

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



Customer					
Product line		: NEMA Premium Efficiency Three-Phase		Product code : 14524241	
				Catalog # : 04036XT3E324TS	
Frame : 324TS		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 : 618 lb			
Protection degree : IP55		Moment of inertia (J) : 4.90 sq.ft.lb			
Design : B					
Output [HP]	40	40	40	40	40
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]	92.4/46.2	55.8	53.3	51.0	51.0
L. R. Amperes [A]	610/305	279	304	316	316
LRC [A]	6.6x(Code G)	5.0x(Code E)	5.7x(Code F)	6.2x(Code G)	6.2x(Code G)
No load current [A]	26.0/13.0	12.0	13.0	14.0	14.0
Rated speed [RPM]	3560	2940	2950	2955	2955
Slip [%]	1.11	2.00	1.67	1.50	1.50
Rated torque [ft.lb]	59.0	71.4	71.2	71.1	71.1
Locked rotor torque [%]	250	200	210	240	240
Breakdown torque [%]	260	200	229	250	250
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	54s (cold) 30s (hot)	36s (cold) 20s (hot)	36s (cold) 20s (hot)	36s (cold) 20s (hot)	36s (cold) 20s (hot)
Noise level ²	81.0 dB(A)	74.0 dB(A)	74.0 dB(A)	74.0 dB(A)	74.0 dB(A)
Efficiency (%)	25%	92.2	92.9	92.8	92.7
	50%	92.4	92.4	92.4	92.4
	75%	93.6	92.4	93.0	93.6
	100%	93.6	91.7	92.4	93.0
Power Factor	25%	0.55	0.62	0.58	0.55
	50%	0.79	0.84	0.81	0.79
	75%	0.85	0.88	0.87	0.86
	100%	0.87	0.89	0.88	0.88
Bearing type		Drive end : 6312 C3	Non drive end : 6212 C3	Foundation loads	
Sealing		: Oil Seal	: Lip Seal	Max. traction : 373 lb	
Lubrication interval		: 9829 h	: 12143 h	Max. compression : 991 lb	
Lubricant amount		: 21 g	: 13 g		
Lubricant type		: Mobil Polyrex EM			
Notes					
USABLE @208V 101A SF 1.15 SFA 116A					
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 : _____

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



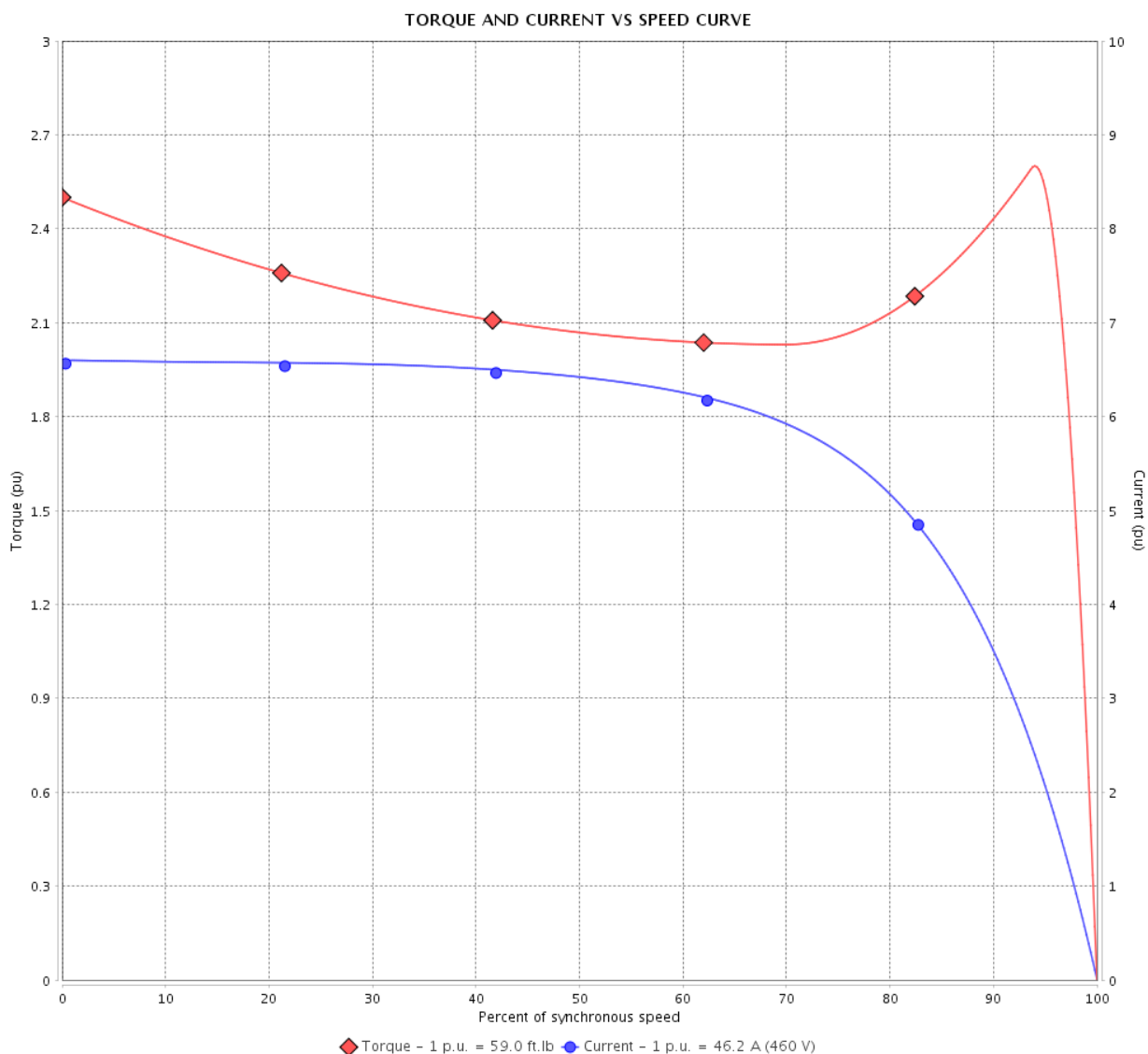
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14524241

Catalog # : 04036XT3E324TS



Performance : 230/460 V 60 Hz 2P

Rated current : 92.4/46.2 A
 LRC : 6.6
 Rated torque : 59.0 ft.lb
 Locked rotor torque : 250 %
 Breakdown torque : 260 %
 Rated speed : 3560 rpm

Moment of inertia (J) : 4.90 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.15
 Temperature rise : 80 K
 Design : B

Locked rotor time : 54s (cold) 30s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



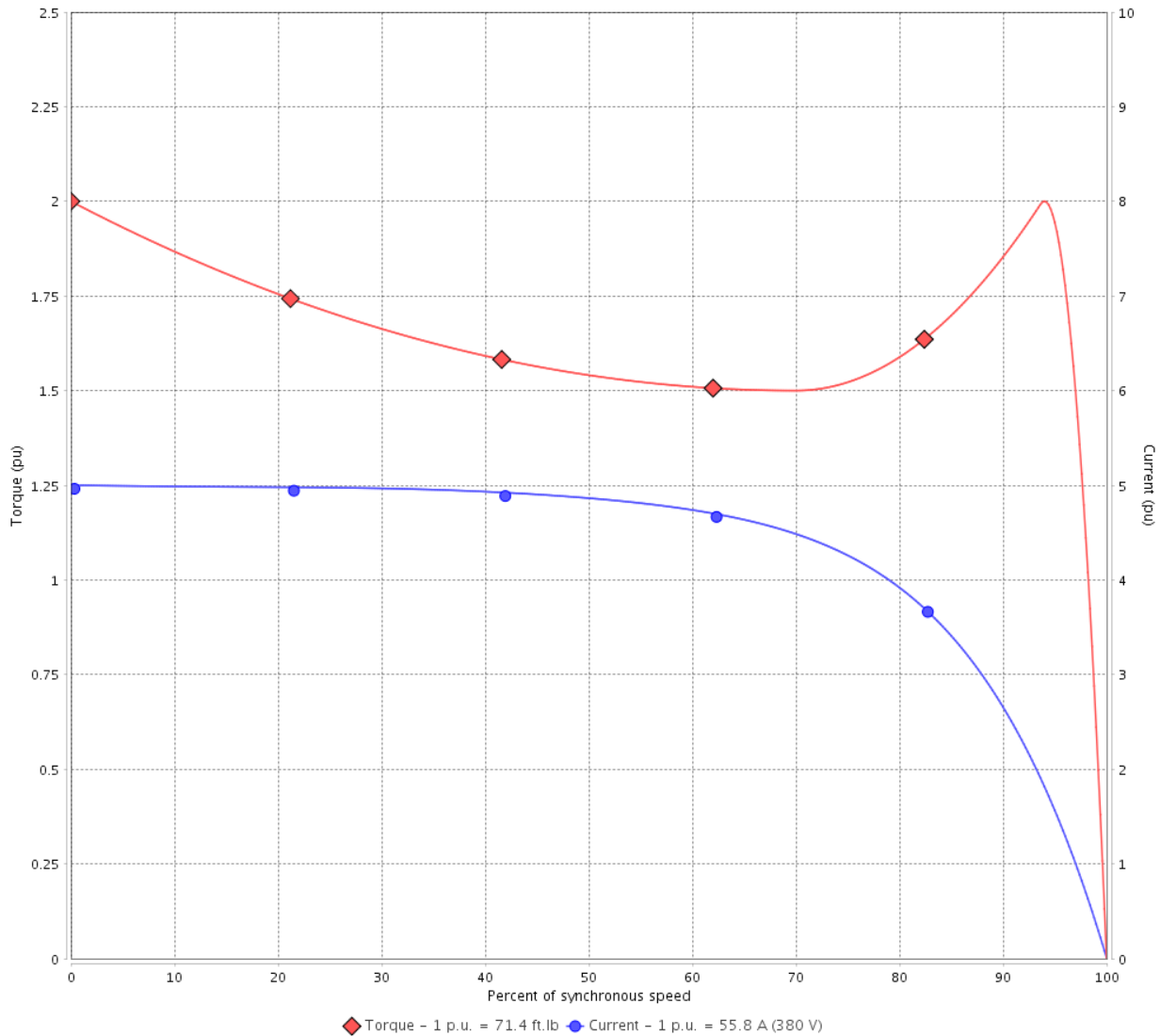
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14524241

