



Low voltage
General performance
motors

Simplicity

General performance motors are best suited for basic applications where simplicity and off-the-shelf availability are paramount. With ABB quality and support these motors have the features appreciated by volume customers and serial OEM's.

Motors are of EFF2 efficiency and have 1 year warranty.



General performance aluminum motors

Motor types	M2AA 56 to 250
Output range	0.25 to 55 kW
Poles	2 to 6 poles

Ordering information	3
Technical data	4
Variant codes	7
Dimension drawing	8
Motors in brief	9

ABB (www.abb.com) is a leader in power and automation technologies that enable utility and industry customers to improve performance while lowering environmental impact. The ABB Group of companies operates in around 100 countries and employs about 120,000 people.

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	M2AA 112 M
Pole number	4
Mounting arrangement (IM-code)	IM B3 (IM 1001)
Rated output	4 kW
Product code	3GAA 112 101-ADE
Variant codes if needed	

Motor size

A	B	C	D, E, F	
M2AA	112 M	3GAA 112 101	- ADE, 122, 043, etc.	
		1 2 3 4 5 6 7 8 9 10 11 12 13 14...		
				A Motor type B Motor size C Product code D Code for mounting arrangement E Voltage and frequency code F Generation code followed by variant codes

Explanation of the product code

Positions 1 to 4

3GAA =

Totally enclosed motor with aluminum stator frame

Position 4

Type of rotor

A = Squirrel cage rotor

Positions 5 and 6

IEC size

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

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: See tables below

Position 14

Version **A,B,C,D,E,G...** =

Generation code followed by variant codes

Code letters for supplementing the product code - single speed motors

Motor size	Code letter for voltage and frequency			
	Direct start or, with Δ -connection, also Y/ Δ -start			
	S		D	
	50 Hz	60 Hz	50 Hz	60 Hz
56-132	220-240 V Δ	250-280 VD	380-420 V Δ	440-480 V Δ
	380-420 VY	440-480 VY	660-690 VY	-
160-200	220-240 V Δ	-	380-420 V Δ	440-480 V Δ
	380-420 VY	440-480 VY	660-690 VY	-
225-250	220, 230 V Δ	-	380,400,415V Δ	440 V Δ
	380,400,415 VY	440 VY	660, 690 VY	-

General performance aluminum motors

Technical data for totally enclosed squirrel cage three phase motors



M00030

IP 55 – IC 411 – Insulation class F, temperature rise class B
IE1 Efficiency class acc. to IEC 60034-30; 2008

