

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 IEEE 841 NEMA Premium Efficiency Three-Phase Product code : 12385189

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>	: 130 kg
Protection degree	: IP56	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]	460	380	400	415	380	400	415
Rated current [A]	17.2	14.5	14.0	13.7	20.7	19.6	19.1
L. R. Amperes [A]	115	98.6	105	108	101	108	113
LRC [A]	6.7x(Code G)	6.8x(Code H)	7.5x(Code J)	7.9x(Code J)	4.9x(Code D)	5.5x(Code E)	5.9x(Code F)
No load current [A]	5.30	5.10	5.40	5.70	5.10	5.40	5.70
Rated speed [RPM]	3530	2945	2950	2955	2910	2920	2925
Slip [%]	1.94	1.83	1.67	1.50	3.00	2.67	2.50
Rated torque [kgfm]	3.08	2.46	2.46	2.46	3.74	3.73	3.72
Locked rotor torque [%]	220	200	229	250	170	190	210
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	80 K	80 K	80 K
Locked rotor time	45s (cold) 25s (hot)	55s (cold) 31s (hot)	50s (cold) 28s (hot)	46s (cold) 26s (hot)	36s (cold) 20s (hot)	36s (cold) 20s (hot)	36s (cold) 20s (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%						
	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	89.5	90.2
Power Factor	25%						
	50%	0.77	0.73	0.69	0.67	0.83	0.81
	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)	9.4	9.4	9.4	9.4	9.4	9.4
	P2 (0,5;1,0)	7.5	7.5	7.5	7.5	7.5	7.5
	P3 (0,25;1,0)	6.8	6.8	6.8	6.8	6.8	6.8
	P4 (0,9;0,5)	4.8	4.8	4.8	4.8	4.8	4.8
	P5 (0,5;0,5)	2.8	2.8	2.8	2.8	2.8	2.8
	P6 (0,5;0,25)	1.8	1.8	1.8	1.8	1.8	1.8
	P7 (0,25;0,25)	1.1	1.1	1.1	1.1	1.1	1.1

Bearing type	: 6309 C3	Non drive end	6209 C3	Foundation loads	
Sealing	: Inpro/Seal	Inpro/Seal		Max. traction	: 75 kgf
Lubrication interval	: 19000 h	20000 h		Max. compression	: 205 kgf
Lubricant amount	: 13 g	9 g			
Lubricant type	: 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 :

