

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



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

Product line : W22 NEMA Premium Efficiency Three-Phase      Product code : 14171846

Frame : 254/6TD	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) : 0.1104 kgm <sup>2</sup>
Design : B	

Output [HP]	15	10	10	10	15	15	15
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]	36.0/18.0	15.2	14.8	14.5	21.5	20.5	20.0
L. R. Amperes [A]	230/115	109	115	120	105	111	118
LRC [A]	6.4x(Code G)	7.2x(Code J)	7.8x(Code J)	8.3x(Code K)	4.9x(Code E)	5.4x(Code F)	5.9x(Code G)
No load current [A]	14.0/7.00	6.70	7.10	7.40	7.10	7.60	7.40
Rated speed [RPM]	1768	1475	1480	1480	1455	1460	1465
Slip [%]	1.78	1.67	1.33	1.33	3.00	2.67	2.33
Rated torque [kgfm]	6.16	4.92	4.90	4.90	7.48	7.46	7.43
Locked rotor torque [%]	240	250	280	310	160	200	210
Breakdown torque [%]	260	300	340	370	200	220	240
Service factor	1.25	1.25	1.25	1.25	1.00	1.00	1.00
Temperature rise	80 K	80 K	80 K	80 K	80 K	80 K	80 K
Locked rotor time	55s (cold) 31s (hot)	72s (cold) 40s (hot)	63s (cold) 35s (hot)	57s (cold) 32s (hot)	41s (cold) 23s (hot)	41s (cold) 23s (hot)	37s (cold) 21s (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%	0.000					
	50%	91.0	88.8	88.6	88.3	91.0	91.0
	75%	91.7	90.3	90.3	90.3	90.2	91.0
	100%	92.4	90.4	90.6	90.8	90.2	91.0
Power Factor	25%	0.00					
	50%	0.68	0.65	0.62	0.59	0.74	0.71
	75%	0.78	0.77	0.74	0.72	0.82	0.80
	100%	0.83	0.83	0.81	0.79	0.86	0.84

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)	6.8	6.8	6.8	6.8	6.8	6.8
	P3 (0,25;1,0)	6.3	6.3	6.3	6.3	6.3	6.3
	P4 (0,9;0,5)	3.9	3.9	3.9	3.9	3.9	3.9
	P5 (0,5;0,5)	2.7	2.7	2.7	2.7	2.7	2.7
	P6 (0,5;0,25)	1.8	1.8	1.8	1.8	1.8	1.8
	P7 (0,25;0,25)	1.2	1.2	1.2	1.2	1.2	1.2

Bearing type : Sealing : Lubrication interval : Lubricant amount : Lubricant type :	<u>Drive end</u>	<u>Non drive end</u>	Foundation loads Max. traction : 203 kgf Max. compression : 358 kgf
	6309 C3	6209 C3	
	V'Ring	V'Ring	
	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 39.8A SF 1.15 SFA 45.8A

