
M 2QA Cast iron motors - totally enclosed squirrel cage three phase motors
Lubrication

Motor sizes 71-225 are fitted with bearings that are regreased for life. For sizes 250-315 are equipped with bearing that are regreased via grease nipples.

Insulation

Phase insulation and generous electrical dimensions give the motor a high overload capacity (suitable for frequency converter drive).

Endshields, flanges

The enclosed and different variants of flanges are of cast iron.

Bearings

The motor sizes 71-132 are fitted with enclosed 200T bearings as standard. The frame sizes 160-225 are fitted with enclosed 22 bearing as standard. Sizes 250-315 have regreaseable bearings as standard. Shallow design secure high load capacity and silent and clean run.

Terminal box

The standard terminal box of a cast iron type quick and easy to connect. The terminal box of motor sizes 71-132 can be turned 45/90 degrees and for sizes 160-315 it is possible to turn the terminal box 2x180 degrees. As standard the terminal box is on top of the motor but it is also possible to have it on the side or on either right or left hand side at customer's request.

Rotor winding

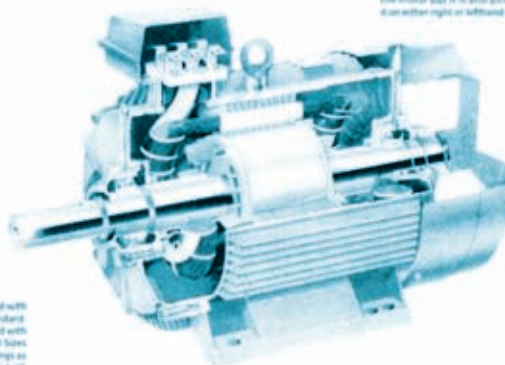
The rotor winding is made of pressed sheet aluminium, a design that provides high starting capacity and low noise level.

Low noise level

The high efficiency of the motor means that a quieter operation can be used.

Corrosion protection

Effective corrosion protection means that the motor can be used in all environments.


Stator

The stator is made of cast iron including feet, which make the motor mechanically very strong and robust. Integrally cast iron feet allow a very rigid mounting and minimal vibration.

Designation :

The designation used for the degree of protection consists of the letters IP followed by two characteristic numerals signifying conformity with the conditions stated in the table.

Designation	1st Numeral	2nd Numeral
IP44	Protection against contact with live or moving parts by tools, wires or other objects of thickness greater than 1 mm. Protection against the ingress of solid foreign bodies with a diameter greater than 1 mm.	Water splashed against the machine from any direction shall have no harmful effect
IP55	Complete protection against contact with live or moving parts. Protection against harmful deposits of dust is not totally prevented, but does not accumulate in an amount sufficient to impair operation of the machine.	Water projected by a nozzle against the machine from any direction shall have no harmful effect
IP56		Machine protected against conditions on ship's deck

Mounting Arrangement :

The mounting arrangement of the motors comply with IEC34-7 Recommendation are four basic arrangements show as the following tables and figures.

Fundamental Arrangement	B3					
Mounting Arrangement	B3	B6	B7	B8	V5	V6
Diagram						
Range of manufacture (frame size)	63-315	63-150				

Fundamental Arrangement	B5			B35		
Mounting Arrangement	B5	V1	V3	B35	V15	V36
Diagram						
Range of manufacture (frame size)	63-280	63-315	63-160	63-315	63-160	

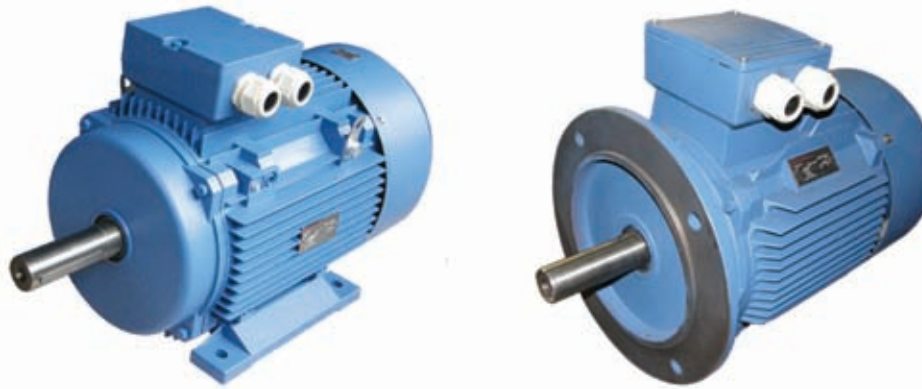
Fundamental Arrangement	Small flange type		
Mounting Arrangement	B14	B34	V16
Diagram			
Range of manufacture (frame size)	53-112		

