

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 Close Coupled Pump JM  
NEMA Premium Efficiency Three-Phase  
Product code : 11642183

Frame	: 143/5JM	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>2</sup>	: 24.3 kg
Protection degree	: IP55	Moment of inertia (J)	: 0.0026 kgm <sup>2</sup>
Design	: B		

Output [HP]	2	1.5	1.5	1.5	2	2	2
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]	5.38/2.69	2.47	2.42	2.43	3.18	3.03	2.99
L. R. Amperes [A]	47.9/23.9	21.2	22.5	22.6	21.0	21.8	23.3
LRC [A]	8.9x(Code L)	8.6x(Code L)	9.3x(Code M)	9.3x(Code M)	6.6x(Code H)	7.2x(Code J)	7.8x(Code K)
No load current [A]	2.40/1.20	1.20	1.30	1.40	1.20	1.30	1.50
Rated speed [RPM]	3500	2915	2920	2930	2855	2880	2890
Slip [%]	2.78	2.83	2.67	2.33	4.83	4.00	3.67
Rated torque [kgfm]	0.415	0.373	0.373	0.372	0.508	0.504	0.502
Locked rotor torque [%]	270	280	310	340	200	229	250
Breakdown torque [%]	380	370	420	440	250	300	300
Service factor	1.25	1.25	1.25	1.25	1.25	1.25	1.25
Temperature rise	80 K	80 K	80 K	80 K	80 K	80 K	80 K
Locked rotor time	21s (cold) 12s (hot)	25s (cold) 14s (hot)	25s (cold) 14s (hot)	23s (cold) 13s (hot)	19s (cold) 11s (hot)	21s (cold) 12s (hot)	18s (cold) 10s (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%	82.5	81.4	80.3	80.1	82.5	82.5
	75%	85.5	83.3	83.1	83.1	84.0	84.0
	100%	85.5	83.5	84.0	84.0	82.5	84.0
Power Factor	25%						
	50%	0.64	0.61	0.60	0.52	0.71	0.68
	75%	0.76	0.73	0.69	0.65	0.82	0.79
	100%	0.82	0.81	0.78	0.75	0.87	0.85

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

Losses (%)	P1 (0,9;1,0)	15.7	18.3	17.6	17.6	19.6	17.6	17.6
	P2 (0,5;1,0)	12.3	14.3	13.8	13.8	15.4	13.8	13.8
	P3 (0,25;1,0)	11.6	13.5	13.0	13.0	14.5	13.0	13.0
	P4 (0,9;0,5)	8.8	10.3	9.9	9.9	11.0	9.9	9.9
	P5 (0,5;0,5)	5.4	6.3	6.1	6.1	6.8	6.1	6.1
	P6 (0,5;0,25)	3.9	4.6	4.4	4.4	4.9	4.4	4.4
	P7 (0,25;0,25)	2.7	3.1	3.0	3.0	3.4	3.0	3.0

	<u>Drive end</u>	<u>Non drive end</u>	Foundation loads
Bearing type	: 6206 ZZ	6204 ZZ	Max. traction : 31 kgf
Sealing	: V'Ring	V'Ring	Max. compression : 55 kgf
Lubrication interval	: -	-	
Lubricant amount	: -	-	
Lubricant type	: Mobil Polyrex EM		

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

### Notes

USABLE @208V 5.60A SF 1.15 SFA 6.43A

This revision replaces and cancel the previous one, which must be eliminated.

- (1) Looking the motor from the shaft end.
- (2) Measured at 1m and with tolerance of +3dB(A).
- (3) Approximate weight subject to changes after manufacturing process.
- (4) At 100% of full load.

These are average values based on tests with sinusoidal power supply, subject to the tolerances stipulated in NEMA MG-1.

