

# DATA SHEET



## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W22 IEEE 841 NEMA Premium Efficiency Three-Phase      Product code : 11939518

Frame	: 182/4TC	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>	: 51.5 kg
Protection degree	: IP55	Moment of inertia (J)	: 0.0094 kgm <sup>2</sup>
Design	: B		

Output [HP]	5	4	4	4	5	5	5
Poles	2	2	2	2	2	2	2
Frequency [Hz]	60	50	50	50	50	50	50
Rated voltage [V]	460	380	400	415	380	400	415
Rated current [A]	5.90	5.79	5.57	5.43	7.14	6.78	6.61
L. R. Amperes [A]	44.8	42.8	45.1	48.3	42.1	44.7	47.6
LRC [A]	7.6x(Code J)	7.4x(Code H)	8.1x(Code J)	8.9x(Code K)	5.9x(Code F)	6.6x(Code G)	7.2x(Code H)
No load current [A]	2.00	2.00	2.15	2.25	2.00	2.15	2.25
Rated speed [RPM]	3485	2890	2900	2910	2850	2870	2880
Slip [%]	3.19	3.67	3.33	3.00	5.00	4.33	4.00
Rated torque [kgfm]	1.04	1.00	1.00	0.998	1.27	1.26	1.26
Locked rotor torque [%]	229	229	270	300	180	210	240
Breakdown torque [%]	350	320	370	400	250	290	320
Service factor	1.25	1.25	1.25	1.25	1.25	1.25	1.25
Temperature rise	80 K	80 K	80 K	80 K	80 K	80 K	80 K
Locked rotor time	45s (cold) 25s (hot)	32s (cold) 18s (hot)	32s (cold) 18s (hot)	32s (cold) 18s (hot)	32s (cold) 18s (hot)	32s (cold) 18s (hot)	32s (cold) 18s (hot)
Noise level <sup>2</sup>	66.0 dB(A)	62.0 dB(A)	62.0 dB(A)	62.0 dB(A)	62.0 dB(A)	62.0 dB(A)	62.0 dB(A)
Efficiency (%)	25%						
	50%	86.5	86.3	86.3	86.1	87.5	87.5
	75%	88.5	87.7	88.2	88.2	87.5	88.5
	100%	88.5	87.5	88.3	88.3	86.5	87.5
Power Factor	25%						
	50%	0.76	0.74	0.71	0.68	0.81	0.78
	75%	0.85	0.85	0.83	0.81	0.88	0.87
	100%	0.89	0.90	0.88	0.87	0.91	0.90

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

Losses (%)	P1 (0,9;1,0)	12.4	12.4	12.4	12.4	12.4	12.4	12.4
	P2 (0,5;1,0)	9.9	9.9	9.9	9.9	9.9	9.9	9.9
	P3 (0,25;1,0)	8.9	8.9	8.9	8.9	8.9	8.9	8.9
	P4 (0,9;0,5)	6.2	6.2	6.2	6.2	6.2	6.2	6.2
	P5 (0,5;0,5)	3.7	3.7	3.7	3.7	3.7	3.7	3.7
	P6 (0,5;0,25)	2.3	2.3	2.3	2.3	2.3	2.3	2.3
	P7 (0,25;0,25)	1.4	1.4	1.4	1.4	1.4	1.4	1.4

Bearing type	: Drive end : 6207 C3      Non drive end : 6206 C3	Foundation loads Max. traction : 58 kgf Max. compression : 110 kgf
Sealing	: Taconite Labyrinth      Taconite Labyrinth	
Lubrication interval	: 20000 h      20000 h	
Lubricant amount	: 7 g      5 g	
Lubricant type	: Mobil Polyrex EM	

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## Three Phase Induction Motor - Squirrel Cage



