

# DATA SHEET



## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase      Product code : 12448181

Frame	: 324/6TS	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>	: 219 kg
Protection degree	: IP55	Moment of inertia (J)	: 0.2063 kgm <sup>2</sup>
Design	: B		

Output [HP]	40	30	30	30	40	40	40
Poles	2	2	2	2	2	2	2
Frequency [Hz]	60	50	50	50	50	50	50
Rated voltage [V]	230/460	380	400	415	380	400	415
Rated current [A]	92.6/46.3	41.0	39.8	38.8	56.3	53.7	52.3
L. R. Amperes [A]	584/292	295	299	303	281	300	324
LRC [A]	6.3x(Code G)	7.2x(Code H)	7.5x(Code H)	7.8x(Code J)	5.0x(Code E)	5.6x(Code F)	6.2x(Code G)
No load current [A]	25.0/12.5	11.9	13.2	14.5	12.0	13.2	14.5
Rated speed [RPM]	3555	2963	2968	2970	2935	2945	2952
Slip [%]	1.25	1.23	1.07	1.00	2.17	1.83	1.60
Rated torque [kgfm]	8.17	7.35	7.34	7.33	9.89	9.86	9.83
Locked rotor torque [%]	250	240	270	290	180	200	220
Breakdown torque [%]	240	250	280	310	200	210	229
Service factor	1.25	1.00	1.00	1.00	1.00	1.00	1.00
Temperature rise	80 K	80 K	80 K	80 K	105 K	105 K	105 K
Locked rotor time	39s (cold) 22s (hot)	27s (cold) 15s (hot)	27s (cold) 15s (hot)	27s (cold) 15s (hot)	27s (cold) 15s (hot)	27s (cold) 15s (hot)	27s (cold) 15s (hot)
Noise level <sup>2</sup>	76.0 dB(A)	72.0 dB(A)	72.0 dB(A)	72.0 dB(A)	72.0 dB(A)	72.0 dB(A)	72.0 dB(A)
Efficiency (%)	25%	0.000			0.000		
	50%	91.7	90.9	90.3	90.7	91.7	91.7
	75%	92.4	91.8	91.7	92.1	91.7	91.7
	100%	92.4	92.7	92.7	92.7	91.0	91.7
Power Factor	25%	0.00			0.00		
	50%	0.80	0.77	0.74	0.71	0.84	0.81
	75%	0.86	0.85	0.83	0.80	0.88	0.86
	100%	0.88	0.88	0.86	0.85	0.89	0.88

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

Losses (%)	P1 (0,9;1,0)	7.4	7.1	7.1	7.1	8.9	8.2	8.2
	P2 (0,5;1,0)	4.7	4.5	4.5	4.5	5.7	5.2	5.2
	P3 (0,25;1,0)	3.8	3.6	3.6	3.6	4.6	4.2	4.2
	P4 (0,9;0,5)	4.6	4.4	4.4	4.4	5.5	5.0	5.0
	P5 (0,5;0,5)	2.2	2.1	2.1	2.1	2.7	2.4	2.4
	P6 (0,5;0,25)	1.7	1.6	1.6	1.6	2.0	1.8	1.8
	P7 (0,25;0,25)	0.8	0.8	0.8	0.8	1.0	0.9	0.9

Bearing type	: 6312 C3	6212 C3	Foundation loads	
	: V'Ring	V'Ring		Max. traction : 175 kgf
	: 12000 h	15000 h		Max. compression : 394 kgf
	: 21 g	13 g		
	: Mobil Polyrex EM			

This revision replaces and cancel the previous one, which must be eliminated.

(1) Looking the motor from the shaft end.

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

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## Three Phase Induction Motor - Squirrel Cage



