

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



Customer :					
Product line		: NEMA Premium Efficiency Three-Phase	Product code :	14407820	
			Catalog # :	01509XT3E286T	
Frame	: 286T	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	: 495 lb		
Protection degree	: IP55	Moment of inertia (J)	: 8.18 sq.ft.lb		
Design	: B				
Output [HP]	15	15	15	15	
Poles	8	8	8	8	
Frequency [Hz]	60	50	50	50	
Rated voltage [V]	230/460	380	400	415	
Rated current [A]	38.0/19.0	23.3	22.1	21.4	
L. R. Amperes [A]	232/116	142	135	131	
LRC [A]	6.1x(Code G)	6.1x(Code G)	6.1x(Code G)	6.1x(Code G)	
No load current [A]	16.3/8.13	8.01	8.66	9.23	
Rated speed [RPM]	880	720	725	730	
Slip [%]	2.22	4.00	3.33	2.67	
Rated torque [ft.lb]	89.5	109	109	108	
Locked rotor torque [%]	240	180	200	229	
Breakdown torque [%]	229	180	200	229	
Service factor	1.15	1.00	1.00	1.00	
Temperature rise	80 K	80 K	80 K	80 K	
Locked rotor time	66s (cold) 37s (hot)	66s (cold) 37s (hot)	66s (cold) 37s (hot)	66s (cold) 37s (hot)	
Noise level ²	54.0 dB(A)	51.0 dB(A)	51.0 dB(A)	51.0 dB(A)	
Efficiency (%)	25%	91.4	93.3	93.1	90.6
	50%	91.0	91.0	91.0	90.2
	75%	91.7	90.2	91.0	90.2
	100%	91.0	87.5	88.5	89.5
Power Factor	25%	0.41	0.47	0.43	0.41
	50%	0.66	0.72	0.69	0.66
	75%	0.76	0.80	0.78	0.76
	100%	0.80	0.82	0.81	0.80
Bearing type	: <u>Drive end</u> 6311 C3 <u>Non drive end</u> 6211 C3	Foundation loads			
Sealing	: Oil Seal Lip Seal	Max. traction	: 835 lb		
Lubrication interval	: 20000 h 20000 h	Max. compression	: 1329 lb		
Lubricant amount	: 18 g 11 g				
Lubricant type	: Mobil Polyrex EM				
Notes USABLE @208V 42.0A SF 1.15 SFA 48.3A					
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



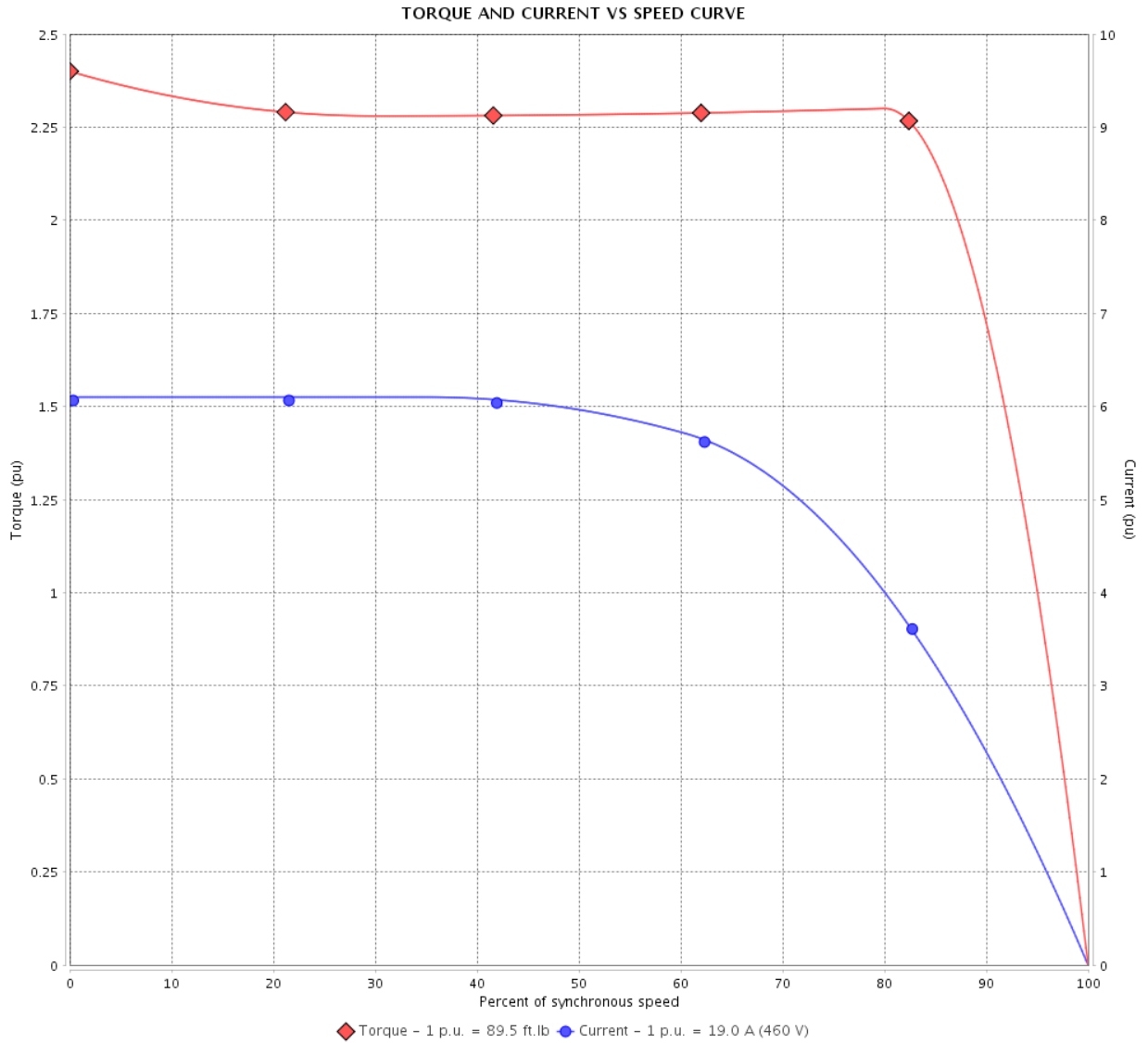
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14407820

Catalog # : 01509XT3E286T



Performance : 230/460 V 60 Hz 8P

Rated current : 38.0/19.0 A
 LRC : 6.1
 Rated torque : 89.5 ft.lb
 Locked rotor torque : 240 %
 Breakdown torque : 229 %
 Rated speed : 880 rpm

Moment of inertia (J) : 8.18 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.15
 Temperature rise : 80 K
 Design : B

Locked rotor time : 66s (cold) 37s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



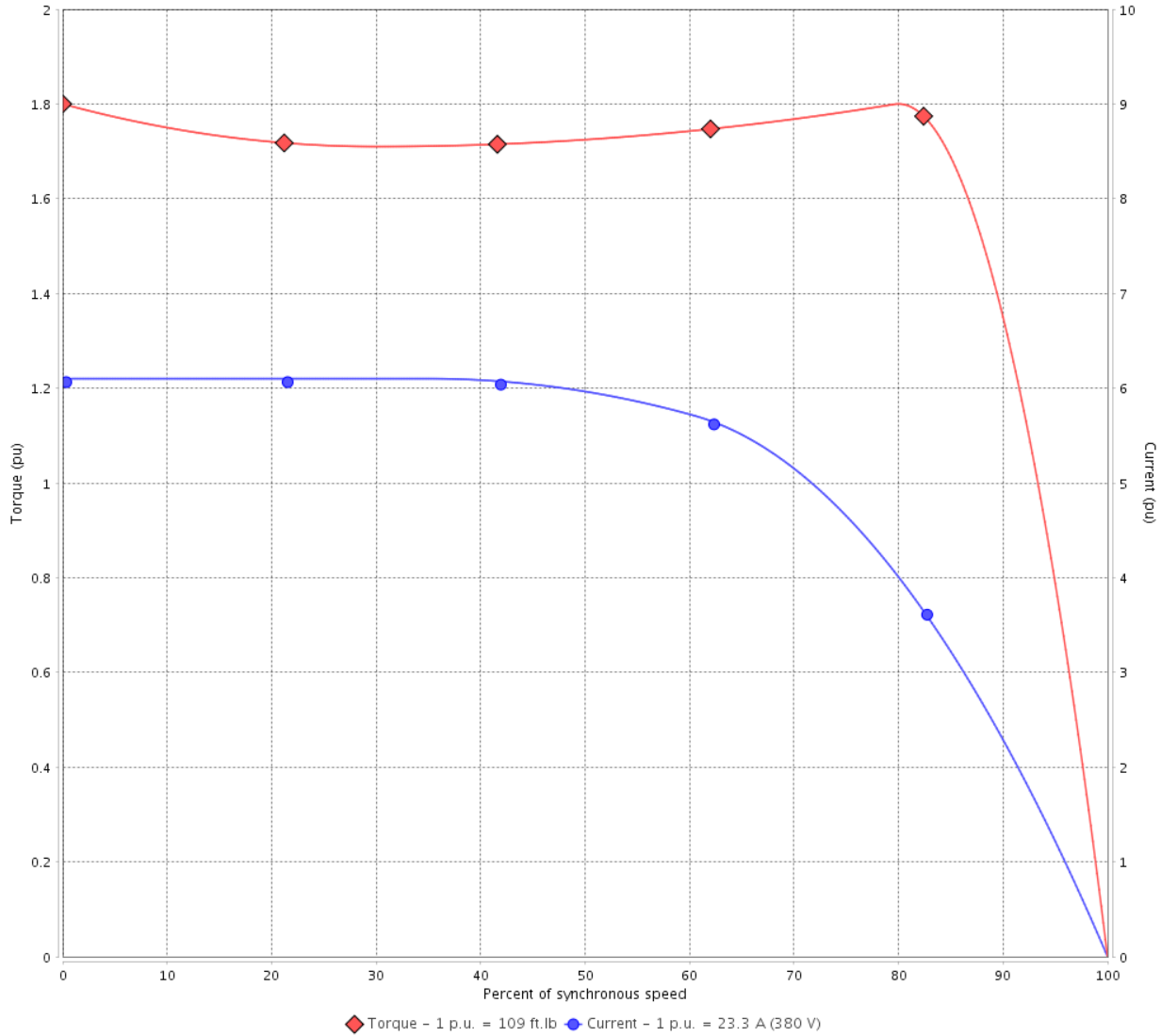
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14407820

