

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W40 High Efficiency Three-Phase Product code : 13485038

Frame	: 447/9TSD	Cooling method	: IC01 - ODP
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>	: 939 kg
Protection degree	: IP23	Moment of inertia (J)	: 1.65 kgm <sup>2</sup>
Design	: B		

Output [HP]	400	400	400	400
Poles	2	2	2	2
Frequency [Hz]	60	50	50	50
Rated voltage [V]	460	380	400	415
Rated current [A]	443	536	512	499
L. R. Amperes [A]	2658	2841	3021	3194
LRC [A]	6.0x(Code F)	5.3x(Code E)	5.9x(Code F)	6.4x(Code G)
No load current [A]	100	95.0	108	118
Rated speed [RPM]	3565	2955	2960	2965
Slip [%]	0.97	1.50	1.33	1.17
Rated torque [kgfm]	81.4	98.2	98.1	97.9
Locked rotor torque [%]	150	120	130	140
Breakdown torque [%]	229	190	200	220
Service factor	1.15	1.15	1.15	1.15
Temperature rise	80 K	105 K	105 K	80 K
Locked rotor time	25s (cold) 14s (hot)	21s (cold) 12s (hot)	21s (cold) 12s (hot)	21s (cold) 12s (hot)
Noise level <sup>2</sup>	85.0 dB(A)			
Efficiency (%)	25%			
	50%	95.0	95.0	95.0
	75%	95.4	95.0	95.0
	100%	95.4	94.5	95.0
Power Factor	25%			
	50%	0.83	0.85	0.83
	75%	0.88	0.89	0.88
	100%	0.89	0.90	0.89

Bearing type	: Drive end	: Non drive end	Foundation loads
	: 6314 C3	: 6314 C3	
Sealing	: Without	: Without	Max. compression : 2354 kgf
	: Bearing Seal	: Bearing Seal	
Lubrication interval	: 14418 h	: 14418 h	
Lubricant amount	: 27 g	: 27 g	
Lubricant type	: Mobil Polyrex EM		

### Notes

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

### Thermal protection

ID	Application	Type	Quantity	Sensing Temperature
1	Winding	Thermistor - 2 wires	1 x Phase	155 °C

