

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 IEEE 841 NEMA Premium Efficiency Three-Phase Product code : 11431306

Frame	: 324/6TS	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>	: 253 kg
Protection degree	: IP56	Moment of inertia (J)	: 0.2422 kgm <sup>2</sup>
Design	: B		

Output [HP]	50	40	40	40	50	50	50
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]	56.7	54.9	52.7	51.4	69.4	65.4	63.3
L. R. Amperes [A]	357	362	374	370	361	366	392
LRC [A]	6.3x(Code G)	6.6x(Code G)	7.1x(Code H)	7.2x(Code H)	5.2x(Code E)	5.6x(Code F)	6.2x(Code G)
No load current [A]	14.0	13.0	14.0	15.0	13.0	14.0	15.0
Rated speed [RPM]	3555	2955	2960	2965	2935	2945	2950
Slip [%]	1.25	1.50	1.33	1.17	2.17	1.83	1.67
Rated torque [kgfm]	10.2	9.82	9.81	9.79	12.4	12.3	12.3
Locked rotor torque [%]	240	240	260	280	190	210	229
Breakdown torque [%]	229	229	250	280	200	200	220
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	63s (cold) 35s (hot)	68s (cold) 38s (hot)	64s (cold) 36s (hot)	61s (cold) 34s (hot)	37s (cold) 21s (hot)	43s (cold) 24s (hot)	43s (cold) 24s (hot)
Noise level <sup>2</sup>	76.0 dB(A)	72.0 dB(A)	72.0 dB(A)	72.0 dB(A)	72.0 dB(A)	72.0 dB(A)	72.0 dB(A)
Efficiency (%)	25%						
	50%	93.0	92.8	92.2	92.2	93.0	93.0
	75%	93.0	92.9	92.8	93.1	92.4	93.0
	100%	93.0	93.3	93.3	93.3	91.0	92.4
Power Factor	25%						
	50%	0.81	0.80	0.77	0.76	0.85	0.82
	75%	0.87	0.87	0.85	0.84	0.88	0.86
	100%	0.88	0.89	0.88	0.87	0.89	0.88

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

Losses (%)	P1 (0,9;1,0)	8.2	7.8	7.8	7.8	10.8	9.9	8.9
	P2 (0,5;1,0)	6.5	6.2	6.2	6.2	9.0	8.2	7.3
	P3 (0,25;1,0)	5.8	5.5	5.5	5.5	8.3	7.4	6.5
	P4 (0,9;0,5)	4.0	3.9	3.9	3.9	5.2	4.8	4.4
	P5 (0,5;0,5)	2.5	2.4	2.4	2.4	3.4	3.1	2.8
	P6 (0,5;0,25)	1.6	1.5	1.5	1.5	2.2	2.0	1.8
	P7 (0,25;0,25)	1.0	1.0	1.0	1.0	1.5	1.4	1.2

Bearing type	: 6312 C3	Non drive end	6212 C3	Foundation loads	
Sealing	: Inpro/Seal	Inpro/Seal		Max. traction	: 214 kgf
Lubrication interval	: 12000 h	15000 h		Max. compression	: 467 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 :

