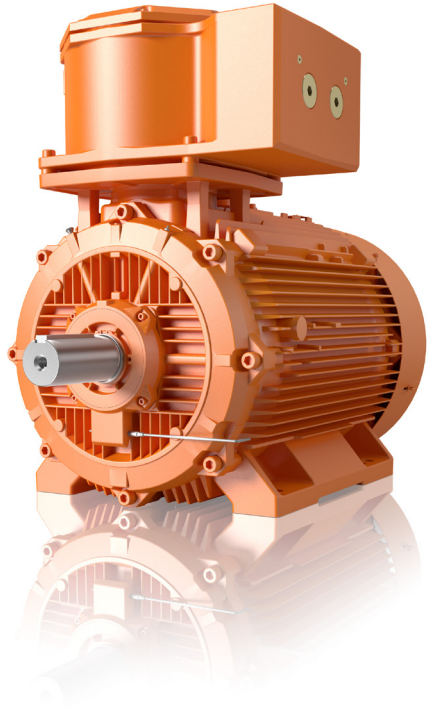


## Product note

# Low voltage flameproof motors for underground mining

Our customers value us most for the high quality of products, reliability, safety and excellent engineering solutions. We have now expanded our offering to serve these qualities also to underground mining applications.



### Full offering of low voltage motors for explosive atmospheres

The range of low voltage motors for explosive atmospheres is now further extended with group I flameproof cast iron motors for mines. This new product is based on the well proven and reliable motors for surface applications and is further improved to comply with the requirements in the mining standards and be fit for purpose for the tough environment below ground.

The product is available in IEC frame sizes 80 up to 450 with an output from 0,55kW up to 950 kW, in 2 up to 8 pole configuration, efficiency class IE2 or IE3. Slower running motors and multi speed motors are available on request. The voltage range extends up to 1250V in direct on line operation to meet the requirements of the mining industry. There is a broad selection of variant codes to allow adaptation of the product to various applications found underground.

### Certification

In addition to ATEX certificates for Ex d I Mb protection, global IECEx certificates are also available. The certificates include possibility for operation with frequency converter for maximized energy savings. The range of certificates will be further extended with other local certificates.

### Standard features

The product comes with several standard features that makes it very suitable for the tough environment, such as:

- Protection class IP66
- Maintenance free labyrinth shaft seals
- Surface treatment class C5M according ISO 12944
- Stainless steel external hardware
- Anti-condensation heaters to prevent condensation
- Very strong assembly with reinforced fan cover
- Cooling fan made of steel for maximum robustness
- The standard color is RAL2011 (orange)

## Technical data for flameproof IE2 cast iron motors Ex d I Mb, 400 V, 50 Hz design

Technical data for 400 V 50 Hz motors can be found in the table below, data for other voltages on request

Output kW	Motor type	Product code	Speed r/min	Efficiency IEC60034-30-1; 2014			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 L <sub>PA</sub> dB
				Full load 100%	3/4 load 75%	1/2 load 50%		I <sub>N</sub> A	I <sub>s</sub> /I <sub>N</sub>	T <sub>N</sub> Nm	T <sub>v</sub> /T <sub>N</sub>	T <sub>b</sub> /T <sub>N</sub>			
<b>3000 r/min = 2 poles</b>			<b>400 V 50 Hz</b>				<b>CENELEC design</b>								
0.75	M3JM 80MA 2	3GJM 081 310-••H	2877	80.1	79.5	75.7	0.85	1.54	7.1	7.3	4.0	4.6	0.0006	39	59
1.1	M3JM 80MB 2	3GJM 081 320-••H	2831	81.6	82.3	80.5	0.87	2.26	6.2	3.7	2.6	3.3	0.0007	41	59
1.5	M3JM 90SLA 2	3GJM 091 010-••H	2881	82.0	82.2	79.9	0.88	3.00	6.7	4.9	3.0	3.5	0.001	52	61
2.2	M3JM 90SLC 2	3GJM 091 030-••H	2877	83.7	84.4	83.7	0.89	4.27	7.8	7.3	2.7	3.5	0.0014	55	61
3	M3JM 100LA 2	3GJM 101 510-••H	2896	86.0	86.5	84.8	0.90	5.70	6.6	9.9	2.0	2.6	0.0036	72	65
4	M3JM 112MB 2	3GJM 111 320-••H	2891	86.0	87.0	87.0	0.89	7.59	6.9	13.2	2.0	3.0	0.0043	75	65
5.5	M3JM 132SMB 2	3GJM 131 220-••H	2905	87.0	86.4	84.4	0.89	10.5	6.8	17.99	2.6	3.4	0.009	101	71
7.5	M3JM 132SMD 2	3GJM 131 240-••H	2914	89.2	89.7	88.7	0.90	13.7	7.5	24.6	3.3	3.6	0.012	113	71
11	M3JM 160MLA 2	3GJM 161 410-••H	2931	90.1	90.4	89.3	0.89	20.2	6.7	35.81	2.5	3.2	0.043	220	71
15	M3JM 160MLB 2	3GJM 161 420-••H	2929	91.2	91.7	90.8	0.89	27.0	7.2	48.9	2.9	3.4	0.052	229	71
18.5	M3JM 160MLC 2	3GJM 161 430-••H	2934	91.6	92.4	92.3	0.90	32.4	7.4	60.3	3.1	3.5	0.062	240	69
22	M3JM 180MLA 2	3GJM 181 410-••H	2938	91.7	92.3	91.8	0.90	39.1	7.0	71.4	2.5	3.2	0.089	274	69
30	M3JM 200MLA 2	3GJM 201 410-••G	2956	93.2	93.6	93.0	0.88	52.7	7.4	96.9	3.0	3.2	0.15	321	74
37	M3JM 200MLC 2	3GJM 201 430-••G	2954	93.6	94.0	93.4	0.89	64.7	7.5	119.9	2.8	3.2	0.19	351	75
45	M3JM 225SMB 2	3GJM 221 220-••G	2968	93.8	93.9	93.0	0.87	78.8	7.2	144	2.7	3.0	0.26	413	76
75	M3JM 280SMA 2	3GJM 281 210-••G	2977	94.3	93.8	92.2	0.88	131	7.6	240	2.1	3.0	0.8	644	77
90	M3JM 280SMB 2	3GJM 281 220-••G	2976	94.6	94.7	93.8	0.89	154	7.4	288	2.1	2.9	0.9	684	77
110	M3JM 315SMA 2	3GJM 311 210-••G	2982	94.9	94.4	92.9	0.86	197	7.4	352	2.2	3.2	1.2	1002	78
132	M3JM 315SMB 2	3GJM 311 220-••G	2982	95.1	94.8	93.6	0.88	227	7.4	422	2.2	3.0	1.4	962	78
160	M3JM 315SMC 2	3GJM 311 230-••G	2981	95.4	95.2	94.2	0.89	271	7.5	512	2.3	3.0	1.7	1047	78
200	M3JM 315MLA 2	3GJM 311 410-••G	2980	95.7	95.7	94.9	0.90	335	7.7	640	2.6	3.0	2.1	1212	78
250	M3JM 355SMA 2	3GJM 351 210-••G	2984	95.7	95.5	94.5	0.89	423	7.7	800	2.1	3.3	3.0	1634	83
315	M3JM 355SMB 2	3GJM 351 220-••G	2980	95.7	95.6	95.0	0.89	531	7.0	1009	2.1	3.0	3.4	1714	83
355	M3JM 355SMC 2	3GJM 351 230-••G	2984	95.7	95.7	94.9	0.88	603	7.2	1136	2.2	3.0	3.6	1974	83
400	M3JM 355MLA 2	3GJM 351 410-••G	2982	96.9	96.6	95.9	0.88	677	7.1	1280	2.3	2.9	4.1	2224	83
450	M3JM 355MLB 2	3GJM 351 420-••G	2983	97.1	97.0	96.4	0.90	743	7.9	1440	2.2	2.9	4.3	2304	83
500	M3JM 355LKA 2	3GJM 351 810-••G	2982	96.9	96.9	96.5	0.90	827	7.5	1601	2.0	3.9	4.8	2544	83
<b>3000 r/min = 2 poles</b>			<b>400 V 50 Hz</b>				<b>High Output design</b>								
9.2 <sup>1)</sup>	M3JM 132SME 2	3GJM 131 250-••H	2875	86.9	88.2	87.9	0.91	16.9	6.0	30.6	2.6	2.9	0.012	113	71
22 <sup>1)</sup>	M3JM 160MLD 2	3GJM 161 440-••H	2929	91.2	91.9	91.4	0.90	38.3	7.5	71.7	3.1	3.3	0.07	246	77
30	M3JM 180MLB 2	3GJM 181 420-••H	2943	92.5	93.2	92.6	0.90	52.2	7.1	97.23	2.3	3.2	0.13	307	78
37	M3JM 180MLC 2	3GJM 181 430-••H	2950	92.8	93.1	92.8	0.90	64.9	8.1	119.9	3.3	3.7	0.13	307	77
45	M3JM 200MLE 2	3GJM 201 450-••G	2945	93.3	93.5	93.1	0.88	79.4	7.3	146	2.9	3.1	0.22	356	79
55	M3JM 225SMC 2	3GJM 221 230-••G	2965	93.9	94.2	93.5	0.88	95.8	7.1	177	2.6	3.0	0.29	433	80
67	M3JM 225SMD 2	3GJM 221 240-••G	2966	93.9	93.9	93.0	0.86	120	7.4	215	2.8	3.2	0.31	443	78
75	M3JM 250SMB 2	3GJM 251 220-••G	2969	93.8	93.9	93.2	0.89	129	7.9	241	2.6	3.1	0.57	514	80
90	M3JM 250SMC 2	3GJM 251 230-••G	2965	94.4	94.5	93.9	0.89	153	7.7	289	2.5	3.0	0.59	524	80
110	M3JM 280SMC 2	3GJM 281 230-••G	2978	95.1	95.1	94.5	0.90	186	7.9	352	2.4	3.0	1.15	744	77

