
MOTORS AND GENERATORS

Low Voltage

General Performance

IE2 high efficiency cast iron motors

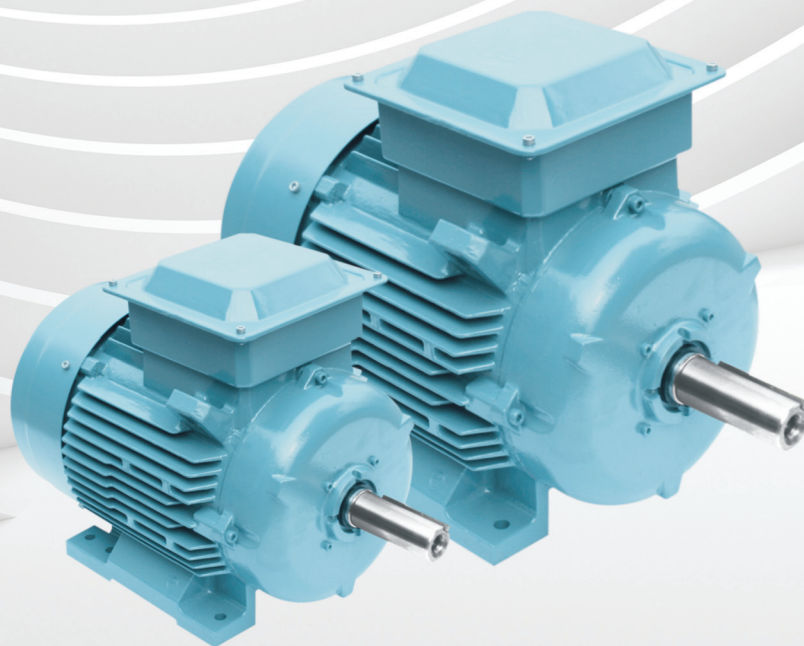
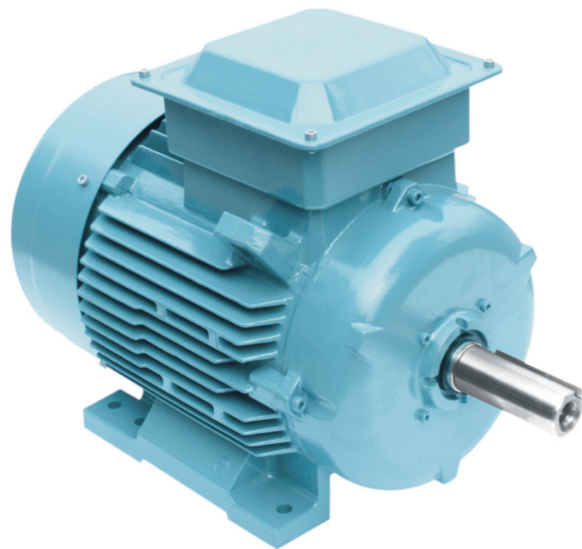


ABB offers a comprehensive range of reliable and high efficiency motors. ABB's general performance IE2 efficiency motors are best suited for applications where simplicity and off-the-shelf availability are paramount.

General performance IE2 high efficiency cast iron motors Sizes 71 to 355

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in brief**



Technical data

IE2 high efficiency cast iron motors

Technical data for totally enclosed squirrel cage three phase induction motors

IP 55 - IC 411 - Insulation class F, temperature rise class B, IE2 efficiency class according to IEC 60034-30-1:2014, IS 12615:2018

2-Pole, TEFC, 415V, 50Hz, IP55, IC411, Ambt. 50 deg, Rise Class B (70 deg)

