

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer					
Product line		: NEMA Premium Efficiency Three-Phase		Product code : 14275906	
				Catalog # : 00218XT3E145TC	
Frame		: 143/5TC		Cooling method : IC411 - TEFC	
Insulation class		: F		Mounting : F-1	
Duty cycle		: Cont.(S1)		Rotation <sup>1</sup> : Both (CW and CCW)	
Ambient temperature		: -20°C to +40°C		Starting method : Direct On Line	
Altitude		: 1000 m.a.s.l.		Approx. weight <sup>2</sup> : 75.2 lb	
Protection degree		: IP55		Moment of inertia (J) : 0.1595 sq.ft.lb	
Design		: B			
Output [HP]	2	2	2	2	2
Poles	4	4	4	4	4
Frequency [Hz]	60	50	50	50	50
Rated voltage [V]	230/460	380	400	415	415
Rated current [A]	5.58/2.79	3.29	3.18	3.18	3.18
L. R. Amperes [A]	49.7/24.8	25.0	24.8	24.8	24.8
LRC [A]	8.9x(Code L)	7.6x(Code K)	7.8x(Code K)	7.8x(Code K)	7.8x(Code K)
No load current [A]	3.20/1.60	1.60	1.80	2.00	2.00
Rated speed [RPM]	1750	1425	1435	1445	1445
Slip [%]	2.78	5.00	4.33	3.67	3.67
Rated torque [ft.lb]	6.00	7.37	7.32	7.27	7.27
Locked rotor torque [%]	270	190	220	240	240
Breakdown torque [%]	320	220	250	270	270
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	19s (cold) 11s (hot)	21s (cold) 12s (hot)	21s (cold) 12s (hot)	21s (cold) 12s (hot)	21s (cold) 12s (hot)
Noise level <sup>2</sup>	51.0 dB(A)	49.0 dB(A)	49.0 dB(A)	49.0 dB(A)	49.0 dB(A)
Efficiency (%)	25%	82.9	85.0	82.1	82.1
	50%	84.0	84.0	82.5	82.5
	75%	85.5	84.0	84.0	84.0
	100%	86.5	82.5	84.0	84.0
Power Factor	25%	0.32	0.38	0.34	0.31
	50%	0.56	0.64	0.59	0.55
	75%	0.70	0.77	0.73	0.69
	100%	0.78	0.84	0.81	0.78
Bearing type		Drive end : 6205 2RS	Non drive end : 6204 2RS	Foundation loads	
Sealing		: Oil Seal	: Lip Seal	Max. traction : 133 lb	
Lubrication interval		: -	: -	Max. compression : 208 lb	
Lubricant amount		: -	: -		
Lubricant type		: Mobil Polyrex EM			
Notes					
USABLE @208V 6.02A SF 1.15 SFA 6.92A					
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



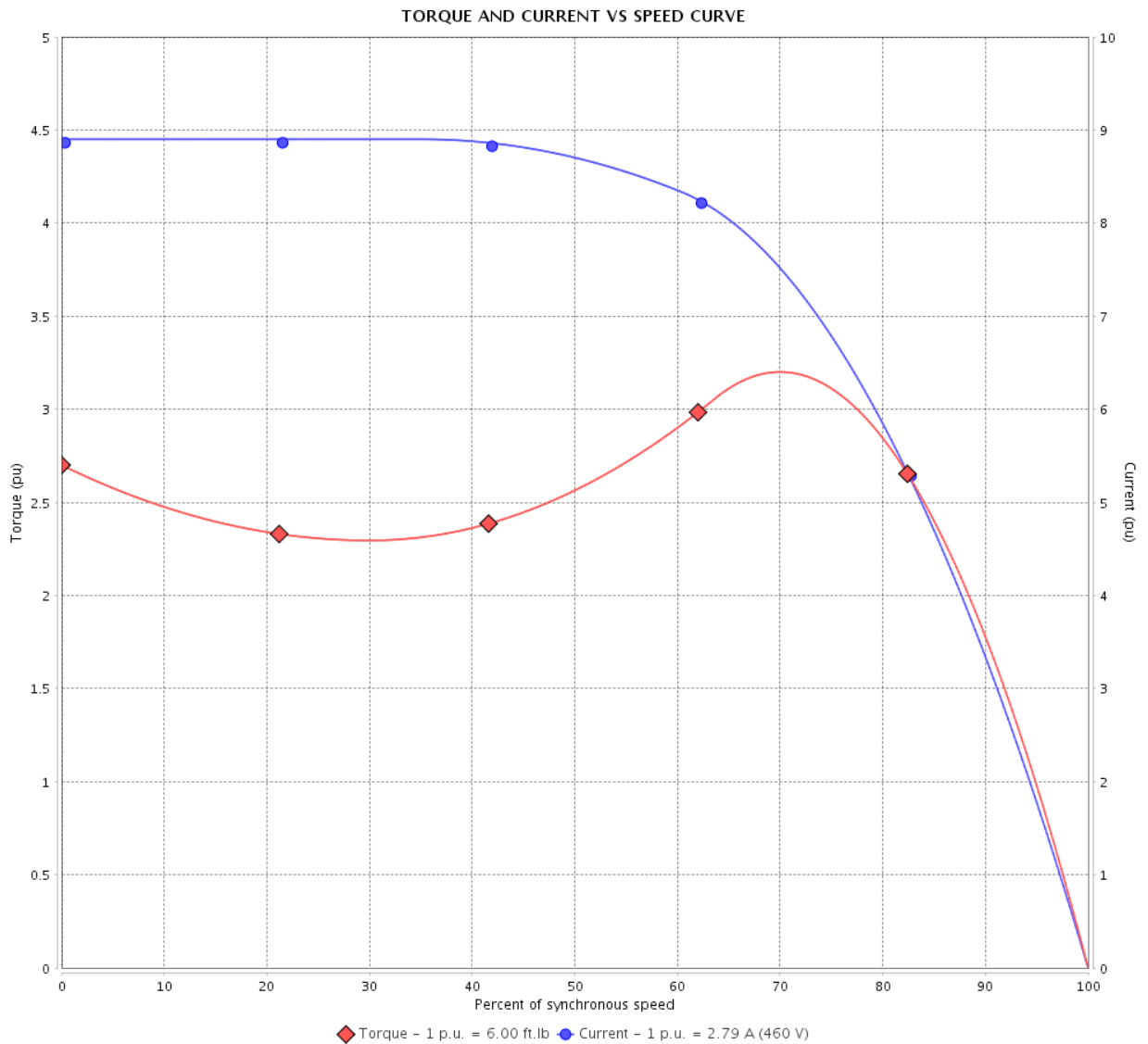
## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14275906

Catalog # : 00218XT3E145TC



Performance : 230/460 V 60 Hz 4P

Rated current : 5.58/2.79 A  
 LRC : 8.9  
 Rated torque : 6.00 ft.lb  
 Locked rotor torque : 270 %  
 Breakdown torque : 320 %  
 Rated speed : 1750 rpm

Moment of inertia (J) : 0.1595 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 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



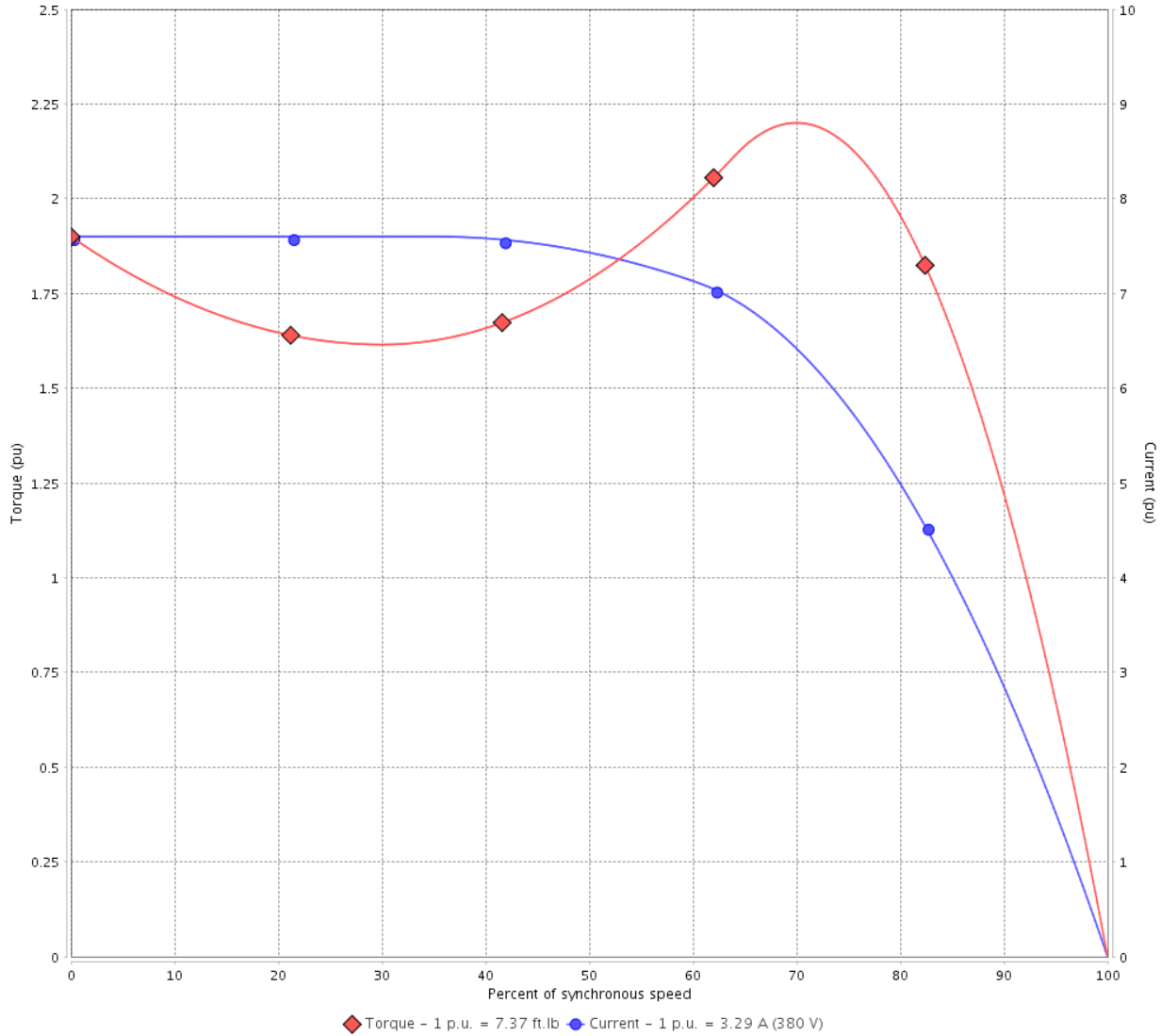
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14275906

