

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : ODP NEMA Premium Efficiency Three-Phase Product code : 10015864

Frame : 254T	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> : 95.4 kg
Protection degree : IP23	Moment of inertia (J) : 0.0309 kgm <sup>2</sup>
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]	49.2/24.6	22.1	22.0	22.0	30.3	29.5	28.8
L. R. Amperes [A]	276/138	126	132	143	133	142	150
LRC [A]	5.6x(Code F)	5.7x(Code F)	6.0x(Code G)	6.5x(Code H)	4.4x(Code D)	4.8x(Code E)	5.2x(Code F)
No load current [A]	18.2/9.10	9.00	10.0	11.5	9.00	10.0	11.5
Rated speed [RPM]	3520	2935	2940	2945	2900	2910	2920
Slip [%]	2.22	2.17	2.00	1.83	3.33	3.00	2.67
Rated torque [kgfm]	4.12	3.71	3.70	3.70	5.01	4.99	4.97
Locked rotor torque [%]	160	180	200	220	130	140	150
Breakdown torque [%]	250	270	300	320	180	220	240
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	21s (cold) 12s (hot)	16s (cold) 9s (hot)	14s (cold) 8s (hot)	14s (cold) 8s (hot)	16s (cold) 9s (hot)	14s (cold) 8s (hot)	14s (cold) 8s (hot)
Noise level <sup>2</sup>	66.0 dB(A)						
Efficiency (%)	25%						
	50%	89.5	84.7	84.4	85.0	86.5	87.5
	75%	90.2	86.9	86.9	87.9	87.5	88.5
	100%	91.0	91.2	91.2	91.4	87.5	88.5
Power Factor	25%						
	50%	0.71	0.65	0.60	0.55	0.74	0.64
	75%	0.80	0.77	0.72	0.68	0.83	0.76
	100%	0.84	0.83	0.79	0.76	0.86	0.82

	<u>Drive end</u>	<u>Non drive end</u>	Foundation loads
Bearing type :	6309 Z C3	6209 Z C3	Max. traction : 140 kgf
Sealing :	Without	Without	Max. compression : 235 kgf
	Bearing Seal	Bearing Seal	
Lubrication interval :	20000 h	20000 h	
Lubricant amount :	13 g	9 g	
Lubricant type :	Mobil Polyrex EM		

### Notes

USABLE @208V 53.0A SF 1.15 SFA 60.9A

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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Performed by				
Checked by				
Date	19/10/2024			

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Revision

# LOAD PERFORMANCE CURVE

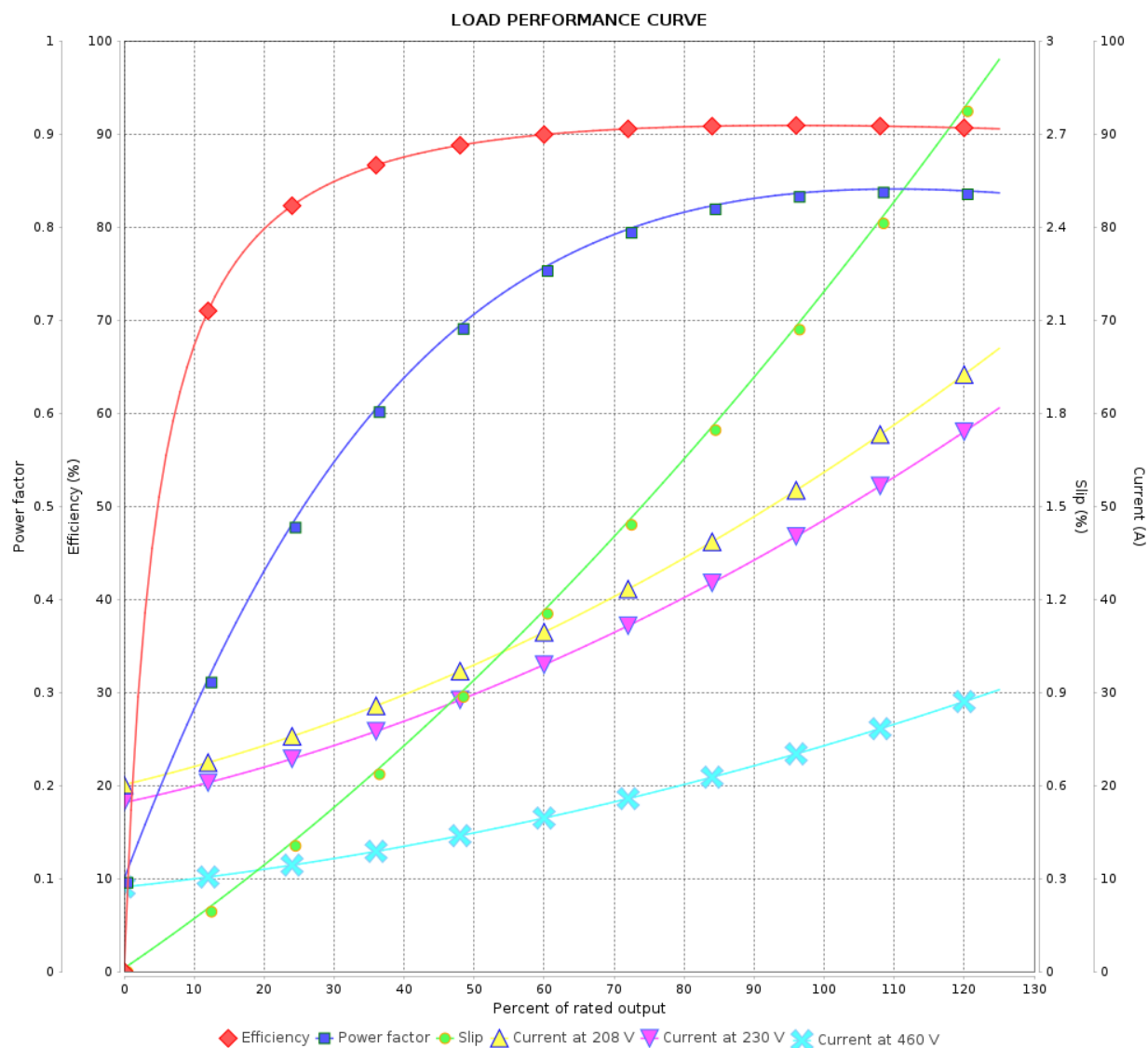
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : ODP NEMA Premium Efficiency  
Three-Phase

