

# DATA SHEET



## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W22 Close Coupled Pump JM NEMA Premium Efficiency Three-Phase      Product code : 11587597

Frame	: 254/6JM	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>	: 155 kg
Protection degree	: IP55	Moment of inertia (J)	: 0.1305 kgm <sup>2</sup>
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]	333/166	161	167	173	168	174	179
LRC [A]	6.9x(Code H)	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]	19.2/9.60	9.90	10.5	11.0	9.90	10.5	11.0
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 [%]	240	250	280	300	190	210	229
Breakdown torque [%]	260	290	320	340	210	229	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	54s (cold) 30s (hot)	59s (cold) 33s (hot)	55s (cold) 31s (hot)	52s (cold) 29s (hot)	39s (cold) 22s (hot)	37s (cold) 21s (hot)	36s (cold) 20s (hot)
Noise level <sup>2</sup>	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%	91.0	90.9	89.2	89.2	92.3	90.8
	50%	91.7	91.0	89.8	89.8	91.7	91.0
	75%	92.4	91.5	91.0	91.3	91.0	91.0
	100%	93.0	91.4	91.4	91.7	90.2	91.0
Power Factor	25%	0.43	0.40	0.37	0.35	0.49	0.46
	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	0.85

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

Losses (%)	P1 (0,9;1,0)	7.5	7.5	7.5	7.5	7.5	7.5
	P2 (0,5;1,0)	6.4	6.4	6.4	6.4	6.4	6.4
	P3 (0,25;1,0)	5.8	5.8	5.8	5.8	5.8	5.8
	P4 (0,9;0,5)	3.6	3.6	3.6	3.6	3.6	3.6
	P5 (0,5;0,5)	2.5	2.5	2.5	2.5	2.5	2.5
	P6 (0,5;0,25)	1.6	1.6	1.6	1.6	1.6	1.6
	P7 (0,25;0,25)	1.1	1.1	1.1	1.1	1.1	1.1

Bearing type	: 6309 C3	Non drive end	6209 C3	Foundation loads	Max. traction : 328 kgf	
	: V'Ring	V'Ring				Max. compression : 483 kgf
	: 20000 h	20000 h				
	: 13 g	9 g				
	: 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  
USABLE @208V 53.3A SF 1.15 SFA 61.3A