<sup>1)</sup> Efficiency class IE1

## Technical data for flameproof IE2 cast iron motors Ex d I Mb, 400 V, 50 Hz design

Technical data for 400 V 50 Hz motors can be found in the table below, data for other voltages on request

Output kW	Motor type	Product code	Speed r/min	Efficiency IEC60034-30-1; 2014			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 L <sub>PA</sub> dB
				Full load 100%	3/4 load 75%	1/2 load 50%		I <sub>N</sub> A	I <sub>g</sub> /I <sub>N</sub>	T <sub>N</sub> Nm	T <sub>f</sub> /T <sub>N</sub>	T <sub>b</sub> /T <sub>N</sub>			
<b>1500 r/min = 4 poles</b>			<b>400 V 50 Hz</b>				<b>CENELEC design</b>								
0.55 <sup>1)</sup>	M3JM 80MA 4	3GJM 082 310-••H	1421	76.6	76.9	74.1	0.73	1.49	4.7	3.7	2.2	2.7	0.001	40	59
0.75	M3JM 80MB 4	3GJM 082 320-••H	1416	80.2	80.1	77.5	0.75	1.87	5.4	5	2.7	3.1	0.0012	42	59
1.1	M3JM 90SLA 4	3GJM 092 010-••H	1432	82.2	82.1	79.6	0.77	2.52	6.5	7.3	3.0	3.5	0.002	53	54
1.5	M3JM 90SLC 4	3GJM 092 030-••H	1431	83.2	83.6	81.9	0.78	3.33	6.6	10	3.3	3.7	0.003	55	54
2.2	M3JM 100LA 4	3GJM 102 510-••H	1437	85.5	86.5	85.8	0.84	4.42	5.9	14.6	2.3	3.0	0.0075	72	52
3	M3JM 100LB 4	3GJM 102 520-••H	1444	86.5	87.5	86.8	0.83	6.10	6.4	19.9	2.7	3.4	0.0081	74	59
4	M3JM 112MC 4	3GJM 112 330-••H	1458	88.2	87.7	85.4	0.78	8.59	9.2	26.3	3.4	4.9	0.013	83	61
5.5	M3JM 132SMB 4	3GJM 132 220-••H	1458	89.5	89.2	87.3	0.80	11.7	7.9	36	3.7	3.8	0.023	115	60
7.5	M3JM 132SMD 4	3GJM 132 240-••H	1460	89.2	89.0	87.3	0.76	16.7	8.4	49.21	4.0	3.9	0.034	118	60
11	M3JM 160MLC 4	3GJM 162 430-••H	1470	91.2	91.3	90.0	0.82	21.5	8.0	71.5	3.3	3.8	0.096	239	62
15	M3JM 160MLE 4	3GJM 162 450-••H	1467	92.0	92.3	91.8	0.84	28.5	8.0	97.7	3.3	3.2	0.13	262	61
18.5	M3JM 180MLA 4	3GJM 182 410-••H	1474	91.6	92.1	91.5	0.83	35.7	7.2	119.9	2.6	3.1	0.19	286	62
22	M3JM 180MLB 4	3GJM 182 420-••H	1474	92.2	92.5	91.9	0.82	42	7.7	142.3	2.8	3.4	0.23	305	62
30	M3JM 200MLB 4	3GJM 202 420-••G	1471	92.5	93.2	93.1	0.84	55	7.4	194	3.0	2.8	0.34	351	61
37	M3JM 225SMB 4	3GJM 222 220-••G	1480	93.6	93.9	93.4	0.85	69	7.6	239	3.2	2.9	0.42	414	67
45	M3JM 225SMC 4	3GJM 222 230-••G	1477	94.1	94.4	94.3	0.86	78.4	7.6	291	3.2	2.7	0.49	438	67
55	M3JM 250SMA 4	3GJM 252 210-••G	1479	94.7	94.7	94.1	0.84	100	7.2	355	2.5	3.1	0.72	429	66
75	M3JM 280SMA 4	3GJM 282 210-••G	1484	94.5	94.7	94.4	0.85	134	6.9	482	2.5	2.8	1.25	645	68
90	M3JM 280SMB 4	3GJM 282 220-••G	1483	94.7	95.0	94.5	0.85	160	7.2	579	2.5	2.7	1.5	785	68
110	M3JM 315SMA 4	3GJM 312 210-••G	1487	95.1	95.1	94.3	0.86	194	7.2	706	2.3	2.8	2.3	923	70
132	M3JM 315SMB 4	3GJM 312 220-••G	1487	95.4	95.4	94.7	0.86	232	7.1	847	2.3	2.7	2.6	983	70
160	M3JM 315SMC 4	3GJM 312 230-••G	1487	95.3	95.3	94.8	0.85	284	7.2	1027	2.4	2.9	2.9	1023	70
200	M3JM 315MLA 4	3GJM 312 410-••G	1486	95.6	95.6	95.3	0.86	351	7.2	1285	2.5	2.9	3.5	1183	70
250	M3JM 355SMA 4	3GJM 352 210-••G	1488	95.9	96.0	95.5	0.85	442	7.1	1604	2.3	2.7	5.9	1644	74
315	M3JM 355SMB 4	3GJM 352 220-••G	1488	95.9	96.2	95.8	0.86	550	7.3	2021	2.3	2.8	6.9	1814	74
400	M3JM 355MLA 4	3GJM 352 410-••G	1489	96.3	96.3	95.9	0.85	705	6.8	2565	2.3	2.6	8.4	2364	78
450	M3JM 355MLB 4	3GJM 352 420-••G	1490	96.7	96.7	96.1	0.86	780	6.9	2884	2.3	2.9	8.4	2364	78
500	M3JM 355LKA 4	3GJM 352 810-••G	1490	97.0	97.0	96.5	0.86	865	6.8	3204	2.0	3.0	10	2724	78
560	M3JM 400LA 4	3GJM 402 510-••G	1491	96.8	96.8	96.3	0.85	982	7.4	3586	2.4	2.8	15	3234	78
560	M3JM 400LKA 4	3GJM 402 810-••G	1491	96.8	96.8	96.3	0.85	982	7.4	3586	2.4	2.8	15	3234	78
630	M3JM 400LB 4	3GJM 402 520-••G	1491	97.0	97.0	96.5	0.87	1077	7.6	4034	2.2	2.9	16	3614	78
630	M3JM 400LKB 4	3GJM 402 820-••G	1491	97.0	97.0	96.5	0.87	1077	7.6	4034	2.2	2.9	16	3614	78
710 <sup>2)</sup>	M3JM 400LC 4	3GJM 402 530-••G	1491	97.1	97.1	96.7	0.86	1227	7.6	4547	2.4	3.0	17	3714	78
710 <sup>2)</sup>	M3JM 400LKC 4	3GJM 402 830-••G	1491	97.1	97.1	96.7	0.86	1227	7.6	4547	2.4	3.0	17	3714	78
<b>1500 r/min = 4 poles</b>			<b>400 V 50 Hz</b>				<b>High Output design</b>								
9.2 <sup>1)</sup>	M3JM 132SME 4	3GJM 132 250-••H	1446	88.4	89.2	88.1	0.80	18.7	6.0	60.7	2.7	3.0	0.034	118	60
18.5	M3JM 160MLF 4	3GJM 162 460-••H	1469	91.8	92.2	91.6	0.84	35.0	8.2	120.3	3.5	3.8	0.13	262	68
22 <sup>1)</sup>	M3JM 160MLG 4	3GJM 162 470-••H	1466	90.8	91.1	90.3	0.81	43.9	8.3	143.3	2.9	3.9	0.13	262	68
30 <sup>1)</sup>	M3JM 180MLC 4	3GJM 182 430-••H	1466	92.1	92.4	91.8	0.81	59.6	7.6	194.5	2.2	3.3	0.248	313	66
37	M3JM 200MLC 4	3GJM 202 430-••G	1475	93.0	93.1	92.4	0.82	70.5	7.5	239	3.5	3.2	0.34	351	73
55	M3JM 225SMD 4	3GJM 222 240-••G	1483	94.3	94.4	93.9	0.83	101	7.4	354	3.4	2.9	0.55	558	68
62 <sup>1)</sup>	M3JM 225SME 4	3GJM 222 250-••G	1480	93.5	93.6	92.8	0.84	114	7.7	400	3.5	2.9	0.55	558	74
75 <sup>1)</sup>	M3JM 250SMB 4	3GJM 252 220-••G	1476	93.8	94.2	93.9	0.86	135	7.0	485	2.6	2.9	0.88	519	73
86	M3JM 250SMC 4	3GJM 252 230-••G	1477	94.9	95.3	95.0	0.85	155	7.8	556	2.9	3.5	0.98	515	74
110	M3JM 280SMC 4	3GJM 282 230-••G	1485	95.1	95.4	95.1	0.86	193	7.6	707	3.0	3.0	1.85	745	68

