

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :							
Product line	: W22 NEMA Premium Efficiency Three-Phase						
Product code :	11993105						
Frame	: 213/5TC						
Insulation class	: F						
Duty cycle	: Cont.(S1)						
Ambient temperature	: -20°C to +40°C						
Altitude	: 1000 m.a.s.l.						
Protection degree	: IP55						
Design	: A						
Cooling method	: IC411 - TEFC						
Mounting	: F-1						
Rotation <sup>1</sup>	: Both (CW and CCW)						
Starting method	: Direct On Line						
Approx. weight <sup>3</sup>	: 80.0 kg						
Moment of inertia (J)	: 0.0268 kgm <sup>2</sup>						
Output [HP]	15	10	10	10	15	15	15
Poles	2	2	2	2	2	2	2
Frequency [Hz]	60	50	50	50	50	50	50
Rated voltage [V]	230/460	380	400	415	380	400	415
Rated current [A]	34.0/17.0	14.5	14.1	14.0	20.6	19.7	19.3
L. R. Amperes [A]	269/134	125	133	140	134	142	149
LRC [A]	7.9x(Code J)	8.6x(Code K)	9.4x(Code L)	10.0x(Code M)	6.5x(Code G)	7.2x(Code H)	7.7x(Code J)
No load current [A]	11.6/5.80	5.60	6.20	6.70	5.60	6.20	6.70
Rated speed [RPM]	3520	2940	2945	2950	2885	2900	2910
Slip [%]	2.22	2.00	1.83	1.67	3.83	3.33	3.00
Rated torque [kgfm]	3.09	2.47	2.46	2.46	3.77	3.75	3.74
Locked rotor torque [%]	240	280	320	340	190	220	240
Breakdown torque [%]	280	340	380	420	220	250	280
Service factor	1.25	1.15	1.15	1.15	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	21s (cold) 12s (hot)	21s (cold) 12s (hot)	21s (cold) 12s (hot)	21s (cold) 12s (hot)	10s (cold) 6s (hot)	12s (cold) 7s (hot)	12s (cold) 7s (hot)
Noise level <sup>2</sup>	68.0 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%	90.2	89.5	89.0	88.5	88.5	89.0
	75%	91.0	90.1	90.1	90.1	89.0	89.5
	100%	91.0	90.1	90.1	90.1	89.0	89.7
Power Factor	25%						
	50%	0.76	0.72	0.68	0.64	0.81	0.78
	75%	0.85	0.82	0.79	0.77	0.88	0.86
	100%	0.89	0.87	0.85	0.83	0.91	0.90
Losses at normative operating points (speed;torque), in percentage of rated output power							
Losses (%)	P1 (0,9;1,0)	9.8	9.8	9.8	9.8	9.8	9.8
	P2 (0,5;1,0)	7.9	7.9	7.9	7.9	7.9	7.9
	P3 (0,25;1,0)	6.9	6.9	6.9	6.9	6.9	6.9
	P4 (0,9;0,5)	4.8	4.8	4.8	4.8	4.8	4.8
	P5 (0,5;0,5)	3.1	3.1	3.1	3.1	3.1	3.1
	P6 (0,5;0,25)	2.0	2.0	2.0	2.0	2.0	2.0
	P7 (0,25;0,25)	1.3	1.3	1.3	1.3	1.3	1.3
Bearing type	: Drive end 6308 ZZ	: Non drive end 6207 ZZ	Foundation loads				
Sealing	: V'Ring	: V'Ring	Max. traction : 154 kgf				
Lubrication interval	: -	: -	Max. compression : 234 kgf				
Lubricant amount	: -	: -					
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 : \_\_\_\_\_

