

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase Product code : 12375663

Frame	: 254/6T	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>	: 122 kg
Protection degree	: IP55	Moment of inertia (J)	: 0.0530 kgm <sup>2</sup>
Design	: B		

Output [HP]	15	10	10	10	15	15	15
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]	34.5/17.2	14.5	14.0	13.7	21.0	19.9	19.3
L. R. Amperes [A]	231/116	109	117	116	107	112	118
LRC [A]	6.7x(Code G)	7.5x(Code J)	8.3x(Code K)	8.5x(Code K)	5.1x(Code E)	5.6x(Code F)	6.1x(Code G)
No load current [A]	10.6/5.30	5.10	5.40	5.70	5.10	5.40	5.70
Rated speed [RPM]	3532	2945	2952	2957	2900	2915	2925
Slip [%]	1.89	1.83	1.60	1.43	3.33	2.83	2.50
Rated torque [kgfm]	3.08	2.46	2.46	2.45	3.75	3.73	3.72
Locked rotor torque [%]	220	200	229	250	170	190	200
Breakdown torque [%]	270	310	350	380	200	229	240
Service factor	1.25	1.25	1.25	1.25	1.00	1.00	1.15
Temperature rise	80 K	80 K	80 K	80 K	105 K	105 K	105 K
Locked rotor time	36s (cold) 20s (hot)	50s (cold) 28s (hot)	45s (cold) 25s (hot)	41s (cold) 23s (hot)	25s (cold) 14s (hot)	27s (cold) 15s (hot)	27s (cold) 15s (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%	89.5	90.3	90.1	89.9	89.5	90.2
	75%	91.0	90.5	90.7	90.8	90.2	90.2
	100%	91.0	90.5	90.7	90.8	88.5	89.5
Power Factor	25%	0.00					
	50%	0.77	0.73	0.69	0.67	0.82	0.80
	75%	0.85	0.83	0.80	0.78	0.88	0.87
	100%	0.88	0.87	0.85	0.84	0.90	0.89

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

Losses (%)	P1 (0,9;1,0)	9.1	9.6	9.4	9.3	11.9	10.8	10.0
	P2 (0,5;1,0)	6.6	7.1	6.9	6.8	8.7	7.9	7.3
	P3 (0,25;1,0)	6.2	6.6	6.5	6.4	8.2	7.4	6.8
	P4 (0,9;0,5)	5.1	5.4	5.3	5.2	6.7	6.1	5.6
	P5 (0,5;0,5)	2.8	2.9	2.9	2.8	3.6	3.3	3.0
	P6 (0,5;0,25)	1.9	2.0	2.0	1.9	2.5	2.2	2.1
	P7 (0,25;0,25)	1.1	1.2	1.1	1.1	1.4	1.3	1.2

Bearing type	Drive end	Non drive end	Foundation loads
	: 6309 C3	: 6209 C3	
	Sealing	V'Ring	
	Lubrication interval	19000 h	
	Lubricant amount	13 g	
Lubricant type		Mobil Polyrex EM	Max. traction : 79 kgf
			Max. compression : 201 kgf