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# LOAD PERFORMANCE CURVE

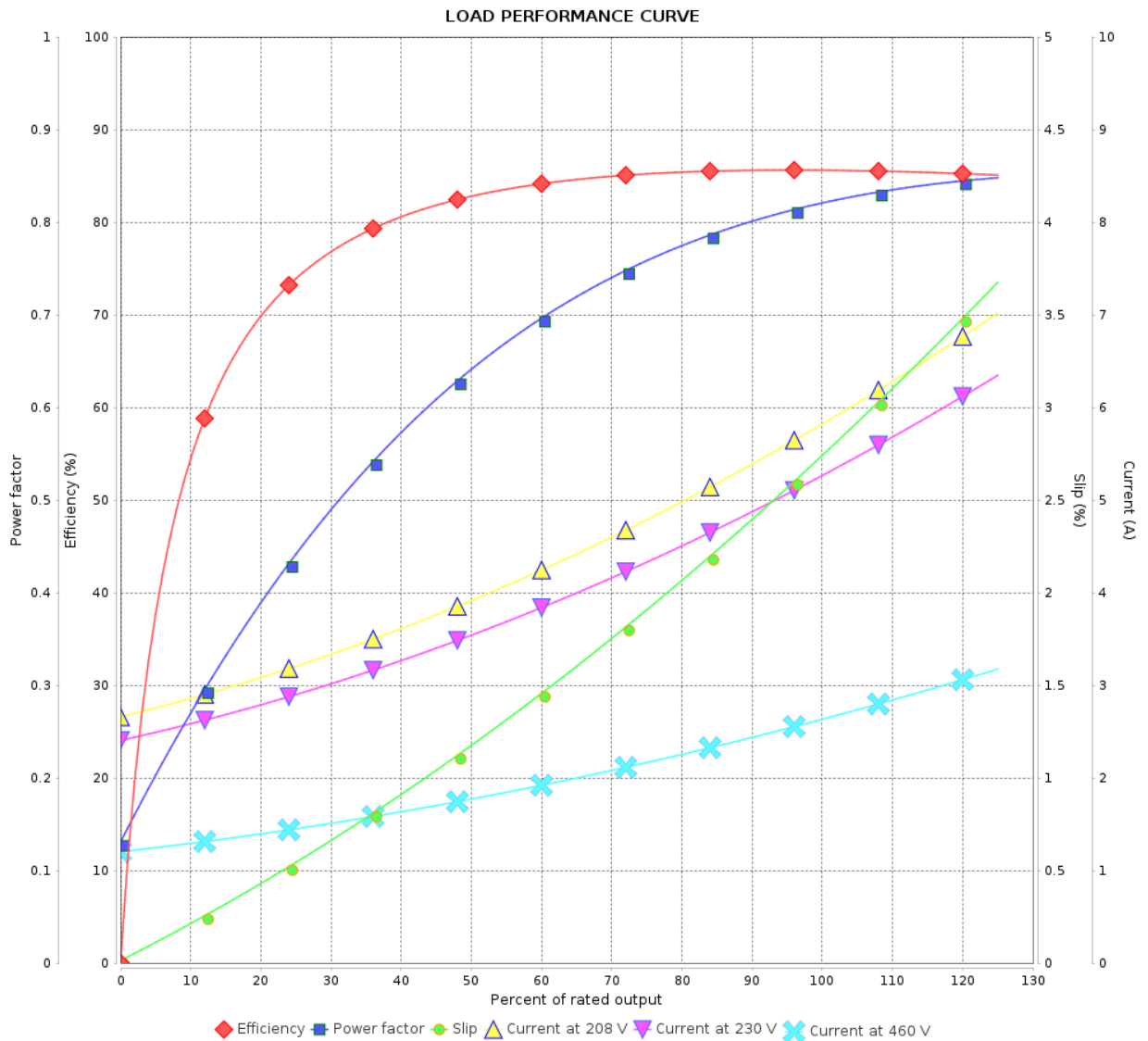
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 Close Coupled Pump JM  
NEMA Premium Efficiency Three-Phase

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Performance : 230/460 V 60 Hz 2P

Rated current : 5.38/2.69 A  
 LRC : 8.9  
 Rated torque : 0.415 kgfm  
 Locked rotor torque : 270 %  
 Breakdown torque : 380 %  
 Rated speed : 3500 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

