

# M3000 Motors for Process Industries

ABB Low Voltage Motors M3000 Range



**ABB**



## **Making you more competitive**

ABB has been manufacturing motors for over 100 years. Our products are designed to be reliable, efficient and cost effective, and we can supply motors for practically any application. A full range of services is available through our worldwide service organization, with the latest eBusiness systems providing round-the-clock access, easy ordering and fast delivery.

## **M3000 motors**

The motors in ABB's M3000 range are high quality products customized to fit the individual user's needs. All M3000 motors comply with eff1, the EU's highest efficiency class – which translates into cost savings and better environmental compatibility. Rugged design and solid construction make for years of trouble-free operation, even in critical environments.

## **Industrial<sup>IT</sup>**

As a key element of its business strategy, ABB has committed to a broad program of product development and positioning under the Industrial<sup>IT</sup> umbrella. This initiative is geared towards increasing standardization of ABB products as the 'building blocks' of larger solutions, while incorporating functionality that will allow multiple products to interact seamlessly as components of real-time automation and information systems.

Motors and generators represent one of the fundamental building blocks in the Industrial<sup>IT</sup> architecture.

*ABB ([www.abb.com](http://www.abb.com)) is a global leader in power and automation technologies that enable utility and industrial customers to improve performance while lowering their environmental impact. ABB has 152,000 employees in more than 100 countries.*

# Tailored to meet the needs of the process industries

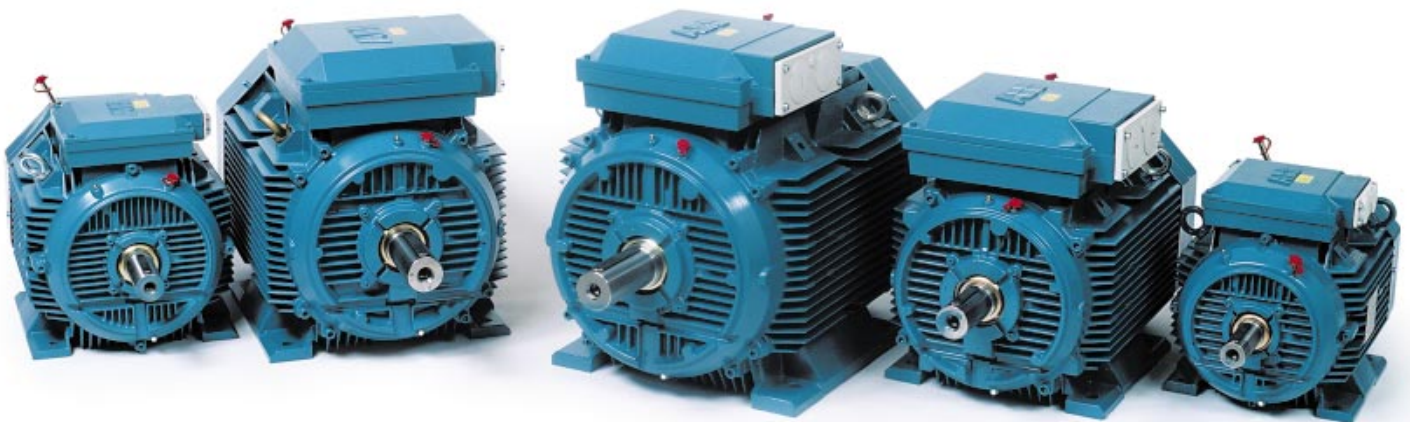
In the process industries – sectors such as pulp and paper, metals, building materials, chemicals, cement, and water processing – unplanned stoppages can be very expensive. Our M3000 motors for process industries are specifically tailored for these types of applications.

Motors intended for use in the process industries must be highly reliable and energy efficient. The new M3000 motors meet these requirements as standard. For even higher productivity and reduced energy consumption, all M3000 motors for process industries are also able to be used with variable speed drives as a standard feature. The motors are available from ABB's central stocks.



## New features include:

- Improved cooling for extended component life and better protection from overheating
- Increased bearing lifetime and longer re-greasing intervals
- Substantially improved greasing function
- Stronger bearing housing and frame
- Compliance with efficiency class eff1
- Easier service and maintenance, larger terminal boxes
- SPM nipples for bearing monitoring fitted as standard
- Dedicated areas provided to fit sensors for continuous vibration monitoring