Catalog # : 01509XT3E286T

TORQUE AND CURRENT VS SPEED CURVE



Performance : 380 V 50 Hz 8P IE2

Rated current	: 23.3 A	Moment of inertia (J)	: 8.18 sq.ft.lb
LRC	: 6.1	Duty cycle	: Cont.(S1)
Rated torque	: 109 ft.lb	Insulation class	: F
Locked rotor torque	: 180 %	Service factor	: 1.00
Breakdown torque	: 180 %	Temperature rise	: 80 K
Rated speed	: 720 rpm	Design	: B

Locked rotor time : 66s (cold) 37s (hot)

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TORQUE AND CURRENT VS SPEED CURVE



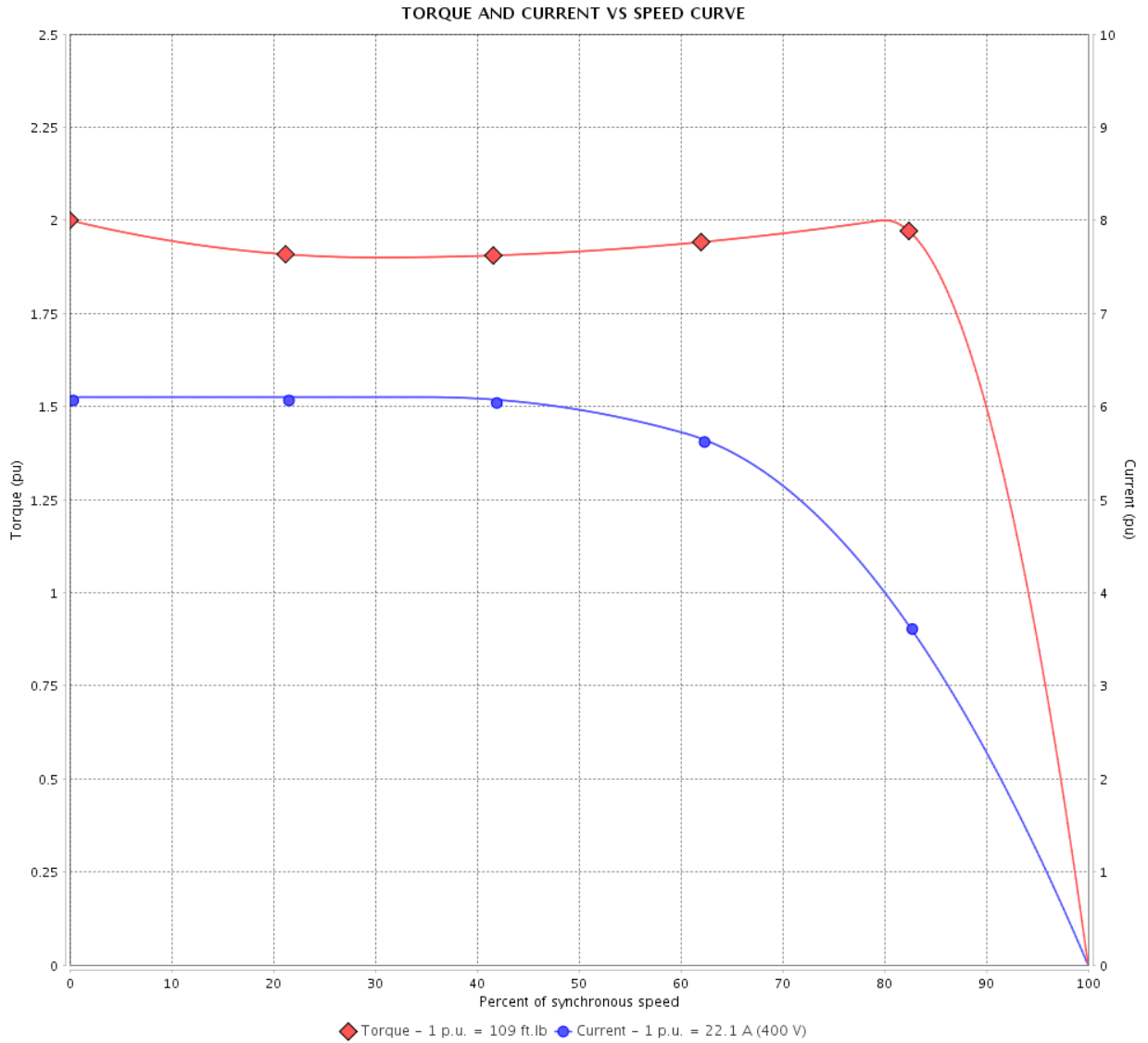
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14407820

Catalog # : 01509XT3E286T



Performance : 400 V 50 Hz 8P IE2

Rated current	: 22.1 A	Moment of inertia (J)	: 8.18 sq.ft.lb
LRC	: 6.1	Duty cycle	: Cont.(S1)
Rated torque	: 109 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.00
Breakdown torque	: 200 %	Temperature rise	: 80 K
Rated speed	: 725 rpm	Design	: B

Locked rotor time : 66s (cold) 37s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



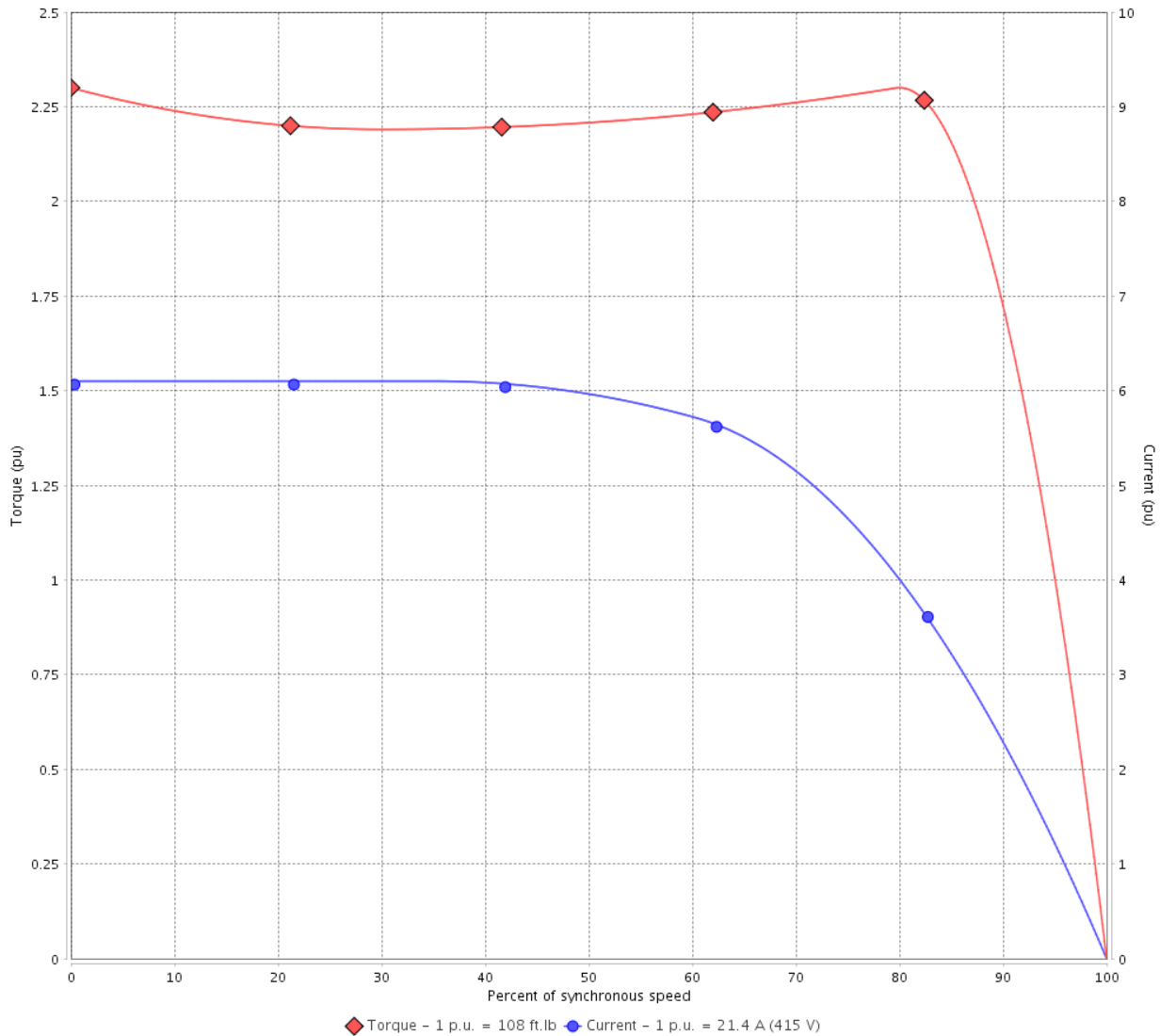
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14407820

Catalog # : 01509XT3E286T

TORQUE AND CURRENT VS SPEED CURVE



Performance : 415 V 50 Hz 8P IE3

Rated current	: 21.4 A	Moment of inertia (J)	: 8.18 sq.ft.lb
LRC	: 6.1	Duty cycle	: Cont.(S1)
Rated torque	: 108 ft.lb	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.00
Breakdown torque	: 229 %	Temperature rise	: 80 K
Rated speed	: 730 rpm	Design	: B

Locked rotor time : 66s (cold) 37s (hot)

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LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage