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# LOAD PERFORMANCE CURVE

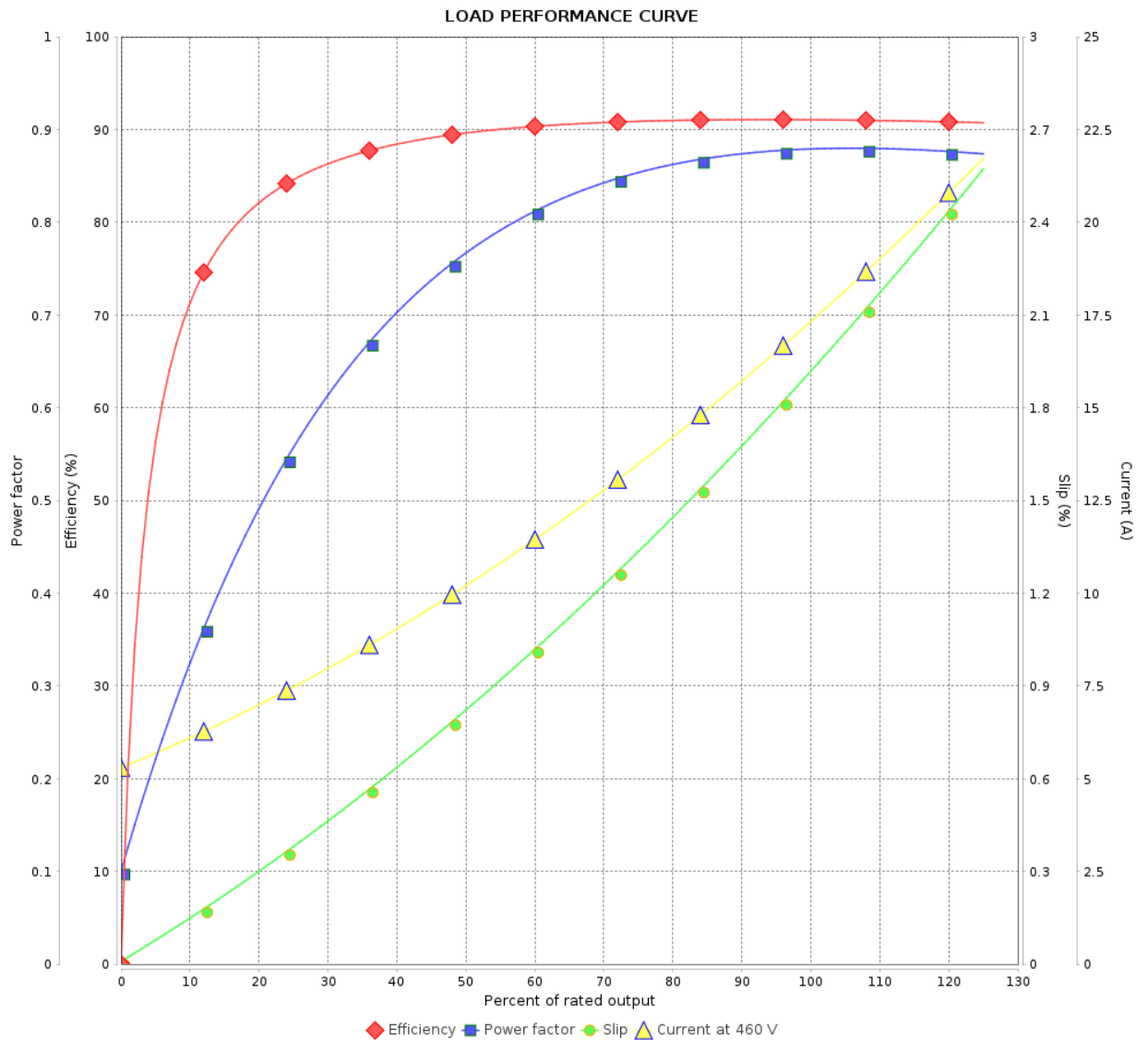
## Three Phase Induction Motor - Squirrel Cage



Customer :

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

Product code : 12385189



Performance : 460 V 60 Hz 2P

Rated current	: 17.2 A	Moment of inertia (J)	: 0.0530 kgm <sup>2</sup>
LRC	: 6.7	Duty cycle	: Cont.(S1)
Rated torque	: 3.08 kgfm	Insulation class	: F
Locked rotor torque	: 220 %	Service factor	: 1.25
Breakdown torque	: 270 %	Temperature rise	: 80 K
Rated speed	: 3530 rpm	Design	: B

