

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :					
Product line	: NEMA Premium Efficiency Three-Phase	Product code :	12182294		
		Catalog # :	50012ET3G586/7-W22		
Frame	: 586/7T	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>	: 4688 lb		
Protection degree	: IP55	Moment of inertia (J)	: 368 sq.ft.lb		
Output [HP]	500	450	450	450	
Poles	6	6	6	6	
Frequency [Hz]	60	50	50	50	
Rated voltage [V]	460	380	400	415	
Rated current [A]	603	646	629	614	
L. R. Amperes [A]	3618	3424	3711	3930	
LRC [A]	6.0x(Code G)	5.3x(Code F)	5.9x(Code G)	6.4x(Code G)	
No load current [A]	240	235	255	275	
Rated speed [RPM]	1192	991	992	993	
Slip [%]	0.67	0.90	0.80	0.70	
Rated torque [ft.lb]	2200	2380	2380	2380	
Locked rotor torque [%]	200	180	200	220	
Breakdown torque [%]	210	190	210	229	
Service factor	1.15	1.00	1.00	1.00	
Temperature rise	80 K	105 K	105 K	105 K	
Locked rotor time	45s (cold) 25s (hot)	36s (cold) 20s (hot)	36s (cold) 20s (hot)	36s (cold) 20s (hot)	
Noise level <sup>2</sup>	77.0 dB(A)	73.0 dB(A)	73.0 dB(A)	73.0 dB(A)	
Efficiency (%)	25%	95.7	96.5	96.1	95.3
	50%	95.8	96.2	95.8	95.4
	75%	96.2	96.2	96.2	95.8
	100%	96.2	95.8	95.8	95.8
Power Factor	25%	0.42	0.45	0.41	0.37
	50%	0.66	0.69	0.65	0.61
	75%	0.76	0.78	0.75	0.73
	100%	0.80	0.81	0.79	0.78
Bearing type	: <u>Drive end</u> 6322 C3	<u>Non drive end</u> 6319 C3	Foundation loads		
Sealing	: Taconite	Taconite	Max. traction	: 9076 lb	
	Labyrinth	Labyrinth	Max. compression	: 13764 lb	
Lubrication interval	: 11000 h	13000 h			
Lubricant amount	: 60 g	45 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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# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



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

### Space heater information

Voltage: 200 - 240 V

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# TORQUE AND CURRENT VS SPEED CURVE



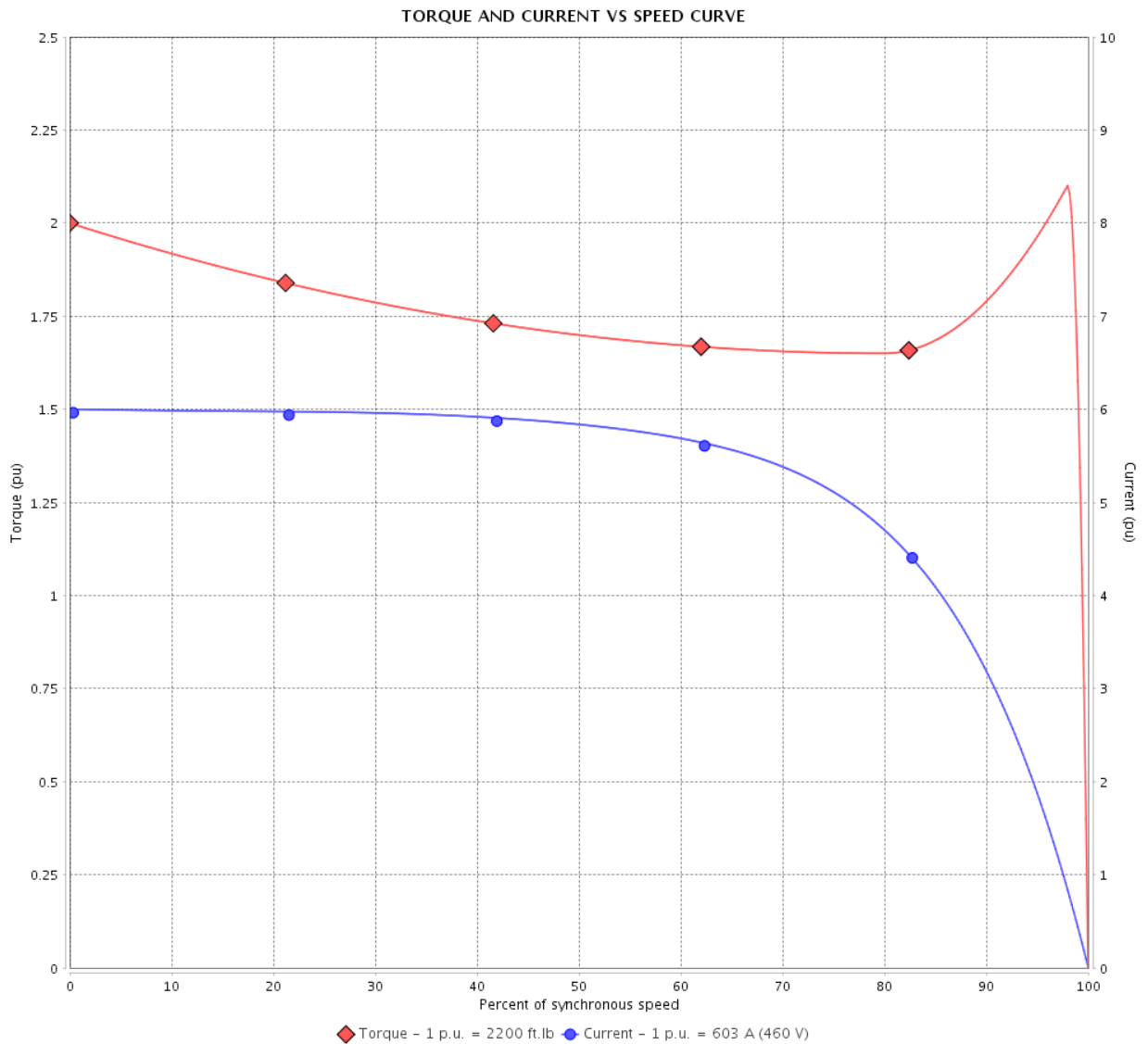
## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12182294

Catalog # : 50012ET3G586/7-W22



Performance : 460 V 60 Hz 6P

Rated current : 603 A  
 LRC : 6.0  
 Rated torque : 2200 ft.lb  
 Locked rotor torque : 200 %  
 Breakdown torque : 210 %  
 Rated speed : 1192 rpm

Moment of inertia (J) : 368 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K

Locked rotor time : 45s (cold) 25s (hot)

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# TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



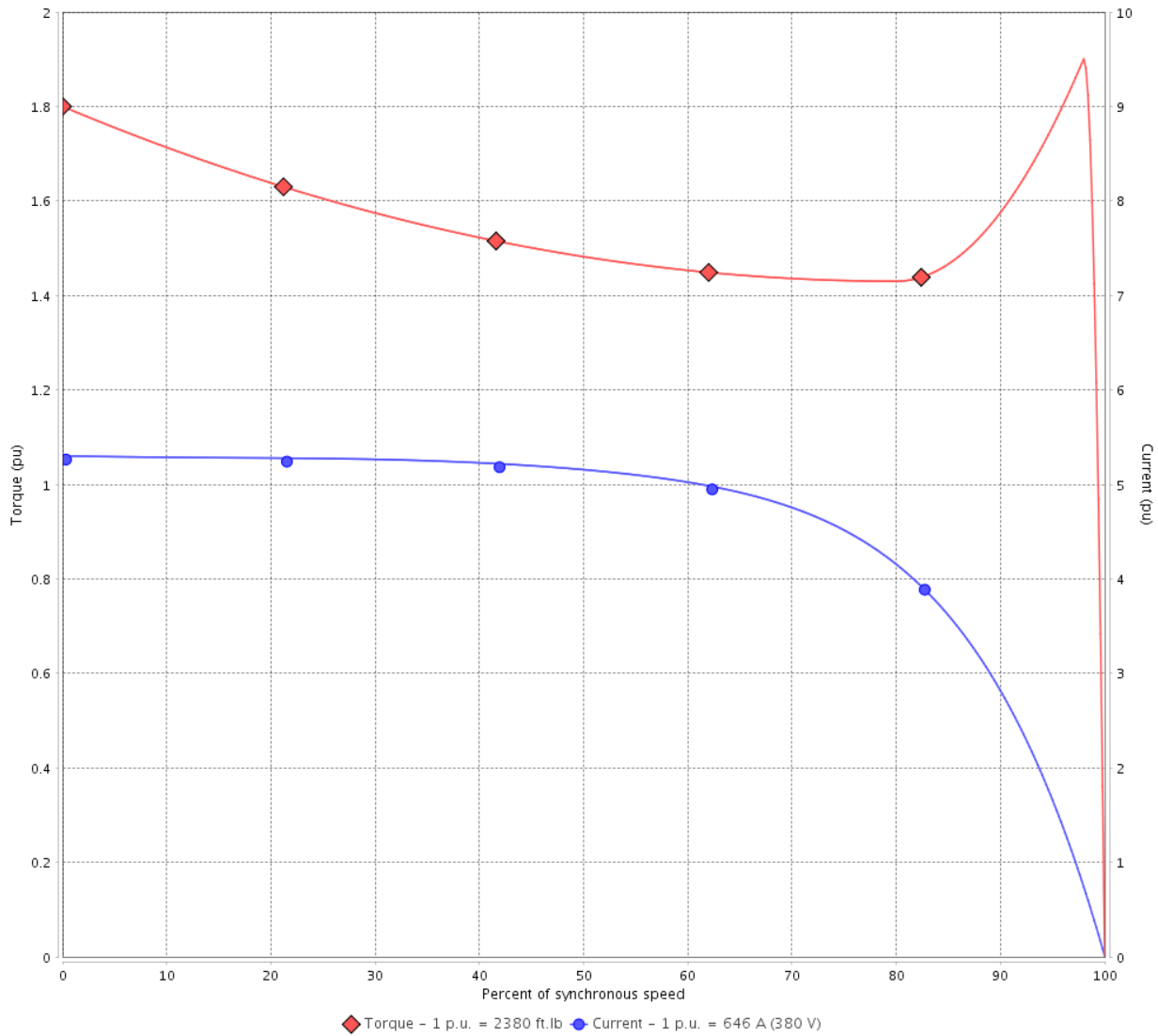
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12182294