Catalog # : 00218XT3E145TC

TORQUE AND CURRENT VS SPEED CURVE



Performance : 380 V 50 Hz 4P IE1

Rated current	: 3.29 A	Moment of inertia (J)	: 0.1595 sq.ft.lb
LRC	: 7.6	Duty cycle	: Cont.(S1)
Rated torque	: 7.37 ft.lb	Insulation class	: F
Locked rotor torque	: 190 %	Service factor	: 1.00
Breakdown torque	: 220 %	Temperature rise	: 80 K
Rated speed	: 1425 rpm	Design	: B

Locked rotor time : 21s (cold) 12s (hot)

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# TORQUE AND CURRENT VS SPEED CURVE



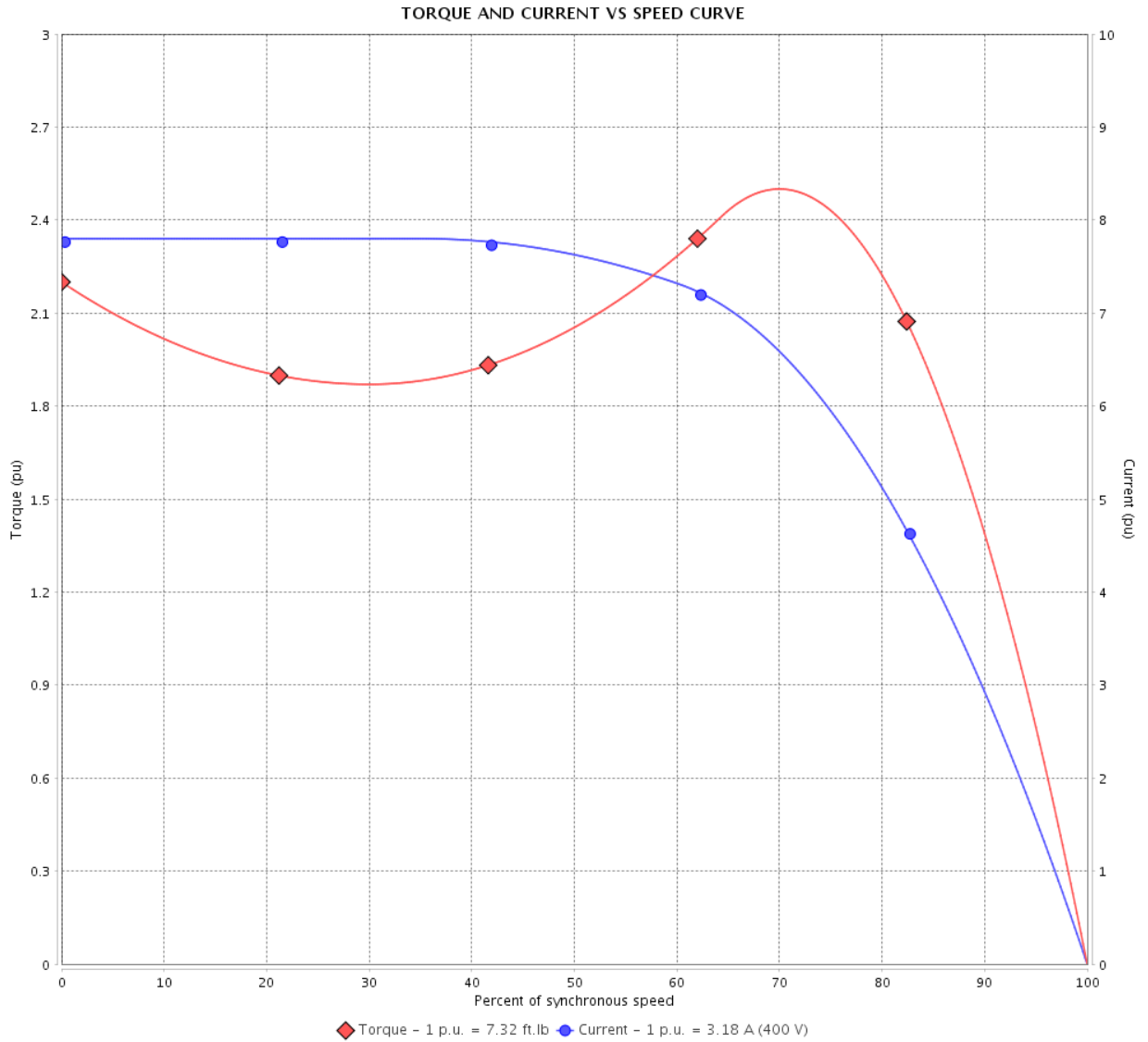
## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14275906

Catalog # : 00218XT3E145TC



Performance : 400 V 50 Hz 4P IE2

Rated current	: 3.18 A	Moment of inertia (J)	: 0.1595 sq.ft.lb
LRC	: 7.8	Duty cycle	: Cont.(S1)
Rated torque	: 7.32 ft.lb	Insulation class	: F
Locked rotor torque	: 220 %	Service factor	: 1.00
Breakdown torque	: 250 %	Temperature rise	: 80 K
Rated speed	: 1435 rpm	Design	: B

Locked rotor time : 21s (cold) 12s (hot)

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# TORQUE AND CURRENT VS SPEED CURVE

## Three Phase Induction Motor - Squirrel Cage



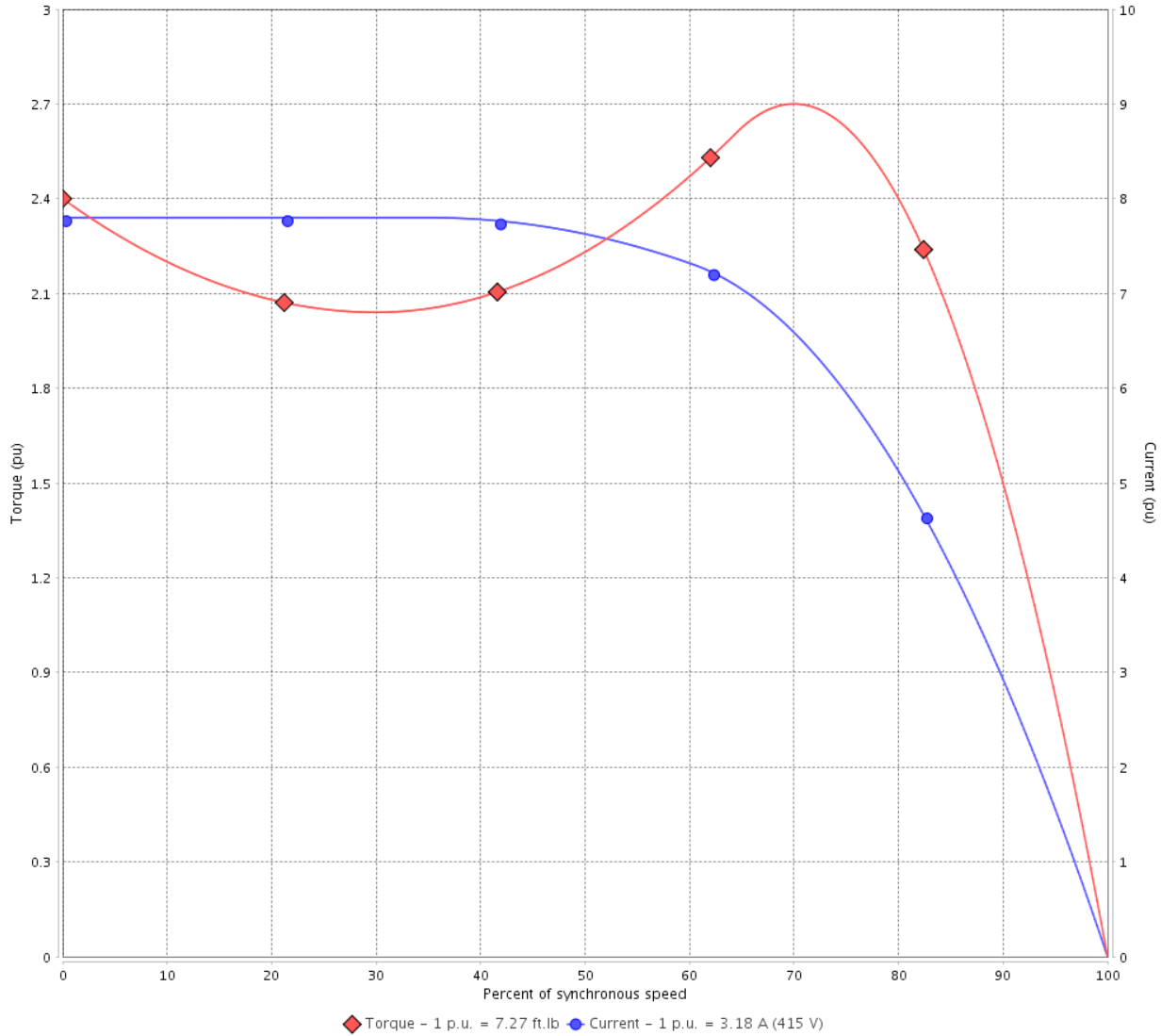
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14275906

Catalog # : 00218XT3E145TC

TORQUE AND CURRENT VS SPEED CURVE



Performance : 415 V 50 Hz 4P IE2

Rated current	: 3.18 A	Moment of inertia (J)	: 0.1595 sq.ft.lb
LRC	: 7.8	Duty cycle	: Cont.(S1)
Rated torque	: 7.27 ft.lb	Insulation class	: F
Locked rotor torque	: 240 %	Service factor	: 1.00
Breakdown torque	: 270 %	Temperature rise	: 80 K
Rated speed	: 1445 rpm	Design	: B

