

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase Product code : 16487760

Frame	: 364/5TC	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>	: 402 kg
Protection degree	: IP55	Moment of inertia (J)	: 1.22 kgm <sup>2</sup>
Design	: B		

Output [HP]	40	30	30	30	40	40	40
Poles	8	8	8	8	8	8	8
Frequency [Hz]	60	50	50	50	50	50	50
Rated voltage [V]	230/460	380	400	415	380	400	415
Rated current [A]	102/50.9	47.8	46.3	45.7	62.9	60.0	58.1
L. R. Amperes [A]	601/300	292	310	324	283	300	320
LRC [A]	5.9x(Code G)	6.1x(Code H)	6.7x(Code J)	7.1x(Code J)	4.5x(Code E)	5.0x(Code F)	5.5x(Code G)
No load current [A]	43.0/21.5	20.7	22.2	23.4	20.7	22.2	23.4
Rated speed [RPM]	882	735	736	737	725	727	730
Slip [%]	2.00	2.00	1.87	1.73	3.33	3.07	2.67
Rated torque [kgfm]	32.9	29.6	29.6	29.5	40.0	39.9	39.8
Locked rotor torque [%]	170	600	210	229	140	160	170
Breakdown torque [%]	210	240	270	300	180	200	210
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	46s (cold) 26s (hot)	81s (cold) 45s (hot)	52s (cold) 29s (hot)	52s (cold) 29s (hot)	32s (cold) 18s (hot)	32s (cold) 18s (hot)	32s (cold) 18s (hot)
Noise level <sup>2</sup>	60.0 dB(A)	56.0 dB(A)	56.0 dB(A)	56.0 dB(A)	56.0 dB(A)	56.0 dB(A)	56.0 dB(A)
Efficiency (%)	25%						
	50%	92.4	91.5	91.5	90.9	91.7	91.7
	75%	93.0	91.6	91.9	91.8	91.0	91.7
	100%	92.4	90.9	91.5	91.7	89.5	91.0
Power Factor	25%						
	50%	0.65	0.60	0.55	0.52	0.70	0.66
	75%	0.75	0.71	0.68	0.65	0.78	0.76
	100%	0.80	0.77	0.75	0.73	0.81	0.79

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

Losses (%)	P1 (0,9;1,0)	8.1	8.1	8.1	8.1	8.1	8.1
	P2 (0,5;1,0)	7.1	7.1	7.1	7.1	7.1	7.1
	P3 (0,25;1,0)	6.5	6.5	6.5	6.5	6.5	6.5
	P4 (0,9;0,5)	3.6	3.6	3.6	3.6	3.6	3.6
	P5 (0,5;0,5)	2.6	2.6	2.6	2.6	2.6	2.6
	P6 (0,5;0,25)	1.6	1.6	1.6	1.6	1.6	1.6
	P7 (0,25;0,25)	1.2	1.2	1.2	1.2	1.2	1.2

Bearing type	: 6314 C3	Non drive end	6314 C3	Foundation loads	
Sealing	: WSeal	WSeal		Max. traction	: 737 kgf
Lubrication interval	: 20000 h	20000 h		Max. compression	: 1139 kgf
Lubricant amount	: 27 g	27 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

