

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



Customer :					
Product line	: NEMA Premium Efficiency Three-Phase	Product code :	14390089		
		Catalog # :	02018XT3E256T		
Frame	: 256T	Cooling method	: IC411 - TEFC		
Insulation class	: F	Mounting	: F-1		
Duty cycle	: Cont.(S1)	Rotation ¹	: Both (CW and CCW)		
Ambient temperature	: -20°C to +40°C	Starting method	: Direct On Line		
Altitude	: 1000 m.a.s.l.	Approx. weight ²	: 391 lb		
Protection degree	: IP55	Moment of inertia (J)	: 2.89 sq.ft.lb		
Design	: B				
Output [HP]	20	20	20	20	
Poles	4	4	4	4	
Frequency [Hz]	60	50	50	50	
Rated voltage [V]	230/460	380	400	415	
Rated current [A]	50.0/25.0	29.8	29.0	28.4	
L. R. Amperes [A]	375/188	173	186	199	
LRC [A]	7.5x(Code J)	5.8x(Code G)	6.4x(Code H)	7.0x(Code J)	
No load current [A]	23.6/11.8	11.7	12.8	13.8	
Rated speed [RPM]	1770	1455	1460	1465	
Slip [%]	1.67	3.00	2.67	2.33	
Rated torque [ft.lb]	59.3	72.2	71.9	71.7	
Locked rotor torque [%]	300	210	240	260	
Breakdown torque [%]	300	220	240	260	
Service factor	1.15	1.00	1.00	1.00	
Temperature rise	80 K	80 K	80 K	80 K	
Locked rotor time	36s (cold) 20s (hot)	36s (cold) 20s (hot)	36s (cold) 20s (hot)	36s (cold) 20s (hot)	
Noise level ²	69.0 dB(A)	67.0 dB(A)	67.0 dB(A)	67.0 dB(A)	
Efficiency (%)	25%	91.0	92.9	92.1	91.5
	50%	91.7	92.4	91.7	91.7
	75%	92.4	91.7	91.7	91.7
	100%	93.0	91.0	91.0	91.7
Power Factor	25%	0.38	0.43	0.40	0.37
	50%	0.63	0.69	0.65	0.62
	75%	0.75	0.79	0.77	0.74
	100%	0.81	0.84	0.82	0.80
Bearing type	: <u>Drive end</u> 6309 C3 <u>Non drive end</u> 6209 C3	Foundation loads			
Sealing	: Oil Seal Lip Seal	Max. traction	: 699 lb		
Lubrication interval	: 20000 h 20000 h	Max. compression	: 1089 lb		
Lubricant amount	: 13 g 9 g				
Lubricant type	: Mobil Polyrex EM				
Notes					
USABLE @208V 55.3A SF 1.15 SFA 63.6A					
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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Three Phase Induction Motor - Squirrel Cage



Customer : _____

Thermal protection

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

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TORQUE AND CURRENT VS SPEED CURVE



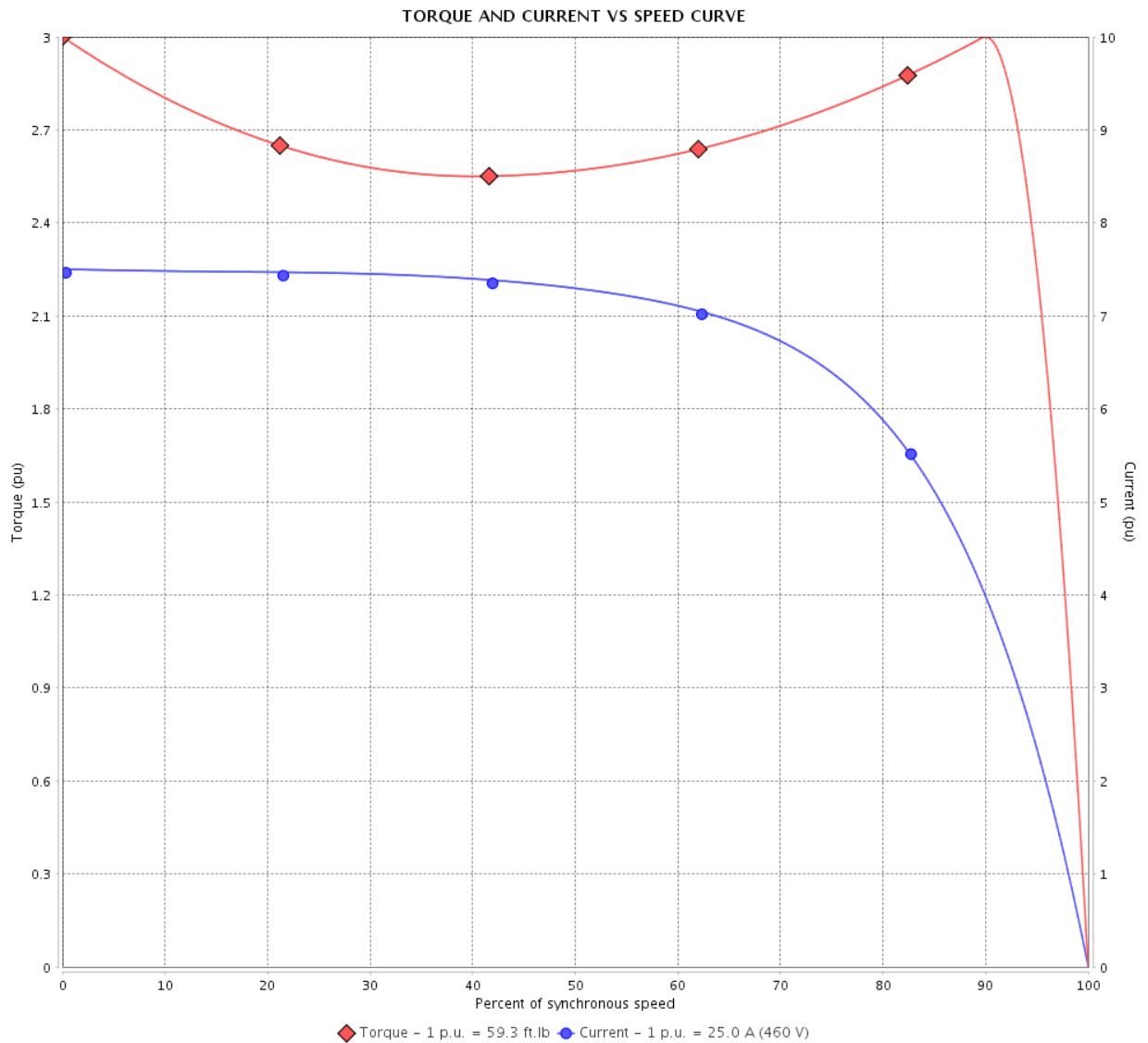
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14390089

Catalog # : 02018XT3E256T



Performance : 230/460 V 60 Hz 4P

Rated current : 50.0/25.0 A
 LRC : 7.5
 Rated torque : 59.3 ft.lb
 Locked rotor torque : 300 %
 Breakdown torque : 300 %
 Rated speed : 1770 rpm

Moment of inertia (J) : 2.89 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.15
 Temperature rise : 80 K
 Design : B

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

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TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



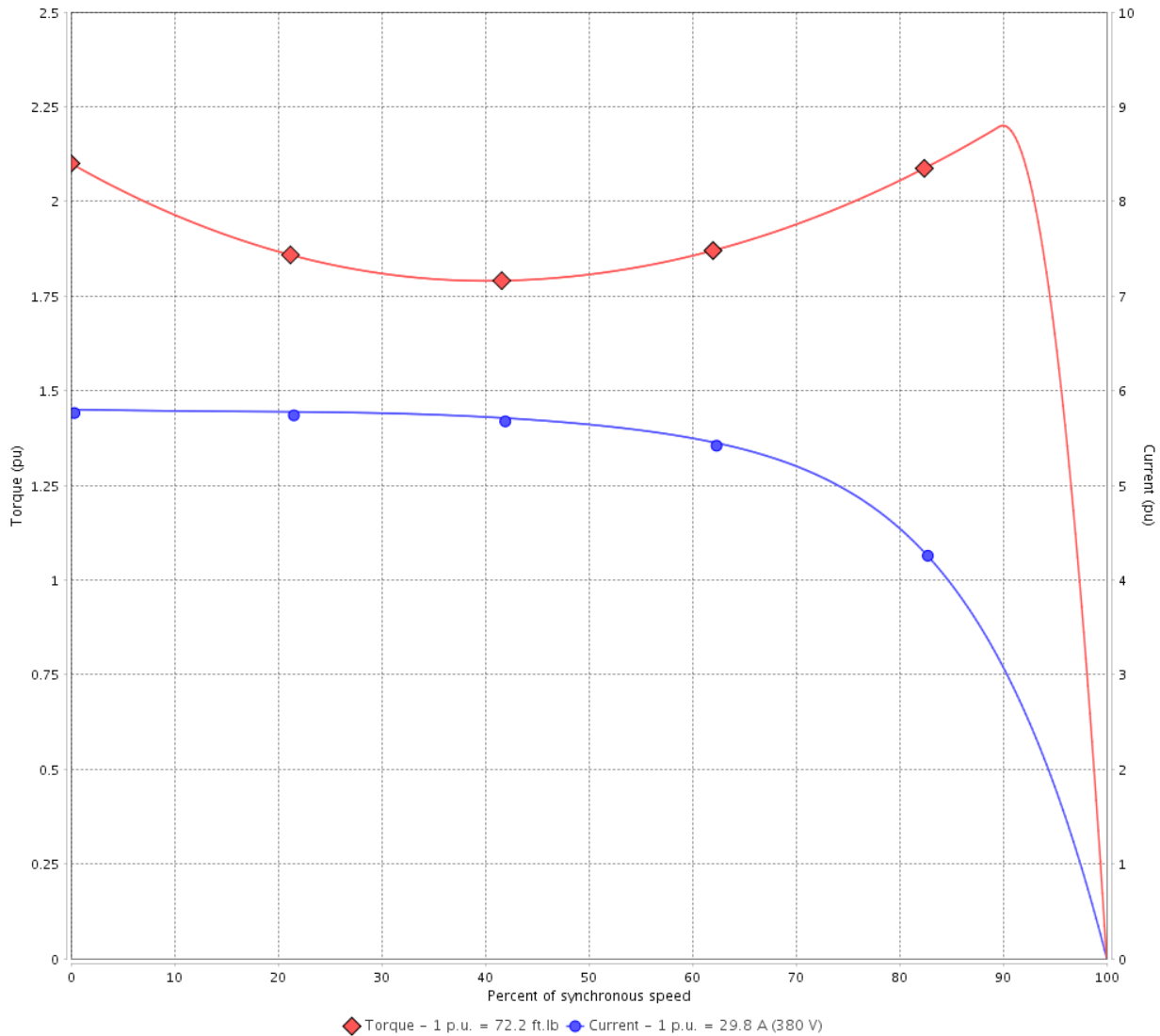
Customer :

