

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase Product code : 11438008

Frame	: 254/6T	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>	: 151 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]	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 <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%						
	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

Bearing type	: 6309 C3	Non drive end	6209 C3	Foundation loads	
Sealing	: V'Ring		V'Ring	Max. traction	: 267 kgf
Lubrication interval	: 20000 h		20000 h	Max. compression	: 418 kgf
Lubricant amount	: 13 g		9 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.

Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by				
Date	21/10/2024		Page 1 / 9	Revision

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



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

Notes  
USABLE @208V 53.3A SF 1.15 SFA 61.3A

Rev.	Changes Summary		Performed	Checked	Date
Performed by			Page 2 / 9		Revision
Checked by					
Date	21/10/2024				

# LOAD PERFORMANCE CURVE

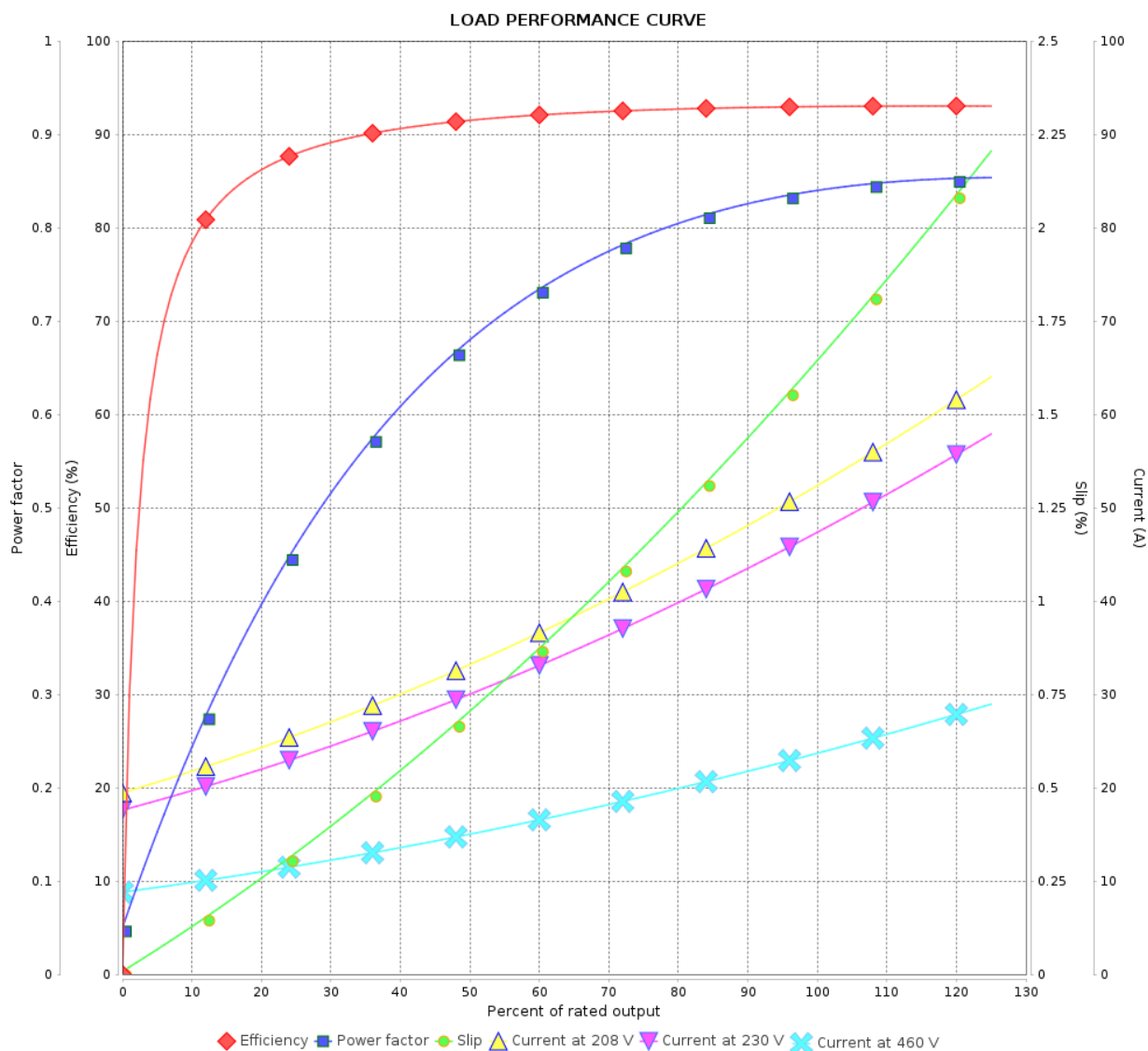
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency  
Three-Phase