Catalog # : 04036XT3E324TS

TORQUE AND CURRENT VS SPEED CURVE



Performance : 380 V 50 Hz 2P IE1

Rated current	: 55.8 A	Moment of inertia (J)	: 4.90 sq.ft.lb
LRC	: 5.0	Duty cycle	: Cont.(S1)
Rated torque	: 71.4 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.00
Breakdown torque	: 200 %	Temperature rise	: 80 K
Rated speed	: 2940 rpm	Design	: B

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

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TORQUE AND CURRENT VS SPEED CURVE



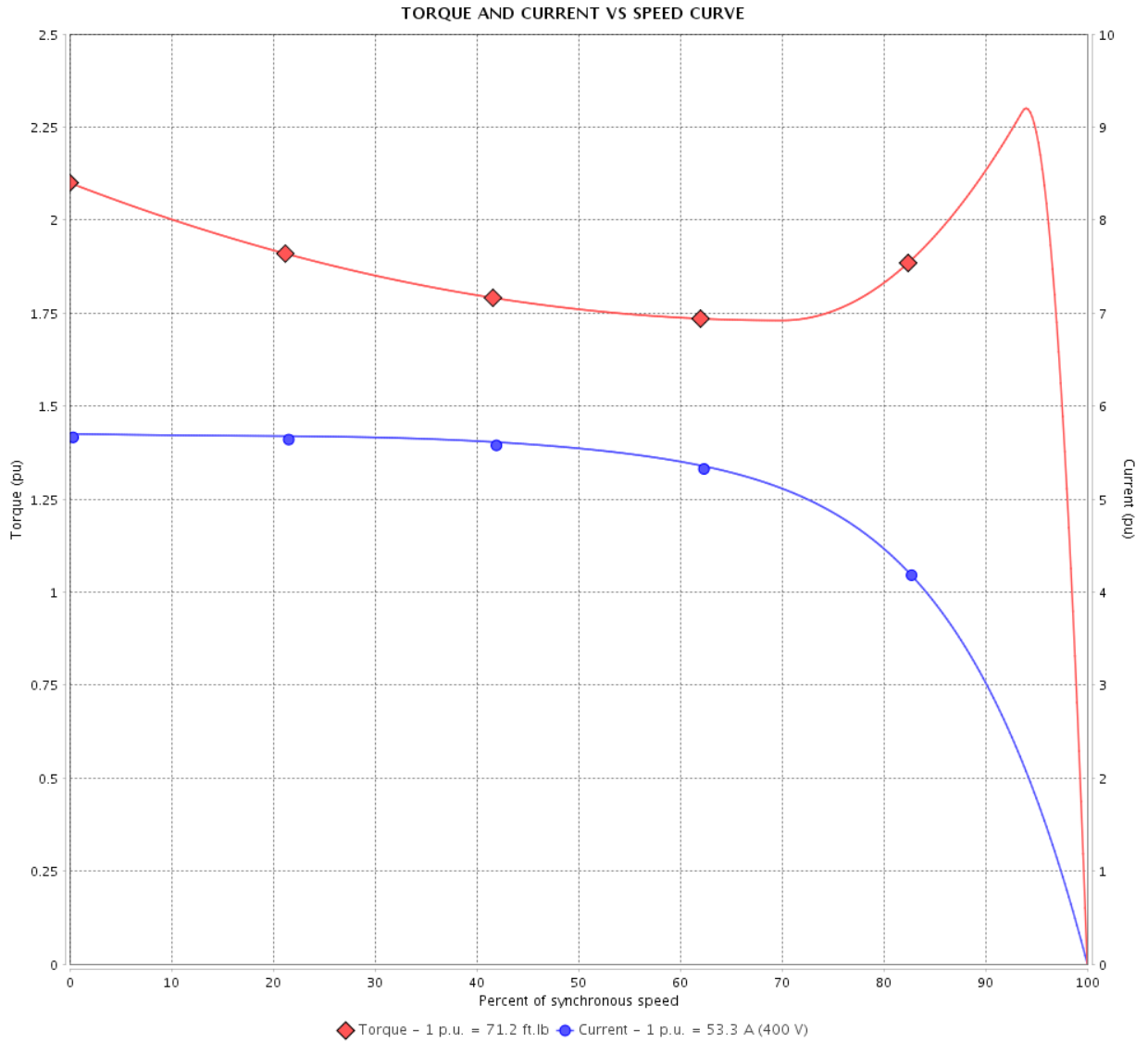
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14524241

Catalog # : 04036XT3E324TS



Performance : 400 V 50 Hz 2P IE2

Rated current	: 53.3 A	Moment of inertia (J)	: 4.90 sq.ft.lb
LRC	: 5.7	Duty cycle	: Cont.(S1)
Rated torque	: 71.2 ft.lb	Insulation class	: F
Locked rotor torque	: 210 %	Service factor	: 1.00
Breakdown torque	: 229 %	Temperature rise	: 80 K
Rated speed	: 2950 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



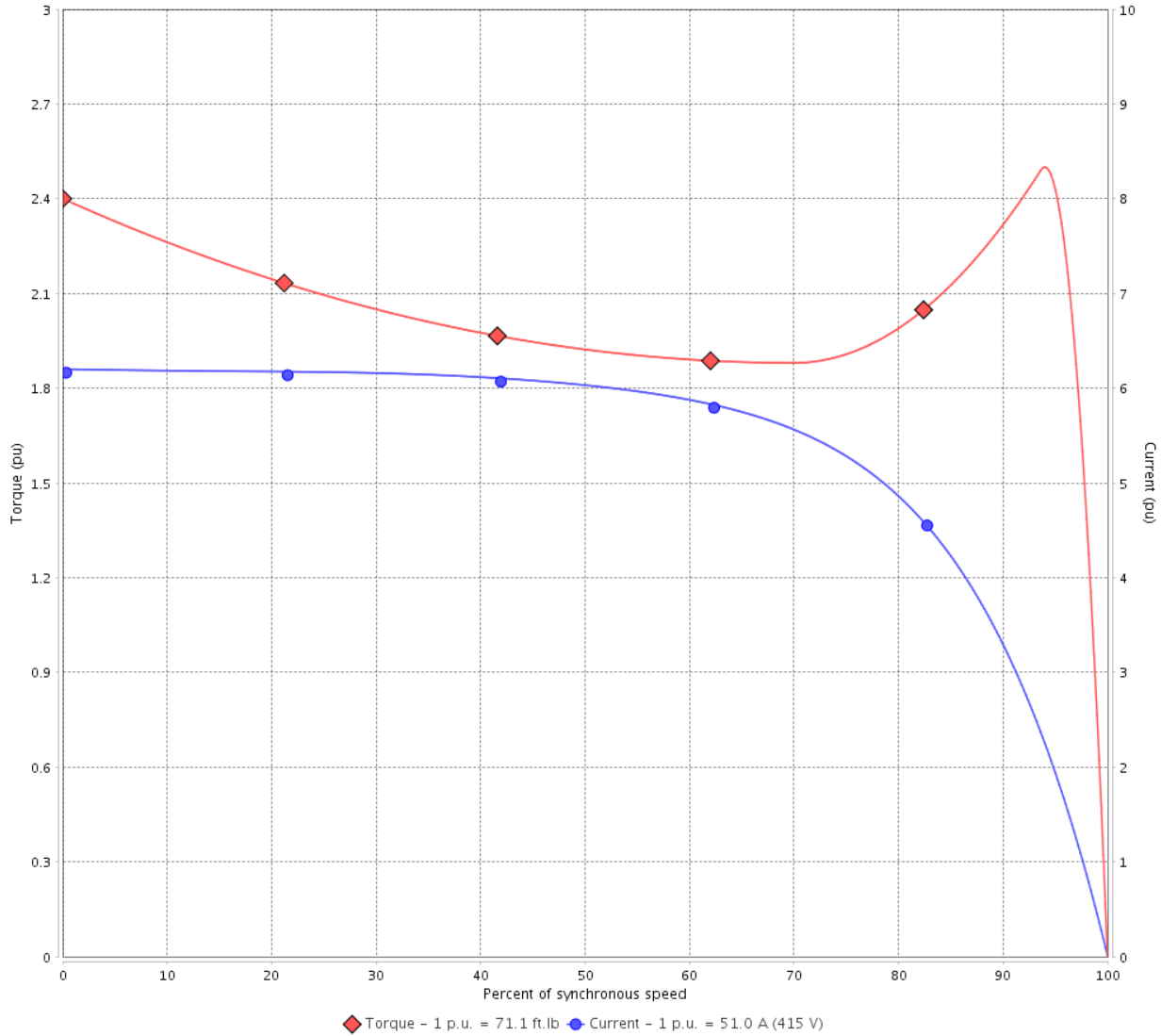
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14524241

Catalog # : 04036XT3E324TS

TORQUE AND CURRENT VS SPEED CURVE



Performance : 415 V 50 Hz 2P IE2

Rated current	: 51.0 A	Moment of inertia (J)	: 4.90 sq.ft.lb
LRC	: 6.2	Duty cycle	: Cont.(S1)
Rated torque	: 71.1 ft.lb	Insulation class	: F
Locked rotor torque	: 240 %	Service factor	: 1.00
Breakdown torque	: 250 %	Temperature rise	: 80 K
Rated speed	: 2955 rpm	Design	: B