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# LOAD PERFORMANCE CURVE

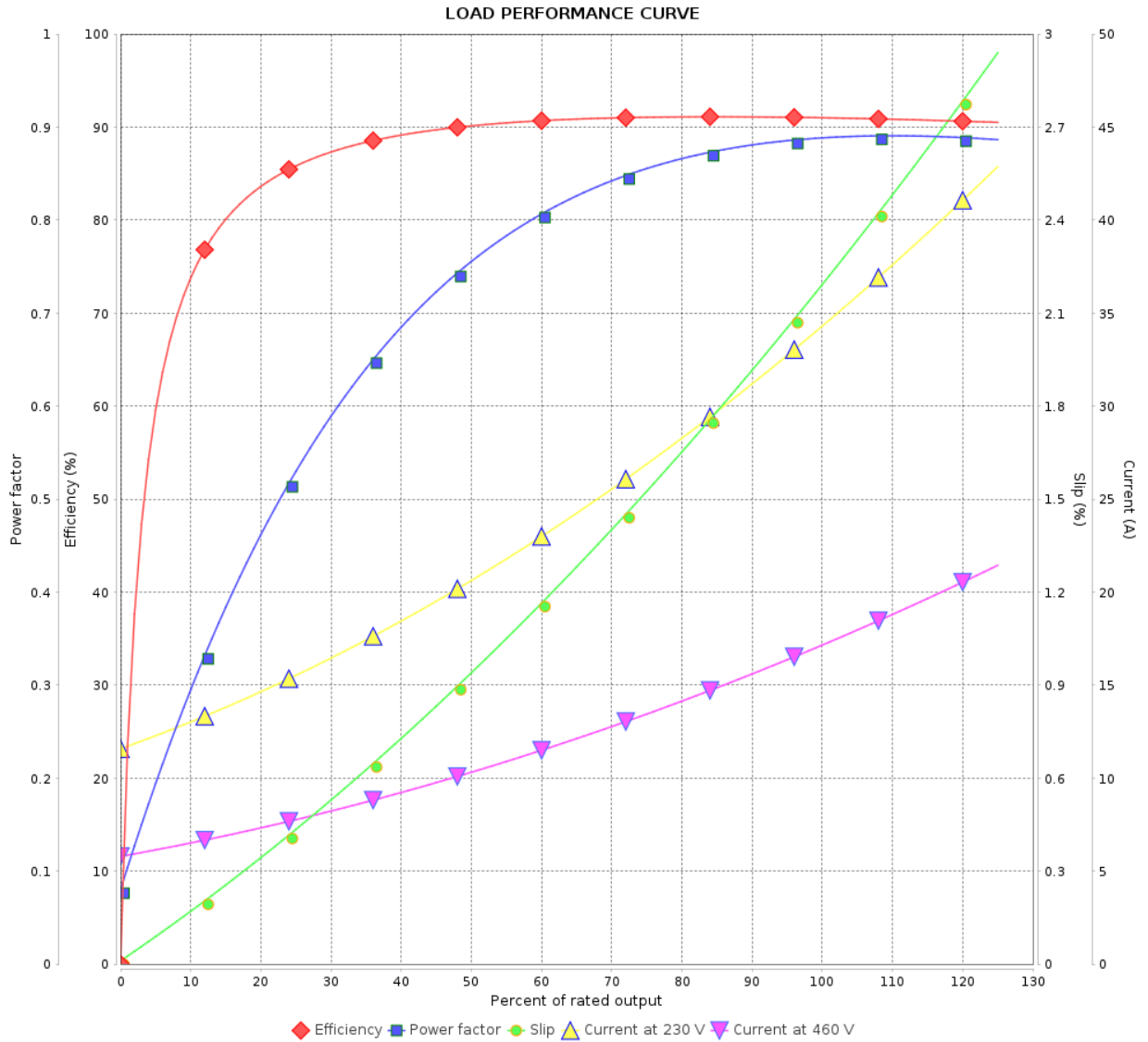
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase

Product code : 11993105



Performance : 230/460 V 60 Hz 2P

Rated current : 34.0/17.0 A  
 LRC : 7.9  
 Rated torque : 3.09 kgfm  
 Locked rotor torque : 240 %  
 Breakdown torque : 280 %  
 Rated speed : 3520 rpm

Moment of inertia (J) : 0.0268 kgm<sup>2</sup>  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.25  
 Temperature rise : 80 K  
 Design : A

