

# MS/MS2/MS3 SERIES (IE1/IE2/IE3)

## THREE PHASE ALUMINIUM HOUSING MOTOR

Three phase, MS/MS2/MS3(IE1/IE2/IE3) series aluminium housing motors are acknowledged that having a good fame for quality and reliability, they are suitable for driving machines which do not have special requirement, such as machine tools, pumps, blowers, etc.

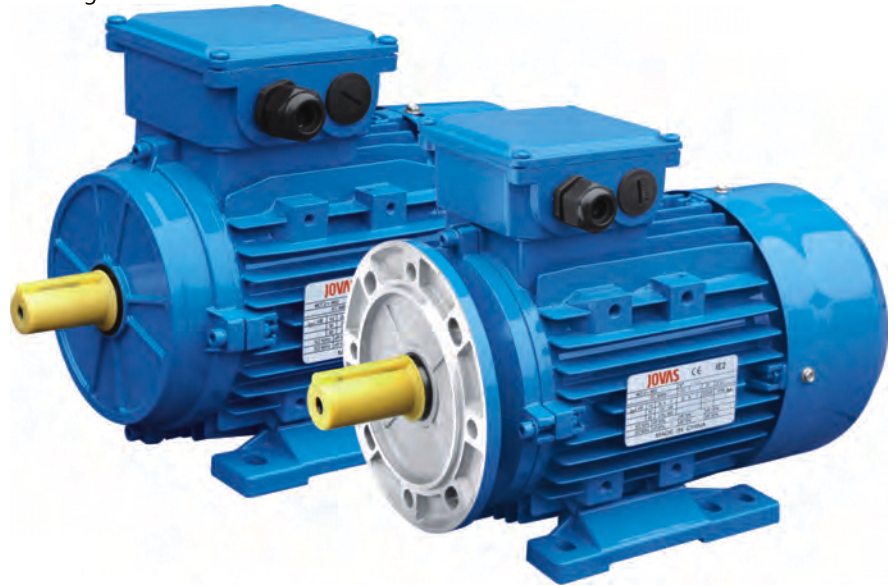
- Superior finish - Externally Ventilated - Light weight construction
- Top mounted terminal box - IP55 Protection
- Interchangeable foot mounting and flange mounting

### Operating Conditions:

Ambient temperature:  $-15^{\circ}\text{C} \leq \sim \leq 40^{\circ}\text{C}$

Altitude: not exceed 1000m

Rated voltage:  $\pm 5\%$



### MS Series IE1 Efficiency Motors Technical Data (at 50Hz)

| Model     | Power (kW) | Current (A) |      |      | Current (A) |      |      | Current (A) |      |      | Speed (r/min) | Eff  |      |      | Power factor | Tst/Tn (Times) | Tmax/Tn (Times) | Tmin/Tn (Times) | Ist/In (Times) | Noise dB(A) | W.T (kg) | Moment of inertia (kg·m <sup>2</sup> ) |
|-----------|------------|-------------|------|------|-------------|------|------|-------------|------|------|---------------|------|------|------|--------------|----------------|-----------------|-----------------|----------------|-------------|----------|--|
|           |            | 220V        | 380V | 660V | 230V        | 400V | 690V | 240V        | 415V | 720V |               | 100% | 75%  | 50%  |              |                |                 |                 |                |             |          |  |
| MS561-2   | 0.09       | 0.63        | 0.37 | 0.21 | 0.61        | 0.35 | 0.20 | 0.58        | 0.34 | 0.19 | 2800          | 55.6 | 49.6 | 39.2 | 0.67         | 2.4            | 2.6             | 2.2             | 3.5            | 58          | 2.80     | 0.000102                               |
| MS562-2   | 0.12       | 0.68        | 0.39 | 0.23 | 0.65        | 0.37 | 0.22 | 0.62        | 0.36 | 0.21 | 2840          | 65.6 | 61.8 | 53.2 | 0.71         | 2.3            | 2.6             | 2.1             | 4.3            | 58          | 2.90     | 0.000128                               |
| MS563-2   | 0.18       | 0.92        | 0.53 | 0.31 | 0.88        | 0.51 | 0.29 | 0.85        | 0.49 | 0.28 | 2780          | 66.5 | 64.2 | 56.8 | 0.77         | 2.3            | 2.5             | 2.4             | 4.1            | 61          | 4.00     | 0.000142                               |
| MS631-2   | 0.18       | 0.92        | 0.53 | 0.31 | 0.88        | 0.51 | 0.29 | 0.85        | 0.49 | 0.28 | 2780          | 66.5 | 64.2 | 56.8 | 0.77         | 2.3            | 2.5             | 2.4             | 4.1            | 61          | 4.00     | 0.000150                               |
| MS632-2   | 0.25       | 1.19        | 0.69 | 0.40 | 1.14        | 0.65 | 0.38 | 1.09        | 0.63 | 0.36 | 2780          | 69.8 | 68.8 | 62.8 | 0.79         | 2.6            | 2.5             | 2.4             | 4.3            | 61          | 4.20     | 0.000171                               |
| MS633-2   | 0.37       | 1.72        | 1.00 | 0.57 | 1.65        | 0.95 | 0.55 | 1.58        | 0.91 | 0.53 | 2750          | 71.4 | 71.2 | 65.9 | 0.79         | 2.8            | 2.6             | 2.6             | 4.7            | 62          | 4.70     | 0.000203                               |
| MS711-2   | 0.37       | 1.70        | 0.99 | 0.57 | 1.63        | 0.94 | 0.54 | 1.56        | 0.90 | 0.52 | 2830          | 71.3 | 70.4 | 65.2 | 0.8          | 2.8            | 2.9             | 2               | 5.9            | 64          | 5.20     | 0.000314                               |
| MS712-2   | 0.55       | 2.52        | 1.46 | 0.84 | 2.41        | 1.39 | 0.80 | 2.31        | 1.34 | 0.77 | 2815          | 71.6 | 71   | 66.1 | 0.8          | 2.7            | 2.7             | 1.8             | 6              | 64          | 6.20     | 0.000384                               |
| MS713-2   | 0.75       | 3.25        | 1.88 | 1.08 | 3.11        | 1.79 | 1.04 | 2.98        | 1.72 | 0.99 | 2820          | 73.8 | 73.9 | 70.3 | 0.82         | 3.0            | 3.0             | 2.0             | 6.6            | 65          | 7.20     | 0.000476                               |
| MS800-2   | 0.55       | 2.38        | 1.38 | 0.79 | 2.28        | 1.31 | 0.76 | 2.18        | 1.26 | 0.73 | 2810          | 73.1 | 73.4 | 69.7 | 0.83         | 2.7            | 2.5             | 1.9             | 5.3            | 64          | 7.30     | 0.000752                               |
| MS801-2   | 0.75       | 3.15        | 1.83 | 1.05 | 3.02        | 1.73 | 1.01 | 2.89        | 1.67 | 0.96 | 2830          | 75.2 | 75.6 | 72.2 | 0.83         | 3              | 2.8             | 2               | 6.2            | 67          | 8.70     | 0.000880                               |
| MS802-2   | 1.1        | 4.40        | 2.55 | 1.47 | 4.21        | 2.42 | 1.40 | 4.04        | 2.33 | 1.35 | 2840          | 79   | 79.8 | 77.7 | 0.83         | 2.6            | 3.1             | 2.6             | 6.1            | 67          | 10.50    | 0.001072                               |
| MS803-2   | 1.5        | 5.70        | 3.30 | 1.90 | 5.46        | 3.14 | 1.82 | 5.23        | 3.02 | 1.74 | 2820          | 81.2 | 82.5 | 81.3 | 0.85         | 3.2            | 3               | 2.5             | 7.2            | 70          | 11.20    | 0.001329                               |
| MS90S-2   | 1.5        | 5.73        | 3.32 | 1.91 | 5.48        | 3.15 | 1.83 | 5.25        | 3.04 | 1.75 | 2850          | 80.8 | 81.2 | 78.9 | 0.85         | 2.8            | 3.3             | 2.6             | 7.7            | 72          | 12.00    | 0.001579                               |
| MS90M-2   | 1.85       | 7.04        | 4.08 | 2.35 | 6.73        | 3.87 | 2.24 | 6.45        | 3.73 | 2.15 | 2850          | 82.1 | 82.6 | 80.7 | 0.84         | 4.2            | 3.6             | 2.9             | 7.8            | 72          | 13.30    | 0.001846                               |
| MS90L1-2  | 2.2        | 8.19        | 4.74 | 2.73 | 7.84        | 4.51 | 2.61 | 7.51        | 4.34 | 2.50 | 2860          | 82.9 | 83.4 | 81.4 | 0.85         | 3.7            | 3.9             | 3.3             | 8.8            | 72          | 14.50    | 0.002123                               |
| MS90L2-2  | 3          | 11.1        | 6.43 | 3.70 | 10.6        | 6.11 | 3.54 | 10.2        | 5.89 | 3.39 | 2830          | 82.4 | 83.5 | 82.3 | 0.86         | 4.4            | 4.2             | 3.5             | 8              | 74          | 15.00    | 0.002491                               |
| MS100L1-2 | 3          | 10.9        | 6.32 | 3.64 | 10.4        | 6.00 | 3.48 | 10.0        | 5.78 | 3.33 | 2875          | 83.9 | 84.5 | 83   | 0.86         | 2.8            | 3.2             | 2               | 8.1            | 76          | 20.00    | 0.003475                               |
| MS100L2-2 | 4          | 13.8        | 7.99 | 4.60 | 13.2        | 7.59 | 4.40 | 12.6        | 7.31 | 4.22 | 2870          | 85.5 | 86.5 | 85.8 | 0.89         | 3.2            | 3.4             | 2.2             | 8.8            | 77          | 24.00    | 0.004247                               |
| MS112M-2  | 4          | 13.2        | 7.63 | 4.40 | 12.6        | 7.25 | 4.20 | 12.1        | 6.99 | 4.03 | 2870          | 85.6 | 87.0 | 86.8 | 0.93         | 2.6            | 2.85            | 1.75            | 8.1            | 77          | 26.00    | 0.005845                               |
| MS112L-2  | 5.5        | 18.0        | 10.4 | 6.00 | 17.2        | 9.9  | 5.74 | 16.5        | 9.5  | 5.50 | 2890          | 87.1 | 88   | 87.6 | 0.92         | 3.1            | 3.3             | 2               | 9.4            | 78          | 29.30    | 0.007429                               |
| MS132S1-2 | 5.5        | 18.5        | 10.7 | 6.17 | 17.7        | 10.2 | 5.90 | 17.0        | 9.8  | 5.65 | 2900          | 86.6 | 87.4 | 86.5 | 0.90         | 2.25           | 3.1             | 1.5             | 7.9            | 80          | 38.40    | 0.011224                               |
| MS132S2-2 | 7.5        | 24.6        | 14.2 | 8.19 | 23.5        | 13.5 | 7.84 | 22.5        | 13.0 | 7.51 | 2900          | 88.0 | 88.8 | 88.3 | 0.91         | 2.4            | 3.25            | 1.5             | 8.5            | 80          | 41.30    | 0.013838                               |
| MS132M1-2 | 9.2        | 30.8        | 17.8 | 10.3 | 29.5        | 17.0 | 9.83 | 28.3        | 16.3 | 9.42 | 2930          | 88   | 88   | 86.4 | 0.89         | 2              | 2.2             | 1.2             | 7.5            | 81          | 48.20    | 0.016551                               |
| MS132M2-2 | 11         | 36.3        | 21.0 | 12.1 | 34.7        | 20.0 | 11.6 | 33.3        | 19.2 | 11.1 | 2930          | 88.4 | 88.6 | 87.5 | 0.9          | 2              | 2.2             | 1.2             | 7.5            | 83          | 52.50    | 0.018641                               |
| MS160M1-2 | 11         | 36.4        | 21.1 | 12.1 | 34.8        | 20.0 | 11.6 | 33.4        | 19.3 | 11.1 | 2920          | 88.8 | 89.4 | 88.6 | 0.89         | 2.6            | 2.95            | 1.85            | 7.1            | 86          | 76.00    | 0.041164                               |
| MS160M2-2 | 15         | 49.3        | 28.5 | 16.4 | 47.2        | 27.1 | 15.7 | 45.2        | 26.1 | 15.1 | 2910          | 89.1 | 90.0 | 89.6 | 0.90         | 2.2            | 2.8             | 1.8             | 6.4            | 86          | 83.00    | 0.048985                               |
| MS160L-2  | 18.5       | 59.3        | 34.4 | 19.8 | 56.8        | 32.6 | 18.9 | 54.4        | 31.5 | 18.1 | 2930          | 90.3 | 90.9 | 90.3 | 0.91         | 2.9            | 3.05            | 1.65            | 8.4            | 86          | 92.30    | 0.059935                               |
| MS180M-2  | 22         | 71.3        | 41.3 | 23.8 | 68.2        | 39.2 | 22.7 | 65.3        | 37.8 | 21.8 | 2950          | 90   | 90.2 | 89.7 | 0.9          | 2              | 2.2             | 1.2             | 7.5            | 88          | 121.0    | 0.090185                               |
| MS200L1-2 | 30         | 95.9        | 55.5 | 32.0 | 91.8        | 52.8 | 30.6 | 87.9        | 50.8 | 29.3 | 2950          | 91.2 | 90.6 | 88.5 | 0.9          | 2              | 2.2             | 1.2             | 7.5            | 90          | 144.0    | 0.114999                               |
| MS200L2-2 | 37         | 117.3       | 67.9 | 39.1 | 112.2       | 64.5 | 37.4 | 107.5       | 62.2 | 35.8 | 2940          | 92   | 92.1 | 91.4 | 0.9          | 2              | 2.2             | 1.2             | 7.5            | 90          | 170.0    | 0.136738                               |