# Technical data

## Three phase motors, aluminium and cast iron frame

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

Output kW	Type designation	Product code	Speed r/min	Efficiency		Power factor cos φ	Current		Torque			Moment of inertia J=1/4 GD <sup>2</sup> kgm <sup>2</sup>	Weight kg	Sound pressure level LP dB(A)	
				Full load 100%	3/4 load 75%		I <sub>N</sub> A	I <sub>s</sub> A	T <sub>N</sub> Nm	T <sub>s</sub> Nm	T <sub>max</sub> Nm				
<b>3000 r/min = 2 poles</b>			<b>400 V 50 Hz</b>						<b>Basic design</b>						
4 <sup>1)</sup>	M3AP 112 M	3GAA 111 022-••C	2860	87.7	88.9	0.93	7.1	7.9	13.4	2.7	3.1	0.012	33	63	
5.5 <sup>1)</sup>	M3AP 132 SA	3GAA 131 023-••C	2900	88.6	89.0	0.88	10.3	9.0	18.1	3.8	4.6	0.016	42	69	
7.5 <sup>1)</sup>	M3AP 132 SB	3GAA 131 024-••C	2915	90.9	91.3	0.90	13.3	11.0	24.6	5.1	5.2	0.022	56	69	
11	M3BP 160 MA	3GBP 161 101-••A	2930	91.2	91.2	0.88	20	6.3	36	1.9	2.5	0.039	105	69	
15	M3BP 160 M	3GBP 161 102-••A	2920	91.7	91.7	0.90	26.5	6.6	49	2.3	2.5	0.047	118	69	
18.5	M3BP 160 L	3GBP 161 103-••A	2920	92.4	92.4	0.91	32	7.3	60	2.6	2.7	0.053	133	69	
22	M3BP 180 M	3GBP 181 101-••A	2930	92.8	92.8	0.89	38.5	7.2	71	2.5	2.7	0.077	178	69	
30	M3BP 200 MLA	3GBP 201 001-••A	2955	93.2	93.2	0.88	53	7.3	97	2.4	3.1	0.15	250	72	
37	M3BP 200 MLB	3GBP 201 002-••A	2950	93.6	93.6	0.89	64	7.3	120	2.5	3.2	0.18	270	72	
45	M3BP 225 SMB	3GBP 221 001-••A	2960	93.9	93.9	0.88	79	7.3	145	2.5	2.8	0.26	335	74	
55	M3BP 250 SMA	3GBP 251 001-••A	2970	94.4	94.4	0.89	95	7.5	177	2.0	3.0	0.49	420	75	
75 <sup>3)</sup>	M3BP 280 SMA	3GBP 281 210-••G	2978	94.8	94.3	0.88	131	7.6	240	2.1	3.0	0.8	625	77	
90 <sup>3)</sup>	M3BP 280 SMB	3GBP 281 220-••G	2976	95.1	94.8	0.90	152	7.4	289	2.1	2.9	0.9	665	77	
110 <sup>3)</sup>	M3BP 315 SMA	3GBP 311 210-••G	2982	95.1	94.4	0.86	194	7.6	352	2.0	3.0	1.2	880	78	
132 <sup>3)</sup>	M3BP 315 SMB	3GBP 311 220-••G	2982	95.4	94.9	0.88	228	7.4	423	2.2	3.0	1.4	940	78	
160 <sup>3)</sup>	M3BP 315 SMC	3GBP 311 230-••G	2981	96.1	95.6	0.89	269	7.5	513	2.3	3.0	1.7	1025	78	
200 <sup>3)</sup>	M3BP 315 MLA	3GBP 311 410-••G	2980	96.3	95.9	0.90	336	7.7	641	2.6	3.0	2.1	1190	78	
250 <sup>3)</sup>	M3BP 355 SMA	3GBP 351 210-••G	2984	96.3	95.8	0.89	425	7.7	800	2.1	3.3	3	1600	83	
315 <sup>3)</sup>	M3BP 355 SMB	3GBP 351 220-••G	2980	96.5	96.2	0.89	535	7.0	1009	2.1	3.0	3.4	1680	83	
355 <sup>3)</sup>	M3BP 355 SMC	3GBP 351 230-••G	2984	96.7	96.4	0.88	604	7.2	1136	2.2	3.0	3.6	1750	83	
400 <sup>3)</sup>	M3BP 355 MLA	3GBP 351 410-••G	2982	96.8	96.5	0.88	680	7.1	1281	2.3	2.9	4.1	2000	83	
450 <sup>3)</sup>	M3BP 355 MLB	3GBP 351 420-••G	2983	97.0	96.8	0.90	750	7.9	1441	2.2	3.6	4.3	2080	83	
500 <sup>3)</sup>	M3BP 355 LKA	3GBP 351 810-••G	2982	97.0	96.9	0.90	830	7.5	1601	2.1	3.5	4.8	2320	83	
560 <sup>3)</sup>	M3BP 355 LKB	3GBP 351 820-••G	2982	97.1	96.9	0.90	930	8.0	1793	2.3	3.6	5.2	2460	83	
400	M2BA 400 M	3GBA 401 300-••A	2982	96.6	96.4	0.92	655	7.7	1281	1.6	3.3	6	2200	83	
450 <sup>2)</sup>	M2BA 400 MA	3GBA 401 310-••A	2977	96.6	96.4	0.92	730	7.8	1444	1.2	3.2	6	2200	83	
500 <sup>2)</sup>	M2BA 400 LKA	3GBA 401 510-••A	2980	96.6	96.5	0.93	795	7.0	1602	0.8	2.8	7.5	2850	85	
560 <sup>2)</sup>	M2BA 400 LKB	3GBA 401 520-••A	2983	96.7	96.5	0.92	910	7.3	1793	0.7	3.4	8.5	2900	85	
<b>3000 r/min = 2 poles</b>			<b>400 V 50 Hz</b>						<b>High-output design</b>						
5.5 <sup>1)</sup>	M3AP 112 MB	3GAA 111 002-••C	2855	86.5	86.5	0.93	9.9	7.3	18.4	2.7	2.9	0.012	33	63	
9.2 <sup>1)</sup>	M3AP 132 SBB	3GAA 131 004-••C	2840	86.8	88.1	0.92	16.8	8.5	31	3.3	3.6	0.02	50	69	
11 <sup>1)</sup>	M3AP 132 SC	3GAA 131 003-••C	2835	87.0	87.0	0.93	19.6	8.0	37	3.2	3.3	0.022	56	69	
22	M3BP 160 LB	3GBP 161 104-••A	2920	92.1	92.1	0.91	38	7.1	72	2.6	2.6	0.058	140	69	
30	M3BP 180 LB	3GBP 181 102-••A	2945	93.7	93.7	0.89	53	8.3	97	3.1	3.4	0.092	194	70	
45	M3BP 200 MLC	3GBP 201 003-••A	2950	93.8	93.8	0.89	78	7.3	146	2.6	3.3	0.19	280	72	
55	M3BP 225 SMC	3GBP 221 002-••A	2960	94.3	94.3	0.89	95	7.0	177	2.5	2.9	0.29	355	74	
75	M3BP 250 SMB	3GAA 251 002-••A	2970	94.7	94.7	0.90	127	8.2	241	2.6	3.2	0.57	375	75	
110 <sup>3)</sup>	M3BP 280 SMC	3GBP 281 230-••G	2978	95.7	95.3	0.90	185	7.9	353	2.4	3.0	1.15	725	77	
250 <sup>3)</sup>	M3BP 315 LKA	3GBP 311 810-••G	2980	96.4	96.2	0.89	422	8.1	801	2.8	2.9	2.65	1440	78	
315 <sup>2)3)</sup>	M3BP 315 LKC	3GBP 311 830-••G	2981	96.6	96.5	0.89	530	8.8	1009	3.2	3.2	3.3	1630	78	

<sup>1)</sup> Aluminium frame

<sup>2)</sup> Temperature rise class F

<sup>3)</sup> -3dB(A) sound pressure level reduction with unidirectional fan construction. Direction of rotation must be stated when ordering, please see variant codes 044 and 045.

