

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :

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

Product code : 14390089

Frame	: 256T	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>	: 169 kg
Protection degree	: IP55	Moment of inertia (J)	: 0.1217 kgm <sup>2</sup>
Design	: B		

Output [HP]	20	20	20	20
Poles	4	4	4	4
Frequency [Hz]	60	50	50	50
Rated voltage [V]	230/460	380	400	415
Rated current [A]	50.0/25.0	29.8	29.0	28.4
L. R. Amperes [A]	375/188	173	186	199
LRC [A]	7.5x(Code J)	5.8x(Code G)	6.4x(Code H)	7.0x(Code J)
No load current [A]	23.6/11.8	11.7	12.8	13.8
Rated speed [RPM]	1770	1455	1460	1465
Slip [%]	1.67	3.00	2.67	2.33
Rated torque [kgfm]	8.20	9.98	9.94	9.91
Locked rotor torque [%]	300	210	240	260
Breakdown torque [%]	300	220	240	260
Service factor	1.15	1.00	1.00	1.00
Temperature rise	80 K	80 K	80 K	80 K
Locked rotor time	36s (cold) 20s (hot)	36s (cold) 20s (hot)	36s (cold) 20s (hot)	36s (cold) 20s (hot)
Noise level <sup>2</sup>	69.0 dB(A)	67.0 dB(A)	67.0 dB(A)	67.0 dB(A)
Efficiency (%)	25%	91.0	92.9	92.1
	50%	91.7	92.4	91.7
	75%	92.4	91.7	91.7
	100%	93.0	91.0	91.7
Power Factor	25%	0.38	0.43	0.40
	50%	0.63	0.69	0.65
	75%	0.75	0.79	0.77
	100%	0.81	0.84	0.82

	<u>Drive end</u>	<u>Non drive end</u>	Foundation loads	
Bearing type	: 6309 C3	6209 C3	Max. traction	: 321 kgf
Sealing	: Oil Seal	Lip Seal	Max. compression	: 490 kgf
Lubrication interval	: 20000 h	20000 h		
Lubricant amount	: 13 g	9 g		
Lubricant type	: Mobil Polyrex EM			

### Notes

USABLE @208V 55.3A SF 1.15 SFA 63.6A

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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Revision