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

Notes

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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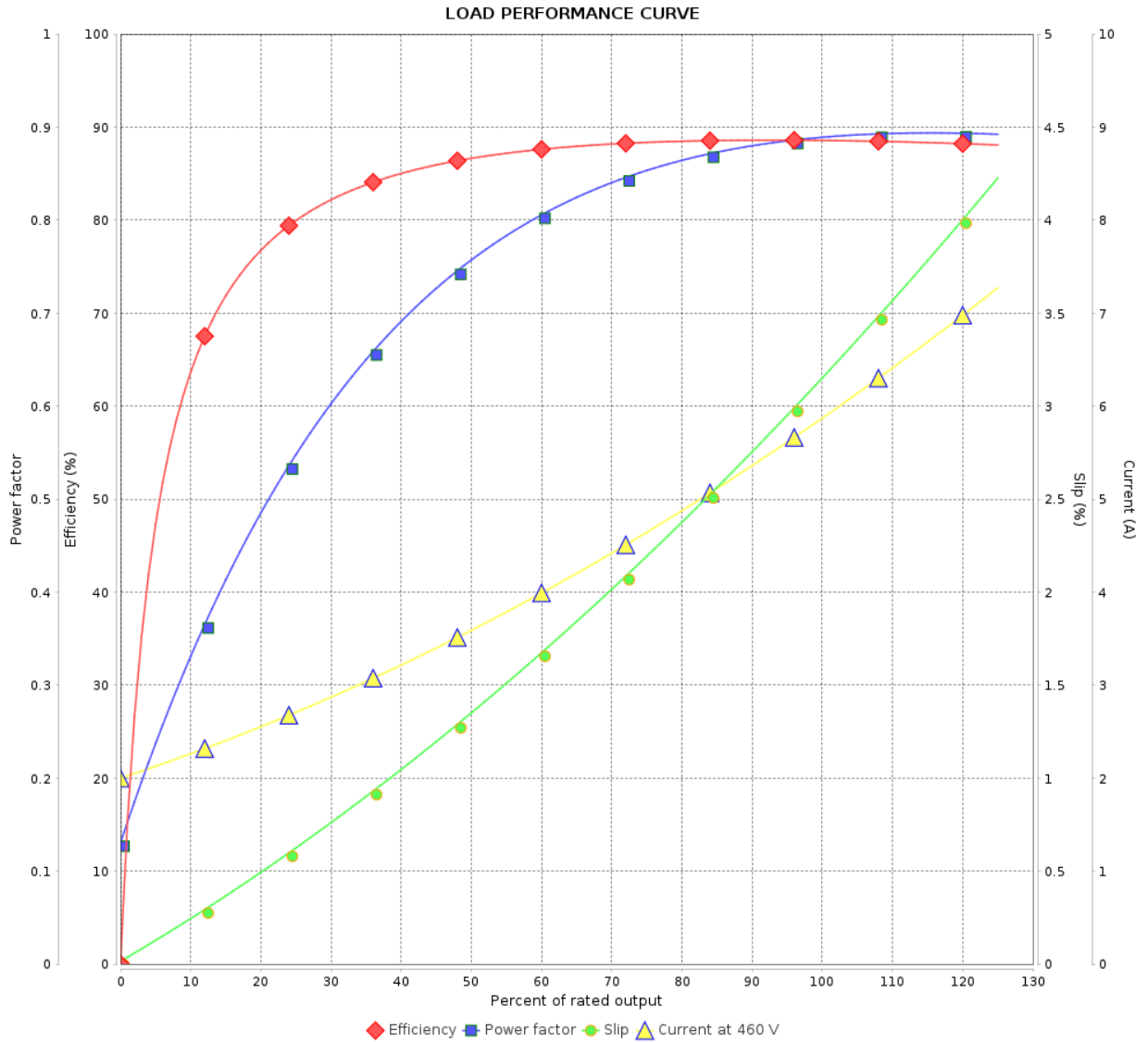
# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 IEEE 841 NEMA Premium Efficiency Three-Phase      Product code : 11939518



Performance : 460 V 60 Hz 2P

Rated current	: 5.90 A	Moment of inertia (J)	: 0.0094 kgm <sup>2</sup>
LRC	: 7.6	Duty cycle	: Cont.(S1)
Rated torque	: 1.04 kgfm	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.25
Breakdown torque	: 350 %	Temperature rise	: 80 K
Rated speed	: 3485 rpm	Design	: B

