

Round Frame Three-Phase Induction Motors - MR Series Motor 0.09 kW - 315 kW

Overview

Description

These IE2 efficiency round frame three-phase induction motors are suitable for use with the entire range of Parker variable speed AC drives. Featuring a durable rigid construction, these motors are specially engineered for use in heavy industrial applications. Featuring axial, In-Line force ventilation fan and optional 2048 ppr encoder, the round frame MR Series motor is suitable for general purpose open or closed-loop control applications. For higher dynamic performance, such as that required in printing or test rig applications, the MS series square frame vector motor should be considered.

- **Light aluminium body up to and including 160 frame size. Cast iron construction over 160 frame**
- **IP55 Protection as minimum**
- **Foot, flange, or foot and flange mounting options**
- **Insulation Class F (IEC - EN60034 -1)**
- **Auxiliary cooling fan allowing low-speed operation**
- **3x PTC thermistors embedded in motor stator as standard**
- **Holding brake or brake with hand release (Option)**
- **2048 ppr encoder (Option)**
- **2,4, or 6 poles (Option)**



Technical Characteristics - Overview

Motor type	Round Frame Three-Phase Induction Motor
Power range	0.09 kW ... 315 kW
Speed range	0 – 3000 min ⁻¹
Protection level	IP55
Insulation Class	F (IEC – EN600034 -1)
Feedback	Encoder (optional)
Suitable for drives	AC30V, AC690+, AC890, AC890PX-M



Generous motor terminal box for easy access



Simplified connection with a pre-wired encoder plug

Technical Features

MR Series: 2 Pole - 0.75 kW - 315 kW, 3 x 400 VAC

Order Code	Nominal Power P _n [kW]	Frame Size	Nominal speed n _n [min ⁻¹]	Full-load current at 400 V [A _{rms}]	Efficiency [%]	Power factor [cosφ]	Torque C _n [Nm]	I _s /I _n	C _s /C _n
MR2P00018...	0.18	TECA 563-2	2710	0.55	63	0.75	-	6	-
MR2P00025...	0.25	TECA 632-2	2710	0.71	65	0.78	-	6	-
MR2P00037...	0.37	TECA 633-2	2710	1.05	65	0.78	-	6	-
MR2P00055...	0.55	TECA 712-2	2760	1.42	71	0.79	-	6	-
MR2P00075...	0.75	MS2 801-2	2840	1.75	77.4	0.80	2.49	5.8	2.9
MR2P00110...	1.1	MS2 802-2	2850	2.42	80	0.82	3.53	6.8	3.5
MR2P00150...	1.5	MS2 90S-2	2850	3.20	81.4	0.83	5.09	6.9	3.5
MR2P00220...	2.2	MS290L-2	2860	4.54	83.2	0.84	7.32	7.9	4.1
MR2P00300...	3	MS2 100L-2	2880	5.88	84.6	0.87	9.96	7.8	3.4
MR2P00400...	4	MS2 112M-2	2890	7.54	86	0.89	13.16	7.5	2.7
MR2P00550...	5.5	MS2 132S1-2	2900	10.2	87.2	0.89	18.25	7.7	2.4
MR2P00750...	7.5	MS2 132S2-2	2910	13.8	88.1	0.89	24.47	8.4	2.6
MR2P01100...	11	MS2 160M1-2	2930	19.9	89.4	0.89	20.23	7.6	2.4
MR2P01500...	15	MS2 160M2-2	2930	26.9	90.3	0.89	27.68	8	2.6
MR2P01850...	18.5	MS2 160L-2	2940	32.6	90.9	0.90	33.42	9	3
MR2P02200...	22	T2C 180M-2	2930	39.08	91.3	0.89	71.70	7.5	2.3
MR2P03000...	30	T2C 200L1-2	2925	53.49	92	0.88	97.94	6.7	2.4
MR2P03700...	37	T2C 200L2-2	2930	64.15	92.5	0.90	120.59	6.3	2.3
MR2P04500...	45	T2C 225M-2	2930	79.45	92.9	0.88	146.66	6.9	2.3
MR2P05500...	55	T2C 250M-2	2940	96.80	93.2	0.88	178.64	8	2.3
MR2P07500...	75	T2C 280S-2	2940	125.45	93.8	0.92	243.60	8	2.2
MR2P09000...	90	T2C 280M-2	2940	150.06	94.1	0.92	292.33	7.7	2.2
MR2P11000...	110	T2C 315S-2	2940	187.08	94.3	0.90	357.29	7.7	2
MR2P13200...	132	T2C 315M-2	2940	221.33	94.6	0.91	428.74	7.6	2
MR2P16000...	160	T2C 315L1-2	2945	270.68	94.8	0.90	518.81	7.8	2
MR2P20000...	200	T2C 315L2-2	2945	341.44	95	0.89	648.51	7.9	2
MR2P25000...	250	T2C 355M-2	2945	422.05	95	0.90	810.64	7.8	2
MR2P31500...	315	T2C355L-2	2945	537.76	95	0.89	1021.40	7.8	2

