

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase Product code : 14161576

Frame	: 254/6TD	Cooling method	: IC411 - TEFC
Insulation class	: F	Mounting	: F-1
Duty cycle	: Cont.(S1)	Rotation ¹	: Both (CW and CCW)
Ambient temperature	: -20°C to +40°C	Starting method	: Direct On Line
Altitude	: 1000 m.a.s.l.	Approx. weight ³	: 144 kg
Protection degree	: IP55	Moment of inertia (J)	: 0.0647 kgm ²
Design	: B		

Output [HP]	20	15	15	15	20	20	20
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]	46.5/23.3	20.6	19.8	19.3	28.9	27.2	26.2
L. R. Amperes [A]	284/142	144	154	156	148	155	160
LRC [A]	6.1x(Code G)	7.0x(Code H)	7.8x(Code J)	8.1x(Code J)	5.1x(Code E)	5.7x(Code F)	6.1x(Code G)
No load current [A]	12.0/6.00	5.80	6.10	6.40	5.80	6.10	6.40
Rated speed [RPM]	3525	2935	2945	2950	2885	2905	2915
Slip [%]	2.08	2.17	1.83	1.67	3.83	3.17	2.83
Rated torque [kgfm]	4.11	3.70	3.70	3.69	5.03	5.00	4.98
Locked rotor torque [%]	200	220	240	270	160	180	200
Breakdown torque [%]	240	260	280	310	200	210	229
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	25s (cold) 14s (hot)	28s (cold) 16s (hot)	28s (cold) 16s (hot)	28s (cold) 16s (hot)	10s (cold) 6s (hot)	16s (cold) 9s (hot)	18s (cold) 10s (hot)
Noise level ²	72.0 dB(A)	67.0 dB(A)	67.0 dB(A)	67.0 dB(A)	67.0 dB(A)	67.0 dB(A)	67.0 dB(A)
Efficiency (%)	25%	0.000					
	50%	90.7	90.6	90.4	89.8	87.2	89.2
	75%	91.0	90.9	91.2	91.1	87.5	89.5
	100%	91.0	91.2	91.2	91.2	87.5	89.5
Power Factor	25%	0.00					
	50%	0.80	0.78	0.75	0.73	0.85	0.80
	75%	0.87	0.86	0.84	0.83	0.89	0.87
	100%	0.89	0.89	0.88	0.87	0.90	0.89

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

Losses (%)	P1 (0,9;1,0)	9.5	9.3	9.3	9.3	13.7	11.3	11.3
	P2 (0,5;1,0)	7.8	7.6	7.6	7.6	11.2	9.2	9.2
	P3 (0,25;1,0)	7.1	6.9	6.9	6.9	10.2	8.4	8.4
	P4 (0,9;0,5)	4.6	4.5	4.5	4.5	6.6	5.4	5.4
	P5 (0,5;0,5)	2.8	2.7	2.7	2.7	4.0	3.3	3.3
	P6 (0,5;0,25)	1.7	1.6	1.6	1.6	2.4	2.0	2.0
	P7 (0,25;0,25)	1.0	1.0	1.0	1.0	1.5	1.2	1.2

Bearing type	Drive end	Non drive end	Foundation loads
	: 6309 C3	6209 C3	
	Sealing	V'Ring V'Ring	
	Lubrication interval	: 19000 h 20000 h	
	Lubricant amount	: 13 g 9 g	
Lubricant type		: Mobil Polyrex EM	Max. traction : 108 kgf
			Max. compression : 252 kgf

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	20/10/2024		Page 1 / 9	Revision

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



Customer : _____

Notes
USABLE @208V 51.3A SF 1.15 SFA 59.0A

Rev.	Changes Summary		Performed	Checked	Date
Performed by			Page 2 / 9		Revision
Checked by					
Date	20/10/2024				