Customer : \_\_\_\_\_

Notes  
USABLE @208V 101A SF 1.10 SFA 111A

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# LOAD PERFORMANCE CURVE

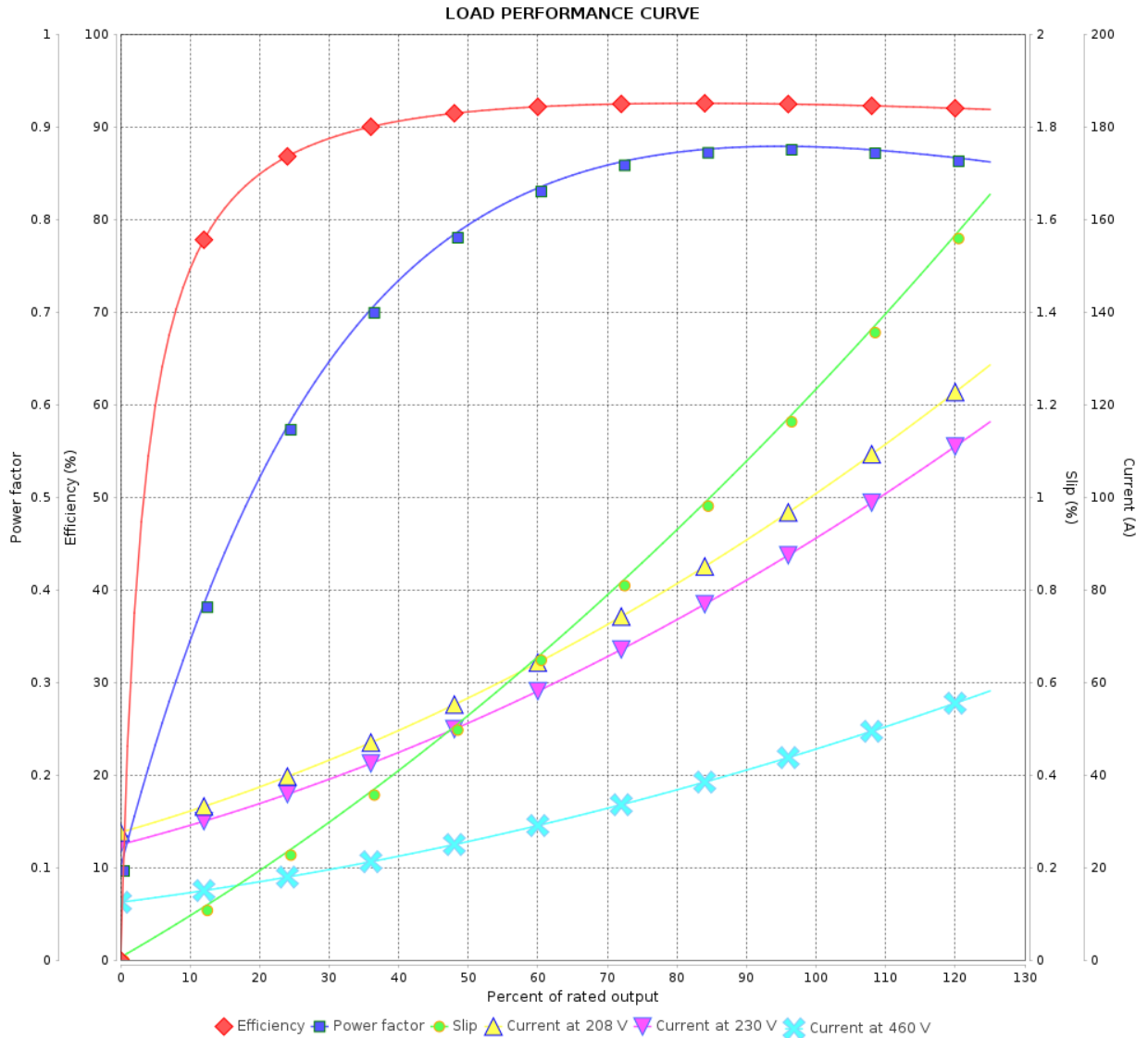
## Three Phase Induction Motor - Squirrel Cage



Customer : \_\_\_\_\_

Product line : W22 NEMA Premium Efficiency Three-Phase

Product code : 12448181



Performance : 230/460 V 60 Hz 2P

Rated current : 92.6/46.3 A  
 LRC : 6.3  
 Rated torque : 8.17 kgfm  
 Locked rotor torque : 250 %  
 Breakdown torque : 240 %  
 Rated speed : 3555 rpm

Moment of inertia (J) : 0.2063 kgm<sup>2</sup>  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.25  
 Temperature rise : 80 K  
 Design : B