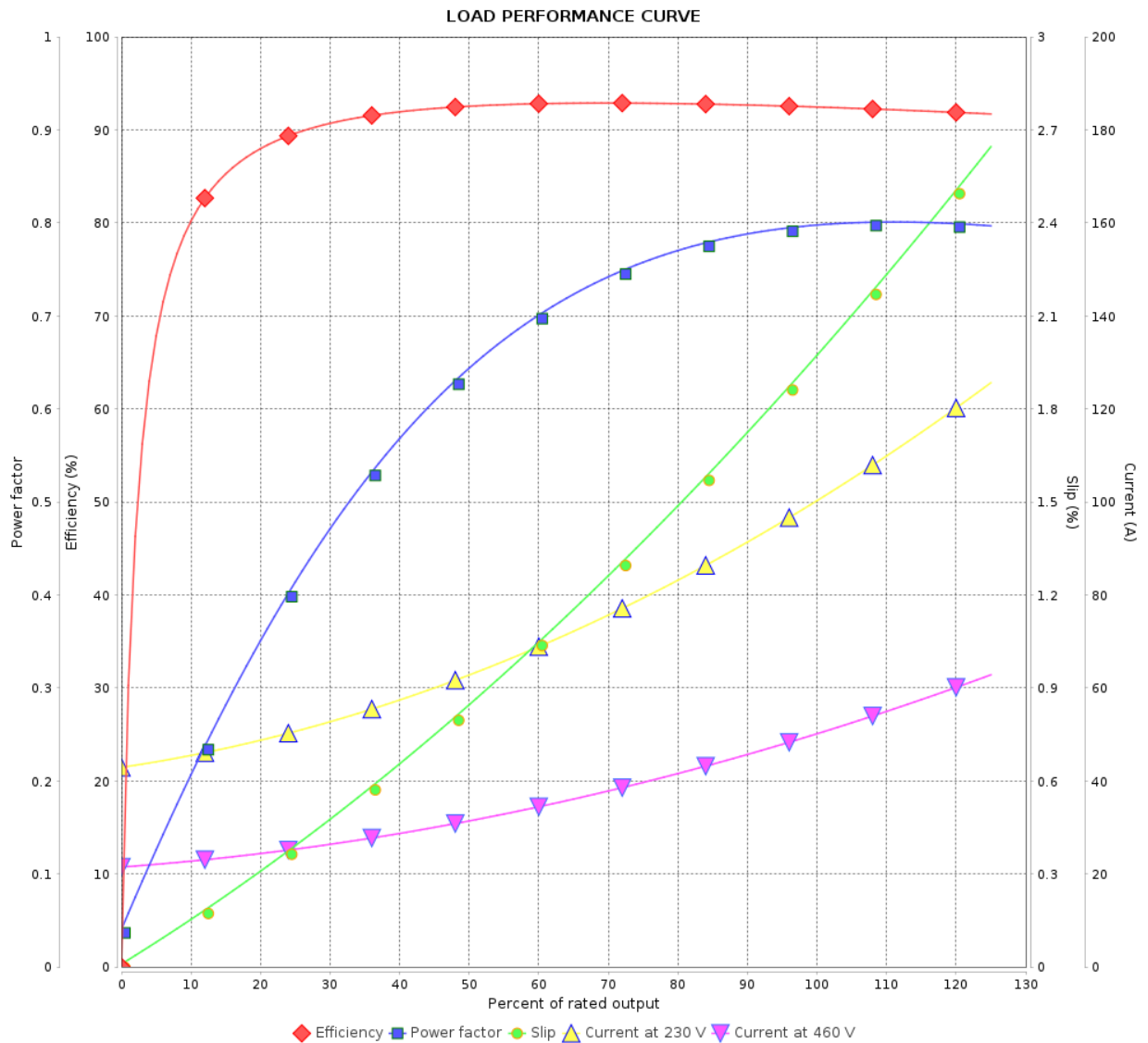
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency  
Three-Phase

Product code : 16487760



Performance : 230/460 V 60 Hz 8P

Rated current : 102/50.9 A  
LRC : 5.9  
Rated torque : 32.9 kgfm  
Locked rotor torque : 170 %  
Breakdown torque : 210 %  
Rated speed : 882 rpm

