

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer : QUANTUM CONTROLS

Product line : W22 - IE4 Super Premium Efficiency  
(Multivoltage)

|                                        |                                               |
|----------------------------------------|-----------------------------------------------|
| Frame : 315S/M                         | Cooling method : IC411 - TEFC                 |
| Insulation class : F                   | Mounting : B3T                                |
| Duty cycle : S1                        | Rotation <sup>1</sup> : Both                  |
| Ambient temperature : -20 °C to +40 °C | Starting method : Direct On Line              |
| Altitude : 1000 m.a.s.l                | Approx. weight <sup>3</sup> : 1074 kg         |
| Protection degree : IP55               | Moment of inertia (J) : 3.05 kgm <sup>2</sup> |
| Design : NE                            |                                               |

|                          |             |             |            |              |
|--------------------------|-------------|-------------|------------|--------------|
| Output                   | 160 kW      | 160 kW      | 160 kW     | 160 kW       |
| Poles                    | 2           | 2           | 2          | 2            |
| Frequency                | 50 Hz       | 50 Hz       | 50 Hz      | 60 Hz        |
| Rated voltage            | 380/660 V   | 400/690 V   | 415 V      | 460 V        |
| Rated current            | 284/163 A   | 269/156 A   | 263 A      | 238 A        |
| L. R. Amperes            | 2156/1241 A | 2263/1312 A | 2338 A     | 2192 A       |
| LRC                      | 7.6         | 8.4         | 8.9        | 9.2 x Code J |
| No load current          | 73.0/42.0 A | 79.0/45.8 A | 83.0 A     | 74.0 A       |
| Rated speed              | 2978 rpm    | 2980 rpm    | 2982 rpm   | 3583 rpm     |
| Slip                     | 0.73 %      | 0.67 %      | 0.60 %     | 0.47 %       |
| Rated torque             | 513 Nm      | 513 Nm      | 512 Nm     | 427 Nm       |
| Locked rotor torque      | 230 %       | 250 %       | 270 %      | 290 %        |
| Pull up torque           | 195 %       | 210 %       | 230 %      | 245 %        |
| Breakdown torque         | 280 %       | 300 %       | 340 %      | 360 %        |
| Service factor           | 1.00        | 1.00        | 1.00       | 1.00         |
| Noise level <sup>2</sup> | 77.0 dB(A)  | 77.0 dB(A)  | 77.0 dB(A) | 81.0 dB(A)   |
| Locked rotor time (hot)  | 33 s        | 31 s        | 30 s       | 36 s         |
| Locked rotor time (cold) | 59 s        | 56 s        | 54 s       | 65 s         |
| Efficiency (%)           | 50%         | 95.6        | 95.4       | 94.0         |
|                          | 75%         | 96.2        | 96.2       | 95.5         |
|                          | 100%        | 96.3        | 96.3       | 95.8         |
| Power Factor             | 50%         | 0.82        | 0.80       | 0.78         |
|                          | 75%         | 0.87        | 0.86       | 0.85         |
|                          | 100%        | 0.89        | 0.89       | 0.88         |

Losses at normative operating points (speed;torque), in percentage of rated output power

|            |               |     |     |     |     |
|------------|---------------|-----|-----|-----|-----|
| Losses (%) | P1(0,9;1,0)   | 3.9 | 3.9 | 3.9 | 4.4 |
|            | P2(0,5;1,0)   | 2.9 | 2.9 | 2.9 | 3.4 |
|            | P3(0,25;1,0)  | 2.5 | 2.5 | 2.5 | 2.9 |
|            | P4(0,9;0,5)   | 2.2 | 2.2 | 2.2 | 2.5 |
|            | P5(0,5;0,5)   | 1.3 | 1.3 | 1.3 | 1.5 |
|            | P6(0,5;0,25)  | 0.9 | 0.9 | 0.9 | 1.0 |
|            | P7(0,25;0,25) | 0.5 | 0.5 | 0.5 | 0.6 |

