

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase Product code : 11953402

Frame : 143/5TC	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> : 25.1 kg
Protection degree : IP55	Moment of inertia (J) : 0.0026 kgm <sup>2</sup>
Design : B	

Output [HP]	3	2	2	2	3	3	3
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]	7.42/3.71	3.24	3.17	3.15	4.44	4.26	4.13
L. R. Amperes [A]	60.1/30.1	27.9	29.2	29.9	27.1	28.5	29.3
LRC [A]	8.1x(Code J)	8.6x(Code L)	9.2x(Code M)	9.5x(Code M)	6.1x(Code G)	6.7x(Code H)	7.1x(Code H)
No load current [A]	2.60/1.30	1.28	1.43	1.55	1.28	1.43	1.55
Rated speed [RPM]	3460	2890	2905	2910	2820	2840	2850
Slip [%]	3.89	3.67	3.17	3.00	6.00	5.33	5.00
Rated torque [kgfm]	0.629	0.502	0.500	0.499	0.772	0.767	0.764
Locked rotor torque [%]	330	400	459	490	260	300	320
Breakdown torque [%]	360	400	459	509	260	300	330
Service factor	1.25	1.25	1.00	1.00	1.25	1.00	1.00
Temperature rise	80 K	80 K	80 K	80 K	80 K	80 K	80 K
Locked rotor time	25s (cold) 14s (hot)	25s (cold) 14s (hot)	23s (cold) 13s (hot)	23s (cold) 13s (hot)	25s (cold) 14s (hot)	23s (cold) 13s (hot)	23s (cold) 13s (hot)
Noise level <sup>2</sup>	68.0 dB(A)	62.0 dB(A)	62.0 dB(A)	62.0 dB(A)	62.0 dB(A)	62.0 dB(A)	62.0 dB(A)
Efficiency (%)	25%						
	50%	85.5	81.9	82.0	82.2	84.0	85.0
	75%	86.5	84.0	84.4	84.8	85.0	86.0
	100%	86.5	84.8	85.3	85.9	84.6	86.2
Power Factor	25%						
	50%	0.70	0.63	0.58	0.55	0.76	0.69
	75%	0.81	0.76	0.72	0.69	0.85	0.80
	100%	0.86	0.83	0.80	0.77	0.89	0.86

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

Losses (%)	P1 (0,9;1,0)	14.8	14.8	14.8	14.8	14.8	14.8	14.8
	P2 (0,5;1,0)	12.3	12.3	12.3	12.3	12.3	12.3	12.3
	P3 (0,25;1,0)	11.7	11.7	11.7	11.7	11.7	11.7	11.7
	P4 (0,9;0,5)	6.8	6.8	6.8	6.8	6.8	6.8	6.8
	P5 (0,5;0,5)	4.3	4.3	4.3	4.3	4.3	4.3	4.3
	P6 (0,5;0,25)	2.6	2.6	2.6	2.6	2.6	2.6	2.6
	P7 (0,25;0,25)	1.7	1.7	1.7	1.7	1.7	1.7	1.7

	<u>Drive end</u>	<u>Non drive end</u>	Foundation loads
Bearing type :	6205 ZZ	6204 ZZ	Max. traction : 59 kgf
Sealing :	V'Ring	V'Ring	Max. compression : 84 kgf
Lubrication interval :	-	-	
Lubricant amount :	-	-	
Lubricant type :	00088		

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	13/11/2025		Page 1 / 9	Revision

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :

Notes

Rev.	Changes Summary		Performed	Checked	Date
Performed by			Page		Revision
Checked by					
Date	13/11/2025				