Bearing size

Frame Size	Poles	Drive End	Non-Drive End
63	2~8	62012ZC3	62012ZC3
71	2~8	62022ZC3	62022ZC3
80	2~8	62042ZC3	62042ZC3
90	2~8	62052ZC3	62052ZC3
100	2~8	62062ZC3	62062ZC3
112	2~8	63062ZC3	63062ZC3
132	2~8	63082ZC3	63082ZC3
160	2	63092ZC3	63092ZC3
	4~8		
180	2	6311C3	6311C3
	4~8		
200	2	6312C3	6312C3
	4~8		
225	2	6313C3	6313C3
	4~8		
250	2	6314C3	6314C3
	4~8		
280	2	6314C3	6314C3
	4~8	6317C3	6317C3
315	2	6317C3	6317C3
	4~8	NU319C3	6319C3
355	2	6319C3	6319C3
	4~8	NU322C3	6322C3

Technical Data

Output Kw	HP	Type	Amps	Speed r/min	Eff. %	P.E.	RT N.m	LRT RLT	BDT RLT	LRA RLT	Noise Lw dB(A)	Weight Kg
380V 50Hz 2-Pole												
0.18	0.25	631-2	0.5	2800	65.0	0.80	0.61	2.2	2.2	5.5	61	14
0.25	0.33	632-2	0.7	2800	68.0	0.81	0.96	2.2	2.2	5.5	61	14.5
0.37	0.50	711-2	1.0	2800	70.0	0.81	1.26	2.2	2.2	6.1	64	15
0.55	0.75	712-2	1.4	2800	73.0	0.82	1.88	2.2	2.3	6.1	64	15.5
0.75	1.0	801-2	1.8	2825	75.0	0.83	2.54	2.2	2.3	6.1	67	16.5
1.1	1.5	802-2	2.6	2825	77.0	0.84	3.72	2.2	2.3	7.0	67	17.5
1.5	2.0	90S-2	3.4	2840	79.0	0.84	5.04	2.2	2.3	7.0	72	21
2.2	3.0	90L-2	4.9	2840	81.0	0.85	7.40	2.2	2.3	7.0	72	25
3	4.0	100L-2	6.3	2880	83.0	0.87	9.95	2.2	2.3	7.5	76	33
4	5.5	112M-2	8.1	2890	85.0	0.88	13.22	2.2	2.3	7.5	77	41
5.5	7.5	132S1-2	11.0	2900	86.0	0.88	18.11	2.2	2.3	7.5	80	63
7.5	10.0	132S2-2	14.9	2900	87.0	0.88	24.70	2.2	2.3	7.5	80	70
11	15	160M1-2	21.3	2930	88.0	0.89	35.85	2.2	2.3	7.5	86	110
15	20	160M2-2	28.8	2930	89.0	0.89	48.89	2.2	2.3	7.5	86	120
18.5	25	160L-2	34.7	2930	90.0	0.90	60.30	2.2	2.3	7.5	86	135
22	30	180M-2	41.0	2940	90.5	0.90	71.46	2.0	2.3	7.5	89	165
30	40	200L1-2	55.5	2950	91.2	0.90	97.12	2.0	2.3	7.5	92	218
37	50	200L2-2	67.9	2950	92.0	0.90	119.78	2.0	2.3	7.5	92	230
45	60	225M-2	82.3	2970	92.3	0.90	144.40	2.0	2.3	7.5	92	280
55	75	250M-2	100.4	2970	92.5	0.90	176.85	2.0	2.3	7.5	93	365
75	100	280S-2	134.4	2970	93.2	0.91	241.16	2.0	2.3	7.5	94	495
90	125	280M-2	160.2	2970	93.8	0.91	289.39	2.0	2.3	7.5	94	656
110	150	315S-2	195.4	2980	94.0	0.91	352.51	1.8	2.2	7.1	96	890
132	180	315M-2	233.2	2980	94.5	0.91	423.02	1.8	2.2	7.1	96	980
160	220	315L1-2	279.3	2980	94.6	0.92	512.75	1.8	2.2	7.1	99	1055
200	270	315L2-2	348.4	2980	94.8	0.92	640.95	1.8	2.2	7.1	99	1110
250	340	355M-2	411	2980	95	0.92	799.83	1.8	2.2	7.1	99	1900
315	430	355L-2	517	2980	95.2	0.92	1007.90	1.8	2.2	7.1	99	2300
380V 50Hz 4-Pole												
0.12	0.18	631-4	0.4	1400	57.0	0.72	0.82	2.1	2.2	4.4	52	13
0.18	0.25	632-4	0.6	1400	60.0	0.73	1.23	2.1	2.2	4.4	52	13.5
0.25	0.37	711-4	0.8	1400	65.5	0.74	1.71	2.1	2.2	5.2	55	14
0.37	0.50	712-4	1.1	1400	67.0	0.75	2.54	2.1	2.2	5.2	55	14.5
0.55	0.75	801-4	1.6	1390	71.0	0.75	3.78	2.4	2.3	5.2	58	15
0.75	1	802-4	2.0	1390	73.0	0.77	5.15	2.4	2.3	6.0	58	16
1.1	1.5	90S-4	2.9	1400	75.0	0.77	7.50	2.3	2.3	6.0	61	23
1.5	2	90L-4	3.7	1400	78.0	0.79	10.23	2.3	2.3	6.0	61	25
2.2	3	100L1-4	5.2	1420	80.0	0.81	14.80	2.3	2.3	7.0	64	33
3	4	100L2-4	6.8	1420	82.0	0.82	20.18	2.3	2.3	7.0	64	35
4	5.5	112M-4	8.8	1440	84.0	0.82	26.53	2.3	2.3	7.0	65	41