| Output KW | Frame Size | Speed r/min | Efficiency | | | Power factor cos ϕ | Current | | Torque | | | Moment of inertia $J=1/4GD^2$ kgm ² | Weight kg |
|----------------------|--------------|-------------|----------------|--------------|--------------|-------------------------|-----------|-----------|----------|-----------|-----------|--|-----------|
| | | | Full load 100% | 3/4 load 75% | 1/2 load 50% | | I_n , A | I_s/I_n | T_n Nm | T_s/T_n | T_b/T_n | | |
| 3000 r/min = 2 poles | | | 415V, 50Hz | | | | | | | | | | |
| 0.37 | M2BAX71MA2 | 2760 | 72.2 | 72.9 | 70.3 | 0.79 | 0.90 | 5.0 | 1.3 | 2.0 | 2.4 | 0.00033 | 9 |
| 0.55 | M2BAX71MB2 | 2785 | 74.8 | 75.5 | 73.0 | 0.79 | 1.30 | 5.0 | 1.9 | 2.2 | 2.7 | 0.00041 | 10 |
| 0.75 | M2BAX80MA2 | 2820 | 77.4 | 78.0 | 75.7 | 0.79 | 1.70 | 6.0 | 2.5 | 2.3 | 2.8 | 0.00067 | 13 |
| 1.1 | M2BAX80MB2 | 2840 | 79.6 | 80.0 | 77.9 | 0.77 | 2.5 | 6.0 | 3.7 | 2.5 | 3.0 | 0.00088 | 14 |
| 1.5 | M2BAX90SA2 | 2875 | 81.3 | 82.0 | 80.3 | 0.83 | 3.1 | 6.0 | 5.0 | 2.3 | 3.0 | 0.00208 | 20 |
| 2.2 | M2BAX90LA2 | 2878 | 83.2 | 84.0 | 82.6 | 0.84 | 4.4 | 7.0 | 7.3 | 2.5 | 3.1 | 0.00274 | 23 |
| 3.7 | M2BAX100LC2 | 2890 | 85.5 | 85.8 | 84.3 | 0.87 | 6.9 | 7.0 | 12.2 | 3.0 | 3.8 | 0.00561 | 34 |
| 5.5 | M2BAX132SA2 | 2915 | 87.0 | 87.8 | 86.7 | 0.84 | 10.5 | 7.0 | 18.0 | 2.0 | 3.4 | 0.01170 | 54 |
| 7.5 | M2BAX132SB2 | 2910 | 88.1 | 89.0 | 88.7 | 0.86 | 13.8 | 7.0 | 24.6 | 2.1 | 3.5 | 0.01320 | 58 |
| 9.3 | M2BAX160MLJ2 | 2925 | 88.8 | 89.1 | 87.6 | 0.87 | 16.7 | 7.0 | 30.3 | 2.1 | 3.0 | 0.038 | 102 |
| 11 | M2BAX160MLA2 | 2925 | 89.4 | 89.7 | 88.2 | 0.88 | 19.6 | 7.0 | 35.9 | 2.4 | 3.0 | 0.0415 | 105 |
| 15 | M2BAX160MLB2 | 2928 | 90.3 | 90.7 | 90.0 | 0.87 | 26.5 | 7.0 | 48.9 | 2.1 | 3.0 | 0.0544 | 120 |
| 18.5 | M2BAX160MLC2 | 2928 | 90.9 | 91.2 | 90.4 | 0.87 | 32.4 | 7.0 | 60.3 | 2.3 | 3.0 | 0.0581 | 131 |
| 22 | M2BAX180MLA2 | 2932 | 91.3 | 91.7 | 91.0 | 0.88 | 38.0 | 7.0 | 71.6 | 3.0 | 3.5 | 0.0679 | 152 |
| 30 | M2BAX200MLA2 | 2935 | 92.0 | 92.4 | 91.5 | 0.88 | 51.5 | 7.0 | 97.6 | 2.2 | 3.2 | 0.1077 | 198 |
| 37 | M2BAX200MLB2 | 2950 | 92.5 | 92.8 | 91.7 | 0.87 | 64.0 | 7.0 | 119.7 | 3.0 | 3.8 | 0.1332 | 232 |
| 45 | M2BAX225SMA2 | 2960 | 92.9 | 92.6 | 92.0 | 0.88 | 77.0 | 7.0 | 145.1 | 2.2 | 3.0 | 0.2443 | 295 |
| 55 | M2BAX250SMA2 | 2965 | 93.2 | 93.8 | 92.8 | 0.89 | 92.0 | 7.0 | 177.1 | 2.5 | 3.0 | 0.316 | 344 |
| 75 | M2BAX280SA2 | 2977 | 93.8 | 93.8 | 92.8 | 0.86 | 130.0 | 7.0 | 241.0 | 2.2 | 3.1 | 0.8 | 546 |
| 90 | M2BAX280SMB2 | 2976 | 94.1 | 94.1 | 93.1 | 0.89 | 150.0 | 7.0 | 289.0 | 2.5 | 2.9 | 0.9 | 586 |
| 110 | M2BAX315SMA2 | 2982 | 94.3 | 94.3 | 93.3 | 0.88 | 185.0 | 7.0 | 352.0 | 2.0 | 3.0 | 1.2 | 767 |
| 132 | M2BAX315SMB2 | 2982 | 94.6 | 94.6 | 93.6 | 0.88 | 220.0 | 7.0 | 423.0 | 2.2 | 3.5 | 1.4 | 827 |
| 160 | M2BAX315SMC2 | 2981 | 94.8 | 94.8 | 93.8 | 0.89 | 265.0 | 7.0 | 513.0 | 2.1 | 3.5 | 1.7 | 917 |
| 200 | M2BAX315MLA2 | 2981 | 95.0 | 95.0 | 94.0 | 0.88 | 332.0 | 7.0 | 641.0 | 2.6 | 3.2 | 2.1 | 1037 |
| 250 | M2BAX355SMA2 | 2983 | 95.0 | 95.0 | 94.0 | 0.86 | 425.0 | 7.0 | 800.0 | 2.2 | 3.5 | 2.7 | 1329 |
| 315 | M2BAX355SMB2 | 2980 | 95.0 | 95.0 | 94.0 | 0.86 | 536.0 | 7.0 | 1009.0 | 2.2 | 3.5 | 3.4 | 1469 |
| 355 | M2BAX355SMC2 | 2982 | 95.0 | 95.0 | 94.0 | 0.88 | 591.0 | 7.0 | 1137.0 | 2.8 | 3.2 | 3.6 | 1565 |
| 375 | E2BA355MLD2 | 2982 | 95.0 | 95.0 | 94.0 | 0.90 | 610.0 | 7.0 | 1201.0 | 1.6 | 3.1 | 6.525 | 2070 |

Efficiency values are measured according to IEC 60034-2-1; 2007, IS 15999(Part2 Sec1):2011
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.

I_s / I_n = Starting current
 T_s / T_n = Locked rotor torque
 T_b / T_n = Breakdown

Technical data

IE2 high efficiency cast iron motors

Technical data for totally enclosed squirrel cage three phase induction motors

IP 55 - IC 411 - Insulation class F, temperature rise class B, IE2 efficiency class according to IEC 60034-30-1:2014, IS 12615:2018

4-Pole, TEFC, 415V, 50Hz, IP55, IC411, Ambt. 50 deg, Rise Class B (70 deg)

