

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 IEEE 841 NEMA Premium Efficiency Three-Phase Product code : 11432088

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>	: 156 kg
Protection degree	: IP56	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]	460	380	400	415	380	400	415
Rated current [A]	24.1	21.8	21.2	20.6	29.4	28.0	27.1
L. R. Amperes [A]	157	161	167	173	168	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]	8.80	8.60	9.10	9.60	8.60	9.10	9.60
Rated speed [RPM]	1770	1475	1477	1479	1455	1460	1465
Slip [%]	1.67	1.67	1.53	1.40	3.00	2.67	2.33
Rated torque [kgfm]	8.20	7.38	7.37	7.36	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	41s (cold) 23s (hot)	41s (cold) 23s (hot)	39s (cold) 22s (hot)	37s (cold) 21s (hot)	21s (cold) 12s (hot)	23s (cold) 13s (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%	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%	0.44	0.42	0.39	0.37	0.51	0.48
	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)	5.9	5.9	5.9	5.9	5.9	5.9
	P4 (0,9;0,5)	3.5	3.5	3.5	3.5	3.5	3.5
	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	: 327 kgf
	: Inpro/Seal	Inpro/Seal	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.

Rev.	Changes Summary			Performed	Checked	Date
Performed by						
Checked by					Page	Revision
Date	13/01/2024				1 / 9	

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



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

Notes

Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by			Page	Revision
Date	13/01/2024		2 / 9	

# LOAD PERFORMANCE CURVE

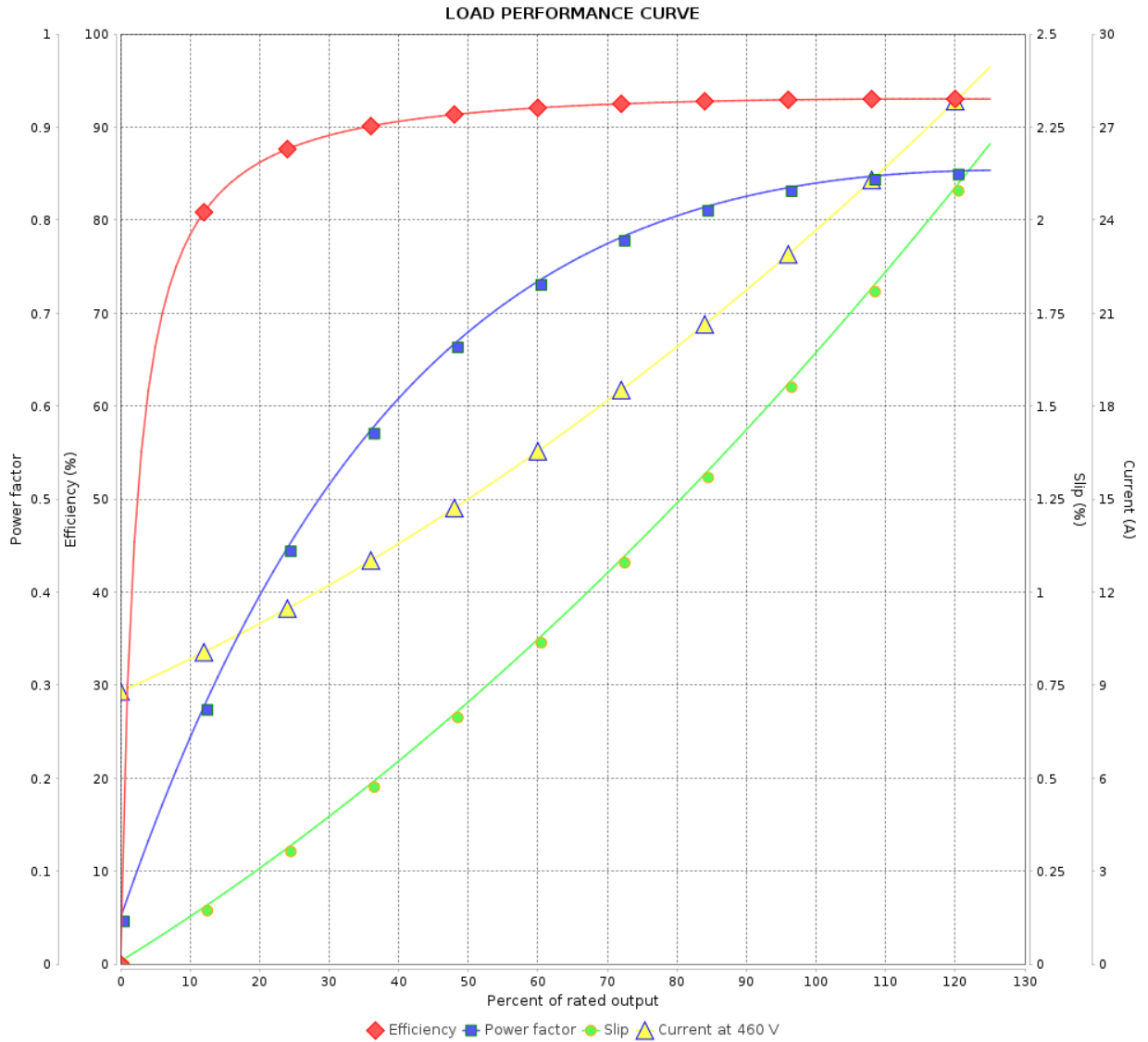
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 IEEE 841 NEMA Premium Efficiency Three-Phase

