

DATA SHEET



Three Phase Induction Motor - Squirrel Cage

Customer :					
Product line : EXPLOSION PROOF		Product code : 14406917			
		Catalog # : 02018XT3E256TC			
Frame : 256TC		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 ³ : 395 lb			
Protection degree : IP55		Moment of inertia (J) : 2.89 sq.ft.lb			
Design : B					
Output [HP]	20	20	20	20	
Poles	4	4	4	4	
Frequency [Hz]	60	50	50	50	
Rated voltage [V]	230/460	380	400	415	
Rated current [A]	50.0/25.0	29.8	29.0	28.4	
L. R. Amperes [A]	375/188	173	186	199	
LRC [A]	7.5x(Code J)	5.8x(Code G)	6.4x(Code H)	7.0x(Code J)	
No load current [A]	23.6/11.8	11.7	12.8	13.8	
Rated speed [RPM]	1770	1455	1460	1465	
Slip [%]	1.67	3.00	2.67	2.33	
Rated torque [ft.lb]	59.3	72.2	71.9	71.7	
Locked rotor torque [%]	300	210	240	260	
Breakdown torque [%]	300	220	240	260	
Service factor	1.15	1.00	1.00	1.00	
Temperature rise	80 K	80 K	80 K	80 K	
Locked rotor time	36s (cold) 20s (hot)	36s (cold) 20s (hot)	36s (cold) 20s (hot)	36s (cold) 20s (hot)	
Noise level ²	69.0 dB(A)	67.0 dB(A)	67.0 dB(A)	67.0 dB(A)	
Efficiency (%)	25%	91.0	92.9	92.1	91.5
	50%	91.7	92.4	91.7	91.7
	75%	92.4	91.7	91.7	91.7
	100%	93.0	91.0	91.0	91.7
Power Factor	25%	0.38	0.43	0.40	0.37
	50%	0.63	0.69	0.65	0.62
	75%	0.75	0.79	0.77	0.74
	100%	0.81	0.84	0.82	0.80
Bearing type : <u>Drive end</u> 6309 C3 <u>Non drive end</u> 6209 C3		Foundation loads			
Sealing : Oil Seal Lip Seal		Max. traction : 696 lb			
Lubrication interval : 20000 h 20000 h		Max. compression : 1092 lb			
Lubricant amount : 13 g 9 g					
Lubricant type : Mobil Polyrex EM					
Notes USABLE @208V 55.3A SF 1.15 SFA 63.6A					
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.			
Rev.	Changes Summary		Performed	Checked	Date
Performed by					
Checked by				Page	Revision
Date	10/02/2023			1 / 18	

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

Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by			Page	Revision
Date	10/02/2023		2 / 18	

TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



Customer :

