

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W21 Explosion Proof NEMA Premium Efficiency Three-Phase Product code : 14284388

Frame	: 143/5TC	Cooling method	: IC411 - TEFC
Insulation class	: F	Mounting	: F-1
Duty cycle	: Cont.(S1)	Rotation <sup>1</sup>	: Both (CW and CCW)
Ambient temperature	: -20°C to +40°C	Starting method	: Direct On Line
Altitude	: 1000 m.a.s.l.	Approx. weight <sup>3</sup>	: 33.3 kg
Protection degree	: IP55	Moment of inertia (J)	: 0.0055 kgm <sup>2</sup>
Design	: B		

Output [HP]	1.5	1.5	1.5	1.5
Poles	4	4	4	4
Frequency [Hz]	60	50	50	50
Rated voltage [V]	230/460	380	400	415
Rated current [A]	4.10/2.05	2.40	2.33	2.27
L. R. Amperes [A]	36.5/18.2	15.8	16.8	17.5
LRC [A]	8.9x(Code L)	6.6x(Code H)	7.2x(Code J)	7.7x(Code K)
No load current [A]	2.40/1.20	1.20	1.30	1.40
Rated speed [RPM]	1755	1440	1445	1450
Slip [%]	2.50	4.00	3.67	3.33
Rated torque [kgfm]	0.620	0.756	0.753	0.751
Locked rotor torque [%]	270	200	229	250
Breakdown torque [%]	350	260	290	320
Service factor	1.15	1.00	1.00	1.00
Temperature rise	80 K	80 K	80 K	80 K
Locked rotor time	25s (cold) 14s (hot)	27s (cold) 15s (hot)	27s (cold) 15s (hot)	27s (cold) 15s (hot)
Noise level <sup>2</sup>	51.0 dB(A)	49.0 dB(A)	49.0 dB(A)	49.0 dB(A)
Efficiency (%)	25%	80.2	83.7	80.9
	50%	81.5	84.0	82.5
	75%	85.5	84.0	84.0
	100%	86.5	84.0	85.5
Power Factor	25%	0.34	0.39	0.33
	50%	0.58	0.66	0.58
	75%	0.70	0.77	0.71
	100%	0.78	0.83	0.79

	<u>Drive end</u>	<u>Non drive end</u>	
Bearing type	: 6205 2RS	6204 2RS	Foundation loads
Sealing	: Oil Seal	Lip Seal	Max. traction : 51 kgf
Lubrication interval	: -	-	Max. compression : 85 kgf
Lubricant amount	: -	-	
Lubricant type	: Mobil Polyrex EM		

Notes  
USABLE @208V 4.53A SF 1.15 SFA 5.21A

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 changes after manufacturing process.  
(4) At 100% of full load.

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

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Performed by				
Checked by				
Date	28/10/2024			

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Customer :

Thermal protection

ID	Application	Type	Quantity	Sensing Temperature
1	Winding	Thermostat - 2 wires	1 x Phase	155 °C