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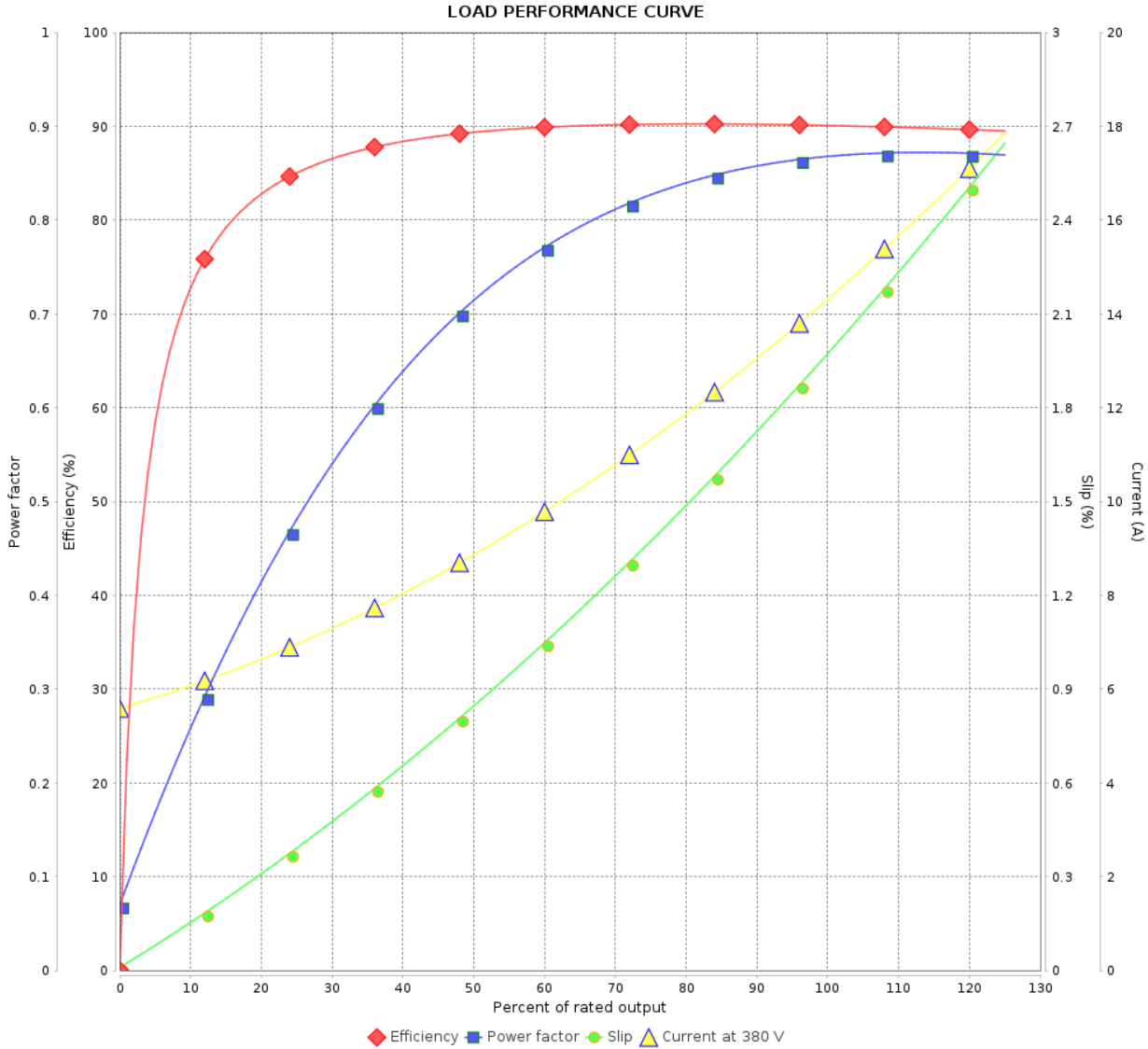
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase

Product code : 11993105



Performance : 380 V 50 Hz 2P IE3

Rated current : 14.5 A  
 LRC : 8.6  
 Rated torque : 2.47 kgfm  
 Locked rotor torque : 280 %  
 Breakdown torque : 340 %  
 Rated speed : 2940 rpm

Moment of inertia (J) : 0.0268 kgm<sup>2</sup>  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : A