|                      |                   |                       |                                         |
|----------------------|-------------------|-----------------------|-----------------------------------------|
| Bearing type         | Drive end 6314-C3 | Non drive end 6314-C3 | Foundation loads                        |
| Lubrication interval | 5000 h            | 5000 h                | Max. traction : 8455 N                  |
| Lubricant amount     | 27 g              | 27 g                  | Max. compression : 18994 N              |
| Lubricant type       | MOBIL POLYREX EM  |                       | Load type : -                           |
|                      |                   |                       | Load torque : -                         |
|                      |                   |                       | Load inertia (J=GD <sup>2</sup> /4) : - |

Notes  
See notes on page 2.

| Rev.         | Changes Summary | Rev.       | Checked | Date |
|--------------|-----------------|------------|---------|------|
|              |                 |            |         |      |
| Performed by | ghodgetts       | 1751198868 |         |      |
| Checked by   | AUTOMATICO      | Page       | Rev.    |      |
| Date         | 11/09/2025      | 1 / 2      | 0       |      |

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|                    |             |                      |           |                     |
|--------------------|-------------|----------------------|-----------|---------------------|
| Thermal protection |             |                      |           |                     |
| ID                 | Application | Type                 | Quantity  | Sensing Temperature |
| 1                  | Winding     | Thermistor - 2 wires | 1 x Phase | 155°C               |

Space heater information  
Voltage: 110-127/200-240 V  
Output: 117-156/97-139 W

Notes

|           |               |               |           |                |
|-----------|---------------|---------------|-----------|----------------|
| Standards | Specification | : IEC 60034-1 | Vibration | : IEC 60034-14 |
|           | Test          | : IEC 60034-2 | Tolerance | : IEC 60034-1  |
|           | Noise         | : IEC 60034-9 |           |                |

This revision replaces and cancel the previous one, which must be eliminated.

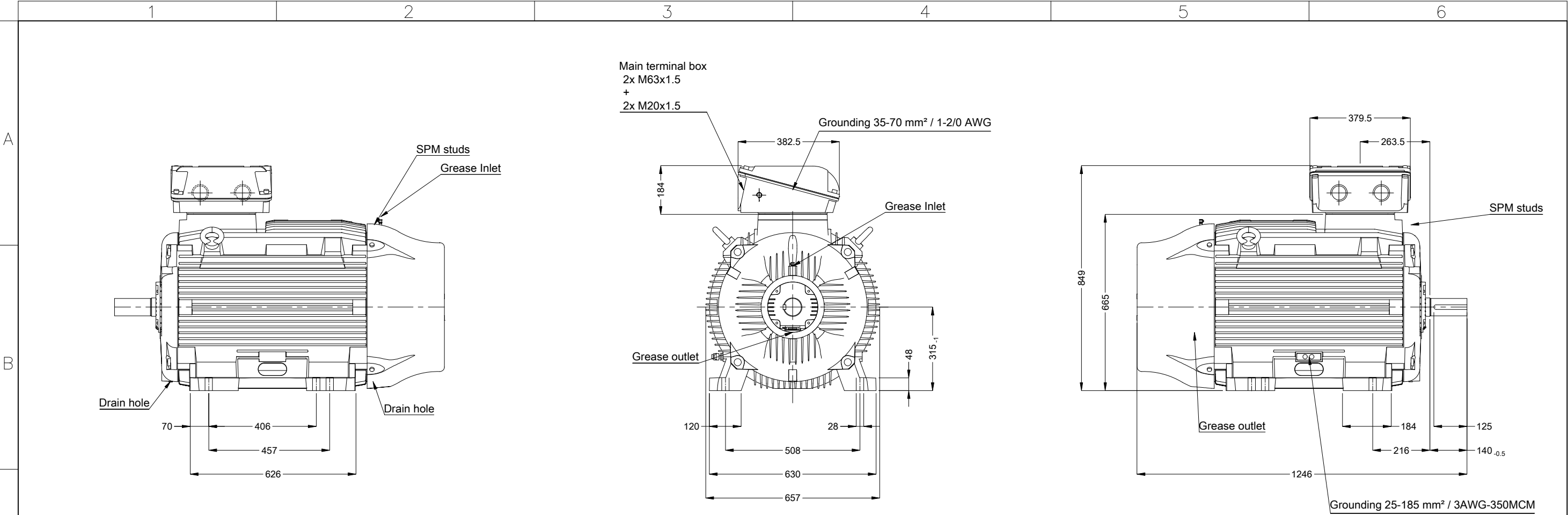
(1) Looking the motor from the shaft end.

