

# DATA SHEET



## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : ODP NEMA Premium Efficiency Three-Phase Product code : 11997391

Frame	: 324TC	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>	: 218 kg
Protection degree	: IP23	Moment of inertia (J)	: 0.2551 kgm <sup>2</sup>
Design	: B		

Output [HP]	40	30	30	30	40	40	40
Poles	4	4	4	4	4	4	4
Frequency [Hz]	60	50	50	50	50	50	50
Rated voltage [V]	230/460	380	400	415	380	400	415
Rated current [A]	96.4/48.2	42.8	41.6	41.1	58.1	55.8	54.4
L. R. Amperes [A]	598/299	270	291	312	279	301	321
LRC [A]	6.2x(Code G)	6.3x(Code G)	7.0x(Code H)	7.6x(Code J)	4.8x(Code E)	5.4x(Code F)	5.9x(Code G)
No load current [A]	37.0/18.5	15.4	16.8	18.1	15.4	16.8	18.1
Rated speed [RPM]	1775	1475	1475	1480	1465	1470	1475
Slip [%]	1.39	1.67	1.67	1.33	2.33	2.00	1.67
Rated torque [kgfm]	16.4	14.8	14.8	14.7	19.8	19.7	19.7
Locked rotor torque [%]	220	240	270	290	180	200	220
Breakdown torque [%]	229	340	370	400	250	280	300
Service factor	1.15	1.15	1.15	1.15	1.15	1.15	1.15
Temperature rise	80 K	80 K	80 K	80 K	80 K	80 K	80 K
Locked rotor time	50s (cold) 28s (hot)	36s (cold) 20s (hot)	32s (cold) 18s (hot)	30s (cold) 17s (hot)	36s (cold) 20s (hot)	32s (cold) 18s (hot)	30s (cold) 17s (hot)
Noise level <sup>2</sup>	64.0 dB(A)						
Efficiency (%)	25%						
	50%	93.6	90.1	89.9	89.8	91.7	91.7
	75%	94.1	91.7	91.7	92.0	91.7	91.7
	100%	94.1	93.0	93.0	93.0	92.3	92.3
Power Factor	25%						
	50%	0.68	0.70	0.66	0.63	0.77	0.74
	75%	0.78	0.80	0.77	0.74	0.84	0.82
	100%	0.83	0.84	0.82	0.80	0.85	0.84

	<u>Drive end</u>	<u>Non drive end</u>	Foundation loads
Bearing type	: 6312 Z C3	6212 Z C3	Max. traction : 634 kgf
Sealing	: Without	Without	Max. compression : 852 kgf
	<u>Bearing Seal</u>	<u>Bearing Seal</u>	
Lubrication interval	: 20000 h	20000 h	
Lubricant amount	: 21 g	13 g	
Lubricant type	: Mobil Polyrex EM		

