

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase  
Product code : 11606759

Frame : 254/6TC	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> : 121 kg
Protection degree : IP55	Moment of inertia (J) : 0.0647 kgm <sup>2</sup>
Design : B	

Output [HP]	20	15	15	15	20	20	20
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]	46.5/23.3	20.6	19.8	19.3	28.9	27.2	26.2
L. R. Amperes [A]	284/142	144	154	156	148	155	160
LRC [A]	6.1x(Code G)	7.0x(Code H)	7.8x(Code J)	8.1x(Code J)	5.1x(Code E)	5.7x(Code F)	6.1x(Code G)
No load current [A]	13.0/6.50	6.20	6.60	6.90	6.20	6.60	6.90
Rated speed [RPM]	3525	2935	2945	2950	2885	2905	2915
Slip [%]	2.08	2.17	1.83	1.67	3.83	3.17	2.83
Rated torque [kgfm]	4.12	3.71	3.70	3.69	5.03	5.00	4.98
Locked rotor torque [%]	200	220	240	270	160	180	200
Breakdown torque [%]	240	260	280	310	190	210	229
Service factor	1.25	1.15	1.15	1.15	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	25s (cold) 14s (hot)	28s (cold) 16s (hot)	28s (cold) 16s (hot)	28s (cold) 16s (hot)	10s (cold) 6s (hot)	16s (cold) 9s (hot)	18s (cold) 10s (hot)
Noise level <sup>2</sup>	72.0 dB(A)	67.0 dB(A)	67.0 dB(A)	67.0 dB(A)	67.0 dB(A)	67.0 dB(A)	67.0 dB(A)
Efficiency (%)	25%	0.000					
	50%	90.7	90.6	90.4	89.8	87.2	89.2
	75%	91.0	90.9	91.2	91.1	87.5	89.5
	100%	91.0	91.2	91.2	91.2	87.5	89.5
Power Factor	25%	0.00					
	50%	0.80	0.78	0.75	0.73	0.85	0.82
	75%	0.87	0.86	0.84	0.83	0.89	0.88
	100%	0.89	0.89	0.88	0.87	0.90	0.89

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

Losses (%)	P1 (0,9;1,0)	9.0	8.8	8.8	8.8	13.0	10.7	10.7
	P2 (0,5;1,0)	6.6	6.5	6.5	6.5	9.6	7.9	7.9
	P3 (0,25;1,0)	6.2	6.0	6.0	6.0	8.9	7.3	7.3
	P4 (0,9;0,5)	4.9	4.8	4.8	4.8	7.1	5.8	5.8
	P5 (0,5;0,5)	2.7	2.6	2.6	2.6	3.9	3.2	3.2
	P6 (0,5;0,25)	1.8	1.7	1.7	1.7	2.6	2.1	2.1
	P7 (0,25;0,25)	1.0	1.0	1.0	1.0	1.5	1.2	1.2

Bearing type : Sealing : Lubrication interval : Lubricant amount : Lubricant type :	Drive end	6309 C3	Non drive end	6209 C3	Foundation loads Max. traction : 120 kgf Max. compression : 240 kgf
		V'Ring		V'Ring	
		19000 h		20000 h	
		13 g		9 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 51.3A SF 1.15 SFA 59.0A