### Notes:

**When ordering aluminium motors, following variant code has to be added: 199 = Extreme heavy duty design.**

# Technical data

## Three phase motors, aluminium and cast iron frame

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

Output kW	Type designation	Product code	Speed r/min	Efficiency		Power factor cos φ	Current		Torque			Moment of inertia J=1/4 GD <sup>2</sup> kgm <sup>2</sup>	Weight kg	Sound pressure level LP dB(A)	
				Full load 100%	3/4 load 75%		I <sub>N</sub> A	I <sub>s</sub> A	T <sub>N</sub> Nm	T <sub>s</sub> Nm	T <sub>max</sub> Nm				
<b>1500 r/min = 4 poles</b>															
<b>400 V 50 Hz</b>															
<b>Basic design</b>															
3	<sup>1)</sup> M3AP 112 MA	3GAA 112 021-...C	1455	87.5	87.8	0.81	6.2	7.9	19.7	2.7	3.7	0.018	34	56	
4	<sup>1)</sup> M3AP 112 M	3GAA 112 022-...C	1455	89.3	89.8	0.76	8.6	8.5	26.3	3.0	4.1	0.018	34	56	
5.5	<sup>1)</sup> M3AP 132 S	3GAA 132 023-...C	1460	89.3	89.7	0.84	10.6	7.6	36	2.2	3.4	0.038	48	59	
7.5	<sup>1)</sup> M3AP 132 M	3GAA 132 024-...C	1450	90.1	90.5	0.87	14	8.5	49	3.3	3.2	0.048	59	59	
11	M3BP 160 M	3GBP 162 101-...A	1465	91.5	92.0	0.83	21	7.9	72	3.4	3.4	0.091	94	62	
15	M3BP 160 L	3GBP 162 102-...A	1460	91.8	92.0	0.82	29	9.6	98	4.8	3.7	0.102	103	62	
18.5	M3BP 180 M	3GBP 182 101-...A	1470	92.3	92.3	0.84	35	7.0	120	3.1	2.7	0.161	175	62	
22	M3BP 180 L	3GBP 182 102-...A	1470	93.1	93.6	0.85	40	8.5	143	3.6	2.9	0.225	161	63	
30	M3BP 200 MLB	3GBP 202 001-...A	1475	93.4	93.6	0.84	55	8.2	194	4.3	3.2	0.34	205	63	
37	M3BP 225 SMA	3GBP 222 001-...A	1480	93.6	93.6	0.84	68	6.6	239	2.4	2.5	0.37	310	66	
45	M3BP 225 SMB	3GBP 222 002-...A	1480	94.2	94.2	0.83	83	6.7	290	2.7	2.6	0.42	330	66	
55	M3BP 250 SMA	3GBP 252 001-...A	1480	94.6	94.6	0.86	98	7.5	355	2.3	2.8	0.72	420	67	
75	M3BP 280 SMA	3GBP 282 210-...G	1484	94.9	94.8	0.85	135	6.9	483	2.5	2.8	1.25	625	68	
90	M3BP 280 SMB	3GBP 282 220-...G	1483	95.2	95.2	0.86	159	7.2	580	2.5	2.7	1.5	665	68	
110	M3BP 315 SMA	3GBP 312 210-...G	1487	95.6	95.4	0.86	193	7.2	706	2.0	2.5	2.3	900	70	
132	M3BP 315 SMB	3GBP 312 220-...G	1487	95.8	95.6	0.86	232	7.1	848	2.3	2.7	2.6	960	70	
160	M3BP 315 SMC	3GBP 312 230-...G	1487	96.0	95.9	0.85	287	7.2	1028	2.4	2.9	2.9	1000	70	
200	M3BP 315 MLA	3GBP 312 410-...G	1486	96.2	96.2	0.86	351	7.2	1285	2.5	2.9	3.5	1160	70	
250	M3BP 355 SMA	3GBP 352 210-...G	1488	96.5	96.3	0.86	438	7.1	1604	2.3	2.7	5.9	1610	74	
