



FEATURES

- Foot/Flange mounting with single shaft extension
- Class 'F' insulation, Class 'B' Temperature Rise
- Cast Iron body
- Cast Iron end Covers
- Optimum fan design for better cooling and minimum energy consumption
- Rigidly sealed Terminal Box at RHS when viewed from drive end
- Suitable for flexible direct coupling or belt drives with high load Gd2
- Suitable for starting with external resistance in the rotor circuit
- Bi-directional rotation

COMPLIES TO

- | | | |
|-------------------------------|---|------------|
| • Specifications | : | IS : 325 |
| • General Requirements | : | BS : 4999 |
| • Rating & Performance | : | IEC : 34-1 |
| • Dimensions, foot mounted is | : | 1231 |
| • Dimensions, flange mounted | : | IS : 2223 |

APPLICATIONS

- Mills
- Conveyors
- Machine Tools
- Mixer
- Fans
- Crushers
- Material Handling

WE CAN ALSO SUPPLY

- Foot or flange mounting with double shaft extension
- Motors for high inertia loads
- Supply voltages 200/380/400/440/660 V
- Supply frequency 60Hz
- Motors to suit for customised duty cycle
- Thermister and anti condensation heaters
- Multispeed motors
- Dual voltage motors

SPECIFICATIONS

- | | | |
|---------------------|---|---------------------|
| • Input Voltage (V) | : | 415V+/-10%, 3 Ph AC |
| • Frequency (Hz) | : | 50+/-5% |
| • Insulation | : | F |
| • Duty | : | SI |
| • Protection | : | IP 23 |
| • Enclosure | : | IC 01 |
| • Ambient Temp | : | 0 - 45°C |
| • Rating | : | 22kw - 630 kw |
| • Frame Size | : | 225 M - 400 M |

When you order please furnish

- Application
- Mounting
- Input supply condition & % Variation
- Load Gd2
- Method of power transmission

MAKHARIA ELECTRICALS PVT. LTD.

5-B/65, Mittal Indl. Estate, A. K. Road, Andheri (East), Mumbai - 400 059 ● Ph. (022) 28563392, 28562814, Fax : 66926210
E-mail : makhariaelectricals@hotmail.com ● Website : www.makhariaelectricals.net

Technical Data :

415V, 50Hz, Synchronous speed 1500 RPM (4 Poles) SPDP Slipping Motors.