<sup>1)</sup> Efficiency class IE1

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

## Technical data for flameproof IE2 cast iron motors Ex d I Mb, 400 V, 50 Hz design

Technical data for 400 V 50 Hz motors can be found in the table below, data for other voltages on request

Output kW	Motor type	Product code	Speed r/min	Efficiency IEC60034-30-1; 2014			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 L <sub>PA</sub> dB
				Full load 100%	3/4 load 75%	1/2 load 50%		I <sub>N</sub> A	I <sub>S</sub> /I <sub>N</sub>	T <sub>N</sub> Nm	T <sub>1</sub> /T <sub>N</sub>	T <sub>2</sub> /T <sub>N</sub>			
<b>1000 r/min = 6 poles</b>			<b>400 V 50 Hz</b>				<b>CENELEC design</b>								
0.37	M3JM 80MA 6	3GJM 083 310-••H	952	71.6	69.3	63.5	0.58	1.37	4.3	3.7	3.6	3.9	0.0022	40	50
0.55 <sup>1)</sup>	M3JM 80MB 6	3GJM 083 320-••H	938	70.3	69.0	63.6	0.65	1.80	4.1	5.6	2.7	3.1	0.0022	40	50
0.75	M3JM 90SLA 6	3GJM 093 010-••H	946	79.2	78.2	74.1	0.64	2.12	5.5	7.6	3.1	3.6	0.0037	54	44
1.1	M3JM 90SLC 6	3GJM 093 030-••H	938	78.5	77.9	74.3	0.70	3.08	4.6	11.3	2.7	3.0	0.0048	55	44
1.5	M3JM 100LA 6	3GJM 103 510-••H	951	81.6	81.4	78.8	0.72	3.69	5.3	15.1	2.2	3.0	0.012	71	54
2.2	M3JM 112MB 6	3GJM 113 320-••H	950	82.5	82.2	79.4	0.72	5.50	5.0	22.1	2.1	2.8	0.014	75	54
3	M3JM 132SMB 6	3GJM 133 220-••H	961	84.0	84.3	82.5	0.75	6.78	6.0	29.8	1.9	3.2	0.032	109	57
4	M3JM 132SMC 6	3GJM 133 230-••H	967	85.7	85.6	83.6	0.75	9.27	6.3	39.5	2.1	3.4	0.034	111	57
5.5	M3JM 132SMD 6	3GJM 133 240-••H	967	87.5	87.7	86.2	0.72	12.7	7.2	54.3	2.3	3.6	0.039	113	62
11	M3JM 160MLB 6	3GJM 163 420-••H	972	90.1	91.0	90.4	0.81	22.1	6.9	108	2.4	3.5	0.126	260	65
15	M3JM 180MLB 6	3GJM 183 420-••H	973	90.5	91.0	90.5	0.82	29.7	6.8	147.3	1.8	3.0	0.25	313	58
18.5	M3JM 200MLA 6	3GJM 203 410-••G	983	90.5	90.9	90.2	0.82	36.2	7.1	179	3.2	3.1	0.37	311	66
22	M3JM 200MLB 6	3GJM 203 420-••G	983	91.6	92.0	91.5	0.82	42.8	7.5	213	3.2	3.2	0.43	331	61
30	M3JM 225SMB 6	3GJM 223 220-••G	985	92.2	92.7	92.4	0.82	57.9	7.4	290	3.4	3.0	0.64	398	61
37	M3JM 250SMA 6	3GJM 253 210-••G	990	93.4	93.8	93.3	0.81	70.6	6.5	357	2.4	3.1	1.16	476	66
45	M3JM 280SMA 6	3GJM 283 210-••G	990	93.4	93.8	93.5	0.83	83.8	7.0	434	2.5	2.5	1.85	726	66
55	M3JM 280SMB 6	3GJM 283 220-••G	990	93.8	94.2	93.9	0.84	100	7.0	530	2.7	2.6	2.2	666	66
75	M3JM 315SMA 6	3GJM 313 210-••G	992	94.4	94.4	93.5	0.82	139	7.4	721	2.4	2.8	3.2	855	70
90	M3JM 315SMB 6	3GJM 313 220-••G	992	94.8	94.7	94.1	0.84	166	7.5	866	2.4	2.8	4.1	955	70
110	M3JM 315SMC 6	3GJM 313 230-••G	991	95.0	95.0	94.6	0.83	201	7.4	1059	2.5	2.9	4.9	1125	70
132	M3JM 315MLA 6	3GJM 313 410-••G	991	95.3	95.4	94.9	0.83	240	7.5	1271	2.7	3.0	5.8	1175	68
200	M3JM 355SMB 6	3GJM 353 220-••G	993	95.7	95.9	95.7	0.83	364	7.2	1923	2.2	2.7	9.7	1714	75
250	M3JM 355SMC 6	3GJM 353 230-••G	993	95.7	95.8	95.4	0.82	460	7.4	2404	2.6	2.9	11.3	1854	75
315	M3JM 355MLB 6	3GJM 353 420-••G	992	95.7	96.0	95.5	0.83	570	7.0	3032	2.5	2.7	13.5	2214	75
355	M3JM 355LKA 6	3GJM 353 810-••G	992	95.7	95.9	95.4	0.81	658	7.6	3417	2.7	2.9	15.5	2724	75
400	M3JM 400LA 6	3GJM 403 510-••G	993	96.2	96.2	95.6	0.82	731	7.1	3846	2.3	2.7	17	3214	76
400	M3JM 400LKA 6	3GJM 403 810-••G	993	96.2	96.2	95.6	0.82	731	7.1	3846	2.3	2.7	17	3214	76
450	M3JM 400LB 6	3GJM 403 520-••G	994	96.6	96.6	96.1	0.82	819	7.4	4323	2.4	2.8	20.5	3464	76
450	M3JM 400LKB 6	3GJM 403 820-••G	994	96.6	96.6	96.1	0.82	819	7.4	4323	2.4	2.8	20.5	3464	76
500	M3JM 400LC 6	3GJM 403 530-••G	993	96.6	96.5	96.1	0.83	891	7.2	4809	2.5	2.7	22	3614	76
500	M3JM 400LKC 6	3GJM 403 830-••G	993	96.6	96.5	96.1	0.83	891	7.2	4809	2.5	2.7	22	3614	76
560	M3JM 400LD 6	3GJM 403 540-••G	993	96.9	96.9	96.4	0.85	984	7.4	5386	2.4	2.8	24	3714	77
560	M3JM 400LKD 6	3GJM 403 840-••G	993	96.9	96.9	96.4	0.85	984	7.4	5386	2.4	2.8	24	3714	77
630	M3JM 450LA 6	3GJM 453 510-••G	994	96.7	96.7	96.3	0.84	1127	6.5	6053	1.1	2.5	31	4362	81
<b>1000 r/min = 6 poles</b>			<b>400 V 50 Hz</b>				<b>High Output design</b>								
14 <sup>1)2)</sup>	M3JM 160MLC 6	3GJM 163 430-••H	969	89.2	89.5	88.5	0.75	30.1	7.5	138	2.8	4.0	0.126	260	64
18.5 <sup>1)</sup>	M3JM 180MLC 6	3GJM 183 430-••H	971	90.1	90.1	88.5	0.74	41.2	7.3	181.2	2.5	3.7	0.25	313	61
30 <sup>1)</sup>	M3JM 200MLC 6	3GJM 203 430-••G	983	90.6	90.8	89.6	0.81	59.3	7.5	291	3.5	3.4	0.49	351	65
37 <sup>1)</sup>	M3JM 225SMC 6	3GJM 223 230-••G	983	91.8	92.1	92.2	0.83	69.6	7.1	359	3.0	2.8	0.75	428	64
45	M3JM 250SMB 6	3GJM 253 220-••G	986	93.1	93.4	93.2	0.84	84	7.2	435	3.3	2.8	1.49	521	65
75	M3JM 280SMC 6	3GJM 283 230-••G	990	94.2	94.7	94.5	0.84	137	7.3	723	2.8	2.7	2.85	746	66

