

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



Customer					
Product line		: NEMA Premium Efficiency Three-Phase		Product code : 14480957	
				Catalog # : 00156XT3E143T	
Frame : 143/5T		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 : 70.1 lb			
Protection degree : IP55		Moment of inertia (J) : 0.0413 sq.ft.lb			
Design : B					
Output [HP]	1.5	1.5	1.5	1.5	1.5
Poles	2	2	2	2	2
Frequency [Hz]	60	50	50	50	50
Rated voltage [V]	230/460	380	400	415	415
Rated current [A]	4.10/2.05	2.36	2.32	2.29	2.29
L. R. Amperes [A]	37.7/18.9	18.9	19.5	19.9	19.9
LRC [A]	9.2x(Code M)	8.0x(Code K)	8.4x(Code L)	8.7x(Code L)	8.7x(Code L)
No load current [A]	2.00/1.00	0.900	1.00	1.10	1.10
Rated speed [RPM]	3500	2860	2885	2895	2895
Slip [%]	2.78	4.67	3.83	3.50	3.50
Rated torque [ft.lb]	2.25	2.75	2.73	2.72	2.72
Locked rotor torque [%]	340	280	320	360	360
Breakdown torque [%]	440	300	330	360	360
Service factor	1.15	1.00	1.00	1.00	1.00
Temperature rise	80 K	80 K	80 K	80 K	80 K
Locked rotor time	36s (cold) 20s (hot)	19s (cold) 11s (hot)	19s (cold) 11s (hot)	19s (cold) 11s (hot)	19s (cold) 11s (hot)
Noise level ²	68.0 dB(A)	62.0 dB(A)	62.0 dB(A)	62.0 dB(A)	62.0 dB(A)
Efficiency (%)	25%	76.9	79.0	79.6	82.4
	50%	78.5	79.5	80.0	81.5
	75%	82.5	82.5	82.5	84.0
	100%	84.0	82.5	82.5	82.5
Power Factor	25%	0.38	0.46	0.42	0.38
	50%	0.62	0.70	0.66	0.63
	75%	0.73	0.81	0.77	0.74
	100%	0.80	0.86	0.83	0.81
Bearing type : 6205 2RS		Drive end	Non drive end	Foundation loads	
Sealing : Oil Seal		6204 2RS	Lip Seal	Max. traction : 50 lb	
Lubrication interval : -		-	-	Max. compression : 120 lb	
Lubricant amount : -		-	-		
Lubricant type : Mobil Polyrex EM					
Notes					
USABLE @208V 4.53A SF 1.15 SFA 5.21A					
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



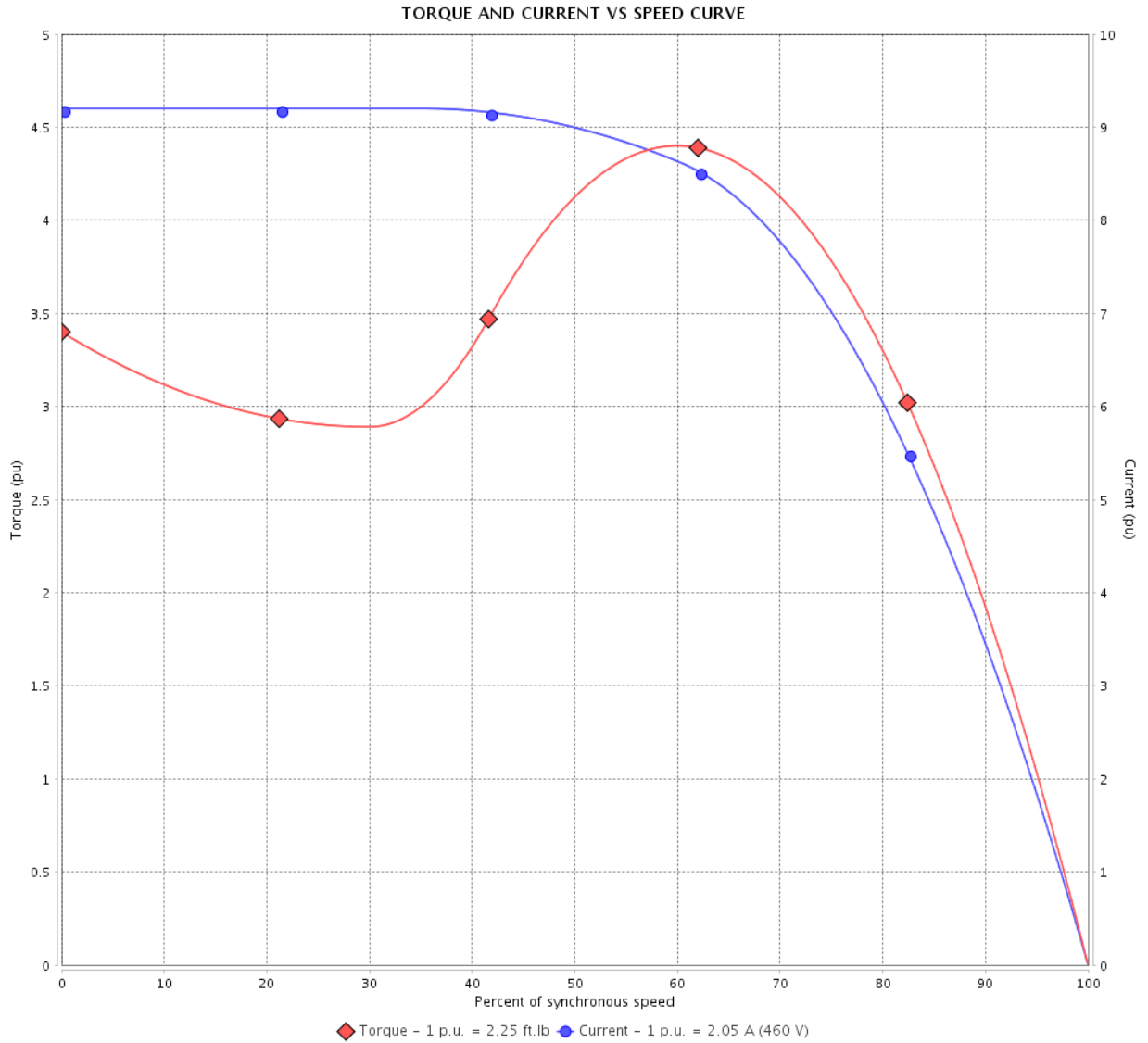
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14480957

Catalog # : 00156XT3E143T



Performance : 230/460 V 60 Hz 2P

Rated current : 4.10/2.05 A
 LRC : 9.2
 Rated torque : 2.25 ft.lb
 Locked rotor torque : 340 %
 Breakdown torque : 440 %
 Rated speed : 3500 rpm

Moment of inertia (J) : 0.0413 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

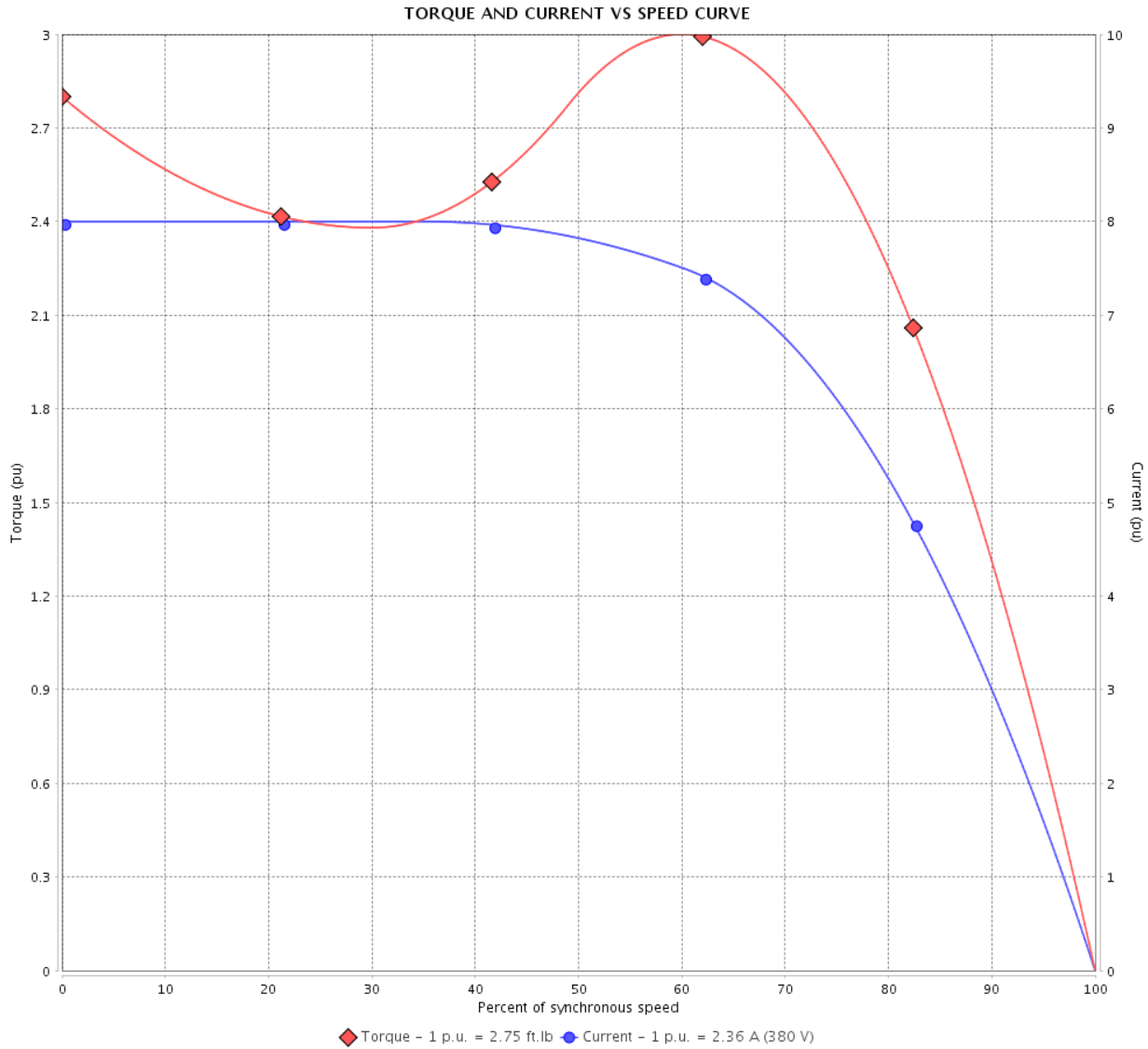


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14480957

Catalog # : 00156XT3E143T



Performance : 380 V 50 Hz 2P IE2

Rated current	: 2.36 A	Moment of inertia (J)	: 0.0413 sq.ft.lb
LRC	: 8.0	Duty cycle	: Cont.(S1)
Rated torque	: 2.75 ft.lb	Insulation class	: F
Locked rotor torque	: 280 %	Service factor	: 1.00
Breakdown torque	: 300 %	Temperature rise	: 80 K
Rated speed	: 2860 rpm	Design	: B