Product code : 10015864



Performance : 230/460 V 60 Hz 2P

Rated current : 49.2/24.6 A  
LRC : 5.6  
Rated torque : 4.12 kgfm  
Locked rotor torque : 160 %  
Breakdown torque : 250 %  
Rated speed : 3520 rpm

Moment of inertia (J) : 0.0309 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

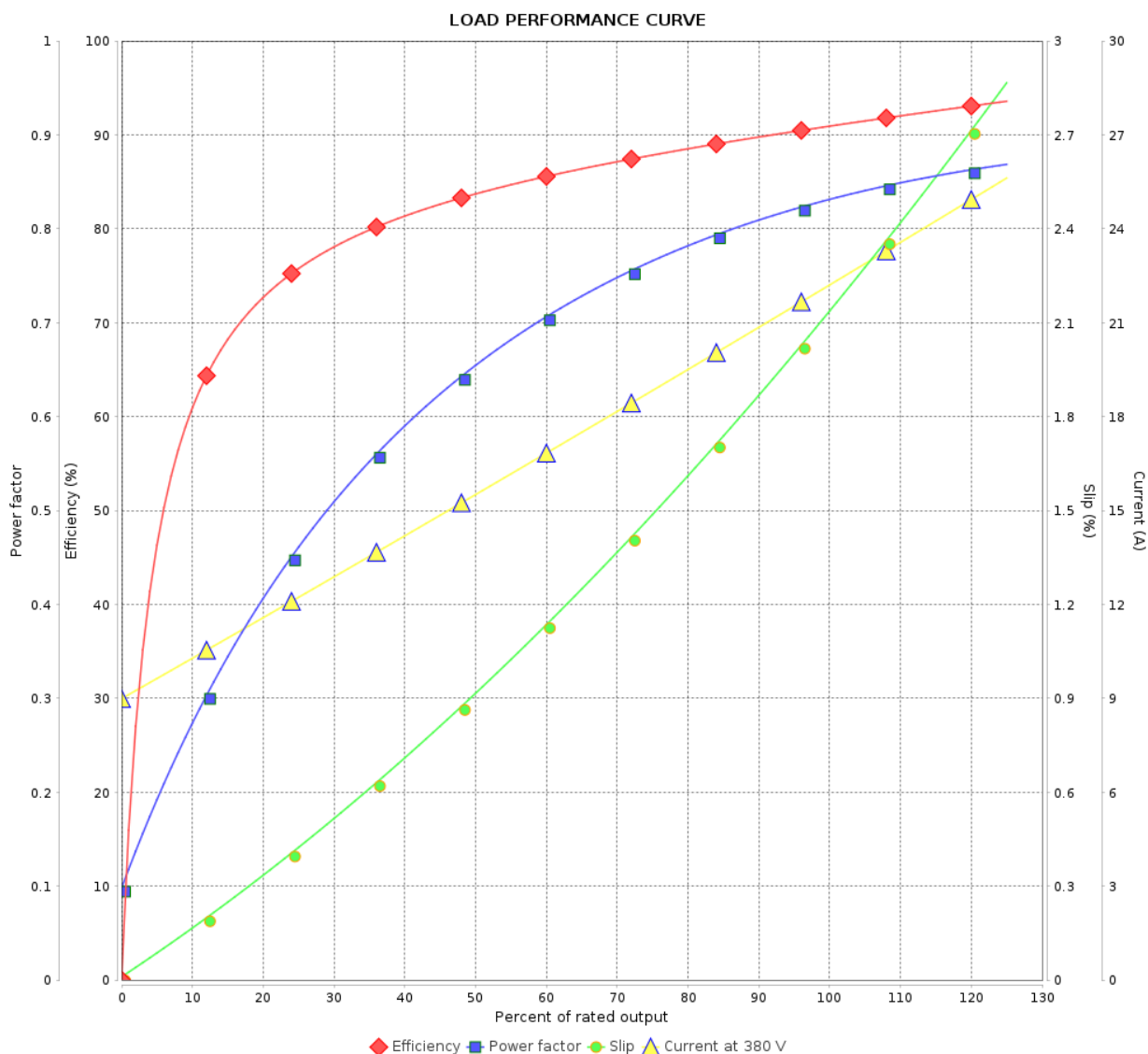
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : ODP NEMA Premium Efficiency  
Three-Phase