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# LOAD PERFORMANCE CURVE

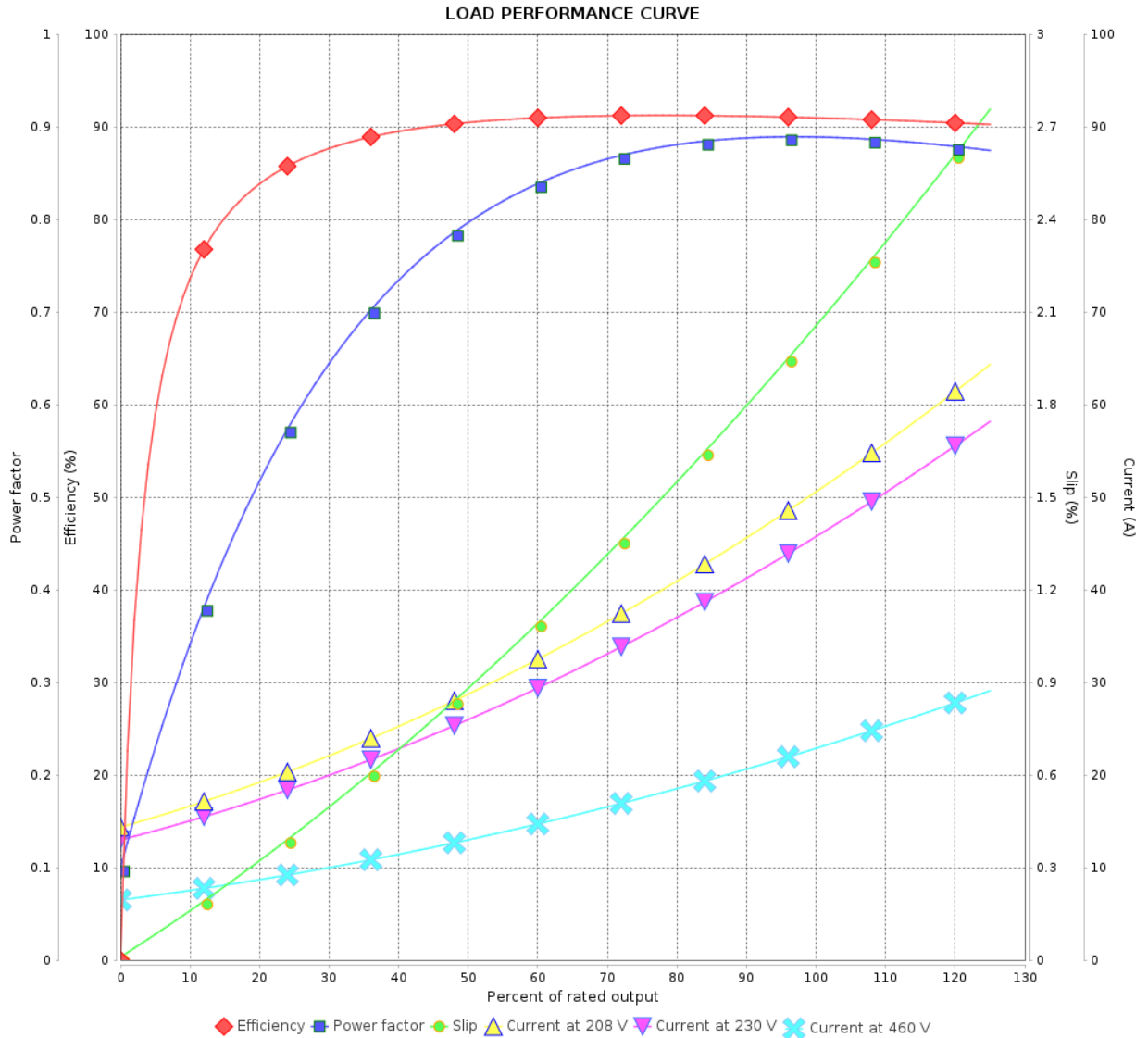
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase

Product code : 11606759



Performance : 230/460 V 60 Hz 2P

Rated current : 46.5/23.3 A  
 LRC : 6.1  
 Rated torque : 4.12 kgfm  
 Locked rotor torque : 200 %  
 Breakdown torque : 240 %  
 Rated speed : 3525 rpm

Moment of inertia (J) : 0.0647 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