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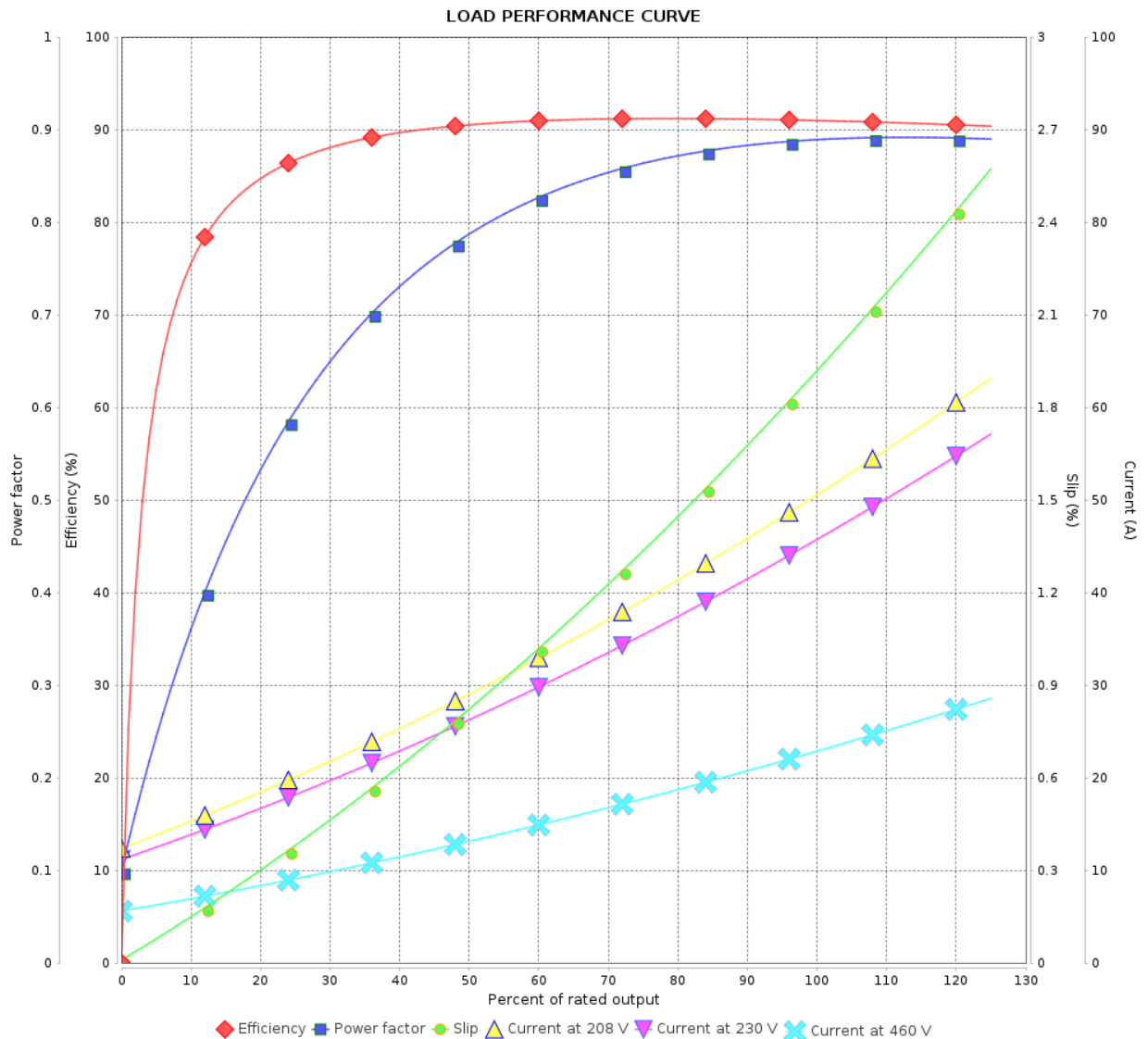
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency
Three-Phase

Product code : 14161576



Performance : 230/460 V 60 Hz 2P

Rated current : 46.5/23.3 A
LRC : 6.1
Rated torque : 4.11 kgfm
Locked rotor torque : 200 %
Breakdown torque : 240 %
Rated speed : 3525 rpm

Moment of inertia (J) : 0.0647 kgm²
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	20/10/2024			

