

# DATA SHEET



## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase      Product code : 11440690

Frame	: 324/6TSC	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>	: 254 kg
Protection degree	: IP55	Moment of inertia (J)	: 0.2422 kgm <sup>2</sup>
Design	: B		

Output [HP]	50	40	40	40	50	50	50
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]	112/56.1	55.1	52.7	51.4	69.4	65.4	62.6
L. R. Amperes [A]	707/353	363	374	396	361	366	394
LRC [A]	6.3x(Code G)	6.6x(Code G)	7.1x(Code H)	7.7x(Code J)	5.2x(Code E)	5.6x(Code F)	6.3x(Code G)
No load current [A]	28.0/14.0	13.0	14.1	15.5	13.0	14.1	15.5
Rated speed [RPM]	3560	2960	2965	2967	2935	2947	2954
Slip [%]	1.11	1.33	1.17	1.10	2.17	1.77	1.53
Rated torque [kgfm]	10.2	9.81	9.79	9.78	12.4	12.3	12.3
Locked rotor torque [%]	240	240	260	280	190	210	229
Breakdown torque [%]	240	229	250	280	190	200	220
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	36s (cold) 20s (hot)	32s (cold) 18s (hot)	32s (cold) 18s (hot)	30s (cold) 17s (hot)	21s (cold) 12s (hot)	23s (cold) 13s (hot)	21s (cold) 12s (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					
	50%	93.0	92.8	92.2	92.2	93.0	93.0
	75%	93.0	92.9	92.8	93.1	92.4	93.0
	100%	93.0	93.0	93.3	93.3	91.0	92.4
Power Factor	25%	0.00					
	50%	0.81	0.80	0.77	0.76	0.85	0.83
	75%	0.87	0.87	0.86	0.84	0.88	0.88
	100%	0.89	0.89	0.88	0.87	0.89	0.89

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

Losses (%)	P1 (0,9;1,0)	6.8	6.8	6.5	6.5	9.0	8.2	7.5
	P2 (0,5;1,0)	4.4	4.4	4.2	4.2	5.7	5.3	4.8
	P3 (0,25;1,0)	3.5	3.5	3.3	3.3	4.6	4.2	3.8
	P4 (0,9;0,5)	4.1	4.1	3.9	3.9	5.4	5.0	4.5
	P5 (0,5;0,5)	2.0	2.0	1.9	1.9	2.7	2.5	2.2
	P6 (0,5;0,25)	1.5	1.5	1.4	1.4	2.0	1.8	1.6
	P7 (0,25;0,25)	0.7	0.7	0.7	0.7	1.0	0.9	0.8

Bearing type	: 6312 C3	6212 C3	Foundation loads	
	: V'Ring	V'Ring		Max. traction : 213 kgf
	: 12000 h	15000 h		Max. compression : 467 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 124A SF 1.10 SFA 136A