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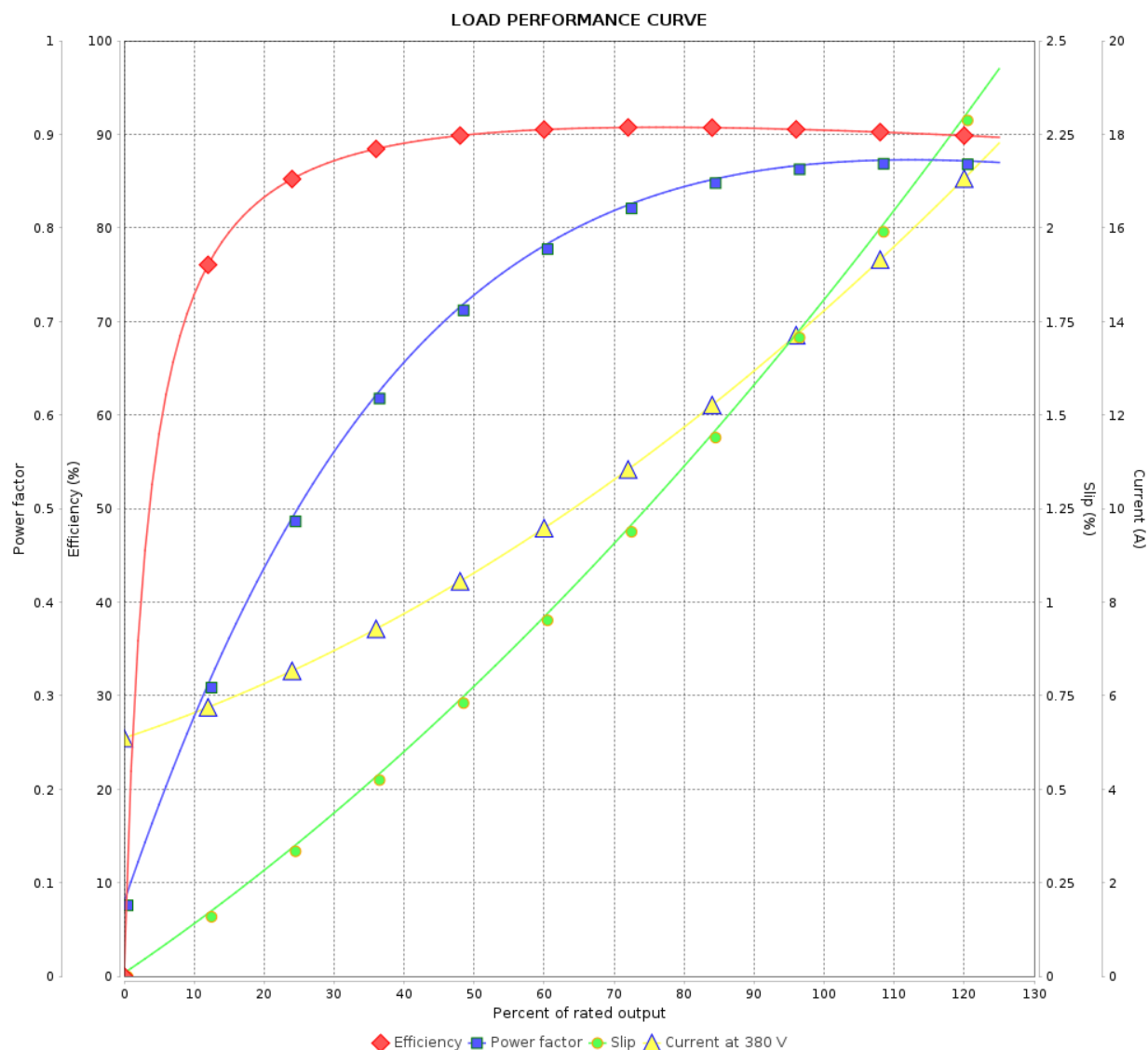
## Three Phase Induction Motor - Squirrel Cage



Customer :

