

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 IEEE 841 NEMA Premium Efficiency Three-Phase Product code : 11770614

Frame	: 324T	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>	: 254 kg
Protection degree	: IP55	Moment of inertia (J)	: 0.3861 kgm <sup>2</sup>
Design	: B		

Output [HP]	40	30	30	30	40	40	40
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]	47.1	42.8	41.6	41.1	57.4	54.1	52.8
L. R. Amperes [A]	287	291	308	316	287	303	317
LRC [A]	6.1x(Code G)	6.8x(Code H)	7.4x(Code J)	7.7x(Code J)	5.0x(Code E)	5.6x(Code F)	6.0x(Code G)
No load current [A]	17.0	16.8	17.3	18.6	16.8	17.3	18.6
Rated speed [RPM]	1775	1477	1480	1481	1460	1465	1470
Slip [%]	1.39	1.53	1.33	1.27	2.67	2.33	2.00
Rated torque [kgfm]	16.4	14.7	14.7	14.7	19.9	19.8	19.7
Locked rotor torque [%]	229	240	270	280	170	190	210
Breakdown torque [%]	240	250	290	310	180	210	229
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	36s (cold) 20s (hot)	25s (cold) 14s (hot)	27s (cold) 15s (hot)	27s (cold) 15s (hot)	25s (cold) 14s (hot)	27s (cold) 15s (hot)	27s (cold) 15s (hot)
Noise level <sup>2</sup>	66.0 dB(A)	63.0 dB(A)	63.0 dB(A)	63.0 dB(A)	63.0 dB(A)	63.0 dB(A)	63.0 dB(A)
Efficiency (%)	25%						
	50%	93.6	92.9	92.4	91.7	93.6	93.0
	75%	94.1	93.1	93.0	92.6	93.0	93.0
	100%	94.1	93.0	93.2	93.1	92.4	93.0
Power Factor	25%						
	50%	0.72	0.68	0.64	0.62	0.78	0.72
	75%	0.80	0.78	0.75	0.73	0.84	0.80
	100%	0.85	0.84	0.82	0.80	0.86	0.85

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

Losses (%)	P1 (0,9;1,0)	6.1	6.1	6.1	6.1	6.1	6.1
	P2 (0,5;1,0)	5.1	5.1	5.1	5.1	5.1	5.1
	P3 (0,25;1,0)	4.9	4.9	4.9	4.9	4.9	4.9
	P4 (0,9;0,5)	2.8	2.8	2.8	2.8	2.8	2.8
	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)	0.8	0.8	0.8	0.8	0.8	0.8

Bearing type	: 6312 C3	Non drive end	6212 C3	Foundation loads	
Sealing	: Taconite		Taconite	Max. traction	: 445 kgf
	Labyrinth		Labyrinth	Max. compression	: 699 kgf
Lubrication interval	: 20000 h		20000 h		
Lubricant amount	: 21 g		13 g		
Lubricant type	: Mobil Polyrex EM				

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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