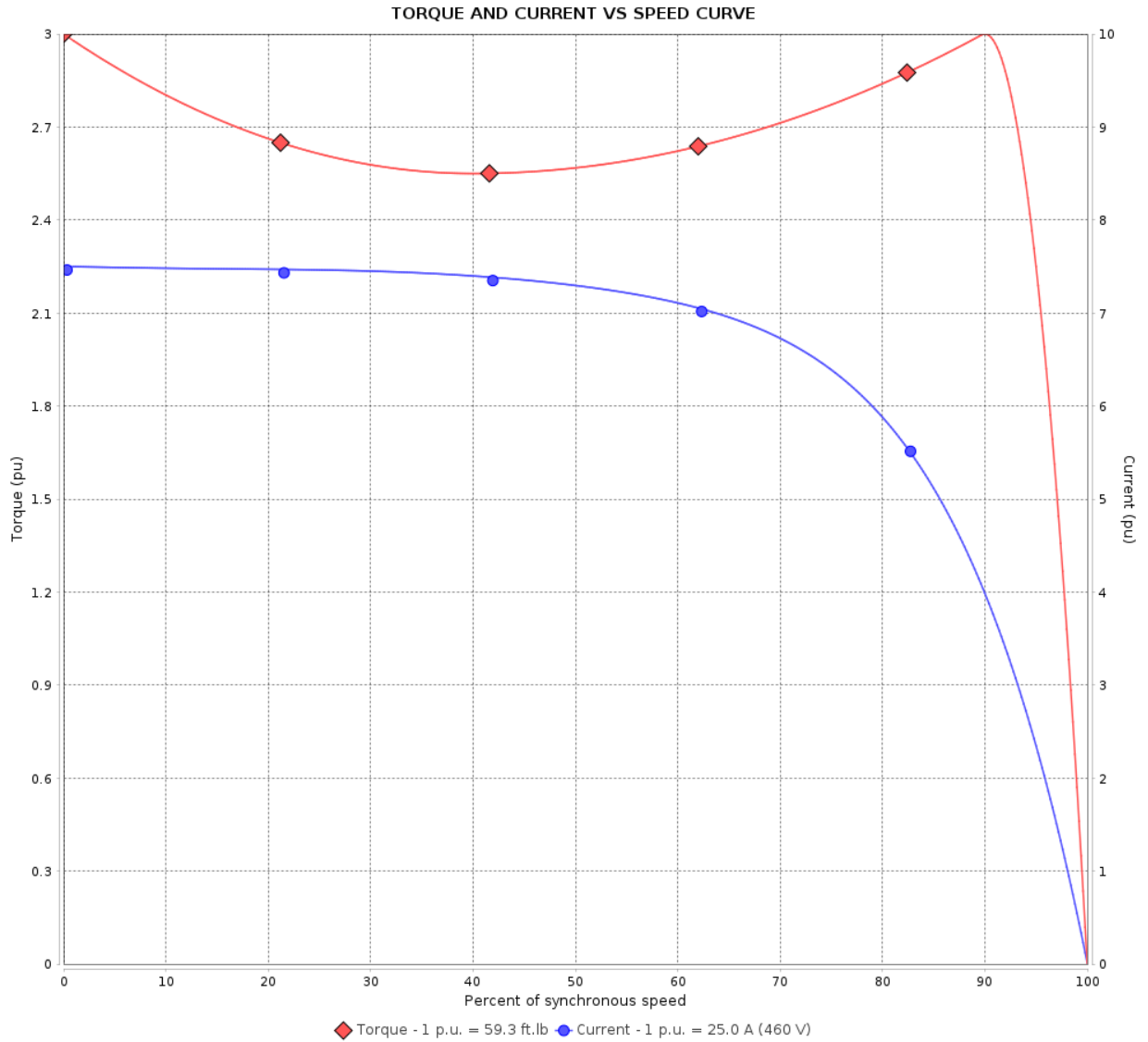
Product line : EXPLOSION PROOF

Product code :

14406917

Catalog # :

02018XT3E256TC



Performance : 230/460 V 60 Hz 4P

Rated current : 50.0/25.0 A
 LRC : 7.5
 Rated torque : 59.3 ft.lb
 Locked rotor torque : 300 %
 Breakdown torque : 300 %
 Rated speed : 1770 rpm

Moment of inertia (J) : 2.89 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)

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 3 / 18	Revision
Checked by				
Date	10/02/2023			

TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : EXPLOSION PROOF

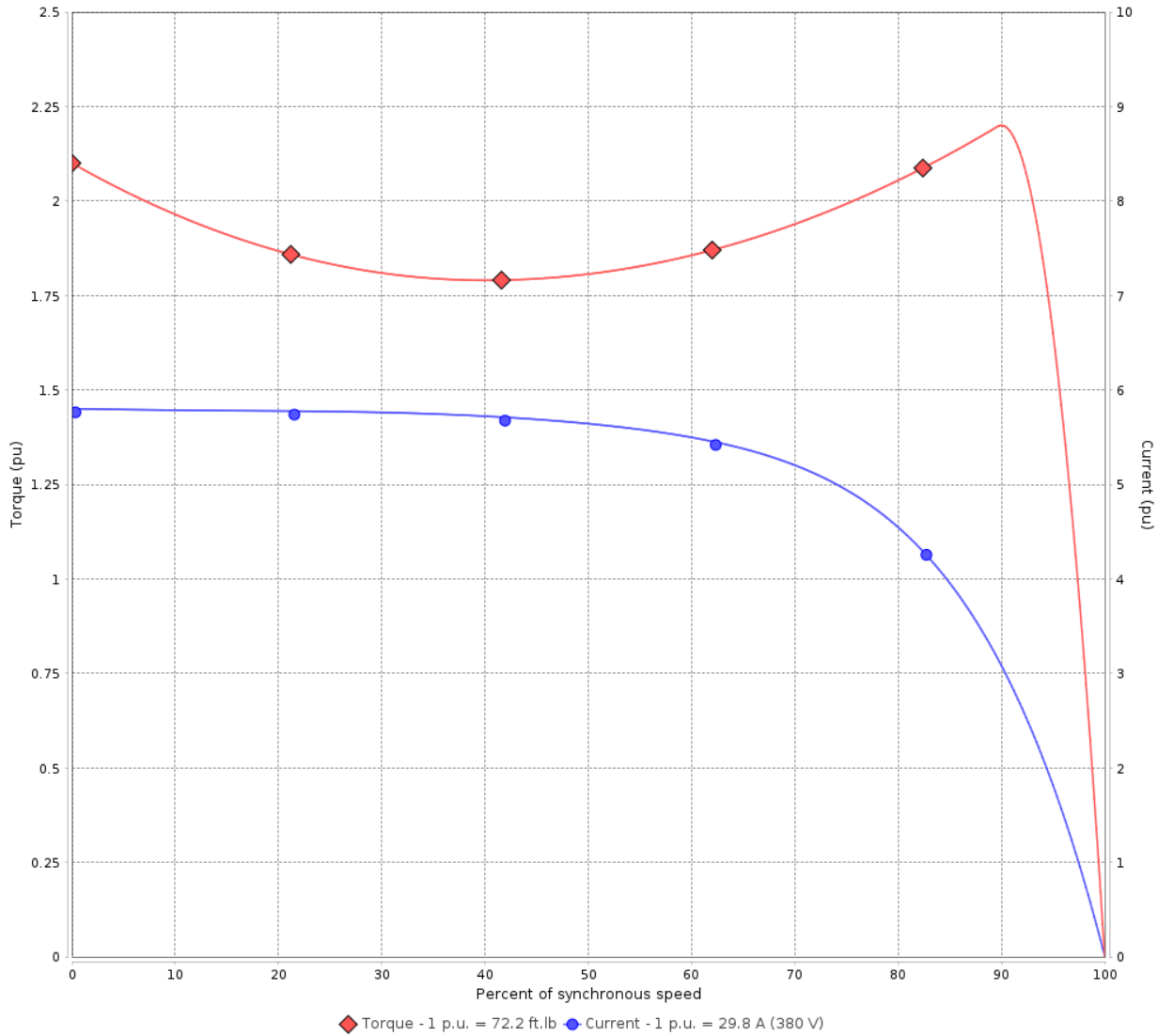
Product code :

14406917

Catalog # :

02018XT3E256TC

TORQUE AND CURRENT VS SPEED CURVE



Performance : 380 V 50 Hz 4P IE2

Rated current	: 29.8 A	Moment of inertia (J)	: 2.89 sq.ft.lb
LRC	: 5.8	Duty cycle	: Cont.(S1)
Rated torque	: 72.2 ft.lb	Insulation class	: F
Locked rotor torque	: 210 %	Service factor	: 1.00
Breakdown torque	: 220 %	Temperature rise	: 80 K
Rated speed	: 1455 rpm	Design	: B

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

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page	Revision
Checked by				
Date	10/02/2023			
			4 / 18	

TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



Customer :

