

DRUM MOTOR 165LS

165.0Ø 0.11kW - 2.20kW, with steel helical gearbox

Product description

The drum motor 165LS is able to provide high torques and withstand high radial loads.

Characteristics

- Salt water resistant aluminum bearing housing
- Three phase AC induction motor
- Dual voltage
- Integral motor protection
- Steel- hardened helical spur gear
- Low noise operation
- Maintenance free
- Lifetime lubrication
- Reversible operation

Applications

- Conveyors for heavy and frequent use
- Logistics applications
- Airport and postal conveyors
- Warehouse loading conveyors
- Telescopic conveyors
- Agricultural plants
- Manufacturing of food processes
- Modular belts, steel or plastic applications
- Dry, damp and frequent wash 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, IP69 in TS8N Version
Thermal protection	Bimetallic Contact
Ambient temperature, 3-phase motor	-25 to +40 °C
General technical data	
Max. Roller length (RL)	2000 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, M10		Std	TS8N		
Electrical connection	Straight connector			TS8N	Std	
	Elbow connector			TS8N		Std
	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 bearings
- Electromagnetic brake
- Rectifiers
- Encoder
- Food-grade Oil (EU, FDA and USDA)
- Non-horizontal mounting (more than $\pm 5^\circ$)
- Dual speed motor
- Version TS7N - as TS8N but with re-greasable labyrinth seals

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 165LS - 3PHASE - 50HZ - STANDARD

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]	RL [mm]				
0.11	12 (470)	1.7/0.98	3	75.03	0.05	0.05	6	159	1934	min 400 max 1800				
				61.56	0.07	0.06	8	131	1587					
			49.75	0.08	0.08	9	106	1282						
			2	37.93	0.11	0.10	12	81	978					
0.37	6 (920)	2.35/1.35	3	75.03	0.11	0.10	12	274	3323	min 400 max 1800				
				61.56	0.13	0.13	15	225	2727					
				49.75	0.16	0.16	18	182	2203					
	4 (1375)	1.9/1.1	3	61.56	0.19	0.20	22	150	1824	min 350 max 1800				
				49.75	0.24	0.25	28	121	1474					
				37.93	0.31	0.32	36	93	1124					
			2	30.05	0.39	0.40	46	73	891					
				23.76	0.50	0.50	58	58	704					
				19.20	0.62	0.63	72	47	569					
				14.64	0.81	0.80	94	36	434					
				11.60	1.02	1.00	119	28	344					
0.75	6 (945)	4.65/2.7	3	46.23	0.18	0.16	20	333	4041	min 400 max 1800				
				61.56	0.20	0.20	23	298	3619					
	4 (1405)	3.5/2.0	3	49.75	0.24	0.25	28	241	2925	min 400 max 1800				
				37.93	0.32	0.32	37	184	2230					
				30.05	0.40	0.40	47	146	1767					
				23.76	0.51	0.50	59	115	1397					
			2	19.20	0.63	0.63	73	93	1129					
				14.64	0.83	0.80	96	71	861					
				11.60	1.04	1.00	121	56	682					
1.10	4 (1420)	4.7/2.7	3	46.23	0.26	0.25	31	325	3944	min 400 max 1800				
				37.93	0.32	0.32	37	267	3236					
	2 (2830)	4.1/2.35	3	61.56	0.40	0.40	46	217	2635					
				49.75	0.49	0.50	57	175	2130					
				37.93	0.64	0.63	75	134	1624					
				30.05	0.81	0.80	94	106	1286					
			2	23.76	1.03	1.00	119	84	1017					
				19.20	1.27	1.25	147	68	822					
				14.64	1.67	1.60	193	52	627					
				11.60	2.10	2.00	244	41	497					
				9.43	2.59	2.50	300	33	404					