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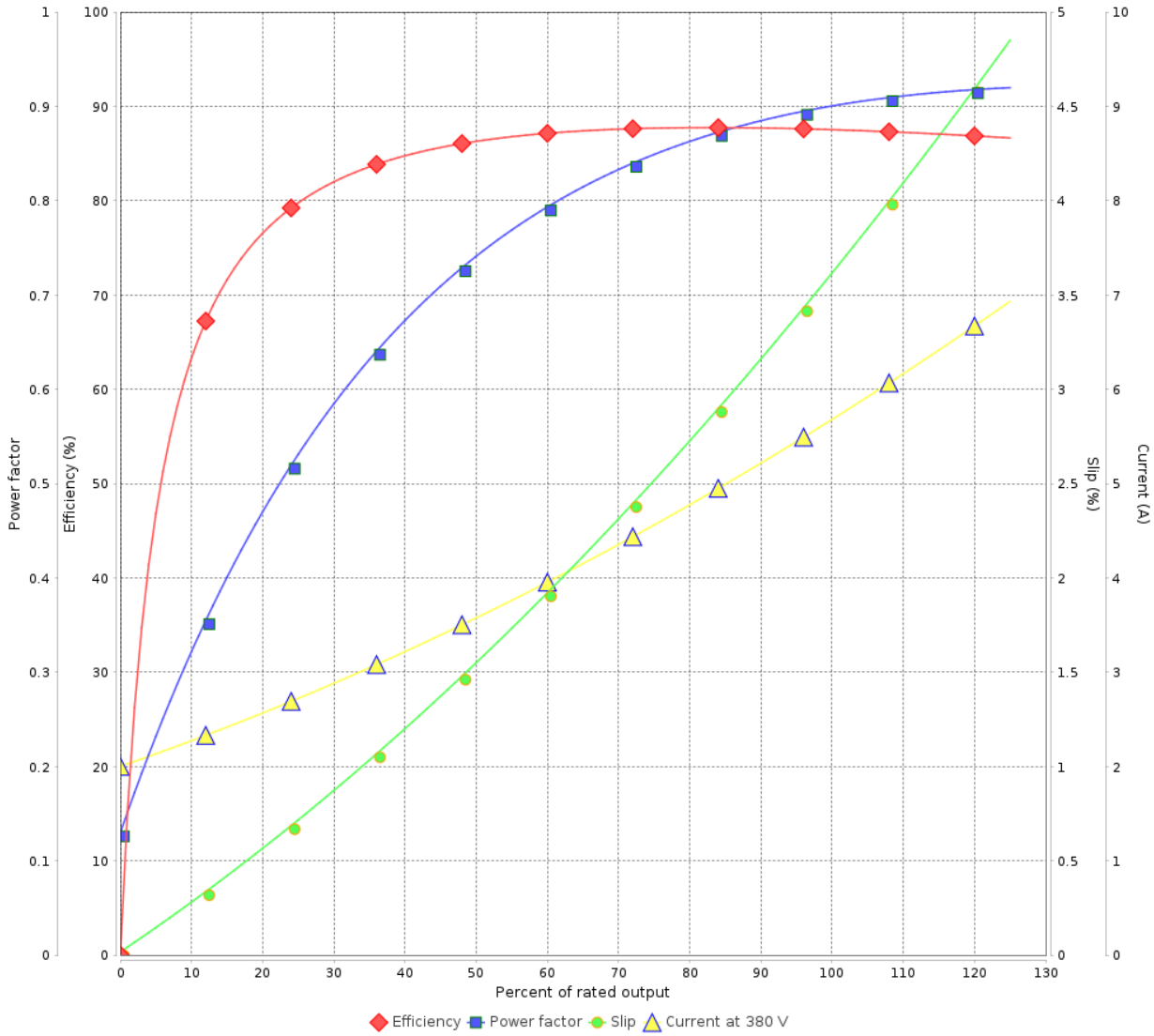
Three Phase Induction Motor - Squirrel Cage



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Performance : 380 V 50 Hz 2P IE3

Rated current	: 5.79 A	Moment of inertia (J)	: 0.0094 kgm <sup>2</sup>
LRC	: 7.4	Duty cycle	: Cont.(S1)
Rated torque	: 1.00 kgfm	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.25
Breakdown torque	: 320 %	Temperature rise	: 80 K
Rated speed	: 2890 rpm	Design	: B