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 38.0A SF 1.15 SFA 43.7A

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# LOAD PERFORMANCE CURVE

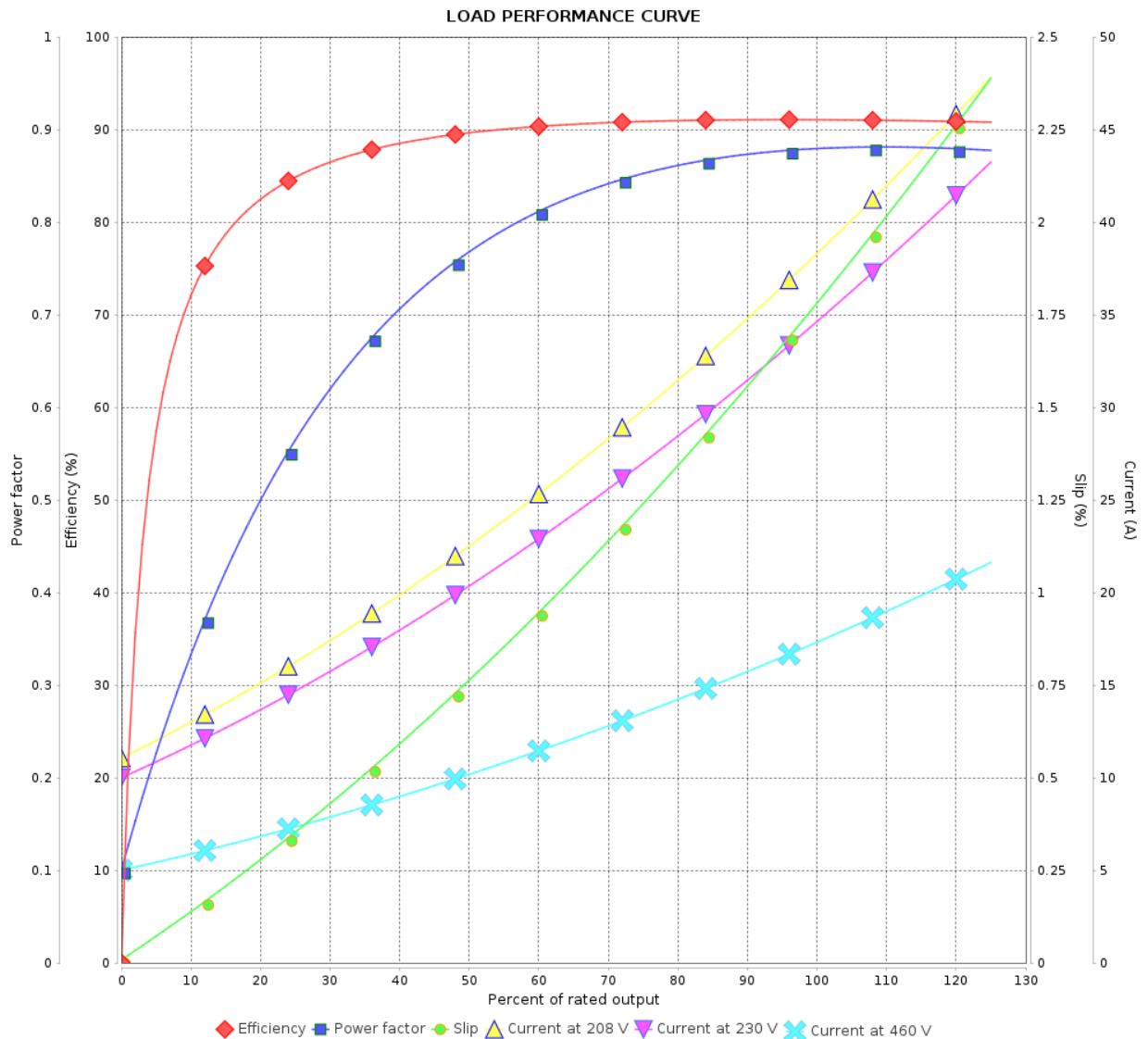
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency  
Three-Phase

Product code : 12375663



Performance : 230/460 V 60 Hz 2P

Rated current : 34.5/17.2 A  
LRC : 6.7  
Rated torque : 3.08 kgfm  
Locked rotor torque : 220 %  
Breakdown torque : 270 %  
Rated speed : 3532 rpm