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*

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

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TECHNICAL DATA DRUM MOTOR 165LS - 3PHASE - 50HZ - STANDARD

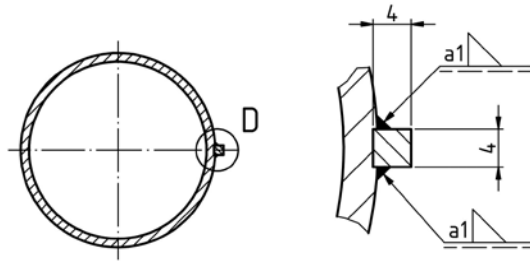
P_N [kW]	np (rpm)	I_f [A]	gs	i	V_A [m/s]	V_N [m/s]	n_A [min ⁻¹]	M_N [Nm]	F_T [N]	RL [mm]
1.50	2 (2850)	5.8/3.35	3	46.23	0.53	0.50	62	221	2680	min 400 max 1800
				37.93	0.65	0.63	75	181	2199	
				30.05	0.82	0.80	95	143	1742	
			2	23.76	1.03	1.00	120	113	1377	
				19.20	1.28	1.25	148	92	1113	
				14.64	1.68	1.60	195	70	849	
				11.60	2.12	2.00	246	55	672	
				9.43	2.61	2.50	302	45	547	
				7.80	3.15	3.15	365	37	452	
				2.20	2 (2860)	8.15/4.7	3	46.23	0.53	
37.93	0.65	0.63	75					265	3213	
30.05	0.82	0.80	95					210	2546	
24.43	1.01	1.00	117					170	2070	
2	20.21	1.22	1.25				142	141	1712	
	14.64	1.69	1.60				195	102	1240	
	11.60	2.13	2.00				247	81	983	
	9.43	2.62	2.50				303	66	799	
	7.80	3.16	3.15				367	54	661	

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*

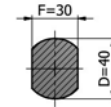
M_N Nominal Torque at full load
 F_T Belt pull (tangential force) on shell at full load*
RL Reference length
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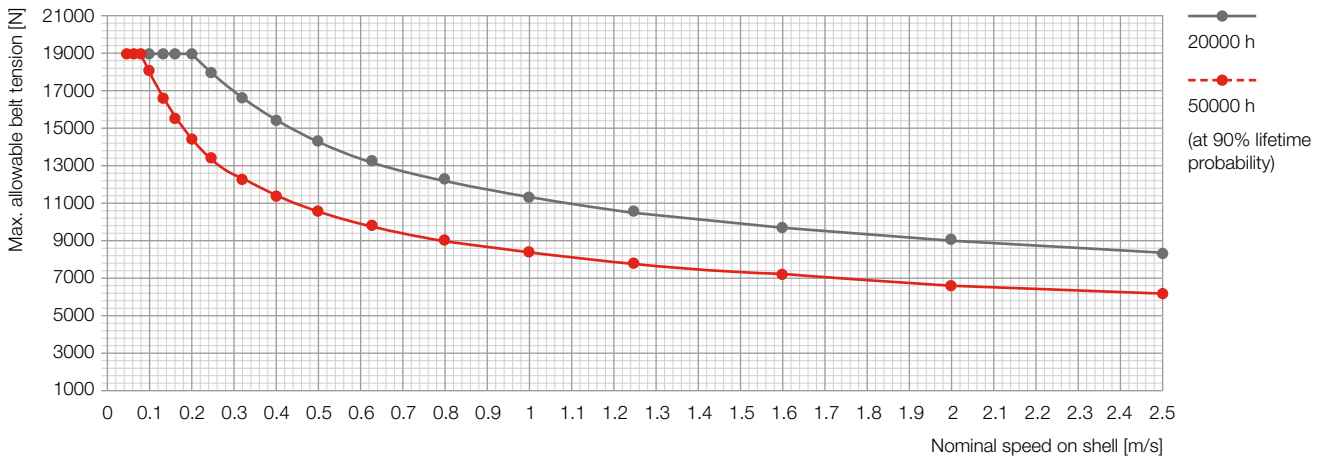


Drum motor with key 4x4



Standard shaft

Belt tension diagrams



For the right allowable belt tension value please check the accordant nominal speed on the drum motor shell.

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STANDARD WEIGHT DATA DRUM MOTOR 165LS

P _N	np	Standard weight [kg] for standard RL [mm]													
		350	400	450	500	550	600	650	700	750	800	850	900	950	1000
0.11	12	---	30.0	31.5	33.0	34.0	35.0	36.0	37.5	39.0	40.0	41.0	42.5	44.0	45.0
0.37	6	---	30.0	31.5	33.0	34.0	35.0	36.0	37.5	39.0	40.0	41.0	42.5	44.0	45.0
	4	26.0	28.0	29.5	31.0	32.0	33.0	34.0	35.5	37.0	38.0	39.0	40.5	42.0	43.0
0.75	6	---	33.0	34.5	36.0	37.0	38.0	39.0	40.5	42.0	43.0	44.0	45.5	47.0	48.0
	4	---	31.0	32.5	34.0	35.0	36.0	37.0	38.5	40.0	41.0	42.0	43.5	45.0	46.0
1.10	4	---	34.0	35.5	37.0	38.0	39.0	40.0	41.5	43.0	44.0	45.0	46.5	48.0	49.0
	2	---	33.0	34.5	36.0	37.0	38.0	39.0	40.5	42.0	43.0	44.0	45.5	47.0	48.0
1.50	2	---	34.0	35.5	37.0	38.0	39.0	40.0	41.5	43.0	44.0	45.0	46.5	48.0	49.0
2.20	2	---	37.0	37.5	38.0	39.0	40.0	41.0	42.5	44.0	45.0	46.0	47.5	49.0	50.0
idler (UT165LS)	-	12.5	14.0	15.5	17.0	18.5	20.0	21.5	23.0	24.5	26.0	27.5	29.0	30.5	32.0