Catalog # : 50012ET3G586/7-W22

TORQUE AND CURRENT VS SPEED CURVE



Performance : 380 V 50 Hz 6P IE3

Rated current	: 646 A	Moment of inertia (J)	: 368 sq.ft.lb
LRC	: 5.3	Duty cycle	: Cont.(S1)
Rated torque	: 2380 ft.lb	Insulation class	: F
Locked rotor torque	: 180 %	Service factor	: 1.00
Breakdown torque	: 190 %	Temperature rise	: 105 K
Rated speed	: 991 rpm		

Locked rotor time : 36s (cold) 20s (hot)

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# TORQUE AND CURRENT VS SPEED CURVE



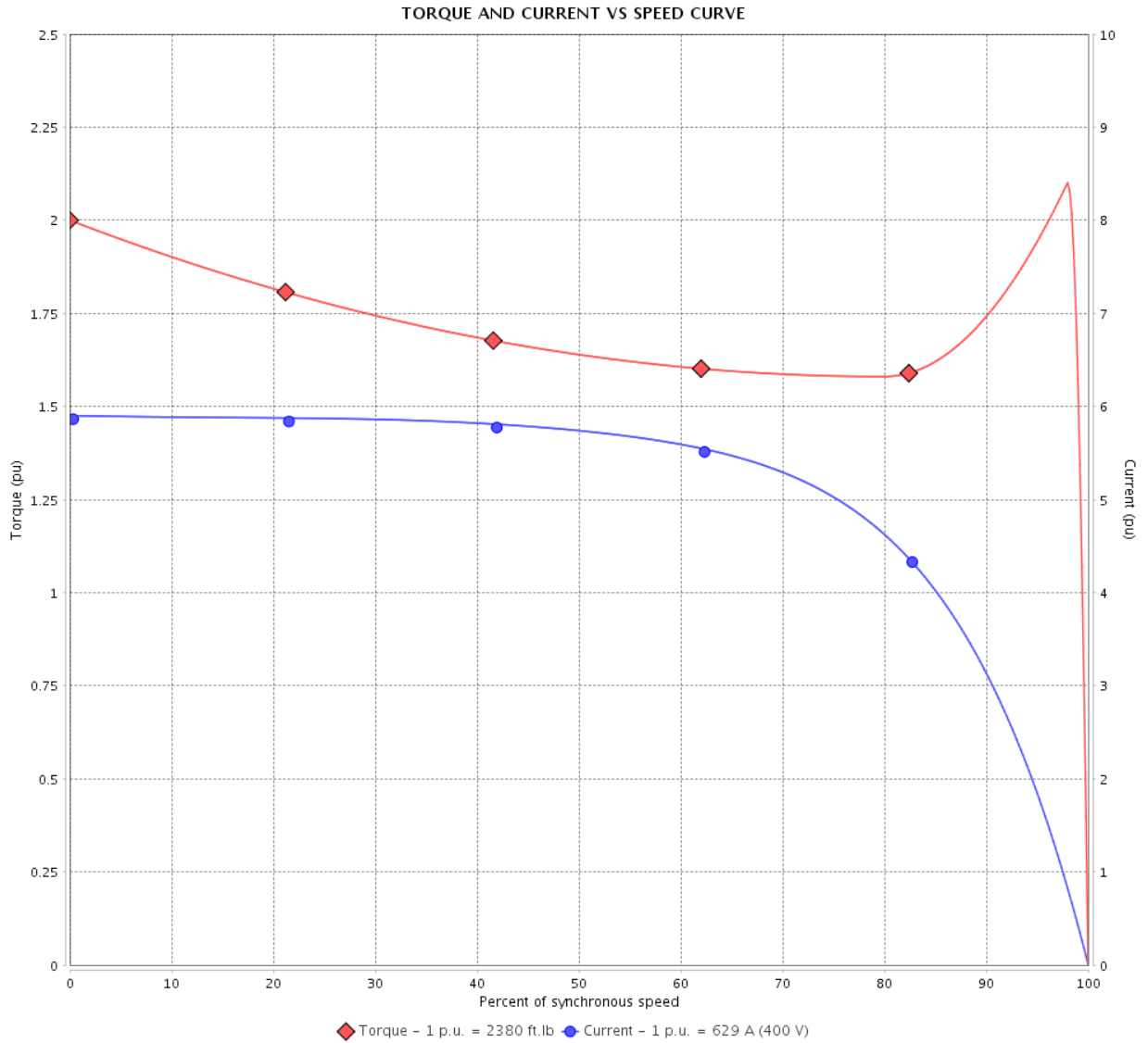
## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12182294

Catalog # : 50012ET3G586/7-W22



Performance : 400 V 50 Hz 6P IE3

Rated current	: 629 A	Moment of inertia (J)	: 368 sq.ft.lb
LRC	: 5.9	Duty cycle	: Cont.(S1)
Rated torque	: 2380 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.00
Breakdown torque	: 210 %	Temperature rise	: 105 K
Rated speed	: 992 rpm		

Locked rotor time : 36s (cold) 20s (hot)

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# TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



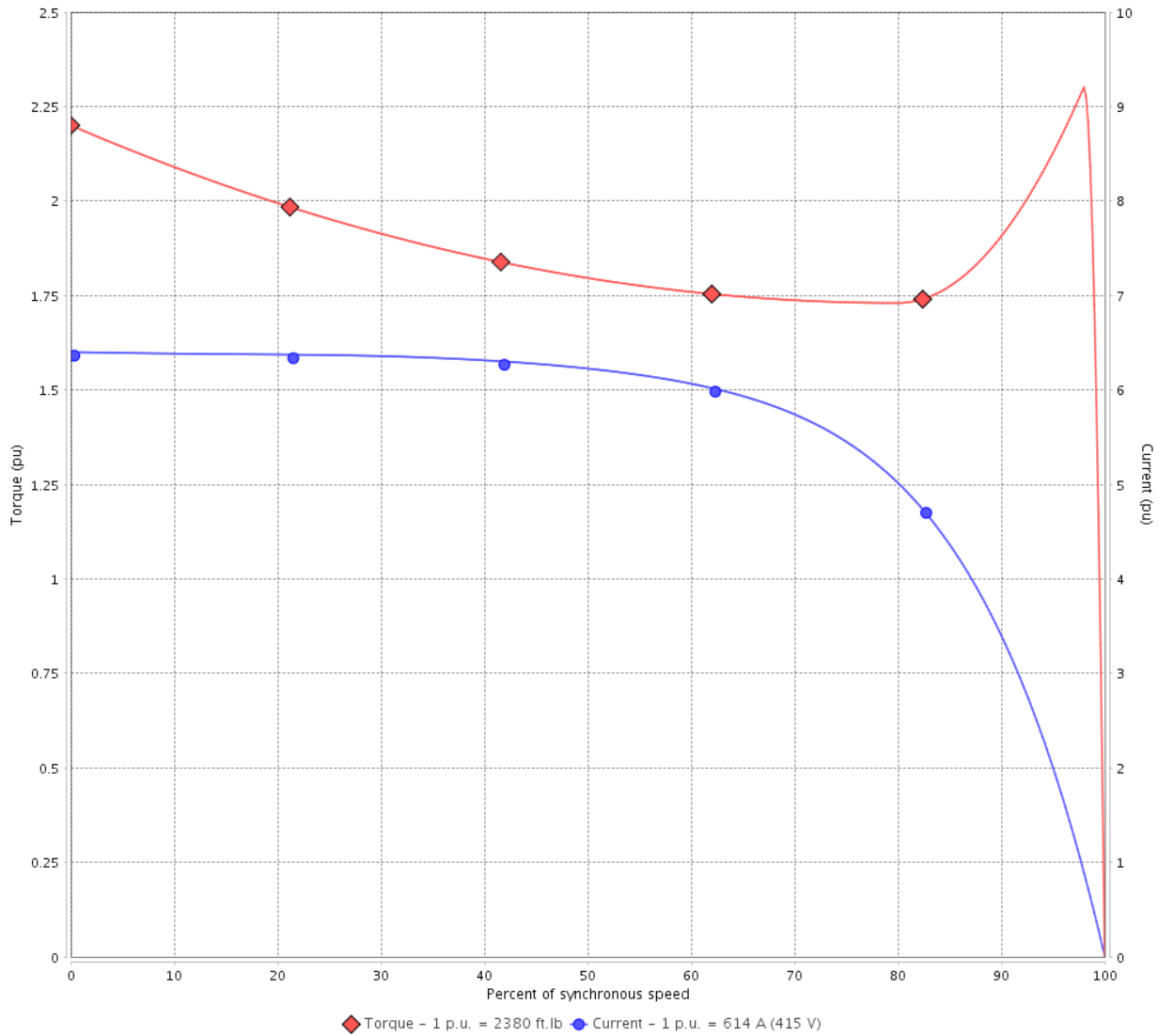
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Product line : NEMA Premium Efficiency Three-Phase