Moment of inertia (J) : 0.0530 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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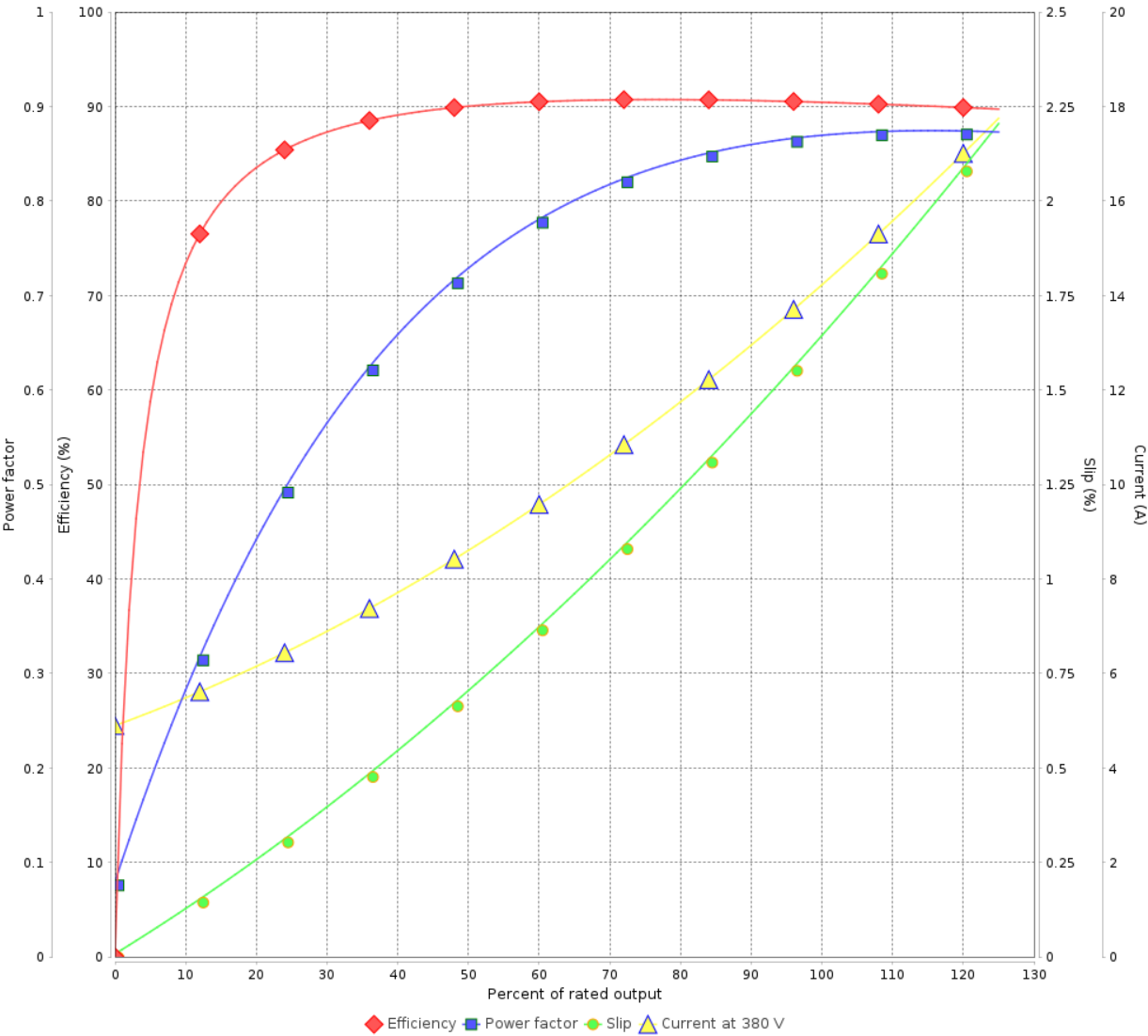
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase      Product code : 12375663

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Performance : 380 V 50 Hz 2P IE3

Rated current	: 14.5 A	Moment of inertia (J)	: 0.0530 kgm <sup>2</sup>
LRC	: 7.5	Duty cycle	: Cont.(S1)
Rated torque	: 2.46 kgfm	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.25
Breakdown torque	: 310 %	Temperature rise	: 80 K
Rated speed	: 2945 rpm	Design	: B