315	M3BP 355 SMB	3GBP 352 220-...G	1488	96.7	96.6	0.86	550	7.3	2022	2.3	2.8	6.9	1780	74	
355	M3BP 355 SMC	3GBP 352 230-...G	1487	96.7	96.6	0.86	616	6.8	2280	2.4	2.7	7.2	1820	78	
400	M3BP 355 MLA	3GBP 352 410-...G	1489	96.9	96.7	0.85	700	6.8	2565	2.3	2.6	8.4	2140	78	
450	M3BP 355 MLB	3GBP 352 420-...G	1490	96.9	96.7	0.86	784	6.9	2884	2.3	2.9	8.4	2140	78	
500	M3BP 355 LKA	3GBP 352 810-...G	1490	97.0	96.9	0.86	875	6.8	3204	2.0	3.0	10	2500	78	
560	<sup>2)</sup> M3BP 355 LKB	3GBP 352 820-...G	1490	96.9	96.9	0.85	990	7.2	3589	2.6	2.7	10.6	2600	78	
400	M2BA 400 M	3GBA 402 300-...A	1489	96.8	96.8	0.87	685	6.9	2565	1.6	2.8	10	2150	80	
450	<sup>2)</sup> M2BA 400 MA	3GBA 402 310-...A	1489	96.8	96.8	0.87	770	7.6	2886	1.5	3.0	10	2150	80	
500	M2BA 400 MB	3GBA 402 320-...A	1489	96.8	96.8	0.88	845	7.6	3207	1.3	2.9	10.5	2150	83	
560	M2BA 400 LKA	3GBA 402 510-...A	1489	96.9	96.9	0.90	925	6.6	3591	1.1	2.6	14	3050	85	
630	M2BA 400 LKB	3GBA 402 520-...A	1489	96.9	96.8	0.87	1080	6.9	4040	1.2	2.8	15	3150	85	
710	<sup>2)</sup> M2BA 400 LKC	3GBA 402 530-...A	1489	96.9	96.9	0.87	1220	6.8	4556	1.2	2.7	15	3150	85	
<b>1500 r/min = 4 poles</b>															
<b>400 V 50 Hz</b>															
<b>High-output design</b>															
5.5	<sup>1)</sup> M3AP 112 MB	3GAA 112 002-...C	1425	84.5	85.5	0.83	11.4	7.1	37	2.8	3.1	0.018	34	56	
9.2	<sup>1)</sup> M3AP 132 MBA	3GAA 132 004-...C	1445	87.8	88.9	0.87	17.5	8.1	61	3.0	3.1	0.048	59	59	
11	<sup>1)</sup> M3AP 132 MB	3GAA 132 003-...C	1450	88.8	89.7	0.86	21	6.0	72	2.0	3.2	0.048	59	59	
18.5	M3BP 160 LB	3GBP 162 103-...A	1450	90.5	90.5	0.84	36	6.9	122	2.9	2.9	0.102	135	63	
30	M3BP 180 LB	3GBP 182 103-...A	1465	92.5	92.5	0.84	56	6.9	195	3.2	2.8	0.225	203	63	
37	M3BP 200 MLB	3GBP 202 002-...A	1475	93.4	93.4	0.84	68	7.8	236	3.6	3.2	0.34	275	63	
55	M3BP 225 SMC	3GBP 222 003-...A	1480	94.6	94.6	0.84	100	7.3	355	3.1	2.8	0.49	355	66	
75	M3BP 250 SMB	3GBP 252 002-...A	1480	95.0	95.0	0.86	132	7.0	484	2.4	3.0	0.88	465	67	
110	M3BP 280 SMC	3GBP 282 230-...G	1485	95.6	95.5	0.86	195	7.6	707	3.0	3.0	1.85	725	68	
250	M3BP 315 LKA	3GBP 312 810-...G	1487	96.1	96.0	0.86	442	7.4	1605	2.5	2.9	4.4	1410	78	
280	M3BP 315 LKB	3GBP 312 820-...G	1487	96.3	96.2	0.86	494	7.6	1798	2.6	3.0	5	1520	78	
315	M3BP 315 LKC	3GBP 312 830-...G	1488	96.4	96.2	0.85	555	7.8	2022	2.6	3.2	5.5	1600	78	