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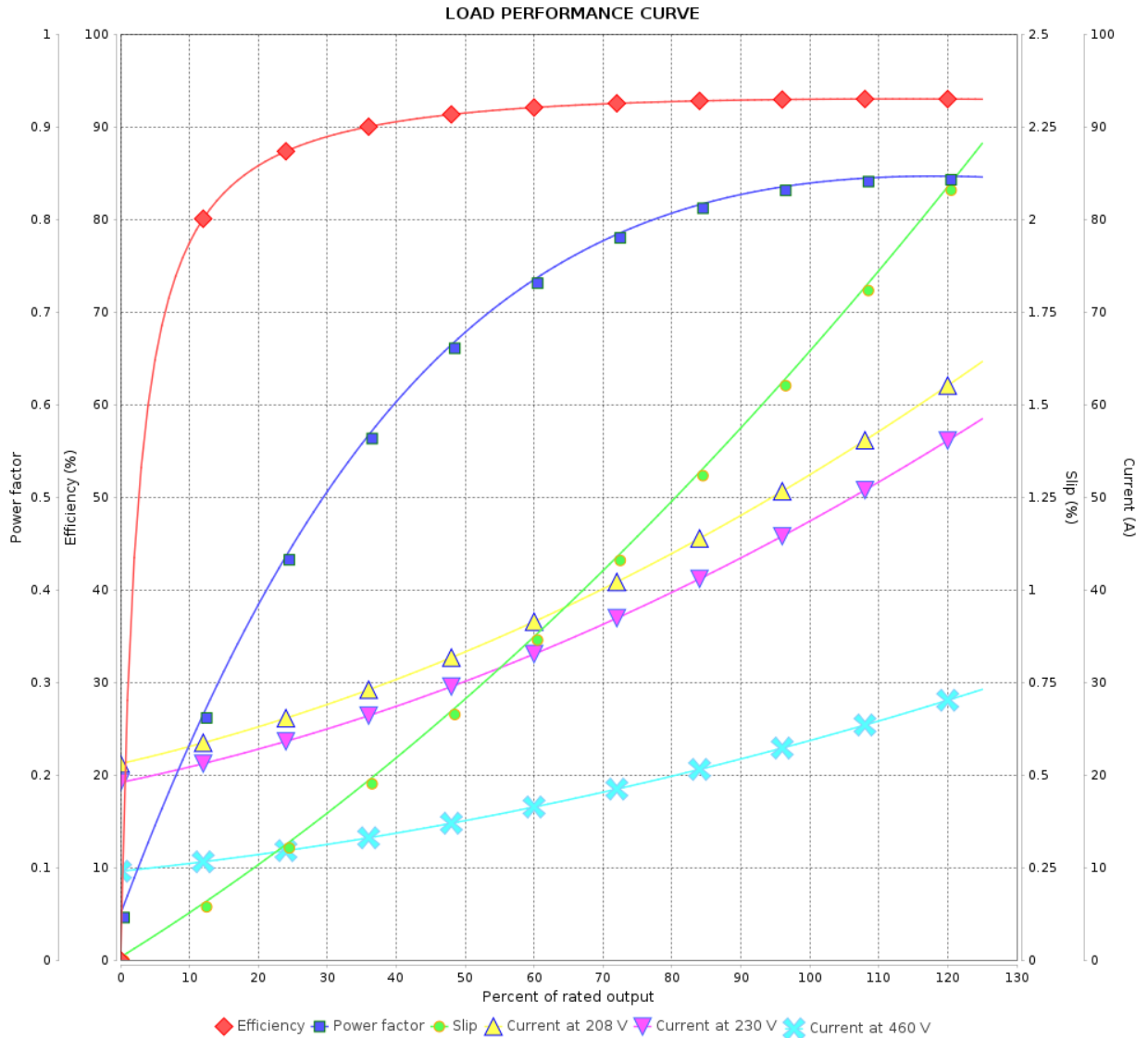
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 Close Coupled Pump JM NEMA  
Premium Efficiency Three-Phase

Product code : 11587597



Performance : 230/460 V 60 Hz 4P

Rated current : 48.2/24.1 A  
 LRC : 6.9  
 Rated torque : 8.20 kgfm  
 Locked rotor torque : 240 %  
 Breakdown torque : 260 %  
 Rated speed : 1770 rpm

Moment of inertia (J) : 0.1305 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