### MS Series IE1 Efficiency Motors Technical Data (at 50Hz)

| Model     | Power (kW) | Current (A) |      |      | Current (A) |      |      | Current (A) |      |      | Speed (r/min) | Eff  |      |      | Power factor | Tst/Tn (Times) | Tmax/Tn (Times) | Tmin/Tn (Times) | Ist/In (Times) | Noise dB(A) | W.T (kg) | Moment of inertia (kg·m <sup>2</sup> ) |
|-----------|------------|-------------|------|------|-------------|------|------|-------------|------|------|---------------|------|------|------|--------------|----------------|-----------------|-----------------|----------------|-------------|----------|--|
|           |            | 220V        | 380V | 660V | 230V        | 400V | 690V | 240V        | 415V | 720V |               | 100% | 75%  | 50%  |              |                |                 |                 |                |             |          |  |
| MS561-4   | 0.06       | 0.54        | 0.31 | 0.18 | 0.52        | 0.30 | 0.17 | 0.50        | 0.29 | 0.17 | 1400          | 52.8 | 47.7 | 38.7 | 0.55         | 3.1            | 3.2             | 3               | 3.2            | 50          | 2.90     | 0.000190                               |
| MS562-4   | 0.09       | 0.71        | 0.41 | 0.24 | 0.68        | 0.39 | 0.23 | 0.65        | 0.38 | 0.22 | 1400          | 56.2 | 51.7 | 43.1 | 0.59         | 2.3            | 2.5             | 2.8             | 3.1            | 50          | 3.20     | 0.000240                               |
| MS563-4   | 0.12       | 0.89        | 0.51 | 0.30 | 0.85        | 0.49 | 0.28 | 0.81        | 0.47 | 0.27 | 1390          | 58.5 | 54.3 | 45.6 | 0.61         | 2.65           | 2.8             | 2.7             | 3.2            | 52          | 3.70     | 0.000265                               |
| MS631-4   | 0.12       | 0.89        | 0.51 | 0.30 | 0.85        | 0.49 | 0.28 | 0.81        | 0.47 | 0.27 | 1390          | 58.5 | 54.3 | 45.6 | 0.61         | 2.65           | 2.8             | 2.7             | 3.2            | 52          | 3.70     | 0.000273                               |
| MS632-4   | 0.18       | 1.15        | 0.67 | 0.38 | 1.10        | 0.63 | 0.37 | 1.06        | 0.61 | 0.35 | 1365          | 64.2 | 62.5 | 55.9 | 0.64         | 2.8            | 2.55            | 2.4             | 3.6            | 52          | 4.40     | 0.000338                               |
| MS633-4   | 0.25       | 1.45        | 0.84 | 0.48 | 1.39        | 0.80 | 0.46 | 1.33        | 0.77 | 0.44 | 1370          | 68.3 | 67.5 | 62.1 | 0.66         | 2.7            | 2.7             | 2.4             | 3.9            | 54          | 5.00     | 0.000408                               |
| MS711-4   | 0.25       | 1.38        | 0.80 | 0.46 | 1.32        | 0.76 | 0.44 | 1.27        | 0.73 | 0.42 | 1395          | 65.1 | 63.1 | 55.8 | 0.73         | 2              | 2.15            | 1.6             | 4.2            | 55          | 5.10     | 0.000561                               |
| MS712-4   | 0.37       | 1.90        | 1.10 | 0.63 | 1.82        | 1.05 | 0.61 | 1.74        | 1.01 | 0.58 | 1390          | 68.6 | 68.2 | 62.9 | 0.74         | 2.25           | 2.35            | 1.95            | 4.6            | 55          | 6.10     | 0.000714                               |
| MS713-4   | 0.55       | 2.81        | 1.63 | 0.94 | 2.69        | 1.54 | 0.90 | 2.57        | 1.49 | 0.86 | 1390          | 71.9 | 71.6 | 66.8 | 0.72         | 2.8            | 2.8             | 2.4             | 4.8            | 57          | 7.20     | 0.000920                               |
| MS801-4   | 0.55       | 2.74        | 1.59 | 0.91 | 2.62        | 1.51 | 0.87 | 2.51        | 1.45 | 0.84 | 1400          | 70.9 | 70.5 | 65.5 | 0.74         | 2.25           | 2.55            | 1.95            | 4.9            | 58          | 8.30     | 0.001350                               |
| MS802-4   | 0.75       | 3.36        | 1.94 | 1.12 | 3.21        | 1.85 | 1.07 | 3.08        | 1.78 | 1.03 | 1390          | 74.4 | 76.0 | 73.9 | 0.79         | 2.5            | 2.55            | 2.05            | 5.4            | 58          | 9.70     | 0.001793                               |
| MS803-4   | 1.1        | 4.90        | 2.84 | 1.63 | 4.69        | 2.69 | 1.56 | 4.49        | 2.60 | 1.50 | 1390          | 74.6 | 75.7 | 73.3 | 0.79         | 2.9            | 2.9             | 2.4             | 5.9            | 60          | 11.70    | 0.002236                               |
| MS90S-4   | 1.1        | 4.90        | 2.83 | 1.63 | 4.68        | 2.69 | 1.56 | 4.49        | 2.60 | 1.50 | 1400          | 75.5 | 76.7 | 74.4 | 0.78         | 2.9            | 2.7             | 2.15            | 6              | 61          | 11.70    | 0.002443                               |
| MS90L1-4  | 1.5        | 6.48        | 3.75 | 2.16 | 6.20        | 3.56 | 2.07 | 5.94        | 3.44 | 1.98 | 1410          | 79.6 | 80.2 | 78.0 | 0.76         | 3.4            | 3.3             | 2.7             | 6.9            | 61          | 15.00    | 0.003152                               |
| MS90L2-4  | 2.2        | 9.76        | 5.65 | 3.25 | 9.33        | 5.37 | 3.11 | 8.94        | 5.17 | 2.98 | 1410          | 78.9 | 79.4 | 77   | 0.75         | 3.8            | 2.6             | 3.2             | 7.2            | 63          | 17.60    | 0.004002                               |
| MS100L1-4 | 2.2        | 8.71        | 5.05 | 2.90 | 8.34        | 4.79 | 2.78 | 7.99        | 4.62 | 2.66 | 1420          | 82.0 | 83.3 | 82.3 | 0.81         | 2.4            | 2.7             | 2.15            | 6.3            | 64          | 19.20    | 0.005977                               |
| MS100L2-4 | 3          | 11.5        | 6.64 | 3.82 | 11.0        | 6.31 | 3.66 | 10.5        | 6.08 | 3.51 | 1430          | 83.7 | 84.8 | 83.8 | 0.82         | 2.6            | 3               | 2.15            | 6.8            | 64          | 22.50    | 0.007591                               |
| MS100L3-4 | 4          | 15.2        | 8.80 | 5.07 | 14.5        | 8.36 | 4.85 | 13.9        | 8.06 | 4.65 | 1430          | 84.2 | 85.5 | 85.3 | 0.82         | 2.2            | 2.3             | 1.5             | 7              | 65          | 27.30    | 0.009626                               |
| MS112M-4  | 4          | 14.9        | 8.60 | 4.95 | 14.2        | 8.17 | 4.74 | 13.6        | 7.88 | 4.54 | 1440          | 84.7 | 86.0 | 85.4 | 0.83         | 2.5            | 2.9             | 2.05            | 7.1            | 65          | 29.00    | 0.012079                               |
| MS112L-4  | 5.5        | 20.4        | 11.8 | 6.81 | 19.5        | 11.2 | 6.51 | 18.7        | 10.8 | 6.24 | 1435          | 85.9 | 87.1 | 86.6 | 0.82         | 2.5            | 2.95            | 2.2             | 7.2            | 68          | 35.70    | 0.014229                               |
| MS132S-4  | 5.5        | 19.6        | 11.4 | 6.54 | 18.76       | 10.8 | 6.25 | 18.0        | 10.4 | 5.99 | 1445          | 86.4 | 87.8 | 87.7 | 0.85         | 2.15           | 2.85            | 1.75            | 7.5            | 71          | 39.00    | 0.024846                               |
| MS132M-4  | 7.5        | 25.9        | 15.0 | 8.62 | 24.7        | 14.2 | 8.24 | 23.7        | 13.7 | 7.90 | 1450          | 87.6 | 88.8 | 88.5 | 0.87         | 2.1            | 2.9             | 1.65            | 8.6            | 71          | 48.60    | 0.033131                               |
| MS132L1-4 | 9.2        | 31.3        | 18.1 | 10.4 | 30.0        | 17.2 | 10.0 | 28.7        | 16.6 | 9.6  | 1450          | 88.6 | 89.5 | 89.1 | 0.87         | 2.8            | 2.4             | 2               | 8.4            | 74          | 56.50    | 0.039339                               |
| MS132L2-4 | 11         | 37.3        | 21.6 | 12.4 | 35.6        | 20.5 | 11.9 | 34.2        | 19.8 | 11.4 | 1450          | 90.1 | 91.1 | 91   | 0.86         | 3              | 2.5             | 2               | 8.9            | 74          | 64.00    | 0.045478                               |
| MS160M-4  | 11         | 39.7        | 23.0 | 13.2 | 37.9        | 21.8 | 12.6 | 36.4        | 21.0 | 12.1 | 1450          | 87.7 | 89.6 | 90.3 | 0.83         | 2.05           | 2.25            | 1.55            | 6.1            | 75          | 73.00    | 0.077369                               |
| MS160L1-4 | 15         | 51.9        | 30.1 | 17.3 | 49.7        | 28.5 | 16.6 | 47.6        | 27.5 | 15.9 | 1455          | 88.7 | 90.0 | 90.2 | 0.86         | 2.2            | 2.45            | 1.4             | 7.3            | 75          | 88.50    | 0.101156                               |
| MS160L2-4 | 18.5       | 63.1        | 36.5 | 21.0 | 60.4        | 34.7 | 20.1 | 57.9        | 33.5 | 19.3 | 1460          | 90.5 | 91   | 90.6 | 0.85         | 2.2            | 2.2             | 1.4             | 7.5            | 78          | 97.50    | 0.127587                               |