| Output KW | Frame Size | Speed r/min | Efficiency | | | Power factor cos ϕ | Current | | Torque | | | Moment of inertia J=1/4GD ² kgm ² | Weight kg |
|----------------------|--------------|-------------|----------------|--------------|--------------|-------------------------|--------------------|--------------------------------|-------------------|--------------------------------|--------------------------------|---|-----------|
| | | | Full load 100% | 3/4 load 75% | 1/2 load 50% | | I _n , A | I _s /I _n | T _n Nm | T _s /T _n | T _b /T _n | | |
| 1500 r/min = 4 poles | | | 415V, 50Hz | | | | | | | | | | |
| 0.37 | M2BAX71MB4 | 1395 | 72.7 | 72.0 | 67.0 | 0.65 | 1.10 | 5.0 | 2.5 | 1.9 | 2.2 | 0.00076 | 10 |
| 0.55 | M2BAX80MA4 | 1415 | 77.1 | 76.0 | 71.0 | 0.71 | 1.40 | 5.0 | 3.7 | 2.2 | 2.8 | 0.00156 | 15 |
| 0.75 | M2BAX80MB4 | 1425 | 79.6 | 78.5 | 74.3 | 0.67 | 1.97 | 6.0 | 5.0 | 3.0 | 3.5 | 0.00247 | 17 |
| 1.1 | M2BAX90SA4 | 1430 | 81.4 | 80.6 | 76.8 | 0.74 | 2.55 | 6.0 | 7.3 | 3.0 | 3.5 | 0.00372 | 21 |
| 1.5 | M2BAX90LA4 | 1430 | 82.8 | 82.2 | 79.4 | 0.73 | 3.47 | 6.0 | 10.0 | 3.0 | 3.5 | 0.00462 | 23 |
| 2.2 | M2BAX100LA4 | 1435 | 84.3 | 84.2 | 82.1 | 0.76 | 4.8 | 7.0 | 14.6 | 2.6 | 3.3 | 0.00759 | 31 |
| 3.7 | M2BAX112MA4 | 1435 | 86.3 | 86.9 | 85.9 | 0.80 | 7.5 | 7.0 | 24.6 | 2.8 | 3.3 | 0.01200 | 41 |
| 5.5 | M2BAX132SA4 | 1450 | 87.7 | 88.4 | 87.6 | 0.79 | 11.1 | 6.0 | 36.2 | 1.7 | 2.8 | 0.02570 | 57 |
| 7.5 | M2BAX132MA4 | 1455 | 88.7 | 89.2 | 88.3 | 0.77 | 15.3 | 6.0 | 49.2 | 1.7 | 3.0 | 0.03200 | 68 |
| 9.3 | M2BAX160MLJ4 | 1455 | 89.3 | 89.8 | 88.0 | 0.81 | 17.9 | 7.0 | 61.0 | 2.0 | 2.9 | 0.0738 | 107 |
| 11 | M2BAX160MLA4 | 1455 | 89.8 | 90.4 | 89.4 | 0.81 | 21.0 | 7.0 | 72.2 | 2.1 | 2.9 | 0.084 | 115 |
| 15 | M2BAX160MLB4 | 1463 | 90.6 | 91.2 | 90.2 | 0.84 | 27.6 | 7.0 | 97.9 | 2.5 | 3.0 | 0.1025 | 134 |
| 18.5 | M2BAX180MLA4 | 1457 | 91.2 | 91.8 | 90.9 | 0.81 | 35.0 | 7.0 | 121.2 | 2.7 | 3.5 | 0.1217 | 155 |
| 22 | M2BAX180MLB4 | 1460 | 91.6 | 92.1 | 91.2 | 0.80 | 42.0 | 7.0 | 143.8 | 2.4 | 3.2 | 0.1396 | 171 |
| 30 | M2BAX200MLA4 | 1474 | 92.3 | 92.5 | 91.8 | 0.81 | 55.5 | 7.0 | 194.3 | 2.5 | 3.5 | 0.2572 | 229 |
| 37 | M2BAX225SMA4 | 1475 | 92.7 | 93.1 | 92.2 | 0.84 | 66.5 | 6.5 | 239.4 | 2.1 | 2.7 | 0.3605 | 267 |
| 45 | M2BAX225SMB4 | 1478 | 93.1 | 93.5 | 92.6 | 0.83 | 81.5 | 7.0 | 290.6 | 2.2 | 2.9 | 0.4314 | 304 |
| 55 | M2BAX250SMA4 | 1478 | 93.5 | 93.7 | 92.9 | 0.85 | 96.8 | 7.0 | 355.2 | 2.7 | 3.0 | 0.5331 | 342 |
| 75 | M2BAX280SA4 | 1488 | 94.0 | 94.0 | 93.0 | 0.83 | 134.0 | 7.0 | 481.0 | 2.7 | 3.0 | 1.25 | 531 |
| 90 | M2BAX280SMB4 | 1483 | 94.2 | 94.2 | 93.2 | 0.84 | 158.0 | 7.0 | 580.0 | 2.6 | 3.0 | 1.5 | 591 |
| 110 | M2BAX315SMA4 | 1487 | 94.5 | 94.5 | 93.5 | 0.85 | 190.0 | 7.0 | 706.0 | 2.2 | 2.9 | 2.3 | 792 |
| 132 | M2BAX315SMB4 | 1487 | 94.7 | 94.7 | 93.7 | 0.85 | 228.0 | 7.0 | 848.0 | 2.3 | 3.1 | 2.6 | 847 |
| 160 | M2BAX315SMC4 | 1487 | 94.9 | 94.9 | 93.9 | 0.84 | 278.0 | 7.0 | 1027.0 | 2.4 | 3.0 | 2.9 | 887 |
| 200 | M2BAX315MLA4 | 1487 | 95.1 | 95.1 | 94.1 | 0.85 | 345.0 | 7.0 | 1284.0 | 2.4 | 3.0 | 3.5 | 1012 |
| 250 | M2BAX355SMA4 | 1487 | 95.1 | 95.1 | 94.1 | 0.85 | 430.0 | 7.0 | 1605.0 | 1.9 | 3.1 | 5.4 | 1419 |
| 315 | M2BAX355SMB4 | 1486 | 95.1 | 95.1 | 94.1 | 0.85 | 544.0 | 7.0 | 2024.0 | 2.4 | 3.0 | 6.9 | 1669 |
| 355 | M2BAX355SMC4 | 1487 | 95.1 | 95.1 | 94.1 | 0.86 | 605.0 | 7.0 | 2280.0 | 2.4 | 3.0 | 7.2 | 1669 |
| 400 | E2BA355MLB4H | 1486 | 95.1 | 95.1 | 94.1 | 0.86 | 680.0 | 7.0 | 2570.0 | 2.3 | 2.8 | 11.065 | 2430 |

Efficiency values are measured according to IEC 60034-2-1; 2007, IS 15999(Part2 Sec1):2011
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I_s / I_n = Starting current
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IE2 high efficiency cast iron motors

Technical data for totally enclosed squirrel cage three phase induction motors

IP 55 - IC 411 - Insulation class F, temperature rise class B, IE2 efficiency class according to IEC 60034-30-1:2014, IS 12615:2018

6-Pole, TEFC, 415V, 50Hz, IP55, IC411, Ambt. 50 deg, Rise Class B (70 deg)