Moment of inertia (J) : 1.22 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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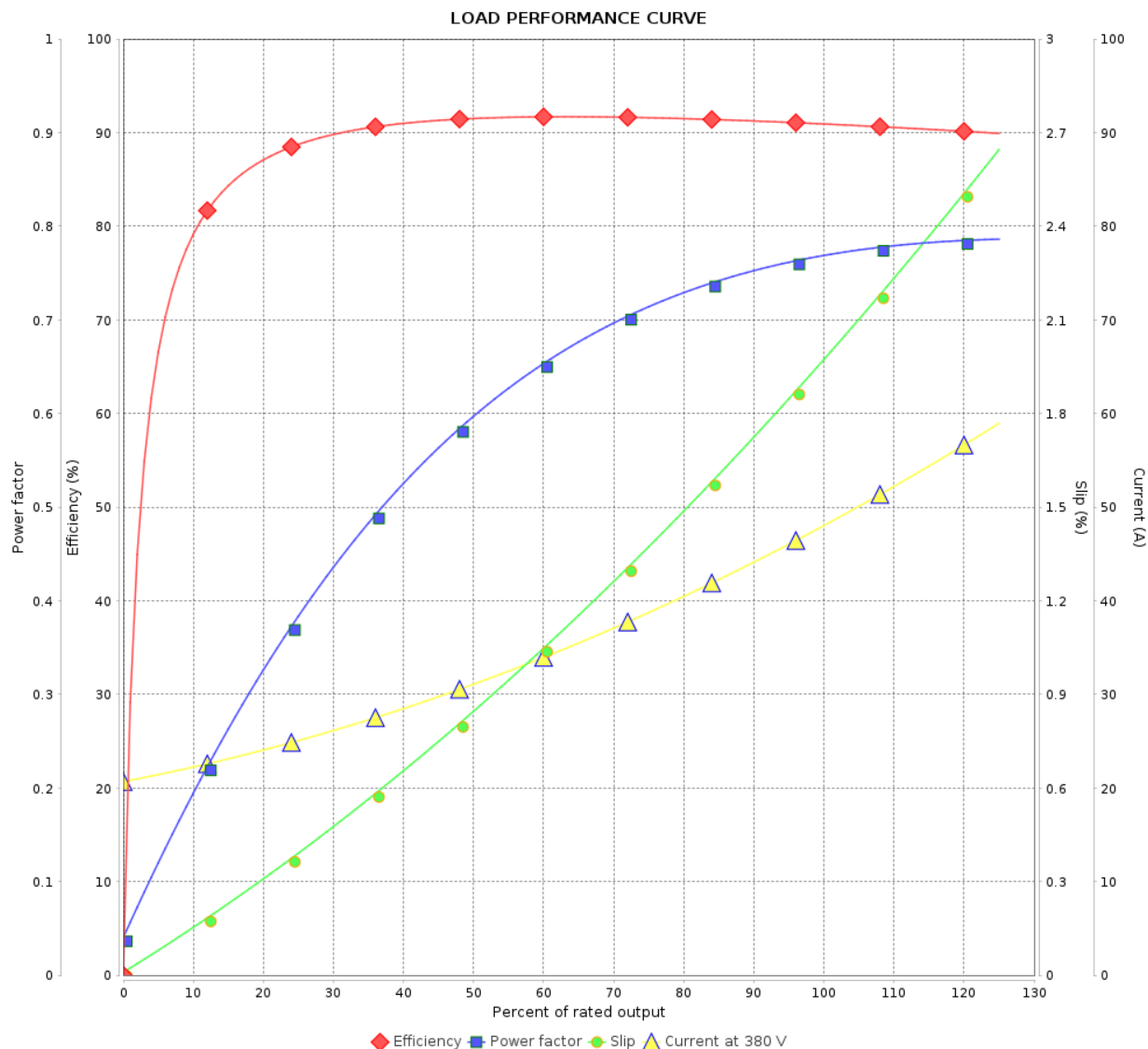
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency  
Three-Phase

Product code : 16487760



Performance : 380 V 50 Hz 8P IE3

Rated current : 47.8 A  
LRC : 6.1  
Rated torque : 29.6 kgfm  
Locked rotor torque : 600 %  
Breakdown torque : 240 %  
Rated speed : 735 rpm