Product code : 11432088



Performance : 460 V 60 Hz 4P

Rated current : 24.1 A  
 LRC : 6.5  
 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

Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		3 / 9		
Date		13/01/2024		

# LOAD PERFORMANCE CURVE

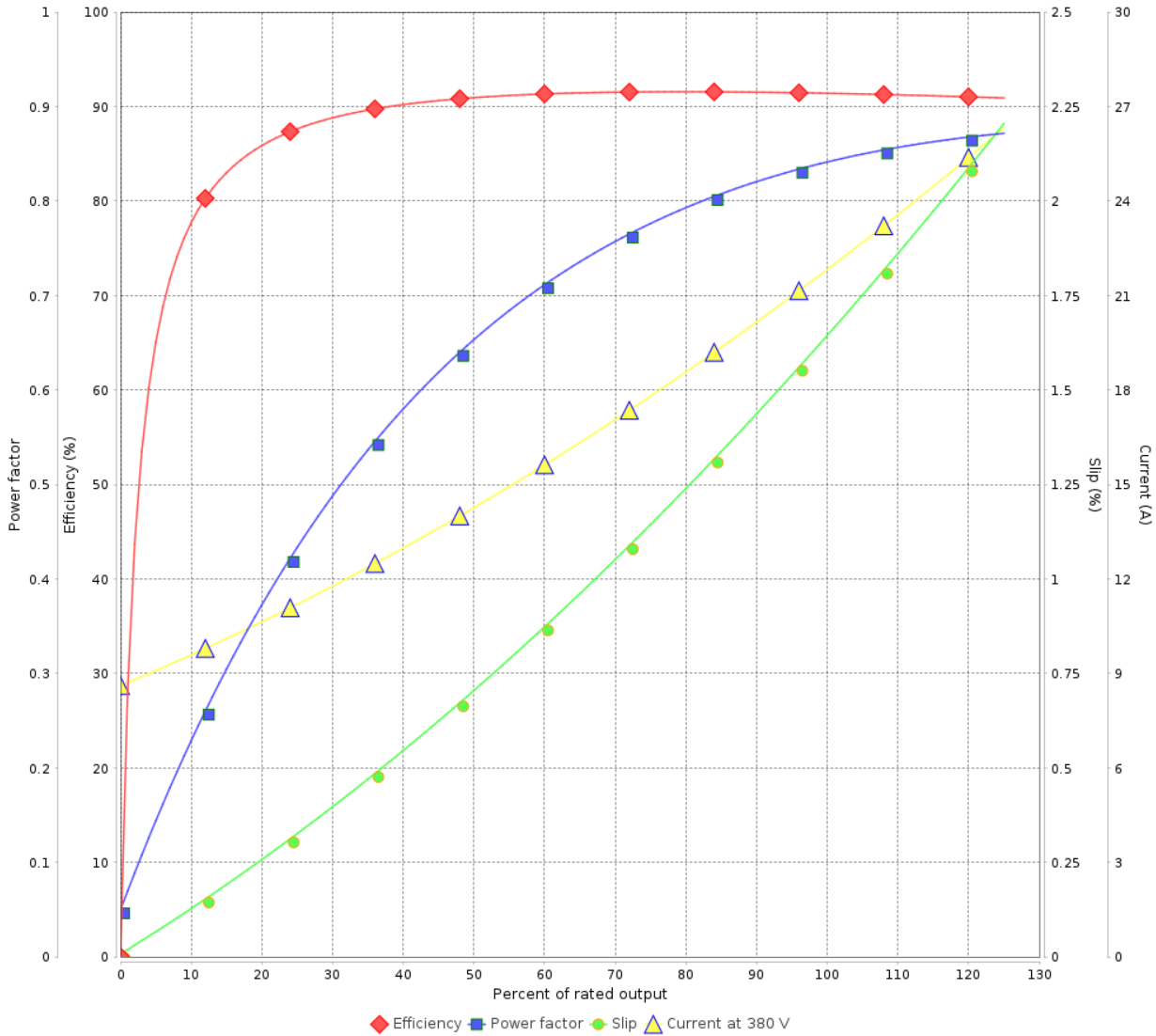
Three Phase Induction Motor - Squirrel Cage