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# LOAD PERFORMANCE CURVE

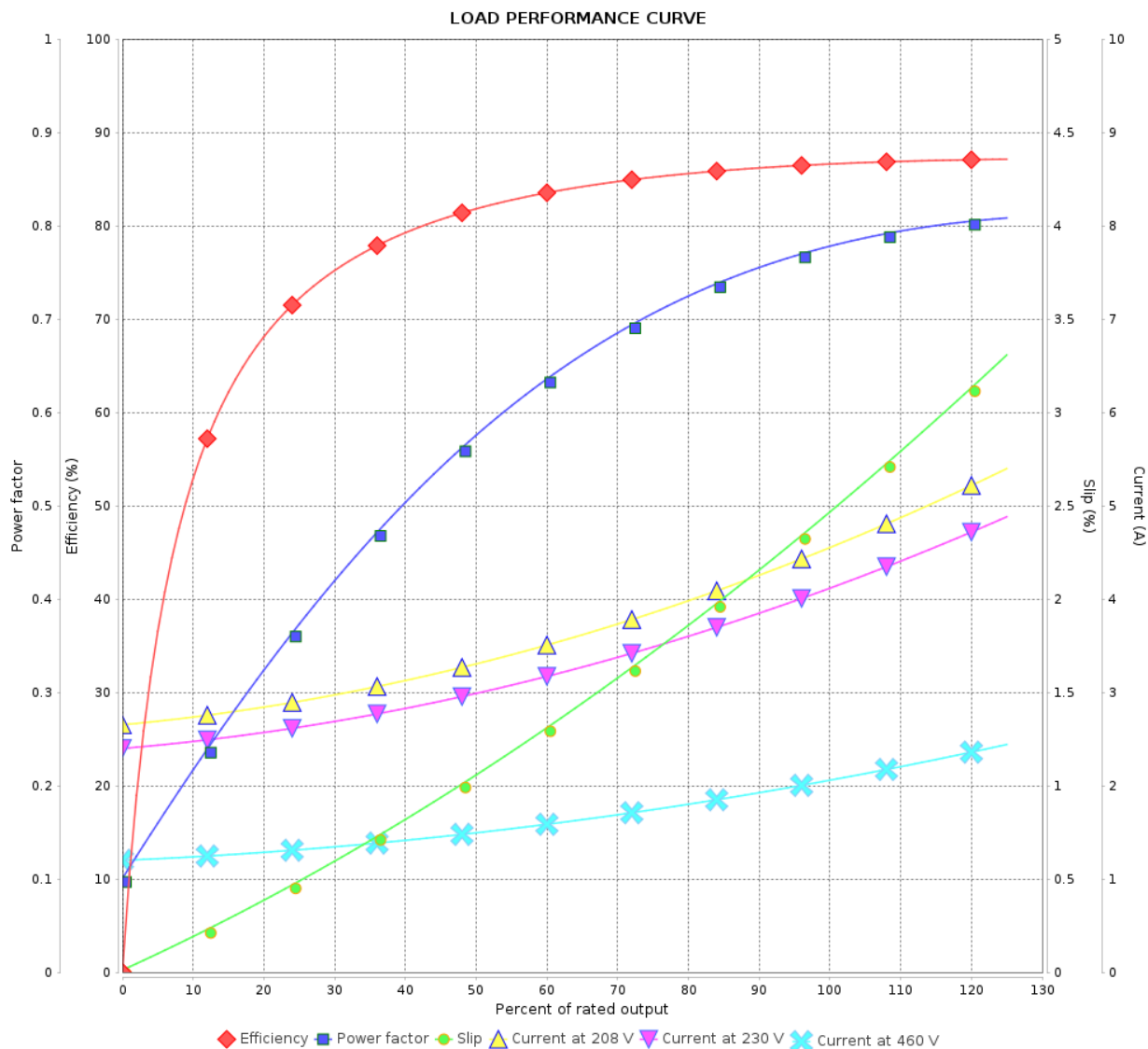
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W21 Explosion Proof NEMA  
Premium Efficiency Three-Phase

Product code : 14284388



Performance : 230/460 V 60 Hz 4P

Rated current : 4.10/2.05 A  
LRC : 8.9  
Rated torque : 0.620 kgfm  
Locked rotor torque : 270 %  
Breakdown torque : 350 %  
Rated speed : 1755 rpm

Moment of inertia (J) : 0.0055 kgm<sup>2</sup>  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.15  
Temperature rise : 80 K  
Design : B

