DRUM MOTOR 220M-H

216.0Ø 0.37kW - 5.5kW, with steel helical gearbox

Product description

Drum motor very robust able to provide high torques and withstand high radial loads

Characteristics

- Salt water resistant aluminum bearing housing
- Induction motor three phases alternating current
- 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 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	230/400 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	-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	TS10N		
	Cylindrical		Std	TS10N		
	Cylindrical + key (for sprockets)		Std	TS10N		
	Special crowns and grooves		Std	TS10N		
End housing	Standard	Std		TS10N		
	With V-grooves		Std	TS10N		
	With O-grooves		Std	TS10N		
	With chain sprockets		Std	TS10N		
Shaft	Standard		Std	TS10N		
	Cross-drilled and threaded, M10		Std	TS10N		
Electrical connection	Straight connector			TS10N	Std	
	Elbow connector			TS10N		Std
	Terminal box	Std		TS10N		

Please contact Rulmeca for further versions.
TS10N Version - End Housing in stainless steel with NBR lip seals.

Options

- Rubber Lagging for standard belts
- Profiled Lagging for plastic modular belts
- Backstop /Anti run-back bearing
- Dynamic balancing
- Electromagnetic brake
- Rectifiers
- Encoder
- Food-grade Oil (EU, FDA and USDA)
- Non-horizontal mounting (more than ± 5 °)
- Version TS9N - as TS10N 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 FOR DRUM MOTOR 220M/H - 3PHASE - 50HZ

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	8 (705)	1.75	3 (220H)	59.72	0.13	0.13	11.8	291	2707	25000	min 450 max 2000
				49.84	0.16	0.16	14.1	236	2195		
			2 (220M)	37.49	0.21	0.20	18.8	190	1767	11500	min 400 max 2000
				29.62	0.27	0.25	23.8	152	1414		
				24.17	0.33	0.32	29.2	118	10989		
				20.17	0.40	0.40	35.0	95	884		
				15.84	0.50	0.50	44.5	76	707		
				12.74	0.63	0.63	55.3	60	558		
				9.77	0.82	0.80	72.2	47	437		
				8.10	0.98	1.00	87.0	38	353		
				6.36	1.25	1.25	110.8	30	279		
0.55	8 (710)	2.75	3 (220H)	59.72	0.13	0.13	11.9	432	4019	25000	min 500 max 2000
				49.84	0.16	0.16	14.2	351	3265		
			2 (220M)	37.49	0.21	0.20	18.9	282	2623	11500	min 450 max 2000
				29.62	0.27	0.25	24.0	226	2102		
				24.17	0.33	0.32	29.4	176	1637		
				20.17	0.40	0.40	35.2	141	1312		
				15.84	0.51	0.50	44.8	113	1051		
				12.74	0.63	0.63	55.7	89	828		
				9.77	0.82	0.80	72.7	70	651		
				8.10	0.99	1.00	87.7	56	521		
				6.36	1.26	1.25	111.6	45	419		
0.75	8 (690)	3.40	3 (220H)	59.72	0.13	0.13	11.6	592	5510	25000	min 500 max 2000
				49.84	0.16	0.16	13.8	481	4476		
			2 (220M)	37.49	0.21	0.20	18.4	385	3581	11500	min 450 max 2000
				29.62	0.26	0.25	23.3	307	2856		
				24.17	0.32	0.32	28.5	239	2223		
				20.17	0.39	0.40	34.2	191	1777		
				15.84	0.49	0.50	43.6	153	1423		
				12.74	0.61	0.63	54.2	122	1135		
				9.77	0.80	0.80	70.6	96	893		
				8.10	0.96	1.00	85.2	77	716		
				6.36	1.23	1.25	108.5	62	577		
1.10	6 (950)	3.60	3 (220H)	59.72	0.18	0.16	15.9	705	6558	25000	min 500 max 2000
				49.84	0.22	0.20	19.1	564	5246		
	4 (1420)	2.70		59.72	0.27	0.25	23.8	452	4205		min 450 max 2000
				49.84	0.32	0.32	28.5	353	3284		

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TECHNICAL DATA FOR DRUM MOTOR 220M/H - 3PHASE - 50HZ

