

DRUM MOTOR 216LS

216.0Ø 0.11kW - 2.20kW, with steel helical gearbox

Product description

The drum motor 216LS is able to provide high torques and withstand high radial loads.

Characteristics

- Salt water resistant aluminum bearing housing
- Induction motor three phases alternating current
- Dual power supply
- 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 $\pm$ 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	-25 to +40 °C
General technical data	
Max. Roller length (RL)	1800 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 216LS - 3PHASE - 50HZ - STANDARD

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]
0.11	12 (470)	1.7/0.98	3	75.03	0.07	0.07	6	122	1475	19000	min 400 max 2000
				61.56	0.09	0.09	8	100	1210		
				49.75	0.11	0.11	9	81	978		
			2	37.93	0.14	0.14	12	61	746		
0.37	6 (920)	2.35/1.35	3	75.03	0.14	0.14	12	209	2535	19000	min 400 max 2000
				61.56	0.17	0.16	15	171	2080		
				49.75	0.21	0.20	18	138	1681		
	4 (1375)	1.9/1.1	3	61.56	0.25	0.25	22	115	1391	11000	min 3500 max 2000
				49.75	0.31	0.32	28	93	1125		
				37.93	0.41	0.40	36	71	857		
			2	30.05	0.52	0.50	46	56	679		
				23.76	0.65	0.63	58	44	537		
				19.20	0.81	0.80	72	36	434		
				14.64	1.06	1.10	94	27	331		
				11.60	1.34	1.25	119	22	262		
				0.75	4 (1405)	3.5/2.0	3	60.63	0.18	0.18	
46.23	0.23	0.20	20					254	3082		
61.56	0.26	0.25	23					227	2760		
2	49.75	0.32	0.32				28	184	2231		
	37.93	0.42	0.40				37	140	1701		
	30.05	0.53	0.50				47	111	1347		
	23.76	0.67	0.63	59	88	1065					
1.10	2 (2830)	4.1/2.35	3	19.20	0.83	0.80	73	71	861	7600	
				14.64	1.09	1.10	96	54	656		
				11.60	1.37	1.25	121	43	520		
			2	61.56	0.26	0.25	23	330	4006	11000	
				46.23	0.35	0.32	31	248	3008		
				37.93	0.42	0.40	37	203	2468		
61.56	0.52	0.50		46	166	2010					
1.10	2 (2830)	4.1/2.35	3	49.75	0.64	0.63	57	134	1624	7600	
				37.93	0.84	0.80	75	102	1238		
				30.05	1.07	1.10	94	81	981		
				23.76	1.35	1.25	119	64	776		
			2	19.20	1.67	1.60	147	52	627		
				14.64	2.19	2.00	193	39	478		
				11.60	2.76	2.50	244	31	379		
				9.43	3.39	3.15	300	25	308		

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TECHNICAL DATA DRUM MOTOR 216LS - 3PHASE - 50HZ - STANDARD

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]
1.50	2 (2850)	5.8/3.35	3	75.03	0.43	0.40	38	273	3317	11000	min 400 max 2000
				61.56	0.52	0.50	46	224	2722		
				46.23	0.70	0.63	62	168	2044		
				37.93	0.85	0.80	75	138	1677		
				30.05	1.07	1.10	95	109	1329		
			2	23.76	1.36	1.25	120	87	1050	7600	
				19.20	1.68	1.60	148	70	849		
				14.64	2.20	2.00	195	53	647		
				11.60	2.78	2.50	246	42	513		
				9.43	3.42	3.15	302	34	417		
	7.80	4.13	4.00	365	28	345	7100				
	2.20	2 (2860)	8.15/4.7	3	46.23	0.70	0.63	62	246	2987	11000
37.93					0.85	0.80	75	202	2451		
30.05					1.08	1.00	95	160	1942		
24.43					1.32	1.25	117	130	1579		
20.21					1.60	1.60	142	108	1306		
2				14.64	2.21	2.00	195	78	946	7600	
				11.60	2.79	2.50	247	62	750		
				9.43	3.43	3.15	303	50	609		
	7.80	4.15	4.00	367	42	504	7100				