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# LOAD PERFORMANCE CURVE

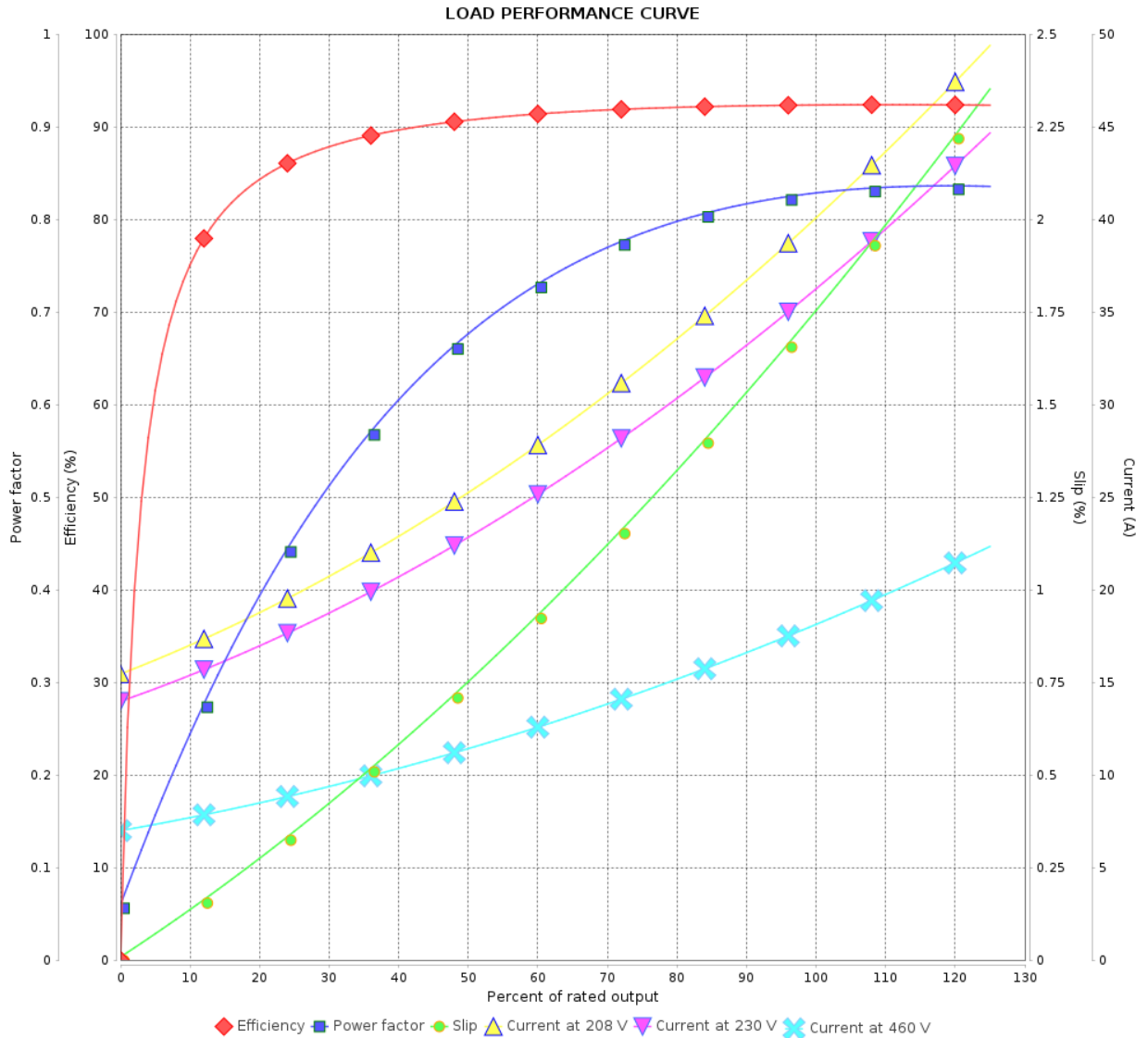
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase

Product code : 14171846



Performance : 230/460 V 60 Hz 4P

Rated current : 36.0/18.0 A  
 LRC : 6.4  
 Rated torque : 6.16 kgfm  
 Locked rotor torque : 240 %  
 Breakdown torque : 260 %  
 Rated speed : 1768 rpm