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# LOAD PERFORMANCE CURVE

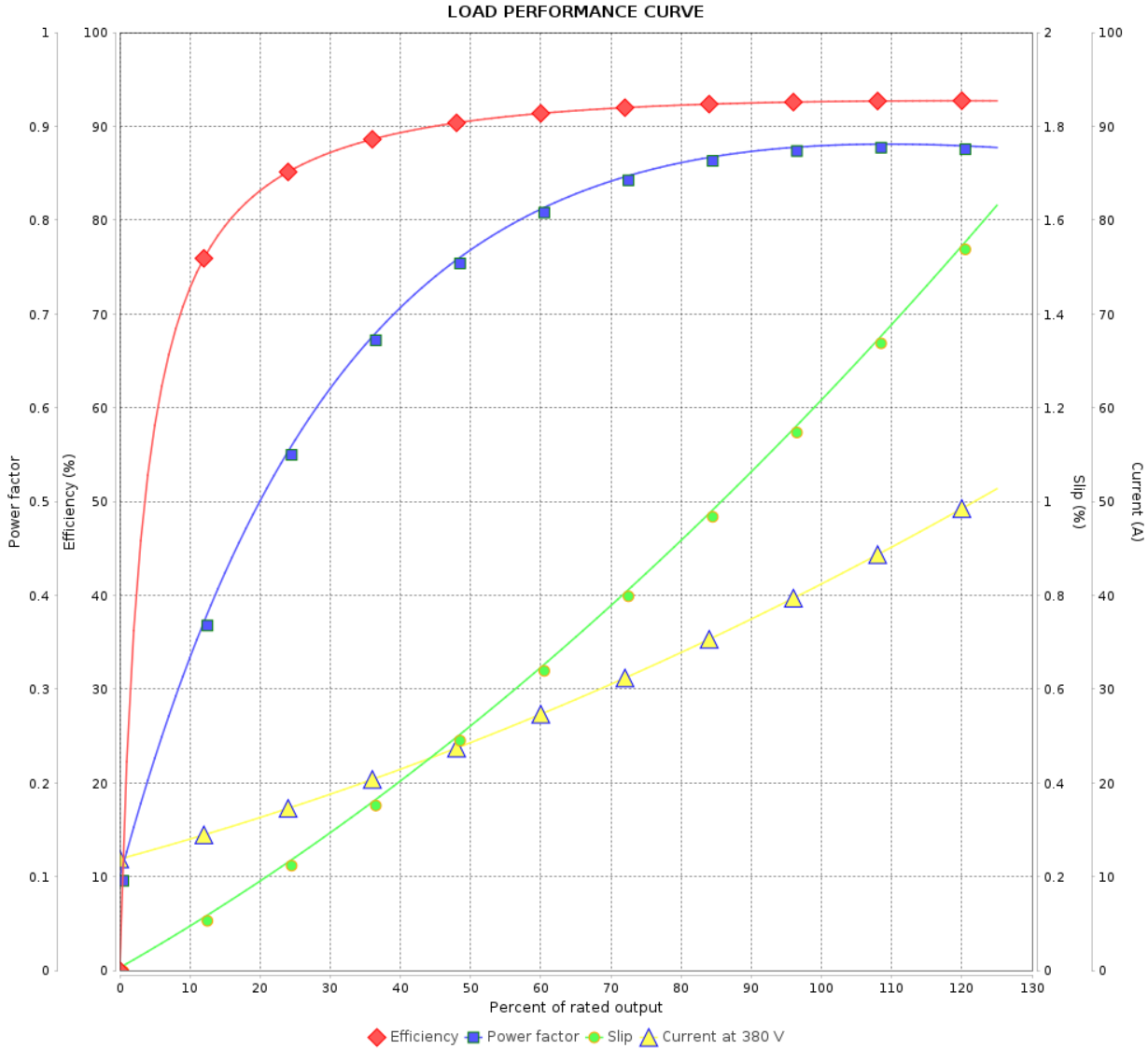
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase

Product code : 12448181



Performance : 380 V 50 Hz 2P IE3

Rated current : 41.0 A  
 LRC : 7.2  
 Rated torque : 7.35 kgfm  
 Locked rotor torque : 240 %  
 Breakdown torque : 250 %  
 Rated speed : 2963 rpm

Moment of inertia (J) : 0.2063 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