Locked rotor time : 19s (cold) 11s (hot)

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TORQUE AND CURRENT VS SPEED CURVE



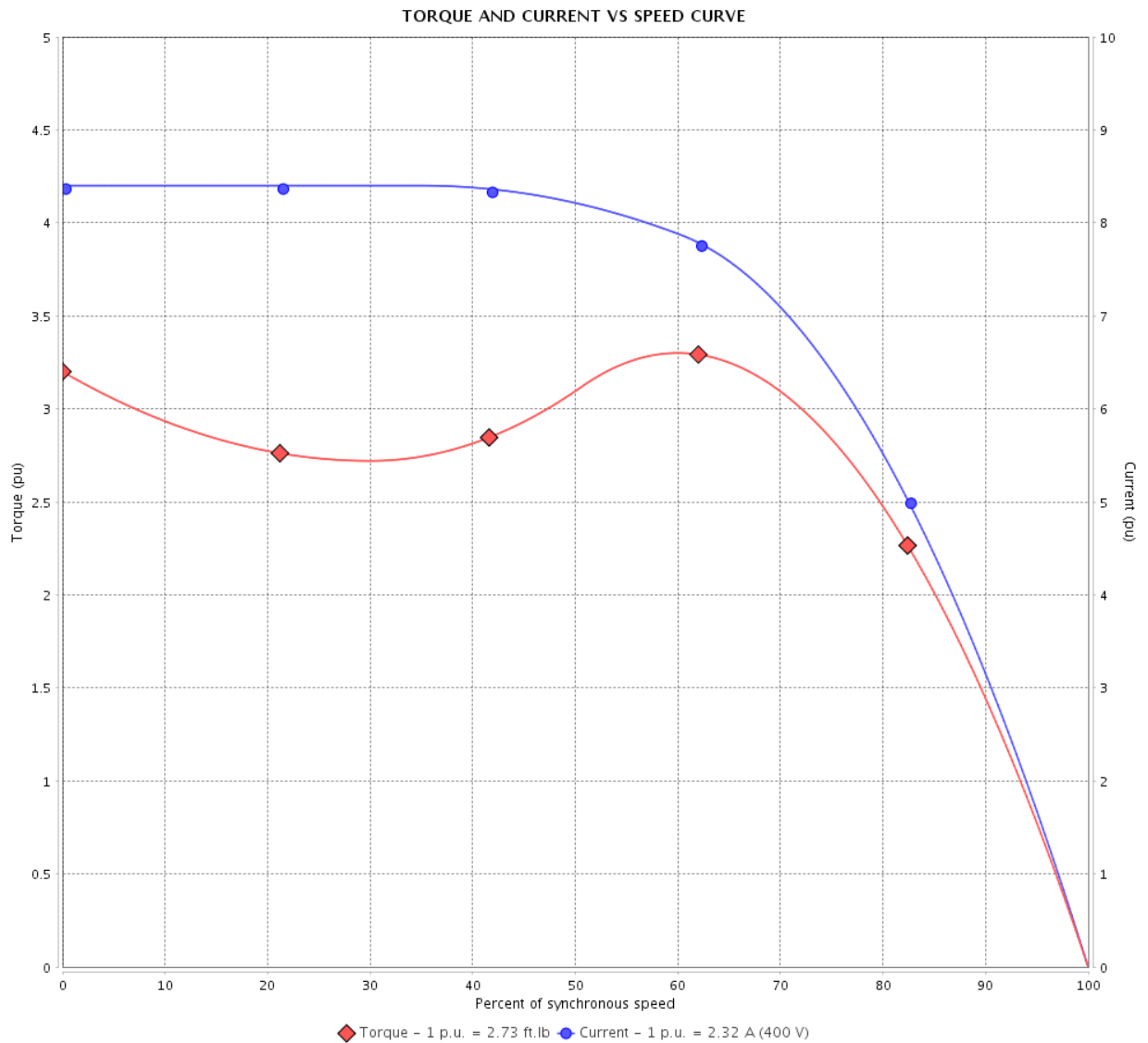
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14480957

Catalog # : 00156XT3E143T



Performance : 400 V 50 Hz 2P IE2

Rated current : 2.32 A
 LRC : 8.4
 Rated torque : 2.73 ft.lb
 Locked rotor torque : 320 %
 Breakdown torque : 330 %
 Rated speed : 2885 rpm

Moment of inertia (J) : 0.0413 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

Locked rotor time : 19s (cold) 11s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



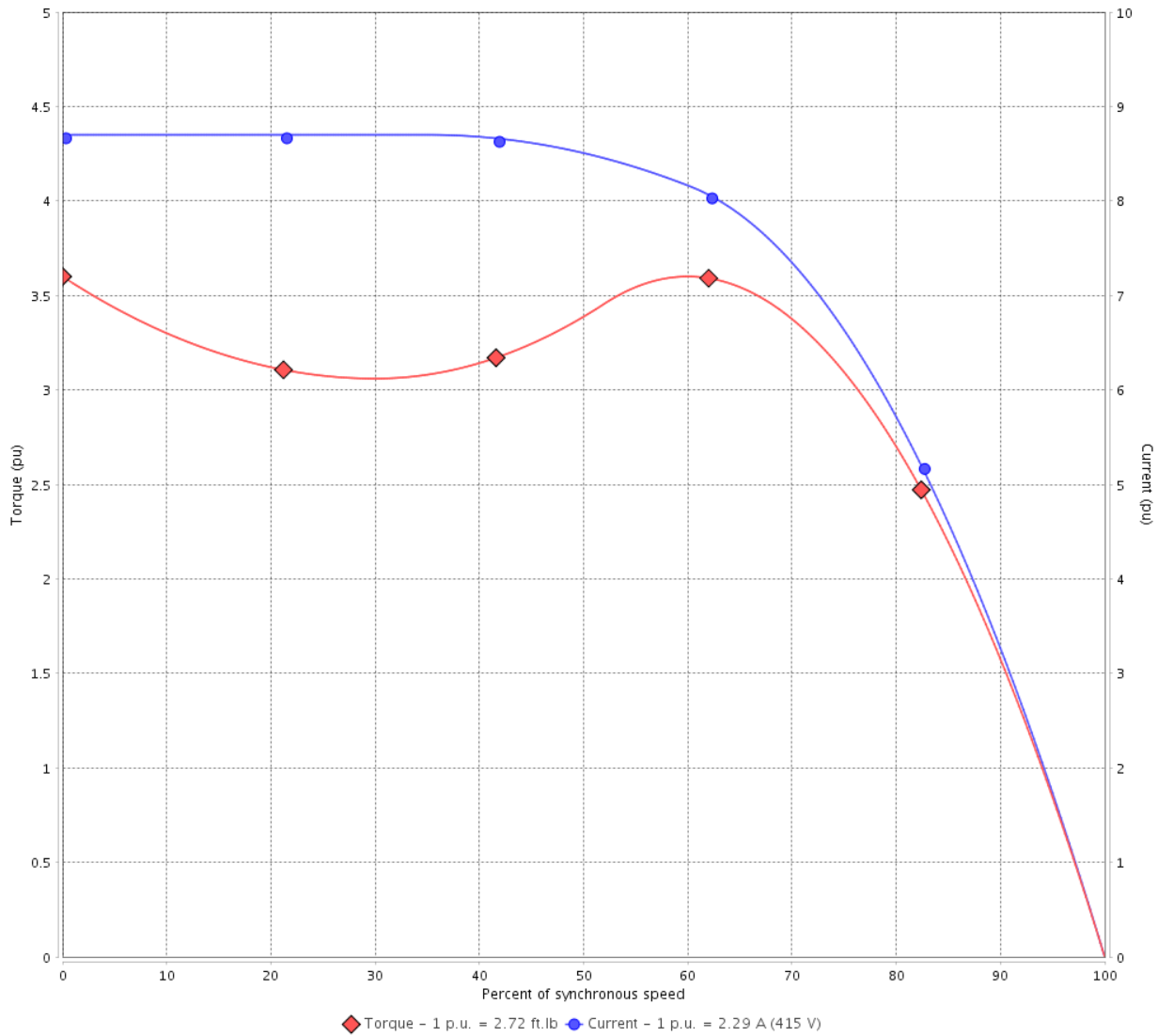
Customer :