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# LOAD PERFORMANCE CURVE

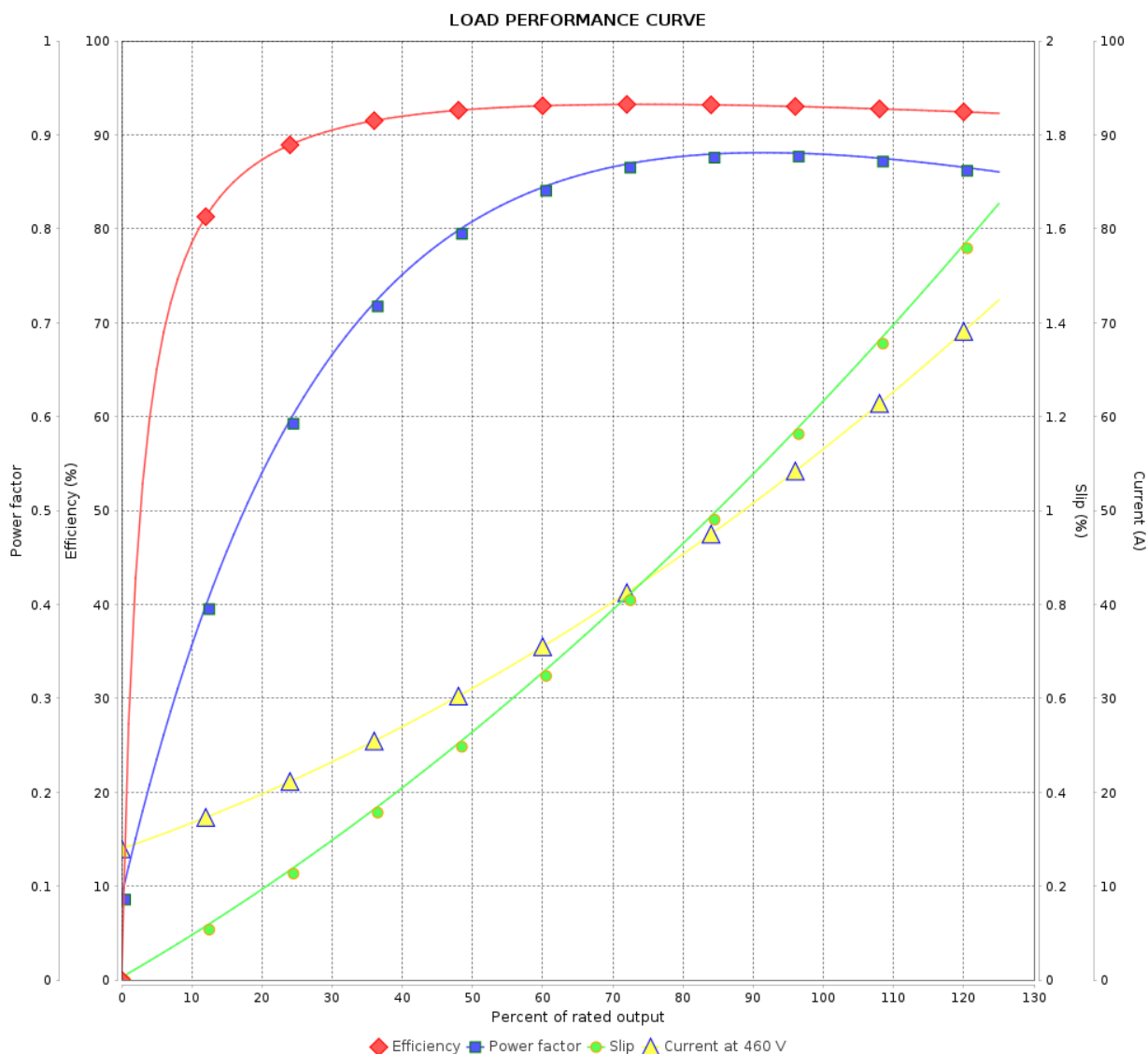
## Three Phase Induction Motor - Squirrel Cage



Customer :

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

Product code : 11431306



Performance : 460 V 60 Hz 2P

Rated current : 56.7 A  
LRC : 6.3  
Rated torque : 10.2 kgfm  
Locked rotor torque : 240 %  
Breakdown torque : 229 %  
Rated speed : 3555 rpm