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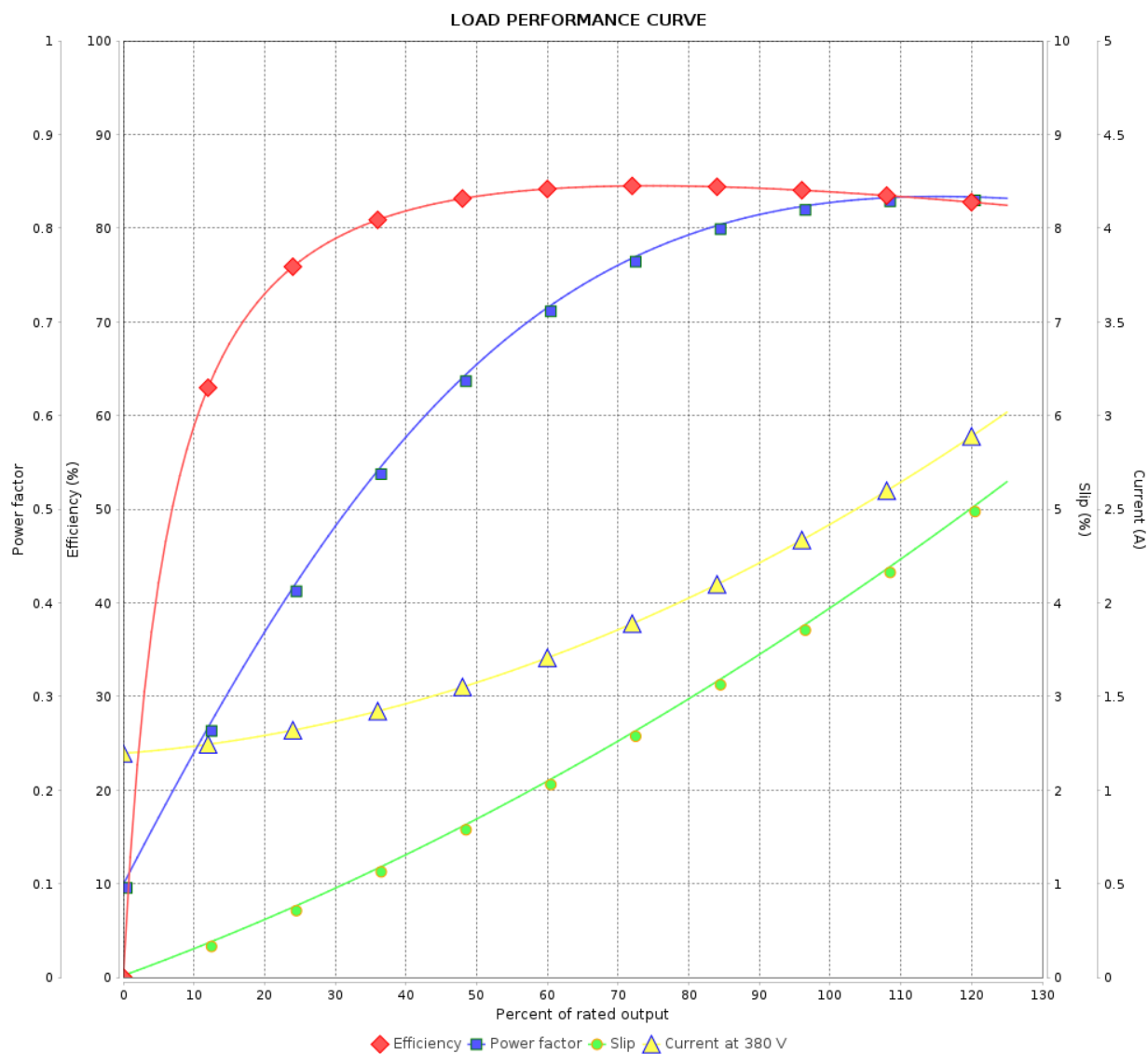
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W21 Explosion Proof NEMA  
Premium Efficiency Three-Phase

Product code : 14284388



Performance : 380 V 50 Hz 4P IE2

Rated current : 2.40 A  
LRC : 6.6  
Rated torque : 0.756 kgfm  
Locked rotor torque : 200 %  
Breakdown torque : 260 %  
Rated speed : 1440 rpm

Moment of inertia (J) : 0.0055 kgm<sup>2</sup>  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.00  
Temperature rise : 80 K  
Design : B