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Catalog # : 00156XT3E143T

TORQUE AND CURRENT VS SPEED CURVE



Performance : 415 V 50 Hz 2P IE2

Rated current	: 2.29 A	Moment of inertia (J)	: 0.0413 sq.ft.lb
LRC	: 8.7	Duty cycle	: Cont.(S1)
Rated torque	: 2.72 ft.lb	Insulation class	: F
Locked rotor torque	: 360 %	Service factor	: 1.00
Breakdown torque	: 360 %	Temperature rise	: 80 K
Rated speed	: 2895 rpm	Design	: B

Locked rotor time : 19s (cold) 11s (hot)

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LOAD PERFORMANCE CURVE

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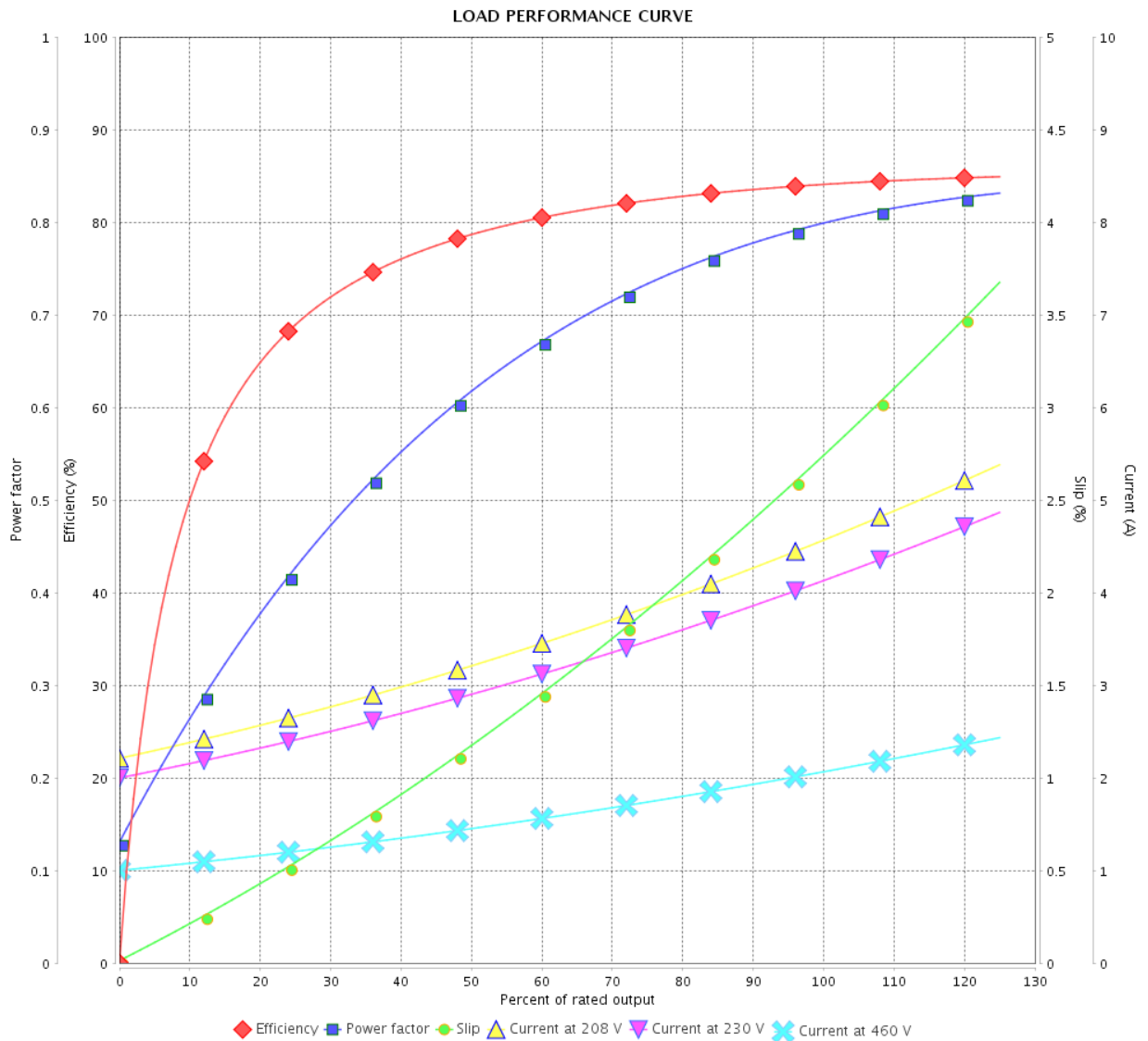


Customer :

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Performance : 230/460 V 60 Hz 2P

Rated current : 4.10/2.05 A
 LRC : 9.2
 Rated torque : 2.25 ft.lb
 Locked rotor torque : 340 %
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Three Phase Induction Motor - Squirrel Cage



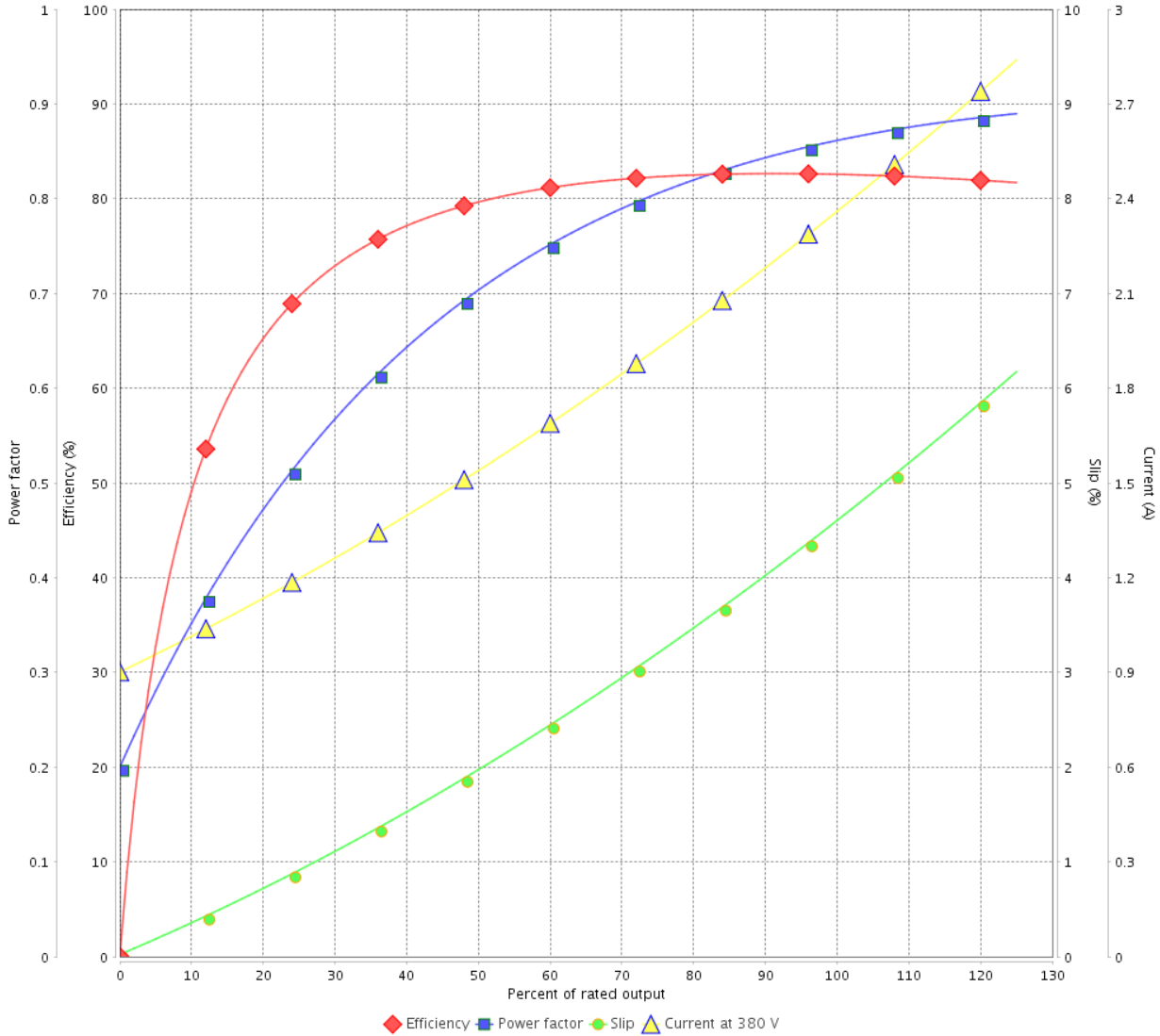
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Rated current : 2.36 A
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 Rated torque : 2.75 ft.lb
 Locked rotor torque : 280 %
 Breakdown torque : 300 %
 Rated speed : 2860 rpm

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 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
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Three Phase Induction Motor - Squirrel Cage