Moment of inertia (J) : 0.1104 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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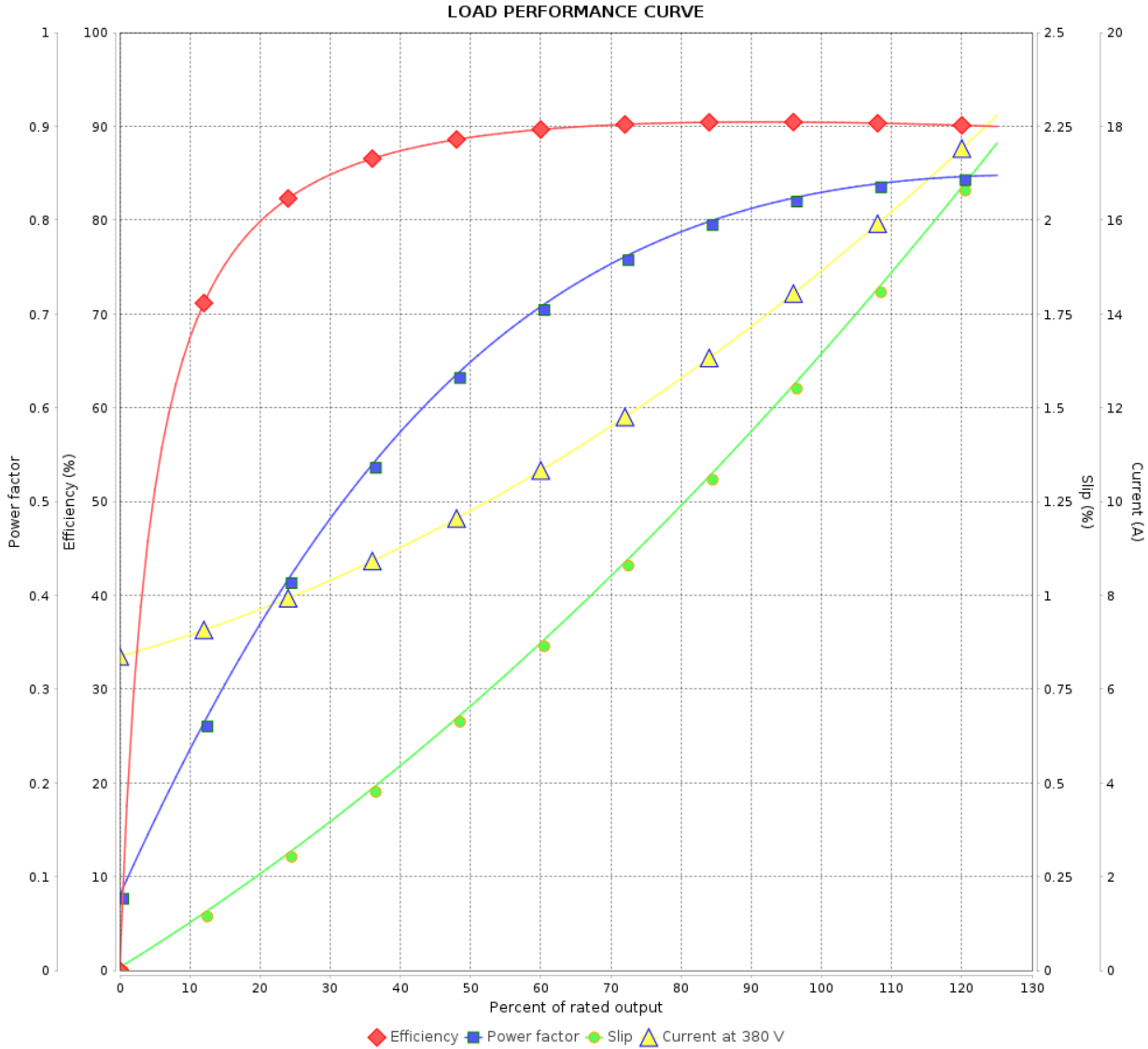
Three Phase Induction Motor - Squirrel Cage



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

Product line : W22 NEMA Premium Efficiency Three-Phase

Product code : 14171846



Performance : 380 V 50 Hz 4P IE3

Rated current : 15.2 A  
 LRC : 7.2  
 Rated torque : 4.92 kgfm  
 Locked rotor torque : 250 %  
 Breakdown torque : 300 %  
 Rated speed : 1475 rpm

Moment of inertia (J) : 0.1104 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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# LOAD PERFORMANCE CURVE