Moment of inertia (J) : 1.22 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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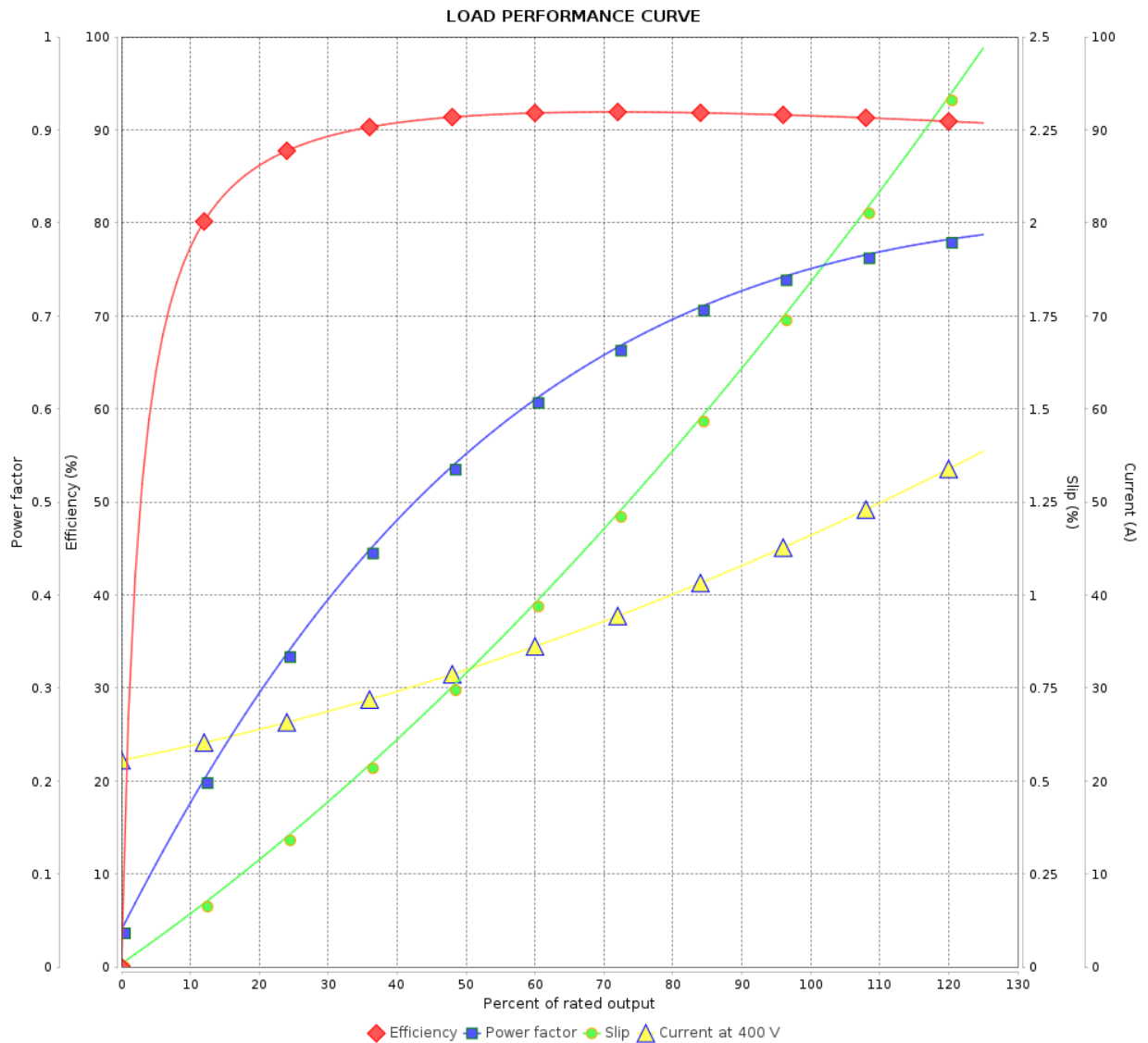
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency  
Three-Phase

Product code : 16487760



Performance : 400 V 50 Hz 8P IE3

Rated current : 46.3 A  
LRC : 6.7  
Rated torque : 29.6 kgfm  
Locked rotor torque : 210 %  
Breakdown torque : 270 %  
Rated speed : 736 rpm