Locked rotor time : 21s (cold) 12s (hot)

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# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage

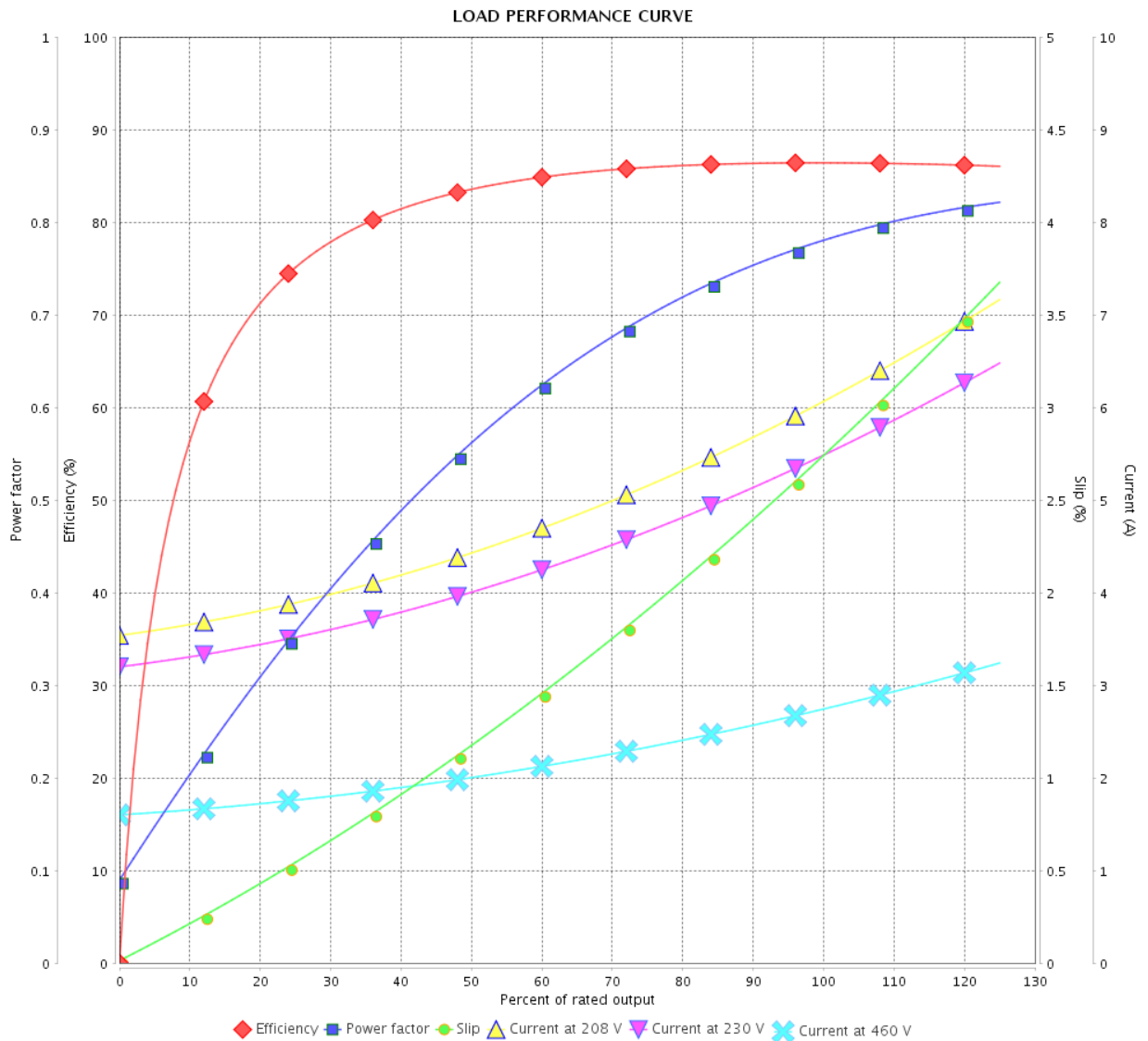


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14275906

Catalog # : 00218XT3E145TC



Performance : 230/460 V 60 Hz 4P

Rated current : 5.58/2.79 A  
 LRC : 8.9  
 Rated torque : 6.00 ft.lb  
 Locked rotor torque : 270 %  
 Breakdown torque : 320 %  
 Rated speed : 1750 rpm

Moment of inertia (J) : 0.1595 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : B

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# LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage



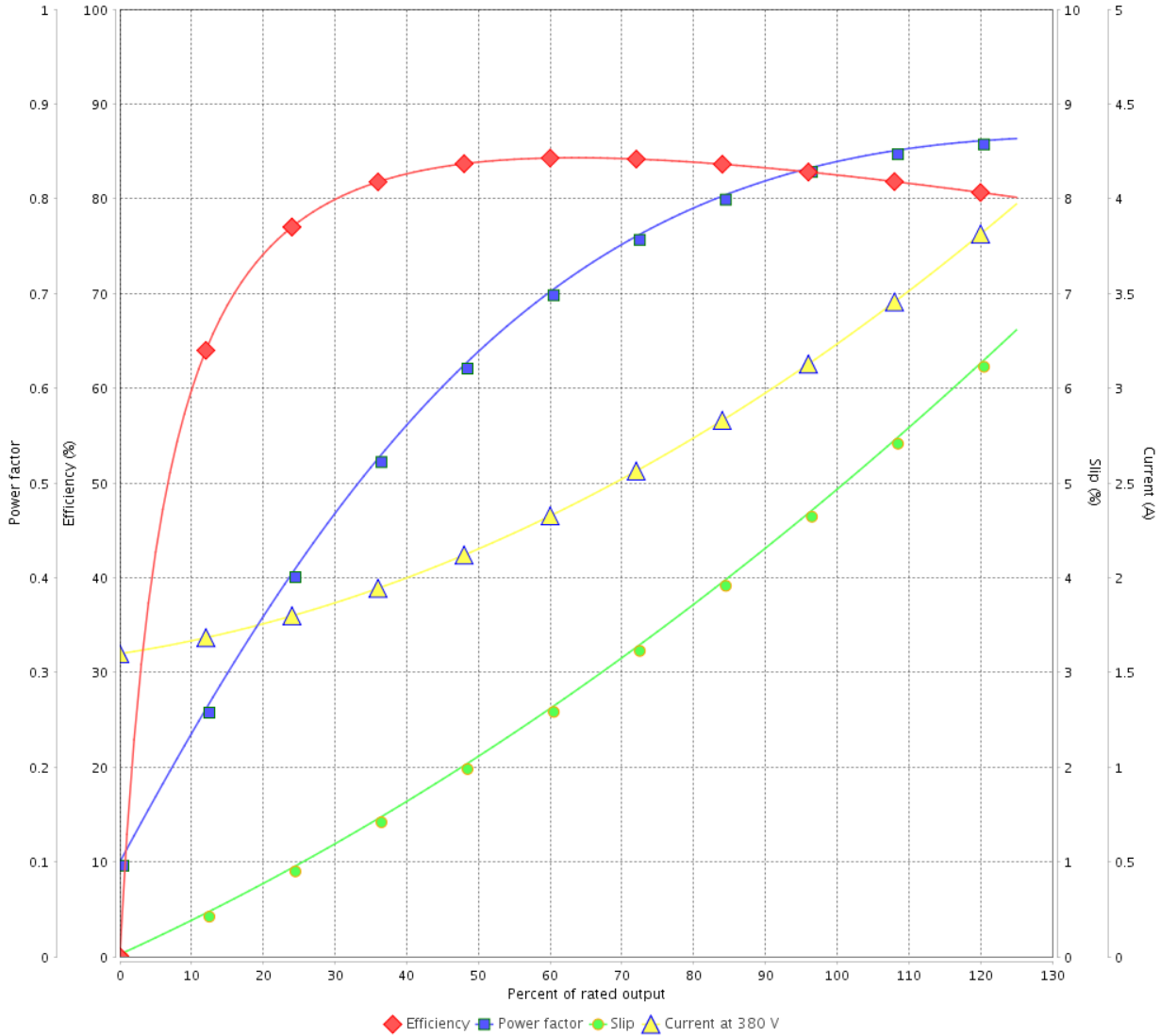
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Product line : NEMA Premium Efficiency Three-Phase

Product code : 14275906

Catalog # : 00218XT3E145TC

LOAD PERFORMANCE CURVE



Performance : 380 V 50 Hz 4P IE1

Rated current	: 3.29 A	Moment of inertia (J)	: 0.1595 sq.ft.lb
LRC	: 7.6	Duty cycle	: Cont.(S1)
Rated torque	: 7.37 ft.lb	Insulation class	: F
Locked rotor torque	: 190 %	Service factor	: 1.00
Breakdown torque	: 220 %	Temperature rise	: 80 K
Rated speed	: 1425 rpm	Design	: B

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# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage

