



Catalog

Low voltage
General performance
IE2 high efficiency motors

We provide motors and generators, services and expertise to save energy and improve customers' processes over the total lifecycle of our products, and beyond.



Ordering information

When placing an order, please state the following minimum data in the order, as in the example.

The product code of the motor is composed in accordance with the following example.

Motor type	M2BA 112 MB
Pole number	4
Mounting arrangement (IM-code)	IM B3 (IM 1001)
Rated output	4 kW
Product code	3GBA 112 212-ADE
Variant codes if needed	

Motor size

A	B	C	D, E, F														
M2BA	112 MB	3GBA 112 212	- ADE, 122, 451, etc.														
		<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 15px; text-align: center;">1</td> <td style="width: 15px; text-align: center;">2</td> <td style="width: 15px; text-align: center;">3</td> <td style="width: 15px; text-align: center;">4</td> <td style="width: 15px; text-align: center;">5</td> <td style="width: 15px; text-align: center;">6</td> <td style="width: 15px; text-align: center;">7</td> <td style="width: 15px; text-align: center;">8</td> <td style="width: 15px; text-align: center;">9</td> <td style="width: 15px; text-align: center;">10</td> <td style="width: 15px; text-align: center;">11</td> <td style="width: 15px; text-align: center;">12</td> <td style="width: 15px; text-align: center;">13</td> <td style="width: 15px; text-align: center;">14...</td> </tr> </table>	1	2	3	4	5	6	7	8	9	10	11	12	13	14...	
1	2	3	4	5	6	7	8	9	10	11	12	13	14...				
A Motor type		D Code for mounting arrangement	E Voltage and frequency code														
B Motor size			F Generation code followed by variant codes														
C Product code																	

Explanation of the product code

Positions 1 to 4

3GAA = Totally enclosed motor with aluminum stator frame
3GBA = Totally enclosed motor with cast iron frame

Position 4

Type of rotor
A = Squirrel cage rotor

Positions 5 and 6

IEC size

05 = 56	16 = 160
06 = 63	18 = 180
07 = 71	20 = 200
08 = 80	22 = 225
09 = 90	25 = 250
10 = 100	28 = 280
11 = 112	31 = 315
13 = 132	35 = 355

Position 7

Pole pairs
1 = 2 poles
2 = 4 poles
3 = 6 poles

Positions 8 to 10

Running number

Position 11

- (dash)

Position 12

Mounting arrangement

A = Foot-mounted motor
B = Flange-mounted motor. Large flange with clearance holes.
C = Flange-mounted motor. Small flange with tapped holes.
F = Foot- and flange-mounted motor. Special flange.
H = Foot- and flange-mounted motor. Large flange with clearance holes.
J = Foot- and flange-mounted motor. Small flange with tapped holes.
N = Flange-mounted (CI ring flange FF)
P = Foot- and flange-mounted motor (CI ring flange FF)

Position 13

Voltage and frequency

Single-speed motors

D 400 VΔ, 415 VΔ, 690 VY 50 Hz
S 230 VΔ, 400 VY, 415 VY 50 Hz*)

Position 14

Version A,B,C... = Generation code followed by variant codes

*) M2AA 200 is not available for voltages less than 380 VD

General performance cast iron motors

Technical data for totally enclosed squirrel cage three phase motors

IE2

IP 55 - IC 411 - Insulation class F, temperature rise class B
IE2 efficiency class according to IEC 60034-30; 2008

