

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 IEEE 841 NEMA Premium Efficiency Three-Phase Product code : 11431933

Frame	: 324/6T	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>	: 273 kg
Protection degree	: IP56	Moment of inertia (J)	: 0.3861 kgm <sup>2</sup>
Design	: B		

Output [HP]	50	40	40	40	50	50	50
Poles	4	4	4	4	4	4	4
Frequency [Hz]	60	50	50	50	50	50	50
Rated voltage [V]	460	380	400	415	380	400	415
Rated current [A]	59.2	58.7	57.1	56.4	71.6	68.4	66.3
L. R. Amperes [A]	367	376	400	417	372	397	411
LRC [A]	6.2x(Code G)	6.4x(Code G)	7.0x(Code H)	7.4x(Code J)	5.2x(Code E)	5.8x(Code F)	6.2x(Code G)
No load current [A]	23.5	23.0	24.0	25.0	23.0	24.0	25.0
Rated speed [RPM]	1775	1475	1477	1478	1460	1465	1470
Slip [%]	1.39	1.67	1.53	1.47	2.67	2.33	2.00
Rated torque [kgfm]	20.4	19.7	19.7	19.6	24.9	24.8	24.7
Locked rotor torque [%]	229	229	250	260	180	200	210
Breakdown torque [%]	270	260	300	330	200	240	260
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	27s (cold) 15s (hot)	19s (cold) 11s (hot)	19s (cold) 11s (hot)	19s (cold) 11s (hot)	19s (cold) 11s (hot)	19s (cold) 11s (hot)	19s (cold) 11s (hot)
Noise level <sup>2</sup>	70.0 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%	93.0	92.5	91.5	91.1	93.0	92.4
	75%	94.1	93.1	92.8	93.0	93.0	93.0
	100%	94.5	93.6	93.6	93.6	92.4	93.5
Power Factor	25%						
	50%	0.66	0.64	0.60	0.57	0.72	0.68
	75%	0.77	0.77	0.73	0.70	0.81	0.79
	100%	0.83	0.83	0.81	0.79	0.85	0.84

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

Losses (%)	P1 (0,9;1,0)	5.7	5.7	5.7	5.7	5.7	5.7
	P2 (0,5;1,0)	4.9	4.9	4.9	4.9	4.9	4.9
	P3 (0,25;1,0)	4.7	4.7	4.7	4.7	4.7	4.7
	P4 (0,9;0,5)	2.7	2.7	2.7	2.7	2.7	2.7
	P5 (0,5;0,5)	1.9	1.9	1.9	1.9	1.9	1.9
	P6 (0,5;0,25)	1.2	1.2	1.2	1.2	1.2	1.2
	P7 (0,25;0,25)	0.9	0.9	0.9	0.9	0.9	0.9

Bearing type	: 6312 C3	Non drive end	6212 C3	Foundation loads	
Sealing	: Inpro/Seal	Inpro/Seal		Max. traction	: 672 kgf
Lubrication interval	: 20000 h	20000 h		Max. compression	: 944 kgf
Lubricant amount	: 21 g	13 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 :