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# LOAD PERFORMANCE CURVE

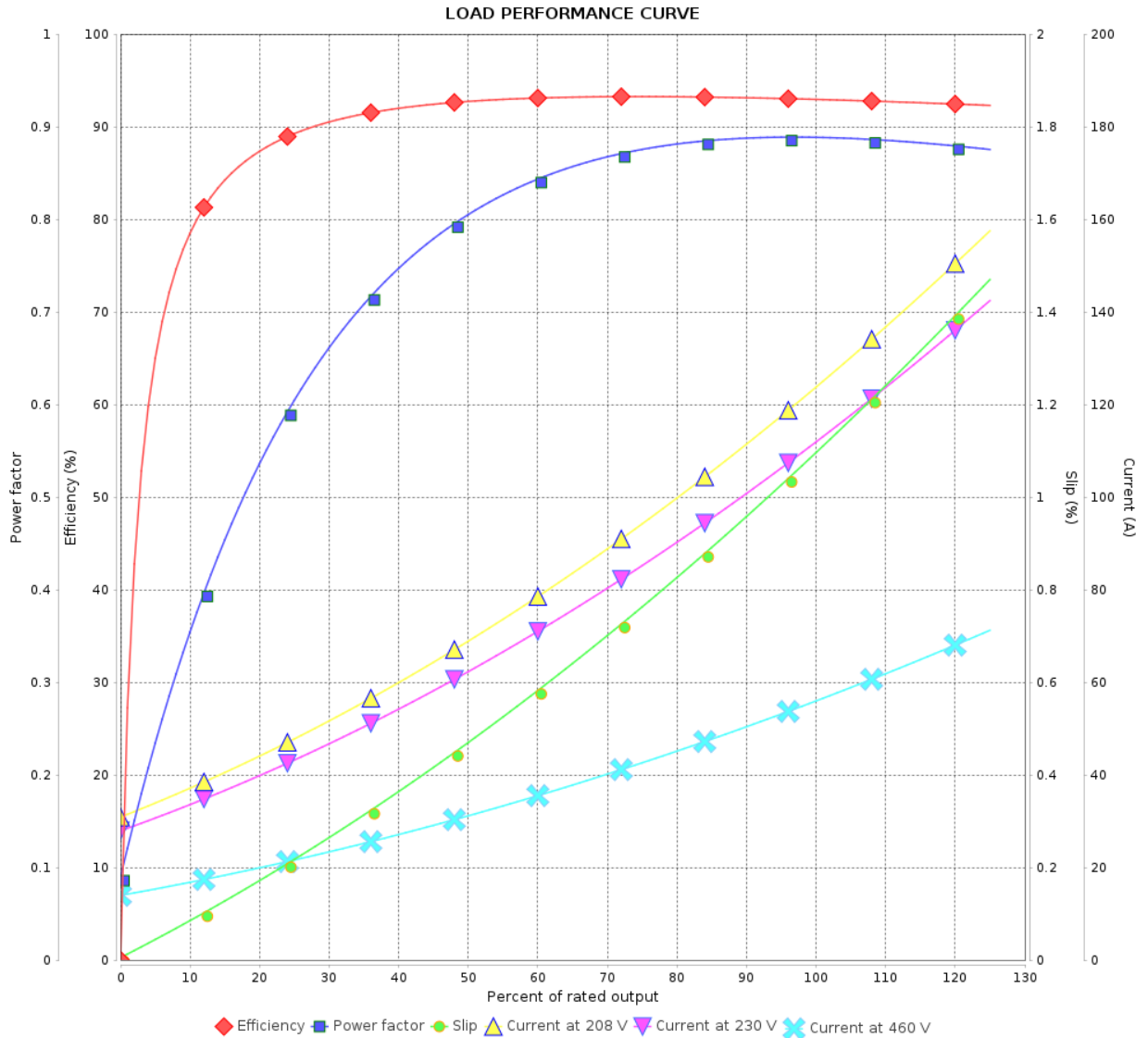
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase

Product code : 11440690



Performance : 230/460 V 60 Hz 2P

Rated current : 112/56.1 A  
 LRC : 6.3  
 Rated torque : 10.2 kgfm  
 Locked rotor torque : 240 %  
 Breakdown torque : 240 %  
 Rated speed : 3560 rpm

Moment of inertia (J) : 0.2422 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