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]
1.10	4 (1420)	2.70	2 (220M)	37.49	0.43	0.40	37.9	282	2623	11500	min 450 max 2000
				29.62	0.54	0.50	47.9	226	2102		
				24.17	0.66	0.63	58.8	178	1656		
				20.17	0.80	0.80	70.4	141	1312		
				15.84	1.01	1.00	89.6	112	1042		
				12.74	1.26	1.25	111.5	90	837		
				9.77	1.64	1.60	145.3	70	651		
				8.10	1.98	2.00	175.3	56	521		
				6.36	2.53	2.50	223.3	45	419		
1.50	4 (1420)	3.80	3 (220H)	59.72	0.27	0.25	23.9	646	5730	25000	min 450 max 2000
				49.84	0.32	0.32	28.7	481	4476		
			2 (220M)	37.49	0.43	0.40	38.1	385	3581	11500	min 450 max 2000
				29.62	0.54	0.50	48.3	307	2856		
				24.17	0.66	0.63	59.2	243	2260		
				20.17	0.80	0.80	70.9	191	1777		
				15.84	1.01	1.00	90.3	153	1423		
				12.74	1.26	1.25	112.2	123	1144		
				9.77	1.64	1.60	146.4	96	893		
				8.10	1.98	2.00	176.5	77	716		
				6.36	2.53	2.50	224.8	62	572		
2.20	4 (1430)	5.60	3 (220H)	49.84	0.32	0.32	28.7	705	6558	25000	min 500 max 2000
				39.14	0.41	0.40	36.5	564	5246		
			2 (220M)	29.62	0.55	0.50	48.3	451	4195	11500	min 450 max 2000
				24.17	0.67	0.63	59.2	358	3330		
				20.17	0.80	0.80	70.9	282	2623		
				15.84	1.02	1.00	90.3	226	2102		
				12.74	1.27	1.25	112.2	180	1674		
				9.77	1.66	1.60	146.4	140	1302		
				8.10	2.00	2.00	176.5	115	1070		
				6.36	2.54	2.50	224.8	90	837		

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 T1 + T2 maximum allowable belt tension (radial load)
RL Reference length
• Valid for unlagged shells / values can deviate at partly or no load conditions

DRUM MOTOR 220M-H

216.0Ø 0.37kW - 5.5kW, with steel helical gearbox

TECHNICAL DATA FOR DRUM MOTOR 220M/H - 3PHASE - 50HZ

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]
3.00	4 (1395)	7.20	3 (220H)	31.49	0.50	0.50	44.3	616	5730	25000	min 550 max 2000
				24.15	0.65	0.63	57.8	481	4476		
			2 (220M)	20.17	0.78	0.80	69.2	385	3581	11500	min 500 max 2000
				15.84	1.00	1.00	88.1	307	2856		
				12.74	1.24	1.25	109.5	245	2279		
				9.77	1.61	1.60	142.8	192	1786		
				8.10	1.95	2.00	172.2	154	1433		
				6.36	2.48	2.50	219.3	123	1144		
4.00	2 (2820)	8.30	3 (220H)	49.84	0.64	0.63	56.6	649	6037	25000	min 550 max 2000
				39.14	0.82	0.80	72.0	511	4754		
			2 (220M)	29.62	1.08	1.00	95.2	409	3805	11500	min 500 max 2000
				24.17	1.32	1.25	116.7	327	3042		
				20.17	1.58	1.60	139.8	255	2372		
				15.84	2.01	2.00	178.0	204	1898		
				12.74	2.50	2.50	221.4	163	1516		
5.50	2 (2860)	10.60	3 (220H)	40.21	0.80	0.80	71.1	702	6530	25000	min 550 max 2000
				31.87	1.01	1.00	89.7	562	5228		
				25.80	1.25	1.25	110.9	450	4186		
				19.89	1.63	1.60	143.8	351	3265		
				15.56	2.08	2.00	183.8	281	2614		
				13.00	2.49	2.50	220.0	225	2093		

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 T1 + T2 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 FOR DRUM MOTOR 220M/H - 3PHASE - 50HZ

Rated power [kW]	Poles n.	Gear stages n.	Standard weight [kg] for standard RL [mm]												
			400	450	500	550	600	650	700	750	800	850	900	950	1000
0.37	8	3	---	64	67	70	73	76	79	82	85	88	91	94	97
		2	48,0	51	54	57	60	63	66	69	72	75	78	81	84
0.55	8	3	---	---	71	74	77	80	83	86	89	92	95	98	101
		2	---	55	58	61	64	67	70	73	76	79	82	85	88
0.75	8	3	---	---	71	74	77	80	83	86	89	92	95	98	101
		2	---	55	58	61	64	67	70	73	76	79	82	85	88
1.10	6	3	---	---	68	71	74	77	80	83	86	89	92	95	98
	4	3	---	61	64	67	70	73	76	79	82	85	88	91	94
		2	46,0	49	52	55	58	61	64	67	70	73	76	79	82
1.50	4	3	---	61	64	68	71	74	77	80	83	86	89	92	95
		2	48,0	51	54	57	60	63	66	69	72	75	78	81	84
2.20	4	3	---	---	68	72	75	78	81	84	87	90	93	96	99
		2	---	55	58	61	64	67	70	73	76	79	82	85	88
3.00	4	3	---	---	---	74	77	80	83	86	89	92	95	98	101
		2	---	---	60	63	66	69	72	75	78	81	84	87	90
4.00	2	3	---	---	---	74	77	80	83	86	89	92	95	98	101
		2	---	---	60	63	66	69	72	75	78	81	84	87	90
5.50	2	3	---	---	---	74	77	80	83	86	89	92	95	98	101
idler	...	UT 220M	25	27	29	31	33	35	37	39	41	43	45	47	49
	...	UT 220H	---	29	31	33	35	37	39	41	43	45	47	49	51

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.
Available lengths: 1 / 3 / 5 m.

