

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase Product code : 11610485

Frame : 254/6TC	Cooling method : IC411 - TEFC
Insulation class : F	Mounting : F-1
Duty cycle : Cont.(S1)	Rotation ¹ : Both (CW and CCW)
Ambient temperature : -20°C to +40°C	Starting method : Direct On Line
Altitude : 1000 m.a.s.l.	Approx. weight ³ : 152 kg
Protection degree : IP55	Moment of inertia (J) : 0.1305 kgm ²
Design : B	

Output [HP]	20	15	15	15	20	20	20
Poles	4	4	4	4	4	4	4
Frequency [Hz]	60	50	50	50	50	50	50
Rated voltage [V]	230/460	380	400	415	380	400	415
Rated current [A]	48.2/24.1	21.8	21.2	20.6	29.4	28.0	27.1
L. R. Amperes [A]	313/157	161	167	173	167	174	179
LRC [A]	6.5x(Code G)	7.4x(Code H)	7.9x(Code J)	8.4x(Code K)	5.7x(Code F)	6.2x(Code G)	6.6x(Code H)
No load current [A]	17.6/8.80	8.50	9.00	9.50	8.50	9.00	9.50
Rated speed [RPM]	1770	1473	1475	1477	1455	1460	1465
Slip [%]	1.67	1.80	1.67	1.53	3.00	2.67	2.33
Rated torque [kgfm]	8.20	7.39	7.38	7.37	9.98	9.94	9.91
Locked rotor torque [%]	229	220	240	260	180	190	200
Breakdown torque [%]	240	240	260	280	210	210	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	39s (cold) 22s (hot)	39s (cold) 22s (hot)	39s (cold) 22s (hot)	37s (cold) 21s (hot)	19s (cold) 11s (hot)	21s (cold) 12s (hot)	23s (cold) 13s (hot)
Noise level ²	64.0 dB(A)	61.0 dB(A)	61.0 dB(A)	61.0 dB(A)	61.0 dB(A)	61.0 dB(A)	61.0 dB(A)
Efficiency (%)	25%						
	50%	91.7	91.0	89.8	89.8	91.7	91.0
	75%	92.4	91.5	91.0	91.3	91.0	91.7
	100%	93.0	91.4	91.4	91.7	90.2	91.7
Power Factor	25%						
	50%	0.68	0.65	0.62	0.60	0.75	0.72
	75%	0.79	0.78	0.75	0.73	0.83	0.81
	100%	0.84	0.84	0.82	0.81	0.86	0.84

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

Losses (%)	P1 (0,9;1,0)	7.5	9.3	9.3	9.0	10.8	9.8	9.0
	P2 (0,5;1,0)	6.5	8.1	8.1	7.8	9.3	8.5	7.8
	P3 (0,25;1,0)	5.9	7.4	7.4	7.1	8.5	7.8	7.1
	P4 (0,9;0,5)	3.4	4.3	4.3	4.1	5.0	4.5	4.1
	P5 (0,5;0,5)	2.4	3.0	3.0	2.9	3.5	3.2	2.9
	P6 (0,5;0,25)	1.5	1.9	1.9	1.8	2.2	2.0	1.8
	P7 (0,25;0,25)	1.1	1.4	1.4	1.3	1.6	1.4	1.3

	<u>Drive end</u>	<u>Non drive end</u>	Foundation loads
Bearing type :	6309 C3	6209 C3	Max. traction : 267 kgf
Sealing :	V'Ring	V'Ring	Max. compression : 419 kgf
Lubrication interval :	20000 h	20000 h	
Lubricant amount :	13 g	9 g	
Lubricant type :	Mobil Polyrex EM		