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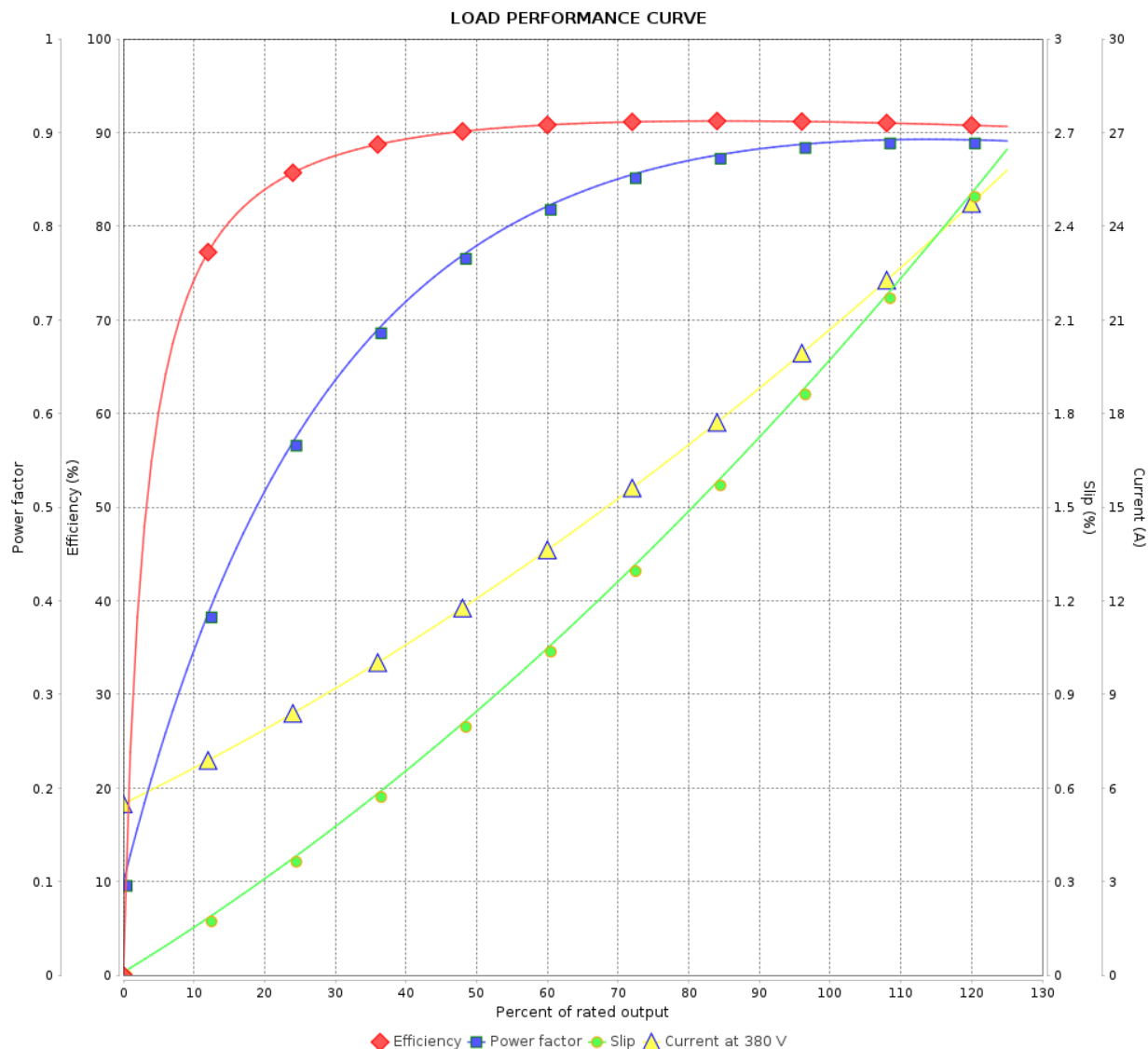
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency
Three-Phase

Product code : 14161576



Performance : 380 V 50 Hz 2P IE3

Rated current : 20.6 A
LRC : 7.0
Rated torque : 3.70 kgfm
Locked rotor torque : 220 %
Breakdown torque : 260 %
Rated speed : 2935 rpm

