/0.51	3	53.89	0.21	0.22	49.3	29.5	728.8	2650	min 300 max 1200
				37.78	0.30	0.32	70.0	20.7	510.9		
				30.88	0.36	0.38	85.8	16.9	417.6		
			2	21.23	0.53	0.55	124.7	11.6	287.1	2100	
				14.88	0.76	0.80	178.0	8.2	201.2		
				12.16	0.92	1.00	217.9	6.7	164.5		

**$P_N$**  Nominal mechanical power  
 **$n_p$**  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 80LS

81.5Ø 0.035kW - 0.16kW, with steel helical gearbox

TECHNICAL DATA DRUM MOTOR 80LS - 3PHASE - 50HZ - DERATED 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 (1380)	0.59/0.34	3	53.89	0.11	0.10	25.6	21.3	525	3600	min 250 max 1200
				37.78	0.15	0.14	36.5	14.9	368		
				30.88	0.19	0.18	44.7	12.2	301		
			2	21.23	0.28	0.25	65.0	8.4	207	2650	
				14.88	0.39	0.38	92.7	5.9	145		
				12.16	0.48	0.45	113.5	4.8	118		
	2 (2730)	0.35/0.20	3	53.89	0.21	0.22	50.7	10.7	265	2650	min 200 max 249
				37.78	0.31	0.32	72.3	7.5	186		
			2	30.88	0.37	0.38	88.4	6.2	152	2100	
				21.23	0.55	0.55	128.6	4.2	105		
0.1	2 (2730)	0.59/0.34	3	53.89	0.21	0.22	50.7	17.9	442	2650	min 250 max 1200
				37.78	0.31	0.32	72.3	12.6	310		
				30.88	0.37	0.38	88.4	10.3	253		
			2	21.23	0.55	0.55	128.6	7.1	174	2100	
				14.88	0.78	0.80	183.5	4.9	122		
				12.16	0.95	1.00	224.5	4.0	100		

$P_N$  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

Standard weights for drum motor & idler type 80LS

PN [kW]	np	Standard weight [kg] for standard RL [mm]													
		200	250	300	350	400	450	500	550	600	650	700	800	900	1000
0.035	4	2.80	3.25	3.70	4.15	4.60	5.05	5.50	5.95	6.40	6.85	7.30	8.20	9.10	10.00
0.07	4	---	3.40	3.85	4.30	4.75	5.20	5.65	6.10	6.55	7.00	7.45	8.35	9.25	10.15
	2	2.80	3.25	3.70	4.15	4.60	5.05	5.50	5.95	6.40	6.85	7.30	8.20	9.10	10.00
0.12	2	---	3.40	3.85	4.30	4.75	5.20	5.65	6.10	6.55	7.00	7.45	8.35	9.25	10.15
0.16	2	---	---	3.85	4.30	4.75	5.20	5.65	6.10	6.55	7.00	7.45	8.35	9.25	10.15
idler (UT80LS)	-	2.30	2.85	3.40	3.95	4.50	5.05	5.60	6.15	6.70	7.25	7.80	8.90	10.00	11.10

### Cable specification

Available cable options:

- Standard, Screened
- Standard, Unscreened
- Halogen-free, Unscreened

Available lengths: 1/3/5 m.

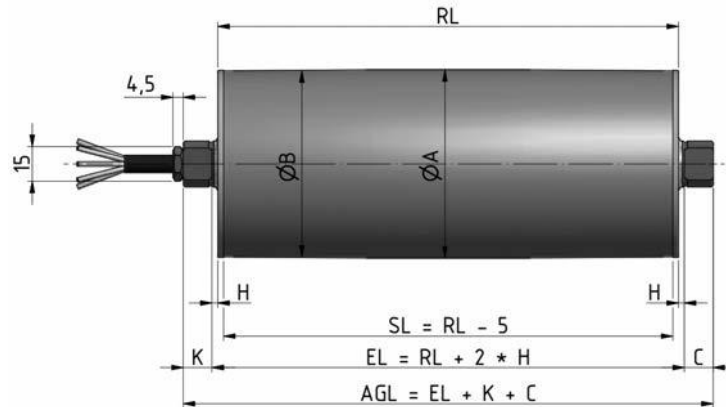
### Min. length with option

The following options increase the minimum length of the drum motor

Option	RL min with option mm
Electromagnetic brake	RL min. + 50 mm
Encoder	RL min. + 50 mm

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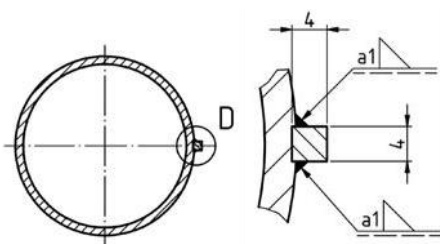
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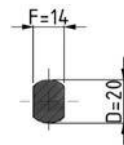
Drum motor with straight connector in stainless steel.

Drum shell shape	ØA [mm]	ØB [mm]
Crowned	81.5	80.5
Cylindrical	81.0	81.0
Cylindrical with key	81.7	81.7

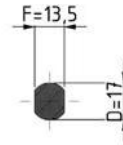
Shaft dimension	Width across flats [mm]	H [mm]	K [mm]	C [mm]
Ø17mm	13.5	2.5	12.5	12.5
Ø20mm	14.0	2.5	12.5	12.5
Ø35mm	21.0	3	20.0	20.0



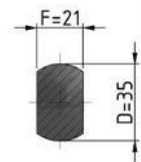
Drum motor with key 4x4



Standard shaft



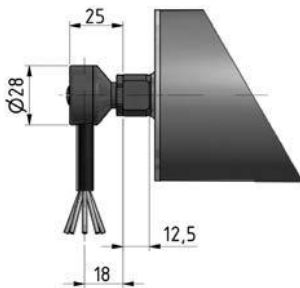
Alternative shaft



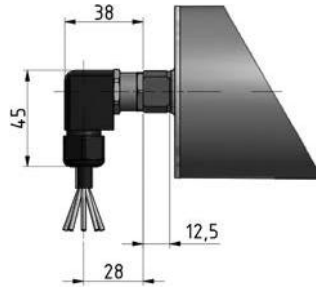
Shaft cap

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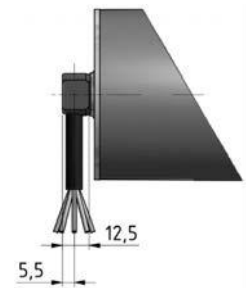
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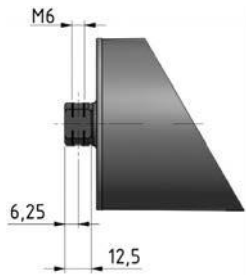
Elbow connector in stainless steel



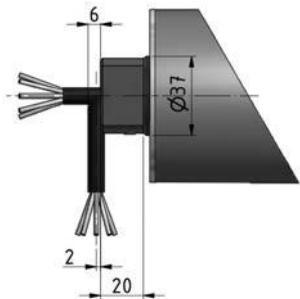
Elbow connector in polyamide



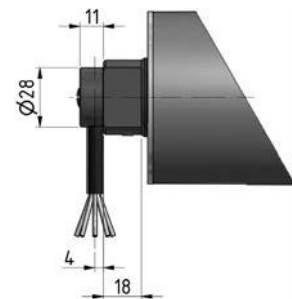
Cable connector 90° with threaded shaft



Cross-drilled and threaded shaft



Straight/Elbow connector with shaft cap in stainless steel



Elbow Connector with shaft cap in stainless steel