Customer :

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Performance : 380 V 50 Hz 4P IE3

Rated current	: 21.8 A	Moment of inertia (J)	: 0.1305 kgm <sup>2</sup>
LRC	: 7.4	Duty cycle	: Cont.(S1)
Rated torque	: 7.38 kgfm	Insulation class	: F
Locked rotor torque	: 250 %	Service factor	: 1.00
Breakdown torque	: 290 %	Temperature rise	: 80 K
Rated speed	: 1475 rpm	Design	: B

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 4 / 9	Revision
Checked by				
Date	13/01/2024			

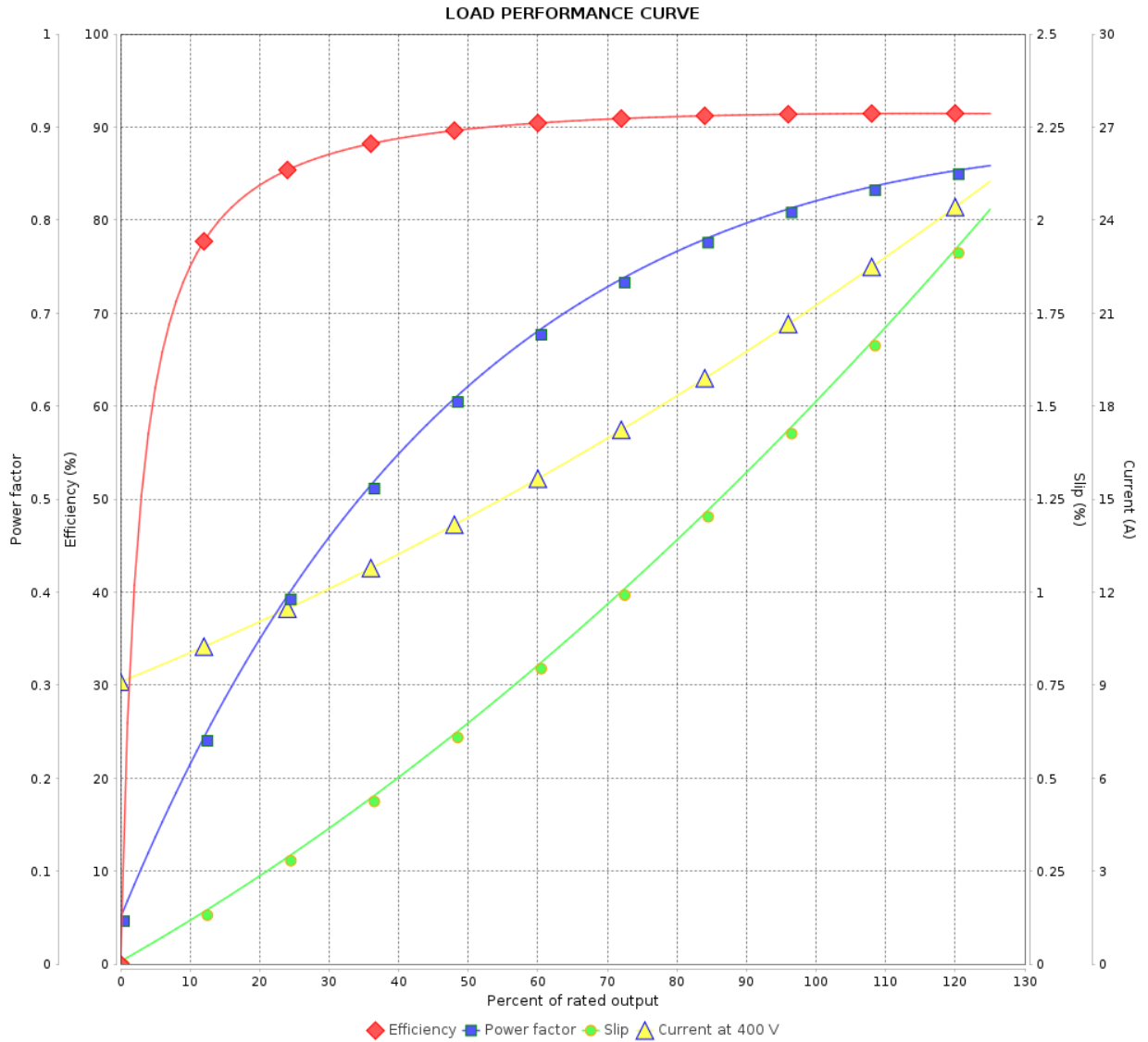
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## Three Phase Induction Motor - Squirrel Cage



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

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Performance : 400 V 50 Hz 4P IE3

Rated current : 21.2 A  
 LRC : 7.9  
 Rated torque : 7.37 kgfm  
 Locked rotor torque : 280 %  
 Breakdown torque : 320 %  
 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				
Date				