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

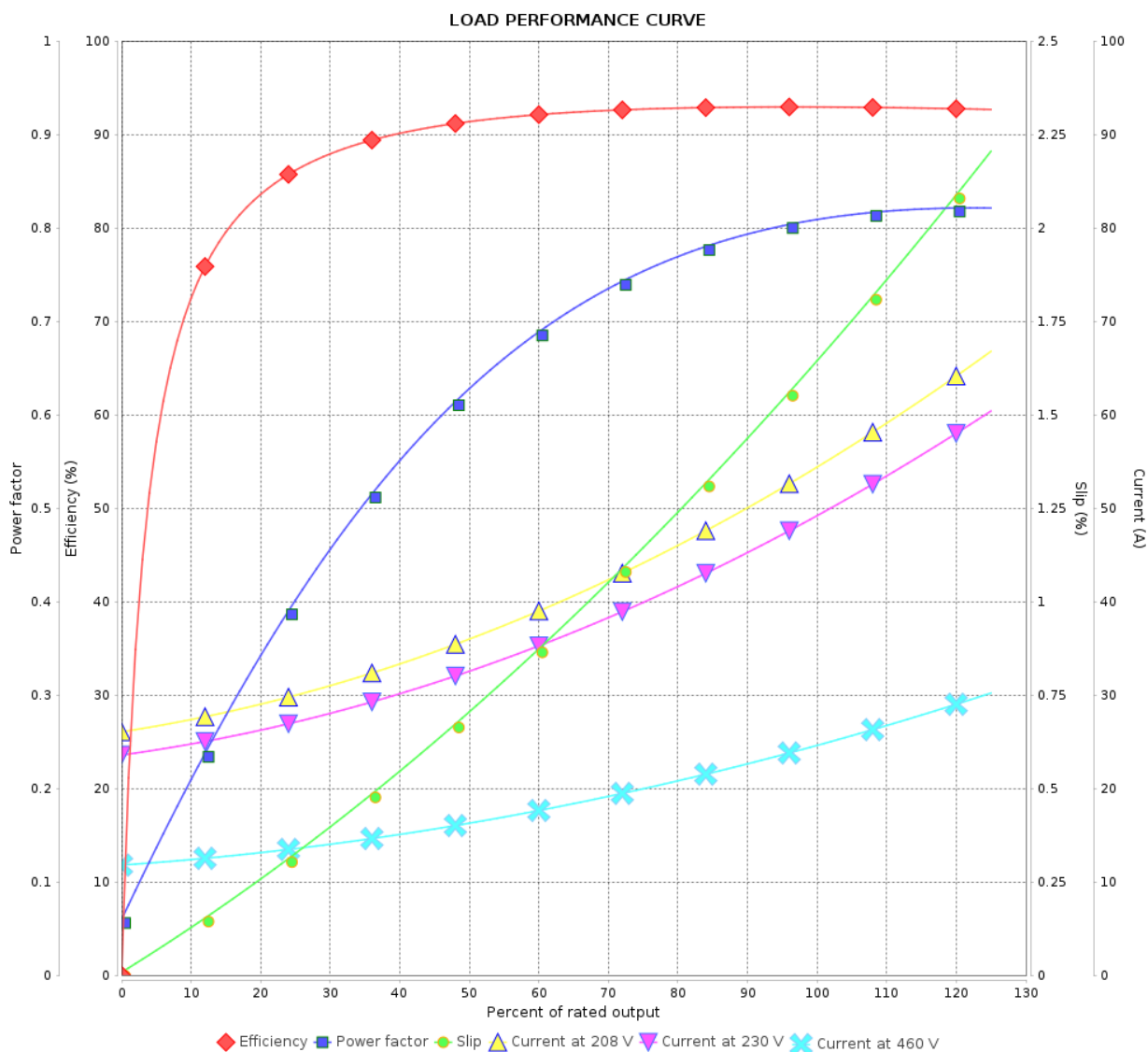
## Three Phase Induction Motor - Squirrel Cage



Customer :

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

Product code : 14390089



Performance : 230/460 V 60 Hz 4P

Rated current : 50.0/25.0 A  
LRC : 7.5  
Rated torque : 8.20 kgfm  
Locked rotor torque : 300 %  
Breakdown torque : 300 %  
Rated speed : 1770 rpm

Moment of inertia (J) : 0.1217 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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# LOAD PERFORMANCE CURVE