Notes

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# LOAD PERFORMANCE CURVE

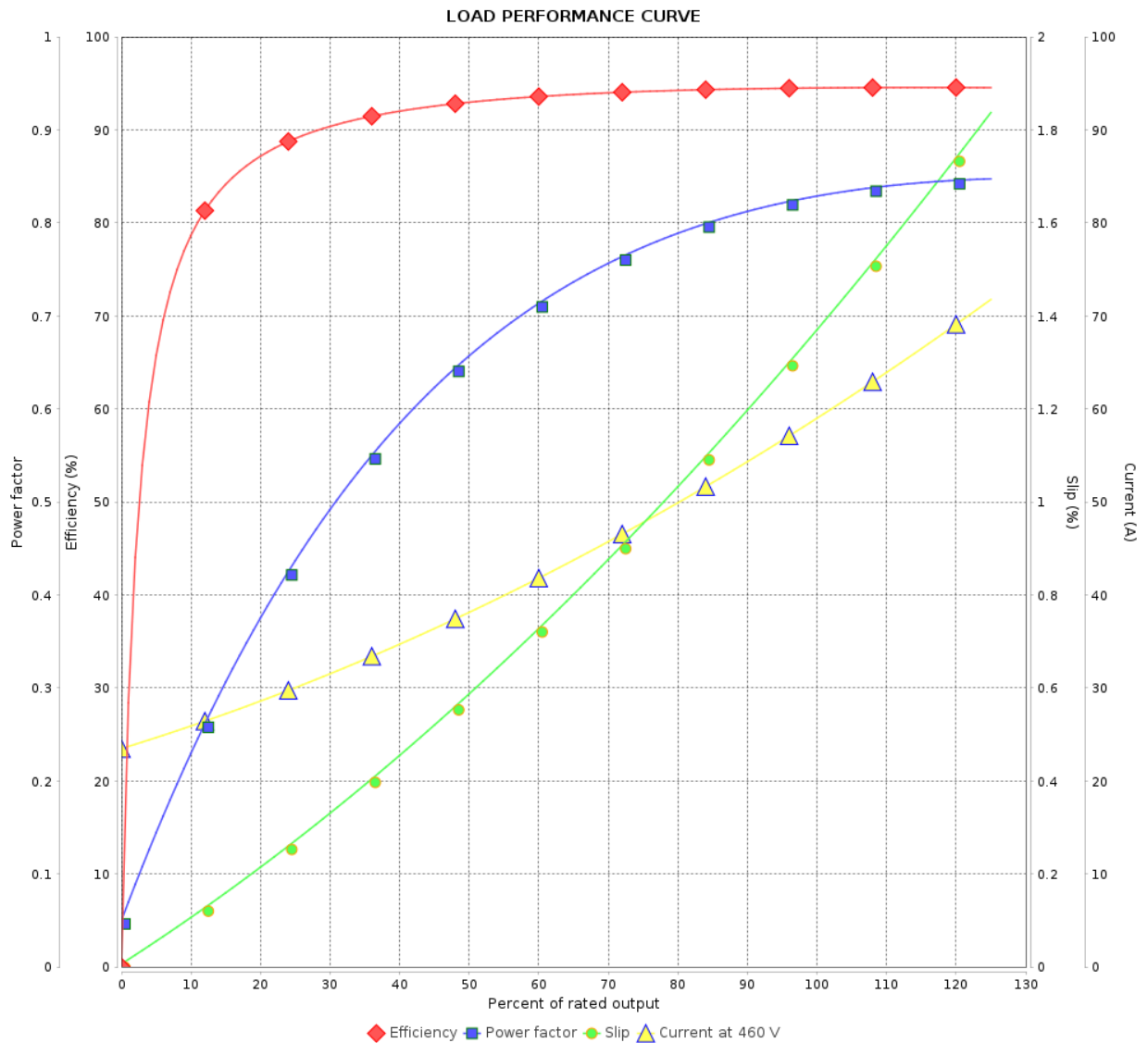
## Three Phase Induction Motor - Squirrel Cage



Customer :

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

Product code : 11431933



Performance : 460 V 60 Hz 4P

Rated current : 59.2 A  
LRC : 6.2  
Rated torque : 20.4 kgfm  
Locked rotor torque : 229 %  
Breakdown torque : 270 %  
Rated speed : 1775 rpm