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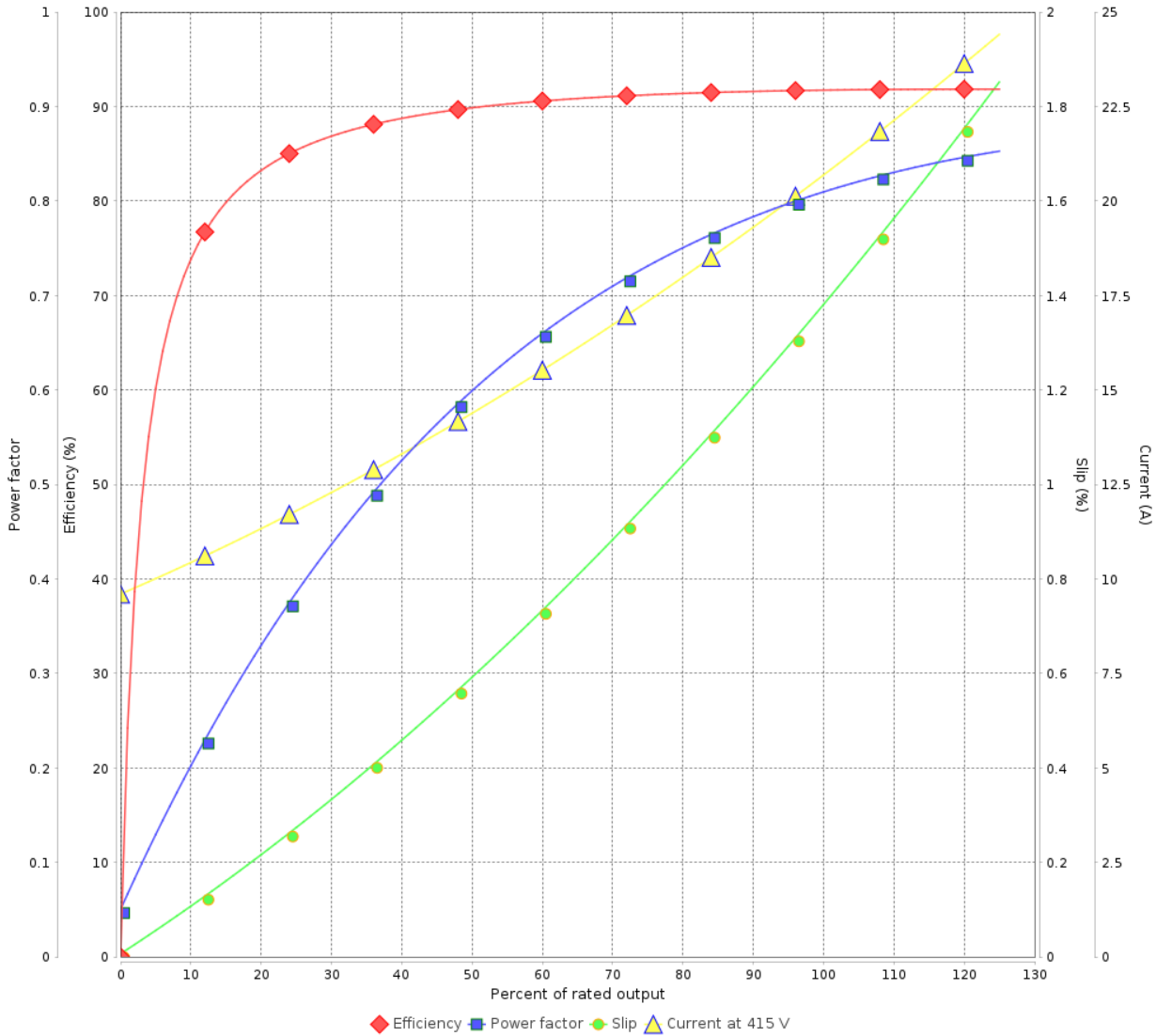
Three Phase Induction Motor - Squirrel Cage



Customer :

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Performance : 415 V 50 Hz 4P IE3

Rated current	: 20.6 A	Moment of inertia (J)	: 0.1305 kgm <sup>2</sup>
LRC	: 8.4	Duty cycle	: Cont.(S1)
Rated torque	: 7.36 kgfm	Insulation class	: F
Locked rotor torque	: 300 %	Service factor	: 1.00
Breakdown torque	: 340 %	Temperature rise	: 80 K
Rated speed	: 1479 rpm	Design	: B

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 6 / 9	Revision
Checked by				
Date	13/01/2024			