Output kW	Motor type	Product code	Speed r/min	Efficiency IEC 60034-2-1; 2007			Power factor cos φ	Current		Torque			Moment of inertia J = 1/4 GD ² kgm ²	Weight kg	Sound pressure level L _{PA} dB
				Full load 100%	3/4 load 75%	1/2 load 50%		I _N A	I _s / I _N	T _N Nm	T _I / T _N	T _b / T _N			
3000 r/min = 2 poles			400 V 50 Hz			GENELEC-design									
0.37	M2BA 71 MA	3GBA 071 211-••B	2660	69.2	73.5	73.7	0.80	0.96	3.9	1.32	2.2	2.3	0.00039	11	58
0.55	M2BA 71 MB	3GBA 071 212-••B	2680	73.2	77.3	79.3	0.85	1.27	4.3	1.95	2.4	2.5	0.00051	11	56
0.75	M2BA 80 MB	3GBA 081 212-••B	2895	80.6	79.9	76.2	0.74	1.81	7.7	2.4	4.2	4.2	0.001	16	57
1.1	M2BA 80 MC	3GBA 081 213-••B	2870	81.8	82.4	80.2	0.80	2.4	7.5	3.6	2.7	3.5	0.0012	18	60
1.5	M2BA 90 SLB	3GBA 091 212-••B	2900	82.2	84.1	82.7	0.86	3	7.5	4.9	2.5	2.6	0.00254	24	69
2.2	M2BA 90 SLC	3GBA 091 213-••B	2885	84.7	86.7	85.7	0.87	4.3	6.8	7.2	1.9	2.5	0.0028	25	64
3	M2BA 100 LB	3GBA 101 212-••B	2925	85.2	84.9	82.8	0.86	5.9	9.1	9.7	3.1	3.5	0.00528	36	68
4	M2BA 112 MB	3GBA 111 212-••B	2895	86.1	87.0	86.6	0.86	7.7	8.1	13.1	2.9	3.2	0.00575	37	70
5.5	M2BA 132 SMB	3GBA 131 212-••B	2865	88.0	88.6	88.0	0.86	10.4	7.0	18.3	2.0	2.7	0.01275	68	70
7.5	M2BA 132 SMC	3GBA 131 214-••B	2890	88.6	88.8	87.5	0.84	14.5	7.3	24.7	2.0	3.6	0.01359	70	70
11	M2BA 160 MLA	3GBA 161 044-••G	2920	89.8	91.0	90.7	0.89	19.8	5.9	35.9	1.6	2.7	0.038	119	69
15	M2BA 160 MLB	3GBA 161 045-••G	2934	91.1	92.2	92.0	0.90	26.4	7.0	48.8	2.5	3.1	0.048	133	69
18.5	M2BA 160 MLC	3GBA 161 046-••G	2934	91.0	91.8	91.2	0.89	32.9	7.3	60.2	2.6	3.2	0.052	141	73
22	M2BA 180 MLA	3GBA 181 042-••G	2933	91.5	92.8	92.8	0.91	38.1	7.8	71.6	3.0	3.5	0.062	173	73
30	M2BA 200 MLA	3GBA 201 043-••G	2950	92.2	92.9	92.3	0.89	52.7	7.8	97.1	2.7	3.3	0.092	214	75
37	M2BA 200 MLB	3GBA 201 044-••G	2947	92.5	93.0	92.5	0.91	63.4	7.7	119	2.8	3.6	0.116	240	75
45	M2BA 225 SMA	3GBA 221 042-••G	2956	93.0	93.5	92.9	0.90	77.6	8.1	145	3.1	3.4	0.197	297	75
55	M2BA 250 SMA	3GBA 251 042-••G	2960	93.9	94.3	93.6	0.90	93.9	6.8	177	2.6	2.5	0.275	339	75
75	M2BAT 280 SMA	3GBA 281 210-••E	2977	94.0	93.7	92.3	0.88	130	7.6	240	2.1	3.0	0.8	590	78
90	M2BAT 280 SMB	3GBA 281 220-••E	2976	94.3	94.2	93.1	0.90	153	7.4	288	2.1	2.9	0.9	630	78
110	M2BAT 315 SMA	3GBA 311 210-••E	2982	94.6	94.1	92.7	0.86	195	7.6	352	2.0	3.0	1.2	860	83
132	M2BAT 315 SMB	3GBA 311 220-••E	2982	94.9	94.6	93.4	0.88	228	7.4	422	2.2	3.0	1.4	920	83
160	M2BAT 315 SMC	3GBA 311 230-••E	2981	95.2	95.0	94.1	0.89	272	7.5	512	2.3	3.0	1.7	1010	83
200	M2BAT 315 MLA	3GBA 311 410-••E	2980	95.3	95.2	94.4	0.9	336	7.7	640	2.6	3.0	2.1	1170	83
250	M2BAT 355 S	3GBA 351 100-••E	2983	95.4	95.2	94.3	0.89	424	6.8	800	1.5	2.8	2.7	1500	83
3000 r/min = 2 poles			400 V 50 Hz			High-output design									
110 ¹⁾	M2BAT 280 SMA	3GBA 281 230-••E	2978	94.7	94.6	93.8	0.90	186	7.9	352	2.4	3.0	1.15	690	78

¹⁾ Temperature rise class F

The two bullets in the product code indicate choice of mounting arrangements, voltage and frequency code (see ordering information page).

I_s / I_N = Starting current
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T_b / T_N = Breakdown torque

Efficiency values are given according to IEC 60034-2-1; 2007.

Please note that the values are not comparable without knowing the testing method.

ABB has calculated the efficiency values according to indirect method, stray load losses (additional losses) determined from measuring.

IE-class concerns motors from 0.75 kW to 375 kW.

General performance cast iron motors

Technical data for totally enclosed squirrel cage three phase motors

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IP 55 - IC 411 - Insulation class F, temperature rise class B
IE2 efficiency class according to IEC 60034-30; 2008