Motors below 0.75 kW are not IE rated. For dimensions please contact your local sales office.

MR Series: 4 Pole - 0.75 kW - 315 kW, 3 x 400 VAC

Order Code	Nominal Power P _n [kW]	Frame Size	Nominal speed n _n [min ⁻¹]	Full-load current at 400 V [A _{rms}]	Efficiency [%]	Power factor [cosφ]	Torque C _n [Nm]	I _s /I _n	C _s /C _n
MR4P00012...	0.12	TECA 631-4	1360	0.55	52	0.64	-	4	-
MR4P00018...	0.18	TECA 632-4	1310	0.7	57	0.65	-	4	-
MR4P00025...	0.25	TECA 633-4	1340	0.91	60	0.66	-	4	-
MR4P00037...	0.37	TECA 712-4	1370	1.11	65	0.74	-	6	-
MR4P00055...	0.55	TECA 713-4	1380	1.6	66	0.75	-	6	-
MR4P00075...	0.75	MS2 802-4	1410	1.79	79.6	0.76	5.27	5.3	2.8
MR4P00110...	1.1	MS2 90S-4	1420	2.50	81.4	0.78	7.61	6.7	3.8
MR4P00150...	1.5	MS2 90L-4	1420	3.31	82.8	0.79	10.39	7.2	4
MR4P00220...	2.2	MS2 100L1-4	1440	4.83	84.3	0.78	14.76	7.4	3.6
MR4P00300...	3	MS2 100L2-4	1440	6.33	85.5	0.80	20.13	7.8	3.8
MR4P00400...	4	MS2 112M-4	1440	8.23	86.6	0.81	26.89	7.1	3.1
MR4P00550...	5.5	MS2 132S-4	1450	10.9	87.9	0.83	36.25	7.4	2.6
MR4P00750...	7.5	MS2 132M-4	1450	14.5	88.7	0.84	49.21	7.7	2.8
MR4P01100...	11	MS2 160M-4	1450	21.6	89.8	0.82	71.86	7.7	2.7
MR4P01500...	15	MS2 160L-4	1450	28.4	90.6	0.84	97.90	7.3	2.4
MR4P01850...	18.5	MS2 180M-4	1460	34.4	91.4	0.85	121.32	7.4	2.2
MR4P02200...	22	T2C 180L-4	1460	38.95	91.6	0.89	143.89	7.5	2.3
MR4P03000...	30	T2C 200L-4	1460	53.31	92.3	0.88	196.22	7.9	2.4
MR4P03700...	37	T2C 225S-4	1470	72.02	92.7	0.80	240.36	6.7	2.4
MR4P04500...	45	T2C 225M-4	1480	87.21	93.1	0.80	290.35	7	2.3
MR4P05500...	55	T2C 250M-4	1480	96.49	93.5	0.88	354.87	7.4	2.4
MR4P07500...	75	T2C 280S-4	1480	126.56	94.0	0.91	483.92	7.5	2.2
MR4P09000...	90	T2C 280M-4	1480	149.90	94.2	0.92	580.70	7.7	2.25
MR4P11000...	110	T2C 315S-4	1480	186.69	94.5	0.90	709.75	7.8	2
MR4P13200...	132	T2C 315M-4	1480	221.09	94.7	0.91	851.69	7.8	2
MR4P16000...	160	T2C 315L1-4	1480	267.43	94.9	0.91	1032.36	7.9	2
MR4P20000...	200	T2C 315L2-4	1480	337.29	95.1	0.90	1290.45	7.7	2
MR4P25000...	250	T2C 355M-4	1480	426.35	95.1	0.89	1613.06	7.9	2
MR4P31500...	315	T2C355L-4	1480	531.23	95.1	0.90	2032.45	7.8	2

Motors below 0.75 kW are not IE rated. For dimensions please contact your local sales office.