Product code : 10015864



Performance : 380 V 50 Hz 2P IE3

Rated current : 22.1 A  
LRC : 5.7  
Rated torque : 3.71 kgfm  
Locked rotor torque : 180 %  
Breakdown torque : 270 %  
Rated speed : 2935 rpm

Moment of inertia (J) : 0.0309 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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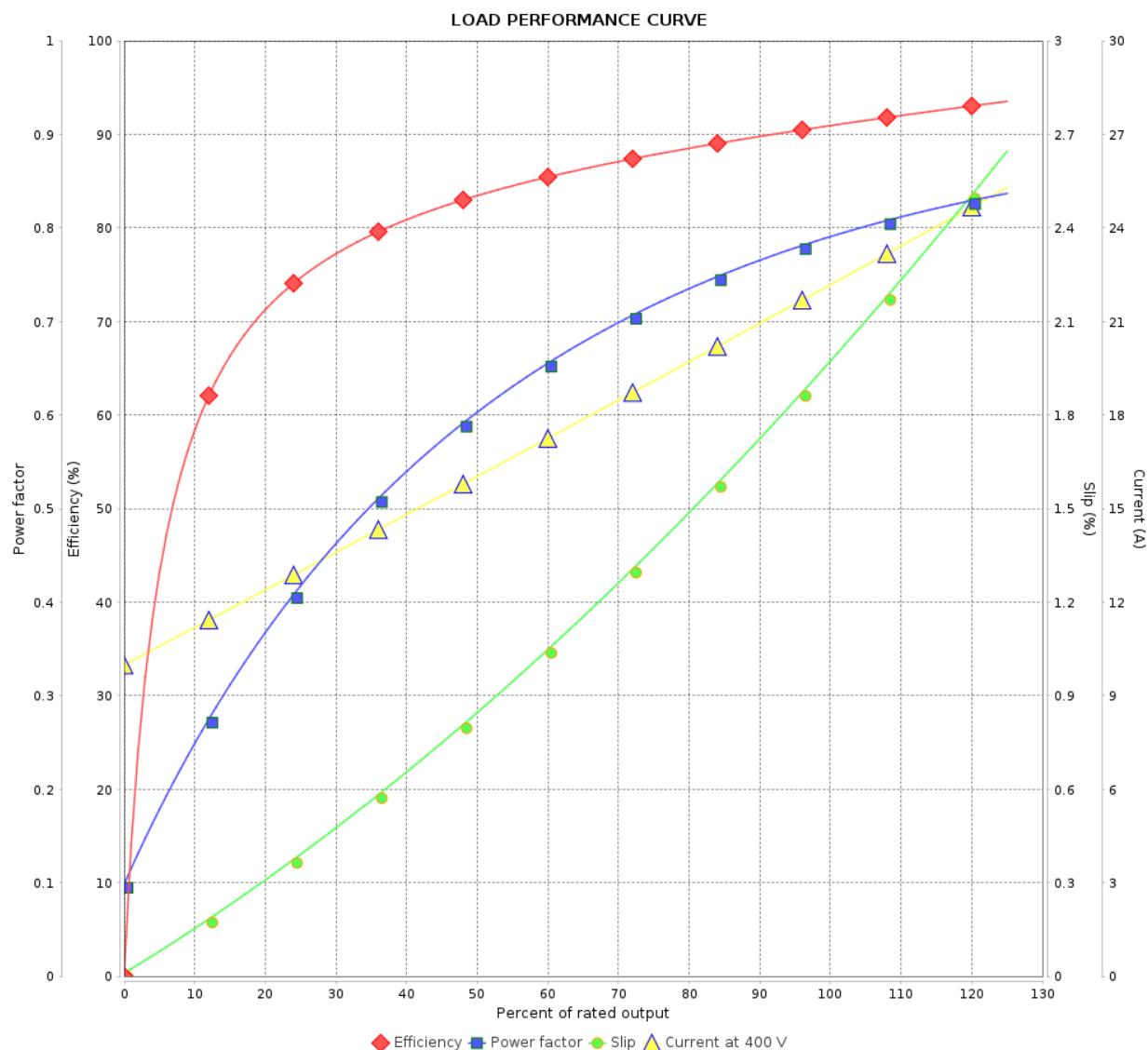
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : ODP NEMA Premium Efficiency  
Three-Phase

