



Catalog

Low voltage
General performance
IE2 high efficiency steel 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.



General performance IE2 high efficiency steel motors Sizes 280 to 400, 75 to 630 kW



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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	M2CA 315SMA
Pole number	4
Mounting arrangement (IM-code)	IM B3 (IM 1001)
Rated output	132 kW
Product code	3GCA312210-ADA
Variant codes if needed	

Motor size

A	B	C	D, E, F,	G
M2CA	315 SMA	3GCA 312 210	- ADA, 003, etc.	
		1 - 4	5 - 6 7	8 - 10 11 12 13 14
A Motor type		D Code for mounting arrangement	E Voltage and frequency code	F Generation code followed by variant codes
B Motor size				G Variant code
C Product code				

Explanation of the product code

Positions 1 to 4

3GCA =
Totally enclosed fan cooled squirrel cage motor with steel stator frame

Positions 5 and 6

IEC size

28 = 280
31 = 315
35 = 355
40 = 400

Position 7

Speed (Pole pairs)

1 = 2 poles
2 = 4 poles
3 = 6 poles
4 = 8 poles
5 = 10 poles
6 = 12 poles
7 = > 12 poles
8 = Two-speed motors
9 = Multi-speed motors

Positions 8 to 10

Serial number

Position 11

- (dash)

Position 12

Mounting arrangement

A = Foot-mounted motor
A = Foot-mounted, top-mounted terminal box
R = Foot-mounted, terminal box RHS seen from D-end
L = Foot-mounted, terminal box LHS seen from D-end
B = Flange-mounted, large flange
H = Foot- and flange-mounted, top-mounted terminal box
S = Foot- and flange-mounted, terminal box RHS seen from D-end
T = Foot- and flange-mounted, terminal box LHS seen from D-end

Position 13

Voltage and frequency code

Single-speed motors

B 380 VΔ 50 Hz
D 400 VΔ, 415 VΔ, 690 VY 50 Hz
E 500 VΔ 50 Hz
F 500 VY 50 Hz
S 230 VΔ, 400 VY, 415 VY 50 Hz
T 660 VΔ 50 Hz
U 690 VΔ 50 Hz
X Other rated voltage, connection or frequency, 690 V maximum

Two-speed motors

A 220 V 50 Hz
B 380 V 50 Hz
D 400 V 50 Hz
E 500 V 50 Hz
S 230 V 50 Hz
X Other rated voltage, connection or frequency, 690 V maximum

Remark: For voltage code X the variant code '209 Non-standard voltage or frequency (special winding)' must be ordered.

Position 14

Generation code = A

For frame sizes 280 to 315 = A
For frame sizes 355 to 400 = C

The product code must be, if needed, followed by variant codes.

General performance steel motors

Technical data for totally enclosed squirrel cage three phase motors

IE2

P 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											
75	M2CA 280 SA	3GCA 281 110-••A	2977	94.2	93.8	92.5	0.88	130	7.5	240	2.3	3.3	0.8	480	77
90	M2CA 280 SMA	3GCA 281 210-••A	2975	94.5	94.3	93.3	0.90	152	7.6	288	2.3	2.9	0.9	545	77
110	M2CA 315 SA	3GCA 311 110-••A	2982	94.6	94.1	92.4	0.86	195	7.6	352	2.0	3.0	1.2	695	80
132	M2CA 315 SMA	3GCA 311 210-••A	2982	95.0	94.6	93.3	0.88	227	7.4	422	2.2	3.0	1.4	770	80
160	M2CA 315 MB	3GCA 311 320-••A	2981	95.3	95.0	93.9	0.89	272	7.5	512	2.3	3.0	1.7	840	80
200	M2CA 315 LA	3GCA 311 510-••A	2978	95.6	95.5	94.7	0.90	335	7.8	641	2.6	3.0	2.1	975	80
200	M2CA 355 SA	3GCA 351 110-••C	2978	95.5	95.3	94.3	0.89	339	6.4	641	1.3	2.6	2.5	1200	83
250	M2CA 355 MA	3GCA 351 310-••C	2983	96.1	95.9	94.8	0.89	421	7.2	800	1.4	3.0	2.7	1260	83
280	M2CA 355 MB	3GCA 351 320-••C	2981	96.1	95.9	95.1	0.89	472	6.8	896	1.3	2.8	2.7	1260	83
315	M2CA 355 LA	3GCA 351 510-••C	2980	96.4	96.2	95.5	0.89	529	7.0	1009	2.1	3.0	3.4	1480	83
355	M2CA 355 LB	3GCA 351 520-••C	2983	96.6	96.4	95.7	0.88	602	7.7	1136	2.1	2.9	3.5	1520	83
400	M2CA 400 MLA	3GCA 401 410-••C	2985	96.8	96.6	95.8	0.88	677	7.2	1279	1.4	2.6	6.3	2050	85
450	M2CA 400 MLB	3GCA 401 420-••C	2987	96.9	96.7	96.0	0.90	744	7.7	1438	1.7	3.0	6.9	2150	85
500	M2CA 400 LKA	3GCA 401 810-••C	2987	97.1	96.9	96.2	0.90	825	8.0	1598	2.0	3.2	7.8	2450	85
560	M2CA 400 LKB	3GCA 401 820-••C	2988	97.2	97.1	96.4	0.89	934	7.8	1789	2.1	3.4	7.9	2500	85
3000 r/min = 2-poles		400 V 50 Hz		High-output design											
110	M2CA 280 MB	3GCA 281 320-••A	2977	95.1	95.0	94.2	0.90	185	7.9	352	2.4	3.0	1.15	580	77
132	M2CA 280 MC	3GCA 281 330-••A	2976	95.4	95.4	94.8	0.91	219	7.7	423	2.6	3.0	1.4	755	77
160	M2CA 280 MD	3GCA 281 340-••A	2975	95.6	95.6	95.0	0.91	265	7.9	513	2.8	3.1	1.55	810	77
250	M2CA 315 LB	3GCA 311 520-••A	2980	96.0	96.0	95.3	0.89	422	8.1	801	2.8	2.9	2.65	1230	80
315 ¹⁾	M2CA 315 LC	3GCA 311 530-••A	2982	96.4	96.3	95.8	0.89	529	8.8	1008	3.2	3.2	3.3	1410	80

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
T_I / 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 steel motors

Technical data for totally enclosed squirrel cage three phase motors

IE2

P 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			GENELEC-design												
75	M2CA 280 SA	3GCA 282 110-••A	1483	94.0	94.1	93.4	0.84	137	6.8	482	2.4	2.8	1.15	445	68
90	M2CA 280 SMA	3GCA 282 210-••A	1484	94.6	94.8	94.3	0.85	161	7.1	579	2.7	2.9	1.4	490	68
110	M2CA 315 SA	3GCA 312 110-••A	1487	94.8	94.8	94.0	0.85	197	6.9	706	2.1	2.8	2	675	71
132	M2CA 315 SMA	3GCA 312 210-••A	1486	95.1	95.2	94.6	0.85	235	6.7	848	2.2	2.7	2.3	730	71
160	M2CA 315 MB	3GCA 312 320-••A	1486	95.5	95.6	95.1	0.86	281	7.2	1028	2.4	2.9	2.9	850	71
200	M2CA 315 LA	3GCA 312 510-••A	1486	95.6	95.8	95.4	0.86	351	7.2	1285	2.5	2.9	3.5	970	71
200	M2CA 355 SA	3GCA 352 110-••C	1488	95.6	95.5	94.6	0.86	351	7.3	1283	2.0	2.6	4.8	1200	80
250	M2CA 355 MA	3GCA 352 310-••C	1489	95.8	95.8	95.1	0.86	437	7.5	1603	2.2	2.6	5.7	1320	80
315	M2CA 355 LA	3GCA 352 510-••C	1488	95.8	95.8	95.0	0.86	551	7.3	2021	2.3	2.8	6.9	1550	80
355	M2CA 355 LB	3GCA 352 520-••C	1489	96.1	96.1	95.4	0.86	619	7.5	2276	2.4	2.7	6.9	1550	80
400	M2CA 355 LKD	3GCA 352 840-••C	1490	96.2	96.2	95.5	0.87	689	7.2	2563	2.5	2.8	8.4	1900	85
450	M2CA 400 MLA	3GCA 402 410-••C	1491	96.6	96.5	95.7	0.87	772	7.4	2882	1.9	2.7	12	2300	85
500	M2CA 400 MLB	3GCA 402 420-••C	1491	96.7	96.6	95.8	0.86	867	7.8	3202	2.2	2.9	13	2400	85
560	M2CA 400 LKA	3GCA 402 810-••C	1491	96.7	96.6	95.9	0.85	983	7.4	3586	2.4	3.0	15	2700	85
630 ¹⁾	M2CA 400 LKB	3GCA 402 820-••C	1491	96.9	96.8	96.2	0.87	1078	7.5	4034	2.2	3.0	16	2800	85
1500 r/min = 4-poles 400 V 50 Hz			High-output design												
110	M2CA 280 MB	3GCA 282 320-••A	1483	94.8	95.1	94.7	0.86	194	7.5	708	2.7	2.8	1.7	550	68
132	M2CA 280 MC	3GCA 282 330-••A	1483	94.9	95.2	94.9	0.86	233	7.1	849	2.8	2.9	2.3	775	70
160	M2CA 280 MD	3GCA 282 340-••A	1483	95.2	95.4	95.0	0.86	282	7.1	1030	2.8	3.1	2.5	820	70
250	M2CA 315 LB	3GCA 312 520-••A	1487	95.5	95.6	95.1	0.86	439	7.4	1605	2.5	2.9	4.4	1200	78
315	M2CA 315 LC	3GCA 312 530-••A	1488	95.6	95.7	95.2	0.86	553	7.8	2021	2.6	3.2	5.5	1380	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
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 steel motors

Technical data for totally enclosed squirrel cage three phase motors

IE2

P 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											
45	M2CA 280 SA	3GCA 283 110-••A	990	93.0	93.2	92.5	0.82	85.1	6.6	434	2.5	2.5	1.65	440	66
55	M2CA 280 SMA	3GCA 283 210-••A	989	93.4	93.7	93.3	0.83	102	6.6	531	2.5	2.5	2	475	66
75	M2CA 315 SA	3GCA 313 110-••A	992	94.2	94.3	93.5	0.80	143	7.1	721	2.3	2.7	2.9	630	72
90	M2CA 315 SMA	3GCA 313 210-••A	991	94.6	94.8	94.3	0.83	165	7.1	867	2.3	2.7	3.8	720	72
110	M2CA 315 MB	3GCA 313 320-••A	991	94.7	94.8	94.1	0.83	201	7.3	1059	2.5	2.8	4.5	805	75
132	M2CA 315 LA	3GCA 313 510-••A	990	94.8	95.0	94.4	0.84	239	6.7	1273	2.4	2.7	5.4	910	75
132	M2CA 355 SA	3GCA 353 110-••C	992	94.7	94.6	93.6	0.84	239	6.8	1270	2.0	2.4	6.8	1150	79
160	M2CA 355 SB	3GCA 353 120-••C	992	95.0	95.0	94.1	0.83	292	7.2	1540	2.3	2.5	7.6	1220	79
200	M2CA 355 MA	3GCA 353 310-••C	992	95.2	95.2	94.4	0.83	365	7.5	1925	2.4	2.6	9	1400	79
250	M2CA 355 MB	3GCA 353 320-••C	993	95.4	95.3	94.4	0.80	472	7.7	2404	2.9	3.0	10.6	1550	79
315	M2CA 355 LKD	3GCA 353 840-••C	992	95.7	95.7	95.1	0.82	579	7.4	3032	2.6	2.7	13.2	1900	79
355	M2CA 400 MLA	3GCA 403 410-••C	993	96.2	96.2	95.7	0.84	634	7.3	3413	2.0	2.4	18	2400	80
400	M2CA 400 MLB	3GCA 403 420-••C	994	96.5	96.4	95.8	0.84	712	7.6	3842	2.2	2.7	18	2400	80
450 ¹⁾	M2CA 400 LKA	3GCA 403 810-••C	994	96.4	96.4	95.8	0.83	811	7.8	4323	2.3	2.6	21	2700	80
500 ¹⁾	M2CA 400 LKB	3GCA 403 820-••C	994	96.6	96.6	96.1	0.83	900	7.7	4803	2.4	2.5	21	2700	80
1000 r/min = 6-poles		400 V 50 Hz		High-output design											
75	M2CA 280 MB	3GCA 283 320-••A	990	93.7	93.9	93.3	0.83	139	7.3	723	2.8	2.7	2.6	545	67
90	M2CA 280 MC	3GCA 283 330-••A	989	94.0	94.1	93.6	0.84	164	7.4	868	2.9	2.9	3.1	815	67
110	M2CA 280 MD	3GCA 283 340-••A	990	94.3	94.5	93.9	0.85	198	7.9	1061	3.1	3.0	4.1	835	67
750 r/min = 8-poles²⁾		400 V 50 Hz		CENELEC-design											
37	M2CA 280 SA	3GCA 284 110-••A	741	92.2	92.1	90.8	0.78	74.2	7.3	476	1.8	3.1	1.85	460	65
45	M2CA 280 SMA	3GCA 284 210-••A	741	92.5	92.4	91.1	0.78	90	7.6	579	1.9	3.2	2.2	500	65
55	M2CA 315 SA	3GCA 314 110-••A	741	93.2	93.3	92.4	0.80	106	7.1	708	1.8	2.8	2.9	630	70
75	M2CA 315 SMA	3GCA 314 210-••A	740	93.4	93.7	93.1	0.81	143	7.1	967	1.8	2.8	3.8	715	70
90	M2CA 315 MB	3GCA 314 320-••A	740	93.7	93.9	93.5	0.82	169	7.3	1161	1.9	2.8	4.5	800	77
110	M2CA 315 LA	3GCA 314 510-••A	740	93.7	94.1	93.8	0.83	204	7.0	1419	1.9	2.7	5.4	900	77
110	M2CA 355 SA	3GCA 354 110-••C	743	94.3	94.4	93.7	0.80	210	6.0	1413	1.0	2.4	6.8	1150	75
132	M2CA 355 MA	3GCA 354 310-••C	743	94.5	94.6	93.9	0.80	252	6.2	1696	1.0	2.4	7.6	1220	75
160	M2CA 355 MB	3GCA 354 320-••C	744	94.7	94.7	94.0	0.79	308	6.8	2053	1.2	2.7	9	1400	75
750 r/min = 8-poles		400 V 50 Hz		High-output design											
55	M2CA 280 MB	3GCA 284 320-••A	741	93.0	93.1	92.1	0.79	108	7.8	708	1.9	3.2	2.85	575	65

¹⁾ Temperature rise class F

²⁾ Efficiency classification concerns 2-, 4- and 6-pole motors.