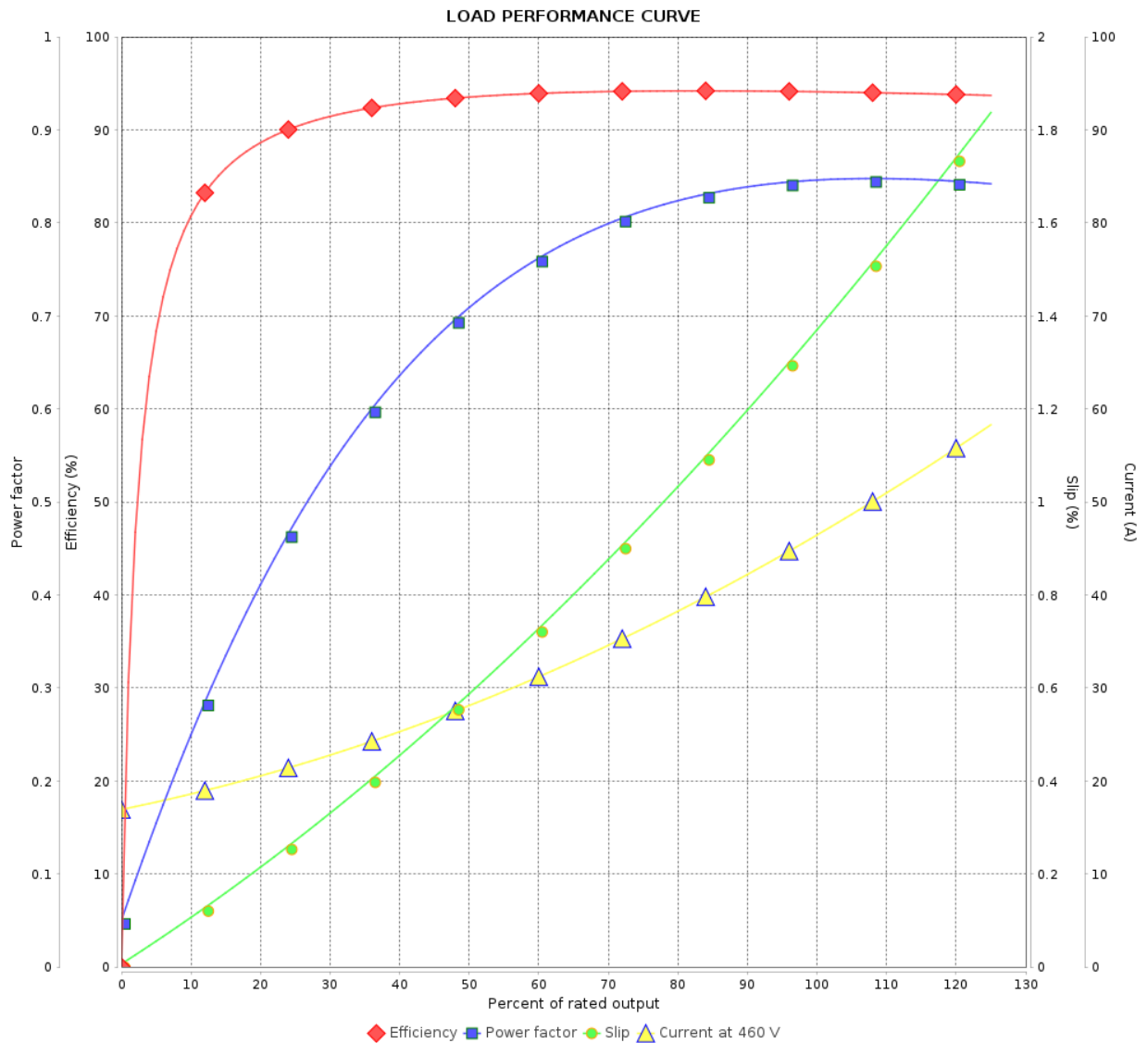
## Three Phase Induction Motor - Squirrel Cage



Customer :