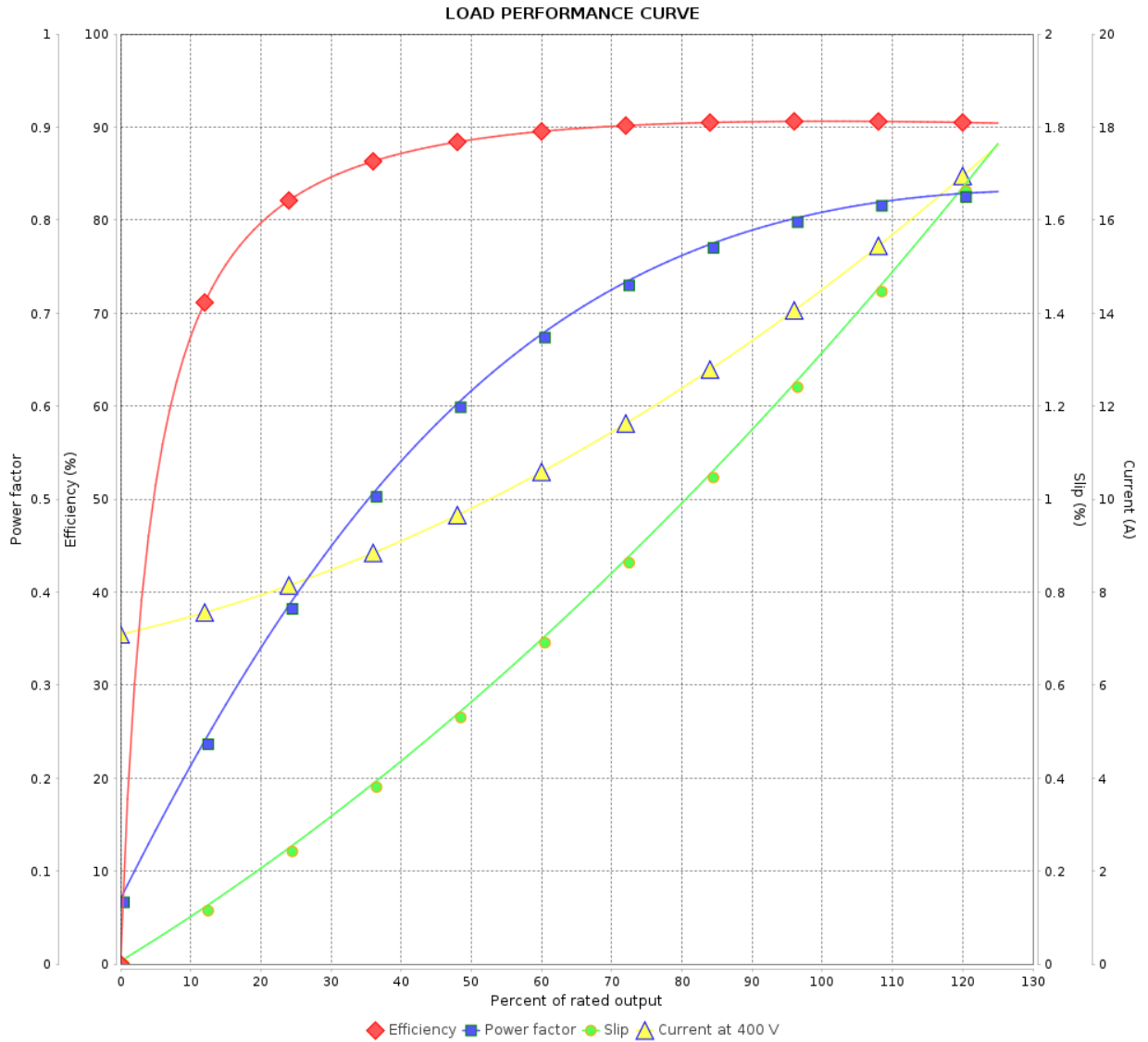
## Three Phase Induction Motor - Squirrel Cage



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

Product line : W22 NEMA Premium Efficiency Three-Phase

Product code : 14171846



Performance : 400 V 50 Hz 4P IE3

Rated current : 14.8 A  
 LRC : 7.8  
 Rated torque : 4.90 kgfm  
 Locked rotor torque : 280 %  
 Breakdown torque : 340 %  
 Rated speed : 1480 rpm