| specification | power (kw) | current (A) | speed (1/min) | efficiency (%) | power factor | max.torque/ rated torque | rotor | | noise dB(A) | moment of inertia kg.m ² | weight (kg) |
|---------------|------------|-------------|---------------|----------------|--------------|--------------------------|------------|------------|-------------|-------------------------------------|-------------|
| | | | | | | | voltage(V) | current(A) | | | |
| 225M1-4 | 45 | 79 | 1442 | 89 | 0.88 | 2.5 | 240 | 120 | 94 | 2.6 | 370 |
| 225M2-4 | 55 | 96 | 1448 | 90 | 0.88 | 2.5 | 288 | 121 | 94 | 2.96 | 400 |
| 250S-4 | 75 | 130 | 1453 | 90.5 | 0.89 | 2.6 | 450 | 104 | 97 | 5.35 | 460 |
| 250M-4 | 90 | 154 | 1457 | 91 | 0.89 | 2.6 | 525 | 107 | 97 | 6 | 550 |
| 280S-4 | 110 | 184 | 1458 | 91.5 | 0.89 | 3 | 349 | 196 | 100 | 9.1 | 680 |
| 280M-4 | 132 | 219 | 1463 | 92.5 | 0.89 | 3 | 419 | 194 | 100 | 10.39 | 750 |
| 315S-4J | 155 | 256 | 1465 | 92.5 | 0.87 | 2.7 | 340 | 272 | 87 | 4.2 | 935 |
| 315S-4 | 160 | 266 | 1465 | 92.5 | 0.87 | 2.7 | 340 | 281 | 87 | 4.2 | 935 |
| 315M1-4J | 180 | 295 | 1465 | 92.8 | 0.87 | 2.9 | 381 | 284 | 87 | 4.7 | 1030 |
| 315M1-4 | 185 | 302 | 1465 | 92.8 | 0.87 | 2.9 | 381 | 292 | 87 | 4.7 | 1030 |
| 315M2-4 | 200 | 329 | 1470 | 93.3 | 0.87 | 2.9 | 440 | 270 | 87 | 5.1 | 1150 |
| 315M3-4 | 220 | 357 | 1475 | 93.3 | 0.87 | 2.7 | 470 | 279 | 90 | 5.6 | 1230 |
| 315M3-4J | 225 | 364 | 1475 | 93.3 | 0.87 | 2.7 | 480 | 278 | 90 | 5.6 | 1230 |
| 315M4-4 | 250 | 418 | 1476 | 93.5 | 0.87 | 2.7 | 589 | 257 | 95 | 6.4 | 1260 |
| 355M1-4 | 250 | 408 | 1470 | 93.5 | 0.87 | 2.3 | 401 | 386 | 95 | 10.5 | 1650 |
| 355M1-4J | 260 | 419 | 1470 | 93.5 | 0.87 | 2.3 | 412 | 390 | 95 | 11 | 1680 |
| 355M2-4 | 280 | 454 | 1470 | 93.8 | 0.89 | 2.3 | 462 | 373 | 98 | 11.5 | 1740 |
| 355M2-4J | 300 | 482 | 1474 | 94 | 0.89 | 2.3 | 476 | 387 | 98 | 12 | 1770 |
| 355M3-4 | 315 | 509 | 1475 | 94 | 0.89 | 2.3 | 509 | 380 | 98 | 12.1 | 1810 |
| 355L1-4 | 355 | 572 | 1475 | 94.3 | 0.89 | 2.3 | 566 | 384 | 98 | 13.1 | 1850 |
| 400S3-4 | 400 | 656 | 1473 | 94.3 | 0.9 | 2.5 | 611 | 400 | 106 | 17.9 | 2390 |
| 400S3-4J | 420 | 685 | 1474 | 94.3 | 0.9 | 2.5 | 640 | 401 | 106 | 18.1 | 2420 |
| 400L1-4 | 450 | 738 | 1476 | 94.3 | 0.9 | 2.5 | 708 | 388 | 106 | 20.1 | 2570 |
| 400L2-4 | 500 | 820 | 1476 | 94.3 | 0.9 | 2.5 | 765 | 399 | 106 | 21.5 | 2660 |
| 400L2-4J | 480 | 787 | 1477 | 94.3 | 0.9 | 2.5 | 741 | 394 | 106 | 21.5 | 2660 |
| 400L3-4 | 560 | 885 | 1478 | 94.3 | 0.91 | 2.5 | 850 | 400 | 106 | 22.1 | 2710 |
| 400L4-4 | 630 | 995 | 1479 | 94.5 | 0.91 | 2.5 | 957 | 399 | 106 | 22.9 | 2740 |

Technical Data :

415V, 50Hz, Synchronous speed 1000 RPM (6 Poles) SPDP Slipping Motors.