Product code : 12182294

Catalog # : 50012ET3G586/7-W22

TORQUE AND CURRENT VS SPEED CURVE



Performance : 415 V 50 Hz 6P IE3

Rated current	: 614 A	Moment of inertia (J)	: 368 sq.ft.lb
LRC	: 6.4	Duty cycle	: Cont.(S1)
Rated torque	: 2380 ft.lb	Insulation class	: F
Locked rotor torque	: 220 %	Service factor	: 1.00
Breakdown torque	: 229 %	Temperature rise	: 105 K
Rated speed	: 993 rpm		

Locked rotor time : 36s (cold) 20s (hot)

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# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage

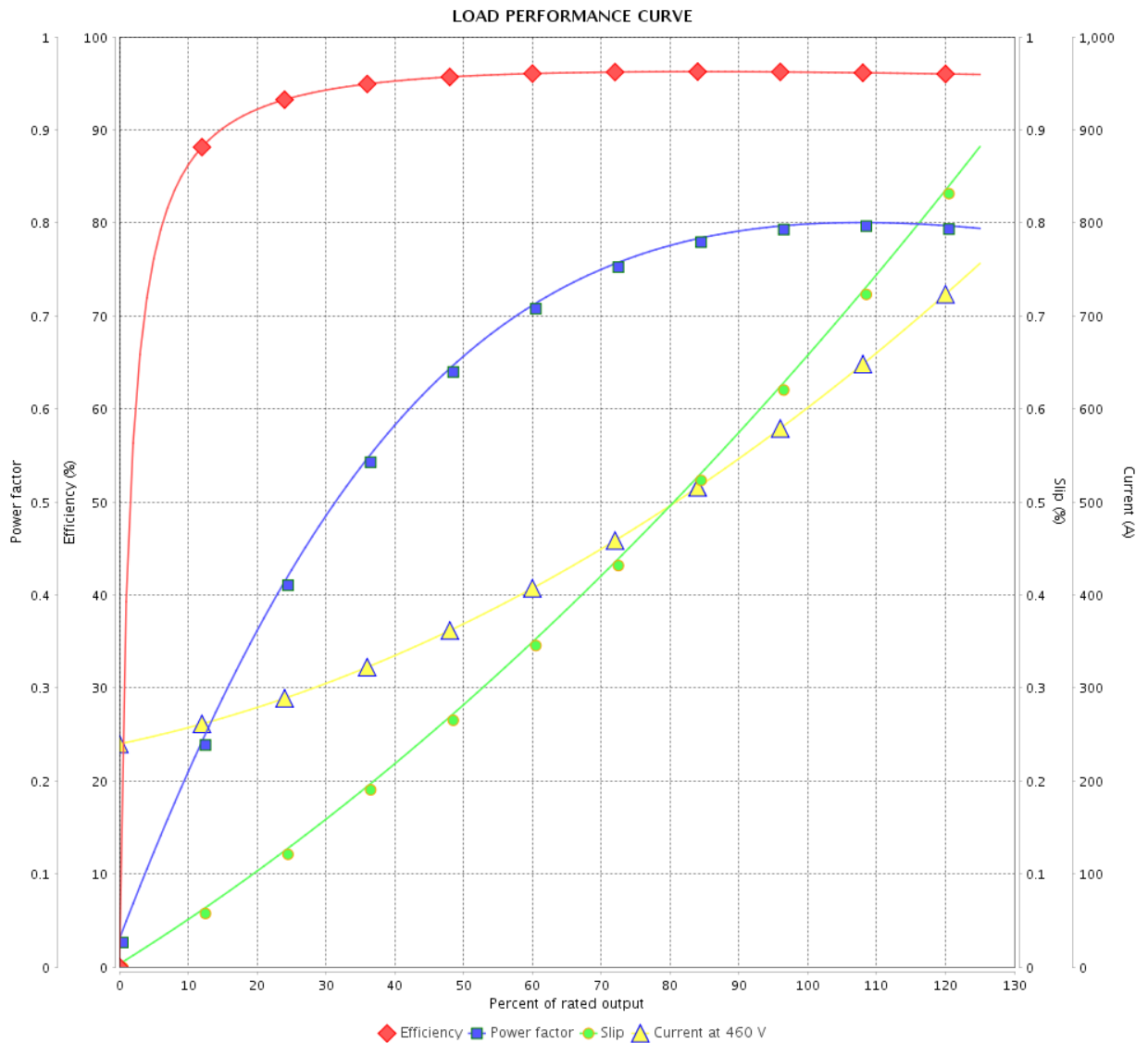


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12182294

Catalog # : 50012ET3G586/7-W22



Performance : 460 V 60 Hz 6P

Rated current : 603 A  
 LRC : 6.0  
 Rated torque : 2200 ft.lb  
 Locked rotor torque : 200 %  
 Breakdown torque : 210 %  
 Rated speed : 1192 rpm

Moment of inertia (J) : 368 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K

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# LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage

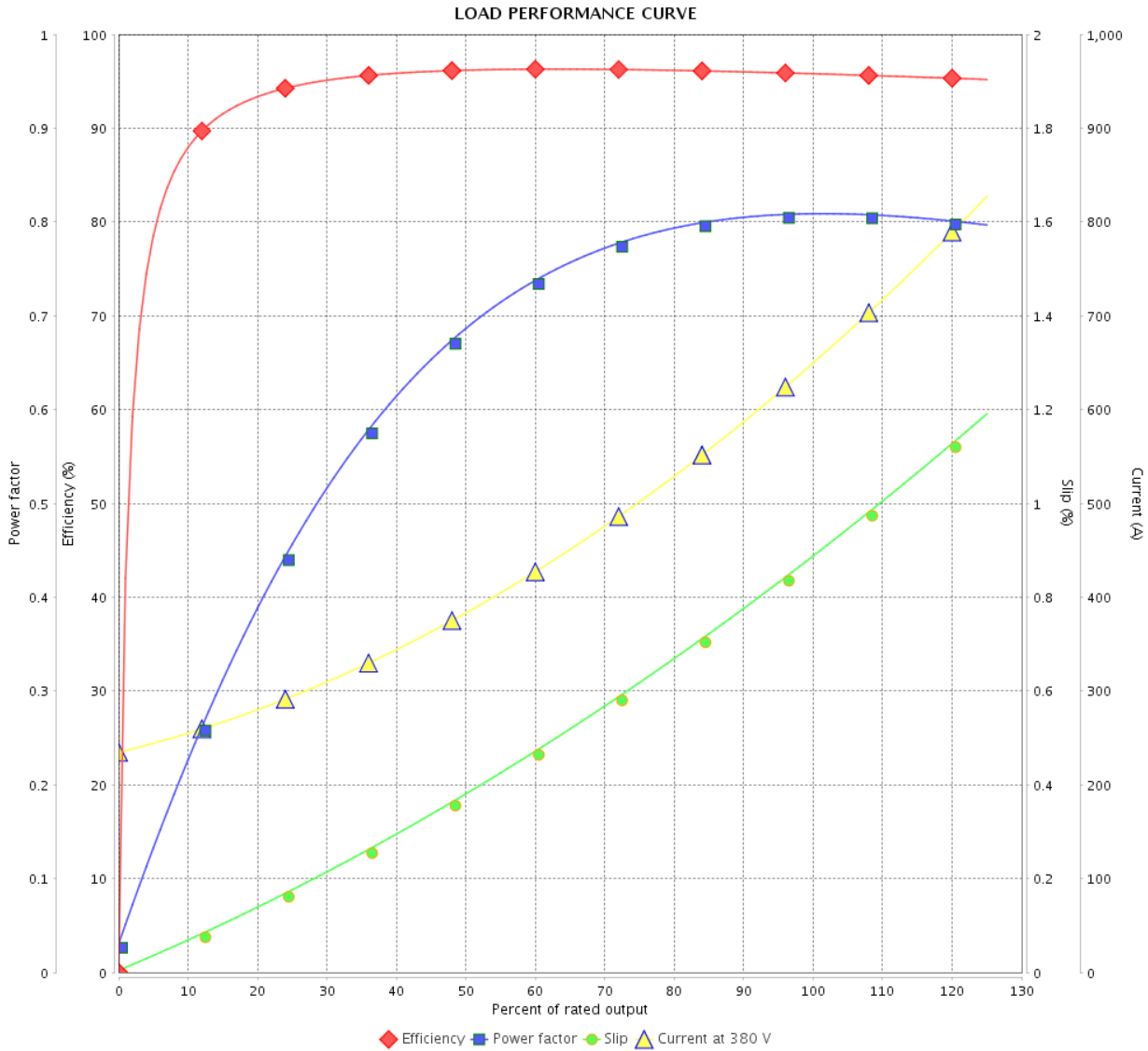


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Product line : NEMA Premium Efficiency Three-Phase