Moment of inertia (J) : 0.1104 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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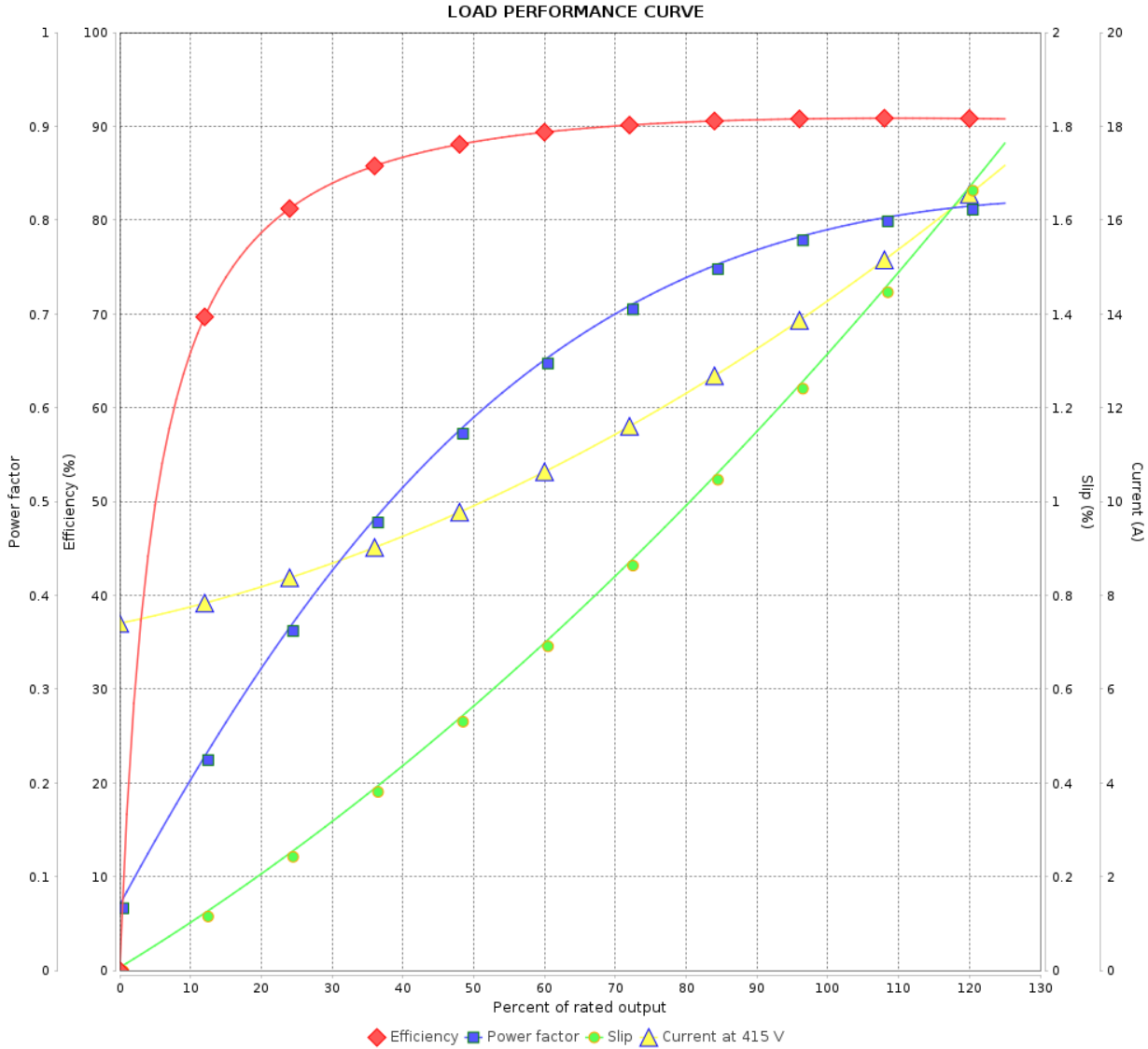
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase

Product code : 14171846



Performance : 415 V 50 Hz 4P IE3

Rated current : 14.5 A  
 LRC : 8.3  
 Rated torque : 4.90 kgfm  
 Locked rotor torque : 310 %  
 Breakdown torque : 370 %  
 Rated speed : 1480 rpm