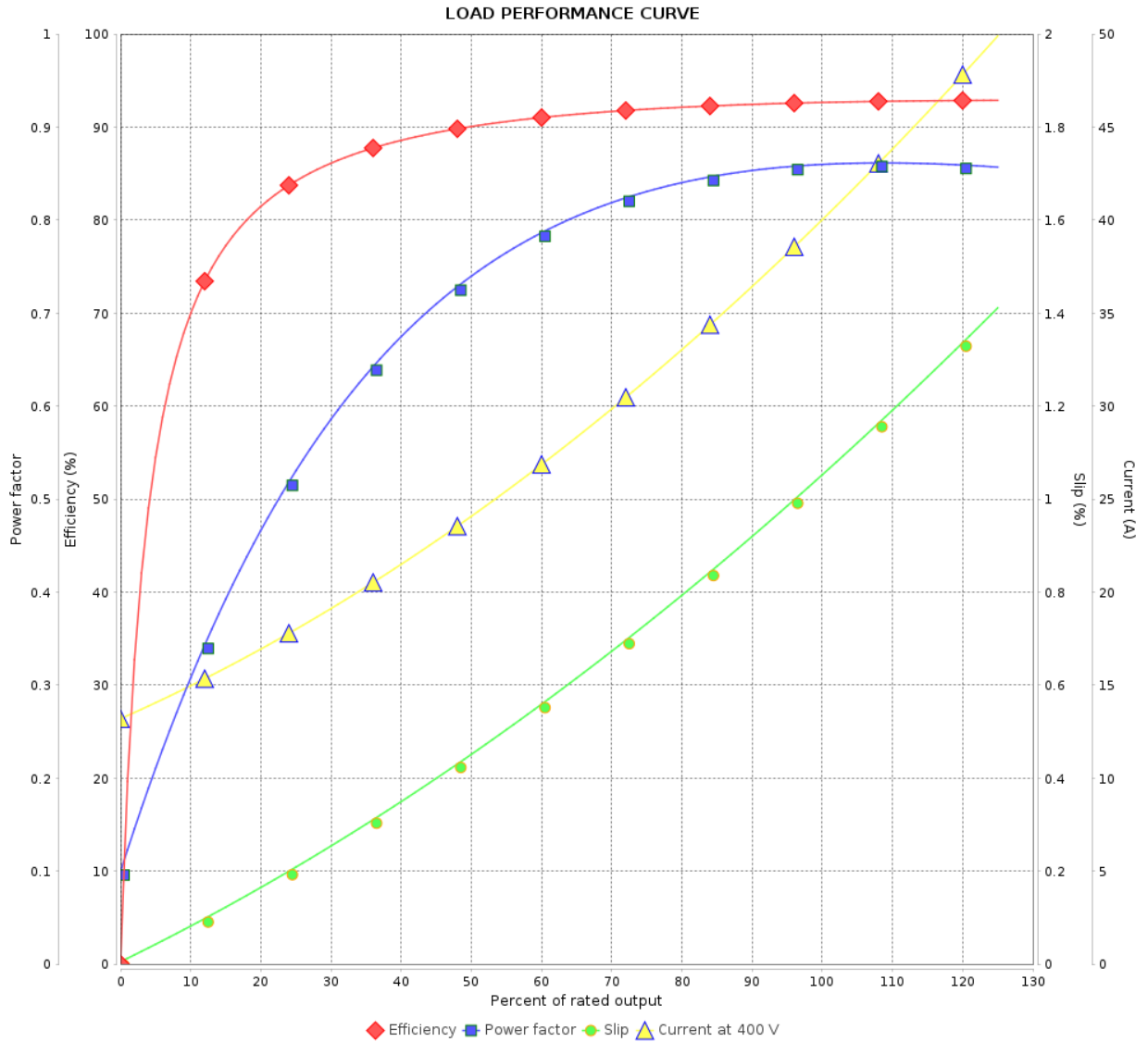
## Three Phase Induction Motor - Squirrel Cage



Customer : \_\_\_\_\_

Product line : W22 NEMA Premium Efficiency Three-Phase

Product code : 12448181



Performance : 400 V 50 Hz 2P IE3

Rated current : 39.8 A  
 LRC : 7.5  
 Rated torque : 7.34 kgfm  
 Locked rotor torque : 270 %  
 Breakdown torque : 280 %  
 Rated speed : 2968 rpm