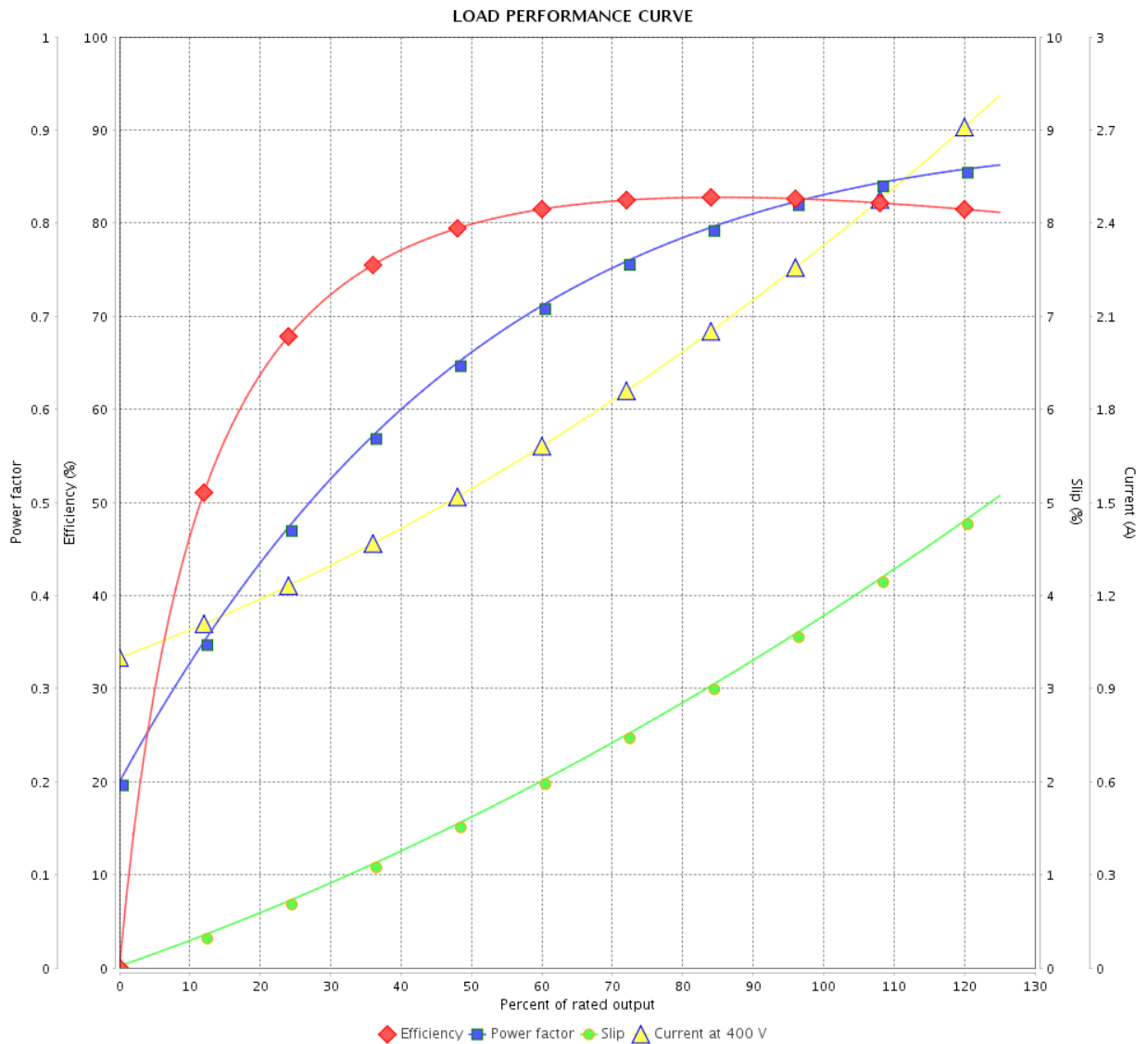


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Performance : 400 V 50 Hz 2P IE2

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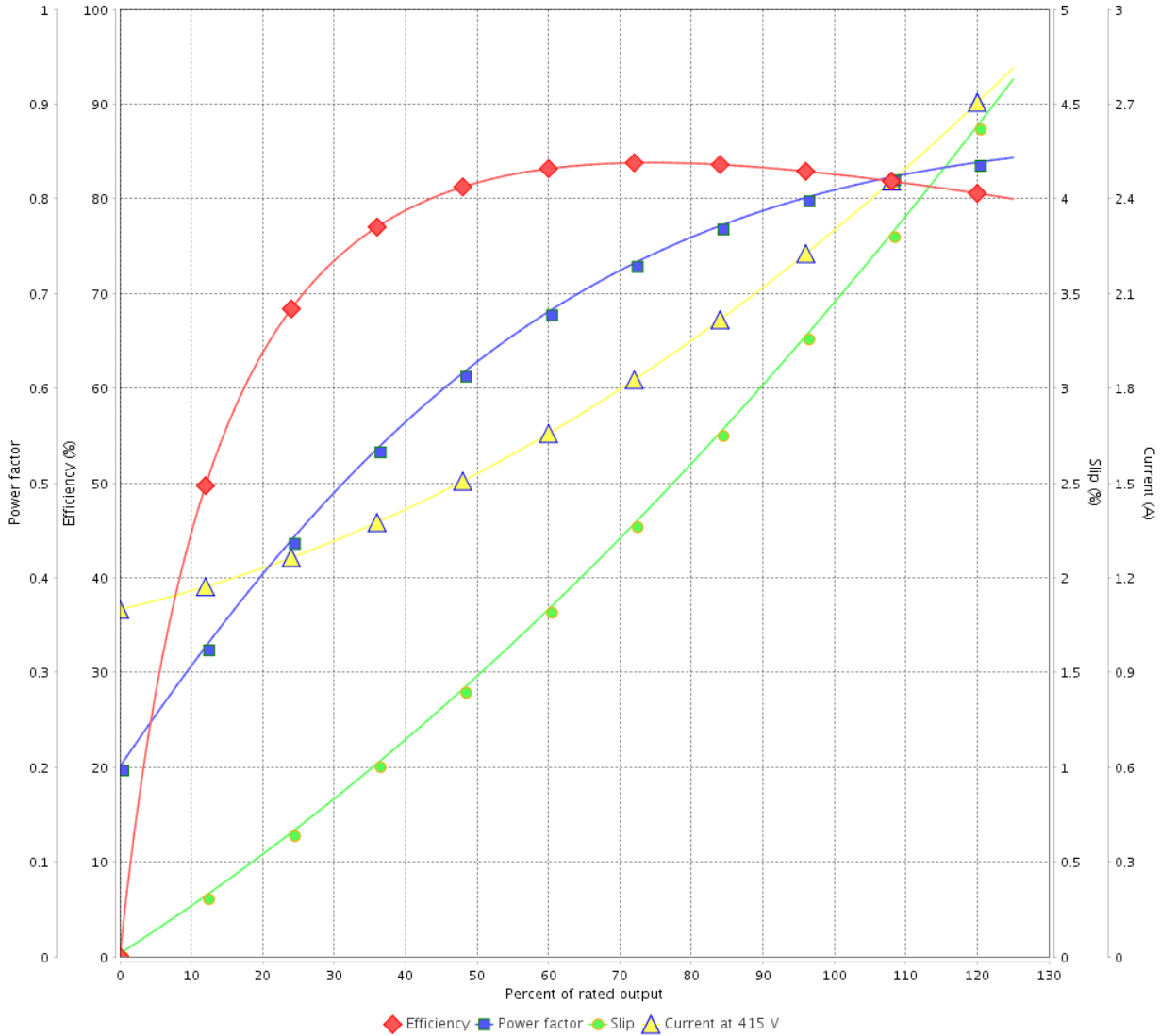
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 Insulation class : F
 Service factor : 1.00
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THERMAL LIMIT CURVE



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Rated speed : 3500 rpm	Design : B

Heating constant

Cooling constant

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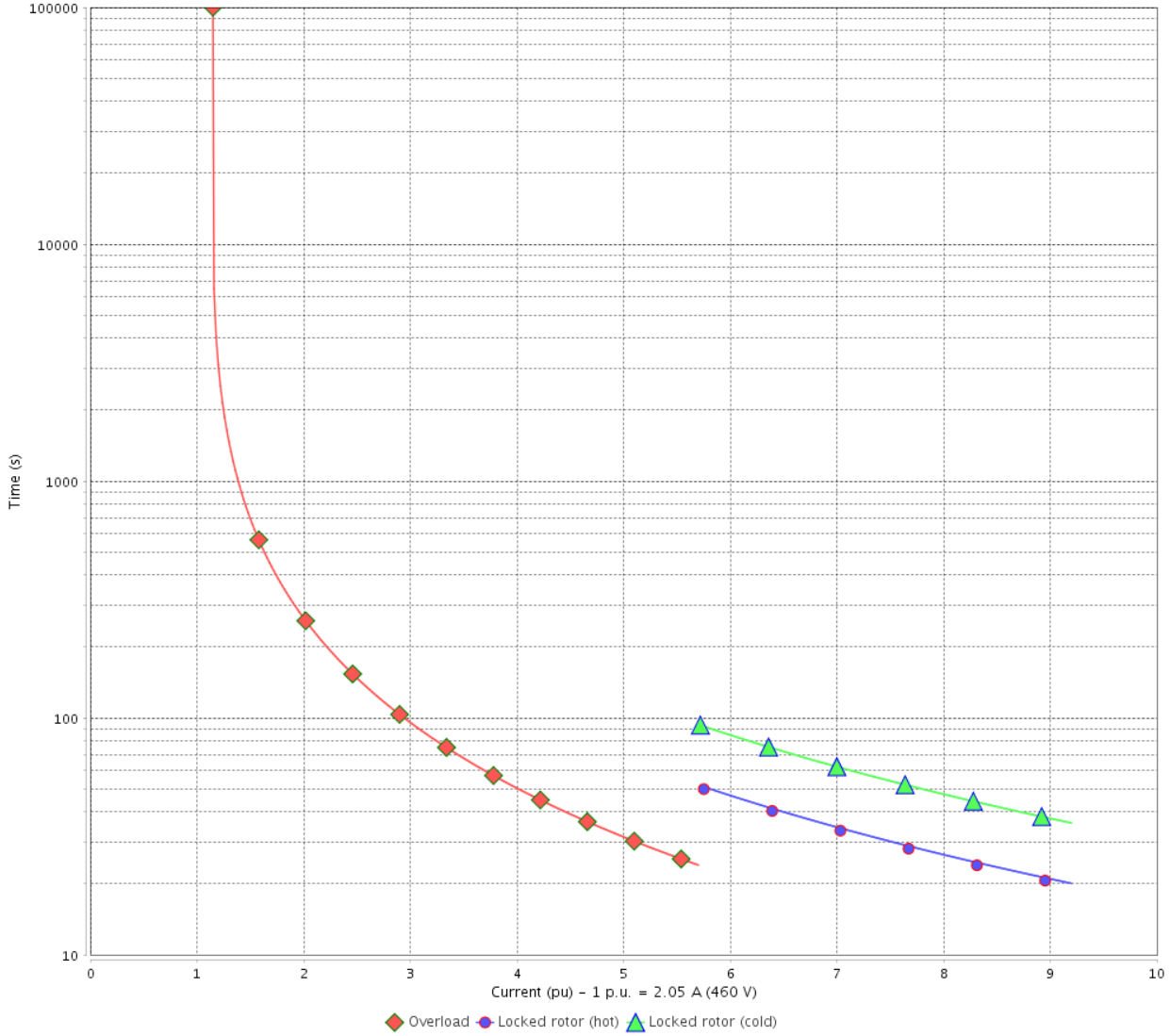
THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : _____