- <sup>1)</sup> Aluminium frame  
<sup>2)</sup> Temperature rise class F

**Notes:**  
When ordering aluminium motors, following variant code has to be added: 199 = Extreme heavy duty design.

# Technical data

## Three phase motors, aluminium and steel frame

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

Output kW	Type designation	Product code	Speed r/min	Efficiency		Power factor cos φ	Current		Torque			Moment of inertia J=1/4 GD <sup>2</sup> kgm <sup>2</sup>	Weight kg	Sound pressure level LP dB(A)
				Full load 100%	3/4 load 75%		I <sub>N</sub> A	I <sub>s</sub> A	T <sub>N</sub> Nm	T <sub>s</sub> Nm	T <sub>max</sub> Nm			
<b>1000 r/min = 6 poles</b>														
<b>400 V 50 Hz</b>														
<b>Basic design</b>														
2.2	<sup>1)</sup> M3AP 112 M	3GAA 113 001-...C	940	80.5	80.5	0.74	5.4	5.6	22	2.1	2.7	0.015	27	54
3	<sup>1)</sup> M3AP 132 S	3GAA 133 001-...C	960	84.5	84.5	0.75	6.9	6.1	30	2.4	2.6	0.031	39	61
4	<sup>1)</sup> M3AP 132 MA	3GAA 133 002-...C	960	85.5	85.5	0.78	8.7	7.1	40	2.6	2.8	0.038	46	61
5.5	<sup>1)</sup> M3AP 132 MB	3GAA 133 003-...C	955	86.0	86.0	0.78	11.9	6.9	55	2.8	2.8	0.045	54	61
7.5	M3BP 160 M	3GBP 163 101-...A	970	89.3	89.3	0.79	15.4	6.7	74	2.0	2.8	0.089	115	59
11	M3BP 160 L	3GBP 163 102-...A	970	89.8	89.8	0.78	23	7.1	109	2.2	2.9	0.107	135	59
15	M3BP 180 L	3GBP 183 101-...A	970	90.8	90.8	0.78	31	7.0	148	2.1	3.0	0.217	177	59
18.5	M3BP 200 MLA	3GBP 203 001-...A	985	91.1	91.1	0.81	36	7.0	179	2.5	2.7	0.37	245	63
22	M3BP 200 MLB	3GBP 203 002-...A	980	91.7	91.7	0.81	43	7.2	214	2.5	2.7	0.43	260	63
30	M3BP 225 SMB	3GBP 223 001-...A	985	92.8	92.8	0.83	56	6.6	291	2.5	2.7	0.64	320	63
37	M3BP 250 SMA	3GBP 253 001-...A	985	93.7	93.7	0.83	69	7.3	359	2.8	2.8	1.16	415	63
45	M3BP 280 SMA	3GBP 283 210-...G	990	94.4	94.3	0.84	82	7.0	434	2.5	2.5	1.85	605	66
55	M3BP 280 SMB	3GBP 283 220-...G	990	94.6	94.6	0.84	101	7.0	531	2.7	2.6	2.2	645	66
75	M3BP 315 SMA	3GBP 313 210-...G	992	95.0	94.7	0.82	141	7.4	722	2.4	2.8	3.2	830	70
90	M3BP 315 SMB	3GBP 313 220-...G	992	95.5	95.3	0.84	163	7.5	866	2.4	2.8	4.1	930	70
110	M3BP 315 SMC	3GBP 313 230-...G	991	95.6	95.5	0.83	202	7.4	1060	2.5	2.9	4.9	1000	70
132	M3BP 315 MLA	3GBP 313 410-...G	991	95.8	95.7	0.83	240	7.5	1272	2.7	3.0	5.8	1150	68
160	M3BP 355 SMA	3GBP 353 210-...G	993	96.0	95.8	0.83	293	7.0	1539	2.0	2.6	7.9	1520	75
200	M3BP 355 SMB	3GBP 353 220-...G	993	96.1	96.0	0.83	360	7.2	1923	2.2	2.7	9.7	1680	75
250	M3BP 355 SMC	3GBP 353 230-...G	993	96.4	96.2	0.82	458	7.4	2404	2.6	2.9	11.3	1820	75
315	M3BP 355 MLB	3GBP 353 420-...G	992	96.3	96.1	0.82	578	7.0	3032	2.5	2.7	13.5	2180	75
355	M3BP 355 LKA	3GBP 353 810-...G	992	96.4	96.2	0.82	655	7.6	3417	2.7	2.9	15.5	2500	75
400	<sup>2)</sup> M3BP 355 LKB	3GBP 353 820-...G	992	96.3	96.2	0.82	740	7.2	3851	2.6	2.6	16.5	2600	75
250	M2BA 400 M	3GBA 403 300-...A	992	96.0	95.8	0.84	450	7.5	2407	2.2	2.8	12.5	2000	75
315	M2BA 400 MA	3GBA 403 310-...A	991	96.2	96.1	0.84	565	7.3	3036	2.0	3.0	14.6	2150	75
355	M2BA 400 MB	3GBA 403 320-...A	991	96.4	96.3	0.84	635	7.6	3421	1.5	3.0	15.8	2150	78
400	M2BA 400 LKA	3GBA 403 510-...A	992	96.5	96.4	0.85	700	6.4	3851	1.2	2.7	16.5	2800	80
450	M2BA 400 LKB	3GBA 403 520-...A	993	96.5	96.4	0.85	790	6.8	4328	1.3	2.8	19	3050	80
500	<sup>2)</sup> M2BA 400 LKC	3GBA 403 530-...A	992	96.5	96.4	0.85	880	6.8	4813	1.3	2.8	19	3050	80
<b>1000 r/min = 6 poles</b>														
<b>400 V 50 Hz</b>														
<b>High-output design</b>														
3	<sup>1)</sup> M3AP 112 MB	3GAA 113 002-...C	935	80.0	80.0	0.76	7.2	5.5	31	2.4	2.7	0.018	33	54
6.3	<sup>1)</sup> M3AP 132 MC	3GAA 133 004-...C	960	84.9	85.0	0.75	14.5	7.3	63	2.3	3.1	0.049	59	61
14	M3BP 160 LB	3GBP 163 103-...A	960	89.1	89.1	0.77	29.5	7.6	139	2.7	3.1	0.127	148	62
18.5	M3BP 180 LB	3GBP 183 102-...A	965	90.6	90.6	0.79	37.5	6.2	183	2.0	2.6	0.237	185	59
30	M3BP 200 MLC	3GBP 203 003-...A	980	91.7	91.7	0.81	56	7.5	292	3.3	3.0	0.49	275	63
37	M3BP 225 SMC	3GBP 223 002-...A	985	93.2	93.2	0.83	69	7.7	359	3.1	3.0	0.75	345	63
45	M3BP 250 SMB	3GBP 253 002-...A	985	94.1	94.1	0.84	82	7.3	436	2.8	2.8	1.49	460	63
75	M3BP 280 SMC	3GBP 283 230-...G	990	95.1	95.2	0.84	137	7.3	723	2.8	2.7	2.85	725	66
160	M3BP 315 LKA	3GBP 313 810-...G	992	95.7	95.6	0.83	293	7.5	1540	2.6	2.8	7.3	1410	74
180	M3BP 315 LKB	3GBP 313 820-...G	992	95.8	95.7	0.83	330	7.4	1733	2.6	2.8	8.3	1520	74
200	M3BP 315 LKC	3GBP 313 830-...G	991	95.8	95.8	0.83	366	7.0	1927	2.5	2.7	9.2	1600	74