# LOAD PERFORMANCE CURVE

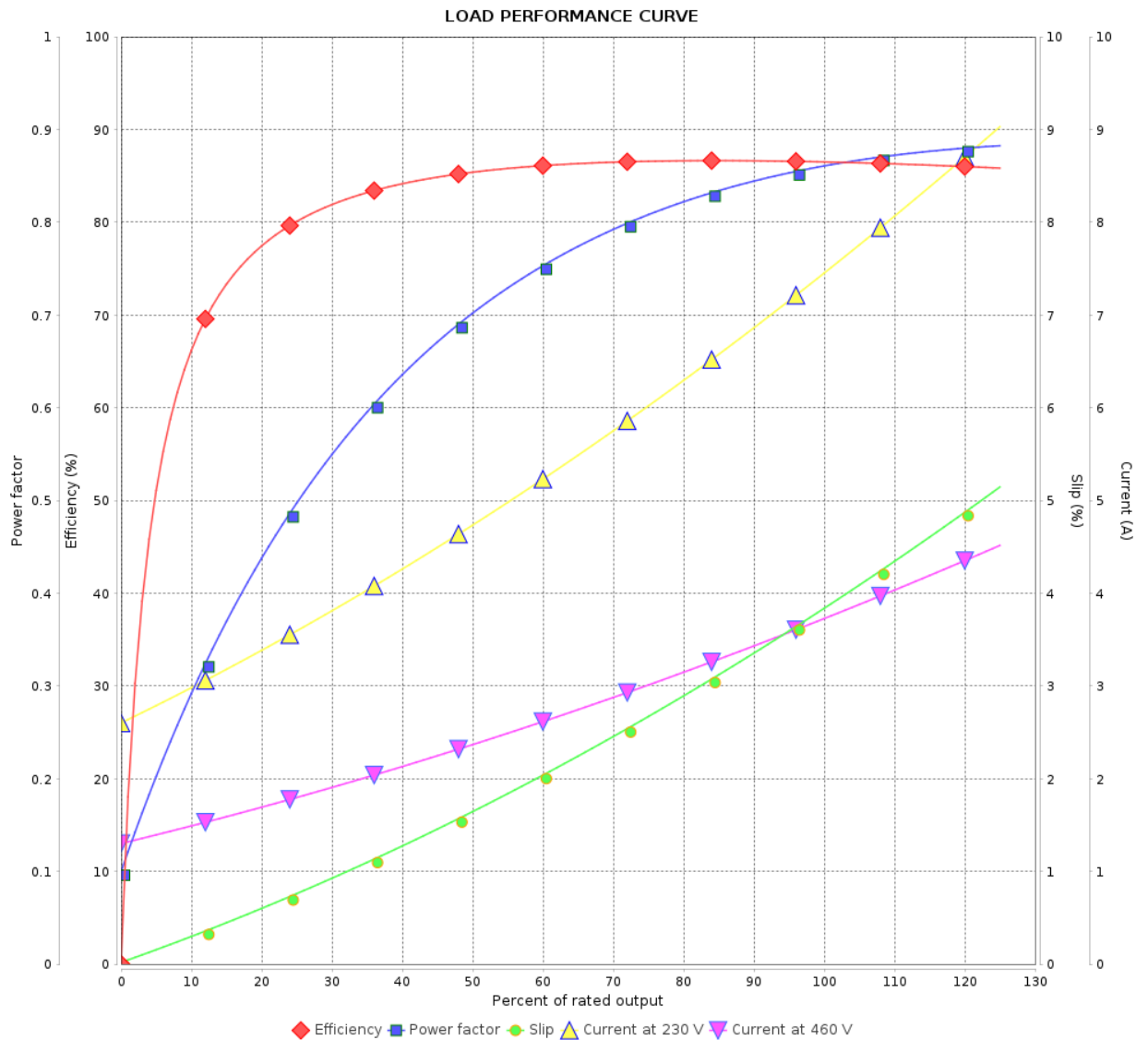
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency  
Three-Phase

Product code : 11953402



Performance : 230/460 V 60 Hz 2P

Rated current : 7.42/3.71 A  
LRC : 8.1  
Rated torque : 0.629 kgfm  
Locked rotor torque : 330 %  
Breakdown torque : 360 %  
Rated speed : 3460 rpm

Moment of inertia (J) : 0.0026 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 / 9Revision			
Checked by					
Date	13/11/2025				