Notes  
USABLE @208V 107A SF 1.15 SFA 123A

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

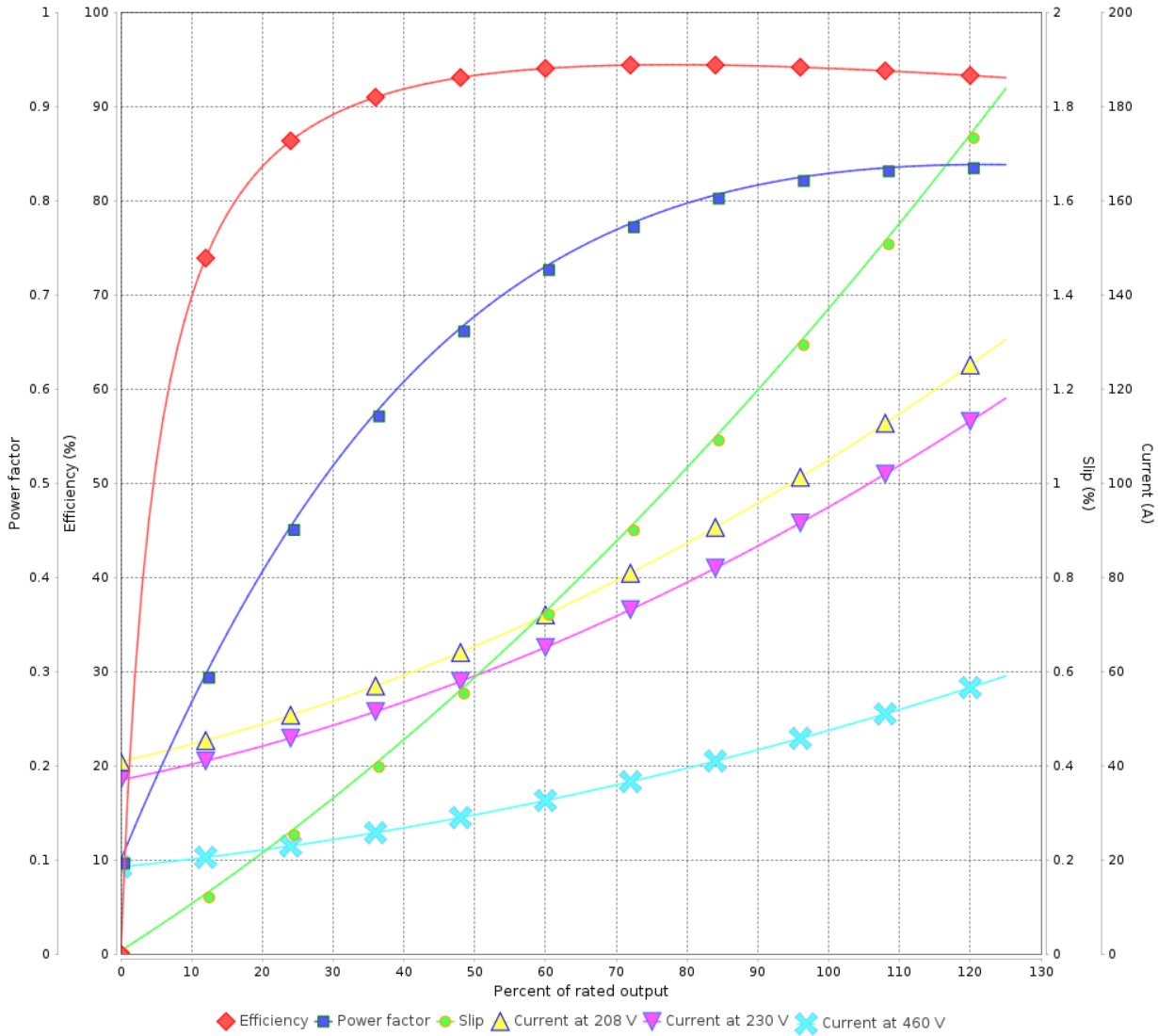
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : ODP NEMA Premium Efficiency Three-Phase      Product code : 11997391

LOAD PERFORMANCE CURVE



Performance : 230/460 V 60 Hz 4P

Rated current : 96.4/48.2 A  
 LRC : 6.2  
 Rated torque : 16.4 kgfm  
 Locked rotor torque : 220 %  
 Breakdown torque : 229 %  
 Rated speed : 1775 rpm

Moment of inertia (J) : 0.2551 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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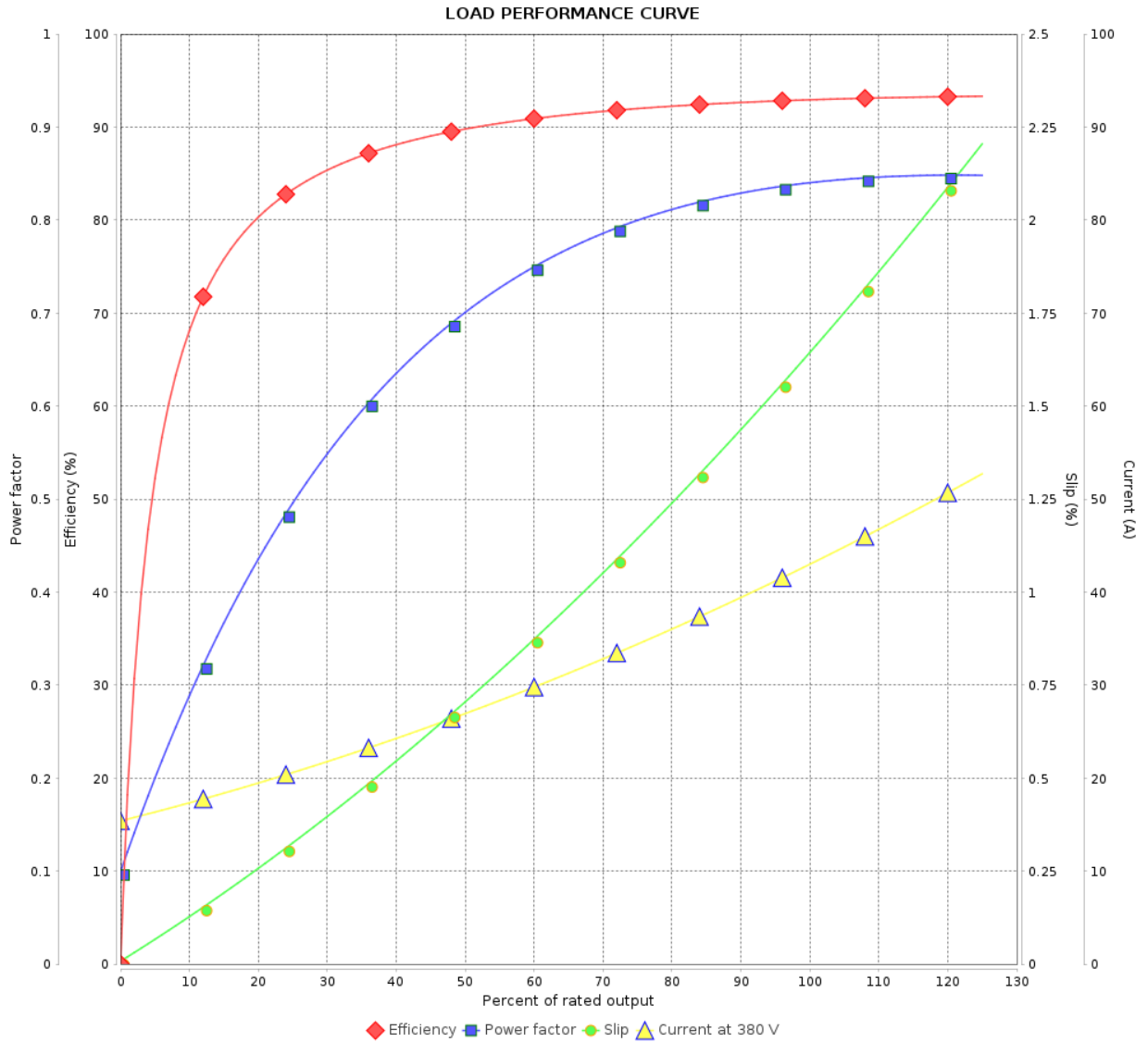
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : ODP NEMA Premium Efficiency Three-Phase