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

Product code : 12385189



Performance : 380 V 50 Hz 2P IE3

Rated current : 14.5 A  
LRC : 6.8  
Rated torque : 2.46 kgfm  
Locked rotor torque : 200 %  
Breakdown torque : 310 %  
Rated speed : 2945 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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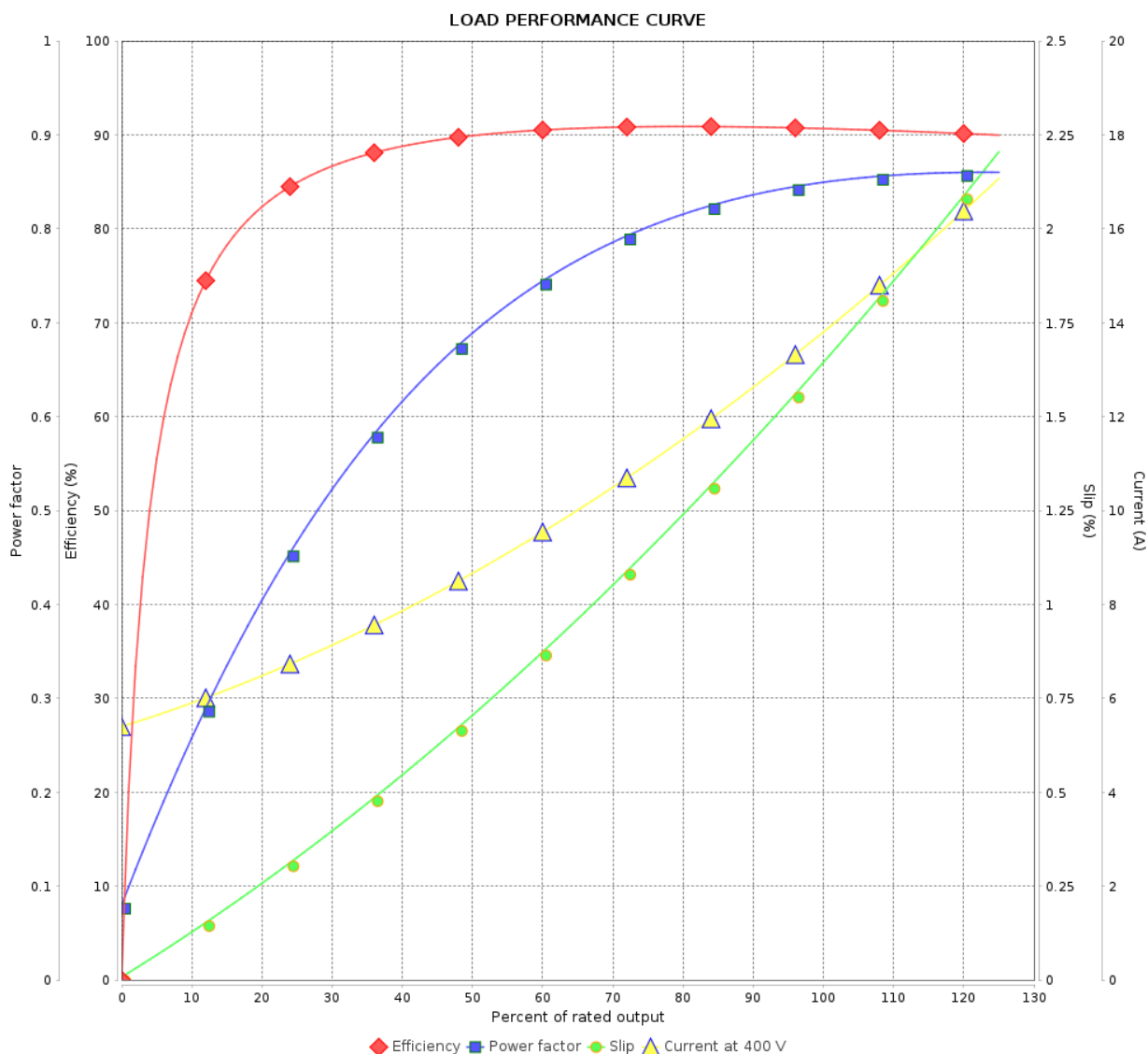
## Three Phase Induction Motor - Squirrel Cage



Customer :