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Notes

USABLE @208V 53.3A SF 1.15 SFA 61.3A

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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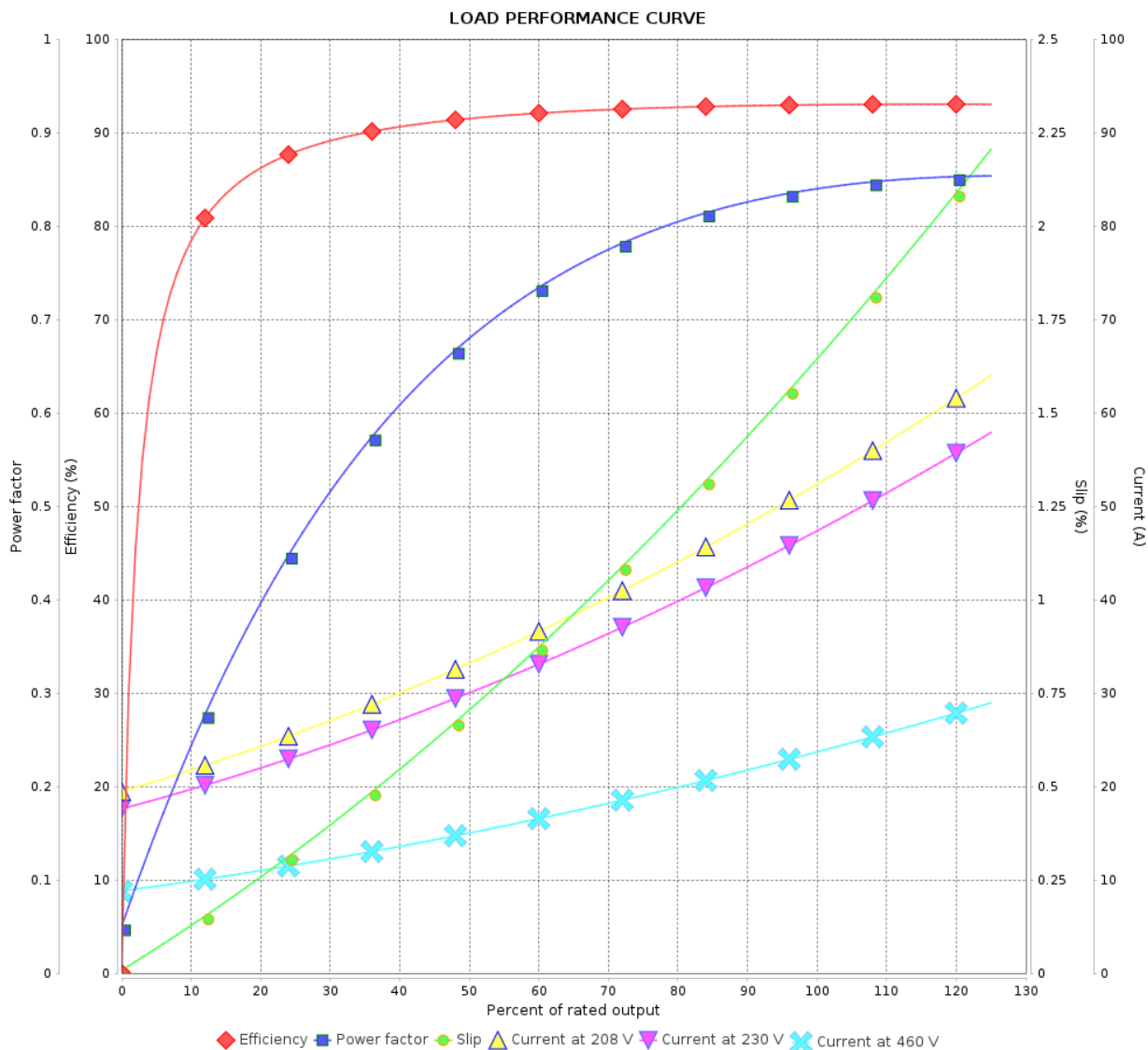
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency
Three-Phase

Product code : 11610485



Performance : 230/460 V 60 Hz 4P

Rated current : 48.2/24.1 A
LRC : 6.5
Rated torque : 8.20 kgfm
Locked rotor torque : 229 %
Breakdown torque : 240 %
Rated speed : 1770 rpm

Moment of inertia (J) : 0.1305 kgm²
Duty cycle : Cont.(S1)
Insulation class : F
Service factor : 1.25
Temperature rise : 80 K
Design : B