THERMAL LIMIT CURVE



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Locked rotor torque : 280 %	Service factor : 1.00
Breakdown torque : 300 %	Temperature rise : 80 K
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Heating constant

Cooling constant

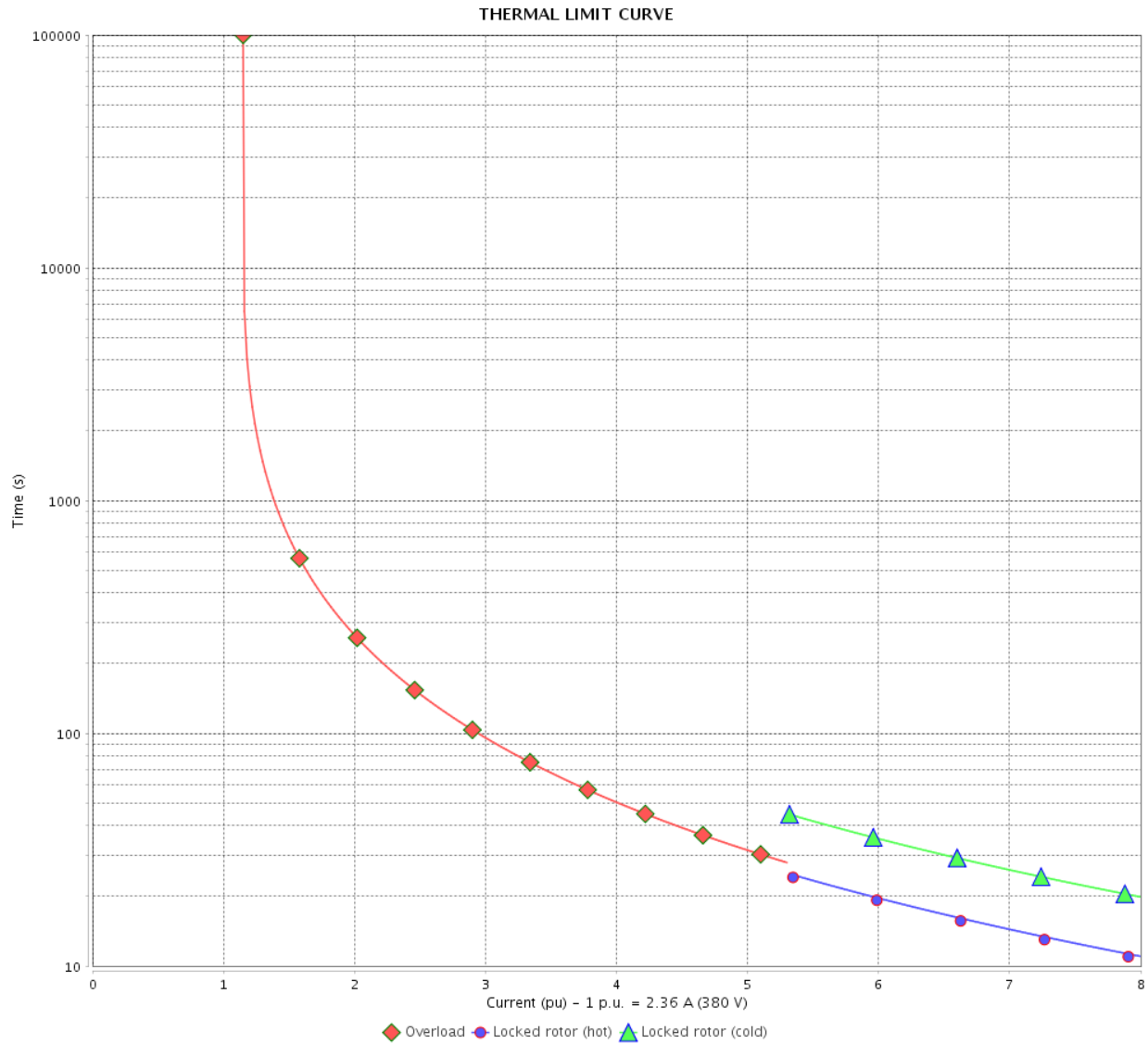
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Customer : _____



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Locked rotor torque : 320 %	Service factor : 1.00
Breakdown torque : 330 %	Temperature rise : 80 K
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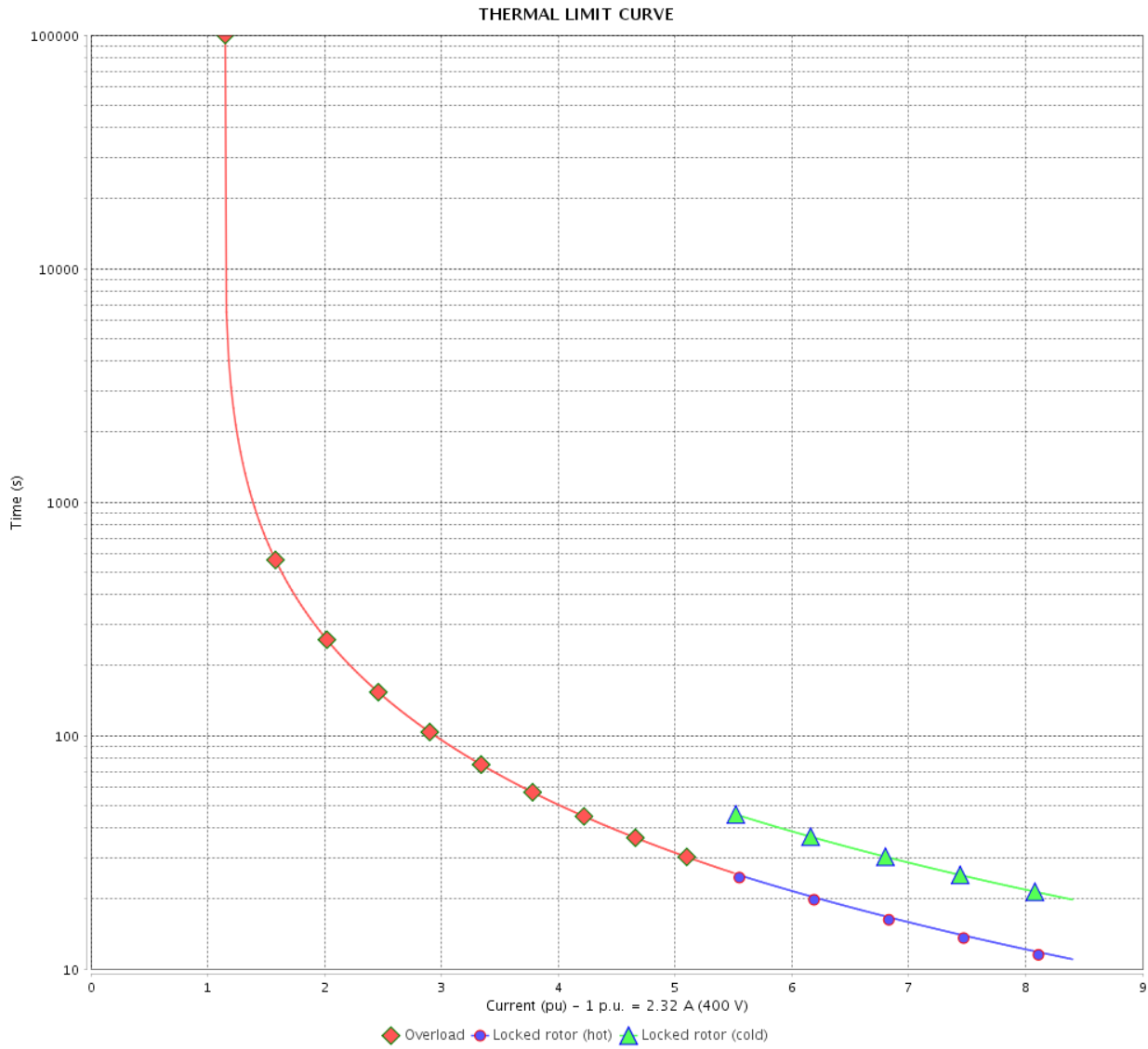
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Three Phase Induction Motor - Squirrel Cage



Customer : _____



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THERMAL LIMIT CURVE



Three Phase Induction Motor - Squirrel Cage

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LRC : 8.7	Duty cycle : Cont.(S1)
Rated torque : 2.72 ft.lb	Insulation class : F
Locked rotor torque : 360 %	Service factor : 1.00
Breakdown torque : 360 %	Temperature rise : 80 K
Rated speed : 2895 rpm	Design : B

