

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



Customer					
Product line		: NEMA Premium Efficiency Three-Phase	Product code :		14188205
			Catalog # :		00312XT3E213TC
Frame		: 213/5TC	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		: 213 lb
Protection degree		: IP55	Moment of inertia (J)		: 1.20 sq.ft.lb
Design		: B			
Output [HP]	3	3	3	3	
Poles	6	6	6	6	
Frequency [Hz]	60	50	50	50	
Rated voltage [V]	230/460	380	400	415	
Rated current [A]	8.82/4.41	5.28	5.15	5.11	
L. R. Amperes [A]	61.7/30.9	31.7	33.5	35.8	
LRC [A]	7.0x(Code K)	6.0x(Code H)	6.5x(Code J)	7.0x(Code K)	
No load current [A]	5.20/2.60	2.40	2.75	2.90	
Rated speed [RPM]	1180	970	975	980	
Slip [%]	1.67	3.00	2.50	2.00	
Rated torque [ft.lb]	13.4	16.2	16.2	16.1	
Locked rotor torque [%]	180	140	180	210	
Breakdown torque [%]	290	229	250	270	
Service factor	1.15	1.00	1.00	1.00	
Temperature rise	80 K	80 K	80 K	80 K	
Locked rotor time	104s (cold) 58s (hot)	72s (cold) 40s (hot)	72s (cold) 40s (hot)	72s (cold) 40s (hot)	
Noise level ²	55.0 dB(A)	53.0 dB(A)	53.0 dB(A)	53.0 dB(A)	
Efficiency (%)	25%	85.4	83.4	83.5	83.5
	50%	86.5	84.0	84.0	84.0
	75%	88.5	84.0	84.0	84.0
	100%	89.5	84.4	84.4	84.4
Power Factor	25%	0.29	0.36	0.31	0.29
	50%	0.50	0.57	0.53	0.50
	75%	0.62	0.70	0.66	0.64
	100%	0.70	0.75	0.73	0.71
Bearing type		Drive end : 6308 2RS	Non drive end : 6207 2RS	Foundation loads	
Sealing		: Oil Seal	: Lip Seal	Max. traction : 138 lb	
Lubrication interval		: -	: -	Max. compression : 351 lb	
Lubricant amount		: -	: -		
Lubricant type		: Mobil Polyrex EM			
Notes					
USABLE @208V 9.75A SF 1.15 SFA 11.2A					
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



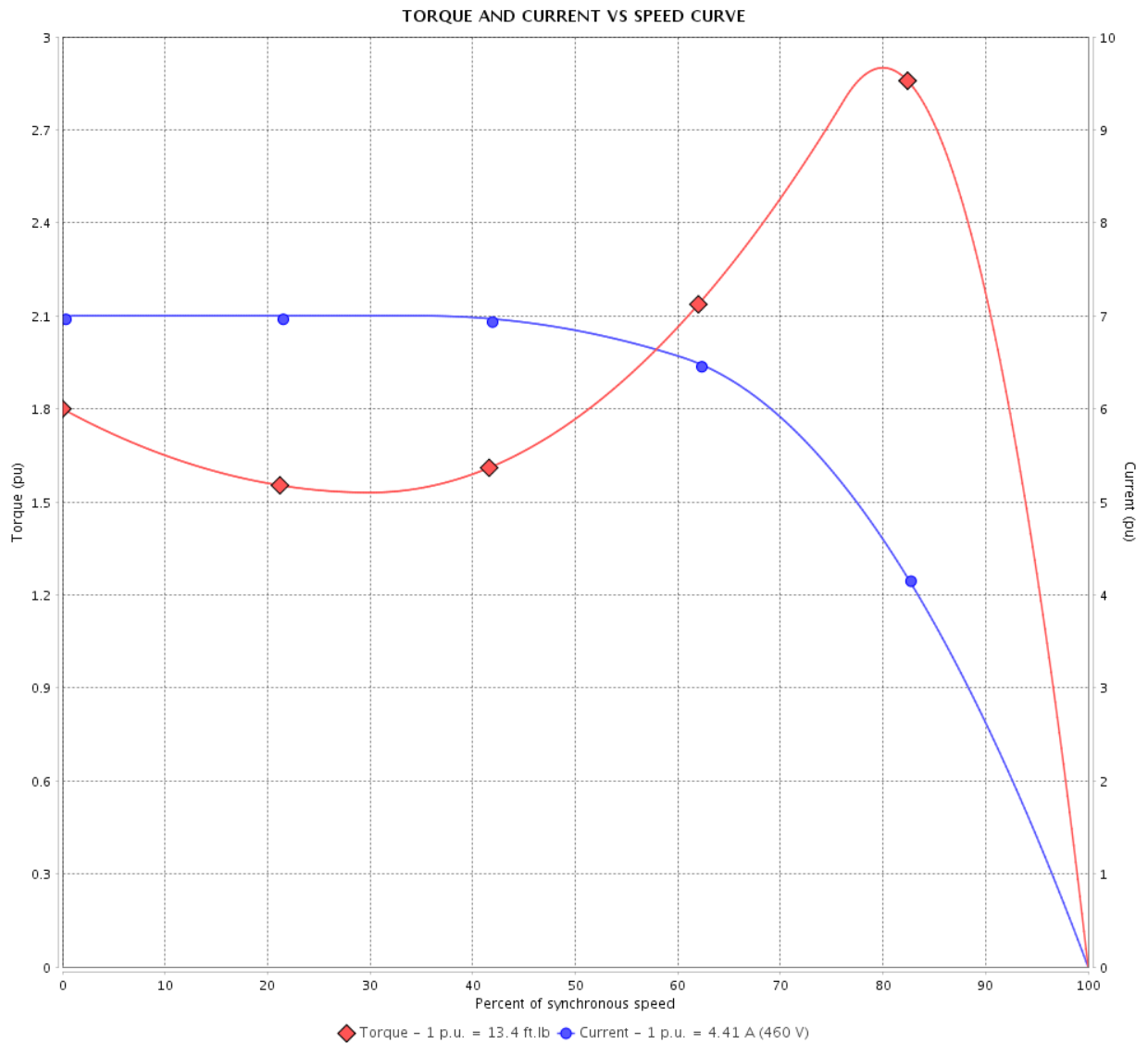
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14188205

Catalog # : 00312XT3E213TC



Performance : 230/460 V 60 Hz 6P

Rated current : 8.82/4.41 A
 LRC : 7.0
 Rated torque : 13.4 ft.lb
 Locked rotor torque : 180 %
 Breakdown torque : 290 %
 Rated speed : 1180 rpm

Moment of inertia (J) : 1.20 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.15
 Temperature rise : 80 K
 Design : B

Locked rotor time : 104s (cold) 58s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



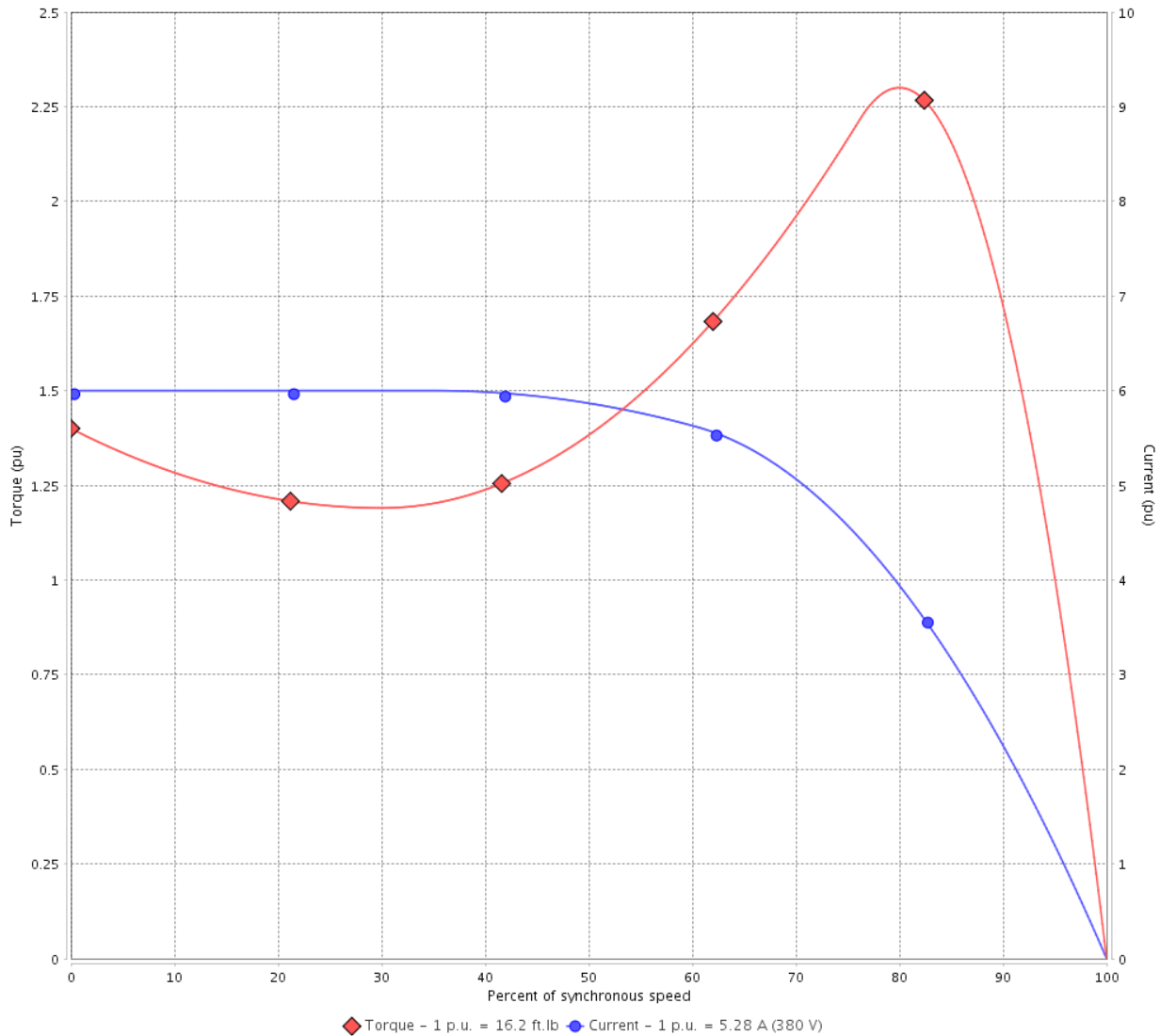
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14188205