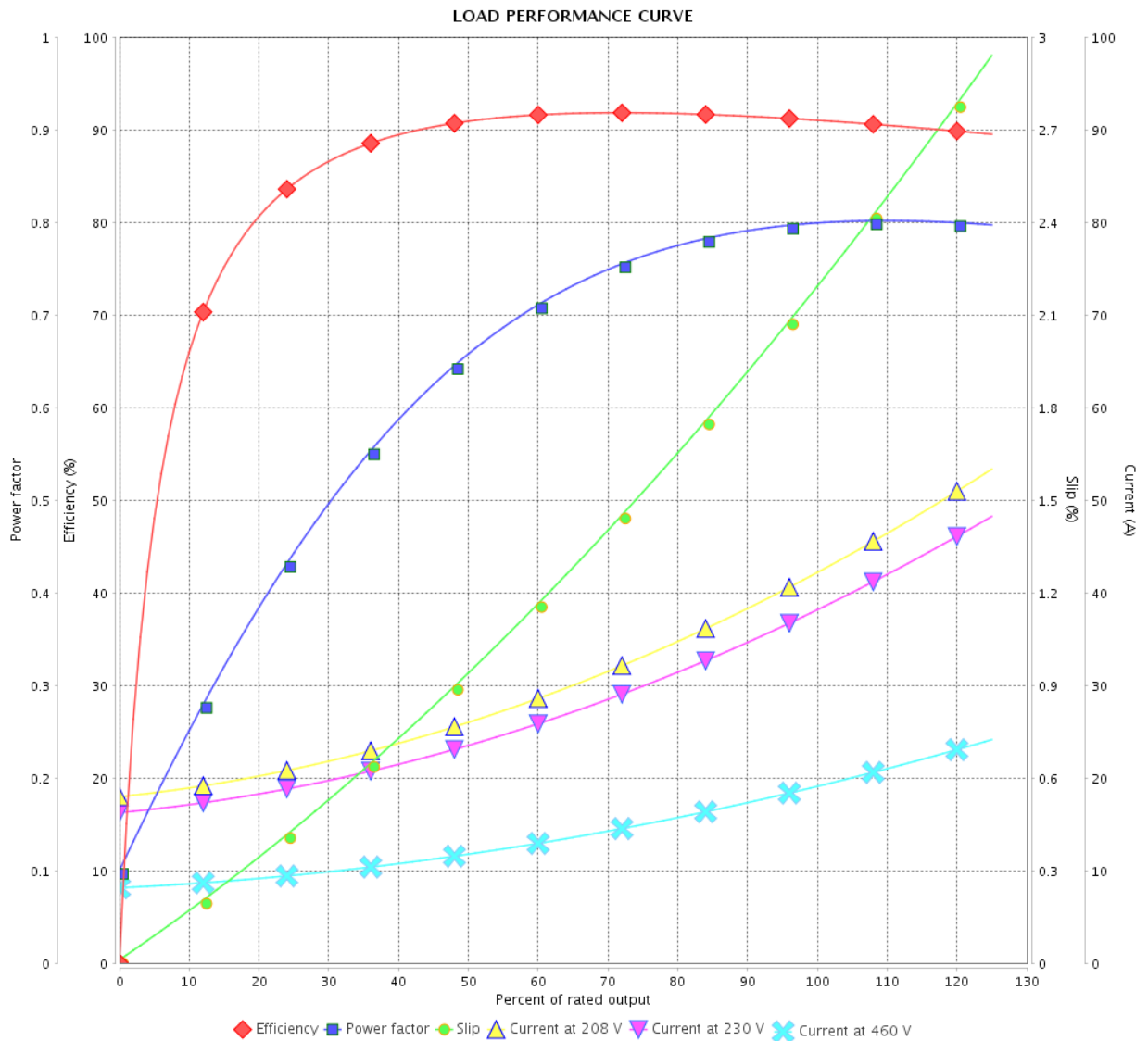


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14407820

Catalog # : 01509XT3E286T



Performance : 230/460 V 60 Hz 8P

Rated current : 38.0/19.0 A
 LRC : 6.1
 Rated torque : 89.5 ft.lb
 Locked rotor torque : 240 %
 Breakdown torque : 229 %
 Rated speed : 880 rpm

Moment of inertia (J) : 8.18 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				

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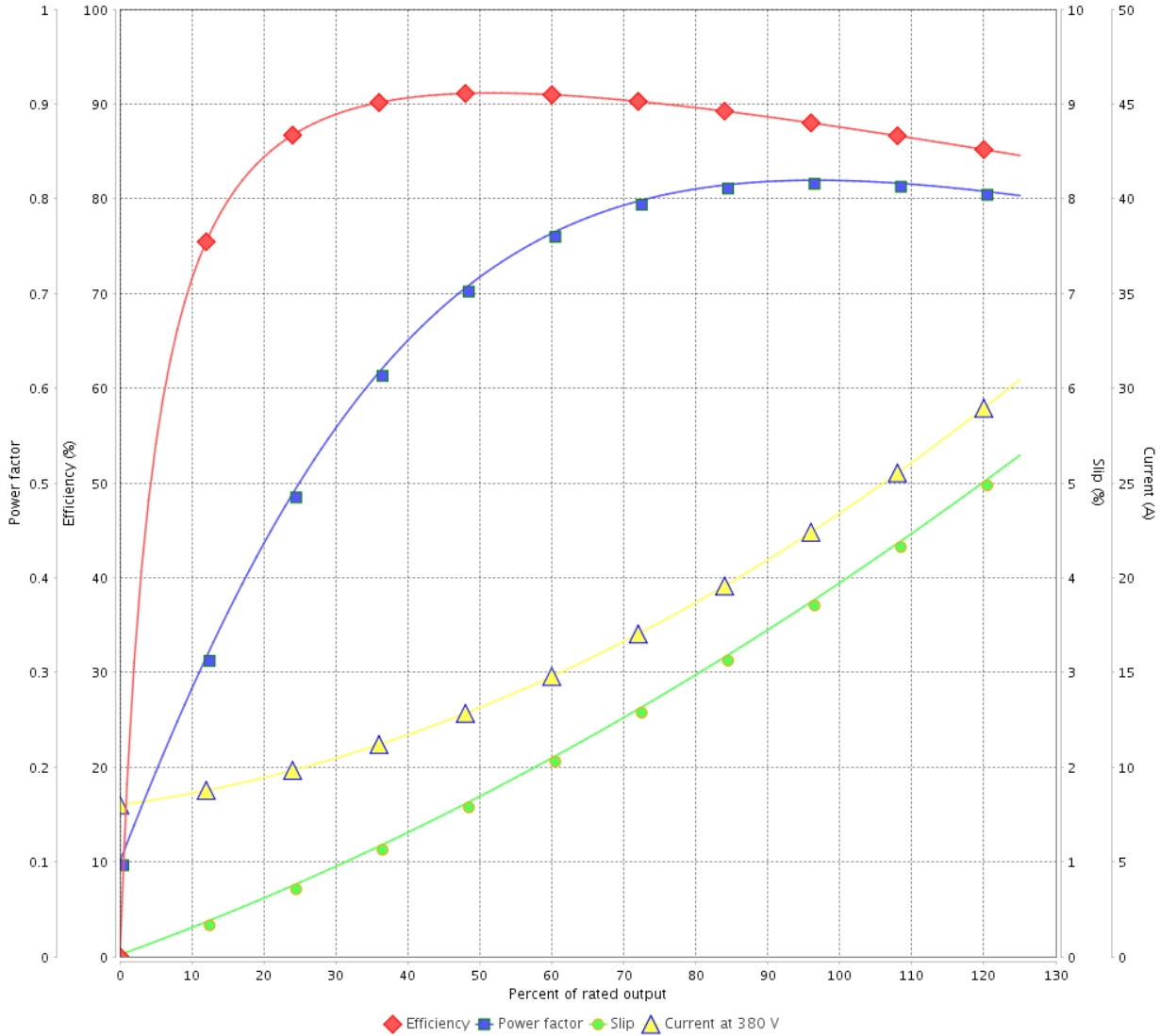
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14407820

Catalog # : 01509XT3E286T

LOAD PERFORMANCE CURVE



Performance : 380 V 50 Hz 8P IE2

Rated current : 23.3 A
 LRC : 6.1
 Rated torque : 109 ft.lb
 Locked rotor torque : 180 %
 Breakdown torque : 180 %
 Rated speed : 720 rpm

Moment of inertia (J) : 8.18 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