Product code : 11438008



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 kgm<sup>2</sup>  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.25  
Temperature rise : 80 K  
Design : B

Rev.	Changes Summary		Performed	Checked	Date
Performed by				Page 3 / 9	Revision
Checked by					
Date	21/10/2024				

# LOAD PERFORMANCE CURVE

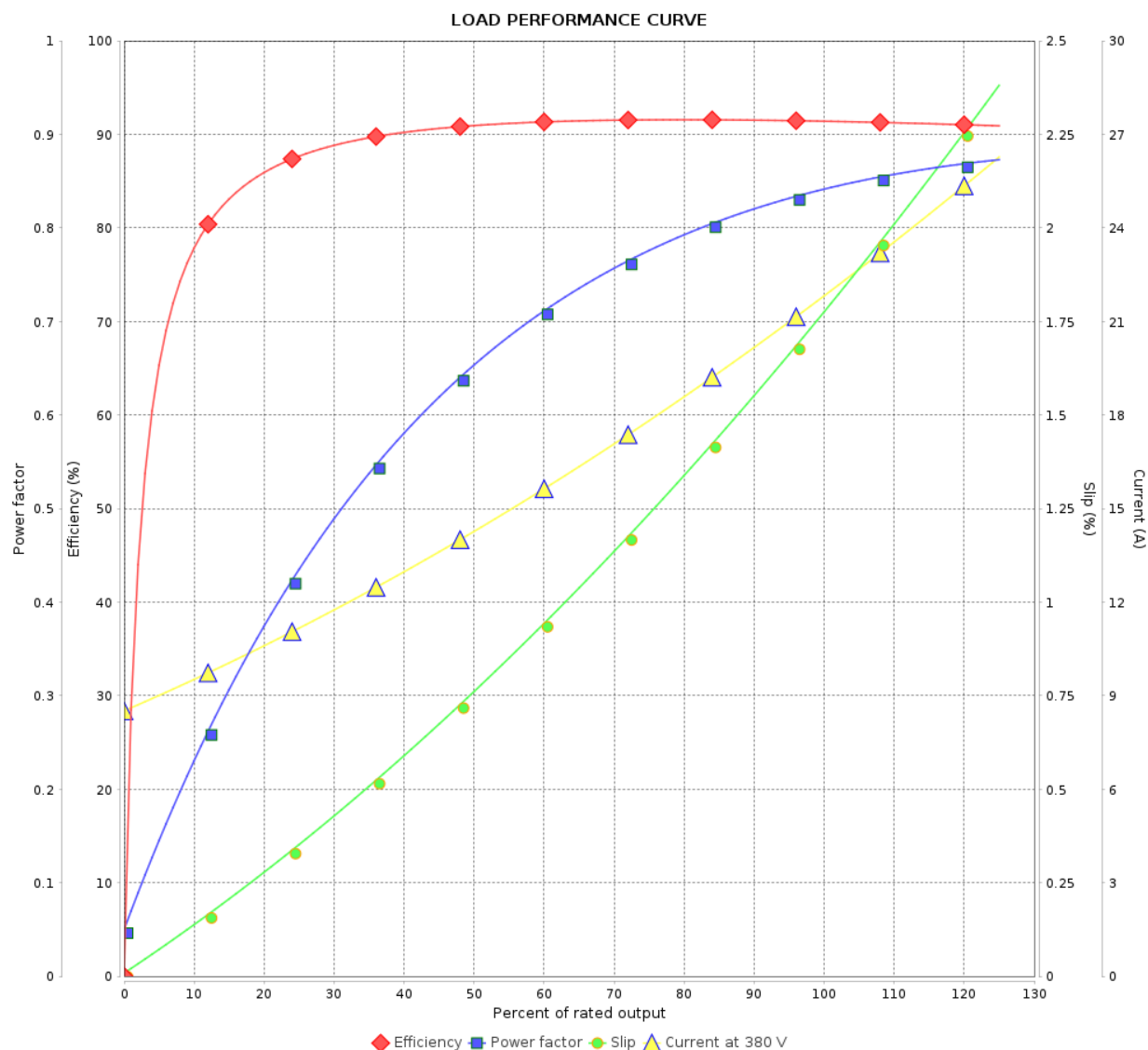
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency  
Three-Phase