Moment of inertia (J) : 0.1104 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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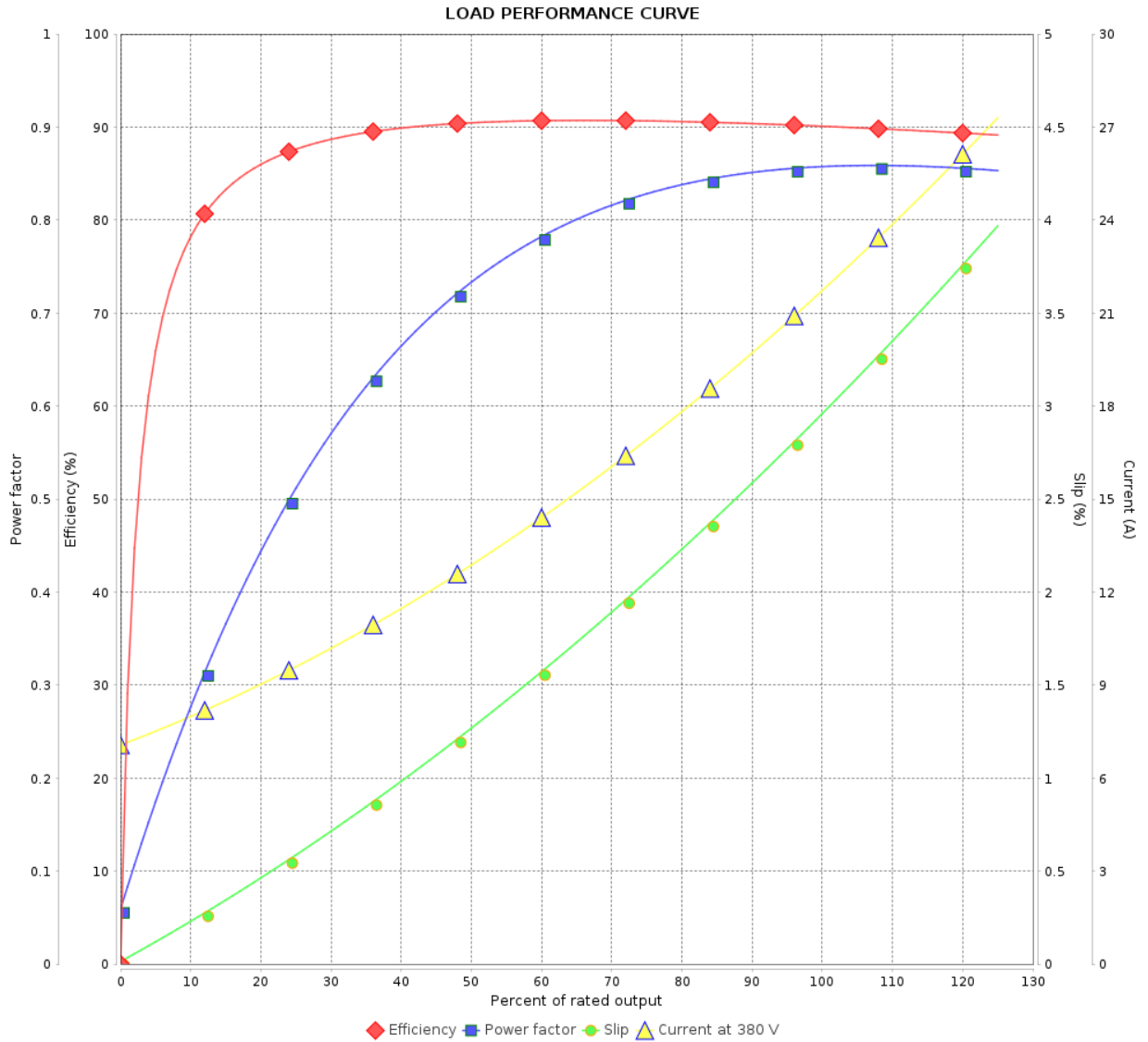
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase

Product code : 14171846



Performance : 380 V 50 Hz 4P IE2

Rated current : 21.5 A  
 LRC : 4.9  
 Rated torque : 7.48 kgfm  
 Locked rotor torque : 160 %  
 Breakdown torque : 200 %  
 Rated speed : 1455 rpm