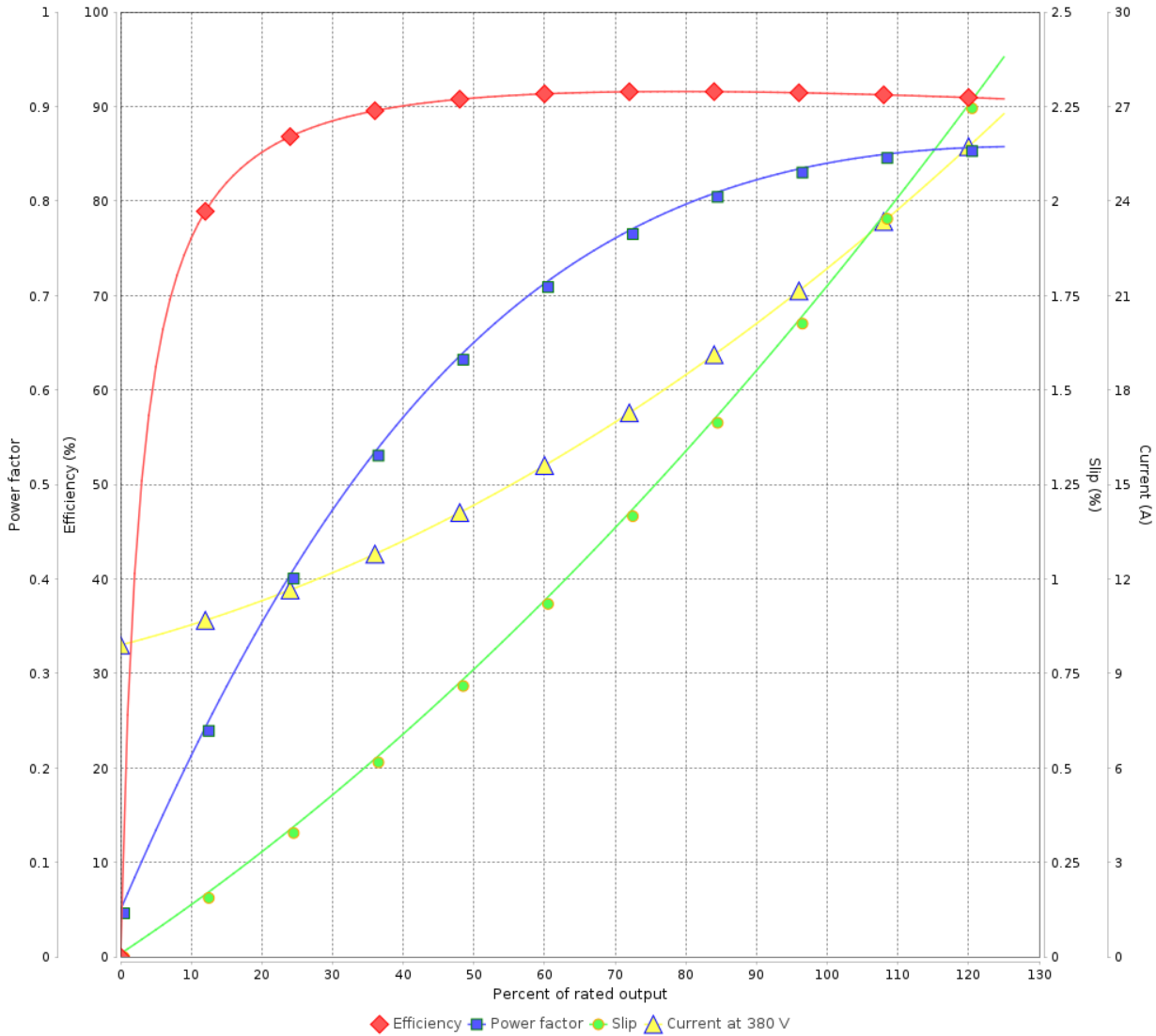


Customer :

Product line : W22 Close Coupled Pump JM NEMA  
Premium Efficiency Three-Phase

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Performance : 380 V 50 Hz 4P IE3

Rated current : 21.8 A  
LRC : 7.4  
Rated torque : 7.39 kgfm  
Locked rotor torque : 250 %  
Breakdown torque : 290 %  
Rated speed : 1473 rpm