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

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LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage

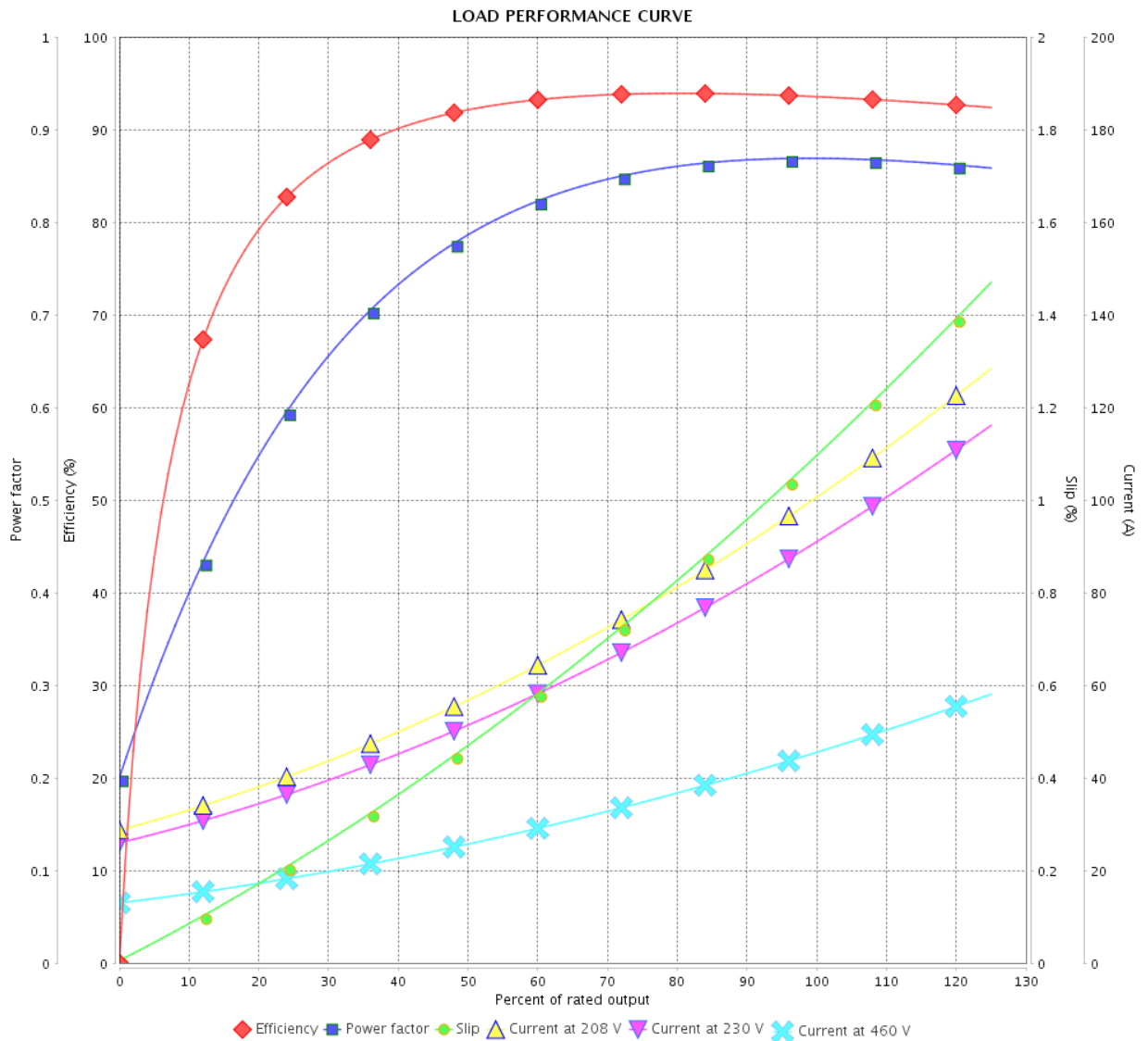


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14524241

Catalog # : 04036XT3E324TS



Performance : 230/460 V 60 Hz 2P

Rated current : 92.4/46.2 A
 LRC : 6.6
 Rated torque : 59.0 ft.lb
 Locked rotor torque : 250 %
 Breakdown torque : 260 %
 Rated speed : 3560 rpm

Moment of inertia (J) : 4.90 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.15
 Temperature rise : 80 K
 Design : B

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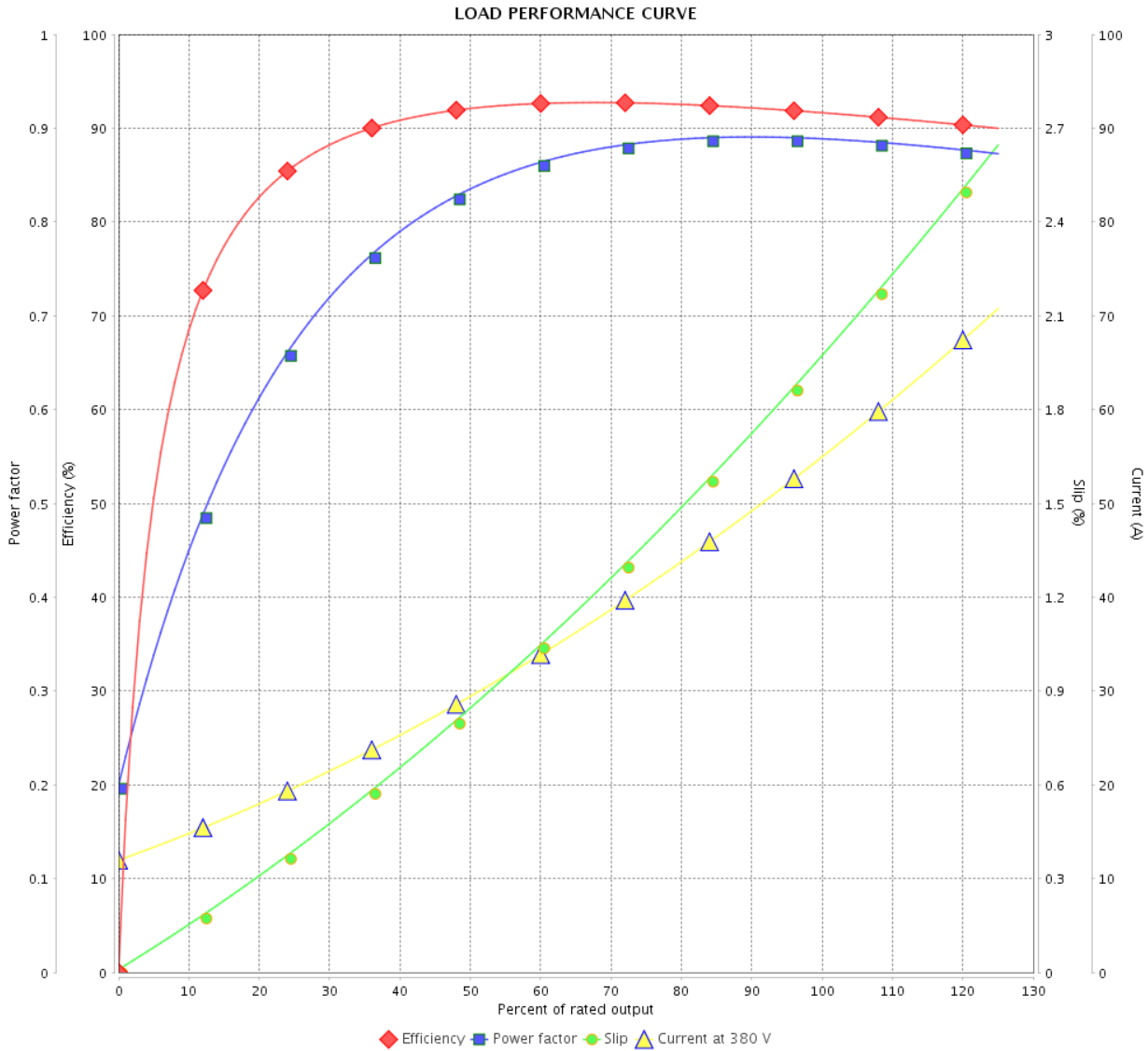


Customer :

Product line : NEMA Premium Efficiency Three-Phase

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Performance : 380 V 50 Hz 2P IE1

Rated current : 55.8 A
 LRC : 5.0
 Rated torque : 71.4 ft.lb
 Locked rotor torque : 200 %
 Breakdown torque : 200 %
 Rated speed : 2940 rpm

Moment of inertia (J) : 4.90 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