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_I / 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.

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General performance IE2 steel motors – variant codes

Code ¹⁾ Variant	Frame size			
	280	315	355	400
Administration				
531 Sea freight packing	M	M	M	P
Balancing				
417 Vibration acc. to Grade B (IEC 60034-14).	P	P	P	R
423 Balanced without key.	P	P	P	P
424 Full key balancing.	P	P	P	P
Bearings and Lubrication				
036 Transport lock for bearings.	M	M	M	P
037 Roller bearing at D-end.	M	M	M	R
040 Heat resistant grease.	M	M	M	P
043 SPM compatible nipples for vibration measurement	M	M	M,P	P
058 Angular contact bearing at D-end, shaft force away from bearing.	P	P	P	P
060 Angular contact bearing at D-end, shaft force towards bearing.	P	P	P	P
107 Pt100 2-wire in bearings.	P	P	P	P
128 Double PT100, 2-wire in bearings	P	P	P	P
129 Double PT100, 3-wire in bearings	P	P	P	P
130 Pt100 3-wire in bearings.	P	P	P	P
420 Bearing mounted PTC thermistors.	P	P	P	P
795 Lubrication information plate	P	P	P	P
796 Grease nipples JIS B 1575 PT 1/8 Type A	M	M	M	P
799 Grease nipples flat type DIN 3404, thread M10x1	M	M	M	P
800 Grease nipples JIS B 1575 PT 1/8" pin type	M	M	M	P
Branch standard designs				
142 "Manilla connection".	P	P	R	R
178 Stainless steel / acid proof bolts.	P	P	P	P
209 Non-standard voltage or frequency, (special winding).	P	P	P	P
425 Corrosion protected stator and rotor core.	P	P	P	P
Cooling system				
044 Unidirectional fan for reduced noise level. Rotation clockwise seen from D-end. Available only for 2-pole motors.	P	P	P	P
045 Unidirectional fan for reduced noise level. Rotation counter clockwise seen from D-end. Available only for 2-pole motors.	P	P	P	P
068 Light alloy metal fan	P	P	P	P
075 Cooling method IC418 (without fan).	R	R	R	R
Coupling				
035 Assembly of customer supplied coupling-half.	P	P	P	P
Documentation				
141 Binding dimension drawing.	M	M	M	P
Drain holes				
065 Plugged existing drain holes.	M	M	M	P
Earthing Bolt				
067 External earthing bolt.	M	M	M	P
Hazardous Environments				
See catalog „Motors for hazardous Environments“ for details.				
Heating elements				
450 Heating element, 100-120V.	M	M	M	P
451 Heating element, 200-240V.	M	M	M	P
Insulation system				
014 Winding insulation class H.	P	P	P	P
405 Special winding insulation for frequency converter supply.	P	P	P	P

¹⁾ Certain variant codes cannot be used simultaneously.

S = Included as standard.
M = On modification of a stocked motor,
or on new manufacture,
the number per order may be limited.

P = New manufacture only.
R = On request.
NA = Not applicable.

Code ¹⁾ Variant		Frame size			
		280	315	355	400
Mounting arrangements					
009	IM 2001 foot/flange mounted, IEC flange, from IM 1001 (B35 from B3).	M	M	M	P
066	Modified for non-standard mounting position (please specify IM xxxx), (must be ordered for all mounting arrangements excluding IM B3 (1001), IM B5 (3001), IM B35 (2001), B34 (2101) & B14 (3601).	M	M	M	P
Painting					
109	Paint thickness = 120 µm.	M	M	M	P
110	Paint thickness = 160 µm.	M	M	M	P
114	Special paint colour, standard grade.	M	M	M	P
Protection					
005	Metal protective roof, vertical motor, shaft down.	M	M	M	P
072	Radial seal at D-end.	M	M	M	P
158	Degree of protection IP65.	M	M	M	P
403	Degree of protection IP56.	M	M	M	P
Rating & instruction plates					
002	Restamping voltage, frequency and output, continuous duty.	M	M	M	P
004	Additional text on std rating plate (max 12 digits on free text line).	M	M	M	P
095	Restamping output (maintained voltage, frequency), intermittent duty.	M	M	M	P
126	Tag plate	P	P	P	P
135	Mounting of additional identification plate, stainless.	M	M	M	P
139	Additional identification plate delivered loose.	M	M	M	P
161	Additional rating plate delivered loose.	M	M	M	P
163	Frequency converter rating plate. Rating data according to quotation.	P	P	P	P
Shaft & rotor					
069	Two shaft extensions as per basic catalogue.	P	P	P	P
070	One or two special shaft extensions, standard shaft material.	P	P	P	P
410	Stainless steel shaft (standard or non-standard design).	P	P	P	P
Standards and Regulations					
010	Fulfilling CSA Safety Certificate.	P	P	P	P
540	China energy label	M	M	M	NA
779	SASO Export/Import Certificate (Saudi Arabia)	M	M	M	P
Stator winding temperature sensors					
120	KTY 84-130 (1 per phase) in stator winding.	P	P	P	P
121	Bimetal detectors, break type (NCC), (3 in series), 130°C, in stator winding.	M	M	M	P
122	Bimetal detectors, break type (NCC), (3 in series), 150°C, in stator winding.	M	M	M	P
123	Bimetal detectors, break type (NCC), (3 in series), 170°C, in stator winding.	M	M	M	P
125	Bimetal detectors, break type (NCC), (2x3 in series), 150°C, in stator winding.	P	P	P	P
127	Bimetal detectors, break type (NCC), (3 in series, 130°C & 3 in series, 150°C), in stator winding.	M	M	M	P
435	PTC - thermistors (3 in series), 130°C, in stator winding.	M	M	M	P
436	PTC - thermistors (3 in series), 150°C, in stator winding.	S	S	S	S
437	PTC - thermistors (3 in series), 170°C, in stator winding.	M	M	M	P
439	PTC - thermistors (2x3 in series), 150°C, in stator winding.	M	M	M	P
441	PTC - thermistors (3 in series, 130°C & 3 in series, 150°C), in stator winding.	M	M	M	P
442	PTC - thermistors (3 in series, 150°C & 3 in series, 170°C), in stator winding.	M	M	M	P
445	Pt-100 2-wire in stator winding, 1 per phase	M	M	M	P
446	Pt-100 2-wire in stator winding, 2 per phase	M	M	M	P
502	Pt-100 3-wire in stator winding, 1 per phase.	M	M	M	P
503	Pt-100 3-wire in stator winding, 2 per phase.	M	M	M	P
Terminal box					
019	Larger than standard terminal box.	R	R	R	R
021	Terminal box LHS (seen from D-end).	P	P	P	P
022	Cable entry LHS (seen from D-end).	M	M	M	P
157	Terminal box degree of protection IP65.	M	M	M	P
180	Terminal box RHS (seen from D-end).	P	P	P	P

¹⁾ Certain variant codes cannot be used simultaneously.

S = Included as standard.
M = On modification of a stocked motor,
or on new manufacture,
the number per order may be limited.

P = New manufacture only.
R = On request.
NA = Not applicable.

Code ¹⁾ Variant	Frame size			
	280	315	355	400
277 Cable sealing end unit, size small for C-opening	P	NA	NA	NA
278 Cable sealing end unit, size medium for D-opening	NA	P	S	S
279 Cable sealing end unit, size large for D-opening	NA	P	P	P
292 Adapter C-C	P	NA	NA	NA
293 Adapter D-D	NA	P	P	P
294 Adapter E-D	NA	NA	S	S
295 Adapter E-2D	NA	NA	P	P
380 Separate terminal box for temperature detectors, std. material	P	P	P	P
413 Extended cable connection, no terminal box.	P	P	P	P
418 Separate terminal box for auxiliaries, standard material.	P	P	P	P
466 Terminal box at N-end.	P	P	P	P
468 Cable entry from D-end.	P	P	P	P
469 Cable entry from N-end.	P	P	P	P
568 Separate terminal box for heating elements, std. material	P	P	P	P
729 Aluminum non-drilled flange for cable glands	M	M	M	P
730 Prepared for NPT cable glands	P	P	P	P
743 Painted non-drilled flange in steel for cable glands	M	M	M	P
744 Stainless steel non-drilled flange for cable glands.	P	P	P	P
745 Painted steel flange equipped with nickle plated brass cable glands	M	M	M	P
746 Stainless steel cable flange equipped with standard nickle plated brass cable glands	P	P	P	P
Testing				
145 Type test report from a catalogue motor, 400V 50Hz.	M	M	M	P
146 Type test with report for one motor from specific delivery batch.	P	P	P	P
148 Routine test report.	M	M	M	P
150 Customer witnessed testing. Specify test procedure with other codes.	P	P	P	P
222 Torque/speed curve, type test and multi-point load test with report for one motor from specific delivery batch.	P	P	P	P
760 Vibration level test	P	P	P	P
761 Vibration spectrum test for one motor from specific delivery batch.	P	P	P	P
762 Noise level test for one motor from specific delivery batch.	P	P	P	P
763 Noise spectrum test for one motor from specific delivery batch.	P	P	P	P
Variable speed drives				
701 Insulated bearing at N-end.	M	M	M	P
704 EMC cable gland.	M	M	M	P
Y/Δ starting				
117 Terminals for Y/Δ start at both speeds (two speed windings).	P	P	R	R
118 Terminals for Y/Δ start at high speed (two speed windings).	P	P	R	R
119 Terminals for Y/Δ start at low speed (two speed windings).	P	P	R	R

¹⁾ Certain variant codes cannot be used simultaneously.

S = Included as standard.

M = On modification of a stocked motor,
or on new manufacture,
the number per order may be limited.

P = New manufacture only.

R = On request.

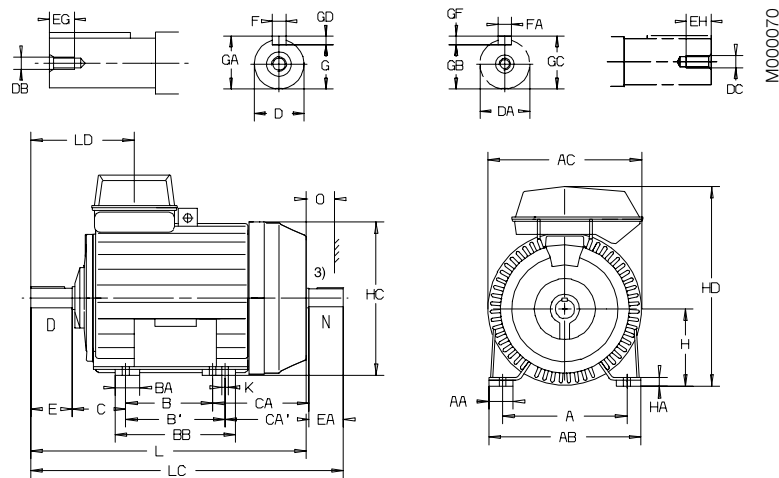
NA = Not applicable.

General performance IE2 steel motors

Dimension drawings

M2CA 280 - 315

Foot-mounted; IM B3 (IM 1001), IM B6 (IM 1051), IM B7 (IM 1061), IM B8 (IM 1071),
IM V5 (IM 1011), IM V6 (IM 1031) – terminal box top mounted



Motor size	Poles ¹⁾	A	AA	AB	AC	B	B'	BA	BB	C	CA	CA'	D	DA	DB	DC	E	EA	EG	EH
		280 SA	2	457	80	545	555	368	-	100	501	190	372	-	65	60	M20	M20	140	140
	4-8	457	80	545	555	368	-	100	450	190	302	-	75	65	M20	M20	140	140	40	40
280 SMA	2	457	80	545	555	368	419	100	501	190	372	321	65	60	M20	M20	140	140	40	40
	4-8	457	80	545	555	368	419	100	501	190	372	321	75	65	M20	M20	140	140	40	40
280 MB	2	457	80	545	555	419	-	100	501	190	381	-	65	60	M20	M20	140	140	40	40
	4-8	457	80	545	555	419	-	100	501	190	381	-	75	65	M20	M20	140	140	40	40
280 MC,MD	2	457	80	545	555	419	-	100	501	190	381	-	65	60	M20	M20	140	140	40	40
	4-8	457	80	545	555	419	-	100	501	190	381	-	75	65	M20	M20	140	140	40	40
315 SA	2	508	100	622	624	406	-	100	539	216	343	-	65	60	M20	M20	140	140	40	40
	4-8	508	100	622	624	406	-	100	539	216	343	-	80	75	M20	M20	170	140	40	40
315 SMA	2	508	100	622	624	406	457	100	539	216	443	392	65	60	M20	M20	140	140	40	40
	4-8	508	100	622	624	406	457	100	539	216	343	292	80	75	M20	M20	170	140	40	40
315 MB	2	508	100	622	624	457	-	100	539	216	392	-	65	60	M20	M20	140	140	40	40
	4-8	508	100	622	624	457	-	100	539	216	392	-	80	75	M20	M20	170	140	40	40
315 LA	2	508	100	622	624	508	-	100	592	216	411	-	65	60	M20	M20	140	140	40	40
	4-8	508	100	622	624	508	-	100	592	216	411	-	90	75	M24	M20	170	140	48	40
315 LB,LC	2	508	100	622	624	508	-	100	592	216	411	-	65	60	M20	M20	140	140	40	40
	4-8	508	100	622	624	508	-	100	592	216	411	-	90	75	M24	M20	170	140	48	40

Motor size	Poles ¹⁾	F	FA	G	GA	GB	GC	GD	GF	H	HA	HC	HD	K	L	LC	LD	O ²⁾
		280 SA	2	18	18	58	69	53	64	11	11	280	32	558	730	24	1060	1210
	4-8	20	18	67.5	79.5	58	69	12	11	280	32	558	730	24	990	1140	385	100
280 SMA	2	18	18	58	69	53	64	11	11	280	32	558	730	24	1060	1210	385	100
	4-8	20	18	67.5	79.5	58	69	12	11	280	32	558	730	24	1060	1210	385	100
280 MB	2	18	18	58	69	53	64	11	11	280	32	558	730	24	1120	1270	385	100
	4-8	20	18	67.5	79.5	58	69	12	11	280	32	558	730	24	1120	1270	385	100
280 MC	2	18	18	58	69	53	64	11	11	280	32	555	730	24	1255	1405	385	100
	4-8	20	18	67.5	79.5	58	69	12	11	280	32	558	730	24	1255	1405	385	100
280 MD	2	18	18	58	69	53	64	11	11	280	32	558	730	24	1255	1405	385	100
	4-8	20	18	67.5	79.5	58	69	12	11	280	32	558	730	24	1255	1405	385	100
315 SA	2	18	18	58	69	53	64	11	11	315	32	627	820	28	1095	1245	390	115
	4-8	22	20	71	85	67.5	79.5	14	12	315	32	627	820	28	1125	1275	420	115
315 SMA	2	18	18	58	69	53	64	11	11	315	32	627	820	28	1195	1345	390	115
	4-8	22	20	71	85	67.5	79.5	14	12	315	32	627	820	28	1125	1275	420	115
315 MB	2	18	18	58	69	53	64	11	11	315	32	627	820	28	1195	1345	390	115
	4-8	22	20	71	85	67.5	79.5	14	12	315	32	627	820	28	1225	1375	420	115
315 LA	2	18	18	58	69	53	64	11	11	315	32	627	820	28	1265	1415	390	115
	4-8	25	20	81	95	67.5	79.5	14	12	315	32	627	820	28	1295	1445	420	115
315 LB	2	18	18	58	69	53	64	11	11	315	32	627	820	28	1545	1695	390	115
	4-8	25	20	81	95	67.5	79.5	14	12	315	32	627	820	28	1575	1725	420	115
315 LC	2	18	18	58	69	53	64	11	11	315	32	627	848	28	1545	1695	390	115
	4	25	20	81	95	67.5	79.5	14	12	315	32	627	848	28	1575	1725	420	115

Tolerances:

A, B	ISO js14	H	ISO 0, -1.0
D, DA	ISO m6		
F, FA	ISO h9		

- ¹⁾ Dimensions for 4-pole motors also valid for 4/6- and 4-8 -pole two-speed motors.
- ²⁾ Cooling distance.
- ³⁾ Second shaft end on request.