Moment of inertia (J) : 0.0647 kgm²
Duty cycle : Cont.(S1)
Insulation class : F
Service factor : 1.15
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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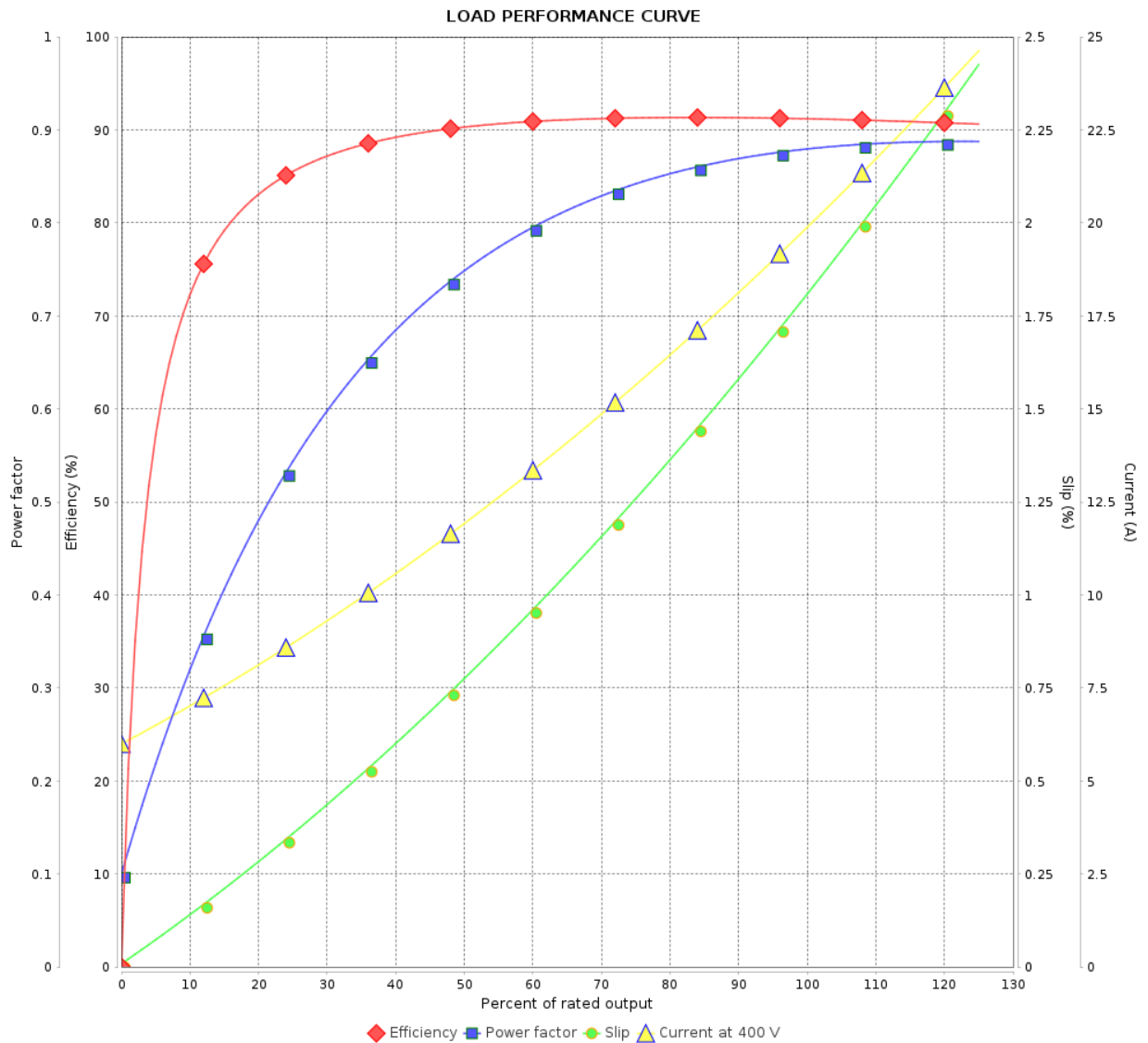
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency
Three-Phase

Product code : 14161576



Performance : 400 V 50 Hz 2P IE3

Rated current	: 19.8 A	Moment of inertia (J)	: 0.0647 kgm ²
LRC	: 7.8	Duty cycle	: Cont.(S1)
Rated torque	: 3.70 kgfm	Insulation class	: F
Locked rotor torque	: 240 %	Service factor	: 1.15
Breakdown torque	: 280 %	Temperature rise	: 80 K
Rated speed	: 2945 rpm	Design	: B

Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by				
Date	20/10/2024		Page 5 / 9	Revision