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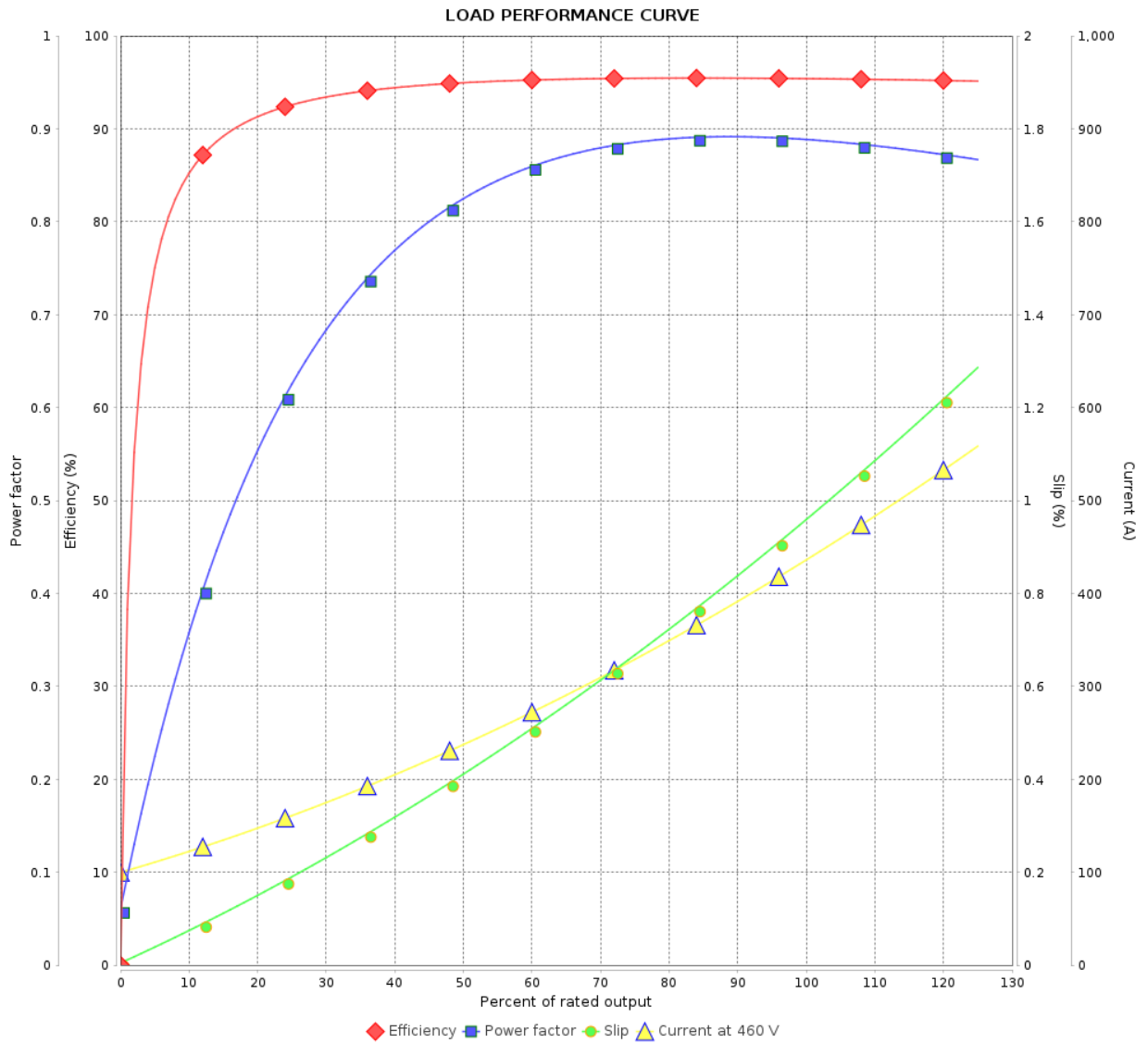
# LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W40 High Efficiency Three-Phase Product code : 13485038



Performance : 460 V 60 Hz 2P

Rated current : 443 A  
 LRC : 6.0  
 Rated torque : 81.4 kgfm  
 Locked rotor torque : 150 %  
 Breakdown torque : 229 %  
 Rated speed : 3565 rpm

Moment of inertia (J) : 1.65 kgm<sup>2</sup>  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : B