| specification | power (kw) | current (A) | speed (1/min) | efficiency (%) | power factor | max.torque/ rated torque | rotor | | noise dB(A) | moment of inertia kg.m ² | weight (kg) |
|---------------|------------|-------------|---------------|----------------|--------------|-----------------------------|------------|------------|-------------|-------------------------------------|-------------|
| | | | | | | | voltage(V) | current(A) | | | |
| 225M1-6 | 30 | 54 | 955 | 87.5 | 0.85 | 2.2 | 227 | 86 | 88 | 3.237 | 360 |
| 225M2-6 | 37 | 67 | 964 | 89 | 0.85 | 2.2 | 287 | 82 | 88 | 3.736 | 400 |
| 225M2-6J | 40 | 75 | 962 | 89 | 0.83 | 2.5 | 300 | 82 | 85 | 3.96 | 395 |
| 250S-6 | 45 | 81 | 966 | 89 | 0.85 | 2.2 | 320 | 89.8 | 91 | 6.61 | 465 |
| 250M-6 | 55 | 97 | 967 | 89.5 | 0.85 | 2.2 | 361 | 97.7 | 91 | 7.52 | 490 |
| 250M2-6J | 75 | 134 | 968 | 91 | 0.85 | 2.4 | 510 | 117 | 91 | 9.26 | 550 |
| 280S-6 | 75 | 130 | 969 | 90.5 | 0.88 | 2.5 | 394 | 121 | 94 | 11.52 | 660 |
| 280S-6J | 80 | 139 | 970 | 91 | 0.87 | 2.5 | 433 | 117 | 94 | 12.8 | 665 |
| 280M-6 | 90 | 153 | 972 | 91 | 0.89 | 2.5 | 482 | 118 | 94 | 14.05 | 780 |
| 280M-6J | 95 | 161 | 974 | 91 | 0.87 | 2.5 | 509 | 116 | 94 | 14.3 | 790 |
| 315S-6 | 110 | 190 | 975 | 92.5 | 0.86 | 2 | 246 | 279 | 87 | 5.3 | 920 |
| 315S-6J | 115 | 201 | 975 | 92.5 | 0.86 | 2.3 | 246 | 292 | 87 | 5.3 | 920 |
| 315M1-6J | 130 | 225 | 975 | 92.8 | 0.86 | 2.3 | 295 | 273 | 87 | 5.9 | 1140 |
| 315M1-6 | 132 | 229 | 975 | 92.8 | 0.86 | 2.2 | 295 | 277 | 87 | 6.1 | 1140 |
| 315M2-6J | 155 | 267 | 980 | 93.3 | 0.86 | 2.6 | 341 | 281 | 90 | 7.5 | 1250 |
| 315M2-6 | 160 | 276 | 980 | 93.3 | 0.86 | 2.5 | 341 | 291 | 90 | 7.5 | 1250 |
| 355M1-6 | 185 | 312 | 975 | 93.3 | 0.86 | 2.2 | 288 | 399 | 90 | 12.5 | 1560 |
| 355M2-6 | 200 | 338 | 975 | 93.5 | 0.86 | 2.2 | 315 | 393 | 90 | 13.3 | 1640 |
| 355M3-6J | 215 | 363 | 975 | 93.5 | 0.86 | 2.2 | 340 | 390 | 90 | 14.2 | 1680 |
| 355M3-6 | 220 | 371 | 975 | 93.5 | 0.87 | 2.2 | 340 | 400 | 90 | 14.2 | 1680 |
| 355M4-6J | 240 | 403 | 980 | 93.8 | 0.87 | 2.2 | 390 | 378 | 90 | 14.7 | 1740 |
| 355M4-6 | 250 | 418 | 980 | 93.8 | 0.87 | 2.2 | 390 | 394 | 90 | 15.3 | 1760 |
| 355L1-6 | 280 | 467 | 980 | 93.8 | 0.87 | 2.2 | 442 | 389 | 90 | 16.7 | 1880 |
| 355L2-6 | 315 | 525 | 983 | 93.8 | 0.87 | 2.2 | 510 | 377 | 90 | 17.1 | 1920 |
| 355L2-6J | 320 | 533 | 983 | 93.8 | 87 | 2.2 | 510 | 384 | 90 | 17.1 | 1920 |
| 355L3-6 | 355 | 589 | 983 | 93.8 | 0.87 | 2.2 | 552 | 392 | 90 | 17.3 | 1960 |
| 400S1-6 | 315 | 531 | 982 | 93.8 | 0.88 | 2.2 | 518 | 373 | 103 | 22.6 | 2270 |
| 400S1-6J | 320 | 539 | 982 | 93.8 | 0.88 | 2 | 518 | 379 | 103 | 22.6 | 2270 |
| 400S2-6 | 355 | 598 | 983 | 93.8 | 0.88 | 2.2 | 579 | 375 | 103 | 24.3 | 2340 |
| 400S3-6 | 400 | 673 | 984 | 94 | 0.88 | 2.2 | 656 | 372 | 103 | 26 | 2420 |
| 400L1-6 | 450 | 757 | 985 | 94 | 0.88 | 2.2 | 737 | 373 | 103 | 30.3 | 2650 |
| 400L2-6 | 500 | 841 | 984 | 94 | 0.88 | 2.2 | 758 | 404 | 103 | 31.3 | 2680 |
| 400L2-6J | 480 | 808 | 984 | 94 | 0.88 | 2.2 | 758 | 387 | 103 | 31.3 | 2680 |
| 400L3-6 | 560 | 901 | 985 | 94.3 | 0.89 | 2.2 | 871 | 390 | 103 | 32.2 | 2740 |
| 400L4-6 | 630 | 1007 | 985 | 94.5 | 0.89 | 2.2 | 959 | 400 | 103 | 33.1 | 2800 |