Product code : 11997391



Performance : 380 V 50 Hz 4P IE3

Rated current : 42.8 A  
 LRC : 6.3  
 Rated torque : 14.8 kgfm  
 Locked rotor torque : 240 %  
 Breakdown torque : 340 %  
 Rated speed : 1475 rpm

Moment of inertia (J) : 0.2551 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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Date				

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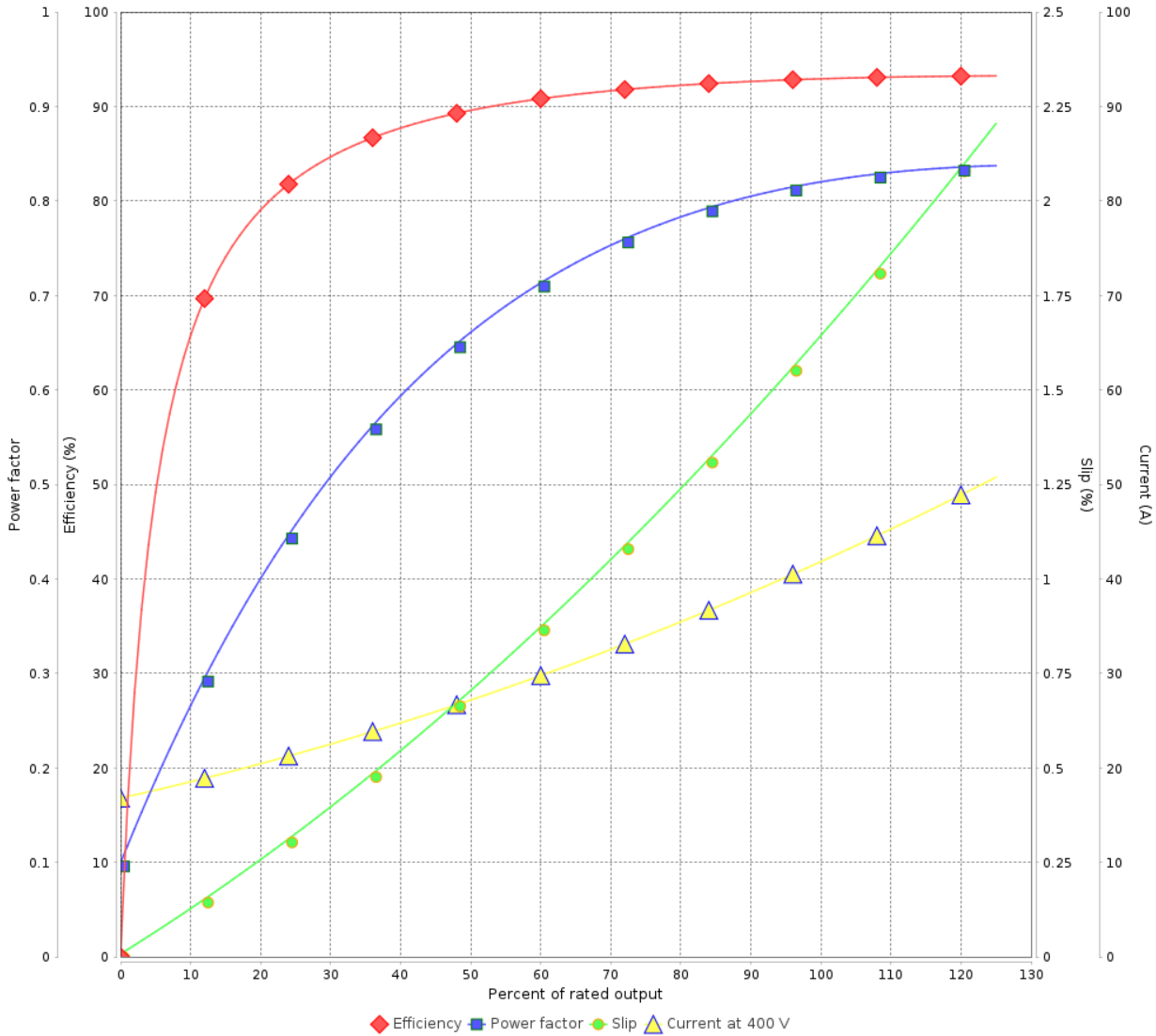
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : ODP NEMA Premium Efficiency Three-Phase      Product code : 11997391