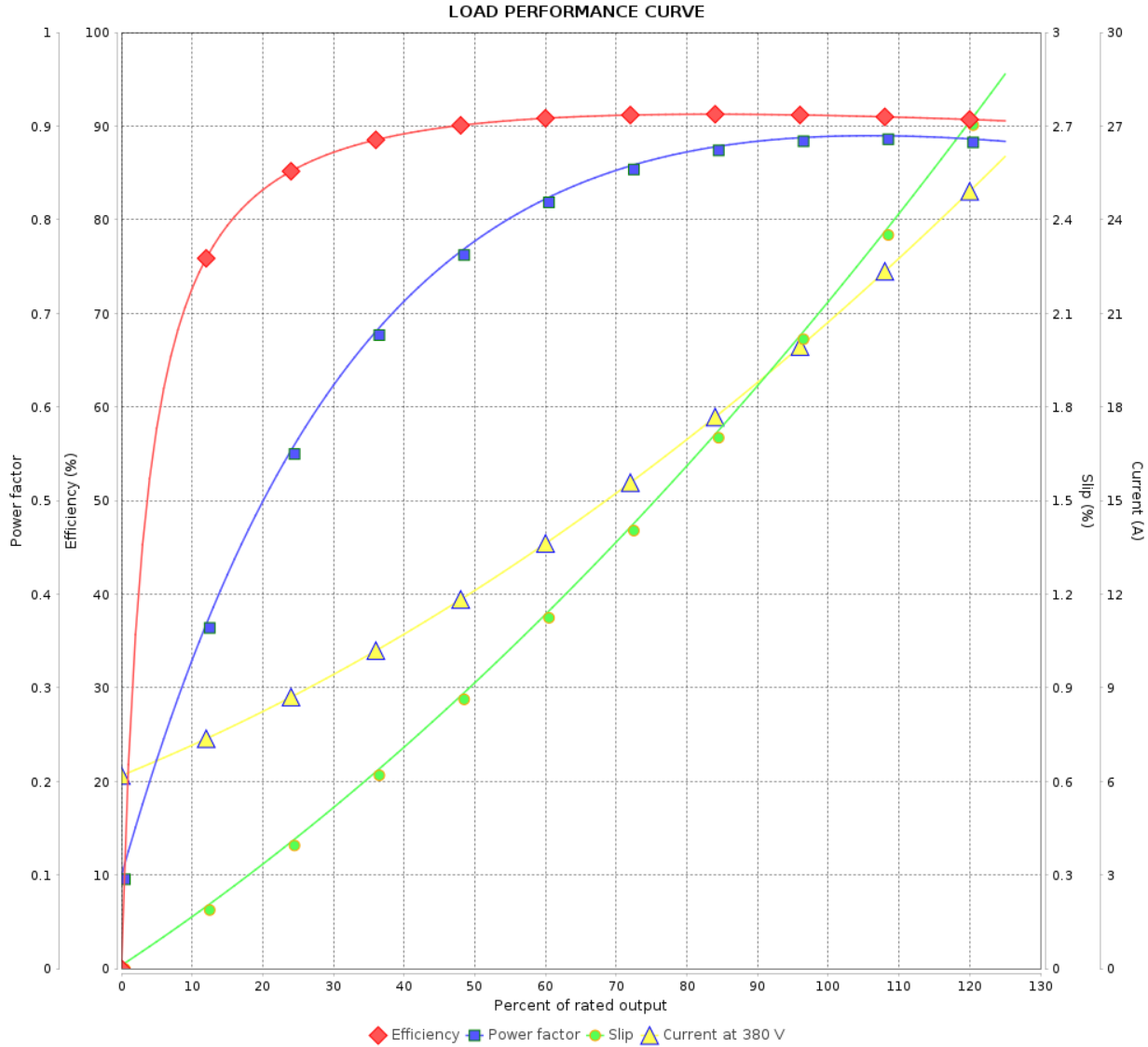
Three Phase Induction Motor - Squirrel Cage



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

Product line : W22 NEMA Premium Efficiency Three-Phase

Product code : 11606759



Performance : 380 V 50 Hz 2P IE3

Rated current : 20.6 A  
 LRC : 7.0  
 Rated torque : 3.71 kgfm  
 Locked rotor torque : 220 %  
 Breakdown torque : 260 %  
 Rated speed : 2935 rpm

Moment of inertia (J) : 0.0647 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