Product code : 12182294

Catalog # : 50012ET3G586/7-W22



Performance : 380 V 50 Hz 6P IE3

Rated current : 646 A  
 LRC : 5.3  
 Rated torque : 2380 ft.lb  
 Locked rotor torque : 180 %  
 Breakdown torque : 190 %  
 Rated speed : 991 rpm

Moment of inertia (J) : 368 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 105 K

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# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage

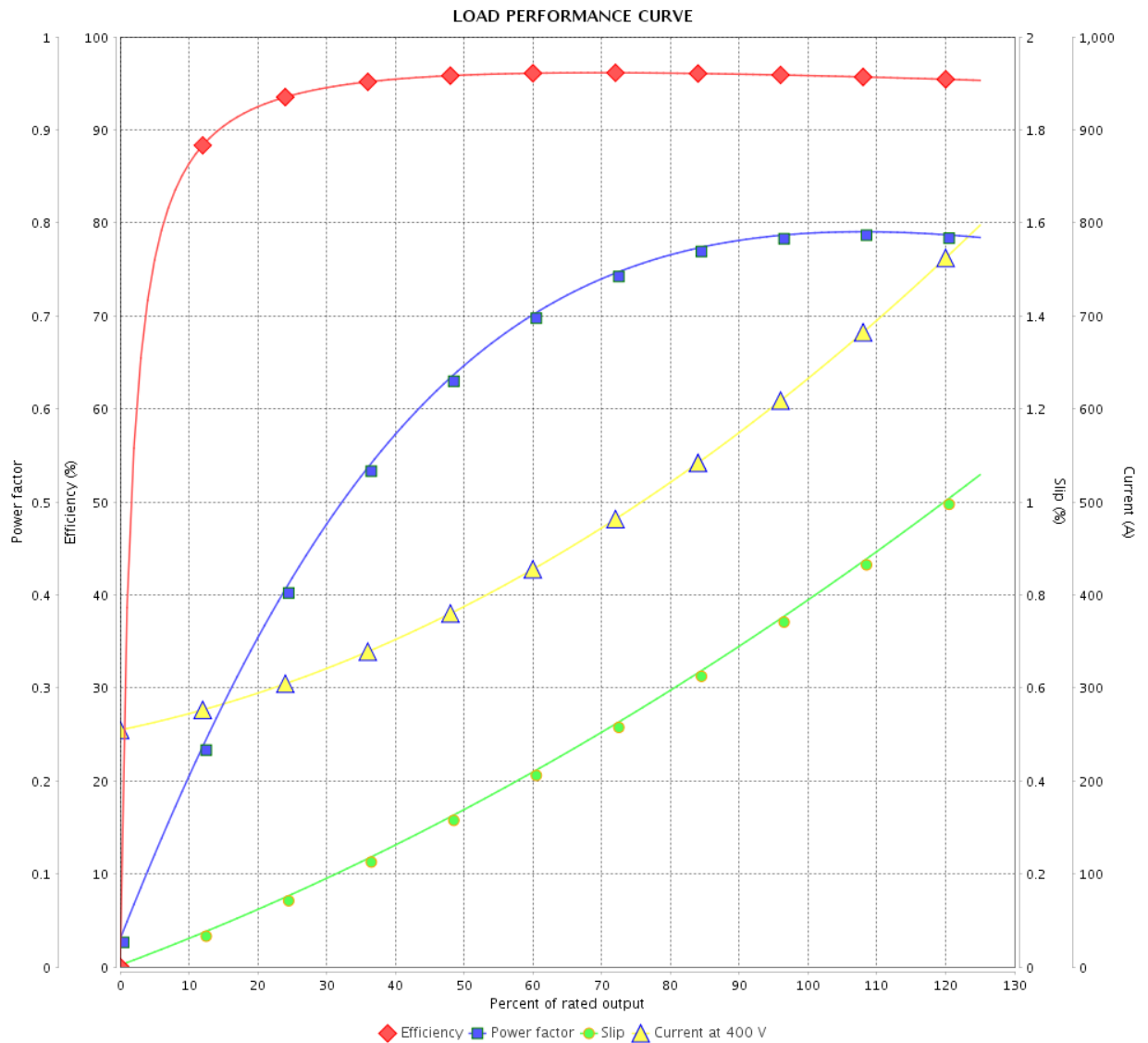


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12182294

Catalog # : 50012ET3G586/7-W22



Performance : 400 V 50 Hz 6P IE3

Rated current : 629 A  
 LRC : 5.9  
 Rated torque : 2380 ft.lb  
 Locked rotor torque : 200 %  
 Breakdown torque : 210 %  
 Rated speed : 992 rpm

Moment of inertia (J) : 368 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 105 K

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# LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage



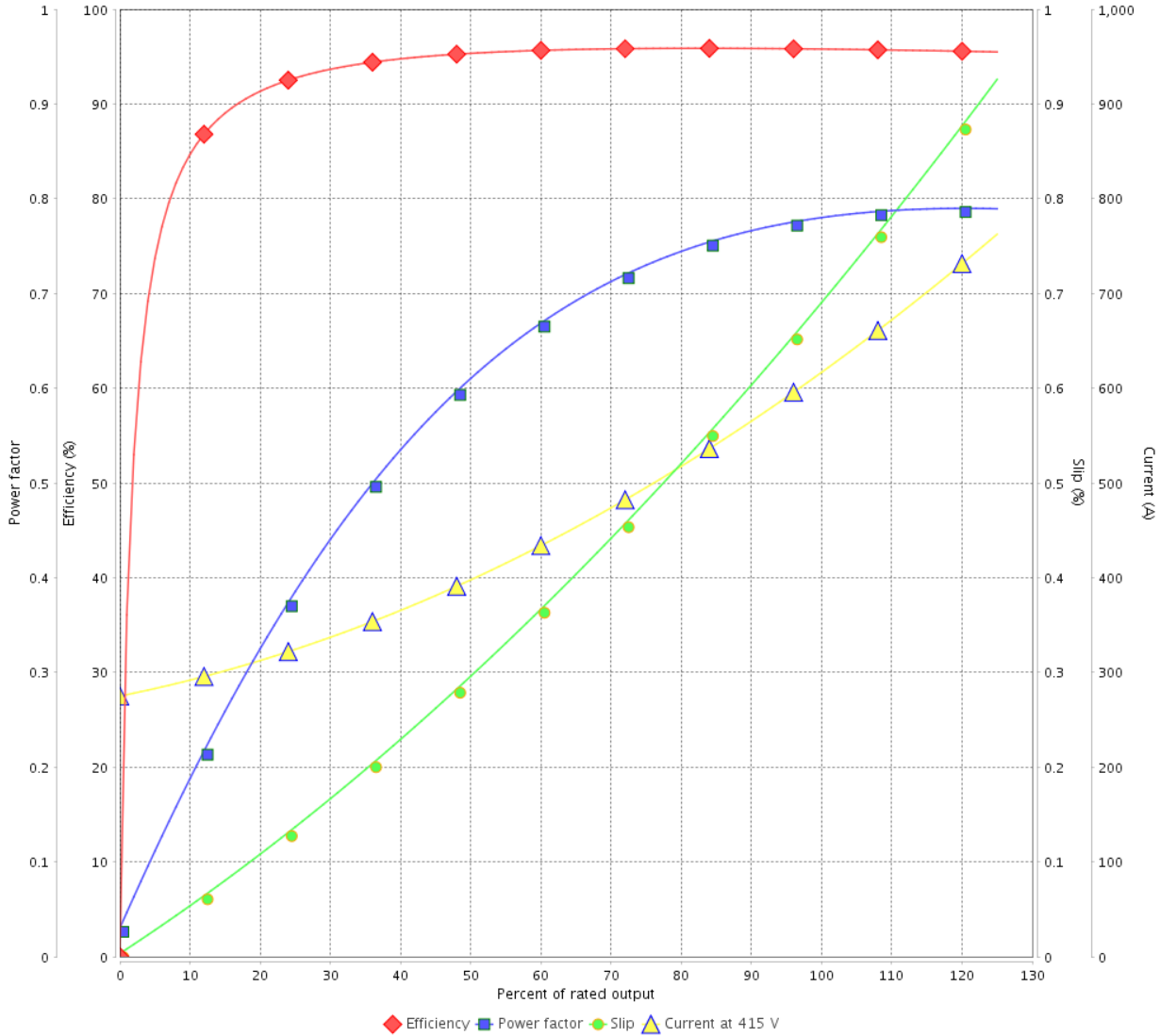
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 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 105 K

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# THERMAL LIMIT CURVE



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Rated torque : 2200 ft.lb	Insulation class : F
Locked rotor torque : 200 %	Service factor : 1.15
Breakdown torque : 210 %	Temperature rise : 80 K
Rated speed : 1192 rpm	