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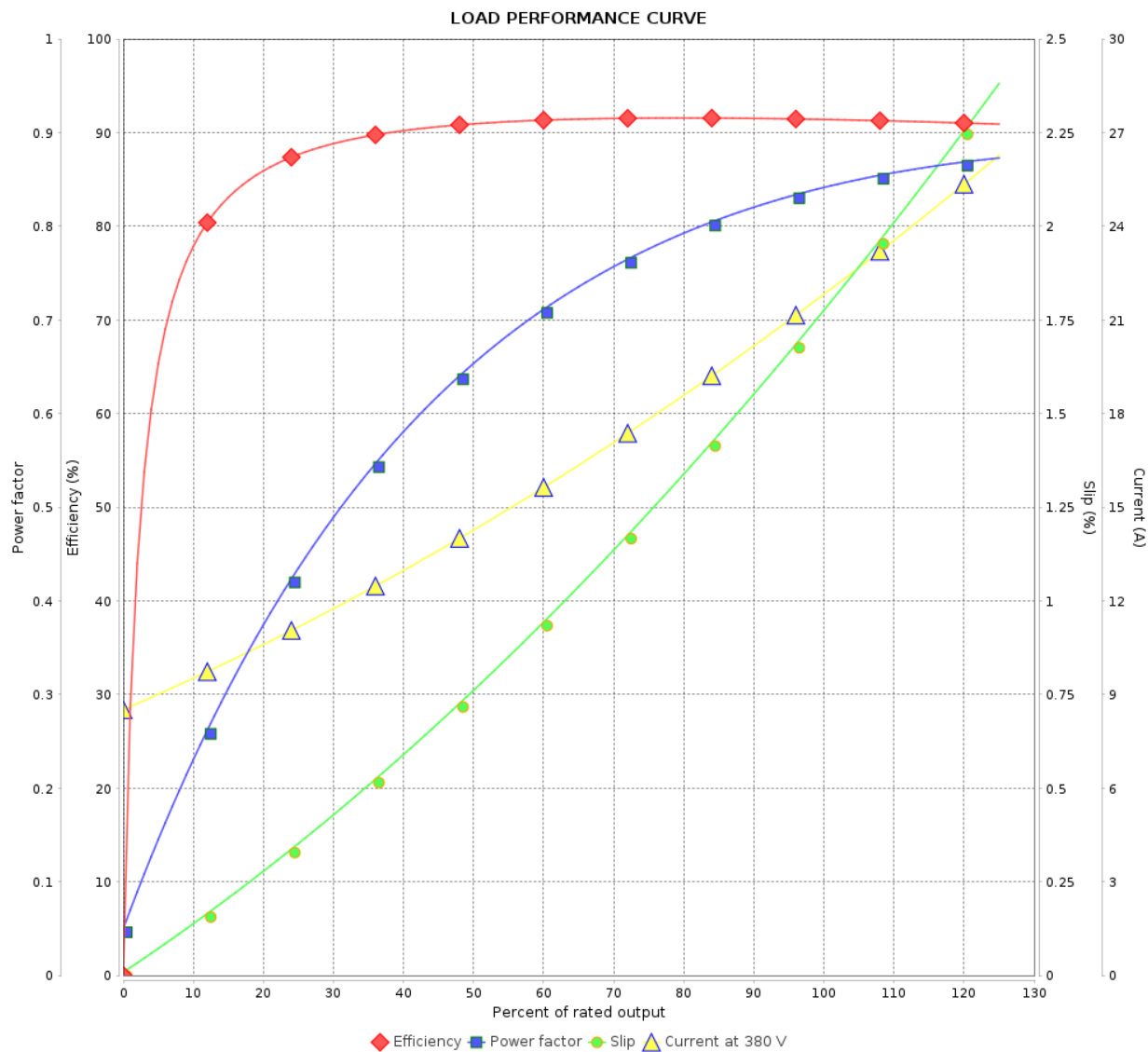
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency
Three-Phase

Product code : 11610485



Performance : 380 V 50 Hz 4P IE3

Rated current : 21.8 A
LRC : 7.4
Rated torque : 7.39 kgfm
Locked rotor torque : 220 %
Breakdown torque : 240 %
Rated speed : 1473 rpm

Moment of inertia (J) : 0.1305 kgm²
Duty cycle : Cont.(S1)
Insulation class : F
Service factor : 1.00
Temperature rise : 80 K
Design : B