Catalog # : 00312XT3E213TC

TORQUE AND CURRENT VS SPEED CURVE



Performance : 380 V 50 Hz 6P IE3

Rated current	: 5.28 A	Moment of inertia (J)	: 1.20 sq.ft.lb
LRC	: 6.0	Duty cycle	: Cont.(S1)
Rated torque	: 16.2 ft.lb	Insulation class	: F
Locked rotor torque	: 140 %	Service factor	: 1.00
Breakdown torque	: 229 %	Temperature rise	: 80 K
Rated speed	: 970 rpm	Design	: B

Locked rotor time : 72s (cold) 40s (hot)

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TORQUE AND CURRENT VS SPEED CURVE



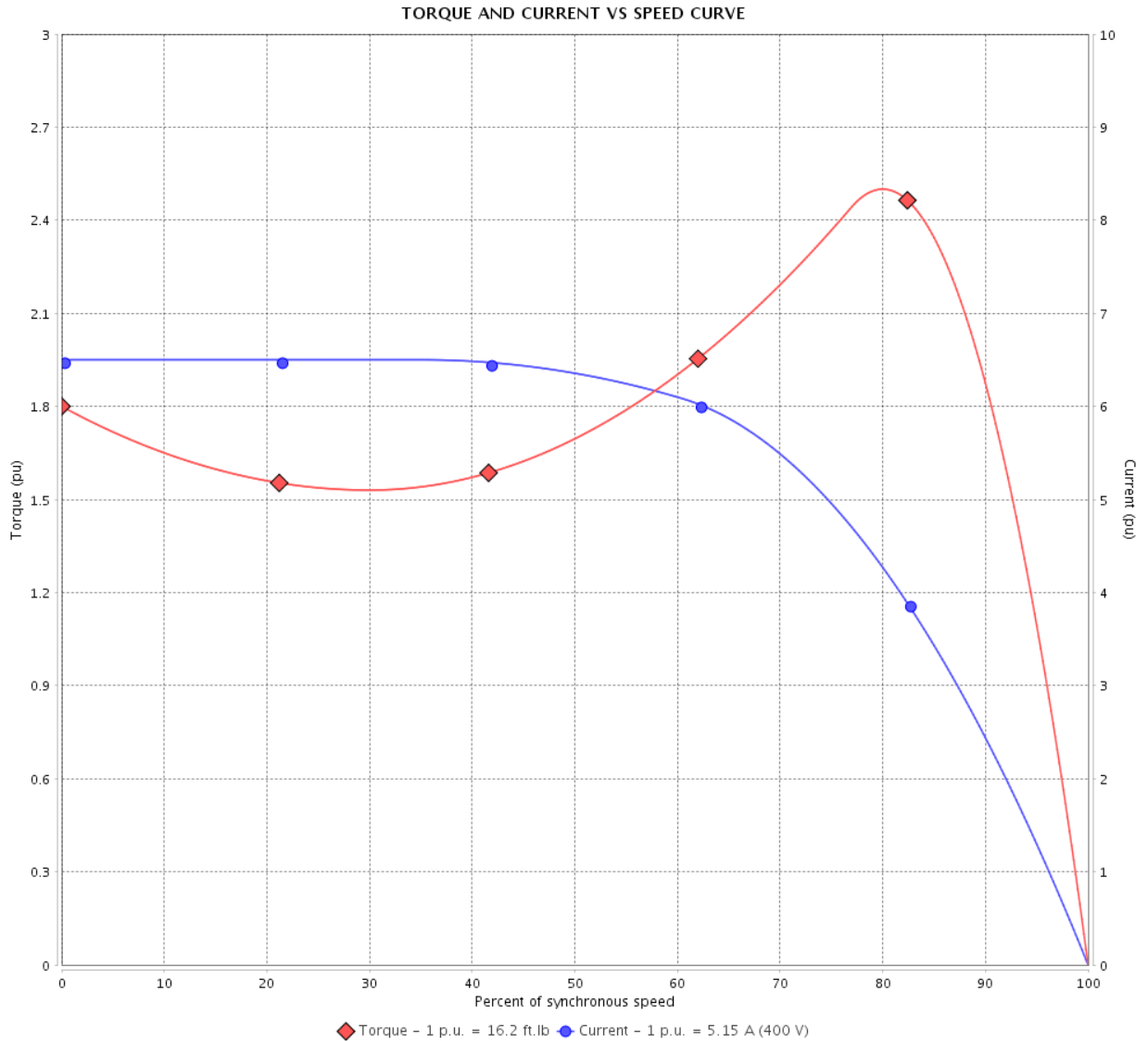
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14188205

Catalog # : 00312XT3E213TC



Performance : 400 V 50 Hz 6P IE3

Rated current	: 5.15 A	Moment of inertia (J)	: 1.20 sq.ft.lb
LRC	: 6.5	Duty cycle	: Cont.(S1)
Rated torque	: 16.2 ft.lb	Insulation class	: F
Locked rotor torque	: 180 %	Service factor	: 1.00
Breakdown torque	: 250 %	Temperature rise	: 80 K
Rated speed	: 975 rpm	Design	: B

Locked rotor time : 72s (cold) 40s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



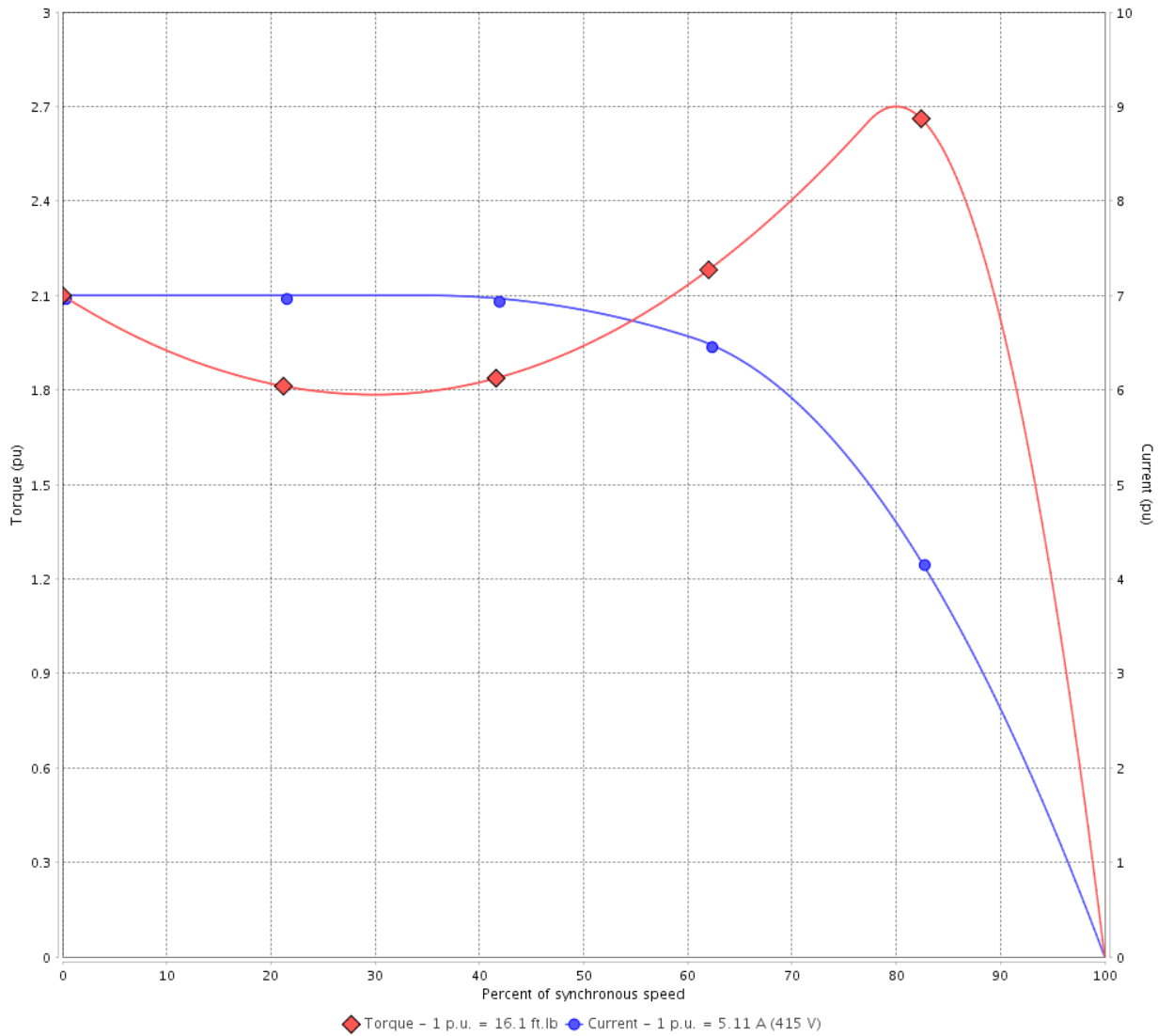
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Product code : 14188205