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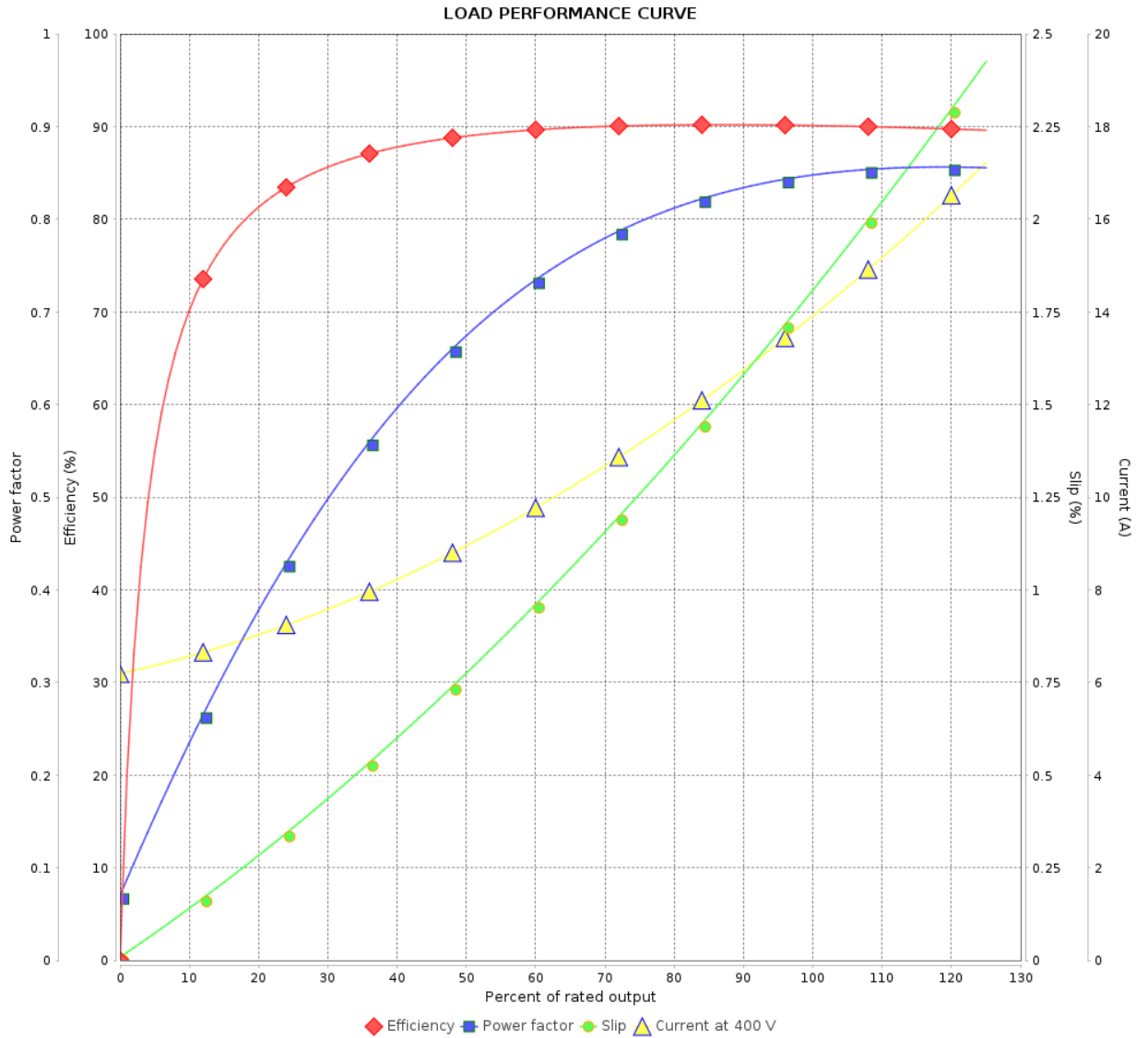
## Three Phase Induction Motor - Squirrel Cage



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

Product line : W22 NEMA Premium Efficiency Three-Phase

Product code : 11993105



Performance : 400 V 50 Hz 2P IE3

Rated current : 14.1 A  
 LRC : 9.4  
 Rated torque : 2.46 kgfm  
 Locked rotor torque : 320 %  
 Breakdown torque : 380 %  
 Rated speed : 2945 rpm

Moment of inertia (J) : 0.0268 kgm<sup>2</sup>  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : A