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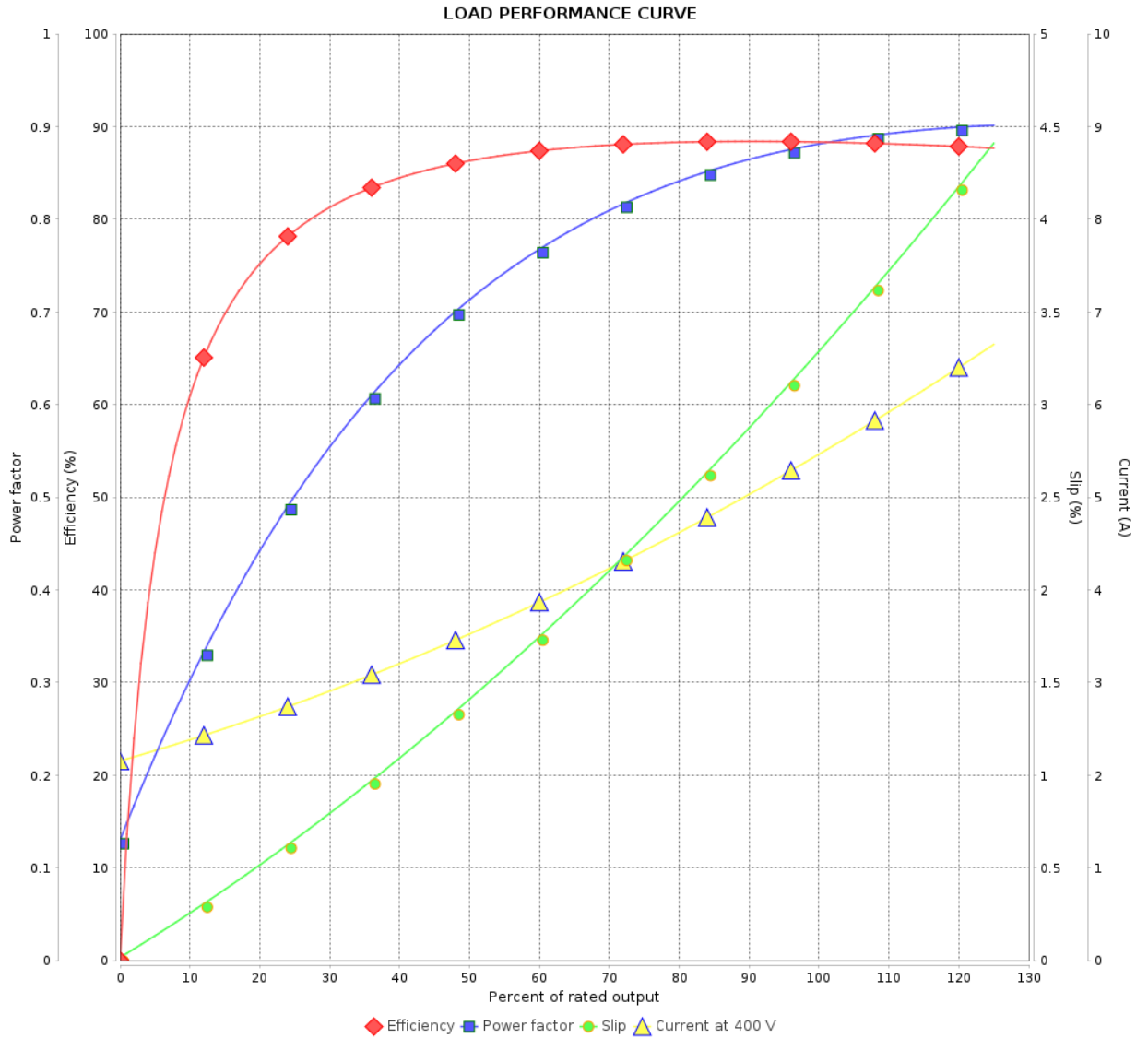
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## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 IEEE 841 NEMA Premium Efficiency Three-Phase      Product code : 11939518



Performance : 400 V 50 Hz 2P IE3

Rated current	: 5.57 A	Moment of inertia (J)	: 0.0094 kgm <sup>2</sup>
LRC	: 8.1	Duty cycle	: Cont.(S1)
Rated torque	: 1.00 kgfm	Insulation class	: F
Locked rotor torque	: 270 %	Service factor	: 1.25
Breakdown torque	: 370 %	Temperature rise	: 80 K
Rated speed	: 2900 rpm	Design	: B