Moment of inertia (J) : 0.3861 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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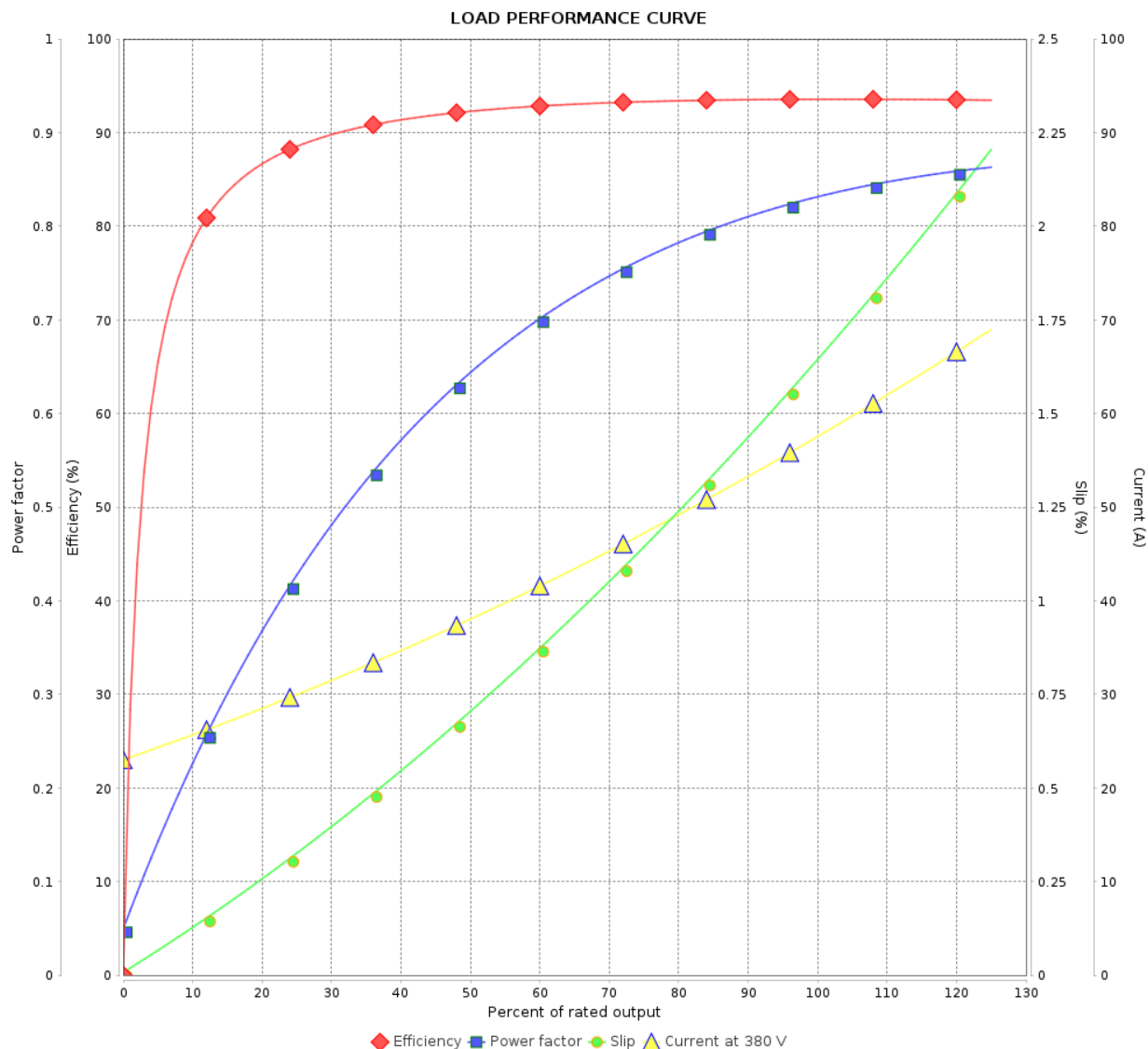
## Three Phase Induction Motor - Squirrel Cage



Customer :

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

Product code : 11431933



Performance : 380 V 50 Hz 4P IE3

Rated current : 58.7 A  
LRC : 6.4  
Rated torque : 19.7 kgfm  
Locked rotor torque : 229 %  
Breakdown torque : 260 %  
Rated speed : 1475 rpm