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# LOAD PERFORMANCE CURVE

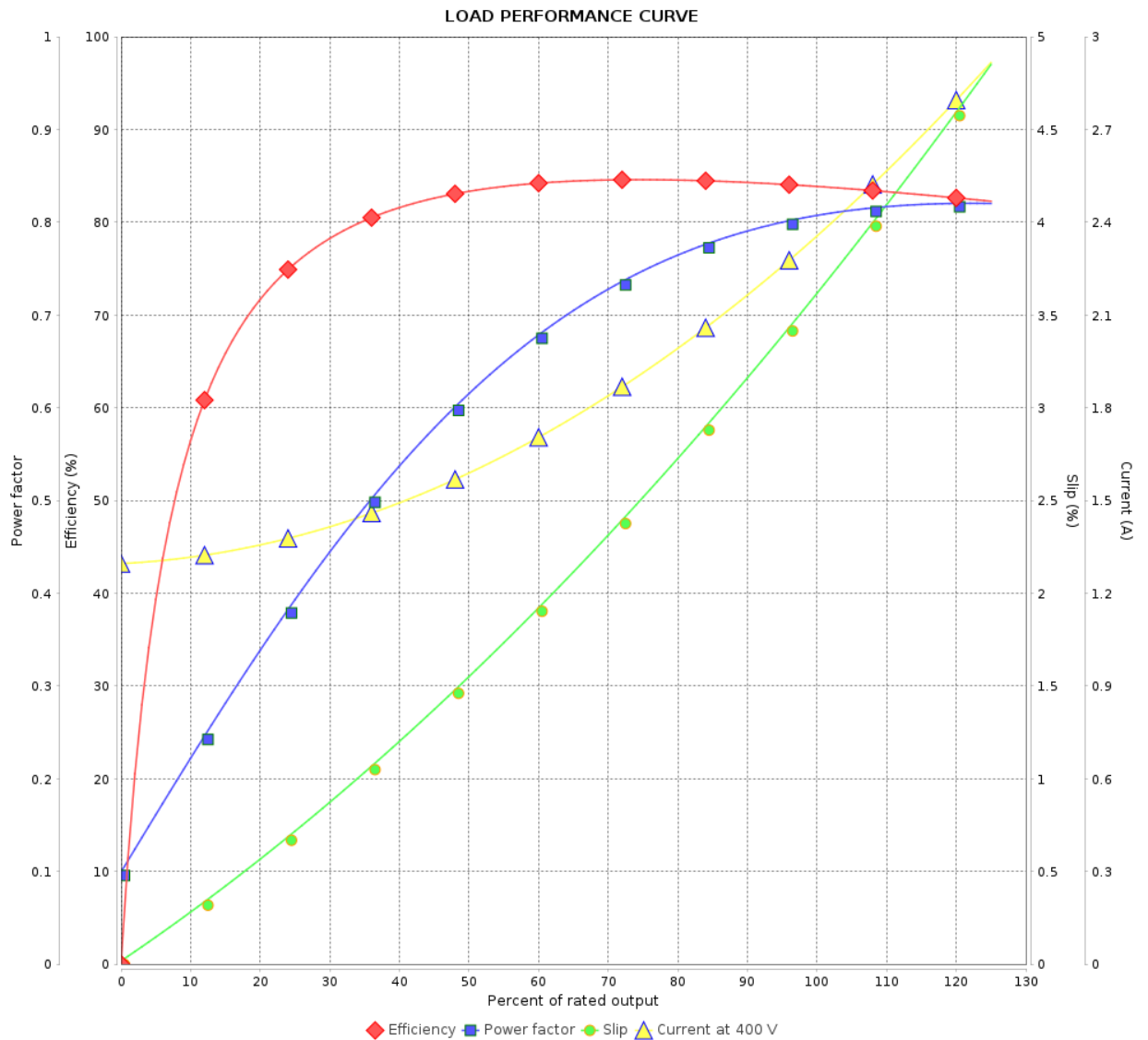
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W21 Explosion Proof NEMA  
Premium Efficiency Three-Phase

Product code : 14284388



Performance : 400 V 50 Hz 4P IE2

Rated current	: 2.33 A	Moment of inertia (J)	: 0.0055 kgm <sup>2</sup>
LRC	: 7.2	Duty cycle	: Cont.(S1)
Rated torque	: 0.753 kgfm	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.00
Breakdown torque	: 290 %	Temperature rise	: 80 K
Rated speed	: 1445 rpm	Design	: B