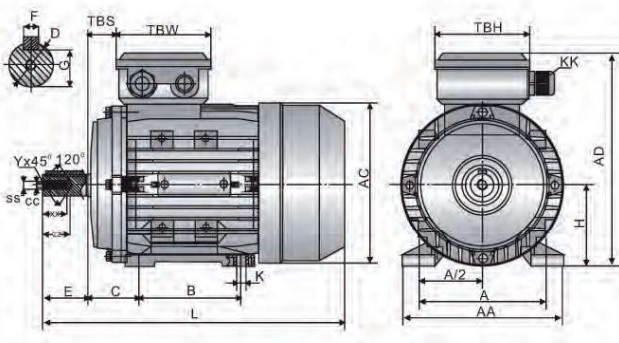
MR Series: 6 Pole - 0.75 kW - 250 kW, 3 x 400 VAC

Order Code	Nominal Power P _n [kW]	Frame Size	Nominal speed n _n [min ⁻¹]	Full-load current at 400 V [A _{rms}]	Efficiency [%]	Power factor [cosφ]	Torque C _n [Nm]	I _s /I _n	C _s /C _n
MR6P00009...	0.09	TECA 631-6	840	0.51	42	0.61	-	3.5	
MR4P00012...	0.12	TECA 632-6	850	0.62	45	0.62	-	3.5	-
MR4P00018...	0.18	TECA 711-6	880	0.70	56	0.66	-	4	-
MR4P00025...	0.25	TECA 712-6	900	0.87	59	0.7	-	4	-
MR4P00037...	0.37	TECA 713-6	890	1.27	61	0.69	-	6	-
MR4P00055...	0.55	TECA 802-6	900	1.65	67	0.72	-	6	-
MR6P00075...	0.75	MS2 90S-6	925	2.01	76.0	0.71	7.75	4.7	3.1
MR6P00110...	1.1	MS2 90L-6	930	2.82	78.1	0.72	11.43	5	3.2
MR6P00150...	1.5	MS2 100L-6	940	3.71	80.0	0.73	15.09	5.9	3.1
MR6P00220...	2.2	MS2 112M-6	945	5.17	81.8	0.75	22.13	5.5	2.6
MR6P00300...	3	MS2 132S-6	960	6.84	83.3	0.76	30.32	5.7	2.2
MR6P00400...	4	MS2 132M1-6	960	8.86	84.6	0.77	41.25	6.2	2.4
MR6P00550...	5.5	MS2 132M2-6	960	12.0	86	0.77	54.86	6.7	2.6
MR6P00750...	7.5	MS2 160M-6	970	16.1	87.5	0.77	74.69	5.6	2
MR6P01100...	11	MS2 160L-6	970	22.9	89.0	0.78	108.92	5.8	2
MR6P01500...	15	MS2 180L-6	975	28.9	90.1	0.83	147.77	7.5	1.9
MR6P01850...	18.5	MS2 200L1-6	975	35.6	90.4	0.83	180.32	6.3	2.2
MR6P02200...	22	T2C 200L2-6	965	40.62	90.9	0.86	217.70	7.9	2.3
MR6P03000...	30	T2C 225M-6	975	55.56	91.7	0.85	293.82	7.9	2.2
MR6P03700...	37	T2C 250M-6	975	69.79	92.2	0.83	362.38	7.5	2.3
MR6P04500...	45	T2C 280S-6	980	81.48	92.7	0.86	438.49	7.2	2.3
MR6P05500...	55	T2C280M1-6	980	99.15	93.1	0.86	535.93	7.7	2.2
MR6P07500...	75	T2C 315S-6	980	129.81	93.7	0.89	730.81	7.9	2.1
MR6P09000...	90	T2C 315M-6	980	153.56	94	0.90	876.98	7.9	2
MR6P11000...	110	T2C 315L1-6	980	187.08	94.3	0.90	1071.86	7.7	2
MR6P13200...	132	T2C 315L2-6	980	226.30	94.6	0.89	1286.23	7.8	2
MR6P16000...	160	T2C 355M1-6	980	267.71	94.8	0.91	1559.07	7.8	2
MR6P20000...	200	T2C 355M2-6	980	337.64	95	0.90	1948.84	7.8	2
MR6P25000...	250	T2C 355L-6	980	426.79	95	0.89	2436.06	7.8	2

