

# DATA SHEET



## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W21 Explosion Proof NEMA Premium Efficiency Three-Phase      Product code : 14408649

Frame	: 256TC	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>2</sup>	: 166 kg
Protection degree	: IP55	Moment of inertia (J)	: 0.0611 kgm <sup>2</sup>
Design	: B		

Output [HP]	20	20	20	20
Poles	2	2	2	2
Frequency [Hz]	60	50	50	50
Rated voltage [V]	230/460	380	400	415
Rated current [A]	46.4/23.2	27.8	26.4	25.8
L. R. Amperes [A]	288/144	136	145	157
LRC [A]	6.2x(Code G)	4.9x(Code D)	5.5x(Code F)	6.1x(Code G)
No load current [A]	13.4/6.70	6.40	6.80	7.20
Rated speed [RPM]	3530	2900	2910	2920
Slip [%]	1.94	3.33	3.00	2.67
Rated torque [kgfm]	4.11	5.01	4.99	4.97
Locked rotor torque [%]	200	140	160	180
Breakdown torque [%]	250	190	210	229
Service factor	1.15	1.00	1.00	1.00
Temperature rise	80 K	80 K	80 K	80 K
Locked rotor time	46s (cold) 26s (hot)	30s (cold) 17s (hot)	30s (cold) 17s (hot)	30s (cold) 17s (hot)
Noise level <sup>2</sup>	75.0 dB(A)	70.0 dB(A)	70.0 dB(A)	70.0 dB(A)
Efficiency (%)	25%			
	50%	90.2	90.2	90.2
	75%	91.0	91.0	91.0
	100%	91.0	91.0	91.0
Power Factor	25%			
	50%	0.79	0.83	0.81
	75%	0.86	0.88	0.87
	100%	0.89	0.90	0.90

	<u>Drive end</u>	<u>Non drive end</u>	Foundation loads
Bearing type	: 6309 C3	6209 C3	Max. traction : 97 kgf
Sealing	: Oil Seal	Lip Seal	Max. compression : 263 kgf
Lubrication interval	: 15797 h	18447 h	
Lubricant amount	: 13 g	9 g	
Lubricant type	: Mobil Polyrex EM		

Notes  
USABLE @208V 50.6A SF 1.10 SFA 55.6A

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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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