<sup>1)</sup> Efficiency class IE1

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

## Technical data for flameproof IE2 cast iron motors Ex d I Mb, 400 V, 50 Hz design

Technical data for 400 V 50 Hz motors can be found in the table below, data for other voltages on request

Output kW	Motor type	Product code	Speed r/min	Efficiency IEC60034-30-1; 2014			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 L <sub>PA</sub> dB
				Full load 100%	3/4 load 75%	1/2 load 50%		I <sub>N</sub> A	I <sub>S</sub> /I <sub>N</sub>	T <sub>N</sub> Nm	T <sub>I</sub> /T <sub>N</sub>	T <sub>B</sub> /T <sub>N</sub>			
<b>750 r/min = 8 poles</b>			<b>400 V 50 Hz</b>				<b>CENELEC design</b>								
0.18	M3JM 80MA 8	3GJM 084 310-••H	720	57.7	52.0	43.4	0.42	1.15	3.3	2.4	3.7	4.0	0.0022	40	36
0.25	M3JM 80MB 8	3GJM 084 320-••H	705	61.4	57.2	49.5	0.51	1.21	3.2	3.4	2.6	2.8	0.0022	40	36
0.37	M3JM 90SLA 8	3GJM 094 010-••H	697	65.5	63.7	57.6	0.63	1.33	3.0	5.1	2.0	2.2	0.0036	52	36
0.55	M3JM 90SLC 8	3GJM 094 030-••H	695	68.7	67.7	63.2	0.61	2.01	3.0	7.5	2.2	2.4	0.0037	54	36
0.75	M3JM 100LA 8	3GJM 104 510-••H	720	76.5	74.1	68.3	0.54	2.66	4.2	9.9	2.4	3.1	0.012	71	54
1.1	M3JM 100LB 8	3GJM 104 520-••H	717	76.4	74.2	68.7	0.57	3.60	3.7	14.6	2.1	2.9	0.012	71	54
1.5	M3JM 112MC 8	3GJM 114 330-••H	713	75.3	73.3	67.6	0.54	5.40	3.4	20.1	2.0	3.2	0.014	75	54
2.2	M3JM 132SMC 8	3GJM 134 230-••H	720	80.3	79.2	75.4	0.65	6.10	4.5	29.1	1.7	2.7	0.034	111	59
3 <sup>1)</sup>	M3JM 132SMD 8	3GJM 134 240-••H	711	79.9	80.3	78.1	0.71	7.98	4.1	40.4	1.5	2.8	0.036	113	59
4	M3JM 160MLA 8	3GJM 164 410-••H	722	83.3	84.7	84.2	0.70	10.3	4.7	52.9	1.6	2.6	0.133	258	59
5.5	M3JM 160MLB 8	3GJM 164 420-••H	723	86.8	87.2	86.0	0.71	13.5	5.8	72.7	1.9	3.1	0.133	258	53
11	M3JM 180MLB 8	3GJM 184 420-••H	723	88.3	89.2	88.7	0.72	25.5	5.6	145	2.0	3.0	0.245	307	63
15	M3JM 200MLA 8	3GJM 204 410-••G	734	89.9	90.4	89.5	0.79	30.6	6.9	195	2.4	3.2	0.45	326	56
18.5	M3JM 225SMA 8	3GJM 224 210-••G	734	90.0	90.7	90.2	0.74	39.2	6.1	240	2.2	3.0	0.61	383	55
22	M3JM 225SMB 8	3GJM 224 220-••G	732	90.6	91.4	91.2	0.81	45.3	6.5	287	1.9	2.9	0.68	363	56
30	M3JM 250SMA 8	3GJM 254 210-••G	735	91.6	91.0	90.5	0.79	60.7	6.7	389	2.0	2.9	1.25	441	56
37	M3JM 280SMA 8	3GJM 284 210-••G	742	92.7	92.9	92.2	0.79	72.6	7.3	476	1.7	3.0	1.85	626	65
45	M3JM 280SMB 8	3GJM 284 220-••G	741	93.2	93.4	92.8	0.78	89.2	7.6	579	1.8	3.1	2.2	666	65
55	M3JM 315SMA 8	3GJM 314 210-••G	742	93.4	93.9	93.4	0.79	106	7.1	707	1.6	2.7	3.2	857	62
75	M3JM 315SMB 8	3GJM 314 220-••G	741	93.7	93.8	93.7	0.82	146	7.1	966	1.7	2.7	4.1	957	62
90	M3JM 315SMC 8	3GJM 314 230-••G	741	94.0	94.3	94.0	0.82	170	7.4	1159	1.8	2.7	4.9	1027	64
110	M3JM 315MLA 8	3GJM 314 410-••G	740	94.0	94.2	94.3	0.83	211	7.3	1419	1.8	2.7	5.8	1174	72
132	M3JM 355SMA 8	3GJM 354 210-••G	744	94.7	94.6	94.2	0.80	256	7.5	1694	1.5	2.6	7.9	1554	69
160	M3JM 355SMB 8	3GJM 354 220-••G	744	95.2	95.2	94.8	0.77	293	7.6	1926	1.6	2.6	9.7	1714	69
200	M3JM 355SMC 8	3GJM 354 230-••G	742	95.3	95.7	95.5	0.79	385	7.4	2576	1.6	2.6	11.3	1964	69
250	M3JM 355MLB 8	3GJM 354 420-••G	743	95.4	95.5	95.0	0.80	472	7.5	3213	1.6	2.7	13.5	2404	72
315	M3JM 400LA 8	3GJM 404 510-••G	743	96.1	96.0	95.6	0.81	592	7.0	4043	1.2	2.6	17	3214	71
315	M3JM 400LKA 8	3GJM 404 810-••G	743	96.1	96.0	95.6	0.81	592	7.0	4043	1.2	2.6	17	3214	71
355	M3JM 400LB 8	3GJM 404 520-••G	743	96.2	96.3	96.1	0.83	641	6.8	4562	1.2	2.5	21	3514	71
355	M3JM 400LKB 8	3GJM 404 820-••G	743	96.2	96.3	96.1	0.83	641	6.8	4562	1.2	2.5	21	3514	71
400	M3JM 400LC 8	3GJM 404 530-••G	744	96.3	96.4	96.1	0.82	735	7.4	5134	1.3	2.7	24	3714	71
400	M3JM 400LKC 8	3GJM 404 830-••G	744	96.3	96.4	96.1	0.82	735	7.4	5134	1.3	2.7	24	3714	71
450	M3JM 450LA 8	3GJM 454 510-••G	744	96.2	96.5	96.2	0.83	813	6.0	5775	1.0	2.5	26	3962	80
500	M3JM 450LB 8	3GJM 454 520-••G	744	96.3	96.4	96.2	0.83	902	6.4	6417	1.0	2.6	29	4202	80
560	M3JM 450LC 8	3GJM 454 530-••G	744	96.4	96.5	96.1	0.82	1038	7.0	7188	1.2	2.9	35	4562	80
630 <sup>2)</sup>	M3JM 450LD 8	3GJM 454 540-••G	745	96.6	96.7	96.2	0.81	1162	7.6	8075	1.3	3.2	41	5002	80
<b>750 r/min = 8 poles</b>			<b>400 V 50 Hz</b>				<b>High Output design</b>								
18.5	M3JM 200MLB 8	3GJM 204 420-••G	734	89.2	89.8	88.8	0.80	37.1	6.9	240	2.2	3.2	0.54	346	57
30	M3JM 225SMC 8	3GJM 224 230-••G	731	90.7	91.6	91.6	0.78	61.2	6.3	391	2.3	3.0	0.75	423	59
37	M3JM 250SMB 8	3GJM 254 220-••G	737	92.2	92.9	92.5	0.79	73	7.5	479	2.3	3.4	1.52	521	59
55	M3JM 280SMC 8	3GJM 284 230-••G	741	93.4	93.7	93.6	0.80	107	7.9	708	1.9	3.1	2.85	746	65

<sup>1)</sup> Efficiency class IE1

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



## Technical data for flameproof IE3 cast iron motors Ex d I Mb, 400 V, 50 Hz design

Technical data for 400 V 50 Hz motors can be found in the table below, data for other voltages on request