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Performance : 400 V 50 Hz 4P IE3

Rated current	: 41.6 A	Moment of inertia (J)	: 0.2551 kgm <sup>2</sup>
LRC	: 7.0	Duty cycle	: Cont.(S1)
Rated torque	: 14.8 kgfm	Insulation class	: F
Locked rotor torque	: 270 %	Service factor	: 1.15
Breakdown torque	: 370 %	Temperature rise	: 80 K
Rated speed	: 1475 rpm	Design	: B

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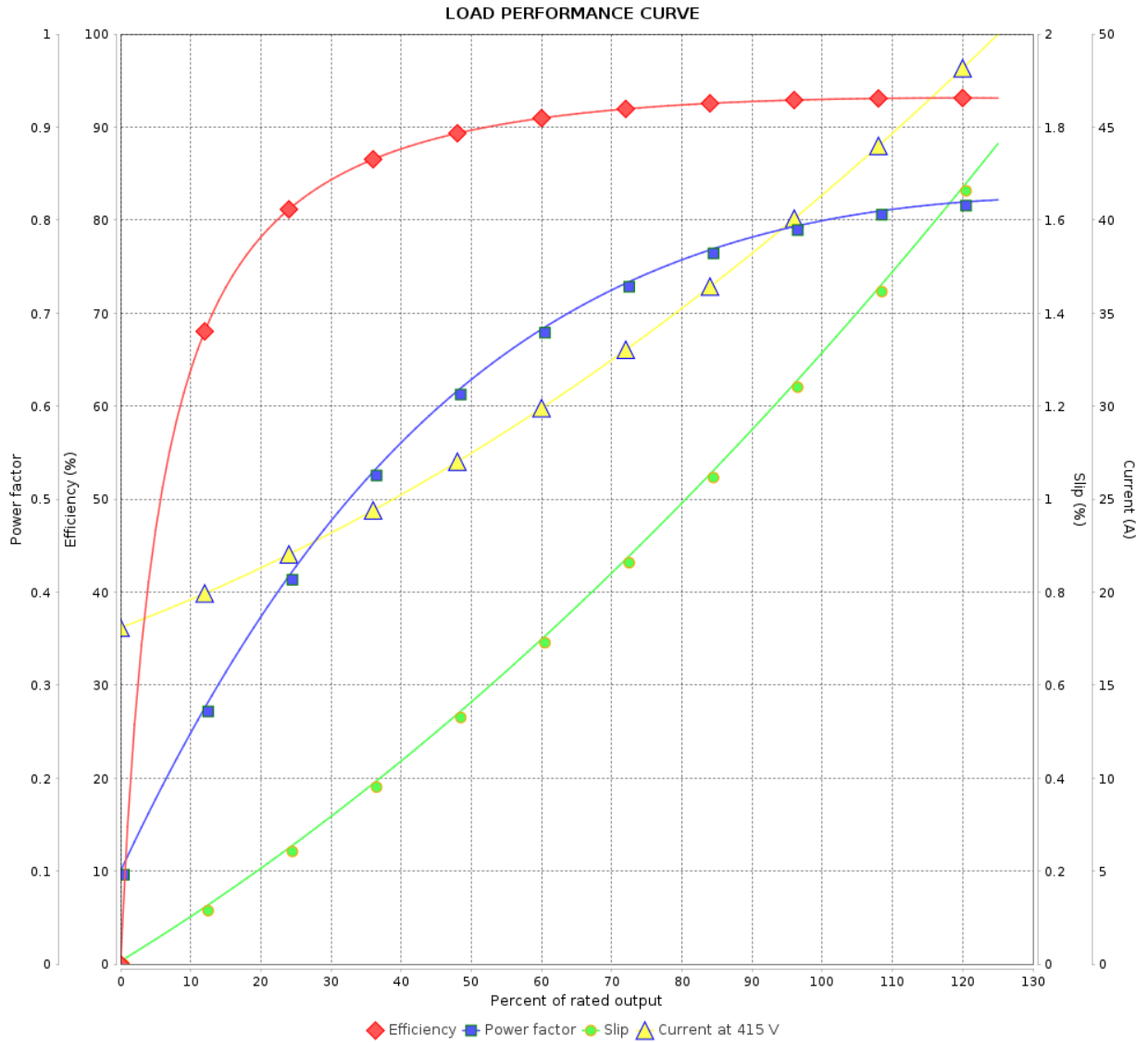
# LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : ODP NEMA Premium Efficiency Three-Phase      Product code : 11997391