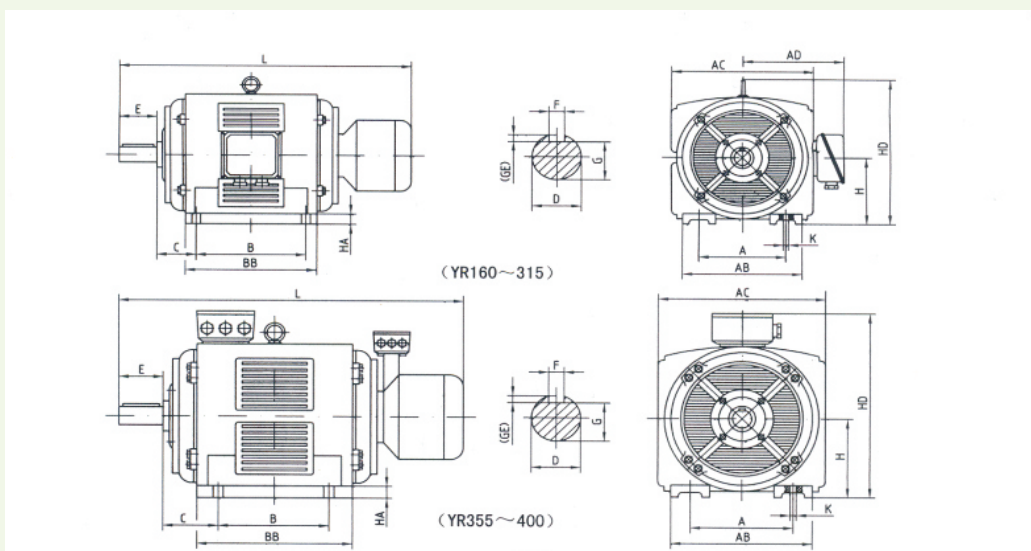
Technical Data :

415V, 50Hz, Synchronous speed 750 RPM (8 Poles) SPDP Slipping Motors.