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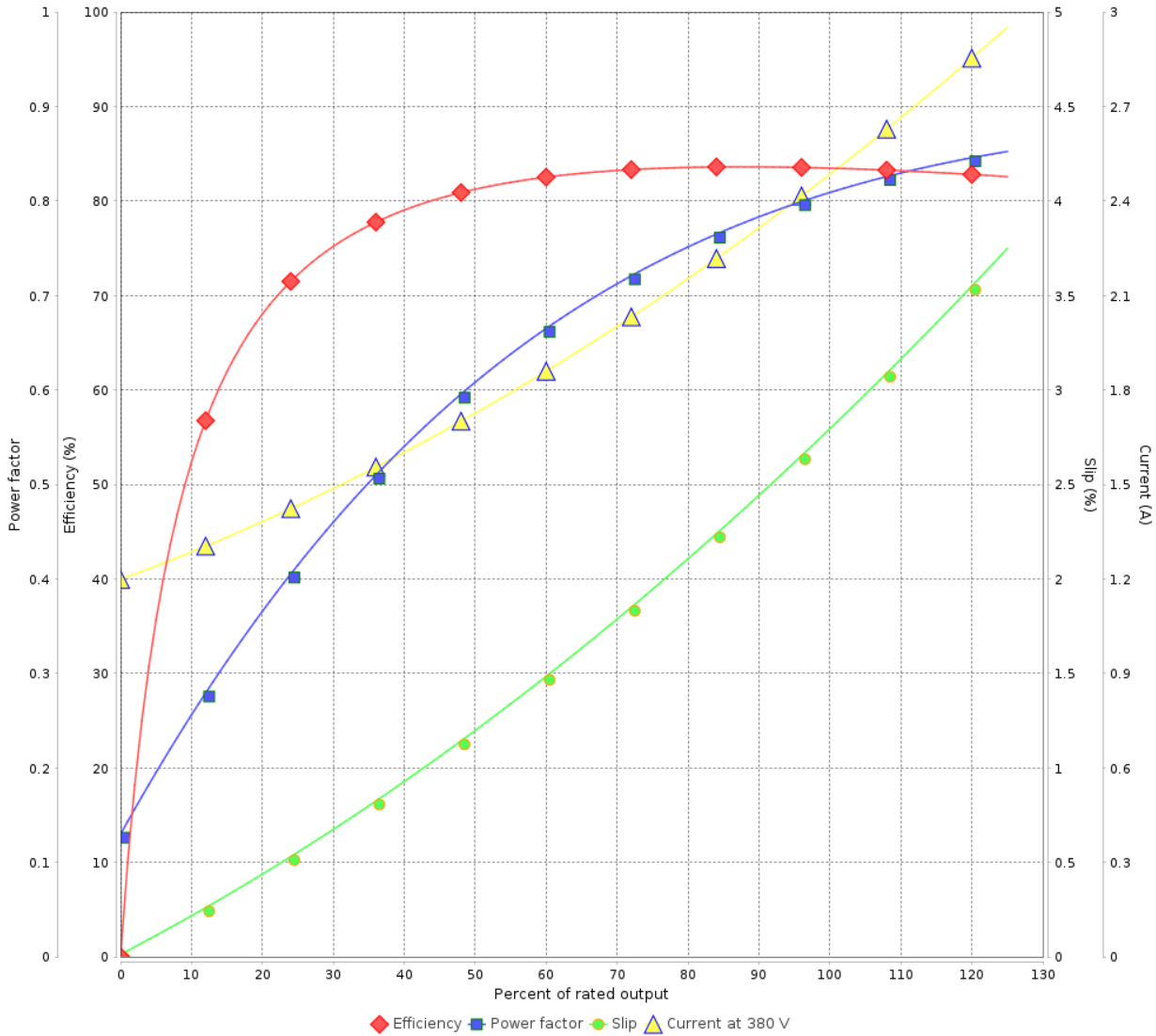
Three Phase Induction Motor - Squirrel Cage



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Performance : 380 V 50 Hz 2P IE3

Rated current	: 2.47 A	Moment of inertia (J)	: 0.0026 kgm <sup>2</sup>
LRC	: 8.6	Duty cycle	: Cont.(S1)
Rated torque	: 0.373 kgfm	Insulation class	: F
Locked rotor torque	: 280 %	Service factor	: 1.25
Breakdown torque	: 370 %	Temperature rise	: 80 K
Rated speed	: 2915 rpm	Design	: B

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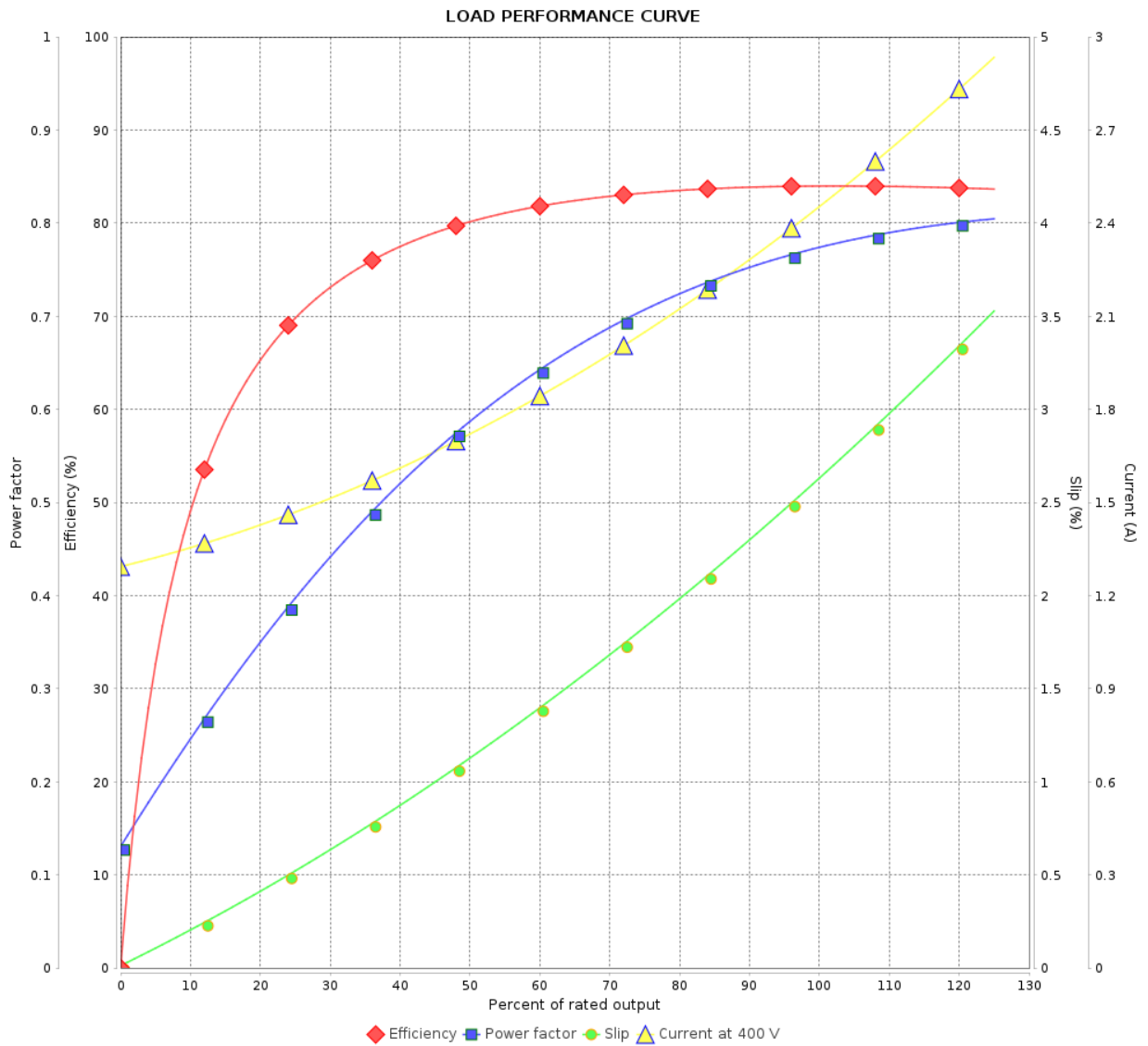
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 Close Coupled Pump JM  
NEMA Premium Efficiency Three-Phase