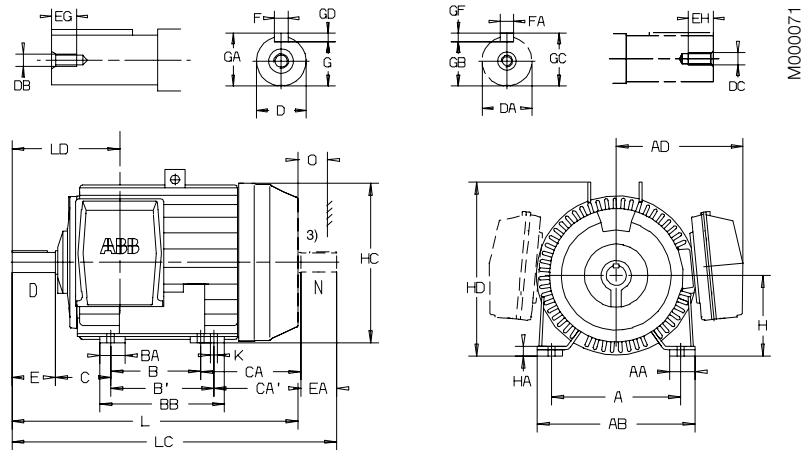
Above table gives the main dimensions in mm. For detailed drawings please see our web-pages 'www.abb.com/motors&generators' or contact ABB.

General performance IE2 steel motors

M2CA 280 - 315

Dimension drawings

Foot-mounted; IM B3 (IM 1001), IM B6 (IM 1051), IM B7 (IM 1061), IM B8 (IM 1071), IM V5 (IM 1011), IM V6 (IM 1031) – terminal box side mounted



Motor size	Poles ¹⁾																			
		A	AA	AB	AD	B	B'	BA	BB	C	CA	CA'	D	DA	DB	DC	E	EA	EG	EH
280 SA	2	457	80	545	448	368	–	100	501	190	372	–	65	60	M20	M20	140	140	40	40
	4-8	457	80	545	448	368	–	100	450	190	302	–	75	65	M20	M20	140	140	40	40
280 SMA	2	457	80	545	448	368	419	100	501	190	372	321	65	60	M20	M20	140	140	40	40
	4-8	457	80	545	448	368	419	100	501	190	372	321	75	65	M20	M20	140	140	40	40
280 MB	2	457	80	545	448	419	–	100	501	190	381	–	65	60	M20	M20	140	140	40	40
	4-8	457	80	545	448	419	–	100	501	190	381	–	75	65	M20	M20	140	140	40	40
280 MC,MD	2	457	80	545	448	419	–	100	501	190	381	–	65	60	M20	M20	140	140	40	40
	4-8	457	80	545	448	419	–	100	501	190	381	–	75	65	M20	M20	140	140	40	40
315 SA	2	508	100	622	502	406	–	100	539	216	343	–	65	60	M20	M20	140	140	40	40
	4-8	508	100	622	502	406	–	100	539	216	343	–	80	75	M20	M20	170	140	40	40
315 SMA	2	508	100	622	502	406	457	100	539	216	443	392	65	60	M20	M20	140	140	40	40
	4-8	508	100	622	502	406	457	100	539	216	343	292	80	75	M20	M20	170	140	40	40
315 MB	2	508	100	622	502	457	–	100	539	216	392	–	65	60	M20	M20	140	140	40	40
	4-8	508	100	622	502	457	–	100	539	216	392	–	80	75	M20	M20	170	140	40	40
315 LA	2	508	100	622	502	508	–	100	592	216	411	–	65	60	M20	M20	140	140	40	40
	4-8	508	100	622	502	508	–	100	592	216	411	–	90	75	M24	M20	170	140	48	40
315 LB,LC	2	508	100	622	502	508	–	100	592	216	411	–	65	60	M20	M20	140	140	40	40
	4-8	508	100	622	502	508	–	100	592	216	411	–	90	75	M24	M20	170	140	48	40

Motor size	Poles ¹⁾																		O ²⁾
		F	FA	G	GA	GB	GC	GD	GF	H	HA	HC	HD	K	L	LC	LD		
280 SA	2	18	18	58	69	53	64	11	11	280	32	558	620	24	1060	1210	385	100	
	4-8	20	18	67.5	79.5	58	69	12	11	280	32	558	620	24	990	1140	385	100	
280 SMA	2	18	18	58	69	53	64	11	11	280	32	558	620	24	1060	1210	385	100	
	4-8	20	18	67.5	79.5	58	69	12	11	280	32	558	620	24	1060	1210	385	100	
280 MB	2	18	18	58	69	53	64	11	11	280	32	558	620	24	1120	1270	385	100	
	4-8	20	18	67.5	79.5	58	69	12	11	280	32	558	620	24	1120	1270	385	100	
280 MC	2	18	18	58	69	53	64	11	11	280	32	558	620	24	1255	1405	385	100	
	4-8	20	18	67.5	79.5	58	69	12	11	280	32	558	620	24	1255	1405	385	100	
280 MD	2	18	18	58	69	53	64	11	11	280	32	558	620	24	1255	1405	385	100	
	4-8	20	18	67.5	79.5	58	69	12	11	280	32	558	620	24	1255	1405	385	100	
315 SA	2	18	18	58	69	53	64	11	11	315	32	627	685	28	1095	1245	390	115	
	4-8	22	20	71	85	67.5	79.5	14	12	315	32	627	685	28	1125	1275	420	115	
315 SMA	2	18	18	58	69	53	64	11	11	315	32	627	685	28	1195	1345	390	115	
	4-8	22	20	71	85	67.5	79.5	14	12	315	32	627	685	28	1125	1275	420	115	
315 MB	2	18	18	58	69	53	64	11	11	315	32	627	685	28	1195	1345	390	115	
	4-8	22	20	71	85	67.5	79.5	14	12	315	32	627	685	28	1225	1375	420	115	
315 LA	2	18	18	58	69	53	64	11	11	315	32	627	685	28	1265	1415	390	115	
	4-8	25	20	81	95	67.5	79.5	14	12	315	32	627	685	28	1295	1445	420	115	
315 LB,LC	2	18	18	58	69	53	64	11	11	315	32	627	685	28	1545	1695	390	115	
	4-8	25	20	81	95	67.5	79.5	14	12	315	32	627	685	28	1575	1575	420	115	

Tolerances:

A, B	ISO js14	H	ISO 0, -1.0
D, DA	ISO m6		
F, FA	ISO h9		

- ¹⁾ Dimensions for 4-pole motors also valid for 4/6- and 4-8 -pole two-speed motors.
- ²⁾ Cooling distance.
- ³⁾ Second shaft end on request.

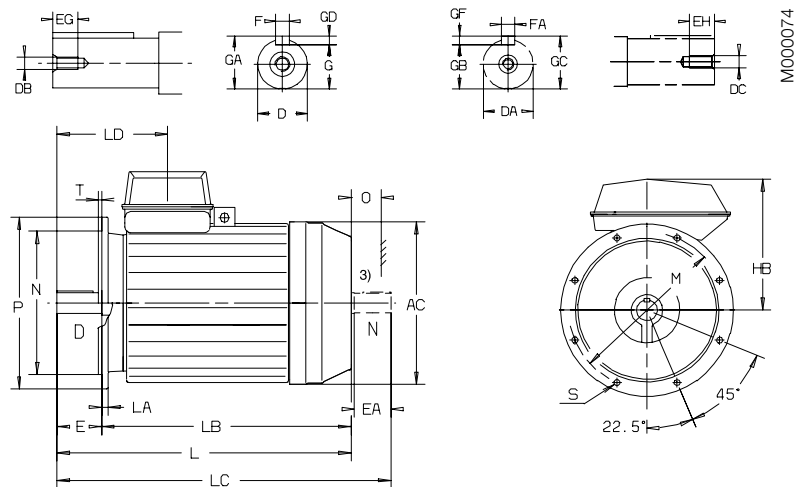
Above table gives the main dimensions in mm. For detailed drawings please see our web-pages 'www.abb.com/motors&generators' or contact ABB.

General performance IE2 steel motors

Dimension drawings

M2CA 280 - 315

Flange-mounted; IM B5 (IM 3001), V1 (IM 3011), V3 (IM 3031) and IM B14 (IM 3601), V18 (IM 3611), V19 (IM 3631)



Motor size	Poles ¹⁾	AC	D	DA	DB	DC	E	EA	EG	EH	F	FA	G	GA	GB	GC
280 SA	2	555	65	60	M20	M20	140	140	40	40	18	18	58	69	53	64
	4-8	555	75	65	M20	M20	140	140	40	40	20	18	67.5	79.5	58	69
280 SMA	2	555	65	60	M20	M20	140	140	40	40	18	18	58	69	53	64
	4-8	555	75	65	M20	M20	140	140	40	40	20	18	67.5	79.5	58	69
280 MB	2	555	65	60	M20	M20	140	140	40	40	18	18	58	69	53	64
	4-8	555	75	65	M20	M20	140	140	40	40	20	18	67.5	79.5	58	69
280 MC,MD	2	555	65	60	M20	M20	140	140	40	40	18	18	58	69	53	64
	4-8	555	75	65	M20	M20	140	140	40	40	20	18	67.5	79.5	58	69
315 SA	2	624	65	60	M20	M20	140	140	40	40	18	18	58	69	53	64
	4-8	624	80	75	M20	M20	170	140	40	40	22	20	71	85	67.5	79.5
315 SMA	2	624	65	60	M20	M20	140	140	40	40	18	18	58	69	53	64
	4-8	624	80	75	M20	M20	170	140	40	40	22	20	71	85	67.5	79.5
315 MB	2	624	65	60	M20	M20	140	140	40	40	18	18	58	69	53	64
	4-8	624	80	75	M20	M20	170	140	40	40	22	20	71	85	67.5	79.5
315 LA	2	624	65	60	M20	M20	140	140	40	40	18	18	58	69	53	64
	4-8	624	90	75	M24	M20	170	140	48	40	25	20	81	95	67.5	79.5
315 LB,LC	2	624	65	60	M20	M20	140	140	40	40	18	18	58	69	53	64
	4-8	624	90	75	M24	M20	170	140	48	40	25	20	81	95	67.5	79.5

Motor size	Poles ¹⁾	GD	GF	HB	L	LA	LB	LC	LD	M	N	O ²⁾	P	S	T
280 SA	2	11	11	450	1060	22	920	1210	385	500	450	100	550	18	5
	4-8	12	11	450	990	22	850	1140	385	500	450	100	550	18	5
280 SMA	2	11	11	450	1060	22	920	1210	385	500	450	100	550	18	5
	4-8	12	11	450	1060	22	920	1210	385	500	450	100	550	18	5
280 MB	2	11	11	450	1120	22	980	1270	385	500	450	100	550	18	5
	4-8	12	11	450	1120	22	980	1270	385	500	450	100	550	18	5
280 MC	2	11	11	450	1255	22	980	1405	385	500	450	100	550	18	5
	4-8	12	11	450	1255	22	980	1405	385	500	450	100	550	18	5
280 MD	2	11	11	450	1255	22	980	1405	385	500	450	100	550	18	5
	4-8	12	11	450	1255	22	980	1405	385	500	450	100	550	18	5
315 SA	2	11	11	505	1095	25	955	1245	390	600	550	115	660	23	6
	4-8	14	12	505	1125	25	955	1275	420	600	550	115	660	23	6
315 SMA	2	11	11	505	1195	25	1055	1345	390	600	550	115	660	23	6
	4-8	14	12	505	1125	25	955	1275	420	600	550	115	660	23	6
315 MB	2	11	11	505	1195	25	1055	1345	390	600	550	115	660	23	6
	4-8	14	12	505	1225	25	1055	1375	420	600	550	115	660	23	6
315 LA	2	11	11	505	1265	25	1125	1415	390	600	550	115	660	23	6
	4-8	14	12	505	1295	25	1125	1445	420	600	550	115	660	23	6
315 LB	2	11	11	505	1545	25	1125	1415	390	600	550	115	660	23	6
	4-8	14	12	505	1575	25	1405	1725	420	600	550	115	660	23	6
315 LC	2	11	11	505	1545	25	1125	1415	390	600	550	115	660	23	6
	4-8	14	12	526	1575	25	1405	1725	420	600	550	115	660	23	6

Tolerances:

D, DA ISO m6
F, FA ISO h9
N ISO j6

- ¹⁾ Dimensions for 4-pole motors also valid for 4/6- and 4-8 -pole two-speed motors.
- ²⁾ Cooling distance.
- ³⁾ Second shaft end on request.