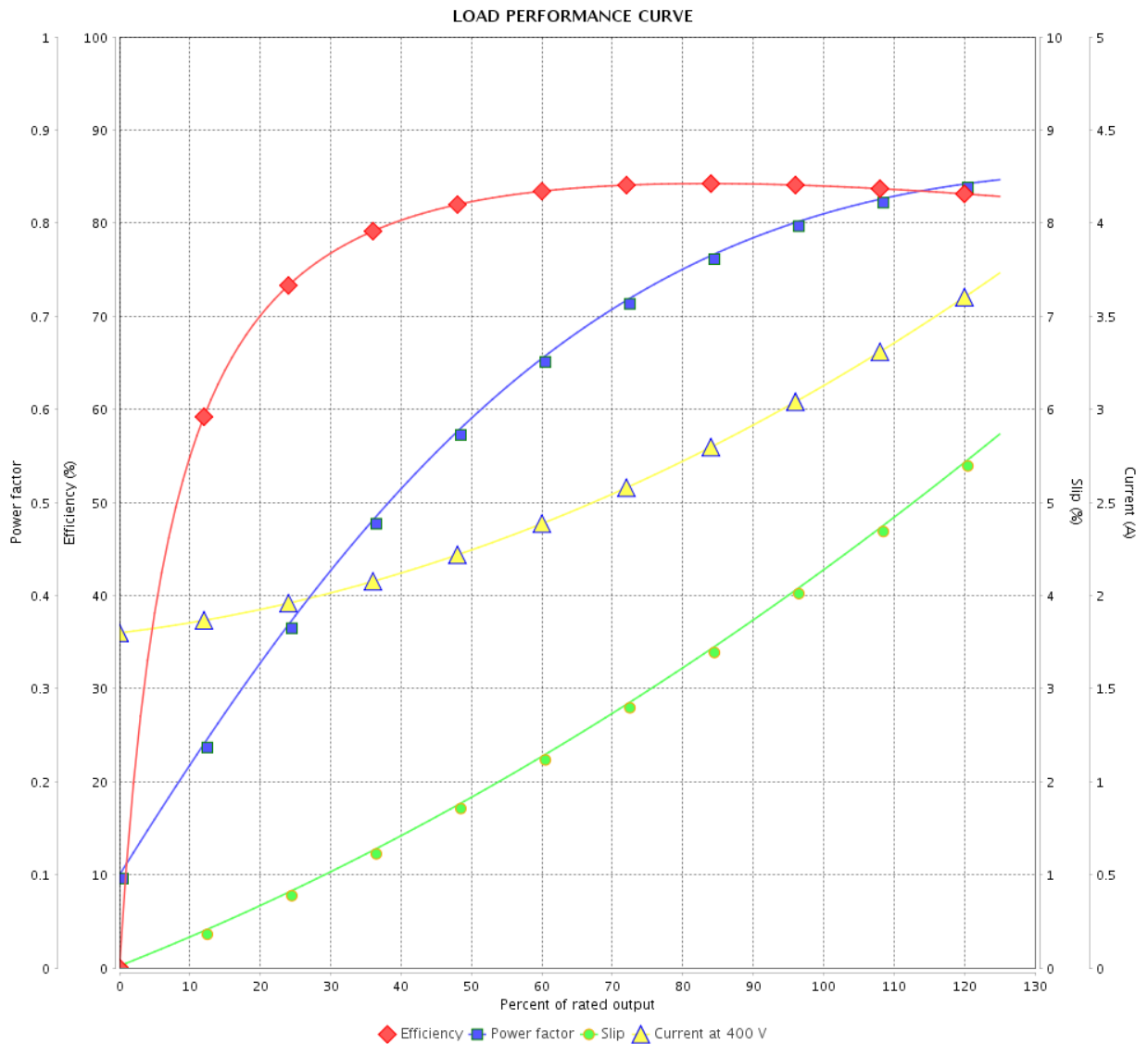


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14275906

Catalog # : 00218XT3E145TC



Performance : 400 V 50 Hz 4P IE2

Rated current : 3.18 A  
 LRC : 7.8  
 Rated torque : 7.32 ft.lb  
 Locked rotor torque : 220 %  
 Breakdown torque : 250 %  
 Rated speed : 1435 rpm

Moment of inertia (J) : 0.1595 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



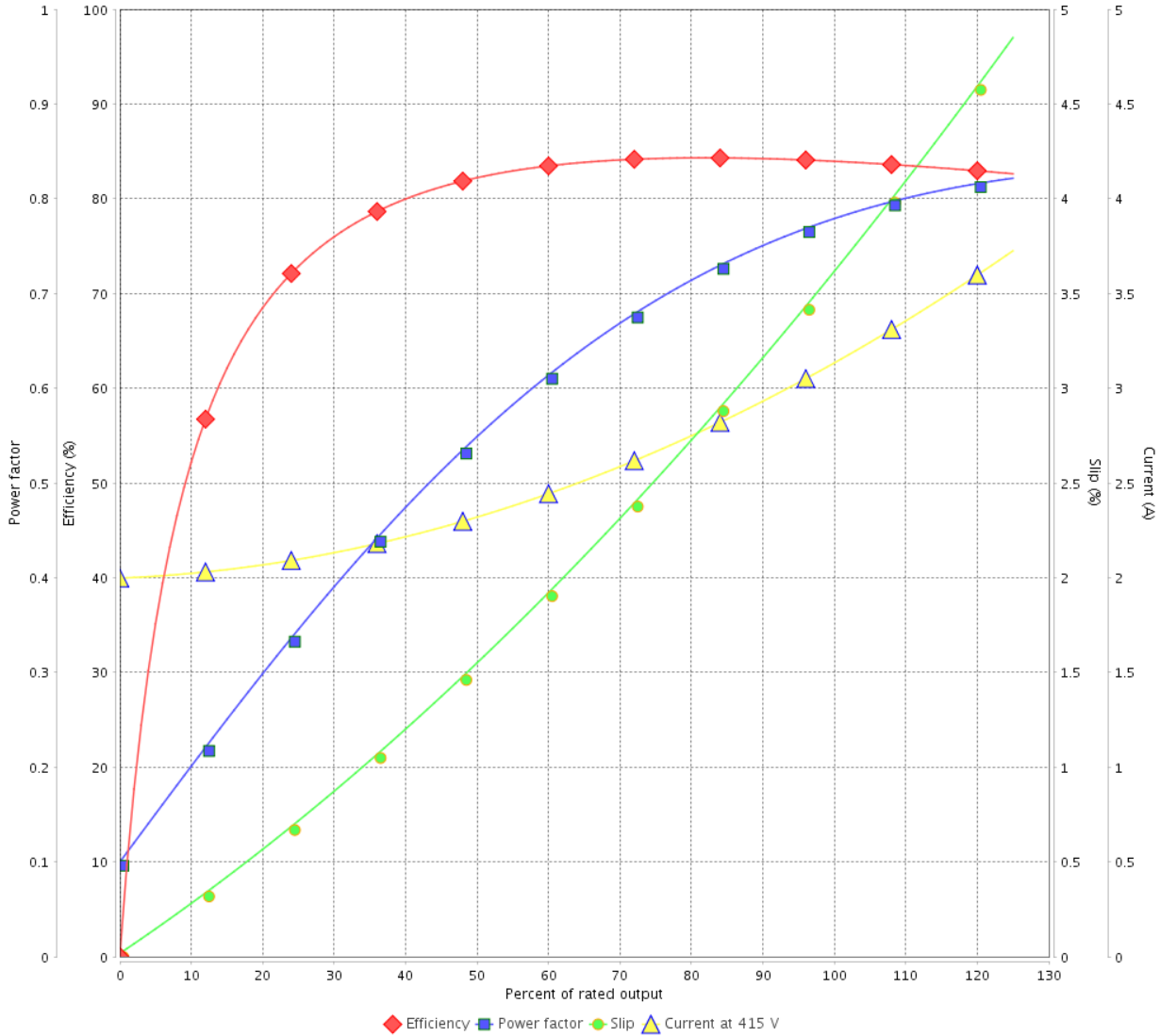
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Product code : 14275906

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LOAD PERFORMANCE CURVE



Performance : 415 V 50 Hz 4P IE2

Rated current : 3.18 A  
 LRC : 7.8  
 Rated torque : 7.27 ft.lb  
 Locked rotor torque : 240 %  
 Breakdown torque : 270 %  
 Rated speed : 1445 rpm

Moment of inertia (J) : 0.1595 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 : 14275906  
 Catalog # : 00218XT3E145TC

Performance : 230/460 V 60 Hz 4P

Rated current : 5.58/2.79 A	Moment of inertia (J) : 0.1595 sq.ft.lb
LRC : 8.9	Duty cycle : Cont.(S1)
Rated torque : 6.00 ft.lb	Insulation class : F
Locked rotor torque : 270 %	Service factor : 1.15
Breakdown torque : 320 %	Temperature rise : 80 K
Rated speed : 1750 rpm	Design : B

Heating constant

Cooling constant

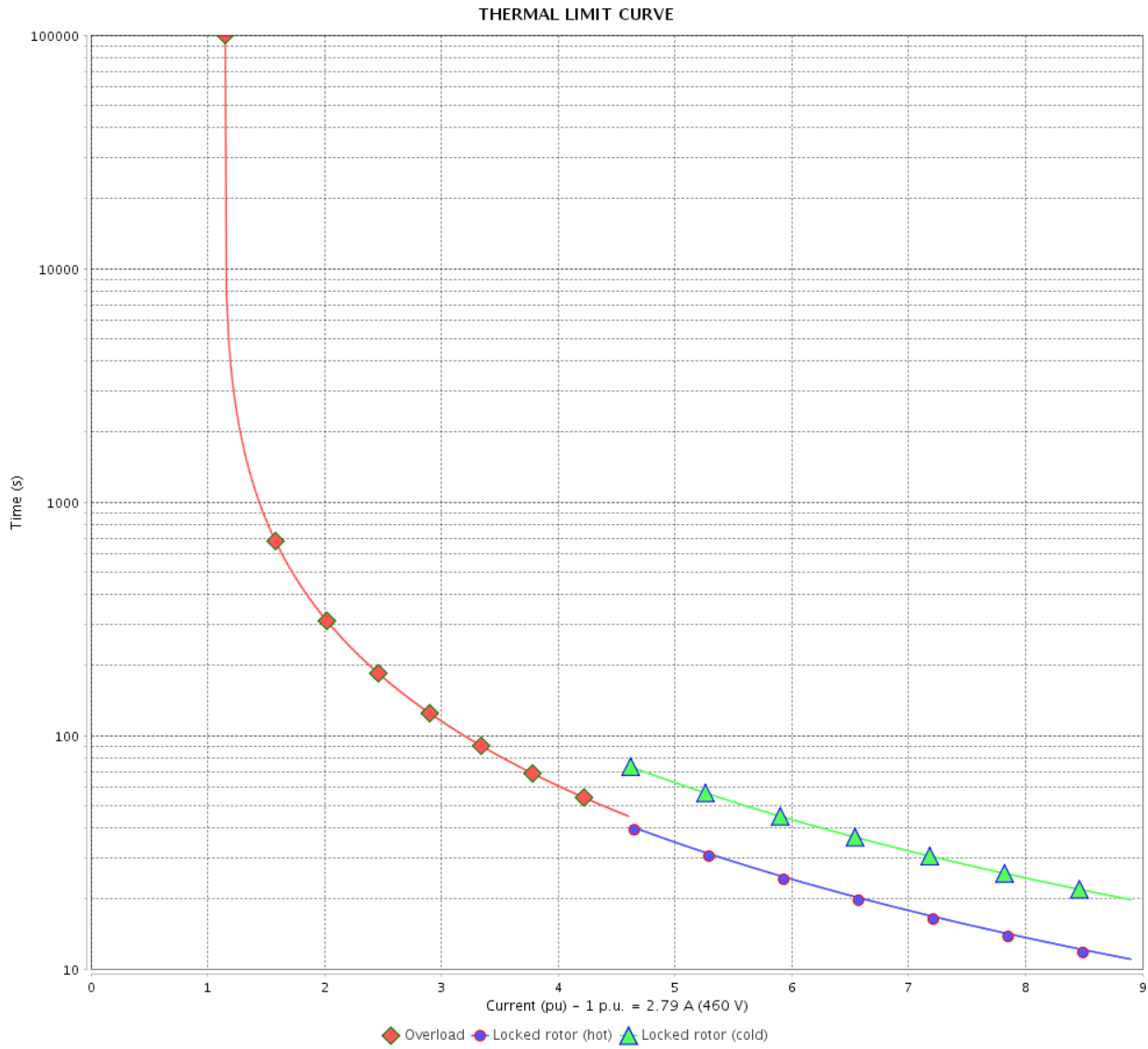
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# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : \_\_\_\_\_