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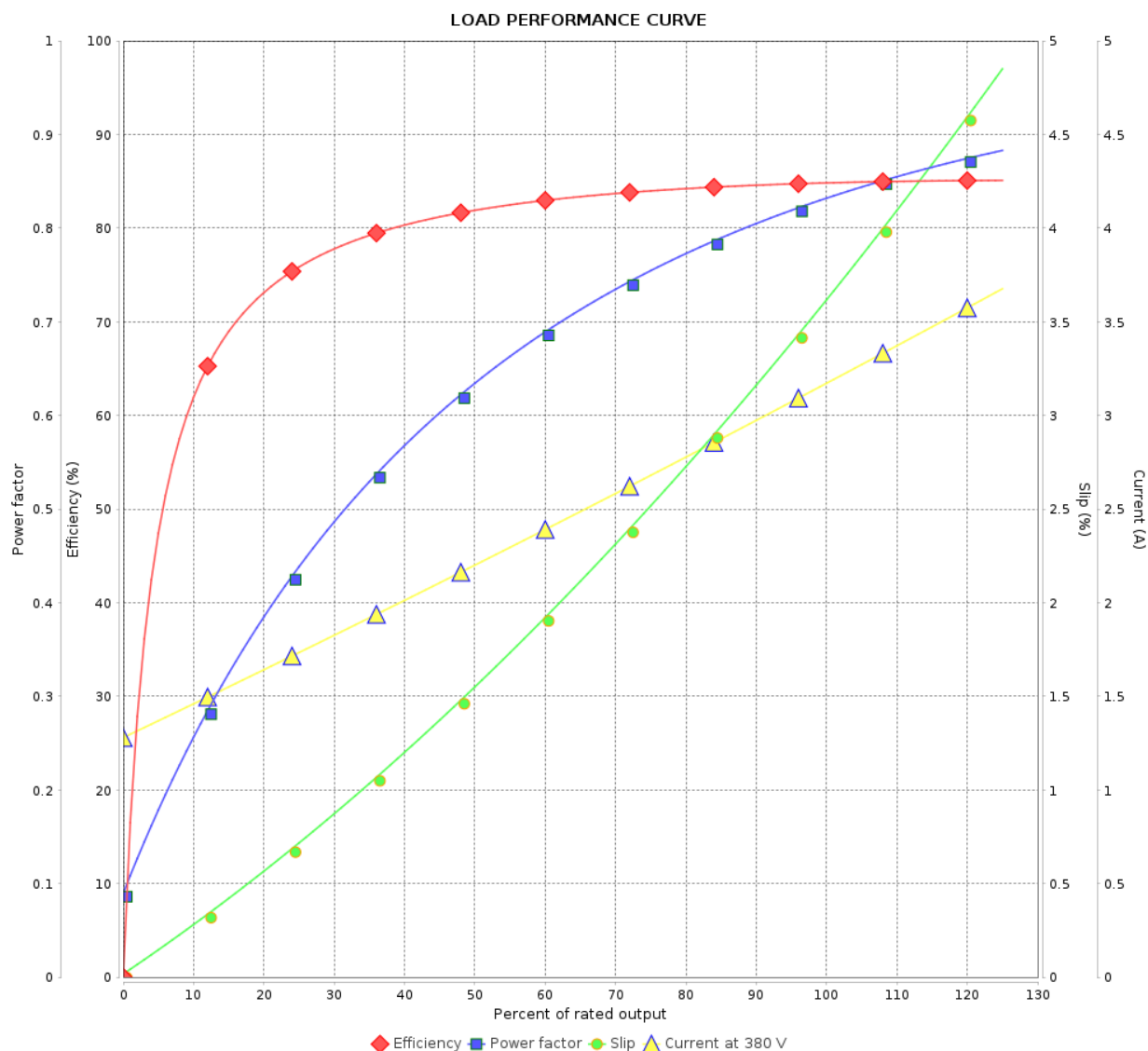
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency  
Three-Phase

Product code : 11953402



Performance : 380 V 50 Hz 2P IE3

Rated current : 3.24 A  
LRC : 8.6  
Rated torque : 0.502 kgfm  
Locked rotor torque : 400 %  
Breakdown torque : 400 %  
Rated speed : 2890 rpm

Moment of inertia (J) : 0.0026 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	Revision
Checked by				4 / 9	
Date					