Product code : 11438008



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 kgm<sup>2</sup>  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.00  
Temperature rise : 80 K  
Design : B

Rev.	Changes Summary		Performed	Checked	Date
Performed by				Page	Revision
Checked by				4 / 9	
Date					

# LOAD PERFORMANCE CURVE

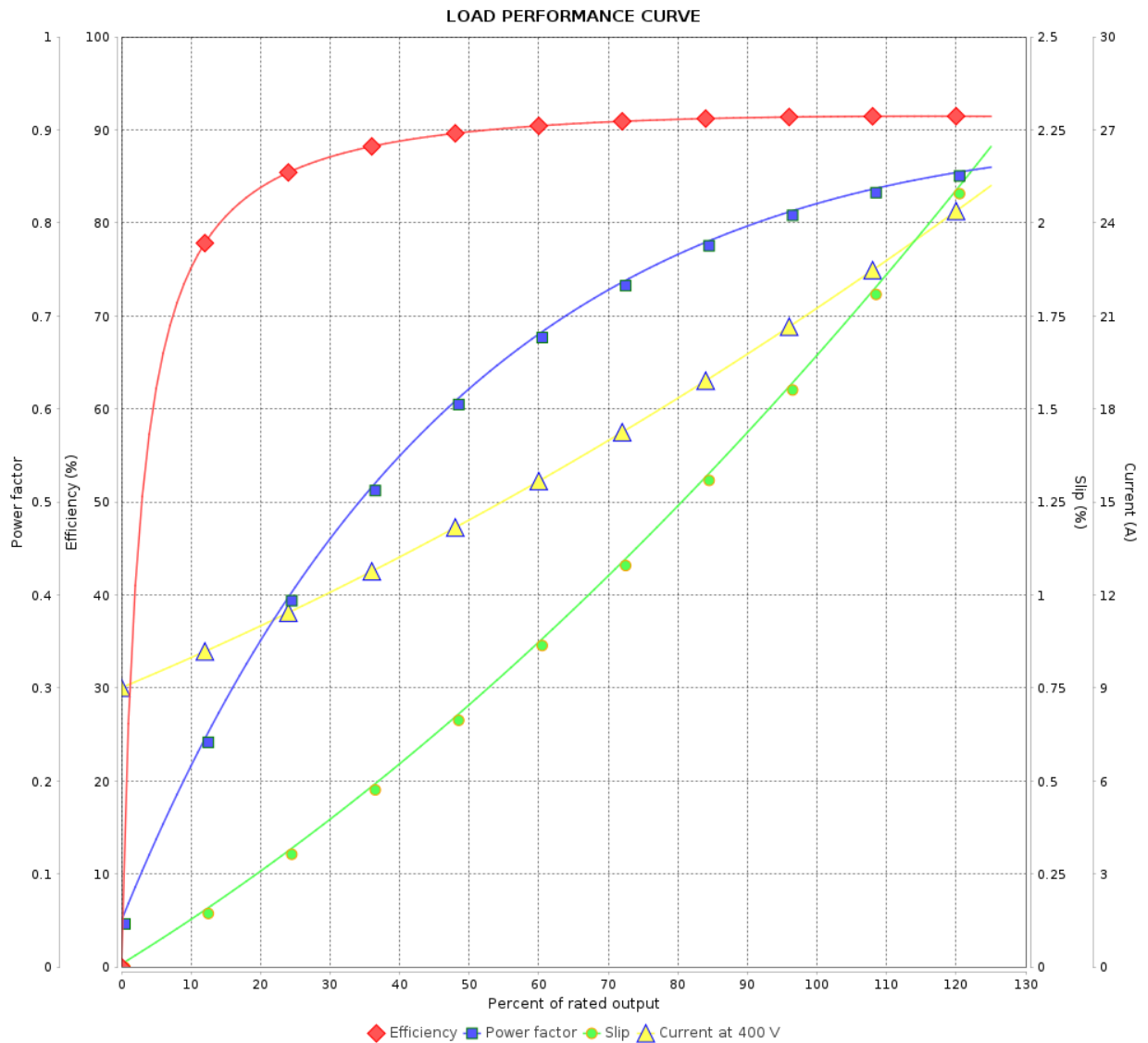
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency  
Three-Phase

