

General performance aluminum motors

Technical data for totally enclosed squirrel cage three phase motors

IE1

IP 55 - IC 411 - Insulation class F, temperature rise class B
IE1 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			
3000 r/min = 2-poles			400 V 50 Hz												
CENELEC-design															
0.09	M2AA 56 A	3GAA 051 001-••A	2820	59.8	53.3	47.9	0.69	0.31	3.9	0.3	2.9	2.7	0.00011	3.2	48
0.12	M2AA 56 B	3GAA 051 002-••A	2840	67.2	63.8	55.6	0.64	0.4	4.1	0.4	3.2	2.8	0.00012	3.4	48
0.18	M2AA 63 A	3GAA 061 001-••C	2820	75.0	72.0	66.1	0.62	0.55	4.2	0.6	3.5	3.1	0.00013	3.9	54
0.25	M2AA 63 B	3GAA 061 002-••C	2810	78.6	77.0	69.6	0.69	0.66	4.5	0.8	3.6	3.3	0.00016	4.4	54
0.37	M2AA 71 A	3GAA 071 001-••E	2800	71.6	72.3	70.2	0.76	0.98	5.1	1.3	3.0	2.9	0.00035	4.9	58
0.55	M2AA 71 B	3GAA 071 002-••E	2790	78.4	79.8	78.7	0.78	1.29	5.3	1.9	2.9	2.8	0.00045	5.9	58
0.75	M2AA 80 A	3GAA 081 001-••E	2820	78.8	79.6	77.9	0.79	1.73	5.1	2.5	3.4	3.0	0.00069	8.5	60
1.1	M2AA 80 B	3GAA 081 002-••E	2760	78.1	80.0	79.7	0.83	2.4	5.7	3.8	2.5	2.6	0.0009	10.5	60
1.5	M2AA 90 S	3GAA 091 001-••E	2895	78.5	77.2	71.6	0.75	3.6	6.4	4.9	2.3	3.0	0.0019	13	63
2.2	M2AA 90 L	3GAA 091 002-••E	2890	83.6	84.4	83.0	0.82	4.6	7.2	7.2	2.7	2.8	0.0024	16	63
3	M2AA 100 L	3GAA 101 001-••E	2905	85.4	85.8	84.4	0.81	6.2	7.5	9.8	2.6	3.2	0.0041	21	65
4	M2AA 112 M	3GAA 111 101-••E	2885	85.7	86.7	86.5	0.85	7.9	7.4	13.2	2.6	2.8	0.0061	26	67
5.5	M2AA 132 SA	3GAA 131 001-••E	2845	85.8	86.4	86.0	0.87	10.6	6.8	18.4	2.8	3.2	0.014	38	75
7.5	M2AA 132 SB	3GAA 131 002-••E	2860	87.0	88.0	86.0	0.89	13.9	7.2	25.0	3.0	3.4	0.016	43	73
11	M2AA 160 MLA	3GAA 161 041-••G	2921	88.2	89.0	88.1	0.89	20.2	6.3	35.9	1.7	2.7	0.038	82	73
15	M2AA 160 MLB	3GAA 161 042-••G	2929	89.3	90.2	89.3	0.90	26.9	7.1	48.9	2.2	3.1	0.048	96	73
18.5	M2AA 160 MLC	3GAA 161 043-••G	2935	89.8	90.1	89.4	0.91	32.6	7.2	60.1	2.2	3.2	0.054	104	73
22	M2AA 180 MLA	3GAA 181 041-••G	2928	90.4	90.6	89.6	0.90	39	7.1	71.7	2.8	3.1	0.059	118	75
30	M2AA 200 MLA	3GAA 201 041-••G	2948	91.1	91.1	89.8	0.88	54	7.7	97.1	2.8	3.6	0.093	160	75
37	M2AA 200 MLB	3GAA 201 042-••G	2949	91.6	92.0	91.6	0.92	63.3	7.7	119	2.5	3.4	0.118	185	75
45	M2AA 225 SMA	3GAA 221 041-••G	2948	92.1	92.3	91.8	0.91	77.4	7.7	145	2.7	2.9	0.198	236	75
55	M2AA 250 SMA	3GAA 251 041-••G	2964	92.4	92.4	91.5	0.91	94.4	7.3	177	2.3	2.3	0.281	295	75
3000 r/min = 2-poles			400 V 50 Hz												
High-output design															
11	M2AA 132 SMA	3GAA 131 005-••E	2890	89.0	90.4	90.6	0.87	20.5	7.5	36.3	2.5	3.1	0.0165	63	69
15	M2AA 132 SMC	3GAA 131 006-••E	2905	89.9	90.2	89.3	0.87	27.6	9.1	49.3	3.3	4.0	0.02	81	69
18.5	M2AA 132 SMD	3GAA 131 007-••E	2870	89.3	90.5	90.7	0.88	33.9	8.2	61.5	2.9	3.5	0.02356	89	68

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
T_l / T_N = Locked rotor torque
T_b / T_N = Breakdown torque

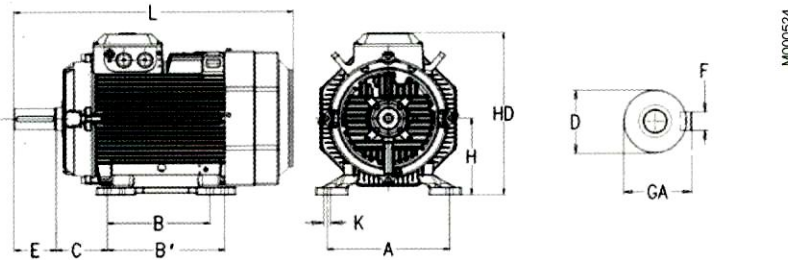
Efficiency values are given according to IEC 60034-2-1; 2007.
Please note that the values are not comparable without knowing the testing method.
ABB has calculated the efficiency values according to indirect method, stray load losses (additional losses) determined from measuring.

General performance aluminum motors

Dimension drawings

M2AA 56 - 250

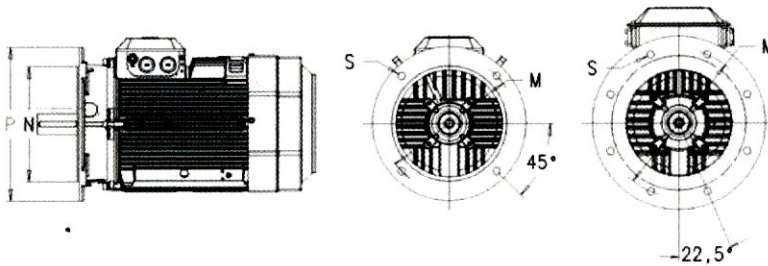
Foot-mounted motor IM1001, B3



Flange-mounted motor IM 3001, B5

Sizes 56-200

Sizes 225-250



IM 1001, IM B3 and IM 3001, IM B5

IM 1001, IM B3

IM 3001, IM B5

Motor size	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											
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	55	60	59	64	16	18	110	140	821	851	356	286	311	149	525 ⁴⁾	18	225	400	350	450	19
250	60	65	64	69	18	18	140	140	880	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	ISO k6 < Ø 50 mm
	ISO m6 > Ø 50 mm
F	ISO h9
H	-0,5
N	ISO j6
C	±0,8

¹⁾ M2AA 132 SA, SB, S, M, MA

²⁾ M2AA 132 6MA, SMC, SMD

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.