| Output KW | Frame Size | Speed r/min | Efficiency | | | Power factor cos ϕ | Current | | Torque | | | Moment of inertia J=1/4GD ² kgm ² | Weight kg |
|----------------------|----------------|-------------|----------------|--------------|--------------|-------------------------|--------------------|--------------------------------|-------------------|--------------------------------|--------------------------------|---|-----------|
| | | | Full load 100% | 3/4 load 75% | 1/2 load 50% | | I _n , A | I _s /I _n | T _n Nm | T _s /T _n | T _b /T _n | | |
| 1000 r/min = 6 poles | | 415V, 50Hz | | | | | | | | | | | |
| 0.37 | M2BAX80MA6 | 910 | 69.0 | 68.1 | 63.1 | 0.62 | 1.20 | 4.0 | 3.9 | 2.0 | 2.4 | 0.00173 | 13 |
| 0.55 | M2BAX80MB6 | 910 | 73.1 | 72.8 | 69.2 | 0.66 | 1.60 | 4.0 | 5.8 | 2.1 | 2.5 | 0.00274 | 15 |
| 0.75 | M2BAX90SA6 | 945 | 75.9 | 74.3 | 69.2 | 0.62 | 2.2 | 4.5 | 7.6 | 2.4 | 3.2 | 0.00438 | 21 |
| 1.1 | M2BAX90LA6 | 935 | 78.1 | 77.3 | 73.3 | 0.63 | 3.1 | 4.5 | 11.2 | 2.3 | 2.9 | 0.00507 | 24 |
| 1.5 | M2BAX100LA6 | 945 | 79.8 | 79.7 | 77.0 | 0.67 | 3.9 | 4.5 | 15.2 | 1.8 | 2.3 | 0.00795 | 31 |
| 2.2 | M2BAX112MA6 | 950 | 81.8 | 81.7 | 79.0 | 0.68 | 5.5 | 5.0 | 22.1 | 1.8 | 2.6 | 0.01160 | 40 |
| 3.7 | M2BAX132SB6 | 960 | 84.3 | 84.7 | 83.4 | 0.71 | 8.6 | 5.0 | 36.8 | 1.5 | 2.3 | 0.02830 | 60 |
| 5.5 | M2BAX132MB6 | 965 | 86.0 | 86.0 | 84.2 | 0.70 | 12.7 | 5.0 | 54.4 | 1.5 | 2.8 | 0.03970 | 77 |
| 7.5 | M2BAX160MLA6 | 957 | 87.2 | 88.0 | 86.8 | 0.77 | 15.6 | 6.5 | 74.8 | 1.7 | 2.6 | 0.089 | 122 |
| 9.3 | M2BAX160MLJ6 | 965 | 88.0 | 88.6 | 87.8 | 0.77 | 19.1 | 6.5 | 92.0 | 2.0 | 2.8 | 0.119 | 141 |
| 11 | M2BAX160MLB6 | 965 | 88.7 | 89.2 | 88.5 | 0.75 | 23.0 | 7.0 | 108.8 | 2.1 | 2.8 | 0.1293 | 147 |
| 15 | M2BAX180MLA6 | 970 | 89.7 | 90.1 | 89.4 | 0.76 | 30.5 | 7.0 | 147.6 | 2.0 | 3.0 | 0.1522 | 173 |
| 18.5 | M2BAX200MLA6 | 965 | 90.4 | 90.8 | 90.0 | 0.77 | 37.0 | 6.0 | 183.0 | 1.5 | 2.5 | 0.198 | 190 |
| 22 | M2BAX200MLB6 | 970 | 90.9 | 91.2 | 90.6 | 0.77 | 43.7 | 6.0 | 216.5 | 1.5 | 2.5 | 0.2384 | 212 |
| 30 | M2BAX225SMA6 | 981 | 91.7 | 92.0 | 91.2 | 0.82 | 55.8 | 6.5 | 291.9 | 2.1 | 2.8 | 0.5687 | 284 |
| 37 | M2BAX250SMA6 | 981 | 92.2 | 92.4 | 91.9 | 0.81 | 68.9 | 6.0 | 360.0 | 2.0 | 2.6 | 0.8042 | 337 |
| 45 | M2BAX280SA6 | 990 | 92.7 | 92.7 | 90.7 | 0.78 | 87.0 | 7.0 | 434.0 | 2.4 | 2.7 | 1.85 | 516 |
| 55 | M2BAX280SB6 | 990 | 93.1 | 93.1 | 91.1 | 0.81 | 102.0 | 7.0 | 531.0 | 2.5 | 2.7 | 2.2 | 556 |
| 75 | M2BAX315SMA6 | 993 | 93.7 | 93.7 | 91.7 | 0.78 | 143.0 | 7.0 | 721.0 | 2.5 | 3.0 | 3.2 | 722 |
| 90 | M2BAX315SMB6 | 993 | 94.0 | 94.0 | 92.0 | 0.81 | 165.0 | 7.0 | 865.0 | 2.7 | 3.0 | 4.1 | 817 |
| 110 | M2BAX315SMC6 | 992 | 94.3 | 94.3 | 92.3 | 0.80 | 203.0 | 7.0 | 1059.0 | 2.6 | 3.0 | 4.9 | 887 |
| 132 | M2BAX315MLA6 | 990 | 94.6 | 94.6 | 92.6 | 0.81 | 241.0 | 7.0 | 1273.0 | 2.7 | 3.0 | 5.8 | 997 |
| 160 | M2BAX355SMA6 | 993 | 94.8 | 94.8 | 92.8 | 0.80 | 292.0 | 7.0 | 1539.0 | 2.3 | 2.6 | 7.3 | 1309 |
| 200 | M2BAX355SMB6 | 992 | 95.0 | 95.0 | 93.0 | 0.81 | 360.0 | 7.0 | 1925.0 | 2.2 | 2.6 | 9.7 | 1459 |
| 250 | M2BAX355SMC6 | 991 | 95.0 | 95.0 | 93.0 | 0.83 | 442.0 | 7.0 | 2409.0 | 2.8 | 3.0 | 11.3 | 1656 |
| 275 | E2BA355MLB6K | 990 | 95.0 | 95.0 | 93.0 | 0.82 | 491.0 | 7.0 | 2653.0 | 2.5 | 2.8 | 15.06 | 2040 |
| 315 | E2BA355MLB6 | 990 | 95.0 | 95.0 | 93.0 | 0.84 | 549.0 | 7.0 | 3039.0 | 2.3 | 2.8 | 15.06 | 2250 |
| 355 | E2BA355MLB6H** | 990 | 95.0 | 95.0 | 93.0 | 0.84 | 619.0 | 7.0 | 3424.0 | 1.3 | 2.7 | 15.975 | 2250 |

** Temp. Rise Class F

Efficiency values are measured according to IEC 60034-2-1; 2007, IS 15999(Part2 Sec1):2011
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I_s / I_n = Starting current
T_s / T_n = Locked rotor torque
T_b / T_n = Breakdown