Moment of inertia (J) : 0.2422 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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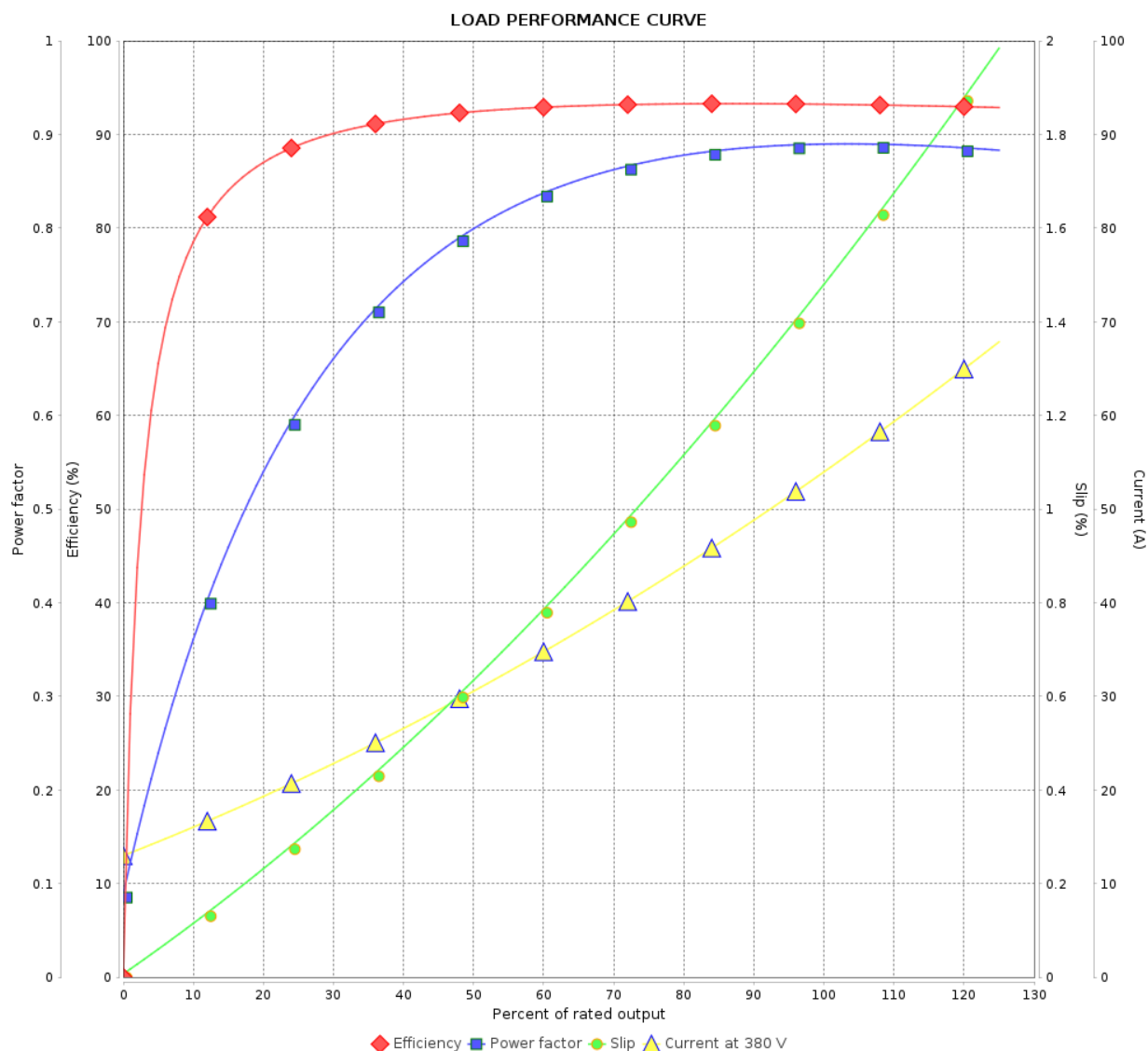
## Three Phase Induction Motor - Squirrel Cage



Customer :

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

Product code : 11431306



Performance : 380 V 50 Hz 2P IE3

Rated current : 54.9 A  
LRC : 6.6  
Rated torque : 9.82 kgfm  
Locked rotor torque : 240 %  
Breakdown torque : 229 %  
Rated speed : 2955 rpm