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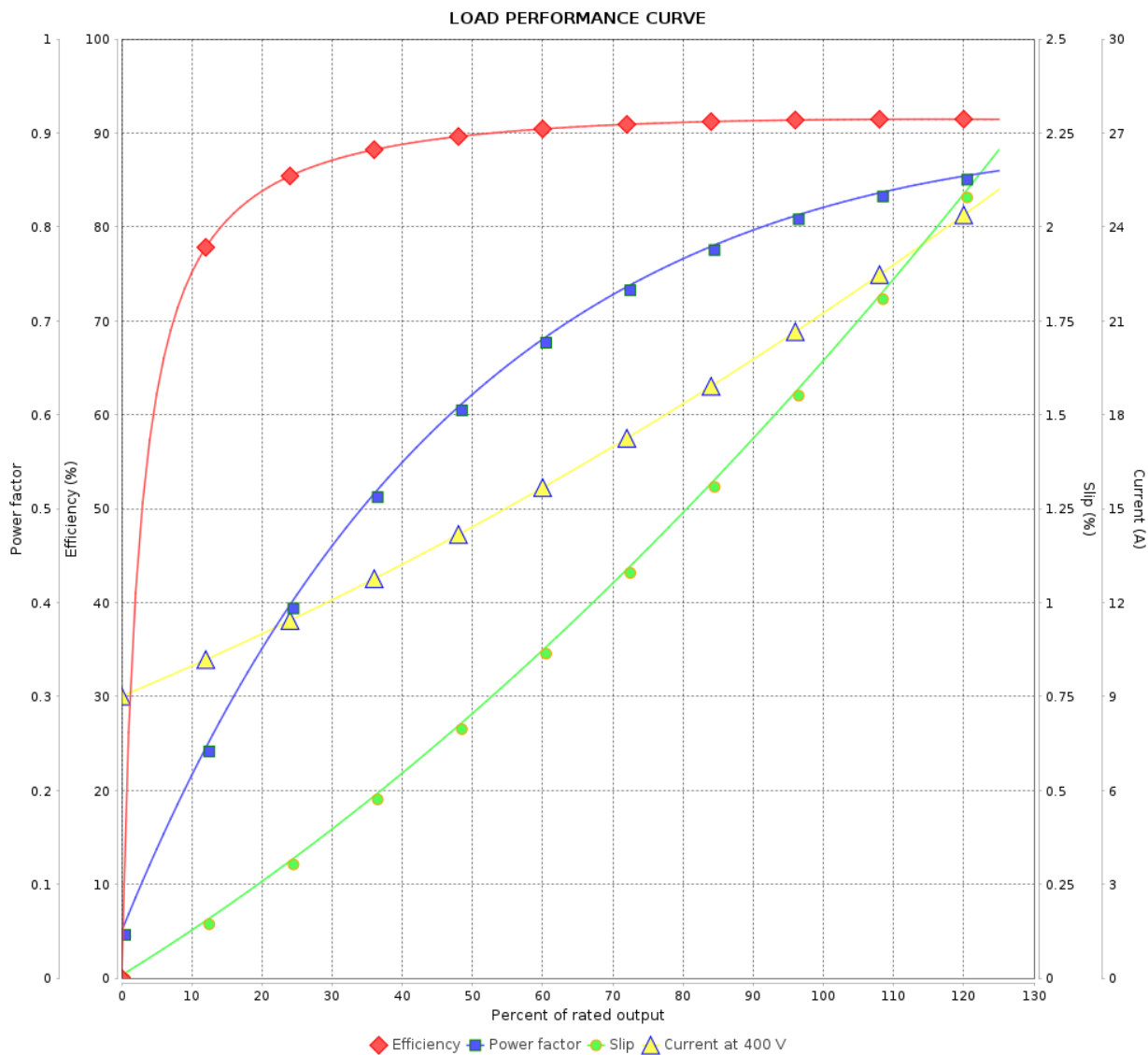
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency
Three-Phase

Product code : 11610485



Performance : 400 V 50 Hz 4P IE3

Rated current : 21.2 A
LRC : 7.9
Rated torque : 7.38 kgfm
Locked rotor torque : 240 %
Breakdown torque : 260 %
Rated speed : 1475 rpm

Moment of inertia (J) : 0.1305 kgm²
Duty cycle : Cont.(S1)
Insulation class : F
Service factor : 1.00
Temperature rise : 80 K
Design : B