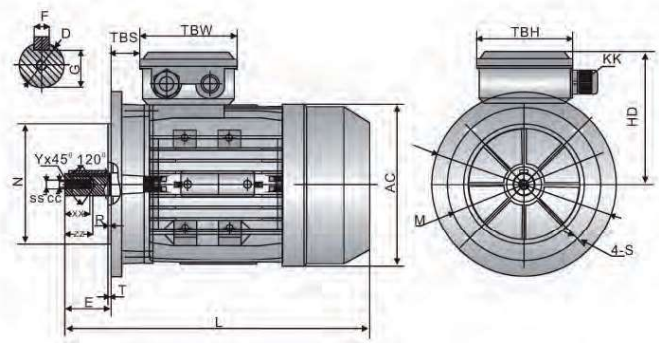
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Dimensions

MR Series Frames MS2



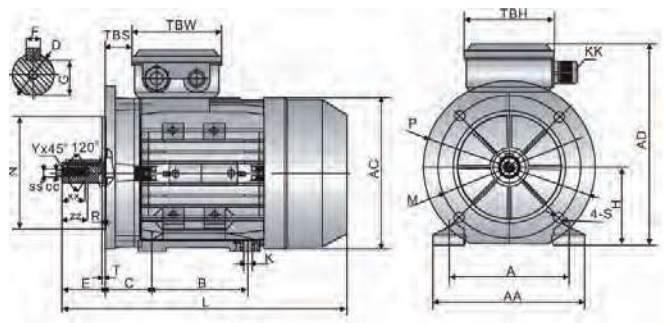
B3 Mounting



B5 Mounting

Frame MS2	B3 Foot Mounting					Shaft							General								
	H	A	B	C	K	D	E	F	G	SS	XX	ZZ	AA	AD	HD	AC	L	KK	TBS	TBW	TBH
56	56	90	71	36	5.8x8.8	ø9	20	3	7.2	M3	9	12	110	156	100	ø117	196	1-M16x1.5	14	88	88
63	63	100	80	40	7x10	ø11	23	4	8.5	M4	10	14	120	171	108	ø130	220	1-M16x1.5	14	94	94
71	71	112	90	45	7x10	ø14	30	5	11	M5	12	17	132	186	115	ø147	241	1-M20x1.5	20	94	94
80	80	125	100	50	10x13	ø19	40	6	15.5	M6	16	21	160	213	133	ø163	290	1-M20x1.5	27	105	105
90S	90	140	100	56	10x13	ø24	50	8	20	M8	19	25	175	229	139	ø183	312	1-M20x1.5	30	105	105
90L1/L2	90	140	125	56	10x13	ø24	50	8	20	M8	19	25	175	229	139	ø183	337/367	1-M20x1.5	30	105	105
100	100	160	140	63	12x15	ø28	60	8	24	M10	22	30	198	252	152	ø205	369	2-M20x1.5	26	105	105
112	112	190	140	70	12x15	ø28	60	8	24	M10	22	30	220	279	167	ø229	395	2-M25x1.5	32	112	112
132S	132	216	140	89	12x15	ø38	80	10	33	M12	28	37	252	318	186	ø265	437	2-M25x1.5	38	112	112
132M/L	132	216	178	89	12x15	ø38	80	10	33	M12	28	37	252	318	186	ø265	475/501	2-M25x1.5	38	112	112
160M/L	160	254	210/254	108	15x19	ø42	110	12	37	M16	36	45	290	384	224	ø325	640	2-M32x1.5	64	143	143
180M/L	180	279	241/279	121	15x25	ø48	110	14	42.5	M18	36	45	340	440	260	ø368	730	2-M32x1.5	73	190	190
200L	200	318	305	133	19x29	ø55	110	16	49	M20	42	53	390	460	260	ø368	745	2-M32x1.5	85	190	190