Heating constant

Cooling constant

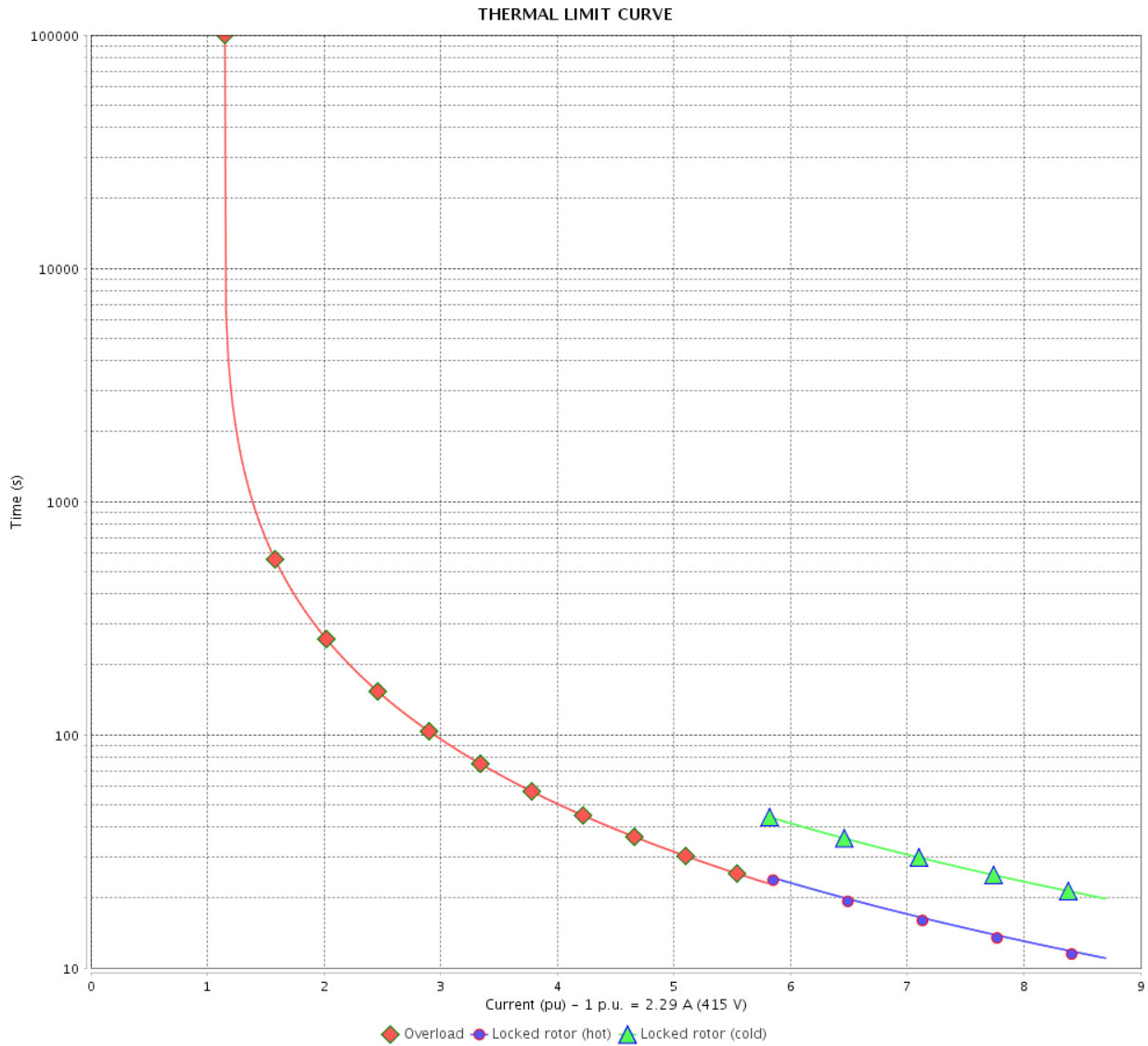
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Three Phase Induction Motor - Squirrel Cage



Customer : _____



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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

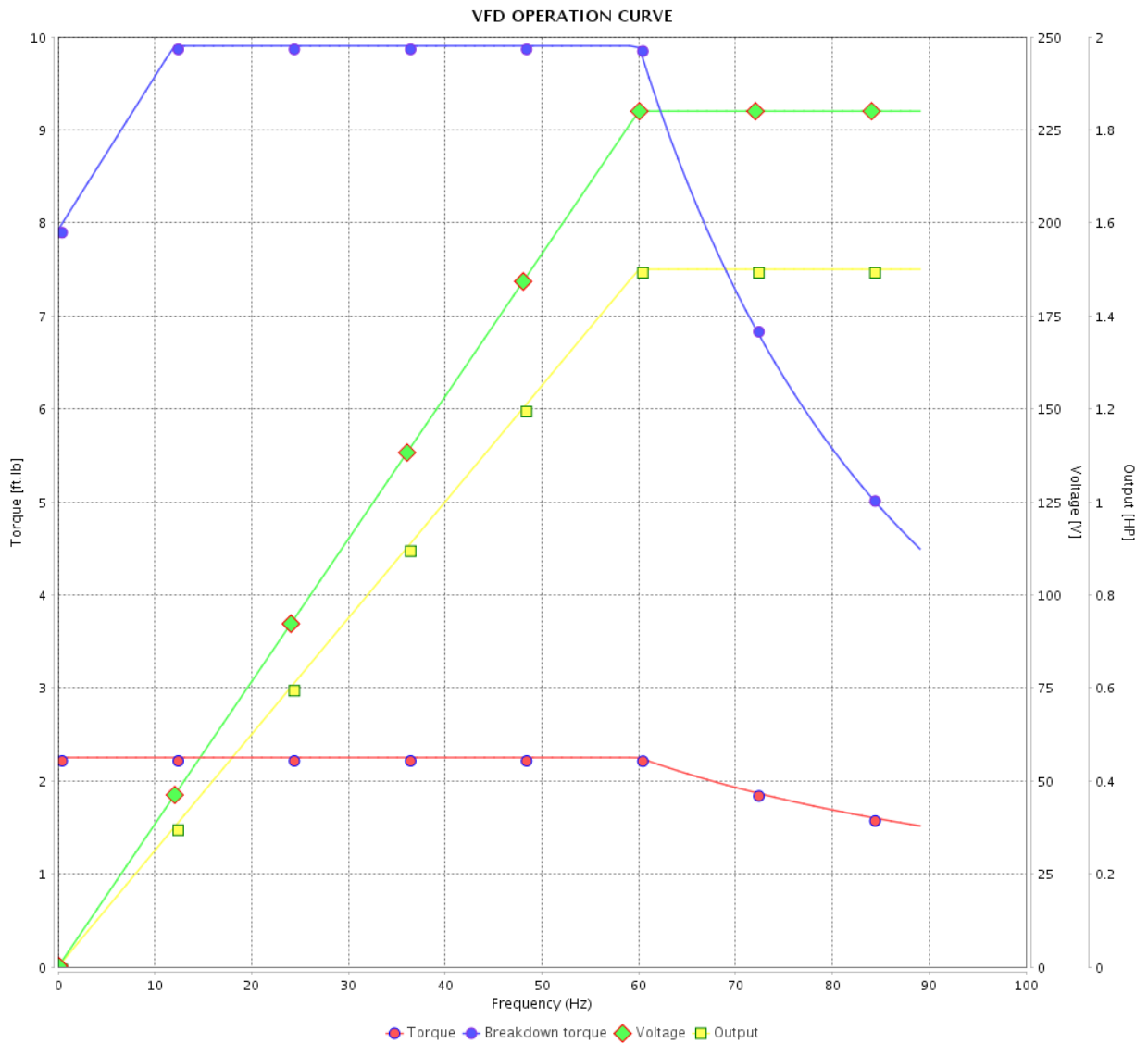


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Performance : 230/460 V 60 Hz 2P

Rated current : 4.10/2.05 A
 LRC : 9.2
 Rated torque : 2.25 ft.lb
 Locked rotor torque : 340 %
 Breakdown torque : 440 %
 Rated speed : 3500 rpm

Moment of inertia (J) : 0.0413 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.15
 Temperature rise : 80 K
 Design : B

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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



