

# 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 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 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)	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	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
- Profiled Lagging for thermoplastic belts
- Sprockets 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  $\pm 5^\circ$ )
- Dual speed motor
- 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

Rated power [kW]	Poles n.	Gear stages n.	Gear ratio i	Nominal speed of the shell [m/s]	Nominal revolutions of the shell [min-1]	Nominal torque of drum motor [Nm]	Belt pull [N]	Max. belt tension T1+T2 [N]	Min. length [mm]
0.37	8	3 (220H)	59.72	0.13	11.8	291	2707	25000	450
			49.84	0.16	14.1	236	2195		
		2 (220M)	37.49	0.20	18.8	190	1767	11500	400
			29.62	0.25	23.8	152	1414		
			24.17	0.32	29.2	118	10989		
			20.17	0.40	35.0	95	884		
			15.84	0.50	44.5	76	707		
			12.74	0.63	55.3	60	558		
			9.77	0.80	72.2	47	437		
			8.10	1.00	87.0	38	353		
6.36	1.25	110.8	30	279					
0.55	8	3 (220H)	59.72	0.13	11.9	432	4019	25000	500
			49.84	0.16	14.2	351	3265		
		2 (220M)	37.49	0.20	18.9	282	2623	11500	450
			29.62	0.25	24.0	226	2102		
			24.17	0.32	29.4	176	1637		
			20.17	0.40	35.2	141	1312		
			15.84	0.50	44.8	113	1051		
			12.74	0.63	55.7	89	828		
			9.77	0.80	72.7	70	651		
			8.10	1.00	87.7	56	521		
6.36	1.25	111.6	45	419					
0.75	8	3 (220H)	59.72	0.13	11.6	592	5510	25000	500
			49.84	0.16	13.8	481	4476		
		2 (220M)	37.49	0.20	18.4	385	3581	11500	450
			29.62	0.25	23.3	307	2856		
			24.17	0.32	28.5	239	2223		
			20.17	0.40	34.2	191	1777		
			15.84	0.50	43.6	153	1423		
			12.74	0.63	54.2	122	1135		
			9.77	0.80	70.6	96	893		
			8.10	1.00	85.2	77	716		
6.36	1.25	108.5	62	577					
1.10	6	3 (220H)	59.72	0.16	15.9	705	6558	25000	500
	49.84		0.20	19.1	564	5246			
	4		59.72	0.25	23.8	452	4205		450
			49.84	0.32	28.5	353	3284		

**DRUM MOTOR 220M-H**

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

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

Rated power [kW]	Poles n.	Gear stages n.	Gear ratio i	Nominal speed of the shell [m/s]	Nominal revolutions of the shell [min-1]	Nominal torque of drum motor [Nm]	Belt pull [N]	Max. belt tension T1+T2 [N]	Min. length [mm]		
1.10	4	2 (220M)	37.49	0.40	37.9	282	2623	11500	400		
			29.62	0.50	47.9	226	2102				
			24.17	0.63	58.8	178	1656				
			20.17	0.80	70.4	141	1312				
			15.84	1.00	89.6	112	1042				
			12.74	1.25	111.5	90	837				
			9.77	1.60	145.3	70	651				
			8.10	2.00	175.3	56	521				
1.50	4	3 (220H)	59.72	0.25	23.9	646	5730	25000	450		
			49.84	0.32	28.7	481	4476				
		2 (220M)	37.49	0.40	38.1	385	3581	11500	450		
			29.62	0.50	48.3	307	2856				
			24.17	0.63	59.2	243	2260				
			20.17	0.80	70.9	191	1777				
			15.84	1.00	90.3	153	1423				
			12.74	1.25	112.2	123	1144				
			9.77	1.60	146.4	96	893				
			8.10	2.00	176.5	77	716				
			6.36	2.50	224.8	62	572				
			2.20	4	3 (220H)	49.84	0.32			28.7	705
		39.14				0.40	36.5	564	5246		
		2 (220M)			29.62	0.50	48.3	451	4195	11500	450
24.17	0.63				59.2	358	3330				
20.17	0.80				70.9	282	2623				
15.84	1.00				90.3	226	2102				
12.74	1.25				112.2	180	1674				
9.77	1.60				146.4	140	1302				
8.10	2.00				176.5	115	1070				
6.36	2.50				224.8	90	837				
1.10	4	3 (220H)	31.49	0.50	44.3	616	5730	25000	550		
			24.15	0.63	57.8	481	4476				
		2 (220M)	20.17	0.80	69.2	385	3581	11500	500		
			15.84	1.00	88.1	307	2856				
			12.74	1.25	109.5	245	2279				
			9.77	1.60	142.8	192	1786				
			8.10	2.00	172.2	154	1433				
			6.36	2.50	219.3	123	1144				