| specification | power (kw) | current (A) | speed (1/min) | efficiency (%) | power factor | max.torque / rated torque | rotor | | noise dB(A) | moment of inertia kg.m ² | weight (kg) |
|---------------|------------|-------------|---------------|----------------|--------------|---------------------------|------------|------------|-------------|-------------------------------------|-------------|
| | | | | | | | voltage(V) | current(A) | | | |
| 225M1-8 | 22 | 45 | 710 | 86 | 0.78 | 2 | 161 | 90 | 84 | 3.164 | 350 |
| 225M2-8 | 30 | 60 | 713 | 87 | 0.79 | 2 | 200 | 97 | 87 | 3.621 | 390 |
| 250S-8 | 37 | 72 | 715 | 87.5 | 0.79 | 2 | 218 | 110 | 87 | 6.42 | 442 |
| 250M-8 | 45 | 87 | 720 | 88.5 | 0.79 | 2 | 264 | 109 | 90 | 7.33 | 465 |
| 250M-8J | 55 | 111 | 723 | 89 | 0.76 | 2.2 | 308 | 109 | 90 | 9.02 | 550 |
| 280S-8 | 55 | 104 | 723 | 89 | 0.82 | 2.2 | 279 | 125 | 90 | 10.55 | 670 |
| 280M-8 | 75 | 139 | 725 | 90 | 0.82 | 2.2 | 359 | 131 | 93 | 13.71 | 780 |
| 280M-8J | 80 | 155 | 725 | 91 | 0.78 | 2.1 | 377 | 129 | 90 | 14.34 | 800 |
| 315S-8 | 90 | 162 | 725 | 92 | 0.79 | 2 | 267 | 206 | 90 | 6.1 | 980 |
| 315S-8J | 95 | 174 | 725 | 92 | 0.79 | 2.1 | 280 | 206 | 90 | 6.1 | 980 |
| 315M1-8 | 110 | 199 | 725 | 92.5 | 0.79 | 2.2 | 340 | 195 | 90 | 6.8 | 1110 |
| 315M1-8J | 115 | 211 | 725 | 92.5 | 0.79 | 2.2 | 355 | 196 | 90 | 7.3 | 1110 |
| 315M2-8J | 130 | 234 | 730 | 92.8 | 0.79 | 2.2 | 416 | 188 | 90 | 8.6 | 1200 |
| 315M2-8 | 132 | 235 | 730 | 92.8 | 0.79 | 2.2 | 417 | 190 | 90 | 8.8 | 1200 |
| 355M2-8J | 155 | 280 | 735 | 93.3 | 0.81 | 2.4 | 288 | 330 | 87 | 14.6 | 1650 |
| 355M2-8 | 160 | 288 | 735 | 93.3 | 0.81 | 2.4 | 288 | 341 | 87 | 14.6 | 1650 |
| 355M3-8J | 180 | 324 | 735 | 93.3 | 0.81 | 2.4 | 324 | 339 | 87 | 15.7 | 1690 |
| 355M3-8 | 185 | 332 | 735 | 93.3 | 0.81 | 2.4 | 324 | 349 | 87 | 15.7 | 1690 |
| 355M4-8 | 200 | 358 | 735 | 93.5 | 0.81 | 2.4 | 371 | 329 | 88 | 17.4 | 1730 |
| 355L1-8J | 210 | 376 | 735 | 93.5 | 0.81 | 2.6 | 410 | 312 | 88 | 19.2 | 1780 |
| 355L1-8 | 220 | 392 | 735 | 93.5 | 0.81 | 2.4 | 410 | 327 | 88 | 19.2 | 1780 |
| 355L2-8J | 245 | 435 | 735 | 93.5 | 0.81 | 2.4 | 446 | 334 | 90 | 19.2 | 1860 |
| 355L2-8 | 250 | 442 | 735 | 93.5 | 0.8 | 2.3 | 446 | 341 | 90 | 19.2 | 1860 |
| 355L3-8J | 260 | 458 | 735 | 93.5 | 0.81 | 2.3 | 446 | 356 | 90 | 19.2 | 1860 |
| 355L4-8 | 280 | 493 | 735 | 93.5 | 0.81 | 2.2 | 474 | 361 | 90 | 19.4 | 1940 |
| 355L5-8 | 315 | 559 | 736 | 93.5 | 0.82 | 2.2 | 541 | 354 | 90 | 19.6 | 1960 |
| 355L5-8J | 320 | 567 | 736 | 93.5 | 0.82 | 2.2 | 541 | 359 | 90 | 19.6 | 2090 |
| 400S1-8 | 280 | 502 | 737 | 93.5 | 0.83 | 2.2 | 453 | 375 | 99 | 22.6 | 2320 |
| 400S1-8J | 300 | 527 | 737 | 93.5 | 0.83 | 2.2 | 453 | 403 | 99 | 23.2 | 2320 |
| 400S2-8 | 315 | 556 | 737 | 93.8 | 0.83 | 2 | 491 | 389 | 99 | 24.3 | 2370 |
| 400S2-8J | 320 | 565 | 736 | 93.8 | 0.83 | 2 | 491 | 396 | 99 | 24.3 | 2370 |
| 400S3-8 | 355 | 625 | 738 | 94 | 0.83 | 2 | 589 | 364 | 99 | 28.5 | 2520 |
| 400L1-8 | 400 | 705 | 739 | 94 | 0.84 | 2 | 655 | 368 | 99 | 31.4 | 2730 |
| 400L1-8J | 380 | 669 | 738 | 94 | 0.84 | 2 | 618 | 371 | 99 | 29.5 | 2700 |
| 400L2-8 | 450 | 793 | 739 | 94 | 0.84 | 2 | 737 | 368 | 99 | 34.8 | 2880 |
| 400L3-8 | 500 | 881 | 738 | 94 | 0.84 | 2 | 737 | 410 | 99 | 34.8 | 2900 |
| 400L3-8J | 480 | 846 | 738 | 94 | 0.84 | 2 | 737 | 393 | 99 | 34.8 | 2900 |
| 400L4-8 | 560 | 952 | 739 | 94.3 | 0.84 | 2.2 | 842 | 400 | 99 | 35.4 | 2950 |