Output kW	Motor type	Product code	Speed r/min	Efficiency IEC 60034-2-1; 2007		Efficiency IEC 60034-2; 1996		Power factor cos φ 100%	Current		Torque			Moment of inertia J = 1/4 GD ² kgm ²	Weight kg	Sound pressure level LP dB(A)
				Full load 100%	3/4 load 75%	Full load 100%	3/4 load 75%		I _N A	I _s I _N	T _N Nm	T _s T _N	T _{max} T _N			
3000 r/min = 2-poles																
				400 V 50 Hz				Basic design								
0.09	M2AA 56 A	3GAA 051 001-••A	2820	59.8	53.3	60.2	53.7	0.69	0.32	3.9	0.31	2.9	2.7	0.00011	3.2	48
0.12	M2AA 56 B	3GAA 051 002-••A	2840	67.2	63.8	67.5	64.1	0.64	0.41	4.1	0.41	3.2	2.8	0.00012	3.4	48
0.18	M2AA 63 A	3GAA 061 001-••C	2820	73.7	70.6	74.2	71.0	0.64	0.56	4.2	0.62	3.5	3.1	0.00013	3.9	54
0.25	M2AA 63 B	3GAA 061 002-••C	2810	77.5	75.8	78.0	76.1	0.71	0.66	4.5	0.87	3.6	3.3	0.00016	4.4	54
0.37	M2AA 71 A	3GAA 071 001-••E	2780	74.5	74.5	74.9	74.9	0.80	0.9	4.6	1.27	2.4	2.4	0.00035	4.9	58
0.55	M2AA 71 B	3GAA 071 002-••E	2800	76.2	76.0	76.5	76.4	0.80	1.3	4.8	1.87	2.6	2.6	0.00045	5.9	58
0.75	M2AA 80 A	3GAA 081 001-••E	2820	77.0	77.5	77.2	77.9	0.82	1.75	5.3	2.54	2.6	3.0	0.00069	8.5	60
1.1	M2AA 80 B	3GAA 081 002-••E	2840	80.0	80.5	80.2	80.8	0.83	2.4	5.8	3.7	2.7	3.0	0.0009	10.5	60
1.5	M2AA 90 S	3GAA 091 001-••E	2870	78.9	76.8	80.1	76.2	0.82	3.35	5.5	5	2.4	3.0	0.0019	13	63
2.2	M2AA 90 L	3GAA 091 002-••E	2885	82.1	82.5	83.6	83.9	0.87	4.37	6.0	7.5	2.5	3.0	0.0024	16	63
3	M2AA 100 L	3GAA 101 001-••E	2900	85.2	85.4	86.0	84.1	0.88	5.95	7.5	10	2.7	3.6	0.0041	21	65
4	M2AA 112 M	3GAA 111 101-••E	2895	84.8	85.2	85.6	86.2	0.89	7.6	7.2	13.2	2.7	3.3	0.0061	26	67
5.5	M2AA 132 SA	3GAA 131 001-••E	2845	85.8	86.4	86.2	87.0	0.87	10.8	6.8	18.5	2.8	3.2	0.014	38	75
7.5	M2AA 132 SB	3GAA 131 002-••E	2860	87.0	88.0	88.3	89.0	0.89	14	7.2	25.1	3.0	3.4	0.016	43	73
11	M2AA 132 SMA	3GAA 131 005-••E	2875	88.5	89.2	89.5	89.7	0.90	19.9	8.1	36.5	2.8	3.4	0.0165	63	69
15	M2AA 132 SMC	3GAA 131 006-••E	2900	90.5	90.8	91.6	91.8	0.88	27.5	8.5	49.4	3.3	4.0	0.02	81	69
18.5	M2AA 132 SMD	3GAA 131 007-••E	2890	90.0	90.8	90.5	91.2	0.90	33.5	8.5	61	3.4	3.7	0.02356	89	68
11	M2AA 160 MLA	3GAA 161 041-••G	2916	88.0	88.5	88.6	89.1	0.89	20.5	6.8	36	2.1	2.7	0.039	82	73
15	M2AA 160 MLB	3GAA 161 042-••G	2914	89.1	89.7	89.9	90.5	0.90	27	7.5	49	2.5	3.1	0.049	96	73
18.5	M2AA 160 MLC	3GAA 161 043-••G	2935	89.8	90.1	90.5	90.8	0.91	32.5	7.2	60	2.2	3.2	0.054	104	73
22	M2AA 180 MLA	3GAA 181 041-••G	2928	90.4	90.6	91.0	91.2	0.90	39	7.7	72	2.8	3.3	0.059	118	75
30	M2AA 200 MLA	3GAA 201 041-••G	2948	91.1	91.1	91.8	91.8	0.88	54	7.7	97	2.8	3.6	0.093	160	75
37	M2AA 200 MLB	3GAA 201 042-••G	2949	91.6	92.0	92.4	92.8	0.92	63	7.9	120	2.5	3.4	0.118	185	75
45	M2AA 225 SMA	3GAA 221 041-••G	2948	92.1	92.3	92.9	93.1	0.91	78	7.7	146	2.7	2.9	0.198	236	75
55	M2AA 250 SMA	3GAA 251 041-••G	2964	92.4	92.4	93.3	93.3	0.91	94	7.3	177	2.3	2.3	0.281	295	75
3000 r/min = 2-poles																
				400 V 50 Hz				High-output design								
22	¹⁾ M2AA 132 SME	3GAA 131 008-••E	2895	90.0	90.5	91.0	91.5	0.88	40	9.0	72	3.8	3.8	0.02559	95	69
1500 r/min = 4-poles																
				400 V 50 Hz				Basic design								
0.06	M2AA 56 A	3GAA 052 001-••A	1340	51.1	45.8	51.3	46.2	0.67	0.26	2.5	0.43	2.2	2.2	0.00017	3.2	36
0.09	M2AA 56 B	3GAA 052 002-••A	1370	55.5	50.2	55.7	50.5	0.62	0.38	2.8	0.63	2.9	2.9	0.00018	3.4	36
0.12	M2AA 63 A	3GAA 062 001-••C	1400	63.7	58.4	64.0	58.6	0.59	0.46	3.1	0.82	2.6	2.6	0.00019	4	40
0.18	M2AA 63 B	3GAA 062 002-••C	1380	65.6	62.1	65.8	62.4	0.64	0.63	3.1	1.25	2.5	2.6	0.00026	4.5	40
0.25	M2AA 71 A	3GAA 072 001-••E	1375	66.0	65.5	66.2	65.8	0.78	0.72	3.8	1.74	2.1	1.9	0.00066	5.2	45
0.37	M2AA 71 B	3GAA 072 002-••E	1375	67.8	67.6	68.0	67.8	0.78	1.05	3.8	2.57	2.1	2.0	0.0008	5.9	45
0.55	M2AA 80 A	3GAA 082 001-••E	1390	73.0	73.5	73.3	73.8	0.80	1.45	4.4	3.78	1.9	2.4	0.0013	8.5	50
0.75	M2AA 80 B	3GAA 082 002-••E	1405	74.5	73.8	74.7	74.1	0.80	1.85	5.1	5.1	2.2	2.4	0.0019	10	50
1.1	M2AA 90 S	3GAA 092 001-••E	1410	76.8	75.9	77.5	76.4	0.81	2.59	5.0	7.5	2.2	2.7	0.0032	13	50
1.5	M2AA 90 L	3GAA 092 002-••E	1420	79.1	77.8	80.3	78.1	0.79	3.45	5.0	10	2.4	2.9	0.0043	16	50
2.2	M2AA 100 LA	3GAA 102 001-••E	1430	82.2	81.9	83.0	82.7	0.81	4.8	5.5	15	2.4	2.7	0.0069	21	64
3	M2AA 100 LB	3GAA 102 002-••E	1430	84.0	83.0	85.0	83.9	0.81	6.48	5.5	20	2.5	2.9	0.0082	24	66
4	M2AA 112 M	3GAA 112 101-••E	1430	85.0	86.3	84.9	85.9	0.82	8.4	6.2	26.8	2.3	2.8	0.01	29	60
5.5	M2AA 132 S	3GAA 132 001-••E	1455	86.3	87.0	87.5	88.0	0.80	12	6.0	36	2.2	2.8	0.031	42	66
7.5	M2AA 132 M	3GAA 132 002-••E	1450	88.5	89.0	89.0	89.6	0.80	15.6	6.0	49.4	2.4	2.9	0.038	49	66
11	M2AA 132 SMA	3GAA 132 005-••E	1455	88.4	88.6	88.9	89.3	0.81	22.5	6.5	72	2.3	3.0	0.0381	76	69
15	M2AA 132 SMC	3GAA 132 006-••E	1455	89.2	89.4	89.8	90.0	0.80	30.5	7.3	98	2.4	3.0	0.0485	88	69
11	M2AA 160 MLA	3GAA 162 041-••G	1459	88.2	89.0	89.0	89.8	0.81	22.5	6.5	72	2.3	2.6	0.068	84	62
15	M2AA 160 MLB	3GAA 162 042-••G	1462	89.2	89.8	89.9	90.5	0.82	29.5	7.1	98	2.6	3.3	0.085	98	62
18.5	M2AA 180 MLA	3GAA 182 041-••G	1465	89.8	90.3	90.5	91.0	0.82	36	7.7	121	3.2	3.5	0.103	116	64
22	M2AA 180 MLB	3GAA 182 042-••G	1463	90.4	90.9	91.0	91.5	0.83	42	8.3	144	3.3	3.9	0.122	131	64
30	M2AA 200 MLA	3GAA 202 041-••G	1475	91.1	91.5	91.8	92.2	0.83	57	7.7	194	2.7	3.2	0.22	187	67
37	M2AA 225 SMA	3GAA 222 041-••G	1477	91.6	91.9	92.4	92.7	0.84	69	6.9	239	2.3	2.7	0.317	231	68
45	M2AA 225 SMB	3GAA 222 042-••G	1478	92.1	92.4	92.9	93.2	0.84	84	7.4	291	2.4	3.0	0.374	257	68
55	M2AA 250 SMA	3GAA 252 041-••G	1478	92.4	92.7	93.3	93.6	0.85	100	7.8	355	2.7	2.7	0.485	297	68
1500 r/min = 4-poles																
				400 V 50 Hz				High-output design								
18.5	¹⁾ M2AA 132 SMD	3GAA 132 007-••E	1445	89.3	88.5	90.2	89.7	0.81	37.5	6.7	122	2.3	2.6	0.05166	92	69