(2) Measured at 1m and with tolerance of +3dB(A).

(3) Approximate weight, subject to be changed after manufacturing process.

These are average values based on tests with sinusoidal power supply, subject to the tolerances stipulated in IEC 60034-1.

|              |                 |  |      |            |      |
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|              |                                     |              |                                                                  |  |                                                      |  |                    |  |                          |  |  |  |              |  |                                                   |  |               |  |                   |  |       |  |  |  |
|--------------|-------------------------------------|--------------|------------------------------------------------------------------|--|------------------------------------------------------|--|--------------------|--|--------------------------|--|--|--|--------------|--|---------------------------------------------------|--|---------------|--|-------------------|--|-------|--|--|--|
| D            |                                     |              |                                                                  |  |                                                      |  |                    |  |                          |  |  |  |              |  | 160 kW 02 Poles 50 Hz                             |  | A             |  |                   |  |       |  |  |  |
|              |                                     |              |                                                                  |  | QUANTUM CONTROLS                                     |  |                    |  |                          |  |  |  |              |  |                                                   |  |               |  |                   |  |       |  |  |  |
|              |                                     |              |                                                                  |  |                                                      |  |                    |  | Scale                    |  |  |  | 1 : 15       |  |                                                   |  |               |  |                   |  |       |  |  |  |
|              |                                     |              |                                                                  |  |                                                      |  |                    |  | PIRWBUSER                |  |  |  |              |  | 00                                                |  |               |  |                   |  |       |  |  |  |
|              |                                     |              |                                                                  |  | ECM                                                  |  | LOC                |  | SUMMARY OF MODIFICATIONS |  |  |  | EXECUTED     |  | CHECKED                                           |  | RELEASED      |  | DATE              |  | VER   |  |  |  |
| E            | Space heaters 110-127 V / 200-240 V |              | <div>DE Shaft End</div> <div></div> <div>DM20 WEG WPR-7339</div> |  | <div>Vibration sensor studs detail</div> <div></div> |  | EXECUTED           |  | PIRWBUSER                |  |  |  |              |  | THREE PH. MOTOR W22 IE4<br>FRAME 315S/M IP55 TEFC |  |               |  | PREVIEW<br>WDD 00 |  |       |  |  |  |
|              | CHECKED                             |              |                                                                  |  |                                                      |  |                    |  |                          |  |  |  |              |  |                                                   |  |               |  |                   |  |       |  |  |  |
|              | RELEASED                            |              |                                                                  |  |                                                      |  |                    |  |                          |  |  |  |              |  |                                                   |  |               |  |                   |  |       |  |  |  |
|              | Color RAL 5009                      |              |                                                                  |  |                                                      |  | Color RAL 5009     |  | REL. DATE                |  |  |  | WEG REDDITCH |  |                                                   |  | [Operational] |  | SHEET             |  | 1 / 1 |  |  |  |
|              | Painting plan 222P                  |              |                                                                  |  |                                                      |  | Painting plan 222P |  |                          |  |  |  |              |  |                                                   |  |               |  |                   |  |       |  |  |  |
| Mounting B3T |                                     | Mounting B3T |                                                                  |  |                                                      |  |                    |  |                          |  |  |  |              |  |                                                   |  |               |  |                   |  |       |  |  |  |