Output kW	Motor type	Product code	Speed r/min	Efficiency IEC60034-30-1; 2014			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 L <sub>PA</sub> dB
				Full load 100%	3/4 load 75%	1/2 load 50%		I <sub>N</sub> A	I <sub>s</sub> /I <sub>N</sub>	T <sub>N</sub> Nm	T <sub>v</sub> /T <sub>N</sub>	T <sub>b</sub> /T <sub>N</sub>			
<b>3000 r/min = 2 poles</b>			<b>400 V 50 Hz</b>				<b>CENELEC design</b>								
11	M3JM 160MLA 2	3GJM 161 410-**L	2943	91.2	92.0	91.6	0.91	19.1	7.2	35.57	2.6	3.6	0.057	233	69
15	M3JM 160MLB 2	3GJM 161 420-**L	2947	91.9	92.2	91.8	0.88	26.5	8.2	48.49	3.2	4.2	0.063	240	69
18.5	M3JM 160MLC 2	3GJM 161 430-**L	2949	92.4	93.0	92.6	0.90	32.0	9.0	59.81	3.3	3.9	0.076	254	73
22	M3JM 180MLA 2	3GJM 181 410-**L	2956	92.7	93.1	92.7	0.90	37.7	7.8	70.98	3.4	3.8	0.11	291	73
30	M3JM 200MLA 2	3GJM 201 410-**L	2957	93.3	93.8	93.6	0.88	52.4	7.5	96.92	2.5	3.1	0.182	343	73
37	M3JM 200MLB 2	3GJM 201 420-**L	2960	93.7	94.2	94.1	0.89	64.2	8.2	119.5	3.1	3.4	0.222	370	73
45	M3JM 225SMA 2	3GJM 221 210-**L	2968	94.0	94.0	93.0	0.87	79.6	7.3	144.8	3.2	3.1	0.296	418	76
55	M3JM 250SMA 2	3GJM 251 210-**L	2968	94.3	93.7	93.6	0.89	94.8	6.8	177	2.4	3.0	0.426	484	76
75	M3JM 280SMB 2	3GJM 281 220-**L	2978	94.7	94.4	93.5	0.88	130	7.0	240	2.3	3.0	0.90	785	74
90	M3JM 280SMC 2	3GJM 281 230-**L	2975	95.0	95.0	94.2	0.88	158	6.4	289	2.1	2.8	0.99	814	74
110	M3JM 315SMB 2	3GJM 311 220-**L	2982	95.2	94.9	93.9	0.87	192	7.0	352	1.8	2.7	1.3	1030	78
132	M3JM 315SMC 2	3GJM 311 230-**L	2982	95.4	95.4	94.6	0.87	229	6.8	422	2.0	2.8	1.5	1085	78
160	M3JM 315SMD 2	3GJM 311 240-**L	2983	95.6	95.6	94.9	0.87	275	7.4	512	2.2	2.8	1.7	1142	78
200	M3JM 315MLA 2	3GJM 311 410-**L	2983	95.8	95.8	95.3	0.88	342	7.7	640	2.5	3.1	2.1	1212	81
250	M3JM 355SMA 2	3GJM 351 210-**L	2985	95.8	95.6	94.6	0.89	423	7.7	800	2.1	3.3	3.0	1818	83
315	M3JM 355SMB 2	3GJM 351 220-**L	2980	95.8	95.7	95.0	0.89	529	7.0	1009	2.1	3.0	3.4	1898	83
355	M3JM 355SMC 2	3GJM 351 230-**L	2984	95.8	95.8	95.0	0.88	605	7.2	1136	2.2	3.0	3.6	1968	83
250 <sup>3)</sup>	M3JM 315LKB 2	3GJM 311 820-**L	2983	95.8	96.0	95.5	0.90	419	7.7	800	2.5	3.3	2.9	1652	81
<b>1500 r/min = 4 poles</b>			<b>400 V 50 Hz</b>				<b>CENELEC design</b>								
11	M3JM 160MLA 4	3GJM 162 410-**L	1477	91.4	91.8	91.1	0.82	21.1	7.6	71.27	2.6	3.3	0.11	248	61
15	M3JM 160MLB 4	3GJM 162 420-**L	1477	92.1	92.4	91.6	0.82	28.5	8.2	96.99	3.0	3.7	0.135	267	61
18.5	M3JM 180MLA 4	3GJM 182 410-**L	1481	92.6	93.2	92.9	0.83	34.9	7.2	119.3	2.8	3.0	0.219	300	60
22	M3JM 180MLB 4	3GJM 182 420-**L	1481	93.0	93.5	93.3	0.82	41.4	6.5	142	3.0	3.2	0.243	304	60
30	M3JM 200MLA 4	3GJM 202 410-**L	1483	93.6	93.8	93.4	0.84	54.8	7.5	193.2	2.7	3.2	0.385	371	63
37	M3JM 225SMA 4	3GJM 222 210-**L	1482	93.9	94.1	93.8	0.83	68.9	7.2	238.6	3.1	3.1	0.427	407	67
45	M3JM 225SMB 4	3GJM 222 220-**L	1482	94.2	94.4	94.0	0.84	82.3	8.0	290	3.2	3.5	0.525	444	66
55	M3JM 250SMA 4	3GJM 252 210-**L	1482	94.6	94.7	94.0	0.84	100	7.1	354.2	2.9	3.4	0.694	456	68
75	M3JM 280SMB 4	3GJM 282 220-**L	1485	95.0	95.2	94.8	0.86	133	6.4	483	2.3	2.8	1.38	769	75
90	M3JM 280SMC 4	3GJM 282 230-**L	1485	95.2	95.5	95.2	0.86	158	7.1	578	2.5	2.9	1.73	829	75
110	M3JM 315SMB 4	3GJM 312 220-**L	1489	95.4	95.5	94.9	0.84	195	7.0	705	2.1	3.0	2.43	1052	71
132	M3JM 315SMC 4	3GJM 312 230-**L	1488	95.6	95.9	95.5	0.86	231	6.7	847	2.2	2.9	2.9	1125	71
160	M3JM 315SMD 4	3GJM 312 240-**L	1488	95.8	96.0	95.8	0.85	282	6.9	1026	2.2	3.0	3.2	1165	71
250	M3JM 355SMA 4	3GJM 352 210-**L	1491	96.0	96.0	95.6	0.86	435	6.4	1601	2.1	2.9	5.9	1822	78
315	M3JM 355SMB 4	3GJM 352 220-**L	1491	96.0	96.1	95.7	0.85	550	7.3	2018	2.4	3.3	6.9	1990	78
355	M3JM 355SMC 4	3GJM 352 230-**L	1490	96.0	96.2	95.8	0.86	616	6.3	2273	2.3	2.8	7.2	2030	78
250 <sup>3)</sup>	M3JM 315LKA 4	3GJM 312 810-**L	1488	96.0	96.3	96.1	0.85	442	6.9	1604	2.5	3.2	4.4	1523	78

<sup>3)</sup> High output design

## Technical data for flameproof IE3 cast iron motors Ex d I Mb, 400 V, 50 Hz design

Technical data for 400 V 50 Hz motors can be found in the table below, data for other voltages on request