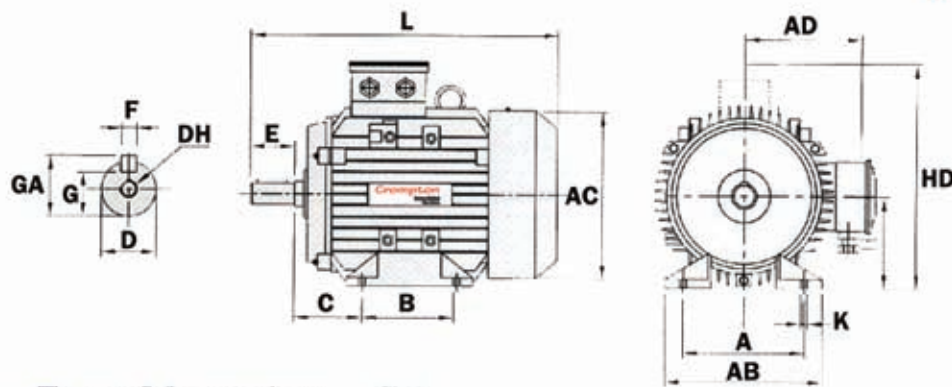
Technical Data

Output Kw	HP	Type	Amps	Speed r/min	Eff. %	P.E.	RT N.m	LRT RLT	BDT RLT	LRA RLT	Noise Lw dB(A)	Weight Kg
380V 50Hz 4-Pole												
5.5	7.5	132S-4	11.8	1440	85.0	0.83	36.48	2.3	2.3	7.0	71	65
7.5	10	132M-4	15.6	1440	87.0	0.84	49.74	2.3	2.3	7.0	71	76
11	15	160M-4	22.3	1460	88.0	0.85	71.59	2.2	2.3	7.0	75	118
15	20	160L-4	30.1	1460	89.0	0.85	98.12	2.2	2.3	7.5	75	132
18.5	25	180M-4	36.5	1470	90.5	0.85	120.19	2.2	2.3	7.5	76	164
22	30	180L-4	43.2	1470	91.0	0.85	142.93	2.2	2.3	7.5	76	182
30	40	200L-4	57.6	1480	92.0	0.86	160.96	2.2	2.3	7.2	79	245
37	50	225S-4	69.9	1480	92.5	0.87	198.51	2.2	2.3	7.2	81	258
45	60	225M-4	84.7	1480	92.8	0.87	290.37	2.2	2.3	7.2	81	290
55	75	250M-4	103.3	1480	93.0	0.87	354.90	2.2	2.3	7.2	83	388
75	100	280S-4	109.3	1480	93.8	0.87	483.90	2.2	2.3	7.2	86	510
90	125	280M-4	166.9	1485	94.2	0.87	578.79	2.2	2.3	7.2	86	606
110	150	315S-4	201.0	1485	94.5	0.88	707.41	2.1	2.2	6.9	93	910
132	180	315M-4	240.4	1485	94.8	0.88	848.89	2.1	2.2	6.9	93	1000
160	220	315L1-4	287.8	1485	94.9	0.89	1028.96	2.1	2.2	6.9	97	1055
200	270	315L2-4	359.4	1485	95.0	0.89	1286.20	2.1	2.2	6.9	97	1128
250	340	355M-4	421	1490	95	0.89	1602.35	2.1	2.2	6.9	97	1700
315	430	355L-4	528	1490	95.5	0.89	2018.96	2.1	2.2	6.9	97	1900