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Performance : 400 V 50 Hz 2P IE3

Rated current : 2.42 A  
LRC : 9.3  
Rated torque : 0.373 kgfm  
Locked rotor torque : 310 %  
Breakdown torque : 420 %  
Rated speed : 2920 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

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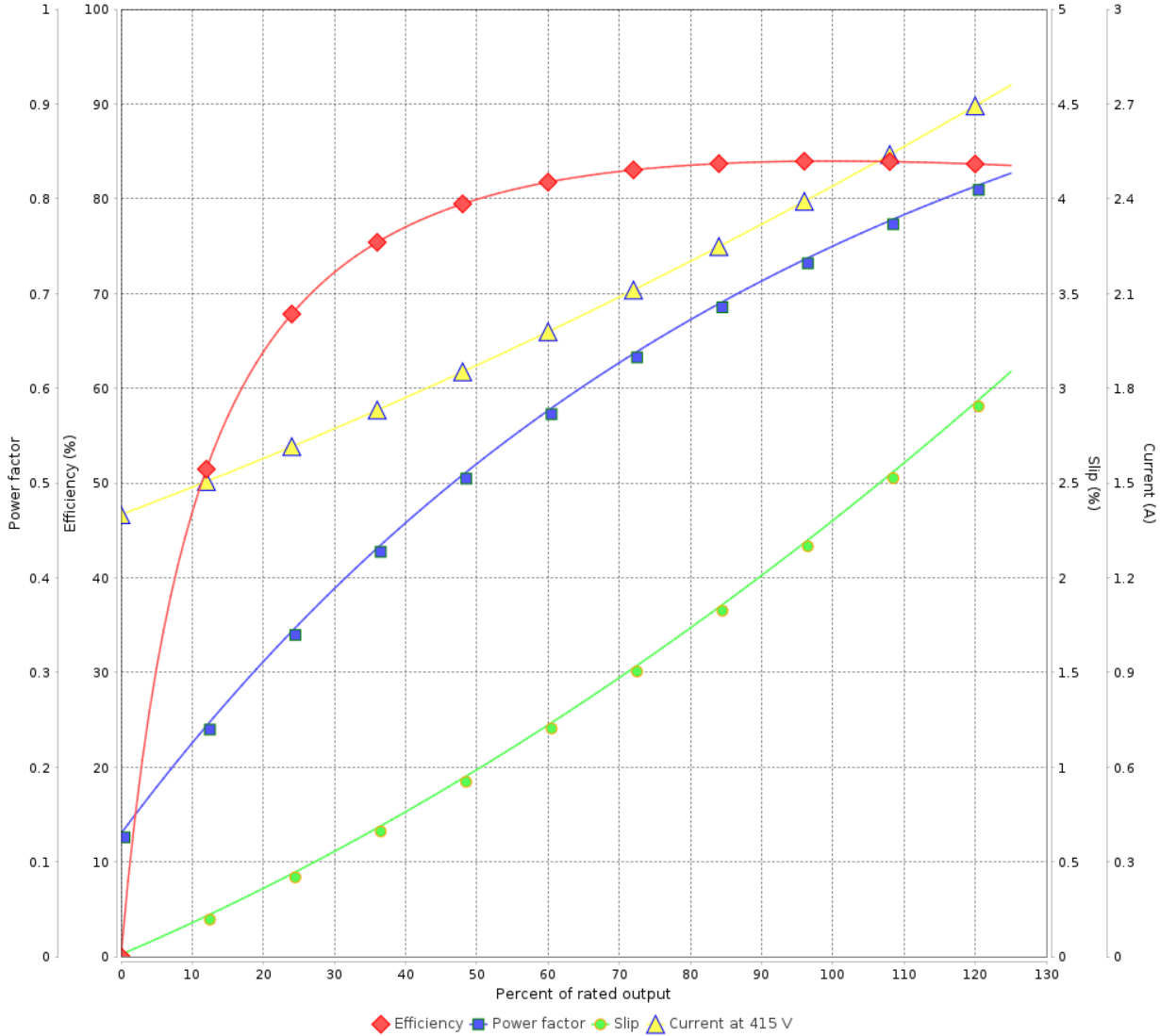
Three Phase Induction Motor - Squirrel Cage