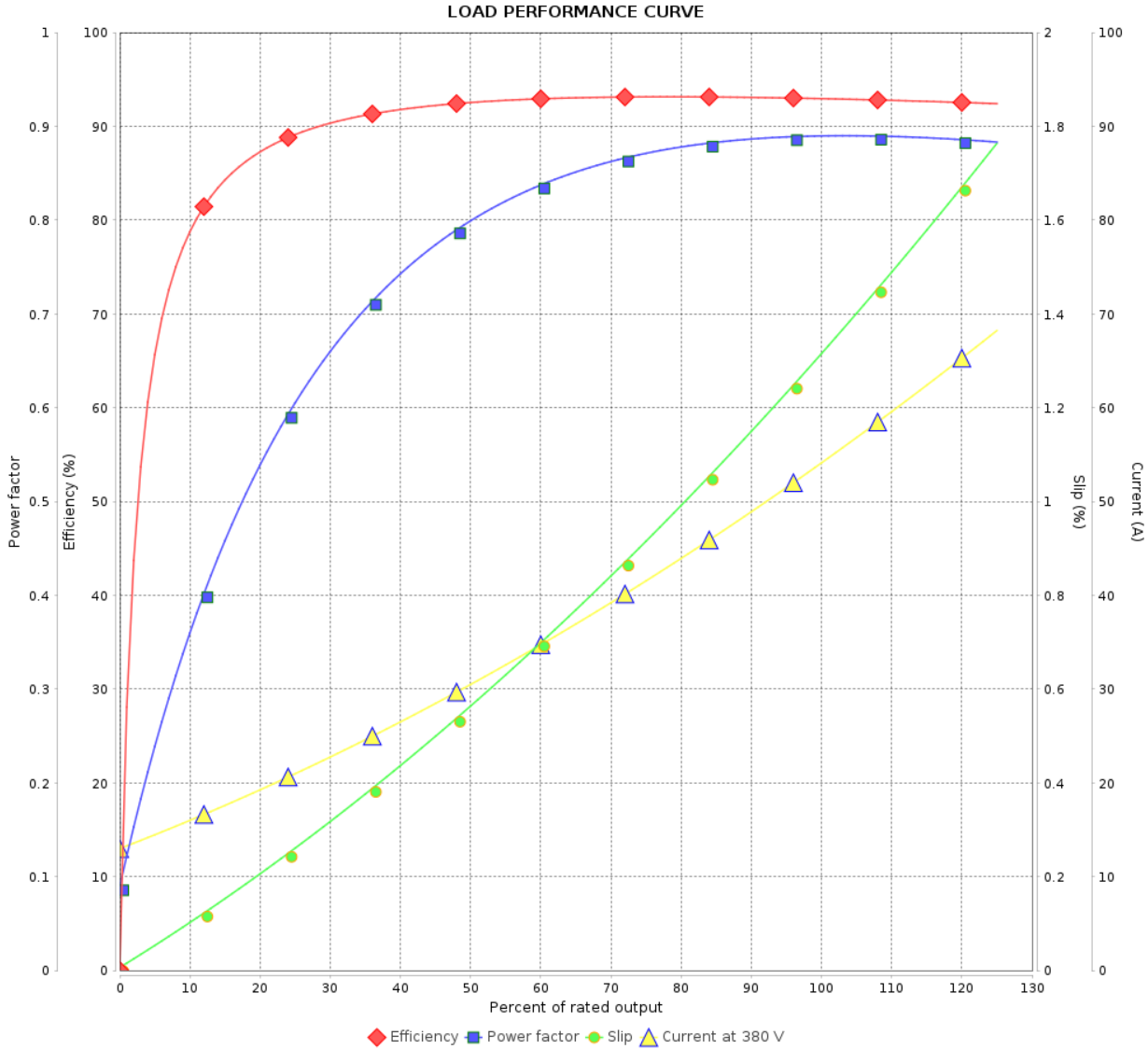
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase

Product code : 11440690



Performance : 380 V 50 Hz 2P IE2

Rated current : 55.1 A  
 LRC : 6.6  
 Rated torque : 9.81 kgfm  
 Locked rotor torque : 240 %  
 Breakdown torque : 229 %  
 Rated speed : 2960 rpm

Moment of inertia (J) : 0.2422 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