Product code : 10015864



Performance : 400 V 50 Hz 2P IE3

Rated current : 22.0 A  
LRC : 6.0  
Rated torque : 3.70 kgfm  
Locked rotor torque : 200 %  
Breakdown torque : 300 %  
Rated speed : 2940 rpm

Moment of inertia (J) : 0.0309 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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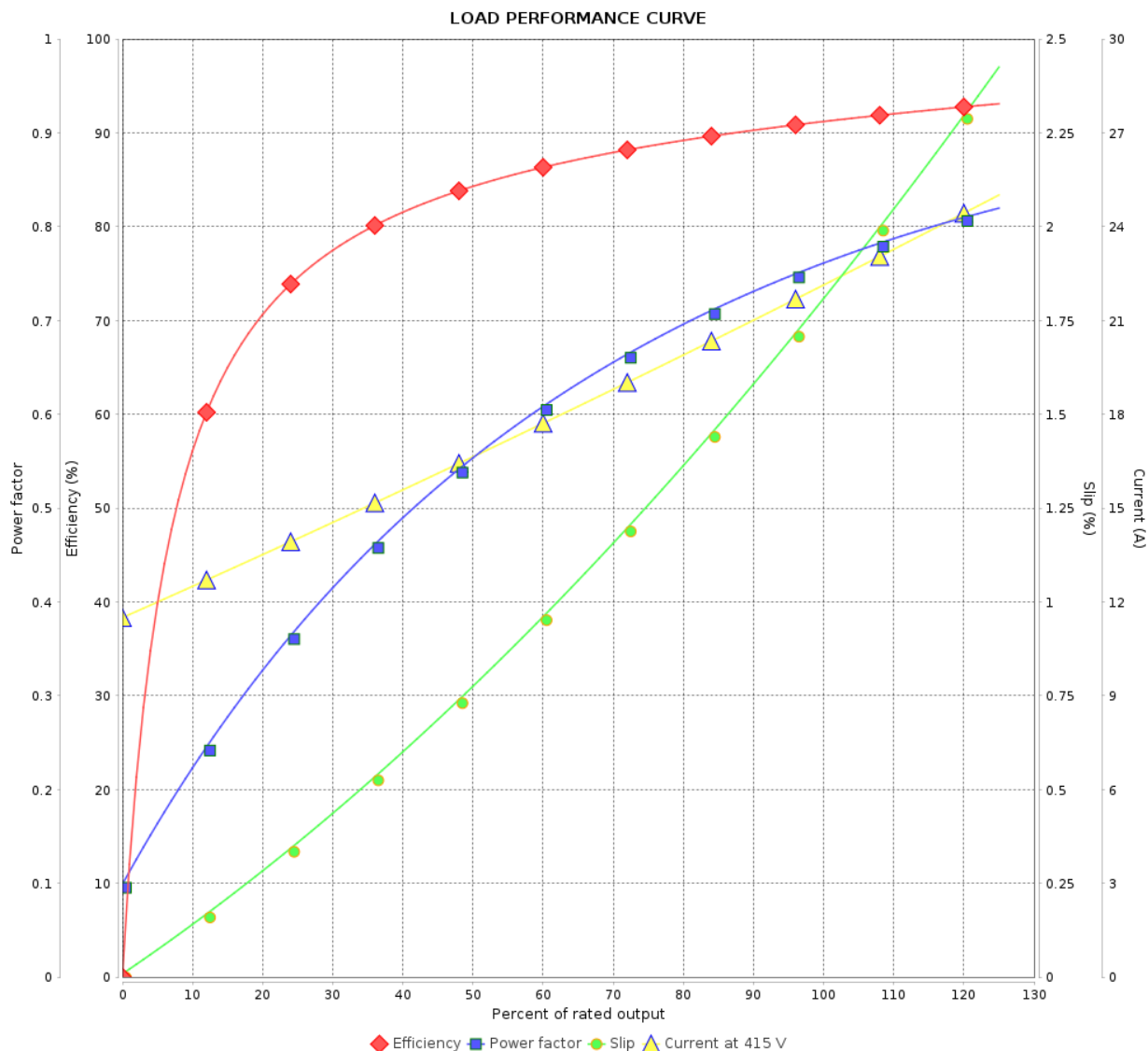
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : ODP NEMA Premium Efficiency  
Three-Phase

Product code : 10015864



Performance : 415 V 50 Hz 2P IE3

Rated current : 22.0 A  
LRC : 6.5  
Rated torque : 3.70 kgfm  
Locked rotor torque : 220 %  
Breakdown torque : 320 %  
Rated speed : 2945 rpm