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Performance : 415 V 50 Hz 2P IE3

Rated current	: 2.43 A	Moment of inertia (J)	: 0.0026 kgm <sup>2</sup>
LRC	: 9.3	Duty cycle	: Cont.(S1)
Rated torque	: 0.372 kgfm	Insulation class	: F
Locked rotor torque	: 340 %	Service factor	: 1.25
Breakdown torque	: 440 %	Temperature rise	: 80 K
Rated speed	: 2930 rpm	Design	: B

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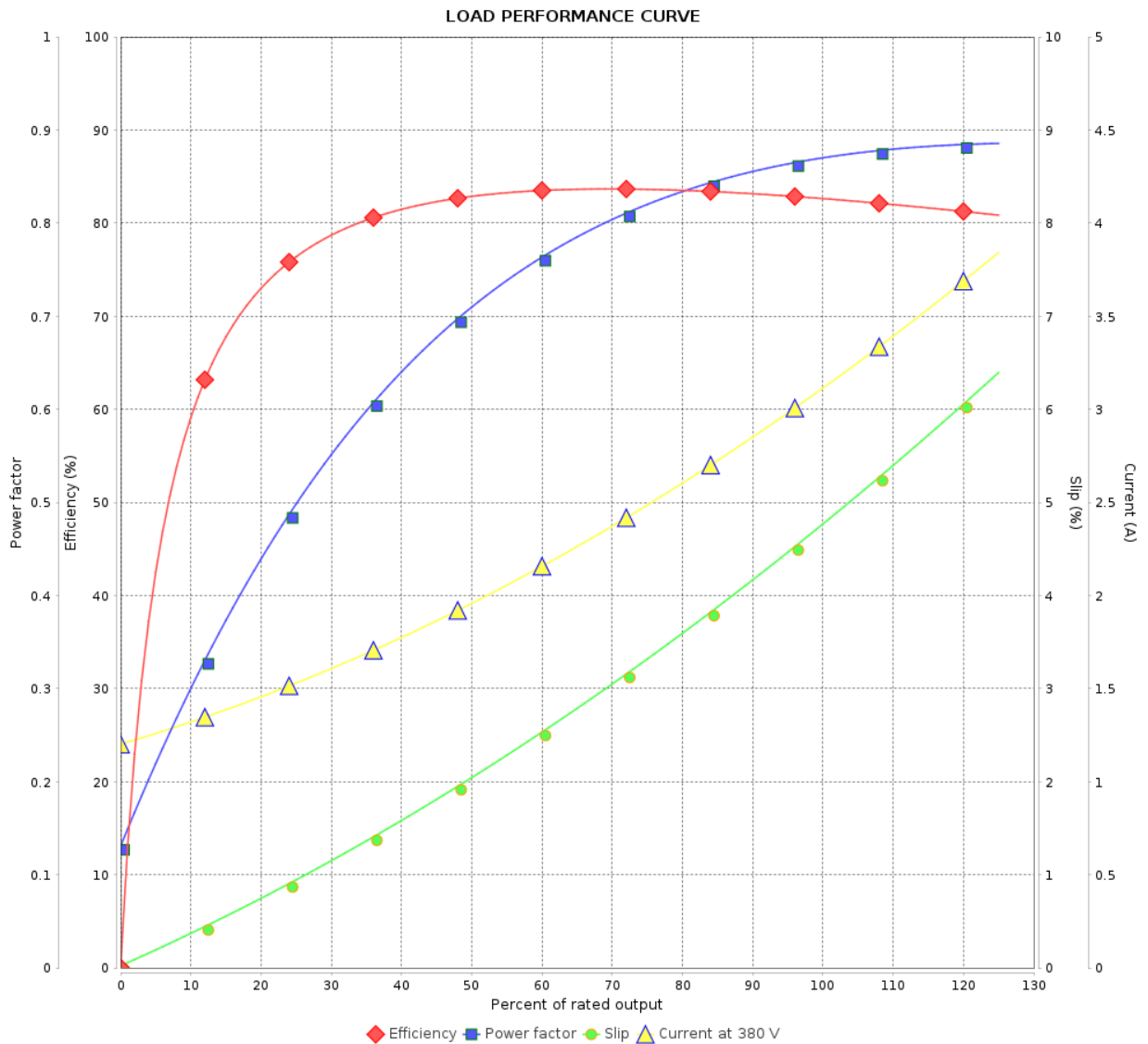
## Three Phase Induction Motor - Squirrel Cage