Product code : 11438008



Performance : 400 V 50 Hz 4P IE3

Rated current	: 21.2 A	Moment of inertia (J)	: 0.1305 kgm <sup>2</sup>
LRC	: 7.9	Duty cycle	: Cont.(S1)
Rated torque	: 7.38 kgfm	Insulation class	: F
Locked rotor torque	: 240 %	Service factor	: 1.00
Breakdown torque	: 260 %	Temperature rise	: 80 K
Rated speed	: 1475 rpm	Design	: B

Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page 5 / 9		
Checked by				
Date	21/10/2024			
		Revision		

# LOAD PERFORMANCE CURVE

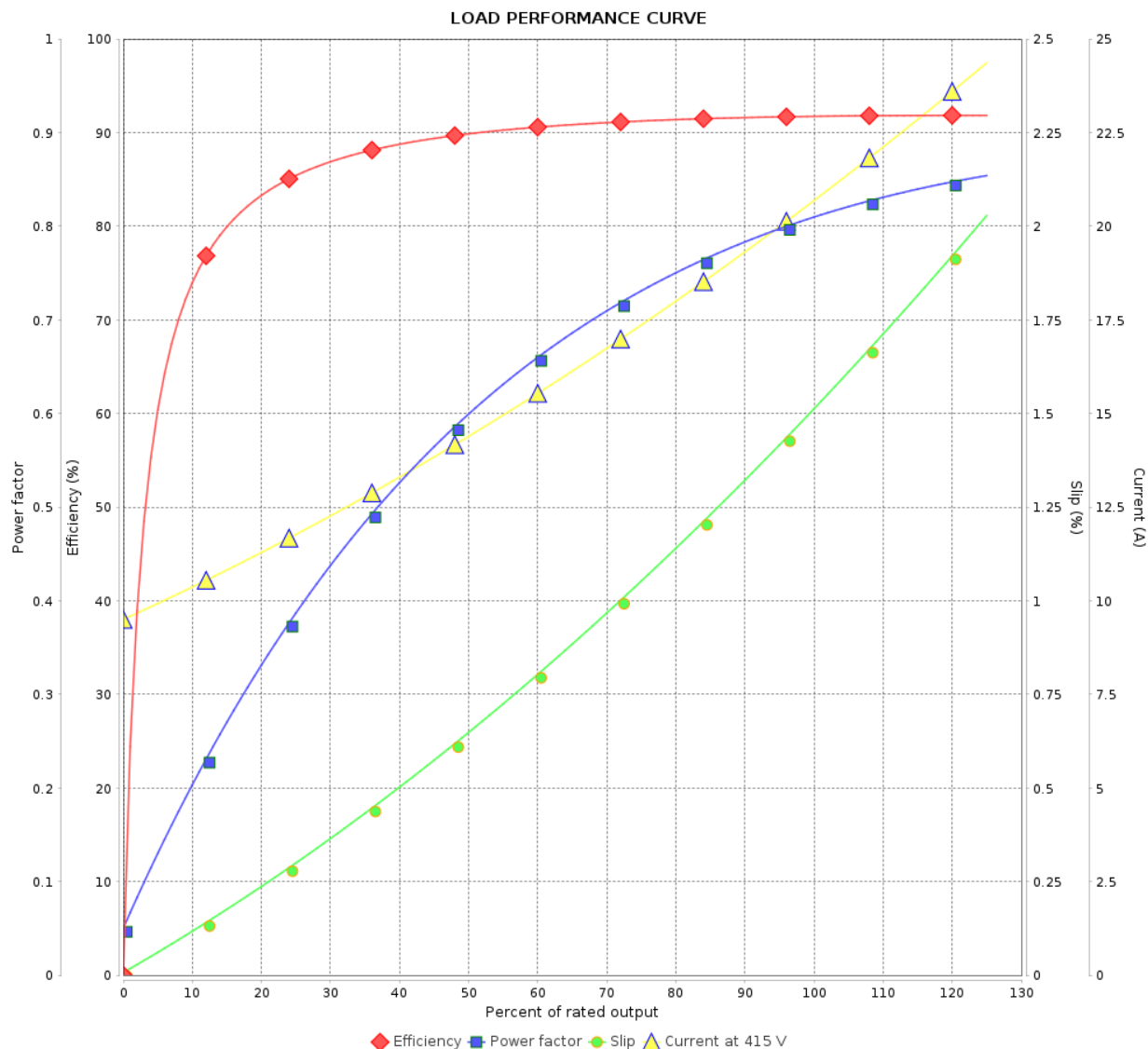
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency  
Three-Phase

Product code : 11438008



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 kgm<sup>2</sup>  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.00  
Temperature rise : 80 K  
Design : B

Rev.	Changes Summary		Performed	Checked	Date
Performed by				Page	Revision
Checked by				6 / 9	
Date					