Output kW	Motor type	Product code	Speed r/min	Efficiency IEC 60034-2-1; 2007			Power factor cos φ	Current		Torque			Moment of inertia J = 1/4 GD ² kgm ²	Weight kg	Sound pressure level L _{PA} dB
				Full load 100%	3/4 load 75%	1/2 load 50%		I _N A	I _s /I _N	T _N Nm	T _l /T _N	T _b /T _N			
1500 r/min = 4 poles			400 V 50 Hz			CENELEC-design									
0.25	M2BA 71 MA	3GBA 072 211-••B	1365	68.3	70.8	69.7	0.81	0.65	3.5	1.74	1.9	2.0	0.00074	10	45
0.37	M2BA 71 MB	3GBA 072 212-••B	1380	72.4	74.5	74.6	0.83	0.88	4.0	2.5	1.6	2.1	0.00088	11	45
0.55	M2BA 80 MA	3GBA 082 211-••B	1415	74.5	73.8	70.0	0.73	1.45	5.0	3.7	2.0	2.8	0.00144	15	45
0.75	M2BA 80 MD	3GBA 082 214-••B	1430	81.0	80.7	77.3	0.73	1.83	5.3	5	2.7	3.2	0.00205	17	50
1.1	M2BA 90 SLB	3GBA 092 212-••B	1435	83.6	84.5	83.2	0.80	2.3	6.1	7.3	2.7	3.4	0.0044	25	50
1.5	M2BA 90 SLD	3GBA 092 215-••B	1430	84.3	85.6	84.7	0.83	3	6.3	10	2.7	3.4	0.0053	27	56
2.2	M2BA 100 LC	3GBA 102 213-••B	1450	85.9	85.1	83.4	0.78	4.7	6.4	14.4	2.9	3.6	0.00948	36	56
3	M2BA 100 LD	3GBA 102 214-••B	1450	86.8	87.0	85.4	0.79	6.3	7.7	19.7	2.9	3.4	0.011	38	58
4	M2BA 112 MB	3GBA 112 212-••B	1440	86.8	87.7	87.3	0.81	8.2	7.0	26.5	2.5	2.9	0.0125	44	59
5.5	M2BA 132 SMB	3GBA 132 212-••B	1460	89.0	89.8	88.9	0.80	11.1	5.9	35.9	1.7	2.4	0.03282	70	67
7.5	M2BA 132 SMC	3GBA 132 213-••B	1450	89.3	90.1	90.0	0.81	14.9	5.6	49.3	1.6	2.4	0.03659	73	64
11	M2BA 160 MLA	3GBA 162 043-••G	1463	90.2	91.4	91.2	0.85	20.7	7.1	71.7	2.6	3.0	0.084	134	65
15	M2BA 160 MLB	3GBA 162 044-••G	1463	90.6	91.8	91.6	0.84	28.4	7.2	97.9	2.7	3.6	0.095	141	65
18.5	M2BA 180 MLA	3GBA 182 043-••G	1464	91.2	92.3	92.1	0.84	34.8	7.9	120	3.1	3.6	0.112	175	62
22	M2BA 180 MLB	3GBA 182 044-••G	1465	91.6	92.5	92.1	0.83	41.7	8.0	143	3.0	3.8	0.13	187	65
30	¹⁾ M2BA 200 MLA	3GBA 202 042-••G	1474	92.3	93.4	93.5	0.83	56.5	7.3	194	2.7	2.9	0.217	241	62
37	M2BA 225 SMA	3GBA 222 043-••G	1479	93.0	93.9	93.8	0.84	68.3	7.2	238	2.6	2.9	0.309	293	68
45	M2BA 225 SMB	3GBA 222 044-••G	1479	93.2	94.0	93.7	0.83	83.9	7.4	290	2.4	3.1	0.368	318	68
55	M2BA 250 SMA	3GBA 252 042-••G	1478	93.5	94.2	93.7	0.85	99.8	7.3	355	2.8	3.0	0.476	342	70
75	M2BAT 280 SMA	3GBA 282 210-••E	1484	94.2	94.2	93.5	0.85	135	6.9	482	2.5	2.8	1.25	590	71
90	M2BAT 280 SMB	3GBA 282 220-••E	1483	94.4	94.6	94.1	0.86	160	7.2	579	2.5	2.7	1.5	630	71
110	M2BAT 315 SMA	3GBA 312 210-••E	1487	94.7	94.6	93.8	0.86	194	7.2	706	2.0	2.5	2.3	870	78
132	M2BAT 315 SMB	3GBA 312 220-••E	1487	95.0	95.0	94.3	0.86	233	7.1	847	2.3	2.7	2.6	925	78
160	M2BAT 315 SMC	3GBA 312 230-••E	1487	95.2	95.3	94.6	0.85	285	7.2	1027	2.4	2.9	2.9	970	78
200	M2BAT 315 MLA	3GBA 312 410-••E	1486	95.3	95.4	94.9	0.86	352	7.0	1285	2.3	2.8	3.5	1080	78
250	M2BAT 355 S	3GBA 352 100-••E	1488	95.2	95.2	94.4	0.85	445	6.7	1604	2.0	2.6	5.4	1500	82
1500 r/min = 4 poles			400 V 50 Hz			High-output design									
110	M2BAT 280 SMC	3GBA 282 230-••E	1485	94.9	95.1	94.6	0.86	194	7.6	707	3.0	3.0	1.85	690	71

¹⁾ Temperature rise class F

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IE-class concerns motors from 0.75 kW to 375 kW.

General performance cast iron motors

Technical data for totally enclosed squirrel cage three phase motors

IE2

IP 55 - IC 411 - Insulation class F, temperature rise class B
IE2 efficiency class according to IEC 60034-30; 2008