Heating constant

Cooling constant

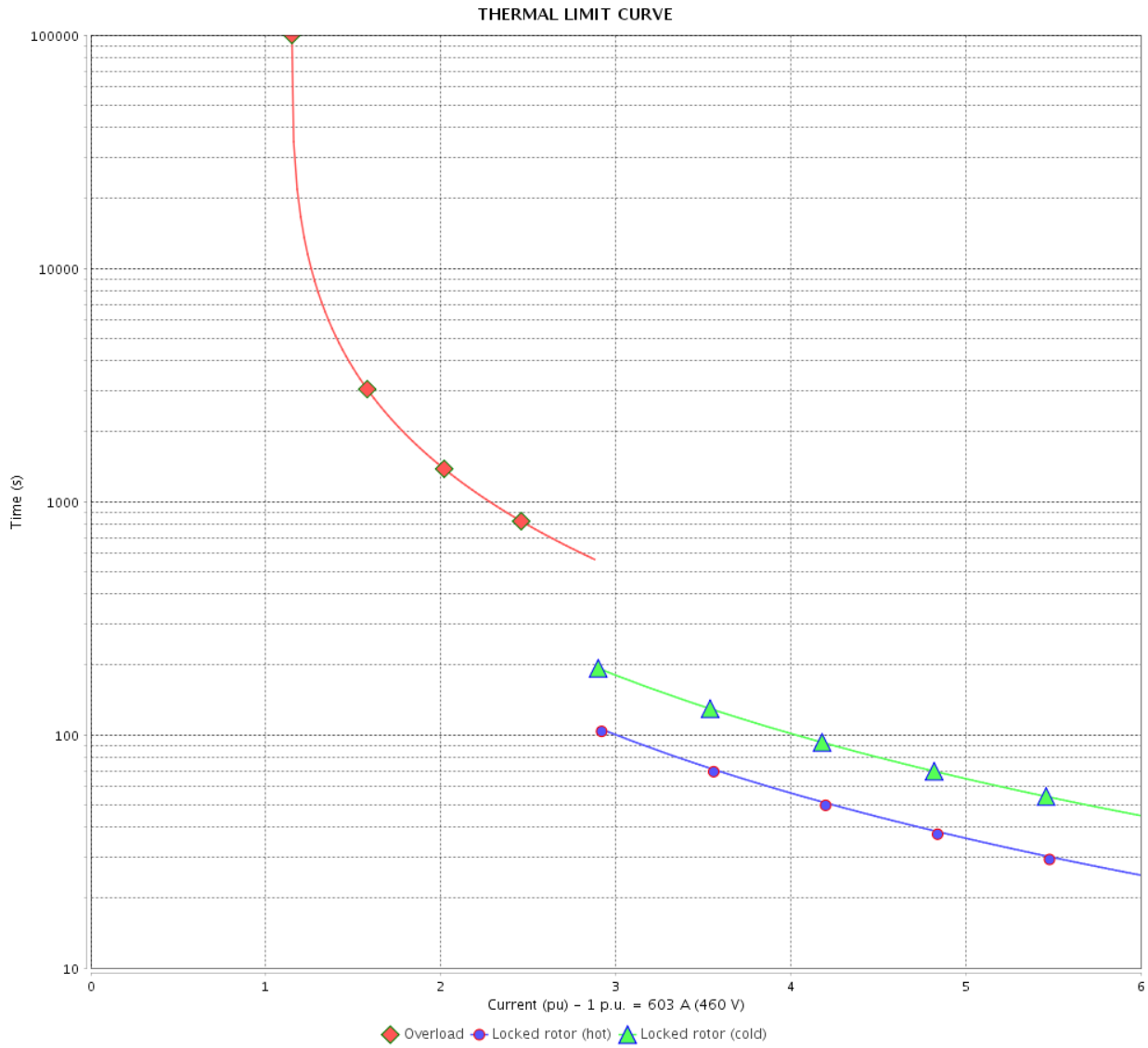
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Performance : 380 V 50 Hz 6P IE3

Rated current : 646 A	Moment of inertia (J) : 368 sq.ft.lb
LRC : 5.3	Duty cycle : Cont.(S1)
Rated torque : 2380 ft.lb	Insulation class : F
Locked rotor torque : 180 %	Service factor : 1.00
Breakdown torque : 190 %	Temperature rise : 105 K
Rated speed : 991 rpm	

Heating constant

Cooling constant

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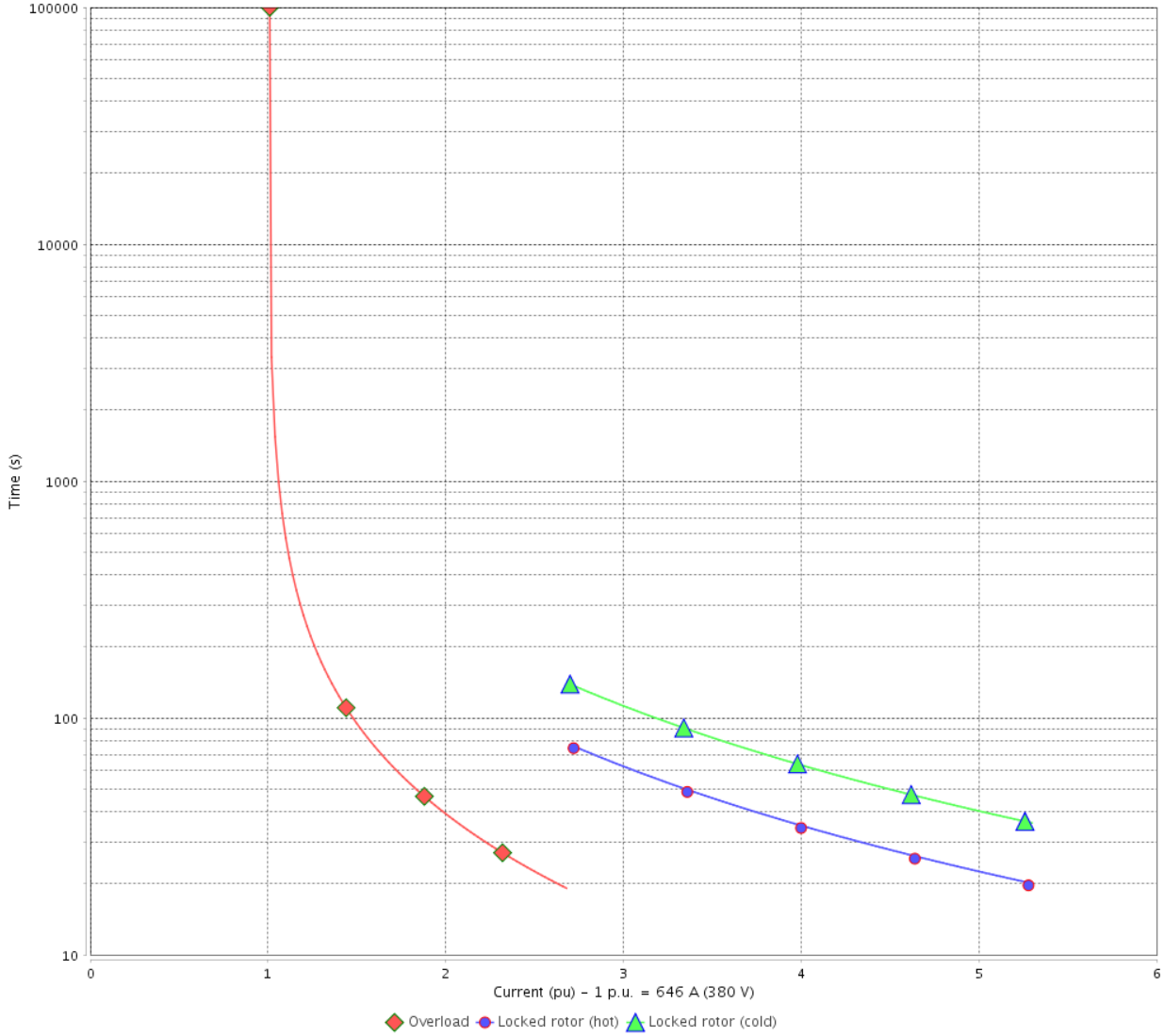
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Three Phase Induction Motor - Squirrel Cage



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LRC : 5.9	Duty cycle : Cont.(S1)
Rated torque : 2380 ft.lb	Insulation class : F
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Breakdown torque : 210 %	Temperature rise : 105 K
Rated speed : 992 rpm	