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Performance : 380 V 50 Hz 2P IE2

Rated current : 3.18 A  
LRC : 6.6  
Rated torque : 0.508 kgfm  
Locked rotor torque : 200 %  
Breakdown torque : 250 %  
Rated speed : 2855 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

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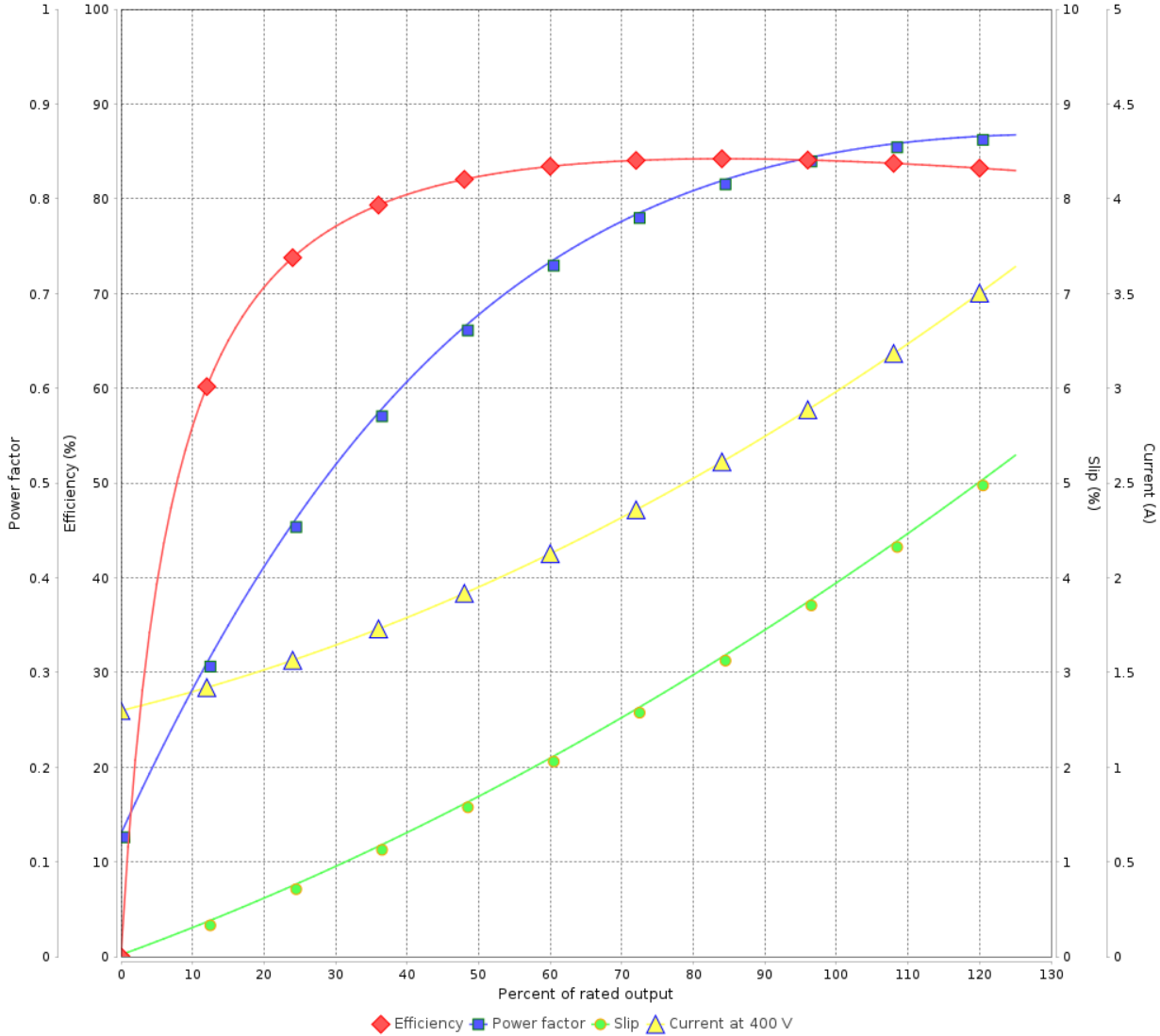
Three Phase Induction Motor - Squirrel Cage



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Performance : 400 V 50 Hz 2P IE2

Rated current	: 3.03 A	Moment of inertia (J)	: 0.0026 kgm <sup>2</sup>
LRC	: 7.2	Duty cycle	: Cont.(S1)
Rated torque	: 0.504 kgfm	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.25
Breakdown torque	: 300 %	Temperature rise	: 80 K
Rated speed	: 2880 rpm	Design	: B