LOAD PERFORMANCE CURVE

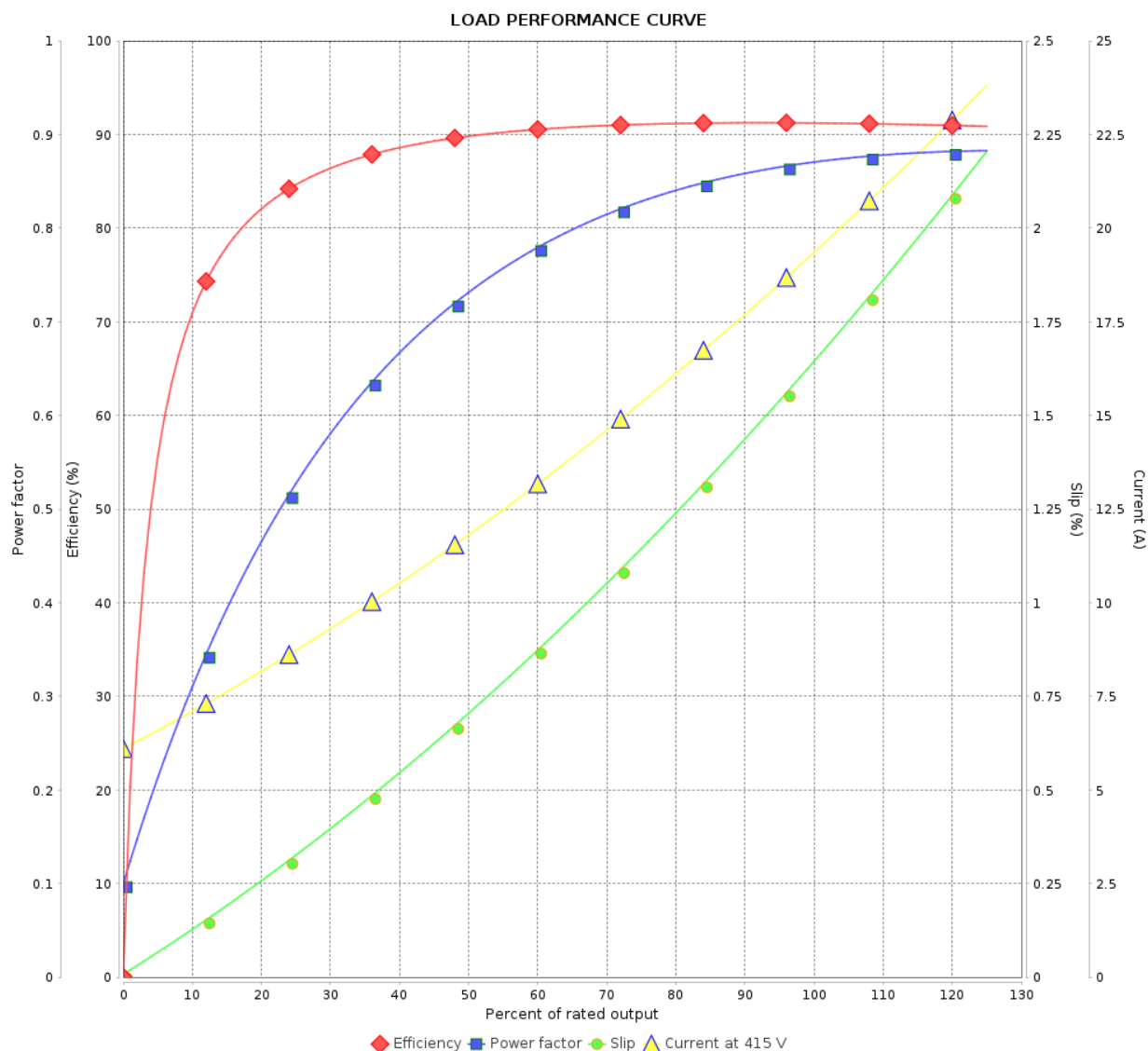
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency
Three-Phase

Product code : 14161576



Performance : 415 V 50 Hz 2P IE3

Rated current : 19.3 A
LRC : 8.1
Rated torque : 3.69 kgfm
Locked rotor torque : 270 %
Breakdown torque : 310 %
Rated speed : 2950 rpm

Moment of inertia (J) : 0.0647 kgm²
Duty cycle : Cont.(S1)
Insulation class : F
Service factor : 1.15
Temperature rise : 80 K
Design : B