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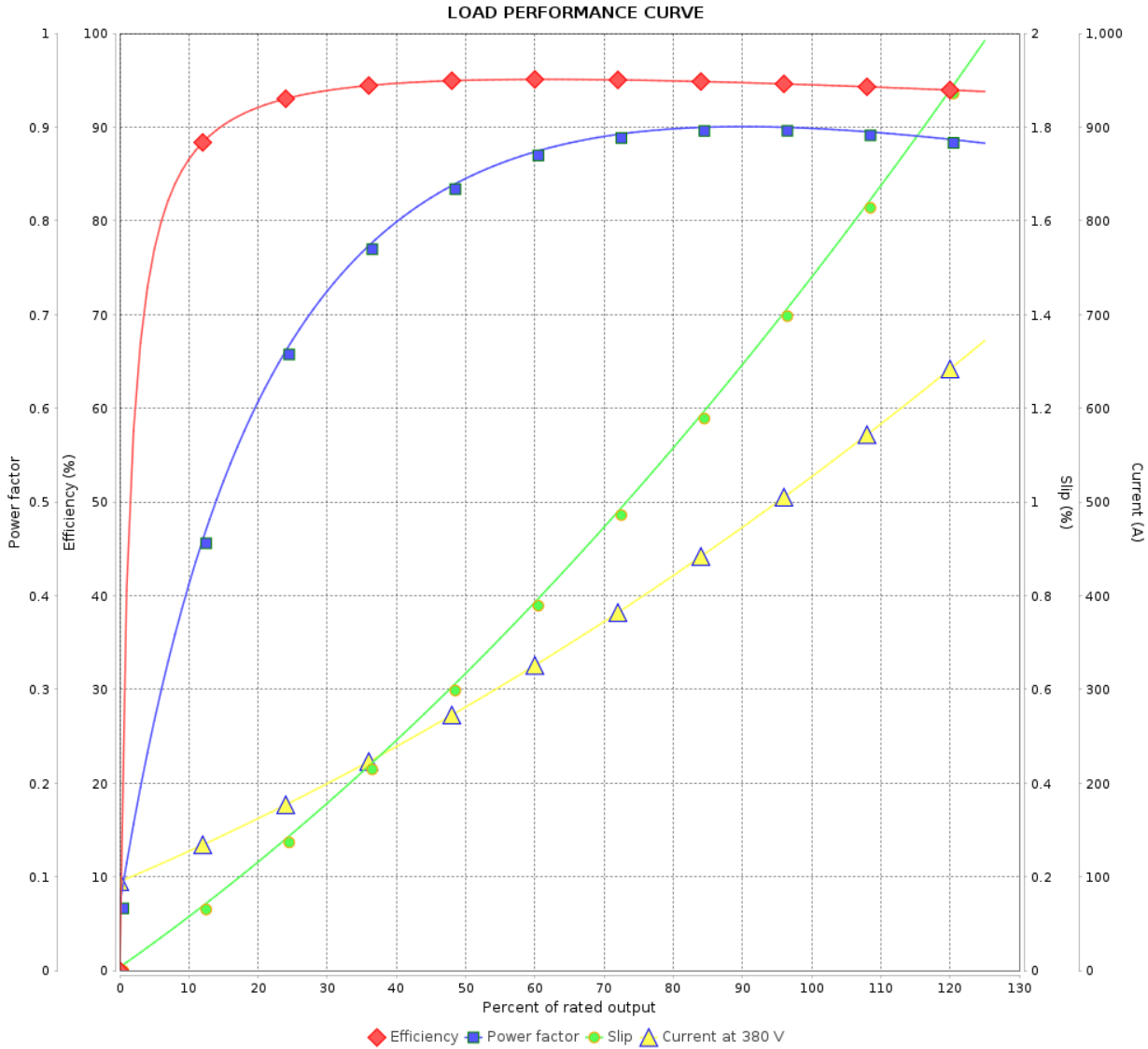
# LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W40 High Efficiency Three-Phase Product code : 13485038



Performance : 380 V 50 Hz 2P IE1

Rated current	: 536 A	Moment of inertia (J)	: 1.65 kgm <sup>2</sup>
LRC	: 5.3	Duty cycle	: Cont.(S1)
Rated torque	: 98.2 kgfm	Insulation class	: F
Locked rotor torque	: 120 %	Service factor	: 1.15
Breakdown torque	: 190 %	Temperature rise	: 105 K
Rated speed	: 2955 rpm	Design	: B