Output kW	Motor type	Product code	Speed r/min	Efficiency IEC60034-30-1; 2014			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 L <sub>PA</sub> dB
				Full load 100%	3/4 load 75%	1/2 load 50%		I <sub>N</sub> A	I <sub>S</sub> /I <sub>N</sub>	T <sub>N</sub> Nm	T <sub>I</sub> /T <sub>N</sub>	T <sub>b</sub> /T <sub>N</sub>			
<b>1000 r/min = 6 poles</b>			<b>400 V 50 Hz</b>				<b>CENELEC design</b>								
7.5	M3JM 160MLA 6	3GJM 163 410-**L	975	89.1	90.0	90.0	0.77	15.7	5.7	73.24	1.4	3.0	0.089	233	59
11	M3JM 160MLB 6	3GJM 163 420-**L	975	90.3	91.1	91.1	0.78	22.5	6.4	107.5	1.6	3.1	0.138	266	64
15	M3JM 180MLA 6	3GJM 183 410-**L	979	91.2	91.9	91.6	0.79	30.1	5.2	146.9	1.5	2.7	0.212	297	63
18.5	M3JM 200MLA 6	3GJM 203 410-**L	989	91.7	91.9	91.2	0.82	35.2	6.5	178.8	2.2	3.2	0.496	351	59
22	M3JM 200MLB 6	3GJM 203 420-**L	989	92.2	92.4	91.4	0.81	42.4	7.3	212.4	2.6	3.5	0.585	378	59
30	M3JM 225SMA 6	3GJM 223 210-**L	988	92.9	93.0	92.2	0.77	60.4	7.7	290.6	2.9	3.6	0.724	432	63
37	M3JM 250SMA 6	3GJM 253 210-**L	990	93.3	93.7	93.5	0.80	71.1	6.5	357	2.4	3.1	1.30	517	58
45	M3JM 280SMB 6	3GJM 283 220-**L	991	93.7	94.0	93.5	0.84	82	7.4	433	2.7	3.0	1.87	756	72
55	M3JM 280SMC 6	3GJM 283 230-**L	992	94.1	94.3	93.8	0.86	99	7.5	528	2.8	3.0	2.57	806	71
75	M3JM 315SMB 6	3GJM 313 220-**L	994	94.6	94.9	94.6	0.84	136	6.8	720	1.8	2.6	4.1	1020	75
90	M3JM 315SMC 6	3GJM 313 230-**L	994	94.9	95.1	94.7	0.84	164	7.2	864	2.0	3.0	4.6	1096	76
110	M3JM 315SMD 6	3GJM 313 240-**L	994	95.1	95.3	95.0	0.83	200	7.3	1056	2.2	3.1	4.9	1144	75
132	M3JM 315MLB 6	3GJM 313 420-**L	995	95.4	95.5	95.1	0.82	242	7.3	1266	2.3	3.2	6.3	1318	72
160	M3JM 355SMA 6	3GJM 353 210-**L	993	95.6	95.8	95.6	0.82	292	6.7	1538	2.5	2.6	7.9	1668	75
200	M3JM 355SMB 6	3GJM 353 220-**L	993	95.8	96.2	96.1	0.82	365	6.7	1923	2.6	2.5	9.7	1827	75
250	M3JM 355SMC 6	3GJM 353 230-**L	993	95.8	96.1	95.8	0.81	465	7.7	2404	3.0	3.1	11.3	2044	75
315	M3JM 355MLB 6	3GJM 353 420-**L	993	95.8	96.1	96.0	0.83	571	6.8	3029	2.6	3.2	13.5	2405	76
355	M3JM 355LKA 6	3GJM 353 810-**L	993	95.8	96.0	95.9	0.81	653	7.5	3413	2.9	3.2	15.5	2705	76
160	M3JM 315LKA 6	3GJM 313 810-**L	994	95.6	95.8	95.4	0.81	298	7.5	1535	2.2	3.1	7.3	1530	76
<b>750 r/min = 4 poles</b>			<b>400 V 50 Hz</b>				<b>CENELEC design</b>								
37	M3JM 280SMA 8	3GJM 284 210-**L	742	91.8	92.1	91.4	0.79	73	7.3	476	1.7	3.0	1.85	726	65
45	M3JM 280SMB 8	3GJM 284 220-**L	741	92.2	92.4	91.8	0.78	89.6	7.6	579	1.8	3.1	2.2	766	65
55	M3JM 315SMA 8	3GJM 314 210-**L	742	92.5	93.1	92.5	0.80	106	7.7	707	1.8	2.7	3.2	960	62
75	M3JM 315SMB 8	3GJM 314 220-**L	741	93.1	93.3	93.1	0.79	146	7.1	966	1.7	2.7	4.1	1060	62
90	M3JM 315SMC 8	3GJM 314 230-**L	741	93.4	93.8	93.4	0.81	171	7.4	1159	1.8	2.7	4.9	1130	64
110	M3JM 315MLA 8	3GJM 314 410-**L	740	93.7	94.0	94.1	0.80	211	7.3	1419	1.8	2.7	5.8	1330	72
132	M3JM 355SMA 8	3GJM 354 210-**L	744	94.0	93.9	93.4	0.77	256	7.5	1694	1.5	2.6	7.9	1666	69
160	M3JM 355SMB 8	3GJM 354 220-**L	744	94.3	94.3	93.9	0.77	293	7.6	1926	1.6	2.6	9.7	1826	69
200	M3JM 355SMC 8	3GJM 354 230-**L	742	94.6	95.1	94.9	0.79	385	7.4	2576	1.6	2.6	11.3	1966	69
250	M3JM 355MLB 8	3GJM 354 420-**L	743	94.6	94.8	94.2	0.80	472	7.5	3213	1.6	2.7	13.5	2216	72

## Technical data for flameproof IE3 cast iron motors Ex d I Mb, 1000 V, 50 Hz design

Technical data for 1000 V 50 Hz motors can be found in the table below, data for other voltages on request

Output kW	Motor type	Product code	Speed r/min	Efficiency IEC60034-30-1; 2014			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 L <sub>PA</sub> dB
				Full load 100%	3/4 load 75%	1/2 load 50%		I <sub>N</sub> A	I <sub>s</sub> /I <sub>N</sub>	T <sub>N</sub> Nm	T <sub>v</sub> /T <sub>N</sub>	T <sub>b</sub> /T <sub>N</sub>			
<b>3000 r/min = 2 poles</b>			<b>1000 V 50 Hz</b>				<b>CENELEC design</b>								
75	M3JM 280SMB 2	3GJM281220-K	2980	95.3	95.5	94.8	0.87	52	7.3	240	2.1	2.9	0.9	785	77
90	M3JM 280SMC 2	3GJM281230-K	2979	95.6	95.5	95.0	0.89	61	7.4	288	2.5	3.2	1.15	856	77
110	M3JM 315SMB 2	3GJM311220-K	2983	95.8	95.8	95.1	0.89	75.6	6.7	352	2.2	2.9	1.4	1063	77
132	M3JM 315SMC 2	3GJM311230-K	2982	95.9	96.0	95.7	0.85	89.2	7.0	423	2.4	2.9	1.7	1138	77
160	M3JM 315MLA 2	3GJM311410-K	2979	96.0	96.3	96.2	0.91	107	6.4	513	2.2	2.5	2.1	1308	77
200	M3JM 355SMA 2	3GJM351210-K	2985	96.3	96.1	95.3	0.89	134	7.6	640	2.2	3.5	3.0	1809	83
250	M3JM 355SMB 2	3GJM351220-K	2983	96.4	96.4	96.0	0.89	166	7.6	800	2.5	3.3	3.4	1906	83
315	M3JM 355SMC 2	3GJM351230-K	2984	96.4	96.3	95.9	0.89	213	7.8	1008	2.3	3.1	3.6	1981	83
355	M3JM 355MLA 2	3GJM351410-K	2981	96.3	96.6	96.7	0.90	238	7.5	1136	2.3	2.8	4.1	2216	83
200 <sup>3)</sup>	M3JM 315MLB 2	3GJM311420-K	2979	96.1	96.5	96.6	0.88	133	6.0	641	1.9	2.5	2.2	1333	77
250 <sup>3)</sup>	M3JM 315LKB 2	3GJM311820-K	2980	96.4	96.7	96.7	0.91	166	7.9	801	2.5	2.9	2.9	1642	77
<b>1500 r/min = 4 poles</b>			<b>1000 V 50 Hz</b>				<b>CENELEC design</b>								
75	M3JM 280SMB 4	3GJM282220-**K	1485	95.5	96.0	95.9	0.85	53	7.2	482	2.5	2.9	1.5	786	72
90	M3JM 280SMC 4	3GJM282230-**K	1487	95.9	96.1	95.7	0.84	65	8.2	578	3.0	3.4	1.85	847	72
110	M3JM 315SMC 4	3GJM312230-**K	1490	96.1	96.4	96.0	0.85	77.6	7.7	705	2.5	3.3	2.9	1116	68
132	M3JM 315SMD 4	3GJM312240-**K	1489	96.0	96.4	96.1	0.86	92.7	7.4	846	2.6	3.2	3.2	1172	68
160	M3JM 315MLB 4	3GJM312420-**K	1490	96.3	96.6	96.4	0.87	111	7.9	1026	2.9	3.3	3.9	1331	68
200	M3JM 355SMA 4	3GJM352210-**K	1490	96.4	96.6	96.4	0.88	137	6.7	1282	2.1	2.7	5.9	1825	74
250	M3JM 355SMB 4	3GJM352220-**K	1491	96.6	96.8	96.5	0.88	174	7.8	1600	2.5	3.1	6.9	1981	74
315	M3JM 355SMC 4	3GJM352230-**K	1488	96.4	96.7	96.6	0.87	218	6.5	2020	2.3	2.7	7.2	2029	74
355	M3JM 355MLA 4	3GJM352410-**K	1489	96.5	96.8	96.5	0.89	242	7.0	2275	2.5	2.8	8.4	2365	78
560	M3JM 400LA 4	3GJM402510-**G	1492	96.6	96.6	96.2	0.86	386	7.2	3584	2.4	3.1	15	3232	78
560	M3JM 400LKA 4	3GJM402810-**G	1492	96.6	96.6	96.2	0.86	386	7.2	3584	2.4	3.1	15	3232	78
630	M3JM 400LB 4	3GJM402520-**G	1491	96.6	97.1	96.1	0.86	438	7.5	4032	2.2	3.2	16	3612	78
630	M3JM 400LKB 4	3GJM402820-**G	1491	96.6	97.1	96.1	0.86	438	7.5	4032	2.2	3.2	16	3612	78
710 <sup>2)</sup>	M3JM 400LC 4	3GJM402530-**G	1490	96.6	96.6	96.4	0.87	485	7.4	4547	2.4	3.0	17	3712	78
710 <sup>2)</sup>	M3JM 400LKC 4	3GJM402830-**G	1490	96.6	96.6	96.4	0.87	485	7.4	4547	2.4	3.0	17	3712	78
780	M3JM 450LA 4	3GJM452510-**G	1490	96.5	96.5	96.0	0.86	534	6.8	4995	1.4	3.0	23	4092	85
870	M3JM 450LB 4	3GJM452520-**G	1492	96.5	96.5	95.9	0.85	613	6.4	5570	1.4	3.0	25	4392	85
950	M3JM 450LC 4	3GJM452530-**G	1491	96.5	96.4	95.8	0.86	662	6.6	6079	1.4	3.3	30	4742	85
200 <sup>3)</sup>	M3JM 315LKB 4	3GJM312820-**K	1488	96.5	96.7	96.7	0.88	137	7.1	1282	2.5	2.9	5.0	1634	74
250 <sup>3)</sup>	M3JM 315LKC 4	3GJM312830-**K	1490	96.6	96.9	97.0	0.87	172	7.8	1602	2.4	3.2	5.5	1714	74