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

Product code : 11770614



Performance : 460 V 60 Hz 4P

Rated current : 47.1 A  
LRC : 6.1  
Rated torque : 16.4 kgfm  
Locked rotor torque : 229 %  
Breakdown torque : 240 %  
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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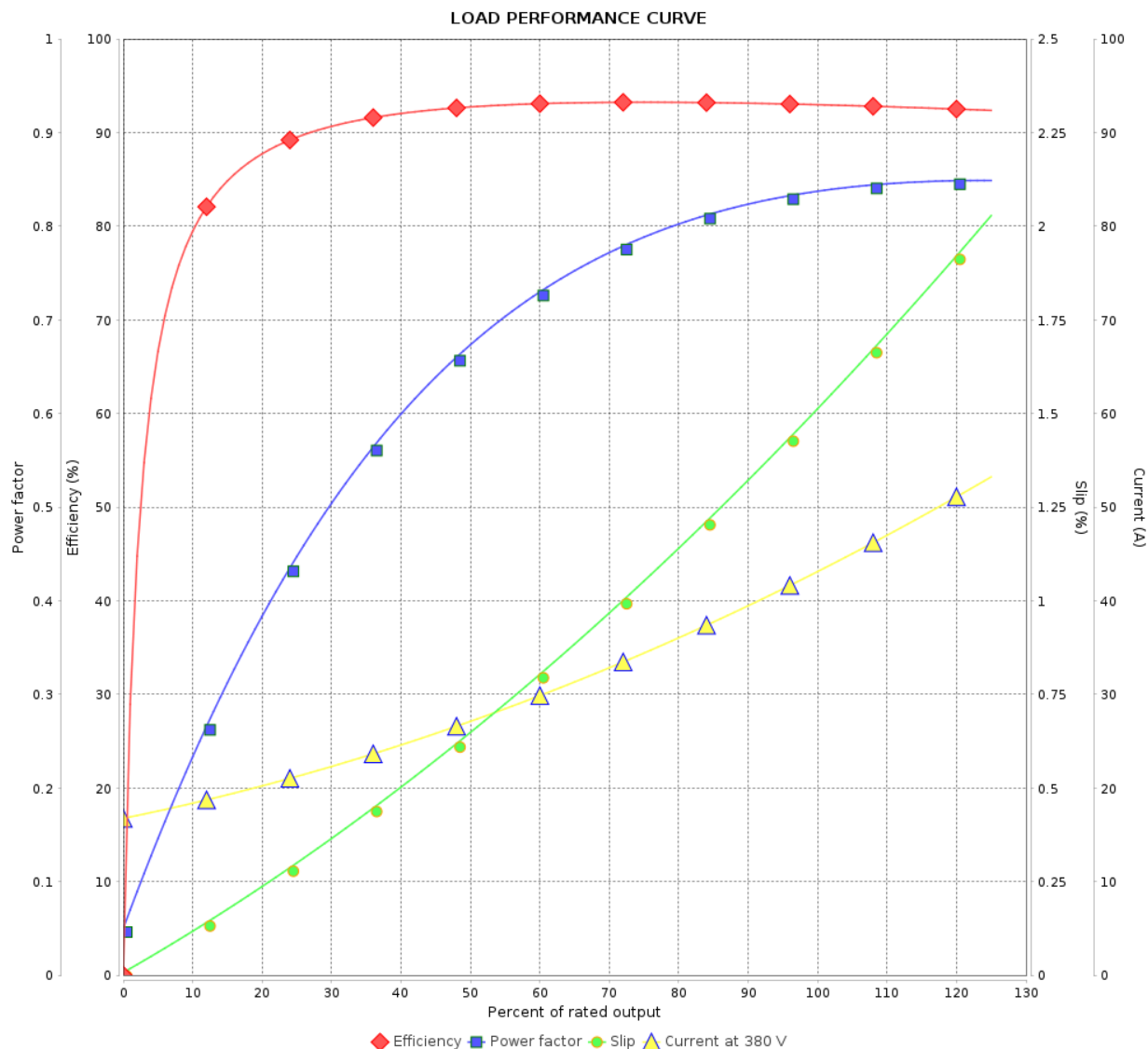
## Three Phase Induction Motor - Squirrel Cage



Customer :