Moment of inertia (J) : 0.1305 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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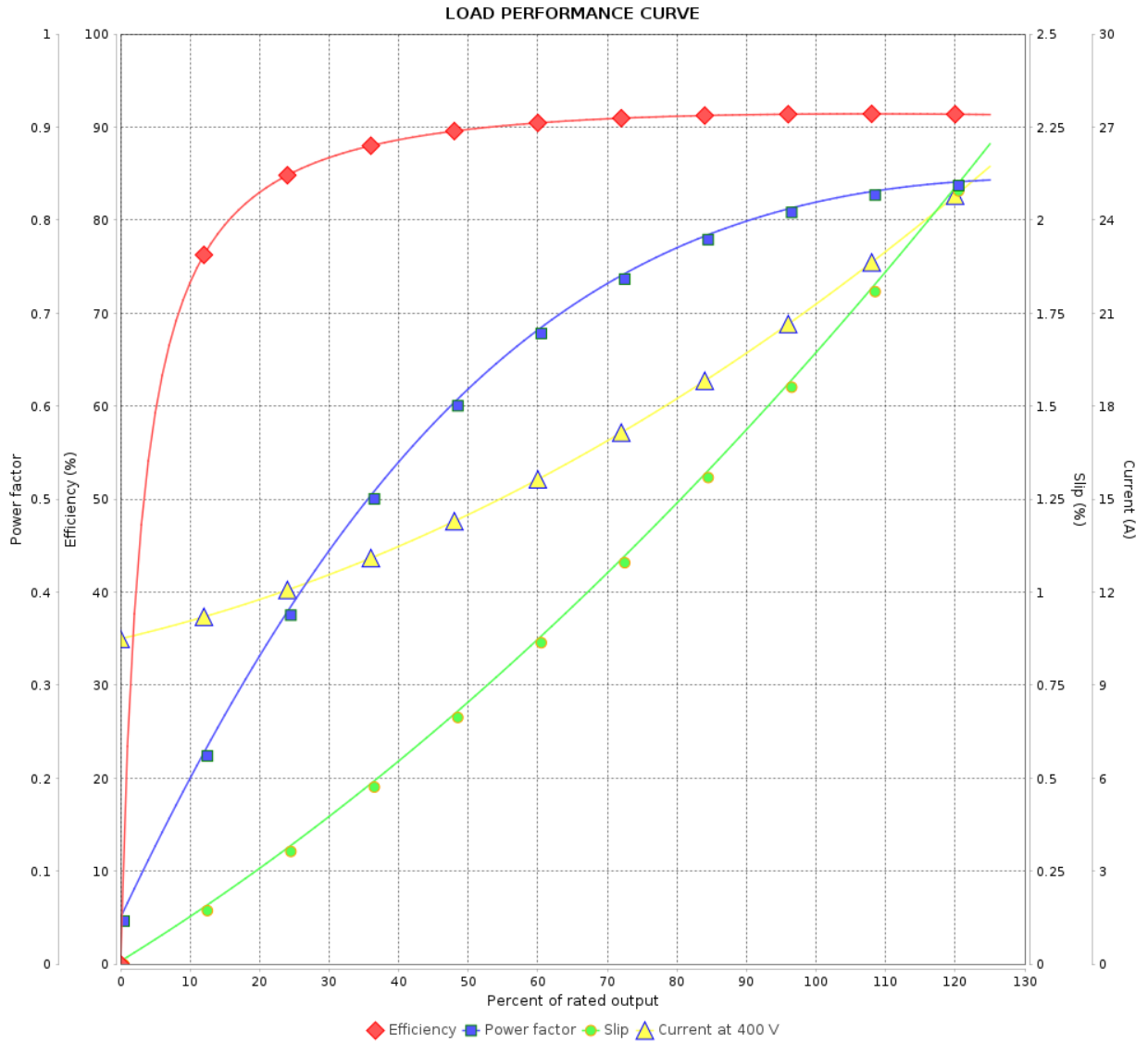
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 Close Coupled Pump JM NEMA  
Premium Efficiency Three-Phase

Product code : 11587597



Performance : 400 V 50 Hz 4P IE3

Rated current : 21.2 A  
 LRC : 7.9  
 Rated torque : 7.38 kgfm  
 Locked rotor torque : 280 %  
 Breakdown torque : 320 %  
 Rated speed : 1475 rpm