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

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

Rated power [kW]	Poles n.	Gear stages n.	Gear ratio i	Nominal speed of the shell [m/s]	Nominal revolutions of the shell [min-1]	Nominal torque of drum motor [Nm]	Belt pull [N]	Max. belt tension T1+T2 [N]	Min. length [mm]
4.00	2	3 (220H)	49.84	0.63	56.6	649	6037	25000	550
			39.14	0.80	72.0	511	4754		
			29.62	1.00	95.2	409	3805		
			24.17	1.25	116.7	327	3042	11500	
			20.17	1.60	139.8	255	2372		
			15.84	2.00	178.0	204	1898		
12.74	2.50	221.4	163	1516					
5.50	2	3 (220H)	40.21	0.80	71.1	702	6530	25000	550
			31.87	1.00	89.7	562	5228		
			25.80	1.25	110.9	450	4186		
			19.89	1.60	143.8	351	3265		
			15.56	2.00	183.8	281	2614		
			13.00	2.50	220.0	225	2093		

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	---	64.0	67.0	70.0	73.0	76.0	79.0	82.0	85.0	88.0	91.0	94.0	97.0
		2	48.0	51.0	54.0	57.0	60.0	63.0	66.0	69.0	72.0	75.0	78.0	81.0	84.0
0.55	8	3	---	---	71.0	74.0	77.0	80.0	83.0	86.0	89.0	92.0	95.0	98.0	101.0
		2	---	55.0	58.0	61.0	64.0	67.0	70.0	73.0	76.0	79.0	82.0	85.0	88.0
0.75	8	3	---	---	71.0	74.0	77.0	80.0	83.0	86.0	89.0	92.0	95.0	98.0	101.0
		2	---	55.0	58.0	61.0	64.0	67.0	70.0	73.0	76.0	79.0	82.0	85.0	88.0
1.10	6	3	---	---	68.0	71.0	74.0	77.0	80.0	83.0	86.0	89.0	92.0	95.0	98.0
		4	---	61.0	64.0	67.0	70.0	73.0	76.0	79.0	82.0	85.0	88.0	91.0	94.0
1.50	4	3	---	61.0	64.0	68.0	71.0	74.0	77.0	80.0	83.0	86.0	89.0	92.0	95.0
		2	48.0	51.0	54.0	57.0	60.0	63.0	66.0	69.0	72.0	75.0	78.0	81.0	84.0
2.20	4	3	---	---	68.0	72.0	75.0	78.0	81.0	84.0	87.0	90.0	93.0	96.0	99.0
		2	---	55.0	58.0	61.0	64.0	67.0	70.0	73.0	76.0	79.0	82.0	85.0	88.0
3.00	4	3	---	---	---	74.0	77.0	80.0	83.0	86.0	89.0	92.0	95.0	98.0	101.0
		2	---	---	60.0	63.0	66.0	69.0	72.0	75.0	78.0	81.0	84.0	87.0	90.0
4.00	2	3	---	---	---	74.0	77.0	80.0	83.0	86.0	89.0	92.0	95.0	98.0	101.0
		2	---	---	60.0	63.0	66.0	69.0	72.0	75.0	78.0	81.0	84.0	87.0	90.0
5.50	2	3	---	---	---	74.0	77.0	80.0	83.0	86.0	89.0	92.0	95.0	98.0	101.0

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### Cable specification

Available cable options:

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

Available lengths: 1 / 3 / 5 m.