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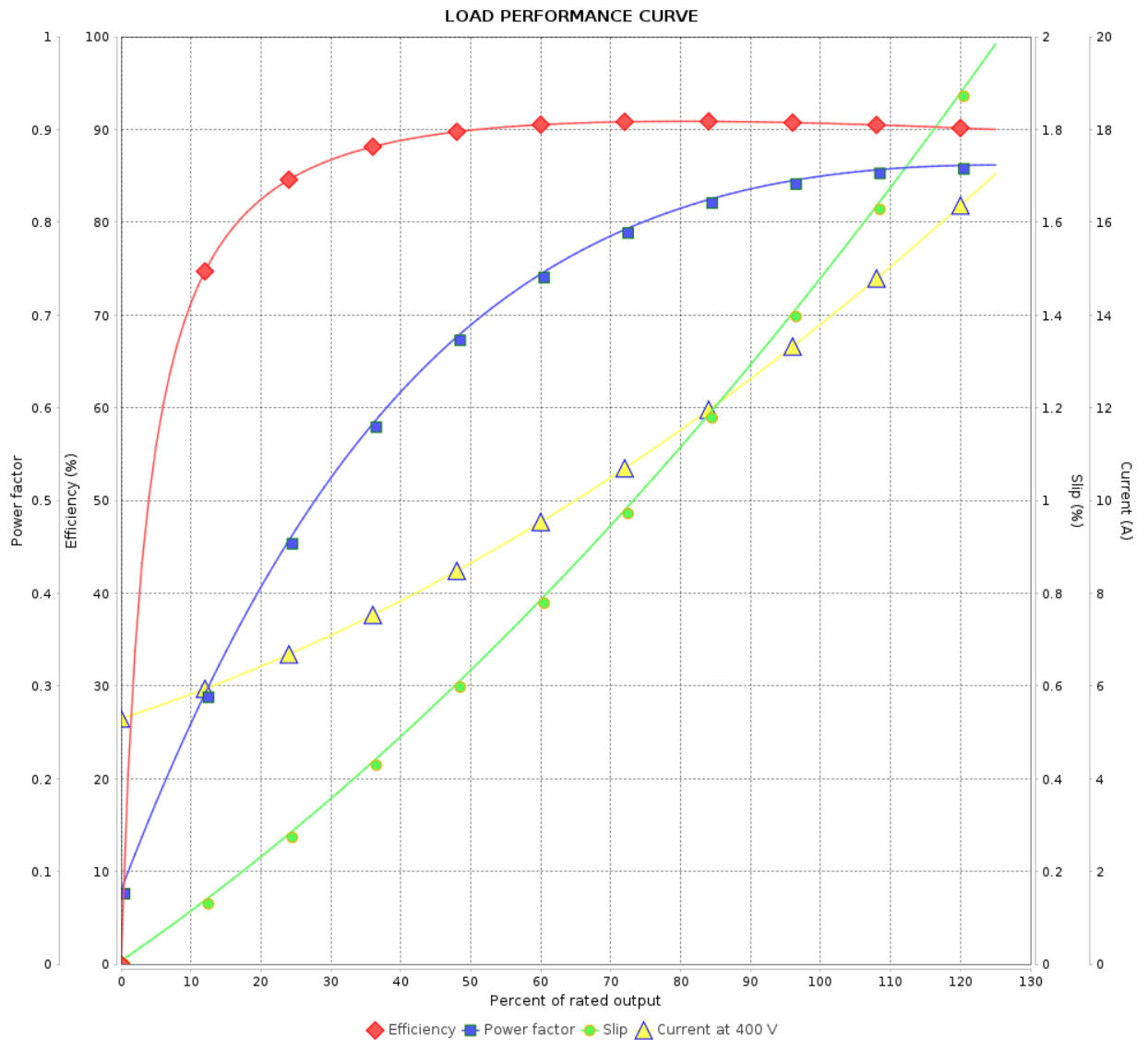
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency  
Three-Phase

Product code : 12375663



Performance : 400 V 50 Hz 2P IE3

Rated current	: 14.0 A	Moment of inertia (J)	: 0.0530 kgm <sup>2</sup>
LRC	: 8.3	Duty cycle	: Cont.(S1)
Rated torque	: 2.46 kgfm	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.25
Breakdown torque	: 350 %	Temperature rise	: 80 K
Rated speed	: 2952 rpm	Design	: B