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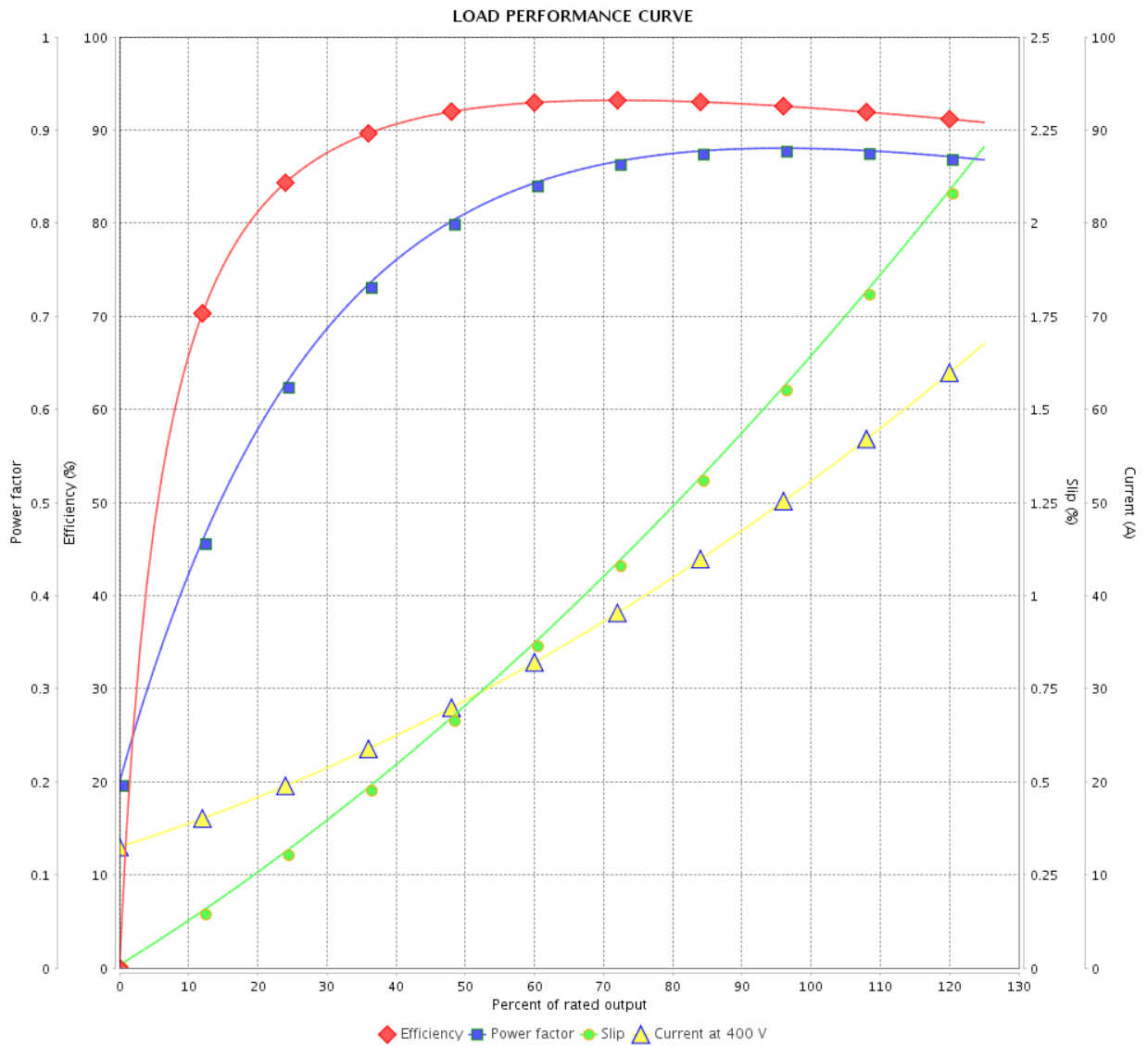


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14524241

Catalog # : 04036XT3E324TS



Performance : 400 V 50 Hz 2P IE2

Rated current : 53.3 A
 LRC : 5.7
 Rated torque : 71.2 ft.lb
 Locked rotor torque : 210 %
 Breakdown torque : 229 %
 Rated speed : 2950 rpm

Moment of inertia (J) : 4.90 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

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Three Phase Induction Motor - Squirrel Cage

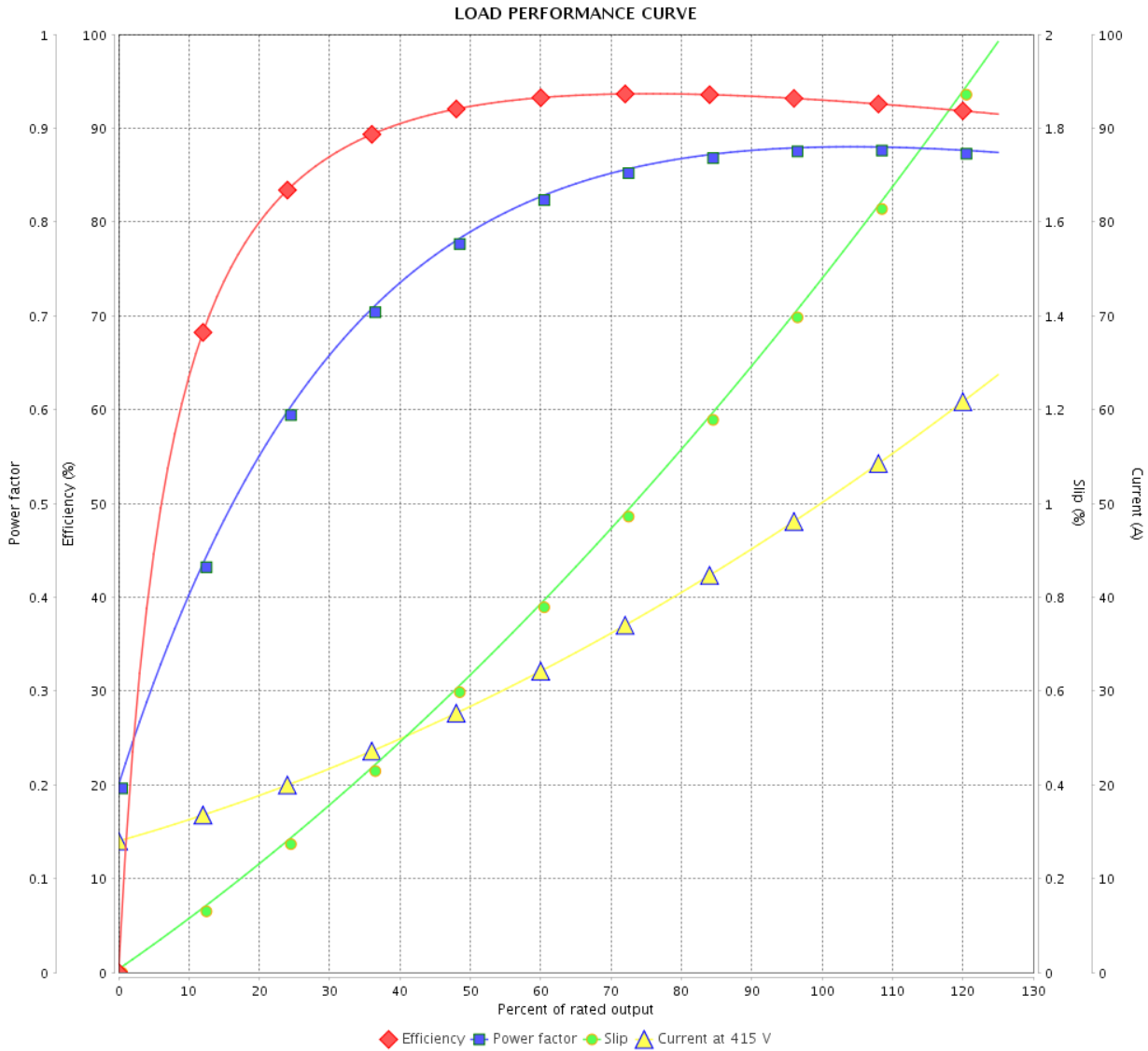


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 Breakdown torque : 250 %
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Moment of inertia (J) : 4.90 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

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THERMAL LIMIT CURVE



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LRC : 6.6	Duty cycle : Cont.(S1)
Rated torque : 59.0 ft.lb	Insulation class : F
Locked rotor torque : 250 %	Service factor : 1.15
Breakdown torque : 260 %	Temperature rise : 80 K
Rated speed : 3560 rpm	Design : B

Heating constant

Cooling constant

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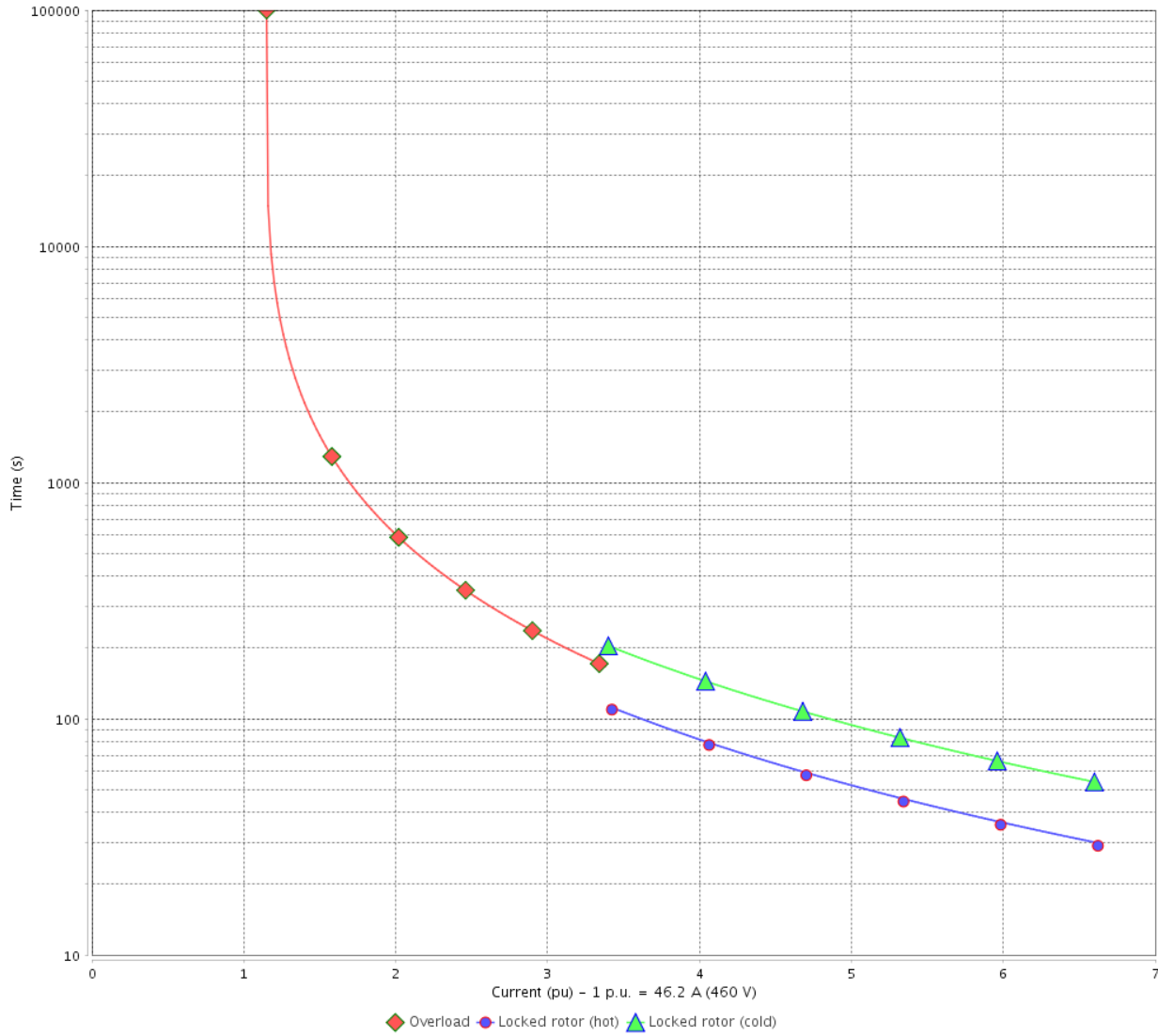
THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : _____