Moment of inertia (J) : 0.2063 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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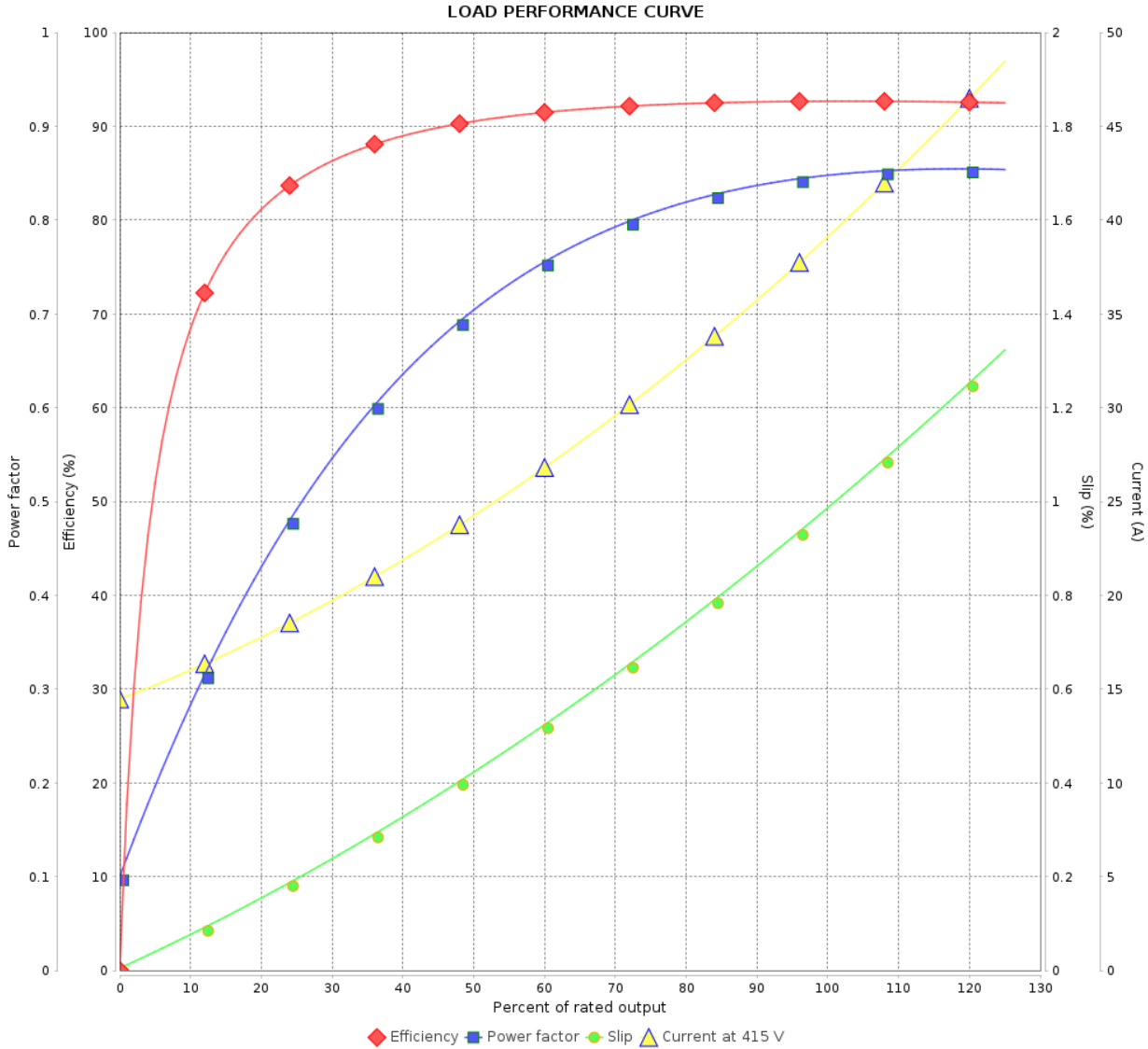
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase

Product code : 12448181



Performance : 415 V 50 Hz 2P IE3

Rated current : 38.8 A  
 LRC : 7.8  
 Rated torque : 7.33 kgfm  
 Locked rotor torque : 290 %  
 Breakdown torque : 310 %  
 Rated speed : 2970 rpm

