

# 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%			
	50%	91.7	92.4	91.7
	75%	92.4	91.7	91.7
	100%	93.0	91.0	91.7
Power Factor	25%			
	50%	0.63	0.69	0.65
	75%	0.75	0.79	0.74
	100%	0.81	0.84	0.80

	<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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Checked by				
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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

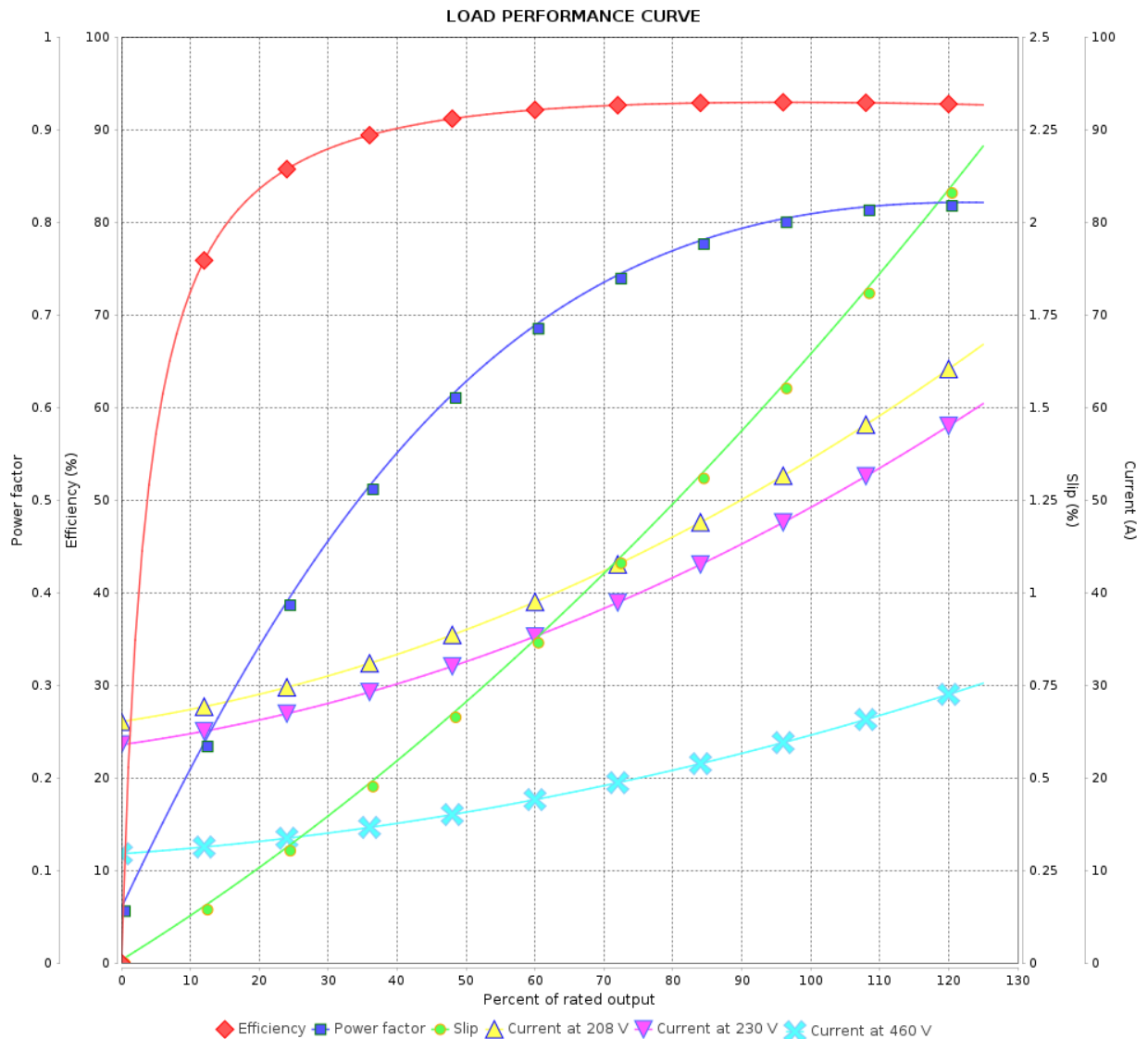
## Three Phase Induction Motor - Squirrel Cage