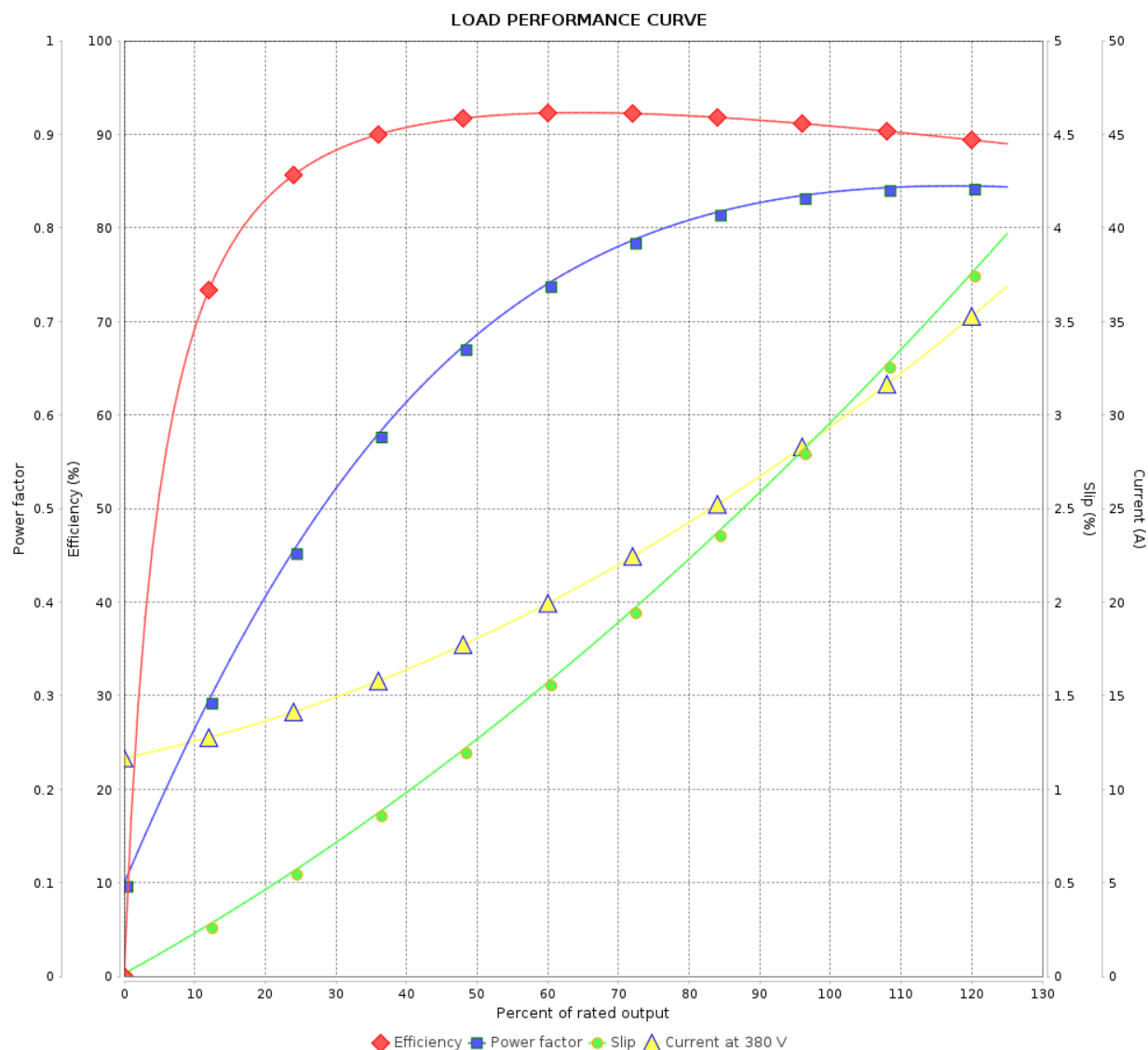
## Three Phase Induction Motor - Squirrel Cage



Customer :

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

Product code : 14390089



Performance : 380 V 50 Hz 4P IE2

Rated current : 29.8 A  
LRC : 5.8  
Rated torque : 9.98 kgfm  
Locked rotor torque : 210 %  
Breakdown torque : 220 %  
Rated speed : 1455 rpm