Moment of inertia (J) : 0.2063 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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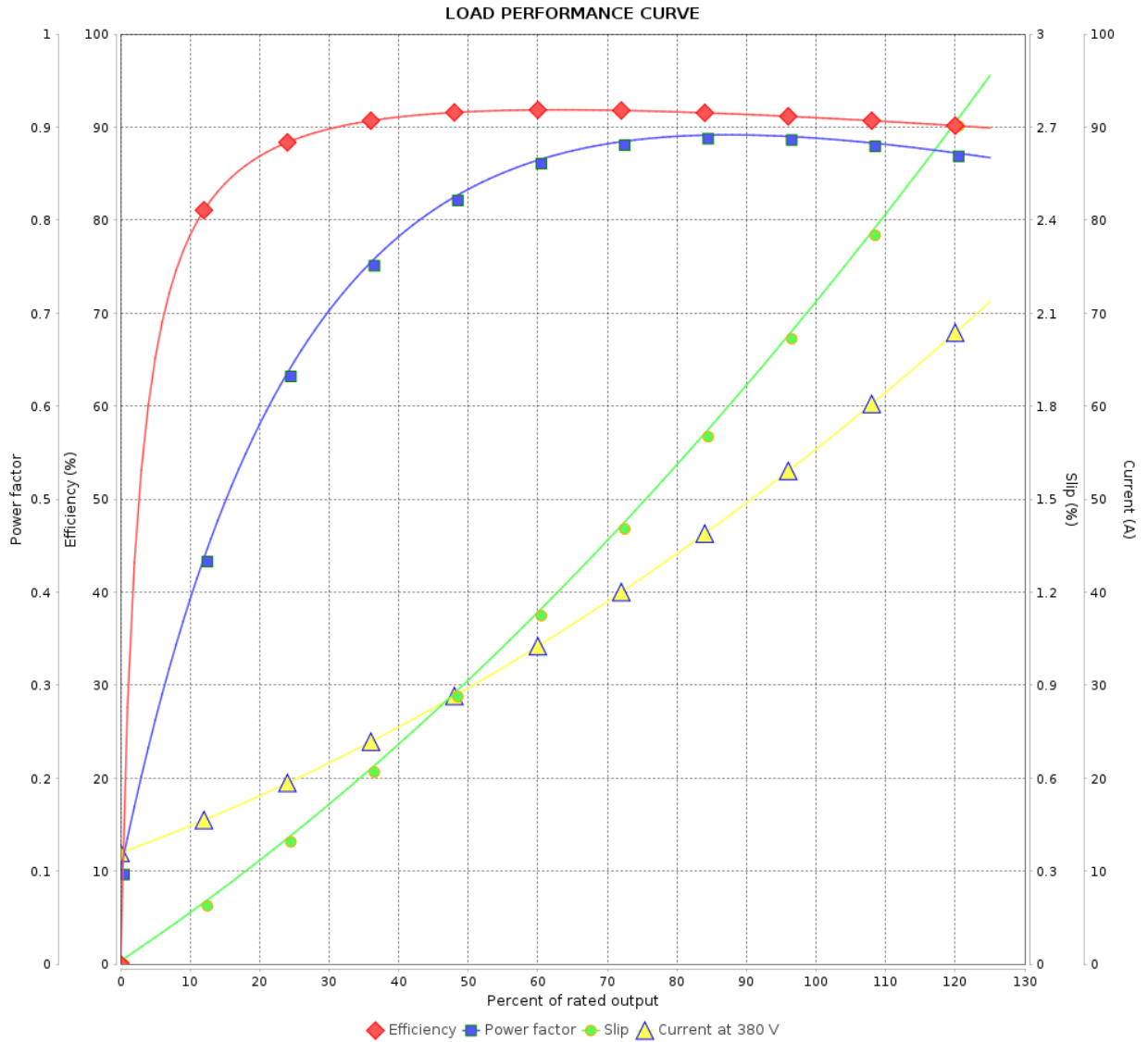
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase

Product code : 12448181



Performance : 380 V 50 Hz 2P IE1

Rated current : 56.3 A  
 LRC : 5.0  
 Rated torque : 9.89 kgfm  
 Locked rotor torque : 180 %  
 Breakdown torque : 200 %  
 Rated speed : 2935 rpm

Moment of inertia (J) : 0.2063 kgm<sup>2</sup>  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 105 K  
 Design : B