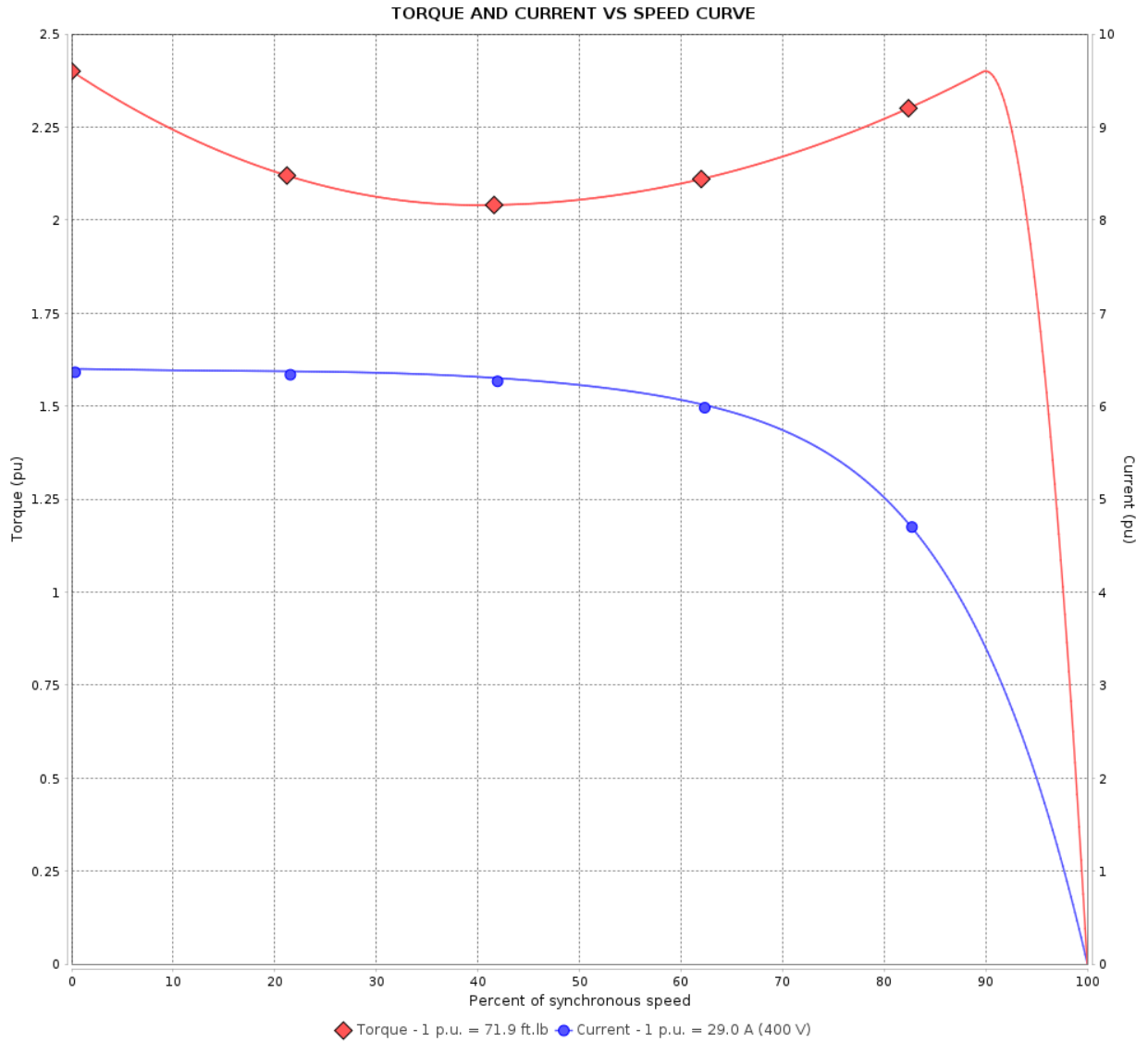
Product line : EXPLOSION PROOF

Product code :

14406917

Catalog # :

02018XT3E256TC



Performance : 400 V 50 Hz 4P IE2

Rated current : 29.0 A
 LRC : 6.4
 Rated torque : 71.9 ft.lb
 Locked rotor torque : 240 %
 Breakdown torque : 240 %
 Rated speed : 1460 rpm

Moment of inertia (J) : 2.89 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

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

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 5 / 18	Revision
Checked by				
Date	10/02/2023			

TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : EXPLOSION PROOF

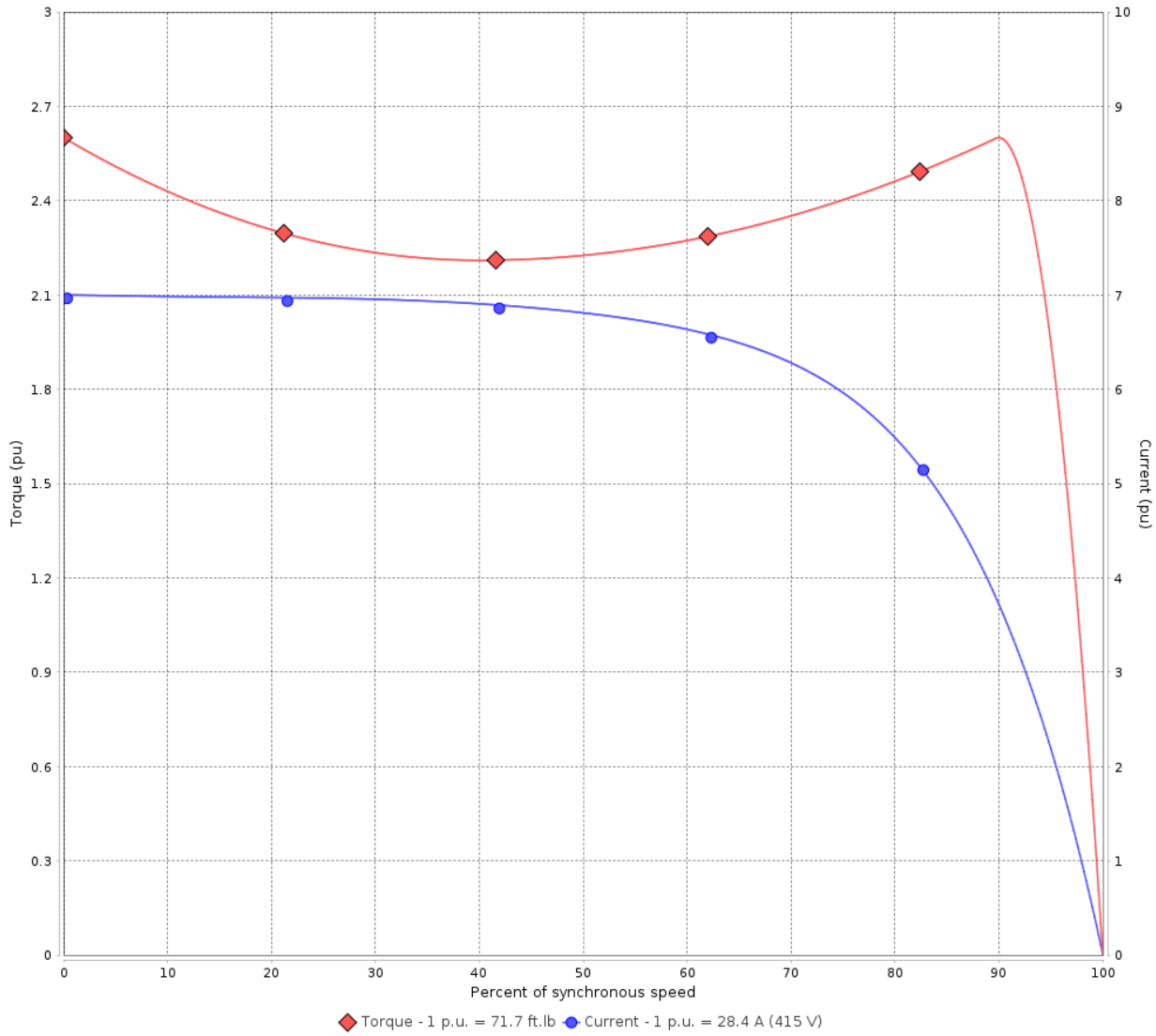
Product code :

14406917

Catalog # :

02018XT3E256TC

TORQUE AND CURRENT VS SPEED CURVE



Performance : 415 V 50 Hz 4P IE2

Rated current : 28.4 A
 LRC : 7.0
 Rated torque : 71.7 ft.lb
 Locked rotor torque : 260 %
 Breakdown torque : 260 %
 Rated speed : 1465 rpm

Moment of inertia (J) : 2.89 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

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

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 6 / 18	Revision
Checked by				
Date	10/02/2023			

LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage



Customer :