Moment of inertia (J) : 0.2422 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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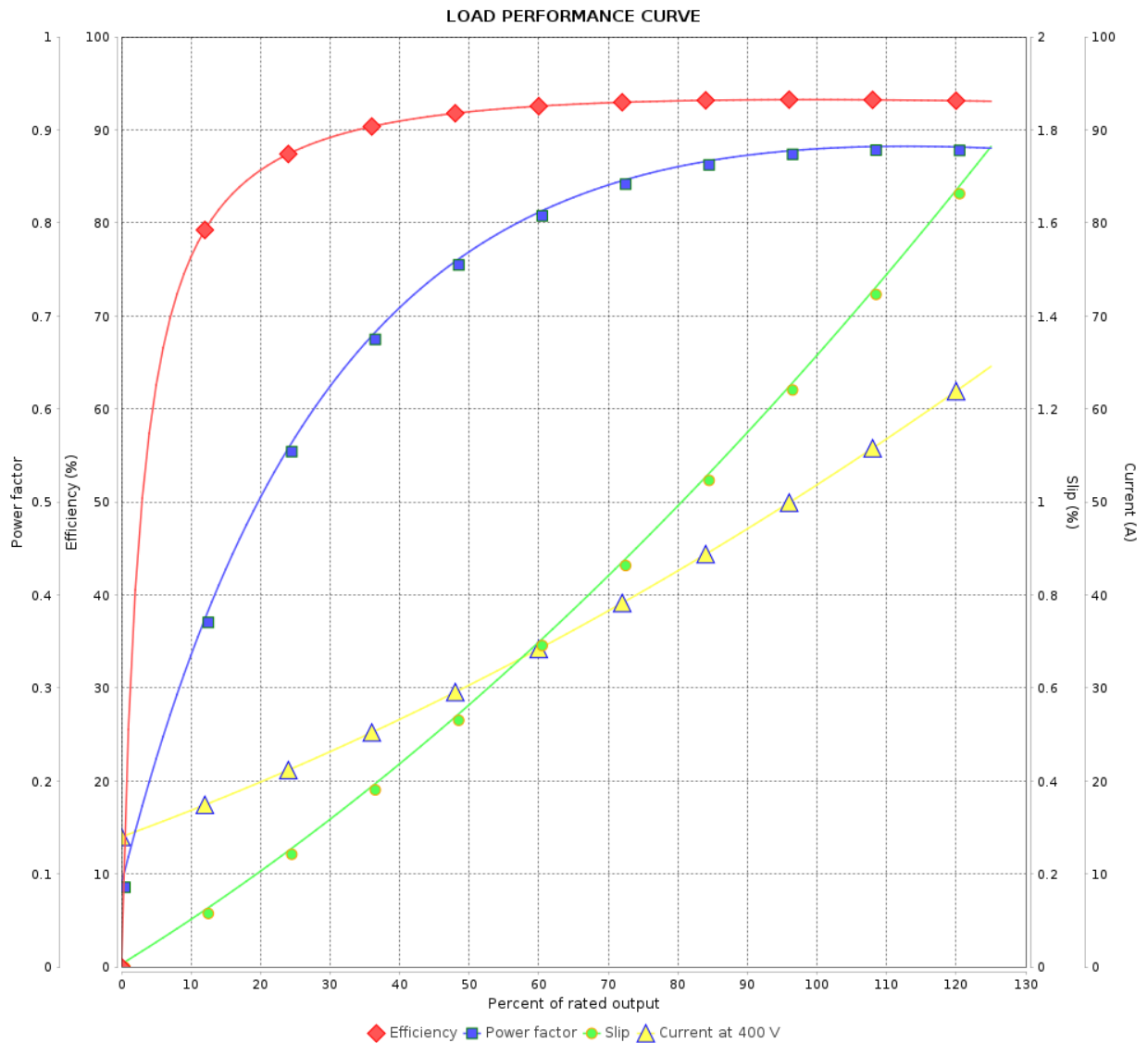
## Three Phase Induction Motor - Squirrel Cage



Customer :

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

Product code : 11431306



Performance : 400 V 50 Hz 2P IE3

Rated current : 52.7 A  
LRC : 7.1  
Rated torque : 9.81 kgfm  
Locked rotor torque : 260 %  
Breakdown torque : 250 %  
Rated speed : 2960 rpm