Product line : NEMA Premium Efficiency Three-Phase

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TORQUE AND CURRENT VS SPEED CURVE



Performance : 380 V 50 Hz 4P IE2

Rated current	: 29.8 A	Moment of inertia (J)	: 2.89 sq.ft.lb
LRC	: 5.8	Duty cycle	: Cont.(S1)
Rated torque	: 72.2 ft.lb	Insulation class	: F
Locked rotor torque	: 210 %	Service factor	: 1.00
Breakdown torque	: 220 %	Temperature rise	: 80 K
Rated speed	: 1455 rpm	Design	: B

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

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TORQUE AND CURRENT VS SPEED CURVE



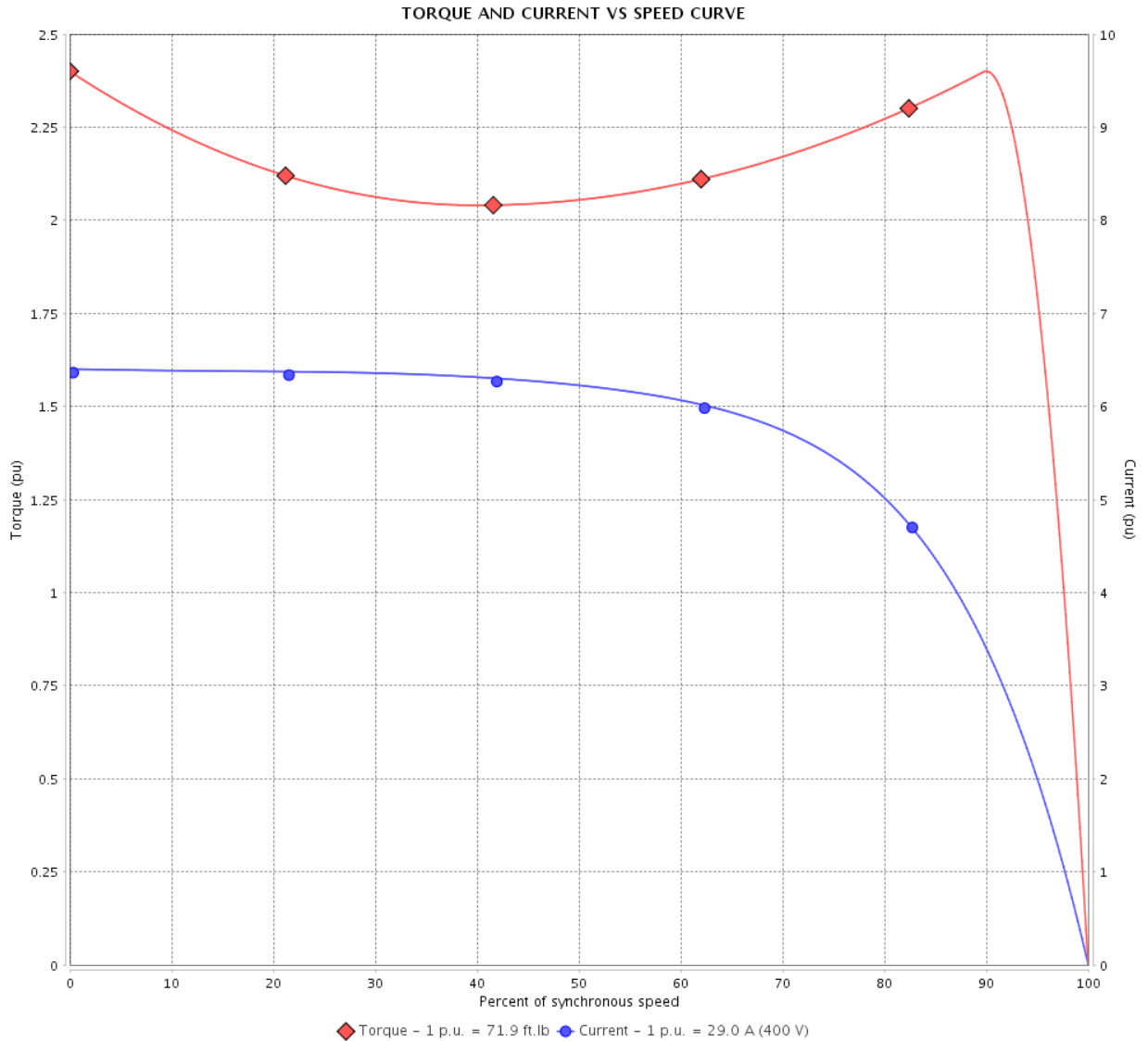
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

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Performance : 400 V 50 Hz 4P IE2

Rated current : 29.0 A
 LRC : 6.4
 Rated torque : 71.9 ft.lb
 Locked rotor torque : 240 %
 Breakdown torque : 240 %
 Rated speed : 1460 rpm

Moment of inertia (J) : 2.89 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

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

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TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



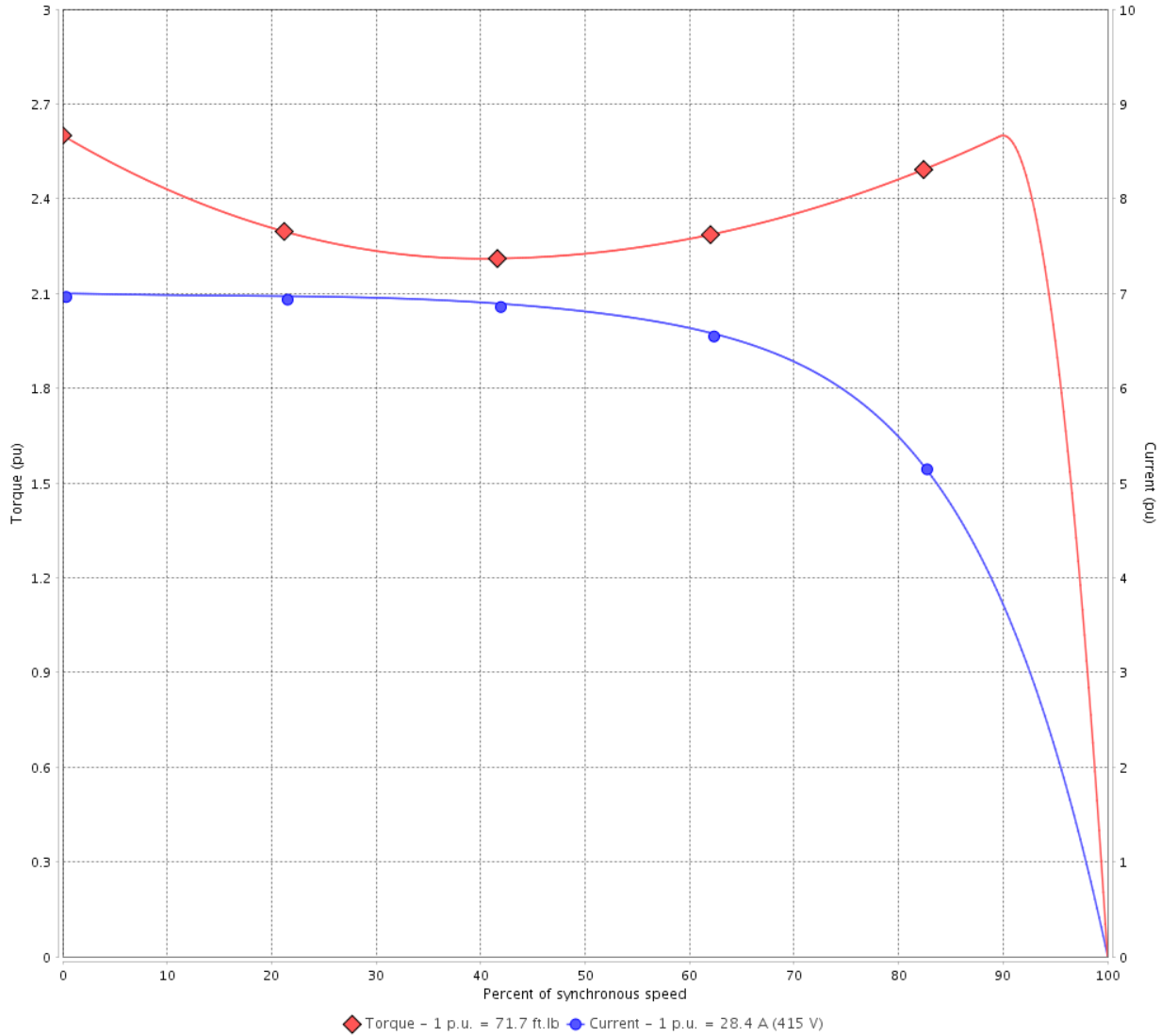
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TORQUE AND CURRENT VS SPEED CURVE