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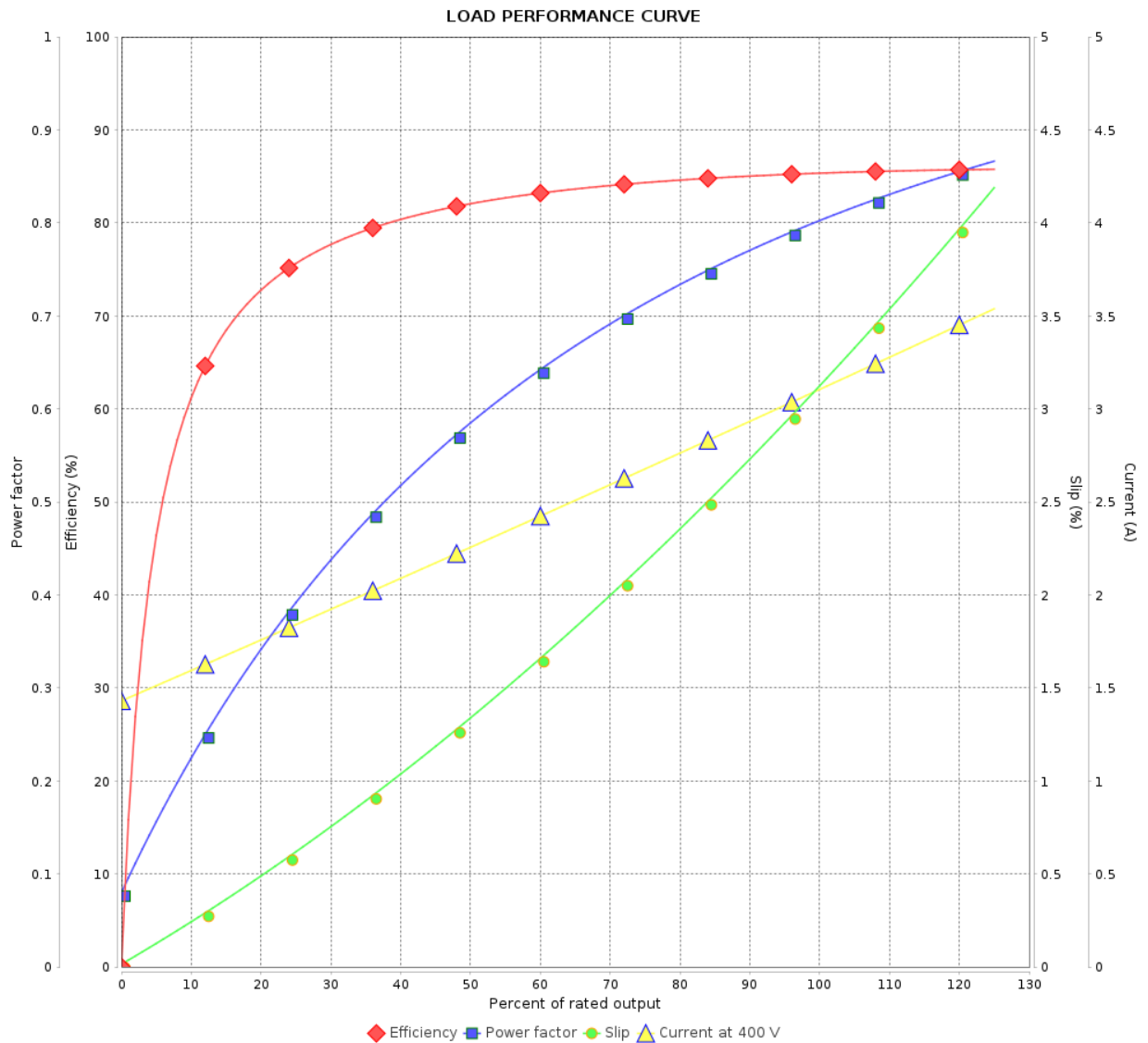
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency  
Three-Phase

Product code : 11953402



Performance : 400 V 50 Hz 2P IE3

Rated current	: 3.17 A	Moment of inertia (J)	: 0.0026 kgm <sup>2</sup>
LRC	: 9.2	Duty cycle	: Cont.(S1)
Rated torque	: 0.500 kgfm	Insulation class	: F
Locked rotor torque	: 459 %	Service factor	: 1.00
Breakdown torque	: 459 %	Temperature rise	: 80 K
Rated speed	: 2905 rpm	Design	: B

Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page 5 / 9 Revision		
Checked by				
Date	13/11/2025			