Catalog # : 00312XT3E213TC

TORQUE AND CURRENT VS SPEED CURVE



Performance : 415 V 50 Hz 6P IE3

Rated current	: 5.11 A	Moment of inertia (J)	: 1.20 sq.ft.lb
LRC	: 7.0	Duty cycle	: Cont.(S1)
Rated torque	: 16.1 ft.lb	Insulation class	: F
Locked rotor torque	: 210 %	Service factor	: 1.00
Breakdown torque	: 270 %	Temperature rise	: 80 K
Rated speed	: 980 rpm	Design	: B

Locked rotor time : 72s (cold) 40s (hot)

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LOAD PERFORMANCE CURVE

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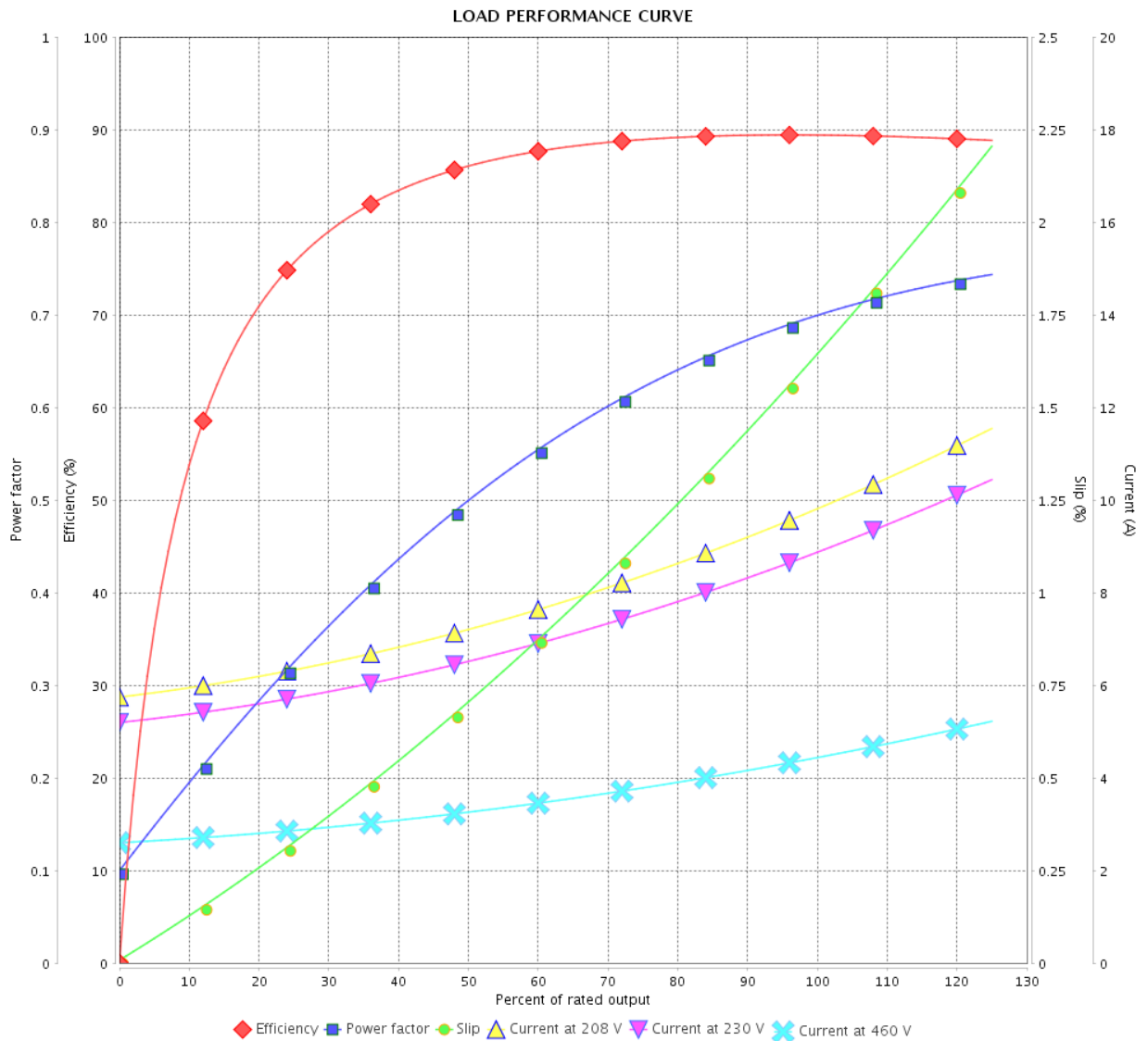


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14188205

Catalog # : 00312XT3E213TC



Performance : 230/460 V 60 Hz 6P

Rated current : 8.82/4.41 A
 LRC : 7.0
 Rated torque : 13.4 ft.lb
 Locked rotor torque : 180 %
 Breakdown torque : 290 %
 Rated speed : 1180 rpm

Moment of inertia (J) : 1.20 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.15
 Temperature rise : 80 K
 Design : B

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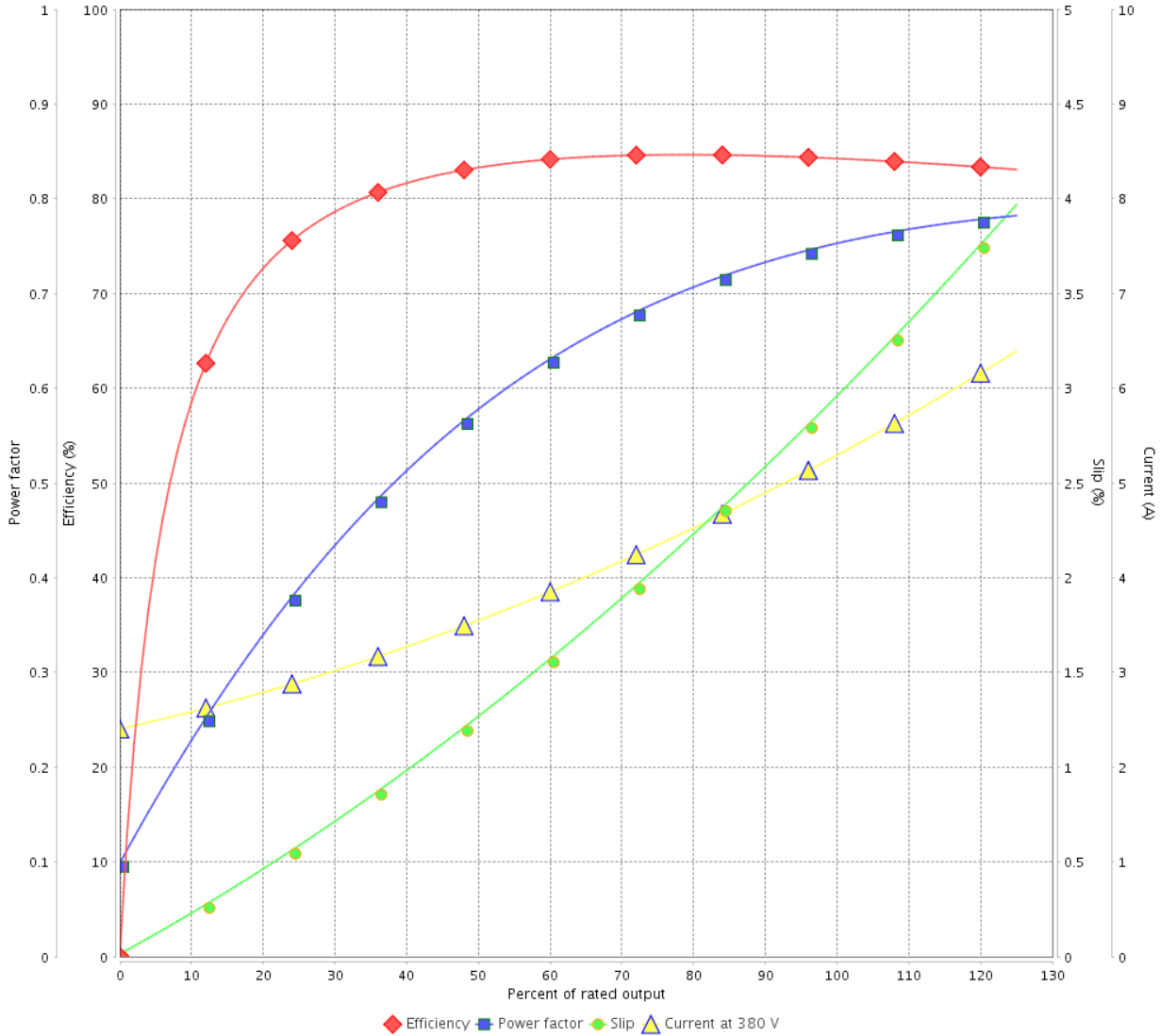
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Performance : 380 V 50 Hz 6P IE3

Rated current : 5.28 A
 LRC : 6.0
 Rated torque : 16.2 ft.lb
 Locked rotor torque : 140 %
 Breakdown torque : 229 %
 Rated speed : 970 rpm

Moment of inertia (J) : 1.20 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