Moment of inertia (J) : 0.3861 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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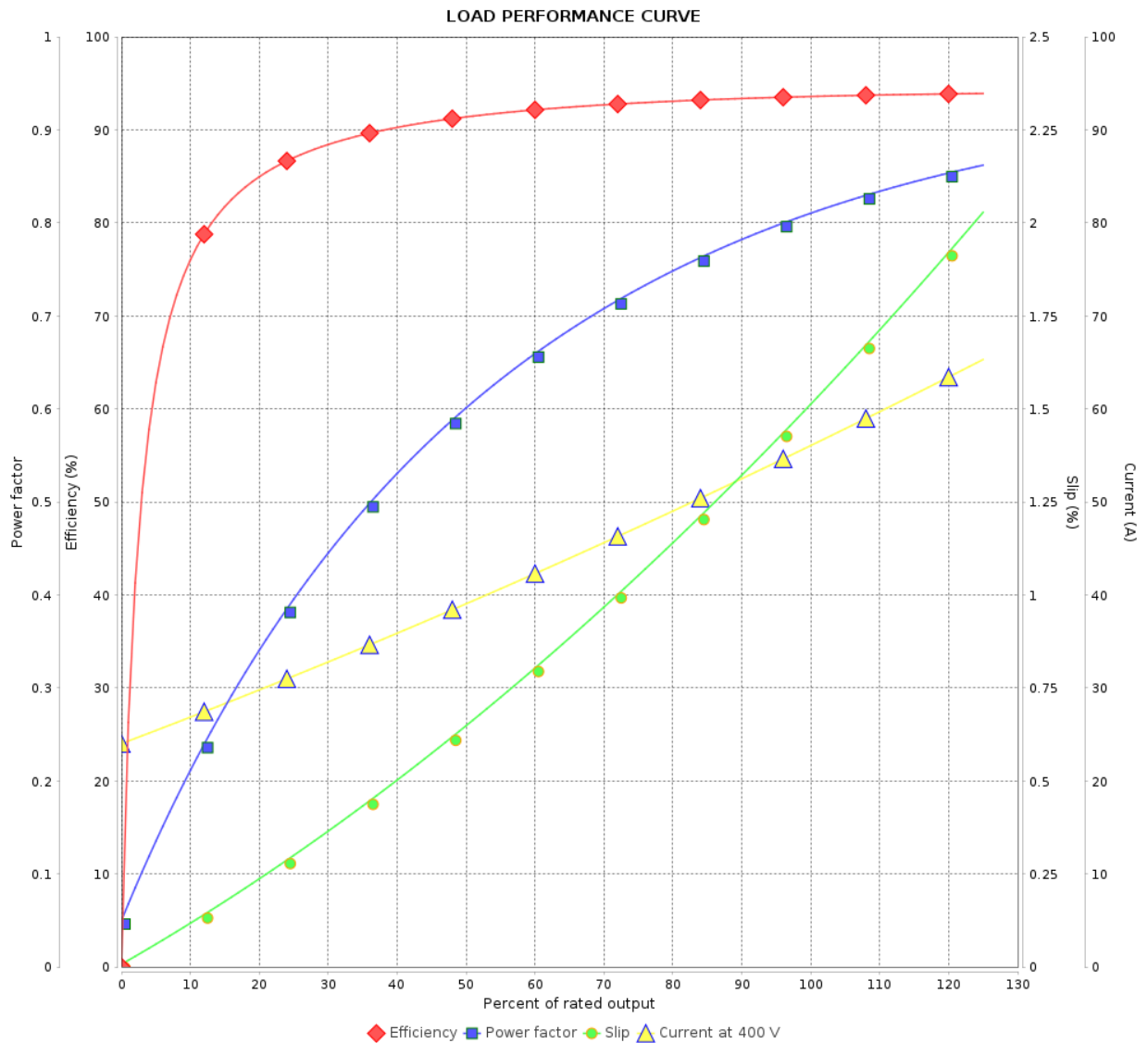
## Three Phase Induction Motor - Squirrel Cage



Customer :

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

Product code : 11431933



Performance : 400 V 50 Hz 4P IE3

Rated current : 57.1 A  
LRC : 7.0  
Rated torque : 19.7 kgfm  
Locked rotor torque : 250 %  
Breakdown torque : 300 %  
Rated speed : 1477 rpm