Moment of inertia (J) : 0.2422 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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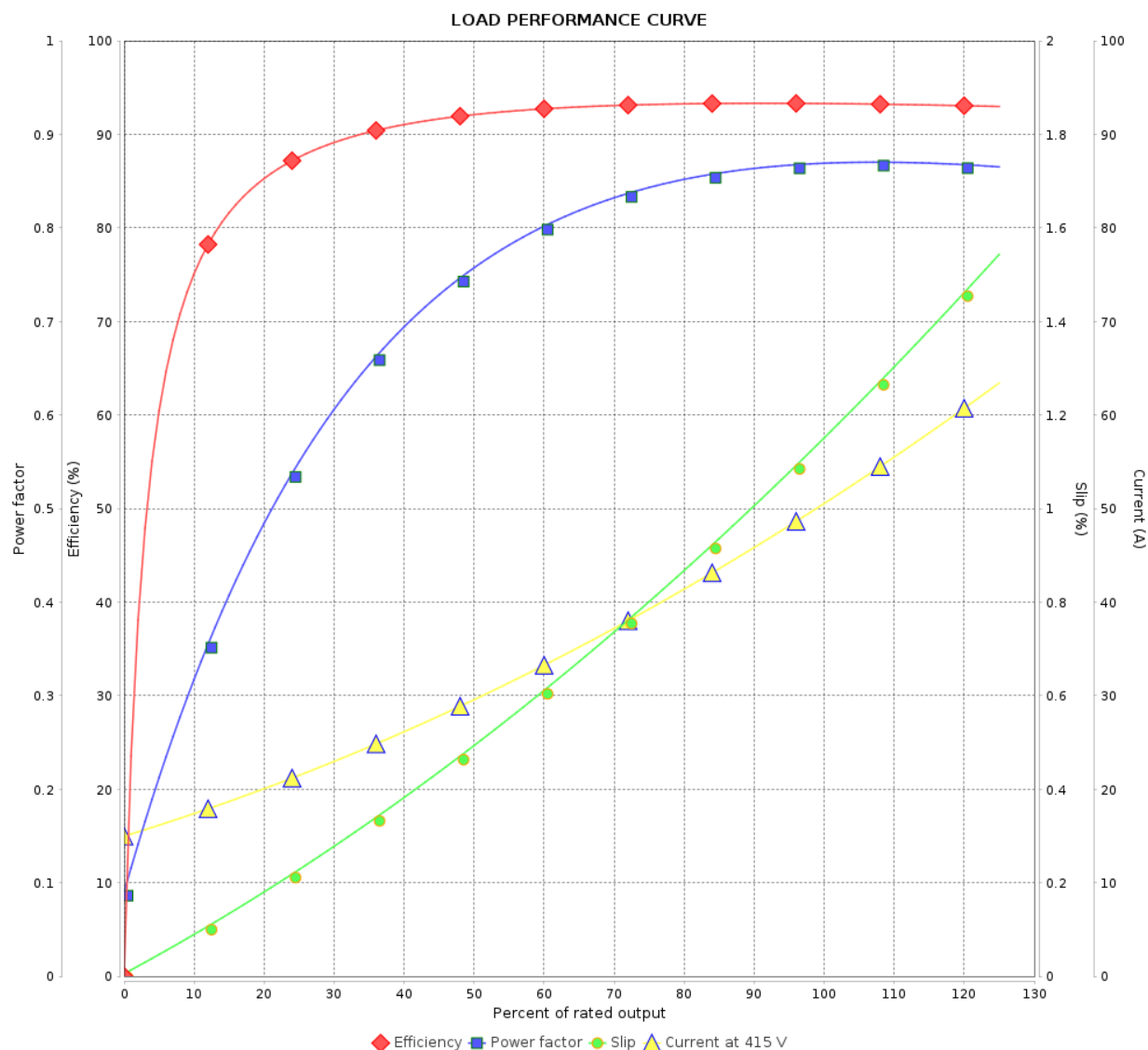
## Three Phase Induction Motor - Squirrel Cage



Customer :

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

Product code : 11431306



Performance : 415 V 50 Hz 2P IE3

Rated current : 51.4 A  
LRC : 7.2  
Rated torque : 9.79 kgfm  
Locked rotor torque : 280 %  
Breakdown torque : 280 %  
Rated speed : 2965 rpm