# LOAD PERFORMANCE CURVE

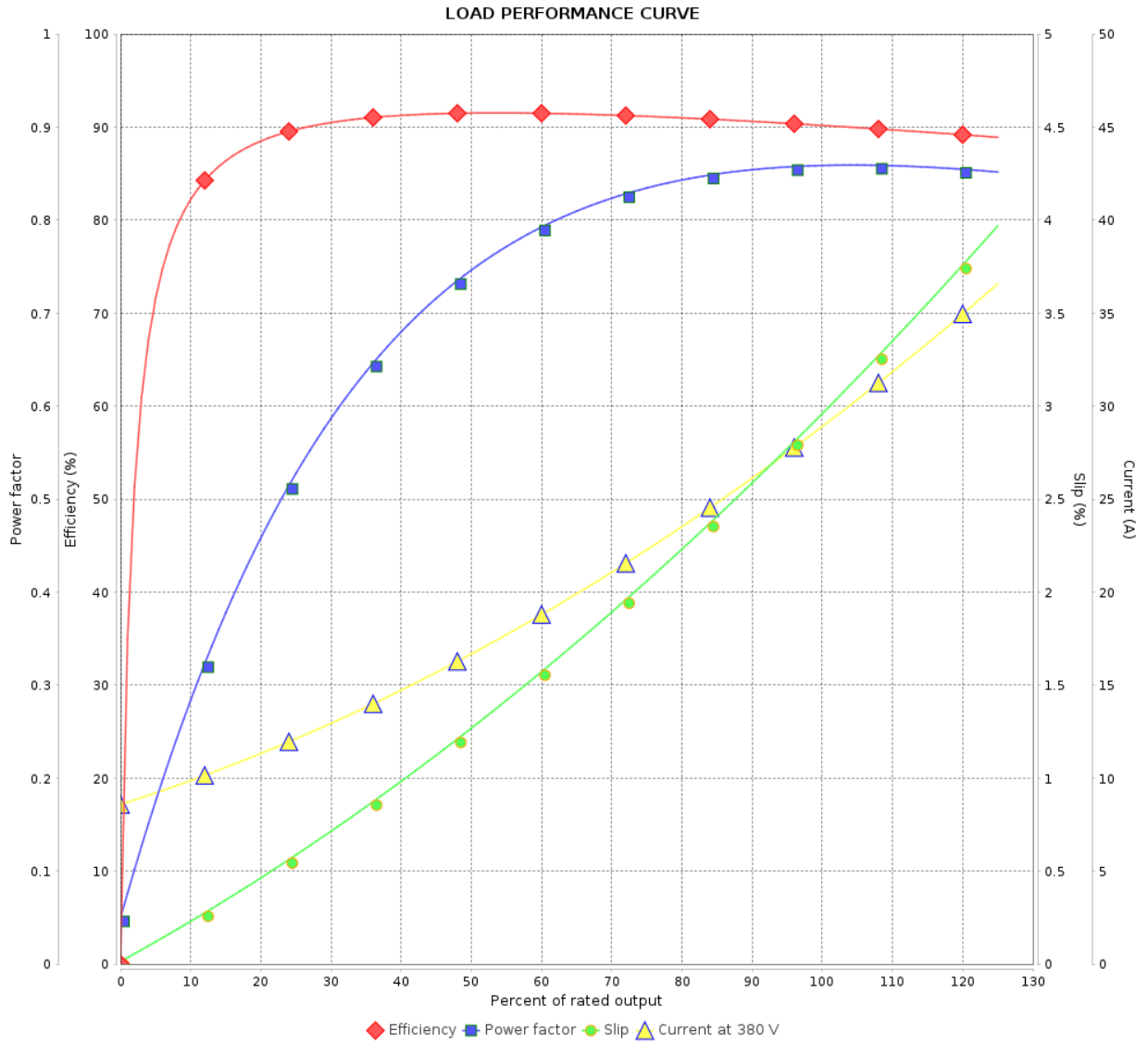
## Three Phase Induction Motor - Squirrel Cage



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

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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

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page	Revision
Checked by				
Date				