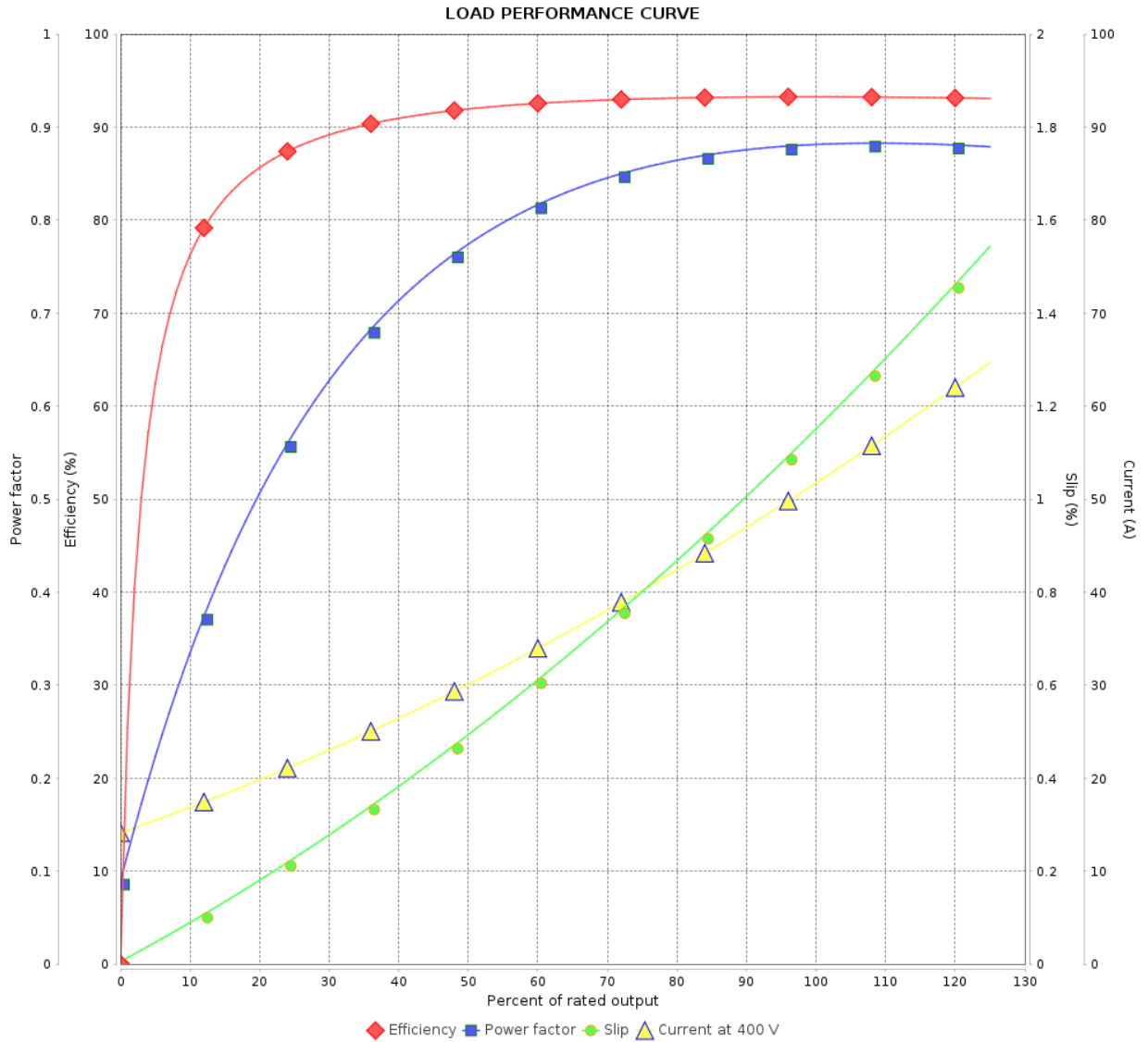
## Three Phase Induction Motor - Squirrel Cage



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

Product line : W22 NEMA Premium Efficiency Three-Phase

Product code : 11440690



Performance : 400 V 50 Hz 2P IE3

Rated current : 52.7 A  
 LRC : 7.1  
 Rated torque : 9.79 kgfm  
 Locked rotor torque : 260 %  
 Breakdown torque : 250 %  
 Rated speed : 2965 rpm