Heating constant

Cooling constant

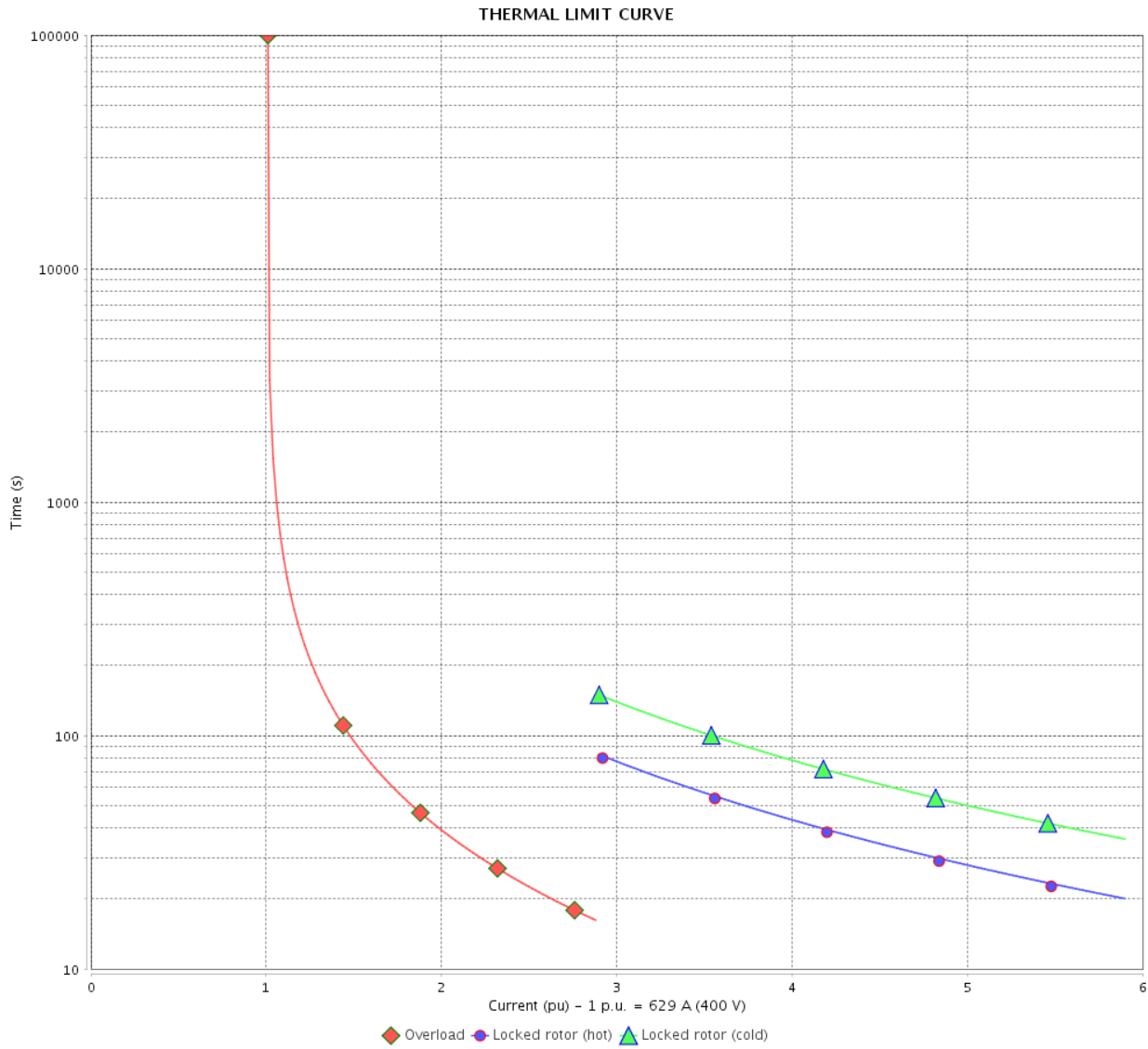
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Customer : \_\_\_\_\_



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# THERMAL LIMIT CURVE



## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase  
 Product code : 12182294  
 Catalog # : 50012ET3G586/7-W22

Performance : 415 V 50 Hz 6P IE3

Rated current : 614 A	Moment of inertia (J) : 368 sq.ft.lb
LRC : 6.4	Duty cycle : Cont.(S1)
Rated torque : 2380 ft.lb	Insulation class : F
Locked rotor torque : 220 %	Service factor : 1.00
Breakdown torque : 229 %	Temperature rise : 105 K
Rated speed : 993 rpm	

Heating constant

Cooling constant

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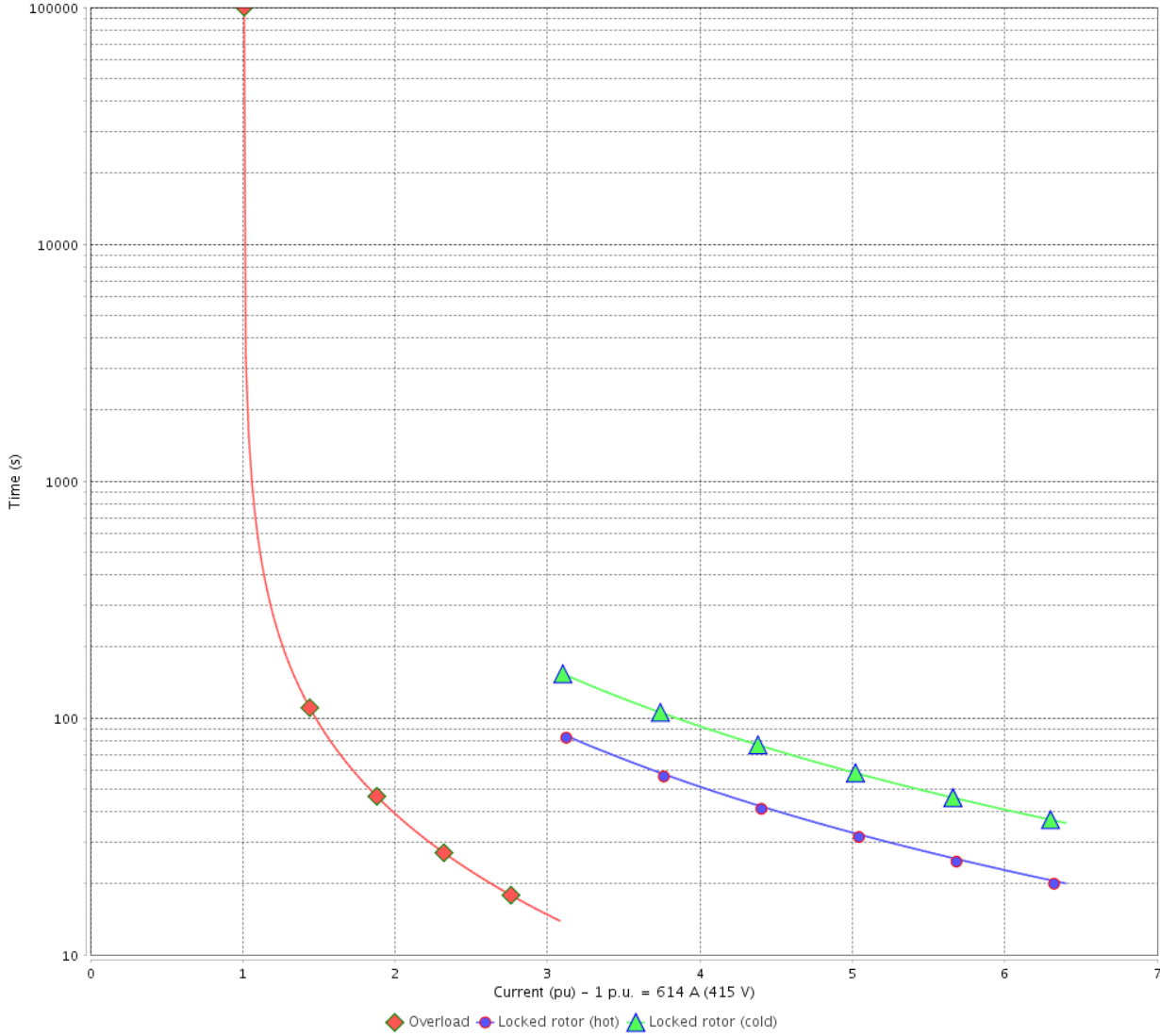
# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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

THERMAL LIMIT CURVE



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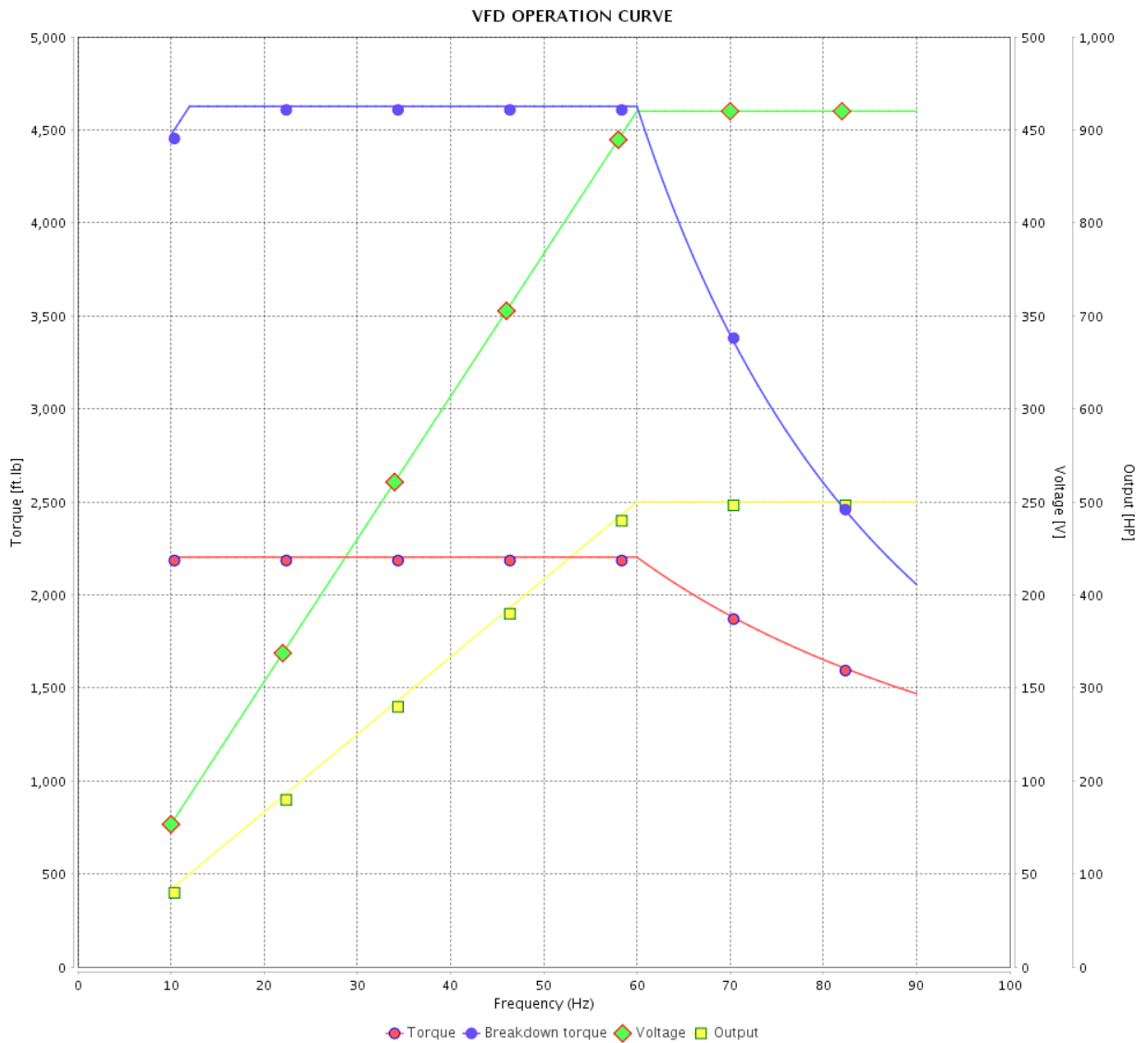
# VFD OPERATION CURVE