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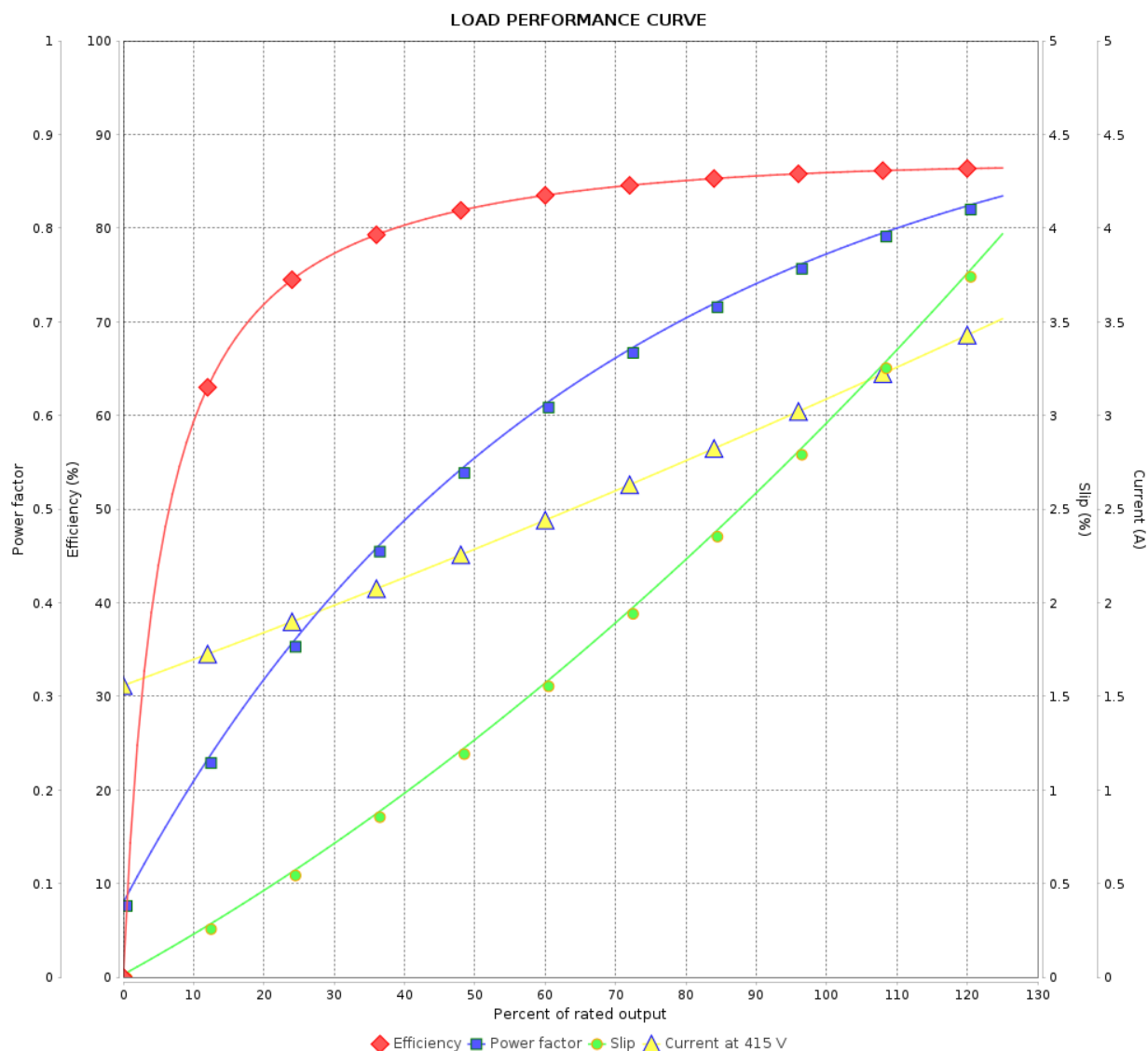
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency  
Three-Phase

Product code : 11953402



Performance : 415 V 50 Hz 2P IE3

Rated current : 3.15 A  
LRC : 9.5  
Rated torque : 0.499 kgfm  
Locked rotor torque : 490 %  
Breakdown torque : 509 %  
Rated speed : 2910 rpm

Moment of inertia (J) : 0.0026 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