Moment of inertia (J) : 0.1305 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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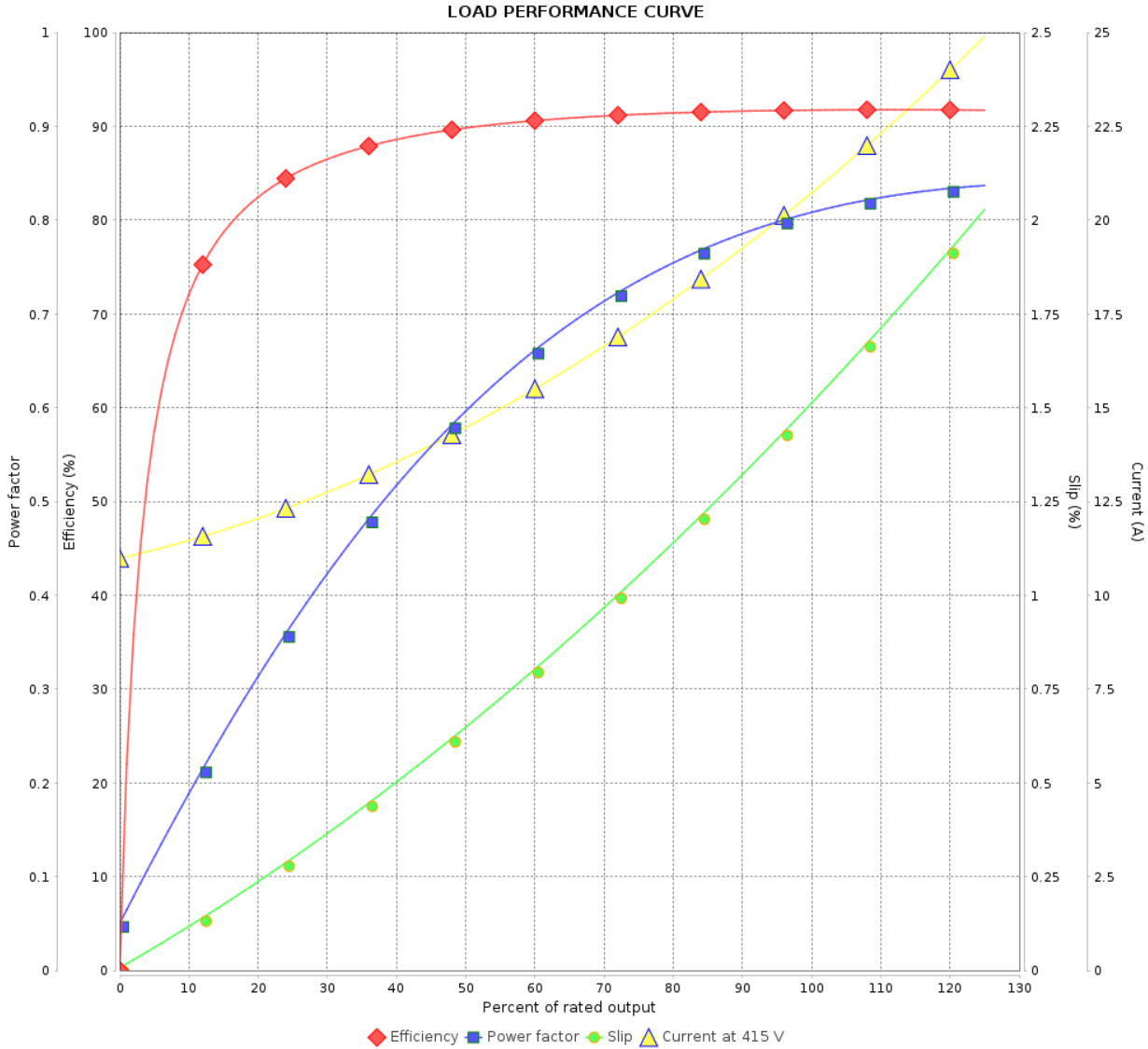
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 Close Coupled Pump JM NEMA  
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Performance : 415 V 50 Hz 4P IE3

Rated current : 20.6 A  
LRC : 8.4  
Rated torque : 7.37 kgfm  
Locked rotor torque : 300 %  
Breakdown torque : 340 %  
Rated speed : 1477 rpm