¹⁾ Temperature rise class F.

Efficiency values are given according to IEC/EN 60034-2-1; 2007 and IEC 60034-2; 1996. Please note that the values are not comparable without knowing the testing method. ABB has calculated the new efficiency values according to indirect method. stray losses (additional losses) determined from measuring.

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

General performance aluminum motors

Technical data for totally enclosed squirrel cage three phase motors

IP 55 – IC 411 – Insulation class F, temperature rise class B

IE1 Efficiency class acc. to IEC 60034-30; 2008

Out-put kW	Motor type	Product code	Speed r/min	Efficiency IEC 60034-2-1; 2007		Efficiency IEC 60034-2; 1996		Power factor cos φ 100%	Current		Torque			Moment of inertia J = 1/4 GD ² kgm ²	Weight kg	Sound pressure level LP dB(A)
				Full load 100%	3/4 load 75%	Full load 100%	3/4 load 75%		I _N A	I _s I _N	T _N Nm	T _s T _N	T _{max} T _N			
1000 r/min = 6-poles																
400 V 50 Hz																
Basic design																
0.09	M2AA 63 A	3GAA 063 001-••C	910	47.1	42.5	47.4	42.7	0.56	0.51	2.1	0.95	2.1	2.1	0.0002	4	38
0.12	M2AA 63 B	3GAA 063 002-••C	910	57.5	54.0	57.8	54.4	0.58	0.54	2.1	1.27	2.1	2.1	0.00027	4.5	38
0.18	M2AA 71 A	3GAA 073 001-••E	870	55.3	54.7	55.6	54.9	0.74	0.65	2.7	1.98	1.9	1.9	0.00092	5.5	42
0.25	M2AA 71 B	3GAA 073 002-••E	875	57.8	57.2	58.2	57.7	0.72	0.9	2.9	2.73	2.3	2.3	0.0012	6.5	42
0.37	M2AA 80 A	3GAA 083 001-••E	910	67.0	66.5	67.2	66.7	0.75	1.1	3.6	3.88	1.8	2.2	0.002	9	47
0.55	M2AA 80 B	3GAA 083 002-••E	910	70.0	69.3	70.2	69.5	0.74	1.6	3.5	5.77	2.0	2.1	0.0026	10	47
0.75	M2AA 90 S	3GAA 093 001-••E	930	70.2	69.8	71.5	70.7	0.67	2.36	4.0	7.5	1.9	2.3	0.0032	13	44
1.1	M2AA 90 L	3GAA 093 002-••E	930	73.4	71.7	74.4	72.5	0.69	3.25	4.0	11	2.1	2.4	0.0043	16	44
1.5	M2AA 100 L	3GAA 103 001-••E	950	78.8	76.3	80.0	77.0	0.71	3.92	4.5	15	1.9	2.3	0.0082	23	49
2.2	M2AA 112 M	3GAA 113 101-••E	950	79.3	79.7	80.1	80.2	0.67	5.9	4.6	22.1	2.4	2.8	0.01	28	54
3	M2AA 132 S	3GAA 133 001-••E	960	82.5	82.8	84.5	84.6	0.71	7.6	4.3	29.8	1.8	2.4	0.031	39	57
4	M2AA 132 MA	3GAA 133 002-••E	960	83.1	82.9	85.5	85.7	0.75	9.2	5.1	39.7	2.0	2.7	0.038	46	61
5.5	M2AA 132 MB	3GAA 133 003-••E	955	84.0	84.5	86.0	86.3	0.75	12.8	5.3	55	2.2	2.6	0.045	54	57
7.5	M2AA 160 MLA	3GAA 163 041-••G	968	85.4	86.3	86.7	87.6	0.77	16.1	6.4	74	1.8	3.0	0.071	84	61
11	M2AA 160 MLB	3GAA 163 042-••G	968	87.0	87.7	88.1	88.8	0.77	23.5	7.3	109	2.1	3.4	0.102	110	61
15	M2AA 180 MLA	3GAA 183 041-••G	968	88.1	88.6	89.5	90.0	0.75	32.5	7.7	148	2.3	3.8	0.139	137	61
18.5	M2AA 200 MLA	3GAA 203 041-••G	975	89.1	90.0	90.5	91.4	0.77	38.5	5.9	181	1.9	2.5	0.218	186	65
22 ¹⁾	M2AA 200 MLB	3GAA 203 042-••G	969	89.3	90.5	90.5	91.7	0.76	46.5	5.4	217	1.8	2.3	0.218	198	65
30	M2AA 225 SMA	3GAA 223 041-••G	985	90.6	91.0	91.9	92.3	0.83	57	7.0	291	2.4	2.8	0.547	257	65
37	M2AA 250 SMA	3GAA 253 041-••G	985	91.2	91.6	92.4	92.8	0.82	71	6.7	359	2.3	2.7	0.728	291	65