Moment of inertia (J) : 0.3861 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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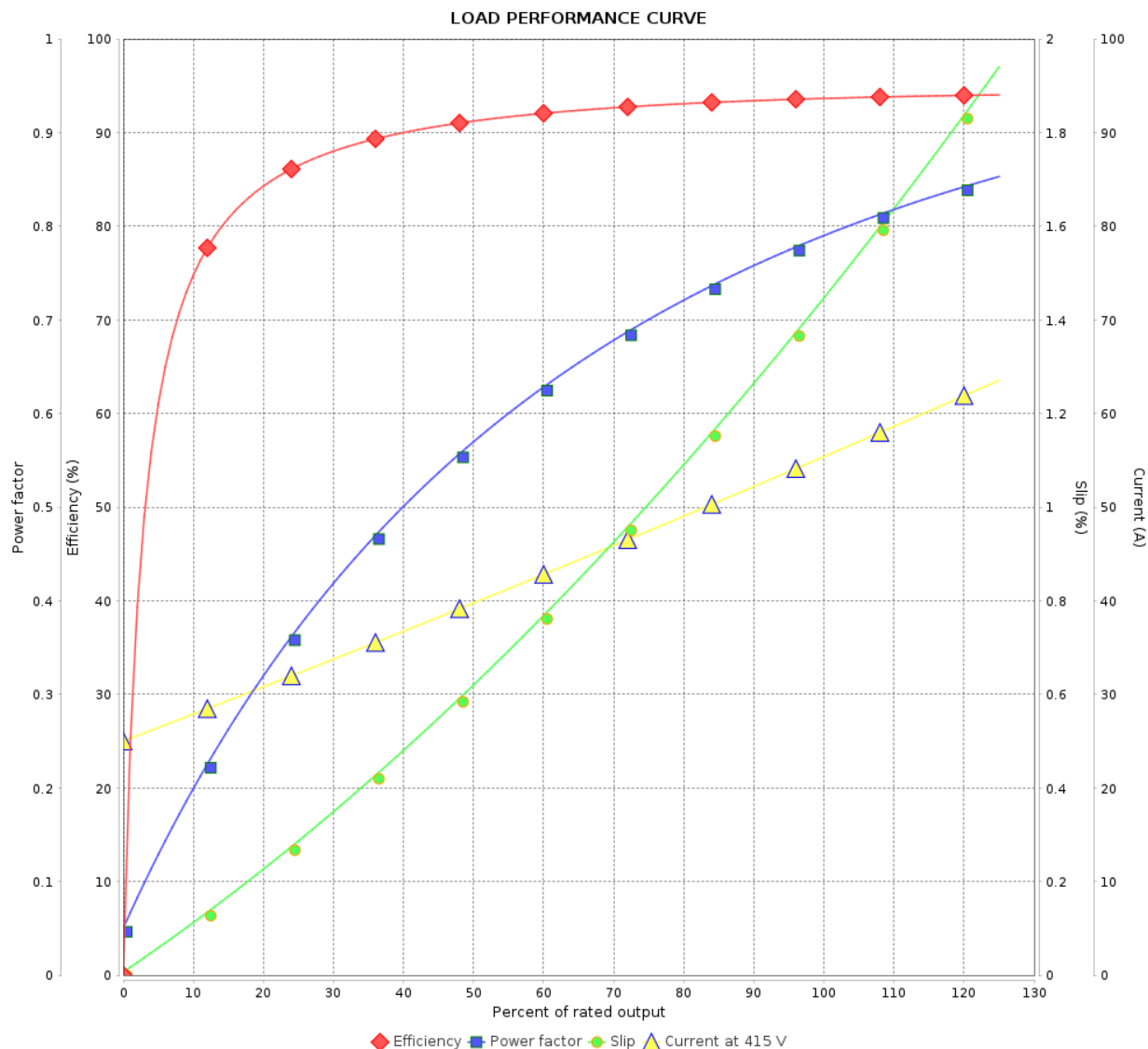
## Three Phase Induction Motor - Squirrel Cage



Customer :

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

Product code : 11431933



Performance : 415 V 50 Hz 4P IE3

Rated current : 56.4 A  
LRC : 7.4  
Rated torque : 19.6 kgfm  
Locked rotor torque : 260 %  
Breakdown torque : 330 %  
Rated speed : 1478 rpm