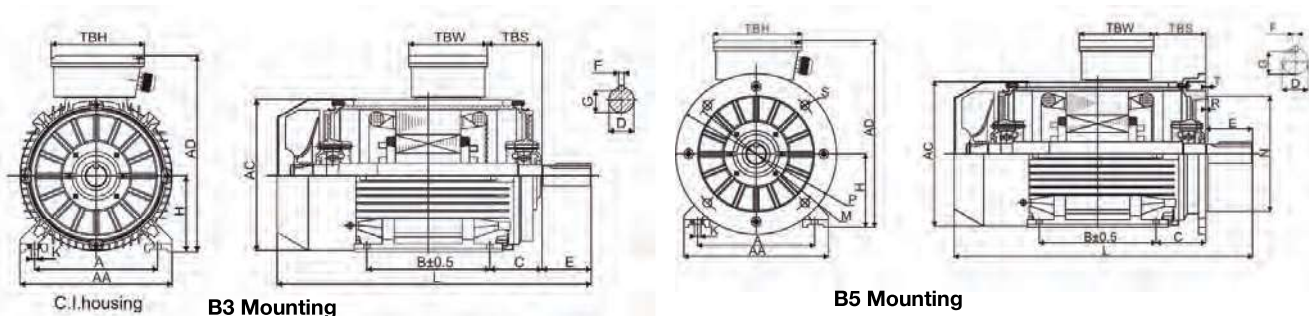
Frame MS2	B5 Flange Mounting					
	M	N	P	T	S	R
56	ø100	ø80	ø120	3.0	ø7	0
63	ø115	ø95	ø140	3.0	ø10	0
71	ø130	ø110	ø160	3.5	ø10	0
80	ø165	ø130	ø200	3.5	ø12	0
90S	ø165	ø130	ø200	3.5	ø12	0
90L1/L2	ø165	ø130	ø200	3.5	ø12	0
100	ø215	ø180	ø250	4.0	ø15	0
112	ø215	ø180	ø250	4.0	ø15	0
132S	ø265	ø230	ø300	4.0	ø15	0
132M/L	ø265	ø230	ø300	4.0	ø15	0
160M/L	ø300	ø250	ø350	5.0	ø19	0
180M/L	ø300	ø250	ø350	5.0	ø19	0
200L	ø350	ø300	ø400	5.0	ø19	0



B35 Mounting

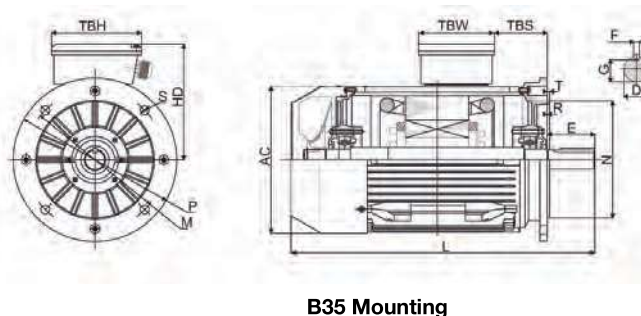
For Dimensions of Motors below 0.75 kW please contact your local sales office.

MR Series Frames T2C



Frame T2C	B3 Foot Mounting				Shaft					General								
	H	A	B	C	D	E	F	G	K	AA	AD	HD	AC	L	TBS	TBW	TBH	
180M/L	180	279	241/279	121	∅48	110	14	42.5	∅15	348	439	259	360	687/725	160/180	162	187	
200L	200	318	305	133	∅55	110	16	49	∅19	388	497	297	399	768	192	186	233	
225S	225	356	286	149	∅60	140	18	53	∅19	436	553	328	465	814	190	186	233	
225M	2 Pole	225	356	311	149	∅55	110	16	49	∅19	436	553	328	456	809	202	186	233
	4,6 Pole	225	356	311	149	∅60	140	18	53	∅19	436	553	328	465	839	202	186	233
250M	2 Pole	250	406	349	168	∅60	140	18	53	∅24	484	616	366	506	918	233	218	260
	4,6 Pole	250	406	349	168	∅65	140	18	58	∅24	484	616	366	506	918	233	218	260
280S/M	2 Pole	280	457	368/419	190	∅65	140	18	58	∅24	557	668	388	559	984/1035	265	218	260
	4,6 Pole	280	457	368/419	190	∅75	140	20	67.5	∅24	557	668	388	559	984/1035	265	218	260
315S	2 Pole	315	457	406	216	∅65	140	18	58	∅28	630	845	530	680	1205	130	280	320
	4,6 Pole	315	508	406	216	∅80	170	22	71	∅28	630	845	530	680	1235	130	280	320
315M/L	2 Pole	315	508	457/508	216	∅65	140	18	58	∅28	630	845	530	680	1355	130	280	320
	4,6 Pole	315	508	457/508	216	∅80	170	22	71	∅28	630	845	530	680	1385	130	280	320
355M/L	2 Pole	355	610	560/630	254	∅75	140	20	67.5	∅28	740	1010	655	820	1500	HO	330	380
	4,6 Pole	355	610	560/630	254	∅100	210	28	90	∅28	740	1010	655	820	1570	140	330	380