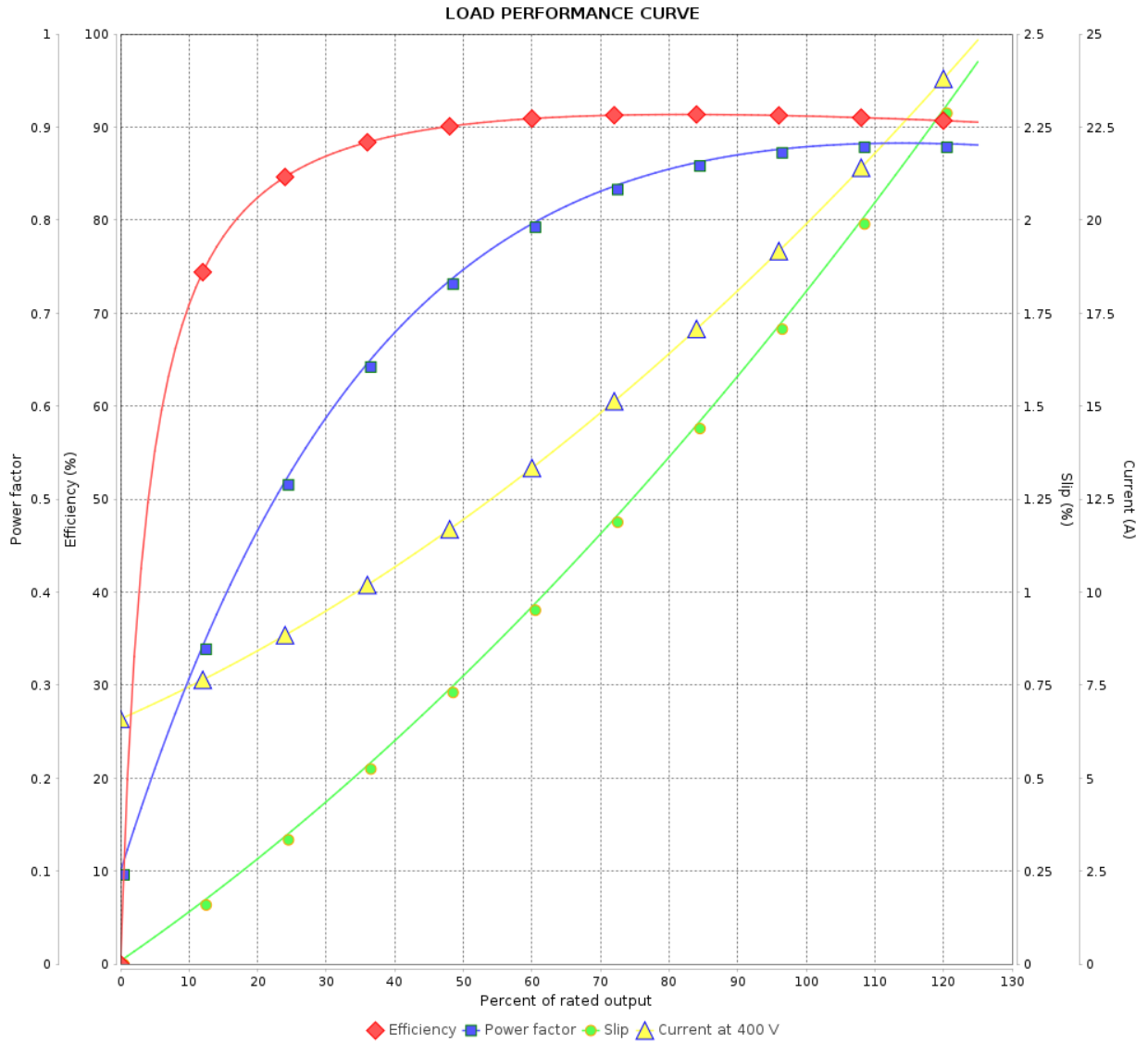
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase

Product code : 11606759



Performance : 400 V 50 Hz 2P IE3

Rated current : 19.8 A  
 LRC : 7.8  
 Rated torque : 3.70 kgfm  
 Locked rotor torque : 240 %  
 Breakdown torque : 280 %  
 Rated speed : 2945 rpm