Moment of inertia (J) : 1.22 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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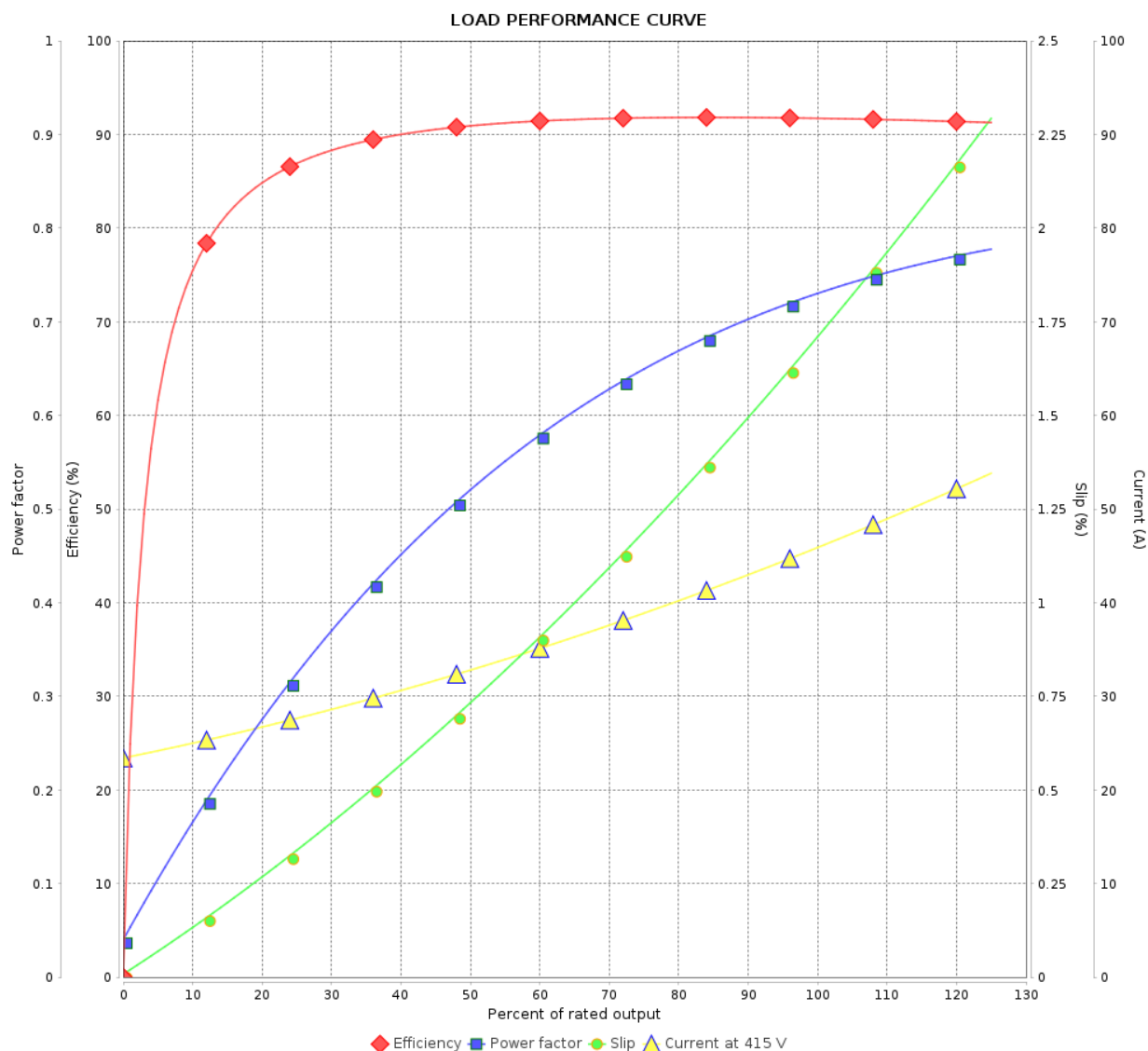
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency  
Three-Phase

Product code : 16487760



Performance : 415 V 50 Hz 8P IE3

Rated current : 45.7 A  
LRC : 7.1  
Rated torque : 29.5 kgfm  
Locked rotor torque : 229 %  
Breakdown torque : 300 %  
Rated speed : 737 rpm