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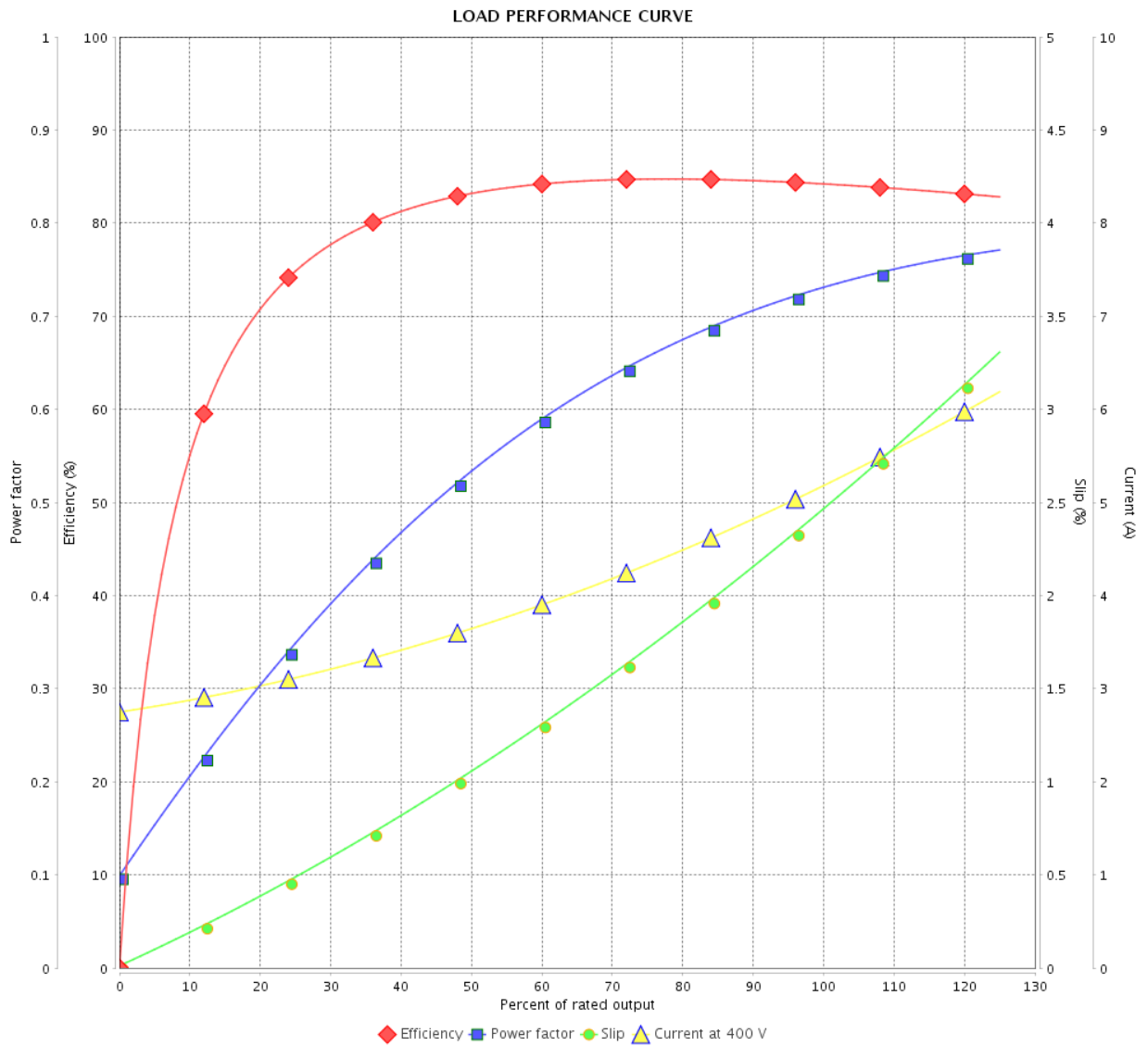


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Performance : 400 V 50 Hz 6P IE3

Rated current : 5.15 A
 LRC : 6.5
 Rated torque : 16.2 ft.lb
 Locked rotor torque : 180 %
 Breakdown torque : 250 %
 Rated speed : 975 rpm

Moment of inertia (J) : 1.20 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



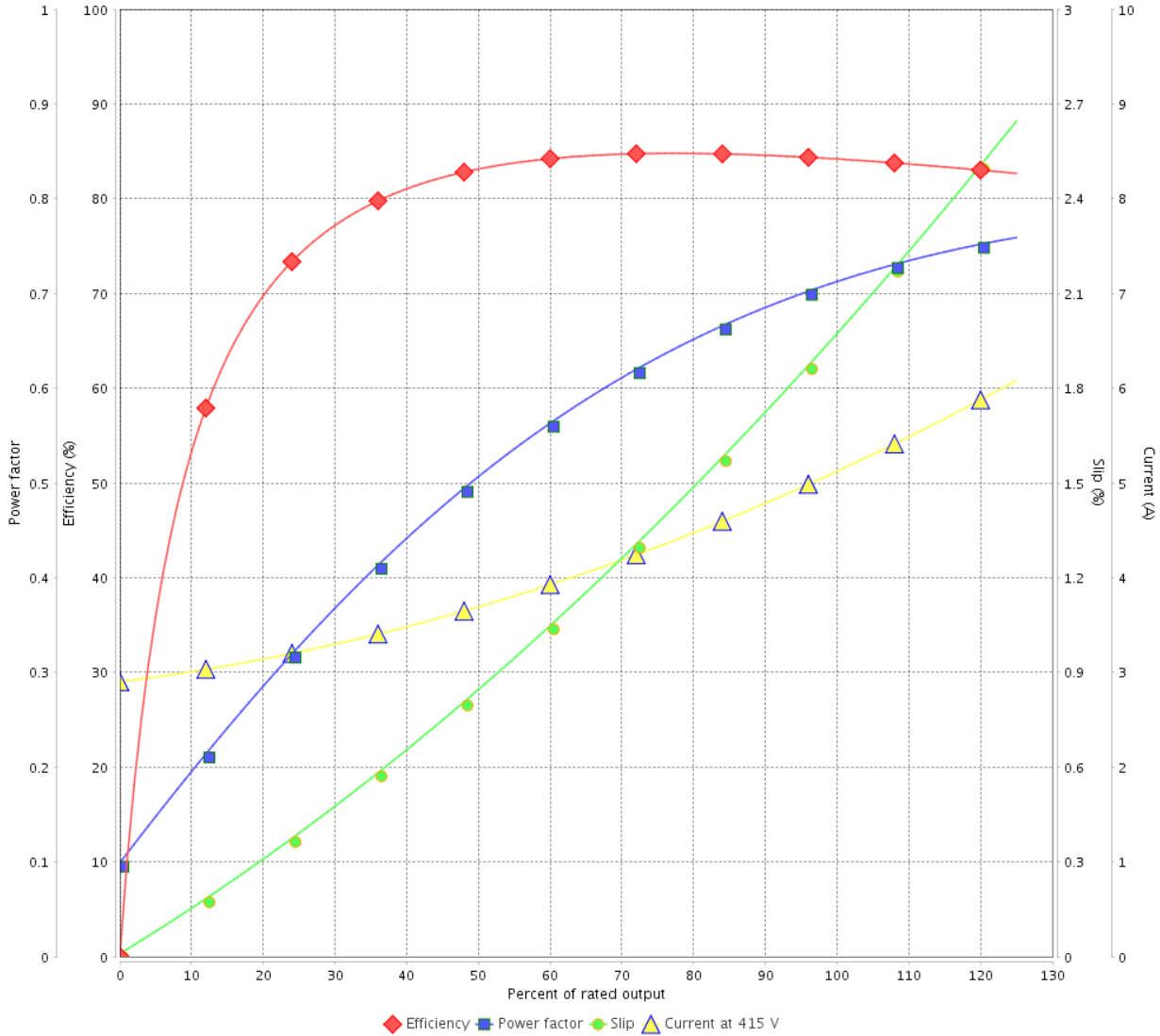
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 Breakdown torque : 270 %
 Rated speed : 980 rpm

Moment of inertia (J) : 1.20 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 : 7.0	Duty cycle : Cont.(S1)
Rated torque : 13.4 ft.lb	Insulation class : F
Locked rotor torque : 180 %	Service factor : 1.15
Breakdown torque : 290 %	Temperature rise : 80 K
Rated speed : 1180 rpm	Design : B

Heating constant

Cooling constant

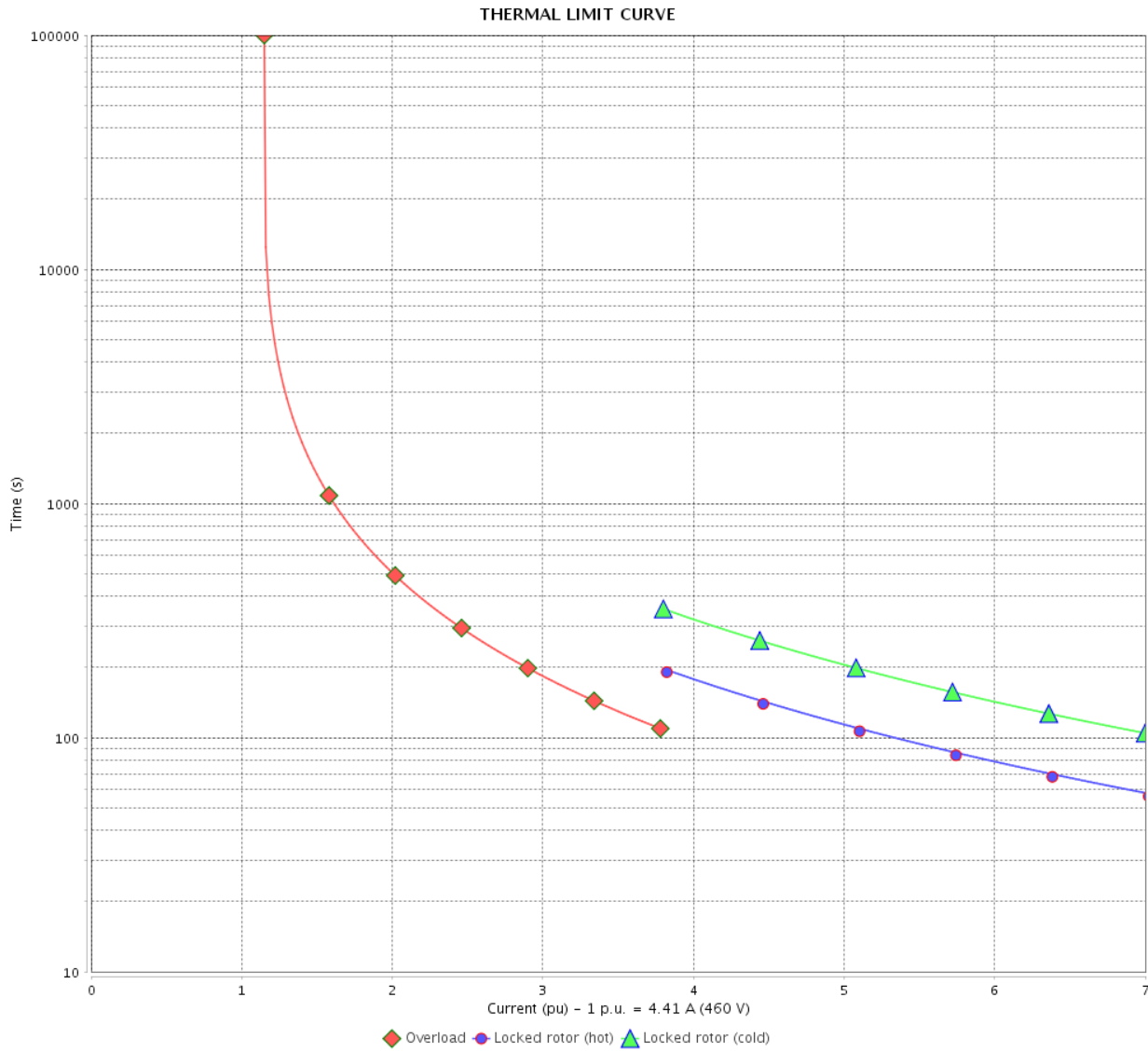
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THERMAL LIMIT CURVE