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# THERMAL LIMIT CURVE

## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : NEMA Premium Efficiency Three-Phase  
Product code : 14275906  
Catalog # : 00218XT3E145TC

Performance : 380 V 50 Hz 4P IE1

Rated current	: 3.29 A	Moment of inertia (J)	: 0.1595 sq.ft.lb
LRC	: 7.6	Duty cycle	: Cont.(S1)
Rated torque	: 7.37 ft.lb	Insulation class	: F
Locked rotor torque	: 190 %	Service factor	: 1.00
Breakdown torque	: 220 %	Temperature rise	: 80 K
Rated speed	: 1425 rpm	Design	: B

Heating constant

Cooling constant

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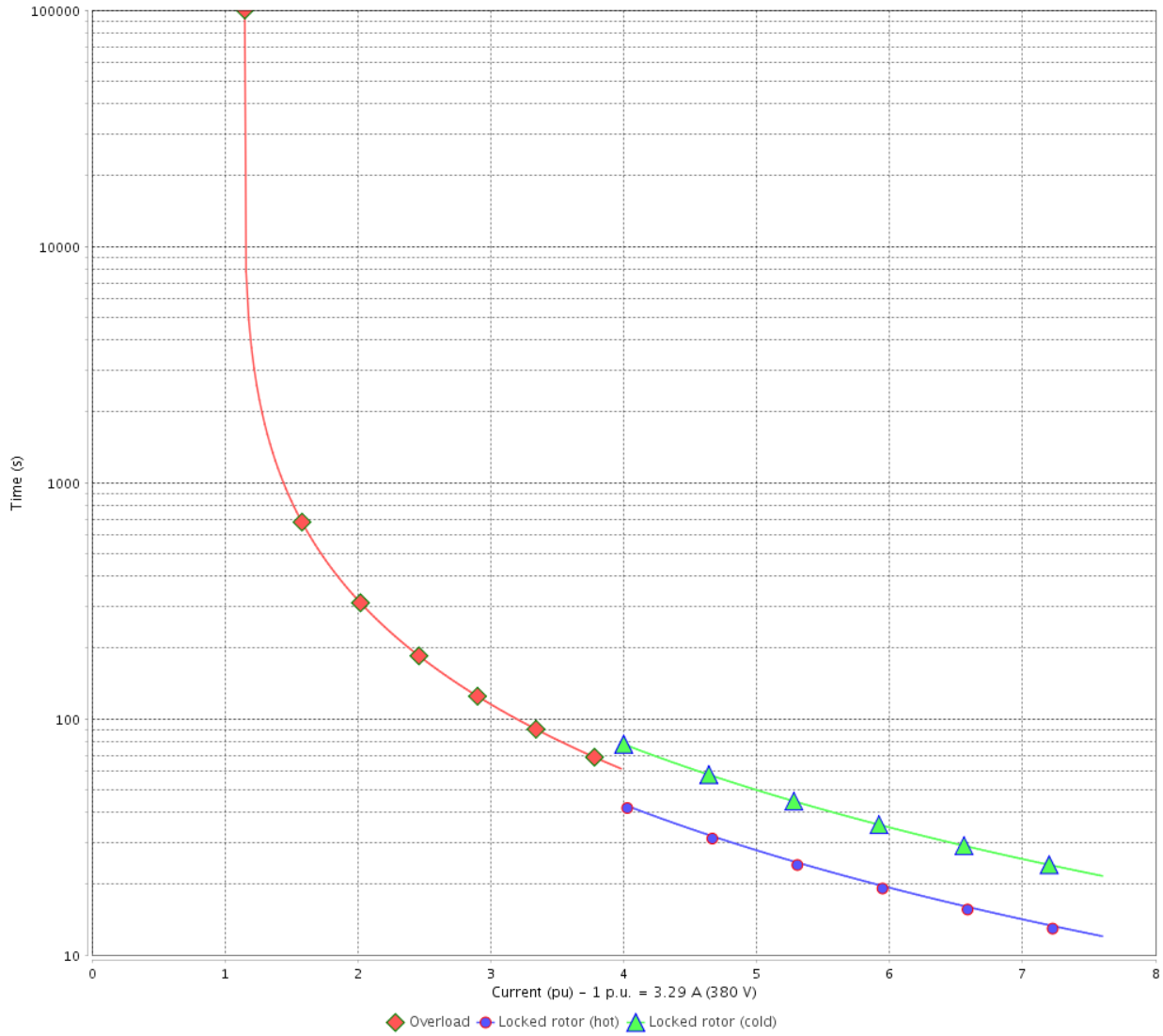
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Three Phase Induction Motor - Squirrel Cage



Customer : \_\_\_\_\_

THERMAL LIMIT CURVE



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# THERMAL LIMIT CURVE



## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase  
 Product code : 14275906  
 Catalog # : 00218XT3E145TC

Performance : 400 V 50 Hz 4P IE2

Rated current : 3.18 A	Moment of inertia (J) : 0.1595 sq.ft.lb
LRC : 7.8	Duty cycle : Cont.(S1)
Rated torque : 7.32 ft.lb	Insulation class : F
Locked rotor torque : 220 %	Service factor : 1.00
Breakdown torque : 250 %	Temperature rise : 80 K
Rated speed : 1435 rpm	Design : B

Heating constant

Cooling constant

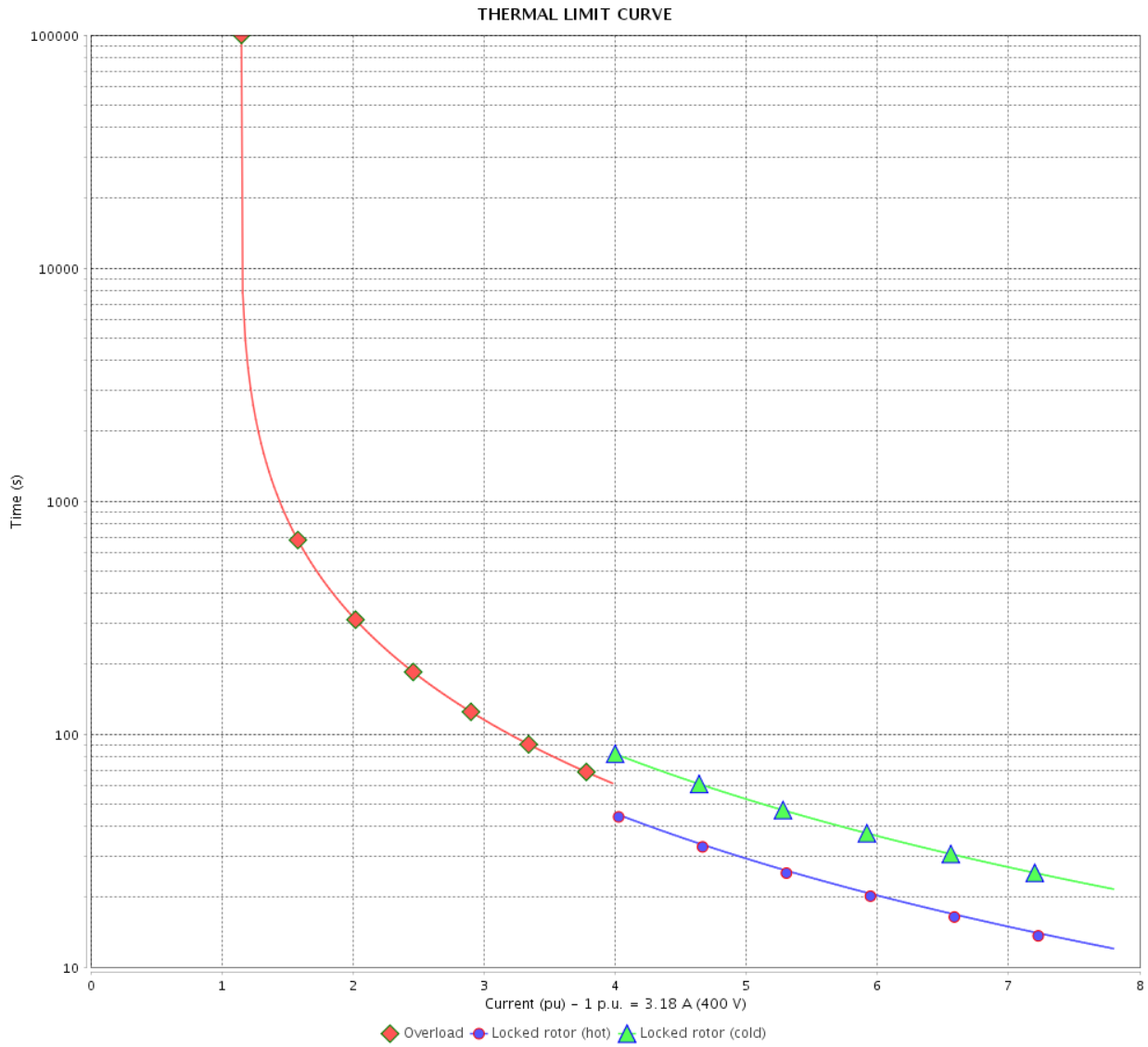
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# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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# THERMAL LIMIT CURVE



## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase  
 Product code : 14275906  
 Catalog # : 00218XT3E145TC

Performance : 415 V 50 Hz 4P IE2

Rated current : 3.18 A	Moment of inertia (J) : 0.1595 sq.ft.lb
LRC : 7.8	Duty cycle : Cont.(S1)
Rated torque : 7.27 ft.lb	Insulation class : F
Locked rotor torque : 240 %	Service factor : 1.00
Breakdown torque : 270 %	Temperature rise : 80 K
Rated speed : 1445 rpm	Design : B

Heating constant

Cooling constant

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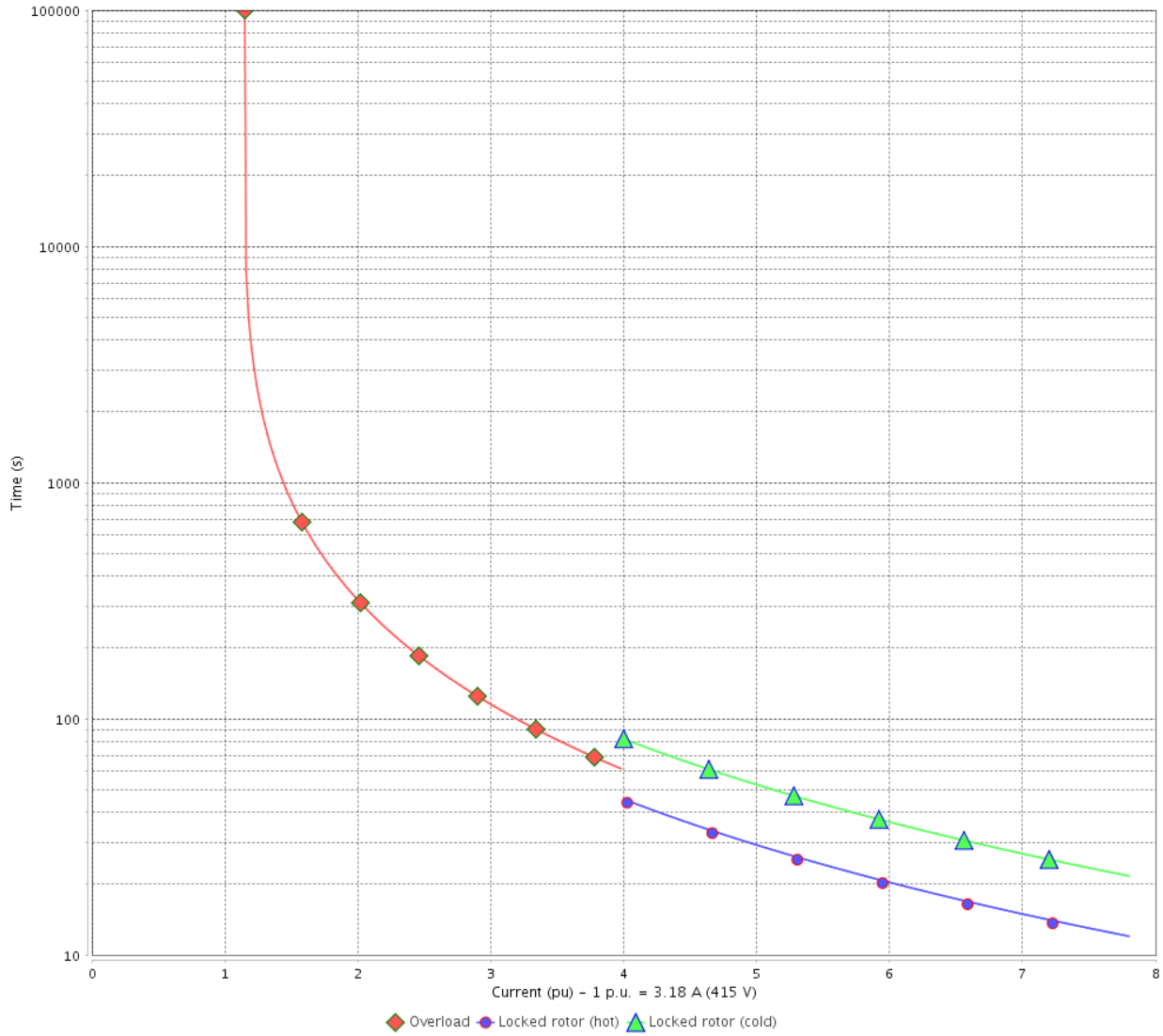
# THERMAL LIMIT CURVE

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Customer : \_\_\_\_\_

THERMAL LIMIT CURVE



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# VFD OPERATION CURVE

## Three Phase Induction Motor - Squirrel Cage

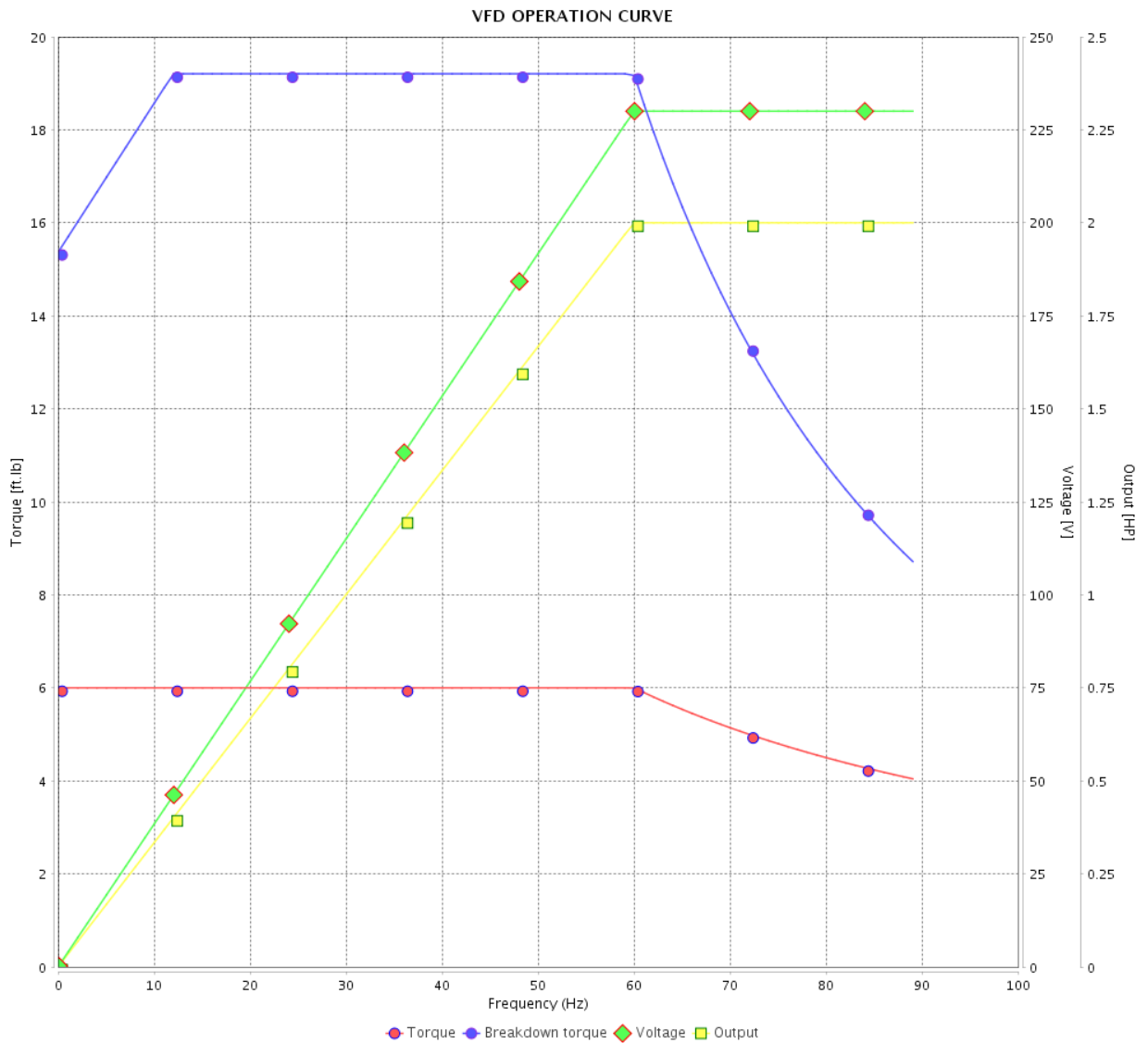


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14275906

Catalog # : 00218XT3E145TC



Performance : 230/460 V 60 Hz 4P

Rated current : 5.58/2.79 A  
 LRC : 8.9  
 Rated torque : 6.00 ft.lb  
 Locked rotor torque : 270 %  
 Breakdown torque : 320 %  
 Rated speed : 1750 rpm

Moment of inertia (J) : 0.1595 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