Moment of inertia (J) : 0.2422 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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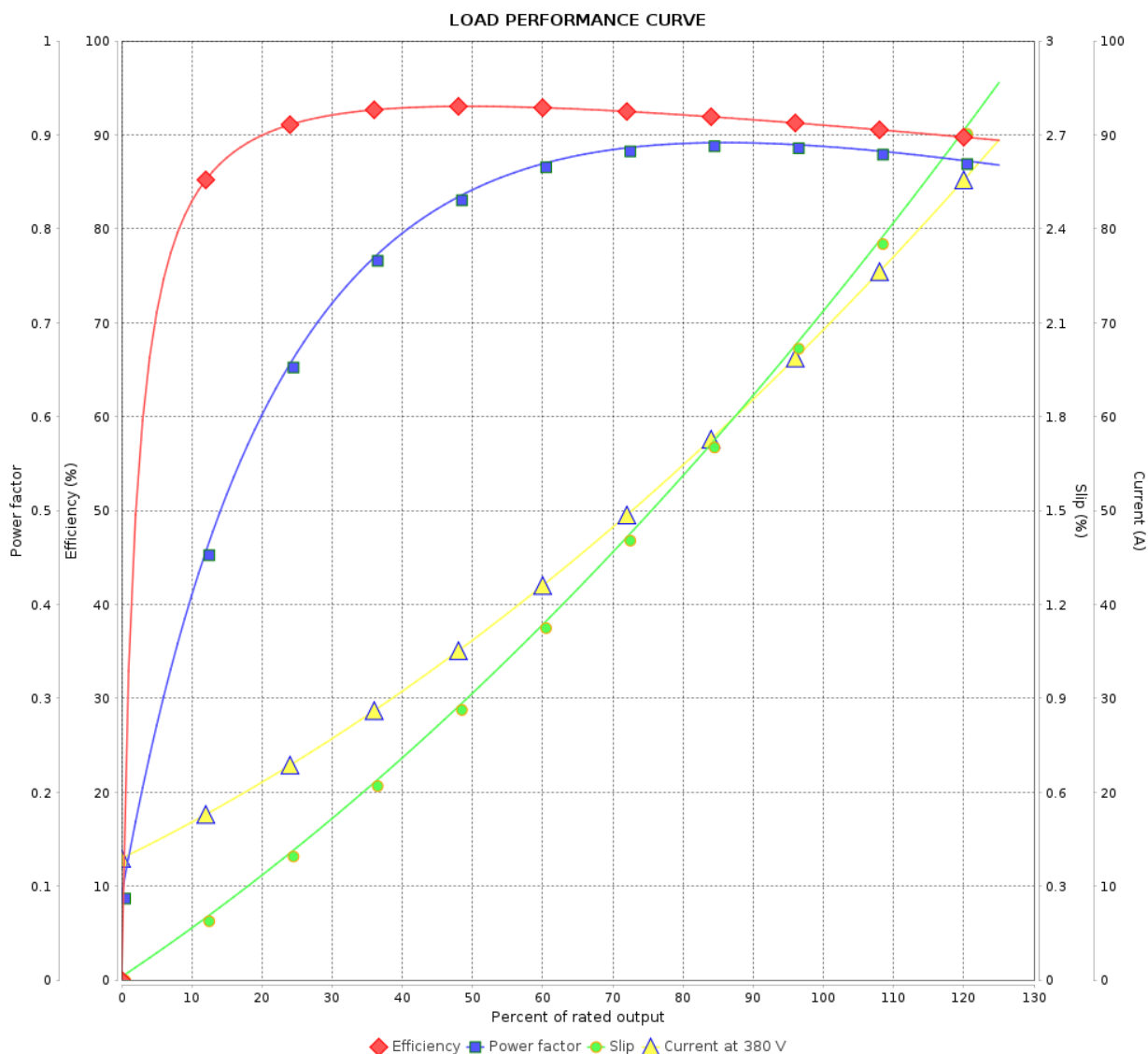
## Three Phase Induction Motor - Squirrel Cage



Customer :

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

Product code : 11431306



Performance : 380 V 50 Hz 2P

Rated current : 69.4 A  
LRC : 5.2  
Rated torque : 12.4 kgfm  
Locked rotor torque : 190 %  
Breakdown torque : 200 %  
Rated speed : 2935 rpm