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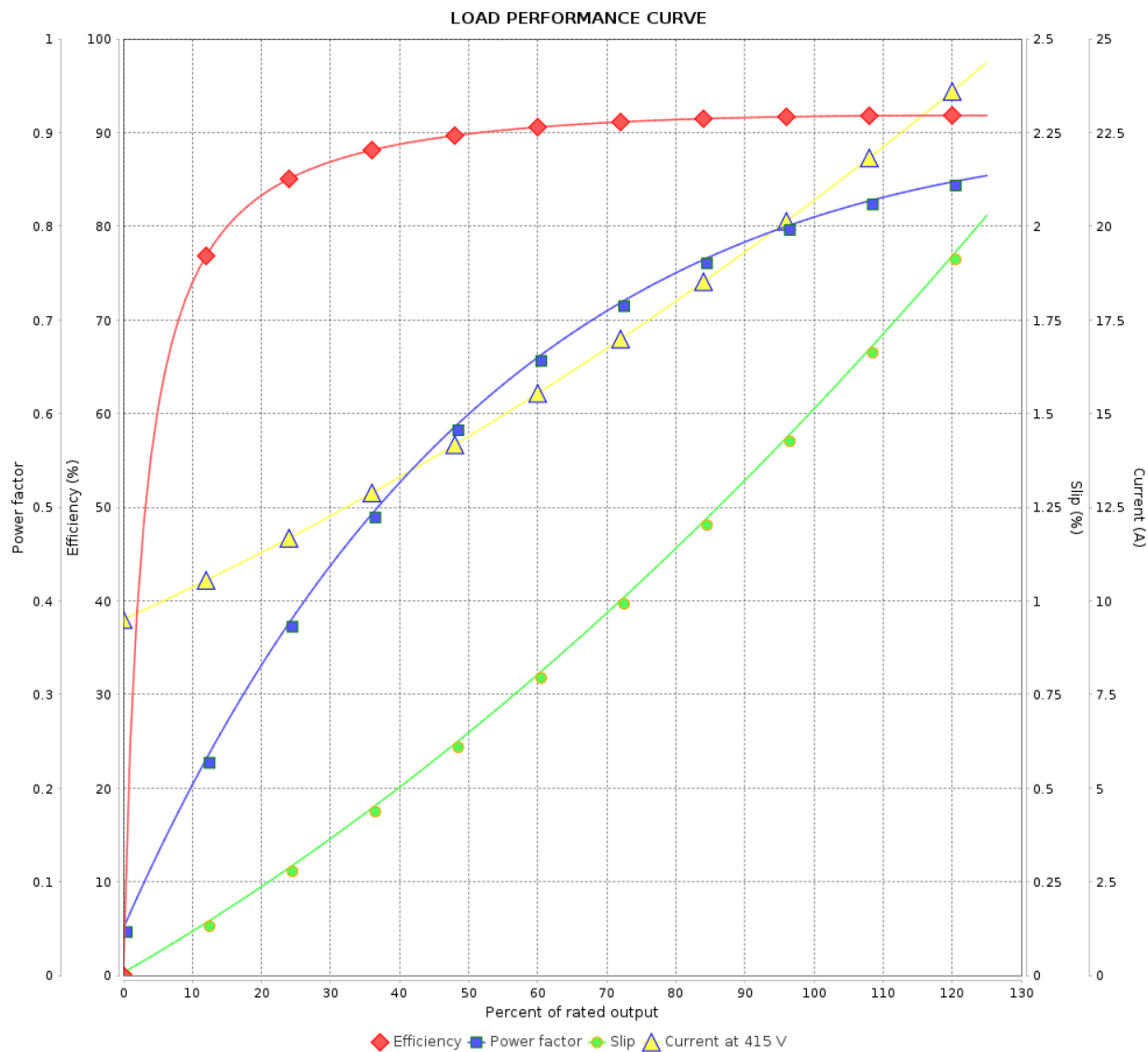
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency
Three-Phase

Product code : 11610485



Performance : 415 V 50 Hz 4P IE3

Rated current : 20.6 A
LRC : 8.4
Rated torque : 7.37 kgfm
Locked rotor torque : 260 %
Breakdown torque : 280 %
Rated speed : 1477 rpm

Moment of inertia (J) : 0.1305 kgm²
Duty cycle : Cont.(S1)
Insulation class : F
Service factor : 1.00
Temperature rise : 80 K
Design : B