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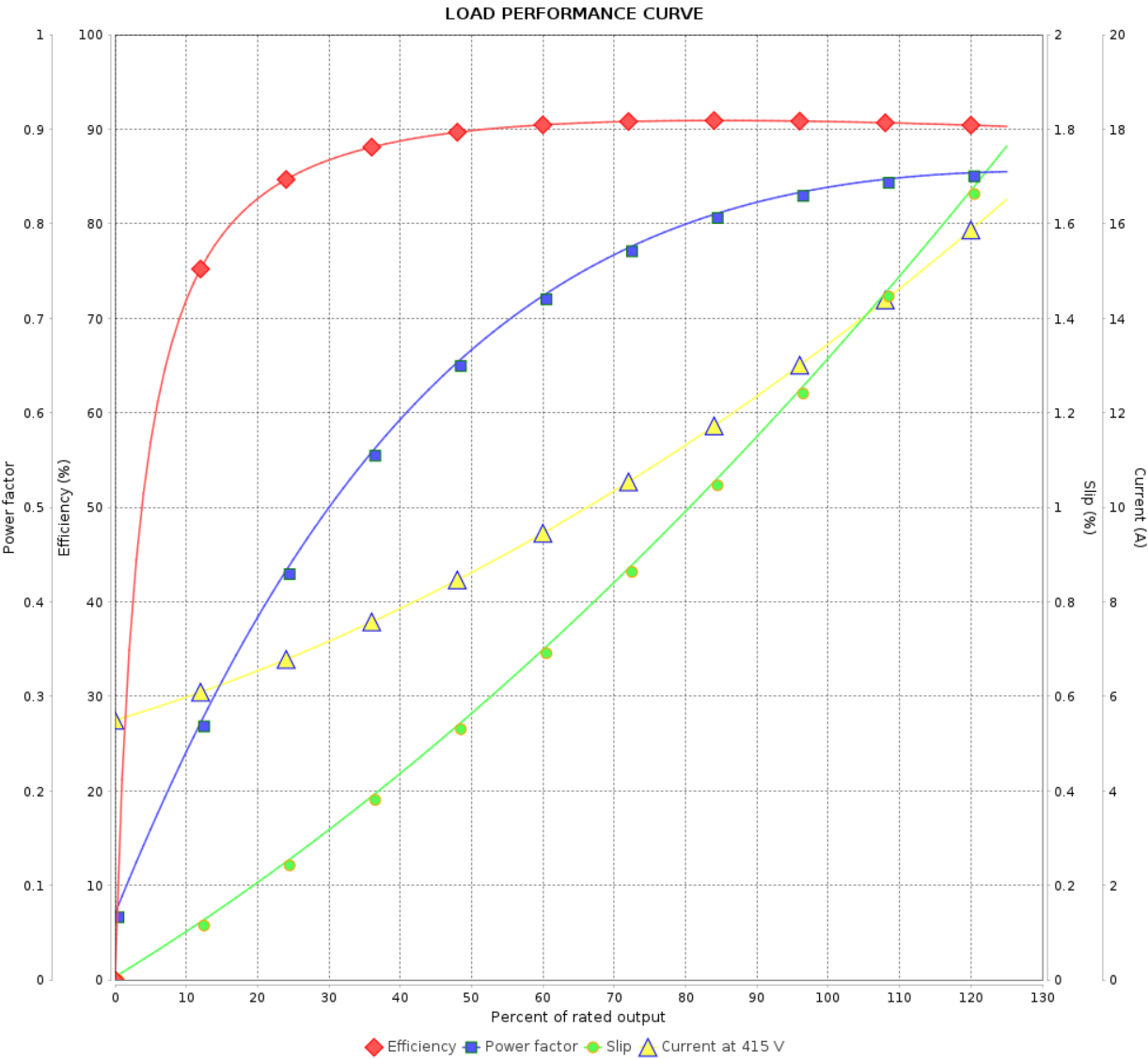
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Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase      Product code : 12375663



Performance : 415 V 50 Hz 2P IE3

Rated current	: 13.7 A	Moment of inertia (J)	: 0.0530 kgm <sup>2</sup>
LRC	: 8.5	Duty cycle	: Cont.(S1)
Rated torque	: 2.45 kgfm	Insulation class	: F
Locked rotor torque	: 250 %	Service factor	: 1.25
Breakdown torque	: 380 %	Temperature rise	: 80 K
Rated speed	: 2957 rpm	Design	: B