Performance : 415 V 50 Hz 4P IE3

Rated current	: 41.1 A	Moment of inertia (J)	: 0.2551 kgm <sup>2</sup>
LRC	: 7.6	Duty cycle	: Cont.(S1)
Rated torque	: 14.7 kgfm	Insulation class	: F
Locked rotor torque	: 290 %	Service factor	: 1.15
Breakdown torque	: 400 %	Temperature rise	: 80 K
Rated speed	: 1480 rpm	Design	: B

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# LOAD PERFORMANCE CURVE

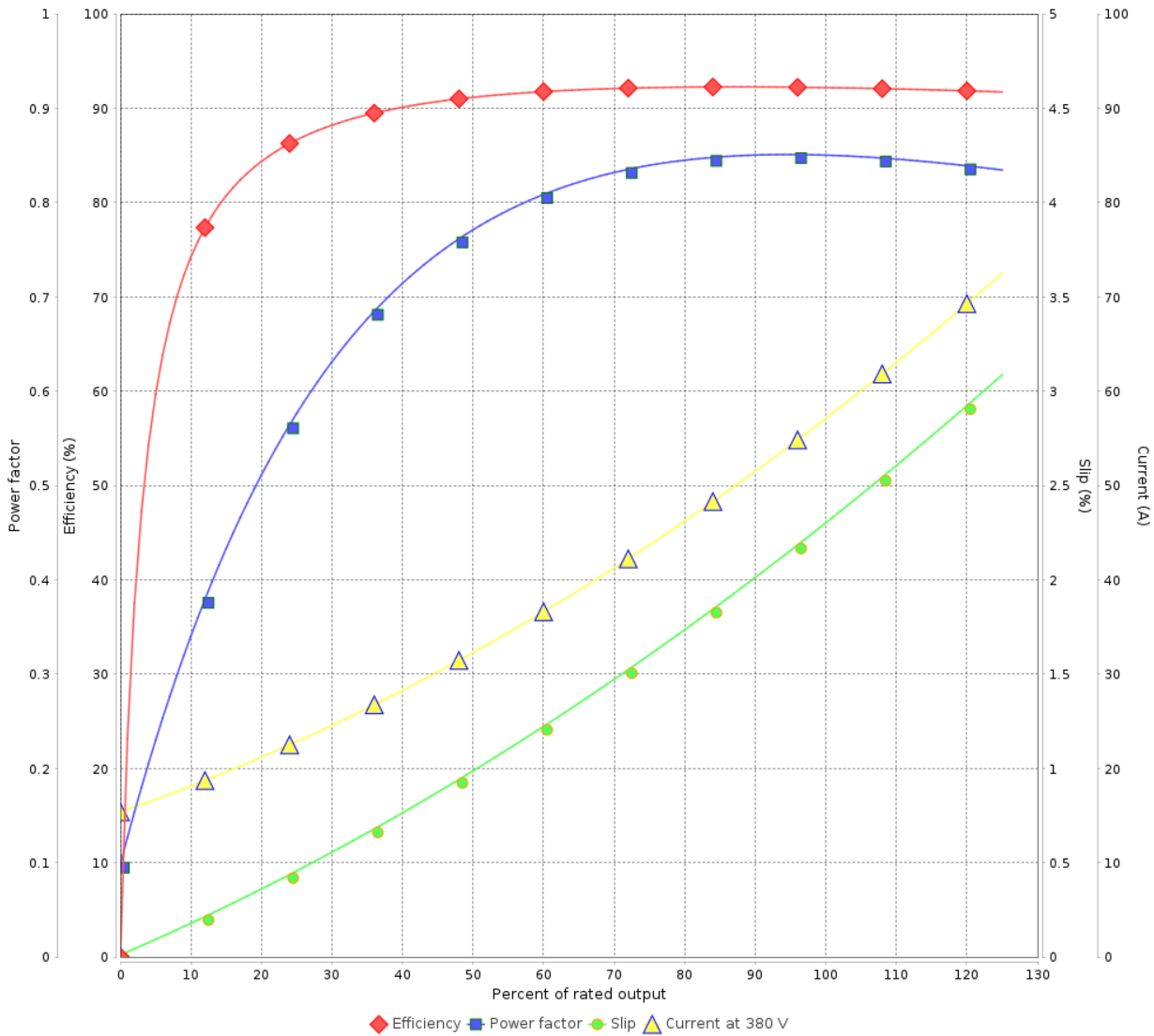
Three Phase Induction Motor - Squirrel Cage