¹⁾ Temperature rise class F.

Efficiency values are given according to IEC/EN 60034-2-1; 2007 and IEC 60034-2; 1996. Please note that the values are not comparable without knowing the testing method. ABB has calculated the new efficiency values according to indirect method. stray losses (additional losses) determined from measuring.

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

General performance aluminum motors

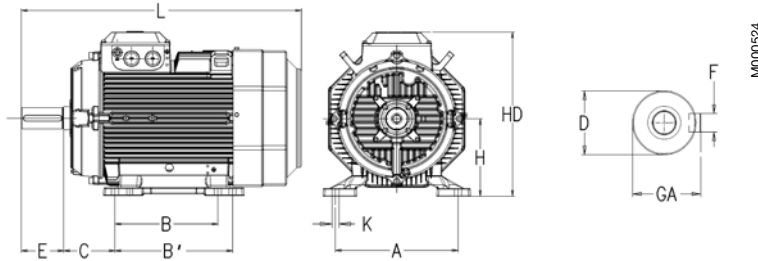
The following variant codes are available as modification from stocked motor, availability may be dependent on the frame size.
More information from ABB.

Code	Variant
Bearings and Lubrication	
036	Transport lock for bearings.
037	Roller bearing at D-end.
041	Bearings regreasable via grease nipples.
188	63-series bearings.
Cooling system	
053	Metal fan cover.
Drain holes	
065	Plugged existing drain holes.
Earthing Bolt	
067	External earthing bolt.
Heating elements	
450	Heating element, 100-120V.
451	Heating element, 200-240V.
Mounting arrangements	
008	IM 2101 foot/flange mounted, IEC flange, from IM 1001 (B34 from B3).
009	IM 2001 foot/flange mounted, IEC flange, from IM 1001 (B35 from B3).
047	IM 3601 flange mounted, IEC flange, from IM 3001 (B14 from B5).
048	IM 3001 flange mounted, IEC flange, from IM 3601 (B5 from B14).
066	Modified for non-standard mounting position. Specify IM xxxx. Use for all mounting arrangements excluding IM B3 (1001) and IM B5 (3001).
200	Flange ring holder.
218	Flange ring FT 85.
219	Flange ring FT 100.
220	Flange ring FF 100.
223	Flange ring FF 115.
224	Flange ring FT 115.
226	Flange ring FF 130.
227	Flange ring FT 130.
233	Flange ring FF 165.
234	Flange ring FT 165.
243	Flange ring FF 215.
244	Flange ring FT 215.
253	Flange ring FF 265.
254	Flange ring FT 265.
Protection	
005	Metal protective roof, vertical motor, shaft down.
Rating & instruction plates	
002	Restamping voltage, frequency and output, continuous duty.
Stator winding temperature sensors	
121	Bimetal detectors, break type (NCC), (3 in series), 130°C, in stator winding.
122	Bimetal detectors, break type (NCC), (3 in series), 150°C, in stator winding.
127	Bimetal detectors, break type (NCC), (3 in series, 130°C & 3 in series, 150°C), in stator winding.
435	PTC - thermistors (3 in series), 130°C, in stator winding.
436	PTC - thermistors (3 in series), 150°C, in stator winding.
441	PTC - thermistors (3 in series, 130°C & 3 in series, 150°C), in stator winding.
Terminal box	
230	Standard metal cable glands.
375	Standard plastic cable gland
Testing	
140	Test confirmation.
145	Type test report from a catalogue motor, 400V 50Hz.
148	Routine test report.