Technical data

IE2 high efficiency cast iron motors

Technical data for totally enclosed squirrel cage three phase induction motors

IP 55 - IC 411 - Insulation class F, temperature rise class B, IE2 efficiency class according to IEC 60034-30-1:2014, IS 12615:2018
8-Pole, TEFC, 415V, 50Hz, IP55, IC411, Ambt. 50 deg, Rise Class B (70 deg)

| Output KW | Frame Size | Speed r/min | Efficiency | | | Power factor cos ϕ | Current | | Torque | | | Moment of inertia J=1/4GD ² kgm ² | Weight kg |
|---------------------|----------------|-------------|----------------|--------------|--------------|-------------------------|--------------------|--------------------------------|-------------------|--------------------------------|--------------------------------|---|-----------|
| | | | Full load 100% | 3/4 load 75% | 1/2 load 50% | | I _n , A | I _s /I _n | T _n Nm | T _s /T _n | T _b /T _n | | |
| 750 r/min = 8 poles | | 415V, 50Hz | | | | | | | | | | | |
| 0.12 | M2BAX71MB8 | 680 | 39.8 | 34 | 24.9 | 0.60 | 0.70 | 3.0 | 1.7 | 2.6 | 2.7 | 0.0011 | 11 |
| 0.18 | M2BAX80MA8 | 700 | 45.9 | 40.7 | 29.8 | 0.61 | 0.90 | 3.0 | 2.5 | 2.5 | 2.8 | 0.0019 | 15 |
| 0.25 | M2BAX80MB8 | 690 | 50.6 | 46.8 | 38.2 | 0.62 | 1.10 | 3.0 | 3.5 | 2.3 | 2.4 | 0.0024 | 16 |
| 0.37 | M2BAX90SA8 | 690 | 56.1 | 53 | 43.9 | 0.61 | 1.5 | 3.0 | 5.1 | 2.0 | 2.4 | 0.0044 | 22 |
| 0.55 | M2BAX90LA8 | 680 | 61.7 | 61.1 | 55.8 | 0.62 | 2.0 | 3.0 | 7.7 | 1.7 | 1.9 | 0.0049 | 24 |
| 0.75 | M2BAX100LA8 | 700 | 66.2 | 62.1 | 54.1 | 0.61 | 2.6 | 4.0 | 10.2 | 2.3 | 2.7 | 0.0072 | 30 |
| 1.1 | M2BAX100LB8 | 695 | 70.8 | 70.6 | 66.2 | 0.64 | 3.4 | 4.0 | 15.1 | 2.0 | 2.2 | 0.0087 | 32 |
| 1.5 | M2BAX112MA8 | 680 | 74.1 | 74.1 | 72.8 | 0.70 | 4.0 | 4.0 | 21.1 | 1.7 | 2 | 0.0118 | 40 |
| 2.2 | M2BAX132SA8 | 710 | 77.6 | 76.2 | 72 | 0.65 | 6.1 | 4.5 | 29.6 | 1.5 | 2.3 | 0.0334 | 69 |
| 3.7 | M2BAX160MLA8 | 715 | 81.4 | 81.4 | 80.4 | 0.64 | 9.8 | 5.0 | 49.4 | 1.5 | 2.3 | 0.0590 | 100 |
| 5.5 | M2BAX160MLB8 | 720 | 83.8 | 83.8 | 82.8 | 0.66 | 13.8 | 5.0 | 73.0 | 1.5 | 2.3 | 0.0940 | 127 |
| 7.5 | M2BAX160MLC8 | 720 | 85.3 | 85.3 | 83.3 | 0.64 | 19.0 | 5.0 | 99.5 | 1.5 | 2.3 | 0.1170 | 143 |
| 9.3 | M2BAX180MLA8 | 720 | 86.3 | 86.3 | 83.6 | 0.61 | 24.6 | 5.0 | 123.4 | 1.7 | 2.6 | 0.1470 | 166 |
| 11 | M2BAX180MLB8 | 720 | 86.9 | 86.9 | 84.5 | 0.68 | 26.0 | 5.0 | 145.9 | 1.5 | 2.2 | 0.2020 | 200 |
| 15 | M2BAX200MLA8 | 725 | 88 | 88 | 85.8 | 0.68 | 35.0 | 5.0 | 197.6 | 1.4 | 2.1 | 0.2720 | 235 |
| 18.5 | M2BAX225SMA8 | 735 | 88.6 | 88.6 | 87.6 | 0.73 | 40.0 | 5.0 | 240.4 | 2.1 | 2.3 | 0.4950 | 254 |
| 22 | M2BAX225SMB8 | 735 | 89.1 | 89.1 | 88.1 | 0.75 | 45.7 | 5.0 | 285.9 | 1.9 | 2.2 | 0.5870 | 286 |
| 30 | M2BAX250SMA8 | 735 | 89.8 | 89.8 | 88.8 | 0.74 | 62.8 | 5.0 | 389.8 | 1.9 | 2.2 | 0.8620 | 348 |
| 37 | M2BAX280SA8 | 740 | 90.3 | 90.3 | 88.3 | 0.73 | 78.0 | 7.0 | 477.0 | 1.8 | 3.2 | 1.8500 | 605 |
| 45 | M2BAX280SB8 | 742 | 90.7 | 90.7 | 88.7 | 0.77 | 90.0 | 7.0 | 579.0 | 1.9 | 3.3 | 2.2000 | 646 |
| 55 | M2BAX315SMA8 | 743 | 91 | 91 | 89 | 0.75 | 112.0 | 7.0 | 707.0 | 1.7 | 2.9 | 3.2000 | 830 |
| 75 | M2BAX315SMB8 | 742 | 91.6 | 91.6 | 89.6 | 0.78 | 146.0 | 7.0 | 965.0 | 1.8 | 2.9 | 4.1000 | 930 |
| 90 | M2BAX315SMC8 | 742 | 91.9 | 91.9 | 89.9 | 0.78 | 175.0 | 7.0 | 1158.0 | 1.9 | 2.9 | 4.9000 | 1000 |
| 110 | M2BAX315MLA8 | 743 | 92.3 | 92.3 | 90.3 | 0.80 | 207.0 | 7.0 | 1414.0 | 1.9 | 2.9 | 5.8000 | 1150 |
| 132 | M2BAX355SMA8 | 745 | 92.6 | 92.6 | 90.6 | 0.76 | 260.0 | 7.0 | 1692.0 | 1.6 | 2.8 | 7.9000 | 1520 |
| 160 | M2BAX355SMB8 | 744 | 93 | 93 | 91 | 0.76 | 315.0 | 7.0 | 2054.0 | 1.8 | 2.9 | 9.7000 | 1680 |
| 200 | M2BAX355SMC8 | 745 | 93.5 | 93.5 | 91 | 0.78 | 382.0 | 7.0 | 2563.0 | 1.8 | 2.8 | 11.3000 | 1820 |
| 225 | E2BA355MLB8H | 740 | 93.5 | 93.5 | 91.5 | 0.77 | 434.8 | 7.0 | 2904.0 | 1.7 | 2.6 | 16.0500 | 2100 |
| 250 | E2BA355MLB8k** | 740 | 93.5 | 93.5 | 91.5 | 0.81 | 460.0 | 7.0 | 3226.0 | 1.6 | 2.6 | 16.5000 | 2225 |

** Temp. Rise Class F

Efficiency values are measured according to IEC 60034-2-1; 2007,IS 15999(Part2 Sec1):2011
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.