Output kW	Motor type	Product code	Speed r/min	Efficiency IEC 60034-2-1; 2007			Power factor cos φ	Current		Torque			Moment of inertia J = 1/4 GD ² kgm ²	Weight kg	Sound pressure level L _{PA} dB
				Full load 100%	3/4 load 75%	1/2 load 50%		I _N A	I _s / I _N	T _N Nm	T _I / T _N	T _b / T _N			
1000 r/min = 6 poles			400 V 50 Hz			CENELEC-design									
0.18	M2BA 71 MA	3GBA 073 211-••B	900	63.7	63.8	59.0	0.71	0.57	3.1	1.9	2.0	2.1	0.00089	10	42
0.25	M2BA 71 MB	3GBA 073 212-••B	895	67.2	67.2	62.6	0.69	0.77	3.4	2.6	2.2	2.3	0.0011	12	42
0.37	M2BA 80 MA	3GBA 083 211-••B	915	71.0	71.1	67.0	0.69	1.09	3.6	3.8	1.8	2.2	0.00187	15	47
0.55	M2BA 80 MB	3GBA 083 212-••B	920	73.9	75.0	72.8	0.71	1.51	3.8	5.7	1.8	2.2	0.00239	17	47
0.75	M2BA 90 SLC	3GBA 093 213-••B	960	78.7	77.3	72.5	0.58	2.3	4.5	7.4	2.3	3.1	0.00491	25	44
1.1	M2BA 90 SLE	3GBA 093 214-••B	930	78.2	78.6	76.4	0.66	3	4.0	11.2	1.9	2.3	0.0054	28	44
1.5	M2BA 100 L	3GBA 103 212-••B	950	82.2	82.9	81.6	0.69	3.8	4.0	15	1.5	1.1	0.00873	37	49
2.2	M2BA 112 MB	3GBA 113 212-••B	950	82.5	83.8	81.7	0.69	5.5	4.4	22.1	1.7	2.3	0.0125	44	66
3	M2BA 132 SMB	3GBA 133 211-••B	975	85.3	84.5	81.3	0.63	8	5.5	29.3	1.8	2.9	0.03336	69	57
4	M2BA 132 SMB	3GBA 133 212-••B	960	84.9	85.3	83.9	0.68	10	4.6	39.7	1.5	2.2	0.03336	69	57
5.5	M2BA 132 SMF	3GBA 133 214-••B	965	86.1	86.6	85.5	0.71	12.9	5.1	54.4	2.0	2.3	0.0487	86	57
7.5	M2BA 160 MLA	3GBA 163 043-••G	971	87.6	89.1	89.0	0.79	15.6	7.1	73.7	1.9	3.3	0.089	141	61
11	M2BA 160 MLB	3GBA 163 044-••G	970	88.7	90.1	89.9	0.79	22.6	7.6	108	2.1	3.3	0.119	157	61
15	M2BA 180 MLA	3GBA 183 042-••G	971	89.7	90.8	90.5	0.76	31.7	7.8	147	2.5	4.1	0.137	187	61
18.5	M2BA 200 MLA	3GBA 203 043-••G	975	90.7	92.0	91.9	0.79	37.2	6.2	161	1.7	3.2	0.198	228	65
22	M2BA 200 MLB	3GBA 203 044-••G	974	91.0	92.4	92.5	0.79	44.1	5.8	215	1.8	3.0	0.222	241	65
30	M2BA 225 SMA	3GBA 223 042-••G	985	92.2	93.1	93.1	0.83	56.5	6.9	290	2.4	2.8	0.532	318	65
37	M2BA 250 SMA	3GBA 253 042-••G	985	92.4	93.2	93.0	0.83	69.6	6.6	358	2.4	2.8	0.718	336	66
45	M2BAT 280 SMA	3GBA 283 210-••E	990	92.8	93.0	92.1	0.84	83.3	7.0	434	2.5	2.5	1.85	570	71
55	M2BAT 280 SMB	3GBA 283 220-••E	990	93.3	93.5	92.9	0.84	101	7.0	530	2.7	2.6	2.2	610	71
75	M2BAT 315 SMA	3GBA 313 210-••E	992	94.0	94.0	93.0	0.81	142	7.0	721	2.1	2.7	3.2	820	75
90	M2BAT 315 SMB	3GBA 313 220-••E	992	94.3	94.4	93.6	0.83	165	7.2	866	2.1	2.7	4.1	910	75
110	M2BAT 315 SMC	3GBA 313 230-••E	992	94.7	94.8	94.2	0.83	201	7.0	1058	2.2	2.7	4.9	980	75
132	M2BAT 315 MLA	3GBA 313 410-••E	992	94.9	95.0	94.4	0.83	241	7.2	1270	2.4	2.7	5.8	1100	75
160	M2BAT 355 S	3GBA 353 100-••E	992	94.9	95.0	94.4	0.83	293	6.2	1540	2.1	2.3	7.3	1500	77
1000 r/min = 6 poles			400 V 50 Hz			High-output design									
75	M2BAT 280 SMC	3GBA 283 230-••E	990	93.8	93.9	93.3	0.84	137	7.3	723	2.8	2.7	2.85	690	71

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General performance IE2 cast iron motors – variant codes