Performance : 415 V 50 Hz 4P IE2

Rated current	: 28.4 A	Moment of inertia (J)	: 2.89 sq.ft.lb
LRC	: 7.0	Duty cycle	: Cont.(S1)
Rated torque	: 71.7 ft.lb	Insulation class	: F
Locked rotor torque	: 260 %	Service factor	: 1.00
Breakdown torque	: 260 %	Temperature rise	: 80 K
Rated speed	: 1465 rpm	Design	: B

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

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LOAD PERFORMANCE CURVE

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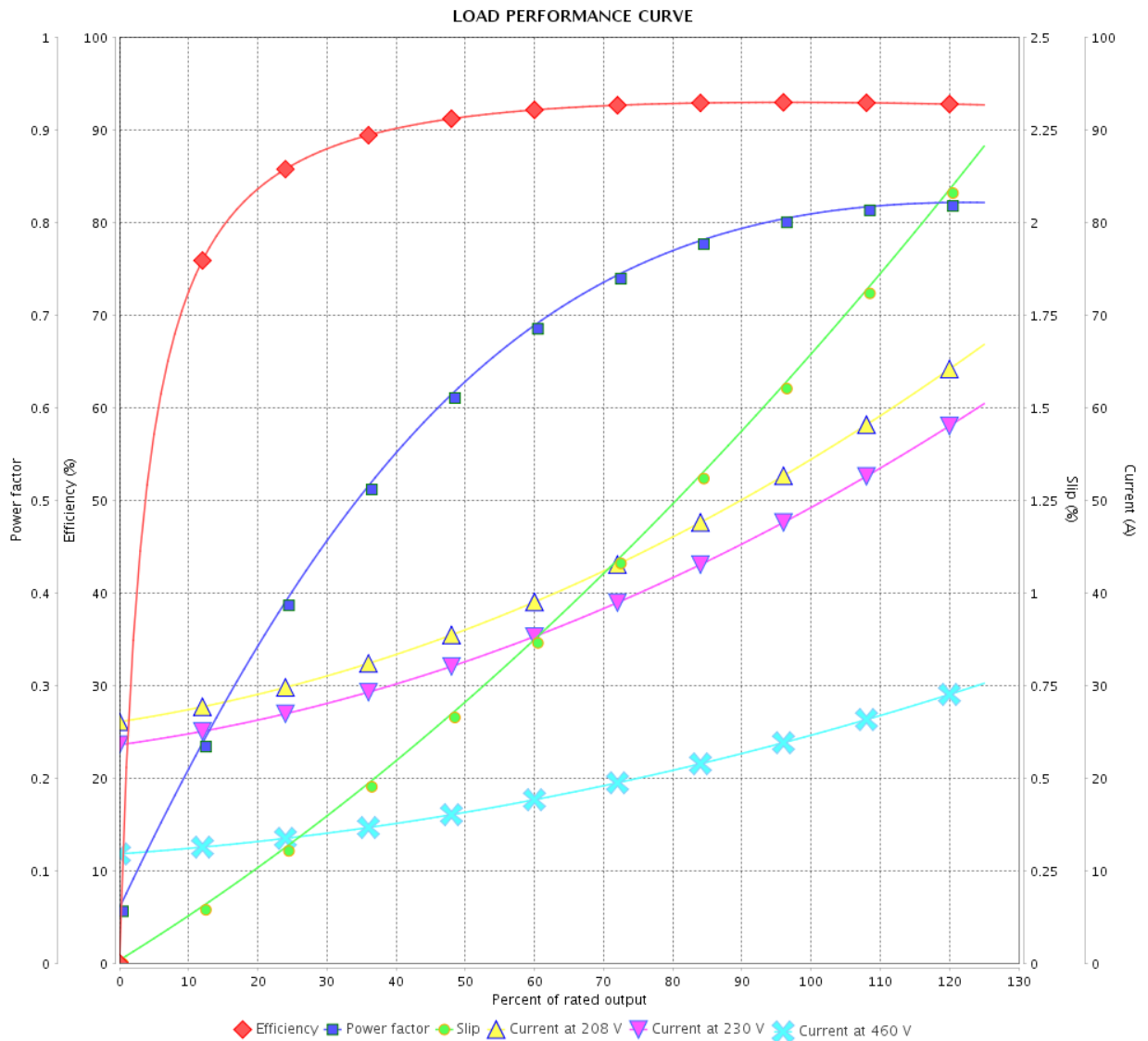


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Rated current : 50.0/25.0 A
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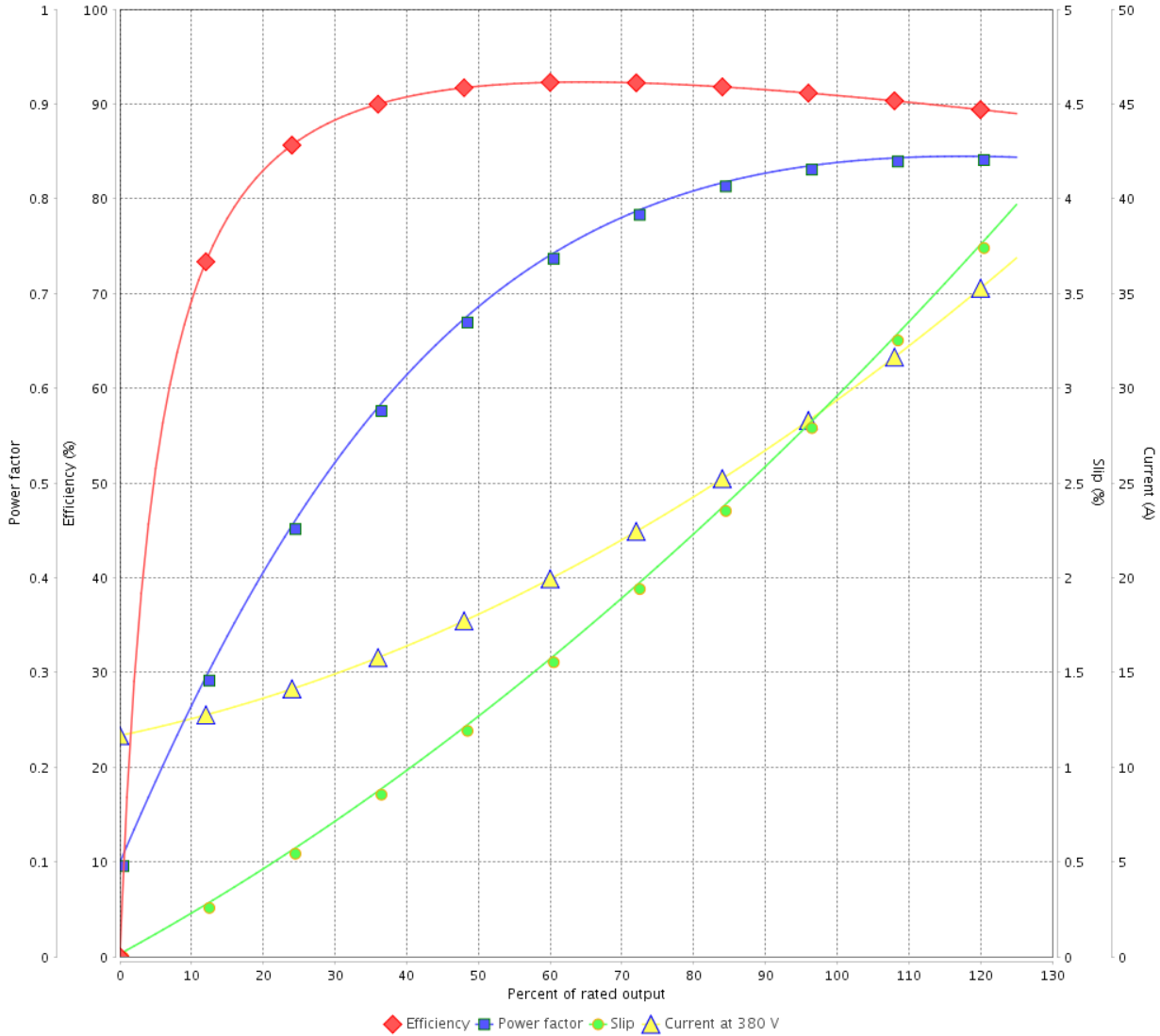
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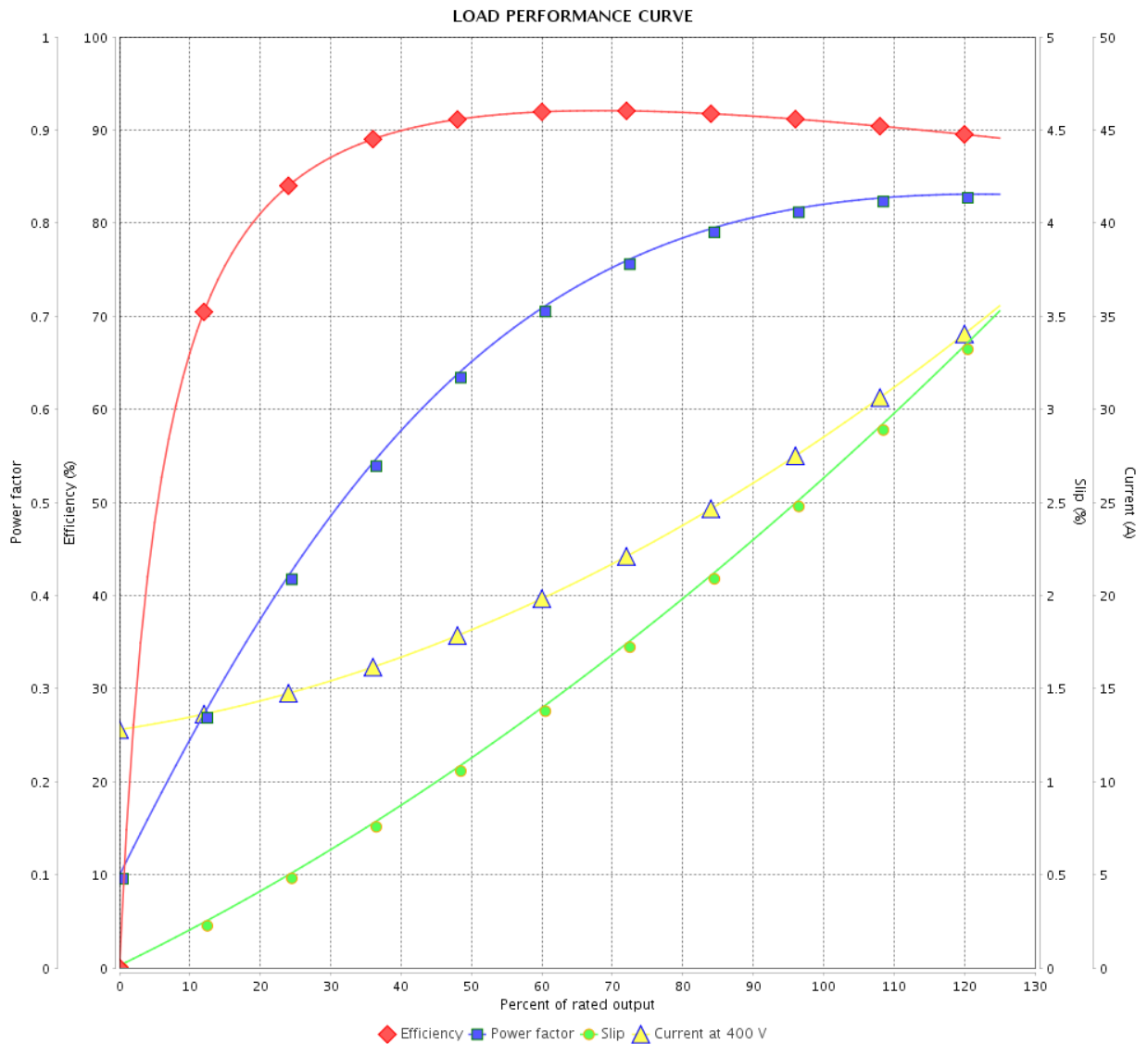