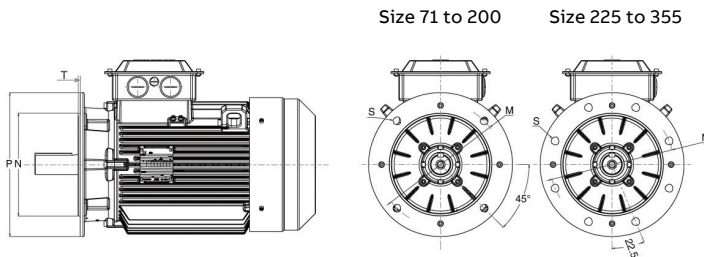
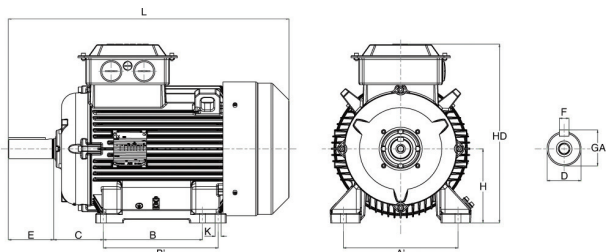
I_s / I_n = Starting current
T_s / T_n = Locked rotor torque
T_b / T_n = Breakdown

Dimension drawings

General performance IE2 high efficiency cast iron motors Sizes 71 - 355

Foot-mounted motor IM1001, B3

Flange-mounted motor IM 3001, B5



| Motor Size | D Poles | | GA Poles | | F Poles | | E Poles | | L max Poles | | A | B | B' | C | HD | K | H | M | N | P | S | T |
|---|---------|-----|----------|------|---------|-----|---------|-----|-------------|----------------------|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|----|-----|
| | 2 | 4-8 | 2 | 4-8 | 2 | 4-8 | 2 | 4-8 | 2 | 4-8 | | | | | | | | | | | | |
| General performance cast iron motors | | | | | | | | | | | | | | | | | | | | | | |
| 71M | 14 | 14 | 16.0 | 16.0 | 5 | 5 | 30 | 30 | 257 | 257 | 112 | 90 | - | 45 | 175 | 7 | 71 | 130 | 110 | 160 | 10 | 3.5 |
| 80M | 19 | 19 | 21.5 | 21.5 | 6 | 6 | 40 | 40 | 309 | 309 | 125 | 100 | - | 50 | 192 | 10 | 80 | 165 | 130 | 200 | 12 | 3.5 |
| 90SL | 24 | 24 | 27.0 | 27.0 | 8 | 8 | 50 | 50 | 351 | 351 ⁵⁾ | 140 | 100 | 125 | 56 | 217 | 10 | 90 | 165 | 130 | 200 | 12 | 3.5 |
| 100L | 28 | 28 | 31.0 | 31.0 | 8 | 8 | 60 | 60 | 376 | 376 | 160 | 140 | - | 63 | 240 | 12 | 100 | 215 | 180 | 250 | 15 | 4.0 |
| 112M | 28 | 28 | 31.0 | 31.0 | 8 | 8 | 60 | 60 | 411 | 411 | 190 | 140 | - | 70 | 252 | 12 | 112 | 215 | 180 | 250 | 15 | 4.0 |
| 132SM | 38 | 38 | 41.0 | 41.0 | 10 | 10 | 80 | 80 | 521 | 521 ⁶⁾ | 216 | 140 | 178 | 89 | 301 | 12 | 132 | 265 | 230 | 300 | 15 | 4.0 |
| 160 | 42 | 42 | 45.0 | 45.0 | 12 | 12 | 110 | 110 | 586 | 586 ^{1),1)} | 254 | 210 | 254 | 108 | 414 | 15 | 160 | 300 | 250 | 350 | 19 | 5.0 |
| 180 | 48 | 48 | 51.5 | 51.5 | 14 | 14 | 110 | 110 | 684 | 684 ²⁾ | 279 | 241 | 279 | 121 | 434 | 15 | 180 | 300 | 250 | 350 | 19 | 5.0 |
| 200 | 55 | 55 | 59.0 | 59.0 | 16 | 16 | 110 | 110 | 728 | 728 ³⁾ | 318 | 267 | 305 | 133 | 474 | 19 | 200 | 350 | 300 | 400 | 19 | 5.0 |
| 225 | 55 | 60 | 59.0 | 64.0 | 16 | 18 | 110 | 140 | 854 | 854 ⁴⁾ | 356 | 286 | 311 | 149 | 540 | 19 | 225 | 400 | 350 | 450 | 19 | 5.0 |
| 250 | 60 | 65 | 64.0 | 69.0 | 18 | 18 | 140 | 140 | 882 | 882 | 406 | 311 | 349 | 168 | 585 | 24 | 250 | 500 | 450 | 550 | 19 | 5.0 |
| 280S | 65 | 75 | 69.0 | 79.5 | 18 | 20 | 140 | 140 | 982 | 982 | 457 | 368 | - | 190 | 775 | 24 | 280 | 500 | 450 | 550 | 19 | 5.0 |
| 280SM | 65 | 75 | 69.0 | 79.5 | 18 | 20 | 140 | 140 | 1052 | 1052 | 457 | 368 | 419 | 190 | 728 | 24 | 280 | 500 | 450 | 550 | 19 | 5.0 |