# LOAD PERFORMANCE CURVE

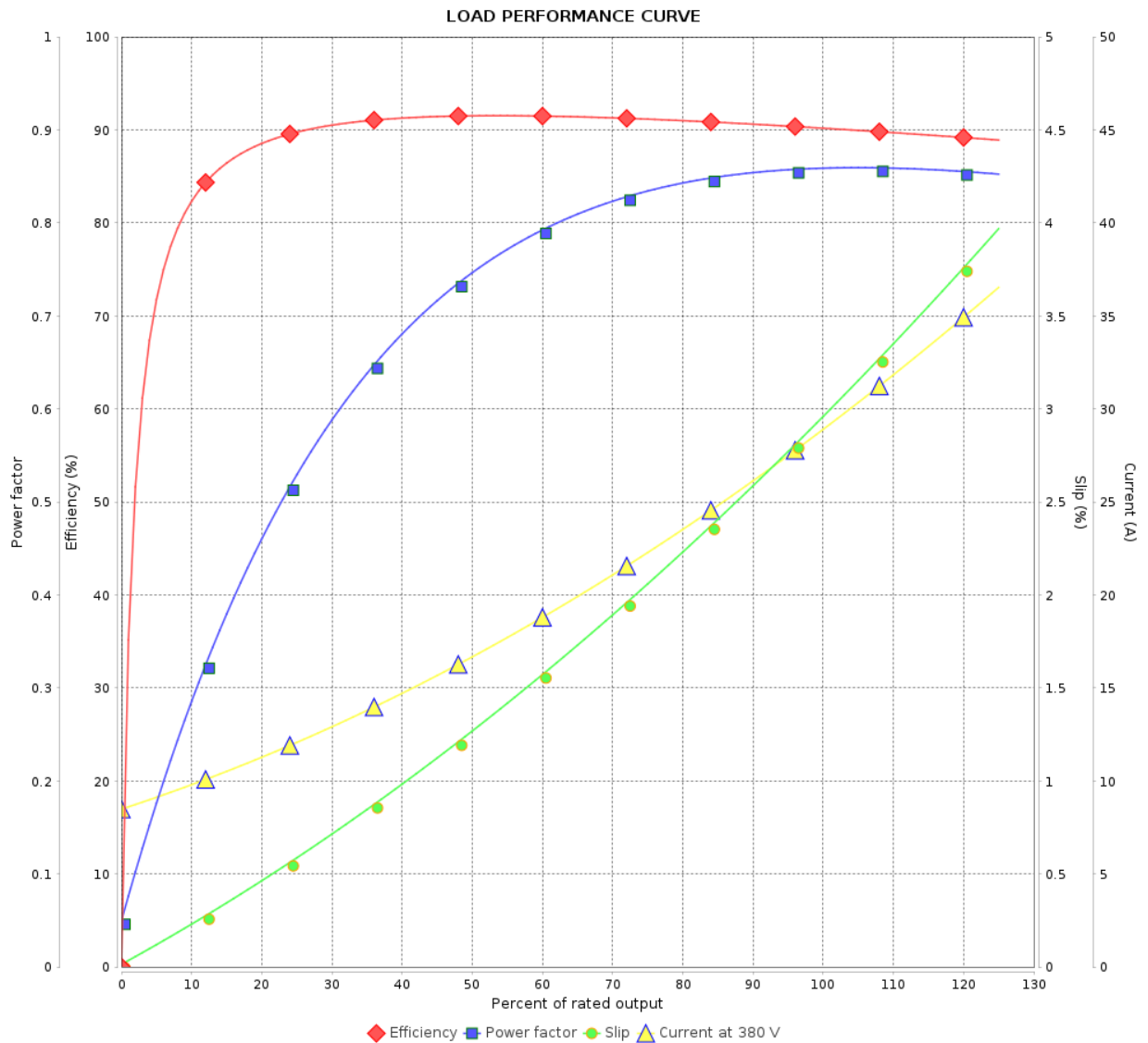
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency  
Three-Phase

Product code : 11438008



Performance : 380 V 50 Hz 4P IE1

Rated current	: 29.4 A	Moment of inertia (J)	: 0.1305 kgm <sup>2</sup>
LRC	: 5.7	Duty cycle	: Cont.(S1)
Rated torque	: 9.98 kgfm	Insulation class	: F
Locked rotor torque	: 180 %	Service factor	: 1.00
Breakdown torque	: 210 %	Temperature rise	: 105 K
Rated speed	: 1455 rpm	Design	: B

Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page 7 / 9Revision		
Checked by				
Date	21/10/2024			