Moment of inertia (J) : 1.22 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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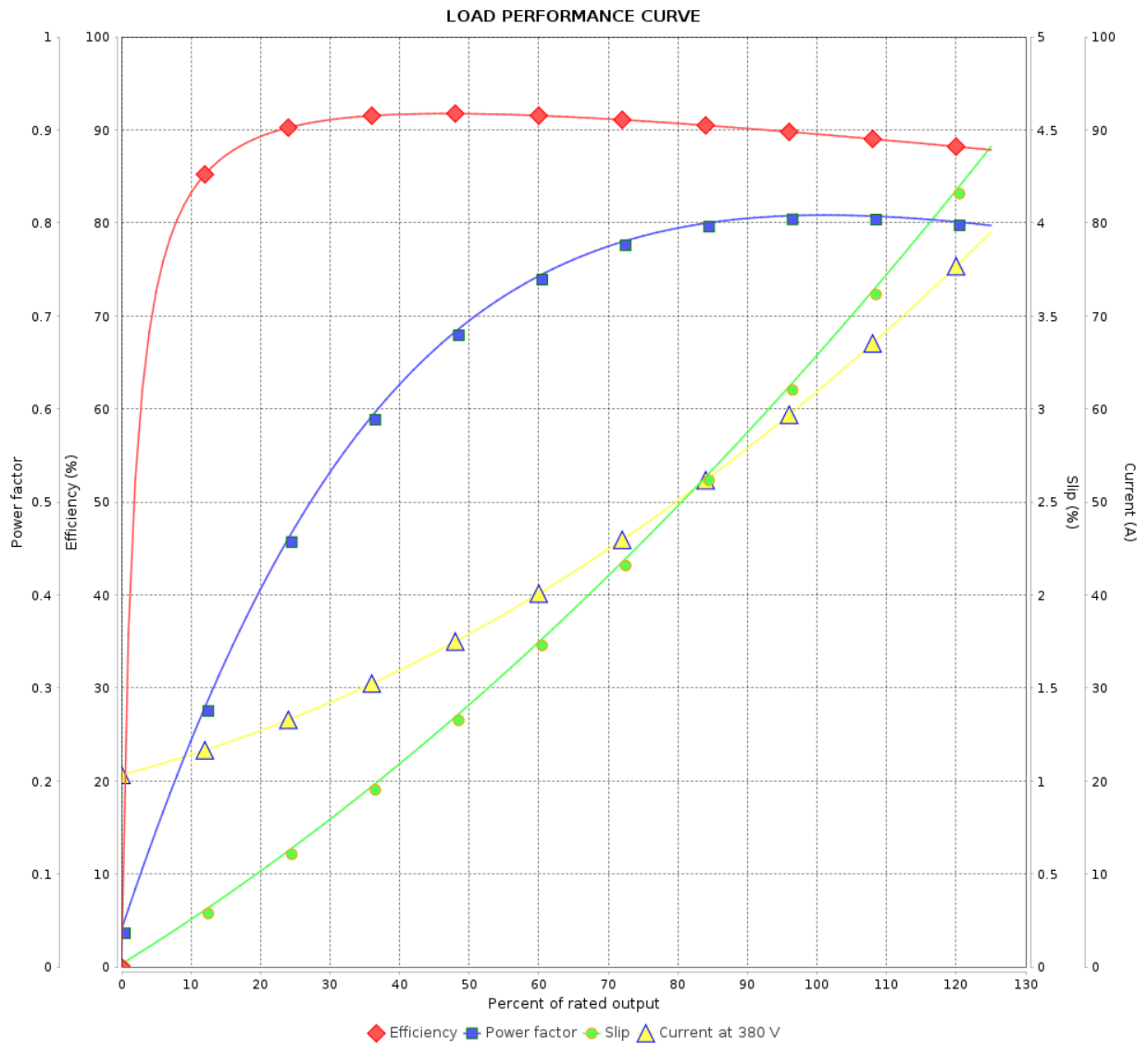
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency  
Three-Phase

Product code : 16487760



Performance : 380 V 50 Hz 8P IE1

Rated current	: 62.9 A	Moment of inertia (J)	: 1.22 kgm <sup>2</sup>
LRC	: 4.5	Duty cycle	: Cont.(S1)
Rated torque	: 40.0 kgfm	Insulation class	: F
Locked rotor torque	: 140 %	Service factor	: 1.00
Breakdown torque	: 180 %	Temperature rise	: 105 K
Rated speed	: 725 rpm	Design	: B