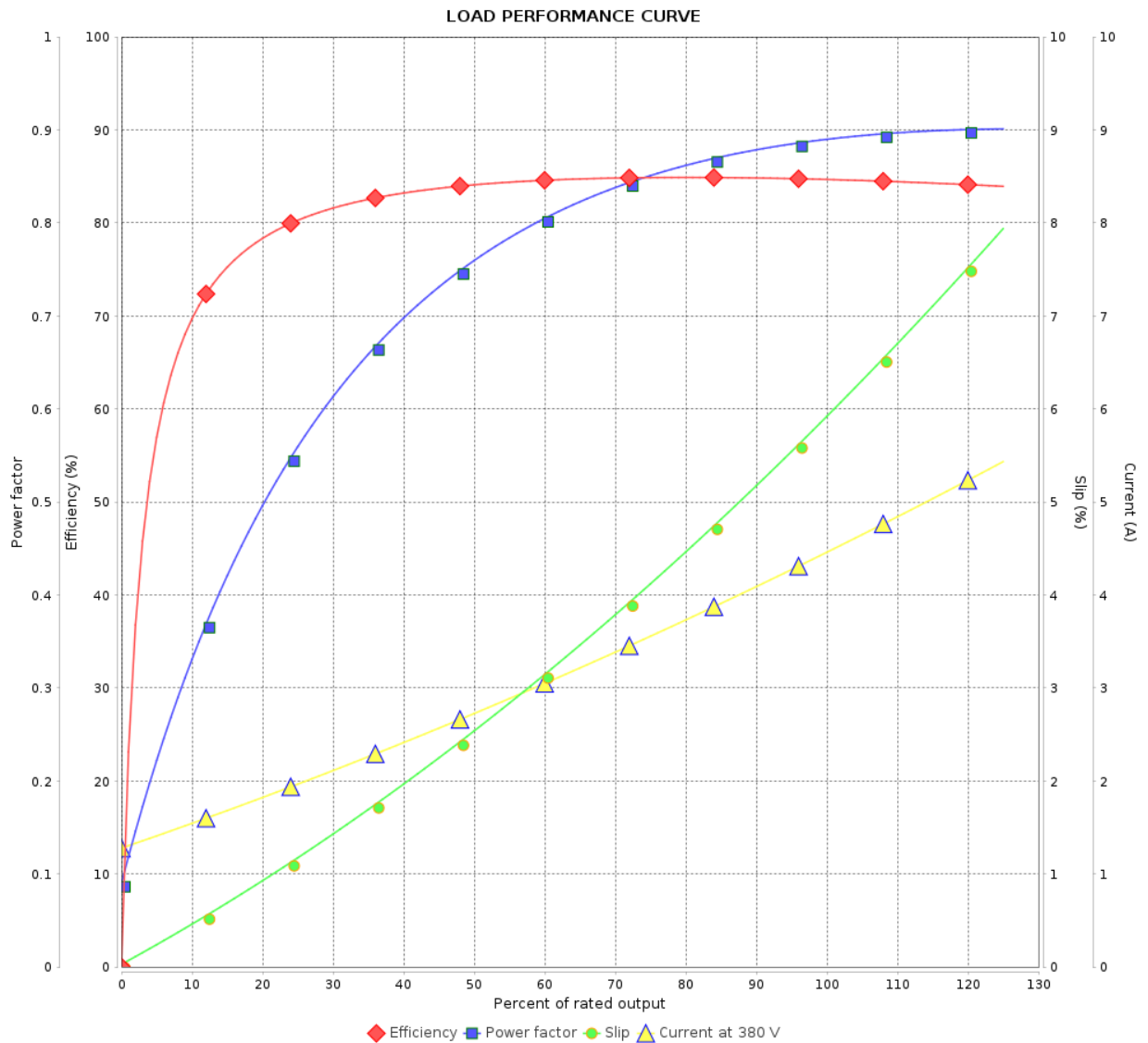
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency  
Three-Phase

Product code : 11953402



Performance : 380 V 50 Hz 2P IE2

Rated current : 4.44 A  
LRC : 6.1  
Rated torque : 0.772 kgfm  
Locked rotor torque : 260 %  
Breakdown torque : 260 %  
Rated speed : 2820 rpm

Moment of inertia (J) : 0.0026 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				
Checked by				
Date	13/11/2025			