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

Product code : 11770614



Performance : 380 V 50 Hz 4P IE3

Rated current : 42.8 A  
LRC : 6.8  
Rated torque : 14.7 kgfm  
Locked rotor torque : 240 %  
Breakdown torque : 250 %  
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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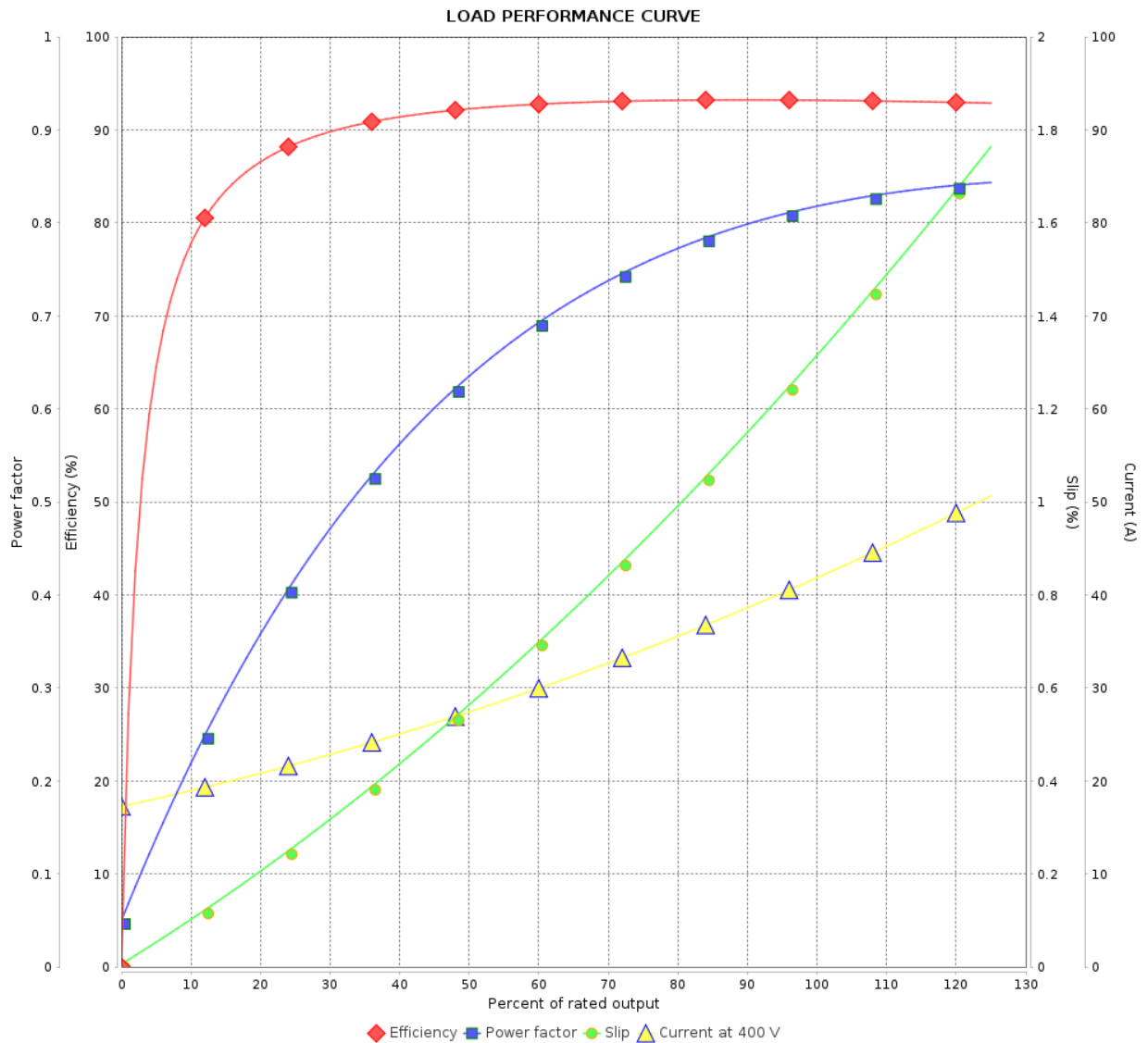
## Three Phase Induction Motor - Squirrel Cage



Customer :