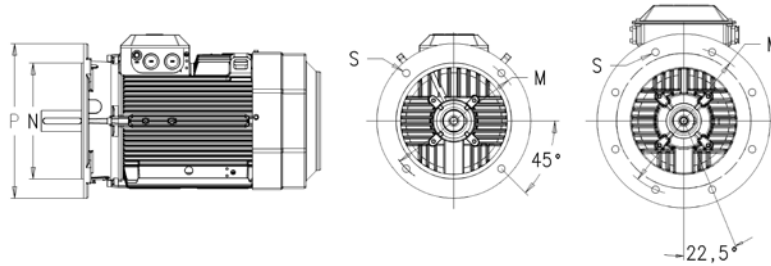
General performance aluminum motors

Dimension drawings

Foot-mounted motor IM1001, B3



Flange-mounted motor IM 3001, B5



IM 1001, IM B3 and IM 3001, IM B5

IM 1001, IM B3

IM 3001, IM B5

Motor size	D		GA		F		E		L max		A	B	B'	C	HD	K	H	M	N	P	S
	poles		poles		poles		poles		poles												
	2	4-6	2	4-6	2	4-6	2	4-6	2	4-6											
56	9	9	10,2	10,2	3	3	20	20	197	197	90	71	-	36	159	5,8	56	100	80	120	7
63	11	11	12,5	12,5	4	4	23	23	214	214	100	80	-	40	171	7	63	115	95	140	10
71	14	14	16	16	5	5	30	30	240	240	112	90	-	45	180	7	71	130	110	160	10
80	19	19	21,5	21,5	6	6	40	40	265,5	265,5	125	100	-	50	193,5	10	80	165	130	200	12
90 S	24	24	27	27	8	8	50	50	284,5	284,5	140	100	-	56	217	10	90	165	130	200	12
90 L	24	24	27	27	8	8	50	50	309,5	309,5	140	125	-	56	217	10	90	165	130	200	12
100	28	28	31	31	8	8	60	60	351	351	160	140	-	63	237	12	100	215	180	250	15
112	28	28	31	31	8	8	60	60	393	393	190	140	-	70	249	12	112	215	180	250	15
132 ¹⁾	38	38	41	41	10	10	80	80	447	447	216	140	178	89	295,5	12	132	265	230	300	14,5
132 ²⁾	38	38	41	41	10	10	80	80	550	550	216	140	178	89	321	15	132	265	230	300	14,5
160	42	42	45	45	12	12	110	110	584	584 ³⁾	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 2p	55	-	59	-	16	-	110	-	821	-	356	286	311	149	525 ⁴⁾	18	225	400	350	450	19
225 4-6p	-	60	-	64	-	18	-	140	-	851	356	286	311	149	525 ⁴⁾	18	225	400	350	450	19
250 2p	60	-	64	-	18	-	140	-	880	-	406	311	349	168	572 ⁴⁾	22	250	500	450	550	19
250 4-6p	-	65	-	69	-	18	-	140	-	880	406	311	349	168	572 ⁴⁾	22	250	500	450	550	19

IM 3601, IM B14

Motor size	M	N	P	S
56	65	50	80	M5
63	75	60	90	M5
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 ¹⁾	165	130	200	M10
132 ²⁾	165	130	200	M10

Tolerances

A, B	-0,8
D, DA	ISO k6 < Ø 50 mm ISO m6 > Ø 50 mm
F, FA	ISO h9
H	-0,5
N	ISO j6
C, CA	-0,8

¹⁾ 132 S, SB, SC, M, MA, MC

²⁾ 132 SMA, SMB, SMC, SMD, SME

³⁾ 160MLB 6-pole L=681

⁴⁾ For voltage code S add 32 mm to listed HD-dimension

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 aluminum motors in brief

Motor size		56	63	71	80	90	100	112	132
Stator	Material	Diecast aluminum alloy.							
	Paint colour shade	Munsell blue 8B 4.5/3.25 / NCS 4822 B05G / RAL 5014							
	Surface treatment	Epoxy polyester powder paint, $\geq 30\mu\text{m}$							
Feet		Fixed feet.							
	Material	Aluminum alloy							
Bearing end shields	Material	Diecast aluminum alloy							
	Paint colour shade	Munsell blue 8B 4.5/3.25 / NCS 4822 B05G							
	Surface treatment	Epoxy polyester powder paint, $\geq 30\mu\text{m}$				Polyester powder paint, $\geq 30\mu\text{m}$			
Bearings	D-end	6201-2Z/C3	6202-2Z/C3	6203-2Z/C3	6204-2Z/C3	6205-2Z/C3	6306-2Z/C3	6306-2Z/C3	6208-2Z/C3
	N-end	6201-2Z/C3	6201-2Z/C3	6202-2Z/C3	6203-2Z/C3	6204-2Z/C3	6205-2Z/C3	6205-2Z/C3	6206-2Z/C3
Axially-locked bearings		D-end internal retaining ring				D-end inner bearing cover			
Bearing seals	D-end	V-ring							
Lubrication		Permanently lubricated shielded bearings. Grease temperature range -40 to +160°C							
Terminal box	Material	Diecast aluminum alloy, base integrated with stator.							
	Surface treatment	Similar to stator.							
	Screws	Steel 5G, galvanised.							
Connections	Knock-out openings	1 x M16 x Pg11		2 x (M20 + M20)		2 x (M20 + M25)			
	Max Cu-area mm ²	2.5		4		6			
	Terminal box	Cable lugs, 6 terminals				Screw terminal, 6 terminals			Cable lugs, 6 terminals
Fan	Material	Polypropylene. Reinforced with 20% glass fibre.							
Fan cover	Material	Polypropylene.							
	Paint colour shade	Black							
Stator winding	Material	Copper.							
	Impregnation	Polyester varnish. Tropicalised.							
	Insulation class	Insulation class F. Temperature rise class B, unless otherwise stated.							
Stator winding temperature sensors		Optional.							
Rotor winding	Material	Diecast aluminum.							
Balancing method		Half key balancing.							
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 aluminum motors in brief

