

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 ¹	: Both
Ambient temperature	: -20 °C to +40 °C	Starting method	: Direct On Line
Altitude	: 1000 m.a.s.l	Approx. weight ³	: 1107 kg
Protection degree	: IP55	Moment of inertia (J)	: 5.08 kgm ²
Design	: NE		

Output	160 kW	160 kW	160 kW	160 kW
Poles	4	4	4	4
Frequency	50 Hz	50 Hz	50 Hz	60 Hz
Rated voltage	380/660 V	400/690 V	415 V	460 V
Rated current	293/168 A	281/163 A	278 A	248 A
L. R. Amperes	2107/1213 A	2278/1321 A	2360 A	2230 A
LRC	7.2	8.1	8.5	9.0 x Code K
No load current	95.0/54.7 A	103/59.7 A	110 A	97.0 A
Rated speed	1489 rpm	1491 rpm	1491 rpm	1792 rpm
Slip	0.73 %	0.60 %	0.60 %	0.44 %
Rated torque	1026 Nm	1025 Nm	1025 Nm	853 Nm
Locked rotor torque	260 %	300 %	320 %	360 %
Pull up torque	220 %	255 %	270 %	305 %
Breakdown torque	260 %	300 %	320 %	330 %
Service factor	1.00	1.00	1.00	1.00
Noise level ²	71.0 dB(A)	71.0 dB(A)	71.0 dB(A)	75.0 dB(A)
Locked rotor time (hot)	27 s	25 s	23 s	30 s
Locked rotor time (cold)	49 s	45 s	41 s	54 s
Efficiency (%)	50%	96.1	95.9	95.5
	75%	96.4	96.4	96.3
	100%	96.6	96.6	96.5
Power Factor	50%	0.75	0.71	0.70
	75%	0.83	0.80	0.79
	100%	0.86	0.85	0.84

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

Losses (%)	P1(0,9;1,0)	4.3	4.3	4.3	4.1
	P2(0,5;1,0)	3.4	3.4	3.4	3.2
	P3(0,25;1,0)	2.8	2.8	2.8	2.7
	P4(0,9;0,5)	2.5	2.5	2.5	2.4
	P5(0,5;0,5)	1.7	1.7	1.7	1.6
	P6(0,5;0,25)	1.3	1.3	1.3	1.3
	P7(0,25;0,25)	0.8	0.8	0.8	0.7

Bearing type	Drive end 6319-C3	Non drive end 6316-C3	Foundation loads	
Lubrication interval	11000 h	13000 h	Max. traction	: 20407 N
Lubricant amount	45 g	34 g	Max. compression	: 31264 N
Lubricant type	MOBIL POLYREX EM		Load type	: -
			Load torque	: -
			Load inertia (J=GD ² /4)	: -

Notes
See notes on page 2.

Rev.	Changes Summary		Rev.	Checked	Date
Performed by	ghodgetts				
Checked by	AUTOMATICO				
Date	11/09/2025				

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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.

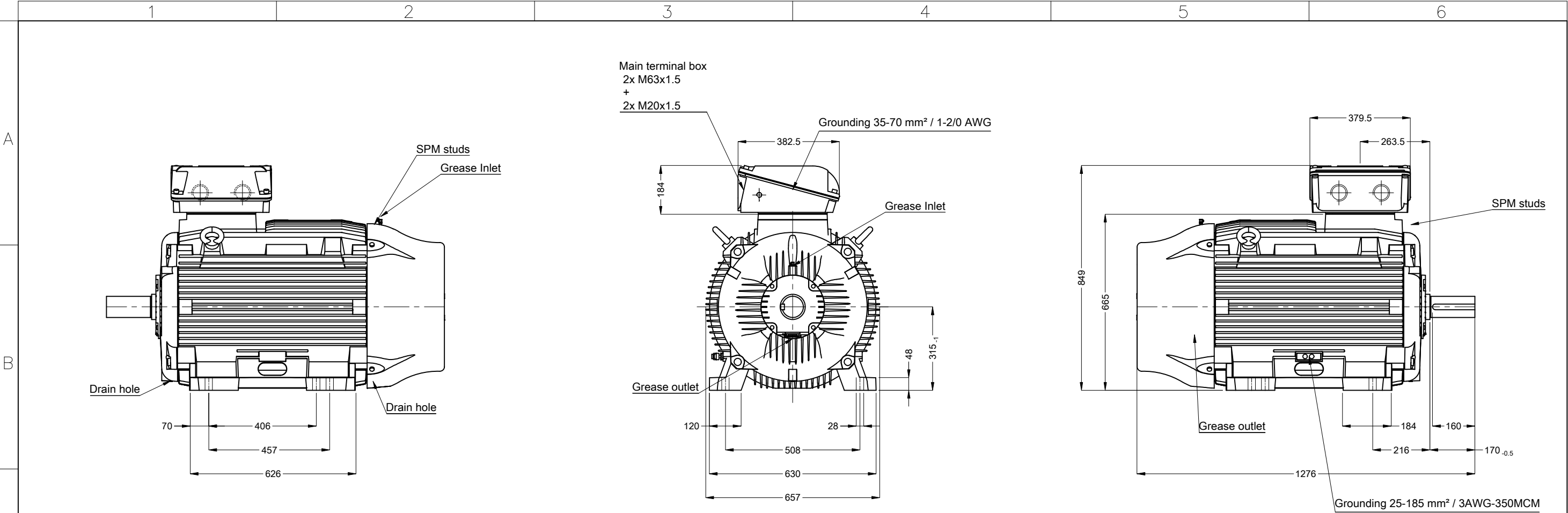
(1) Looking the motor from the shaft end.

(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.

Rev.	Changes Summary		Rev.	Checked	Date
Performed by	ghodgetts			1751206818	
Checked by	AUTOMATICO			Page	Rev.
Date	11/09/2025			2 / 2	0



D															160 kW 04 Poles 50 Hz		A							
					QUANTUM CONTROLS																			
									Scale				1 : 15											
									PIRWUSER															
															00									
E	Space heaters 110-127 V / 200-240 V		DE Shaft End DM20 WEG WPR-7339		Vibration sensor studs detail		ECM		LOC		SUMMARY OF MODIFICATIONS				EXECUTED		CHECKED		RELEASED		DATE		VER	
	EXECUTED						PIRWUSER						THREE PH. MOTOR W22 IE4				PREVIEW							
	CHECKED												FRAME 315S/M IP55 TEFC											
	RELEASED																							
	REL. DATE								WEG		REDDITCH				[Operational]		SHEET		1 / 1					