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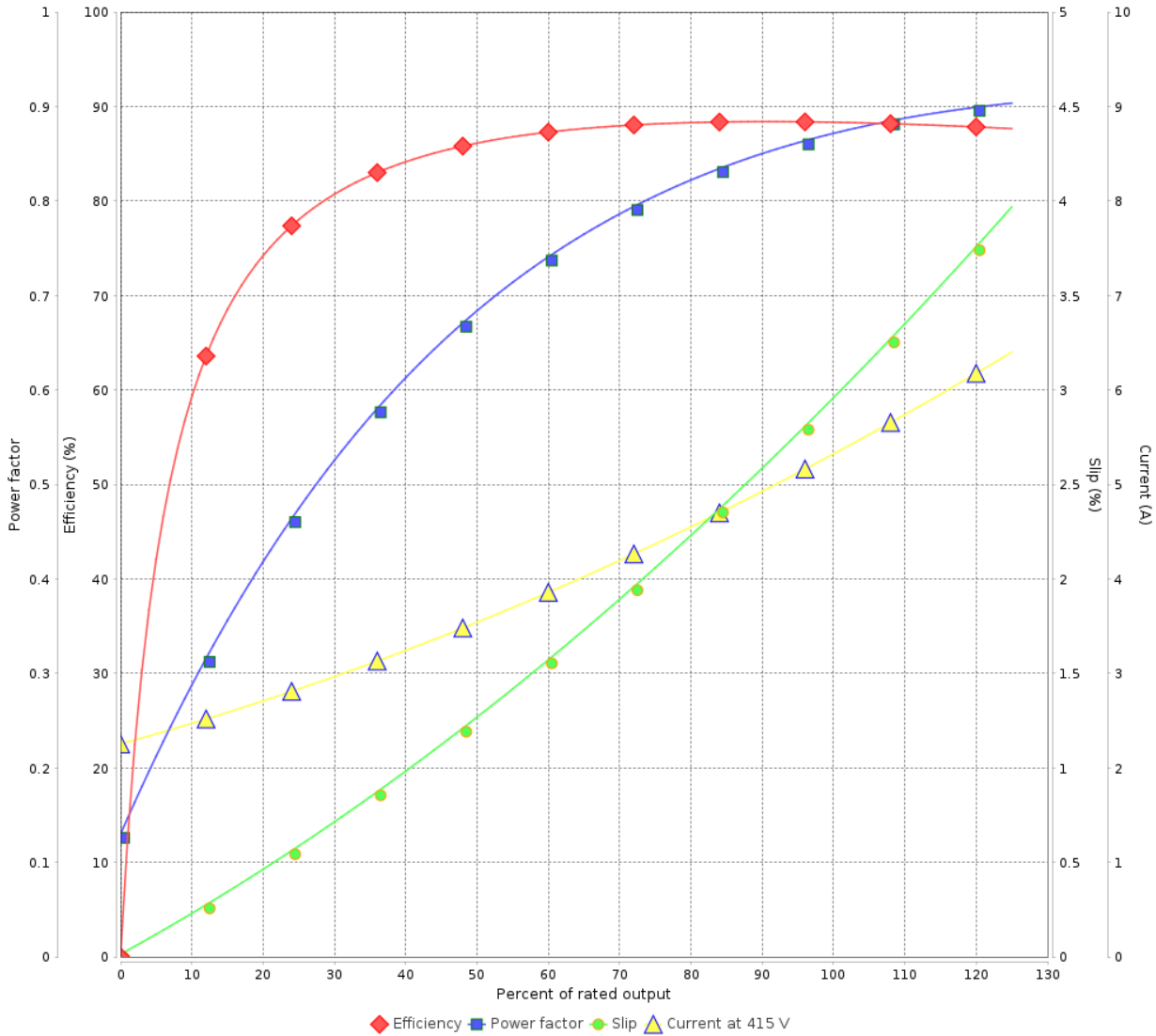
Three Phase Induction Motor - Squirrel Cage



Customer :

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Performance : 415 V 50 Hz 2P IE3

Rated current	: 5.43 A	Moment of inertia (J)	: 0.0094 kgm <sup>2</sup>
LRC	: 8.9	Duty cycle	: Cont.(S1)
Rated torque	: 0.998 kgfm	Insulation class	: F
Locked rotor torque	: 300 %	Service factor	: 1.25
Breakdown torque	: 400 %	Temperature rise	: 80 K
Rated speed	: 2910 rpm	Design	: B