| MS180M-4  | 18.5       | 62.4        | 36.1 | 20.8 | 59.7        | 34.3 | 19.9 | 57.2        | 33.1 | 19.1 | 1460          | 90.5 | 90.7 | 89.9 | 0.86         | 2.2            | 2.2             | 1.4             | 7.5            | 80          | 118.0    | 0.155064                               |
| MS180L-4  | 22         | 73.8        | 42.7 | 24.6 | 70.6        | 40.6 | 23.5 | 67.6        | 39.1 | 22.5 | 1460          | 91   | 91.3 | 90.6 | 0.86         | 2.2            | 2.2             | 1.4             | 7.5            | 80          | 128.0    | 0.173293                               |
| MS200L-4  | 30         | 99.5        | 57.6 | 33.2 | 95.2        | 54.7 | 31.7 | 91.2        | 52.8 | 30.4 | 1470          | 92   | 92.2 | 91.6 | 0.86         | 2.2            | 2.2             | 1.4             | 7.5            | 83          | 153.0    | 0.224084                               |
| MS631-6   | 0.09       | 0.75        | 0.44 | 0.25 | 0.72        | 0.41 | 0.24 | 0.69        | 0.40 | 0.23 | 890           | 50.7 | 47.6 | 39.8 | 0.62         | 2              | 2.2             | 1.9             | 2.9            | 50          | 4.20     | 0.000418                               |
| MS632-6   | 0.12       | 0.97        | 0.56 | 0.32 | 0.93        | 0.54 | 0.31 | 0.89        | 0.52 | 0.30 | 895           | 53.7 | 50.9 | 43.2 | 0.60         | 2.3            | 2.2             | 2.1             | 2.8            | 50          | 4.50     | 0.000517                               |
| MS711-6   | 0.18       | 1.11        | 0.64 | 0.37 | 1.06        | 0.61 | 0.35 | 1.02        | 0.59 | 0.34 | 905           | 63.0 | 61.6 | 55.4 | 0.67         | 2.15           | 2.4             | 2               | 3.5            | 52          | 5.60     | 0.000841                               |
| MS712-6   | 0.25       | 1.56        | 0.90 | 0.52 | 1.49        | 0.86 | 0.50 | 1.43        | 0.83 | 0.48 | 885           | 62.6 | 62.0 | 55.8 | 0.67         | 2.05           | 2.3             | 2.05            | 3.2            | 52          | 6.10     | 0.000965                               |
| MS713-6   | 0.37       | 2.32        | 1.34 | 0.77 | 2.22        | 1.28 | 0.74 | 2.13        | 1.23 | 0.71 | 890           | 65.4 | 64.4 | 58.2 | 0.64         | 2.3            | 2.5             | 2.3             | 3.4            | 54          | 6.80     | 0.001151                               |
| MS801-6   | 0.37       | 2.06        | 1.19 | 0.69 | 1.97        | 1.13 | 0.66 | 1.89        | 1.09 | 0.63 | 920           | 68.1 | 67.7 | 62.2 | 0.69         | 1.95           | 2.25            | 1.8             | 3.7            | 56          | 8.10     | 0.001560                               |
| MS802-6   | 0.55       | 2.74        | 1.59 | 0.91 | 2.62        | 1.51 | 0.87 | 2.51        | 1.45 | 0.84 | 920           | 72.5 | 73.0 | 69.3 | 0.73         | 2.25           | 2.45            | 2.05            | 4.3            | 56          | 9.60     | 0.002098                               |
| MS803-6   | 0.75       | 3.65        | 2.11 | 1.22 | 3.49        | 2.01 | 1.16 | 3.34        | 1.93 | 1.11 | 910           | 72.9 | 74.2 | 71.3 | 0.74         | 2.2            | 2.4             | 2.1             | 4.1            | 58          | 10.00    | 0.002635                               |
| MS90S-6   | 0.75       | 3.83        | 2.22 | 1.28 | 3.67        | 2.11 | 1.22 | 3.52        | 2.03 | 1.17 | 920           | 72.5 | 73.3 | 70.0 | 0.71         | 1.8            | 2.2             | 1.7             | 4.1            | 59          | 11.30    | 0.003061                               |
| MS90L1-6  | 1.1        | 5.47        | 3.17 | 1.82 | 5.23        | 3.01 | 1.74 | 5.01        | 2.90 | 1.67 | 910           | 73.5 | 75.2 | 72.9 | 0.72         | 1.95           | 2.25            | 1.85            | 4.2            | 59          | 14.40    | 0.004067                               |
| MS90L2-6  | 1.5        | 7.12        | 4.12 | 2.37 | 6.81        | 3.92 | 2.27 | 6.53        | 3.78 | 2.18 | 900           | 74.7 | 77   | 75.5 | 0.74         | 2.1            | 2.3             | 1.9             | 4.2            | 60          | 15.50    | 0.005147                               |
| MS100L1-6 | 1.5        | 6.77        | 3.92 | 2.26 | 6.47        | 3.72 | 2.16 | 6.20        | 3.59 | 2.07 | 935           | 78.5 | 79.9 | 78.2 | 0.74         | 2.05           | 2.35            | 1.8             | 5              | 61          | 18.80    | 0.007913                               |
| MS100L2-6 | 2.2        | 9.87        | 5.71 | 3.29 | 9.44        | 5.43 | 3.15 | 9.04        | 5.23 | 3.01 | 950           | 77   | 78.4 | 77.8 | 0.76         | 2.2            | 2.2             | 1.3             | 6              | 63          | 22.80    | 0.011194                               |
| MS112M-6  | 2.2        | 9.3         | 5.38 | 3.10 | 8.89        | 5.11 | 2.96 | 8.52        | 4.93 | 2.84 | 925           | 79.2 | 81.8 | 81.7 | 0.78         | 1.9            | 2.25            | 1.75            | 4.7            | 64          | 25.00    | 0.013777                               |
| MS112L-6  | 3          | 12.9        | 7.49 | 4.31 | 12.4        | 7.12 | 4.13 | 11.9        | 6.86 | 3.95 | 950           | 79   | 80.9 | 80.9 | 0.77         | 2.2            | 2.2             | 1.3             | 6              | 64          | 30.00    | 0.018246                               |
| MS132S-6  | 3          | 12.5        | 7.22 | 4.16 | 11.9        | 6.86 | 3.98 | 11.4        | 6.61 | 3.81 | 955           | 82.5 | 84.5 | 84.3 | 0.77         | 1.7            | 2.15            | 1.45            | 5.3            | 64          | 35.00    | 0.029932                               |
| MS132M1-6 | 4          | 16.2        | 9.39 | 5.40 | 15.5        | 8.92 | 5.17 | 14.9        | 8.59 | 4.95 | 965           | 85.2 | 85.8 | 84.4 | 0.76         | 2.3            | 2.9             | 1.6             | 6.6            | 68          | 47.60    | 0.037337                               |
| MS132M2-6 | 5.5        | 21.5        | 12.4 | 7.16 | 20.6        | 11.8 | 6.9  | 19.7        | 11.4 | 6.6  | 960           | 85.9 | 87.2 | 86.8 | 0.78         | 2.5            | 2.7             | 1.7             | 6.7            | 68          | 50.70    | 0.049025                               |
| MS132L-6  | 7.5        | 30.1        | 17.4 | 10.0 | 28.8        | 16.5 | 9.6  | 27.6        | 15.9 | 9.2  | 960           | 85   | 86.4 | 86.4 | 0.77         | 2              | 2               | 1.3             | 6.5            | 68          | 57.20    | 0.060782                               |
| MS160M-6  | 7.5        | 30.3        | 17.6 | 10.1 | 29.0        | 16.7 | 9.7  | 27.8        | 16.1 | 9.3  | 970           | 86.8 | 87.6 | 86.7 | 0.75         | 2.1            | 2.7             | 1.65            | 6.1            | 68          | 69.0     | 0.084476                               |
| MS160L-6  | 11         | 42.5        | 24.6 | 14.2 | 40.7        | 23.4 | 13.6 | 39.0        | 22.5 | 13.0 | 965           | 87.2 | 88.6 | 88.6 | 0.78         | 2.25           | 2.35            | 1.5             | 6.9            | 73          | 86.0     | 0.118152                               |
| MS180L-6  | 15         | 54.6        | 31.6 | 18.2 | 52.2        | 30.0 | 17.4 | 50.1        | 28.9 | 16.7 | 970           | 89   | 89   | 88.6 | 0.81         | 2              | 2.2             | 1.3             | 6.5            | 77          | 124.0    | 0.254063                               |
| MS200L1-6 | 18.5       | 66.6        | 38.6 | 22.2 | 63.7        | 36.6 | 21.2 | 61.0        | 35.3 | 20.3 | 975           | 90   | 90.2 | 89.5 | 0.81         | 2              | 2.2             | 1.3             | 6.5            | 80          | 141.0    | 0.303941                               |
| MS200L2-6 | 22         | 77.3        | 44.7 | 25.8 | 73.9        | 42.5 | 24.6 | 70.9        | 41.0 | 23.6 | 975           | 90   | 90.2 | 89.4 | 0.83         | 2              | 2.2             | 1.3             | 6.5            | 80          | 152.0    | 0.353160                               |
| MS711-8   | 0.09       | 0.97        | 0.56 | 0.32 | 0.93        | 0.54 | 0.31 | 0.89        | 0.52 | 0.30 | 680           | 44.9 | 39.6 | 31.1 | 0.54         | 2.3            | 2.6             | 2.2             | 2.4            | 50          | 5.60     | 0.000717                               |
| MS712-8   | 0.12       | 1.15        | 0.67 | 0.38 | 1.10        | 0.63 | 0.37 | 1.06        | 0.61 | 0.35 | 680           | 51.7 | 47.1 | 38.4 | 0.53         | 2.5            | 2.75            | 2.5             | 2.7            | 50          | 6.00     | 0.000841                               |
| MS713-8   | 0.18       | 1.51        | 0.88 |      |             |      |      |             |      |      |               |      |      |      |              |                |                 |                 |                |             |          |  |