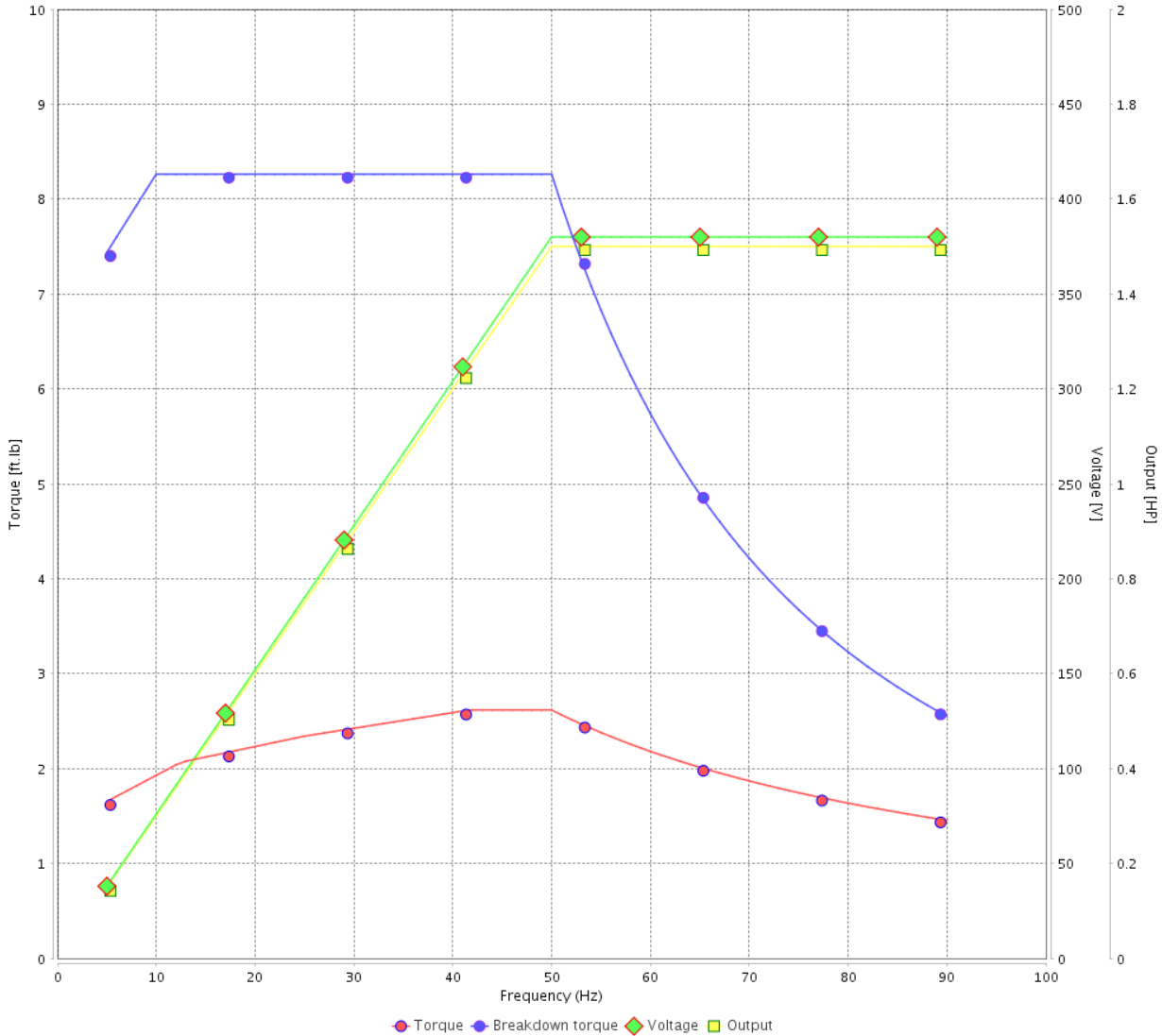
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VFD OPERATION CURVE



Performance : 380 V 50 Hz 2P IE2

Rated current : 2.36 A
 LRC : 8.0
 Rated torque : 2.75 ft.lb
 Locked rotor torque : 280 %
 Breakdown torque : 300 %
 Rated speed : 2860 rpm

Moment of inertia (J) : 0.0413 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

Rev.	Changes Summary	Performed	Checked	Date
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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

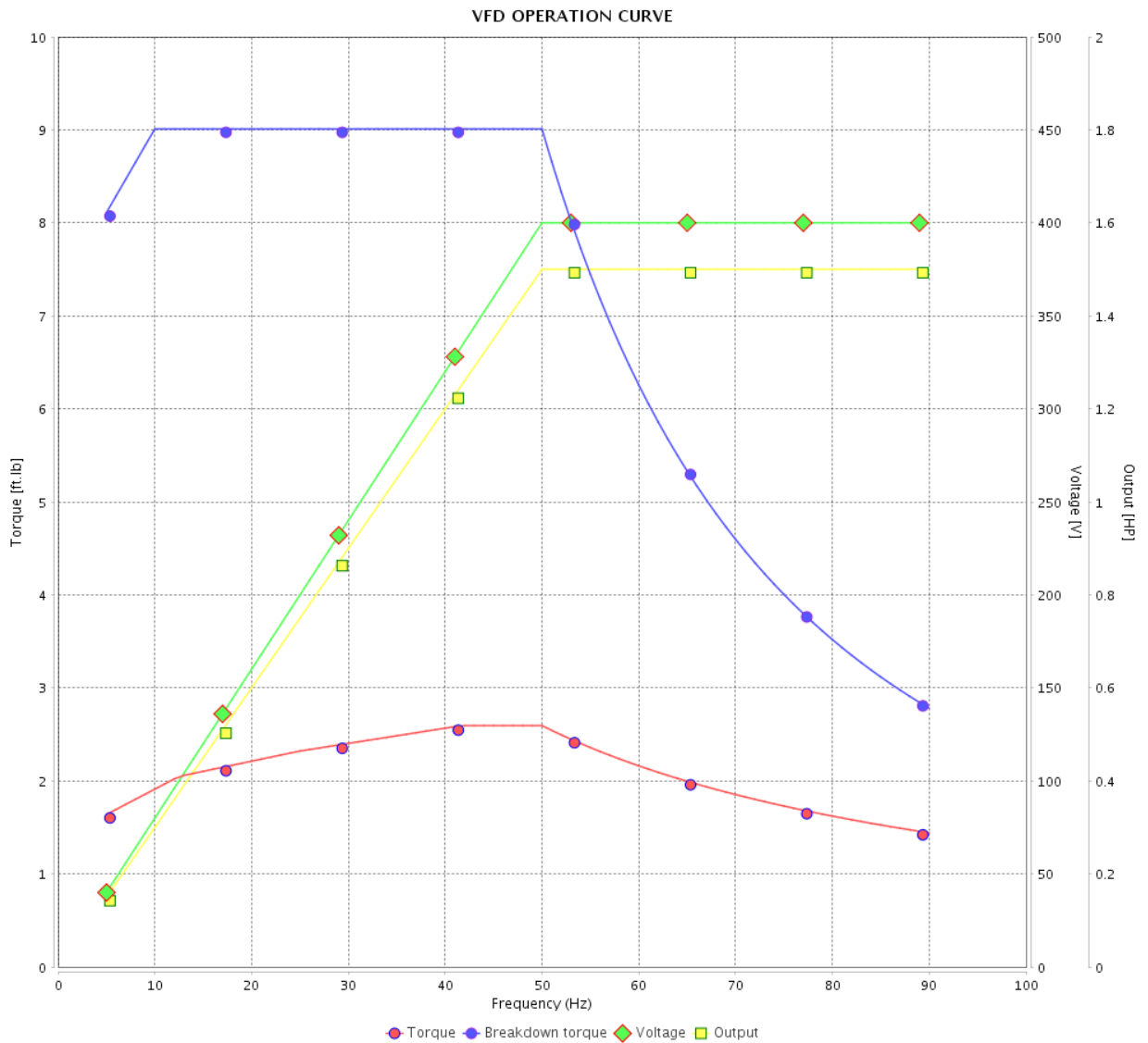


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Performance : 400 V 50 Hz 2P IE2

Rated current : 2.32 A
 LRC : 8.4
 Rated torque : 2.73 ft.lb
 Locked rotor torque : 320 %
 Breakdown torque : 330 %
 Rated speed : 2885 rpm

Moment of inertia (J) : 0.0413 sq.ft.lb
 Duty cycle : Cont.(S1)
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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