- <sup>1)</sup> Aluminium frame  
<sup>2)</sup> Temperature rise class F

**Notes:**  
When ordering aluminium motors, following variant code has to be added: 199 = Extreme heavy duty design.

# Technical data

## Three phase motors, cast iron frame

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

Output kW	Type designation	Product code	Speed r/min	Efficiency		Power factor cos φ	Current		Torque			Moment of inertia J=1/4 GD <sup>2</sup> kgm <sup>2</sup>	Weight kg	Sound pressure level LP dB(A)	
				Full load 100%	3/4 load 75%		I <sub>N</sub> A	I <sub>s</sub> A	T <sub>N</sub> Nm	T <sub>s</sub> Nm	T <sub>max</sub> Nm				
<b>750 r/min = 8 poles</b>															
<b>400 V 50 Hz</b>															
<b>Basic design</b>															
1.5	<sup>1)</sup> M3AP 112 M	3GAA 114 001-••C	695	74.5	74.5	0.65	4.5	4.1	21	1.9	2.4	0.016	28	52	
2.2	<sup>1)</sup> M3AP 132 S	3GAA 134 001-••C	720	80.5	80.1	0.67	5.9	5.3	29	1.9	2.5	0.038	46	56	
3	<sup>1)</sup> M3AP 132 M	3GAA 134 002-••C	720	82.0	82.1	0.68	7.8	5.5	40	2.4	2.6	0.045	53	56	
4	M3BP 160 MA	3GBP 164 101-••A	715	84.1	84.7	0.69	10	5.2	54	2.1	2.4	0.072	100	59	
5.5	M3BP 160 M	3GBP 164 102-••A	710	84.7	85.5	0.70	13.4	5.4	74	2.4	2.6	0.091	113	59	
7.5	M3BP 160 L	3GBP 164 103-••A	715	86.3	87.2	0.70	18.1	5.4	100	2.4	2.8	0.131	126	59	
11	M3BP 180 L	3GBP 184 101-••A	720	88.7	89.2	0.76	23.5	5.9	146	2.4	2.6	0.224	147	59	
15	M3BP 200 MLA	3GBP 204 001-••A	740	91.1	91.1	0.82	29	7.4	194	1.8	3.0	0.45	250	60	
18.5	M3BP 225 SMA	3GBP 224 001-••A	730	91.1	91.1	0.79	37	6.2	242	1.9	2.7	0.61	305	63	
22	M3BP 225 SMB	3GBP 224 002-••A	730	91.5	91.5	0.77	45	6.0	288	1.9	2.7	0.68	320	63	
30	M3BP 250 SMA	3GBP 254 001-••A	735	92.8	92.8	0.79	59	6.9	390	1.9	2.9	1.25	415	63	
37	M3BP 280 SMA	3GBP 284 210-••G	741	93.4	93.3	0.78	74	7.3	477	1.7	3.0	1.85	605	65	
45	M3BP 280 SMB	3GBP 284 220-••G	741	94.0	93.8	0.78	90	7.6	580	1.8	3.1	2.2	645	65	
55	M3BP 315 SMA	3GBP 314 210-••G	742	94.1	94.0	0.81	104	7.1	708	1.6	2.7	3.2	830	62	
75	M3BP 315 SMB	3GBP 314 220-••G	741	94.4	94.3	0.82	141	7.1	968	1.7	2.7	4.1	930	62	
90	M3BP 315 SMC	3GBP 314 230-••G	741	94.8	94.7	0.82	167	7.4	1161	1.8	2.7	4.9	1000	64	
110	M3BP 315 MLA	3GBP 314 410-••G	740	95.0	95.0	0.83	203	7.3	1420	1.8	2.7	5.8	1150	72	
132	M3BP 355 SMA	3GBP 354 210-••G	744	95.5	95.3	0.80	250	7.5	1694	1.5	2.6	7.9	1520	69	
160	M3BP 355 SMB	3GBP 354 220-••G	744	95.6	95.5	0.80	305	7.6	2054	1.6	2.6	9.7	1680	69	
200	M3BP 355 SMC	3GBP 354 230-••G	743	95.7	95.6	0.80	378	7.4	2570	1.6	2.6	11.3	1820	69	
250	M3BP 355 MLB	3GBP 354 420-••G	743	95.9	95.8	0.80	476	7.5	3213	1.6	2.7	13.5	2180	72	
315	M3BP 355 LKB	3GBP 354 820-••G	743	96.1	96.0	0.79	600	7.9	4048	1.7	2.7	16.5	2600	75	
200	M2BA 400 M	3GBA 404 300-••A	743	95.5	95.1	0.77	395	6.6	2571	1.8	2.7	14.6	2150	75	
250	M2BA 400 MA	3GBA 404 310-••A	744	95.7	95.4	0.80	470	6.6	3209	1.5	3.0	15.8	2150	75	
315	M2BA 400 LKA	3GBA 404 510-••A	744	96.0	95.9	0.79	605	6.3	4043	1.4	2.6	16.5	2800	80	
355	M2BA 400 LKB	3GBA 404 520-••A	744	96.2	96.0	0.79	680	6.6	4557	1.5	2.7	19	3050	80	
<b>750 r/min = 8 poles</b>															
<b>400 V 50 Hz</b>															
<b>High-output design</b>															
1.9	<sup>1)</sup> M3AP 112 MB	3GAA 114 002-••C	690	74.0	74.4	0.67	5.6	4.3	26.5	2.0	2.6	0.018	33	52	
3.8	<sup>1)</sup> M3AP 132 MB	3GAA 134 003-••C	710	80.5	80.7	0.69	9.9	5.2	51	2.0	2.3	0.049	59	56	
8.5	M3BP 160 LB	3GBP 164 104-••A	700	83.5	85.0	0.70	21	5.1	115	2.4	2.5	0.131	128	62	
15	M3BP 180 LB	3GBP 184 102-••A	720	88.0	89.2	0.76	32.5	6.0	199	2.5	2.6	0.24	185	62	
18.5	M3BP 200 MLB	3GBP 204 002-••A	735	91.4	91.4	0.81	36	6.7	237	1.7	2.8	0.54	275	60	
30	M3BP 225 SMC	3GBP 224 003-••A	735	91.8	91.8	0.79	60	7.2	390	2.1	3.3	0.8	345	63	
37	M3BP 250 SMB	3GBP 254 002-••A	735	93.2	93.2	0.81	71	7.2	481	2.0	2.9	1.52	460	63	
55	M3BP 280 SMC	3GBP 284 230-••G	741	94.4	94.3	0.80	105	7.9	709	1.9	3.1	2.85	725	65	
132	M3BP 315 LKA	3GBP 314 810-••G	740	95.1	95.2	0.83	243	7.3	1703	1.8	2.6	7.3	1410	74	
150	M3BP 315 LKB	3GBP 314 820-••G	741	95.3	95.3	0.83	275	7.7	1933	1.9	2.7	8.3	1520	74	
160	M3BP 315 LKC	3GBP 314 830-••G	740	95.3	95.4	0.83	292	7.7	2065	1.9	2.8	9.2	1600	75	

<sup>1)</sup> Aluminium frame

### Notes:

When ordering aluminium motors, following variant code has to be added: 199 = Extreme heavy duty design.