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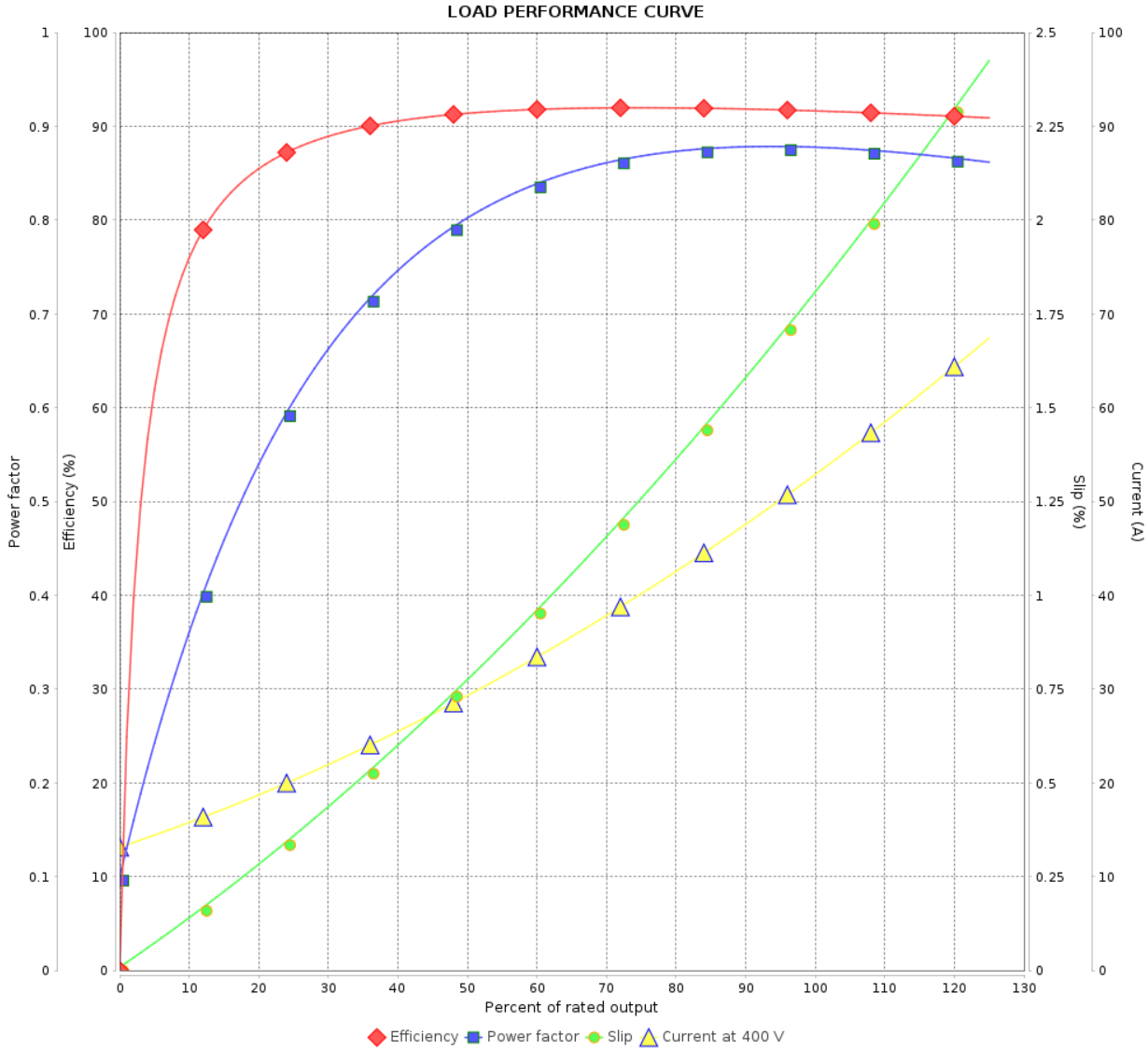
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase

Product code : 12448181



Performance : 400 V 50 Hz 2P IE1

Rated current : 53.7 A  
 LRC : 5.6  
 Rated torque : 9.86 kgfm  
 Locked rotor torque : 200 %  
 Breakdown torque : 210 %  
 Rated speed : 2945 rpm

Moment of inertia (J) : 0.2063 kgm<sup>2</sup>  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 105 K  
 Design : B