| Motor | D | | GA | | F | | E | | L Max | | A | B | B' | C | HD | K | H | M | N | P | S | T |
|---------------|----|-----|------|-------|----|-----|-----|-----|-------|------|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|----|-----|
| | 2 | 4_8 | 2 | 4_8 | 2 | 4_8 | 2 | 4_8 | 2 | 4_8 | | | | | | | | | | | | |
| M2BAX 315SM | 65 | 80 | 69.0 | 85.0 | 18 | 22 | 140 | 170 | 1216 | 1246 | 508 | 406 | 457 | 216 | 872 | 28 | 315 | 600 | 550 | 660 | 24 | 6.0 |
| M2BAX 315ML | 65 | 90 | 69.0 | 95.0 | 18 | 25 | 140 | 170 | 1326 | 1356 | 508 | 457 | 508 | 216 | 849 | 28 | 315 | 600 | 550 | 660 | 24 | 6.0 |
| M2BAX 355SM | 70 | 100 | 74.5 | 106.0 | 20 | 28 | 140 | 210 | 1399 | 1469 | 610 | 500 | 560 | 254 | 933 | 35 | 355 | 740 | 680 | 800 | 24 | 6.0 |
| E2BA 355MLB8K | - | 100 | - | 106.0 | - | 28 | - | 210 | - | 1680 | 610 | 560 | 630 | 254 | 965 | 28 | 355 | 740 | 680 | 800 | 24 | 6.0 |
| E2BA 355MLB4H | - | 100 | - | 106.0 | - | 28 | - | 210 | - | 1680 | 610 | 560 | 630 | 254 | 995 | 28 | 355 | 740 | 680 | 800 | 24 | 6.0 |
| E2BA 355MLD2 | 75 | - | 79.5 | - | 20 | - | 140 | - | 1610 | - | 610 | 560 | 630 | 254 | 995 | 28 | 355 | 740 | 680 | 800 | 24 | 6.0 |
| E2BA 355MLB6H | - | 100 | - | 106.0 | - | 28 | - | 210 | - | 1680 | 610 | 560 | 630 | 254 | 995 | 28 | 355 | 740 | 680 | 800 | 24 | 6.0 |
| E2BA355MLB6K | - | 100 | - | 106.0 | - | 28 | - | 210 | - | 1574 | 610 | 560 | 630 | 254 | 965 | 28 | 355 | 740 | 680 | 800 | 24 | 6.0 |
| E2BA 355MLB6 | - | 100 | - | 106.0 | - | 28 | - | 210 | - | 1680 | 610 | 560 | 630 | 254 | 995 | 28 | 355 | 740 | 680 | 800 | 24 | 6.0 |
| E2BA355MLB8H | - | 100 | - | 106.0 | - | 28 | - | 210 | - | 1574 | 610 | 560 | 630 | 254 | 965 | 28 | 355 | 740 | 680 | 800 | 24 | 6.0 |

Above table gives the main dimensions in mm.

- 1) M2BAX160MLC2, B4, J6 L = 626
- 1') M2BAX160MLB6 L = 646
- 2) M2BAX180MLB4, A6 L = 704
- 3) M2BAX200MLB2, A4, B6 L = 768
- 4) M2BAX225SMB4, A6 L = 884
- 5) M2BAX90SA2,SA4,SA6 L = 335
- 6) M2BAX132SA2,B2,SA4,SB6 L = 479

Motors in brief

General performance IE2 high efficiency cast iron motors in brief

| Size | 71 | 80 | 90 | 100 | 112 | 132 | |
|----------------------------|---|---|------------------------|-------------------------|------------|------------|------------|
| Stator | Material | Cast Iron Grade 150:ISO 185 | | | | | |
| | Paint colour shade | Munsell blue 8B 4.5/3.25 / NCS 4822 B05G | | | | | |
| | Surface Treatment | C3 medium according to ISO / EN 12944-5 | | | | | |
| Feet | Integrated with stator | | | | | | |
| | Material | Cast iron grade 150 : ISO 185 | | | | | |
| Bearing end shields | Material | Cast iron grade 150 : ISO 185 | | | | | |
| | Paint colour shade | Munsell blue 8B 4.5/3.25/NCS 4822 B05G | | | | | |
| | Surface Treatment | C3 medium according to ISO / EN 12944-5 | | | | | |
| Bearings | D-end | 6203-2Z/C3 | 6204-2Z/C3 | 6205-2Z/C3 | 6206-2Z/C3 | 6206-2Z/C3 | 6208-2Z/C3 |
| | N-end | 6202-2Z/C3 | 6203-2Z/C3 | 6204-2Z/C3 | 6205-2Z/C3 | 6205-2Z/C3 | 6208-2Z/C3 |
| Axially-locked | Retaining Ring | As standard, locked at D-end | | | | | |
| Bearing seals | Axial seal as standard, radial on request | | | | | | |
| Lubrication | Permanently lubricated shielded bearings | | | | | | |
| Rating plate | Material | Aluminium | | | | | |
| Terminal Box | Frame material | Cast Iron, Integral to stator frame | | | | | |
| | Cover material | Sheet of steel, Cold rolled | | | | | |
| | Cover screws material | Steel 8.8 | | | | | |
| Connections | Cable entries | 2xM16 | 2xM25 | 2xM32 | | | |
| | Cable Sizes | 2Rx3Cx4mm ² | 2Rx3Cx6mm ² | 2Rx3Cx10mm ² | | | |
| | Terminal Stud Size | M4 | M4 | M5 | | | |
| | Terminals | Upto 2HP - STAR / 3 Leads > 2 HP - DELTA / 6 Leads, (Cable lugs not included) | | | | | |
| Fan | Material | Polypropylene, Reinforced with 20% glass fibre | | | | | |
| Fan Cover | Material | Sheet of steel, cold rolled | | | | | |
| | Paint Colour shade | Munsell blue 8B 4.5/3.25/NCS 4822 B05G | | | | | |
| | Surface Treatment | C3 medium according to ISO/EN 12944-5 | | | | | |
| Stator winding | Material | Copper | | | | | |
| | Insulation | Insulation class F, Temperature rise class B unless otherwise stated | | | | | |
| | Winding protection | - | | | | | |
| Rotor winding | Material | Pressure diecast aluminum | | | | | |
| Balancing method | Half Key Balancing as Standard | | | | | | |
| Key ways | Open Key Way | | | | | | |
| Enclosure | IP 55, Higher protection on request | | | | | | |
| Cooling method | IC 411 | | | | | | |
| Drain holes | Drain holes with closable plastic plugs, open on delivery | | | | | | |
| Lifting lugs | Integrated with the stator | | | | | | |