Moment of inertia (J) : 0.1104 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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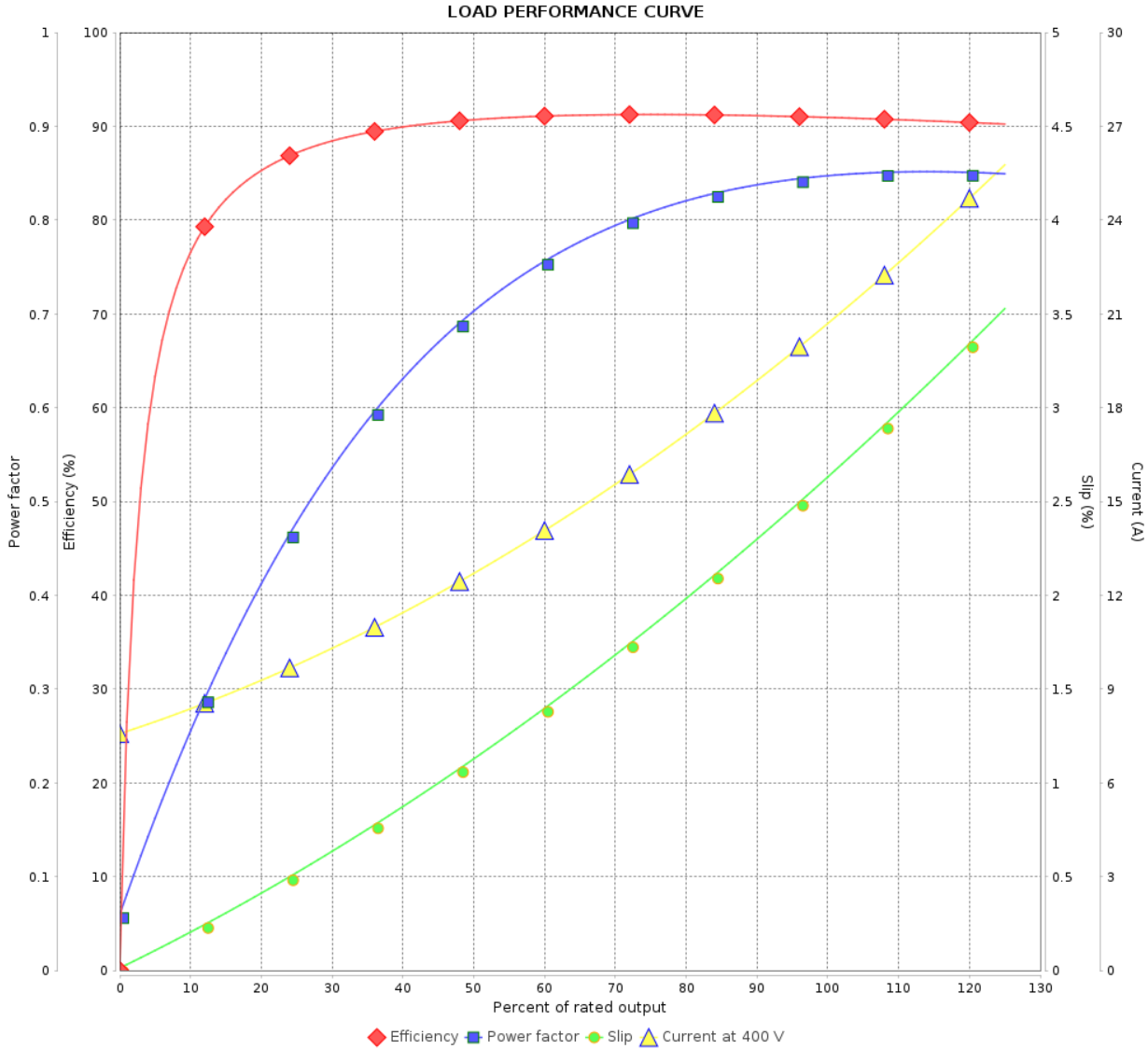
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase

Product code : 14171846



Performance : 400 V 50 Hz 4P IE2

Rated current : 20.5 A  
 LRC : 5.4  
 Rated torque : 7.46 kgfm  
 Locked rotor torque : 200 %  
 Breakdown torque : 220 %  
 Rated speed : 1460 rpm