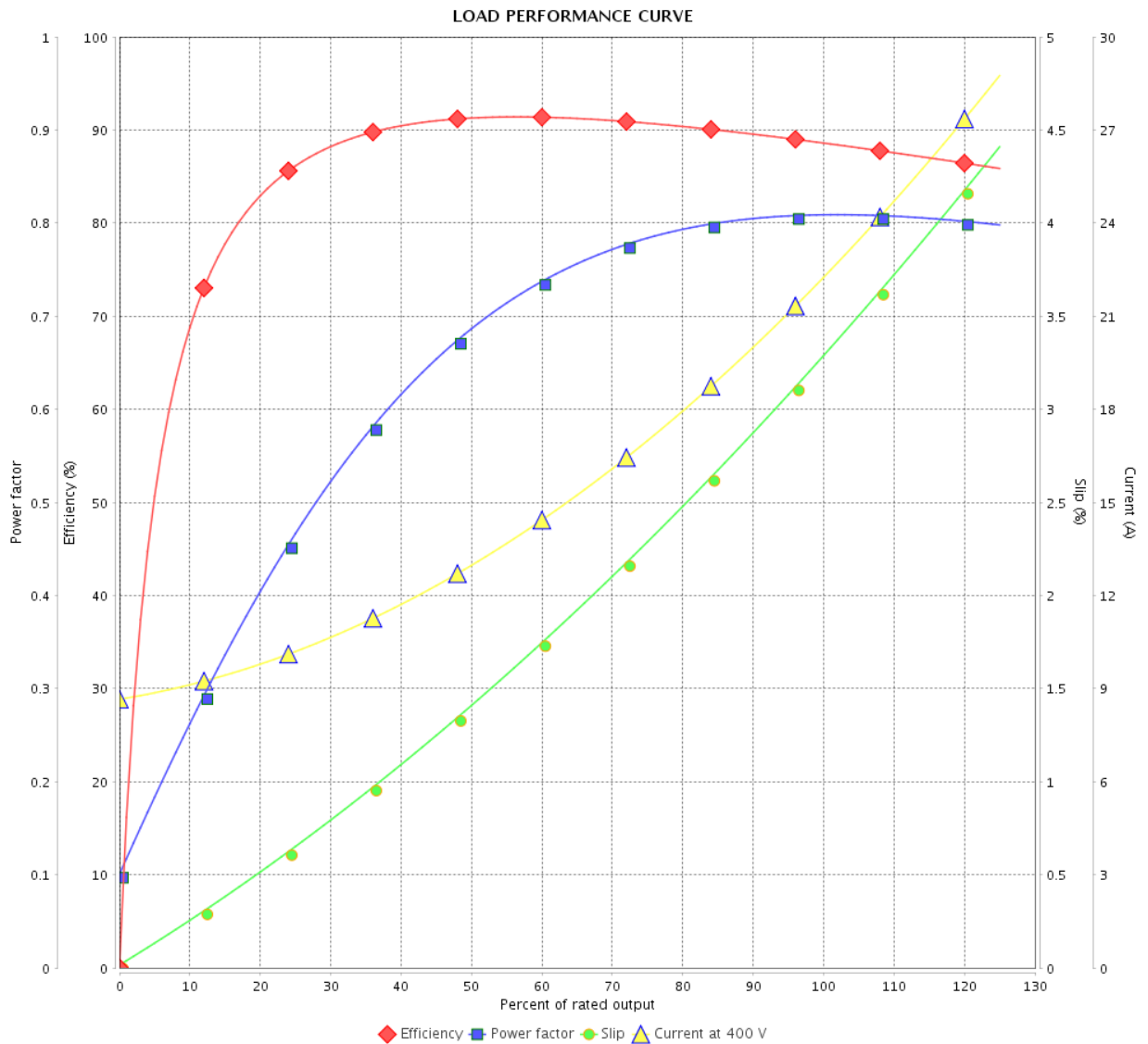


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14407820

Catalog # : 01509XT3E286T



Performance : 400 V 50 Hz 8P IE2

Rated current : 22.1 A
 LRC : 6.1
 Rated torque : 109 ft.lb
 Locked rotor torque : 200 %
 Breakdown torque : 200 %
 Rated speed : 725 rpm

Moment of inertia (J) : 8.18 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

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LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage



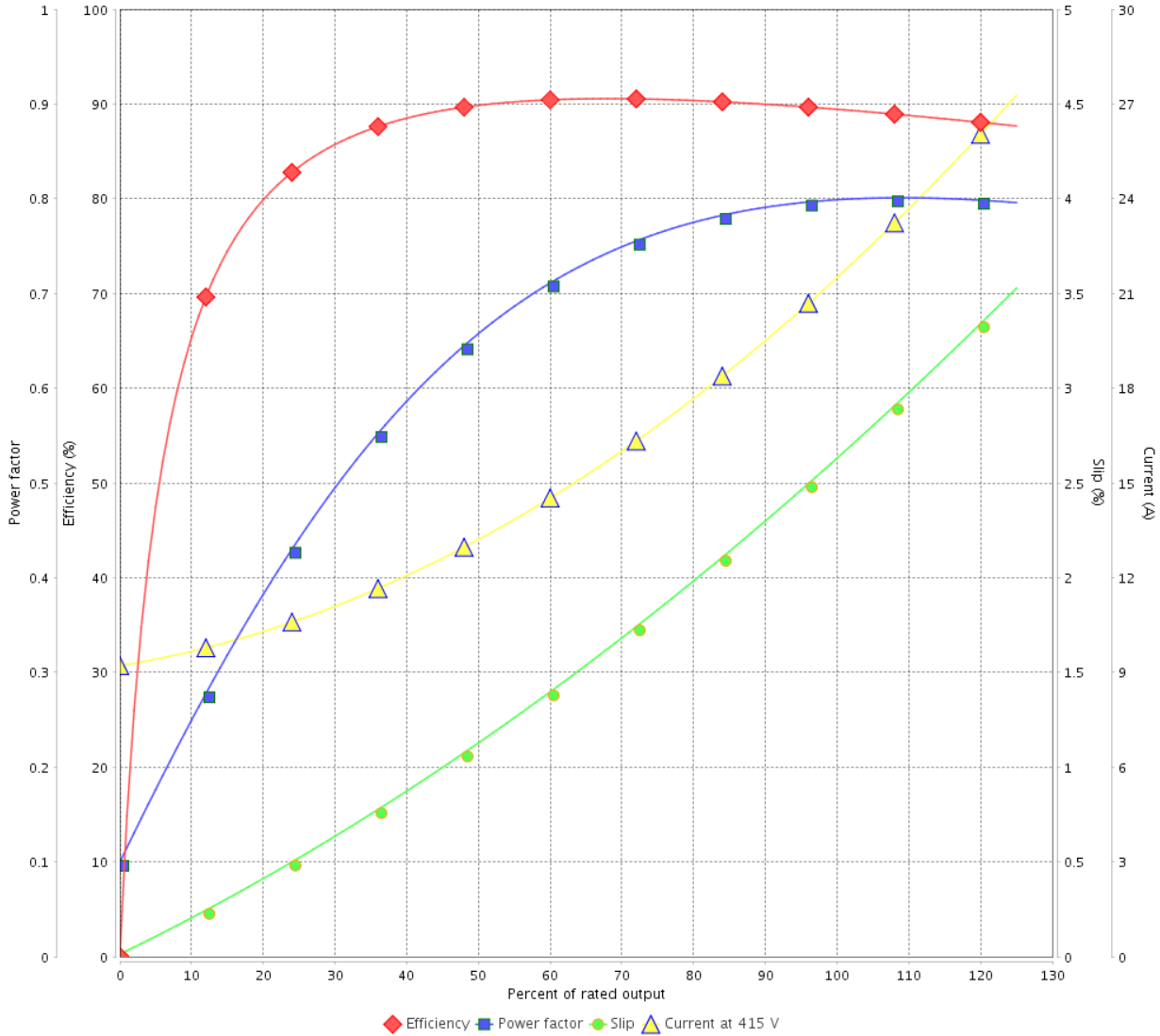
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14407820

Catalog # : 01509XT3E286T

LOAD PERFORMANCE CURVE



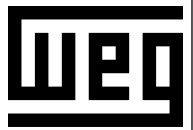
Performance : 415 V 50 Hz 8P IE3

Rated current : 21.4 A
 LRC : 6.1
 Rated torque : 108 ft.lb
 Locked rotor torque : 229 %
 Breakdown torque : 229 %
 Rated speed : 730 rpm

Moment of inertia (J) : 8.18 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



Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase
 Product code : 14407820
 Catalog # : 01509XT3E286T

Performance : 230/460 V 60 Hz 8P

Rated current : 38.0/19.0 A	Moment of inertia (J) : 8.18 sq.ft.lb
LRC : 6.1	Duty cycle : Cont.(S1)
Rated torque : 89.5 ft.lb	Insulation class : F
Locked rotor torque : 240 %	Service factor : 1.15
Breakdown torque : 229 %	Temperature rise : 80 K
Rated speed : 880 rpm	Design : B

Heating constant

Cooling constant

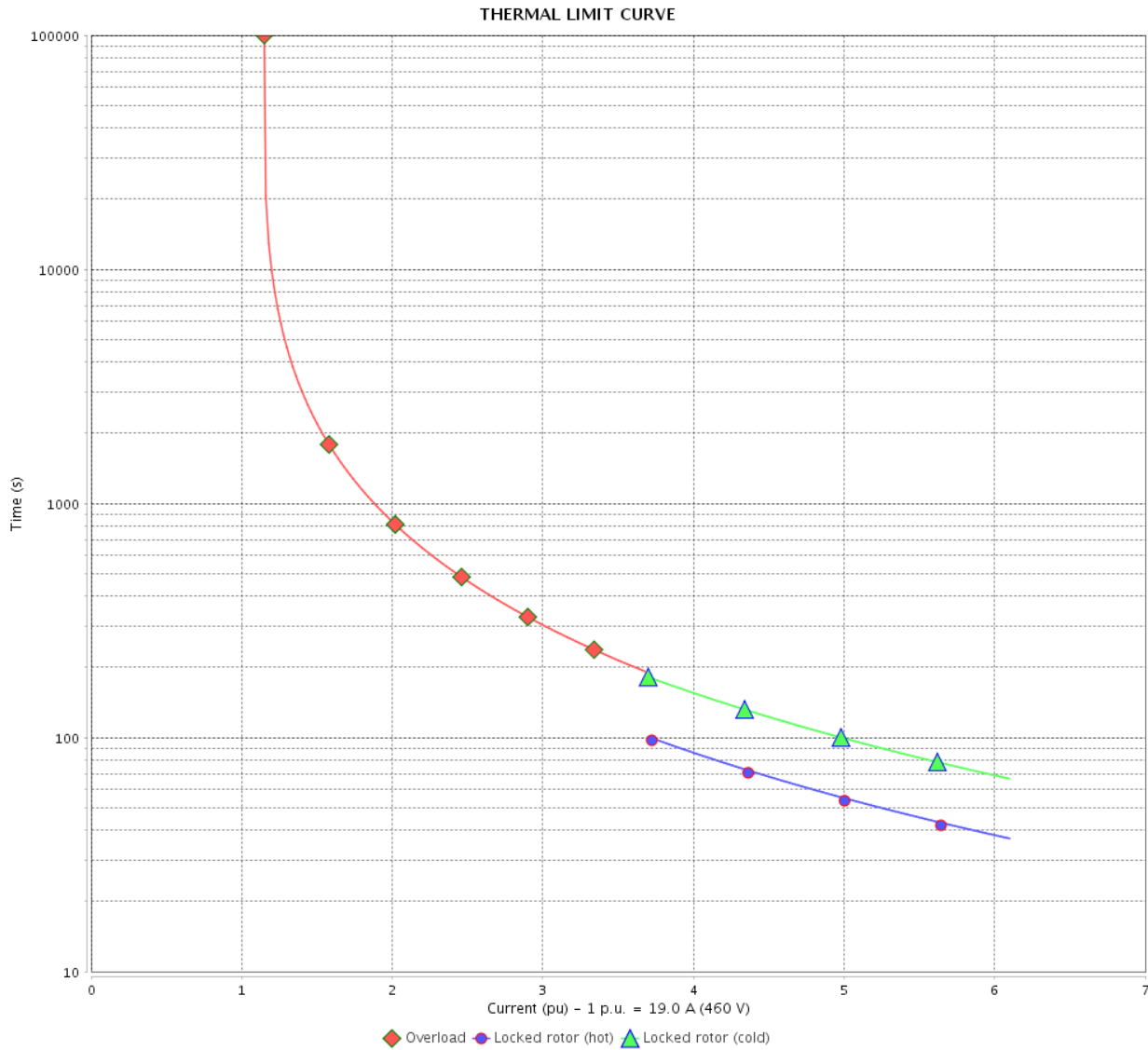
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THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : _____