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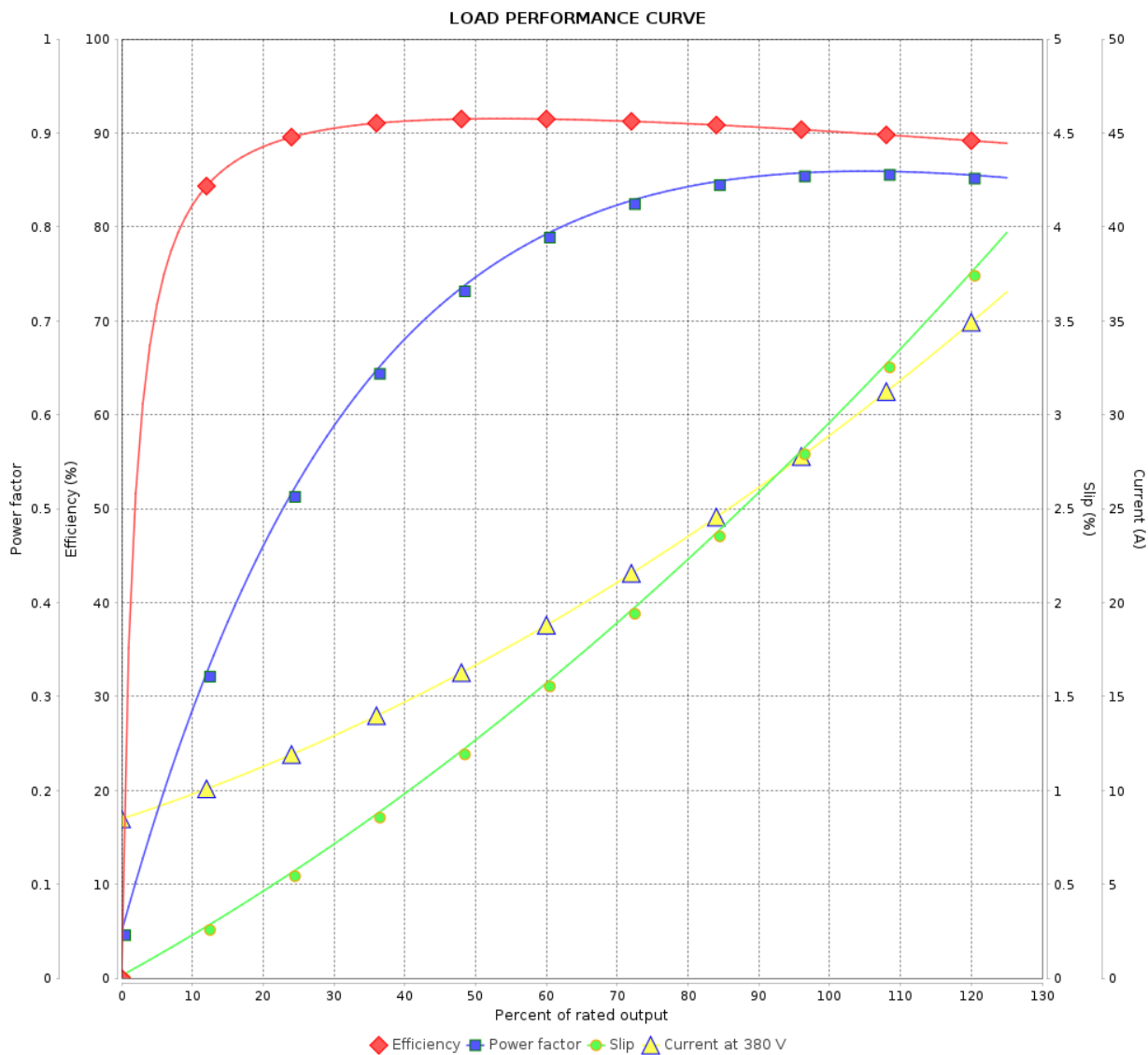
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency
Three-Phase

Product code : 11610485



Performance : 380 V 50 Hz 4P IE1

Rated current : 29.4 A
LRC : 5.7
Rated torque : 9.98 kgfm
Locked rotor torque : 180 %
Breakdown torque : 210 %
Rated speed : 1455 rpm

Moment of inertia (J) : 0.1305 kgm²
Duty cycle : Cont.(S1)
Insulation class : F
Service factor : 1.00
Temperature rise : 105 K
Design : B