THERMAL LIMIT CURVE



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LRC : 5.0	Duty cycle : Cont.(S1)
Rated torque : 71.4 ft.lb	Insulation class : F
Locked rotor torque : 200 %	Service factor : 1.00
Breakdown torque : 200 %	Temperature rise : 80 K
Rated speed : 2940 rpm	Design : B

Heating constant

Cooling constant

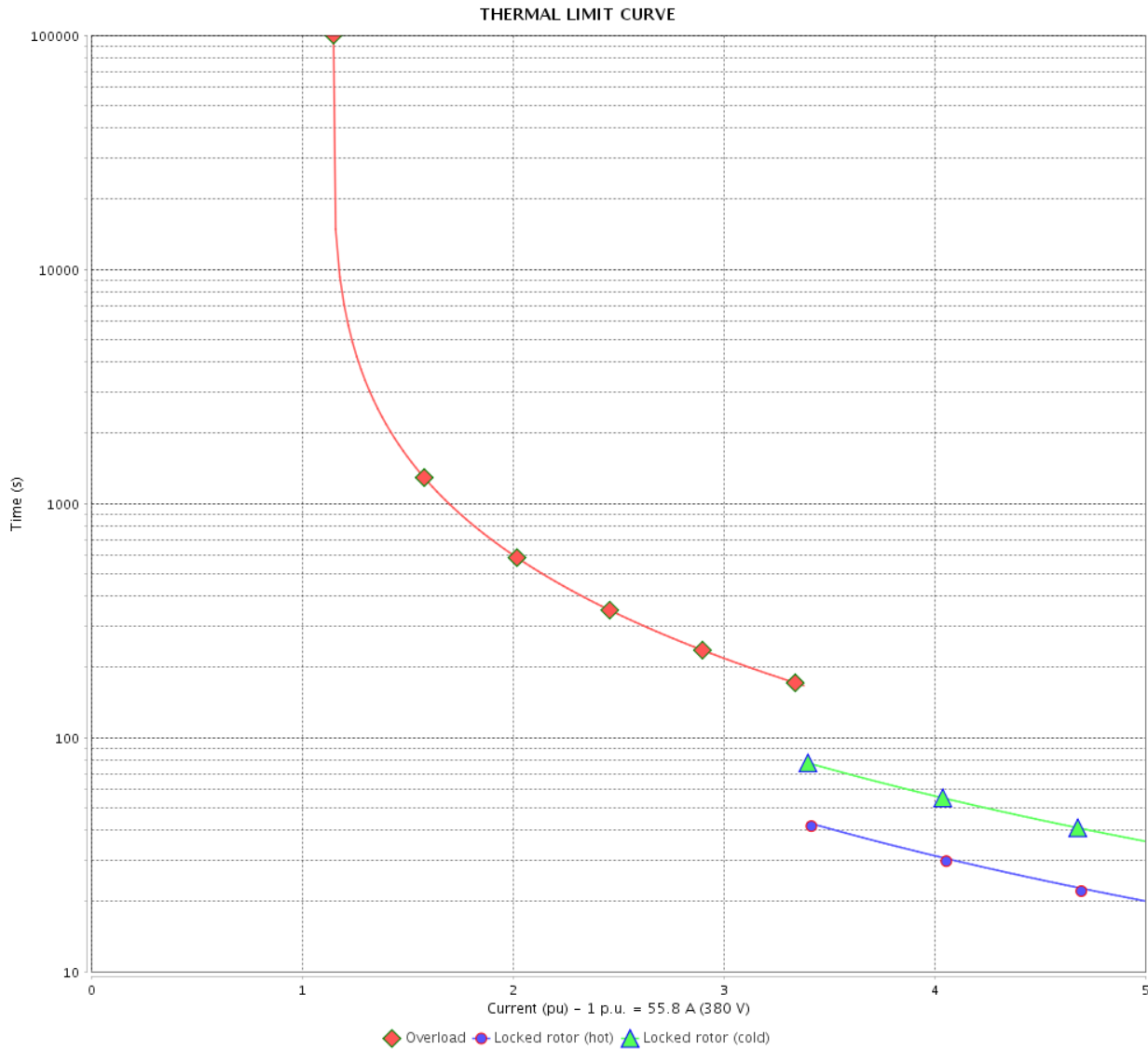
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Three Phase Induction Motor - Squirrel Cage

Customer :

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 Catalog # : 04036XT3E324TS

Performance : 400 V 50 Hz 2P IE2

Rated current : 53.3 A	Moment of inertia (J) : 4.90 sq.ft.lb
LRC : 5.7	Duty cycle : Cont.(S1)
Rated torque : 71.2 ft.lb	Insulation class : F
Locked rotor torque : 210 %	Service factor : 1.00
Breakdown torque : 229 %	Temperature rise : 80 K
Rated speed : 2950 rpm	Design : B

Heating constant

Cooling constant

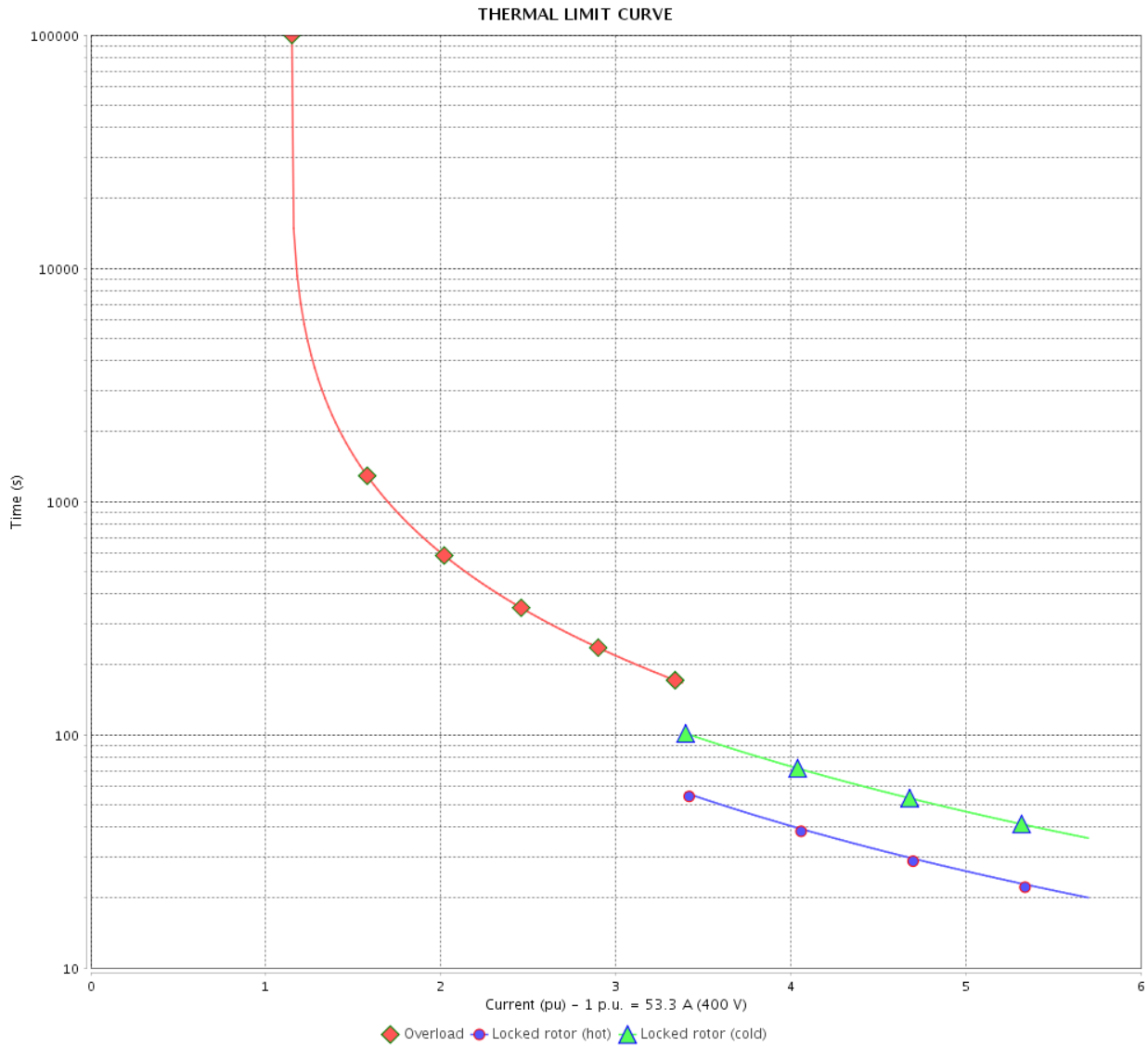
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Three Phase Induction Motor - Squirrel Cage