380V 50Hz 6-Pole												
0.18	0.25	711-6	0.8	900	56.0	0.66	1.91	1.9	2.0	4.0	52	14
0.25	0.37	712-6	0.9	900	59.0	0.68	2.65	1.9	2.0	4.0	52	14.5
0.37	0.5	801-6	1.3	900	62.0	0.70	3.93	1.9	2.0	4.7	54	15
0.55	0.75	802-6	1.8	900	65.0	0.72	5.84	1.9	2.1	4.7	54	16
0.75	1	90S-6	2.3	910	69.0	0.72	7.87	2.0	2.1	5.5	57	19
1.1	1.5	90L-6	3.2	910	72.0	0.73	11.54	2.0	2.1	5.5	57	22
1.5	2	100L-6	3.9	940	76.0	0.76	15.24	2.0	2.1	5.5	61	32
2.2	3	112M-6	5.6	940	79.0	0.76	22.35	2.1	2.1	6.5	65	41
3	4	132S-6	7.4	960	81.0	0.76	29.84	2.1	2.1	6.5	69	63
4	5.5	132M1-6	9.9	960	82.0	0.76	39.79	2.1	2.1	6.5	69	72
5.5	7.5	132M2-6	12.9	960	84.0	0.77	54.71	2.1	2.1	6.5	69	81
7.5	10	160M-6	16.9	970	86.0	0.78	73.84	2.0	2.1	6.5	73	118
11	15	160L-6	24.2	970	87.5	0.79	108.30	2.0	2.1	6.5	73	145
15	20	180L-6	31.6	970	89.0	0.81	147.68	2.1	2.1	7.0	73	178
18.5	25	200L1-6	38.6	970	90.0	0.81	182.14	2.1	2.1	7.0	76	200
22	30	200L2-6	44.7	970	90.0	0.83	216.60	2.1	2.1	7.0	76	228
30	40	225M-6	59.3	980	91.5	0.84	292.35	2.0	2.1	7.0	76	265
37	50	250M-6	71.1	980	92.0	0.86	360.56	2.1	2.1	7.0	78	370
45	60	280S-6	85.9	980	92.5	0.86	438.52	2.1	2.0	7.0	80	490
55	75	280M-6	104.7	980	92.8	0.86	535.97	2.1	2.0	7.0	80	540
75	100	315S-6	141.7	980	93.5	0.86	730.87	2.0	2.0	7.0	85	900