Motors in brief

General performance IE2 high efficiency cast iron motors

| Size | 160 | 180 | 200 | 225 | 250 | |
|----------------------------|---------------------|---|------------|------------|--------------------------|------------|
| Stator | Material | Cast iron grade 200 : ISO 185 | | | | |
| | Paint colour shade | Munsell blue 8B 4.5/3.25 / NCS 4822 B05G | | | | |
| | Surface Treatment | C3 medium according to ISO / EN 12944-5 | | | | |
| Feet | | Integrated with stator | | | | |
| | Material | Cast iron grade 200 : ISO 185 | | | | |
| Bearing end shields | Material | Cast iron grade 200 : ISO 185 | | | | |
| | Paint colour shade | Munsell blue 8B 4.5/3.25 / NCS 4822 B05G | | | | |
| | Surface Treatment | Aliphatic polyurethane enamel paint_70µm | | | | |
| Bearings | D-end | 6209-2Z/C3 | 6310-2Z/C3 | 6312-2Z/C3 | 6313-2Z/C3 | 6315-2Z/C3 |
| | N-end | 6209-2Z/C3 | 6209-2Z/C3 | 6209-2Z/C3 | 6210-2Z/C3 | 6212-2Z/C3 |
| Axially-locked | Inner Bearing Cover | As standard, locked at D-end | | | | |
| Bearing seals | D-end | V-ring | | | | |
| | N-end | V-ring | | | | |
| Lubrication | | Permanently lubricated shielded bearings | | | | |
| Terminal Box | Material | Sheet of Steel, Cold Rolled | | | | |
| | Surface | Treatment Similar to stator | | | | |
| | Screws | Steel 8.8 | | | | |
| Connections | Cable Entries | 2xM40, 1xM16 | | | 2xM50, 1xM16 | |
| | Cable Sizes | 2Rx3Cx70mm ² | | | 2Rx3Cx120mm ² | |
| | Terminal Stud Size | M6 | | | M10 | |
| | Terminal Box | 6 terminals for connection, Cable lugs not included | | | | |
| Fan | Material | Polypropylene, Reinforced with 20% glass fibre | | | | |
| Fan Cover | Material | Sheet of Steel, Cold Rolled | | | | |
| | Paint colour shade | Munsell blue 8B 4.5/3.25 / NCS 4822 B05G | | | | |
| | Surface Treatment | Similar to stator | | | | |
| Stator winding | Material | Copper | | | | |
| | Insulation | Insulation class F | | | | |
| Rotor winding | Material | Diecast aluminum | | | | |
| Balancing method | | Half Key Balancing as standard | | | | |
| Key ways | | Open Key Way | | | | |
| Enclosure | | IP 55 | | | | |
| Cooling method | | IC 411 | | | | |
| Drain holes | | Drain holes with closable plastic plugs, open on delivery | | | | |
| Lifting lugs | | Integrated with the stator | | | | |

Motors in brief

General performance IE2 high efficiency cast iron motors

| Size | | 280 2-8 Pole | 315 2 Pole | 315 4-8 Pole | 355 2 Pole | 355 4-8 Pole |
|----------------------------|---------------------|--|--|-------------------------------|-----------------------|-------------------------|
| Stator | Material | Cast iron grade 150, IS:210 ¹⁾ | | | | |
| | Paint colour shade | Munsell blue 8B 4.5/3.25 / NCS 4822 B05G | | | | |
| | Surface Treatment | C3 medium according to ISO / EN 12944-5 | | | | |
| Feet | | Integrated with stator | | | | |
| | Material | Cast iron grade 150, IS:210 ¹⁾ | | | | |
| Bearing end shields | Material | Cast iron grade 150, IS:210 ¹⁾ | | | | |
| | Paint colour shade | Munsell blue 8B 4.5/3.25 / NCS 4822 B05G | | | | |
| | Surface Treatment | Aliphatic polyurethane paint ≥80µm | | | | |
| Bearings | D-end | 6316/C3 | 6316/C3 | 6319/C3 | 6319/C3 ²⁾ | 6322/C3 |
| | N-end | 6316/C3 | 6316/C3 | 6316/C3 | 6319/C3 ²⁾ | 6319/C3 ²⁾ |
| Axially-locked | Inner Bearing Cover | As standard, locked at D-end | | | | |
| Bearing seals | D-end | Oil Seal *** | | | | |
| | N-end | - *** | | | | |
| Lubrication | | Regreasable Bearings, Regreasing nipple M10X1 | | | | |
| Terminal Box | Material | Cast iron grade 150, IS:210 ¹⁾ | | | | |
| | Surface | Similar to stator | | | | |
| | Screws | Steel | | | | |
| Connections | Cable Entries | 2 x 2" BSC ³⁾ | | 2 x 2-1/2" BSC* ³⁾ | | |
| | Cable Sizes | 280 : 2Rx3Cx185Sqmm Cu/Al Cable 315 : 2Rx3Cx240Sqmm Cu/Al Cable 355 : 2Rx3Cx240Sqmm Cu/Al Cable* | | | | |
| | Terminal Stud Size | M12 | | M16 ⁴⁾ | | |
| | Terminal Box | 6 terminals for connection, (Cable lugs not included) | | | | |
| | Fan | Material | Polypropylene, Reinforced with 20% glass fibre | | | Aluminium ⁵⁾ |
| Fan Cover | Material | Sheet of steel, Cold Rolled | | | | |
| | Paint colour shade | Munsell blue 8B 4.5/3.25 / NCS 4822 B05G | | | | |
| | Surface Treatment | Similar to stator | | | | |
| Stator winding | Material | Copper | | | | |
| | Insulation | Insulation class F | | | | |
| Rotor winding | Material | Diecast aluminum | | | | |
| Balancing method | | Half Key Balancing as standarad | | | | |
| Key ways | | Open Key Way | | | | |
| Enclosure | | IP 55 | | | | |
| Cooling method | | IC 411 | | | | |
| Drain holes | | Drain holes with closable plastic plugs, open on delivery | | | | |
| Lifting lugs | | Bolted to the Stator | | | | |

*Cable Size for 355MLD2, 355MLB6H & 355MLB4H will be 2Rx3Cx300 Sqmm Cu/Al , Threaded opening 2x3" BSC

For M2BAX series, following is applicable:

- 1) Cast Iron Grade 200, IS:210
- 2) Bearing Size: 6316/C3
- 3) Cable Entries for
 - 280 to 315 frame - 2xM63, 2xM20
 - 355 frame - 2xM75, 2xM20
- 4) Terminal Stud Size: M12
- 5) For all Frames,fan material is Polypropylene,Reinforced with 20% glass fibre.

***Bearings Seals in M2BAX 280 to 355 frame is V-ring at DE and NDE side.

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