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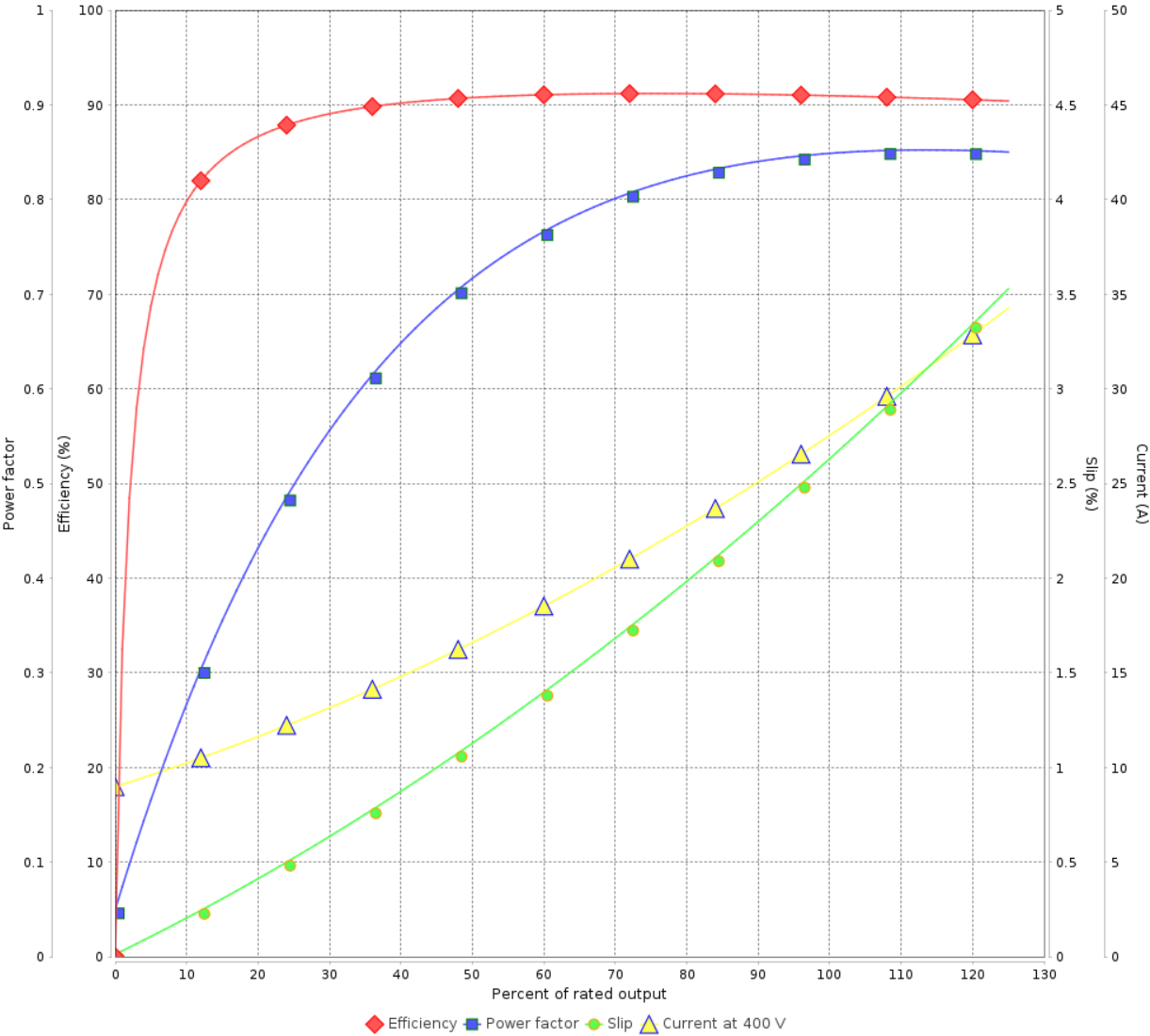
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase Product code : 11610485

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Performance : 400 V 50 Hz 4P IE2			
Rated current	: 28.0 A	Moment of inertia (J)	: 0.1305 kgm²
LRC	: 6.2	Duty cycle	: Cont.(S1)
Rated torque	: 9.94 kgfm	Insulation class	: F
Locked rotor torque	: 190 %	Service factor	: 1.00
Breakdown torque	: 210 %	Temperature rise	: 105 K
Rated speed	: 1460 rpm	Design	: B