Page 7 / 9  
Revision

# LOAD PERFORMANCE CURVE

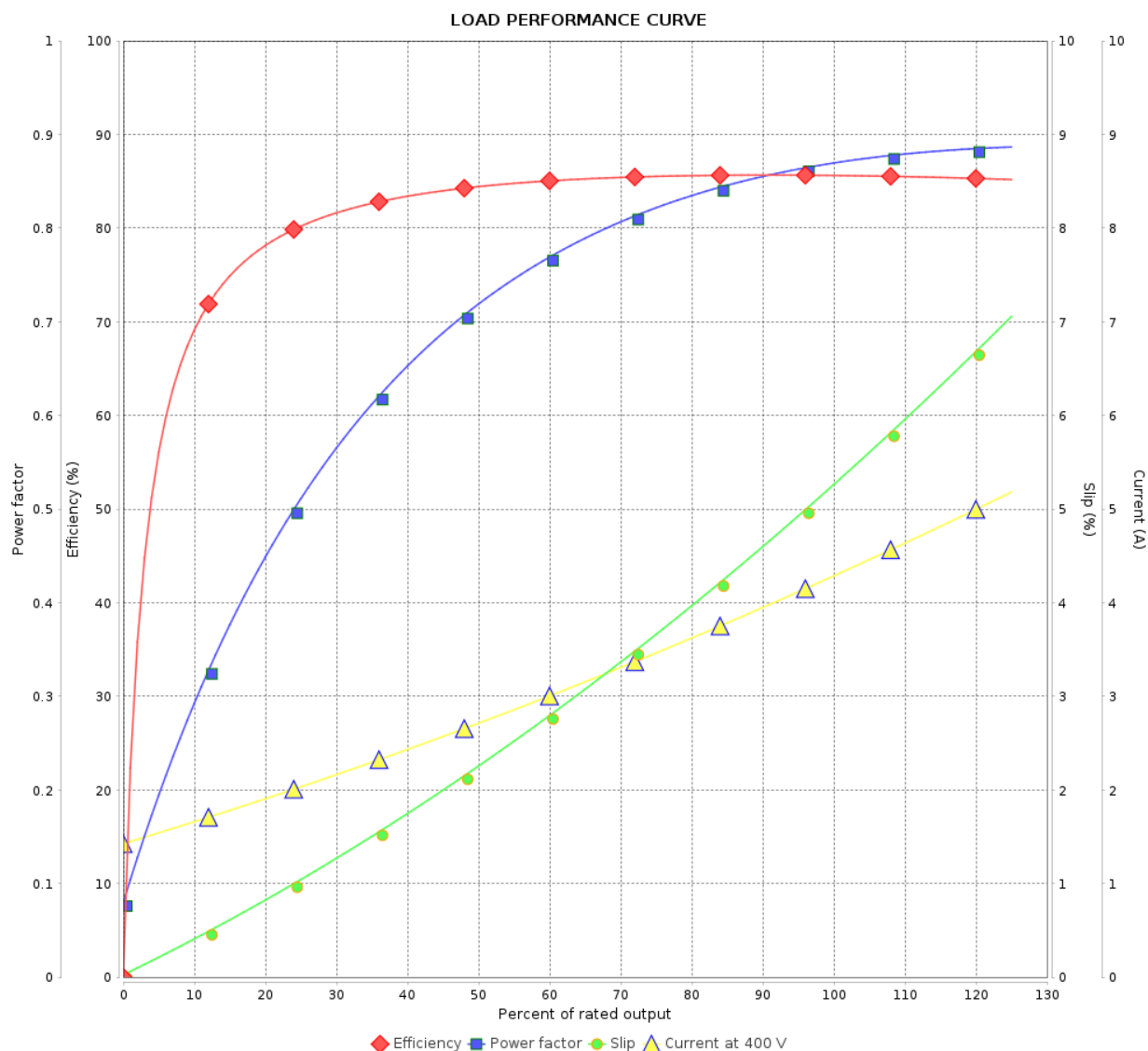
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency  
Three-Phase

Product code : 11953402



Performance : 400 V 50 Hz 2P IE2

Rated current : 4.26 A  
LRC : 6.7  
Rated torque : 0.767 kgfm  
Locked rotor torque : 300 %  
Breakdown torque : 300 %  
Rated speed : 2840 rpm

Moment of inertia (J) : 0.0026 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				8 / 9	
Date					