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

Product code : 12385189



Performance : 400 V 50 Hz 2P IE3

Rated current : 14.0 A  
LRC : 7.5  
Rated torque : 2.46 kgfm  
Locked rotor torque : 229 %  
Breakdown torque : 350 %  
Rated speed : 2950 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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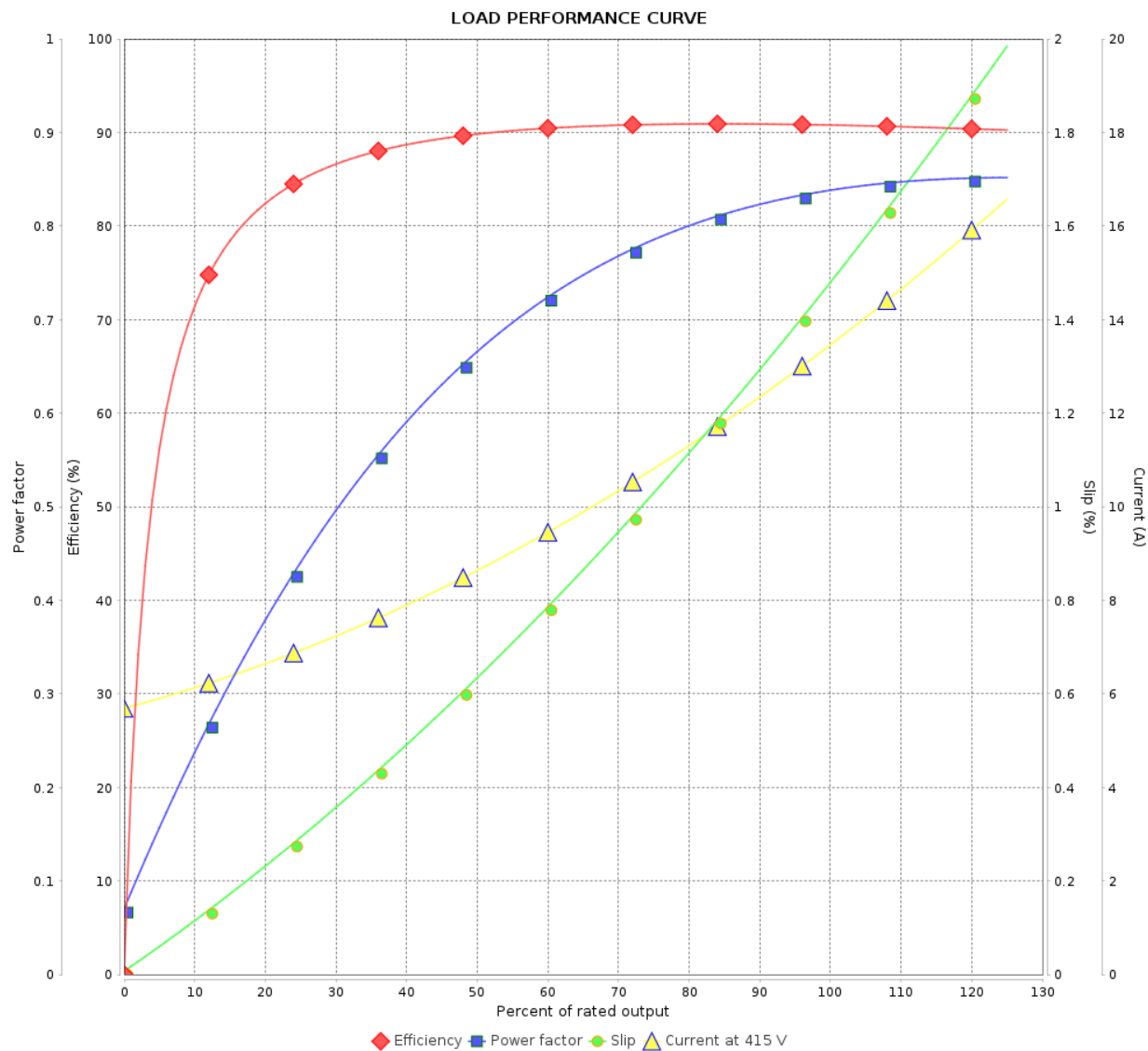
## Three Phase Induction Motor - Squirrel Cage



Customer :