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 Breakdown torque : 229 %
 Rated speed : 970 rpm

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 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

Heating constant

Cooling constant

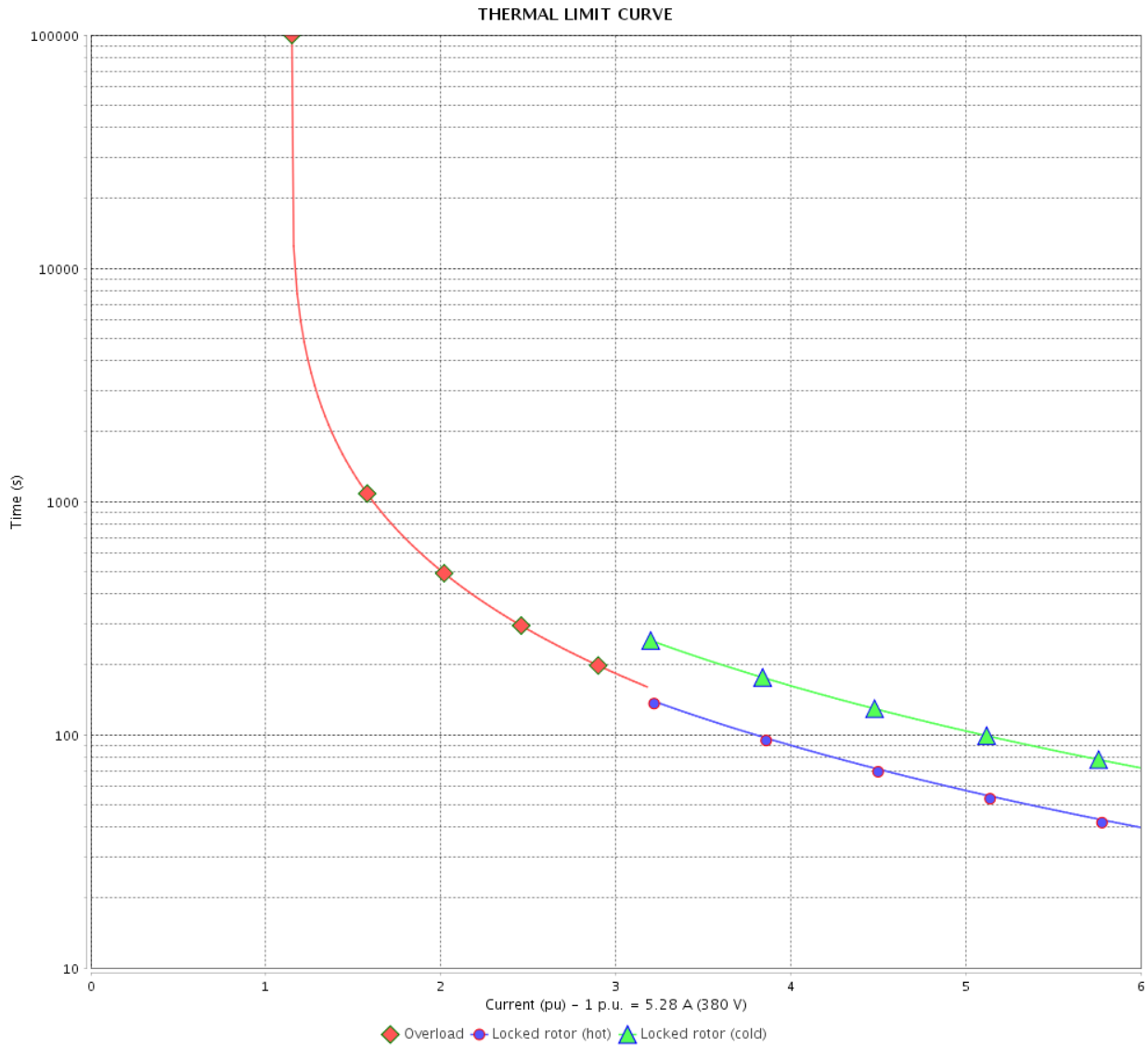
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THERMAL LIMIT CURVE

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Three Phase Induction Motor - Squirrel Cage

Customer :

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 Product code : 14188205
 Catalog # : 00312XT3E213TC

Performance : 400 V 50 Hz 6P IE3

Rated current : 5.15 A	Moment of inertia (J) : 1.20 sq.ft.lb
LRC : 6.5	Duty cycle : Cont.(S1)
Rated torque : 16.2 ft.lb	Insulation class : F
Locked rotor torque : 180 %	Service factor : 1.00
Breakdown torque : 250 %	Temperature rise : 80 K
Rated speed : 975 rpm	Design : B

Heating constant

Cooling constant

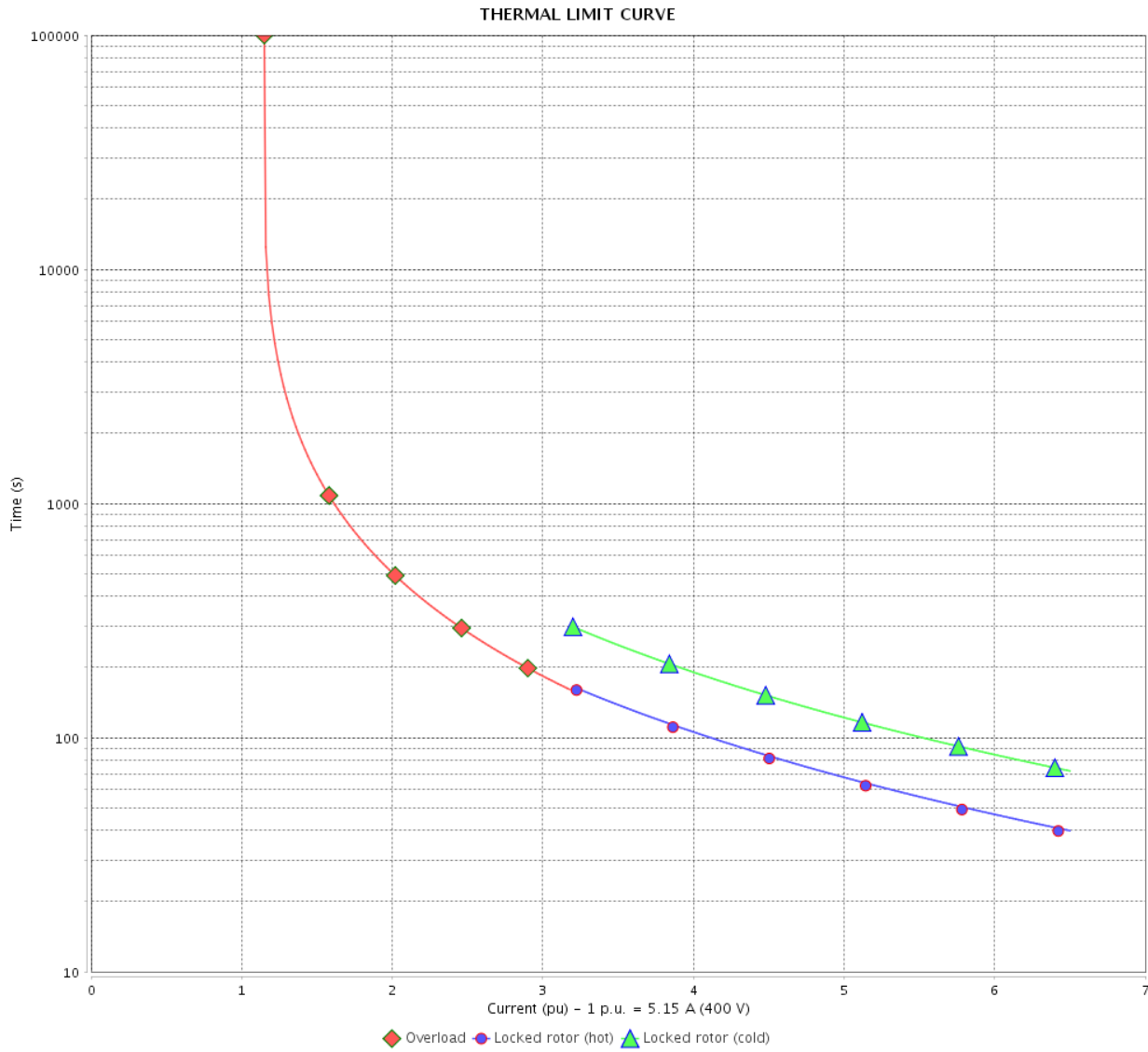
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THERMAL LIMIT CURVE



Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14188205

Catalog # : 00312XT3E213TC

Performance : 415 V 50 Hz 6P IE3

Rated current : 5.11 A
 LRC : 7.0
 Rated torque : 16.1 ft.lb
 Locked rotor torque : 210 %
 Breakdown torque : 270 %
 Rated speed : 980 rpm

Moment of inertia (J) : 1.20 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

Heating constant

Cooling constant

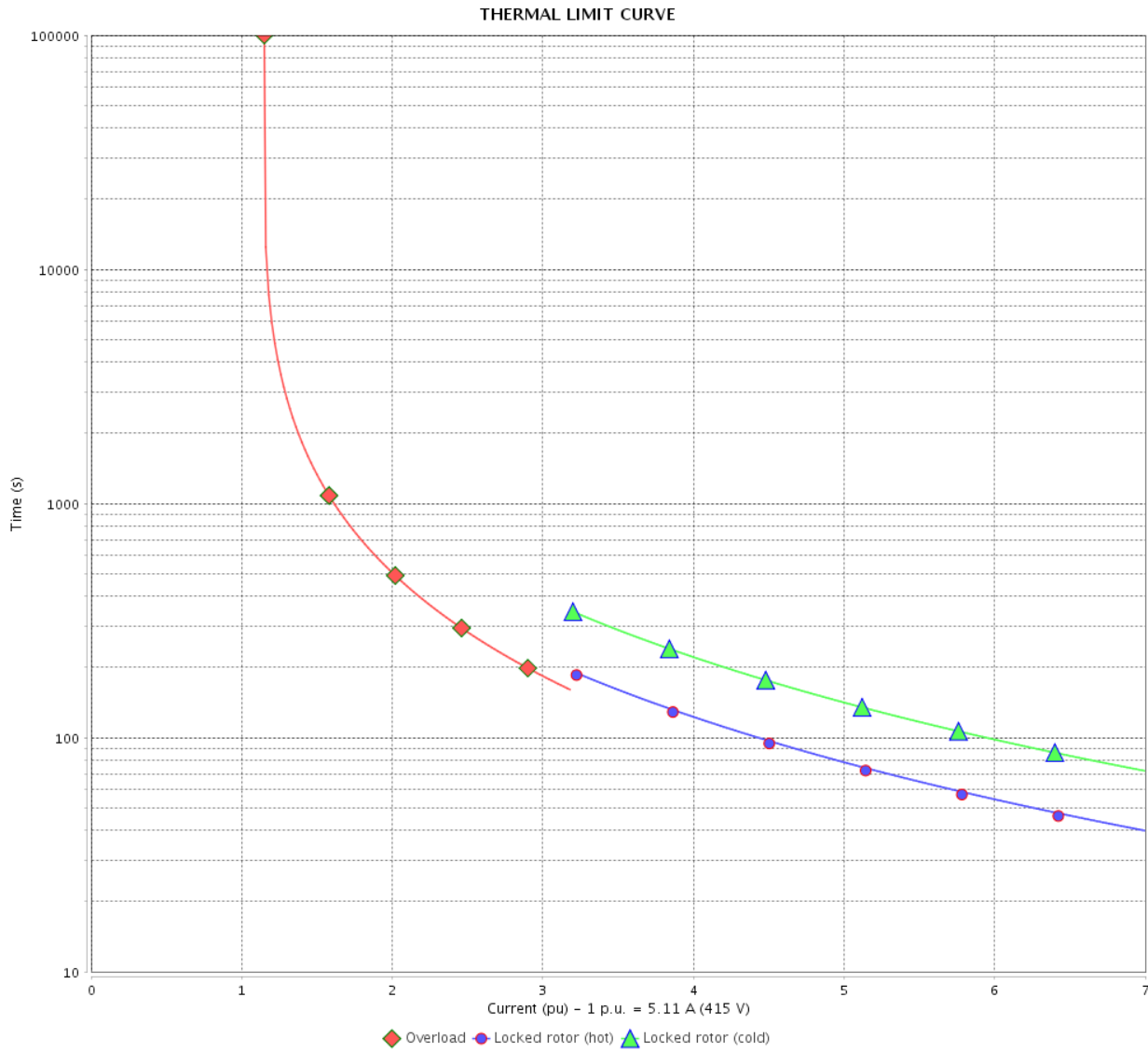
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Three Phase Induction Motor - Squirrel Cage



Customer : _____



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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

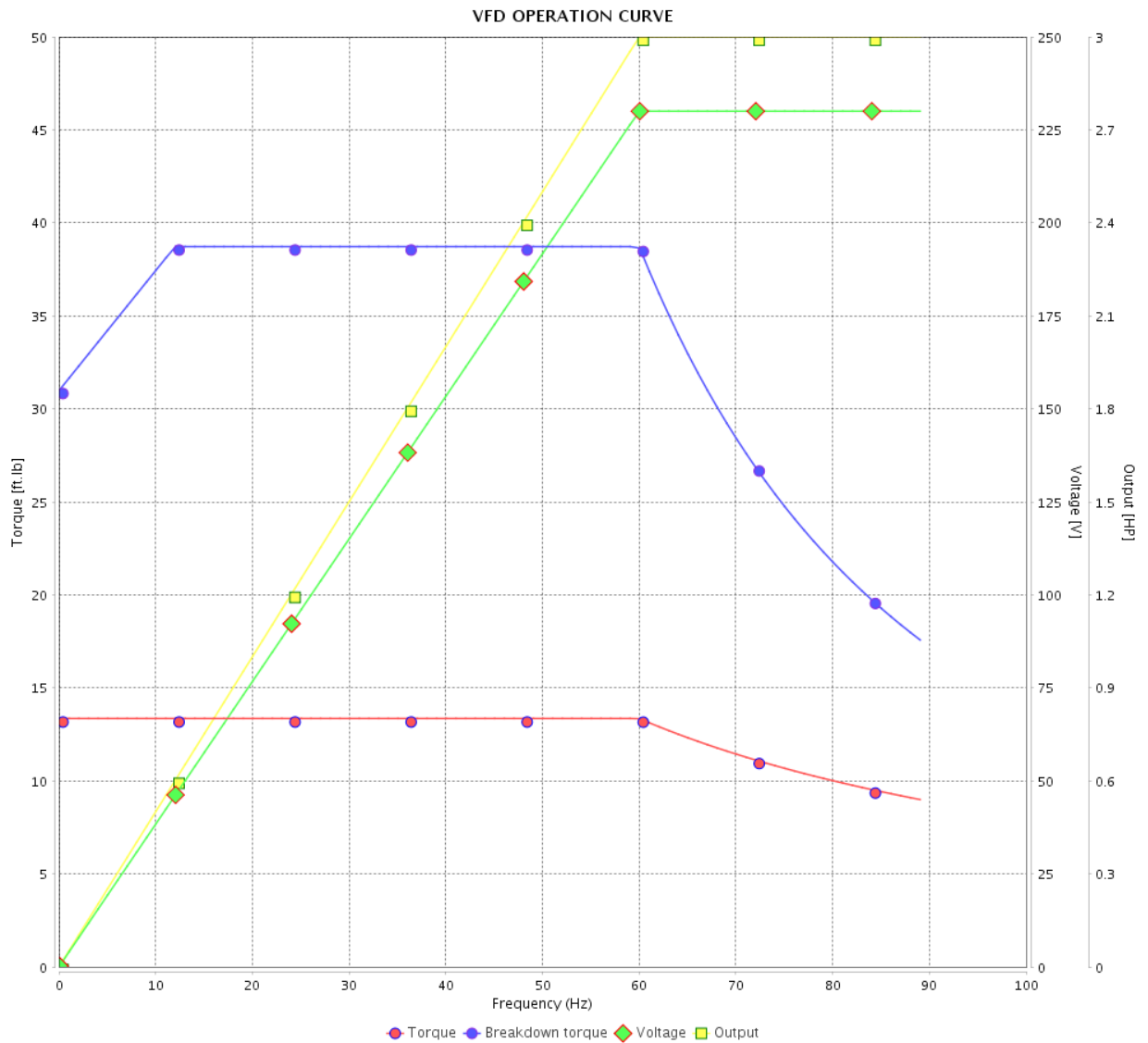


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14188205

Catalog # : 00312XT3E213TC



Performance : 230/460 V 60 Hz 6P

Rated current : 8.82/4.41 A
 LRC : 7.0
 Rated torque : 13.4 ft.lb
 Locked rotor torque : 180 %
 Breakdown torque : 290 %
 Rated speed : 1180 rpm

Moment of inertia (J) : 1.20 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