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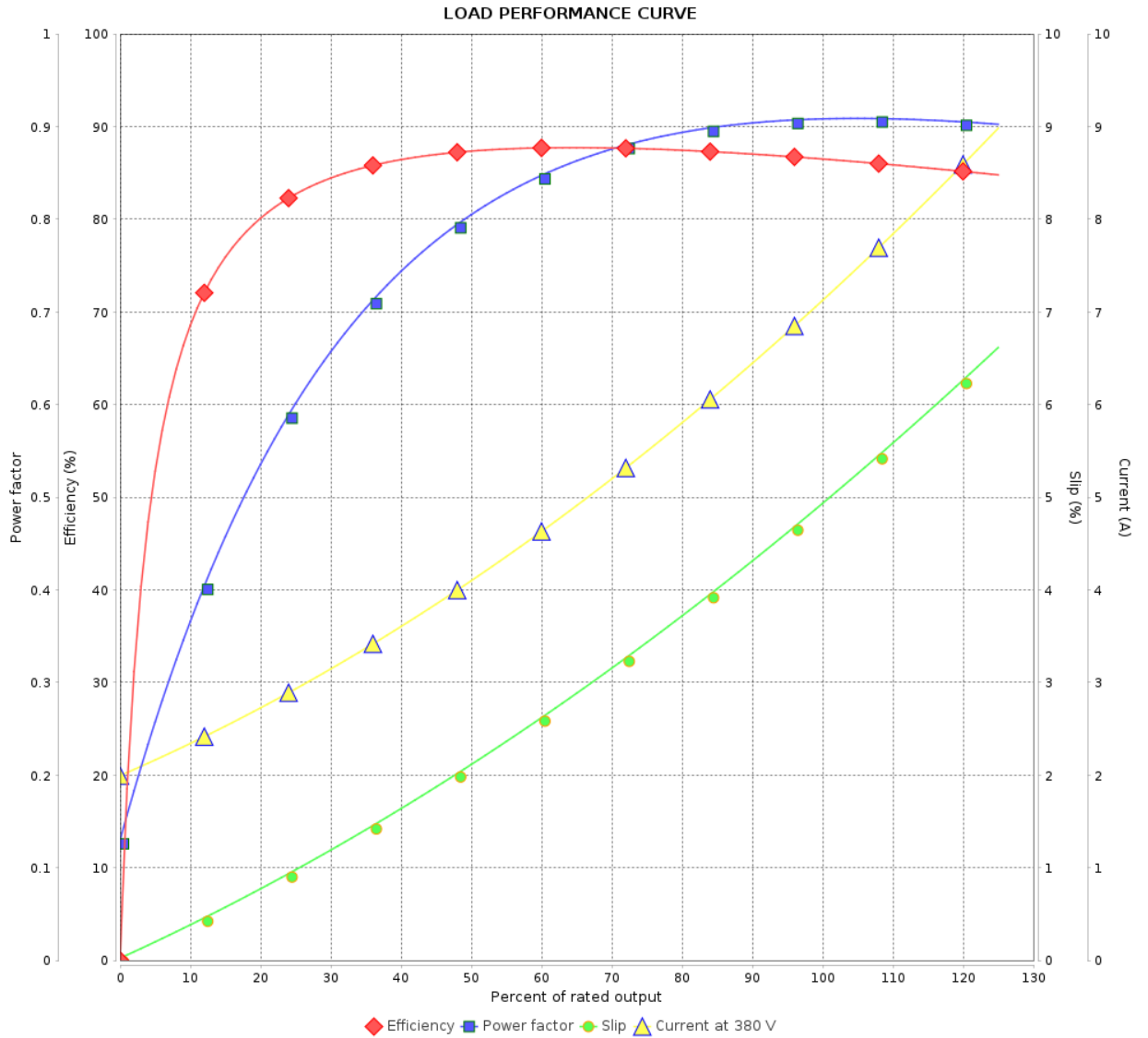
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 IEEE 841 NEMA Premium  
Efficiency Three-Phase

Product code : 11939518



Performance : 380 V 50 Hz 2P IE2

Rated current : 7.14 A  
 LRC : 5.9  
 Rated torque : 1.27 kgfm  
 Locked rotor torque : 180 %  
 Breakdown torque : 250 %  
 Rated speed : 2850 rpm