MS2 Series IE2 Efficiency Motors Technical Data(at 50HZ)

| Model       | Power (kW) | Current(A) |      |      | Current(A) |      |      | Current(A) |      |      | Speed (r/min) | Eff. (%) | Power Factor (cos φ) | Tst/Tn (Times) | Tmax/Tn (Times) | Tmin/Tn (Times) | Ist/In (Times) | Noise dB(A) | W.T (kg) | Inertia kg·m² |
|-------------|------------|------------|------|------|------------|------|------|------------|------|------|---------------|----------|----------------------|----------------|-----------------|-----------------|----------------|-------------|----------|---------------|
|             |            | 220V       | 380V | 660V | 230V       | 400V | 690V | 240V       | 415V | 720V |               |          |                      |                |                 |                 |                |             |          |               |
| MS2 713-2   | 0.75       | 3.23       | 1.86 | 1.08 | 3.07       | 1.77 | 1.02 | 2.96       | 1.71 | 0.99 | 2810          | 77.4     | 0.79                 | 3.4            | 3.5             | 3               | 5.8            | 65          | 7.5      | 0.000480      |
| MS2 801-2   | 0.75       | 3.15       | 1.82 | 1.05 | 2.99       | 1.73 | 1.00 | 2.88       | 1.66 | 0.96 | 2840          | 77.4     | 0.81                 | 3.3            | 3.5             | 2.7             | 6.9            | 67          | 8.9      | 0.000852      |
| MS2 802-2   | 1.1        | 4.43       | 2.56 | 1.48 | 4.21       | 2.43 | 1.40 | 4.06       | 2.34 | 1.35 | 2860          | 79.6     | 0.82                 | 3.5            | 3.7             | 2.8             | 7.2            | 67          | 10.6     | 0.001109      |
| MS2 803-2   | 1.5        | 5.99       | 3.46 | 2.00 | 5.69       | 3.29 | 1.90 | 5.49       | 3.17 | 1.83 | 2860          | 81.3     | 0.81                 | 3.7            | 3.8             | 2.9             | 7.7            | 70          | 13       | 0.001430      |
| MS2 90S-2   | 1.5        | 5.85       | 3.38 | 1.95 | 5.56       | 3.21 | 1.85 | 5.36       | 3.09 | 1.79 | 2860          | 81.3     | 0.83                 | 4.5            | 3.5             | 2.7             | 8.2            | 72          | 13.2     | 0.001430      |
| MS2 90L1-2  | 2.2        | 8.38       | 4.84 | 2.79 | 7.96       | 4.60 | 2.66 | 7.68       | 4.43 | 2.56 | 2870          | 83.2     | 0.83                 | 4.5            | 4.1             | 2.7             | 7.4            | 72          | 16.1     | 0.002181      |
| MS2 90L2-2  | 3          | 11.2       | 6.49 | 3.75 | 10.7       | 6.17 | 3.56 | 10.29      | 5.94 | 3.43 | 2880          | 84.6     | 0.83                 | 4.5            | 4.1             | 3               | 9.7            | 74          | 20       | 0.002904      |
| MS2 100L1-2 | 3          | 10.9       | 6.26 | 3.62 | 10.3       | 5.95 | 3.44 | 9.94       | 5.74 | 3.31 | 2900          | 84.6     | 0.86                 | 3.7            | 3.7             | 2.6             | 9.6            | 76          | 22.7     | 0.003008      |
| MS2 100L2-2 | 4          | 13.9       | 8.05 | 4.65 | 13.2       | 7.65 | 4.42 | 12.8       | 7.37 | 4.26 | 2890          | 85.8     | 0.88                 | 3.6            | 3.4             | 2.6             | 9.5            | 77          | 26       | 0.003934      |
| MS2 112M-2  | 4          | 14.1       | 8.14 | 4.70 | 13.4       | 7.73 | 4.47 | 12.9       | 7.46 | 4.30 | 2910          | 85.8     | 0.87                 | 3.4            | 3.8             | 2.2             | 9.7            | 77          | 26.4     | 0.006266      |
| MS2 112L-2  | 5.5        | 18.9       | 10.9 | 6.30 | 18.0       | 10.4 | 5.99 | 17.3       | 9.99 | 5.77 | 2920          | 87       | 0.88                 | 4              | 4.3             | 3               | 11             | 78          | 32.1     | 0.007819      |
| MS2 132S1-2 | 5.5        | 18.9       | 10.9 | 6.30 | 18.0       | 10.4 | 5.99 | 17.3       | 9.99 | 5.77 | 2920          | 87       | 0.88                 | 3.9            | 4               | 2.1             | 9.9            | 80          | 42.3     | 0.012022      |
| MS2 132S2-2 | 7.5        | 25.2       | 14.5 | 8.39 | 23.9       | 13.8 | 7.97 | 23.0       | 13.3 | 7.68 | 2910          | 88.1     | 0.89                 | 3.5            | 3.7             | 1.9             | 9.5            | 80          | 46.2     | 0.014635      |
| MS2 132M1-2 | 9.2        | 31.0       | 17.9 | 10.3 | 29.5       | 17.0 | 9.82 | 28.4       | 16.4 | 9.47 | 2900          | 88.7     | 0.88                 | 3.5            | 3.9             | 2.4             | 9.8            | 81          | 51.6     | 0.016303      |
| MS2 132M2-2 | 11         | 37.7       | 21.7 | 12.6 | 35.8       | 20.7 | 11.9 | 34.5       | 19.9 | 11.5 | 2930          | 89.4     | 0.86                 | 3.5            | 3.9             | 2.4             | 11.5           | 83          | 54.5     | 0.019439      |
| MS2 160M1-2 | 11         | 36.4       | 21.0 | 12.1 | 34.6       | 20.0 | 11.5 | 33.3       | 19.2 | 11.1 | 2940          | 89.4     | 0.89                 | 3.2            | 3.2             | 2.2             | 9              | 86          | 79.2     | 0.048471      |
| MS2 160M2-2 | 15         | 48.6       | 28.0 | 16.2 | 46.1       | 26.6 | 15.4 | 44.5       | 25.7 | 14.8 | 2930          | 90.3     | 0.9                  | 3.2            | 3.2             | 2.2             | 9              | 86          | 96.6     | 0.059421      |
| MS2 160L-2  | 18.5       | 58.9       | 34.0 | 19.6 | 55.9       | 32.3 | 18.6 | 53.9       | 31.1 | 18.0 | 2930          | 90.9     | 0.91                 | 3.2            | 3.2             | 2.2             | 9              | 86          | 102.5    | 0.068807      |
| MS2 180M-2  | 22         | 69.7       | 40.2 | 23.2 | 66.2       | 38.2 | 22.1 | 63.8       | 36.8 | 21.3 | 2950          | 91.3     | 0.91                 | 2.5            | 2               | 1.4             | 8.1            | 91          | 128      | 0.095016      |
| MS2 200L1-2 | 30         | 94.3       | 54.4 | 31.4 | 89.6       | 51.7 | 29.9 | 86.3       | 49.9 | 28.8 | 2950          | 92       | 0.91                 | 2.5            | 3.3             | 1.3             | 8.8            | 94          | 158      | 0.122246      |
| MS2 200L2-2 | 37         | 115.7      | 66.8 | 38.6 | 109.9      | 63.4 | 36.6 | 105.9      | 61.2 | 35.3 | 2960          | 92.5     | 0.91                 | 2.8            | 3.5             | 1.3             | 9.6            | 94          | 181.3    | 0.148816      |
| MS2 802-4   | 0.75       | 3.31       | 1.91 | 1.10 | 3.14       | 1.81 | 1.05 | 3.03       | 1.75 | 1.01 | 1410          | 79.6     | 0.75                 | 3              | 2.9             | 2.4             | 5.8            | 58          | 11.1     | 0.002060      |
| MS2 90S-4   | 1.1        | 5.01       | 2.89 | 1.67 | 4.76       | 2.75 | 1.59 | 4.59       | 2.65 | 1.53 | 1420          | 81.4     | 0.71                 | 2.8            | 3.1             | 2.6             | 5.6            | 61          | 13.9     | 0.002873      |