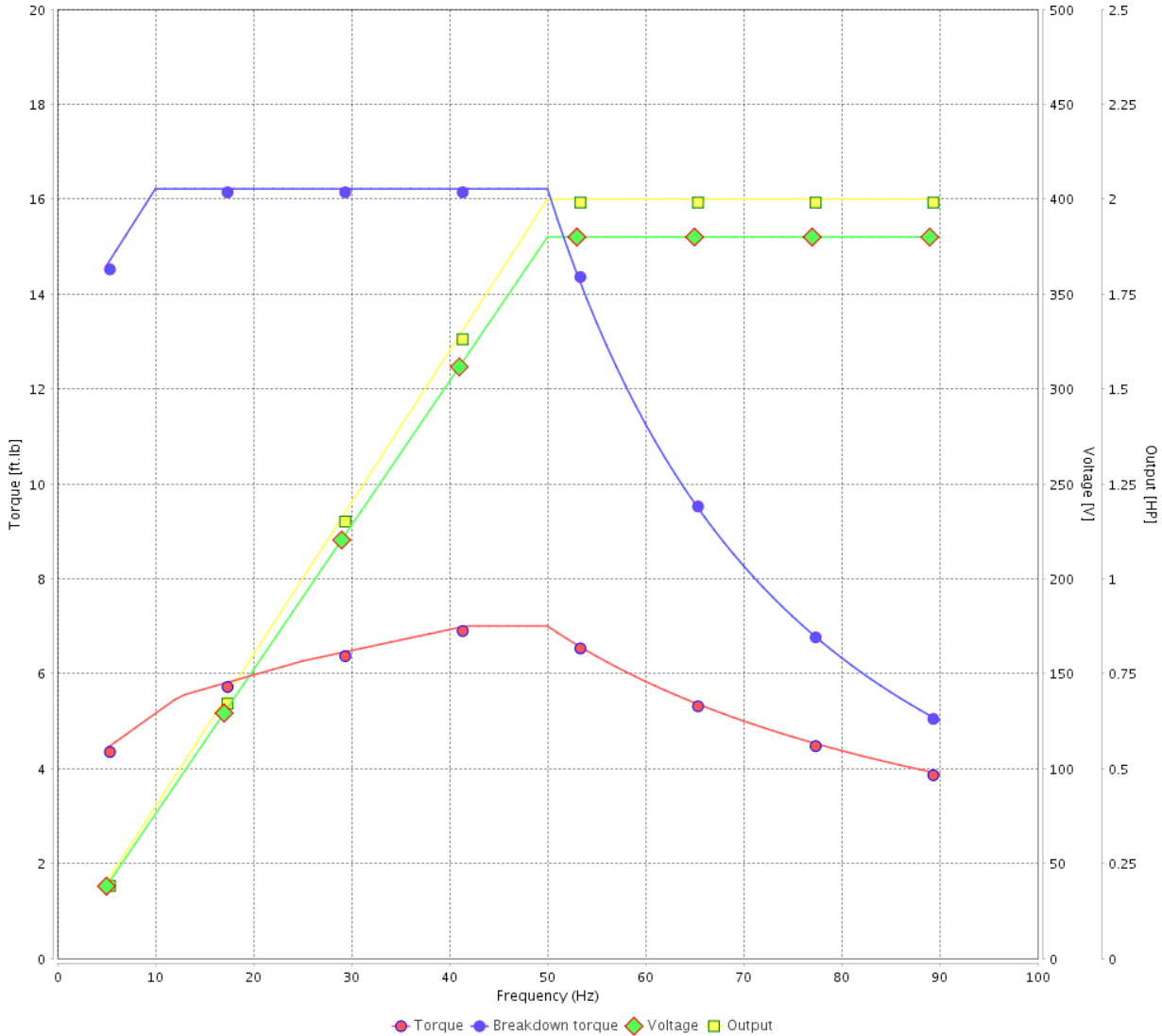
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14275906

Catalog # : 00218XT3E145TC

VFD OPERATION CURVE



Performance : 380 V 50 Hz 4P IE1

Rated current : 3.29 A  
 LRC : 7.6  
 Rated torque : 7.37 ft.lb  
 Locked rotor torque : 190 %  
 Breakdown torque : 220 %  
 Rated speed : 1425 rpm

Moment of inertia (J) : 0.1595 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

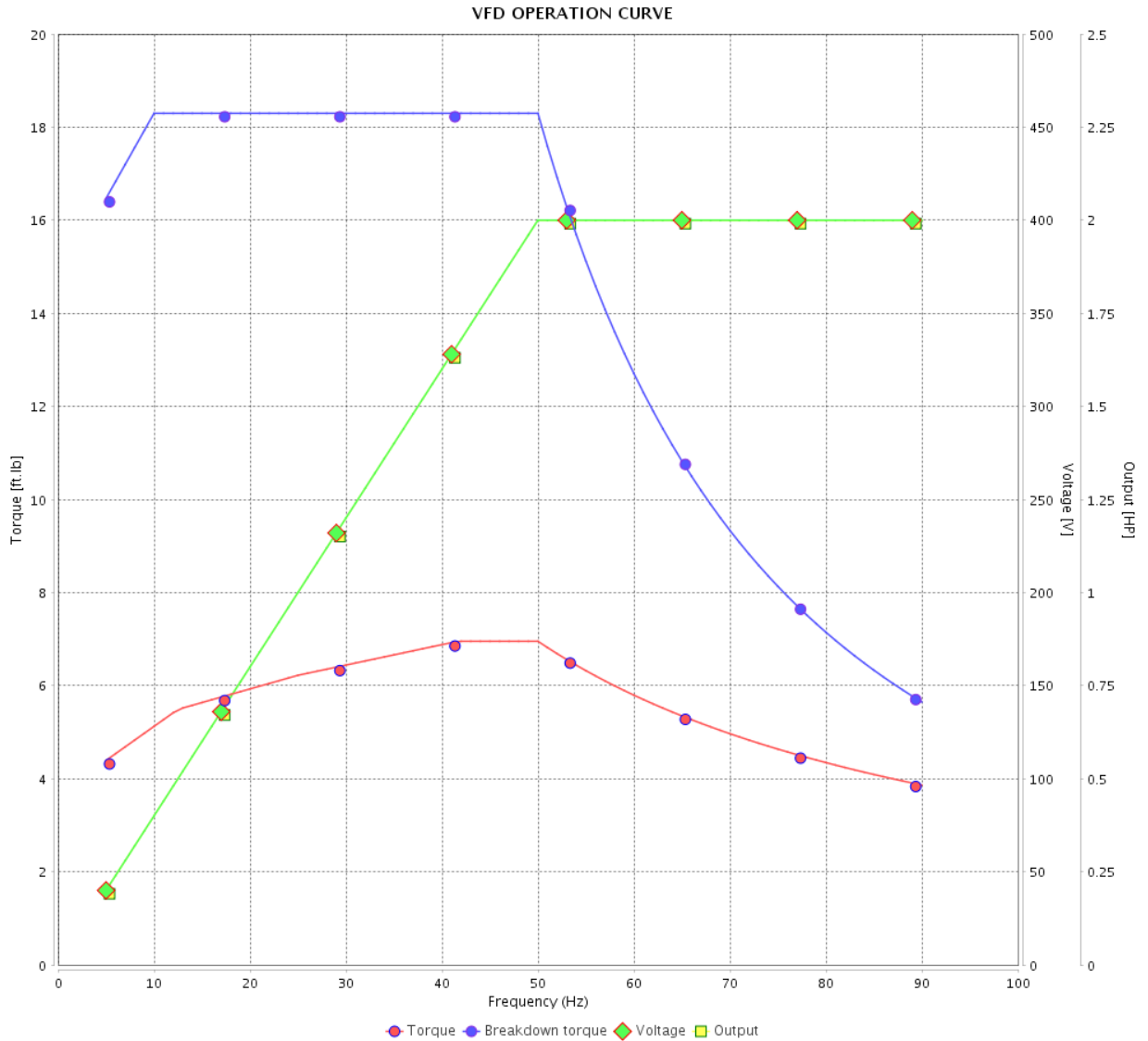


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14275906

Catalog # : 00218XT3E145TC



Performance : 400 V 50 Hz 4P IE2

Rated current : 3.18 A  
 LRC : 7.8  
 Rated torque : 7.32 ft.lb  
 Locked rotor torque : 220 %  
 Breakdown torque : 250 %  
 Rated speed : 1435 rpm

Moment of inertia (J) : 0.1595 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