# M3000 Process motors - Variant codes

Code 1)	Variant	Motor size				
		112-132 <sup>2)</sup>	160-180	200-250	280-315	355-400

## Bearings and lubrication

037	Roller bearing at D-end. Transport lock included.	–	M	M	M	M
040	Heat resistant grease. For bearing temperatures -25...+150°C.	S	S	S	M	M
041	Bearings regreasable via grease nipples.	M	S	S	S	S
042	Internal bearing cover, locked at D-end.	M	S	S	S	S
043	SPM nipples.	M	S	S	S	S
058	Angular contact ball bearing at D-end, shaft force away from bearing. Transport lock included.	M	M	M	M	M
059	Angular contact ball bearing at N-end, shaft towards bearing. Transport lock included.	M	R	R	P	P
194	ZZ-bearings greased for life at both ends. Size 250 = NA	–	M	M	–	–

## Branch standard design

209	Non-standard voltage or frequency (special winding).	P	P	P	P	P
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## Drain holes

076	Draining holes with plugs.	–	S	S	S	S
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## Earthing bolt

067	External earthing bolt.	M	S	S	S	S
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## Heating elements

450	Heating element 100-120 V.	M	M	M	M	M
451	Heating element 200-240 V.	M	M	M	M	M

## Insulation systems

014	Winding insulation class H.	P	P	P	P	P
405	Special winding insulation for frequency converter supply, rated supply > 500 V.	P	P	P	P	P
406	Winding for supply > 690 ≤ 1000 V.	R	P	P	P	P

## Painting

114	Special paint colour, standard grade.	M	M	M	M	M
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## Protection

158	Degree of protection IP 65.	M	P	P	P	P
403	Degree of protection IP 56.	M	M	M	P	M
784	Gamma-seal at D-end.	R	S	S	M	–

## Rating & instruction plates

003	Individual serial number.	M	S	S	S	S
098	Stainless rating plate.	M	S	S	S	S
135	Mounting of additional identification plate, stainless.	–	M	M	M	M
138	Mounting of additional identification plate, aluminium.	M	–	–	M	M
139	Additional identification plate delivered loose.	M	M	M	M	M
161	Additional rating plate delivered loose.	M	M	M	M	M

<sup>1)</sup> Certain variant codes cannot be used simultaneously.

<sup>2)</sup> Aluminium frame

**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.



Code 1)	Variant	Motor size				
		112-132 <sup>2)</sup>	160-180	200-250	280-315	355-400

### Stator winding temperature sensors

121	Bimetal detectors, break type (NCC), (3 in series), 130°C, in stator winding.	M	M	M	M	M
122	Bimetal detectors, break type (NCC), (3 in series), 150°C, in stator winding.	M	M	M	M	M
123	Bimetal detectors, break type (NCC), (3 in series), 170°C, in stator winding.	M	M	M	M	M
125	Bimetal detectors, break type (NCC), (2x3 in series), 150°C, in stator winding.	M	M	M	M	M
436	PTC - thermistors (3 in series), 150°C, in stator winding.	M	S	S	S	S
445	PT100 (1 per phase) in stator winding.	M	P	P	M	M
446	PT100 (2 per phase) in stator winding.	–	P	P	M	M

### Terminal box

021	Terminal box LHS (seen from D-end).	–	P	P	P	P
180	Terminal box RHS (seen from D-end).	–	P	P	P	P
400	4 x 90 degr turnable terminal box.	–	S	S	S	M

### Variable speed drives

701	Insulated bearing at N-end	–	R	R	M	M
704	EMC cable termination	–	R	R	M	M

#### Cooling system

183	Separate motor cooling (fan axial, N-end).	–	M	M	P	P
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#### Mounting of tacho; tacho not included

182	Pulse sensor mounted as specified (Leine & Linde equivalent, hollow-shaft type).	R	P	P	P	P
470	Prepared for hollow shaft pulse tacho (Leine&Linde equivalent).	P	P	P	P	P
479	Mounting of other types of tachos with shaft extension.	–	R	R	P	P

#### Mounting of tacho; tacho included

062	Tachogenerator.	–	P	P	P	P
471	512 hollow shaft pulse tacho (Leine&Linde equivalent) mounted.	–	P	P	P	P
472	1024 hollow shaft pulse tacho (Leine&Linde equivalent) mounted.	P	M	M	P	P
473	2048 hollow shaft pulse tacho (Leine&Linde equivalent) mounted.	P	M	M	P	P
748	Pulse tacho Lake Shore (RIM 8500) mounted.	–	R	R	P	P
749	Pulse tacho Avtron (M285) mounted.	–	R	R	P	P

#### Separate motor cooling & tacho; tacho not included

474	Separate motor cooling and prepared for hollow shaft pulse tacho (Leine&Linde equivalent).	R	M	M	P	P
478	Separate motor cooling (fan top, N-end) and prepared for hollow shaft pulse tacho (Leine&Linde equivalent).	–	–	R	P	P
486	Separate motor cooling (fan top, N-end) and prepared for DC tacho.	–	–	R	P	P
487	Separate motor cooling (fan axial, N-end) and prepared for hollow shaft pulse tacho (Lake Shore RIM 8500 or Avtron M285).	–	–	R	P	P