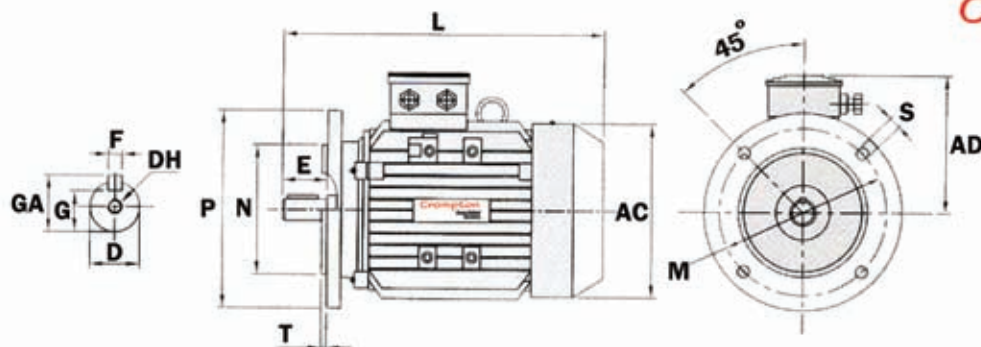
Technical Data

Output Kw	HP	Type	Amps	Speed r/min	Eff. %	P.E.	RT N.m	LRT RLT	BDT RLT	LRA RLT	Noise Lw dB(A)	Weight Kg
380V 50Hz 6-Pole												
90	125	315M-6	169.5	985	93.8	0.86	872.59	2.0	2.0	7.0	85	980
110	150	315L1-6	206.7	985	94.0	0.86	1066.50	2.0	2.0	6.7	85	1045
132	180	315L2-6	244.7	985	94.2	0.87	1279.80	2.0	2.0	6.7	85	1100
160	220	355M1-6	277	990	94.9	0.87	1543.43	1.9	2.0	6.7	85	1550
200	270	355M2-6	347	990	94.9	0.88	1929.29	1.9	2.0	6.7	85	1700
250	340	355L-6	432	990	95	0.88	2411.62	1.9	2.0	6.7	85	1800
380V 50Hz 8-Pole												
0.18	0.25	801-8	0.9	690	51.0	0.61	2.49	1.8	1.8	3.3	52	22
0.25	0.37	802-8	1.2	690	54.0	0.61	3.46	1.8	1.8	3.3	52	24
0.37	0.5	90S1-8	1.5	690	62.0	0.61	5.12	1.8	1.8	4.0	56	26
0.55	0.75	90L-8	2.2	690	63.0	0.61	7.61	1.8	1.8	4.0	56	28
0.75	1	100L1-8	2.4	700	71.0	0.67	10.23	1.8	1.8	4.0	59	30
1.1	1.5	100L2-8	3.3	700	73.0	0.67	15.00	1.8	1.8	5.0	59	32
1.5	2	112M-8	4.4	700	75.0	0.69	20.46	1.8	1.8	5.0	61	40
2.2	3	132S-8	6.0	710	78.0	0.68	29.59	1.8	1.8	6.0	64	64
3	4	132M-8	7.9	710	79.0	0.71	40.35	1.8	1.8	6.0	64	78
4	5.5	160M1-8	10.3	720	81.0	0.73	53.06	1.9	1.9	6.0	68	105
5.5	7.5	160M2-8	13.6	720	83.0	0.73	72.59	2.0	2.0	6.0	68	115
7.5	10	160L-8	17.8	720	85.5	0.74	99.50	2.0	2.0	6.0	68	145
11	15	180L-8	25.1	730	87.5	0.75	143.90	2.0	2.0	6.6	70	160
15	20	200L-8	34.1	730	88.0	0.76	196.23	2.0	2.0	6.6	73	228
18.5	25	225S-8	41.1	730	90.0	0.76	242.02	1.9	2.0	6.6	73	242
22	30	225M-8	47.5	730	90.5	0.76	287.81	1.9	2.0	6.6	73	265
30	40	250M-8	63.4	730	91.0	0.78	392.47	1.9	2.0	6.6	75	368
37	50	280S-8	77.8	730	91.5	0.79	484.04	1.9	2.0	6.6	76	472
45	60	280M-8	94.1	740	92.0	0.79	580.74	1.8	2.0	6.6	76	538
55	75	315S-8	111.2	740	92.8	0.81	709.80	1.8	2.0	6.6	82	900
75	100	315M-8	151.3	740	93.0	0.81	967.91	1.8	2.0	6.6	82	1000
90	125	315L1-8	177.8	740	93.8	0.82	1161.49	1.8	2.0	6.6	82	1055
110	150	315L2-8	216.8	740	94.0	0.82	1419.60	1.8	2.0	6.4	82	1118