Moment of inertia (J) : 0.2422 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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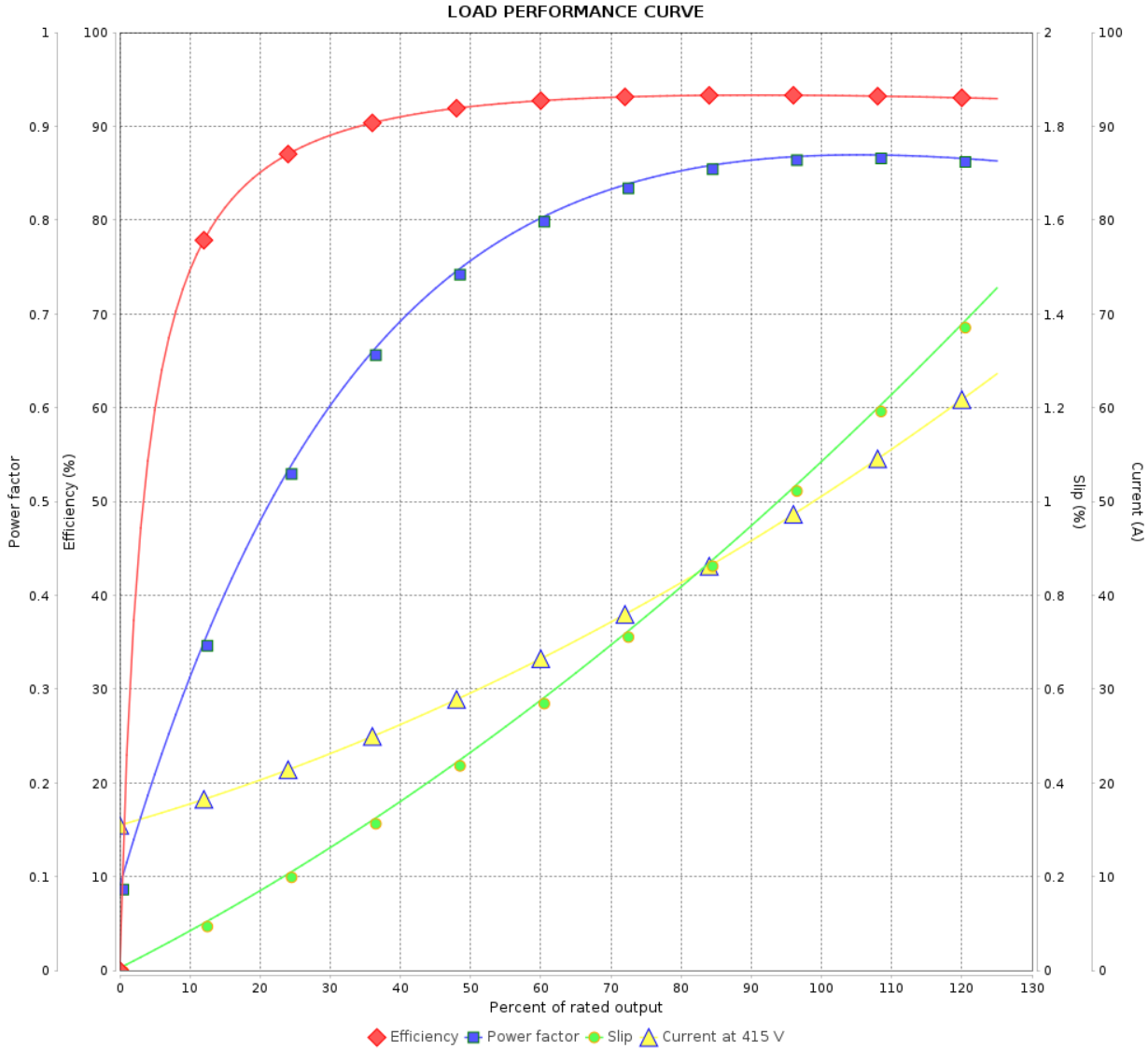
Three Phase Induction Motor - Squirrel Cage



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

Product line : W22 NEMA Premium Efficiency Three-Phase

Product code : 11440690



Performance : 415 V 50 Hz 2P IE3

Rated current : 51.4 A  
 LRC : 7.7  
 Rated torque : 9.78 kgfm  
 Locked rotor torque : 280 %  
 Breakdown torque : 280 %  
 Rated speed : 2967 rpm

Moment of inertia (J) : 0.2422 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