| MS2 90L-4   | 1.5        | 6.71       | 3.88 | 2.24 | 6.38       | 3.68 | 2.13 | 6.15       | 3.55 | 2.05 | 1420          | 82.8     | 0.71                 | 3              | 3.1             | 2.7             | 6.2            | 61          | 16.9     | 0.003709      |
| MS2 100L1-4 | 2.2        | 8.92       | 5.15 | 2.97 | 8.47       | 4.89 | 2.82 | 8.17       | 4.72 | 2.72 | 1440          | 84.3     | 0.77                 | 3.3            | 3.6             | 2.9             | 7.6            | 64          | 22.4     | 0.007306      |
| MS2 100L2-4 | 3          | 11.8       | 6.83 | 3.95 | 11.2       | 6.49 | 3.75 | 10.8       | 6.26 | 3.61 | 1440          | 85.5     | 0.78                 | 3.4            | 3.6             | 3               | 7.4            | 64          | 26.4     | 0.009053      |
| MS2 112M-4  | 4          | 15.0       | 8.66 | 5.00 | 14.3       | 8.23 | 4.75 | 13.7       | 7.93 | 4.58 | 1440          | 86.6     | 0.81                 | 2.9            | 3.1             | 2.3             | 8.2            | 65          | 32.3     | 0.013305      |
| MS2 132S-4  | 5.5        | 20.1       | 11.6 | 6.71 | 19.1       | 11.0 | 6.37 | 18.4       | 10.6 | 6.14 | 1450          | 87.7     | 0.82                 | 2.6            | 3.4             | 2.2             | 8.7            | 71          | 43       | 0.027736      |
| MS2 132M-4  | 7.5        | 26.5       | 15.3 | 8.83 | 25.2       | 14.5 | 8.39 | 24.3       | 14.0 | 8.09 | 1450          | 88.7     | 0.84                 | 3.1            | 3.4             | 2.1             | 8.8            | 71          | 52.6     | 0.035864      |
| MS2 132L-4  | 9.2        | 31.9       | 18.4 | 10.6 | 30.3       | 17.5 | 10.1 | 29.2       | 16.9 | 9.75 | 1450          | 89.2     | 0.85                 | 2.9            | 3.2             | 2               | 8.8            | 74          | 59       | 0.041954      |
| MS2 160M-4  | 11         | 38.4       | 22.2 | 12.8 | 36.5       | 21.0 | 12.2 | 35.1       | 20.3 | 11.7 | 1460          | 89.8     | 0.84                 | 2.5            | 2.9             | 1.6             | 7.3            | 75          | 83       | 0.089630      |
| MS2 160L1-4 | 15         | 51.9       | 29.9 | 17.3 | 49.3       | 28.4 | 16.4 | 47.5       | 27.4 | 15.8 | 1460          | 90.6     | 0.84                 | 2.9            | 3               | 1.7             | 8.2            | 75          | 103.5    | 0.118354      |
| MS2 160L2-4 | 18.5       | 62.8       | 36.3 | 20.9 | 59.7       | 34.4 | 19.9 | 57.5       | 33.2 | 19.2 | 1460          | 91.2     | 0.85                 | 2.9            | 3               | 1.7             | 8.1            | 78          | 114.5    | 0.136633      |
| MS2 180M-4  | 18.5       | 61.4       | 35.4 | 20.5 | 58.3       | 33.7 | 19.4 | 56.2       | 32.4 | 18.7 | 1460          | 91.2     | 0.87                 | 2.4            | 3               | 1.8             | 7.8            | 80          | 119      | 0.155064      |
| MS2 180L-4  | 22         | 71.8       | 41.5 | 23.9 | 68.2       | 39.4 | 22.7 | 65.8       | 38.0 | 21.9 | 1460          | 91.6     | 0.88                 | 2.4            | 2.8             | 1.7             | 7.7            | 80          | 129      | 0.173293      |
| MS2 200L-4  | 30         | 99.5       | 57.4 | 33.2 | 94.5       | 54.6 | 31.5 | 91.1       | 52.6 | 30.4 | 1470          | 92.3     | 0.86                 | 3.2            | 3.7             | 2.3             | 9.5            | 83          | 169.2    | 0.242313      |
| MS2 90S-6   | 0.75       | 3.77       | 2.18 | 1.26 | 3.58       | 2.07 | 1.19 | 3.45       | 1.99 | 1.15 | 935           | 75.9     | 0.69                 | 2.4            | 2.6             | 2.2             | 4.7            | 59          | 13       | 0.003365      |
| MS2 90L-6   | 1.1        | 5.37       | 3.10 | 1.79 | 5.10       | 2.95 | 1.70 | 4.92       | 2.84 | 1.64 | 940           | 78.1     | 0.69                 | 2.7            | 2.7             | 2.3             | 5              | 59          | 16.4     | 0.004805      |
| MS2 100L-6  | 1.5        | 6.87       | 3.97 | 2.29 | 6.53       | 3.77 | 2.18 | 6.29       | 3.63 | 2.10 | 960           | 79.8     | 0.72                 | 2.9            | 3               | 2.3             | 6.2            | 61          | 21.6     | 0.009554      |
| MS2 112M-6  | 2.2        | 9.44       | 5.45 | 3.15 | 8.96       | 5.18 | 2.99 | 8.64       | 4.99 | 2.88 | 950           | 81.8     | 0.75                 | 2.5            | 2.6             | 2               | 5.6            | 64          | 29.5     | 0.016969      |
| MS2 132S-6  | 3          | 12.5       | 7.20 | 4.16 | 11.8       | 6.84 | 3.95 | 11.4       | 6.59 | 3.81 | 960           | 83.3     | 0.76                 | 2.2            | 2.6             | 1.7             | 6.1            | 64          | 35.2     | 0.029932      |
| MS2 132M1-6 | 4          | 16.6       | 9.58 | 5.53 | 15.8       | 9.10 | 5.25 | 15.2       | 8.77 | 5.06 | 965           | 84.6     | 0.75                 | 2.5            | 2.6             | 1.7             | 6.5            | 68          | 45       | 0.040259      |
| MS2 132M2-6 | 5.5        | 22.7       | 13.1 | 7.58 | 21.6       | 12.5 | 7.20 | 20.8       | 12.0 | 6.94 | 965           | 86       | 0.74                 | 3              | 2.9             | 1.9             | 7.2            | 68          | 53.5     | 0.053408      |
| MS2 132L-6  | 7.5        | 30.2       | 17.4 | 10.1 | 28.7       | 16.6 | 9.56 | 27.6       | 16.0 | 9.21 | 970           | 87.2     | 0.75                 | 3.7            | 3.1             | 2.2             | 8.2            | 68          | 66.2     | 0.068087      |
| MS2 160M-6  | 7.5        | 30.6       | 17.7 | 10.2 | 29.1       | 16.8 | 9.69 | 28.0       | 16.2 | 9.34 | 970           | 87.2     | 0.74                 | 2.8            | 2.9             | 1.6             | 7.1            | 68          | 72.6     | 0.089688      |
| MS2 160L-6  | 11         | 42.9       | 24.8 | 14.3 | 40.8       | 23.6 | 13.6 | 39.3       | 22.7 | 13.1 | 970           | 88.7     | 0.76                 | 2.9            | 2.7             | 1.6             | 7.3            | 73          | 89.5     | 0.122730      |
| MS2 180L-6  | 15         | 53.0       | 30.6 | 17.7 | 50.4       | 29.1 | 16.8 | 48.5       | 28.0 | 16.2 | 975           | 89.7     | 0.83                 | 2.2            | 2.7             | 1.2             | 8              | 79          | 130      | 0.254063      |
| MS2 200L1-6 | 18.5       | 64.9       | 37.5 | 21.6 | 61.6       | 35.6 | 20.5 | 59.4       | 34.3 | 19.8 | 975           | 90.4     | 0.83                 | 2.1            | 2.9             | 1.5             | 8.3            | 82          | 149      | 0.303941      |
| MS2 200L2-6 | 22         | 76.7       | 44.3 | 25.6 | 72.9       | 42.1 | 24.3 | 70.3       | 40.6 | 23.4 | 975           | 90.9     | 0.83                 | 2.2            | 3               | 1.6             | 8.9            | 82          | 167      | 0.353160      |

