# Flameproof cast iron motors
# Technical data for Ex d IIB/IIC T4 Gb

IE2

**IP 55 - IC 411 - Insulation class F, temperature rise class B**
**IE2 efficiency class according to IEC 60034-30; 2008**

| Output | Motor | | Product code | | Speed | Efficiency IEC 60034--2-1; 2007 | | | Power | Current | | Torque | | | Moment of inertia | Weight | Sound pressure level |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Full load | 3/4 load | 1/2 load | factor | $I_N$ | $I_s$ | $T_N$ | $T_l$ | $T_b$ | J = 1/4 GD² | | $L_{PA}$ |
| kW | type | | | | r/min | 100% | 75% | 50% | cos φ | A | $I_N$ | Nm | $T_N$ | $T_N$ | kgm² | kg | dB |
| **1000 r/min = 6-poles** | | | **400 V 50 Hz** | | | | | | | **CENELEC-design** | | | | | | | |
| **0.37** | **M3JP** | **80 MA** | 3GJP | 083 310-••H | 953 | 72.6 | 70.3 | 64.6 | 0.64 | 1.14 | 4.8 | 3.7 | 3.4 | 3.6 | 0.0022 | 38 | 50 |
| **0.55** | **M3JP** | **80 MB** | 3GJP | 083 320-••H | 938 | 72.9 | 71.7 | 67.0 | 0.70 | 1.55 | 4.3 | 5.5 | 2.8 | 2.9 | 0.0022 | 38 | 50 |
| **0.75** | **M3JP** | **90 SLA** | 3GJP | 093 010-••H | 946 | 77.9 | 77.1 | 73.4 | 0.69 | 2 | 4.9 | 7.5 | 2.1 | 2.8 | 0.0037 | 52 | 44 |
| **1.1** | **M3JP** | **90 SLC** | 3GJP | 093 030-••H | 933 | 78.5 | 78.8 | 76.3 | 0.71 | 2.8 | 4.7 | 11.2 | 1.8 | 2.4 | 0.0048 | 53 | 44 |
| **1.5** | **M3JP** | **100 LA** | 3GJP | 103 510-••H | 951 | 80.1 | 80.0 | 77.4 | 0.74 | 3.6 | 4.2 | 15 | 2.3 | 2.9 | 0.012 | 69 | 54 |
| **2.2** | **M3JP** | **112 MB** | 3GJP | 113 320-••H | 950 | 82.0 | 82.5 | 80.6 | 0.76 | 5 | 5.9 | 22.1 | 2.2 | 2.8 | 0.014 | 72 | 54 |
| **3** | **M3JP** | **132 SMB** | 3GJP | 133 220-••H | 961 | 83.3 | 83.0 | 80.4 | 0.77 | 6.7 | 6.1 | 29.8 | 2.1 | 3.0 | 0.032 | 105 | 57 |
| **4** | **M3JP** | **132 SMC** | 3GJP | 133 230-••H | 964 | 84.6 | 84.3 | 81.8 | 0.74 | 9.2 | 6.6 | 39.6 | 2.3 | 3.4 | 0.034 | 107 | 57 |
| **5.5** | **M3JP** | **132 SMD** | 3GJP | 133 240-••H | 967 | 87.6 | 87.5 | 85.7 | 0.72 | 12.5 | 6.9 | 54.3 | 2.3 | 3.4 | 0.039 | 109 | 62 |
| **7.5** | **M3JP** | **160 MLA** | 3GJP | 163 410-••H | 965 | 87.2 | 88.4 | 88.2 | 0.81 | 15.3 | 6.5 | 74.2 | 1.9 | 3.0 | 0.088 | 226 | 57 |
| **11** | **M3JP** | **160 MLB** | 3GJP | 163 420-••H | 972 | 90.1 | 90.8 | 90.4 | 0.81 | 21.7 | 7.8 | 108 | 2.3 | 3.5 | 0.126 | 253 | 65 |