Size	M2AA	160	180	200	225	250
Stator	Material	Diecast aluminum alloy			Extruded aluminum alloy.	
	Paint colour shade	Munsell blue 8B 4.5/3.25 / NCS 4822 B05G / RAL 5014				
	Surface treatment	Polyester powder paint, $\geq 100\mu\text{m}$				
Feet		Bolt on feet, bolted to the stator.				
	Material	Aluminum alloy		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, $\geq 100\mu\text{m}$				
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		Axial seal				
Lubrication		Permanently lubricated shielded bearings. Wide temperature grease.				
Terminal box	Material	Diecast aluminum alloy, base integrated with stator.			Deep-drawn steel sheet, bolted to stator.	
	Surface treatment	Polyester powder paint, $\geq 100\mu\text{m}$			Phosphated. Polyester paint.	
	Screws	Steel 8.8, zinc electroplated and chromated				
Connections	Knock-out openings Flange-openings	(2 x M40 + M16) + (2 x M40)			2 x FL13, 2 x M40 2 x FL 21, 2 x M63 (voltage code S)	
	Max Cu-area mm ²	35			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, $\geq 100\mu\text{m}$				
Stator winding	Material	Copper.				
	Impregnation	Polyester varnish. Tropicalised.				
	Insulation class	Insulation class F. Temperature rise class B, unless otherwise stated.				
Stator winding temperature sensors		Optional.				
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			Bolted to the stator	

ABB Motors' total product offer

ABB offers several comprehensive ranges of AC motors and generators. We manufacture synchronous motors for even the most demanding applications, and a full range of low and high voltage induction motors. Our in-depth knowledge of virtually every type of industrial processing ensures we always specify the best solution for your needs.



M000328

Low voltage motors and generators

Process performance motors formore demanding applica- tions

- Cast iron motors
- Premium efficiency motors
- NEMA motors

Industrial performance motors - flexibility for most customer applications

- Aluminum motors
- Steel motors
- Cast iron motors

General performance motors - out-of-the-box simplicity for highvolume customers

- Aluminum motors
- Cast iron motors

Motors for hazardous areas

- Flameproof motors
- Increased safety motors
- Non-sparking motors
- Dust ignition proof motors

Marine motors

- Aluminum motors
- Steel motors
- Cast iron motors
- Open drip proof motors

Other applications

- Open drip proof motors
- Global motors
- Brake motors
- Single phase motors
- High ambient motors
- Permanent magnet motors
- High speed motors
- Wind turbine generators
- Smoke venting motors
- Water cooled motors
- Motors for roller table drives
- Servomotors