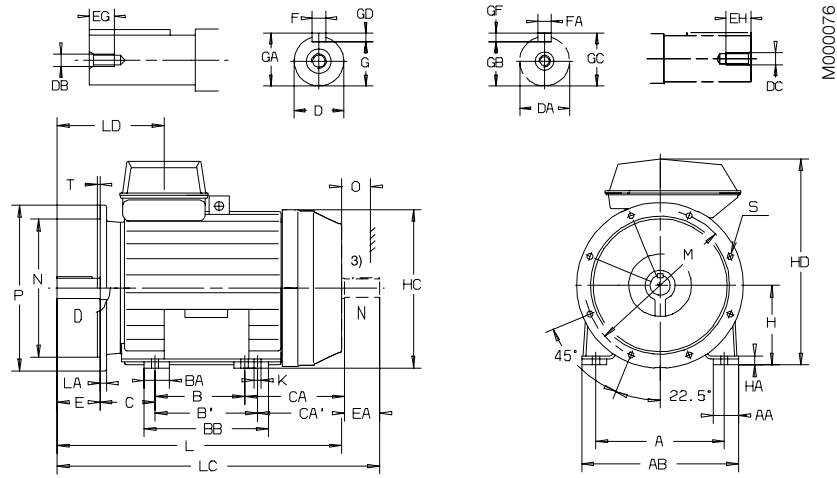
Above table gives the main dimensions in mm.
For detailed drawings please see our web-pages 'www.abb.com/motors&generators' or contact ABB.

General performance IE2 steel motors

Dimension drawings

M2CA 280 - 315

Foot- and flange-mounted; IM B35 (IM 2001), IM V15 (IM 2011), IM V36 (IM 2031) – terminal box top mounted



Motor size	Poles ¹⁾	A	AA	AB	B	B'	BA	BB	C	CA	CA'	D	DA	DB	DC	E	EA	EG	EH	F	FA
280 SA	2	457	80	545	368	-	100	501	190	372	-	65	60	M20	M20	140	140	40	40	18	18
	4-8	457	80	545	368	-	100	501	190	302	-	75	65	M20	M20	140	140	40	40	20	18
280 SMA	2	457	80	545	368	419	100	501	190	372	321	65	60	M20	M20	140	140	40	40	18	18
	4-8	457	80	545	368	419	100	501	190	372	321	75	65	M20	M20	140	140	40	40	20	18
280 MB	2	457	80	545	419	-	100	501	190	381	-	65	60	M20	M20	140	140	40	40	18	18
	4-8	457	80	545	419	-	100	501	190	381	-	75	65	M20	M20	140	140	40	40	20	18
280 MC,MD	2	457	80	545	419	-	100	501	190	381	-	65	60	M20	M20	140	140	40	40	18	18
	4-8	457	80	545	419	-	100	501	190	381	-	75	65	M20	M20	140	140	40	40	20	18
315 SA	2	508	100	622	406	-	100	539	216	343	-	65	60	M20	M20	140	140	40	40	18	18
	4-8	508	100	622	406	-	100	539	216	343	-	80	75	M20	M20	170	140	40	40	22	20
315 SMA	2	508	100	622	406	457	100	539	216	443	392	65	60	M20	M20	140	140	40	40	18	18
	4-8	508	100	622	406	457	100	539	216	343	292	80	75	M20	M20	170	140	40	40	22	20
315 MB	2	508	100	622	457	-	100	539	216	392	-	65	60	M20	M20	140	140	40	40	18	18
	4-8	508	100	622	457	-	100	539	216	392	-	80	75	M20	M20	170	140	40	40	22	20
315 LA	2	508	100	622	508	-	100	592	216	411	-	65	60	M20	M20	140	140	40	40	18	18
	4-8	508	100	622	508	-	100	592	216	411	-	90	75	M24	M20	170	140	48	40	25	20
315 LB,LC	2	508	100	622	508	-	100	592	216	411	-	65	60	M20	M20	140	140	40	40	18	18
	4-8	508	100	622	508	-	100	592	216	411	-	90	75	M24	M20	170	140	48	40	25	20

Motor size	Poles ¹⁾	G	GA	GB	GC	GD	GF	H	HA	HC	HD	K	L	LA	LC	LD	M	N	O ²⁾	P	S	T
280 SA	2	58	69	53	64	11	11	280	32	558	730	24	1060	22	1210	385	500	450	100	550	18	5
	4-8	67.5	79.5	58	69	12	11	280	32	558	730	24	990	22	1140	385	500	450	100	550	18	5
280 SMA	2	58	69	53	64	11	11	280	32	558	730	24	1060	22	1210	385	500	450	100	550	18	5
	4-8	67.5	79.5	58	69	12	11	280	32	558	730	24	1060	22	1210	385	500	450	100	550	18	5
280 MB	2	58	69	53	64	11	11	280	32	558	730	24	1120	22	1270	385	500	450	100	550	18	5
	4-8	67.5	79.5	58	69	12	11	280	32	558	730	24	1120	22	1270	385	500	450	100	550	18	5
280 MC	2	58	69	53	64	11	11	280	32	558	730	24	1255	22	1405	385	500	450	100	550	18	5
	4-8	67.5	79.5	58	69	12	11	280	32	558	730	24	1225	22	1405	385	500	450	100	550	18	5
280 MD	2	58	69	53	64	11	11	280	32	558	730	24	1255	22	1405	385	500	450	100	550	18	5
	4-8	67.5	79.5	58	69	12	11	280	32	558	730	24	1255	22	1405	385	500	450	100	550	18	5
315 SA	2	58	69	53	64	11	11	315	32	627	820	28	1095	25	1245	390	600	550	115	660	23	6
	4-8	71	85	67.5	79.5	14	12	315	32	627	820	28	1125	25	1275	420	600	550	115	660	23	6
315 SMA	2	58	69	53	64	11	11	315	32	627	820	28	1195	25	1345	390	600	550	115	660	23	6
	4-8	71	85	67.5	79.5	14	12	315	32	627	820	28	1125	25	1275	420	600	550	115	660	23	6
315 MB	2	58	69	53	64	11	11	315	32	627	820	28	1195	25	1345	390	600	550	115	660	23	6
	4-8	71	85	67.5	79.5	14	12	315	32	627	820	28	1225	25	1375	420	600	550	115	660	23	6
315 LA	2	58	69	53	64	11	11	315	32	627	820	28	1265	25	1415	390	600	550	115	660	23	6
	4-8	81	95	67.5	79.5	14	12	315	32	627	820	28	1295	25	1445	420	600	550	115	660	23	6
315 LB	2	58	69	53	64	11	11	315	32	627	820	28	1545	25	1695	390	600	550	115	660	23	6
	4-8	81	95	67.5	79.5	14	12	315	32	627	820	28	1575	25	1725	420	600	550	115	660	23	6
315 LC	2	58	69	53	64	11	11	315	32	627	848	28	1545	25	1695	390	600	550	115	660	23	6
	4	81	95	67.5	79.5	14	12	315	32	627	848	28	1575	25	1725	420	600	550	115	660	23	6

Tolerances:

A, B	ISO js14	H	ISO 0, -1.0
D, DA	ISO m6	N	ISO j6
F, FA	ISO h9		

- ¹⁾ Dimensions for 4-pole motors also valid for 4/6- and 4-8 -pole two-speed motors.
- ²⁾ Cooling distance.
- ³⁾ Second shaft end on request.

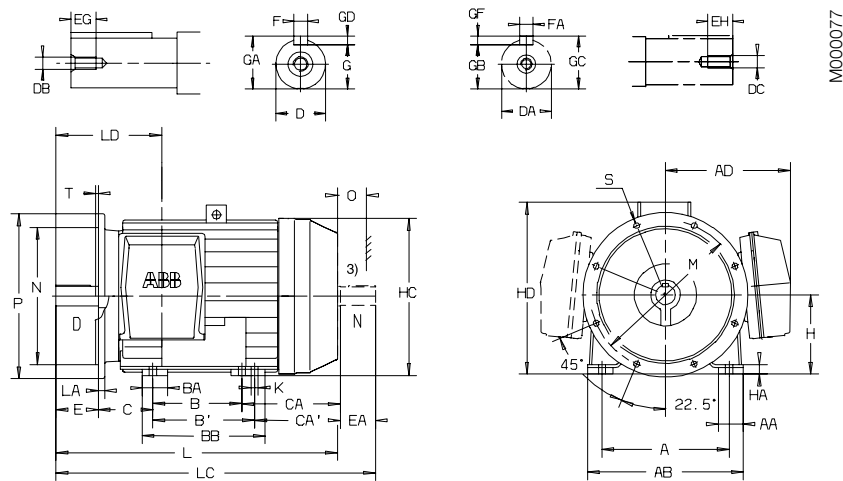
Above table gives the main dimensions in mm. For detailed drawings please see our web-pages 'www.abb.com/motors&generators' or contact ABB.

General performance IE2 steel motors

Dimension drawings

M2CA 280 - 315

Foot- and flange-mounted; IM B35 (IM 2001), IM V15 (IM 2011), IM V36 (IM 2031) – terminal box side mounted



Motor size	Poles ¹⁾	A	AA	AB	AD	B	B'	BA	BB	C	CA	CA'	D	DA	DB	DC	E	EA	EG	EH	F	FA
		280 SA	2	457	80	545	448	368	–	100	501	190	372	–	65	60	M20	M20	140	140	40	40
	4-8	457	80	545	448	368	–	100	501	190	302	–	75	65	M20	M20	140	140	40	40	20	18
280 SMA	2	457	80	545	448	368	419	100	501	190	372	321	65	60	M20	M20	140	140	40	40	18	18
	4-8	457	80	545	448	368	419	100	501	190	372	321	75	65	M20	M20	140	140	40	40	20	18
280 MB	2	457	80	545	448	419	–	100	501	190	381	–	65	60	M20	M20	140	140	40	40	18	18
	4-8	457	80	545	448	419	–	100	501	190	381	–	75	65	M20	M20	140	140	40	40	20	18
280 MC,MD	2	457	80	545	448	419	–	100	501	190	381	–	65	60	M20	M20	140	140	40	40	18	18
	4-8	457	80	545	448	419	–	100	501	190	381	–	75	65	M20	M20	140	140	40	40	20	18
315 SA	2	508	100	622	502	406	–	100	539	216	343	–	65	60	M20	M20	140	140	40	40	18	18
	4-8	508	100	622	502	406	–	100	539	216	343	–	80	75	M20	M20	170	140	40	40	22	20
315 SMA	2	508	100	622	502	406	457	100	539	216	443	392	65	60	M20	M20	140	140	40	40	18	18
	4-8	508	100	622	502	406	457	100	539	216	343	292	80	75	M20	M20	170	140	40	40	22	20
315 MB	2	508	100	622	502	457	–	100	539	216	392	–	65	60	M20	M20	140	140	40	40	18	18
	4-8	508	100	622	502	457	–	100	539	216	392	–	80	75	M20	M20	170	140	40	40	22	20
315 LA	2	508	100	622	502	508	–	100	592	216	411	–	65	60	M20	M20	140	140	40	40	18	18
	4-8	508	100	622	502	508	–	100	592	216	411	–	90	75	M24	M20	170	140	48	40	25	20
315 LB,LC	2	508	100	622	502	508	–	100	592	216	411	–	65	60	M20	M20	140	140	40	40	18	18
	4-8	508	100	622	502	508	–	100	592	216	411	–	90	75	M24	M20	170	140	48	40	25	20

Motor size	Poles ¹⁾	G	GA	GB	GC	GD	GF	H	HA	HC	HD	K	L	LC	LD	M	N	O ²⁾	P	S	T
		280 SA	2	58	69	53	64	11	11	280	32	558	620	24	1060	1210	385	500	450	100	550
	4-8	67.5	79.5	58	69	12	11	280	32	558	620	24	990	1140	385	500	450	100	550	18	5
280 SMA	2	58	69	53	64	11	11	280	32	558	620	24	1060	1210	385	500	450	100	550	18	5
	4-8	67.5	79.5	58	69	12	11	280	32	558	620	24	1060	1210	385	500	450	100	550	18	5
280 MB	2	58	69	53	64	11	11	280	32	558	620	24	1120	1270	385	500	450	100	550	18	5
	4-8	67.5	79.5	58	69	12	11	280	32	558	620	24	1120	1270	385	500	450	100	550	18	5
280 MC	2	58	69	53	64	11	11	280	32	558	620	24	1255	1405	385	500	450	100	550	18	5
	4-8	67.5	79.5	58	69	12	11	280	32	558	620	24	1255	1405	385	500	450	100	550	18	5
280 MD	2	58	69	53	64	11	11	280	32	558	620	24	1255	1405	385	500	450	100	550	18	5
	4-8	67.5	79.5	58	69	12	11	280	32	558	620	24	1255	1405	385	500	450	100	550	18	5
315 SA	2	58	69	53	64	11	11	315	32	627	685	28	1095	1245	390	600	550	115	660	23	6
	4-8	71	85	67.5	79.5	14	12	315	32	627	685	28	1125	1275	420	600	550	115	660	23	6
315 SMA	2	58	69	53	64	11	11	315	32	627	685	28	1195	1345	390	600	550	115	660	23	6
	4-8	71	85	67.5	79.5	14	12	315	32	627	685	28	1125	1275	420	600	550	115	660	23	6
315 MB	2	58	69	53	64	11	11	315	32	627	685	28	1195	1345	390	600	550	115	660	23	6
	4-8	71	85	67.5	79.5	14	12	315	32	627	685	28	1225	1375	420	600	550	115	660	23	6
315 LA	2	58	69	53	64	11	11	315	32	627	685	28	1265	1415	390	600	550	115	660	23	6
	4-8	81	95	67.5	79.5	14	12	315	32	627	685	28	1295	1445	420	600	550	115	660	23	6
315 LB,LC	2	58	69	53	64	11	11	315	32	627	685	28	1545	1695	390	600	550	115	660	23	6
	4-8	81	95	67.5	79.5	14	12	315	32	627	685	28	1575	1725	420	600	550	115	660	23	6

Tolerances:

A, B	ISO js14	H	ISO 0, -1.0
D, DA	ISO m6	N	ISO j6
F, FA	ISO h9		

- ¹⁾ Dimensions for 4-pole motors also valid for 4/6- and 4-8 -pole two-speed motors.
- ²⁾ Cooling distance.
- ³⁾ Second shaft end on request.