#### Separate motor cooling & tacho; tacho included

428	Separate motor cooling (fan top, N-end) and Leine & Linde, type 510 006361, pulse tacho.	–	–	R	P	P
429	Separate motor cooling (fan top, N-end) and Leine & Linde, type 861007455, hollow shaft pulse tacho.	–	–	R	P	P
430	Separate motor cooling (fan top, N-end) and DC tacho, shaft extension type.	–	–	R	P	P
475	Separate motor cooling (fan axial, N-end) and 512 hollow shaft pulse tacho (L&L equivalent).	–	P	P	P	P
476	Separate motor cooling (fan axial, N-end) and 1024 hollow shaft pulse tacho (L&L equivalent).	R	M	M	P	P
477	Separate motor cooling (fan axial, N-end) and 2048 hollow shaft pulse tacho (L&L equivalent).	R	M	M	P	P
488	Separate motor cooling (fan axial, N-end) and Lake Shore RIM 8500 pulse tacho mounted.	–	R	R	P	P
489	Separate motor cooling (fan axial, N-end) and Avtron M285 pulse tacho mounted.	–	R	R	P	P

<sup>1)</sup> Certain variant codes cannot be used simultaneously.

<sup>2)</sup> Aluminium frame

**S** = Included as standard

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

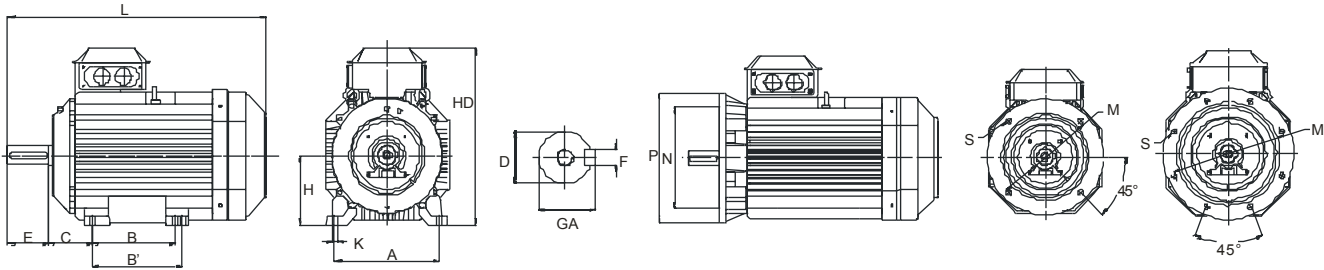
**P** = New manufacture only.

**R** = On request.

# Dimension drawings

Foot-mounted motor IM 1001, B3

Flange-mounted motor IM 3001, B5



Frame size	IM 1001, IM B3 and IM 3001, IM B5										IM 1001, IM B3				IM 3001, IM B5						
	D		GA		F		E		L <sub>max</sub>		A	B	B'	C	HD	K	H	M	N	P	S
	2p	4-8p	2p	4-8p	2p	4-8p	2p	4-8p	2p	4-8p											

**Aluminium frame**

<b>112 M</b>	28	28	31	31	8	8	60	60	361	361	190	140	–	70	258	12	112	215	180	250	14.5
<b>132</b>	38	38	41	41	10	10	80	80	447	447	216	140	178	89	295.5	12	132	265	230	300	14.5

**Cast iron frame**

<b>160<sup>1)</sup></b>	42	42	45	45	12	12	110	110	602.5	602.5	254	210	254	108	382	14.5	180	300	250	350	19
<b>160<sup>2)</sup></b>	42	42	45	45	12	12	110	110	643.5	643.5	254	210	254	108	382	14.5	180	300	250	350	19
<b>180<sup>3)</sup></b>	48	48	51.5	51.5	14	14	110	110	680	680	279	241	279	121	422	14.5	180	300	250	350	19
<b>180<sup>4)</sup></b>	48	48	51.5	51.5	14	14	110	110	700.5	700.5	279	241	279	121	422	14.5	180	300	250	350	19
<b>200 ML</b>	55	55	59	59	16	16	110	110	774	774	318	267	305	133	506	18.5	200	350	300	400	19
<b>225 SM</b>	55	60	59	64	16	18	110	140	866	866	356	286	311	149	552	18.5	225	400	350	450	19
<b>250 SM</b>	60	65	64	69	18	18	140	140	875	875	406	311	349	168	605	24	250	500	450	550	19
<b>280 SM</b>	65	75	69	79.5	18	20	140	140	1088	1088	457	368	419	190	759	24	280	500	450	550	18
<b>315 SM</b>	65	80	69	85	18	22	140	170	1174	1204	508	406	457	216	852	28	315	600	550	660	23
<b>315 ML</b>	65	90	69	95	18	25	140	170	1285	1315	508	457	508	216	852	28	315	600	550	660	23
<b>355 SM</b>	70	100	62.5	90	20	28	140	210	1409	1479	610	500	560	254	958	35	355	740	680	800	23
<b>355 ML</b>	70	100	62.5	90	20	28	140	210	1514	1584	610	560	630	254	958	35	355	740	680	800	23
<b>355 LK</b>	70	100	62.5	90	20	28	140	210	1746	1834	610	710	900	254	958	35	355	740	680	800	23
<b>400 M</b>	70	100	74.6	106	20	28	140	210	1501	1571	686	630	–	280	1005	35	400	740	680	800	23
<b>400 LK</b>	80	100	85	106	22	28	170	210	1708	1748	686	710	800	280	1040	35	400	740	680	800	23

Dimensions are in millimeters.

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

- 1) MA2, M2, L2, LB2, M4, L4, LB4, M6, L6, MA8, M8
- 2) LB6, L8, LB8
- 3) M2, LB2, M4, L6, L8
- 4) L4, LB4, LB6, LB8

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

## Australia

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