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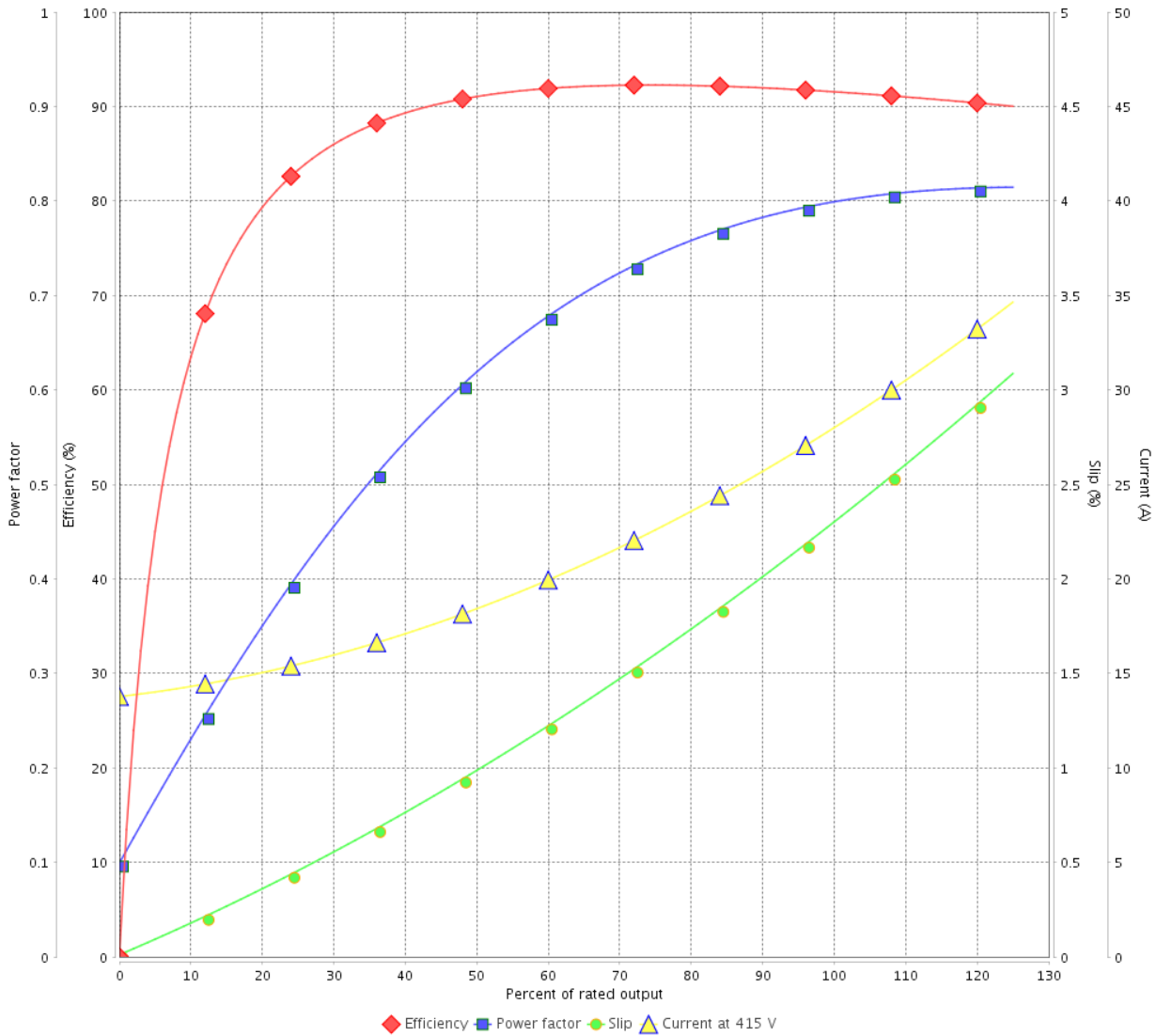
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THERMAL LIMIT CURVE



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Heating constant

Cooling constant

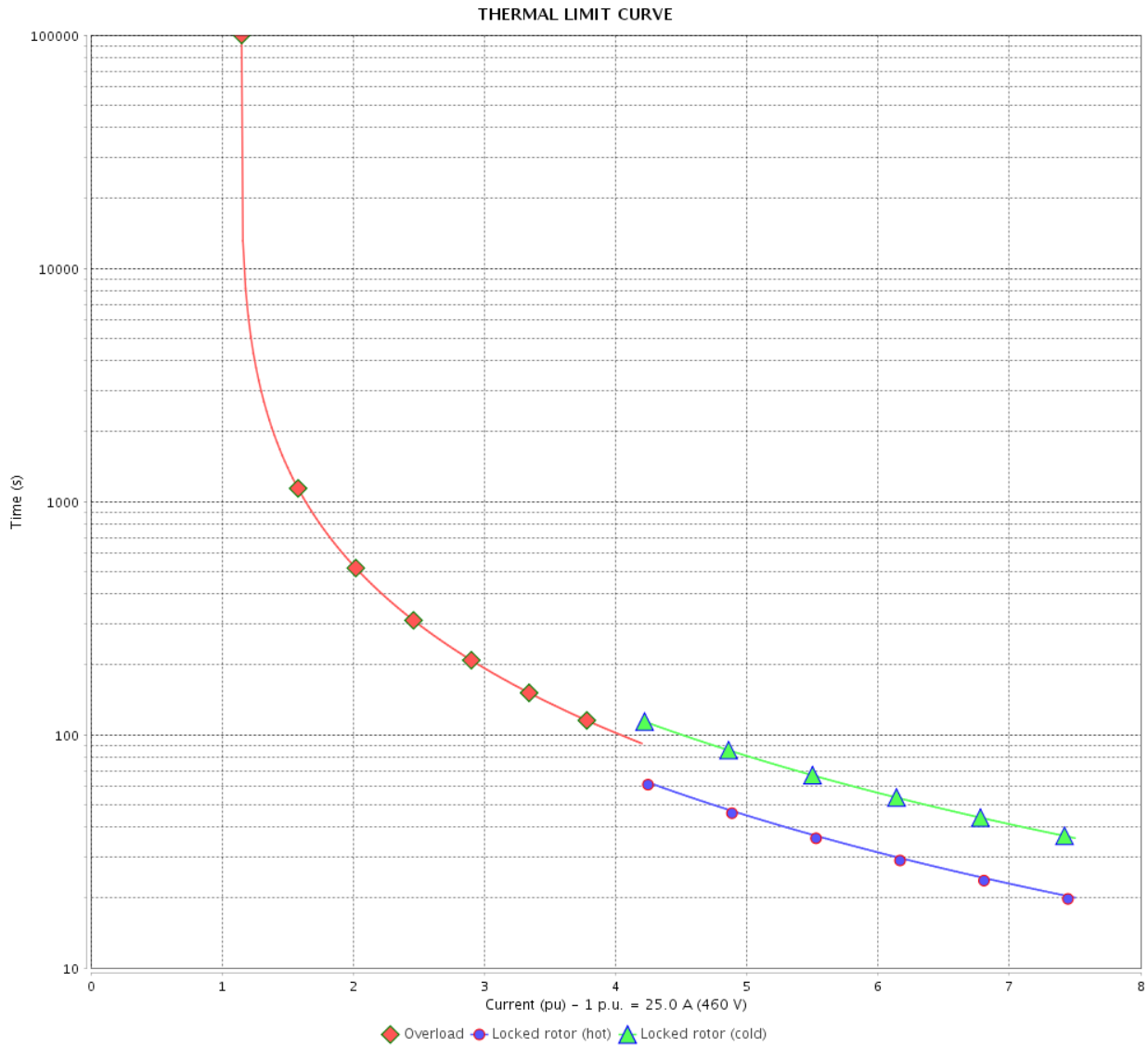
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Three Phase Induction Motor - Squirrel Cage