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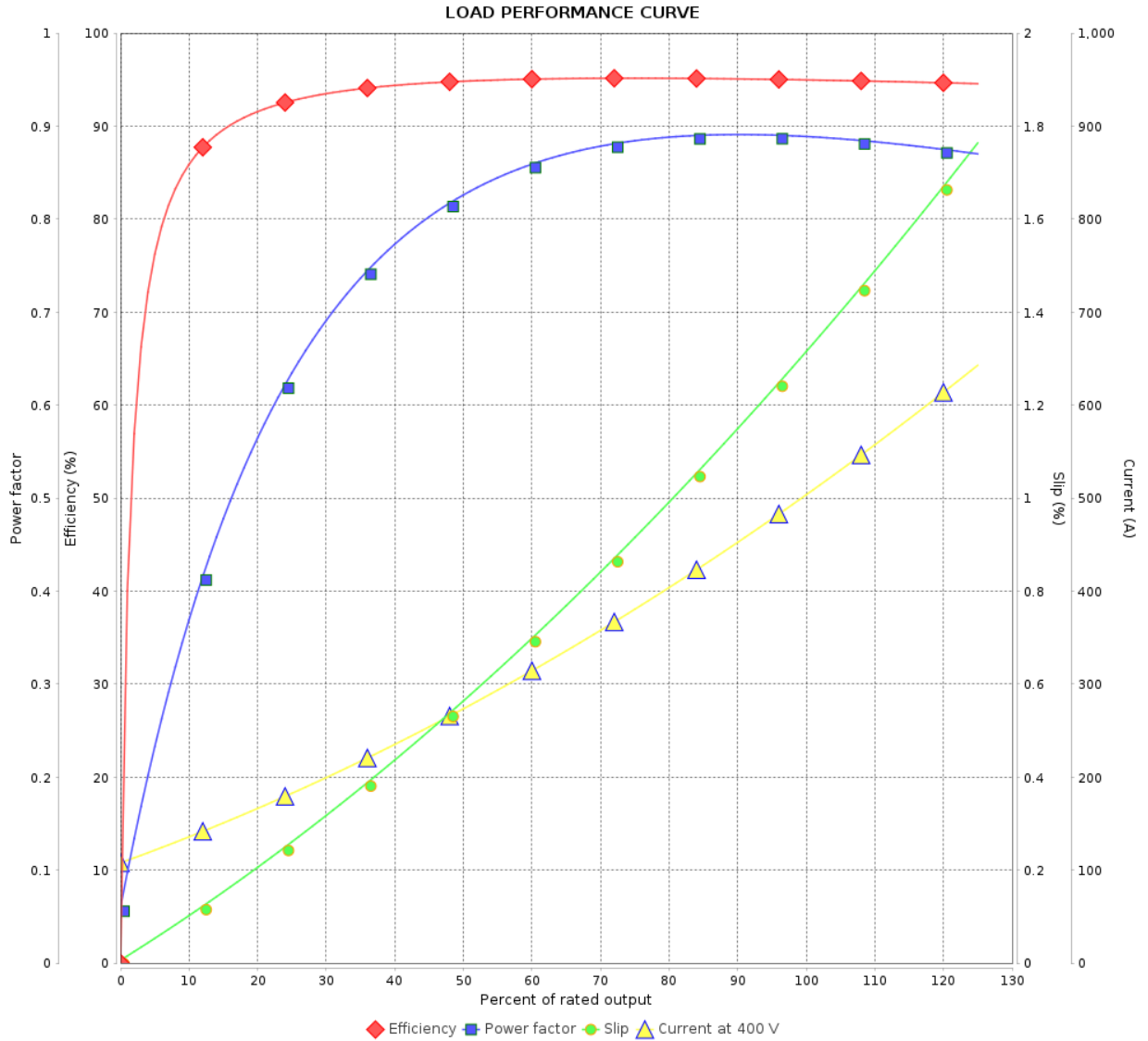
# LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage



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

Product line : W40 High Efficiency Three-Phase      Product code : 13485038



Performance : 400 V 50 Hz 2P IE2

Rated current : 512 A  
 LRC : 5.9  
 Rated torque : 98.1 kgfm  
 Locked rotor torque : 130 %  
 Breakdown torque : 200 %  
 Rated speed : 2960 rpm

Moment of inertia (J) : 1.65 kgm<sup>2</sup>  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 105 K  
 Design : B