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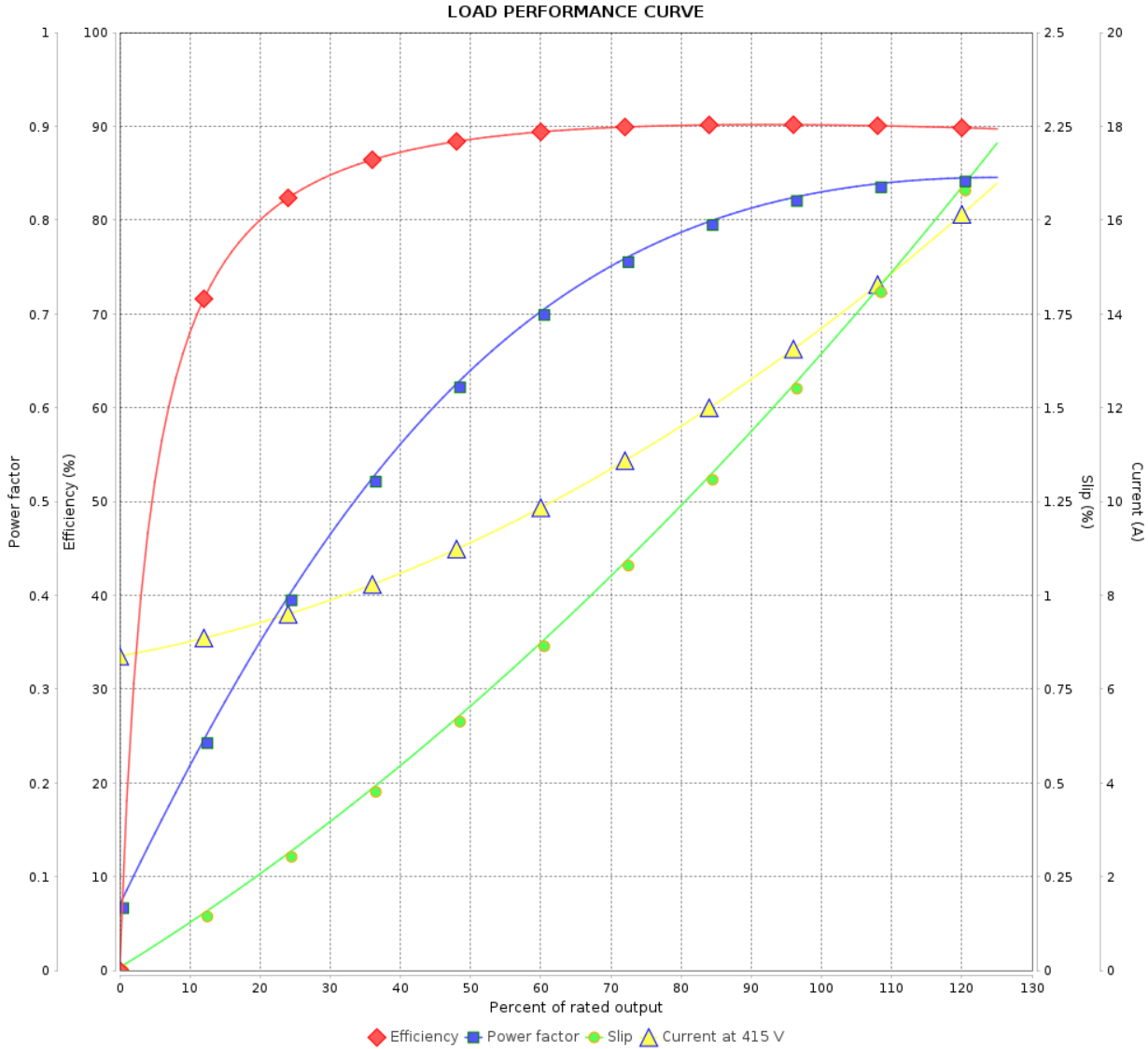
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase

Product code : 11993105



Performance : 415 V 50 Hz 2P IE3

Rated current : 14.0 A  
 LRC : 10.0  
 Rated torque : 2.46 kgfm  
 Locked rotor torque : 340 %  
 Breakdown torque : 420 %  
 Rated speed : 2950 rpm

Moment of inertia (J) : 0.0268 kgm<sup>2</sup>  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : A