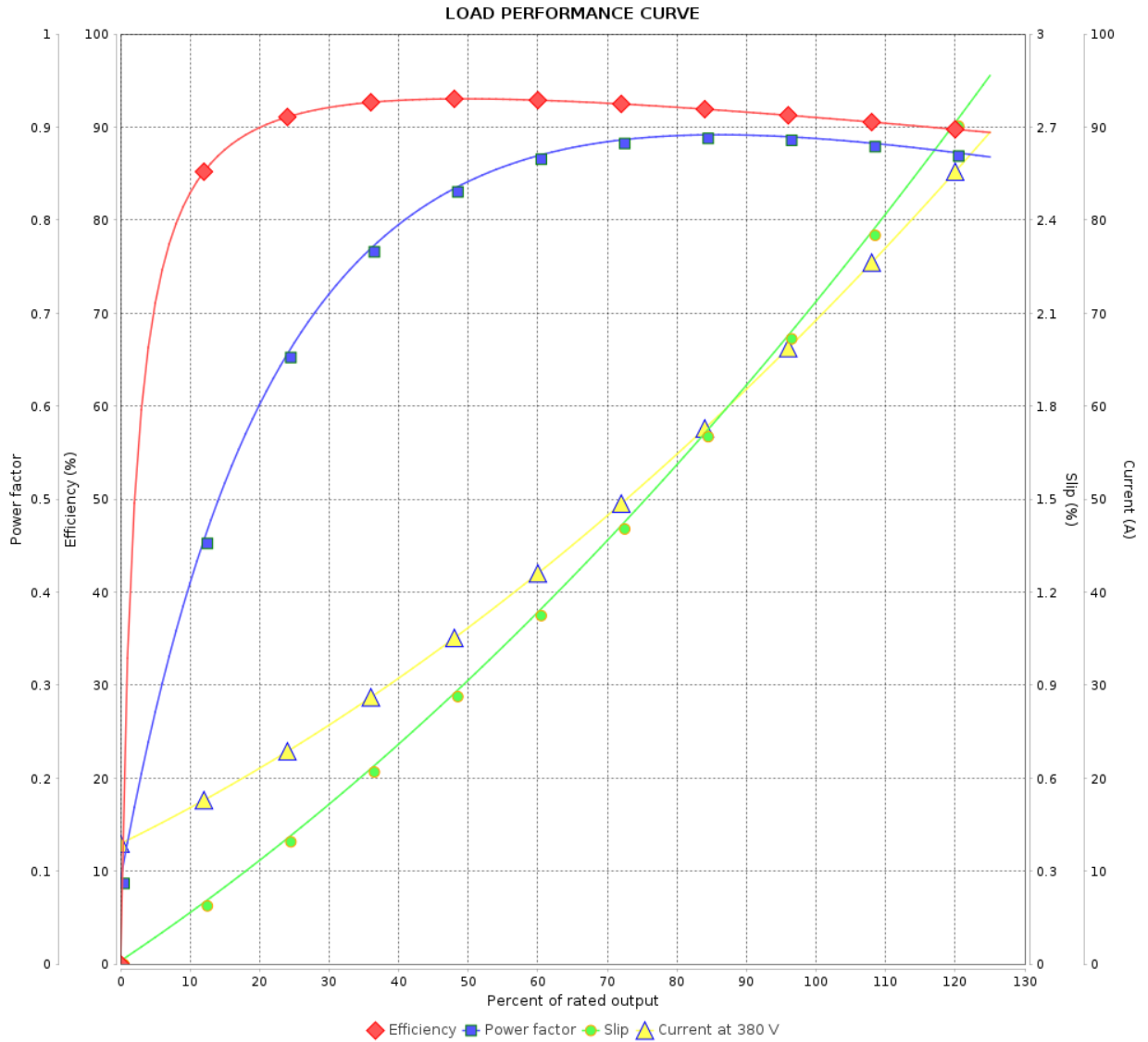
## Three Phase Induction Motor - Squirrel Cage



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

Product line : W22 NEMA Premium Efficiency Three-Phase

Product code : 11440690



Performance : 380 V 50 Hz 2P

Rated current : 69.4 A  
 LRC : 5.2  
 Rated torque : 12.4 kgfm  
 Locked rotor torque : 190 %  
 Breakdown torque : 190 %  
 Rated speed : 2935 rpm