# LOAD PERFORMANCE CURVE

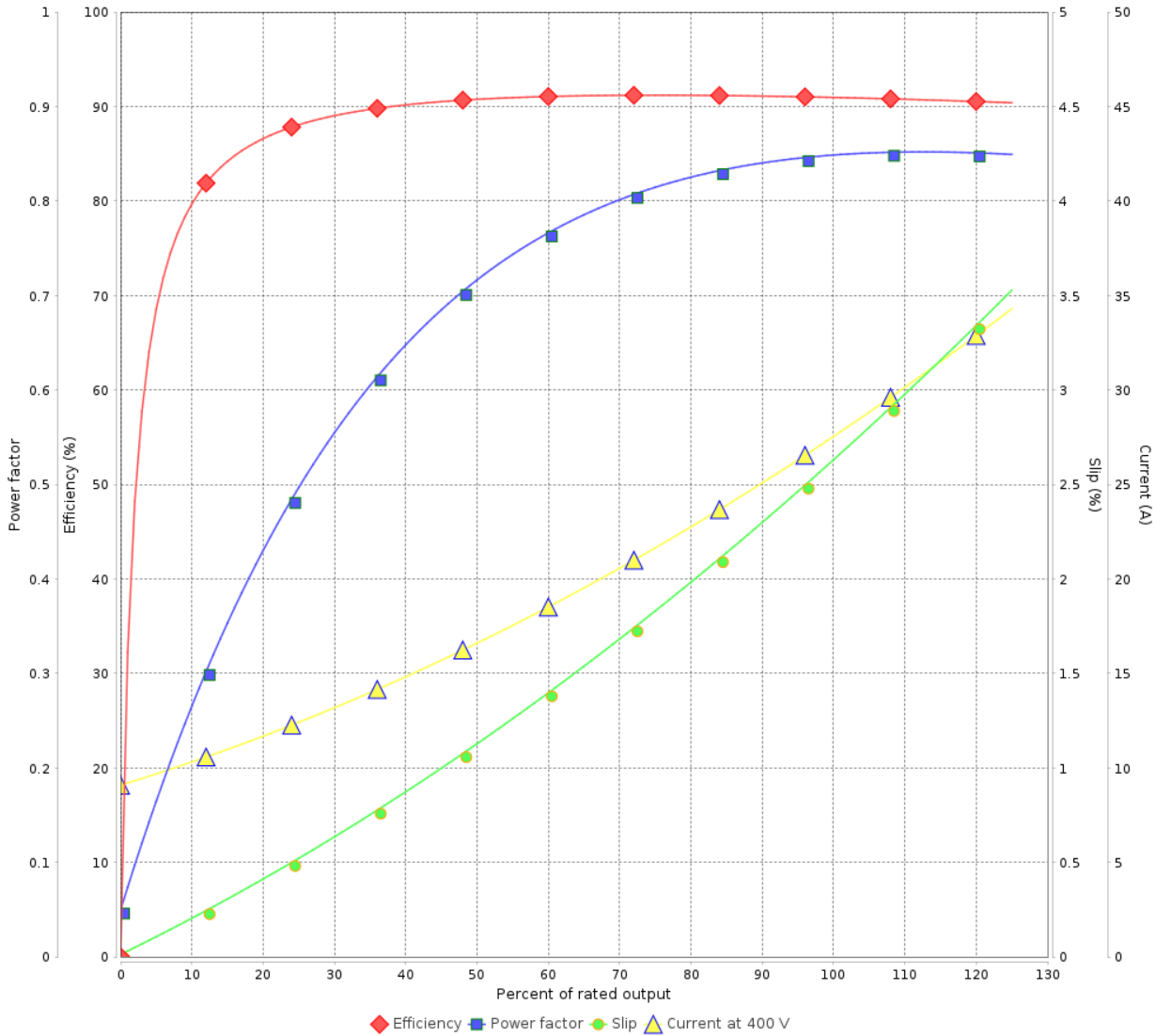
Three Phase Induction Motor - Squirrel Cage



Customer :

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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	: 210 %	Service factor	: 1.00
Breakdown torque	: 229 %	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	13/01/2024			