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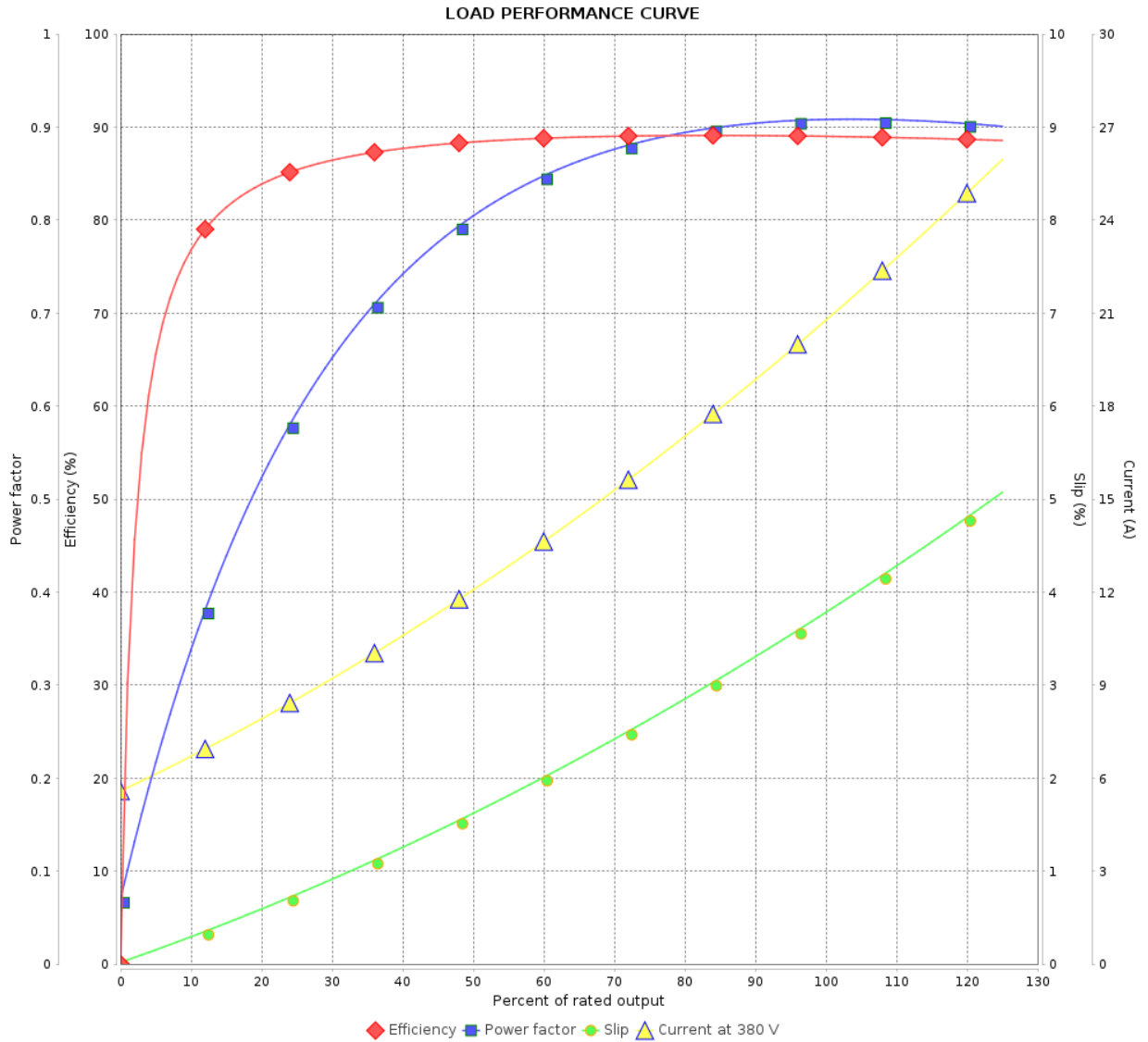
## Three Phase Induction Motor - Squirrel Cage



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

Product line : W22 NEMA Premium Efficiency Three-Phase

Product code : 11993105



Performance : 380 V 50 Hz 2P IE1

Rated current : 20.6 A  
 LRC : 6.5  
 Rated torque : 3.77 kgfm  
 Locked rotor torque : 190 %  
 Breakdown torque : 220 %  
 Rated speed : 2885 rpm

Moment of inertia (J) : 0.0268 kgm<sup>2</sup>  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 105 K  
 Design : A