Code ¹⁾	Variant code	M2BA										M2BAT		
		80	90	100	112	132	160	180	200	225	250	280	315	355
Bearing and lubrication														
037	Roller bearing at D-end.	NA	NA	NA	NA	NA	M	M	M	M	M	M	M	M
040	Heat resistant grease.	M	M	M	M	M	M	M	M	M	M	M	M	M
043	SPM compatible nipples	M	M	M	M	M	M	M	M	M	M	M	M	M
188	63-series bearings.	M	M	M	M	M	M	M	M	M	M	S	S	S
Branch standard design														
178	Stainless steel / acid proof bolts.	M	M	M	M	M	M	M	M	M	M	M	M	M
Cooling system														
068	Light alloy metal fan	M	M	M	M	M	M	M	M	M	M	M	M	M
Documentation														
141	Binding dimension drawing.	M	M	M	M	M	M	M	M	M	M	M	M	M
Drain holes														
065	Plugged existing drain holes.	M	M	M	M	M	M	M	M	M	M	M	M	M
Earthing bolt														
067	External earthing bolt.	M	M	M	M	M	M	M	M	M	M	S	S	S
Heating elements														
450	Heating element, 100-120V.	M	M	M	M	M	M	M	M	M	M	M	M	M
451	Heating element, 200-240V.	M	M	M	M	M	M	M	M	M	M	M	M	M
Mounting arrangements														
008	IM 2101 foot/flange mounted, IEC flange, from IM 1001 (B34 from B3).	M	M	M	M	M	NA	NA	NA	NA	NA	NA	NA	NA
009	IM 2001 foot/flange mounted, IEC flange, from IM 1001 (B35 from B3).	M	M	M	M	M	M	M	M	M	M	M	M	M
047	IM 3601 flange mounted, IEC flange, from IM 3001 (B14 from B5).	M	M	M	M	M	NA	NA	NA	NA	NA	NA	NA	NA
048	IM 3001 flange mounted, IEC flange, from IM 3601 (B5 from B14).	M	M	M	M	M	NA	NA	NA	NA	NA	NA	NA	NA
066	Modified for specified mounting position differing from IM B3 (1001), IM B5 (3001), B14 (3601), IM B35 (2001) & IM B34 (2101).	M	M	M	M	M	M	M	M	M	M	M	M	M
Painting														
114	Special paint colour, standard grade.	M	M	M	M	M	M	M	M	M	M	M	M	M
Protection														
005	Metal protective roof, vertical motor, shaft down.	M	M	M	M	M	M	M	M	M	M	M	M	M
072	Radial seal at D-end.	M	M	M	M	M	M	M	M	M	M	M	M	M
Rating and instruction plate														
095	Restamping output (maintained voltage, frequency), intermittent duty.	M	M	M	M	M	M	M	M	M	M	M	M	M
135	Mounting of additional identification plate, stainless.	M	M	M	M	M	M	M	M	M	M	M	M	M
161	Additional rating plate delivered loose.	M	M	M	M	M	M	M	M	M	M	M	M	M
Restamping														
002	Restamping voltage, frequency and output, continuous duty.	M	M	M	M	M	M	M	M	M	M	M	M	M
Standards and regulations														
331	IE1 motor not for sale for use in EU	M	M	M	M	M	M	M	M	M	M	M	M	M

¹⁾ Certain variant codes cannot be used simultaneously.

Following variant codes are available, more information from ABB
M = modifications
NA = not applicable
S = Standard

Code ¹⁾	Variant code	M2BA										M2BAT		
		80	90	100	112	132	160	180	200	225	250	280	315	355
Stator winding temperature sensors														
122	Bimetal detectors, break type (NCC), (3 in series), 150°C, in stator winding.	M	M	M	M	M	M	M	M	M	M	M	M	M
435	PTC - thermistors (3 in series), 130°C, in stator winding.	M	M	M	M	M	M	M	M	M	M	M	M	M
436	PTC - thermistors (3 in series), 150°C, in stator winding.	S	S	S	S	S	S	S	S	S	S	S	S	S
441	PTC - thermistors (3 in series, 130°C & 3 in series, 150°C), in stator winding.	M	M	M	M	M	M	M	M	M	M	M	M	M
445	Pt-100 2-wire in stator winding, 1 per phase	M	M	M	M	M	M	M	M	M	M	M	M	M
230	Standard metal cable glands	M	M	M	M	M	M	M	M	M	M	M	M	M
447	Top mounted separate terminal box for monitoring equipment.	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	M	M	M
Testing														
145	Type test report from a catalogue motor, 400V 50Hz.	M	M	M	M	M	M	M	M	M	M	M	M	M
148	Routine test report.	M	M	M	M	M	M	M	M	M	M	M	M	M
Variable speed drive														
701	Insulated bearing at N-end	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	M	M	M
704	EMC cable gland.	M	M	M	M	M	M	M	M	M	M	M	M	M

1) Certain variant codes cannot be used simultaneously.

Following variant codes are available,
more information from ABB

M = modifications

NA = not applicable

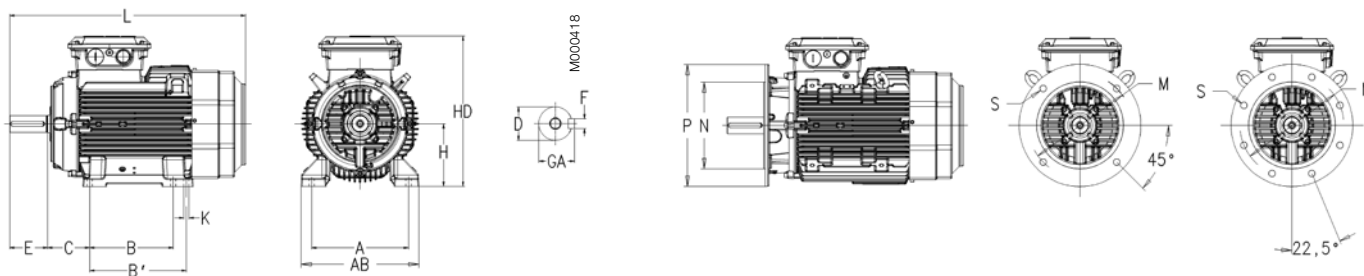
S = Standard

General performance IE2 high efficiency motors Sizes 71 - 355

Dimension drawings

Foot-mounted motor IM1001, B3

Flange-mounted motor IM 3001, B5



Motor size	IM 1001, IM B3 ja IM 3001, IM B5										IM 1001, IM B3				IM 3001, IM B5						
	D poles		GA poles		F poles		E poles		L max poles		A	B	B'	C	HD	K	H	M	N	P	S
	2	4-6	2	4-6	2	4-6	2	4-6	2	4-6											