Moment of inertia (J) : 0.0309 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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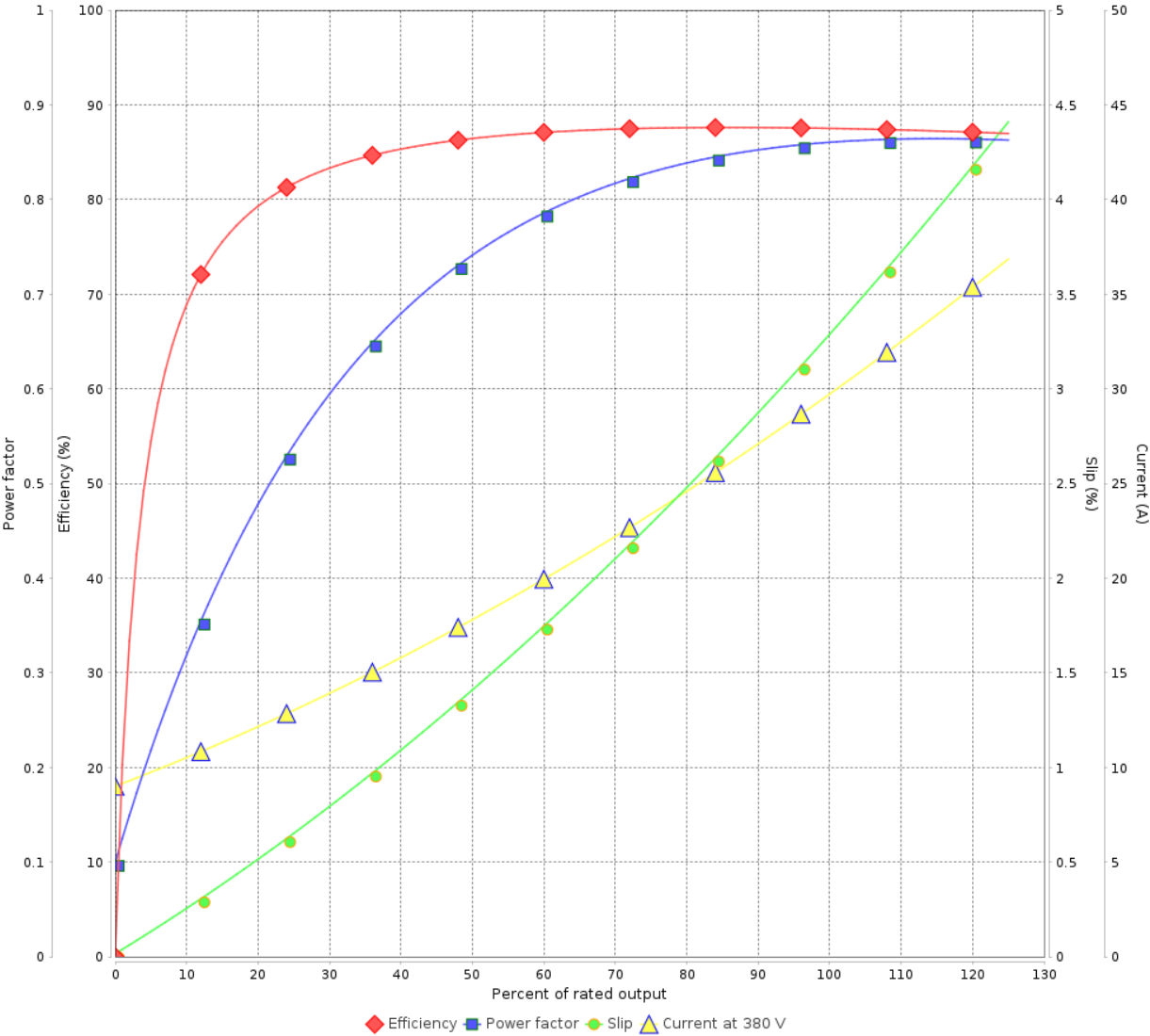
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : ODP NEMA Premium Efficiency Three-Phase      Product code : 10015864

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Performance : 380 V 50 Hz 2P			
Rated current	: 30.3 A	Moment of inertia (J)	: 0.0309 kgm <sup>2</sup>
LRC	: 4.4	Duty cycle	: Cont.(S1)
Rated torque	: 5.01 kgfm	Insulation class	: F
Locked rotor torque	: 130 %	Service factor	: 1.15
Breakdown torque	: 180 %	Temperature rise	: 80 K
Rated speed	: 2900 rpm	Design	: B