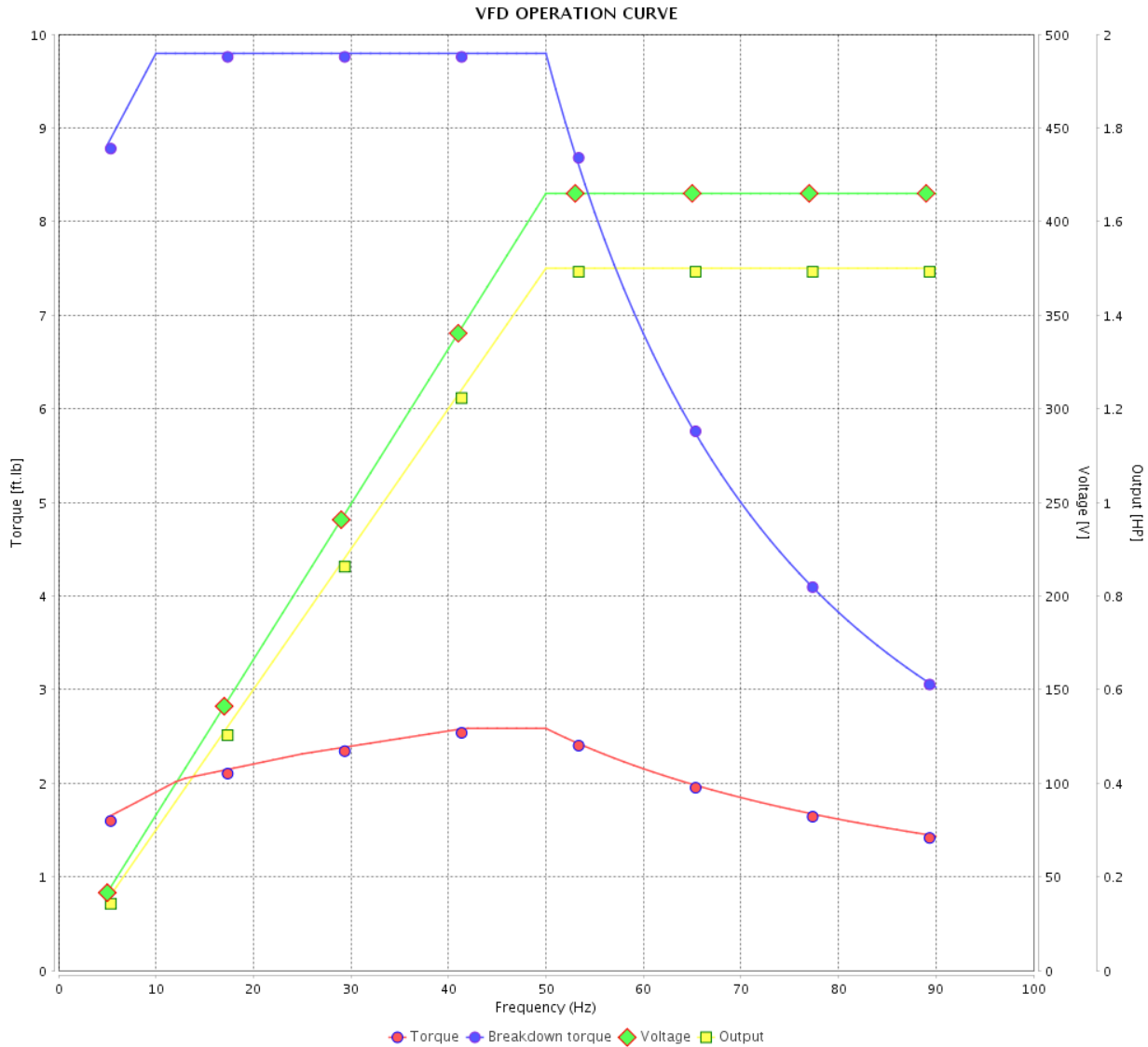


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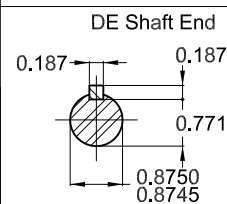
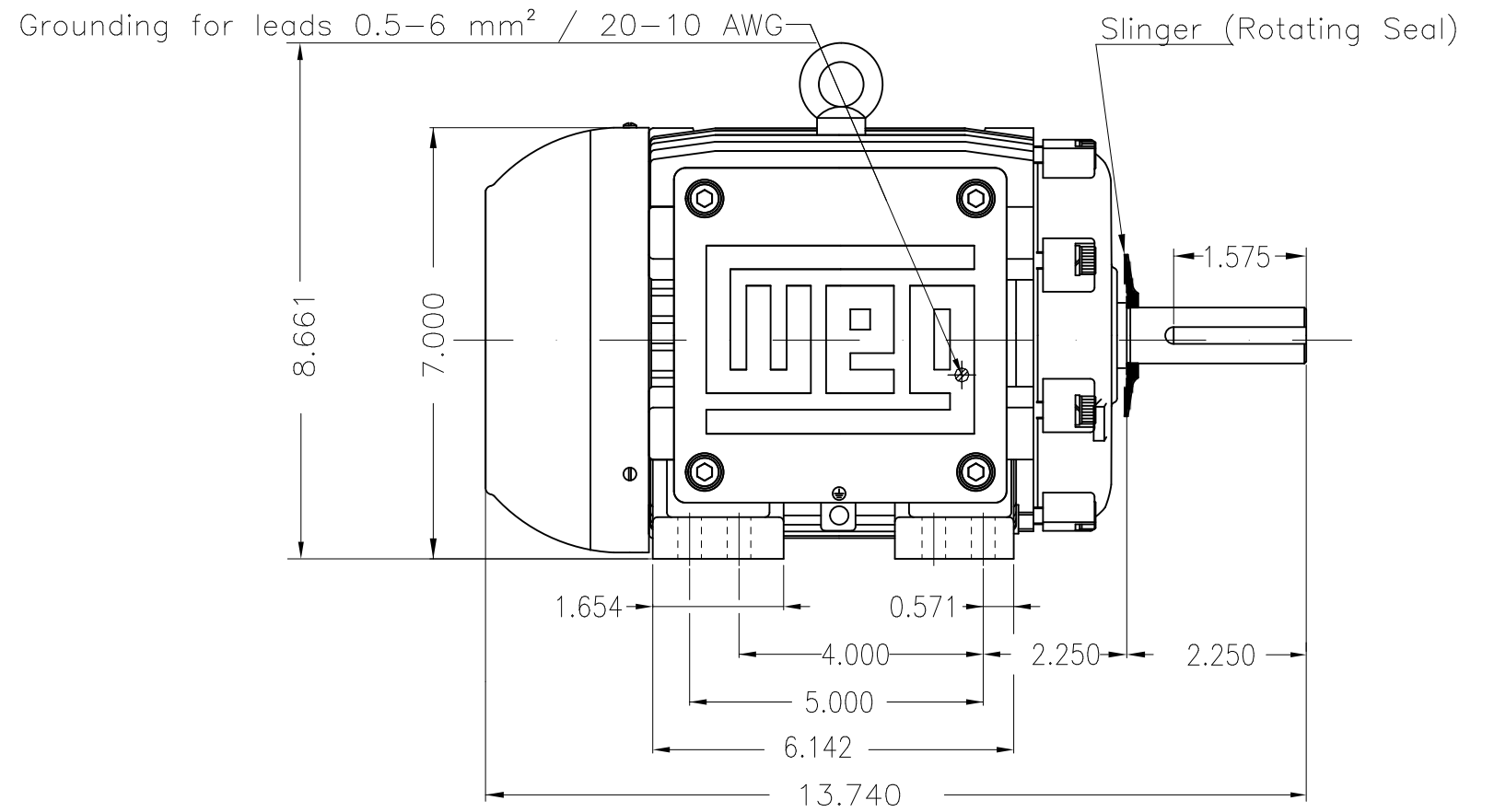
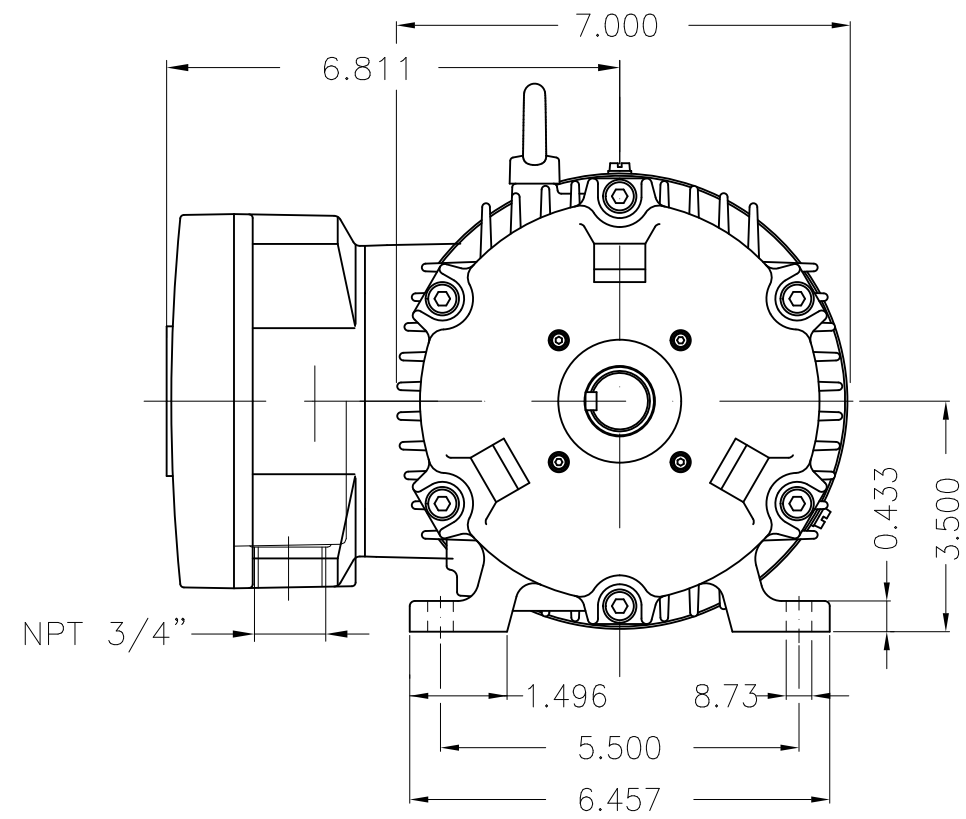


Performance : 415 V 50 Hz 2P IE2

Rated current : 2.29 A
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 Rated torque : 2.72 ft.lb
 Locked rotor torque : 360 %
 Breakdown torque : 360 %
 Rated speed : 2895 rpm

Moment of inertia (J) : 0.0413 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
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Color RAL 5009
Painting plan 202P
Mounting NEMA F-1
Mounting B3R(D)

1.5 HP 02 Poles 60 Hz

Dimensions in inches

ECM	LOC	SUMMARY OF MODIFICATIONS	EXECUTED	CHECKED	RELEASED	DATE	VER
EXECUTED	PIRWBUSER	THREE PH. MOTOR EXPLOSION PROOF PREM. EFF.					
CHECKED		FRAME 143/5T IP55 TEFC					
RELEASED							
REL DT.	WMO	Jaragua do Sul	Product Engineering				

PREVIEW
WDD



SHEET 1 / 1

MADE IN BRAZIL

**W21X NEMA**
Premium

14480957



LISTED

CC029A

Inverter Duty Motor
Severe Duty

HX001402NPW21X

PH 3 | FR 143/5T

HP(kW) 1.5(1.1)

HZ 60

IP55

V 230/460

A 4.10/2.05

RPM 3500

NEMA NOM EFF 84.0%

PF 0.80

SFA 4.71/2.36

DES B

INS CL F Δ T 80 K | SF 1.15

ENCL TEFC

DUTY CONT.

CODE M

ALT 1000

m.a.s.l.

AMB 40°C

USABLE @208V

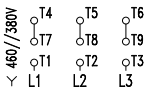
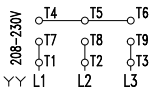
4.53 A

SF 1.15

SFA 5.21

AMB 55°C SF1.0

1.5HP 1.1kW 50Hz 380V 2.36A 2860RPM SF1.00 EFF 82.5% (IE2)



→ 6205-2RS MOBIL POLYREX EM

→ 6204-2RS

71 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, 20:1CT, 1.0SF, T3C, AMB 40°C.