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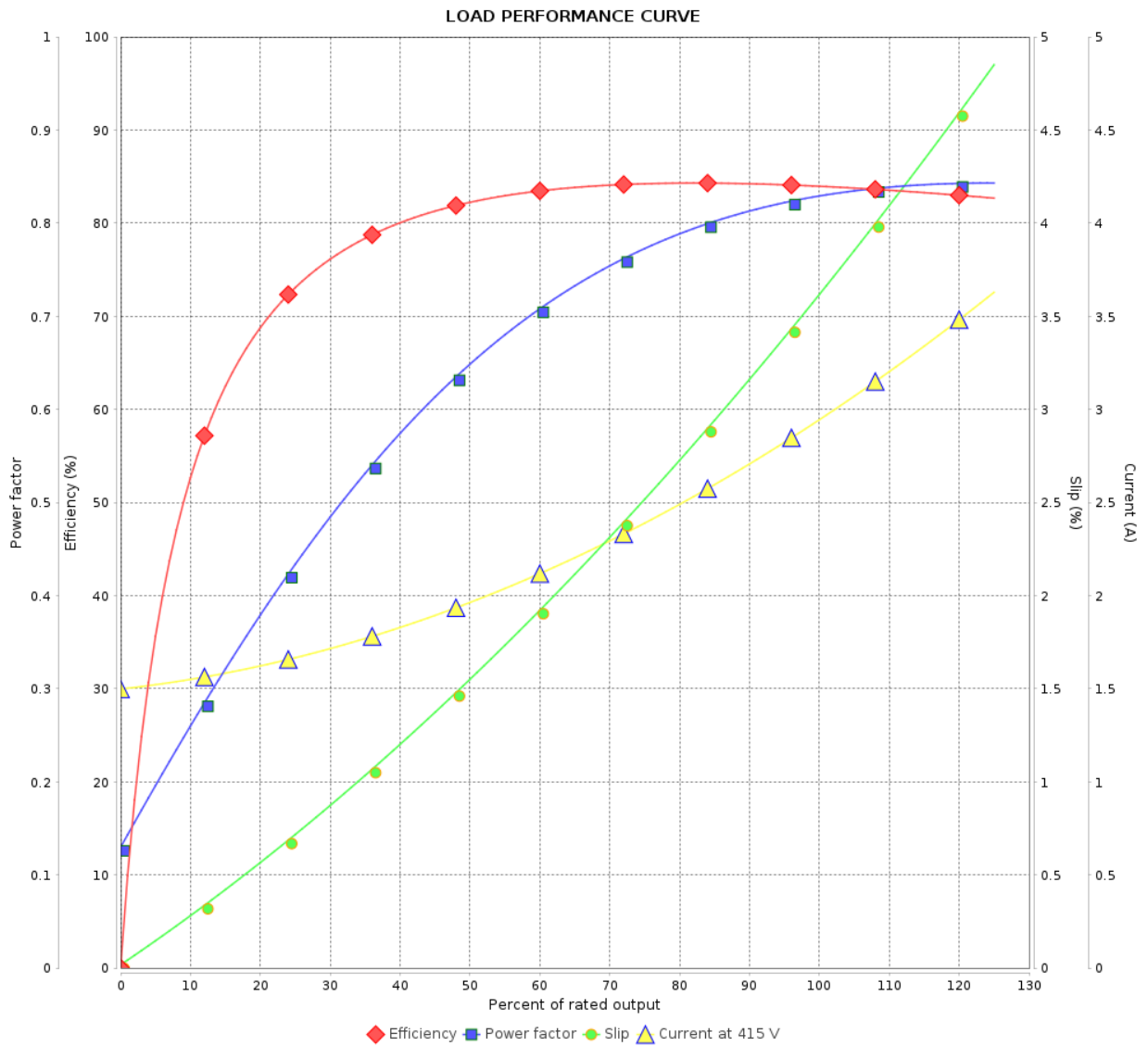
## Three Phase Induction Motor - Squirrel Cage