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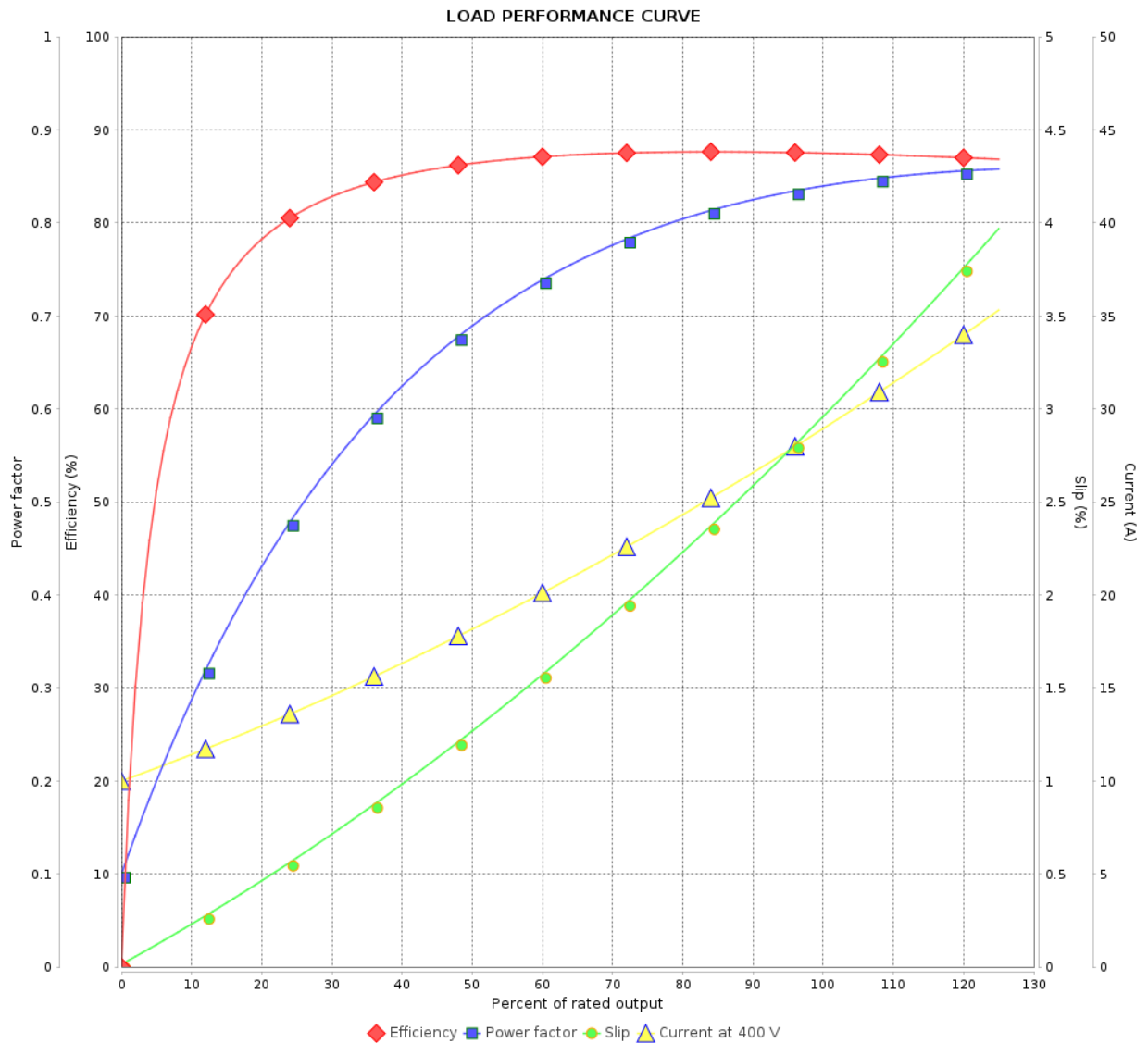
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : ODP NEMA Premium Efficiency  
Three-Phase

Product code : 10015864



Performance : 400 V 50 Hz 2P

Rated current : 29.5 A  
LRC : 4.8  
Rated torque : 4.99 kgfm  
Locked rotor torque : 140 %  
Breakdown torque : 220 %  
Rated speed : 2910 rpm