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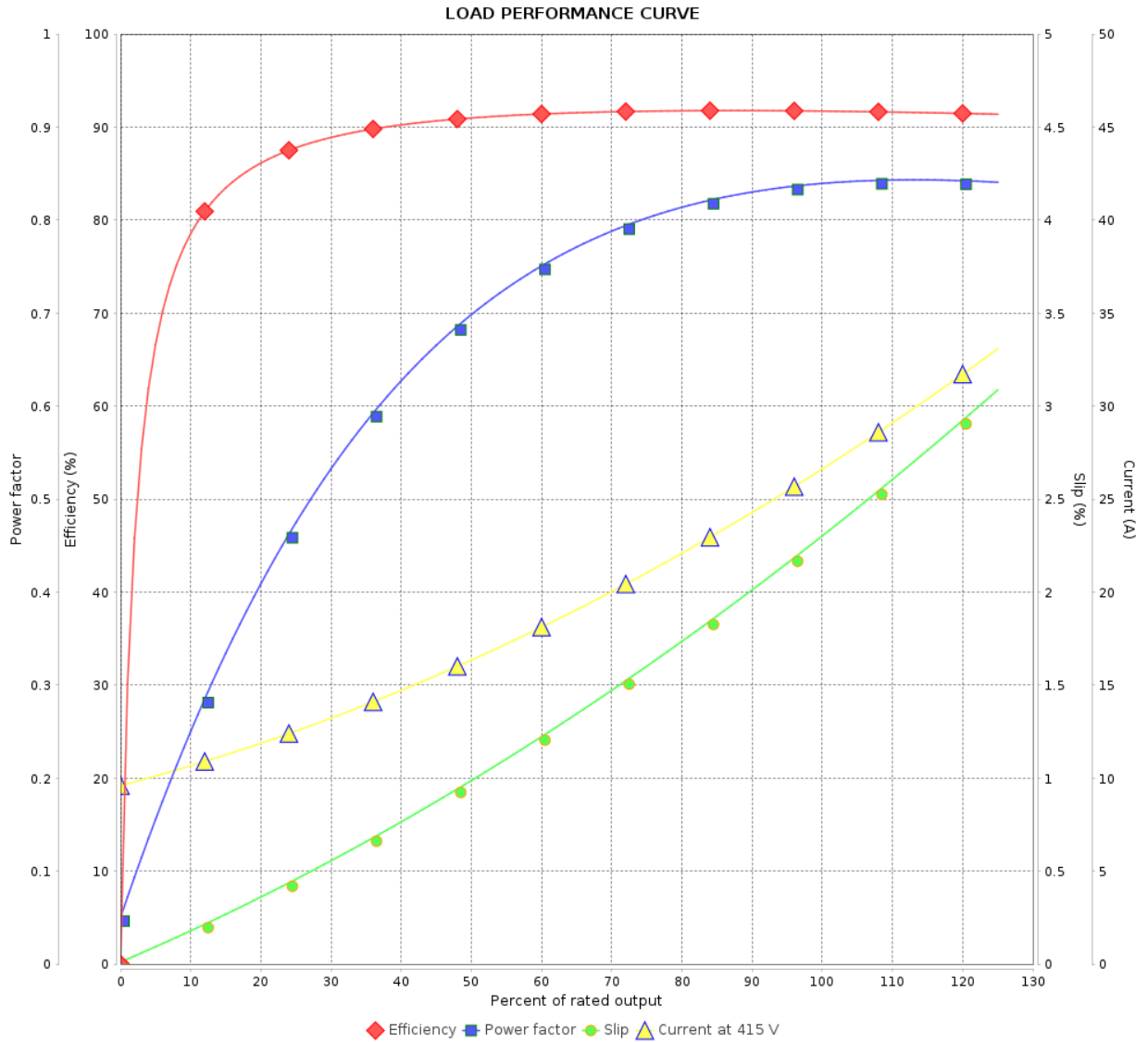
## Three Phase Induction Motor - Squirrel Cage



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

Product line : W22 IEEE 841 NEMA Premium Efficiency Three-Phase

Product code : 11432088



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

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page	Revision
Checked by				
Date				