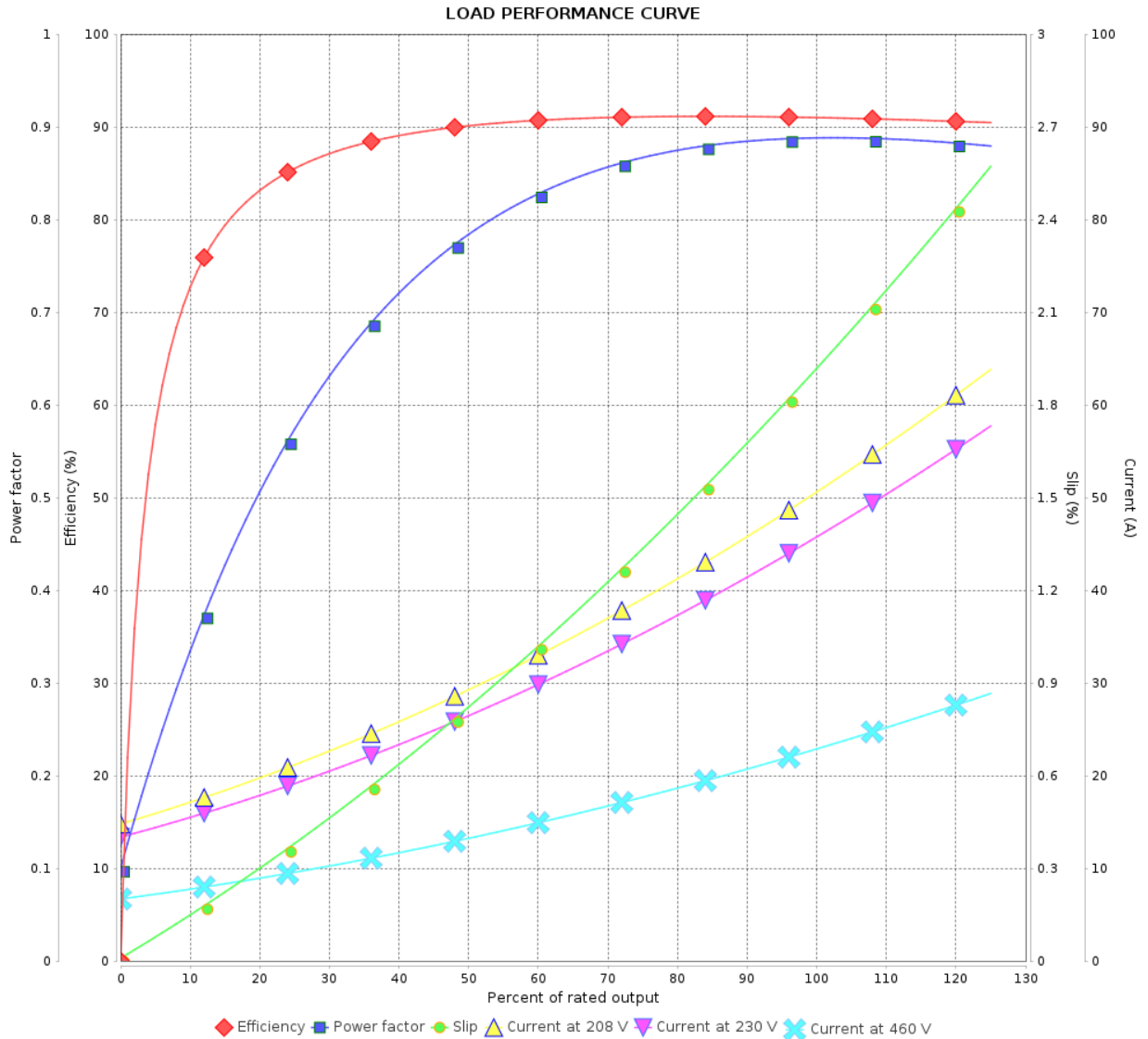
## Three Phase Induction Motor - Squirrel Cage



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Efficiency Three-Phase

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Performance : 230/460 V 60 Hz 2P

Rated current : 46.4/23.2 A  
 LRC : 6.2  
 Rated torque : 4.11 kgfm  
 Locked rotor torque : 200 %  
 Breakdown torque : 250 %  
 Rated speed : 3530 rpm

Moment of inertia (J) : 0.0611 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