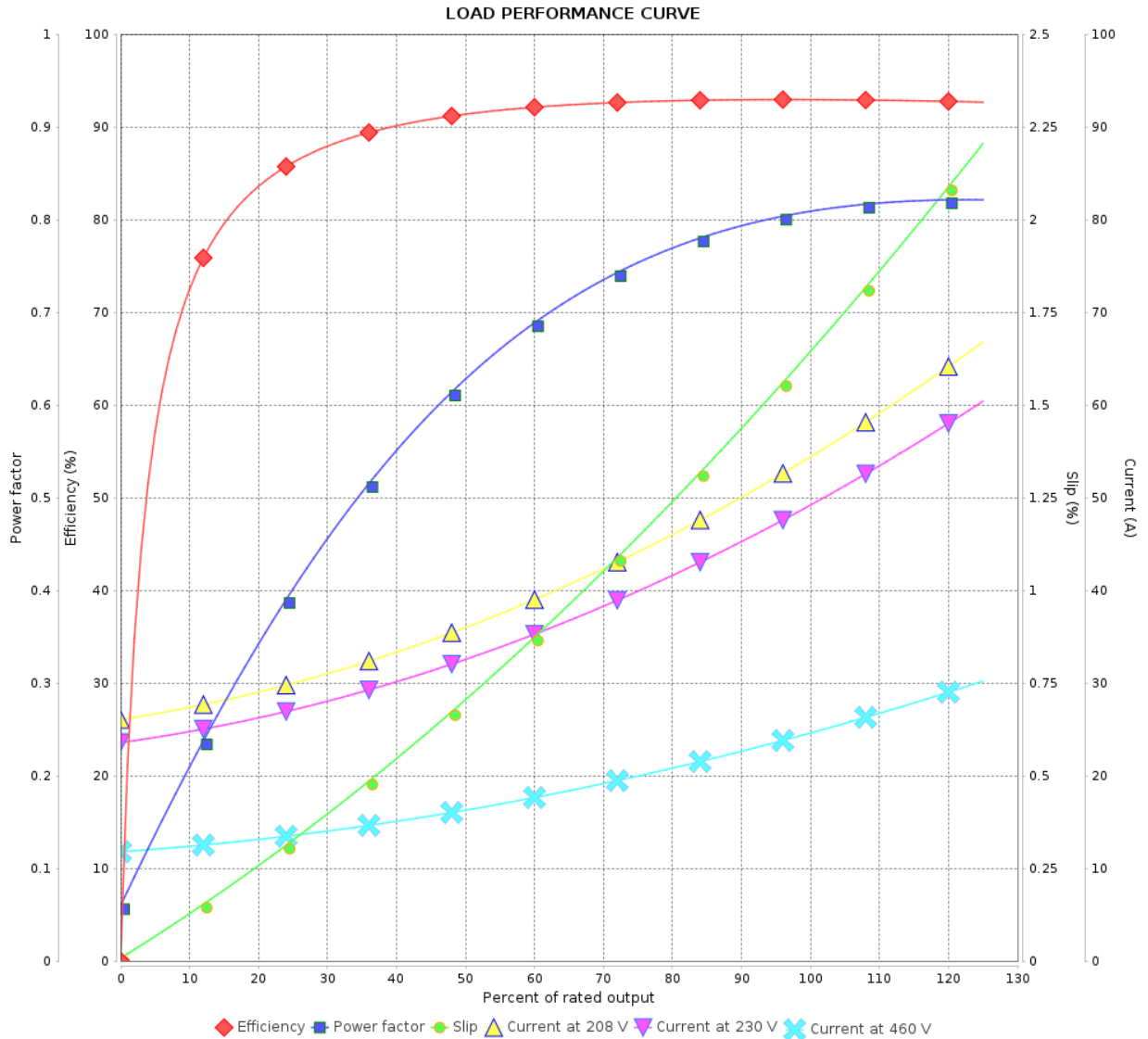
Product line : EXPLOSION PROOF

Product code :

14406917

Catalog # :

02018XT3E256TC



Performance : 230/460 V 60 Hz 4P

Rated current : 50.0/25.0 A
 LRC : 7.5
 Rated torque : 59.3 ft.lb
 Locked rotor torque : 300 %
 Breakdown torque : 300 %
 Rated speed : 1770 rpm

Moment of inertia (J) : 2.89 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
Checked by				
Date				

LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage



Customer :