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Cooling constant

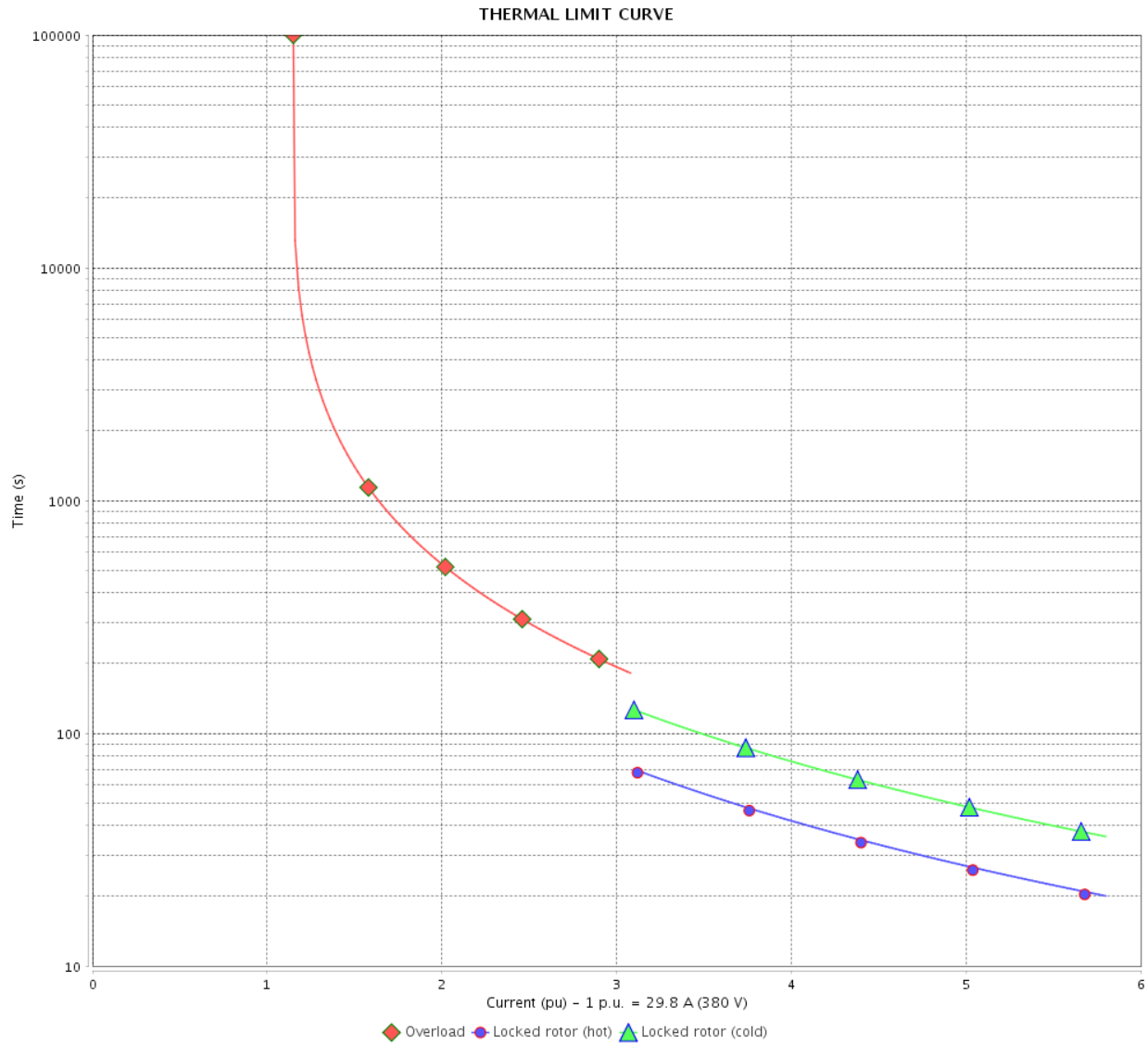
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Rated torque : 71.9 ft.lb	Insulation class : F
Locked rotor torque : 240 %	Service factor : 1.00
Breakdown torque : 240 %	Temperature rise : 80 K
Rated speed : 1460 rpm	Design : B

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Cooling constant

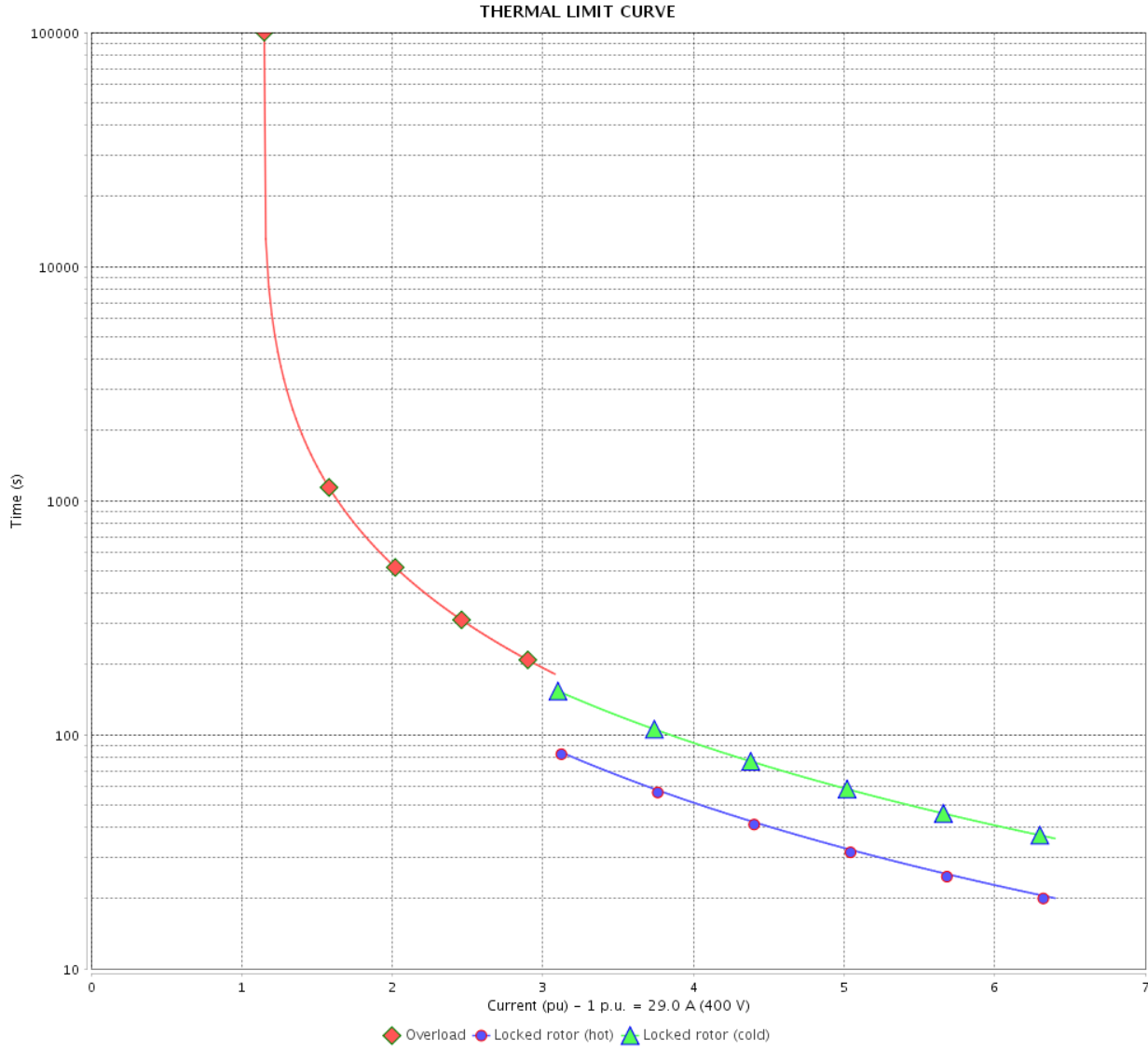
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Customer : _____



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THERMAL LIMIT CURVE



Three Phase Induction Motor - Squirrel Cage

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Locked rotor torque : 260 %	Service factor : 1.00
Breakdown torque : 260 %	Temperature rise : 80 K
Rated speed : 1465 rpm	Design : B