**MS3 Series IE3 Efficiency Motors Technical Data ( at 50Hz )**

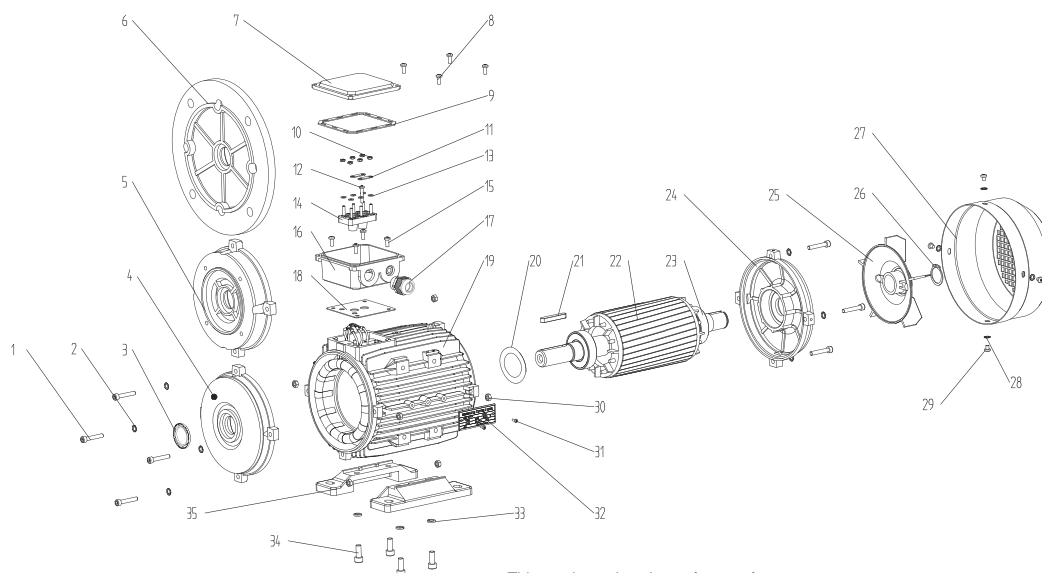
| Model       | Power (kW) | Current(A) |      |      | Current(A) |      |      | Current(A) |      |      | Speed (r/min) | Eff. |      |      | Power Factor | Tstart/Tn (Times) | Tmax/Tn (Times) | Tmin/Tn (Times) | Is/In (Times) | Noise dB(A) | W.T (kg) | Inertia kg*m <sup>2</sup> |
|-------------|------------|------------|------|------|------------|------|------|------------|------|------|---------------|------|------|------|--------------|-------------------|-----------------|-----------------|---------------|-------------|----------|---------------------------|
|             |            | 220V       | 380V | 660V | 230V       | 400V | 690V | 240V       | 415V | 720V |               | 100% | 75%  | 50%  |              |                   |                 |                 |               |             |          |                           |
| MS3 631-2   | 0.18       | 0.96       | 0.55 | 0.32 | 0.91       | 0.53 | 0.30 | 0.88       | 0.51 | 0.29 | 2850          | 65.9 | 63.5 | 56.2 | 0.75         | 2                 | 2.5             | 1.6             | 4.7           | 61          | 3.6      | 0.000231                  |
| MS3 632-2   | 0.25       | 1.21       | 0.70 | 0.40 | 1.15       | 0.66 | 0.38 | 1.11       | 0.64 | 0.37 | 2840          | 69.7 | 68.4 | 62.5 | 0.78         | 2.5               | 2.7             | 2               | 5.2           | 61          | 3.9      | 0.000255                  |
| MS3 711-2   | 0.37       | 1.74       | 1.00 | 0.58 | 1.65       | 0.95 | 0.55 | 1.59       | 0.92 | 0.53 | 2860          | 73.8 | 72.4 | 66.5 | 0.76         | 2.5               | 2.8             | 1.8             | 5.6           | 64          | 5.2      | 0.000369                  |
| MS3 712-2   | 0.55       | 2.33       | 1.34 | 0.78 | 2.21       | 1.28 | 0.74 | 2.13       | 1.23 | 0.71 | 2860          | 77.8 | 76.5 | 66.2 | 0.80         | 3.1               | 3.1             | 2               | 6.5           | 64          | 6.2      | 0.000495                  |
| MS3 713-2   | 0.75       | 2.98       | 1.72 | 0.99 | 2.83       | 1.64 | 0.94 | 2.73       | 1.58 | 0.91 | 2870          | 80.7 | 80.8 | 78.2 | 0.82         | 3                 | 3.2             | 2.2             | 7.1           | 65          | 7.1      | 0.000606                  |
| MS3 801-2   | 0.75       | 3.02       | 1.74 | 1.01 | 2.87       | 1.66 | 0.96 | 2.76       | 1.60 | 0.92 | 2890          | 80.7 | 80.3 | 77.2 | 0.81         | 3.1               | 3.2             | 2.3             | 7.4           | 67          | 8.9      | 0.000972                  |
| MS3 802-2   | 1.1        | 4.22       | 2.43 | 1.41 | 4.01       | 2.31 | 1.34 | 3.86       | 2.23 | 1.29 | 2890          | 82.7 | 82.5 | 79.9 | 0.83         | 3.4               | 3.4             | 2               | 8.7           | 67          | 10.6     | 0.001275                  |
| MS3 803-2   | 1.5        | 5.79       | 3.34 | 1.93 | 5.50       | 3.17 | 1.83 | 5.30       | 3.06 | 1.77 | 2910          | 84.2 | 83.9 | 81.5 | 0.81         | 4                 | 4               | 2.2             | 9.6           | 70          | 12.5     | 0.001654                  |
| MS3 90S-2   | 1.5        | 5.72       | 3.30 | 1.91 | 5.43       | 3.14 | 1.81 | 5.24       | 3.02 | 1.75 | 2900          | 84.2 | 83.8 | 81.4 | 0.82         | 3.5               | 3.7             | 2.1             | 8.3           | 72          | 14       | 0.002186                  |
| MS3 90L1-2  | 2.2        | 8.22       | 4.75 | 2.74 | 7.81       | 4.51 | 2.60 | 7.53       | 4.35 | 2.51 | 2910          | 85.9 | 86.1 | 84.7 | 0.82         | 3.1               | 3.5             | 2.2             | 8.1           | 72          | 16.3     | 0.002636                  |
| MS3 90L2-2  | 3          | 11.3       | 6.54 | 3.78 | 10.8       | 6.21 | 3.59 | 10.37      | 5.99 | 3.46 | 2910          | 87.1 | 87.1 | 84.2 | 0.80         | 4                 | 4.1             | 2.6             | 9.6           | 74          | 18.5     | 0.003406                  |
| MS3 100L1-2 | 3          | 10.2       | 5.88 | 3.39 | 9.7        | 5.59 | 3.23 | 9.33       | 5.38 | 3.11 | 2910          | 87.1 | 87.5 | 86.3 | 0.89         | 3.2               | 3.6             | 2.6             | 9.4           | 76          | 23.7     | 0.004842                  |
| MS3 100L2-2 | 4          | 13.3       | 7.66 | 4.43 | 12.6       | 7.28 | 4.20 | 12.2       | 7.02 | 4.05 | 2910          | 88.1 | 88.7 | 88.1 | 0.90         | 3.3               | 3.6             | 2.3             | 10.1          | 77          | 27.6     | 0.005907                  |
| MS3 112M1-2 | 4          | 13.1       | 7.58 | 4.38 | 12.5       | 7.20 | 4.16 | 12.0       | 6.94 | 4.01 | 2920          | 88.1 | 88.2 | 87.0 | 0.91         | 3.4               | 3.9             | 2.4             | 10.5          | 77          | 30.1     | 0.007505                  |
| MS3 112M2-2 | 5.5        | 17.8       | 10.3 | 5.94 | 16.9       | 9.78 | 5.65 | 16.3       | 9.43 | 5.44 | 2920          | 89.2 | 89.6 | 89.1 | 0.91         | 3.3               | 4.2             | 2.9             | 11.9          | 78          | 35.7     | 0.009251                  |
| MS3 132S1-2 | 5.5        | 18.2       | 10.5 | 6.08 | 17.3       | 10.0 | 5.77 | 16.7       | 9.64 | 5.56 | 2930          | 89.2 | 89.4 | 88.2 | 0.89         | 3.2               | 4               | 2.5             | 10            | 80          | 43.4     | 0.015212                  |
| MS3 132S2-2 | 7.5        | 24.3       | 14.1 | 8.11 | 23.1       | 13.4 | 7.71 | 22.3       | 12.9 | 7.43 | 2930          | 90.1 | 90.2 | 89.1 | 0.90         | 3.6               | 4.7             | 2.4             | 11.9          | 80          | 51.7     | 0.018996                  |
| MS3 132M1-2 | 9.2        | 29.4       | 17.0 | 9.79 | 27.9       | 16.1 | 9.30 | 26.9       | 15.5 | 8.96 | 2930          | 90.6 | 91.2 | 90.5 | 0.91         | 3.2               | 4.2             | 2.6             | 11.6          | 81          | 58.3     | 0.021619                  |
| MS3 132M2-2 | 11         | 34.5       | 19.9 | 11.5 | 32.8       | 18.9 | 10.9 | 31.6       | 18.2 | 10.5 | 2930          | 91.2 | 91.5 | 91.2 | 0.92         | 3.6               | 4.1             | 2.4             | 12.2          | 83          | 63.5     | 0.024142                  |
| MS3 132M3-2 | 15         | 47.7       | 27.6 | 15.9 | 45.3       | 26.2 | 15.1 | 43.7       | 25.2 | 14.6 | 2940          | 91.9 | 92.1 | 91.2 | 0.90         | 4.9               | 4.9             | 2               | 14.4          | 86          | 75       | 0.028557                  |
| MS3 160M1-2 | 11         | 36.1       | 20.8 | 12.0 | 34.3       | 19.8 | 11.4 | 33.0       | 19.1 | 11.0 | 2960          | 91.2 | 91   | 89.6 | 0.88         | 3.2               | 4               | 1.4             | 10.3          | 86          | 85.5     | 0.059613                  |
| MS3 160M2-2 | 15         | 48.3       | 27.9 | 16.1 | 45.8       | 26.5 | 15.3 | 44.2       | 25.5 | 14.7 | 2960          | 91.9 | 91.5 | 89.9 | 0.89         | 3.9               | 4.2             | 1.4             | 11.4          | 86          | 104      | 0.076751                  |
| MS3 160L1-2 | 18.5       | 57.9       | 33.4 | 19.3 | 55.0       | 31.8 | 18.3 | 53.0       | 30.6 | 17.7 | 2950          | 92.4 | 92.8 | 91.8 | 0.91         | 3                 | 3               | 1.5             | 9.1           | 86          | 121      | 0.092252                  |
| MS3 180M-2  | 22         | 68.6       | 39.6 | 22.9 | 65.2       | 37.6 | 21.7 | 62.8       | 36.3 | 20.9 | 2960          | 92.7 | 93   | 92.4 | 0.91         | 2.7               | 3.3             | 1.7             | 9             | 91          | 130.6    | 0.104677                  |
| MS3 200L1-2 | 30         | 94.0       | 54.3 | 31.3 | 89.3       | 51.6 | 29.8 | 86.1       | 49.7 | 28.7 | 2960          | 93.3 | 93.2 | 92.2 | 0.90         | 3.5               | 3.8             | 1.8             | 10.2          | 94          | 158      | 0.136738                  |
| MS3 200L2-2 | 37         | 115.5      | 66.7 | 38.5 | 109.7      | 63.3 | 36.6 | 105.7      | 61.0 | 35.2 | 2960          | 93.7 | 93.6 | 92.6 | 0.90         | 3.6               | 3.7             | 1.7             | 9.8           | 94          | 173.1    | 0.163308                  |
| MS3 631-4   | 0.12       | 0.70       | 0.40 | 0.23 | 0.66       | 0.38 | 0.22 | 0.64       | 0.37 | 0.21 | 1360          | 64.8 | 63.7 | 57.6 | 0.70         | 2.2               | 2.3             | 2               | 3.5           | 52          | 3.8      | 0.000305                  |
| MS3 632-4   | 0.18       | 0.97       | 0.56 | 0.32 | 0.92       | 0.53 | 0.31 | 0.89       | 0.51 | 0.30 | 1400          | 69.9 | 69.6 | 65.4 | 0.70         | 2.2               | 2.5             | 2.1             | 4.1           | 52          | 4.5      | 0.000399                  |
| MS3 711-4   | 0.25       | 1.30       | 0.75 | 0.43 | 1.23       | 0.71 | 0.41 | 1.19       | 0.69 | 0.40 | 1410          | 73.5 | 73.2 | 69.0 | 0.69         | 2.3               | 2.5             | 2.1             | 4.5           | 55          | 5.8      | 0.000717                  |
| MS3 712-4   | 0.37       | 1.85       | 1.07 | 0.62 | 1.76       | 1.02 | 0.59 | 1.70       | 0.98 | 0.57 | 1420          | 77.3 | 77.1 | 73.6 | 0.68         | 2.8               | 3               | 2.5             | 5.2           | 55          | 7        | 0.000965                  |
| MS3 801-4   | 0.55       | 2.80       | 1.62 | 0.93 | 2.66       | 1.54 | 0.89 | 2.56       | 1.48 | 0.85 | 1440          | 80.8 | 79.9 | 76.0 | 0.64         | 3.1               | 3.3             | 2.4             | 6.2           | 57          | 9.5      | 0.001690                  |
| MS3 802-4   | 0.75       | 3.47       | 2.00 | 1.16 | 3.29       | 1.90 | 1.10 | 3.17       | 1.83 | 1.06 | 1440          | 82.5 | 82.5 | 80.1 | 0.69         | 3.1               | 3.1             | 2.5             | 6.3           | 58          | 11.7     | 0.002285                  |
| MS3 803-4   | 1.1        | 4.65       | 2.69 | 1.55 | 4.42       | 2.55 | 1.47 | 4.26       | 2.46 | 1.42 | 1430          | 84.1 | 84.9 | 83.7 | 0.74         | 3                 | 3.1             | 2.6             | 6.6           | 61          | 13.8     | 0.002998                  |
| MS3 90S-4   | 1.1        | 4.72       | 2.72 | 1.57 | 4.48       | 2.59 | 1.49 | 4.32       | 2.49 | 1.44 | 1440          | 84.1 | 84.2 | 82.9 | 0.73         | 4                 | 3.4             | 2.5             | 7.1           | 61          | 15.1     | 0.003842                  |
| MS3 90L1-4  | 1.5        | 6.25       | 3.61 | 2.08 | 5.94       | 3.43 | 1.98 | 5.73       | 3.31 | 1.91 | 1430          | 85.3 | 85.5 | 84.1 | 0.74         | 3.4               | 3.3             | 2.8             | 7.1           | 61          | 18       | 0.004685                  |



MS3 Series IE3 Efficiency Motors Technical Data ( at 50Hz )