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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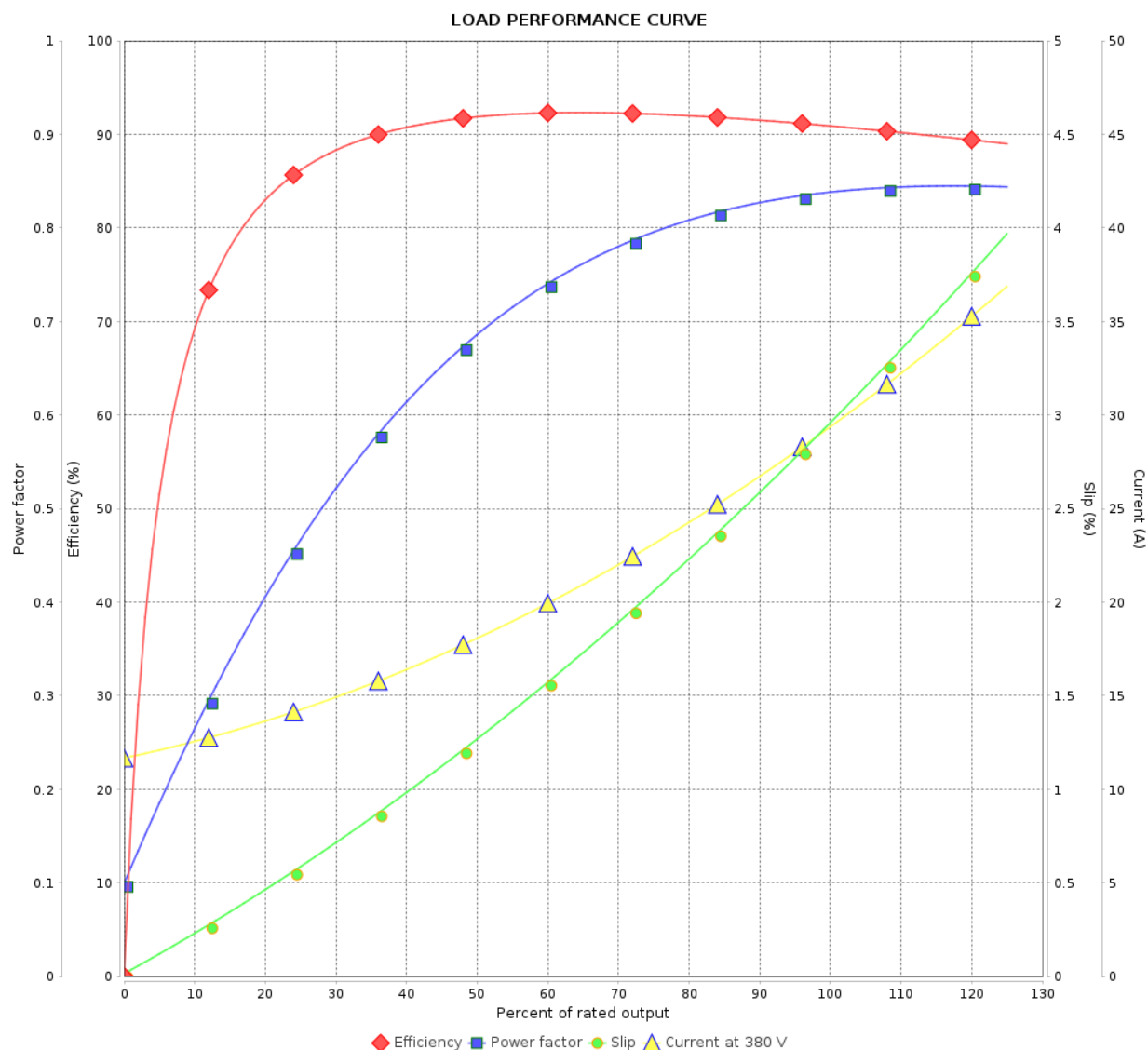
## Three Phase Induction Motor - Squirrel Cage