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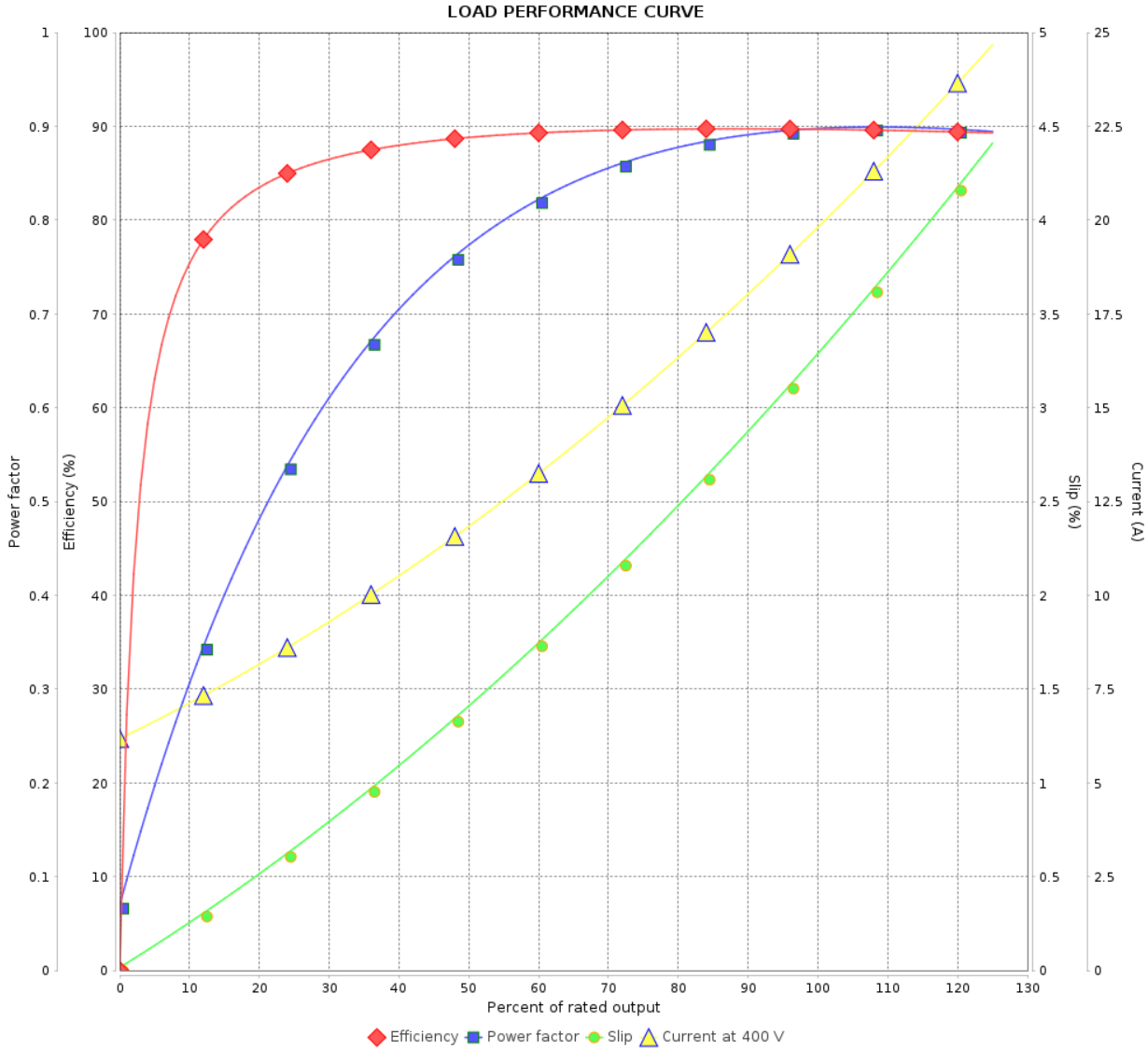
Three Phase Induction Motor - Squirrel Cage



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

Product line : W22 NEMA Premium Efficiency Three-Phase

Product code : 11993105



Performance : 400 V 50 Hz 2P IE2

Rated current : 19.7 A  
 LRC : 7.2  
 Rated torque : 3.75 kgfm  
 Locked rotor torque : 220 %  
 Breakdown torque : 250 %  
 Rated speed : 2900 rpm

Moment of inertia (J) : 0.0268 kgm<sup>2</sup>  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 105 K  
 Design : A