Cable specification

Available cable options:

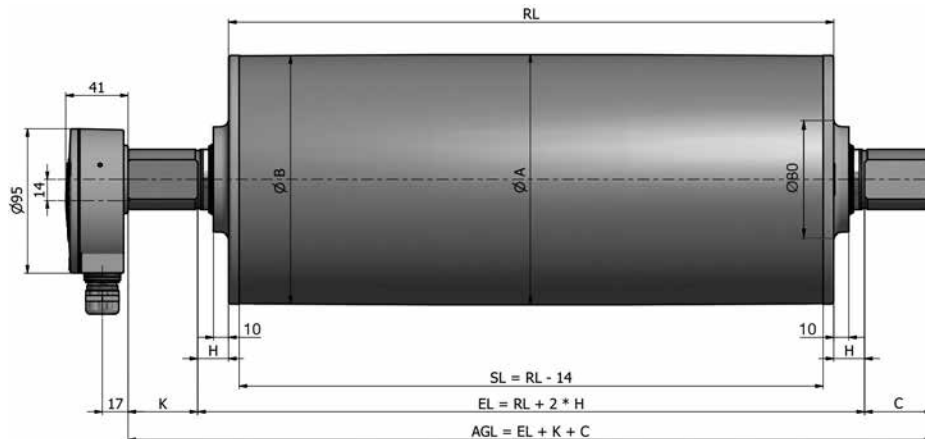
- Standard, screened
- Standard, unscreened
- Halogen-free, screened
- Halogen-free, unscreened

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



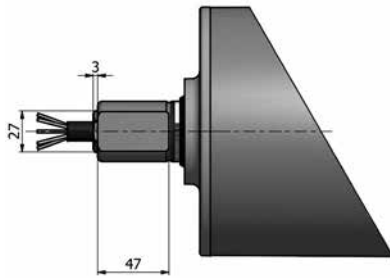
Drum motor with terminal box in aluminium

Drum shell shape	ØA [mm]	ØB [mm]
Crowned	165.0	163.5
Cylindrical	164.75	164.75
Cylindrical with key	162.0	162.0

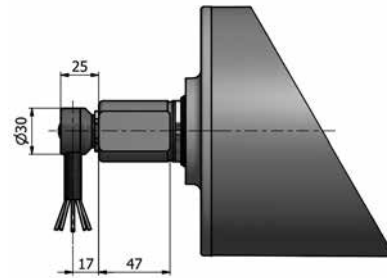
Shaft dimension	Width across flats [mm]	H [mm]	K [mm]	C [mm]
Ø40mm	30.0	20.0	47.0	45.0

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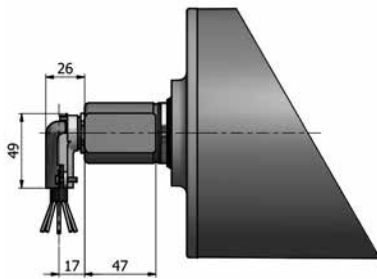
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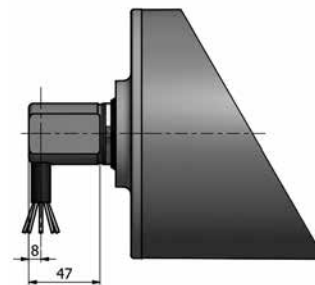
Straight connector in brass or stainless steel



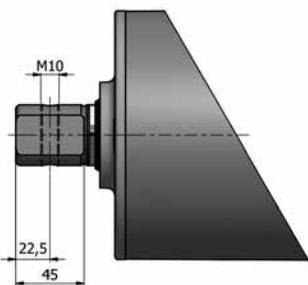
Elbow connector in stainless steel



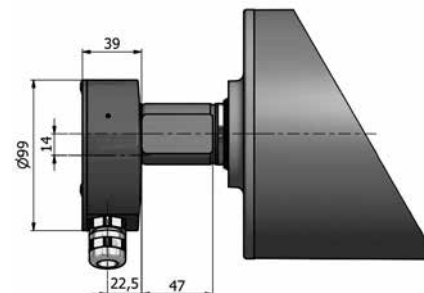
Elbow connector in aluminium



Cable slot 90° with threaded shaft



Cross-drilled and threaded shaft



Terminal box in stainless steel