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

Product code : 12385189



Performance : 415 V 50 Hz 2P IE3

Rated current : 13.7 A  
LRC : 7.9  
Rated torque : 2.46 kgfm  
Locked rotor torque : 250 %  
Breakdown torque : 380 %  
Rated speed : 2955 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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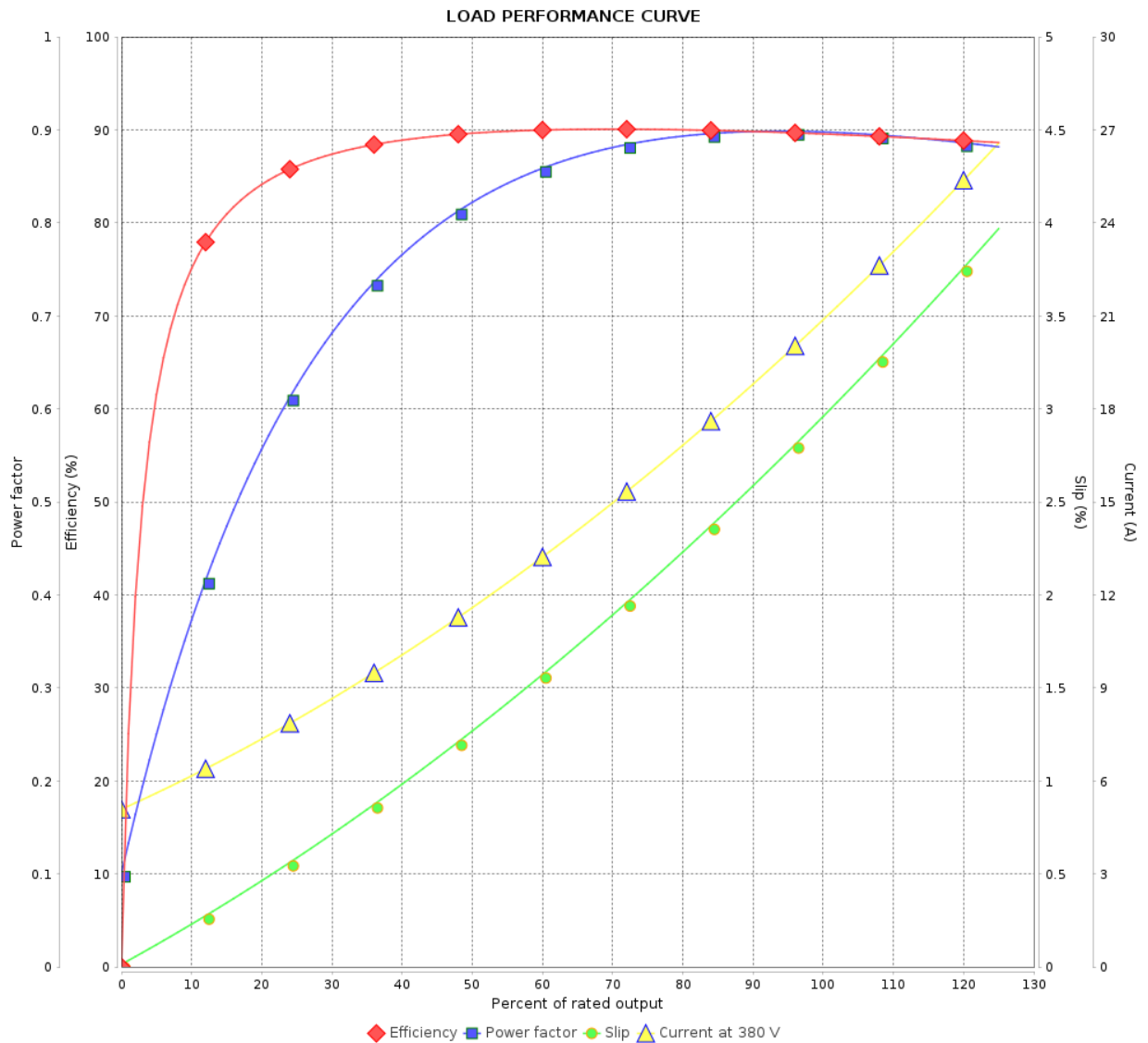
## Three Phase Induction Motor - Squirrel Cage



Customer :

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

Product code : 12385189



Performance : 380 V 50 Hz 2P IE2

Rated current : 20.7 A  
LRC : 4.9  
Rated torque : 3.74 kgfm  
Locked rotor torque : 170 %  
Breakdown torque : 200 %  
Rated speed : 2910 rpm