Moment of inertia (J) : 0.0094 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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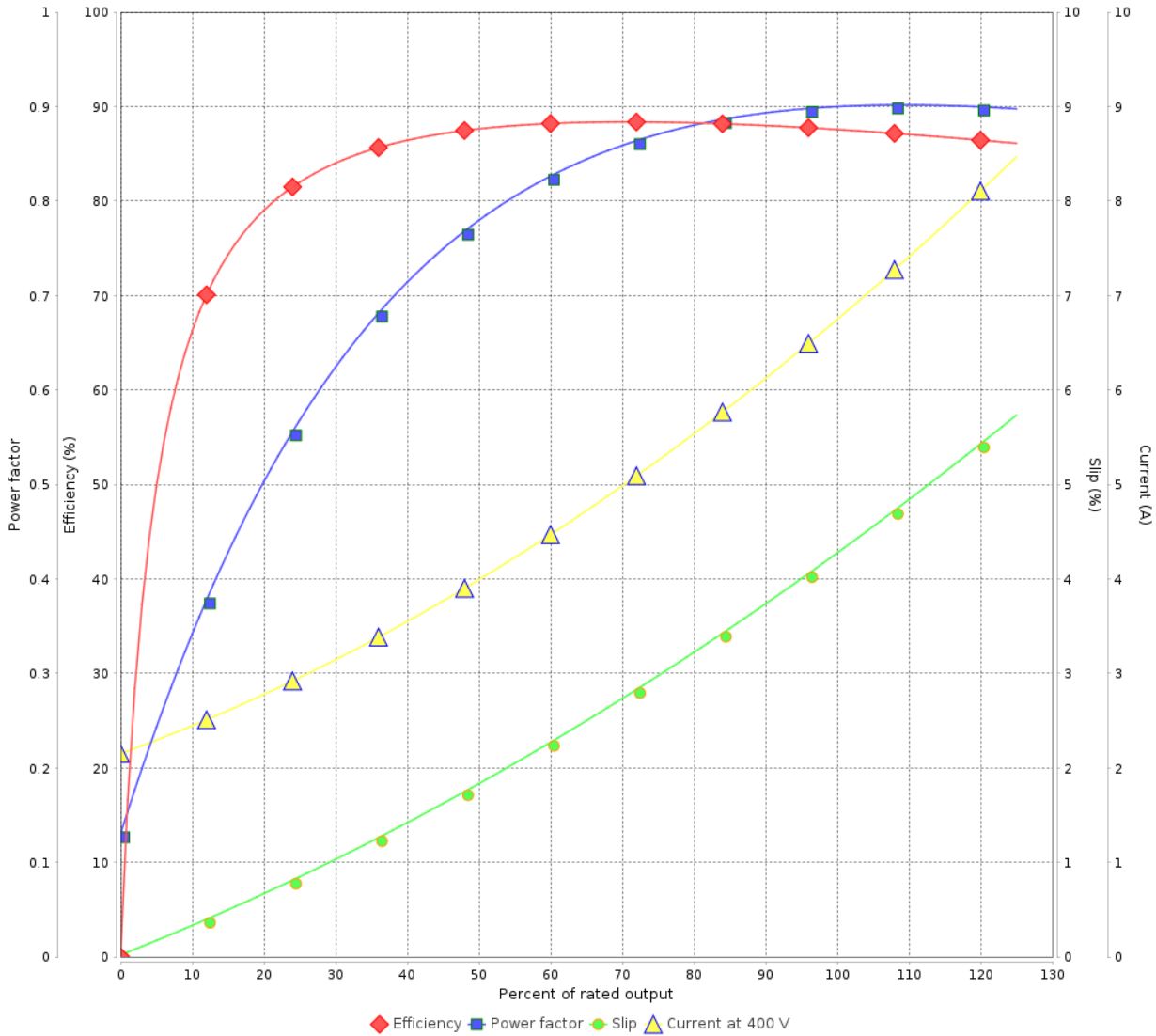
## Three Phase Induction Motor - Squirrel Cage



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Performance : 400 V 50 Hz 2P IE2

Rated current : 6.78 A	Moment of inertia (J) : 0.0094 kgm <sup>2</sup>
LRC : 6.6	Duty cycle : Cont.(S1)
Rated torque : 1.26 kgfm	Insulation class : F
Locked rotor torque : 210 %	Service factor : 1.25
Breakdown torque : 290 %	Temperature rise : 80 K
Rated speed : 2870 rpm	Design : B