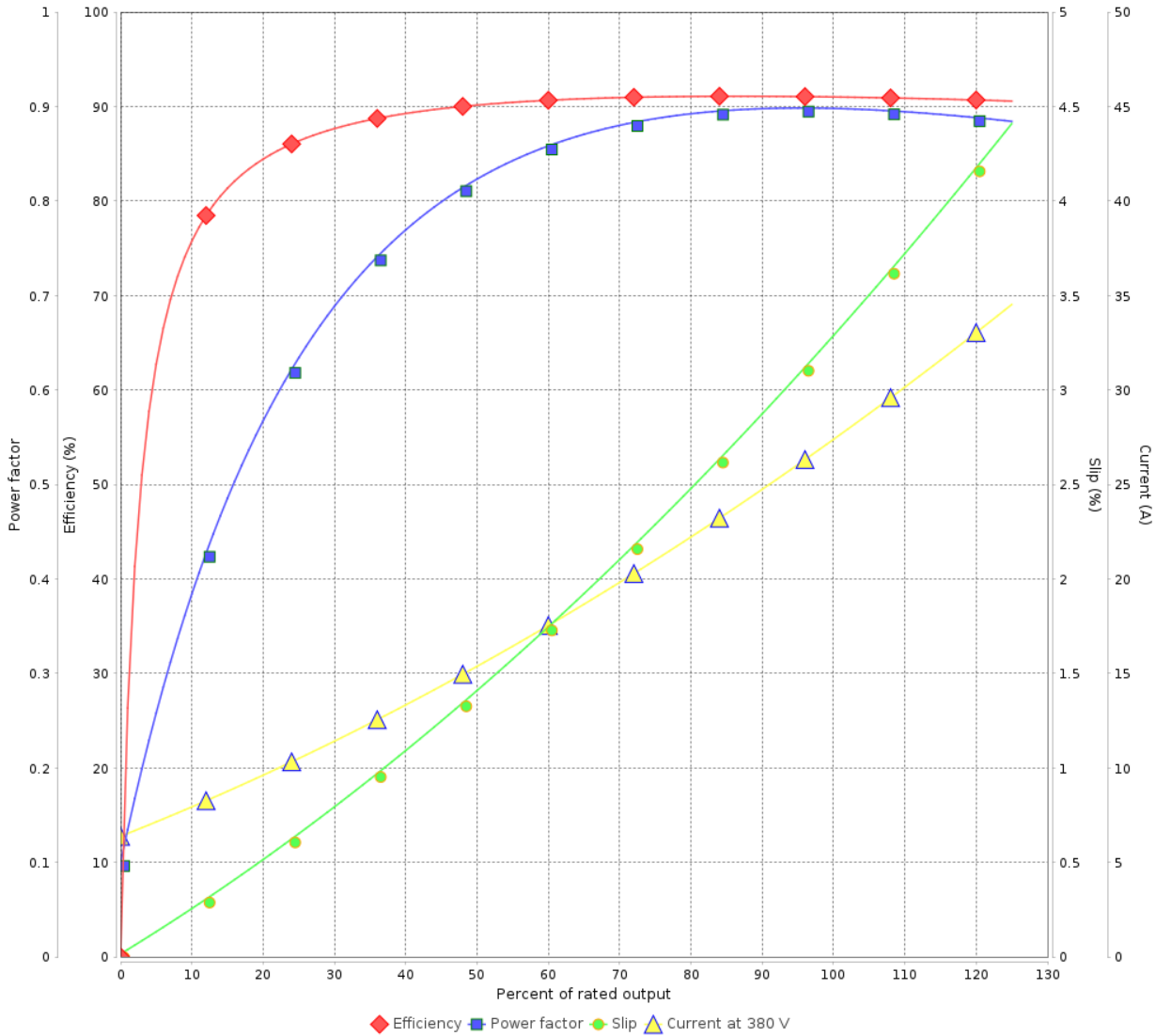


Customer :

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

Product code : 14408649

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Performance : 380 V 50 Hz 2P IE2

Rated current : 27.8 A  
LRC : 4.9  
Rated torque : 5.01 kgfm  
Locked rotor torque : 140 %  
Breakdown torque : 190 %  
Rated speed : 2900 rpm

Moment of inertia (J) : 0.0611 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