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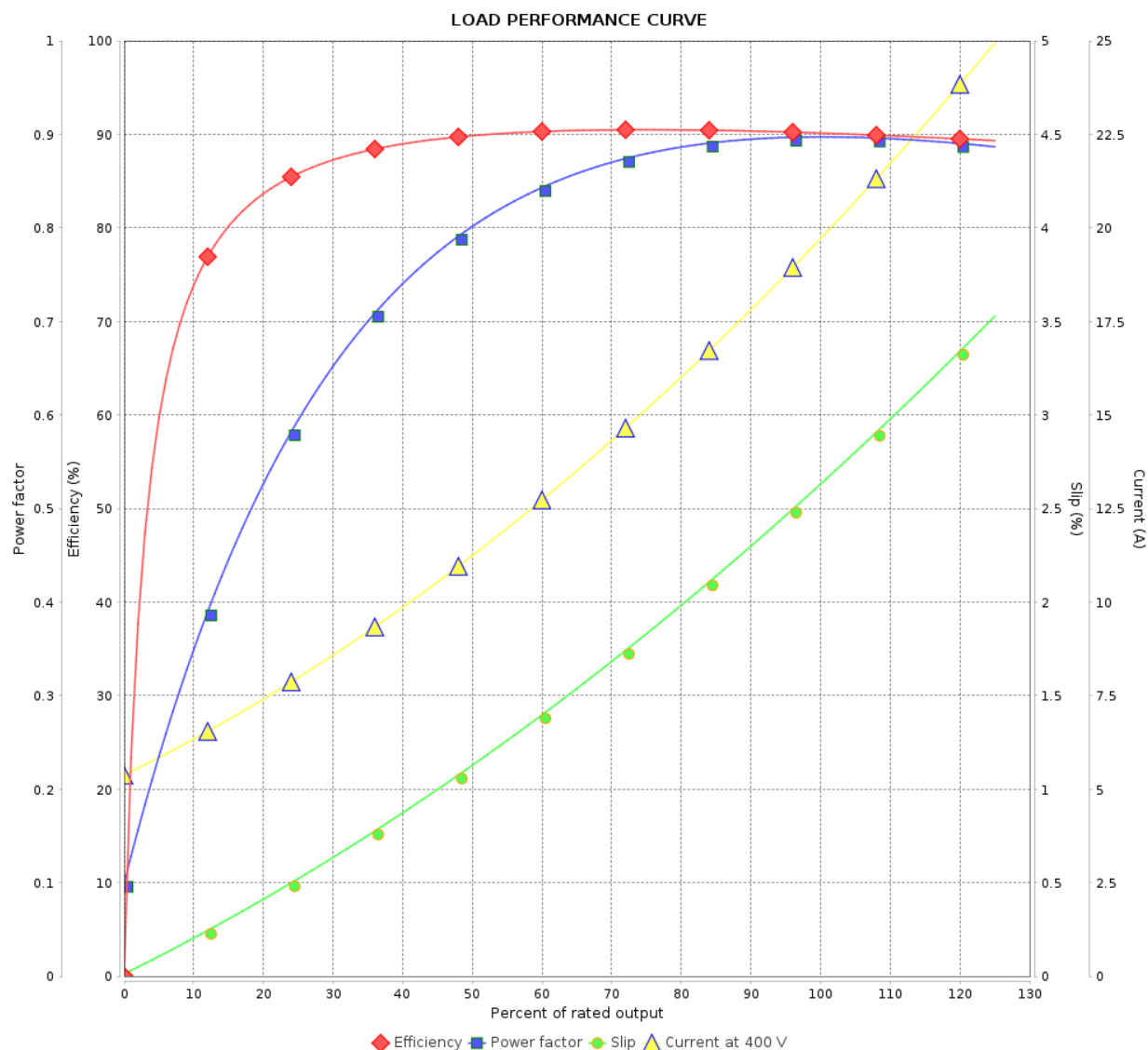
## Three Phase Induction Motor - Squirrel Cage



Customer :

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

Product code : 12385189



Performance : 400 V 50 Hz 2P IE2

Rated current : 19.6 A  
LRC : 5.5  
Rated torque : 3.73 kgfm  
Locked rotor torque : 190 %  
Breakdown torque : 229 %  
Rated speed : 2920 rpm