Moment of inertia (J) : 0.2422 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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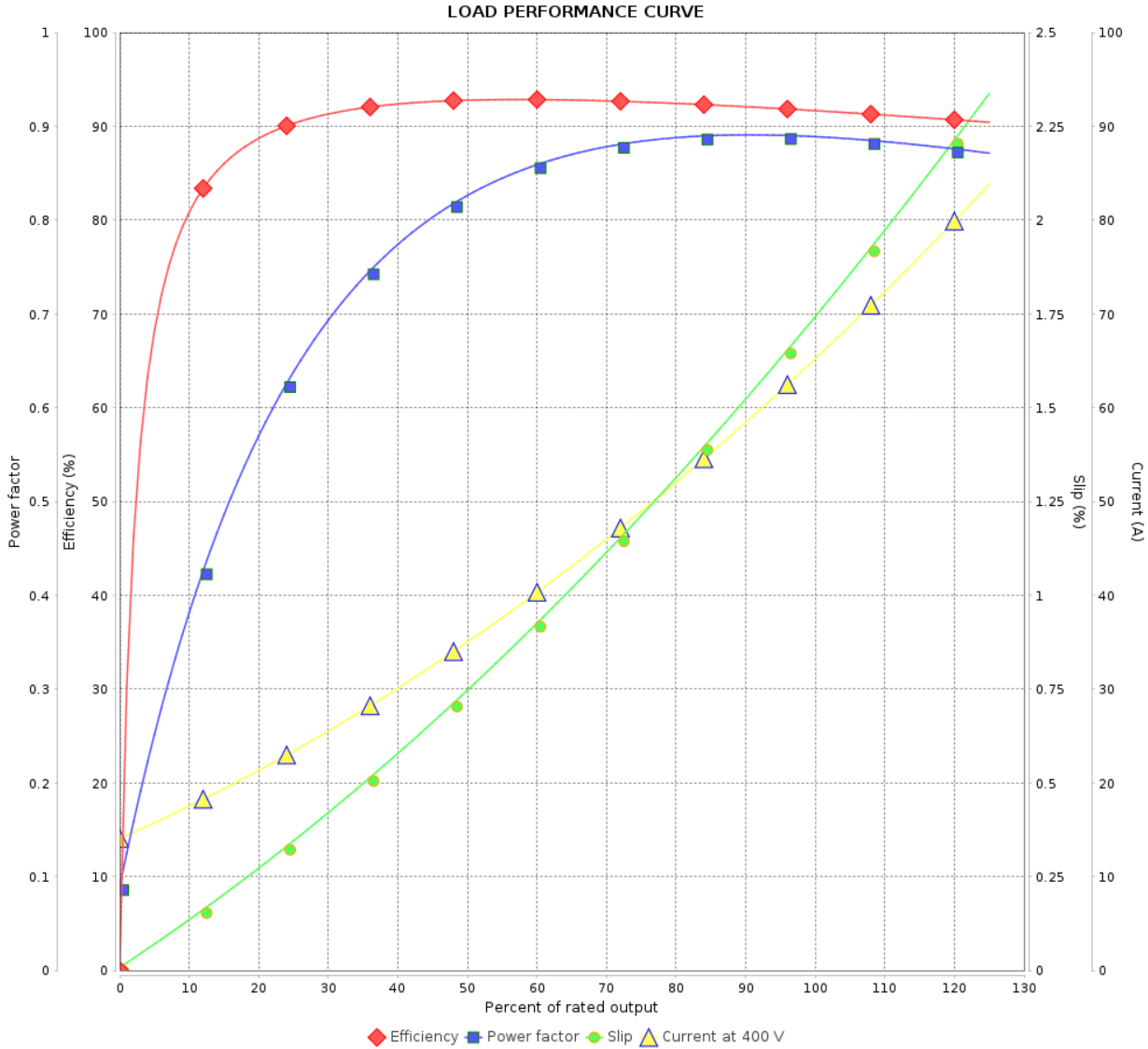
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase

Product code : 11440690



Performance : 400 V 50 Hz 2P IE1

Rated current	: 65.4 A	Moment of inertia (J)	: 0.2422 kgm <sup>2</sup>
LRC	: 5.6	Duty cycle	: Cont.(S1)
Rated torque	: 12.3 kgfm	Insulation class	: F
Locked rotor torque	: 210 %	Service factor	: 1.00
Breakdown torque	: 200 %	Temperature rise	: 105 K
Rated speed	: 2947 rpm	Design	: B