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

Product code : 11770614



Performance : 400 V 50 Hz 4P IE3

Rated current : 41.6 A  
LRC : 7.4  
Rated torque : 14.7 kgfm  
Locked rotor torque : 270 %  
Breakdown torque : 290 %  
Rated speed : 1480 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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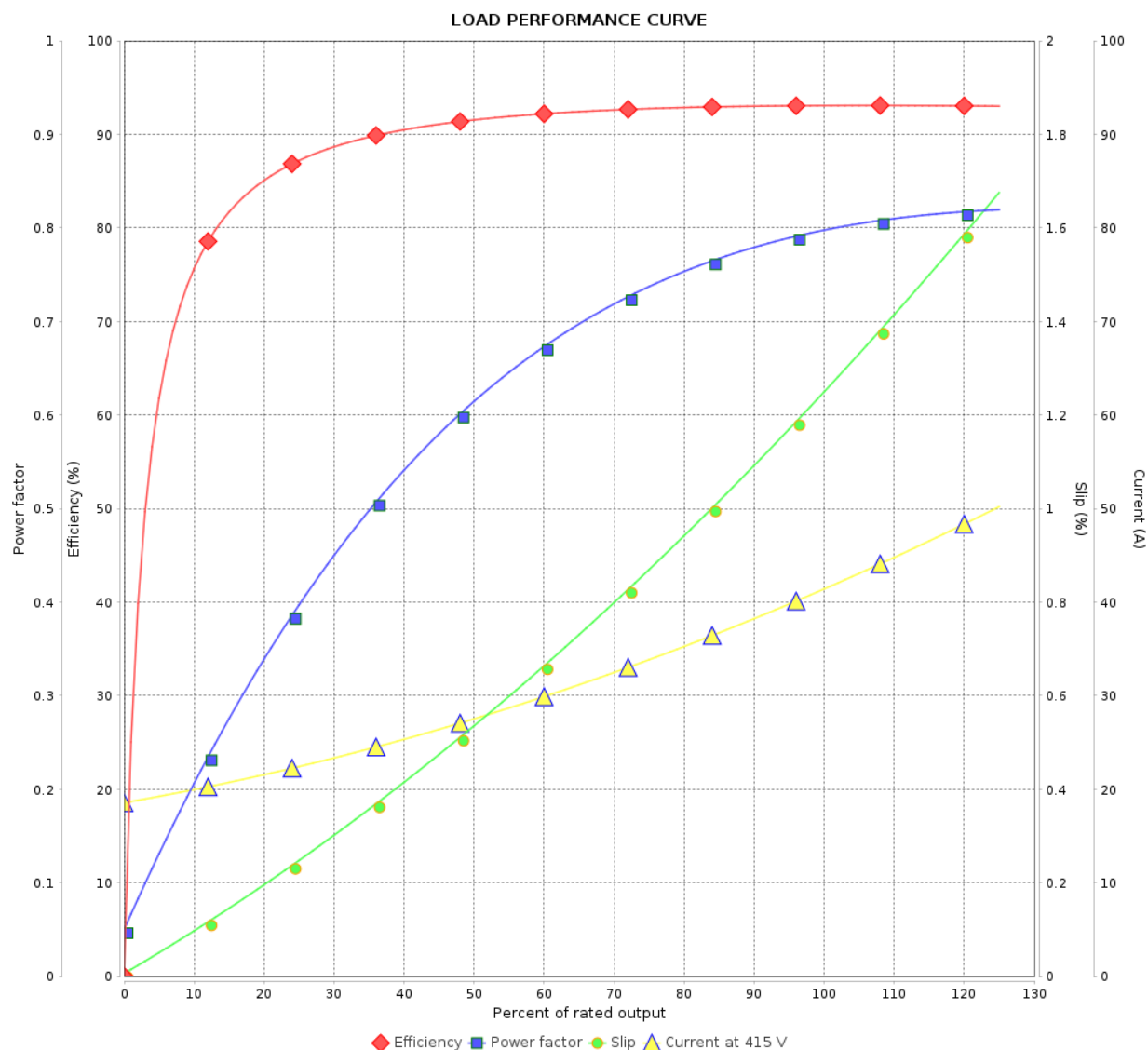
## Three Phase Induction Motor - Squirrel Cage



Customer :