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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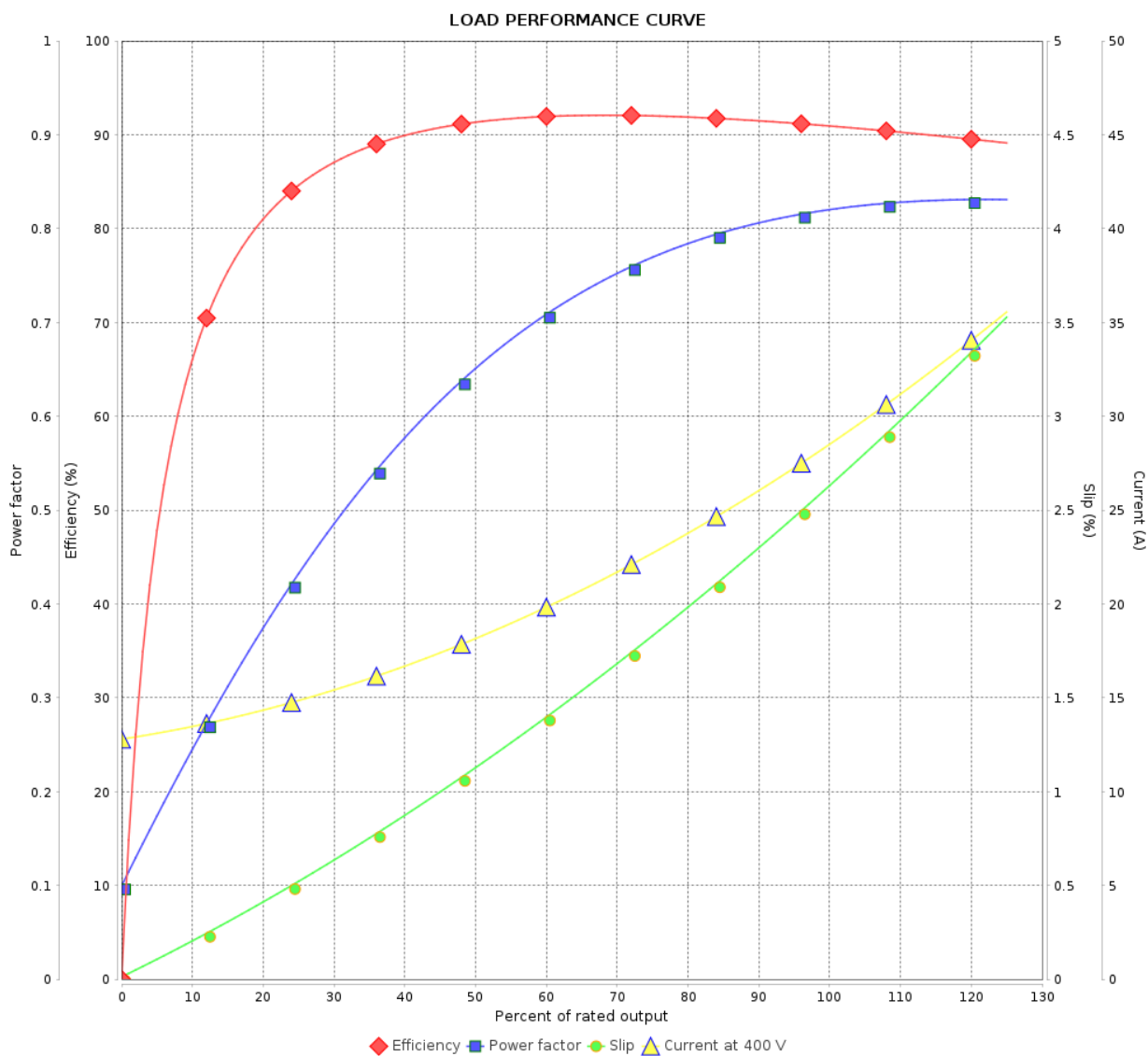
## Three Phase Induction Motor - Squirrel Cage