## Three Phase Induction Motor - Squirrel Cage



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 Breakdown torque : 210 %  
 Rated speed : 1192 rpm

Moment of inertia (J) : 368 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
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# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

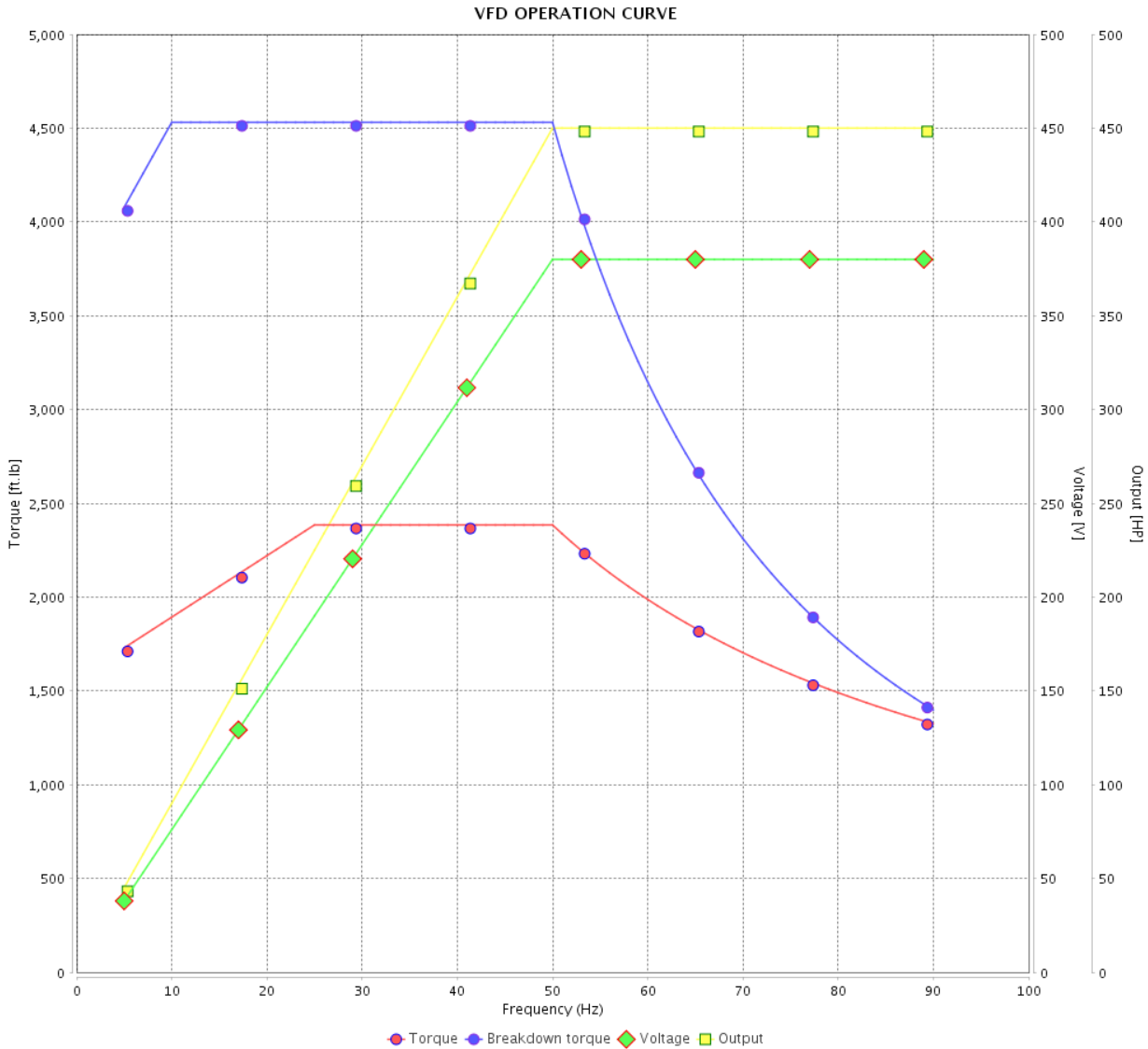


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Performance : 380 V 50 Hz 6P IE3

Rated current : 646 A  
 LRC : 5.3  
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 Locked rotor torque : 180 %  
 Breakdown torque : 190 %  
 Rated speed : 991 rpm

Moment of inertia (J) : 368 sq.ft.lb  
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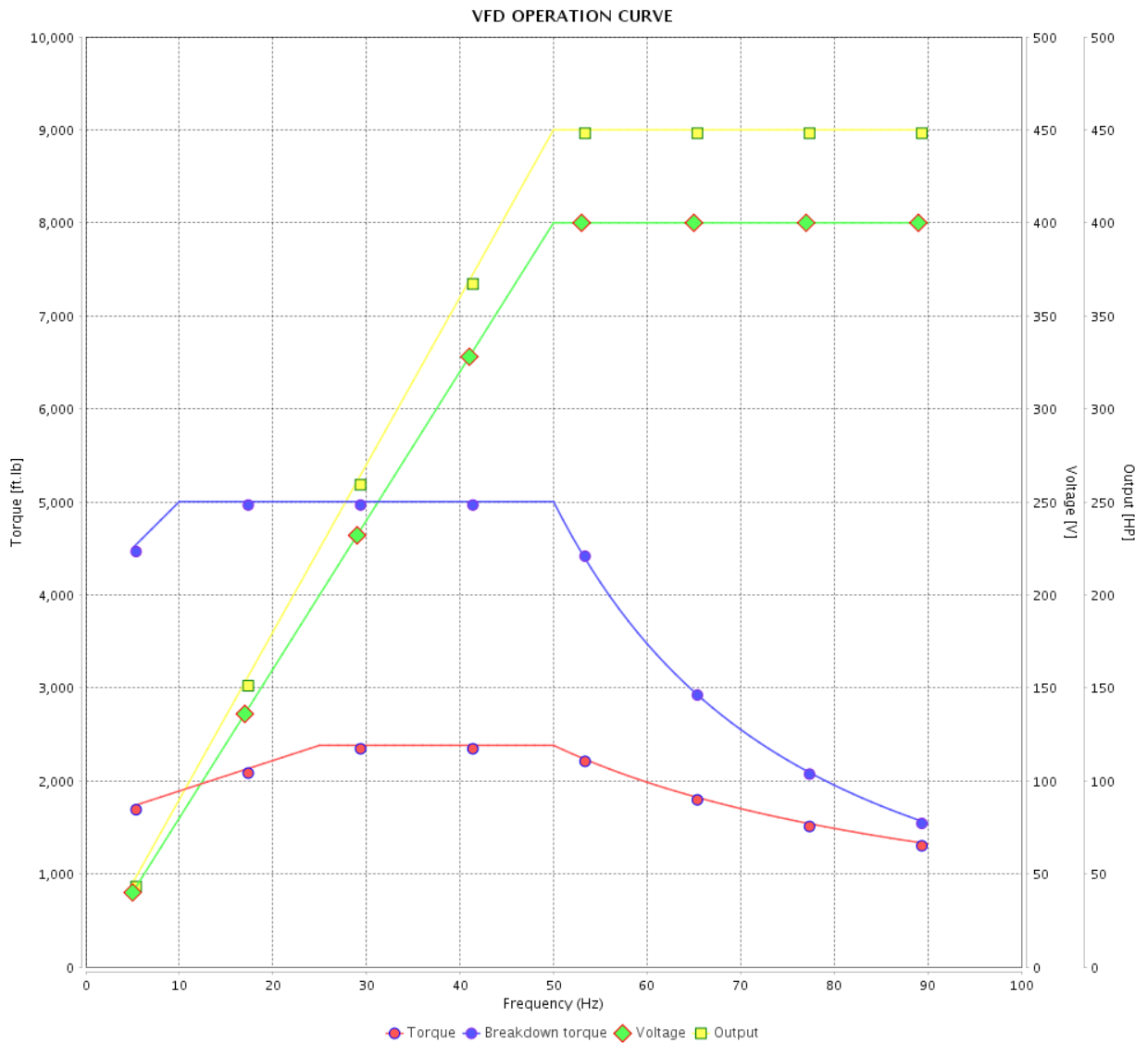


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# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