Heating constant

Cooling constant

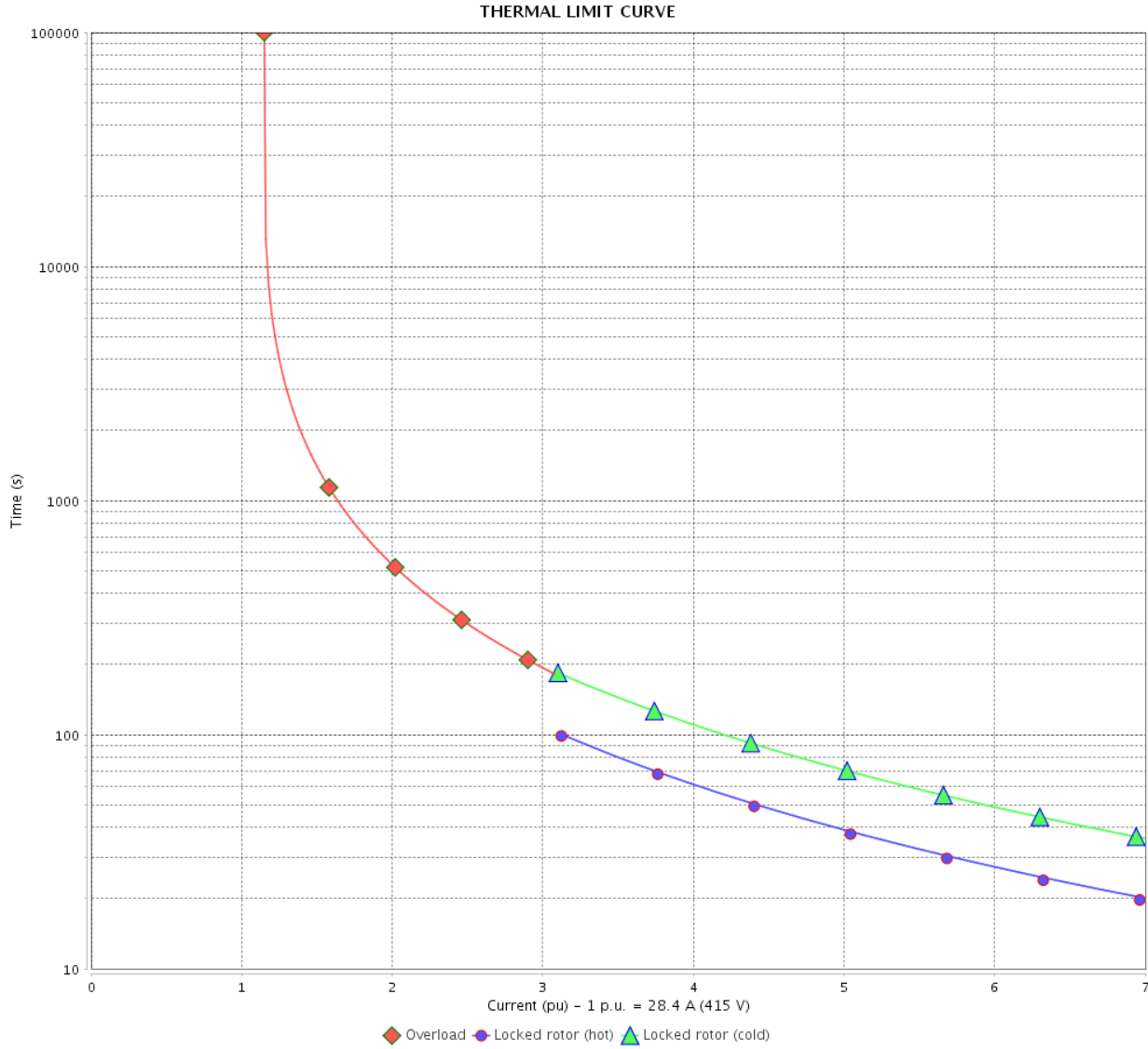
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Three Phase Induction Motor - Squirrel Cage



Customer : _____



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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

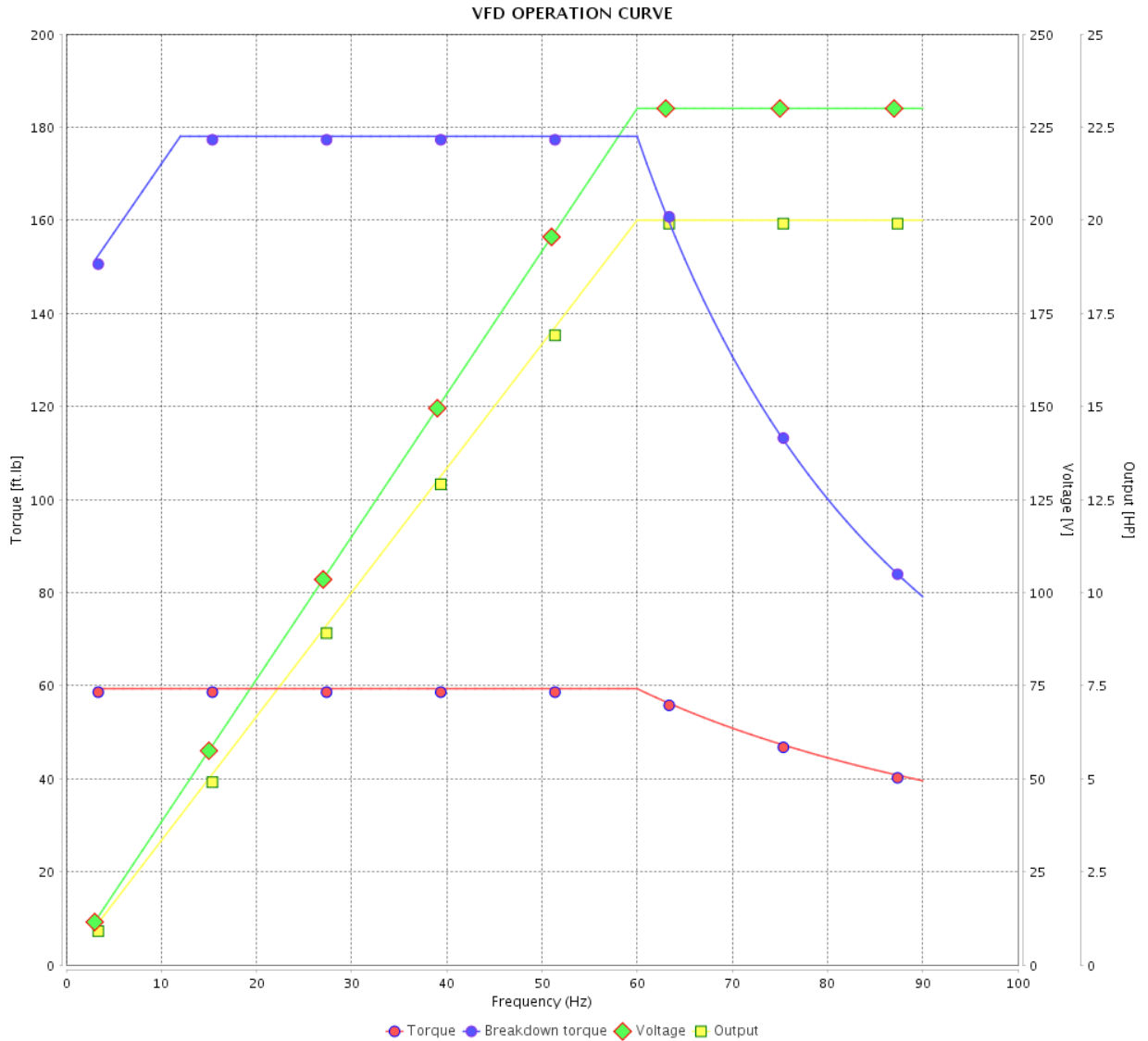


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Performance : 230/460 V 60 Hz 4P

Rated current : 50.0/25.0 A
 LRC : 7.5
 Rated torque : 59.3 ft.lb
 Locked rotor torque : 300 %
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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