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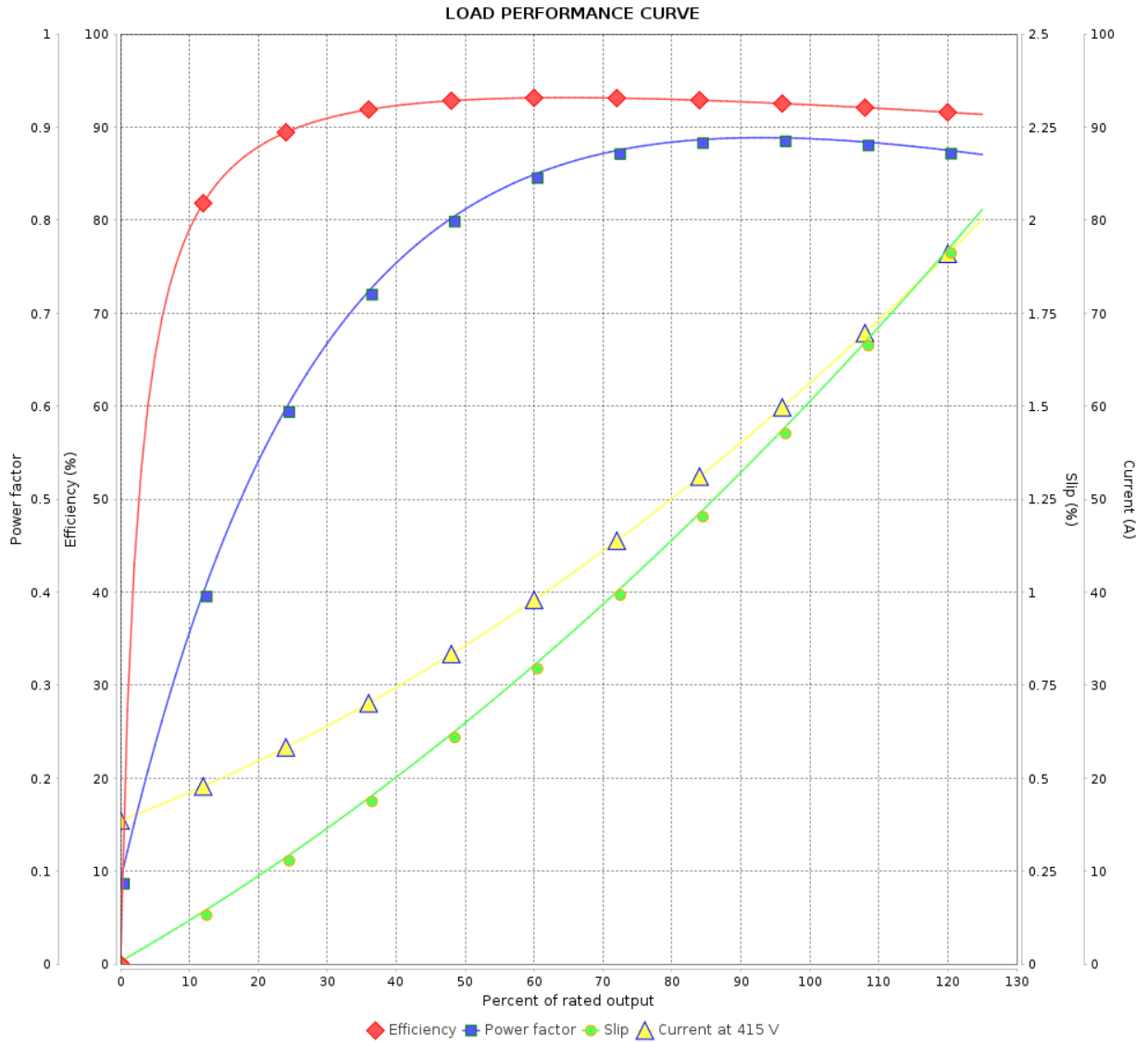
## Three Phase Induction Motor - Squirrel Cage



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

Product line : W22 NEMA Premium Efficiency Three-Phase

Product code : 11440690



Performance : 415 V 50 Hz 2P IE1

Rated current : 62.6 A  
 LRC : 6.3  
 Rated torque : 12.3 kgfm  
 Locked rotor torque : 229 %  
 Breakdown torque : 220 %  
 Rated speed : 2954 rpm

Moment of inertia (J) : 0.2422 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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