Moment of inertia (J) : 0.0647 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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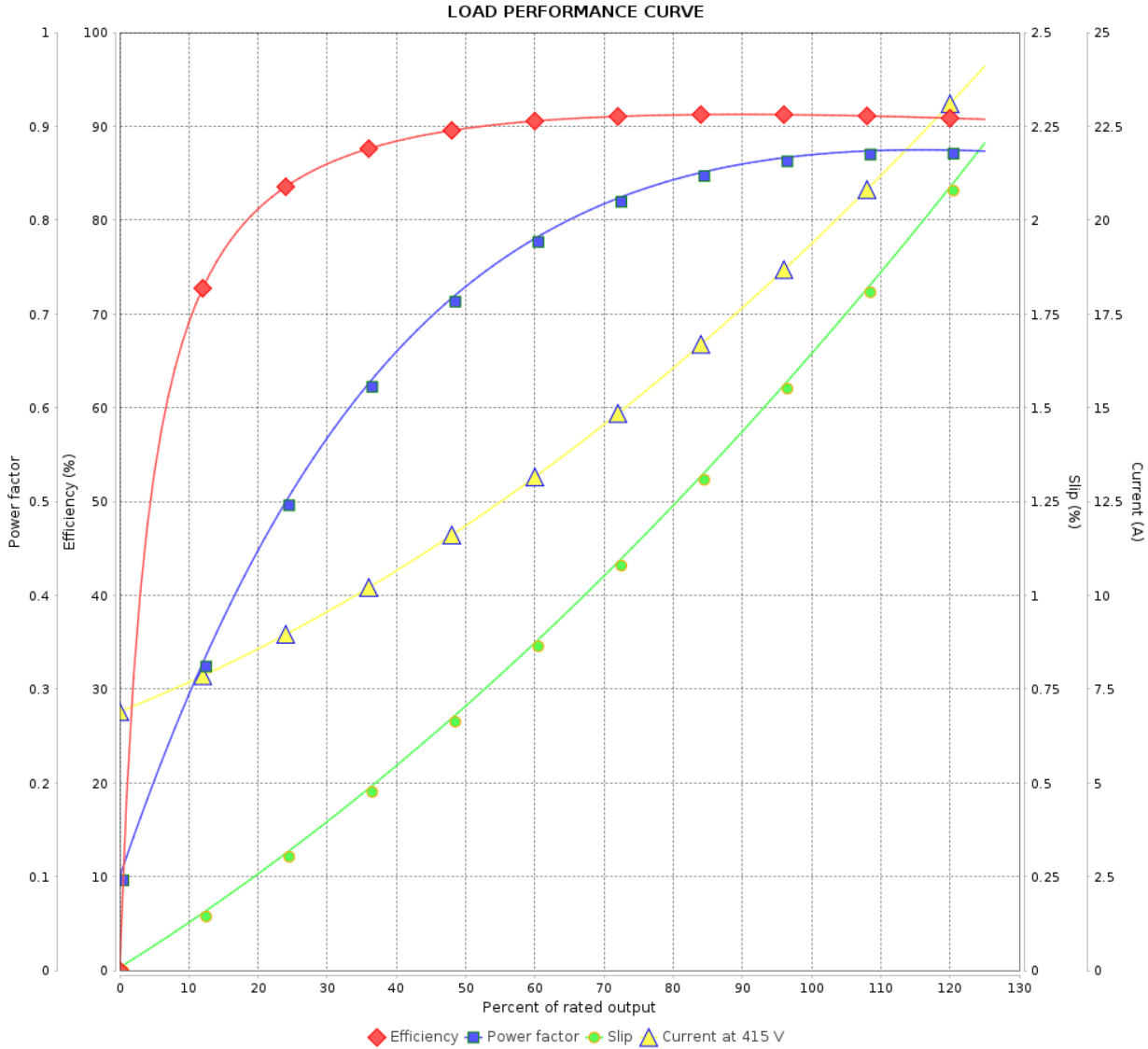
Three Phase Induction Motor - Squirrel Cage



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

Product line : W22 NEMA Premium Efficiency Three-Phase

Product code : 11606759



Performance : 415 V 50 Hz 2P IE3

Rated current : 19.3 A  
 LRC : 8.1  
 Rated torque : 3.69 kgfm  
 Locked rotor torque : 270 %  
 Breakdown torque : 310 %  
 Rated speed : 2950 rpm

Moment of inertia (J) : 0.0647 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