Moment of inertia (J) : 0.1217 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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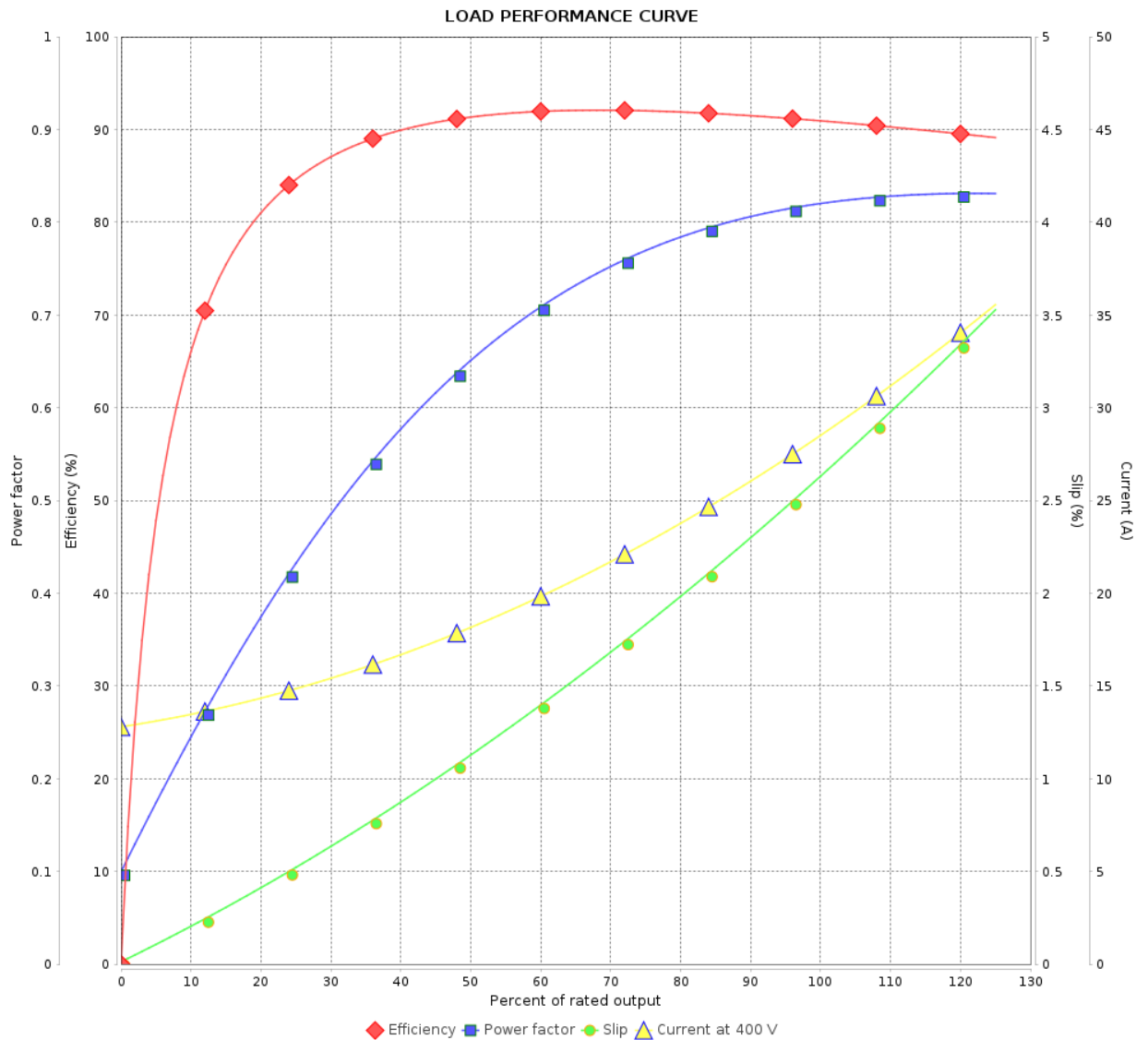
## Three Phase Induction Motor - Squirrel Cage



Customer :

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

Product code : 14390089



Performance : 400 V 50 Hz 4P IE2

Rated current : 29.0 A  
LRC : 6.4  
Rated torque : 9.94 kgfm  
Locked rotor torque : 240 %  
Breakdown torque : 240 %  
Rated speed : 1460 rpm

Moment of inertia (J) : 0.1217 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