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

Product line : ODP NEMA Premium Efficiency Three-Phase      Product code : 11997391

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Performance : 380 V 50 Hz 4P IE2

Rated current	: 58.1 A	Moment of inertia (J)	: 0.2551 kgm <sup>2</sup>
LRC	: 4.8	Duty cycle	: Cont.(S1)
Rated torque	: 19.8 kgfm	Insulation class	: F
Locked rotor torque	: 180 %	Service factor	: 1.15
Breakdown torque	: 250 %	Temperature rise	: 80 K
Rated speed	: 1465 rpm	Design	: B

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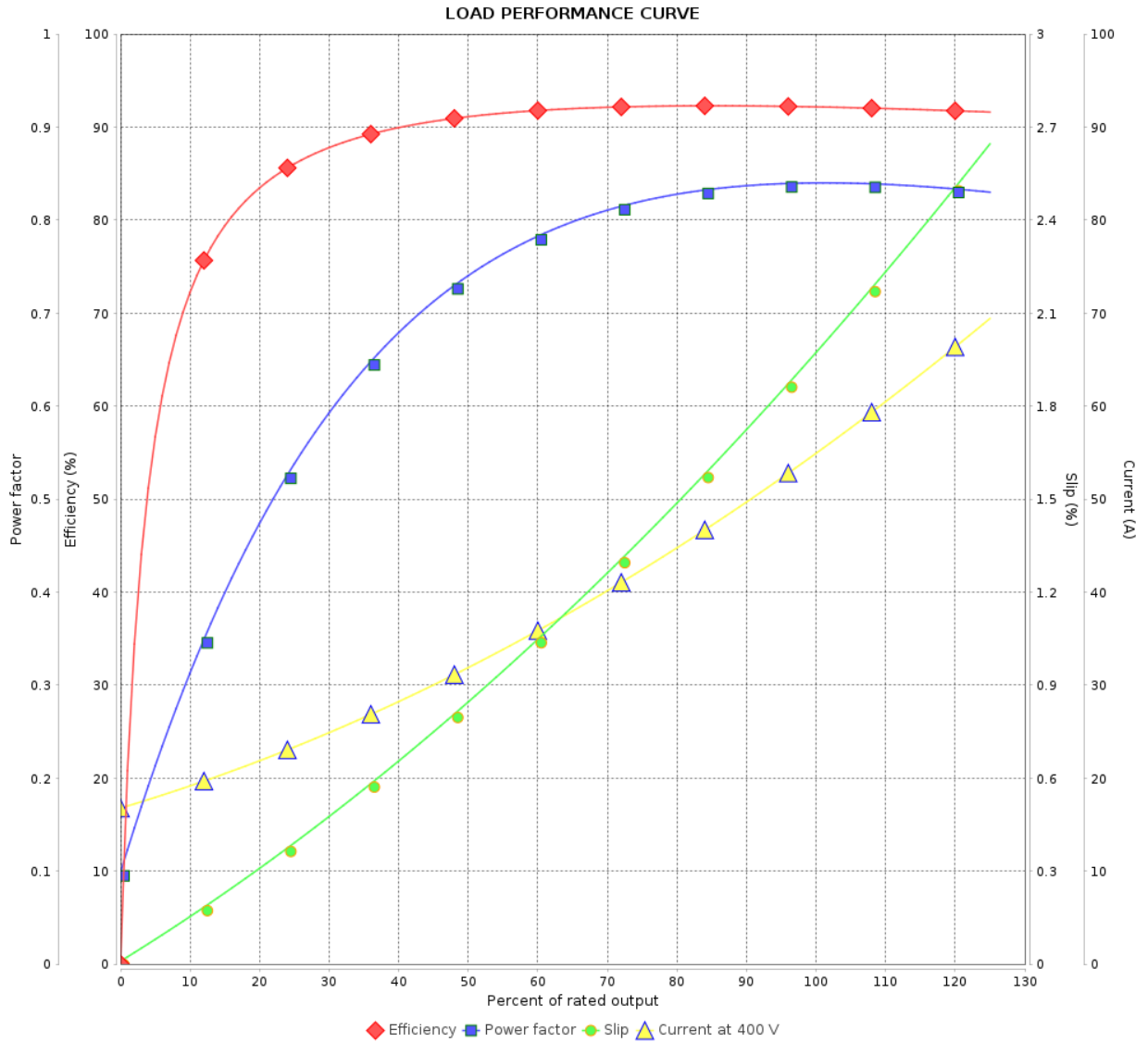
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : ODP NEMA Premium Efficiency  
Three-Phase