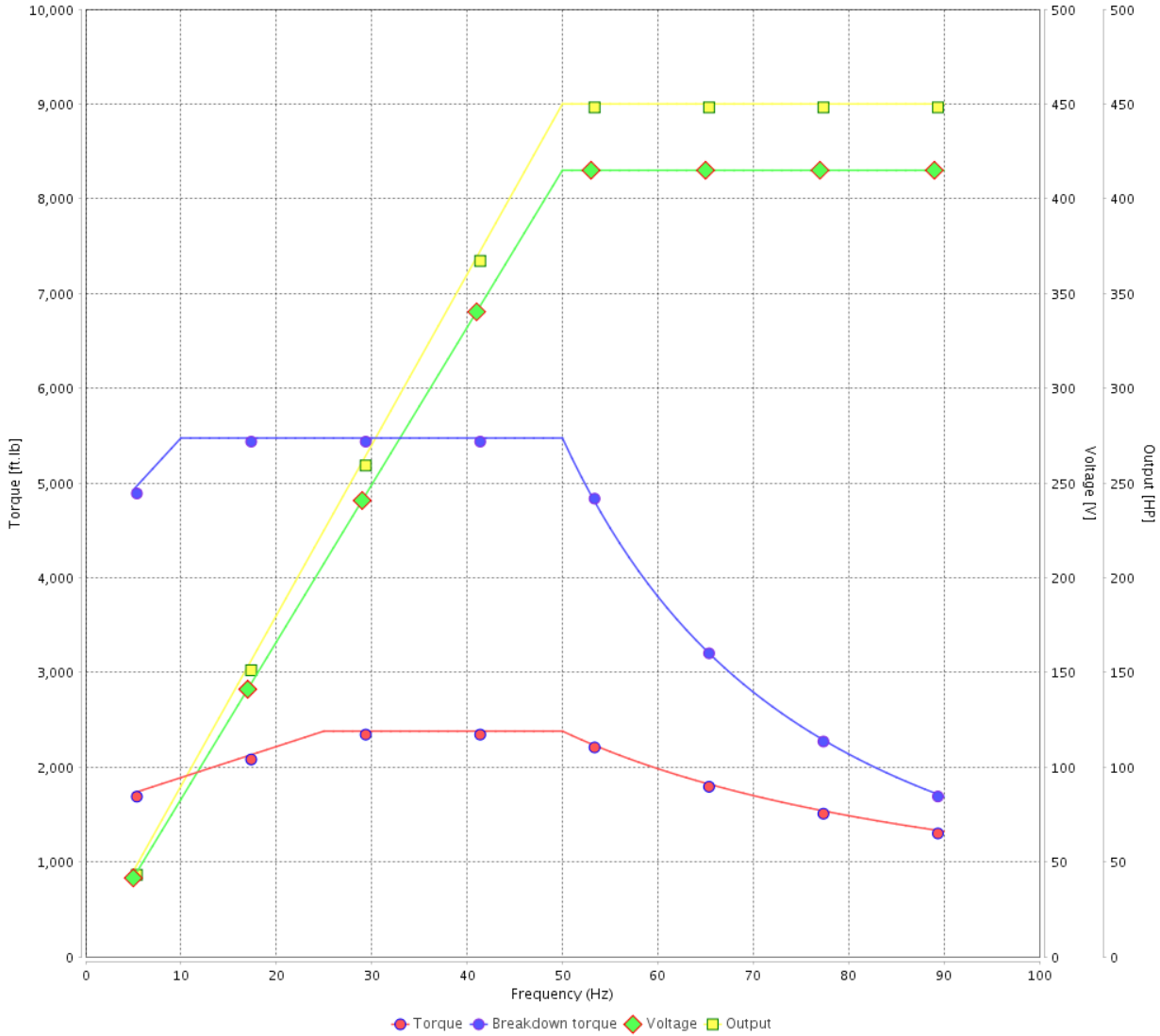
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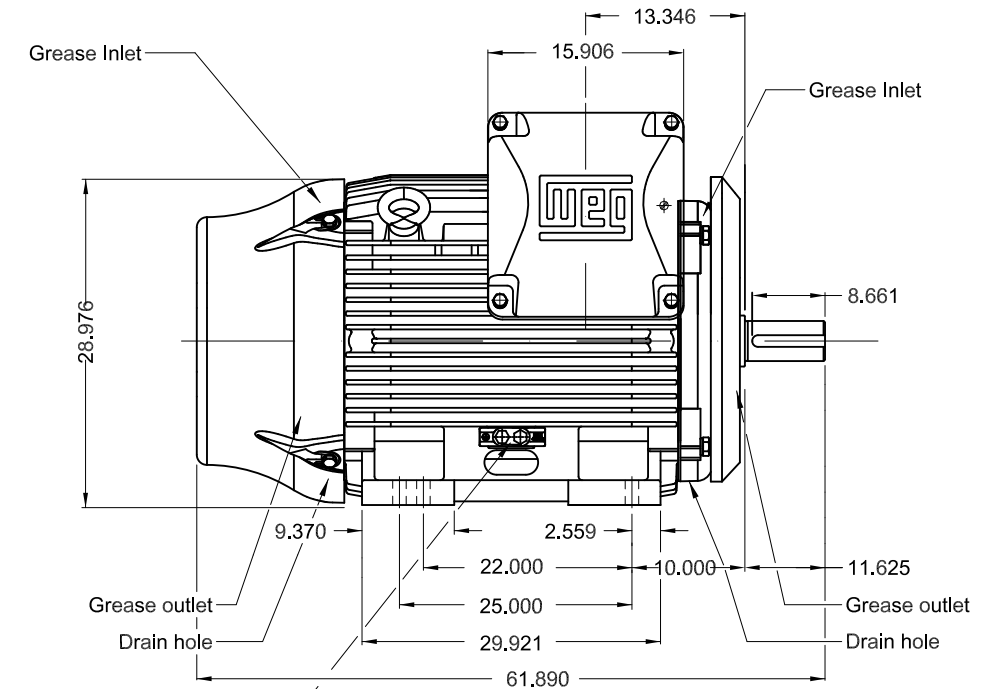
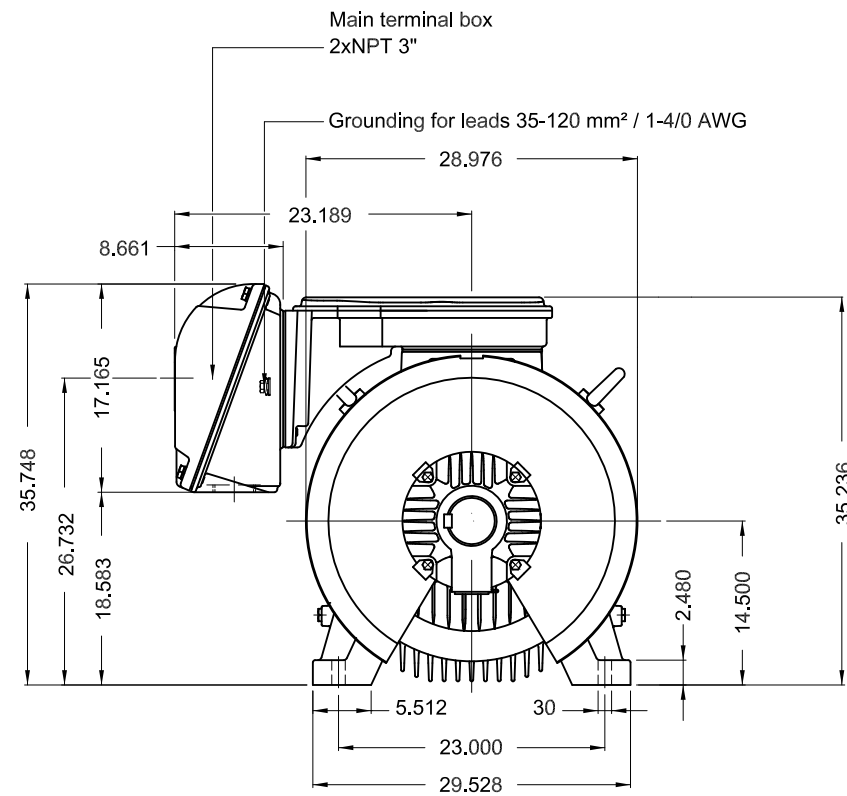


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Rated current : 614 A  
 LRC : 6.4  
 Rated torque : 2380 ft.lb  
 Locked rotor torque : 220 %  
 Breakdown torque : 229 %  
 Rated speed : 993 rpm

Moment of inertia (J) : 368 sq.ft.lb  
 Duty cycle : Cont.(S1)  
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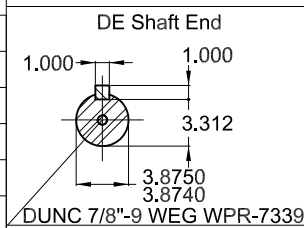


Grounding for leads 25-185 mm² / 3AWG-350MCM

500 HP 06 Poles 60 Hz

Dimensions in inches

- Without vertical jackscrews
- NDE endshield with electrically insulated bearing hub
- Drive-End Air Deflector
- Color RAL 5009
- Painting plan 203A
- Mounting B3R(D)



ECM	LOC	SUMMARY OF MODIFICATIONS	EXECUTED	CHECKED	RELEASED	DATE	VER
EXECUTED	PIRWUSER	THREE PH. MOTOR W22 PREM. EFF.					
CHECKED		FRAME 586/7T IP55 TEFC					
RELEASED							
REL DT.	WMO	Jaragua do Sul	Product Engineering	SHEET	1 / 1		

**PREVIEW**  
WDD