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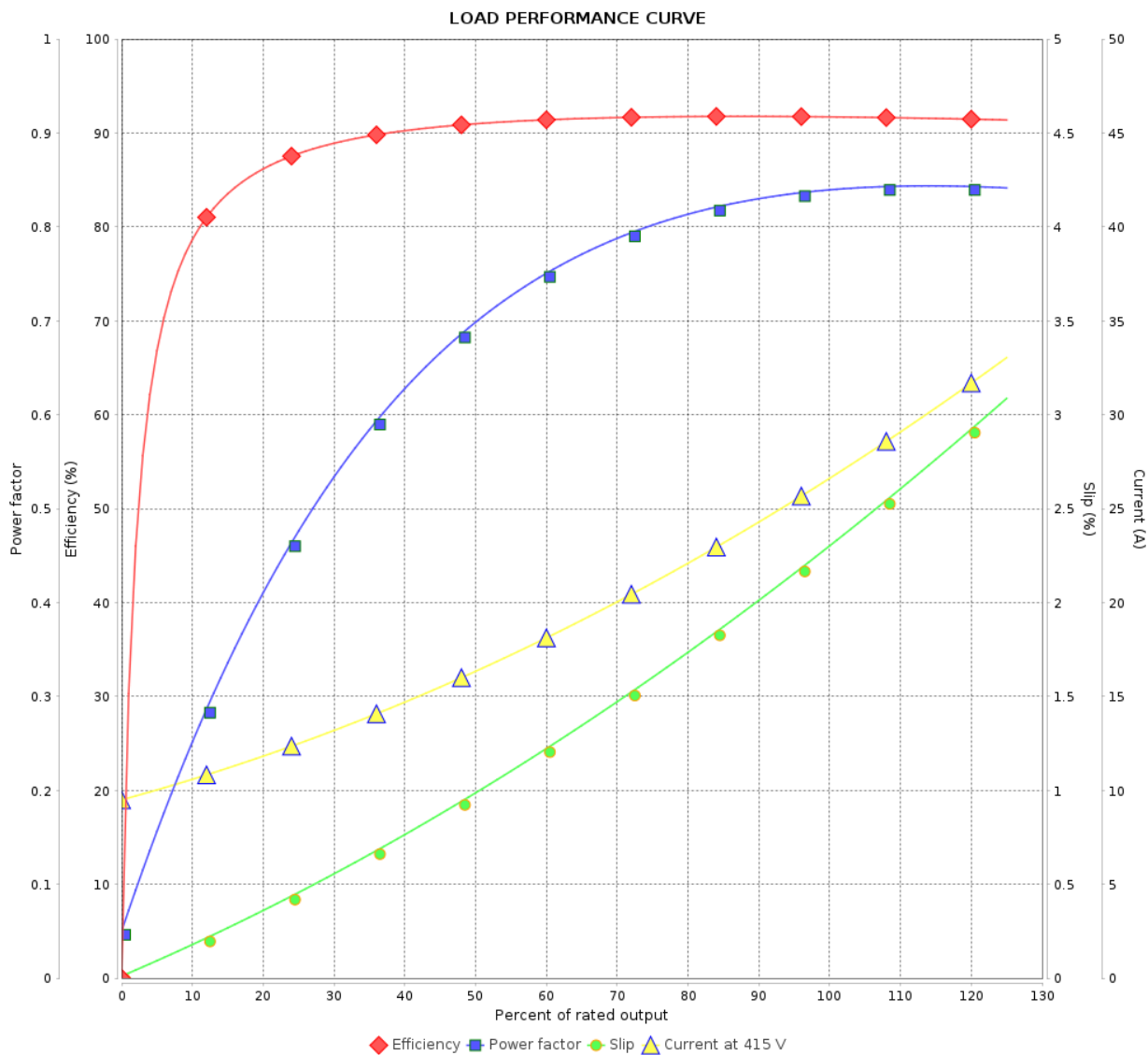
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency
Three-Phase

Product code : 11610485



Performance : 415 V 50 Hz 4P IE2

Rated current : 27.1 A
LRC : 6.6
Rated torque : 9.91 kgfm
Locked rotor torque : 200 %
Breakdown torque : 220 %
Rated speed : 1465 rpm

Moment of inertia (J) : 0.1305 kgm²
Duty cycle : Cont.(S1)
Insulation class : F
Service factor : 1.00
Temperature rise : 105 K
Design : B

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