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

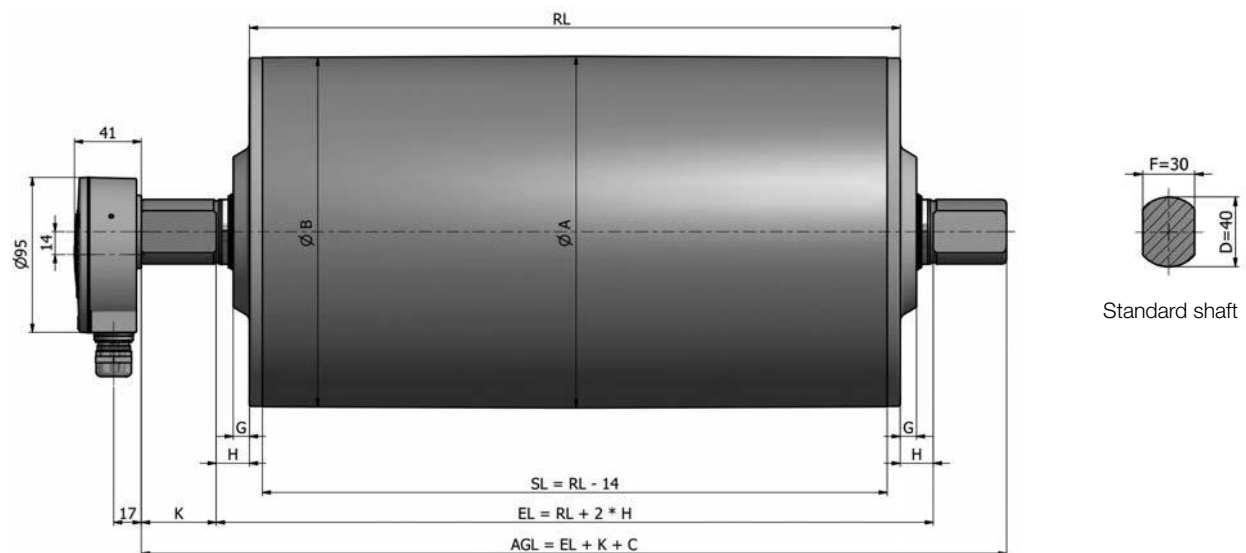
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Standard weight data drum motors & idlers 216LS															
P _N [kW]	np	Standard weight [kg] for standard RL [mm]													
		350	400	450	500	550	600	650	700	750	800	850	900	950	1000
0.11	12	---	38.5	41.5	44.5	47.5	50.5	53.5	56.5	59.5	62.5	65.5	68.5	71.5	74.5
0.37	6	---	39.5	42.5	45.5	48.5	51.5	54.5	57.5	60.5	63.5	66.5	69.5	72.5	75.5
	4	34.5	37.5	40.5	43.5	46.5	49.5	52.5	55.5	58.5	61.5	64.5	67.5	70.5	73.5
0.75	6	---	42.5	45.5	48.5	51.5	54.5	57.5	60.5	63.5	66.5	69.5	72.5	75.5	78.5
	4	---	40.5	43.5	46.5	49.5	52.5	55.5	58.5	61.5	64.5	67.5	70.5	73.5	76.5
1.10	4	---	43.5	46.5	49.5	52.5	55.5	58.5	61.5	64.5	67.5	70.5	73.5	76.5	79.5
	2	---	42.5	45.5	48.5	51.5	54.5	57.5	60.5	63.5	66.5	69.5	72.5	75.5	78.5
1.50	2	---	43.5	46.5	49.5	52.5	55.5	58.5	61.5	64.5	67.5	70.5	73.5	76.5	79.5
2.20	2	---	46.5	49.5	52.5	55.5	58.5	61.5	64.5	67.5	70.5	73.5	76.5	79.5	82.5
idler	-	12.5	14	15.5	17	18.5	20	21.5	23	24.5	26	27.5	29	30.5	32

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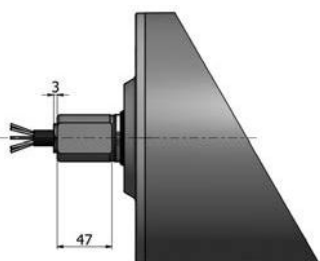
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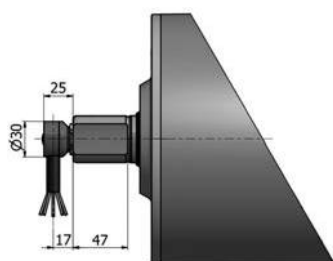
Drum motor with terminal box in aluminium

Drum shell shape	ϕA [mm]	ϕB [mm]
Crowned	216.0	214.5
Cylindrical	216.0	216.0

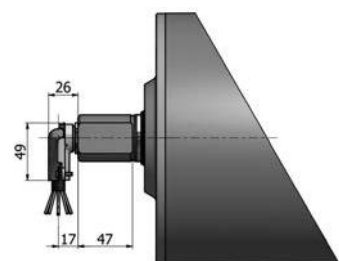
Shaft dimension	Width across flats [mm]	H [mm]	K [mm]	C [mm]
$\phi 40$ mm	30	20	45	45



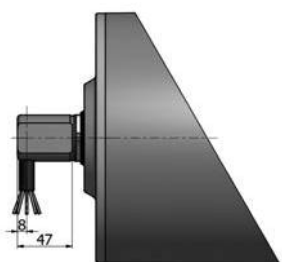
Straight connector in brass or stainless steel



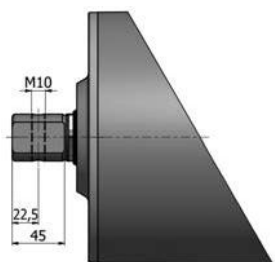
Elbow connector in stainless steel



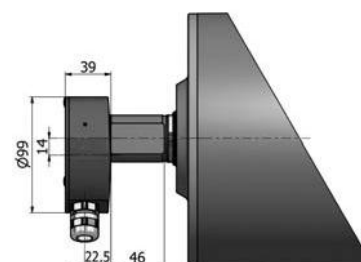
Elbow connector in aluminium



Cable connector 90° with threaded shaft



Cross-drilled and threaded shaft



Terminal box in stainless steel