Moment of inertia (J) : 0.1305 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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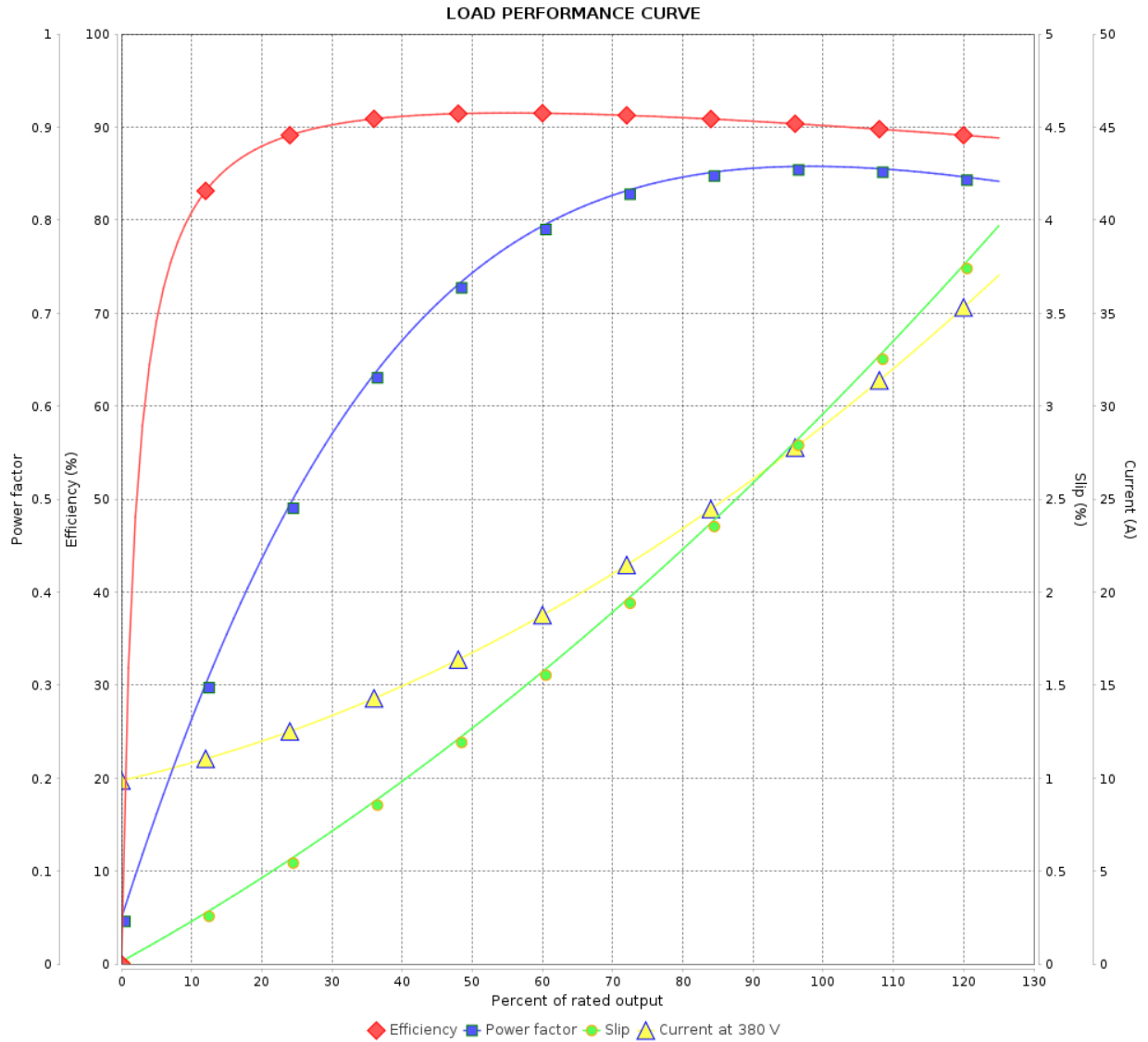
## Three Phase Induction Motor - Squirrel Cage



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Performance : 380 V 50 Hz 4P IE1

Rated current : 29.4 A  
 LRC : 5.7  
 Rated torque : 9.98 kgfm  
 Locked rotor torque : 190 %  
 Breakdown torque : 210 %  
 Rated speed : 1455 rpm