| **15** | **M3JP** | **180 MLB** | 3GJP | 183 420-••H | 972 | 90.4 | 91.0 | 90.4 | 0.82 | 29.2 | 7.2 | 147 | 1.9 | 3.2 | 0.25 | 304 | 58 |
| **18.5** | **M3JP** | **200 MLA** | 3GJP | 203 410-••G | 983 | 90.9 | 91.1 | 90.2 | 0.82 | 35.8 | 7.1 | 179 | 3.2 | 3.1 | 0.37 | 300 | 66 |
| **22** | **M3JP** | **200 MLB** | 3GJP | 203 420-••G | 983 | 91.6 | 91.9 | 91.0 | 0.82 | 42.2 | 7.5 | 213 | 3.2 | 3.2 | 0.43 | 320 | 61 |
| **30** | **M3JP** | **225 SMB** | 3GJP | 223 220-••G | 985 | 92.2 | 92.6 | 92.2 | 0.82 | 57.2 | 7.4 | 290 | 3.4 | 3.0 | 0.64 | 385 | 61 |
| **37** | **M3JP** | **250 SMA** | 3GJP | 253 210-••G | 987 | 93.1 | 93.4 | 92.8 | 0.81 | 70.8 | 7.2 | 357 | 3.2 | 2.9 | 1.16 | 455 | 66 |
| **45** | **M3JP** | **280 SMA** | 3GJP | 283 210-••G | 990 | 93.4 | 93.6 | 93.1 | 0.84 | 82.7 | 7.0 | 434 | 2.5 | 2.5 | 1.85 | 705 | 66 |
| **55** | **M3JP** | **280 SMB** | 3GJP | 283 220-••G | 990 | 93.8 | 94.0 | 93.3 | 0.84 | 100 | 7.0 | 530 | 2.7 | 2.6 | 2.2 | 745 | 66 |
| **75** | **M3JP** | **315 SMA** | 3GJP | 313 210-••G | 992 | 94.4 | 94.4 | 93.5 | 0.82 | 139 | 7.4 | 721 | 2.4 | 2.8 | 3.2 | 930 | 70 |
| **90** | **M3JP** | **315 SMB** | 3GJP | 313 220-••G | 992 | 94.8 | 94.8 | 94.2 | 0.84 | 163 | 7.5 | 866 | 2.4 | 2.8 | 4.1 | 1030 | 70 |
| **110** | **M3JP** | **315 SMC** | 3GJP | 313 230-••G | 991 | 95.0 | 95.0 | 94.6 | 0.83 | 201 | 7.4 | 1059 | 2.5 | 2.9 | 4.9 | 1100 | 70 |
| **132** | **M3JP** | **315 MLA** | 3GJP | 313 410-••G | 991 | 95.3 | 95.4 | 94.9 | 0.83 | 240 | 7.5 | 1271 | 2.7 | 3.0 | 5.8 | 1250 | 68 |
| **160** | **M3JP** | **355 SMA** | 3GJP | 353 210-••G | 993 | 95.4 | 95.4 | 94.8 | 0.83 | 291 | 7.0 | 1538 | 2.0 | 2.6 | 7.9 | 1630 | 75 |
| **200** | **M3JP** | **355 SMB** | 3GJP | 353 220-••G | 993 | 95.7 | 95.7 | 95.1 | 0.84 | 359 | 7.2 | 1923 | 2.2 | 2.7 | 9.7 | 1790 | 75 |
| **250** | **M3JP** | **355 SMC** | 3GJP | 353 230-••G | 993 | 95.7 | 95.7 | 95.1 | 0.83 | 454 | 7.4 | 2404 | 2.6 | 2.9 | 11.3 | 2010 | 75 |
| **315** | **M3JP** | **355 MLB** | 3GJP | 353 420-••G | 992 | 95.7 | 95.7 | 95.2 | 0.83 | 572 | 7.0 | 3032 | 2.5 | 2.7 | 13.5 | 2370 | 75 |
| **355** | **M3JP** | **355 LKA** | 3GJP | 353 810-••G | 992 | 95.7 | 95.7 | 95.1 | 0.83 | 645 | 7.6 | 3417 | 2.7 | 2.9 | 15.5 | 2690 | 75 |
| **400** | **M3JP** | **400 LA** | 3GJP | 403 510-••G | 993 | 96.2 | 96.3 | 95.8 | 0.82 | 731 | 7.1 | 3846 | 2.3 | 2.7 | 17 | 3180 | 76 |