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

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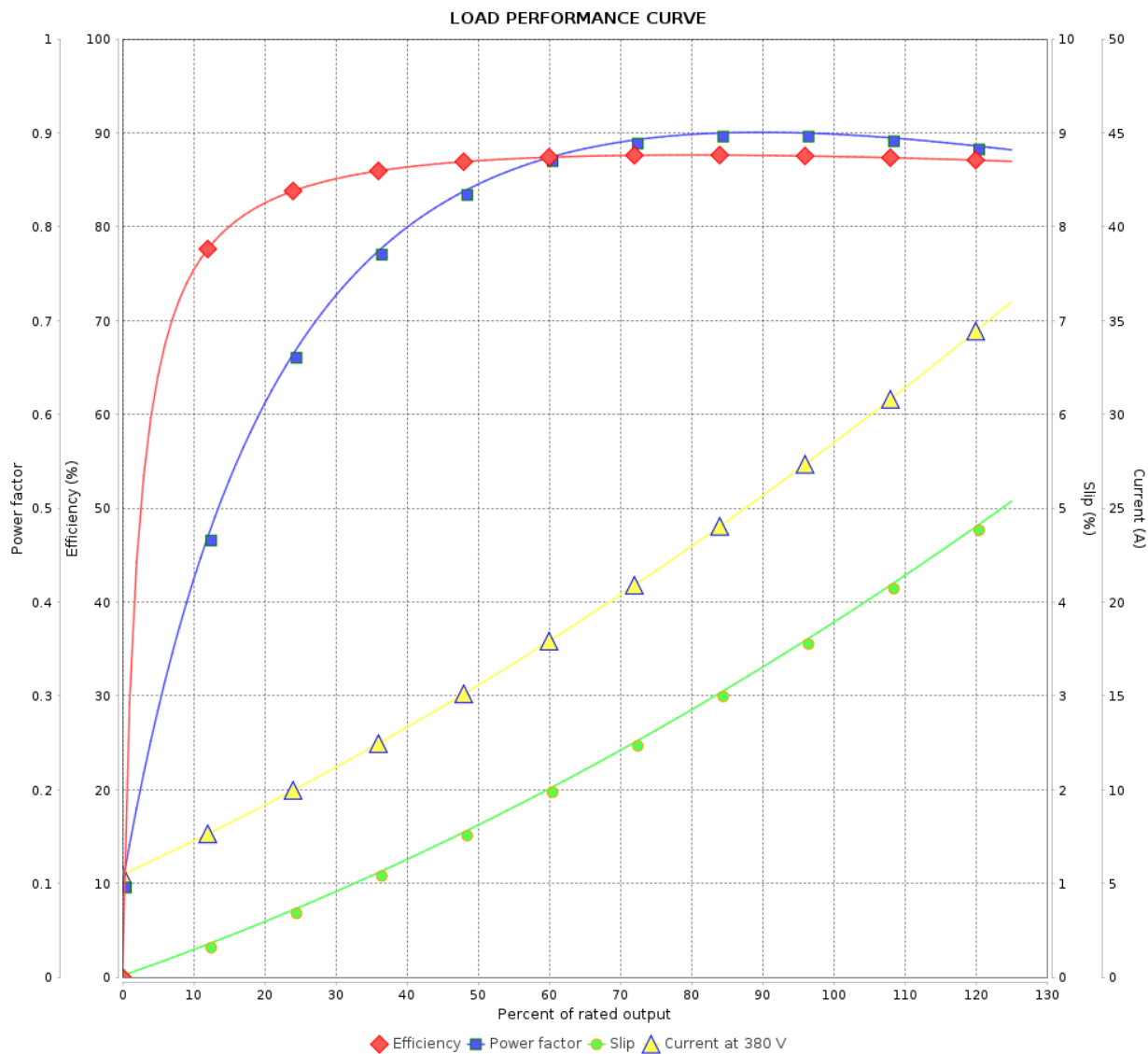
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency
Three-Phase

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Performance : 380 V 50 Hz 2P

Rated current : 28.9 A
LRC : 5.1
Rated torque : 5.03 kgfm
Locked rotor torque : 160 %
Breakdown torque : 200 %
Rated speed : 2885 rpm

Moment of inertia (J) : 0.0647 kgm²
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 7 / 9	Revision
Checked by					
Date	20/10/2024				