Dimensions, Foot Mounting - B3

Frame Size	Poles	Mounting dimension											Overall dimension				
		A	B	C	D	DH	E	F	G	GA	H	K	AB	AC	AD	HD	L
63	2.4	100	80	40	11	M4X10	23	4	8.5	12.5	63	7	135	130	70	180	225
71	2.4,6	112	90	45	14	M5X12	30	5	11	16	71		150	145	80	195	250
80	2.4,6,8	125	100	50	19	M6X16	40	6	15.5	21.5	80	10	165	175	145	214	295
90S		140	100	56	24	M8X19	50	8	20	27	90		180	195	155	250	315
90L			125														340
100L		160	140	63	28	M10X22	60		24	31	100	12	205	215	180	270	385
112M		190	140	70				230			240		190	300	400		
132S		216	140	89	38	M12X28	80	10	33	41	132	15	270	275	210	345	470
132M			178														510
160M		254	210	108	42	M16X36	110	12	37	45	160	19	320	330	255	420	615
160L			254														670
180M		279	241	121	48	M16X36		14	42.5	51.5	180		200	24	355	380	280
180L			279				740										
200L		318	305	133	55	M20X42	110	16	49	59	200	19	395	420	305	505	770
225S		4.8	356	286	149		60	140	18	53	64						225
225M		2		311		55	M20X42	110	16	49	59		845				
	4.6,8	60	M20X42		18	53	64	250	490	510	370	615	910				
250M	2	406	349	168		65	M20X42							58	69	280	24
	4.6,8				75			M20X42	20	67.5	79.5	1035					
280S	2	457	368	190	65	M20X42	140	18	58	69	280	28	550	580	410	680	1035
	4.6,8																75
280M	2	457	419	190	65	M20X42	140	18	58	69	280	28	550	580	410	680	1035
	4.6,8																75
315S	2	508	406	216	65	M20X42	140	18	58	69	315	28	635	645	530	845	1160
	4.6,8																80
315M	2	508	457	216	65	M20X42	140	18	58	69	315	28	635	645	530	845	1190
	4.6,8																80
315L	2	508	508	216	65	M20X42	140	18	58	69	315	28	635	645	530	845	1190
	4.6,8																80
355M	2	610	560	254	75	M24X50	140	20	67.5	79.5	355	28	730	710	655	1010	1500
	4.6,8																95
355L	2	610	630	254	75	M24X50	140	20	67.5	79.5	355	28	730	710	655	1010	1500
	4.6,8																95



Dimensions, Flange Mounting - B5

Frame Size	Poles	Mounting dimension											Overall dimension				
		D	DH	E	F	G	GA	M	N	P	S	T	Flange holes	AC	AD	HF	L
63	2,4	11	M4X10	23	4	8.5	12.5	115	95	140	10	3	4	130	70	130	225
71	2,4,6	14	M5X12	30	5	11	16	130	110	160		145		80	145	250	
80	2,4,6,8	19	M6X16	40	6	15.5	21.5	165	130	200	12	3.5		175	145	185	295
90S		24	M8X19	50	8	20	27							195	155	195	315
90L								215	180	250	15	4					215
100L		28	M10X22	60		24	31							215	180	250	
112M								38	M12X28	80							10
132S		300	250	350	330	250	350							380	280	430	
132M								42	M16X36	110							12
160M		48	M16X36	14	42.5	51.5	350				300	400		470	385	615	
160L								55	M20X42							16	49
180M		60	140	18	53	64	400				350	450		510	370		
180L								65	M20X42	18						58	69
200L		75	M20X42	20	67.5	79.5	500				450	550		580	410		
225S	2							65	M20X42	140						18	58
225M		4,6,8	80	M20X42	170	22	71				85	740		680	800		
250M	2							65	M20X42	140						18	58
280S		4,6,8	80	M20X42	170	22	71				85	600		550	660		
280M	2							65	M20X42	140						18	58
315S		4,6,8	80	M20X42	170	22	71				85	600		550	660		
315M	2							65	M20X42	140						18	58
315L		4,6,8	80	M20X42	170	22	71				85	600		550	660		
355M	2							75	M24X50	140						20	67.5
355L		4,6,8	95	M24X50	170	25	86				100	740		680	800		