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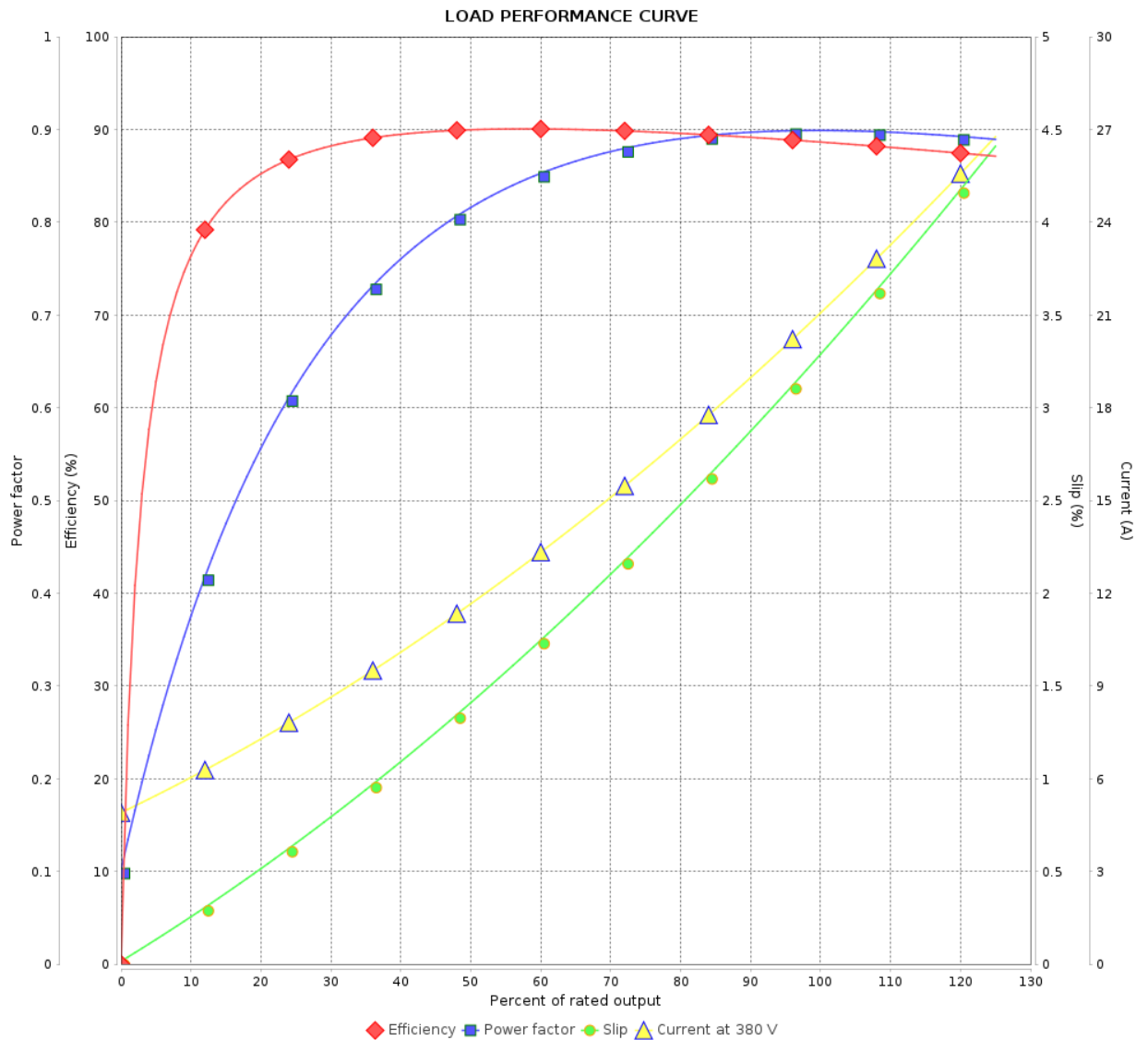
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency  
Three-Phase

Product code : 12375663



Performance : 380 V 50 Hz 2P IE1

Rated current : 21.0 A  
LRC : 5.1  
Rated torque : 3.75 kgfm  
Locked rotor torque : 170 %  
Breakdown torque : 200 %  
Rated speed : 2900 rpm