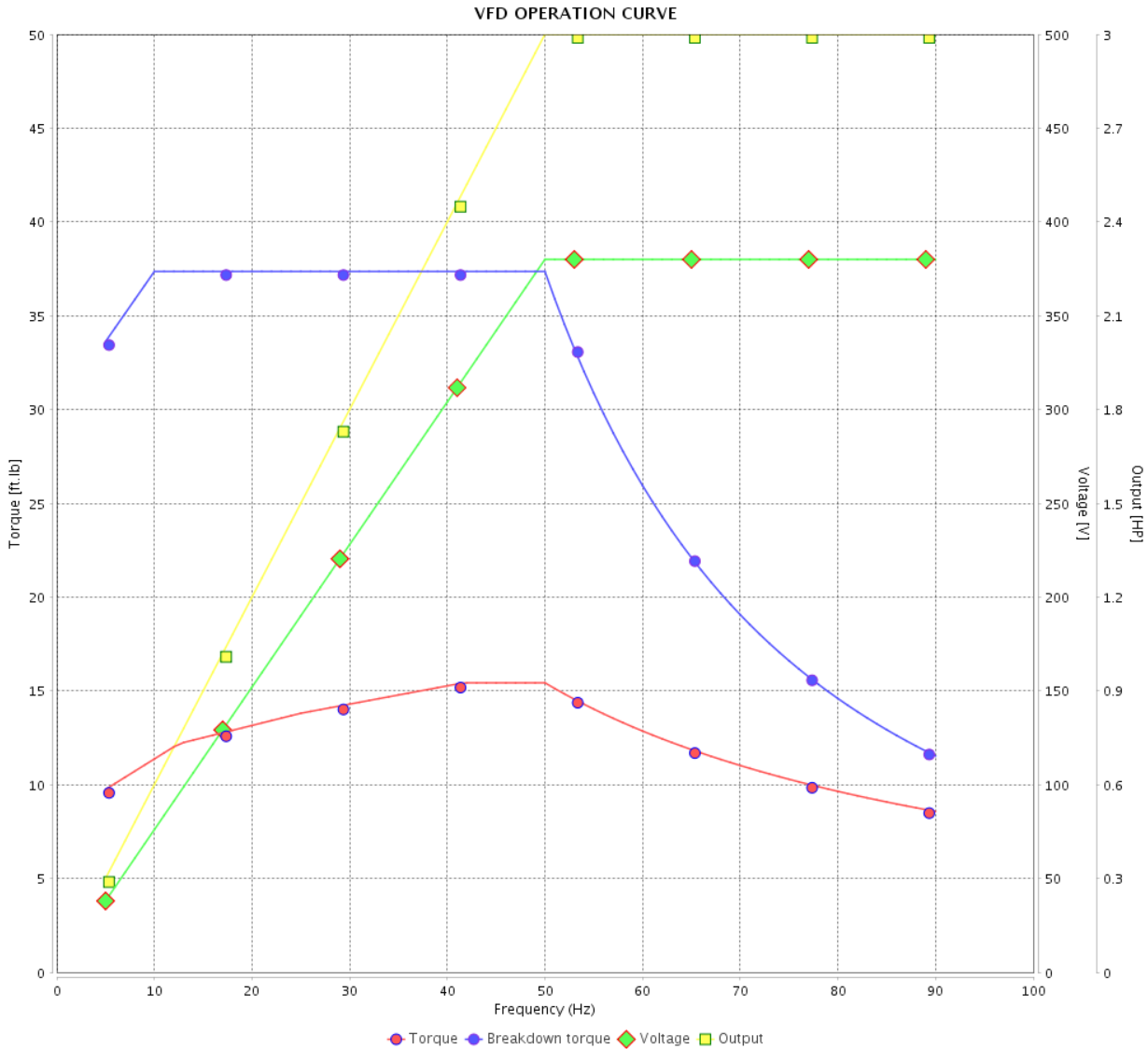


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Product line : NEMA Premium Efficiency Three-Phase

Product code : 14188205

Catalog # : 00312XT3E213TC



Performance : 380 V 50 Hz 6P IE3

Rated current	: 5.28 A	Moment of inertia (J)	: 1.20 sq.ft.lb
LRC	: 6.0	Duty cycle	: Cont.(S1)
Rated torque	: 16.2 ft.lb	Insulation class	: F
Locked rotor torque	: 140 %	Service factor	: 1.00
Breakdown torque	: 229 %	Temperature rise	: 80 K
Rated speed	: 970 rpm	Design	: B

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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

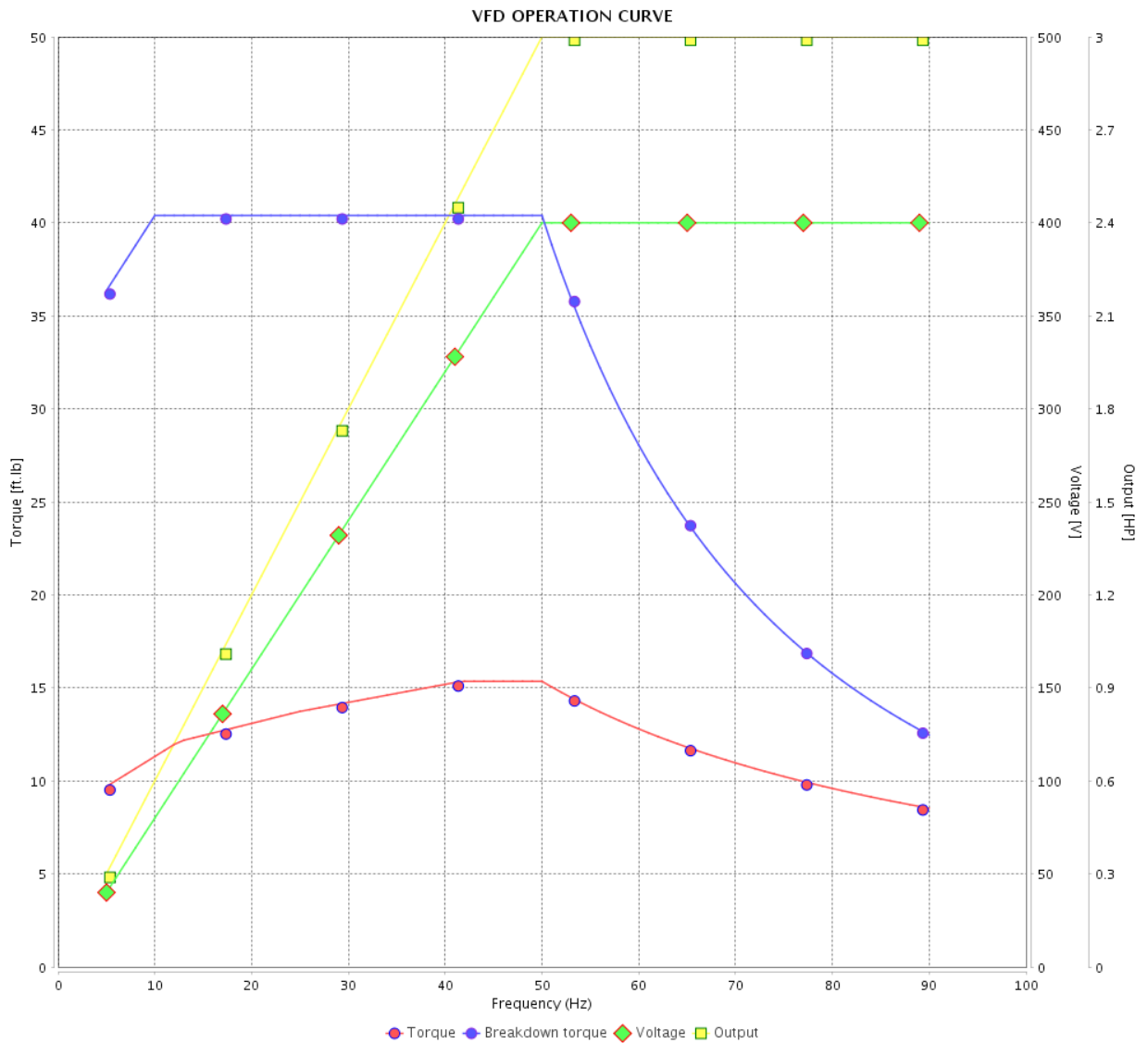


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Performance : 400 V 50 Hz 6P IE3

Rated current : 5.15 A
 LRC : 6.5
 Rated torque : 16.2 ft.lb
 Locked rotor torque : 180 %
 Breakdown torque : 250 %
 Rated speed : 975 rpm

Moment of inertia (J) : 1.20 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