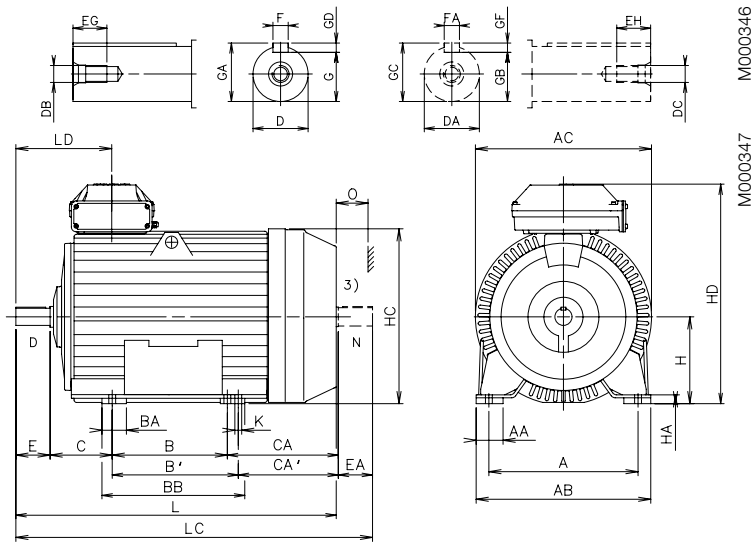
Above table gives the main dimensions in mm. For detailed drawings please see our web-pages www.abb.com/motors&generators or contact ABB.

General performance IE2 steel motors

Dimension drawings

M2CA 355 - 400

Foot-mounted; IM B3 (IM 1001), IM B6 (IM 1051), IM B7 (IM 1061), IM B8 (IM 1071), IM V5 (IM 1011), IM V6 (IM 1031) – terminal box top mounted



Motor size	Poles ¹⁾	A	AA	AB	AC	B	B'	BA	BB	C	CA	CA'	D	DA	DB	DC	E	EA	EG	EH
355 SA,SB	2	610	110	714	720	500	–	100	584	254	423	–	70	70	M20	M20	140	140	40	40
	4-8	610	110	714	720	500	–	100	584	254	423	–	100	90	M24	M20	210	170	48	48
355 MA	2	610	110	714	720	560	–	100	644	254	423	–	70	70	M20	M20	140	140	40	40
	4-8	610	110	714	720	560	–	100	644	254	423	–	100	90	M24	M24	210	170	48	48
355 MB	2	610	110	714	720	560	–	100	644	254	423	–	70	70	M20	M20	140	140	40	40
	4-8	610	110	714	720	560	–	100	644	254	423	–	100	90	M24	M24	210	170	48	48
355 LA	2	610	110	714	720	630	–	100	714	254	433	–	70	70	M20	M20	140	140	40	40
	4-8	610	110	714	720	630	–	100	714	254	433	–	100	90	M24	M24	210	170	48	48
355 LB	2	610	110	714	720	630	–	100	714	254	433	–	70	70	M20	M20	140	140	40	40
	4-8	610	110	714	720	630	–	100	714	254	433	–	100	90	M24	M24	210	170	48	48
355 LKD	4-8	610	110	714	720	630	710	100	802	254	590	510	100	90	M24	M24	210	170	48	48
400 MLA	2	686	140	820	810	630	710	140	850	280	595	515	70	70	M20	M20	140	140	40	40
	4-8	686	140	820	810	630	710	140	850	280	595	515	100	90	M24	M24	210	170	48	48
400 MLB	2	686	140	820	810	630	710	140	850	280	595	515	70	70	M20	M20	140	140	40	40
	4-8	686	140	820	810	630	710	140	850	280	595	515	100	90	M24	M24	210	170	48	48
400 LKA	2	686	140	820	810	710	800	140	935	280	655	565	80	75	M20	M20	170	140	40	40
	4-8	686	140	820	810	710	800	140	935	280	655	565	100	90	M24	M24	210	170	48	48
400 LKB	2	686	140	820	810	710	800	140	935	280	655	565	80	75	M20	M20	170	140	40	40
	4-8	686	140	820	810	710	800	140	935	280	655	565	100	90	M24	M24	210	170	48	48

Motor size	Poles ¹⁾	F	FA	G	GA	GB	GC	GD	GF	H	HA	HC	HD ⁴⁾	HD ⁵⁾	K	L	LC	LD	O ²⁾
355 SA,SB	2	20	20	62.5	74.5	62.5	74.5	12	12	355	36	715	900		28	1317	1467	392	130
	4-8	28	25	90	106	81	95	16	14	355	36	715	900		28	1387	1567	462	130
355 MA	2	20	20	62.5	74.5	62.5	74.5	12	12	355	36	715	900	915	28	1377	1527	392	130
	4-8	28	25	90	106	81	95	16	14	355	36	715	900	915	28	1447	1627	462	130
355 MB	2	20	20	62.5	74.5	62.5	74.5	12	12	355	36	715	900	915	28	1377	1527	392	130
	4-8	28	25	90	106	81	95	16	14	355	36	715	900	915	28	1447	1627	462	130
355 LA	2	20	20	62.5	74.5	62.5	74.5	12	12	355	36	715		915	28	1457	1607	392	130
	4-8	28	25	90	106	81	95	16	14	355	36	715		915	28	1527	1707	462	130
355 LB	2	20	20	62.5	74.5	62.5	74.5	12	12	355	36	715		915	28	1457	1607	392	130
	4-8	28	25	90	106	81	95	16	14	355	36	715		915	28	1527	1707	462	130
355 LKD	4-8	28	25	90	106	91	95	16	14	355	36	715		915	28	1667	1854	462	130
400 MLA	2	20	20	62.5	74.5	62.5	74.5	12	12	400	45	805	1000	35	1628	1785	408	150	
	4-8	28	25	90	106	81	95	16	14	400	45	805	1000	35	1698	1885	478	150	
400 MLB	2	20	20	62.5	74.5	62.5	74.5	12	12	400	45	805	1000	35	1628	1785	408	150	
	4-8	28	25	90	106	81	95	16	14	400	45	805	1000	35	1698	1885	478	150	
400 LKA	2	22	20	71	85	67.5	79.5	14	12	400	45	805	1000	35	1798	1955	438	150	
	4-8	28	25	90	106	81	95	16	14	400	45	805	1000	35	1838	2025	478	150	
400 LKB	2	22	20	71	85	67.5	79.5	14	12	400	45	805	1000	35	1798	1955	438	150	
	4-8	28	25	90	106	81	95	16	14	400	45	805	1000	35	1838	2025	478	150	

Tolerances:

A, B ISO js14 H ISO 0, -1.0
D, DA ISO m6
F, FA ISO h9

- Dimensions for 4-pole motors also valid for 4/6- and 4-8 -pole two-speed motors.
- Cooling distance.
- Second shaft end on request.
- Terminal box 370
- Terminal box 750

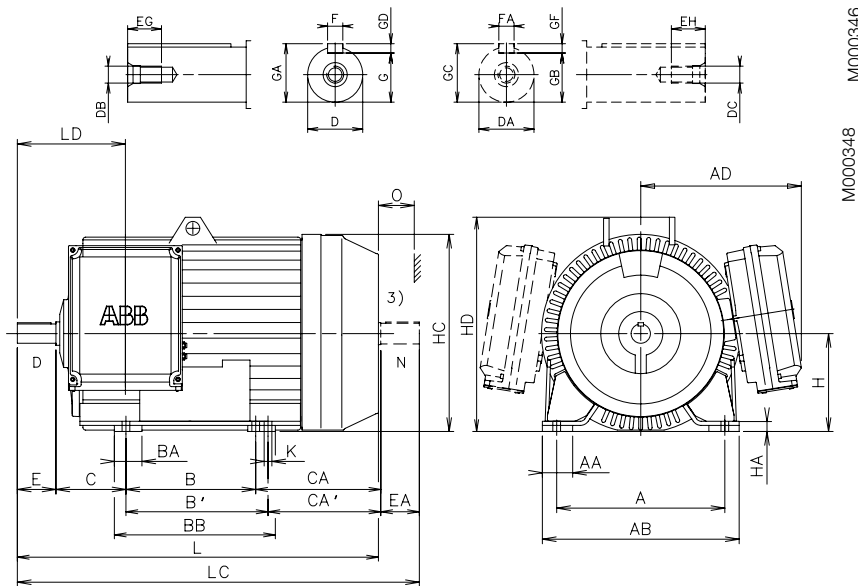
Above table gives the main dimensions in mm. For detailed drawings please see our web-pages 'www.abb.com/motors&generators' or contact ABB.

General performance IE2 steel motors

Dimension drawings

M2CA 355 - 400

Foot-mounted; IM B3 (IM 1001), IM B6 (IM 1051), IM B7 (IM 1061), IM B8 (IM 1071), IM V5 (IM 1011), IM V6 (IM 1031) – terminal box side mounted



M000348

Motor size	Poles ¹⁾	A	AA	AB	AD 4)	B	B'	BA	BB	C	CA	CA'	D	DA	DB	DC	E	EA	EG	EH
		355 SA,SB	2	610	110	714	583	500	-	100	584	254	423	-	70	70	M20	M20	140	140
	4-8	610	110	714	583	500	-	100	584	254	423	-	100	90	M24	M20	210	170	48	48
355 MA	2	610	110	714	583	560	-	100	644	254	423	-	70	70	M20	M20	140	140	40	40
	4-8	610	110	714	583	560	-	100	644	254	423	-	100	90	M24	M24	210	170	48	48
355 MB	2	610	110	714	583	560	-	100	644	254	423	-	70	70	M20	M20	140	140	40	40
	4-8	610	110	714	583	560	-	100	644	254	423	-	100	90	M24	M24	210	170	48	48
355 LA	2	610	110	714	583	630	-	100	714	254	433	-	70	70	M20	M20	140	140	40	40
	4-8	610	110	714	583	630	-	100	714	254	433	-	100	90	M24	M24	210	170	48	48
355 LB	2	610	110	714	583	630	-	100	714	254	433	-	70	70	M20	M20	140	140	40	40
	4-8	610	110	714	583	630	-	100	714	254	433	-	100	90	M24	M24	210	170	48	48
355 LKD	4-8	610	110	714	583	630	710	100	802	254	590	510	100	90	M24	M24	210	170	48	48
400 MLA	2	686	140	820	615	630	710	140	850	280	595	515	70	70	M20	M20	140	140	40	40
	4-8	686	140	820	615	630	710	140	850	280	595	515	100	90	M24	M24	210	170	48	48
400 MLB	2	686	140	820	615	630	710	140	850	280	595	515	70	70	M20	M20	140	140	40	40
	4-8	686	140	820	615	630	710	140	850	280	595	515	100	90	M24	M24	210	170	48	48
400 LKA	2	686	140	820	615	710	800	140	935	280	655	565	80	75	M20	M20	170	140	40	40
	4-8	686	140	820	615	710	800	140	935	280	655	565	100	90	M24	M24	210	170	48	48
400 LKB	2	686	140	820	615	710	800	140	935	280	655	565	80	75	M20	M20	170	140	40	40
	4-8	686	140	820	615	710	800	140	935	280	655	565	100	90	M24	M24	210	170	48	48

Motor size	Poles ¹⁾	F	FA	G	GA	GB	GC	GD	GF	H	HA	HC	HD	K	L	LC	LD	O ²⁾
		355 SA,SB	2	20	20	62.5	74.5	62.5	74.5	12	12	355	36	715	777	28	1317	1467
	4-8	28	25	90	106	81	95	16	14	355	36	715	777	28	1387	1567	462	130
355 MA	2	20	20	62.5	74.5	62.5	74.5	12	12	355	36	715	777	28	1377	1527	392	130
	4-8	28	25	90	106	81	95	16	14	355	36	715	777	28	1447	1627	462	130
355 MB	2	20	20	62.5	74.5	62.5	74.5	12	12	355	36	715	777	28	1377	1527	392	130
	4-8	28	25	90	106	81	95	16	14	355	36	715	777	28	1447	1627	462	130
355 LA	2	20	20	62.5	74.5	62.5	74.5	12	12	355	36	715	777	28	1457	1607	392	130
	4-8	28	25	90	106	81	95	16	14	355	36	715	777	28	1527	1707	462	130
355 LB	2	20	20	62.5	74.5	62.5	74.5	12	12	355	36	715	777	28	1457	1607	392	130
	4-8	28	25	90	106	81	95	16	14	355	36	715	777	28	1527	1707	462	130
355 LKD	4-8	28	25	90	106	91	95	16	14	355	36	715	777	28	1667	1854	462	130
400 MLA	2	20	20	62.5	74.5	62.5	74.5	12	12	400	45	805	862	35	1628	1785	408	150
	4-8	28	25	90	106	81	95	16	14	400	45	805	862	35	1698	1885	478	150
400 MLB	2	20	20	62.5	74.5	62.5	74.5	12	12	400	45	805	862	35	1628	1785	408	150
	4-8	28	25	90	106	81	95	16	14	400	45	805	862	35	1698	1885	478	150
400 LKA	2	22	20	71	85	67.5	79.5	14	12	400	45	805	862	35	1798	1955	438	150
	4-8	28	25	90	106	81	95	16	14	400	45	805	862	35	1838	2025	478	150
400 LKB	2	22	20	71	85	67.5	79.5	14	12	400	45	805	862	35	1798	1955	438	150
	4-8	28	25	90	106	81	95	16	14	400	45	805	862	35	1838	2025	478	150

Tolerances:

A, B	ISO js14	H	ISO 0, -1.0
D, DA	ISO m6		
F, FA	ISO h9		

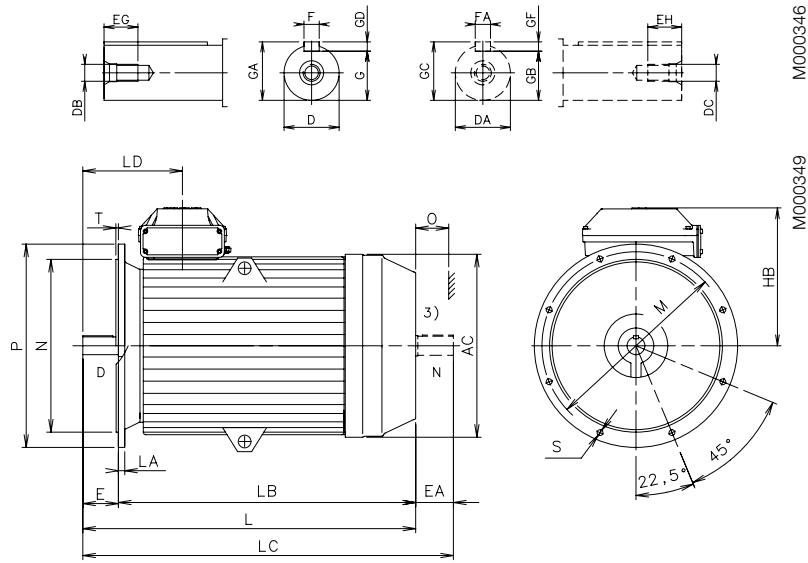
- 1) Dimensions for 4-pole motors also valid for 4/6- and 4-8 -pole two-speed motors.
- 2) Cooling distance.
- 3) Second shaft end on request.
- 4) Terminal box 750

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 steel motors Dimension drawings

M2CA 355 - 400

Flange-mounted; IM B5 (IM 3001), V1 (IM 3011), V3 (IM 3031) and IM B14 (IM 3601),
V18 (IM 3611), V19 (IM 3631)



Motor size	Poles ¹⁾	AC	D	DA	DB	DC	E	EA	EG	EH	F	FA	G	GA	GB	GC
355 SA,SB	2	720	70	70	M20	M20	140	140	40	40	20	20	62.5	74.5	62.5	74.5
	4-8	720	100	90	M24	M24	210	170	48	48	28	25	90	106	81	95
355 MA	2	720	70	70	M20	M20	140	140	40	40	20	20	62.5	74.5	62.5	74.5
	4-8	720	100	90	M24	M24	210	170	48	48	28	25	90	106	81	95
355 MB	2	720	70	70	M20	M20	140	140	40	40	20	20	62.5	74.5	62.5	74.5
	4-8	720	100	90	M24	M24	210	170	48	48	28	25	90	106	81	95
355 LA	2	720	70	70	M20	M20	140	140	40	40	20	20	62.5	74.5	62.5	74.5
	4-8	720	100	90	M24	M24	210	170	48	48	28	25	90	106	81	95
355 LB	2	720	70	70	M20	M20	140	140	40	40	20	20	62.5	74.5	62.5	74.5
	4-8	720	100	90	M24	M24	210	170	48	48	28	25	90	106	81	95
355 LKD	4-8	720	100	90	M24	M24	210	170	48	48	28	25	90	106	81	95
400 MLA	2	810	70	70	M20	M20	140	140	40	40	20	20	62.5	74.5	62.5	74.5
	4-8	810	100	90	M24	M24	210	170	48	48	28	25	90	106	81	95
400 MLB	2	810	70	70	M20	M20	140	140	40	40	20	20	62.5	74.5	62.5	74.5
	4-8	810	100	90	M24	M24	210	170	48	48	28	25	90	106	81	95
400 LKA	2	810	80	75	M20	M20	170	140	40	40	22	20	71	85	67.5	79.5
	4-8	810	100	90	M24	M24	210	170	48	48	28	25	90	106	81	95
400 LKB	2	810	80	75	M20	M20	170	140	40	40	22	20	71	85	67.5	79.5
	4-8	810	100	90	M24	M24	210	170	48	48	28	25	90	106	81	95

Motor size	Poles ¹⁾	GD	GF	HB ⁴⁾	HB ⁵⁾	L	LA	LB	LC	LD	M	N	O ²⁾	P	S	T
355 SA,SB	2	12	12	545		1317	25	1177	1467	392	740	680	130	800	23	6
	4-8	16	14	545		1387	25	1177	1567	462	740	680	130	800	23	6
355 MA	2	12	12	545	560	1377	25	1237	1527	392	740	680	130	800	23	6
	4-8	16	14	545	560	1447	25	1237	1627	462	740	680	130	800	23	6
355 MB	2	12	12	545	560	1377	25	1237	1527	392	740	680	130	800	23	6
	4-8	16	14	545	560	1447	25	1237	1627	462	740	680	130	800	23	6
355 LA	2	12	12		560	1457	25	1317	1607	392	740	680	130	800	23	6
	4-8	16	14		560	1527	25	1317	1707	462	740	680	130	800	23	6
355 LB	2	12	12		560	1457	25	1317	1607	392	740	680	130	800	23	6
	4-8	16	14		560	1527	25	1317	1707	462	740	680	130	800	23	6
355 LKD	4-8	16	14		560	1667	25	1457	1854	462	740	680	130	800	23	6
400 MLA	2	12	12		600	1628	25	1488	1785	408	740	680	150	800	23	6
	4-8	16	14		600	1698	25	1488	1885	478	740	680	150	800	23	6
400 MLB	2	12	12		600	1628	25	1488	1785	408	740	680	150	800	23	6
	4-8	16	14		600	1698	25	1488	1885	478	740	680	150	800	23	6
400 LKA	2	14	12		600	1798	25	1628	1955	438	740	680	150	800	23	6
	4-8	16	14		600	1838	25	1628	2025	478	740	680	150	800	23	6
400 LKB	2	14	12		600	1798	25	1628	1955	438	740	680	150	800	23	6
	4-8	16	14		600	1838	25	1628	2025	478	740	680	150	800	23	6

Tolerances:

D, DA ISO m6

F, FA ISO h9

N ISO j6

¹⁾ Dimensions for 4-pole motors also valid for 4/6- and 4-8 -pole two-speed motors.

²⁾ Cooling distance.

³⁾ Second shaft end on request.

⁴⁾ Terminal box 350

⁵⁾ Terminal box 750

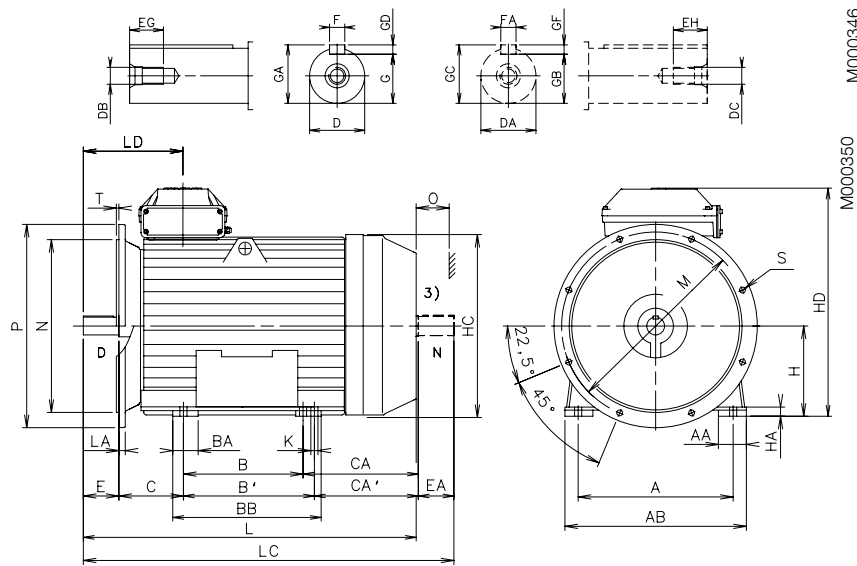
Above table gives the main dimensions in mm. For detailed drawings please see our web-pages 'www.abb.com/motors&generators' or contact ABB.

General performance IE2 steel motors

Dimension drawings

M2CA 355 - 400

Foot- and flange-mounted; IM B35 (IM 2001), IM V15 (IM 2011), IM V36 (IM 2031) – terminal box top mounted



M000346
M000350

Motor size	Poles ¹⁾	A	AA	AB	B	B'	BA	BB	C	CA	CA'	D	DA	DB	DC	E	EA	EG	EH	F	FA
355 SA,SB	2	610	110	714	500	-	100	584	254	433	-	70	70	M20	M20	140	140	40	40	20	20
	4-8	610	110	714	500	-	100	584	254	433	-	100	90	M24	M20	210	170	48	48	28	25
355 MA	2	610	110	714	560	-	100	644	254	433	-	70	70	M20	M20	140	140	40	40	20	20
	4-8	610	110	714	560	-	100	644	254	433	-	100	90	M24	M24	210	170	48	48	28	25
355 MB	2	610	110	714	560	-	100	644	254	433	-	70	70	M20	M20	140	140	40	40	20	20
	4-8	610	110	714	560	-	100	644	254	433	-	100	90	M24	M24	210	170	48	48	28	25
355 LA	2	610	110	714	630	-	100	714	254	443	-	70	70	M20	M20	140	140	40	40	20	20
	4-8	610	110	714	630	-	100	714	254	443	-	100	90	M24	M24	210	170	48	48	28	25
355 LB	2	610	110	714	630	-	100	714	254	443	-	70	70	M20	M20	140	140	40	40	20	20
	4-8	610	110	714	630	-	100	714	254	443	-	100	90	M24	M24	210	170	48	48	28	25
355 LKD	2	610	110	714	630	710	100	802	254	590	510	100	90	M24	M24	210	170	48	48	28	25
	4-8	610	110	714	630	710	100	802	254	590	510	100	90	M24	M24	210	170	48	48	28	25
400 MLA	2	686	140	820	630	710	140	850	280	595	515	70	70	M20	M20	140	140	40	40	20	20
	4-8	686	140	820	630	710	140	850	280	595	515	100	90	M24	M24	210	170	48	48	28	25
400 MLB	2	686	140	820	630	710	140	850	280	595	515	70	70	M20	M20	140	140	40	40	20	20
	4-8	686	140	820	630	710	140	850	280	595	515	100	90	M24	M24	210	170	48	48	28	25
400 LKA	2	686	140	820	710	800	140	935	280	655	565	80	75	M20	M20	170	140	40	40	22	20
	4-8	686	140	820	710	800	140	935	280	655	565	100	90	M24	M24	210	170	48	48	28	25
400 LKB	2	686	140	820	710	800	140	935	280	655	565	80	75	M20	M20	170	140	40	40	22	20
	4-8	686	140	820	710	800	140	935	280	655	565	100	90	M24	M24	210	170	48	48	28	25

Motor size	Poles ¹⁾	G	GA	GB	GC	GD	GF	H	HA	HC	HD ⁴⁾	HD ⁵⁾	K	L	LC	LD	M	N	O ²⁾	P	S	T
355 SA,SB	2	62.5	74.5	62.5	74.5	12	12	355	36	715	900		28	1317	1467	392	740	680	130	800	23	6
	4-8	90	106	81	95	16	14	355	36	715	900	915	28	1387	1567	462	740	680	130	800	23	6
355 MA	2	62.5	74.5	62.5	74.5	12	12	355	36	715	900	915	28	1377	1527	392	740	680	130	800	23	6
	4-8	90	106	81	95	16	14	355	36	715	900	915	28	1447	1627	462	740	680	130	800	23	6
355 MB	2	62.5	74.5	62.5	74.5	12	12	355	36	715	900	915	28	1377	1527	392	740	680	130	800	23	6
	4-8	90	106	81	95	16	14	355	36	715	900	915	28	1447	1627	462	740	680	130	800	23	6
355 LA	2	62.5	74.5	62.5	74.5	12	12	355	36	715		915	28	1457	1607	392	740	680	130	800	23	6
	4-8	90	106	81	95	16	14	355	36	715		915	28	1527	1707	462	740	680	130	800	23	6
355 LB	2	62.5	74.5	62.5	74.5	12	12	355	36	715		915	28	1457	1607	392	740	680	130	800	23	6
	4-8	90	106	81	95	16	14	355	36	715		915	28	1527	1707	462	740	680	130	800	23	6
355 LKD	2	62.5	74.5	62.5	74.5	12	12	355	36	715		915	28	1667	1854	462	740	680	130	800	23	6
	4-8	90	106	81	95	16	14	355	36	715		915	28	1798	1955	438	740	680	130	800	23	6
400 MLA	2	62.5	74.5	62.5	74.5	12	12	400	45	805		1000	35	1628	1785	408	740	680	150	800	23	6
	4-8	90	106	81	95	16	14	400	45	805		1000	35	1698	1885	478	740	680	150	800	23	6
400 MLB	2	62.5	74.5	62.5	74.5	12	12	400	45	805		1000	35	1628	1785	408	740	680	150	800	23	6
	4-8	90	106	81	95	16	14	400	45	805		1000	35	1698	1885	478	740	680	150	800	23	6
400 LKA	2	71	85	67.5	79.5	14	12	400	45	805		1000	35	1798	1955	438	740	680	150	800	23	6
	4-8	90	106	81	95	16	14	400	45	805		1000	35	1838	2025	478	740	680	150	800	23	6
400 LKB	2	71	85	67.5	79.5	14	12	400	45	805		1000	35	1798	1955	438	740	680	150	800	23	6
	4-8	90	106	81	95	16	14	400	45	805		1000	35	1838	2025	478	740	680	150	800	23	6

Tolerances:

A, B	ISO js14	H	ISO 0, -1.0
D, DA	ISO m6	N	ISO j6
F, FA	ISO h9		

- ¹⁾ Dimensions for 4-pole motors also valid for 4/6- and 4-8 -pole two-speed motors.
- ²⁾ Cooling distance.
- ³⁾ Second shaft end on request.
- ⁴⁾ Terminal box 370
- ⁵⁾ Terminal box 750

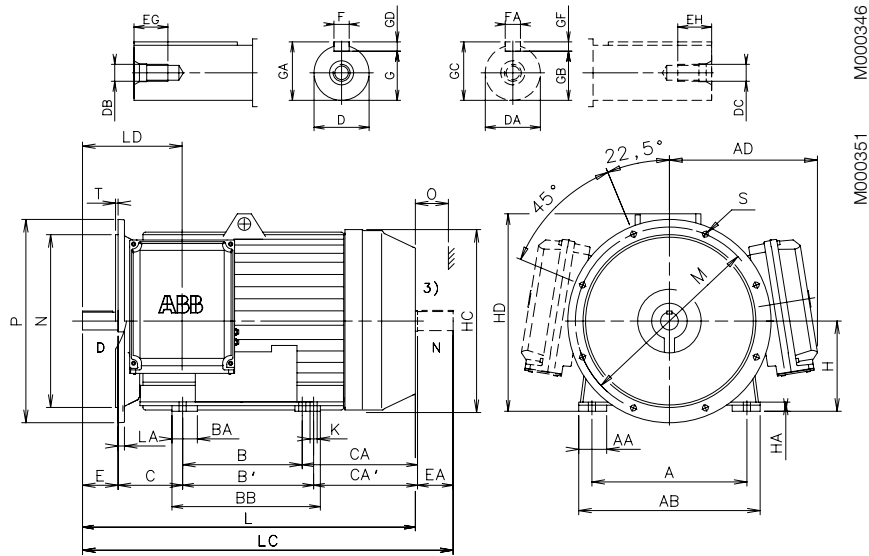
Above table gives the main dimensions in mm. For detailed drawings please see our web-pages 'www.abb.com/motors&generators' or contact ABB.