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

Product code : 11770614



Performance : 415 V 50 Hz 4P IE3

Rated current : 41.1 A  
LRC : 7.7  
Rated torque : 14.7 kgfm  
Locked rotor torque : 280 %  
Breakdown torque : 310 %  
Rated speed : 1481 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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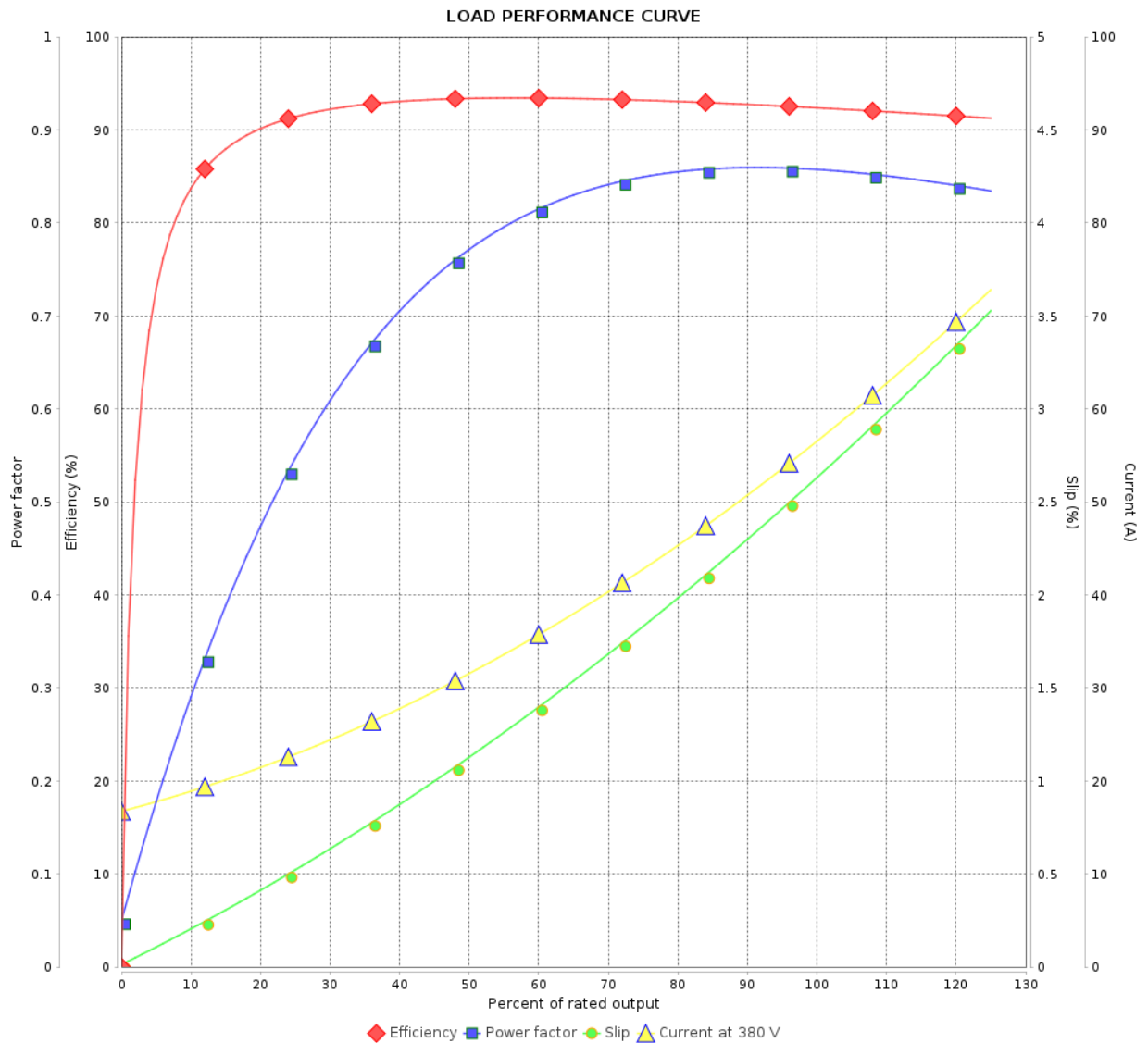
## Three Phase Induction Motor - Squirrel Cage



Customer :