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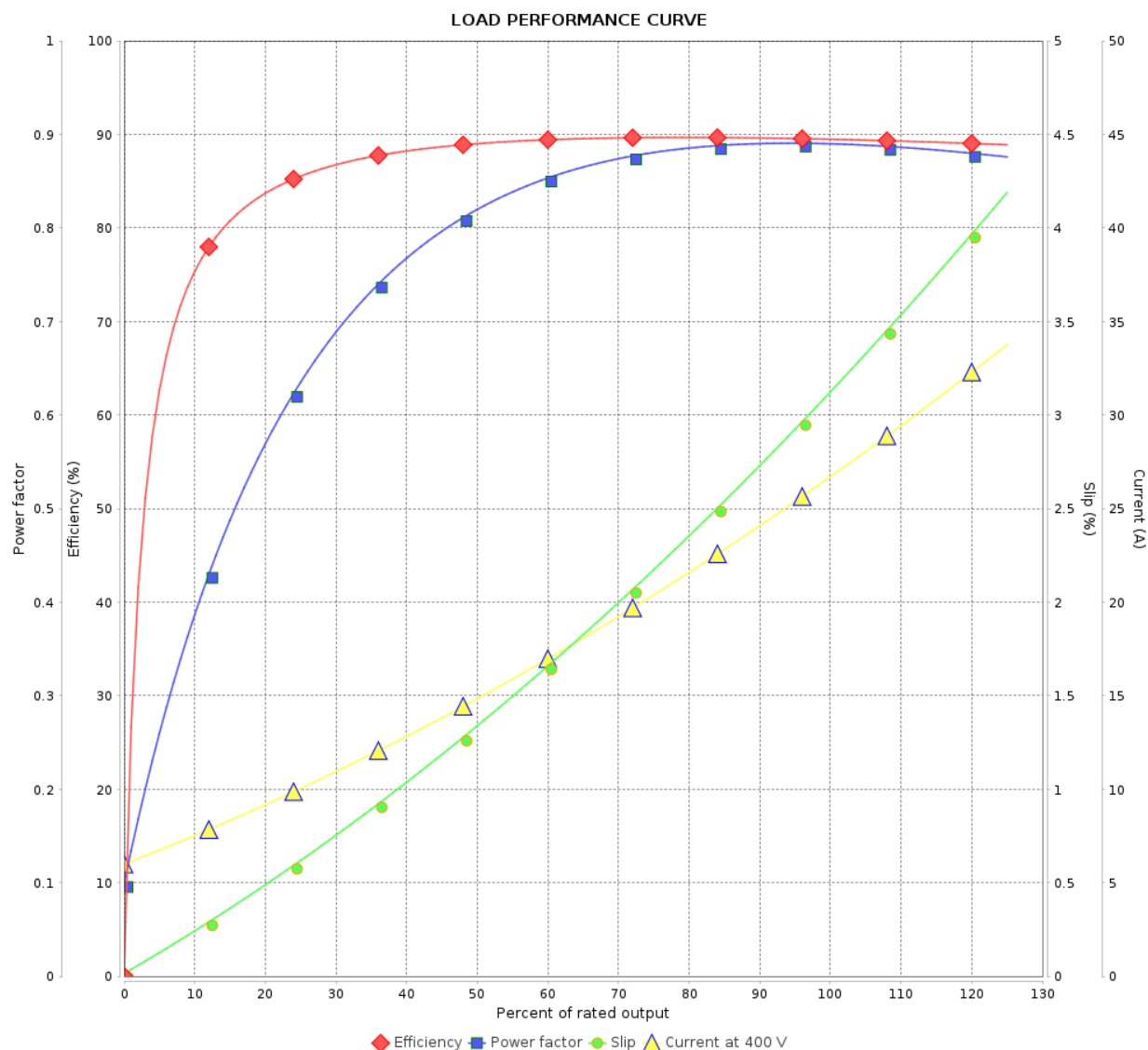
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency
Three-Phase

Product code : 14161576



Performance : 400 V 50 Hz 2P IE1

Rated current : 27.2 A
LRC : 5.7
Rated torque : 5.00 kgfm
Locked rotor torque : 180 %
Breakdown torque : 210 %
Rated speed : 2905 rpm

Moment of inertia (J) : 0.0647 kgm²
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				8 / 9	
Date					