Customer : _____



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Checked by				
Date				

THERMAL LIMIT CURVE



Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase
 Product code : 14524241
 Catalog # : 04036XT3E324TS

Performance : 415 V 50 Hz 2P IE2

Rated current : 51.0 A	Moment of inertia (J) : 4.90 sq.ft.lb
LRC : 6.2	Duty cycle : Cont.(S1)
Rated torque : 71.1 ft.lb	Insulation class : F
Locked rotor torque : 240 %	Service factor : 1.00
Breakdown torque : 250 %	Temperature rise : 80 K
Rated speed : 2955 rpm	Design : B

Heating constant

Cooling constant

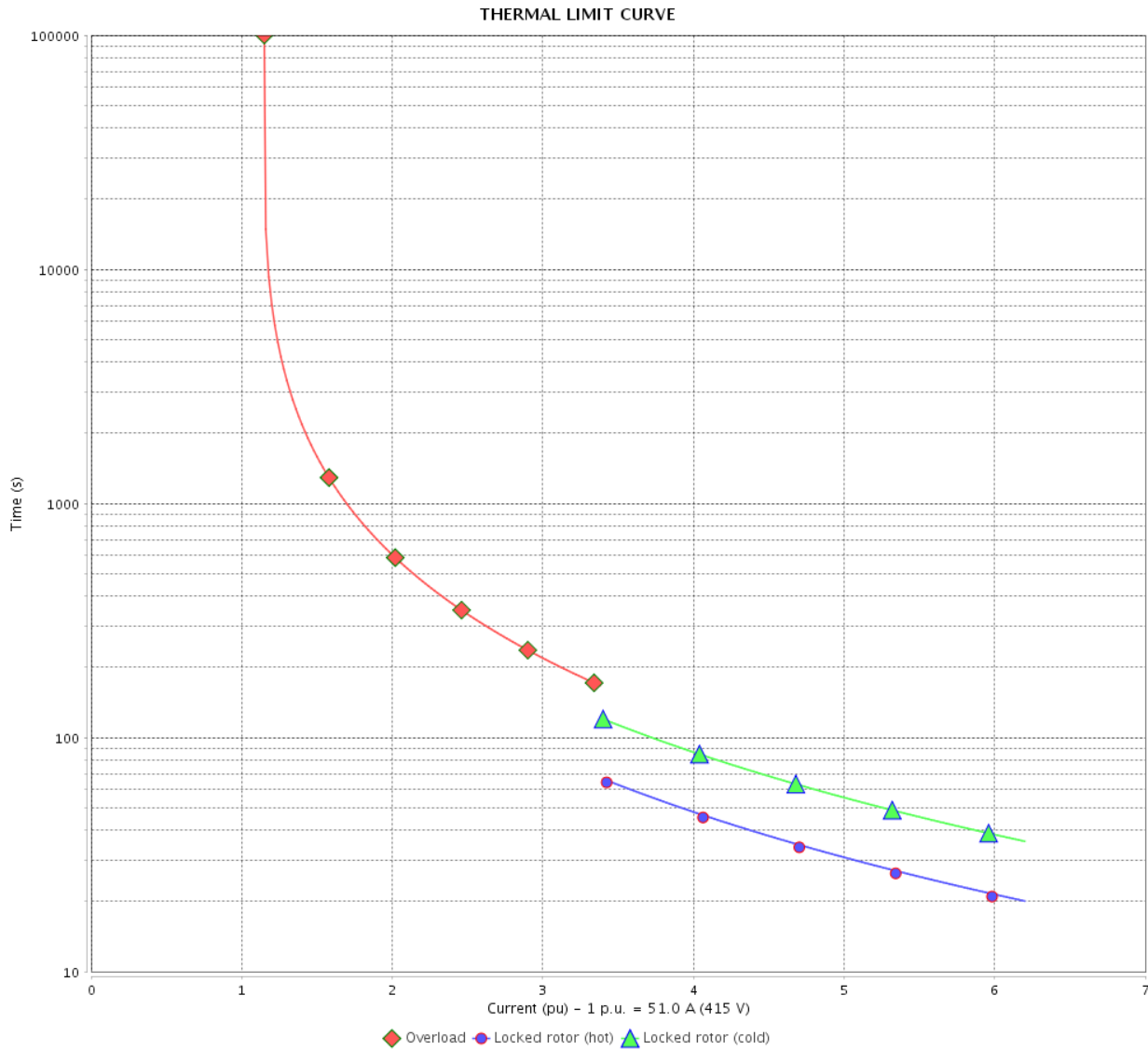
Rev.	Changes Summary	Performed	Checked	Date
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Customer : _____



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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

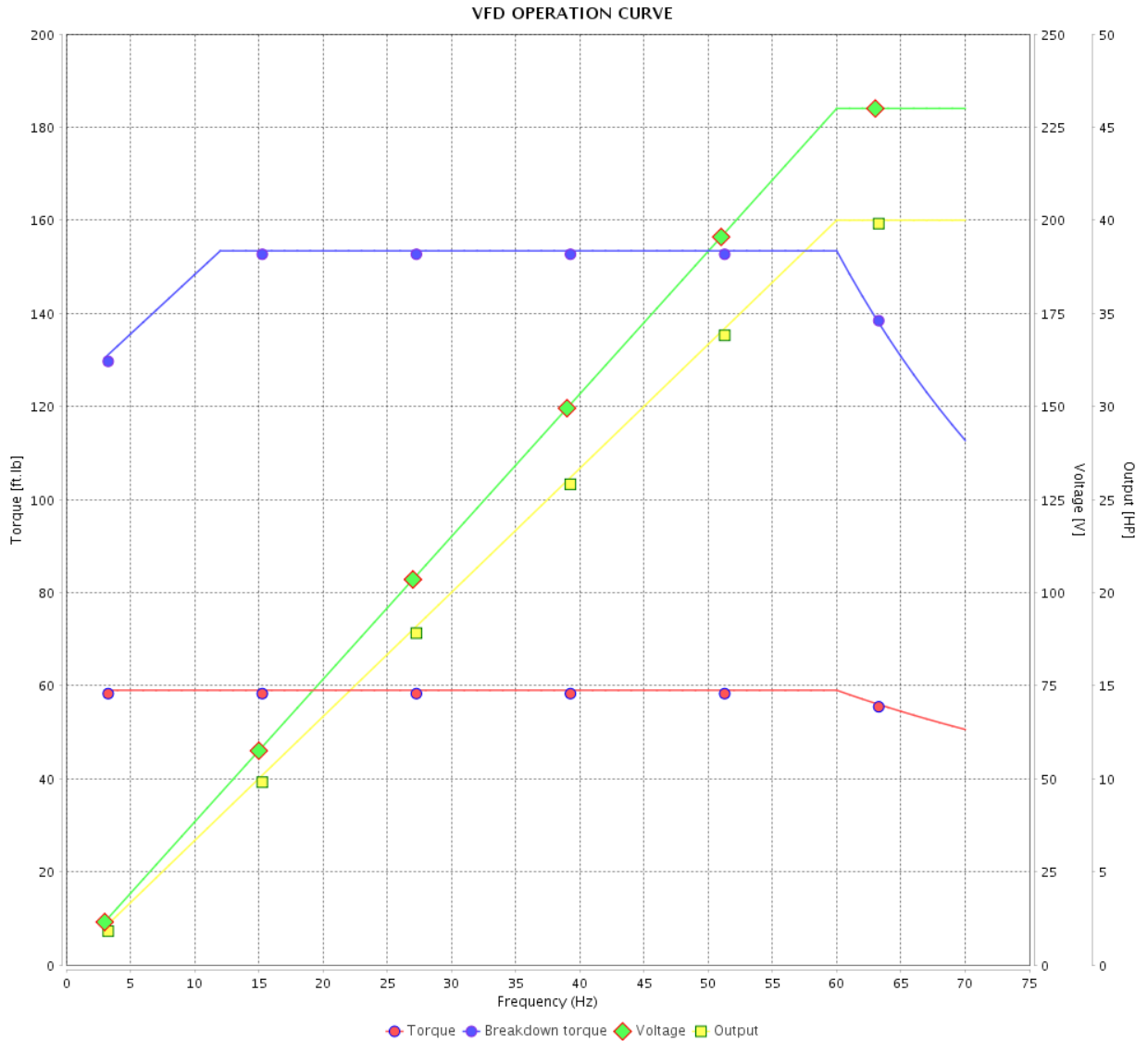


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14524241

Catalog # : 04036XT3E324TS



Performance : 230/460 V 60 Hz 2P

Rated current : 92.4/46.2 A
 LRC : 6.6
 Rated torque : 59.0 ft.lb
 Locked rotor torque : 250 %
 Breakdown torque : 260 %
 Rated speed : 3560 rpm

Moment of inertia (J) : 4.90 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.15
 Temperature rise : 80 K
 Design : B