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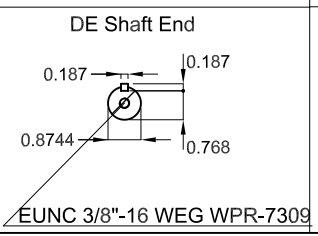
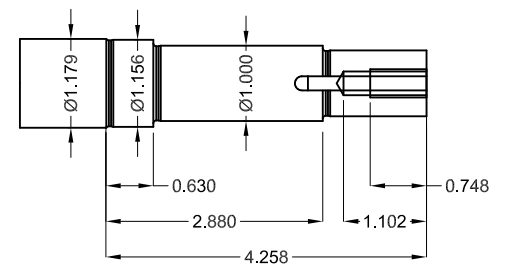
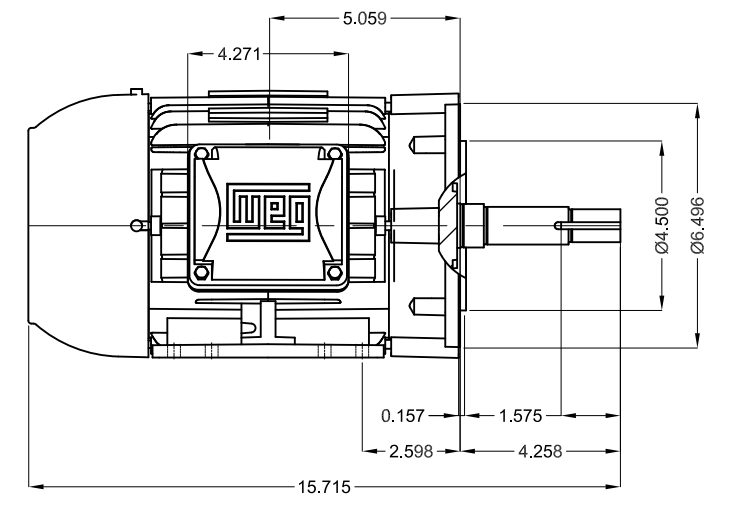
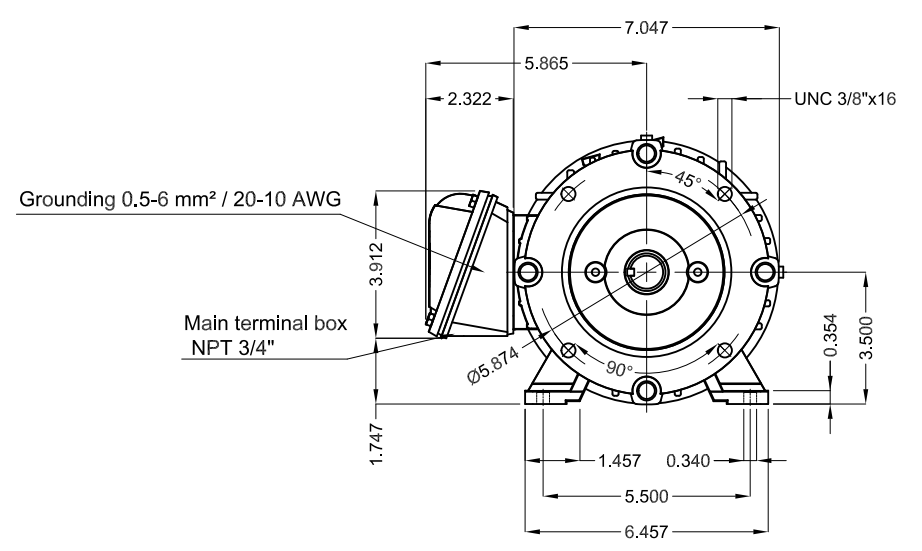
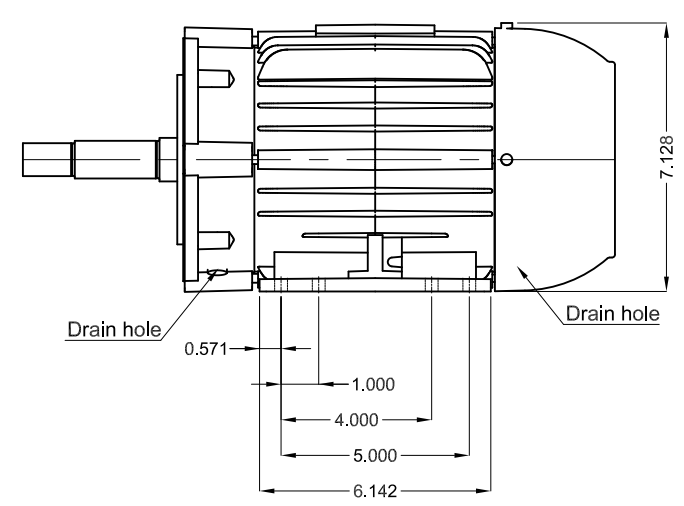


Performance : 415 V 50 Hz 2P IE2

Rated current : 2.99 A  
LRC : 7.8  
Rated torque : 0.502 kgfm  
Locked rotor torque : 250 %  
Breakdown torque : 300 %  
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

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Color RAL 5009  
 Painting plan 207A  
 Mounting NEMA F-1  
 Mounting B34R(D)

2 HP 02 Poles 60 Hz										A		
ECM	LOC	SUMMARY OF MODIFICATIONS					HYBRISUSER	EXECUTED	CHECKED	RELEASED	DATE	VER
EXECUTED	HYBRISUSER	THREE PH. MOTOR JM/JP/JET PUMP W22 NEMA PREM. EFF. FRAME 143/5JM IP55 TEFC										00
CHECKED												
RELEASED												
REL. DATE												
						PREVIEW		WDD 00		SHEET /		