Moment of inertia (J) : 0.0530 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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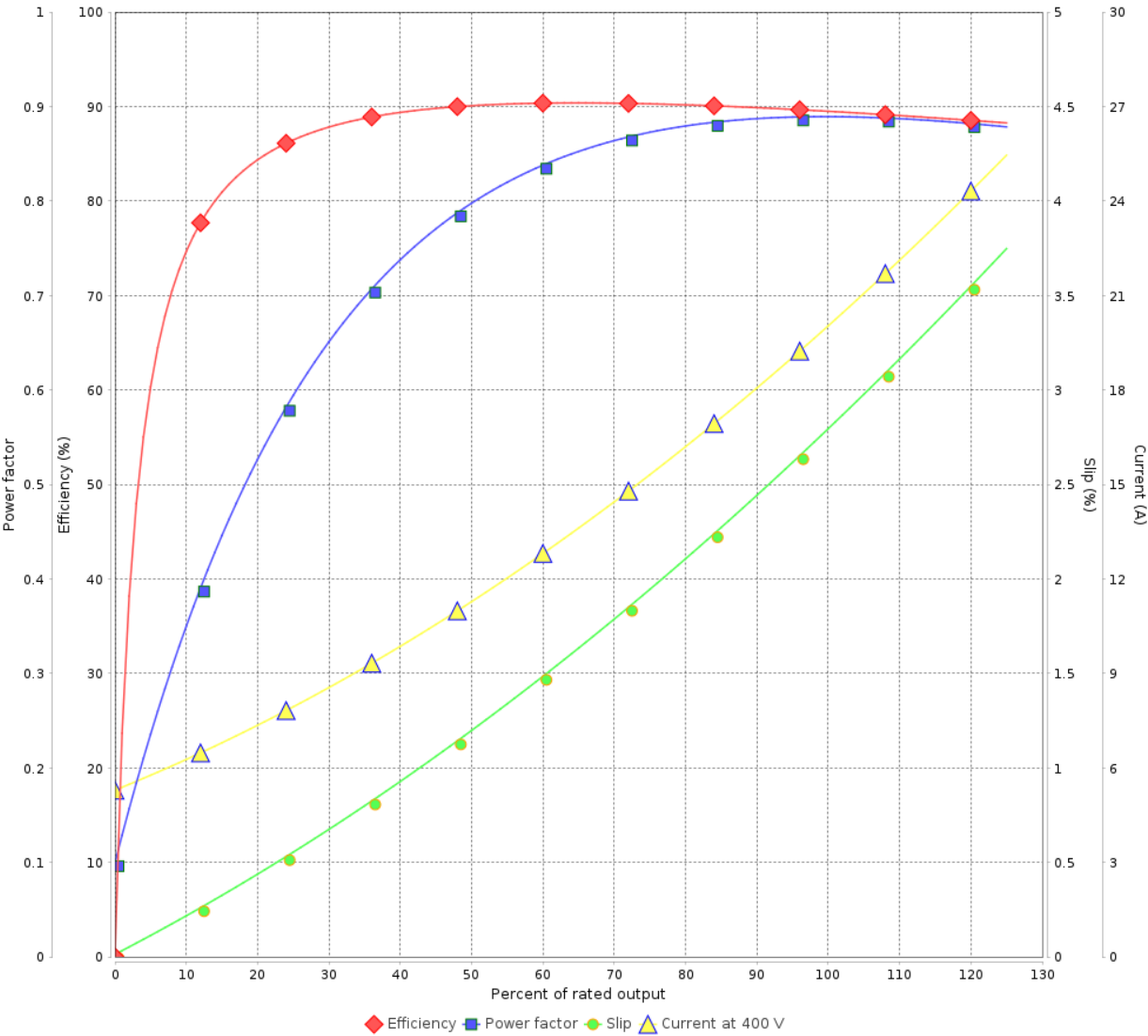
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency      Product code : 12375663  
Three-Phase

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Performance : 400 V 50 Hz 2P IE2

Rated current	: 19.9 A	Moment of inertia (J)	: 0.0530 kgm <sup>2</sup>
LRC	: 5.6	Duty cycle	: Cont.(S1)
Rated torque	: 3.73 kgfm	Insulation class	: F
Locked rotor torque	: 190 %	Service factor	: 1.00
Breakdown torque	: 229 %	Temperature rise	: 105 K
Rated speed	: 2915 rpm	Design	: B