Product code : 11997391



Performance : 400 V 50 Hz 4P IE2

Rated current : 55.8 A  
 LRC : 5.4  
 Rated torque : 19.7 kgfm  
 Locked rotor torque : 200 %  
 Breakdown torque : 280 %  
 Rated speed : 1470 rpm

Moment of inertia (J) : 0.2551 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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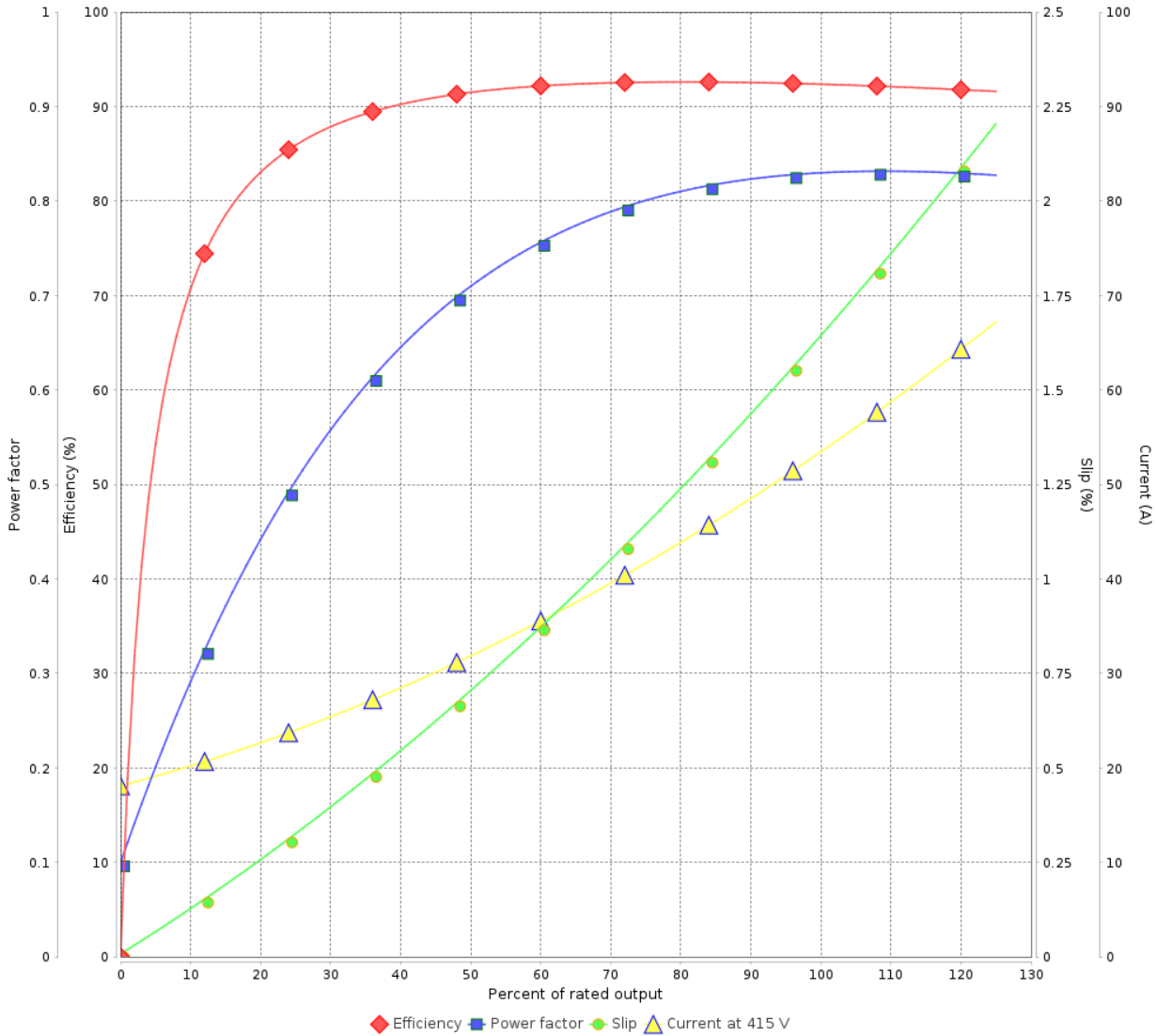
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : ODP NEMA Premium Efficiency Three-Phase      Product code : 11997391