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

<sup>3)</sup> High output design

Note! Variant code 406 is mandatory for voltage levels above 800 V.



## Technical data for flameproof IE2 cast iron motors Ex d I Mb, 1000 V, 50 Hz design

Technical data for 1000 V 50 Hz motors can be found in the table below, data for other voltages on request

Output kW	Motor type	Product code	Speed r/min	Efficiency IEC60034-30-1; 2014			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 L <sub>PA</sub> dB
				Full load 100%	3/4 load 75%	1/2 load 50%		I <sub>N</sub> A	I <sub>s</sub> /I <sub>N</sub>	T <sub>N</sub> Nm	T <sub>r</sub> /T <sub>N</sub>	T <sub>b</sub> /T <sub>N</sub>			
<b>1000 r/min = 6 poles</b>			<b>1000 V 50 Hz</b>				<b>CENELEC design</b>								
45	M3JM 280SMB 6	3GJM283220-**K	992	94.6	95.0	94.6	0.85	32	6.9	433	2.5	2.8	2.2	798	65
55	M3JM 280SMC 6	3GJM283230-**K	989	94.6	95.2	94.9	0.86	40	6.4	530	2.4	2.5	2.85	838	65
75	M3JM 315SMC 6	3GJM313230-**K	994	94.9	95.5	94.5	0.83	55.5	7.2	720	2.3	3.0	4.9	1113	67
90	M3JM 315SMD 6	3GJM313240-**K	993	95.3	95.7	95.4	0.85	67	6.7	865	2.4	2.7	4.9	1147	67
110	M3JM 315MLB 6	3GJM313420-**K	994	95.5	95.8	95.6	0.84	80.4	6.7	1058	2.3	2.7	6.3	1313	68
132	M3JM 315LKA 6	3GJM313810-**K	994	95.6	95.8	95.7	0.82	98	7.1	1269	2.5	2.9	7.3	1515	68
160	M3JM 355SMB 6	3GJM353220-**K	995	95.9	96.0	95.4	0.82	118	7.0	1536	2.1	2.8	9.7	1812	73
200	M3JM 355SMC 6	3GJM353230-**K	995	96.0	96.3	96.0	0.82	146	7.3	1919	2.3	2.9	11.3	1955	73
250	M3JM 355MLB 6	3GJM353420-**K	994	96.2	96.5	96.5	0.84	181	6.7	2401	2.3	2.6	13.5	2379	73
315	M3JM 355LKA 6	3GJM353810-**K	993	96.3	96.6	96.3	0.84	231	6.8	3025	2.3	2.7	15.5	2706	76
355	M3JM 355LKB 6	3GJM353820-**K	994	96.3	96.5	96.1	0.83	262	7.1	3410	2.7	2.8	16.5	2806	76
400	M3JM 400LA 6	3GJM403510-**G	993	96.2	96.1	95.5	0.82	294	7.2	3844	2.3	2.7	17.0	3053	76
400	M3JM 400LKA 6	3GJM403810-**G	993	96.2	96.1	95.5	0.82	294	7.2	3844	2.3	2.7	17.0	3213	76
450	M3JM 400LB 6	3GJM403520-**G	994	96.5	96.5	96.0	0.82	327	7.4	4324	2.4	2.7	20.5	3463	76
450	M3JM 400LKB 6	3GJM403820-**G	994	96.5	96.5	96.0	0.82	327	7.4	4324	2.4	2.7	20.5	3463	76
500	M3JM 400LC 6	3GJM403530-**G	993	96.5	96.5	96.1	0.83	353	7.2	4807	2.4	2.6	22	3613	76
500	M3JM 400LKC 6	3GJM403830-**G	993	96.5	96.5	96.1	0.83	353	7.2	4807	2.4	2.6	22	3613	76
560	M3JM 400LD 6	3GJM403540-**G	993	96.3	96.4	96.2	0.87	388	6.4	5385	2.2	2.7	24	3713	77
560	M3JM 400LKD 6	3GJM403840-**G	993	96.3	96.4	96.2	0.87	388	6.4	5385	2.2	2.7	24	3713	77
610	M3JM 450LA 6	3GJM453510-**G	995	96.4	96.4	95.9	0.84	436	6.3	5857	1.4	2.9	31	4362	81
680	M3JM 450LB 6	3GJM453520-**G	995	96.5	96.5	95.9	0.85	477	7.2	6526	1.5	3.0	37	4542	81
760 <sup>2)</sup>	M3JM 450LC 6	3GJM453530-**G	995	96.5	96.5	95.9	0.84	542	7.4	7293	1.6	3.2	41	4842	81
160 <sup>3)</sup>	M3JM 315LKC 6	3GJM313830-**K	993	95.8	96.1	96.2	0.84	117	6.5	1539	2.3	2.6	9.2	1715	68
<b>750 r/min = 8 poles</b>			<b>1000 V 50 Hz</b>				<b>CENELEC design</b>								
37	M3JM 280SMA 8	3GJM284210-**G	742	91.9	92.2	91.5	0.81	30	7.2	477	2.0	3.2	1.85	626	65
45	M3JM 280SMB 8	3GJM284220-**G	742	92.8	93.1	92.7	0.80	37	7.3	580	2.0	3.3	2.2	667	65
55	M3JM 315SMA 8	3GJM314210-**G	742	92.7	93.3	92.9	0.80	42.5	7.0	708	1.8	2.9	3.2	857	62
75	M3JM 315SMB 8	3GJM314220-**G	741	93.5	93.5	93.4	0.81	58.7	7.2	966	2.0	3.0	4.1	957	62
90	M3JM 315SMC 8	3GJM314230-**G	742	93.8	94.0	93.6	0.81	68.9	7.7	1159	2.2	3.2	4.9	1027	64
110	M3JM 315MLA 8	3GJM314410-**G	740	93.8	93.9	94.1	0.83	84.5	7.2	1419	2.0	3.0	5.8	1177	72
132	M3JM 315LKA 8	3GJM314810-**G	741	94.0	94.2	93.9	0.82	98.5	7.8	1701	2.3	3.1	7.3	1440	74
132	M3JM 355SMA 8	3GJM354210-**G	745	94.8	94.8	94.3	0.76	105	7.8	1693	2.0	3.1	7.9	1556	69
160	M3JM 355SMB 8	3GJM354220-**G	744	95.0	95.2	94.6	0.79	123	7.4	2054	1.8	2.9	9.7	1716	69
200	M3JM 355SMC 8	3GJM354230-**G	743	95.2	95.3	95.2	0.79	149	7.5	2571	1.8	2.7	11.3	1966	69
250	M3JM 355MLB 8	3GJM354420-**G	743	95.2	95.1	94.5	0.78	193	8.0	3212	1.9	3.0	13.5	2406	72
315 <sup>2)</sup>	M3JM 355LKB 8	3GJM354820-**G	742	95.3	95.5	95.0	0.80	238	7.9	4052	1.9	2.8	16.5	2636	75
315	M3JM 400LA 8	3GJM404510-**G	743	95.1	95.3	94.9	0.80	238	6.4	4044	1.2	2.6	17	3213	71
315	M3JM 400LKA 8	3GJM404810-**G	743	95.1	95.3	94.9	0.80	238	6.4	4044	1.2	2.6	17	3213	71
355	M3JM 400LB 8	3GJM404520-**G	743	95.3	95.6	95.3	0.82	260	7.7	4558	1.2	2.5	21	3513	71
355	M3JM 400LKB 8	3GJM404820-**G	743	95.3	95.6	95.3	0.82	260	7.7	4558	1.2	2.5	21	3513	71
400	M3JM 400LC 8	3GJM404530-**G	744	95.3	94.8	94.5	0.83	293	7.0	5136	1.3	2.4	24	3713	71
400	M3JM 400LKC 8	3GJM404830-**G	744	95.3	94.8	94.5	0.83	293	7.0	5136	1.3	2.4	24	3713	71
430	M3JM 450LA 8	3GJM454510-**G	744	95.1	95.4	94.9	0.83	313	6.3	5519	1.2	2.7	26	3942	80
470	M3JM 450LB 8	3GJM454520-**G	745	95.3	95.7	95.2	0.82	343	6.8	6028	2.0	3.0	29	4202	80
530	M3JM 450LC 8	3GJM454530-**G	744	95.3	95.3	94.5	0.80	402	7.7	6793	1.8	3.4	35	4562	80
600 <sup>2)</sup>	M3JM 450LD 8	3GJM454540-**G	745	95.3	95.3	94.7	0.81	445	8.0	7689	2.0	3.5	41	5002	80
55 <sup>3)</sup>	M3JM 280SMC 8	3GJM284230-**G	741	93.2	93.5	93.5	0.80	42.6	7.8	709	2.1	3.3	2.85	746	65