Moment of inertia (J) : 0.2422 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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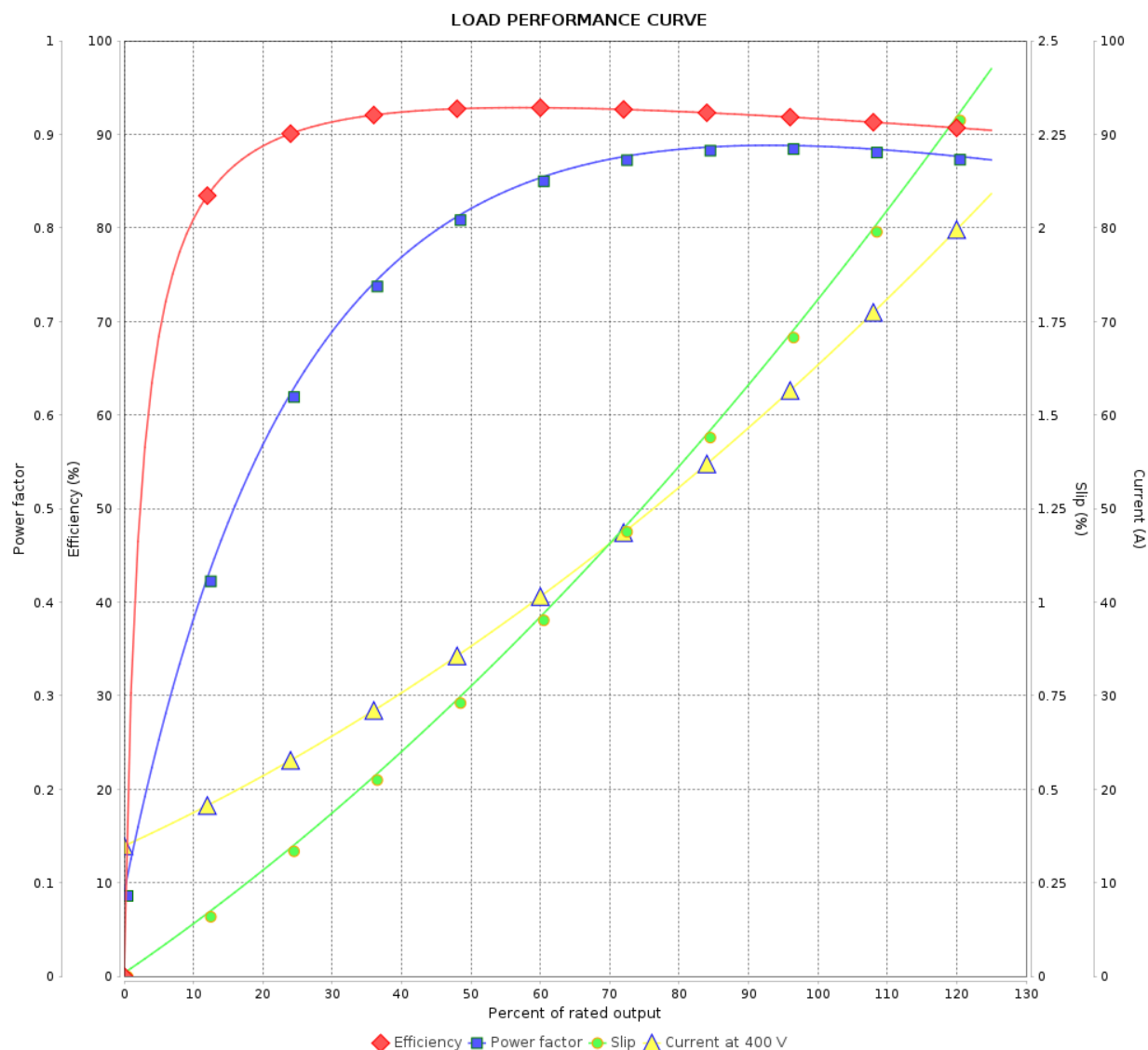
## Three Phase Induction Motor - Squirrel Cage



Customer :

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

Product code : 11431306



Performance : 400 V 50 Hz 2P IE1

Rated current : 65.4 A  
LRC : 5.6  
Rated torque : 12.3 kgfm  
Locked rotor torque : 210 %  
Breakdown torque : 200 %  
Rated speed : 2945 rpm