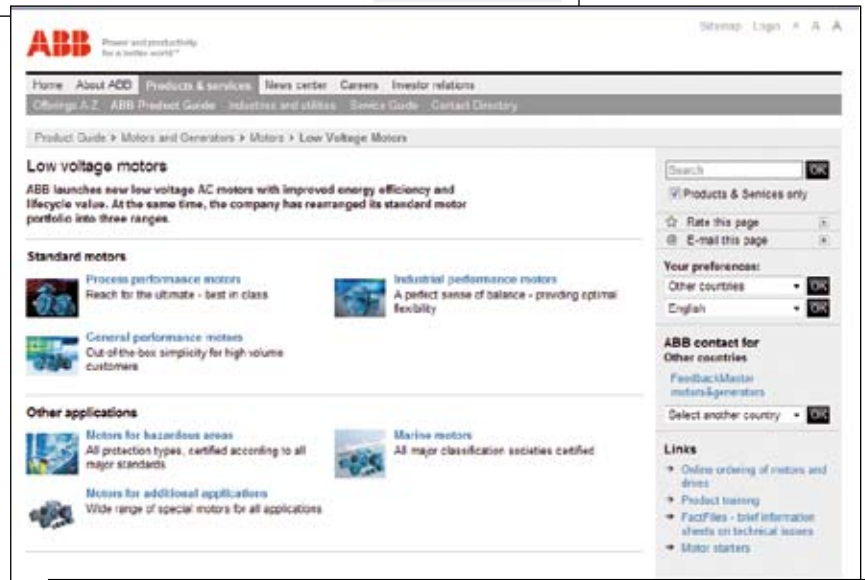
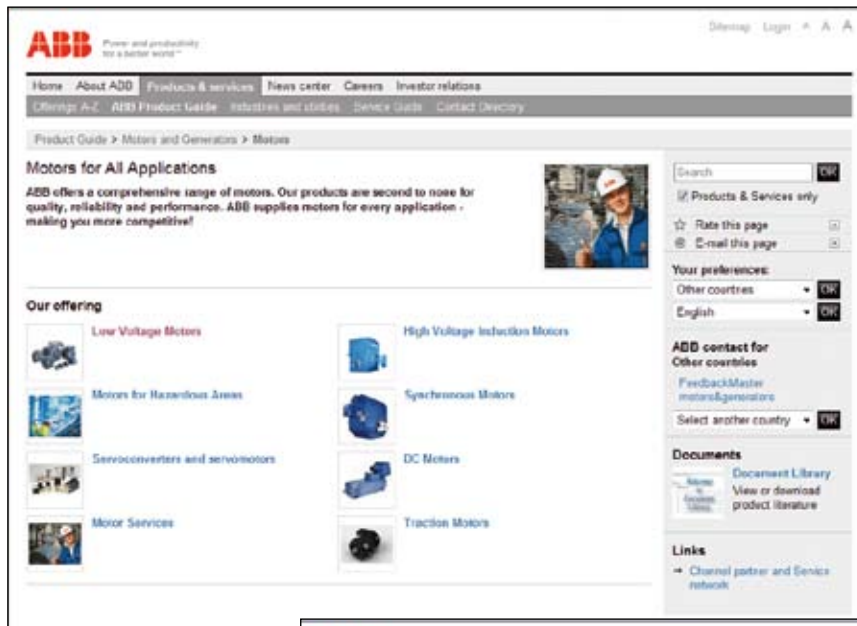
High voltage and synchronous motors and generators

- High voltage cast iron motors
- Induction modular motors
- Slip ring motors
- Motors for hazardous areas

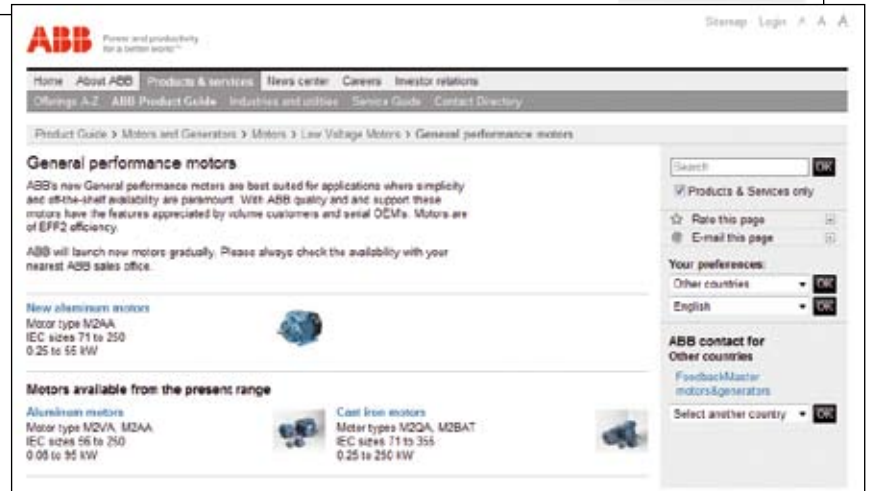
- Synchronous motors and generators
- DC motors and generators
- Wind turbine generators
- Traction motors

Visit our web site

www.abb.com/motors&generators



- Motors & Generators**
- > Motors**
- >> Low Voltage Motors**
 - Process performance motors
 - Industrial performance motors
- >>> General performance motors**
 - >>>> New aluminum motors
 - >>>> Aluminum motors
 - >>>> Cast iron motors
 - General performance motors
 - Motors for hazardous areas
 - Marine motors
 - Motors for additional applications



Low Voltage Motors

Manufacturing sites (*) and some of the larger sales companies.

Australia

ABB Australia Pty Ltd
601 Blackburn Road
Notting Hill VIC 3168
Tel: +61 (0) 8544 0000
Fax: +61 (0) 8544 0001

Austria

ABB AG
Clemens Holzmeisterstrasse 4
A-1109 Wien
Tel: +43 (0) 1 601 090
Fax: +43 (0) 1 601 09 8305

Belgium

Asea Brown Boveri S.A.-N.V.
Hoge Wei 27
BE-1930 Zaventem
Tel: +32 (0) 2 718 6311
Fax: +32 (0) 2 718 6657

Canada

ABB Inc., BA Electrical Machines
10300 Henri-Bourassa Blvd, West,
Saint-Laurent, Quebec
Canada H4S 1N6
Tel: +1 514 832-6583
Fax: +1 514 332-0609

China*

ABB Shanghai Motors Co., Ltd.
88 Tianning Road
Minhang(Economical and Techno-
logical Development Zone)
200245 Shanghai
Tel: +86 21 5472 3133
Fax: +86 21 5472 5025

Chile

Asea Brown Boveri S.A.
P.O.Box 581-3
Santiago
Tel: +56 (0) 2 5447 100
Fax: +56 (0) 2 5447 405