General performance IE2 steel motors

Dimension drawings

M2CA 355 - 400

Foot- and flange-mounted; IM B35 (IM 2001), IM V15 (IM 2011), IM V36 (IM 2031) – terminal box side mounted



M000346

M000351

Motor size	Poles ¹⁾	Dimensions (mm)																				
		A	AA	AB	AD ⁴⁾	B	B'	BA	BB	C	CA	CA'	D	DA	DB	DC	E	EA	EG	EH	F	FA
355 SA,SB	2	610	110	714	583	500	–	100	584	254	423	–	70	70	M20	M20	140	140	40	40	20	20
	4-8	610	110	714	583	500	–	100	584	254	423	–	100	90	M24	M24	210	170	48	48	28	25
355 MA	2	610	110	714	583	560	–	100	644	254	423	–	70	70	M20	M20	140	140	40	40	20	20
	4-8	610	110	714	583	560	–	100	644	254	423	–	100	90	M24	M24	210	170	48	48	28	25
355 MB	2	610	110	714	583	560	–	100	644	254	423	–	70	70	M20	M20	140	140	40	40	20	20
	4-8	610	110	714	583	560	–	100	644	254	423	–	100	90	M24	M24	210	170	48	48	28	25
355 LA	2	610	110	714	583	630	–	100	714	254	433	–	70	70	M20	M20	140	140	40	40	20	20
	4-8	610	110	714	583	630	–	100	714	254	433	–	100	90	M24	M24	210	170	48	48	28	25
355 LB	2	610	110	714	583	630	–	100	714	254	433	–	70	70	M20	M20	140	140	40	40	20	20
	4-8	610	110	714	583	630	–	100	714	254	433	–	100	90	M24	M24	210	170	48	48	28	25
355 LKD	4-8	610	110	714	583	630	710	100	802	254	590	510	100	90	M24	M24	210	170	48	48	28	25
400 MLA	2	686	140	820	615	630	710	140	850	280	595	515	70	70	M20	M20	140	140	40	40	20	20
	4-8	686	140	820	615	630	710	140	850	280	595	515	100	90	M24	M24	210	170	48	48	28	25
400 MLB	2	686	140	820	615	630	710	140	850	280	595	515	70	70	M20	M20	140	140	40	40	20	20
	4-8	686	140	820	615	630	710	140	850	280	595	515	100	90	M24	M24	210	170	48	48	28	25
400 LKA	2	686	140	820	615	710	800	140	935	280	655	565	80	75	M20	M20	170	140	40	40	22	20
	4-8	686	140	820	615	710	800	140	935	280	655	565	100	90	M24	M24	210	170	48	48	28	25
400 LKB	2	686	140	820	615	710	800	140	935	280	655	565	80	75	M20	M20	170	140	40	40	22	20
	4-8	686	140	820	615	710	800	140	935	280	655	565	100	90	M24	M24	210	170	48	48	28	25

Motor size	Poles ¹⁾	Dimensions (mm)																			
		G	GA	GB	GC	GD	GF	H	HA	HC	HD	K	L	LC	LD	M	N	O ²⁾	P	S	T
355 SA,SB	2	62.5	74.5	62.5	74.5	12	12	355	36	715	777	28	1317	1467	392	740	680	130	800	23	6
	4-8	90	106	81	95	16	14	355	36	715	777	28	1387	1567	462	740	680	130	800	23	6
355 MA	2	62.5	74.5	62.5	74.5	12	12	355	36	715	777	28	1377	1527	392	740	680	130	800	23	6
	4-8	90	106	81	95	16	14	355	36	715	777	28	1447	1627	462	740	680	130	800	23	6
355 MB	2	62.5	74.5	62.5	74.5	12	12	355	36	715	777	28	1377	1527	392	740	680	130	800	23	6
	4-8	90	106	81	95	16	14	355	36	715	777	28	1447	1627	462	740	680	130	800	23	6
355 LA	2	62.5	74.5	62.5	74.5	12	12	355	36	715	777	28	1457	1607	392	740	680	130	800	23	6
	4-8	90	106	81	95	16	14	355	36	715	777	28	1527	1707	462	740	680	130	800	23	6
355 LB	2	62.5	74.5	62.5	74.5	12	12	355	36	715	777	28	1457	1607	392	740	680	130	800	23	6
	4-8	90	106	81	95	16	14	355	36	715	777	28	1527	1707	462	740	680	130	800	23	6
355 LKD	4-8	90	106	91	95	16	14	355	36	715	777	28	1667	1854	462	740	680	130	800	23	6
400 MLA	2	62.5	74.5	62.5	74.5	12	12	400	45	805	862	35	1628	1785	408	740	680	150	800	23	6
	4-8	90	106	81	95	16	14	400	45	805	862	35	1698	1885	478	740	680	150	800	23	6
400 MLB	2	62.5	74.5	62.5	74.5	12	12	400	45	805	862	35	1628	1785	408	740	680	150	800	23	6
	4-8	90	106	81	95	16	14	400	45	805	862	35	1698	1885	478	740	680	150	800	23	6
400 LKA	2	71	85	67.5	79.5	14	12	400	45	805	862	35	1798	1955	438	740	680	150	800	23	6
	4-8	90	106	81	95	16	14	400	45	805	862	35	1838	2025	478	740	680	150	800	23	6
400 LKB	2	71	85	67.5	79.5	14	12	400	45	805	862	35	1798	1955	438	740	680	150	800	23	6
	4-8	90	106	81	95	16	14	400	45	805	862	35	1838	2025	478	740	680	150	800	23	6

Tolerances:

A, B	ISO js14	H	ISO 0, -1.0
D, DA	ISO m6	N	ISO j6
F, FA	ISO h9		

- ¹⁾ Dimensions for 4-pole motors also valid for 4/6- and 4-8-pole two-speed motors.
- ²⁾ Cooling distance.
- ³⁾ Second shaft end on request.
- ⁴⁾ Terminal box 750

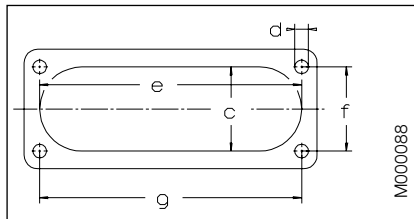
Above table gives the main dimensions in mm. For detailed drawings please see our web-pages 'www.abb.com/motors&generators' or contact ABB.

Dimension drawings

General performance IE2 steel motors

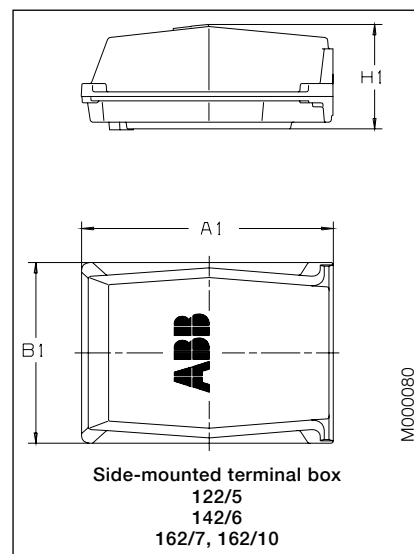
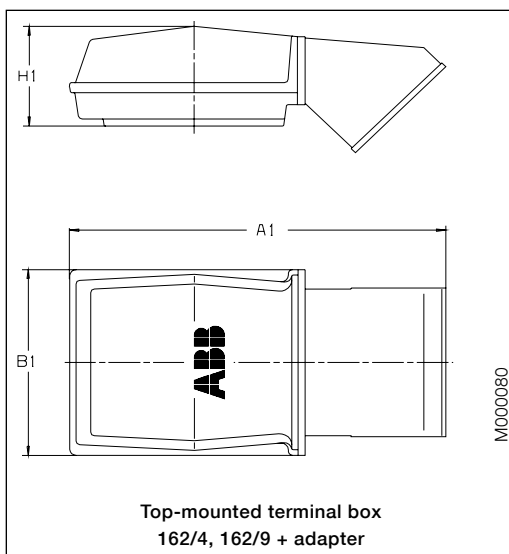
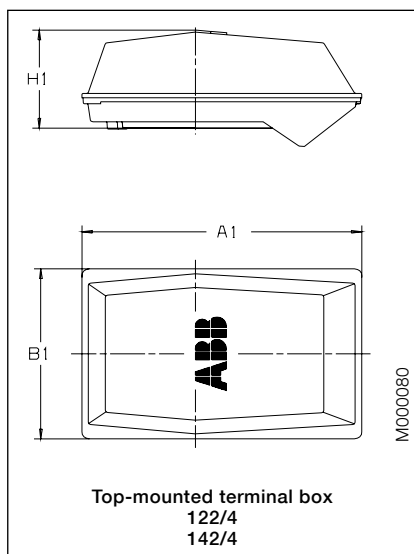
Terminal boxes, standard design with 6 terminal

Dimensions for terminal box inlets

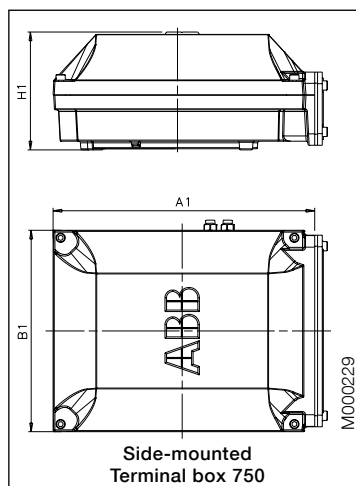
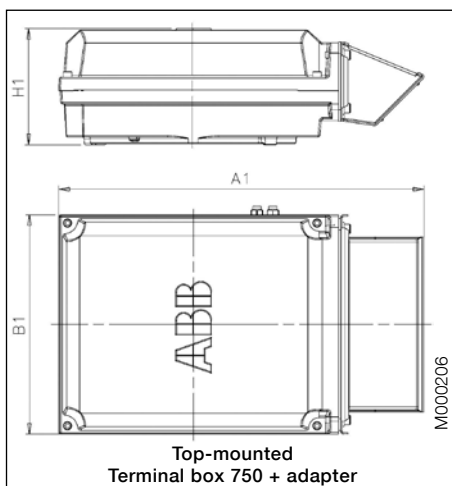
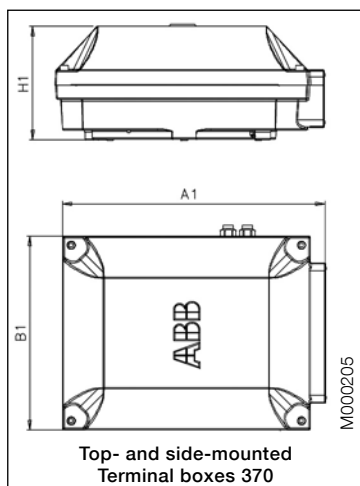


Inlet	c	e	f	g	d
C	62	193	62	193	M8
D	100	300	80	292	M10
E	115	370	100	360	M12

Motor sizes 280 to 315



Motor sizes 355 to 400



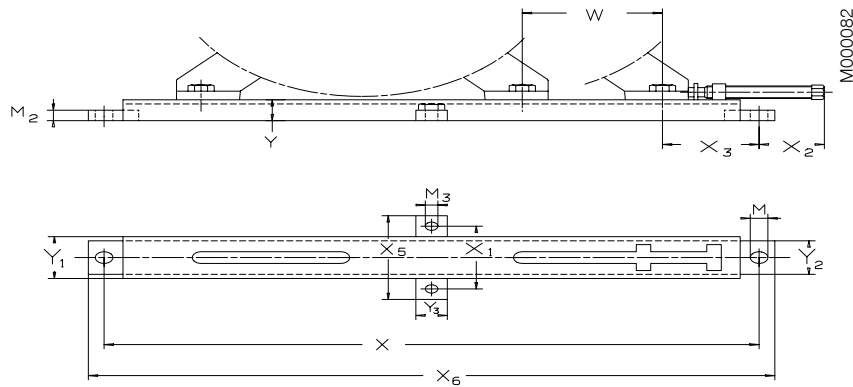
Motor sizes 280 to 315			
Terminal box type	A1	B1	H1
122/4 top-mounted	455	280	177
122/5 side-mounted	383	280	180
142/4 top-mounted	536	349	197
142/6 side-mounted	426	347	201
162/4 + adapter, top-mounted	787	410	226
162/7 side-mounted	508	412	226

Motor sizes 355 to 400			
Terminal box type	A1	B1	H1
370 top- and side-mounted	451	347	200
750 top-mounted	686	413	219
750 side-mounted	525	413	219

For motor dimensions please see dimension drawings on earlier pages or on our web-pages www.abb.com/motors&generators.

Accessories

Slide rails for motor sizes 280 - 400

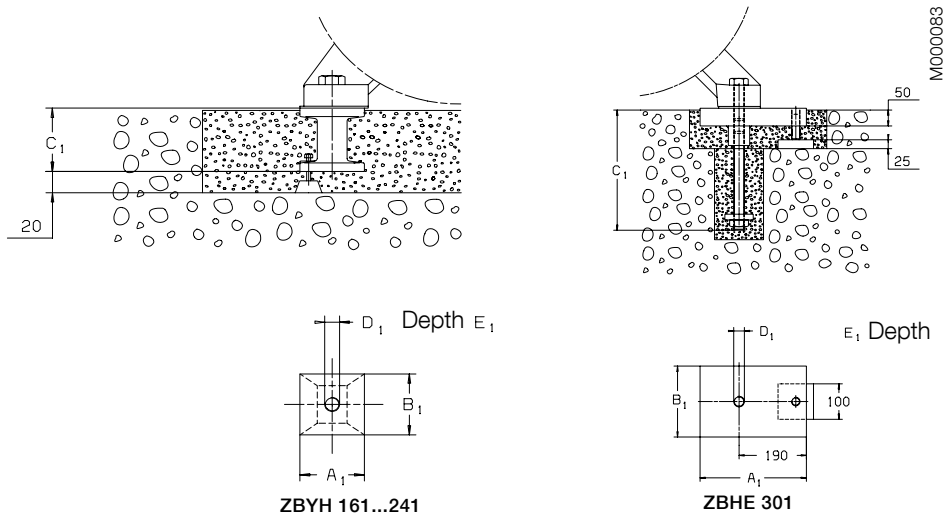


Type	Motor size	M	M ₂	M ₃	W _{max}	X	X ₁	X ₂ max	X ₃ min	X ₅	X ₆	Y	Y ₁	Y ₂	Y ₃	Weight/rail kg
ZHKJ 50	280	28	25	20	135	850	150	125	135	200	900	50	100	80	50	14.5
ZHKJ 63	315	28	25	20	220	1040	150	125	150	200	1090	50	100	80	50	17.5
ZHKJ 71 ¹⁾	355	33	30	20	275	1260	190	145	185	240	1320	60	140	120	50	31
ZHKJ 71 ¹⁾	400	33	30	20	180	1260	190	140	200	240	1320	60	140	120	50	31

¹⁾ When mounting on a ceiling or on a wall please contact the manufacturer.