Moment of inertia (J) : 0.1305 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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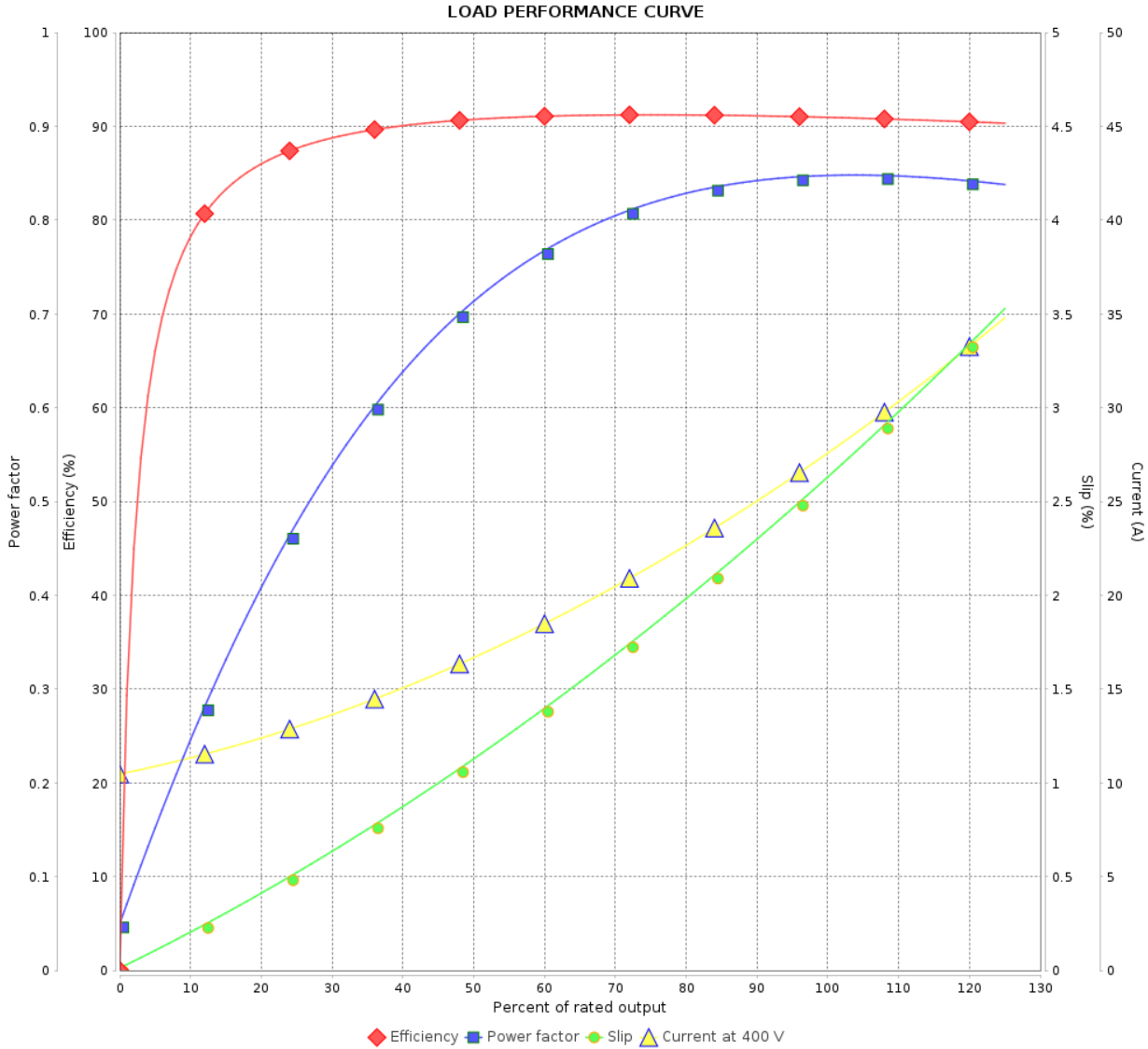
Three Phase Induction Motor - Squirrel Cage



Customer :

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Performance : 400 V 50 Hz 4P IE2

Rated current : 28.0 A  
LRC : 6.2  
Rated torque : 9.94 kgfm  
Locked rotor torque : 210 %  
Breakdown torque : 229 %  
Rated speed : 1460 rpm