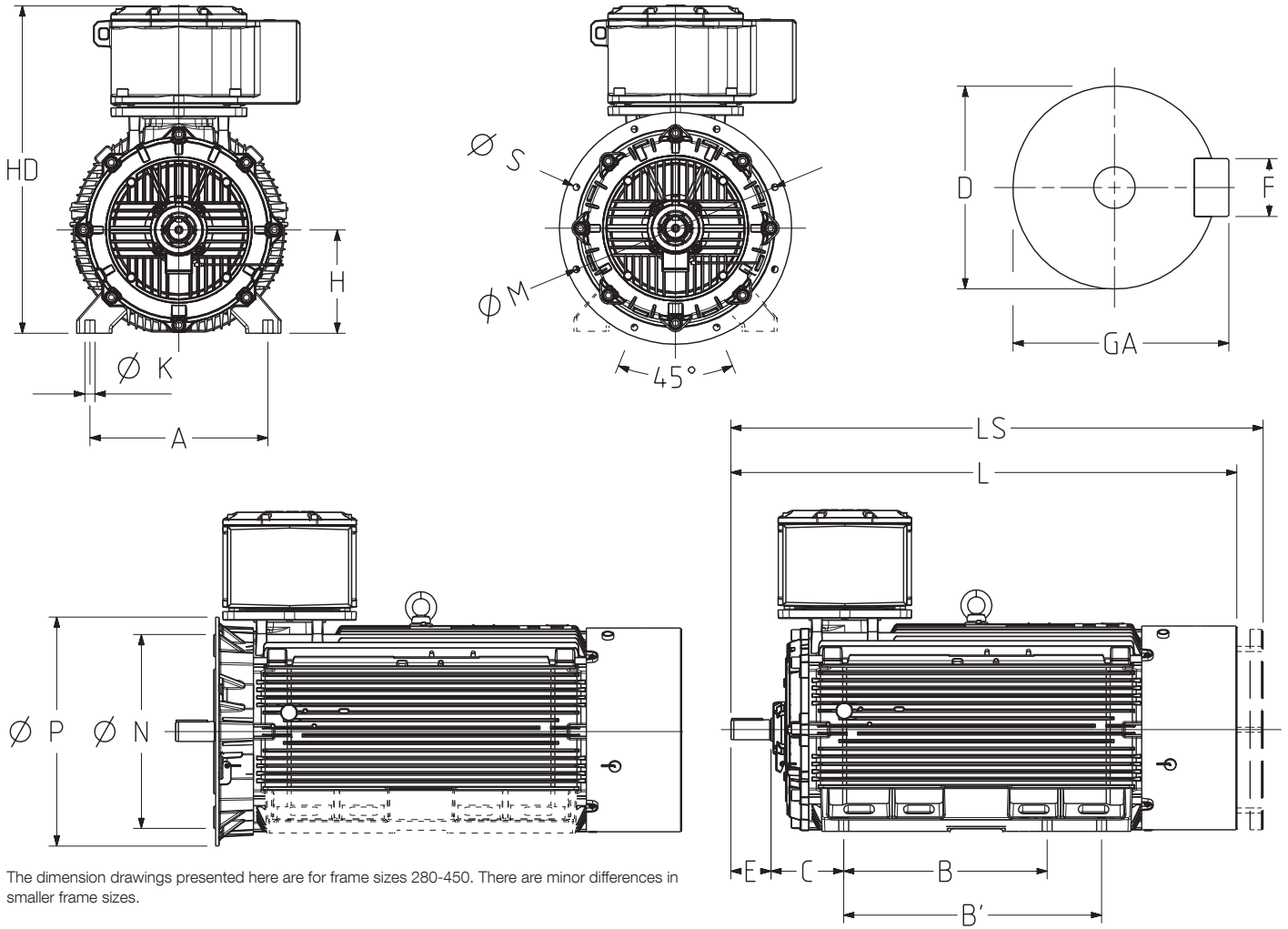
<sup>2)</sup> Temperature rise class F

<sup>3)</sup> High output design

Note! Variant code 406 is mandatory for voltage levels above 800 V.

## Dimension drawings for flameproof cast iron mining motors

Mechanical dimensions are shown in the table below



9AKK106688 EN 09-2015

The dimension drawings presented here are for frame sizes 280-450. There are minor differences in smaller frame sizes.

Motor size	A		B		B'		C		D poles		E poles		F poles		GA poles		H	HD	ØK	L poles		ØM	ØN	ØP	ØS	LS poles	
	2	4-8	2	4-8	2	4-8	2	4-8	2	4-8	2	4-8	2	4-8	2	4-8				2	4-8				2	4-8	
	80	125	100	125	50	19	19	40	40	6	6	21.5	21.5	80	290	10	347	347	165	130	200	12	385	385			
90	140	100	125	56	24	24	50	50	8	8	27	27	90	315	10	415	415	165	130	200	12	453	453				
100	160	140	-	63	28	28	60	60	8	8	31	31	100	335	12	480	480	215	180	250	14.5	518	518				
112	190	140	-	70	28	28	60	60	8	8	31	31	112	350	12	480	480	215	180	250	14.5	518	518				
132	216	140	178	89	38	38	80	80	10	10	41	41	132	390	12	556	556	265	230	300	14.5	612	612				
160	254	210	254	108	42	42	110	110	12	12	45	45	160	495	14.5	808	808	300	250	350	18.5	864	864				
180	279	241	279	121	48	48	110	110	14	14	51.5	51.5	180	535	14.5	826	826	300	250	350	18.5	882	882				
200	318	267	305	133	55	55	110	110	16	16	59	59	200	616	18.5	824	824	350	300	400	18.5	892	892				
225	356	286	311	149	55	60	110	140	16	18	59	64	225	663	18.5	841	871	400	350	450	18.5	909	939				
250	406	311	349	168	60	65	140	140	18	18	64	69	250	726	24	895	895	500	450	550	18.5	963	963				
280	457	368	419	190	65	75	140	140	18	20	69	79.5	280	862	24	1092	1092	500	450	550	18	1184	1184				
315 SM <sub>-</sub>	508	406	457	216	65	80	140	170	18	22	69	85	315	929	30	1178	1208	600	550	660	23	1270	1300				
315 ML <sub>-</sub>	508	457	508	216	65	90	140	170	18	25	69	95	315	929	30	1289	1319	600	550	660	23	1381	1411				
355 SM <sub>-</sub>	610	500	560	254	70	100	140	210	20	28	74.5	106	355	*	35	1411	1481	740	680	800	23	1503	1573				
355 ML <sub>-</sub>	610	560	630	254	70	100	140	210	20	28	74.5	106	355	*	35	1516	1586	740	680	800	23	1608	1678				
355 LK <sub>-</sub>	610	630	710	254	70	100	140	210	20	28	74.5	106	355	*	35	1764	1834	740	680	800	23	1856	1926				
400 L <sub>-</sub>	710	900	1000	224	80	110	170	210	22	28	85	116	400	1211	35	1852	1892	940	880	1000	28	1944	1984				
400 LK <sub>-</sub>	686	710	800	280	80	100	170	210	22	28	85	106	400	1211	35	1852	1892	740	680	800	23	1944	1984				
450	800	1000	1120	250	-	120	-	210	-	32	-	127	450	1328	42	-	2072	1080	1000	1150	28	-	2164				

For more information please visit:  
[www.abb.com/motors&generators](http://www.abb.com/motors&generators)

Dimensions are presented in millimeters (mm).  
 \* = HD dimension depending on the terminal box size: 1124/1032 mm.

© Copyright 2015 ABB. All rights reserved.  
 Specifications subject to change without notice.