# LOAD PERFORMANCE CURVE

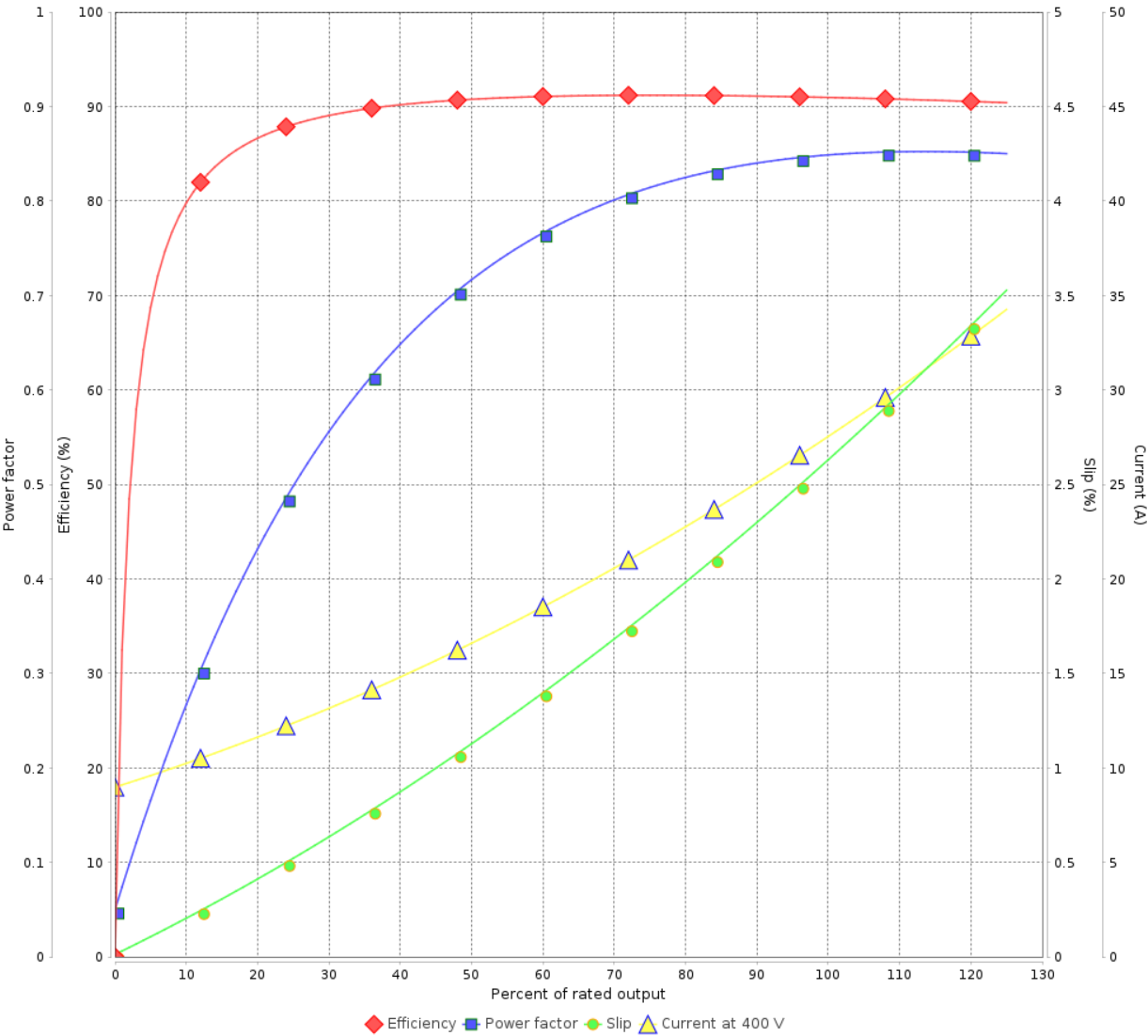
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase      Product code : 11438008

LOAD PERFORMANCE CURVE



Performance : 400 V 50 Hz 4P IE2

Rated current	: 28.0 A	Moment of inertia (J)	: 0.1305 kgm <sup>2</sup>
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

Rev.	Changes Summary		Performed	Checked	Date
Performed by		Page 8 / 9      Revision			
Checked by					
Date	21/10/2024				