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Date				

THERMAL LIMIT CURVE



Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase
 Product code : 14407820
 Catalog # : 01509XT3E286T

Performance : 380 V 50 Hz 8P IE2

Rated current : 23.3 A	Moment of inertia (J) : 8.18 sq.ft.lb
LRC : 6.1	Duty cycle : Cont.(S1)
Rated torque : 109 ft.lb	Insulation class : F
Locked rotor torque : 180 %	Service factor : 1.00
Breakdown torque : 180 %	Temperature rise : 80 K
Rated speed : 720 rpm	Design : B

Heating constant

Cooling constant

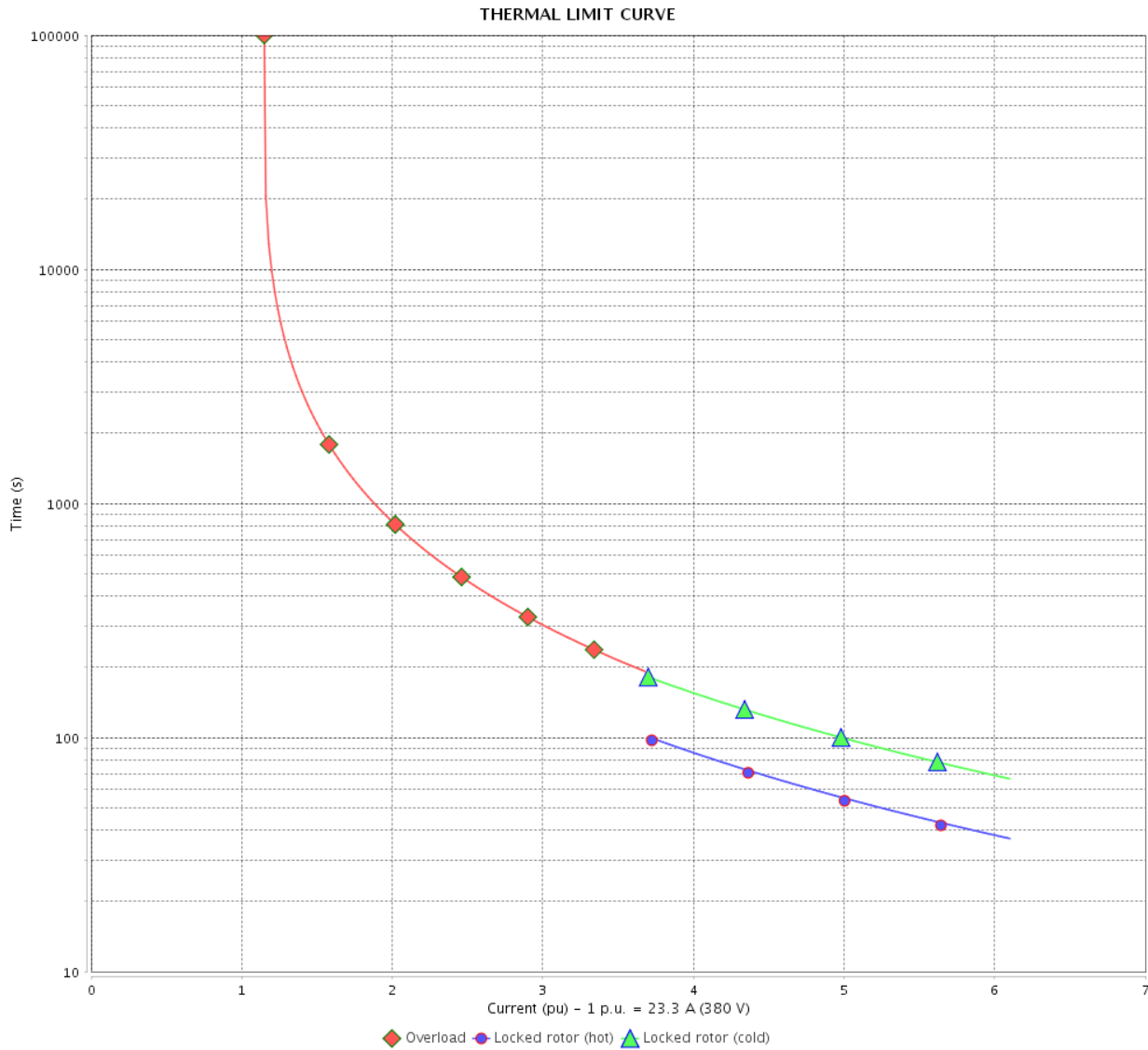
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Performed by			Page 13 / 22	Revision
Checked by				
Date	13/04/2022			

THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : _____



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THERMAL LIMIT CURVE



Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase
 Product code : 14407820
 Catalog # : 01509XT3E286T

Performance : 400 V 50 Hz 8P IE2

Rated current : 22.1 A	Moment of inertia (J) : 8.18 sq.ft.lb
LRC : 6.1	Duty cycle : Cont.(S1)
Rated torque : 109 ft.lb	Insulation class : F
Locked rotor torque : 200 %	Service factor : 1.00
Breakdown torque : 200 %	Temperature rise : 80 K
Rated speed : 725 rpm	Design : B

Heating constant

Cooling constant

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Checked by				
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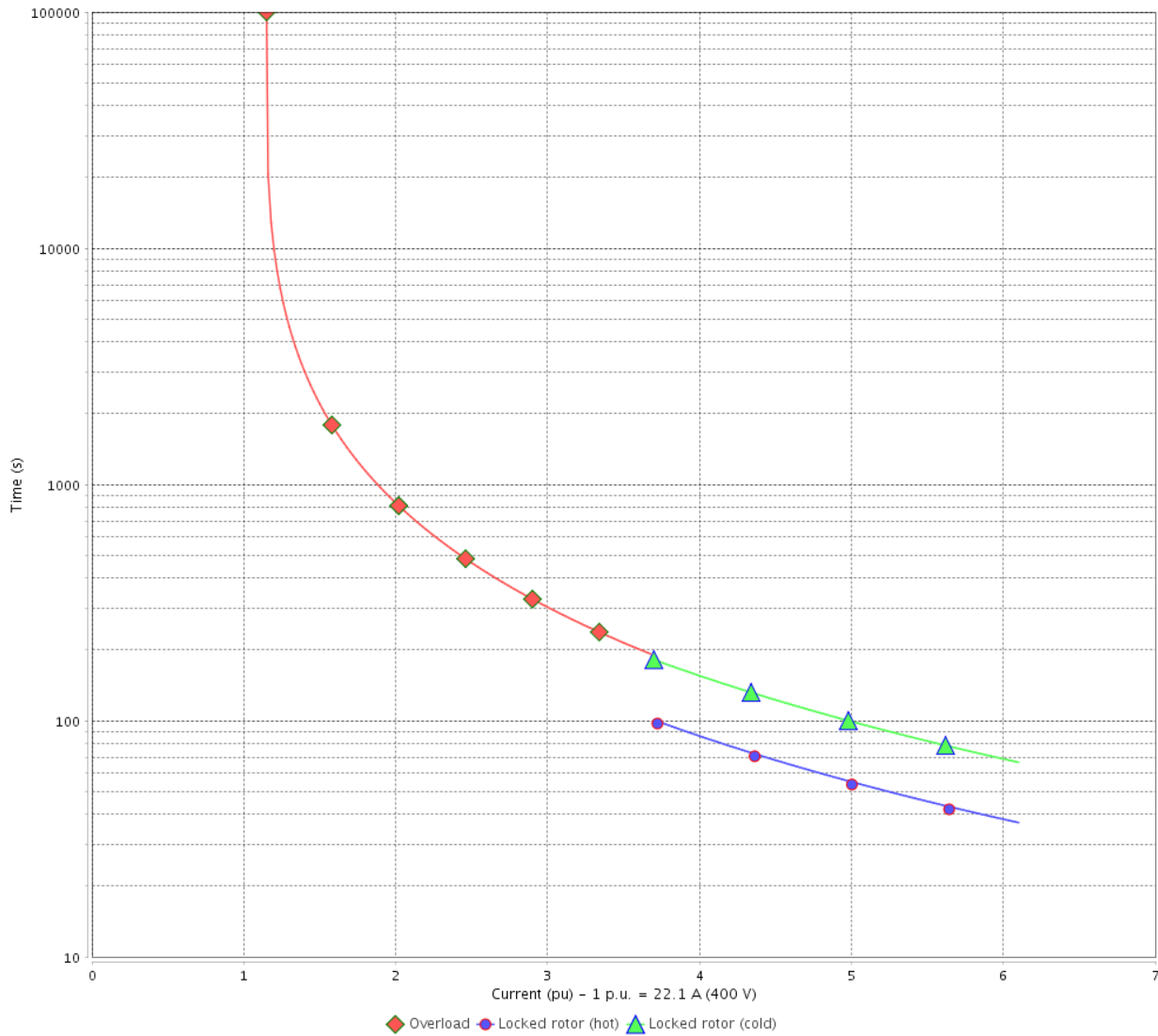
THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : _____