Moment of inertia (J) : 0.3861 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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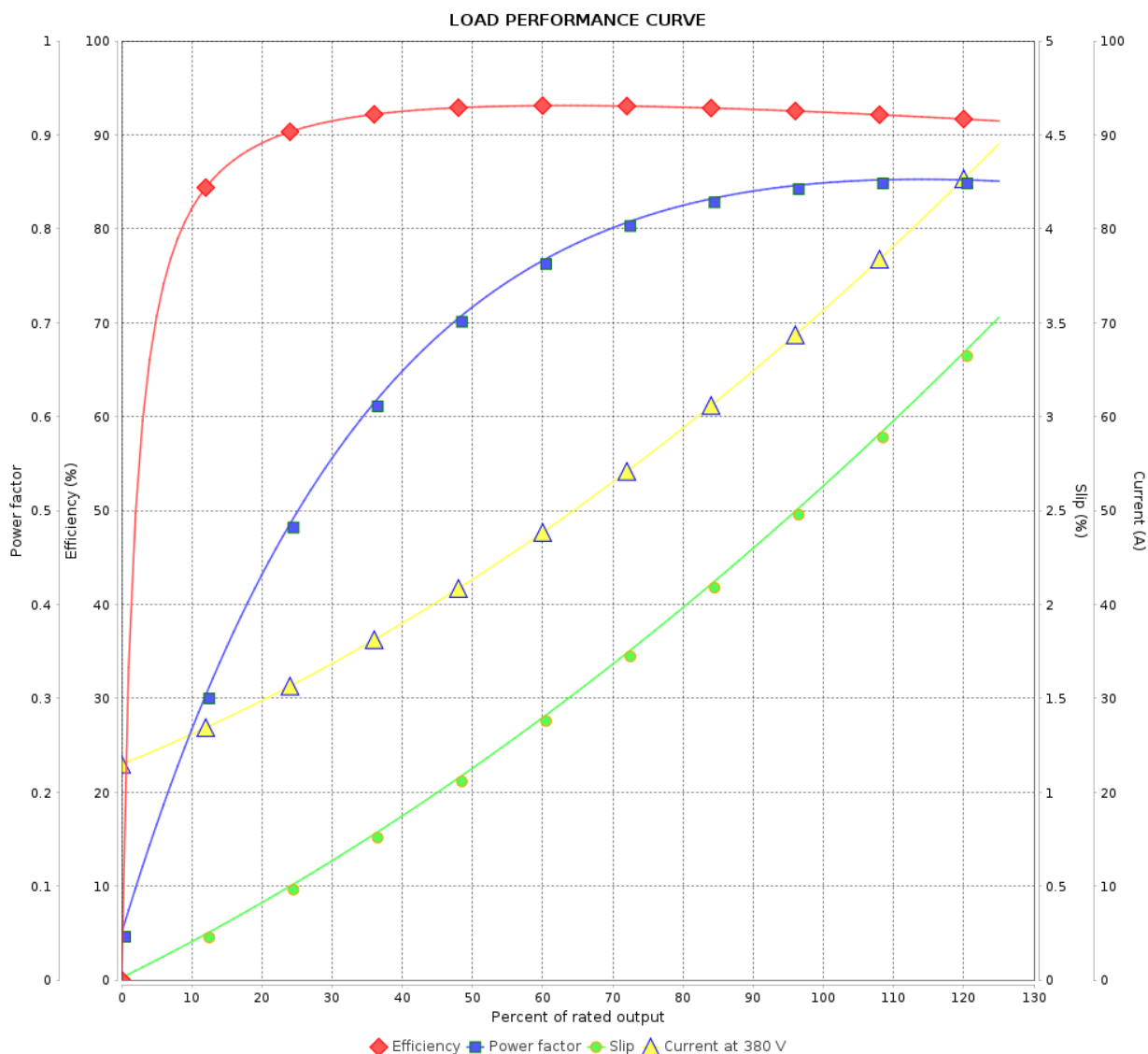
## Three Phase Induction Motor - Squirrel Cage



Customer :

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

Product code : 11431933



Performance : 380 V 50 Hz 4P IE1

Rated current : 71.6 A  
LRC : 5.2  
Rated torque : 24.9 kgfm  
Locked rotor torque : 180 %  
Breakdown torque : 200 %  
Rated speed : 1460 rpm