| **400** | **M3JP** | **400 LKA** | 3GJP | 403 810-••G | 993 | 96.2 | 96.3 | 95.8 | 0.82 | 731 | 7.1 | 3846 | 2.3 | 2.7 | 17 | 3180 | 76 |
| **450** | **M3JP** | **400 LB** | 3GJP | 403 520-••G | 994 | 96.6 | 96.6 | 96.1 | 0.82 | 819 | 7.4 | 4323 | 2.4 | 2.8 | 20.5 | 3430 | 76 |
| **450** | **M3JP** | **400 LKB** | 3GJP | 403 820-••G | 994 | 96.6 | 96.6 | 96.1 | 0.82 | 819 | 7.4 | 4323 | 2.4 | 2.8 | 20.5 | 3430 | 76 |
| **500** | **M3JP** | **400 LC** | 3GJP | 403 530-••G | 993 | 96.6 | 96.7 | 96.2 | 0.83 | 900 | 7.2 | 4808 | 2.5 | 2.7 | 22 | 3580 | 76 |
| **500** | **M3JP** | **400 LKC** | 3GJP | 403 830-••G | 993 | 96.6 | 96.7 | 96.2 | 0.83 | 900 | 7.2 | 4808 | 2.5 | 2.7 | 22 | 3580 | 76 |
| **560** | **M3JP** | **400 LD** | 3GJP | 403 540-••G | 993 | 96.9 | 96.9 | 96.4 | 0.85 | 981 | 7.4 | 5385 | 2.4 | 2.8 | 24 | 3680 | 77 |
| **560** | **M3JP** | **400 LKD** | 3GJP | 403 840-••G | 993 | 96.9 | 96.9 | 96.4 | 0.85 | 981 | 7.4 | 5385 | 2.4 | 2.8 | 24 | 3680 | 77 |
| **610** | **M3JP** | **450 LA** | 3GJP | 453 510-••G | 994 | 96.6 | 96.6 | 96.2 | 0.83 | 1098 | 7.1 | 5860 | 1.4 | 2.9 | 31 | 4320 | 81 |
| **1000 r/min = 6-poles** | | | **400 V 50 Hz** | | | | | | | **High-output design** | | | | | | | |
| **14** [1) 2)] | **M3JP** | **160 MLC** | 3GJP | 163 430-••H | 969 | 89.2 | 89.4 | 88.0 | 0.75 | 30.2 | 7.9 | 137 | 2.8 | 3.9 | 0.126 | 253 | 64 |
| **18.5** [2)] | **M3JP** | **180 MLC** | 3GJP | 183 430-••H | 975 | 90.1 | 90.2 | 88.7 | 0.74 | 40 | 7.2 | 181 | 2.0 | 3.2 | 0.25 | 304 | 61 |
| **30** [2)] | **M3JP** | **200 MLC** | 3GJP | 203 430-••G | 983 | 91.6 | 91.7 | 90.5 | 0.80 | 59 | 7.5 | 291 | 3.5 | 3.4 | 0.49 | 340 | 65 |
| **37** [2)] | **M3JP** | **225 SMC** | 3GJP | 223 230-••G | 983 | 92.1 | 92.5 | 92.1 | 0.83 | 69.8 | 7.1 | 359 | 3.0 | 2.8 | 0.75 | 415 | 64 |
| **45** | **M3JP** | **250 SMB** | 3GJP | 253 220-••G | 986 | 93.1 | 93.3 | 92.6 | 0.82 | 85 | 7.2 | 435 | 3.3 | 2.8 | 1.49 | 500 | 65 |
| **75** | **M3JP** | **280 SMC** | 3GJP | 283 230-••G | 990 | 94.2 | 94.5 | 94.1 | 0.84 | 136 | 7.3 | 723 | 2.8 | 2.7 | 2.85 | 825 | 66 |

[1)] Temperature rise class F
[2)] Efficiency class IE1

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
$T_b / T_N$ = Pull-out 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.