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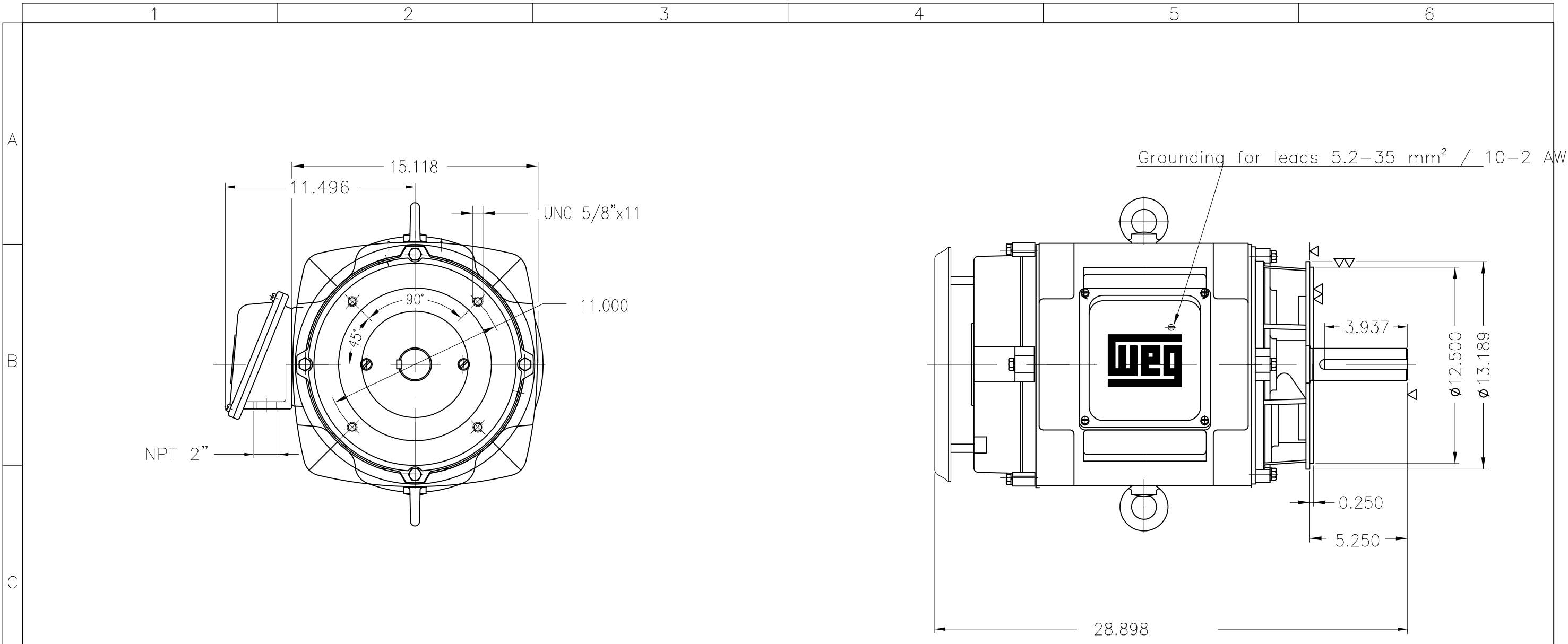


Performance : 415 V 50 Hz 4P IE2

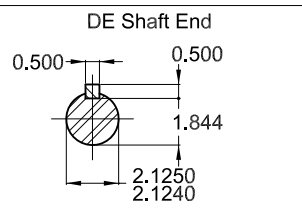
Rated current	: 54.4 A	Moment of inertia (J)	: 0.2551 kgm <sup>2</sup>
LRC	: 5.9	Duty cycle	: Cont.(S1)
Rated torque	: 19.7 kgfm	Insulation class	: F
Locked rotor torque	: 220 %	Service factor	: 1.15
Breakdown torque	: 300 %	Temperature rise	: 80 K
Rated speed	: 1475 rpm	Design	: B

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Color RAL 5009  
 Painting plan 203A  
 Mounting B14R(D)



40 HP 04 Poles 60 Hz										A
HYBRISUSER										00
ECM	LOC	SUMMARY OF MODIFICATIONS				EXECUTED	CHECKED	RELEASED	DATE	VER
EXECUTED	HYBRISUSER	THREE PH. MOTOR GENERAL NEMA PREM. EFF.					PREVIEW			
CHECKED		FRAME 324TC IP23 ODP					WDD	00		
RELEASED							SHEET	1 / 1		
REL. DATE		WMO	Jaragua do Sul	Product Engineering						