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# LOAD PERFORMANCE CURVE

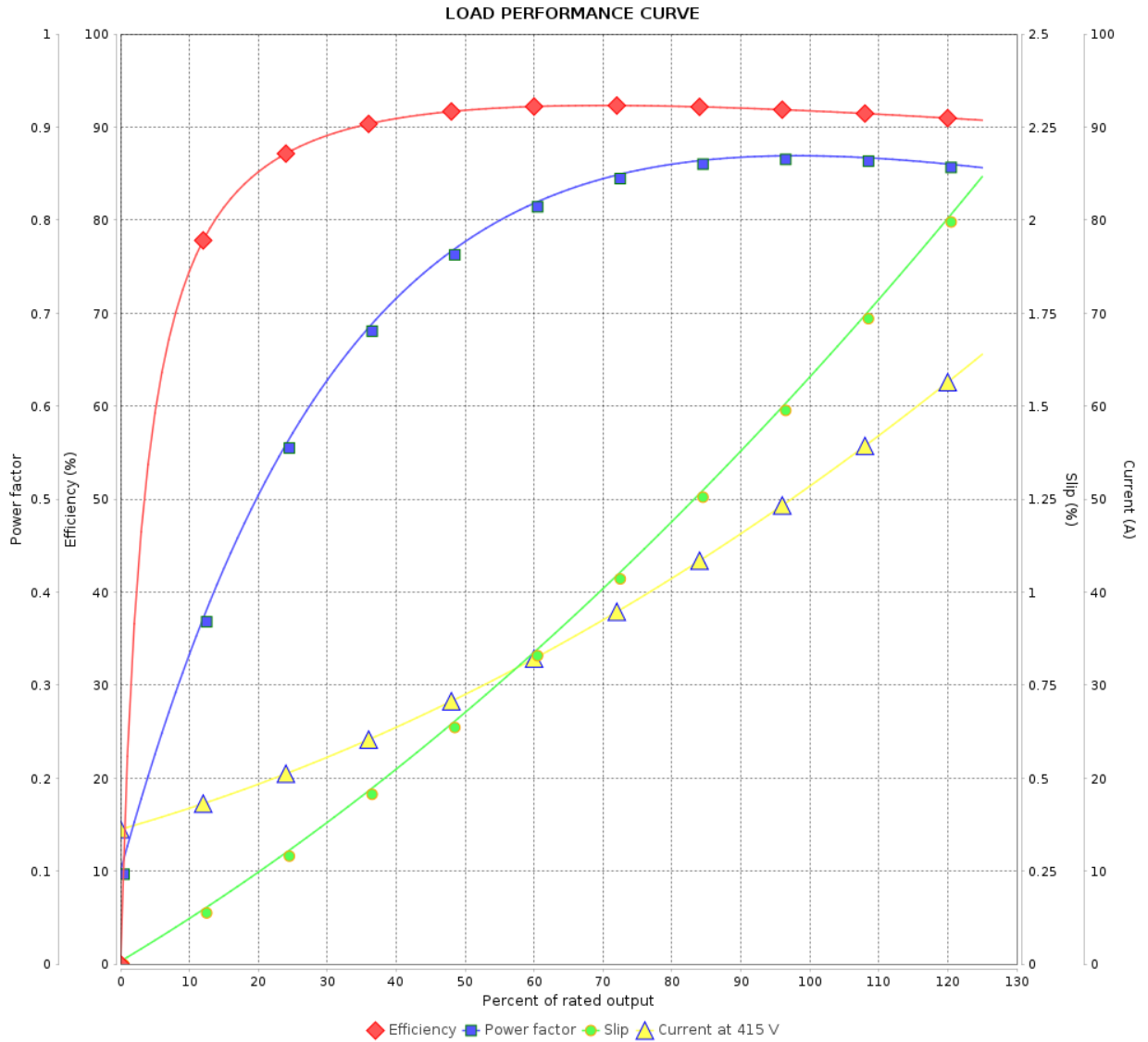
## Three Phase Induction Motor - Squirrel Cage



Customer : \_\_\_\_\_

Product line : W22 NEMA Premium Efficiency Three-Phase

Product code : 12448181



Performance : 415 V 50 Hz 2P IE1

Rated current : 52.3 A  
 LRC : 6.2  
 Rated torque : 9.83 kgfm  
 Locked rotor torque : 220 %  
 Breakdown torque : 229 %  
 Rated speed : 2952 rpm

Moment of inertia (J) : 0.2063 kgm<sup>2</sup>  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 105 K  
 Design : B

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