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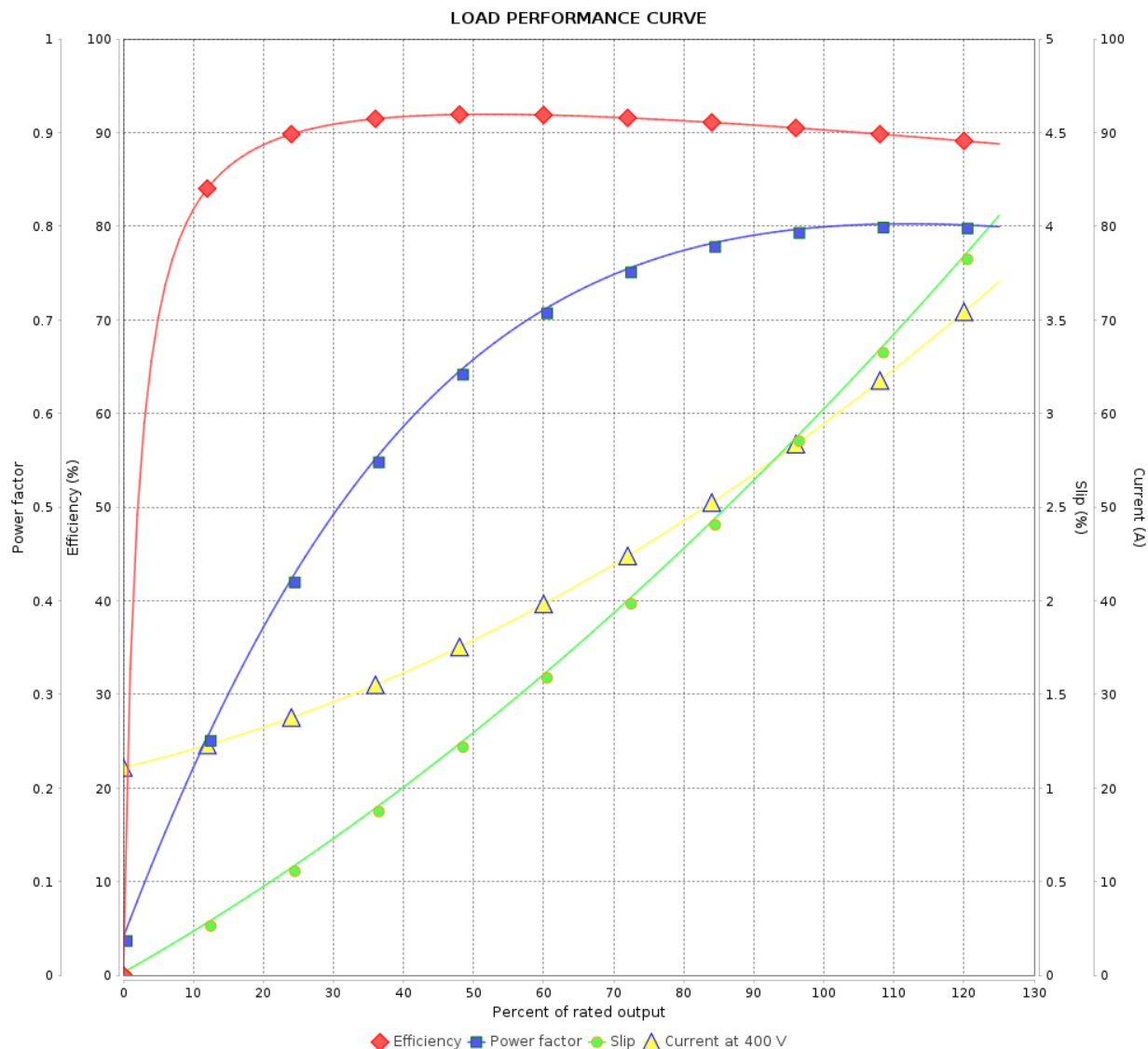
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency  
Three-Phase

Product code : 16487760



Performance : 400 V 50 Hz 8P IE2

Rated current : 60.0 A  
LRC : 5.0  
Rated torque : 39.9 kgfm  
Locked rotor torque : 160 %  
Breakdown torque : 200 %  
Rated speed : 727 rpm