Moment of inertia (J) : 0.1305 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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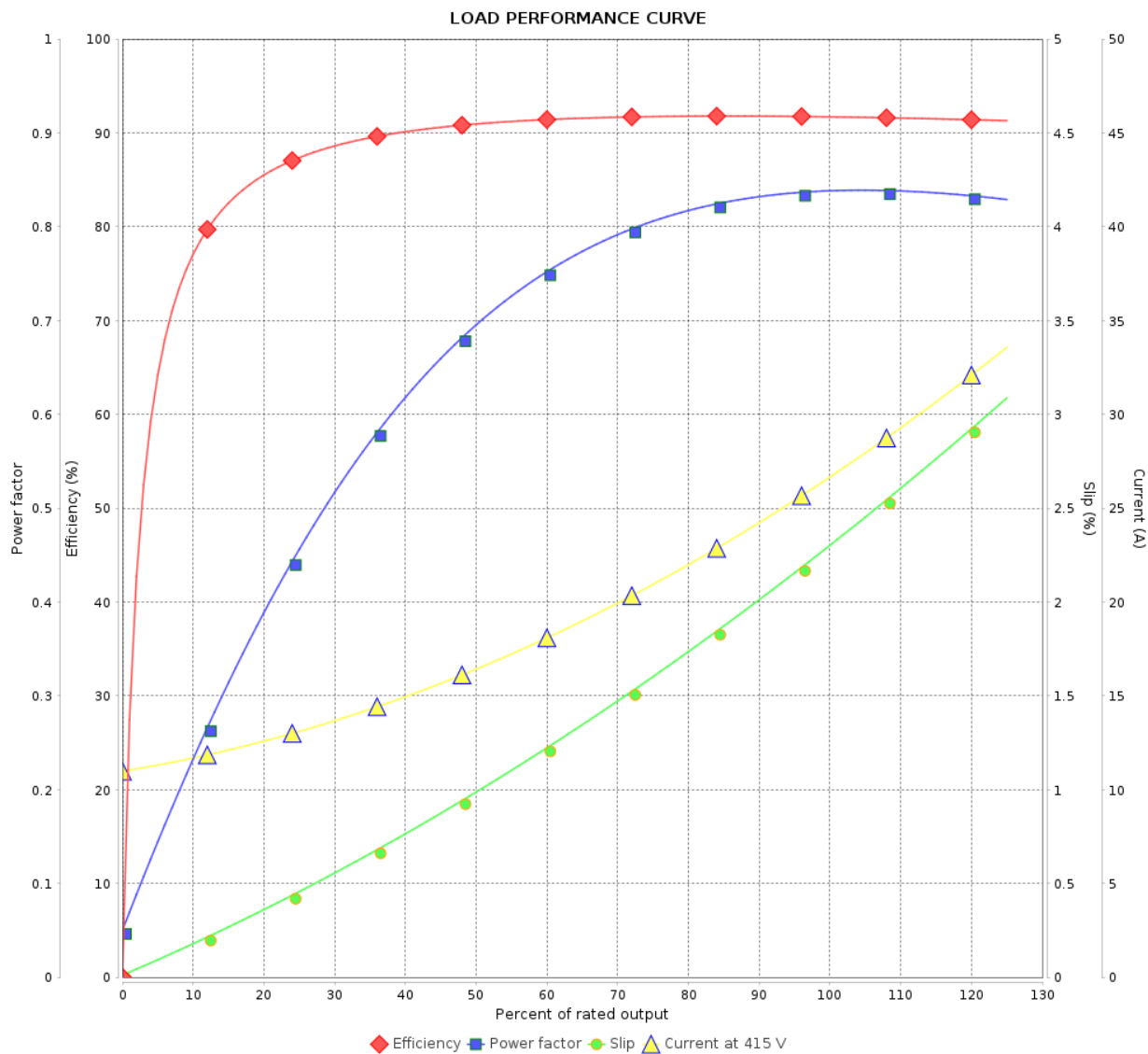
## Three Phase Induction Motor - Squirrel Cage



Customer : \_\_\_\_\_

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Performance : 415 V 50 Hz 4P IE2

Rated current : 27.1 A  
 LRC : 6.6  
 Rated torque : 9.91 kgfm  
 Locked rotor torque : 229 %  
 Breakdown torque : 260 %  
 Rated speed : 1465 rpm

Moment of inertia (J) : 0.1305 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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