General performance aluminum motors

Sizes 56 to 132 on request

M2AA	160	42	42	45	45	12	12	110	110	584	584 ¹⁾	254	210	254	108	370	14.5	160	300	250	350	19
	180	48	48	51.5	51.5	14	14	110	110	681	681	279	241	279	121	390	14.5	180	300	250	350	19
	200	55	55	59	59	16	16	110	110	726	726	318	267	305	133	425	18.5	200	350	300	400	19
	225	55	60	59	64	16	18	110	140	821	851	356	286	311	149	525 ²⁾	18	225	400	350	450	19
	250	60	65	64	69	18	18	140	140	880	880	406	311	349	168	572 ²⁾	22	250	500	450	550	19

General performance cast iron motors

M2BA	71	14	14	16	16	5	5	30	30	264	264	112	90	-	45	178	7	71	130	110	160	10
	80	19	19	21.5	21.5	6	6	40	40	321	321	125	100	-	50	195	10	80	165	130	200	12
	90	24	24	27	27	8	8	50	50	357	357	140	100	125	56	219	10	90	165	130	200	12
	100	28	28	31	31	8	8	60	60	381	381	160	140	-	63	247	12	100	215	180	250	15
	112	28	28	31	31	8	8	60	60	403	403	190	140	-	70	259	12	112	215	180	250	15
	132	38	38	41	41	10	10	80	80	533	533	216	140	170	89	300	12	132	265	230	300	15
	160	42	42	45	45	12	12	110	110	584	584 ³⁾	254	210	254	108	413	14.5	160	300	250	350	19
	180	48	48	51.5	51.5	14	14	110	110	681	681	279	241	279	121	433	14.5	180	300	250	350	19
	200	55	55	59	59	16	16	110	110	726	726	318	267	305	133	473 ⁴⁾	18.5	200	350	300	400	19
	225	55	60	59	64	16	18	110	140	821	851	356	286	311	149	539	18.5	225	400	350	450	19
	250	60	65	64	69	18	18	140	140	879	879	406	311	349	168	584	24	250	500	450	550	19
M2BAT	280 SM	65	75	69	79.5	18	20	140	140	1088	1088	457	368	419	190	745	24	280	500	450	550	18
	315 SM	65	80	69	85	18	22	140	170	1218	1248	508	406	457	216	840	30	315	600	550	660	23
	315 ML	65	90	69	95	18	25	140	170	1269	1299	508	457	508	216	840	30	315	600	550	660	23
	355 S	70	100	74.5	106	20	28	140	210	1344	1414	610	500	-	254	955	35	355	740	680	800	23

General performance cast iron motors

IM 3601, IM B14

Motor size	M	N	P	S
71	85	70	105	M6
80	100	80	120	M6
90	115	95	140	M8
100	130	110	160	M8
112	130	110	160	M8
132	165	130	200	M10

Tolerances

A, B	±0,8
D	ISO k6 < Ø 28 mm ISO m6 > Ø 38 mm
F	ISO h9
H	-0,5
N	ISO j6
C	±0,8

¹⁾ 160MLB 6-pole L = 681

²⁾ For voltage code S add 32 mm to listed HD-dimension

³⁾ 160MLB 6-pole L = 681

⁴⁾ 200, voltage code S HD = 478

Above table gives the main dimensions in mm.
For detailed drawings please see our web-pages 'www.abb.com/motors&generators' or contact ABB.

General performance IE2 cast iron motors in brief

Motor size		71	80	90	100	112	132
Stator	Material	Cast iron EN-GJL-150/GG 15/GRS 150					
	Paint colour shade	Munsell blue 8B 4.5/3.25 / NCS 4822 B05G					
	Surface treatment	Two-pack epoxy paint, $\geq 70\mu\text{m}$					
Feet		Integrated with stator					
	Material	Cast iron EN-GJL-150/GG 15/GRS 150					
Bearing end shields	Material	Cast iron EN-GJL-150/GG 15/GRS 150					
	Paint colour shade	Munsell blue 8B 4.5/3.25 / NCS 4822 B05G					
	Surface treatment	Two-pack epoxy paint, $\geq 70\mu\text{m}$					
Bearings	D-end	6203-2Z/C3	6204-2Z/C3	6205-2Z/C3	6206-2Z/C3	6206-2Z/C3	6208-2Z/C3
	N-end	6202-2Z/C3	6203-2Z/C3	6204-2Z/C3	6205-2Z/C3	6205-2Z/C3	6208-2Z/C3
Axially-locked bearings	Inner bearing cover	As standard, locked at D-end					
Bearing seals	D-end	V-ring					
	N-end	Labyrinth seal					
Lubrication		Permanently lubricated shielded bearings. Grease temperature range -40 to $+160^\circ\text{C}$					
Terminal box	Material	Cast iron EN-GJL-150/GG 15/GRS 150					
	Surface treatment	Similar to stator.					
	Screws	Steel 5G, coated with zinc and yellow chromated.					
Connections	Threaded openings	2 x M16	2 x M25	2 x M32			
	Max Cu-area mm ²	4	6	10			
	Terminal box	Cable lugs, 6 terminals					
Fan	Material	Polypropylene. Reinforced with 20% glass fibre.					
Fan cover	Material	Steel					
	Paint colour shade	Black RAL 9011					
	Surface treatment	Two-pack epoxy paint, $\geq 70\mu\text{m}$					
Stator winding	Material	Copper					
	Insulation class	Insulation class F					
	Winding protection	3 PTC thermistors as standard, 150°C					
Rotor winding	Material	Diecast aluminum.					
Balancing method		Half key balancing as standard					
Key ways		Closed keyway					
Heating elements	On request	8 W			25 W		
Enclosure		IP 55.					
Cooling method		IC 411					
Drain holes		Drain holes with closable plugs, open on delivery.					
Lifting lugs		Integrated with the stator					