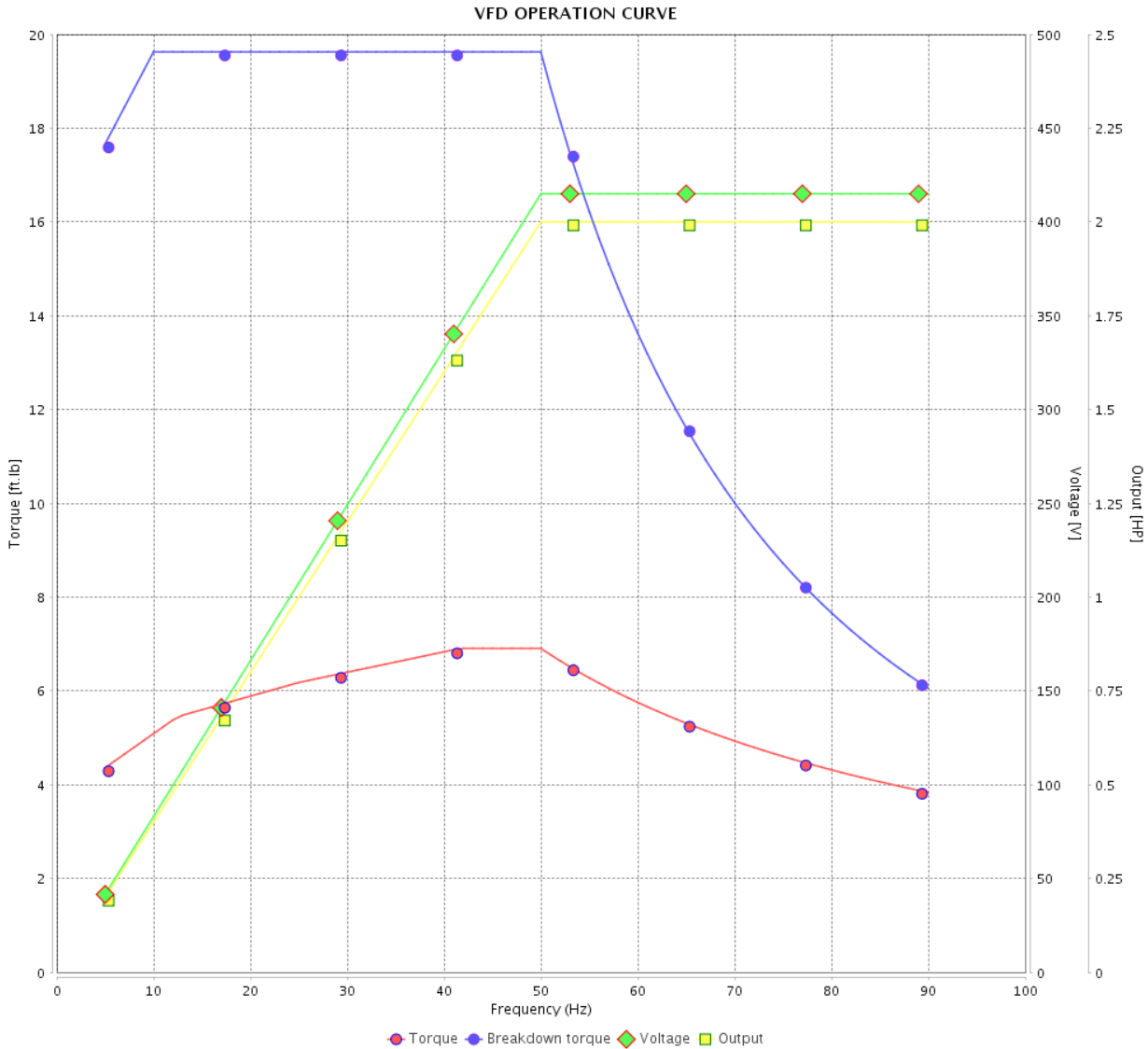


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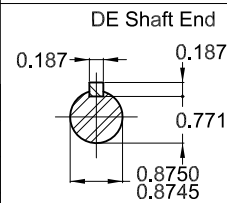
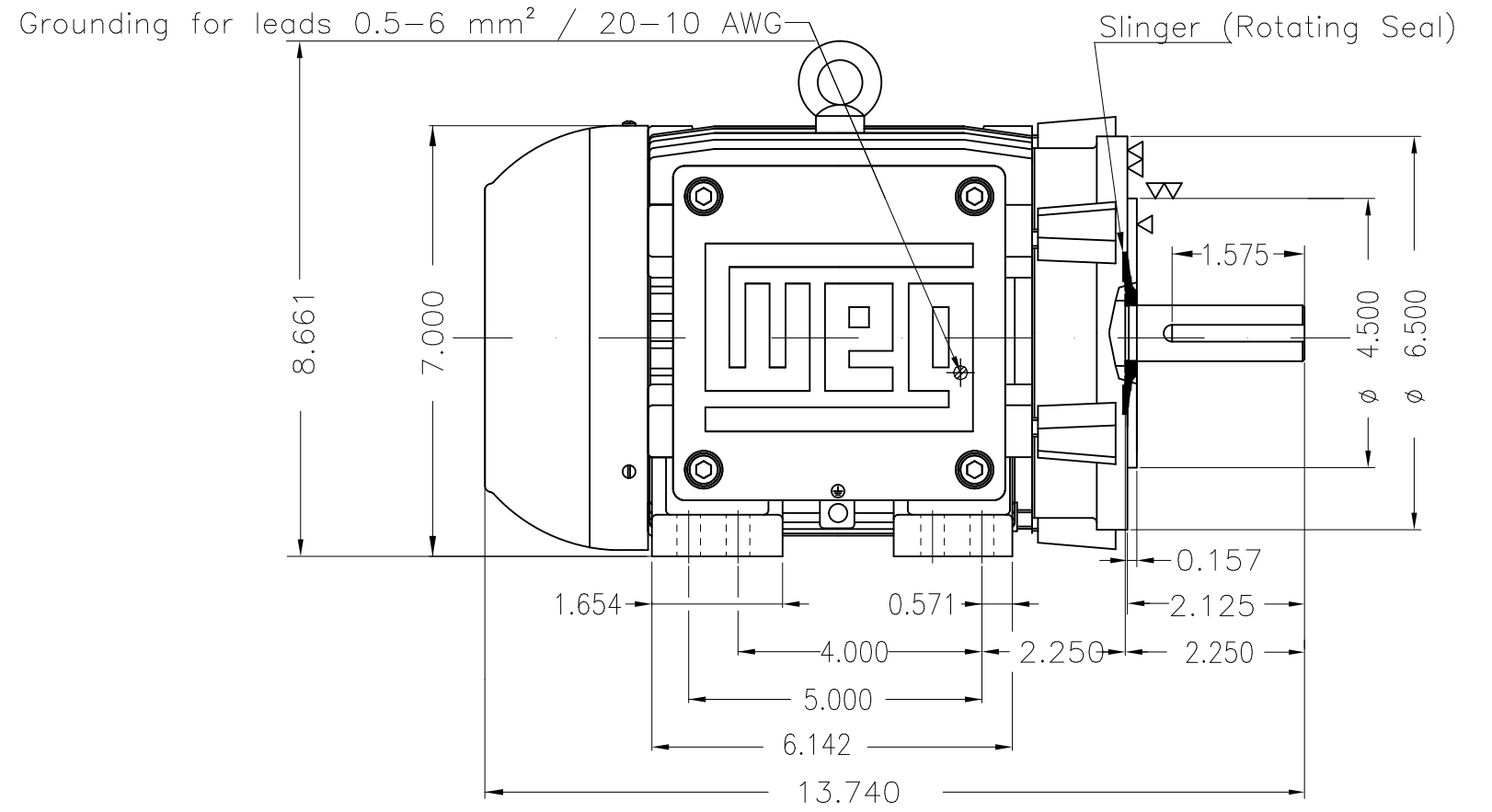
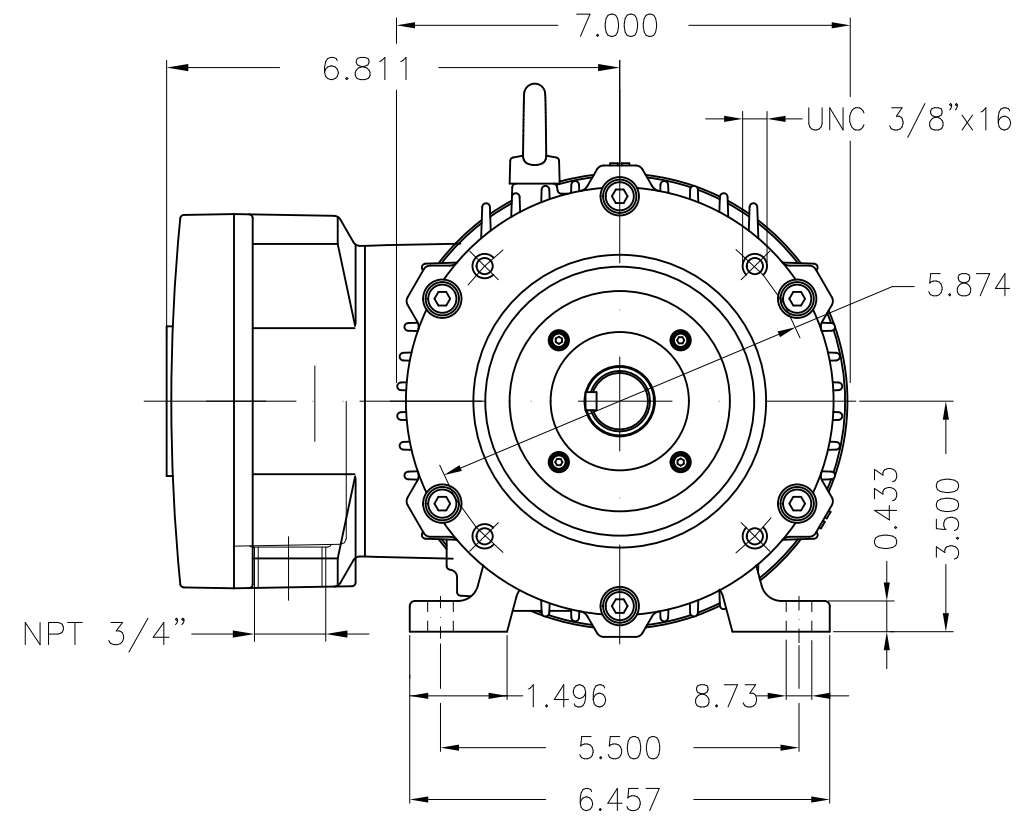


Performance : 415 V 50 Hz 4P IE2

Rated current : 3.18 A  
 LRC : 7.8  
 Rated torque : 7.27 ft.lb  
 Locked rotor torque : 240 %  
 Breakdown torque : 270 %  
 Rated speed : 1445 rpm

Moment of inertia (J) : 0.1595 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)

2 HP 04 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 143/5TC IP55 TEFC					
RELEASED							
REL DT.	WMO	Jaragua do Sul	Product Engineering				

**PREVIEW**  
 WDD



SHEET 1 / 1

MADE IN BRAZIL

**W21X NEMA**  
**Premium**

14275906



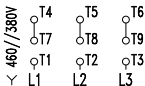
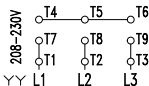
LISTED

CC029A

*Inverter Duty Motor*  
*Severe Duty*

MODEL 00218XT3E145TC

PH 3	FR 143/5TC		
HP(kW) 2.0(1.5)		HZ 60	IP55
V 230/460		A 5.58/2.79	
RPM 1750		NEMA NOM EFF 86.5%	
PF 0.78		SFA 6.42/3.21	DES B
INS CL F $\Delta$ T 80 K		SF 1.15	ENCL TEFC
DUTY CONT.		CODE L	ALT 1000 m.a.s.l.
AMB 40°C	USABLE @208V	6.02 A	SF 1.15 SFA 6.92
AMB 55°C SF1.0			
2.0HP 1.5kW 50Hz 380V 3.29A 1425RPM SF1.00 EFF 82.5% (IE1)			



→ 6205-2RS MOBIL POLYREX EM  
→ 6204-2RS

75 Lbs

C US  
Energy Verified

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.