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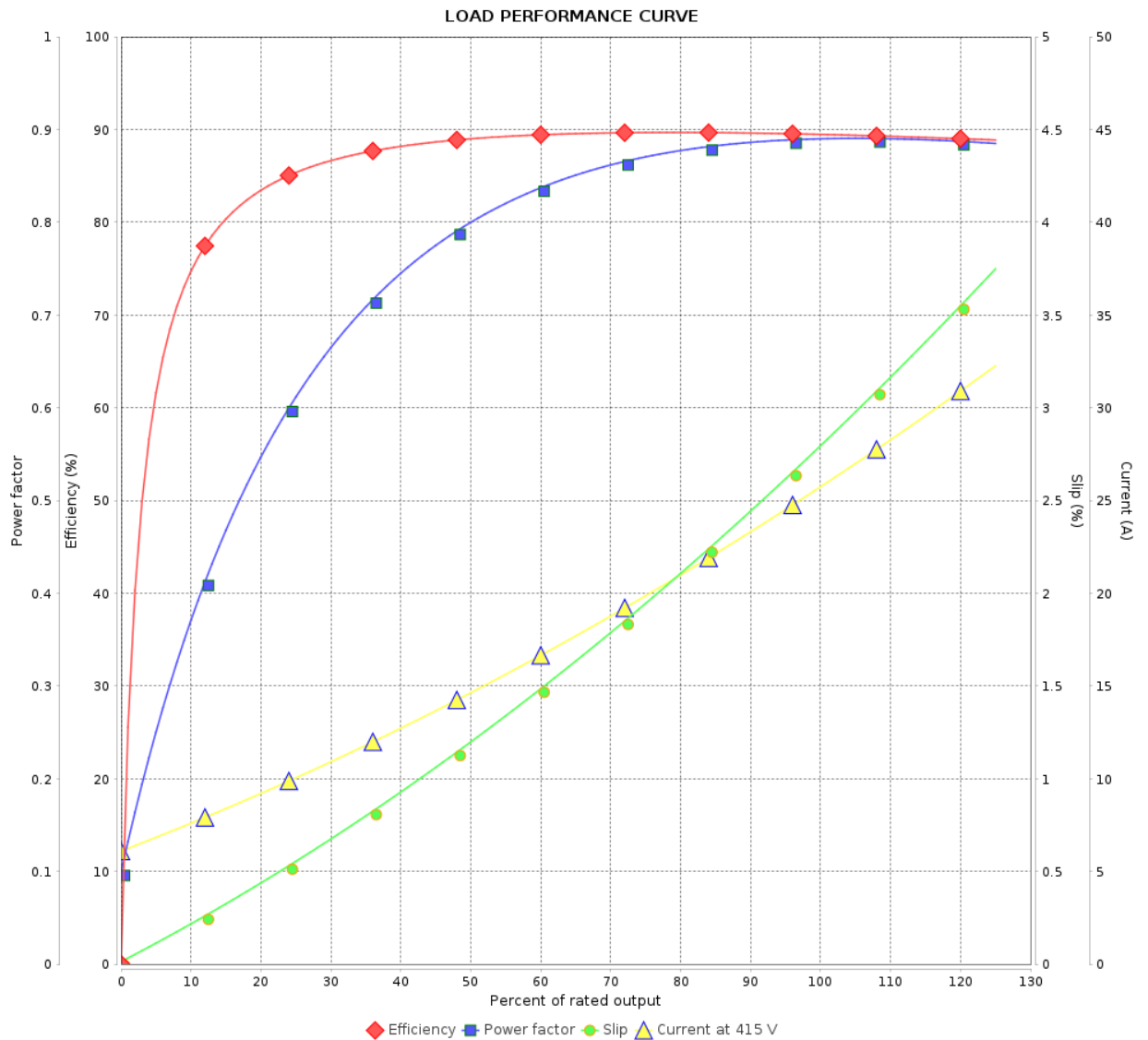
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency
Three-Phase

Product code : 14161576



Performance : 415 V 50 Hz 2P IE1

Rated current : 26.2 A
LRC : 6.1
Rated torque : 4.98 kgfm
Locked rotor torque : 200 %
Breakdown torque : 229 %
Rated speed : 2915 rpm

Moment of inertia (J) : 0.0647 kgm²
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 9 / 9Revision			
Checked by					
Date	20/10/2024				