Moment of inertia (J) : 0.0309 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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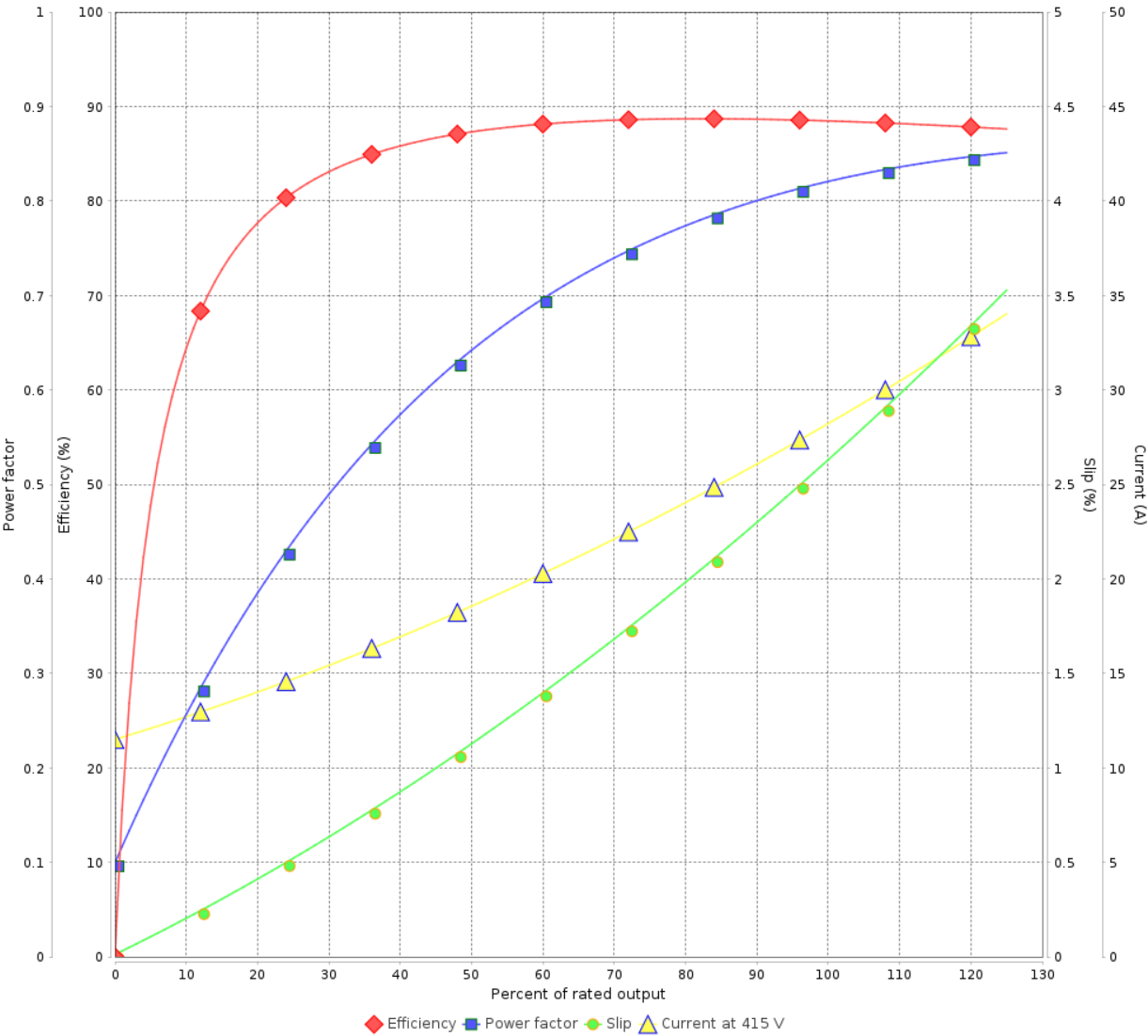
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : ODP NEMA Premium Efficiency Three-Phase      Product code : 10015864