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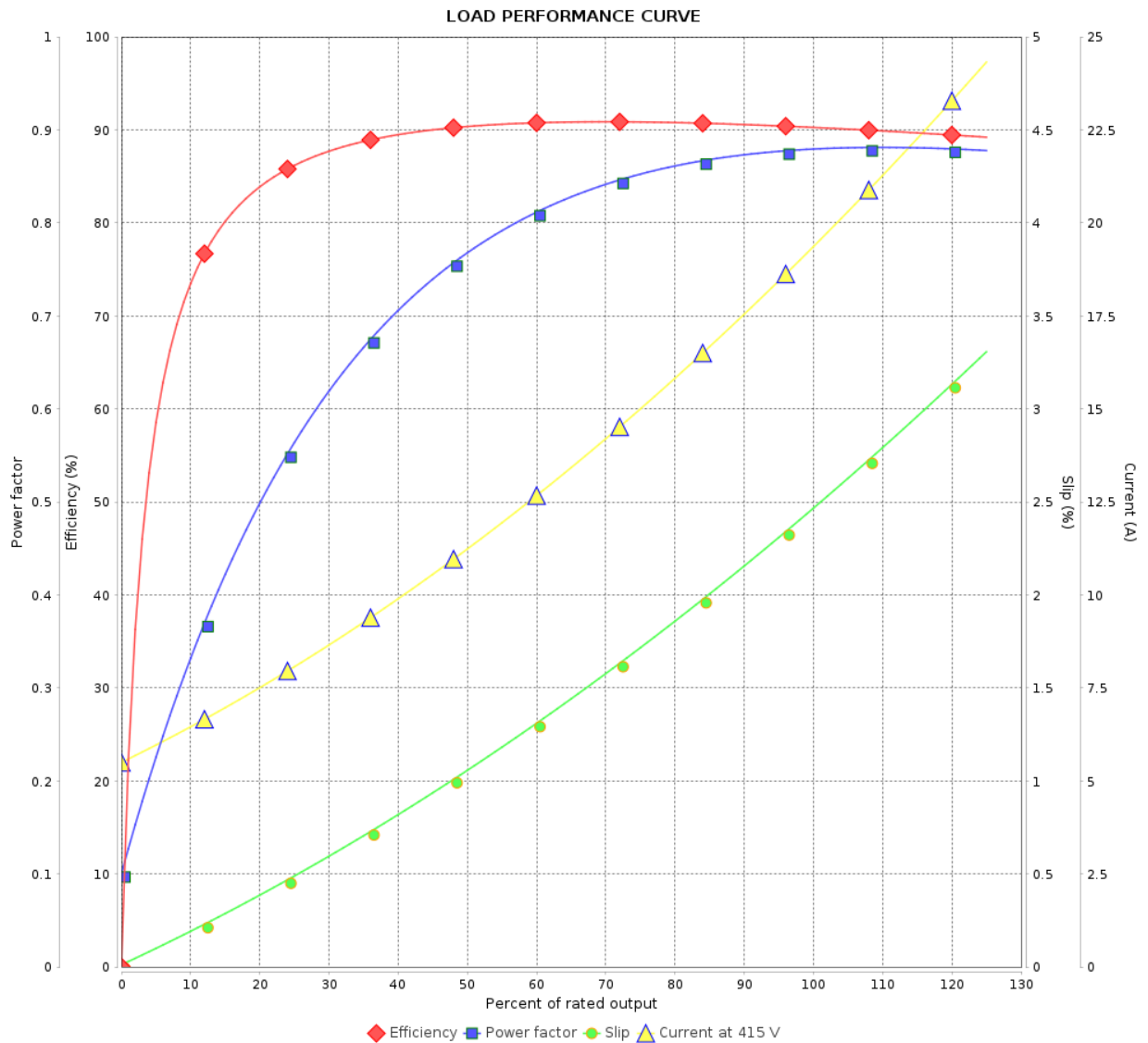
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency  
Three-Phase

Product code : 12375663



Performance : 415 V 50 Hz 2P IE2

Rated current : 19.3 A  
LRC : 6.1  
Rated torque : 3.72 kgfm  
Locked rotor torque : 200 %  
Breakdown torque : 240 %  
Rated speed : 2925 rpm

Moment of inertia (J) : 0.0530 kgm<sup>2</sup>  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.15  
Temperature rise : 105 K  
Design : B

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