| Model       | Power (kw) | Current(A) |      |      | Current(A) |      |      | Current(A) |      |      | Speed (r/min) | Eff. |      |      | Power Factor | Tstart/Tn (Times) | Tmax/Tn (Times) | Tmin/Tn (Times) | Is/In (Times) | Noise dB(A) | W.T (kg) | Inertia kg*m² |
|-------------|------------|------------|------|------|------------|------|------|------------|------|------|---------------|------|------|------|--------------|-------------------|-----------------|-----------------|---------------|-------------|----------|---------------|
|             |            | 220V       | 380V | 660V | 230V       | 400V | 690V | 240V       | 415V | 720V |               | 100% | 75%  | 50%  |              |                   |                 |                 |               |             |          |               |
| MS3 100L1-4 | 2.2        | 8.35       | 4.82 | 2.78 | 7.93       | 4.58 | 2.64 | 7.64       | 4.41 | 2.55 | 1450          | 86.7 | 87.1 | 86.2 | 0.80         | 2.8               | 3.3             | 2.3             | 7.9           | 64          | 23.9     | 0.008754      |
| MS3 100L2-4 | 3          | 11.5       | 6.66 | 3.85 | 11.0       | 6.33 | 3.65 | 10.6       | 6.10 | 3.52 | 1450          | 87.7 | 88   | 86.9 | 0.78         | 3.3               | 3.4             | 2.7             | 8.1           | 64          | 28.3     | 0.011063      |
| MS3 112M1-4 | 4          | 14.5       | 8.37 | 4.83 | 13.8       | 7.95 | 4.59 | 13.3       | 7.66 | 4.42 | 1450          | 88.6 | 88.8 | 88.2 | 0.82         | 3.1               | 3.7             | 2.6             | 8.6           | 65          | 33.9     | 0.015292      |
| MS3 112M2-4 | 5.5        | 20.2       | 11.7 | 6.73 | 19.2       | 11.1 | 6.39 | 18.5       | 10.7 | 6.16 | 1450          | 89.6 | 89.9 | 89.1 | 0.80         | 3.8               | 3.7             | 2.5             | 9.1           | 71          | 39.1     | 0.048758      |
| MS3 132S-4  | 5.5        | 19.2       | 11.1 | 6.41 | 18.3       | 10.5 | 6.09 | 17.6       | 10.2 | 5.87 | 1460          | 89.6 | 89.8 | 89.4 | 0.84         | 2.3               | 3.5             | 1.9             | 9             | 71          | 47.4     | 0.034464      |
| MS3 132M1-4 | 7.5        | 26.0       | 15.0 | 8.66 | 24.7       | 14.3 | 8.23 | 23.8       | 13.7 | 7.93 | 1460          | 90.4 | 90.9 | 90.3 | 0.84         | 2.6               | 3.4             | 2.2             | 8.9           | 71          | 57.4     | 0.043597      |
| MS3 132M2-4 | 9.2        | 32.5       | 18.8 | 10.8 | 30.9       | 17.8 | 10.3 | 29.8       | 17.2 | 9.93 | 1460          | 90.8 | 91.3 | 90.7 | 0.82         | 3.2               | 3.6             | 2               | 10            | 74          | 60       | 0.051339      |
| MS3 132M3-4 | 11         | 37.7       | 21.8 | 12.6 | 35.8       | 20.7 | 11.9 | 34.5       | 19.9 | 11.5 | 1460          | 91.4 | 92   | 91.6 | 0.84         | 3.5               | 3.7             | 2.1             | 10.5          | 75          | 67       | 0.060372      |
| MS3 160M-4  | 11         | 38.2       | 22.0 | 12.7 | 36.3       | 20.9 | 12.1 | 34.9       | 20.2 | 11.6 | 1470          | 91.4 | 91.7 | 89.8 | 0.83         | 2.6               | 2.8             | 1.8             | 7.6           | 75          | 89       | 0.105373      |
| MS3 160L1-4 | 15         | 50.4       | 29.1 | 16.8 | 47.9       | 27.7 | 16.0 | 46.2       | 26.7 | 15.4 | 1470          | 92.1 | 92.3 | 91.3 | 0.85         | 3                 | 3               | 2               | 9.2           | 75          | 110.5    | 0.137038      |
| MS3 180M-4  | 18.5       | 61.1       | 35.3 | 20.4 | 58.1       | 33.5 | 19.4 | 56.0       | 32.3 | 18.7 | 1470          | 92.6 | 92.8 | 92.1 | 0.86         | 2.8               | 3.3             | 1.9             | 8.8           | 80          | 130      | 0.173293      |
| MS3 180L-4  | 22         | 72.4       | 41.8 | 24.1 | 68.8       | 39.7 | 22.9 | 66.3       | 38.3 | 22.1 | 1470          | 93   | 93.1 | 92.3 | 0.86         | 3                 | 3.5             | 2.1             | 9.3           | 80          | 145.4    | 0.200637      |
| MS3 200L-4  | 30         | 95.8       | 55.3 | 32.0 | 91.1       | 52.6 | 30.4 | 87.8       | 50.7 | 29.3 | 1470          | 93.6 | 93.7 | 92.9 | 0.88         | 3.2               | 3.7             | 2.1             | 9.7           | 83          | 180      | 0.265100      |
| MS3 711-6   | 0.18       | 1.20       | 0.69 | 0.40 | 1.14       | 0.66 | 0.38 | 1.09       | 0.63 | 0.36 | 930           | 63.9 | 61   | 53.4 | 0.62         | 2.4               | 2.6             | 2.3             | 3.5           | 52          | 5.4      | 0.000790      |
| MS3 712-6   | 0.25       | 1.48       | 0.85 | 0.49 | 1.40       | 0.81 | 0.47 | 1.35       | 0.78 | 0.45 | 920           | 68.6 | 67.2 | 61.2 | 0.65         | 2.2               | 2.5             | 2.2             | 3.7           | 52          | 6.3      | 0.001020      |
| MS3 801-6   | 0.37       | 1.95       | 1.12 | 0.65 | 1.85       | 1.07 | 0.62 | 1.78       | 1.03 | 0.59 | 930           | 73.5 | 73.8 | 70.5 | 0.68         | 2.2               | 2.5             | 2.1             | 4.1           | 56          | 9.3      | 0.002189      |
| MS3 802-6   | 0.55       | 2.64       | 1.52 | 0.88 | 2.51       | 1.45 | 0.84 | 2.42       | 1.40 | 0.81 | 930           | 77.2 | 78.1 | 75.7 | 0.71         | 2.3               | 2.4             | 2.1             | 4.3           | 56          | 10.9     | 0.002931      |
| MS3 90S-6   | 0.75       | 3.73       | 2.16 | 1.24 | 3.55       | 2.05 | 1.18 | 3.42       | 1.97 | 1.14 | 950           | 78.9 | 80.1 | 78.1 | 0.67         | 2.3               | 2.6             | 2.1             | 4.7           | 59          | 13.8     | 0.004070      |
| MS3 90L-6   | 1.1        | 5.33       | 3.08 | 1.78 | 5.07       | 2.93 | 1.69 | 4.88       | 2.82 | 1.63 | 950           | 81   | 81.1 | 78.4 | 0.67         | 2.7               | 2.9             | 2.5             | 5.2           | 59          | 16.2     | 0.005487      |
| MS3 90L2-6  | 1.5        | 7.14       | 4.12 | 2.38 | 6.78       | 3.92 | 2.26 | 6.54       | 3.78 | 2.18 | 950           | 82.5 | 82.7 | 80.5 | 0.67         | 2.9               | 3               | 2.6             | 5.6           | 61          | 21.3     | 0.006895      |
| MS3 100L-6  | 1.5        | 6.84       | 3.95 | 2.28 | 6.49       | 3.75 | 2.16 | 6.26       | 3.61 | 2.09 | 955           | 82.5 | 83   | 81.8 | 0.70         | 2.4               | 2.9             | 2.2             | 5.5           | 61          | 22.1     | 0.009137      |
| MS3 100L2-6 | 2.2        | 9.54       | 5.51 | 3.18 | 9.06       | 5.23 | 3.02 | 8.73       | 5.04 | 2.91 | 955           | 84.3 | 85.1 | 83.9 | 0.72         | 2.5               | 3               | 2.3             | 6.2           | 64          | 27.7     | 0.012725      |
| MS3 112M-6  | 2.2        | 10.1       | 5.83 | 3.37 | 9.59       | 5.54 | 3.20 | 9.25       | 5.34 | 3.08 | 965           | 84.3 | 84.5 | 83.2 | 0.68         | 2                 | 2.5             | 1.8             | 5.5           | 64          | 27.1     | 0.017675      |
| MS3 112M2-6 | 3          | 13.4       | 7.72 | 4.46 | 12.7       | 7.33 | 4.23 | 12.2       | 7.07 | 4.08 | 965           | 85.6 | 86.2 | 84.8 | 0.69         | 2.5               | 2.9             | 1.9             | 6.3           | 64          | 33.1     | 0.021400      |
| MS3 132S-6  | 3          | 12.5       | 7.20 | 4.15 | 11.8       | 6.84 | 3.95 | 11.4       | 6.59 | 3.80 | 965           | 85.6 | 86   | 85.1 | 0.74         | 2                 | 2.7             | 1.7             | 6             | 64          | 38.6     | 0.033804      |
| MS3 132M1-6 | 4          | 16.4       | 9.46 | 5.46 | 15.6       | 8.99 | 5.19 | 15.0       | 8.66 | 5.00 | 970           | 86.8 | 87.1 | 86.2 | 0.74         | 2.3               | 3               | 1.8             | 6.8           | 68          | 47.6     | 0.043946      |
| MS3 132M2-6 | 5.5        | 23.2       | 13.4 | 7.72 | 22.0       | 12.7 | 7.34 | 21.2       | 12.2 | 7.07 | 975           | 88   | 88.3 | 87.1 | 0.71         | 2.9               | 3.5             | 2.2             | 7.4           | 68          | 55.7     | 0.053987      |
| MS3 132M3-6 | 7.5        | 30.8       | 17.8 | 10.3 | 29.2       | 16.9 | 9.74 | 28.2       | 16.3 | 9.39 | 970           | 89.1 | 89.6 | 88.6 | 0.72         | 3.3               | 3.2             | 2               | 8.3           | 68          | 67.6     | 0.070723      |
| MS3 160M-6  | 7.5        | 29.1       | 16.8 | 9.72 | 27.7       | 16.0 | 9.23 | 26.7       | 15.4 | 8.90 | 975           | 89.1 | 89.5 | 88.5 | 0.76         | 2.2               | 2.9             | 1.8             | 7.3           | 68          | 79.6     | 0.109012      |
| MS3 160L-6  | 11         | 41.1       | 23.7 | 13.7 | 39.0       | 22.5 | 13.0 | 37.6       | 21.7 | 12.5 | 975           | 90.3 | 90.8 | 89.9 | 0.78         | 2.7               | 2.9             | 1.2             | 8.4           | 73          | 105      | 0.154850      |
| MS3 180L-6  | 15         | 52.1       | 30.1 | 17.4 | 49.5       | 28.6 | 16.5 | 47.7       | 27.6 | 15.9 | 960           | 91.2 | 90.9 | 89.4 | 0.83         | 2.3               | 2.9             | 2.1             | 7.8           | 79          | 125.2    | 0.275157      |
| MS3 200L1-6 | 18.5       | 66.4       | 38.3 | 22.1 | 63.0       | 36.4 | 21.0 | 60.8       | 35.1 | 20.3 | 980           | 91.7 | 91.5 | 90.1 | 0.80         | 2.7               | 3.7             | 2.2             | 9.8           | 82          | 143      | 0.332066      |
| MS3 200L2-6 | 22         | 78.5       | 45.3 | 26.2 | 74.6       | 43.1 | 24.9 | 71.9       | 41.5 | 24.0 | 980           | 92.2 | 92   | 90.6 | 0.80         | 2.9               | 3.7             | 2.3             | 10.5          | 82          | 162      | 0.388316      |

**Motor Spare Part List "Exploded Drawing"**



1. Endshield fixing screws
2. Gasket
3. Oil seal
4. Front endshield
5. B14 flange
6. B5 flange
7. TB cover
8. TB fixing screws
9. TB upper gasket
10. Terminal board fixing nut
11. Terminal bridge
12. Terminal pin
13. Terminal shim
14. Terminal board
15. TB fixing screws
16. TB base
17. Cable gland
18. TB bottomgasket
19. Frame
20. Preload washer
21. Key
22. Rotor
23. Bearing
24. NDE endshield
25. Cooling fan
26. Fan circlip
27. Fan cover
28. Fan cover fixing shim
29. Fan cover fixing screws
30. Endshield fixing nut
31. Rivet
32. Nameplate
33. Foot fixing nut
34. Foot fixing screws
35. Foot

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The concrete data be changed please contact with us before ordering.

**Mountings and Positions**

**Mountings and positions for standard motors, according to IEC 60034-7, are defined by the codes mentioned in the following table.**

|  | Standards |             |         | Frame Sizes  |
|--|-----------|-------------|---------|--------------|
|  | CEI 2-14  | IEC 60034-7 |         | 56-200       |
|  |           | Code I      | Code II |              |
|  | B3        | IM B3       | IM 1001 | Standard     |
|  | B3/B5     | IM B35      | IM 2001 | Standard     |
|  | B5        | IM B5       | IM 3001 | Standard     |
|  | B14       | IM B14      | IM 4001 | Standard     |
|  | B8        | IM B8       | IM 1071 | Upon request |
|  | B6        | IM B6       | IM 1051 | Upon request |
|  | B7        | IM B7       | IM 1061 | Upon request |

|  | Standards |             |         | Frame Sizes  |
|--|-----------|-------------|---------|--------------|
|  | CEI 2-14  | IEC 60034-7 |         | 56-200       |
|  |           | Code I      | Code II |              |
|  | V1        | IM V1       | IM 3011 | Standard     |
|  | V3        | IM V3       | IM 3031 | Upon request |
|  | V5        | IM V5       | IM 1011 | Upon request |
|  | V6        | IM V6       | IM 1031 | Upon request |
|  | V1/V5     | IM V15      | IM 2011 | Upon request |