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Date				

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



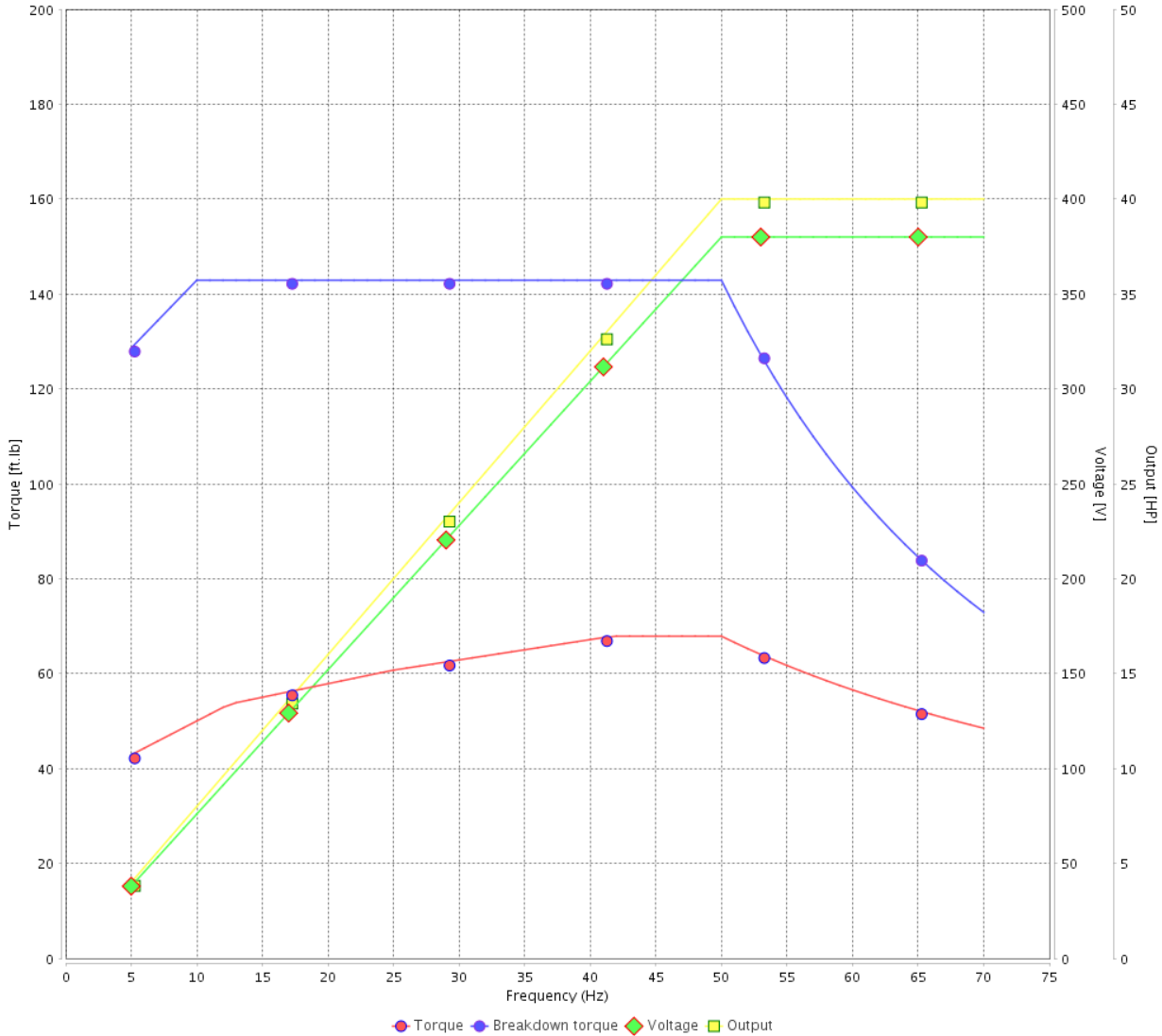
Customer :

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VFD OPERATION CURVE



Performance : 380 V 50 Hz 2P IE1

Rated current	: 55.8 A	Moment of inertia (J)	: 4.90 sq.ft.lb
LRC	: 5.0	Duty cycle	: Cont.(S1)
Rated torque	: 71.4 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.00
Breakdown torque	: 200 %	Temperature rise	: 80 K
Rated speed	: 2940 rpm	Design	: B

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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

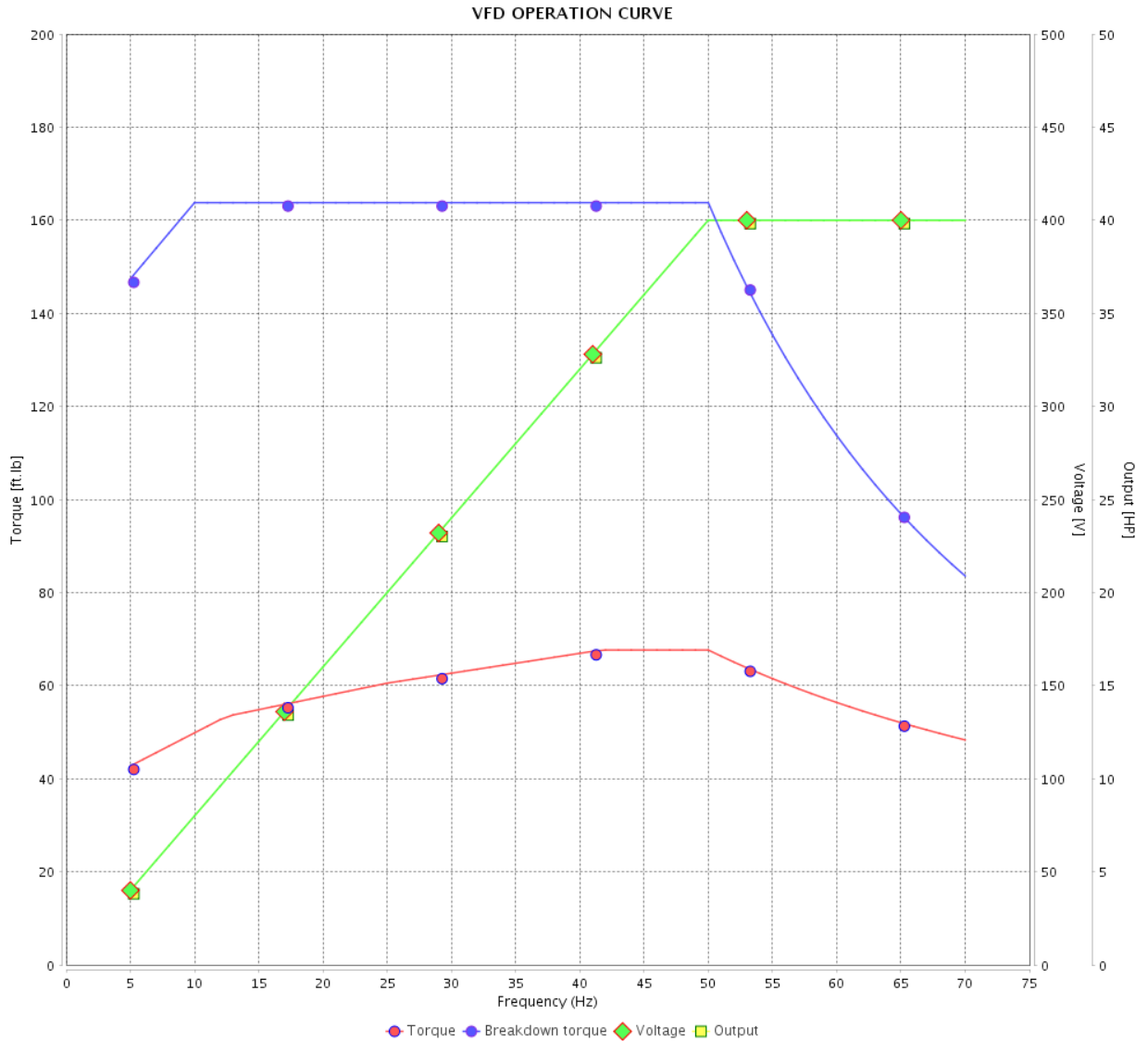


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14524241

Catalog # : 04036XT3E324TS



Performance : 400 V 50 Hz 2P IE2

Rated current : 53.3 A
 LRC : 5.7
 Rated torque : 71.2 ft.lb
 Locked rotor torque : 210 %
 Breakdown torque : 229 %
 Rated speed : 2950 rpm

Moment of inertia (J) : 4.90 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