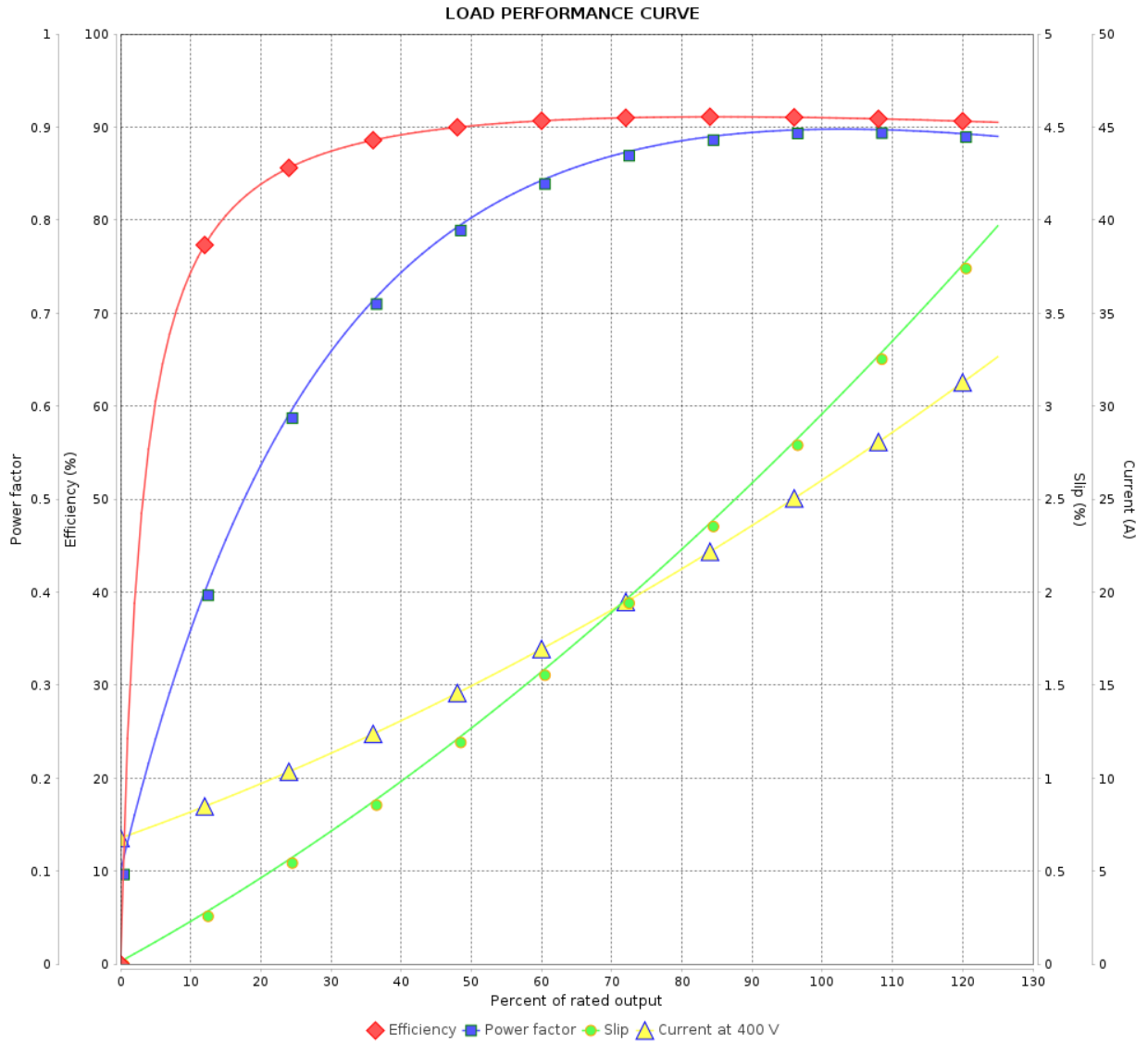
## Three Phase Induction Motor - Squirrel Cage



Customer :

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Performance : 400 V 50 Hz 2P IE2

Rated current : 26.4 A  
 LRC : 5.5  
 Rated torque : 4.99 kgfm  
 Locked rotor torque : 160 %  
 Breakdown torque : 210 %  
 Rated speed : 2910 rpm

Moment of inertia (J) : 0.0611 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