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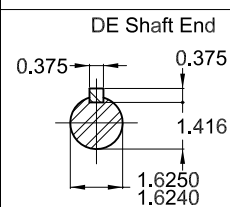
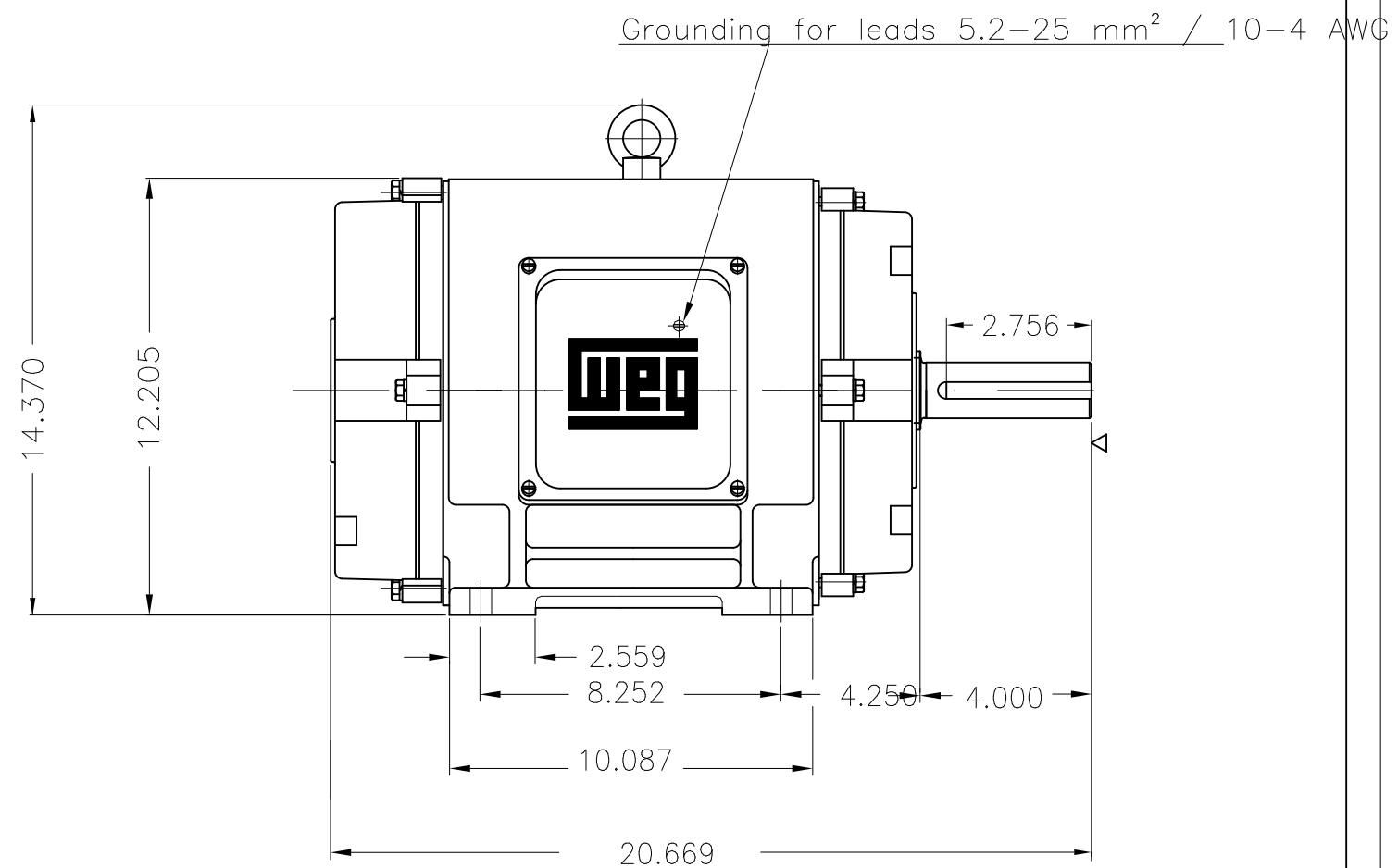
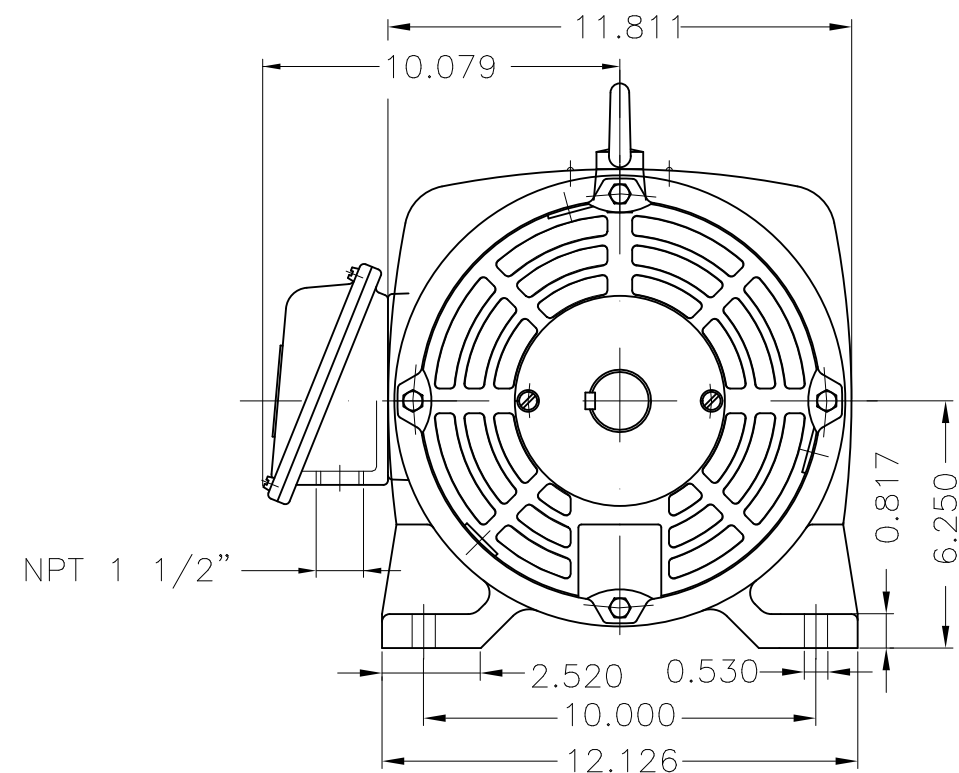


Performance : 415 V 50 Hz 2P



Rated current	: 28.8 A	Moment of inertia (J)	: 0.0309 kgm <sup>2</sup>
LRC	: 5.2	Duty cycle	: Cont.(S1)
Rated torque	: 4.97 kgfm	Insulation class	: F
Locked rotor torque	: 150 %	Service factor	: 1.15
Breakdown torque	: 240 %	Temperature rise	: 80 K
Rated speed	: 2920 rpm	Design	: B

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Color RAL 5009
Painting plan 203A
Mounting NEMA F-1
Mounting B3R(D)

20 HP    02 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. FRAME 254T IP23 ODP				<div>PREVIEW</div> <div>WDD    00</div>			
CHECKED										
RELEASED										
REL. DATE		WMO	Jaragua do Sul	Product Engineering	SHEET	1	/	1		