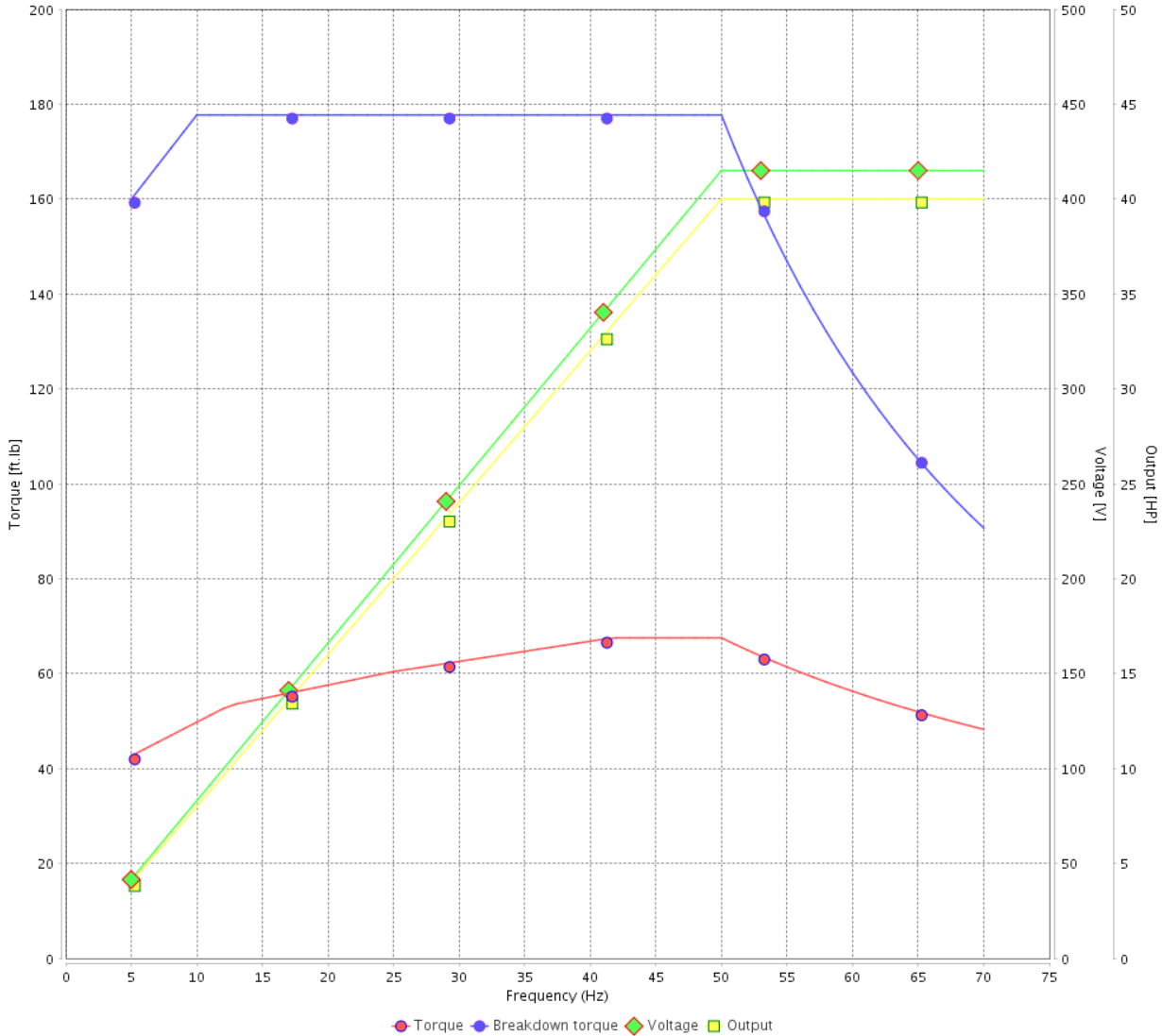
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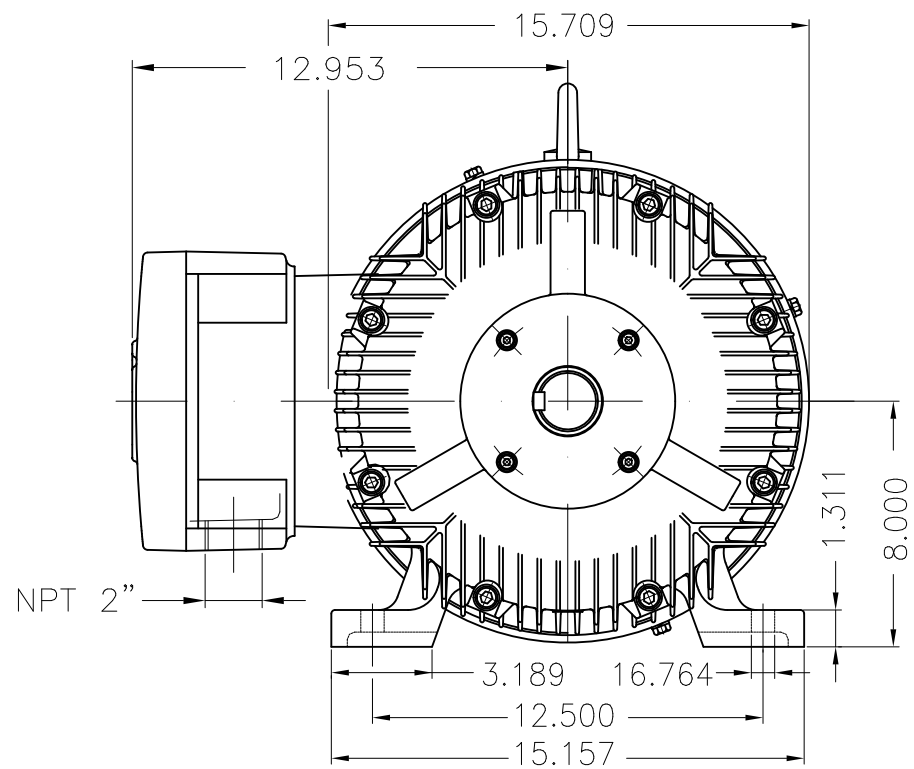


Performance : 415 V 50 Hz 2P IE2

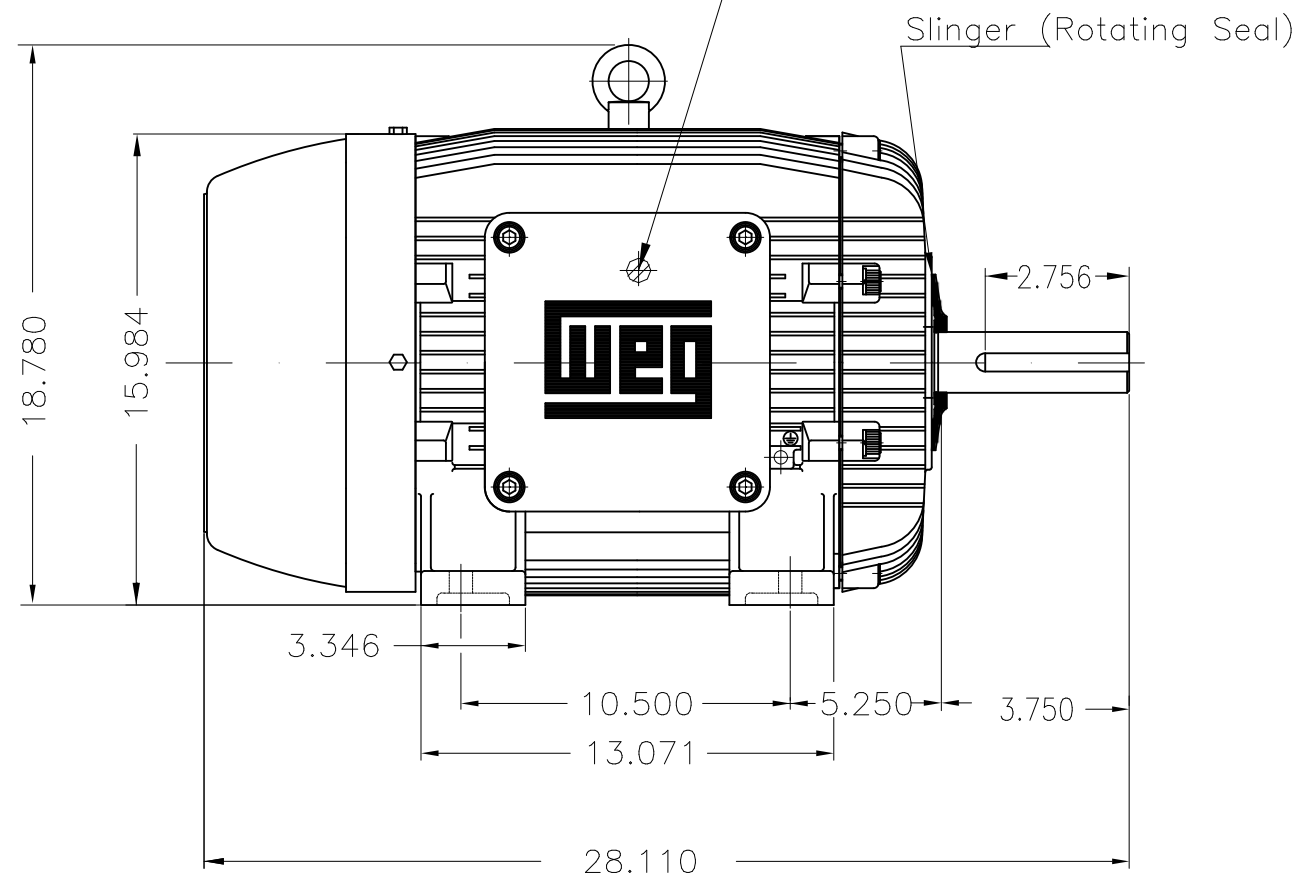
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 Breakdown torque : 250 %
 Rated speed : 2955 rpm

Moment of inertia (J) : 4.90 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

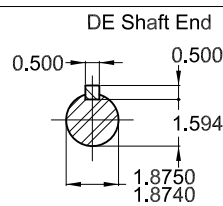
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Grounding for leads 5.2–35 mm² / 10–2 AWG



Color RAL 5009
 Painting plan 202P
 Mounting NEMA F-1
 Mounting B3R(D)



40 HP 02 Poles 60 Hz

A

ECM	LOC	SUMMARY OF MODIFICATIONS	EXECUTED	CHECKED	RELEASED	DATE	VER
EXECUTED	PIRWBUSER	THREE PH. MOTOR EXPLOSION PROOF PREM. EFF.					
CHECKED		FRAME 324TS IP55 TEFC					
RELEASED							
REL DT.	WMO	Jaragua do Sul	Product Engineering	SHEET	1 / 1		

PREVIEW
 WDD



MADE IN BRAZIL

**W21X NEMA**
Premium

14524241

CC029A

Inverter Duty Motor
Severe Duty

LISTED

MODEL 04036XT3E324TS

PH 3 | FR 324TS

HP(kW) 40.0(30.0)

HZ 60

IP55

V 230/460

A 92.4/46.2

RPM 3560

NEMA NOM EFF 93.6%

PF 0.87

SFA 106/53.1

DES B

INS CL F ΔT 80 K | SF 1.15

ENCL TEFC

DUTY CONT.

CODE G

ALT 1000

m.a.s.l.

AMB 40°C

USABLE @208V

101 A

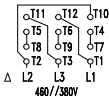
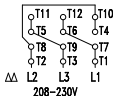
SF 1.15

SFA 116

AMB 55°C SF1.0

-bearings lub interval reduced by a factor of 50%

40HP 30kW 50Hz 380V 55.8A 2940RPM SF1.00 EFF 91.7% (IE1)



→ 6312-C3 MOBIL POLYREX EM

→ 6212-C3 21 g 9829 h

617 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.