THERMAL LIMIT CURVE



Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 16 / 22	Revision
Checked by				
Date	13/04/2022			

THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : NEMA Premium Efficiency Three-Phase
Product code : 14407820
Catalog # : 01509XT3E286T

Performance : 415 V 50 Hz 8P IE3

Rated current : 21.4 A	Moment of inertia (J) : 8.18 sq.ft.lb
LRC : 6.1	Duty cycle : Cont.(S1)
Rated torque : 108 ft.lb	Insulation class : F
Locked rotor torque : 229 %	Service factor : 1.00
Breakdown torque : 229 %	Temperature rise : 80 K
Rated speed : 730 rpm	Design : B

Heating constant

Cooling constant

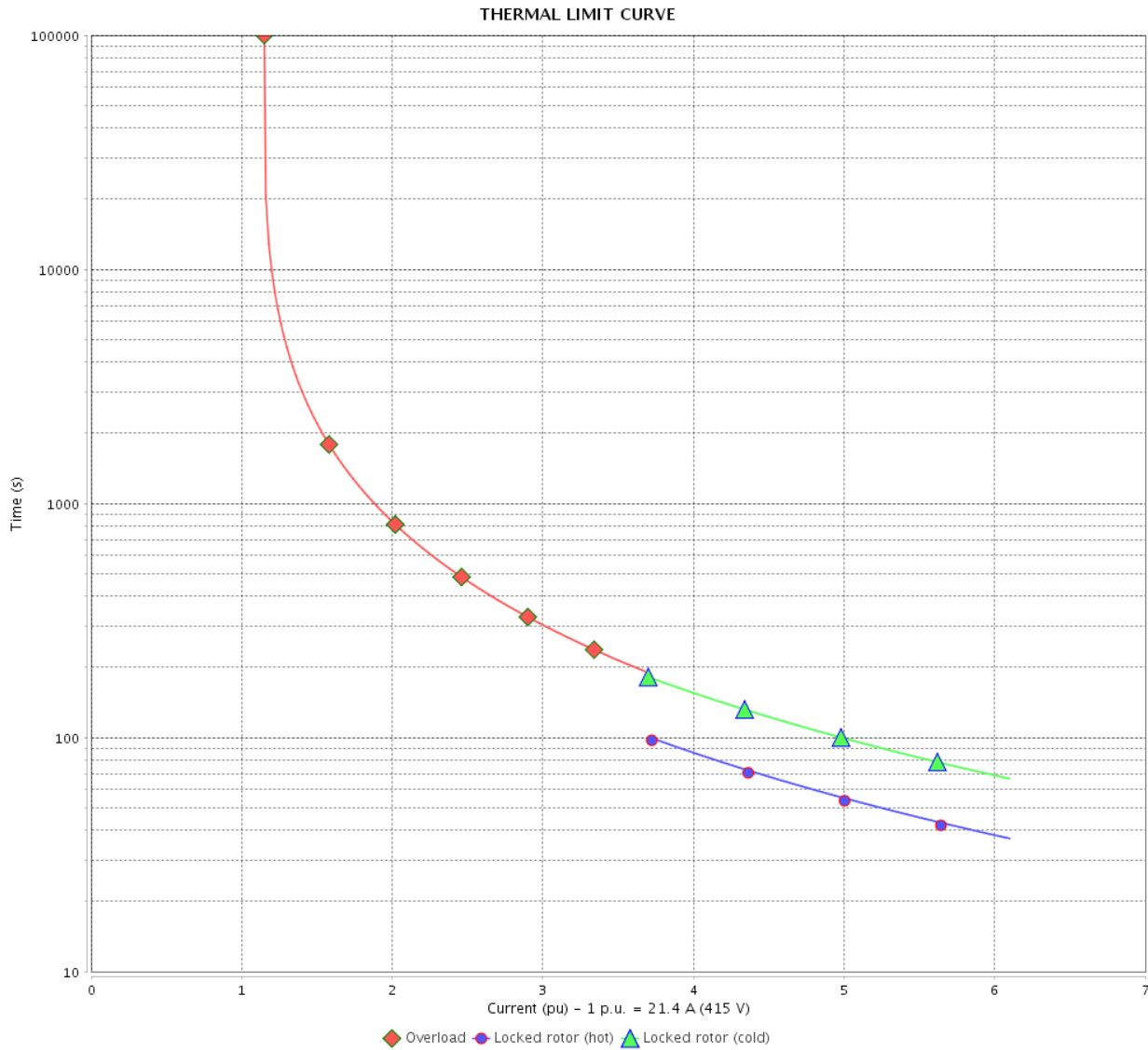
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Checked by			Page	Revision
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THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : _____



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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

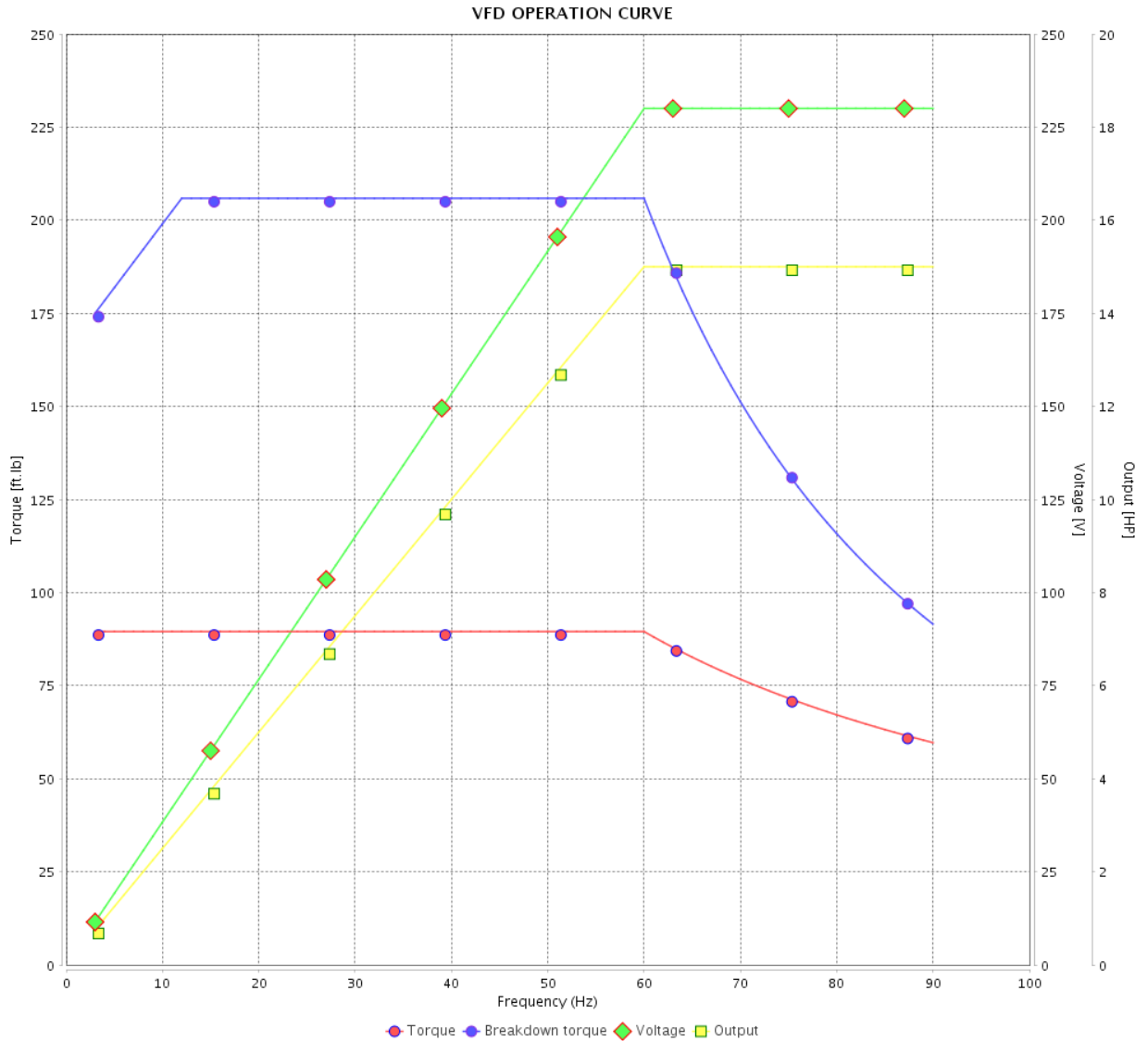


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14407820

Catalog # : 01509XT3E286T



Performance : 230/460 V 60 Hz 8P

Rated current : 38.0/19.0 A
 LRC : 6.1
 Rated torque : 89.5 ft.lb
 Locked rotor torque : 240 %
 Breakdown torque : 229 %
 Rated speed : 880 rpm

Moment of inertia (J) : 8.18 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.15
 Temperature rise : 80 K
 Design : B

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page	Revision
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Date				