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# LOAD PERFORMANCE CURVE

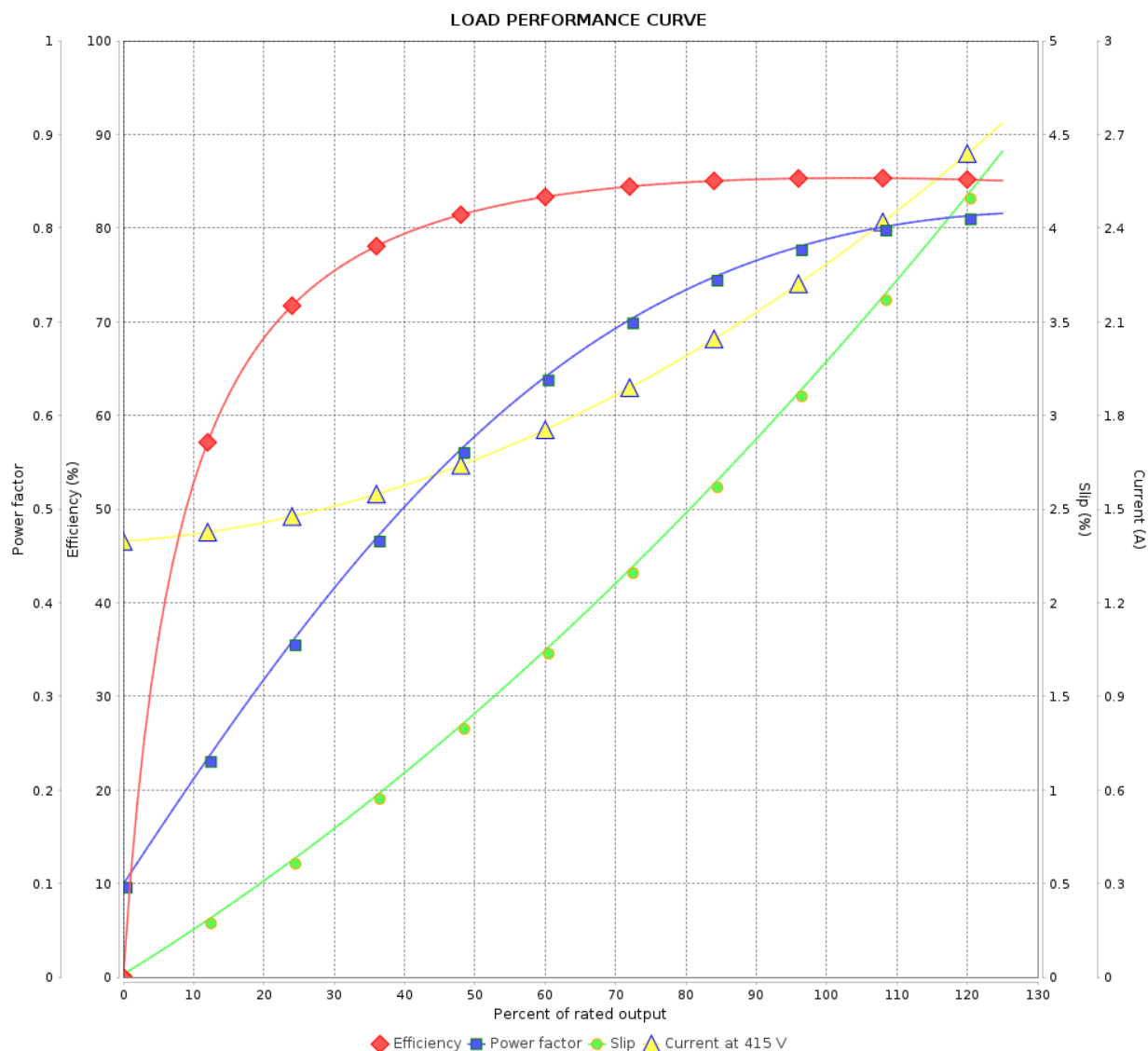
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W21 Explosion Proof NEMA  
Premium Efficiency Three-Phase