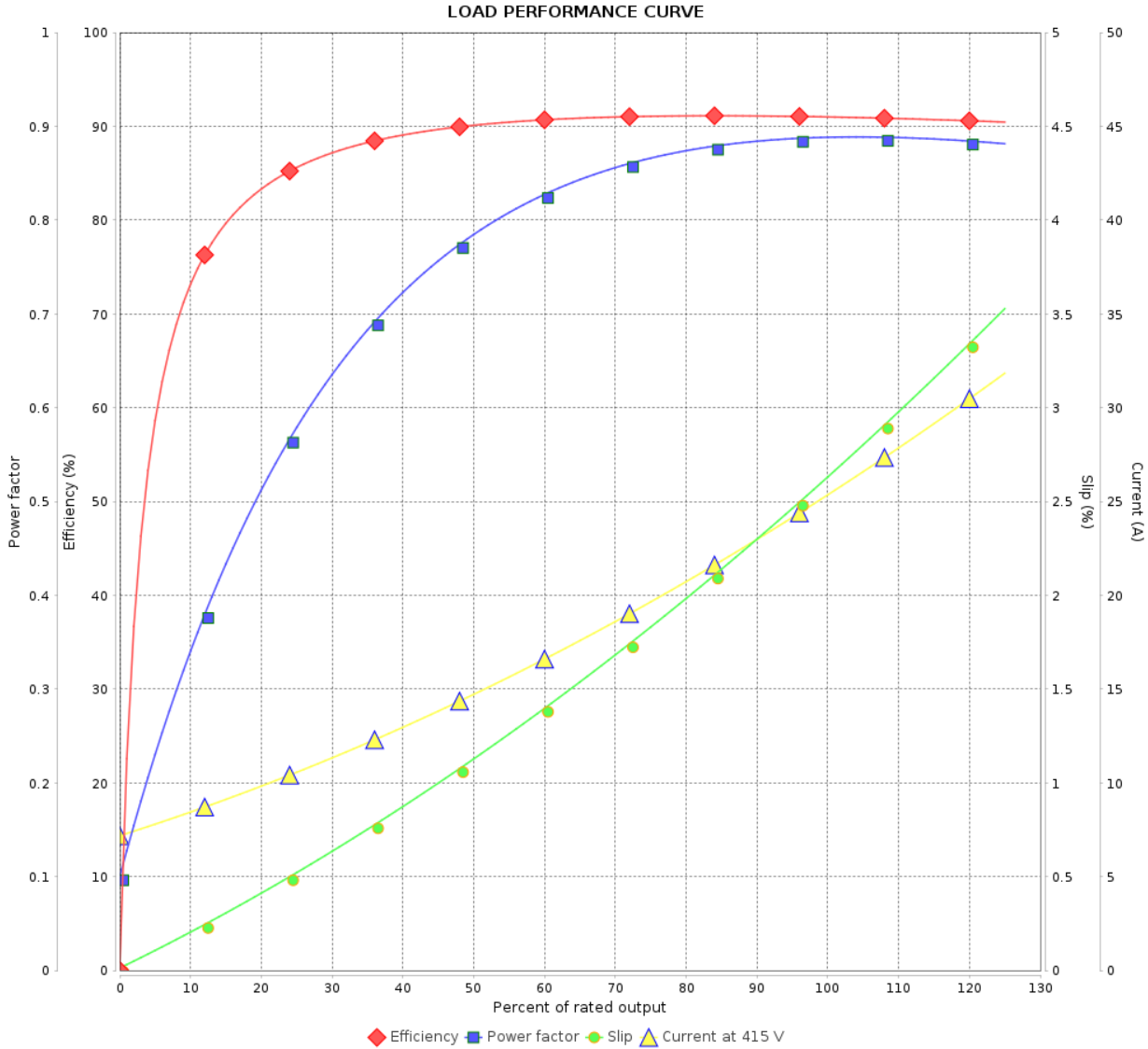
Three Phase Induction Motor - Squirrel Cage



Customer :

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Performance : 415 V 50 Hz 2P IE2

Rated current : 25.8 A  
 LRC : 6.1  
 Rated torque : 4.97 kgfm  
 Locked rotor torque : 180 %  
 Breakdown torque : 229 %  
 Rated speed : 2920 rpm

Moment of inertia (J) : 0.0611 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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