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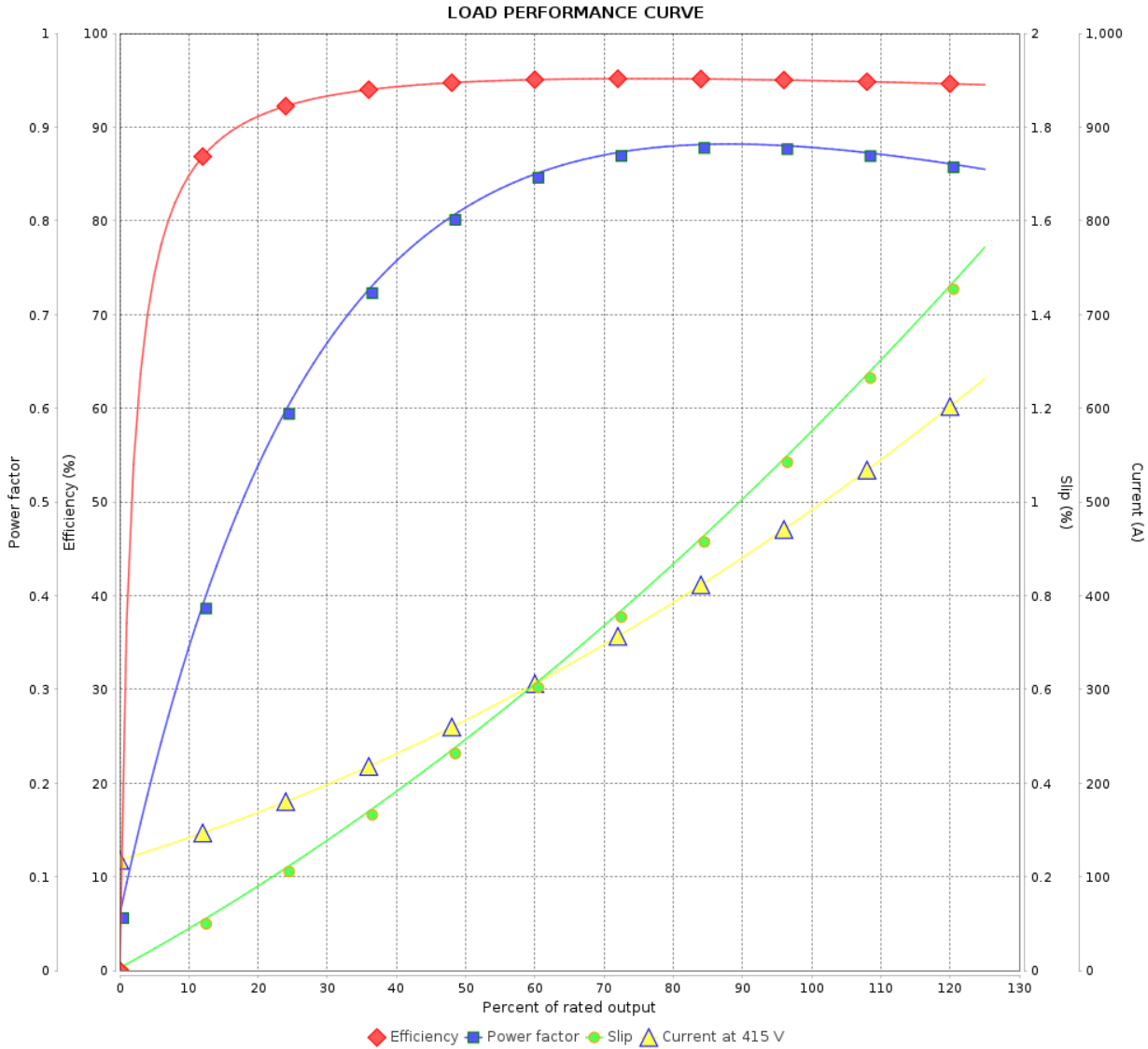
# LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W40 High Efficiency Three-Phase Product code : 13485038



Performance : 415 V 50 Hz 2P IE2

Rated current	: 499 A	Moment of inertia (J)	: 1.65 kgm <sup>2</sup>
LRC	: 6.4	Duty cycle	: Cont.(S1)
Rated torque	: 97.9 kgfm	Insulation class	: F
Locked rotor torque	: 140 %	Service factor	: 1.15
Breakdown torque	: 220 %	Temperature rise	: 80 K
Rated speed	: 2965 rpm	Design	: B

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