# LOAD PERFORMANCE CURVE

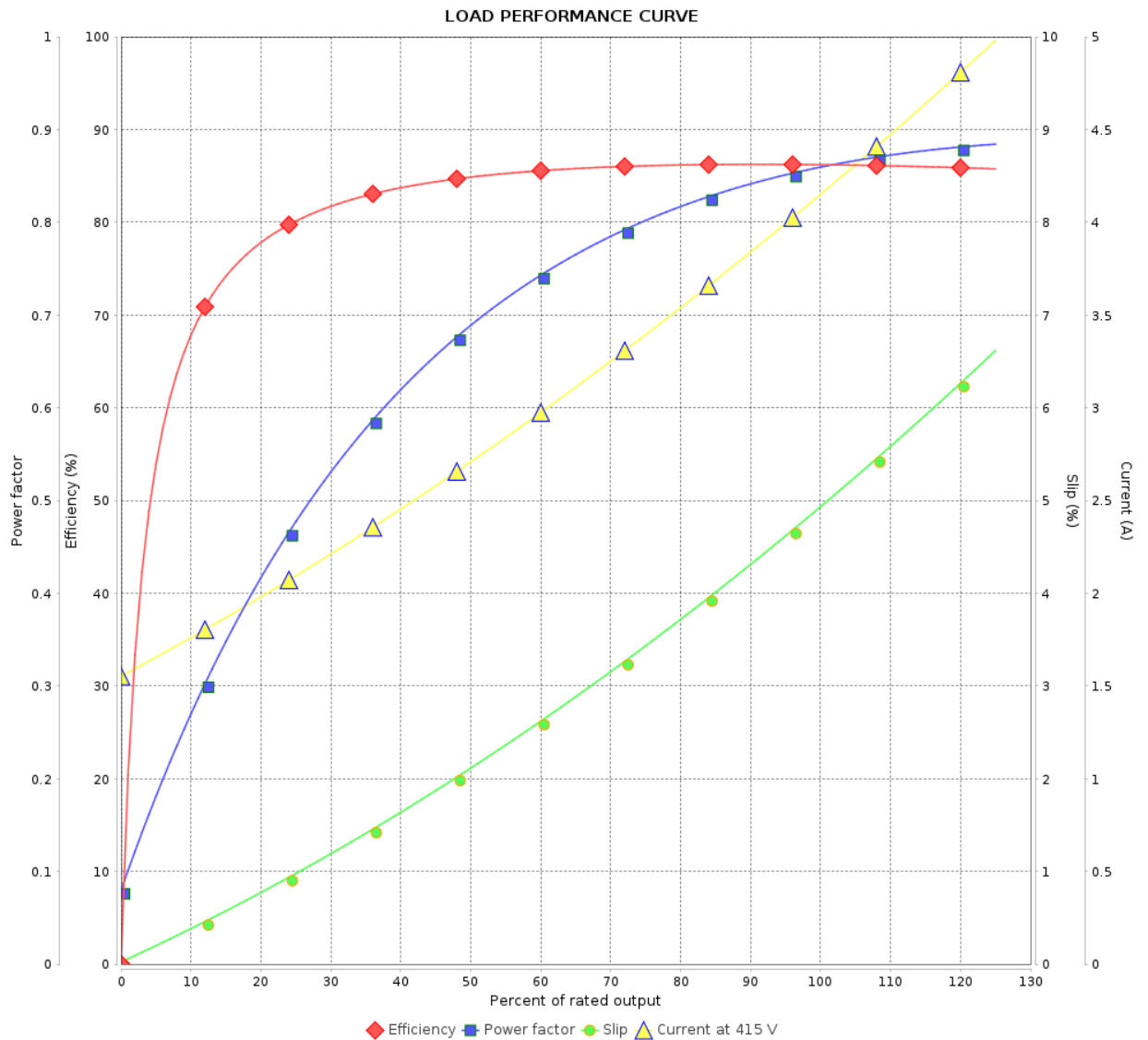
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency  
Three-Phase

Product code : 11953402



Performance : 415 V 50 Hz 2P IE3

Rated current	: 4.13 A	Moment of inertia (J)	: 0.0026 kgm <sup>2</sup>
LRC	: 7.1	Duty cycle	: Cont.(S1)
Rated torque	: 0.764 kgfm	Insulation class	: F
Locked rotor torque	: 320 %	Service factor	: 1.00
Breakdown torque	: 330 %	Temperature rise	: 80 K
Rated speed	: 2850 rpm	Design	: B

Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by				
Date	13/11/2025		Page 9 / 9	Revision