Moment of inertia (J) : 0.3861 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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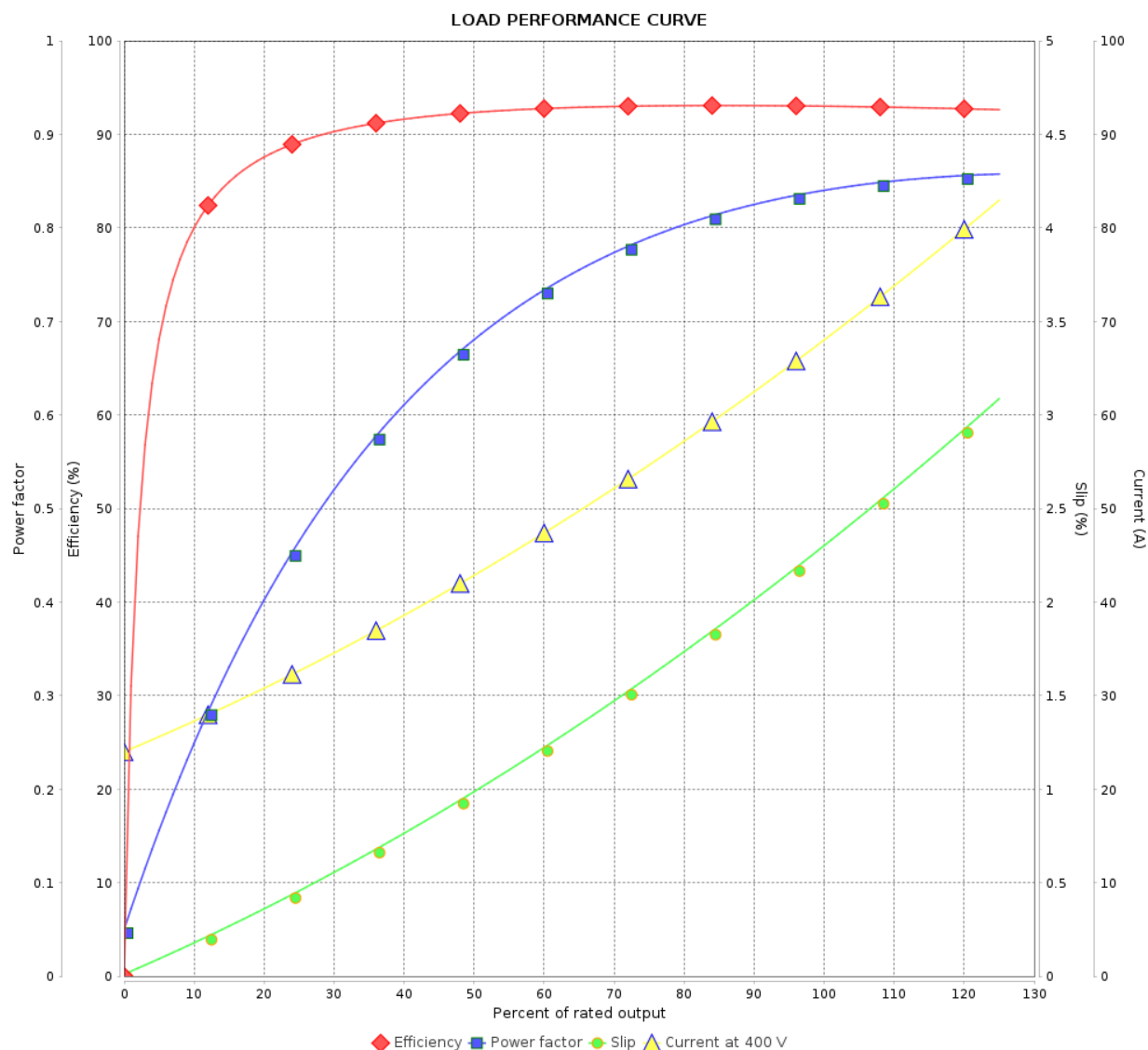
## Three Phase Induction Motor - Squirrel Cage



Customer :

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

Product code : 11431933



Performance : 400 V 50 Hz 4P IE2

Rated current : 68.4 A  
LRC : 5.8  
Rated torque : 24.8 kgfm  
Locked rotor torque : 200 %  
Breakdown torque : 240 %  
Rated speed : 1465 rpm