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### Min.Length with option

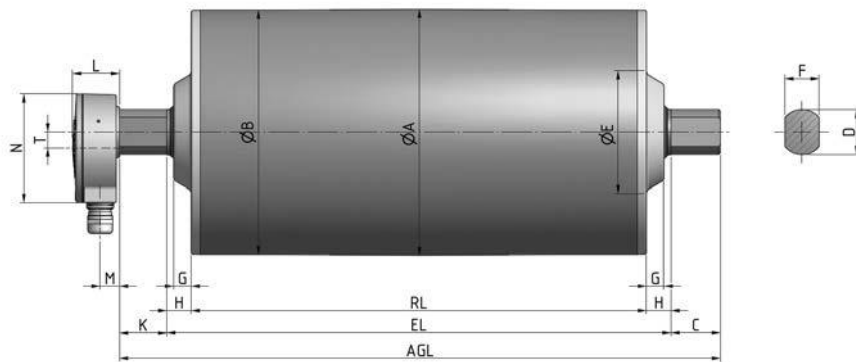
The following options increase the minimum length of the drum motor.

Available lengths: 1 / 3 / 5 m.

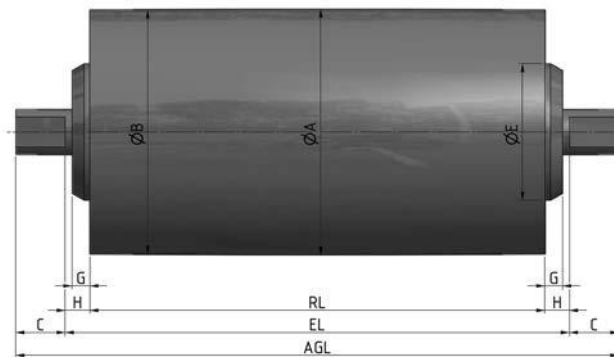
Option	RL min. with option mm
Brake	RL min. + 50 mm
Encoder SKF	RL min. + 0 mm
Encoder RLS	RL min. + 50 mm

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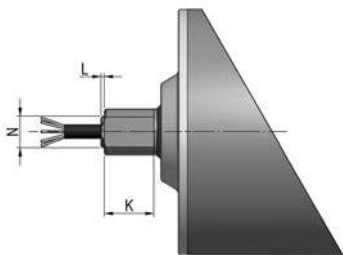
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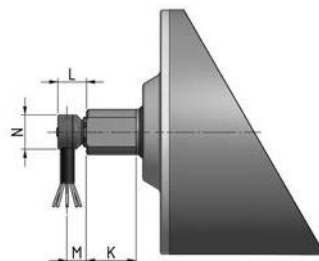
Drum motor standard version  
with terminal box in aluminium  $\leq 4,0$  kW.



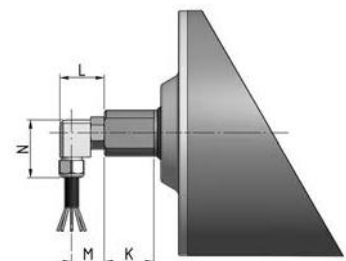
Idler Pulley in stainless steel (TS10N/TS12N).



Straight connector in brass  
or stainless steel  $\leq 4,0$  kW.



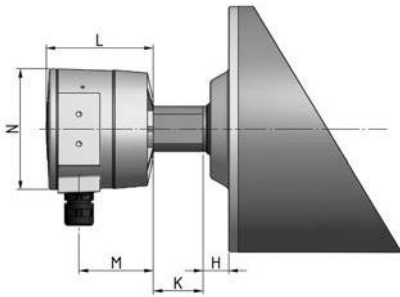
Elbow connector in stainless steel  $\leq 4,0$  kW.



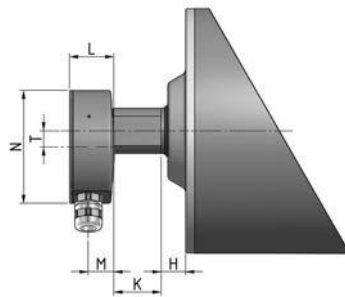
Elbow connector in polyamide  $\leq 4,0$  kW.

## DRUM MOTOR 220M-H

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Large terminal Box  $\geq 5,5$  kW.



Terminal box in stainless steel  $\leq 4,0$  kW.

Type/Version	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 220M-H standard version with terminal box in aluminium	216	214.5	43.5	40	100	30	15.5	21.5	41.5	41	17	95		14
Large terminal box									41.5	87	62	105		
Terminal box in stainless steel									41.5	37	20.5	99		14
Idler Pulley in stainless steel (TS10N/TS12N)					120				43.5					
Straight connector in brass or stainless steel									43.5	4		27		
Elbow connector in stainless steel									43.5	25	18	30		
Elbow connector in polyamide									43.5	39	29	50		