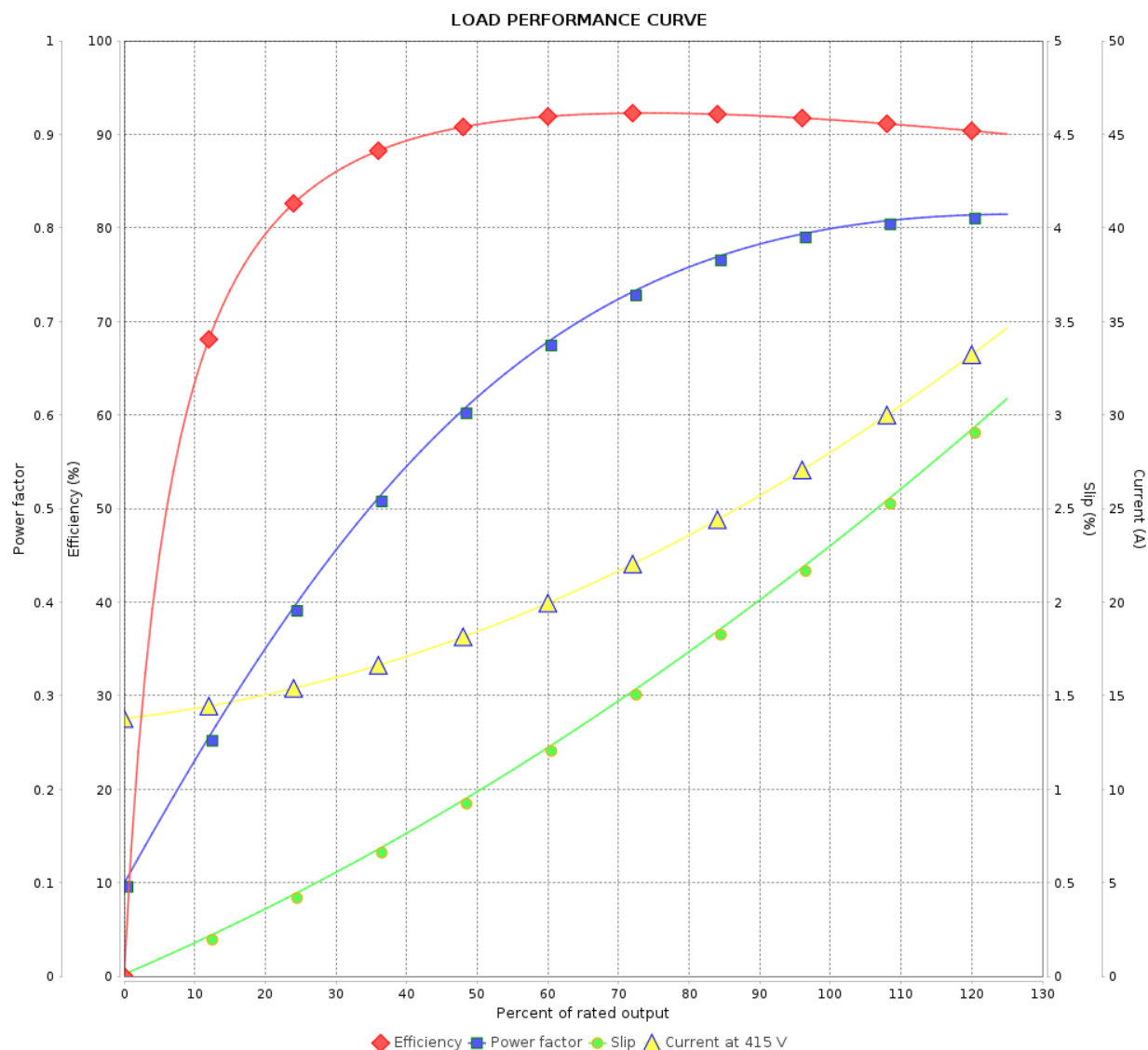
## Three Phase Induction Motor - Squirrel Cage



Customer :

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

Product code : 14390089



Performance : 415 V 50 Hz 4P IE2

Rated current : 28.4 A  
LRC : 7.0  
Rated torque : 9.91 kgfm  
Locked rotor torque : 260 %  
Breakdown torque : 260 %  
Rated speed : 1465 rpm

Moment of inertia (J) : 0.1217 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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