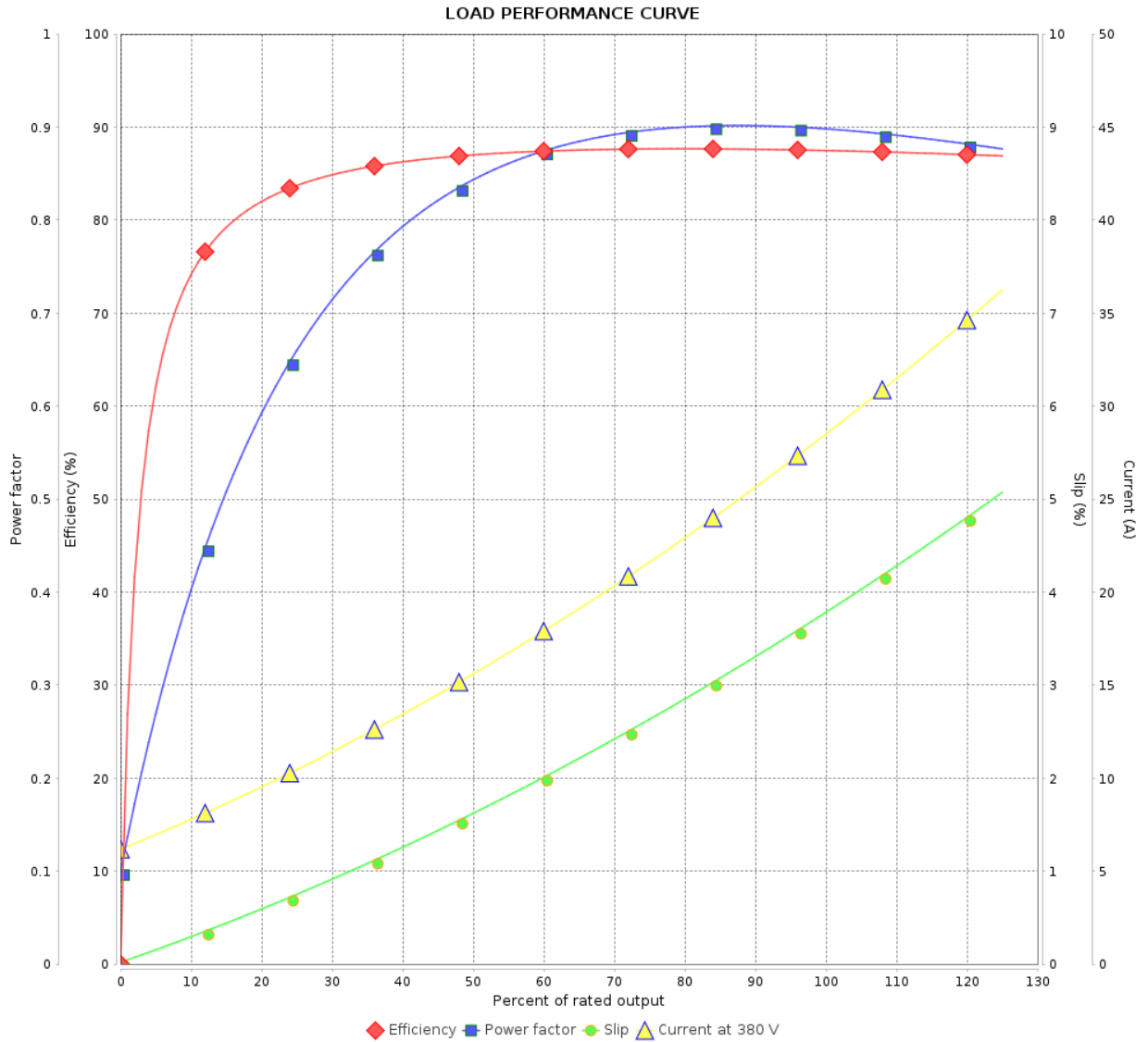
## Three Phase Induction Motor - Squirrel Cage



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

Product line : W22 NEMA Premium Efficiency Three-Phase

Product code : 11606759



Performance : 380 V 50 Hz 2P

Rated current : 28.9 A  
 LRC : 5.1  
 Rated torque : 5.03 kgfm  
 Locked rotor torque : 160 %  
 Breakdown torque : 190 %  
 Rated speed : 2885 rpm