# LOAD PERFORMANCE CURVE

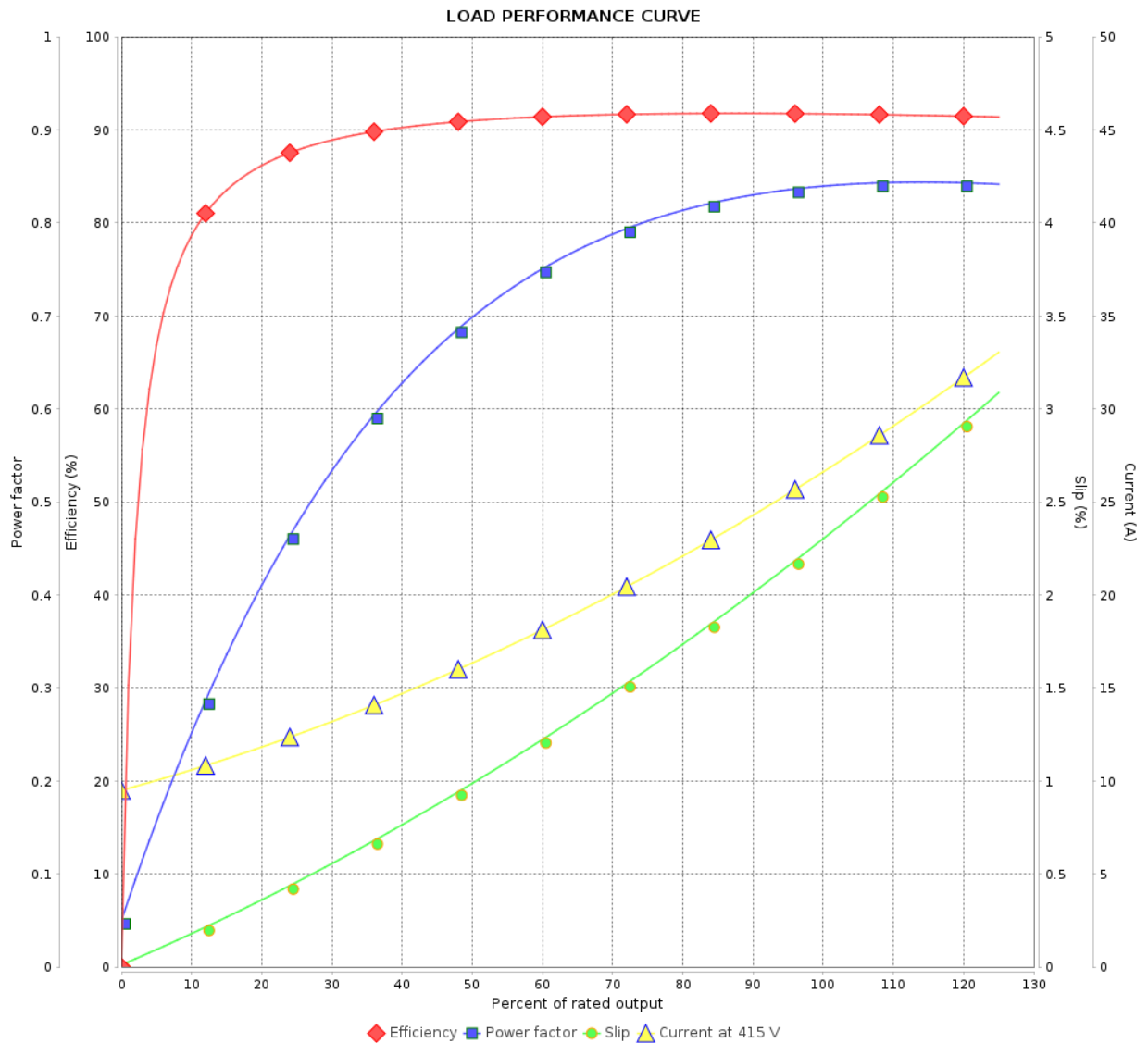
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency  
Three-Phase

Product code : 11438008



Performance : 415 V 50 Hz 4P IE2

Rated current	: 27.1 A	Moment of inertia (J)	: 0.1305 kgm <sup>2</sup>
LRC	: 6.6	Duty cycle	: Cont.(S1)
Rated torque	: 9.91 kgfm	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.00
Breakdown torque	: 220 %	Temperature rise	: 105 K
Rated speed	: 1465 rpm	Design	: B

Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page 9 / 9 Revision		
Checked by				
Date	21/10/2024			