Data subject to change without notice.

Mounting & Overall Dimension



| frame size | Assembling dimensions | | | | | | | | | | External dimensions | | | | | | | | | | | | | | | | |
|------------|-----------------------|-------|-----|------|-----|-----|-----|------|------|-----|---------------------|-----|-----|-----|-----|------|-----|------|------|------|------|------|------|----|-----|-----|------|
| | poles | A | B | C | D | E | F | G | H | K | AB | AC | AD | HD | HA | BC | BB | L | | | | | | | | | |
| 225M | 4--10 | 356 | 311 | 149 | 65 | 170 | 20 | 58 | 225 | 24 | 450 | 520 | 395 | 545 | 28 | 102 | 393 | 1060 | | | | | | | | | |
| 250S | | 406 | 311 | 168 | 75 | | | 67.5 | 250 | | 510 | 550 | 410 | 600 | 30 | | 55 | 417 | 1110 | | | | | | | | |
| 250M | | | 349 | | | | | 455 | 1150 | | | | | | | | | | | | | | | | | | |
| 280S | | 457 | 368 | 190 | 80 | | 22 | 71 | 280 | | 570 | 610 | 450 | 655 | 35 | | 81 | 530 | 1260 | | | | | | | | |
| 280M | | | 419 | | | | | | | | | | | | | | | 581 | 1310 | | | | | | | | |
| 315S | | 4--8 | 508 | 406 | 216 | | 90 | 25 | 81 | | 315 | 28 | 628 | 665 | 580 | | 740 | 40 | 102 | 754 | 661 | 1435 | | | | | |
| 315M1 | | | | 1530 | | | | | | | | | | | | | | | | | | | | | | | |
| 315M2 | | | | 1620 | | | | | | | | | | | | | | | | | | | | | | | |
| 315M3 | | | | 4 | | | | | | | | | | | | | | | | | 1530 | 1620 | | | | | |
| 355M | | 4--12 | 610 | 560 | 254 | | 100 | 28 | 90 | | 355 | 756 | 790 | — | 950 | | 118 | 796 | 1740 | | | | | | | | |
| 355L | 630 | | | 1850 | | | | | | | | | | | | | | | | | | | | | | | |
| 400S | 560 | | | 280 | | 110 | | | | 100 | | | | | | 400 | | | 35 | 850 | 880 | — | 1100 | 50 | 150 | 930 | 1900 |
| 400L | 710 | | | 130 | | 32 | | | | 119 | | | | | | 1200 | | | 1116 | 2100 | | | | | | | |