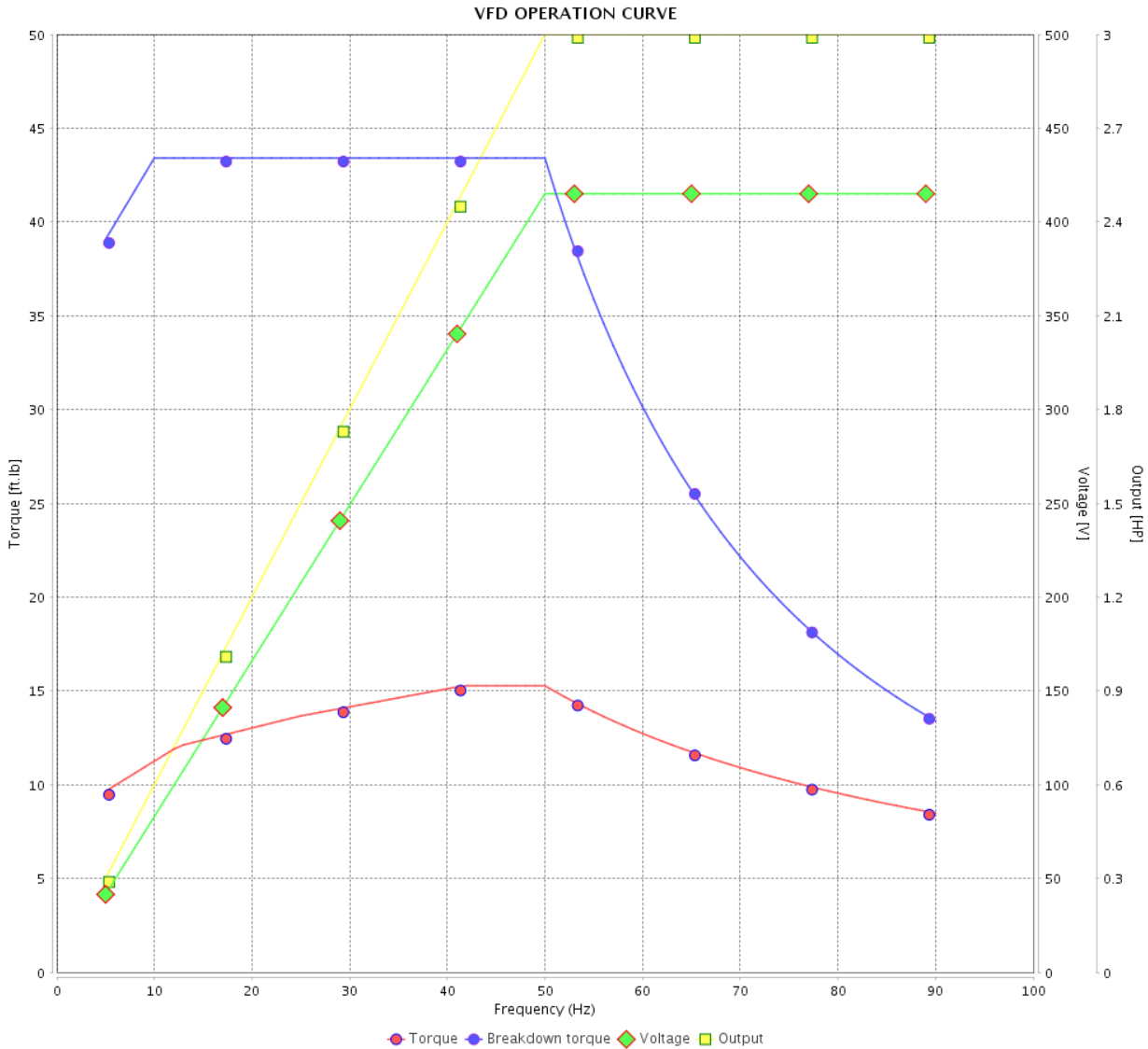


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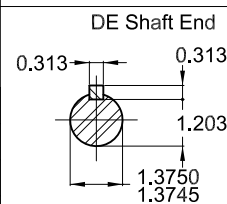
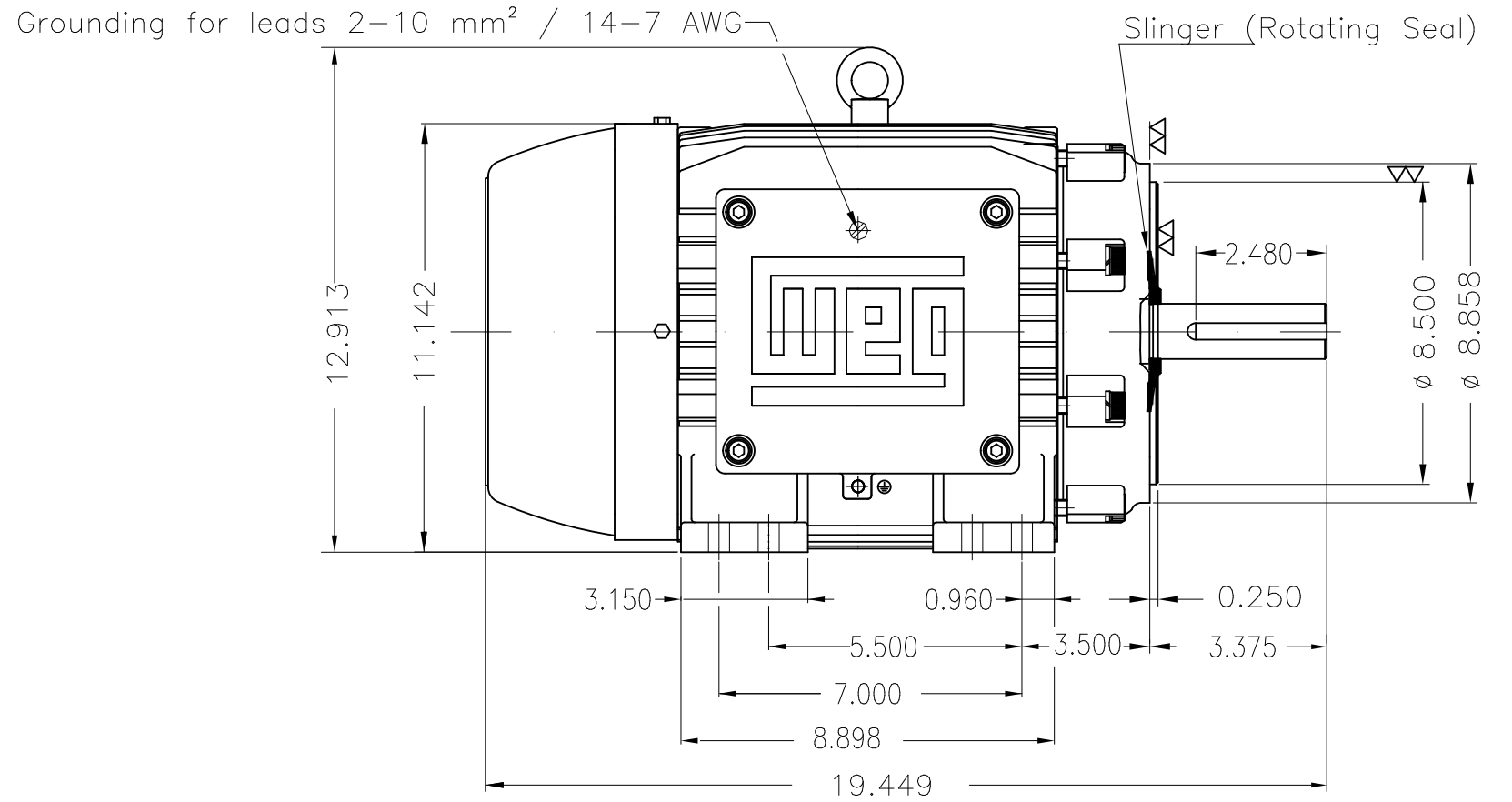
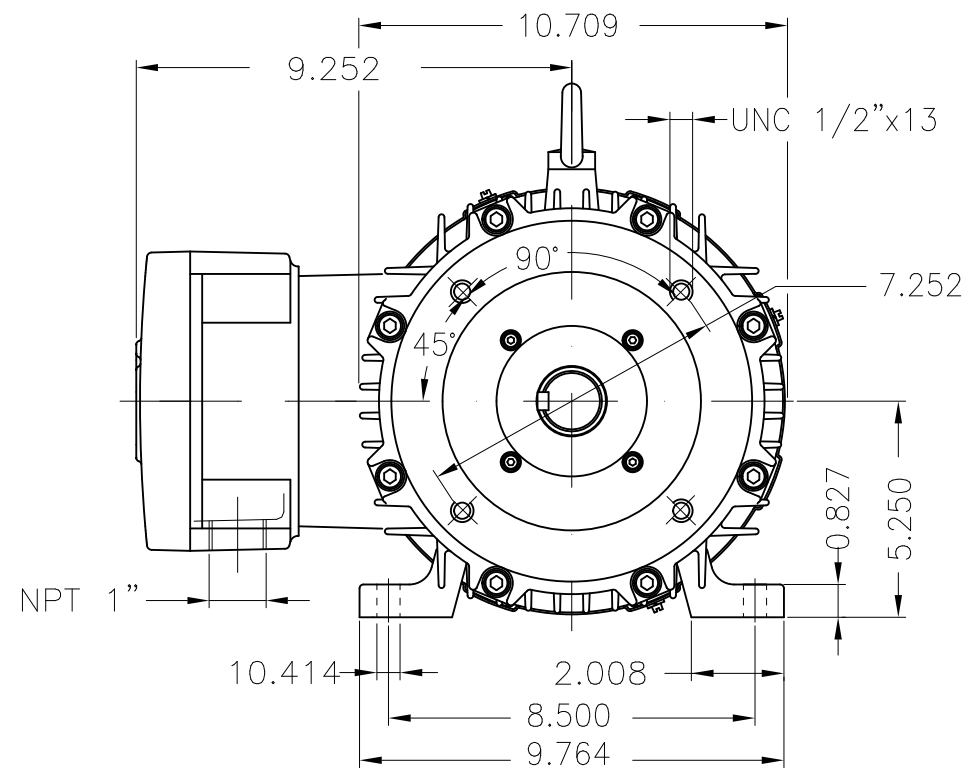


Performance : 415 V 50 Hz 6P IE3

Rated current : 5.11 A
 LRC : 7.0
 Rated torque : 16.1 ft.lb
 Locked rotor torque : 210 %
 Breakdown torque : 270 %
 Rated speed : 980 rpm

Moment of inertia (J) : 1.20 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

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Color RAL 5009
 Painting plan 202P
 Mounting NEMA F-1
 Mounting B34R(D)

3 HP 06 Poles 60 Hz

ECM	LOC	SUMMARY OF MODIFICATIONS	EXECUTED	CHECKED	RELEASED	DATE	VER
EXECUTED	PIRWBUSER	THREE PH. MOTOR EXPLOSION PROOF PREM. EFF.					
CHECKED		FRAME 213/5TC IP55 TEFC					
RELEASED							
REL DT.	WMO	Jaragua do Sul	Product Engineering				

PREVIEW
 WDD



SHEET 1 / 1

Dimensions in inches

XME A3

MADE IN BRAZIL


W21X NEMA
Premium

14188205

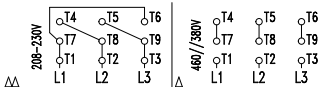


LISTED

CC029A

Inverter Duty Motor
Severe Duty

PH 3	FR 213/5TC		
HP(kW) 3.0(2.2)		HZ 60	IP55
V 230/460		A 8.82/4.41	
RPM 1180		NEMA NOM EFF 89.5%	
PF 0.70		SFA 10.1/5.07	DES B
INS CL F Δ T 80 K	SF 1.15		ENCL TEFC
DUTY CONT.		CODE K	ALT 1000 m.a.s.l.
AMB 40°C	USABLE @208V	9.75 A	SF 1.15 SFA 11.2
AMB 55°C	SF1.0		
3.0HP 2.2kW 50Hz 380V 5.28A 970RPM SF1.00 EFF 84.4% (IE3)			


 → 6308-2RS MOBIL POLYREX EM
 → 6207-2RS

209 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.