General performance IE2 cast iron motors in brief

Size	M2BA	160	180	200	225	250
Stator	Material	Cast iron EN-GJL-200/GG 20/GRS 200				
	Paint colour shade	Munsell blue 8B 4.5/3.25 / NCS 4822 B05G				
	Surface treatment	Two-pack epoxy pain paint, $\geq 70\mu\text{m}$				
Feet		Integrated with stator				
	Material	Cast-iron				
Bearing end shields	Material	Cast iron EN-GJL-200/GG 20/GRS 200				
	Paint colour shade	Munsell blue 8B 4.5/3.25 / NCS 4822 B05G				
	Surface treatment	Two-pack epoxy pain paint, $\geq 70\mu\text{m}$				
Bearings	D-end	6209-2Z/C3	6210-2Z/C3	6212-2Z/C3	6213-2Z/C3	6215-2Z/C3
	N-end	6209-2Z/C3	6209-2Z/C3	6209-2Z/C3	6210-2Z/C3	6212-2Z/C3
Axially-locked	Inner bearing cover	D-end				
Bearing seals	D-end	Axial seal				
	N-end					
Lubrication		Permanently lubricated shielded bearings.				
Terminal box	Material	Cast iron, base integrated with stator.				
	Surface treatment	Two-pack epoxy pain paint, $\geq 70\mu\text{m}$				
	Screws	Steel 8.8, zinc electroplated and chromated				
Connections	Threaded openings			Code S		
		(2 x M40 + M16)		M50+M40+M16	(2 x M63 + M16)	
	Max Cu-area mm ²	35		Code S: 70	70	
	Terminal box	6 terminals for connection with cable lugs (not included)				
	Screws	M6			M10	
Fan	Material	Polypropylene. Reinforced with 20% glass fibre.				
Fan cover	Material	Hot dip galvanized steel				
	Paint colour shade	Black, NCS 8801-B09G				
	Surface treatment	Polyester powder paint, $\geq 70\mu\text{m}$				
Stator winding	Material	Copper				
	Insulation	Insulation class F				
	Winding protection	3 PTC thermistors as standard, 150°C				
Rotor winding	Material	Diecast aluminum				
Balancing method		Half key balancing				
Key ways		Closed keyway				
Heating elements	On request	25 W		50 W		
Enclosure		IP 55				
Cooling method		IC 411				
Drain holes		Drain holes with closable plastic plugs, open on delivery.				
Lifting lugs		Integrated with the stator (round motor bolted)				

General performance IE2 cast iron motors in brief

Motors size	M2BAT	280	315	355
Stator	Material	Cast iron GG 20/GRS 200		
	Paint colour shade	Munsell blue 8B 4.5/3.25 / NCS 4822 B05G / RAL 5014		
	Surface treatment	Two-pack epoxy paint, thickness $\geq 70\mu\text{m}$		
Feet		Integrated with stator		
	Material	Cast-iron		
Bearing end shield	Material	Cast iron EN-GJL-200/GG 20/GRS 200		
	Paint colour shade	Munsell blue 8B 4.5/3.25 / NCS 4822 B05G / RAL 5014		
	Surface treatment	Two-pack epoxy paint, thickness $\geq 70\mu\text{m}$		
Bearings	D-end	6316/C4, 2 pole	6316/C4, 2 pole	6319/C4, 2 pole
		6316/C3, 4 to 8 pole	6319/C3, 4 to 8 pole	6322/C3, 4 to 8 pole
	N-end	6316/C4, 2 pole	6316/C4, 2 pole	6319M/C4, 2 pole
		6316/C3, 4 to 8 pole	6316/C3, 4 to 8 pole	6319/C3, 4 to 8 pole
Axially-locked bearings	Inner bearing cover	As standard, locked at D-end		
Bearing seals	D-end	Axial seal		
	N-end	Axial seal		
Lubrication		Regreasable bearings		
Terminal box	Material	Cast iron GG 15/GRS 150		
	Surface treatment	Munsell blue 8B 4.5/3.25 / NCS 4822 B05G		
	Screws	Steel 8.8, zinc electroplated and chromated		
Connections	Threaded openings	2 x M63 + 2xM20		
	Terminal box	6 terminals for connection		
Fan	Material	Reinforced glass fiber or aluminium		
Fan cover	Material	Steel		
	Paint colour shade	Munsell blue 8B 4.5/3.25 / NCS 4822 B05G / RAL 5014		
	Surface treatment	Two-pack epoxy polyester paint, $\geq 80\mu\text{m}$		
Stator winding	Material	Copper		
	Insulation	Insulation class F		
	Winding protection	3 PTC thermistors as standard, 150°C		
Rotor winding	Material	Pressure die-cast aluminium		
Balancing method		Half key balancing as standard		
Key ways		Open key way		
Heating elements	Optional	60 W	120 W	
Enclosure		IP 55		
Cooling method		IC 411		
Drain holes				
Lifting lugs		Separate lifting lugs		