Frame T2C	B5 Flange Mounting						
	N	M	P	S	T	R	
180M/L	250	300	350	4-∅19	5	0	
200L	300	350	400	4-∅19	5	0	
225S	350	400	450	8-∅19	5	0	
225M	2 Pole	350	400	450	8-∅19	5	0
	4,6 Pole	350	400	450	8-∅19	5	0
250M	2 Pole	450	500	550	8-∅19	5	0
	4,6 Pole	450	500	550	8-∅19	5	0
280S/M	2 Pole	450	500	550	8-∅19	5	0
	4,6 Pole	450	500	550	8-∅19	5	0
355M/L	2 Pole	550	600	660	8-∅24	6	0



For Dimensions of Motors below 0.75 kW please contact your local sales office.

Auxiliary Fans

All frame sizes can be supplied with cooling system IC416 (forced ventilation). In this case a suitable fan is fitted inside the fan cover and suitably reinforced. We always recommend forced ventilation on motors used below 25 Hz or above 75 Hz. Consequently the ventilation is independant of the rotation speed of the motor itself.

Frame Size	Three Phase Supply Voltage [VAC]	Supply Frequency [Hz]	Input Power [W]	Single Phase Supply Voltage [VAC]	Supply Frequency [Hz]	Input Power [W]	Overall length L (increasing) [mm]
63	230/400	50	20	230	50	17	92
71	230/400	50	25	230	50	33	92
80	230/400	50	29	230	50	35	98
90	230/400	50	32	230	50	45	97
100	230/400	50	58	230	50	30	103
112	230/400	50	69	230	50	35	93
132	230/400	50	52	230	50	32	109
160	230/400	50	70	230	50	50	145
180	230/400	50	85	230	50	47	130
200	230/400	50	105	230	50	49	140
225	230/400	50	105	230	50	70	160
250	230/400	50	115	230	50	126	167
280	230/400	50	180	230	50	149	175
315	230/400	50	480	230	50	-	205
355	230/400	50	400	230	50	-	205

When an encoder is mounted with the ventilation option, dimension L does not change and remains the same as the motor with independant ventilation.

Order Code

MR Series Motors

	1	2	3	4	5	6	7	8	9	10	11
Order example	MR	2P	00018	1	B	R	1	T	1	1	0000

1	Type Of Motor (mandatory field)
MR	Round Frame Motor
2	Motor Type
2P	2 Pole
4P	4 Pole
6P	6 Pole
3	Motor Rating
00009	0.09 kW (6 Pole only)
00012	0.12 kW (not available as 2 Pole)
00018	0.18 kW
00025	0.25 kW
00037	0.37 kW
00055	0.55 kW
00075	0.75 kW
00110	1.1 kW
00150	1.5 kW
00220	2.2 kW
00300	3 kW
00400	4 kW
00550	5.5 kW
00750	7.5 kW
01100	11 kW
01500	15 kW
01850	18.5 kW
02200	22 kW
03000	30 kW
03700	37 kW
04500	45 kW
05500	55 kW
07500	75 kW
09000	90 kW
11000	110 kW
13200	132 kW
16000	160 kW
20000	200 kW
22000	220 kW
25000	250 kW
28000	280 kW (not available as 6 Pole)
31500	315 kW (not available as 6 Pole)

4	Mounting
1	Foot Mounting (B3)
2	Flange Mounting (B5)
3	Foot & Flange Mounting (B35)
5	Brake
0	Not Fitted
B	Brake Fitted
H	Hand Brake Fitted
6	Bearings/Rollers
B	Bearings
R	Rollers
7	Force Ventilation Fan
0	None
1	Single Phase
2	Three Phase
8	Protection (mandatory field)
T	Thermistors
9	Feedback Device
0	None
1	2048 ppr Encoder
10	IP Rating (mandatory field)
1	IP55
11	Special Options
0000	None