Moment of inertia (J) : 1.22 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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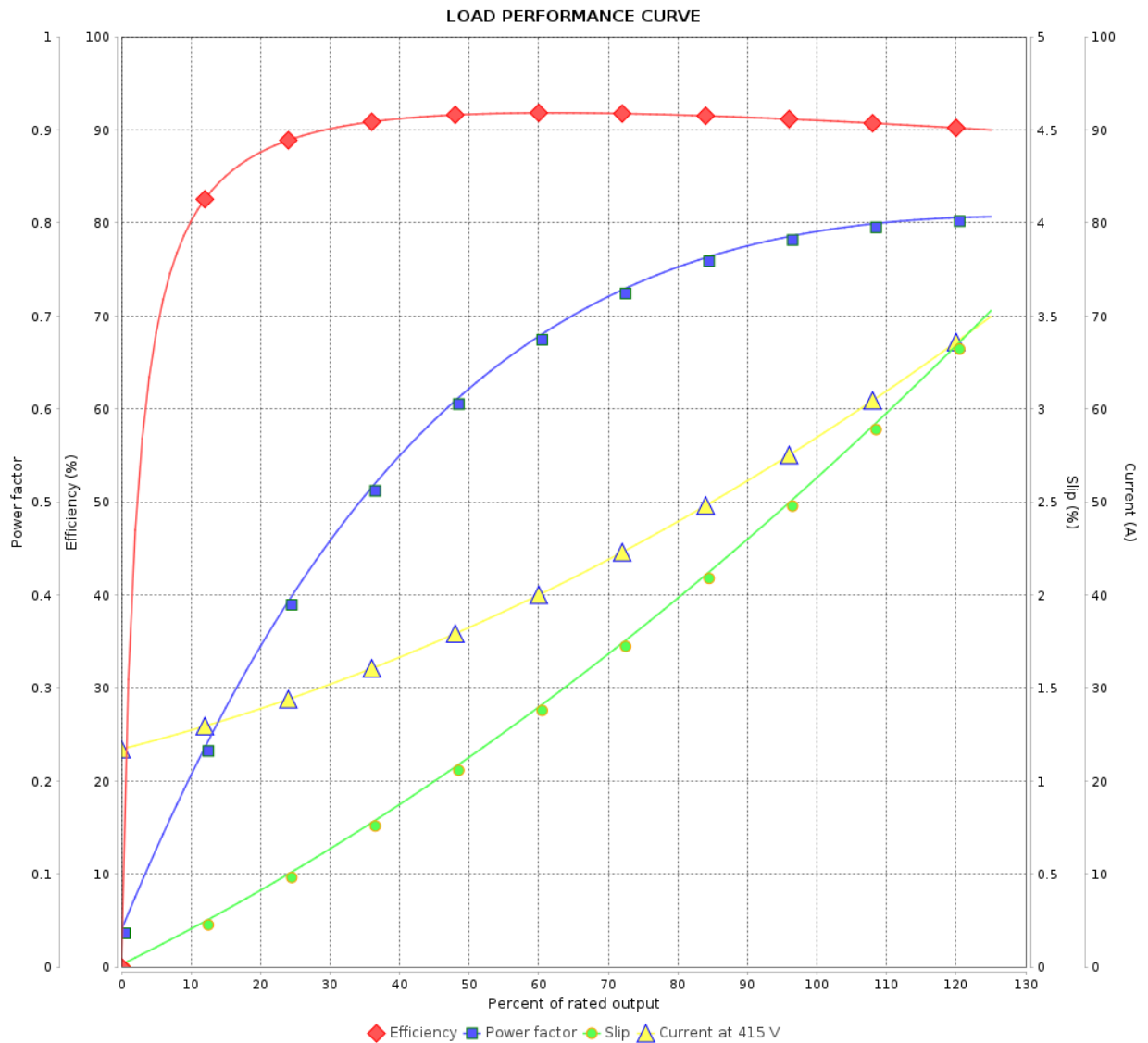
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency  
Three-Phase

Product code : 16487760



Performance : 415 V 50 Hz 8P IE2

Rated current	: 58.1 A	Moment of inertia (J)	: 1.22 kgm <sup>2</sup>
LRC	: 5.5	Duty cycle	: Cont.(S1)
Rated torque	: 39.8 kgfm	Insulation class	: F
Locked rotor torque	: 170 %	Service factor	: 1.00
Breakdown torque	: 210 %	Temperature rise	: 105 K
Rated speed	: 730 rpm	Design	: B

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