Denmark

ABB A/S
Automation Products
Emil Neckelmanns Vej 14
DK-5220 Odense SØ
Tel: +45 65 47 70 70
Fax: +45 65 47 77 13

Finland*

ABB Oy
Motors
P.O.Box 633
FI-65101 Vaasa
Tel: +358 (0) 10 22 11
Fax: +358 (0) 10 22 47372

France

ABB Entrelec
ZA La Boisse BP 90145
300 Rue des Prés-Seigneurs
FR-01124 Montluel Cedex
Tel: +33 4 37 40 40 00
Fax: +33 4 37 40 40 72

Germany

ABB Automation Products GmbH
Motors & Drives
Wallstaedter Strasse 59
DE-68526 Ladenburg
Tel: +49 (0) 6203 717 717
Fax: +49 (0) 6203 717 600

Hong Kong

ABB (Hong Kong) Ltd.
Tai Po Industrial Estate,
3 Dai Hei Street,
Tai Po, New Territories,
Hong Kong
Tel: +852 2929 3838
Fax: +852 2929 3505

India*

ABB Ltd.
32, Industrial Area, N.I.T
Faridabad 121 001
Tel: +91 (0) 129 502 3001
Fax: +91 (0) 129 502 3006

Indonesia

PT. ABB Sakti Industri
JL. Gajah Tunggal Km.1
Jatiuwung, Tangerang 15136
Banten, Indonesia
Tel: + 62 21 590 9955
Fax: + 62 21 590 0115 - 6

Ireland

Asea Brown Boveri Ltd
Components Division
Belgard Road
Tallaght, Dublin 24
Tel: +353 (0) 1 405 7300
Fax: +353 (0) 1 405 7327

Italy*

ABB SACE Spa
LV Motors
Via dell' Industria 18
IT-20010 Vittuone, Milano
Tel: +39 02 90341
Fax: +39 02 9034 7289

Japan

ABB K.K.
26-1 Cerulean Tower
Sakuragaoka-cho, Shibuya-ku
Tokyo 150-8512
Tel: +81 (0) 3 578 46251
Fax: +81 (0) 3 578 46260

Korea

ABB Korea Ltd.
7-9fl, Oksan Bldg., 157-33
Sungshung-dong, Kangnam-ku
Seoul
Tel: +82 2 528 2329
Fax: +82 2 528 2338

Malaysia

ABB Malaysia Sdn. Bhd.
Lot 608, Jalan SS 13/1K
47500 Subang Jaya, Selangor
Tel: +60 3 5628 4888
Fax: +60 3 5631 2926

Mexico

ABB México, S.A. de C.V.
Apartado Postal 111
CP 54000 Tlalnepantla
Edo. de México, México
Tel: +52 5 328 1400
Fax: +52 5 390 3720

The Netherlands

ABB B.V.
Dept. LV motors (APP2R)
P.O.Box 301
NL-3000 AH Rotterdam
Tel: +31 (0) 10 4078 879
Fax: +31 (0) 10 4078 345

Norway

ABB AS
P.O.Box 154 Vollebekk
NO-0520 Oslo
Tel: +47 22 872 000
Fax: +47 22 872 541

Russia

ABB Industrial & Building Systems
Ltd.
Business Centre "Krugozor"
Obrucheva 30/1, Building 2
Moscow 117861
Tel: +7 495 960 2200, 956 93 93
Fax: +7 495 960 2209, 230 63 46

Singapore

ABB Industry Pte Ltd
2 Ayer Rajah Crescent
Singapore 139935
Tel: +65 6776 5711
Fax: +65 6778 0222

Spain*

Asea Brown Boveri S.A.
Automation Products - Fábrica
Motores
P.O.Box 81
ES-08200 Sabadell
Tel: +34 93 728 8500
Fax: +34 93 728 8741

Sweden*

ABB AB
LV Motors
SE-721 70 Västerås
Tel: +46 (0) 21 329 000
Fax: +46 (0) 21 329 140

Switzerland

ABB Schweiz AG
Normelec/CMC Components
Motors&Drives
Badenerstrasse 790
Postfach
CH-8048 Zürich
Tel: +41 (0) 58 586 0000
Fax: +41 (0) 58 586 0603

Taiwan

ABB Ltd.
6F, No. 126, Nanking East Road,
Section 4i
Taipei, 105 Taiwan, R.O.C.
Tel: +886 (0) 2 2577 6090
Fax: +886 (0) 2 2577 9467

Thailand

ABB Limited (Thailand)
161/1 SG Tower,
Soi Mahadlekluang 3,
Rajdamri, Bangkok 10330
Tel: +66 2 665 1000
Fax: +66 2 665 1042

The United Kingdom

ABB Ltd
Drives, Motors and Machines
Daresbury Park
Daresbury, Warrington
Cheshire, WA4 4BT
Tel: +44 (0) 1925 741 111
Fax: +44 (0) 1925 741 212

USA

ABB Inc.
Low Voltage Motors
16250 W. Glendale Drive
New Berlin, WI 53151
Tel: +1 262 785 3200
Fax: +1 262 780 8888

Venezuela

Asea Brown Boveri S.A.
P.O.Box 6649
Carmelitas,
Caracas 1010A
Tel: +58 (0) 2 238 2422
Fax: +58 (0) 2 239 6383



www.abb.com/motors&generators
http://online.abb.com/bol