Product code : 14284388

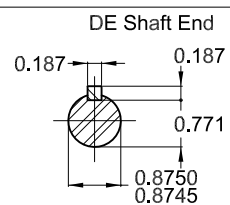
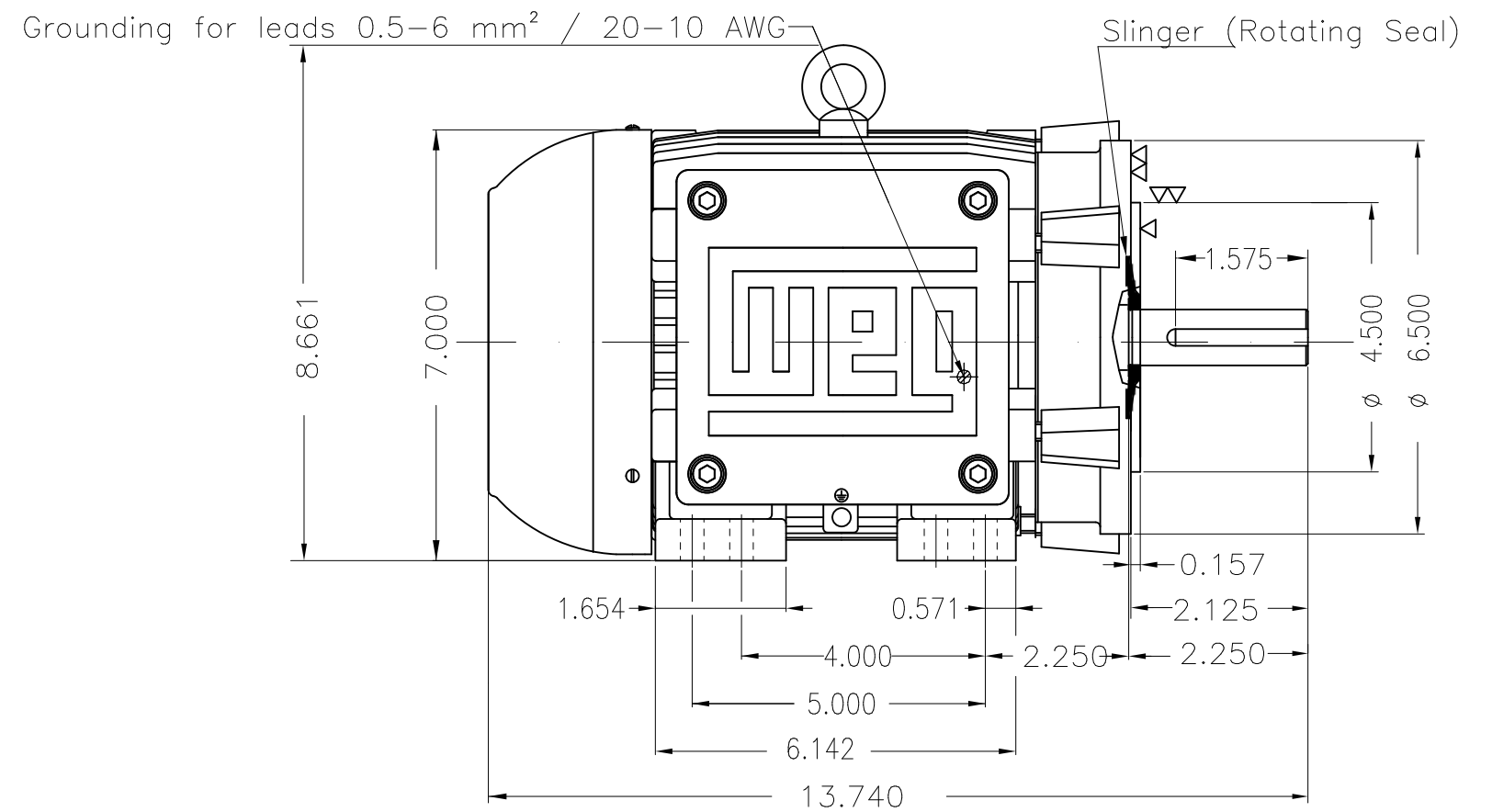
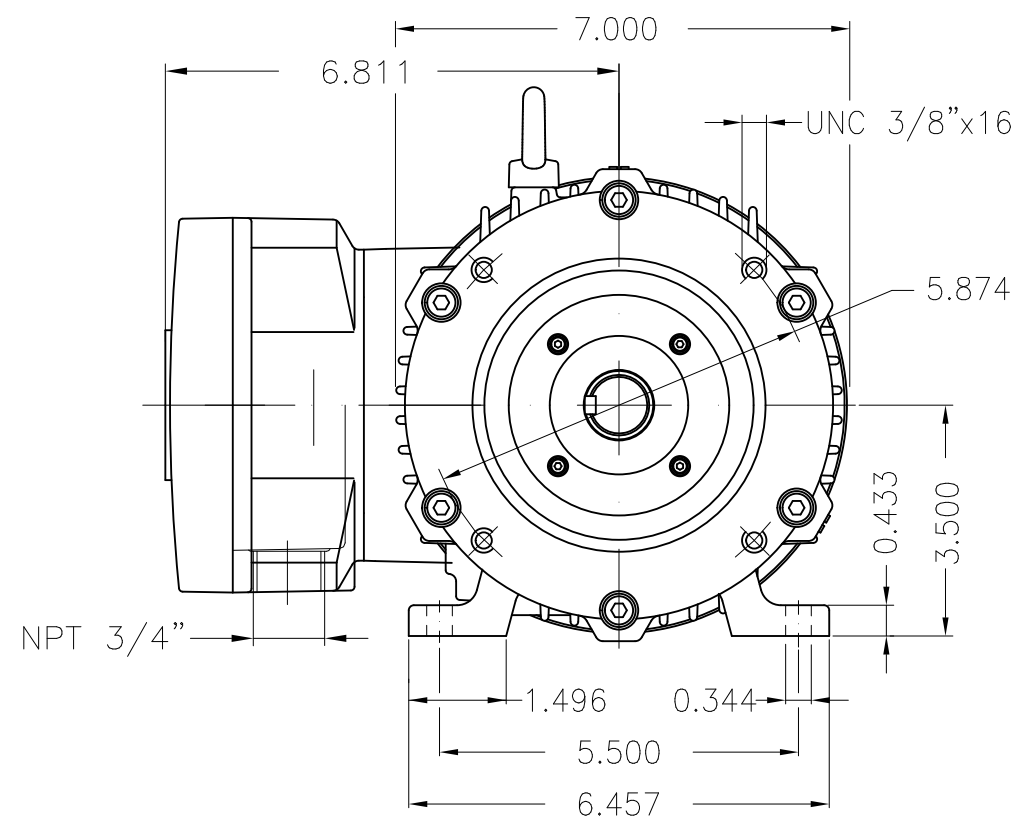


Performance : 415 V 50 Hz 4P IE3

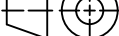

Rated current : 2.27 A  
LRC : 7.7  
Rated torque : 0.751 kgfm  
Locked rotor torque : 250 %  
Breakdown torque : 320 %  
Rated speed : 1450 rpm

Moment of inertia (J) : 0.0055 kgm<sup>2</sup>  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.00  
Temperature rise : 80 K  
Design : B

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Color RAL 5009
Painting plan 202P
Mounting NEMA F-1
Mounting B34R(D)

1.5 HP   04 Poles   60 Hz										A	
							HYBRISUSER			00	
ECM	LOC	SUMMARY OF MODIFICATIONS					EXECUTED	CHECKED	RELEASED	DATE	VER
EXECUTED	HYBRISUSER		THREE PH. MOTOR EXPLOSION PROOF NEMA PREM. EFF. FRAME 143/5TC IP55 TEFC					PREVIEW WDD   00			
CHECKED											
RELEASED											
REL. DATE		WMO	Jaragua do Sul			Product Engineering	SHEET	1 / 1			