Moment of inertia (J) : 0.1104 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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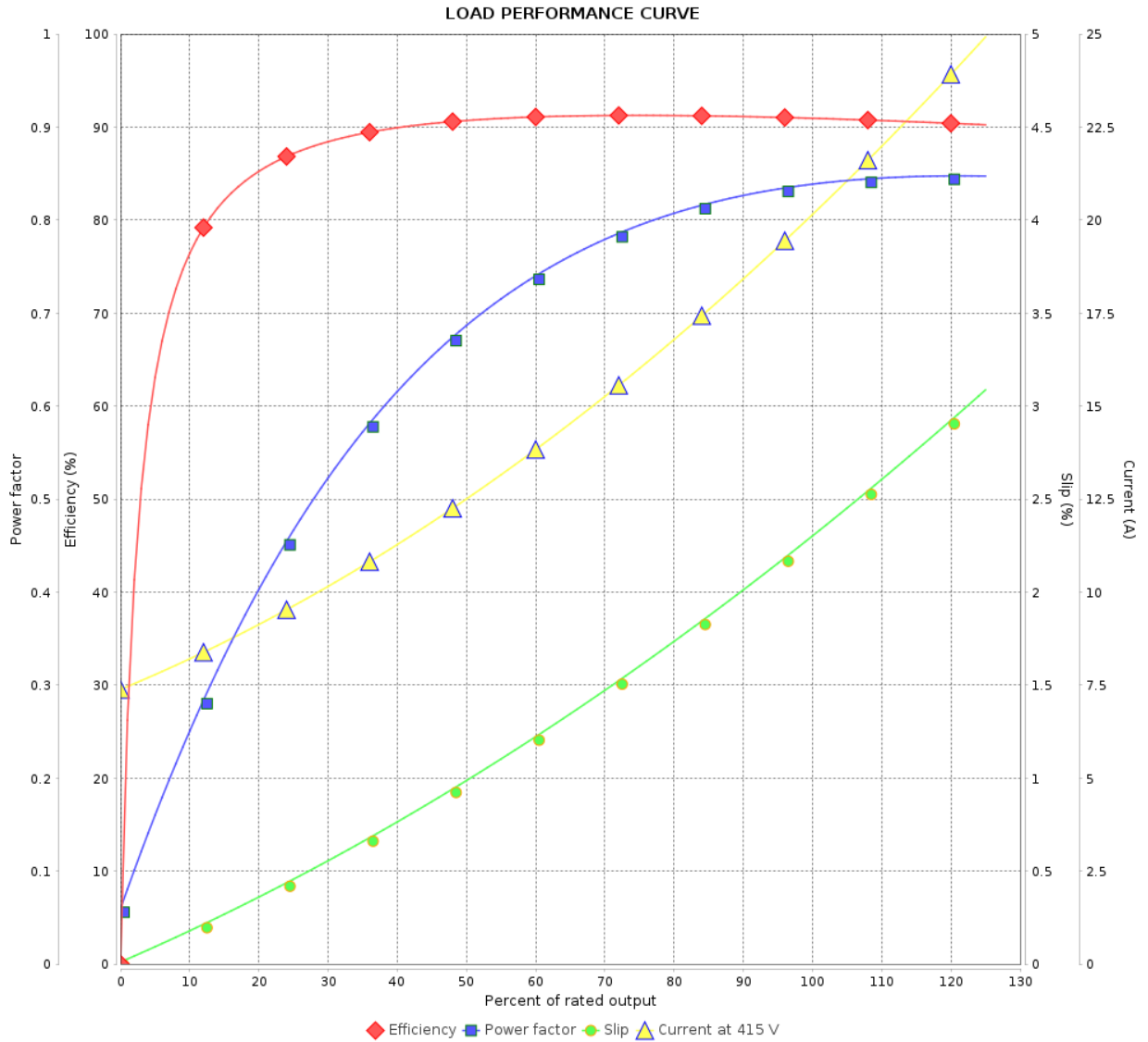
## Three Phase Induction Motor - Squirrel Cage



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

Product line : W22 NEMA Premium Efficiency Three-Phase

Product code : 14171846



Performance : 415 V 50 Hz 4P IE2

Rated current : 20.0 A  
 LRC : 5.9  
 Rated torque : 7.43 kgfm  
 Locked rotor torque : 210 %  
 Breakdown torque : 240 %  
 Rated speed : 1465 rpm

Moment of inertia (J) : 0.1104 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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