Moment of inertia (J) : 0.3861 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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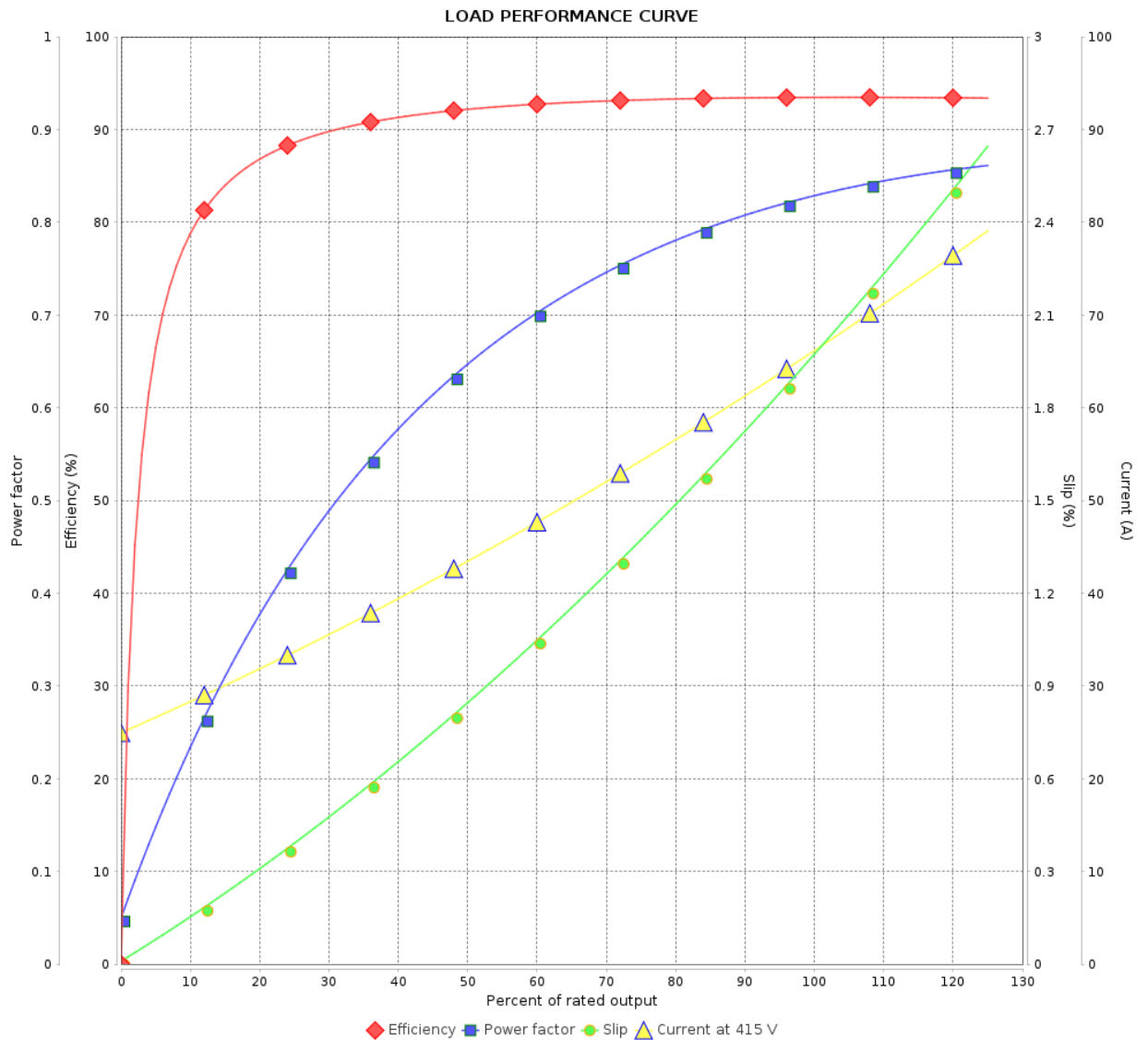
## Three Phase Induction Motor - Squirrel Cage



Customer :

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

Product code : 11431933



Performance : 415 V 50 Hz 4P IE2

Rated current	: 66.3 A	Moment of inertia (J)	: 0.3861 kgm <sup>2</sup>
LRC	: 6.2	Duty cycle	: Cont.(S1)
Rated torque	: 24.7 kgfm	Insulation class	: F
Locked rotor torque	: 210 %	Service factor	: 1.00
Breakdown torque	: 260 %	Temperature rise	: 105 K
Rated speed	: 1470 rpm	Design	: B

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