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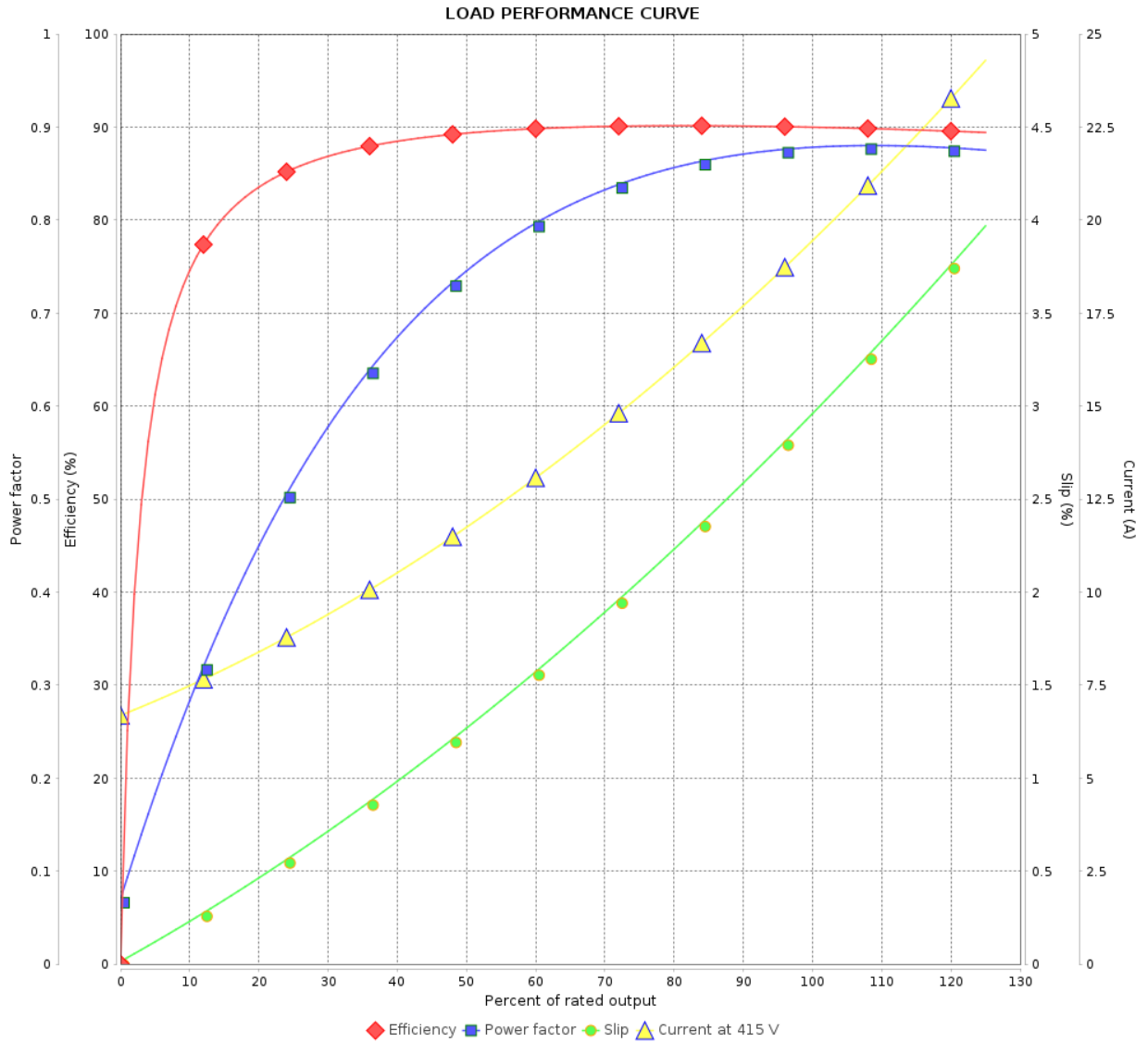
## Three Phase Induction Motor - Squirrel Cage



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

Product line : W22 NEMA Premium Efficiency Three-Phase

Product code : 11993105



Performance : 415 V 50 Hz 2P IE2

Rated current : 19.3 A  
 LRC : 7.7  
 Rated torque : 3.74 kgfm  
 Locked rotor torque : 240 %  
 Breakdown torque : 280 %  
 Rated speed : 2910 rpm

Moment of inertia (J) : 0.0268 kgm<sup>2</sup>  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 105 K  
 Design : A

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