Moment of inertia (J) : 0.0647 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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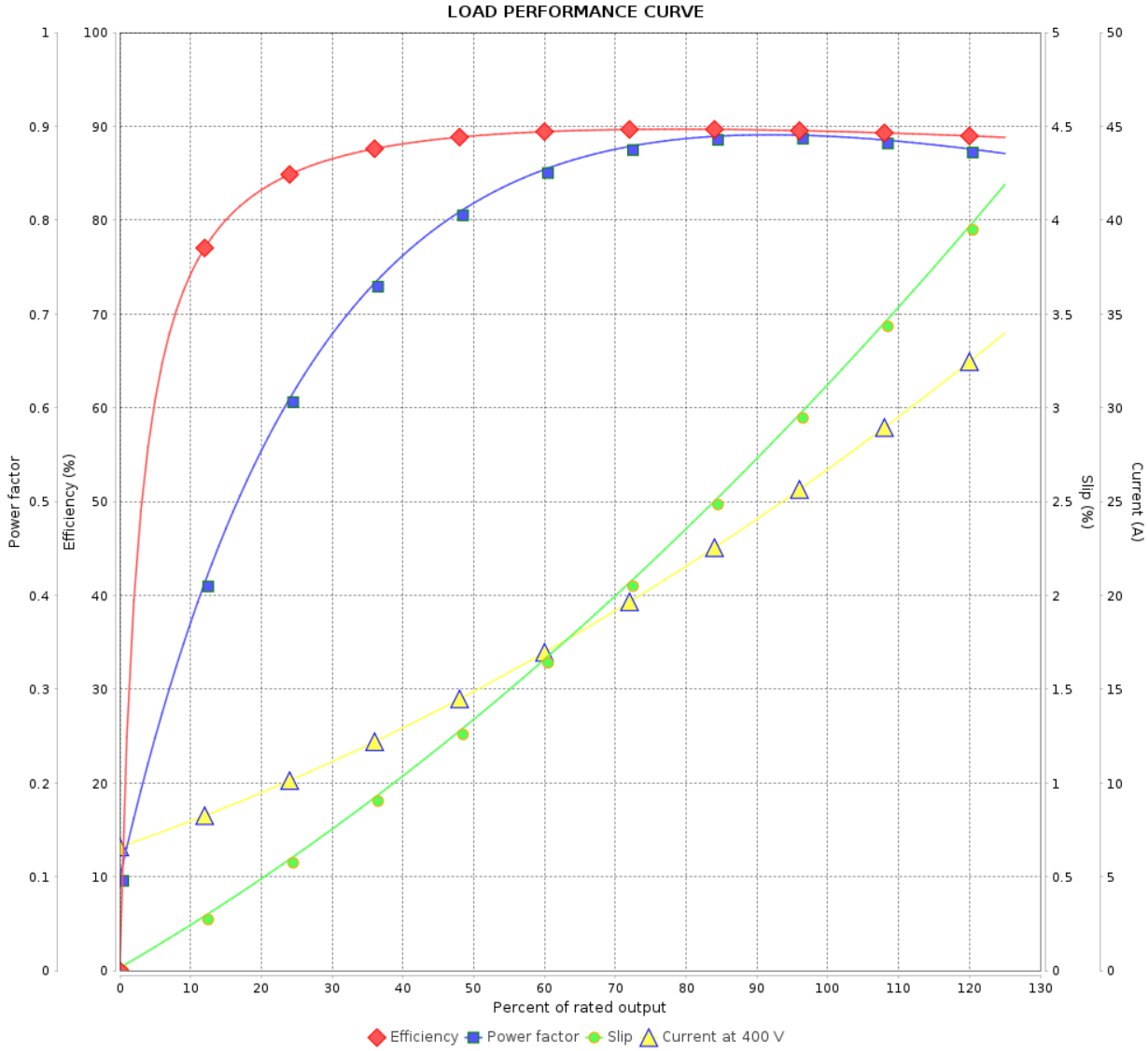
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase

Product code : 11606759



Performance : 400 V 50 Hz 2P IE1

Rated current : 27.2 A  
 LRC : 5.7  
 Rated torque : 5.00 kgfm  
 Locked rotor torque : 180 %  
 Breakdown torque : 210 %  
 Rated speed : 2905 rpm

Moment of inertia (J) : 0.0647 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