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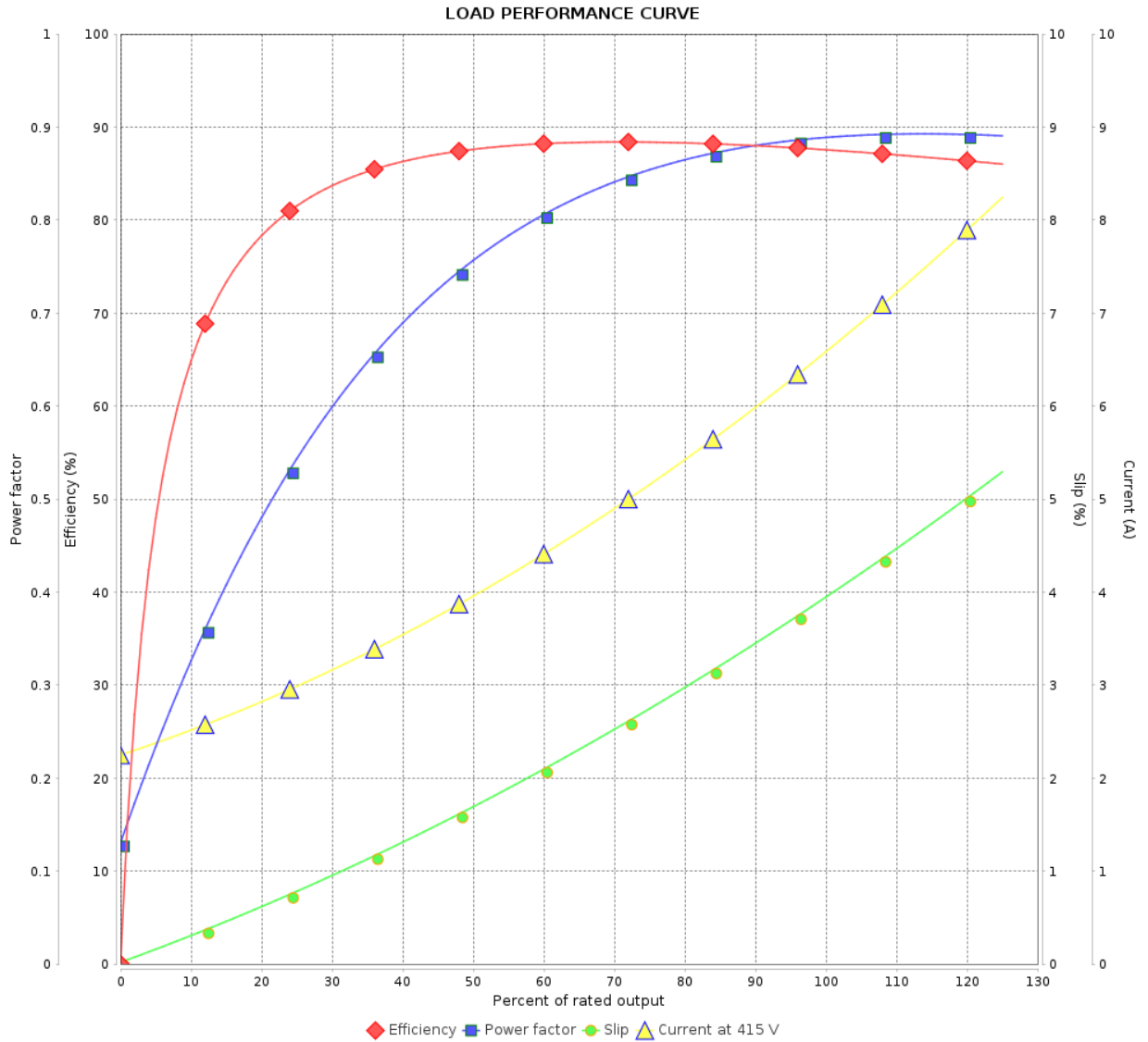
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## Three Phase Induction Motor - Squirrel Cage



Customer :

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Performance : 415 V 50 Hz 2P IE2

Rated current	: 6.61 A	Moment of inertia (J)	: 0.0094 kgm <sup>2</sup>
LRC	: 7.2	Duty cycle	: Cont.(S1)
Rated torque	: 1.26 kgfm	Insulation class	: F
Locked rotor torque	: 240 %	Service factor	: 1.25
Breakdown torque	: 320 %	Temperature rise	: 80 K
Rated speed	: 2880 rpm	Design	: B

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