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

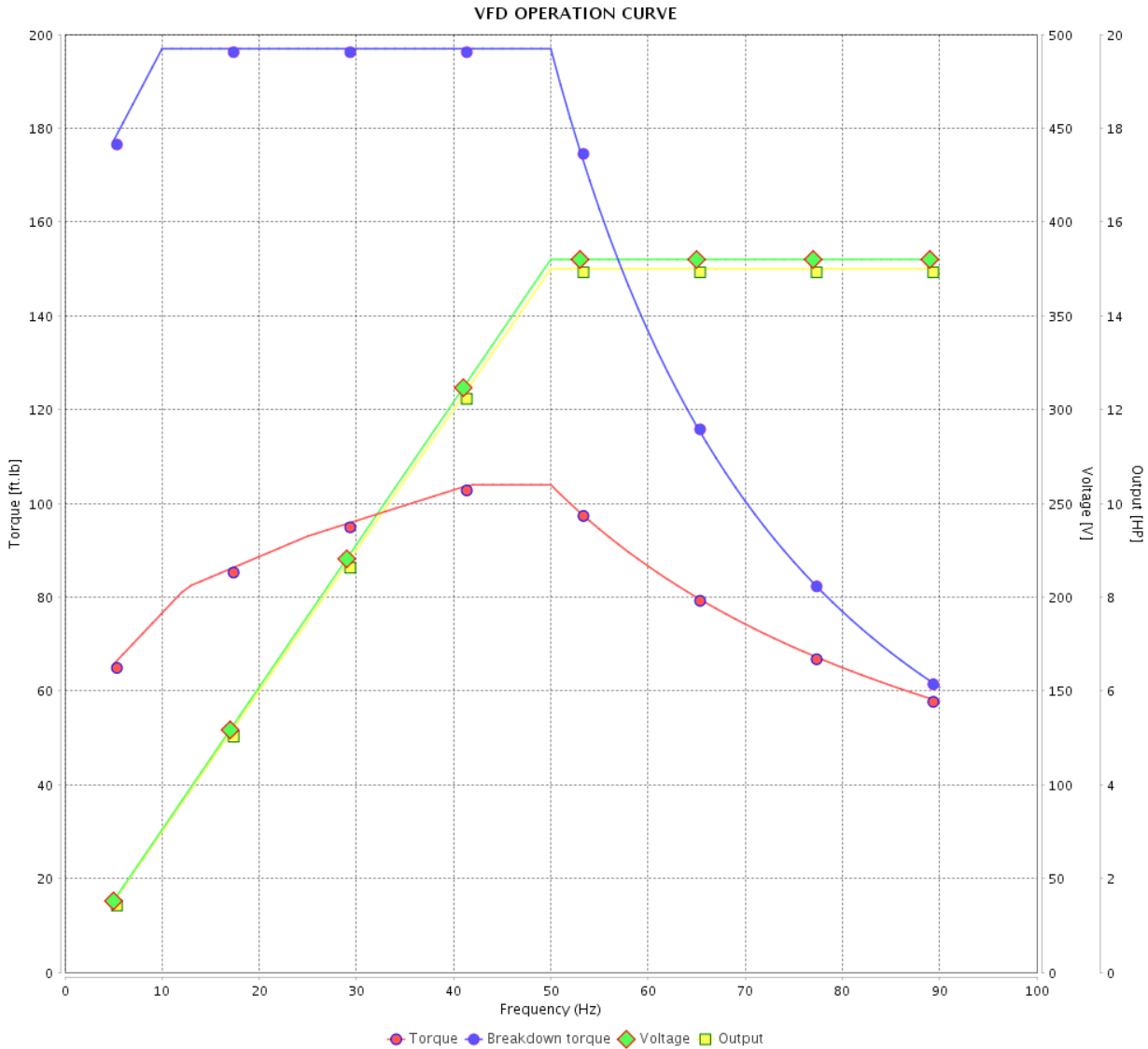


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14407820

Catalog # : 01509XT3E286T



Performance : 380 V 50 Hz 8P IE2

Rated current	: 23.3 A	Moment of inertia (J)	: 8.18 sq.ft.lb
LRC	: 6.1	Duty cycle	: Cont.(S1)
Rated torque	: 109 ft.lb	Insulation class	: F
Locked rotor torque	: 180 %	Service factor	: 1.00
Breakdown torque	: 180 %	Temperature rise	: 80 K
Rated speed	: 720 rpm	Design	: B

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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

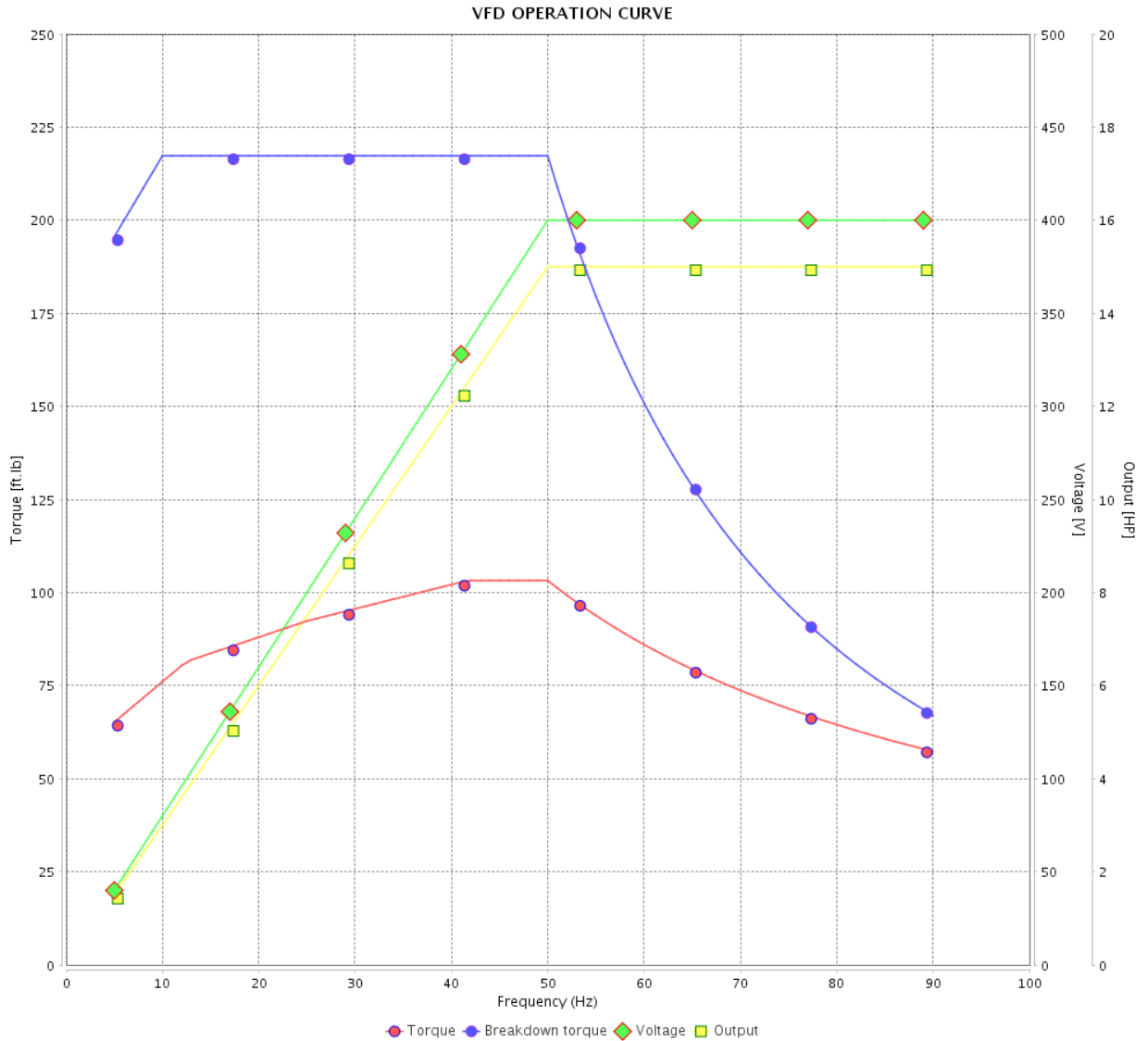


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14407820

Catalog # : 01509XT3E286T



Performance : 400 V 50 Hz 8P IE2

Rated current : 22.1 A
 LRC : 6.1
 Rated torque : 109 ft.lb
 Locked rotor torque : 200 %
 Breakdown torque : 200 %
 Rated speed : 725 rpm

Moment of inertia (J) : 8.18 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