Moment of inertia (J) : 0.2422 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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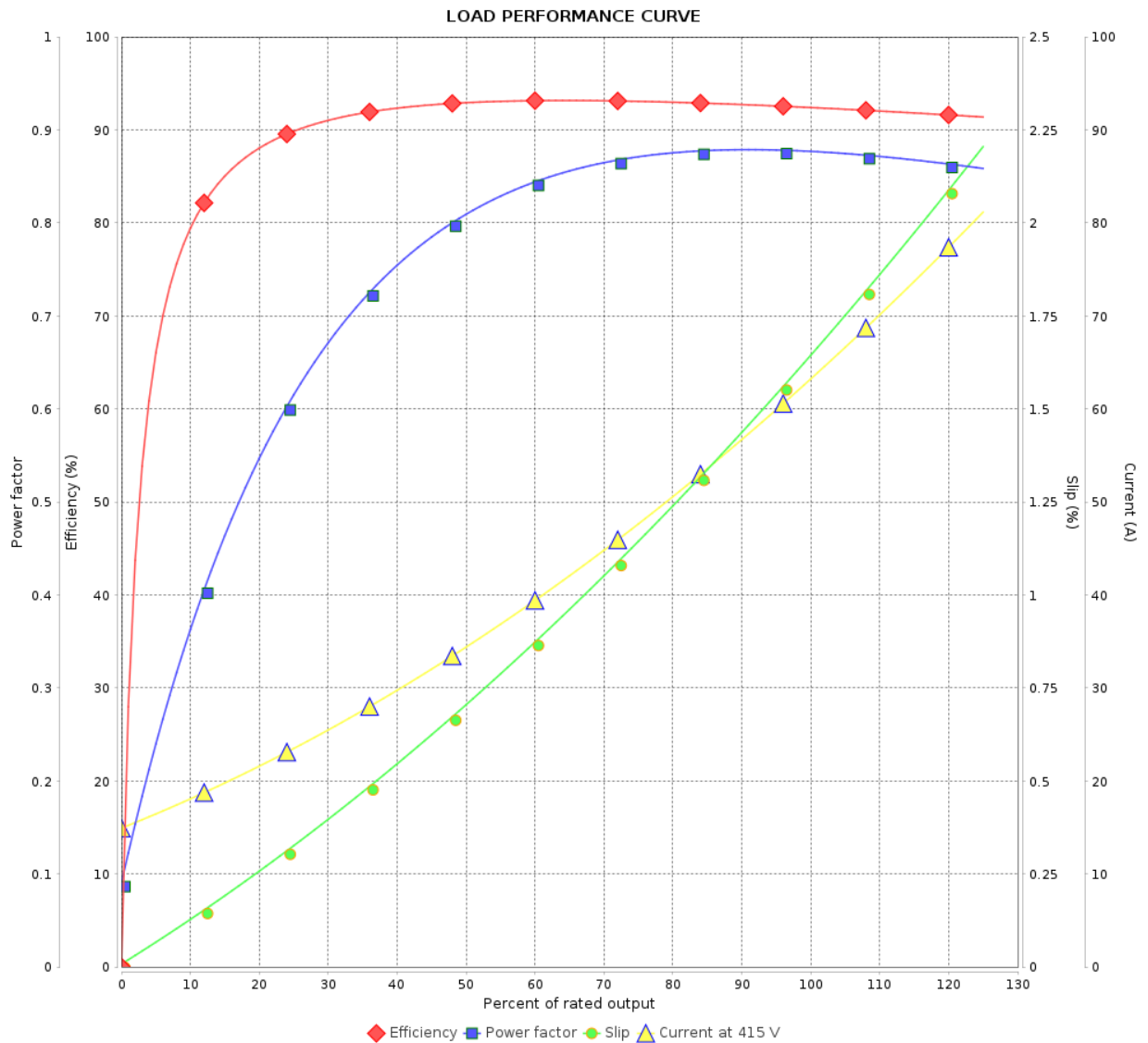
## Three Phase Induction Motor - Squirrel Cage



Customer :

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

Product code : 11431306



Performance : 415 V 50 Hz 2P IE1

Rated current : 63.3 A  
LRC : 6.2  
Rated torque : 12.3 kgfm  
Locked rotor torque : 229 %  
Breakdown torque : 220 %  
Rated speed : 2950 rpm

Moment of inertia (J) : 0.2422 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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