Option	RL min. with option mm
Brake	RL min. + 50 mm
Encoder SKF	RL min. + 0 mm
Encoder RLS	RL min. + 50 mm

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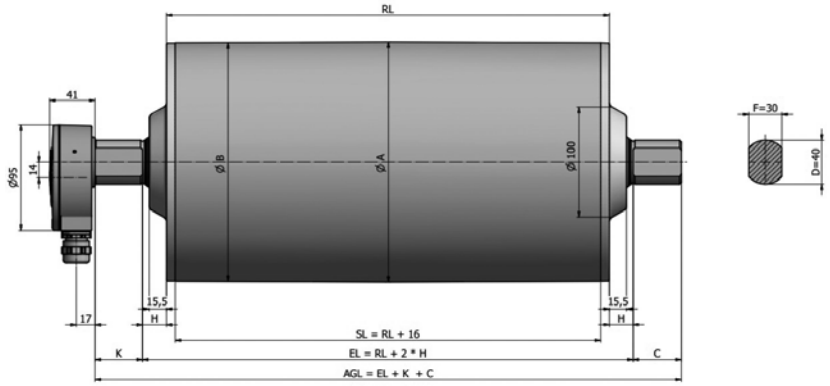
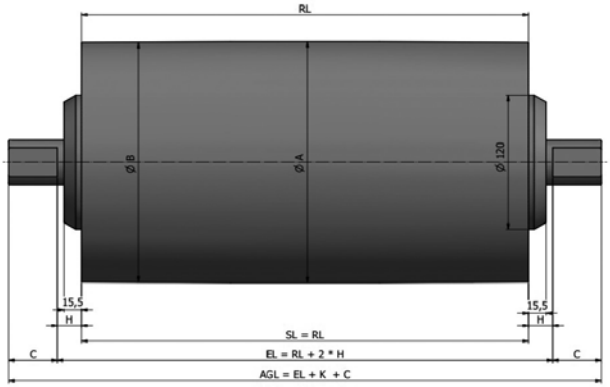


Drum motor standard version
with terminal box in aluminium ≤ 4,0 kW



Idler Pulley in stainless steel (TS10N/TS12N)

Drum shell shape	ØA [mm]	ØB [mm]
Crowned	216.0	214.5
Cylindrical	216.0	216.0

Shaft dimension	Width across flats [mm]	H [mm]	K [mm]	C [mm]
Ø40mm	30.0	21.5	41.5	43.5

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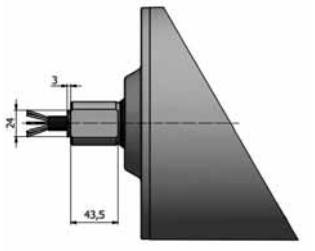
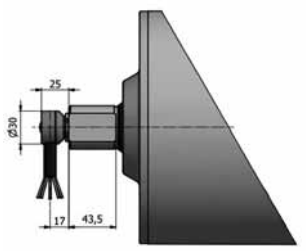
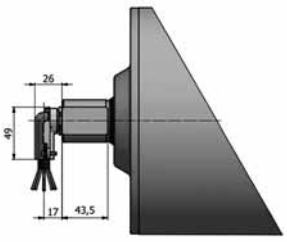


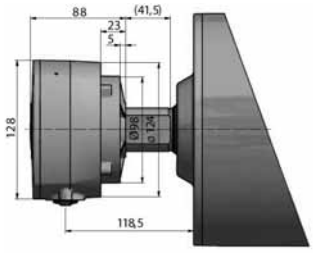
Straight connector in brass
or stainless steel ≤ 4,0 kW



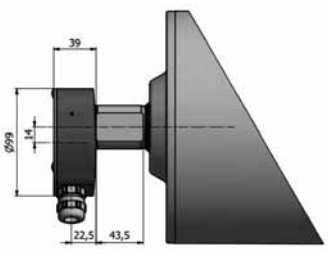
Elbow connector in stainless steel ≤ 4,0 kW



Elbow connector in aluminium ≤ 4,0 kW



Large terminal Box ≥ 5,5 kW



Terminal box in stainless steel ≤ 4,0 kW