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

Product code : 11770614



Performance : 380 V 50 Hz 4P IE2

Rated current : 57.4 A  
LRC : 5.0  
Rated torque : 19.9 kgfm  
Locked rotor torque : 170 %  
Breakdown torque : 180 %  
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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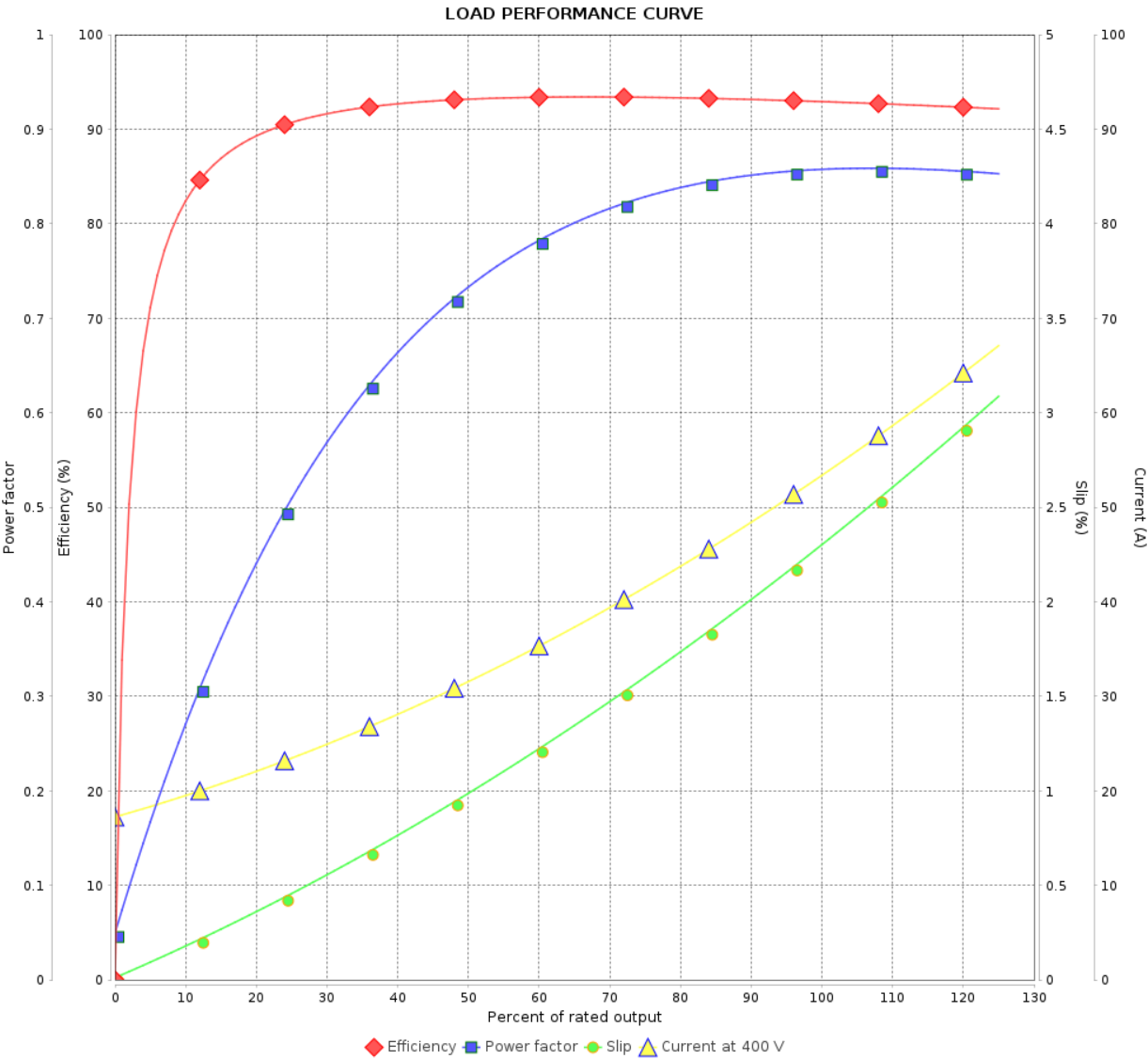
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Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 IEEE 841 NEMA Premium Efficiency Three-Phase      Product code : 11770614



Performance : 400 V 50 Hz 4P IE2

Rated current	: 54.1 A	Moment of inertia (J)	: 0.3861 kgm <sup>2</sup>
LRC	: 5.6	Duty cycle	: Cont.(S1)
Rated torque	: 19.8 kgfm	Insulation class	: F
Locked rotor torque	: 190 %	Service factor	: 1.00
Breakdown torque	: 210 %	Temperature rise	: 105 K
Rated speed	: 1465 rpm	Design	: B