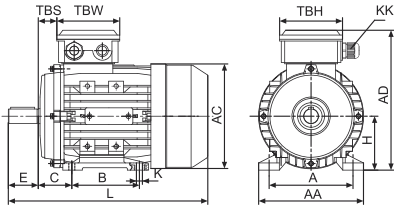
**Aluminum Housing Electric Motors Bearings & Oil Seals**

| Frame  | Bearings  |               | Oil Seals |                  |
|--------|-----------|---------------|-----------|------------------|
|        | Drive End | Non-drive End | Drive End | Non-drive End    |
| 63     | 6201      | 6201          | 12×24×5   | 12×24×5          |
| 71     | 6202      | 6202          | 15×25×7   | 15×25×7          |
| 80     | 6204      | 6204          | 20×34×7   | 20×34×7          |
| 90S    | 6205      | 6205(6204)**  | 25×37×7   | 25×37×7(20×34×7) |
| 90L    | 6205      | 6205(6204)**  | 25×37×7   | 25×37×7(20×34×7) |
| 100L   | 6206      | 6206          | 30×44×7   | 30×44×7          |
| 112M   | 6306      | 6206(6306)    | 30×44×7   | 30×44×7          |
| 132S   | 6308      | 6208(6308)    | 40×58×7   | 40×58×7          |
| 132M/L | 6308      | 6208(6308)    | 40×58×7   | 40×58×7          |
| 160M   | 6309      | 6309          | 45×65×8   | 45×65×8          |
| 160L   | 6309      | 6309          | 45×65×8   | 45×65×8          |
| 180M   | 6311      | 6211          | 55×72×8   | 55×72×8          |
| 180L   | 6311      | 6211          | 55×72×8   | 55×72×8          |
| 200L   | 6312      | 6212          | 60×80×8   | 60×80×8          |

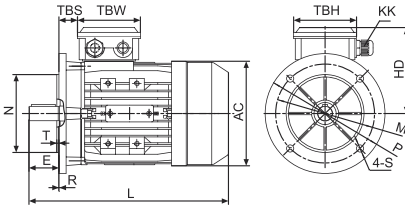
\*\* Other standards are also available on request, the figures in brackets() are for the MC/ML single phase motors

MS/MS2/MS3 Series Dimensional Drawings

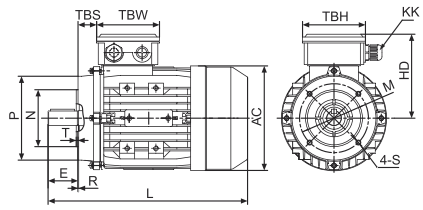
IM B3



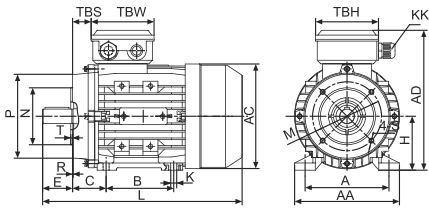
IM B5



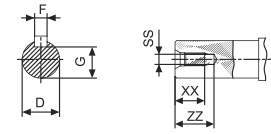
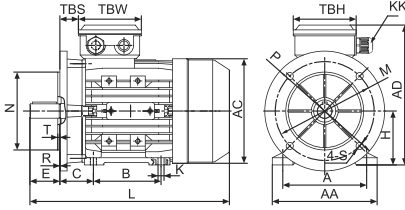
IM B14



IM B34



IM B35



Installation Dimension

| Frame   | Foot Mounting |     |         |     |         | Shaft |     |    |      |     |    |    | General |     |     |      |          |          |           |     |     |     |
|---------|---------------|-----|---------|-----|---------|-------|-----|----|------|-----|----|----|---------|-----|-----|------|----------|----------|-----------|-----|-----|-----|
|         | H             | A   | B       | C   | K       | D     | E   | F  | G    | SS  | XX | ZZ | AA      | AD  | HD  | AC   | L        | LCCL*    | KK        | TBS | TBW | TBH |
| 56      | 56            | 90  | 71      | 36  | 5.8X8.8 | Ø9    | 20  | 3  | 7.2  | M3  | 9  | 12 | 110     | 156 | 100 | Ø117 | 196      | 232      | 1-M16X1.5 | 14  | 88  | 88  |
| 63      | 63            | 100 | 80      | 40  | 7X10    | Ø11   | 23  | 4  | 8.5  | M4  | 10 | 14 | 120     | 171 | 108 | Ø130 | 220      | 258      | 1-M16X1.5 | 14  | 94  | 94  |
| 71**    | 71            | 112 | 90      | 45  | 7X10    | Ø14   | 30  | 5  | 11   | M5  | 12 | 17 | 132     | 186 | 115 | Ø147 | 241(255) | 282(296) | 1-M20X1.5 | 20  | 94  | 94  |
| 80      | 80            | 125 | 100     | 50  | 10X13   | Ø19   | 40  | 6  | 15.5 | M6  | 16 | 21 | 160     | 213 | 133 | Ø163 | 290      | 339      | 1-M20X1.5 | 27  | 105 | 105 |
| 90S     | 90            | 140 | 100     | 56  | 10X13   | Ø24   | 50  | 8  | 20   | M8  | 19 | 25 | 175     | 229 | 139 | Ø183 | 312      | 361      | 1-M20X1.5 | 30  | 105 | 105 |
| 90L1/L2 | 90            | 140 | 125     | 56  | 10X13   | Ø24   | 50  | 8  | 20   | M8  | 19 | 25 | 175     | 229 | 139 | Ø183 | 337/367  | 386/416  | 1-M20X1.5 | 30  | 105 | 105 |
| 100**   | 100           | 160 | 140     | 63  | 12X15   | Ø28   | 60  | 8  | 24   | M10 | 22 | 30 | 198     | 252 | 152 | Ø205 | 369(387) | 425(443) | 2-M20X1.5 | 26  | 105 | 105 |
| 112     | 112           | 190 | 140     | 70  | 12X15   | Ø28   | 60  | 8  | 24   | M10 | 22 | 30 | 220     | 279 | 167 | Ø229 | 395      | 463      | 2-M25X1.5 | 32  | 112 | 112 |
| 132S    | 132           | 216 | 140     | 89  | 12X15   | Ø38   | 80  | 10 | 33   | M12 | 28 | 37 | 252     | 318 | 186 | Ø265 | 437      | 497      | 2-M25X1.5 | 38  | 112 | 112 |
| 132M/L  | 132           | 216 | 178     | 89  | 12X15   | Ø38   | 80  | 10 | 33   | M12 | 28 | 37 | 252     | 318 | 186 | Ø265 | 475/501  | 535/561  | 2-M25X1.5 | 38  | 112 | 112 |
| 160M/L  | 160           | 254 | 210/254 | 108 | 15X19   | Ø42   | 110 | 12 | 37   | M16 | 36 | 45 | 290     | 384 | 224 | Ø325 | 640      | 697      | 2-M32X1.5 | 64  | 143 | 143 |
| 180M/L  | 180           | 279 | 241/279 | 121 | 15X25   | Ø48   | 110 | 14 | 42.5 | M16 | 36 | 45 | 340     | 440 | 260 | Ø368 | 730      |          | 2-M32X1.5 | 73  | 190 | 190 |
| 200L    | 200           | 318 | 305     | 133 | 19X29   | Ø55   | 110 | 16 | 49   | M20 | 42 | 53 | 390     | 460 | 260 | Ø368 | 745      |          | 2-M40X1.5 | 85  | 190 | 190 |

| Frame   | B5   |      |      |     |     |   | B5R  |      |      |     |     |   | B14  |      |      |     |     |   | B14B |      |      |     |     |   |  |
|---------|------|------|------|-----|-----|---|------|------|------|-----|-----|---|------|------|------|-----|-----|---|------|------|------|-----|-----|---|--|
|         | M    | N    | P    | T   | S   | R | M    | N    | P    | T   | S   | R | N    | M    | P    | T   | S   | R | N    | M    | P    | T   | S   | R |  |
| 56      | Ø100 | Ø80  | Ø120 | 3.0 | Ø7  | 0 |      |      |      |     |     |   | Ø50  | Ø65  | Ø80  | 2.5 | M5  | 0 |      |      |      |     |     |   |  |
| 63      | Ø115 | Ø95  | Ø140 | 3.0 | Ø10 | 0 |      |      |      |     |     |   | Ø60  | Ø75  | Ø90  | 2.5 | M5  | 0 | Ø80  | Ø100 | Ø120 | 3.0 | M6  | 0 |  |
| 71**    | Ø130 | Ø110 | Ø160 | 3.5 | Ø10 | 0 | Ø115 | Ø95  | Ø140 | 3.5 | Ø10 | 0 | Ø70  | Ø85  | Ø105 | 2.5 | M6  | 0 | Ø95  | Ø115 | Ø140 | 3.0 | M8  | 0 |  |
| 80      | Ø165 | Ø130 | Ø200 | 3.5 | Ø12 | 0 | Ø130 | Ø110 | Ø160 | 3.5 | Ø10 | 0 | Ø80  | Ø100 | Ø120 | 3.0 | M6  | 0 | Ø110 | Ø130 | Ø160 | 3.5 | M8  | 0 |  |
| 90S     | Ø165 | Ø130 | Ø200 | 3.5 | Ø12 | 0 | Ø130 | Ø110 | Ø160 | 3.5 | Ø10 | 0 | Ø95  | Ø115 | Ø140 | 3.0 | M8  | 0 | Ø110 | Ø130 | Ø160 | 3.5 | M8  | 0 |  |
| 90L1/L2 | Ø165 | Ø130 | Ø200 | 3.5 | Ø12 | 0 | Ø130 | Ø110 | Ø160 | 3.5 | Ø10 | 0 | Ø95  | Ø115 | Ø140 | 3.0 | M8  | 0 | Ø110 | Ø130 | Ø160 | 3.5 | M8  | 0 |  |
| 100**   | Ø215 | Ø180 | Ø250 | 4.0 | Ø15 | 0 | Ø165 | Ø130 | Ø200 | 4.0 | Ø12 | 0 | Ø110 | Ø130 | Ø160 | 3.5 | M8  | 0 | Ø130 | Ø165 | Ø200 | 3.5 | M10 | 0 |  |
| 112     | Ø215 | Ø180 | Ø250 | 4.0 | Ø15 | 0 | Ø165 | Ø130 | Ø200 | 4.0 | Ø12 | 0 | Ø110 | Ø130 | Ø160 | 3.5 | M8  | 0 | Ø130 | Ø165 | Ø200 | 3.5 | M10 | 0 |  |
| 132S    | Ø265 | Ø230 | Ø300 | 4.0 | Ø15 | 0 | Ø215 | Ø180 | Ø250 | 4.0 | Ø15 | 0 | Ø130 | Ø165 | Ø200 | 4.0 | M10 | 0 | Ø180 | Ø215 | Ø250 | 4.0 | M12 | 0 |  |
| 132M/L  | Ø265 | Ø230 | Ø300 | 4.0 | Ø15 | 0 | Ø215 | Ø180 | Ø250 | 4.0 | Ø15 | 0 | Ø130 | Ø165 | Ø200 | 4.0 | M10 | 0 | Ø180 | Ø215 | Ø250 | 4.0 | M12 | 0 |  |
| 160M/L  | Ø300 | Ø250 | Ø350 | 5.0 | Ø19 | 0 |      |      |      |     |     |   | Ø180 | Ø215 | Ø250 | 4.0 | M12 | 0 |      |      |      |     |     |   |  |
| 180M/L  | Ø300 | Ø250 | Ø350 | 5.0 | Ø19 | 0 |      |      |      |     |     |   |      |      |      |     |     |   |      |      |      |     |     |   |  |
| 200L    | Ø350 | Ø300 | Ø400 | 5.0 | Ø19 | 0 |      |      |      |     |     |   |      |      |      |     |     |   |      |      |      |     |     |   |  |

\*\* This frame size has two housing sizes, the rated output is for normal "L" size, and increased output is for the bigger "L" size (refer to the figures in the bracket (" "))