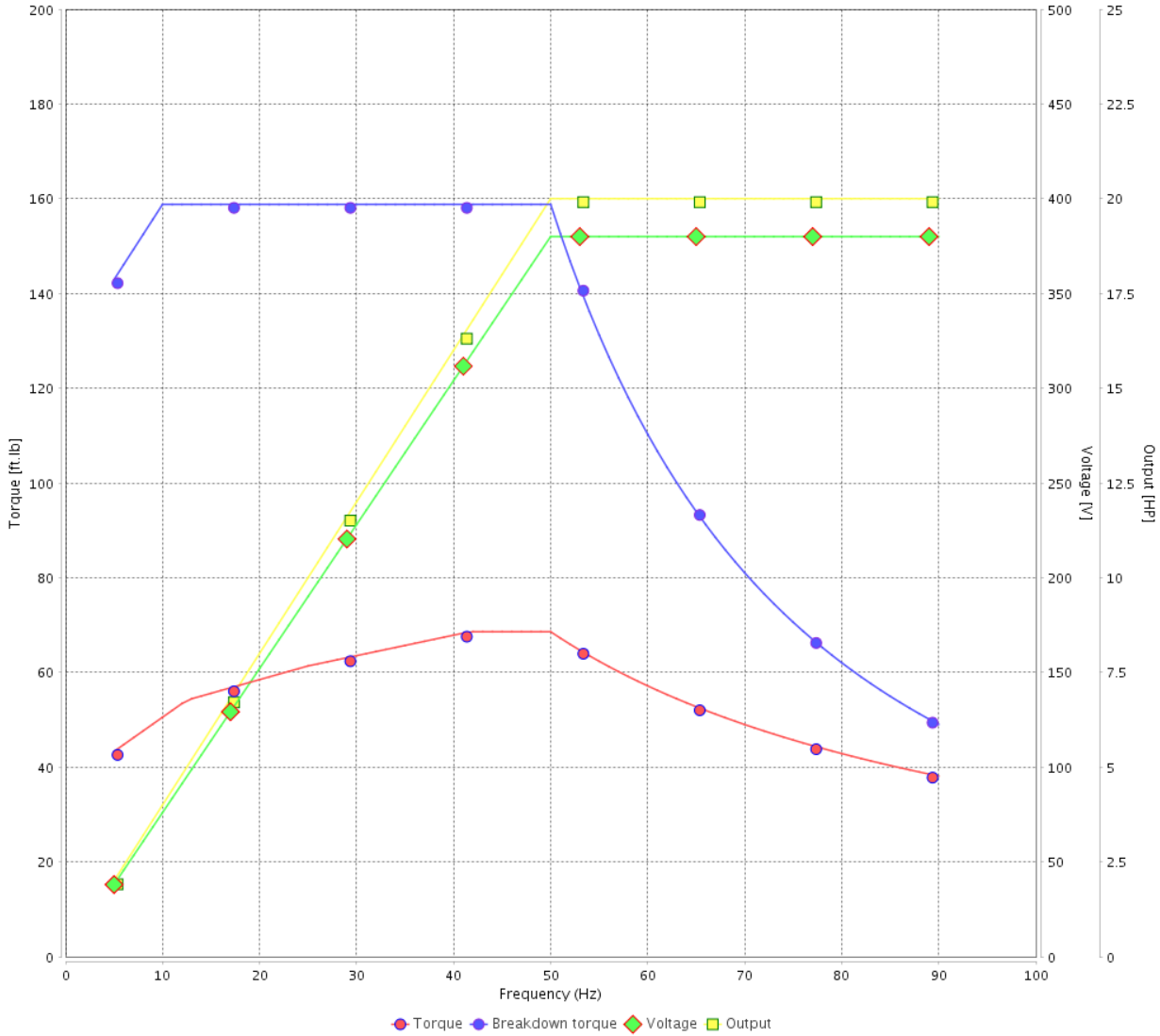
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VFD OPERATION CURVE



Performance : 380 V 50 Hz 4P IE2

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LRC	: 5.8	Duty cycle	: Cont.(S1)
Rated torque	: 72.2 ft.lb	Insulation class	: F
Locked rotor torque	: 210 %	Service factor	: 1.00
Breakdown torque	: 220 %	Temperature rise	: 80 K
Rated speed	: 1455 rpm	Design	: B

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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

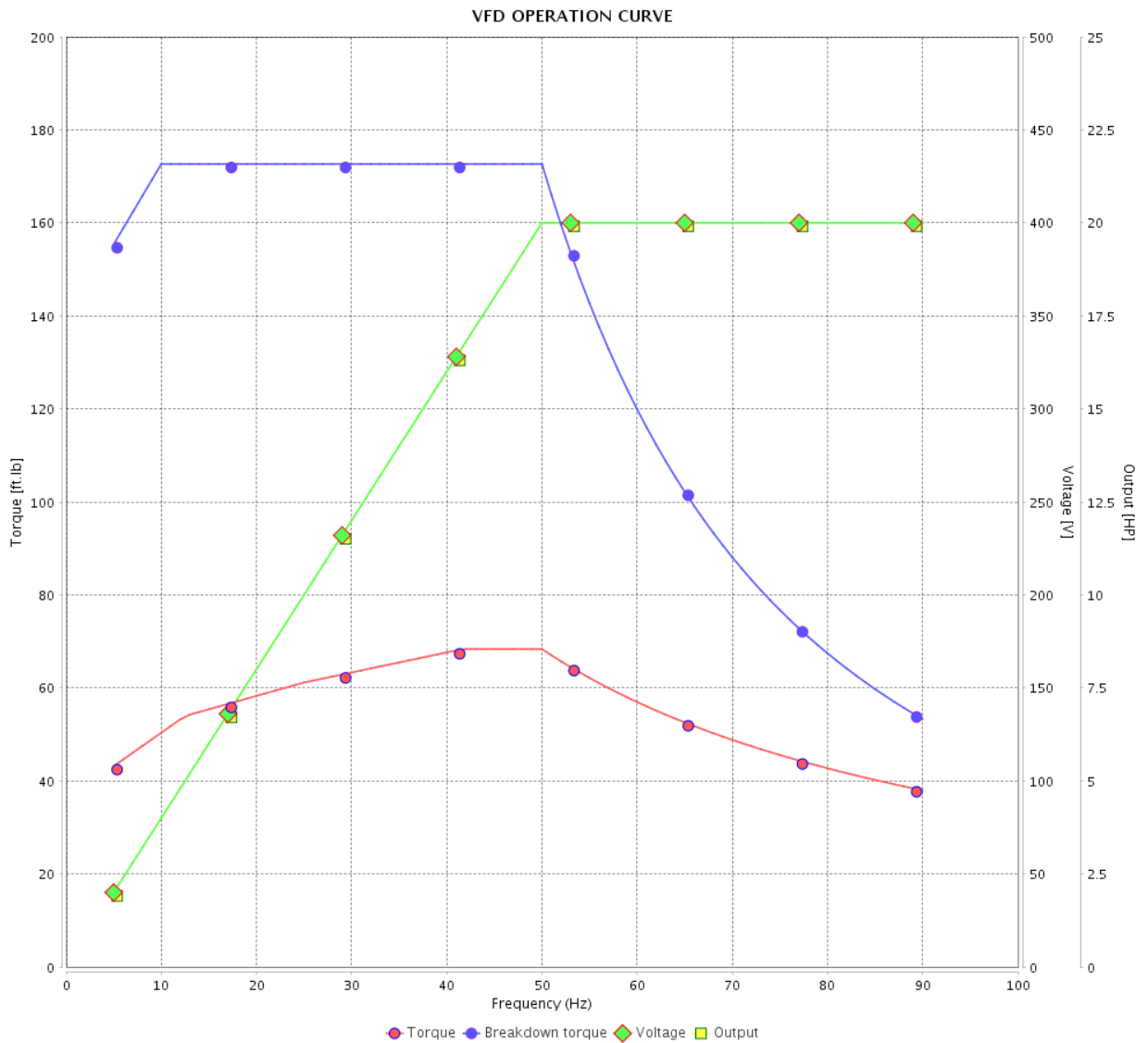


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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