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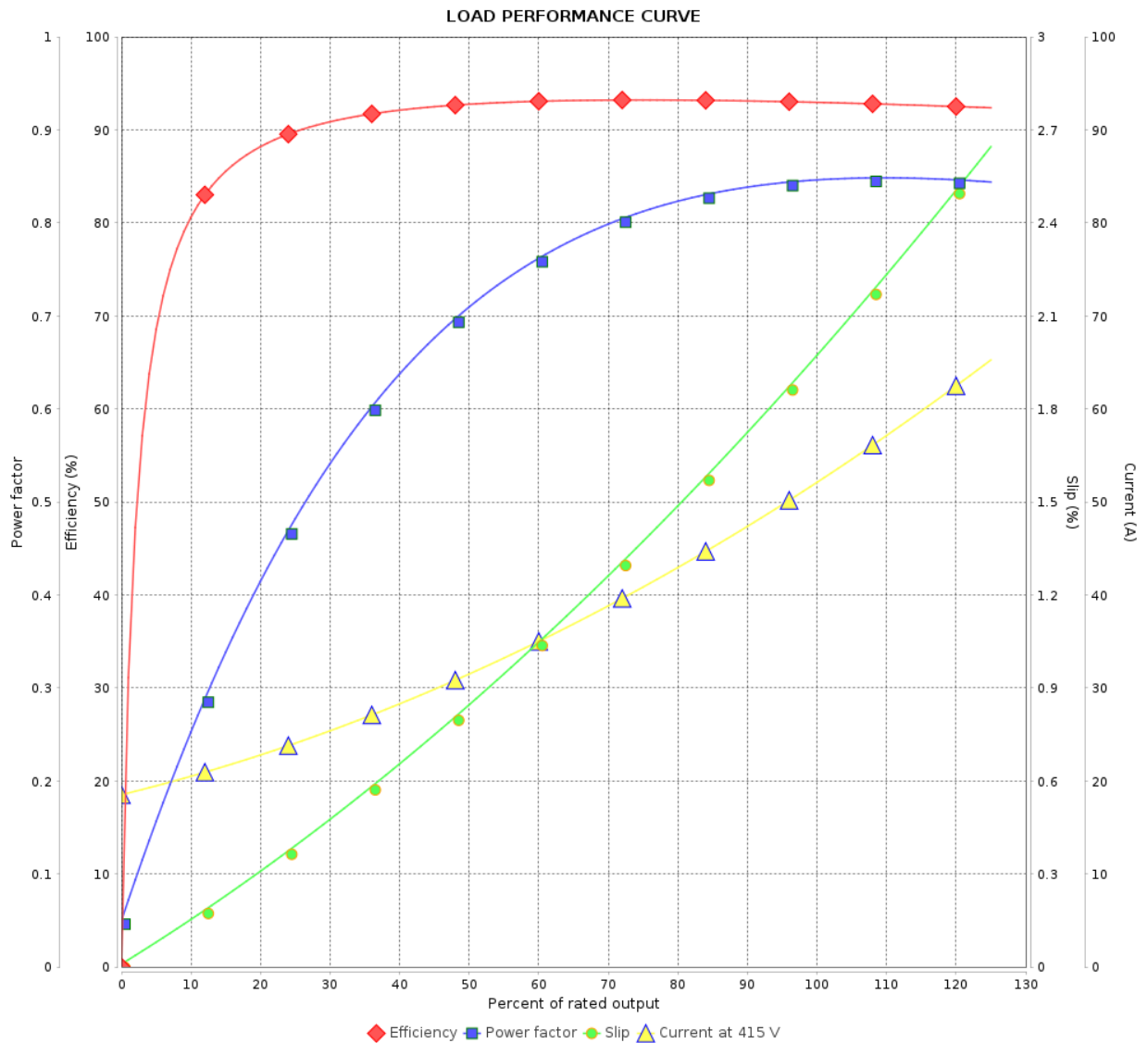
## Three Phase Induction Motor - Squirrel Cage



Customer :

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

Product code : 11770614



Performance : 415 V 50 Hz 4P IE2

Rated current : 52.8 A  
LRC : 6.0  
Rated torque : 19.7 kgfm  
Locked rotor torque : 210 %  
Breakdown torque : 229 %  
Rated speed : 1470 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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