Customer :

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

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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

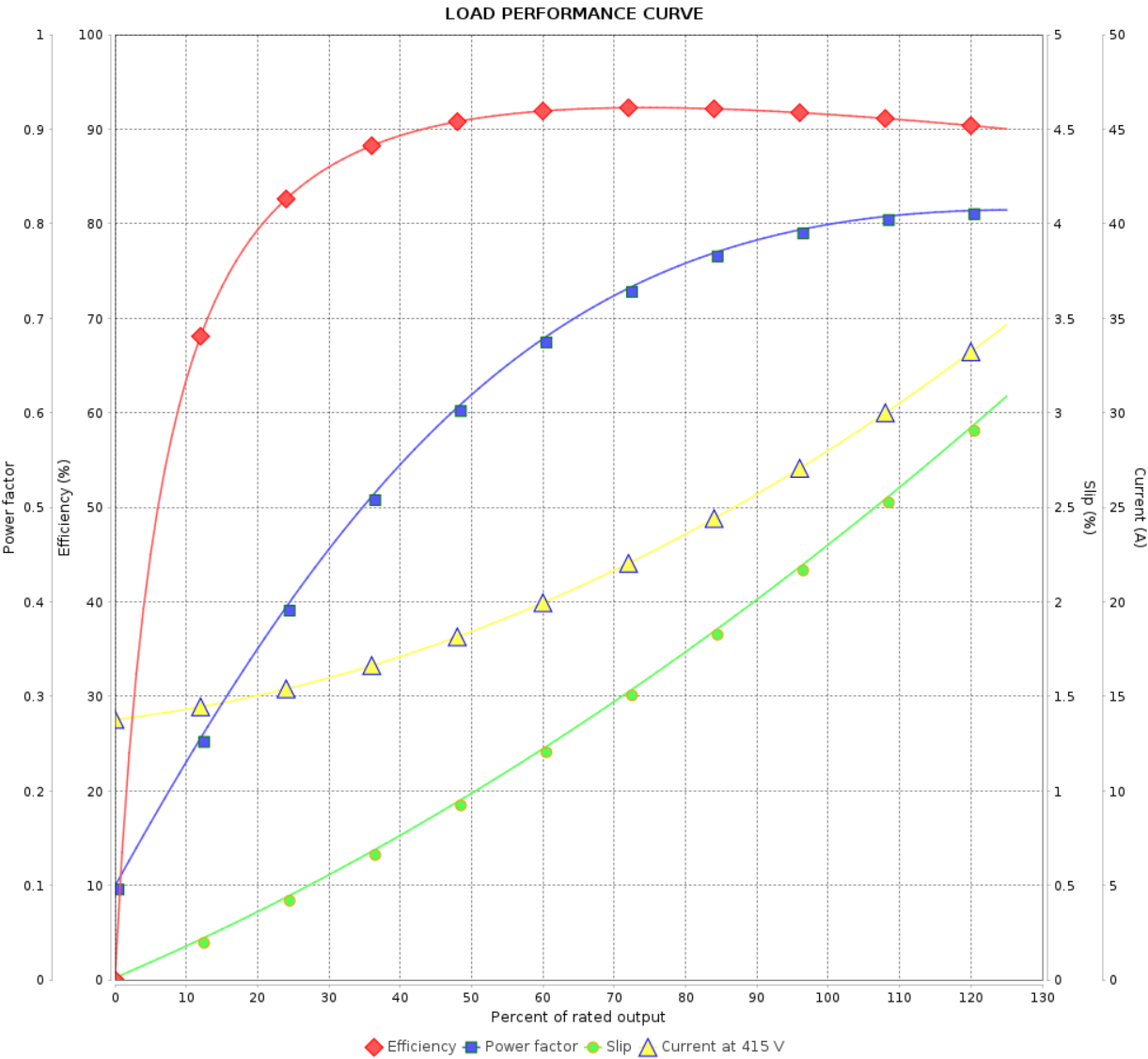
Three Phase Induction Motor - Squirrel Cage



Customer :

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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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