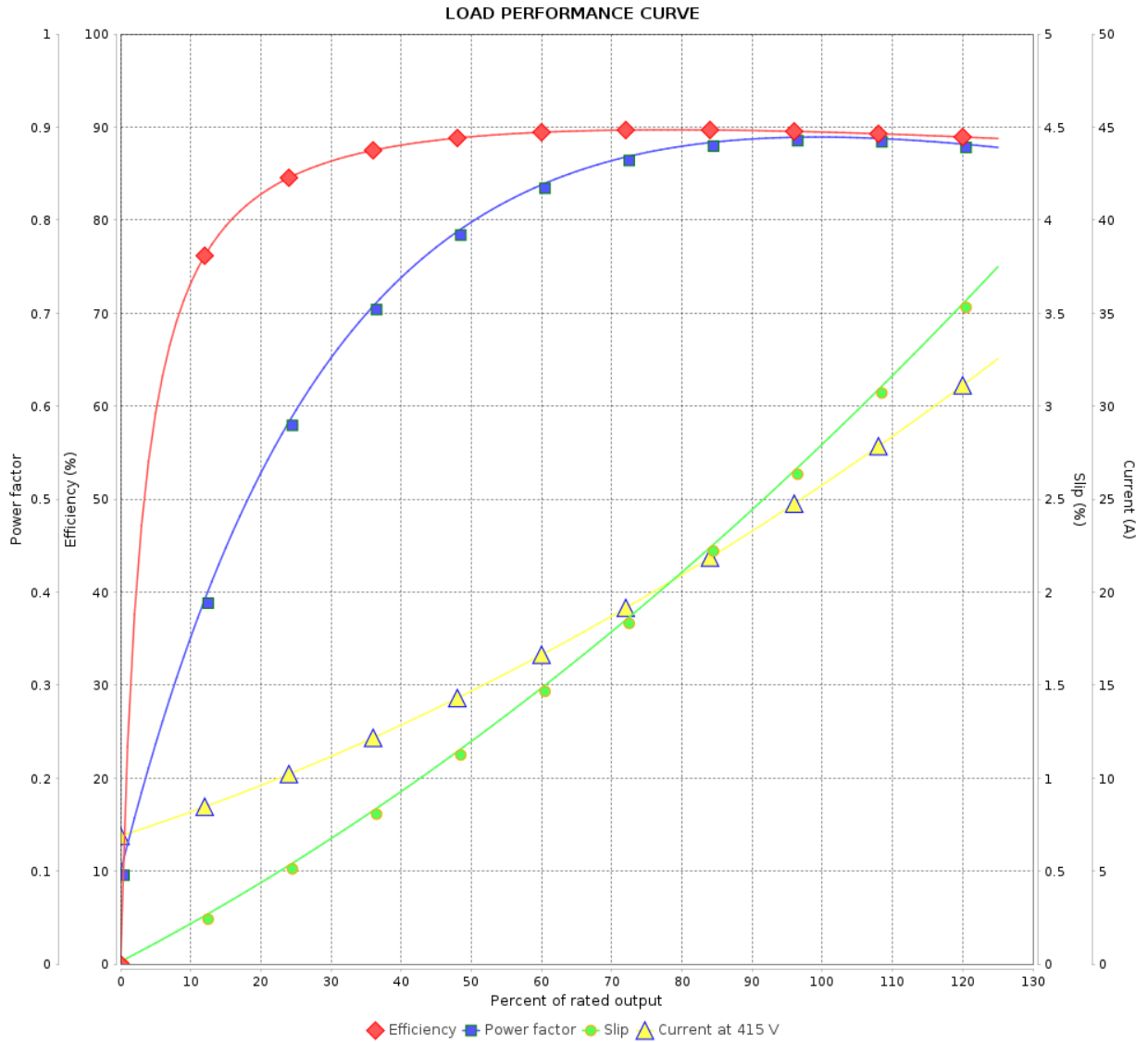
Three Phase Induction Motor - Squirrel Cage



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

Product line : W22 NEMA Premium Efficiency Three-Phase

Product code : 11606759



Performance : 415 V 50 Hz 2P IE1

Rated current : 26.2 A  
 LRC : 6.1  
 Rated torque : 4.98 kgfm  
 Locked rotor torque : 200 %  
 Breakdown torque : 229 %  
 Rated speed : 2915 rpm

Moment of inertia (J) : 0.0647 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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