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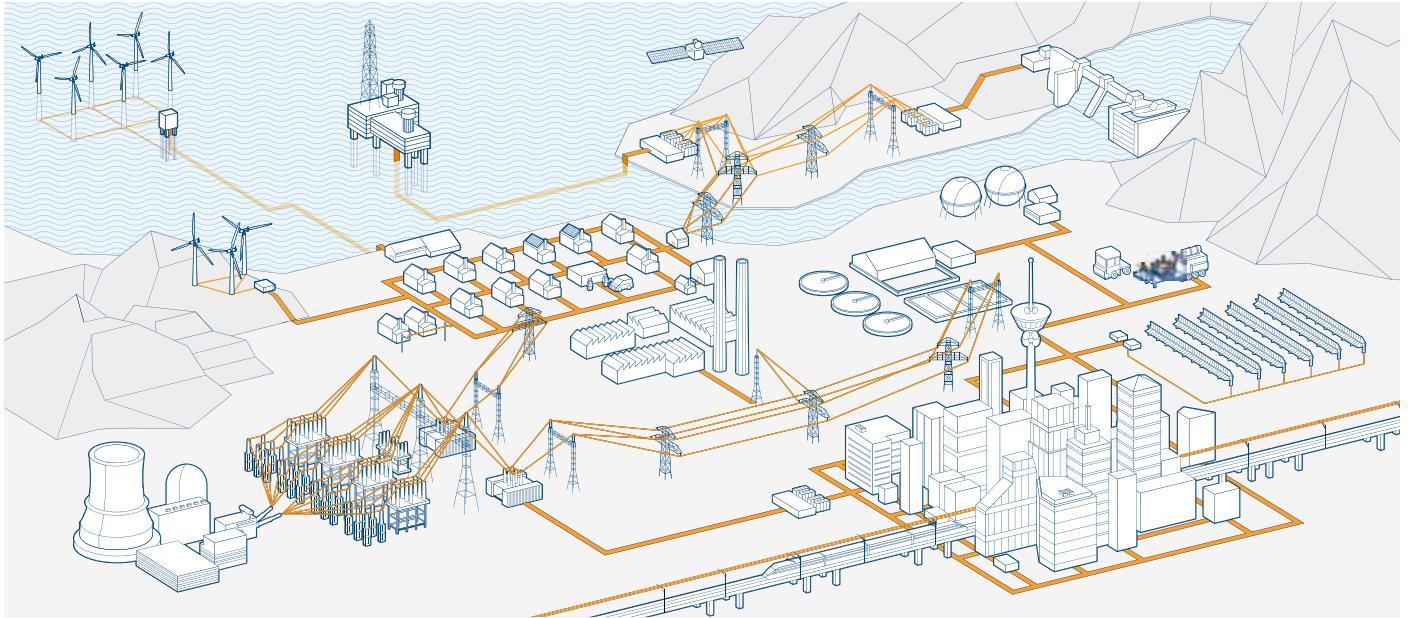


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- Slip-ring modular motors
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- Weather protected, water cooled, fan ventilated

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Synchronous motors

Synchronous generators

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Wind power generators

Generators for small hydro

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- Motors for high ambient temperatures

- Permanent magnet motors and generators
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Single phase motors

Smoke Extraction Motors

Water Cooled Motors

The screenshot shows the ABB website's 'Motors and Generators' page. The header includes the ABB logo and navigation links like 'Home', 'About ABB', 'Products & services', 'News center', 'Careers', and 'Investor relations'. The main content area is titled 'Motors and Generators' and features a search bar, a 'Products & Services only' filter, and a 'Rate this page' option. Below this, there's a section for 'Our offering' with various motor and generator categories: Low Voltage Motors, High Voltage Induction Motors, Motors and Generators for Explosive Atmospheres, Traction Motors, DC Motors, Wind Power Generators, Synchronous Generators, Synchronous Motors, VSD synchronous motor and drive package, and Service. A sidebar on the right contains 'Your preferences' (set to Finland and English), 'ABB contact for Finland' (Sales: Antti Kotela, Service: Antti Keskiö), 'Downloads', and 'News'.

The screenshot shows the ABB website's 'General performance IE2 high efficiency aluminum motors' page. The header is identical to the previous screenshot. The main content area is titled 'General performance IE2 high efficiency aluminum motors' and includes an 'Overview' tab, 'Tools', 'Online motor catalog', and 'Contacts'. The text describes the motors' suitability for basic applications and their 1-year warranty. A table lists key specifications: Motor types (M2AA), Output power (11 to 55 kW), Frame size (IEC 160 to 250), Number of poles (2 to 6), Voltages (All commonly used voltages), Frequency (50 or 60 Hz), and Protection (IP 55). The 'Links' section includes 'Online ordering of motors'. The 'Documentation and downloads' section offers filtering options and a 'Please select category' dropdown (set to 'General Performance Motors, Aluminum, 55-25'). It lists 'Popular downloads' including a 'Catalogue' (General performance motors EN 02-2010, 1.75 MB - pdf) and a 'Brochure' (EU MEPS for low voltage electric motors, 1.57 MB - pdf). A 'Certificate' section mentions ISO 9001:2000 and ISO 14001:2004. A large image of a blue motor is shown on the right with an 'Enlarge' button.

Contact us

www.abb.com/motors&generators

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