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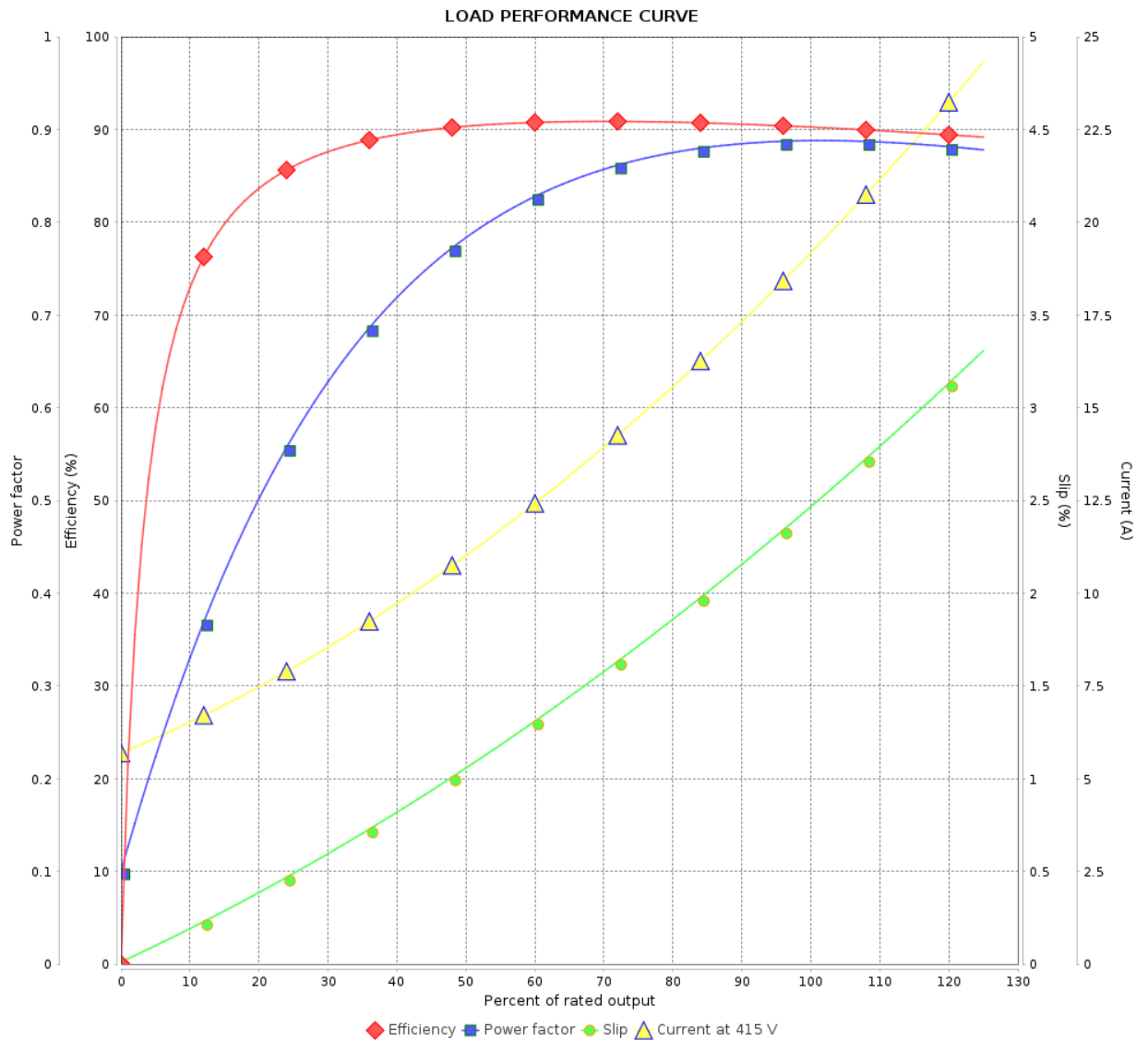
## Three Phase Induction Motor - Squirrel Cage



Customer :

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

Product code : 12385189



Performance : 415 V 50 Hz 2P IE2

Rated current : 19.1 A  
LRC : 5.9  
Rated torque : 3.72 kgfm  
Locked rotor torque : 210 %  
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 : 80 K  
Design : B

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