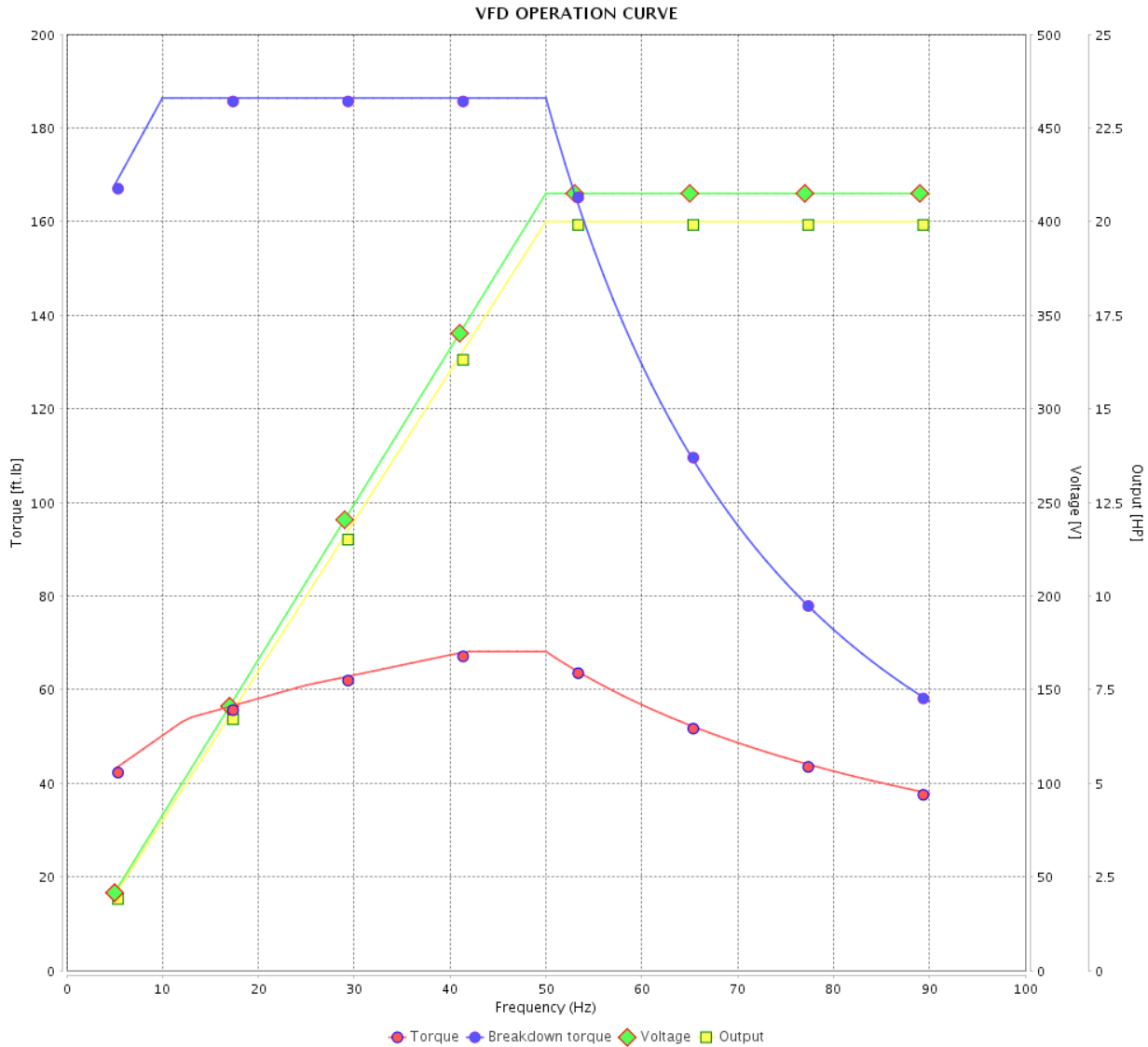


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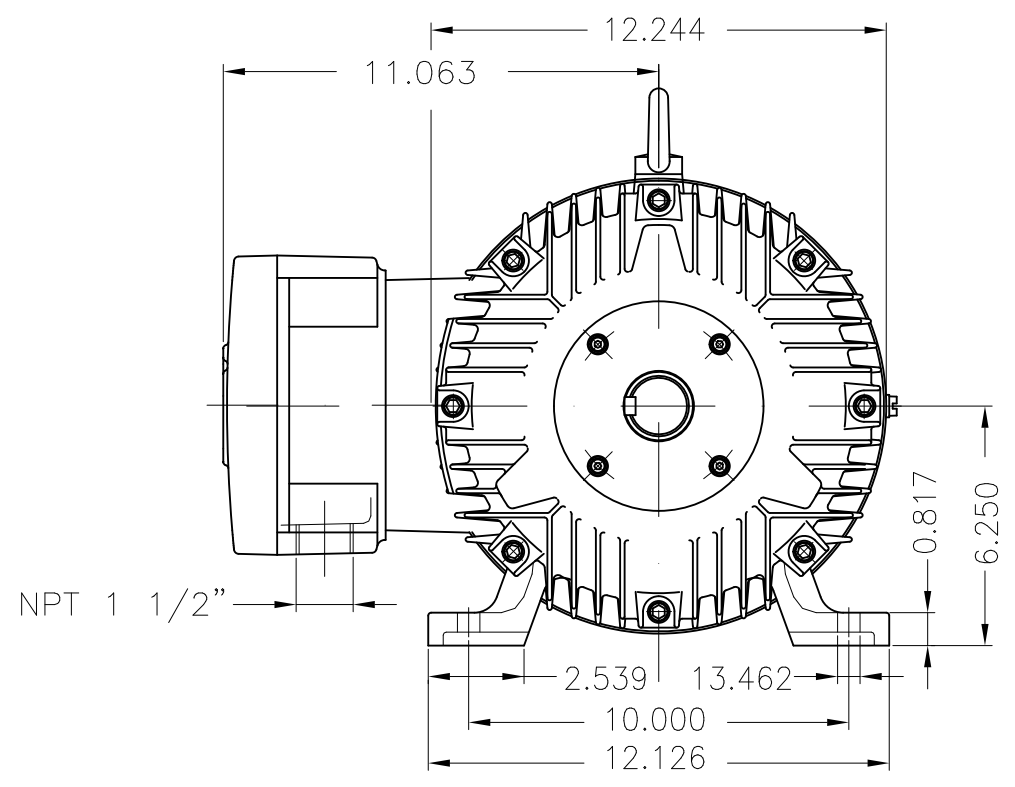
A

B

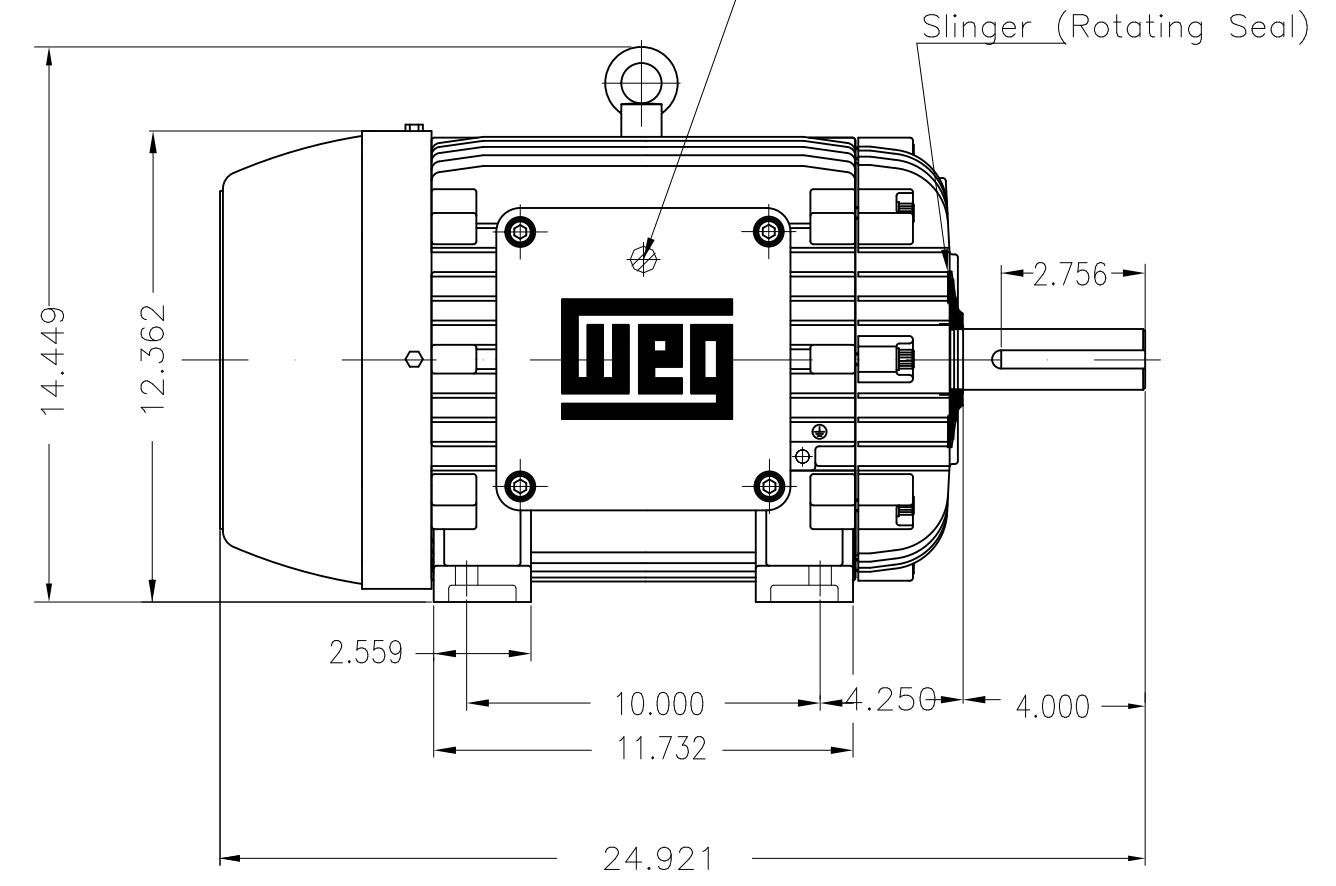
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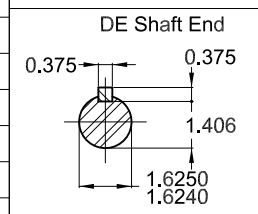


Grounding for leads 5.2–25 mm² / 10–4 AWG



20 HP 04 Poles 60 Hz A

- C3 NDE bearing
- With grease fitting
- C3 DE bearing
- Color RAL 5009
- Painting plan 202P
- Mounting NEMA F-1
- Mounting B3R(D)



ECM	LOC	SUMMARY OF MODIFICATIONS	EXECUTED	CHECKED	RELEASED	DATE	VER
EXECUTED	PIRWBUSER	THREE PH. MOTOR EXPLOSION PROOF PREM. EFF.					
CHECKED		FRAME 256T IP55 TEFC					
RELEASED							
REL DT.	WMO	Jaragua do Sul	Product Engineering	PREVIEW	WDD		

PREVIEW
WDD

SHEET 1 / 1

Dimensions in inches XME A3

MADE IN BRAZIL

**W21X NEMA**
Premium

14390089



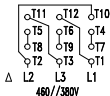
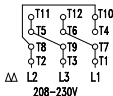
LISTED

CC029A

Inverter Duty Motor
Severe Duty

MODEL 02018XT3E256T

PH 3	FR 256T		
HP(kW) 20.0(15.0)		HZ 60	IP55
V 230/460		A 50.0/25.0	
RPM 1770		NEMA NOM EFF 93.0%	
PF 0.81		SFA 57.5/28.7	DES B
INS CL F	ΔT 80 K	SF 1.15	ENCL TEFC
DUTY CONT.		CODE J	ALT 1000 m.a.s.l.
AMB 40°C	USABLE @208V	55.3 A	SF 1.15 SFA 63.6
AMB 55°C	SF1.0		
20HP 15kW 50Hz 380V 29.8A 1455RPM SF1.00 EFF 91.0% (IE2)			



→ 6309-C3 MOBIL POLYREX EM
→ 6209-C3 13 g 20000 h

392 Lbs



TEMP CODE T3C
CSA/UL: Class I - Div. 1 - Groups C and D
CSA: Class II - Div. 1 - Groups F and G
CSA: Class I - Zone 1 - IIB

EXPLOSION PROOF MOTOR

FOR USE ON VPWM VFD 1000:1VT, 6:1CT, 1.0SF, T3C, AMB 40°C.