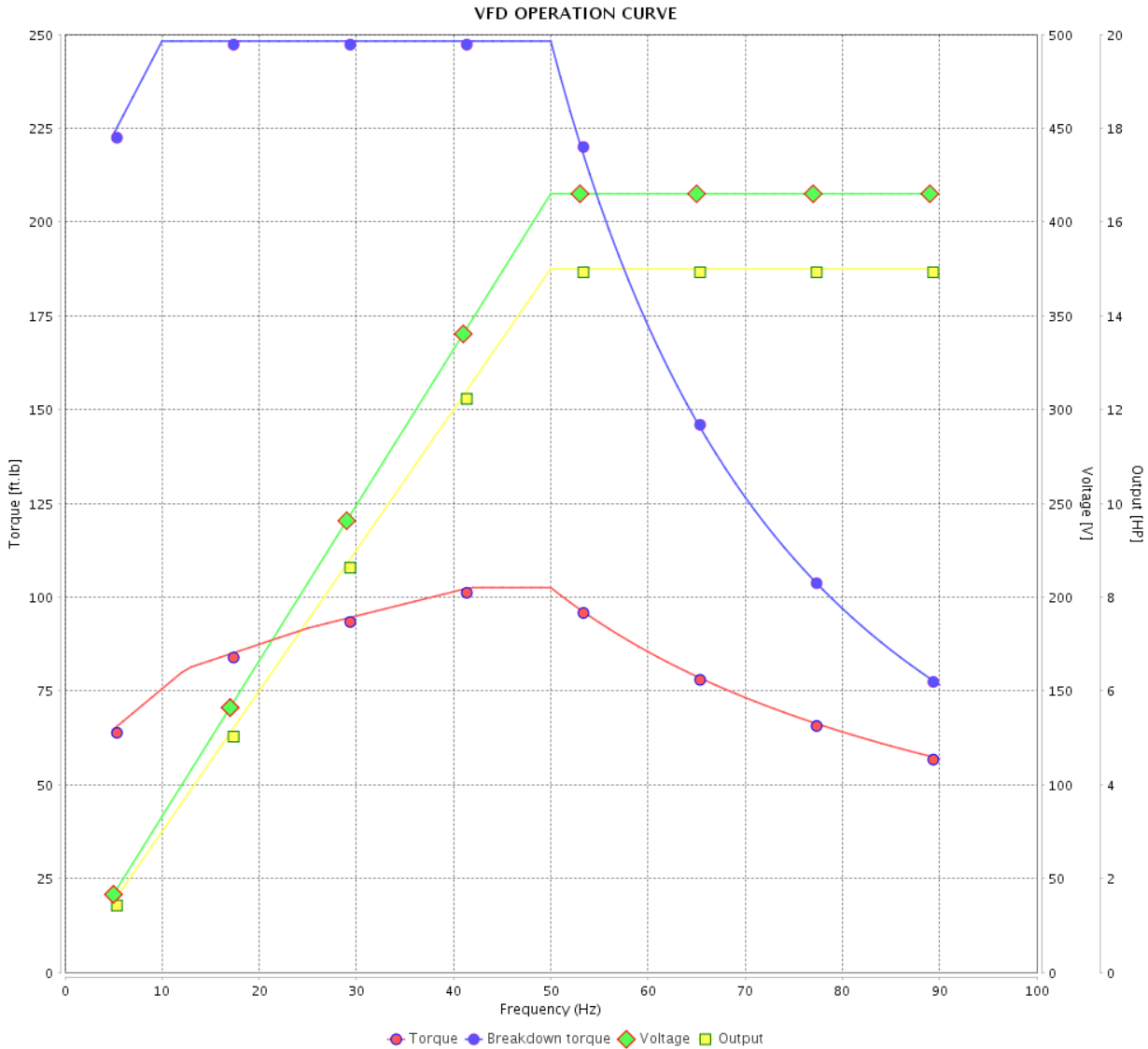


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14407820

Catalog # : 01509XT3E286T



Performance : 415 V 50 Hz 8P IE3

Rated current	: 21.4 A	Moment of inertia (J)	: 8.18 sq.ft.lb
LRC	: 6.1	Duty cycle	: Cont.(S1)
Rated torque	: 108 ft.lb	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.00
Breakdown torque	: 229 %	Temperature rise	: 80 K
Rated speed	: 730 rpm	Design	: B

Rev.	Changes Summary	Performed	Checked	Date
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1 2 3 4 5 6

A

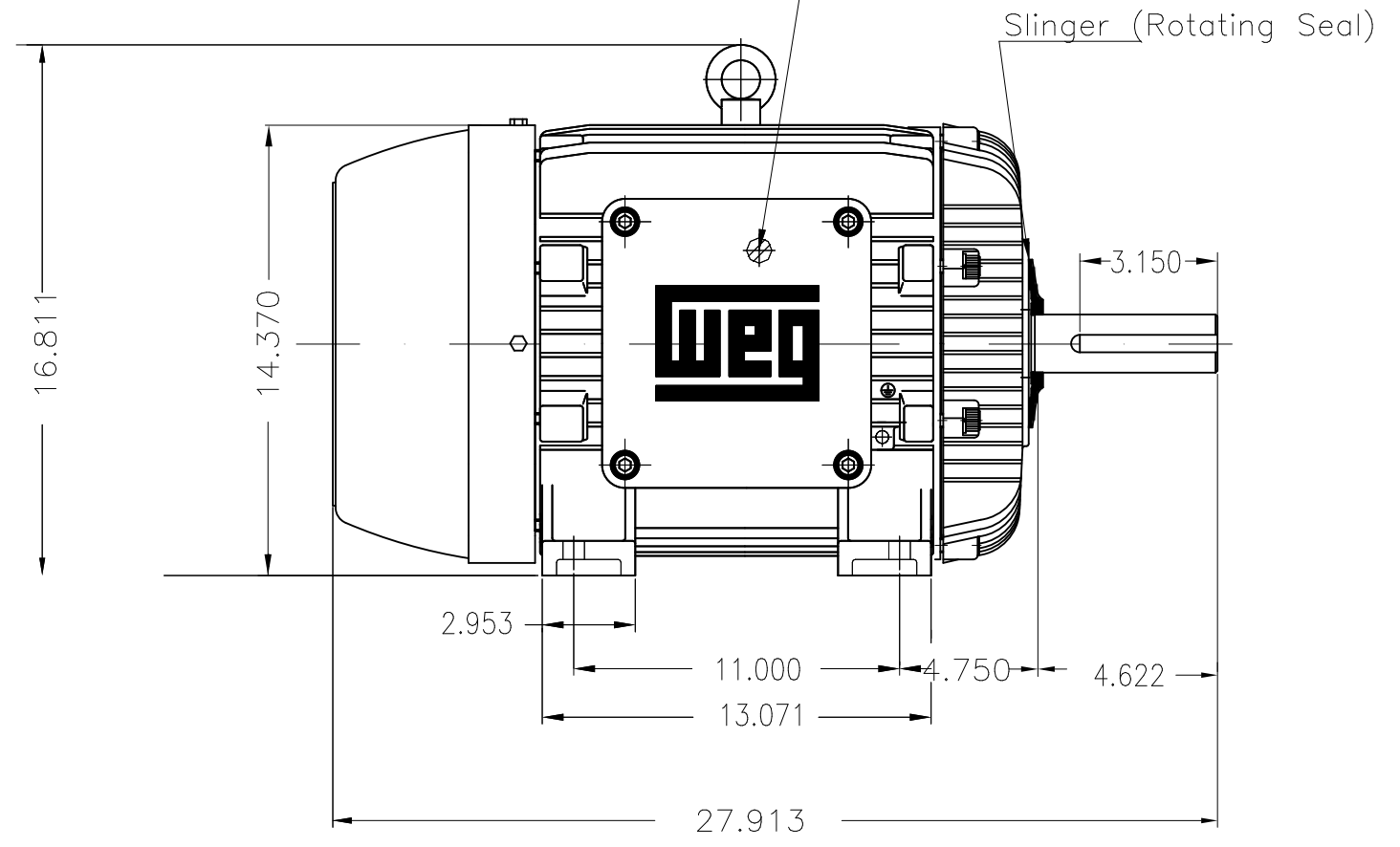
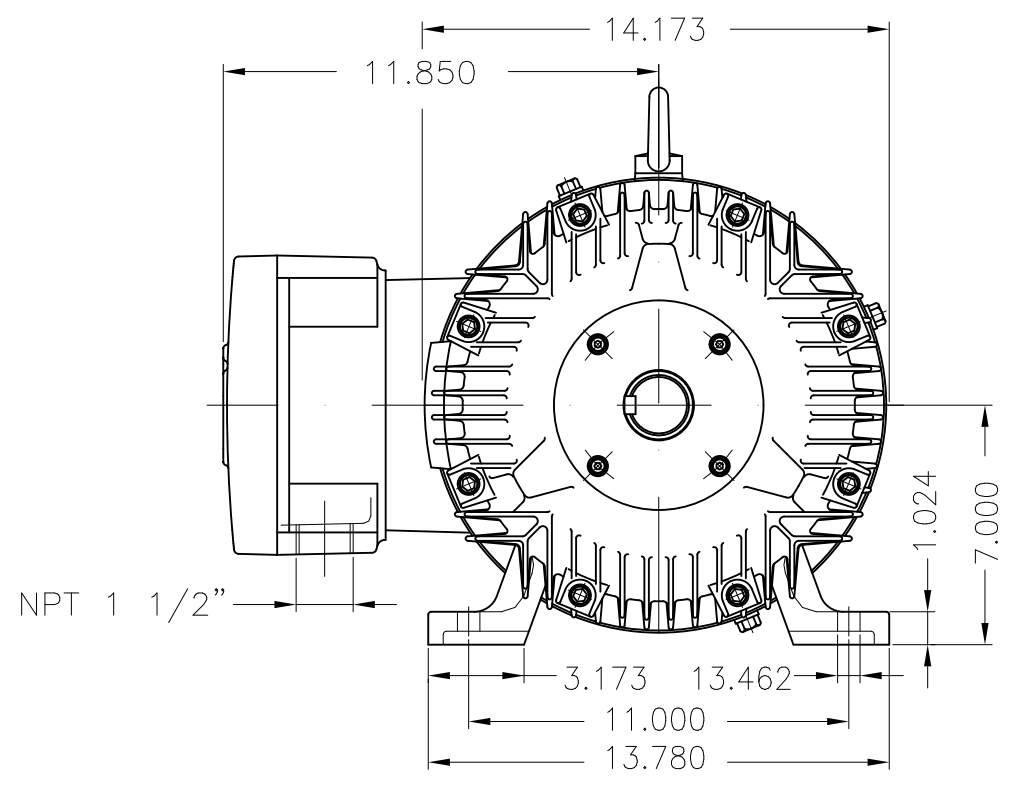
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C

D

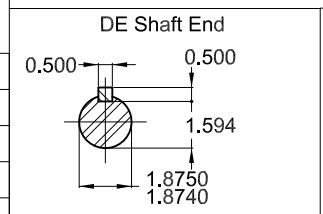
E

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



15 HP 08 Poles 60 Hz A

- With grease fitting
- 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. FRAME 286T IP55 TEFC					
CHECKED							
RELEASED							
REL DT.	WMO	Jaragua do Sul	Product Engineering	SHEET 1 / 1			

PREVIEW
WDD

Dimensions in inches XME A3

MADE IN BRAZIL


W21X NEMA
Premium

14407820



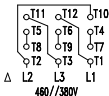
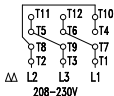
LISTED

CC029A

Inverter Duty Motor
Severe Duty

MODEL 01509XT3E286T

PH 3	FR 286T		
HP(kW) 15.0(11.0)		HZ 60	IP55
V 230/460		A 38.0/19.0	
RPM 880		NEMA NOM EFF 91.0%	
PF 0.80		SFA 43.7/21.8	DES B
INS CL F Δ T 80 K		SF 1.15	ENCL TEFC
DUTY CONT.		CODE G	ALT 1000 m.a.s.l.
AMB 40°C	USABLE @208V	42.0 A	SF 1.15 SFA 48.3
AMB 55°C SF1.0			
15HP 11kW 50Hz 380V 23.3A 720RPM SF1.00 EFF 87.5% (IE2)			



→ 6311-C3 MOBIL POLYREX EM
 → 6211-C3 18 g 20000 h

496 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.