Each set includes two complete slide rails including screw for mounting the motor on the rails. Screws for mounting the rails on the foundation are not included. Slide rails are supplied with unmachined lower surfaces and should, prior to tightening down, be supported in a suitable manner.

Foundation studs for motor sizes 280 - 400

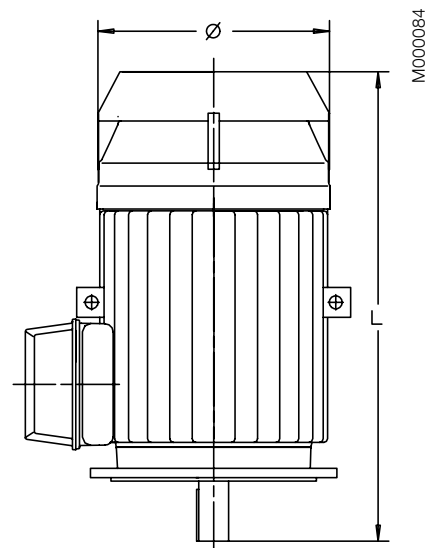


Foundation stud type	Fixing screw	Motor size	Main dimensions					Weight kg
			A1	B1	C1	D1	E1	
ZBYH 201	M20 x 70/70 Y	280	100	100	95	M20	35	3.4
ZBYH 241	M24 x 90/90 Y	315, 355	130	130	135	M24	45	7
ZBHE 301	M30 x 100/100 Y	400	300	200	385	M30	65	30

Each set of foundation studs includes 4 studs, fixing screw for the motor, adjusting screw with foundation plate.

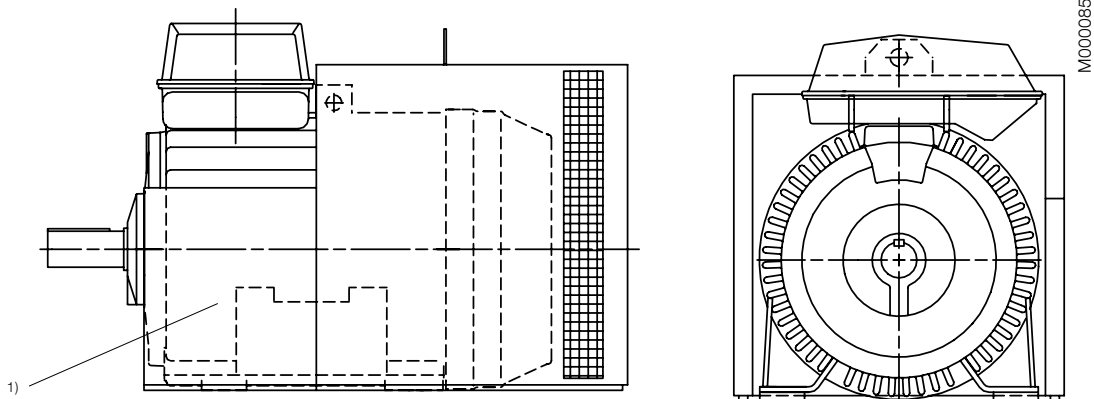
Protective roof (variant code 005)

Motor size	Poles	Ø	L
280 S_	2	555	1160
	4-12	555	1090
280 SM_	2	555	1160
	4-12	555	1160
280 M_	2	555	1220
	4-12	555	1220
315 S_	2	624	1210
	4-12	624	1240
315 SM_	2	624	1310
	4-12	624	1240
315 M_	2	624	1310
	4-12	624	1340
315 L_	2	624	1380
	4-12	624	1410
355 S_	2	720	1440
	4-12	720	1510
355 M_	2	720	1500
	4-12	720	1570
355 L_	2	720	1580
	4-12	720	1650
355 LK_	4-12	720	1790
	4-12	720	1796
400 ML_	2	810	1796
	4-12	810	1836
400 LK_	2	810	1936
	4-12	810	1976



Mounting arrangement IM V1
with protective roof

Silencer for motor sizes 280 - 400



Both foot-mounted and flange-mounted motors can be fitted with a silencer to reduce the noise level by 5-6 dB(A). The silencer is painted blue and is made of 2 mm steel sheet. The sound absorbing material is 40 mm thick polyurethane foam. On the underside there is a rubber strip to seal against the floor. The silencer fits loosely over the motor.

Dimensions of silencers on request.

1) If connections to the motor or control gear require it, an opening can be made in the extension of the silencer or it can be removed.

General performance IE2 steel motors in brief, basic design

Motor frame size		280	315	355	400	
Stator	Material	Profile-pressed sheet steel				
	Paint colour shade	Blue, Munsell 8B 4.5/3.25 (NCS 4822-B05G)				
	Paint thickness	Two-pack epoxy paint, thickness $\geq 70 \mu\text{m}$				
Bearing end shields	Material	Cast iron EN-GJL-200 or spheroidal graphit EN-GJS-400				
	Paint colour shade	Blue, Munsell 8B 4.5/3.25 (NCS 4822-B05G)				
	Paint thickness	Two-pack epoxy paint, thickness $\geq 70 \mu\text{m}$				
Bearings	D-end	2-pole	6316/C4	6316/C4	6316M/C3	6317M/C3
		4-12 poles	6316/C3	6319/C3	6322/C3	6322/C3
	N-end	2-pole	6316/C4	6316/C4	6316M/C3	6317M/C3
		4-12 poles	6316/C3	6316/C3	6319/C3	6319/C3
Axially-locked bearings	Inner bearing cover	As standard, locked at D-end				
Bearing seal		V-ring as standard, radial seal on request			2-pole labyrinth seal	
Lubrication		Regreasing nipples, M10x1 Grease for bearing temperatures -30°C to $+120^{\circ}\text{C}$				
SPM-nipples		On request				
Rating plate		Acid proof stainless steel AISI 316, thickness 0.6 mm, with individual serial number				
Terminal box	Frame material	Cast iron EN-GJL-150		Cast iron EN-GJL-250/GG 25/GRS 250		
	Cover material	Cast iron EN-GJL-150		Cast iron EN-GJL-250/GG 25/GRS 250		
	Cover screw material	Steel 8.8, zinc electroplated				
Connections	Cable entries	2-4 pole	2 x M63	2 x M63	2 x $\text{Ø}60/80$	2 x $\text{Ø}80$
		6-8 pole	2 x M63	2 x M63	2 x $\text{Ø}60$	2 x $\text{Ø}60/80$
	Terminals	6 terminals for connection with cable lugs (not included)				
Fan	Material	Glass fibre reinforced plastic or aluminum				
Fan cover	Material	Sheet steel				
	Paint colour shade	Blue, Munsell 8B 4.5/3.25 (NCS 4822-B05G)				
	Paint thickness	Two-pack epoxy polyester paint, thickness $\geq 80 \mu\text{m}$				
Stator winding	Material	Copper				
	Insulation	Insulation class F; temperature rise class B unless otherwise stated.				
	Winding protection	PTC-thermistors 150°C , 3 in series, as standard				
Rotor winding	Material	Pressure die-cast aluminum				
Balancing method		Half key balancing as standard				
Key ways		Open key way				
Heating elements	On request	50 W	1 x 65 W	2 x 65 W	2 x 65 W	
Drain holes		As standard, open on delivery				
Enclosure		IP 55, higher protection on request				
Cooling method		IC 411				

Total offer of motors, generators and mechanical power transmission products with a complete portfolio of services

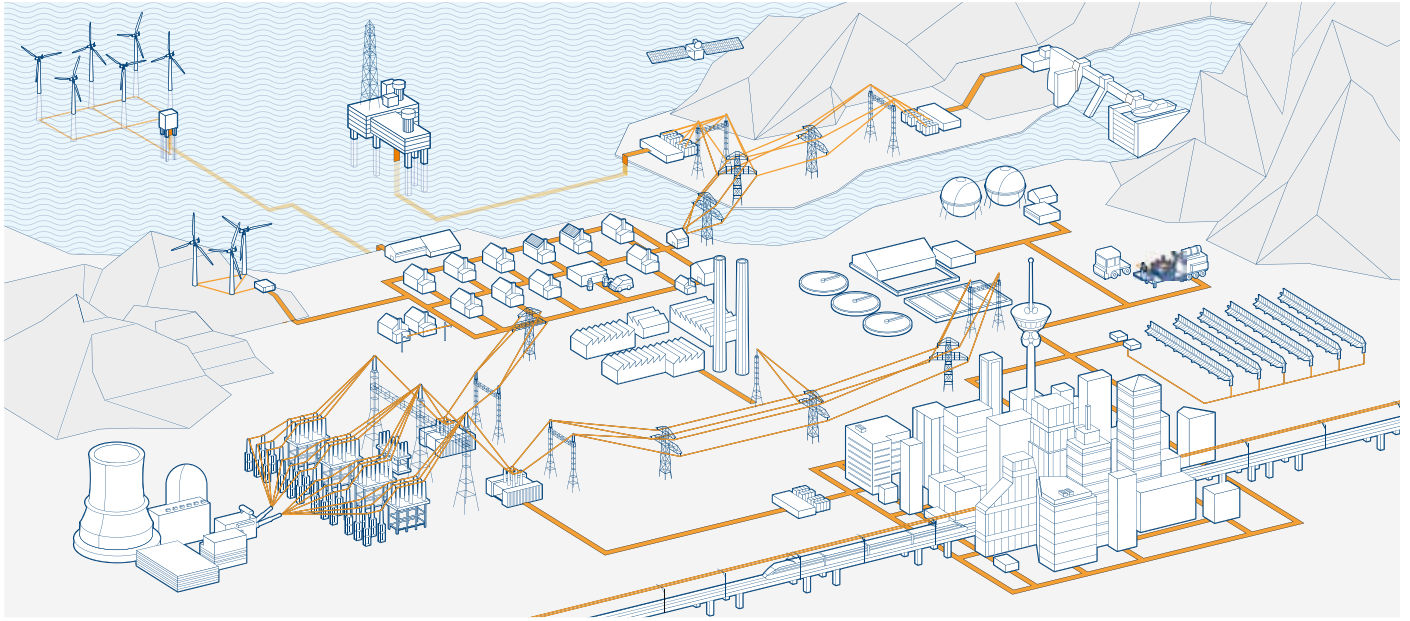


ABB is the leading manufacturer of low, medium and high voltage motors and generators, mechanical power transmission products with an offering of a complete portfolio of services. Our in-depth knowledge of virtually every type of industrial processing ensures we always specify the best solution for your needs.

Low and high voltage IEC induction motors

- Process performance motors
- General performance motors
- High voltage cast iron motors
- Induction modular motors
- Slip-ring modular motors
- Synchronous reluctance motors

Low and medium voltage NEMA motors

- Steel frame open drip proof (ODP) motors
- Weather protected, water cooled, fan ventilated

- Cast iron frame (TEFC)
- Air to air cooled (TEAAC) motors

Motors and generators for explosive atmospheres

- IEC and NEMA motors and generators, for all protection types

Synchronous motors

Synchronous generators

- Synchronous generators for diesel and gas engines
- Synchronous generators for steam and gas turbines

Wind power generators

Generators for small hydro

Other motors and generators

- Brake motors
- DC motors and generators
- Gear motors
- Marine motors and generators
- Single phase motors
- Motors for high ambient temperatures
- Permanent magnet motors and generators

- High speed motors
- Smoke extraction motors
- Wash down motors
- Water cooled motors
- Generator sets
- Roller table motors
- Servo motors
- Traction motors

Life cycle services

- Installation and commissioning
- Service contracts
- Preventive maintenance
- Spare parts
- Diagnosis
- Repair and refurbishment
- Site survey and overhaul
- Replacement motors and generators
- Technical support and consulting
- Trainings

Mechanical power transmission components, bearings, gears

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Marine Motors

Permanent Magnet Motors

Roller Table Motors

Single phase motors

Smoke Extraction Motors

Water Cooled Motors

The screenshot shows the ABB website's 'Motors and Generators' section. 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 features a 'Motors and Generators' heading, a brief description of ABB's offerings, and a grid of product 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 a search bar, user preferences (Finland, English), contact information for Finland, and a news section.

The screenshot shows a detailed product page for 'General performance steel motors'. The breadcrumb trail reads: 'Product Guide > Motors and Generators > Low Voltage Motors > Industrial Performance Motors > Industrial Performance Steel Motors'. The page title is 'General performance steel motors'. It features an 'Overview' tab, a description of the motors' flexibility, a list of key features (IE2 compliance, VSD ready, availability), and a technical specification table. The table lists: Motor type (MOCA), Output power (75 to 630 kW), Frame size (IEC 280 to 400), Number of poles (2 to 8), Voltages (All commonly used voltages), Frequency (50 or 60 Hz), and Protection (IP-55). The 'Documentation and downloads' section includes links for a 'Please select category' dropdown, 'Popular downloads' (Catalogue, Brochure), 'Certificate', and 'Declaration of conformity'. A sidebar on the right includes a search bar, user preferences, and contact information for Finland, along with an image of a motor and an 'Enlarge' button.

Motor type	MOCA
Output power	75 to 630 kW
Frame size	IEC 280 to 400
Number of poles	2 to 8
Voltages	All commonly used voltages
Frequency	50 or 60 Hz
Protection	IP-55

Contact us

www.abb.com/motors&generators

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