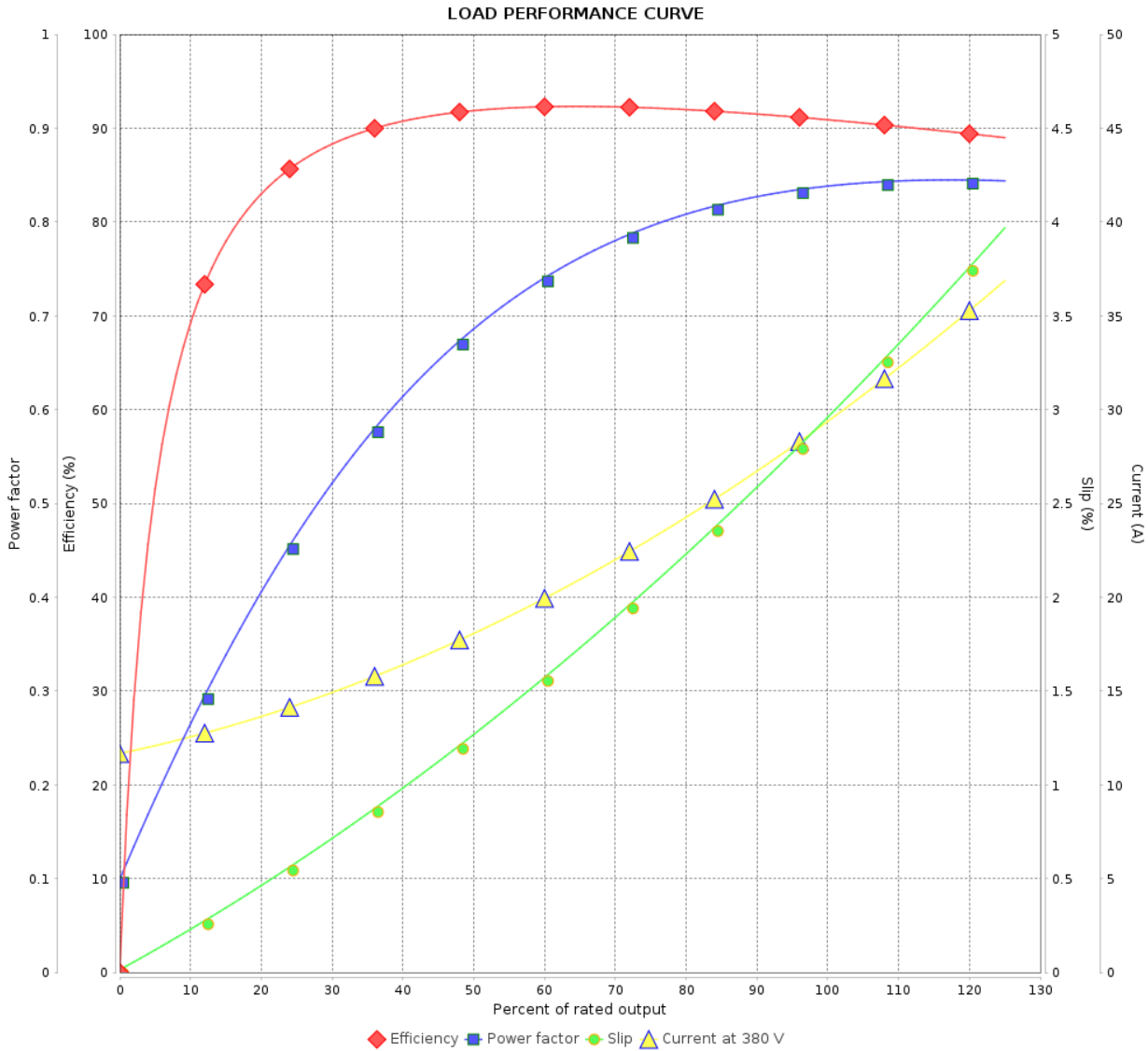
Product line : EXPLOSION PROOF

Product code :

14406917

Catalog # :

02018XT3E256TC



Performance : 380 V 50 Hz 4P IE2

Rated current : 29.8 A
 LRC : 5.8
 Rated torque : 72.2 ft.lb
 Locked rotor torque : 210 %
 Breakdown torque : 220 %
 Rated speed : 1455 rpm

Moment of inertia (J) : 2.89 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
Performed by			Page 8 / 18	Revision
Checked by				
Date	10/02/2023			

LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : _____

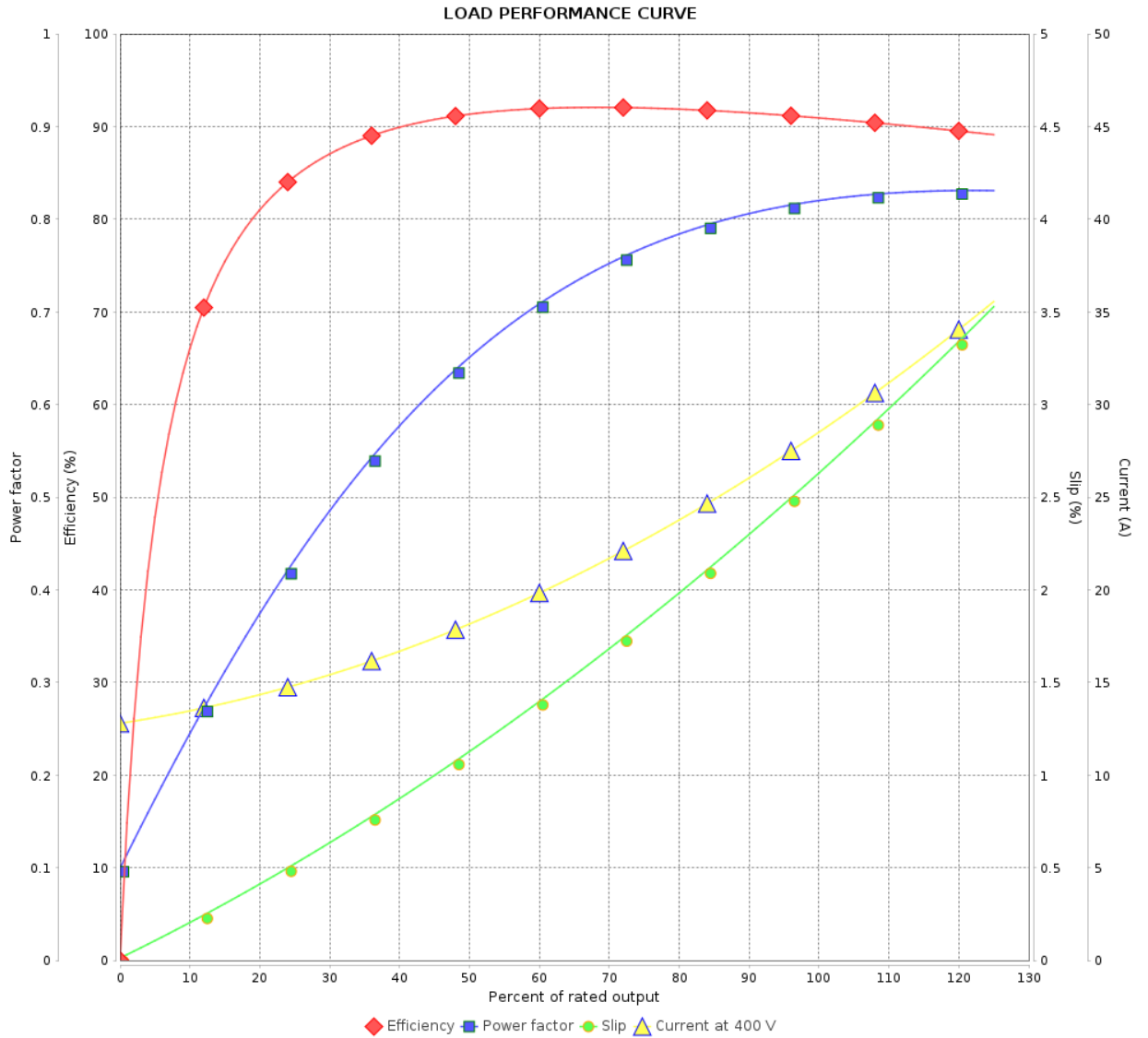
Product line : EXPLOSION PROOF

Product code :

14406917

Catalog # :

02018XT3E256TC



Performance : 400 V 50 Hz 4P IE2

Rated current : 29.0 A
 LRC : 6.4
 Rated torque : 71.9 ft.lb
 Locked rotor torque : 240 %
 Breakdown torque : 240 %
 Rated speed : 1460 rpm

Moment of inertia (J) : 2.89 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
Performed by			Page 9 / 18	Revision
Checked by				
Date	10/02/2023			

LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage



Customer :

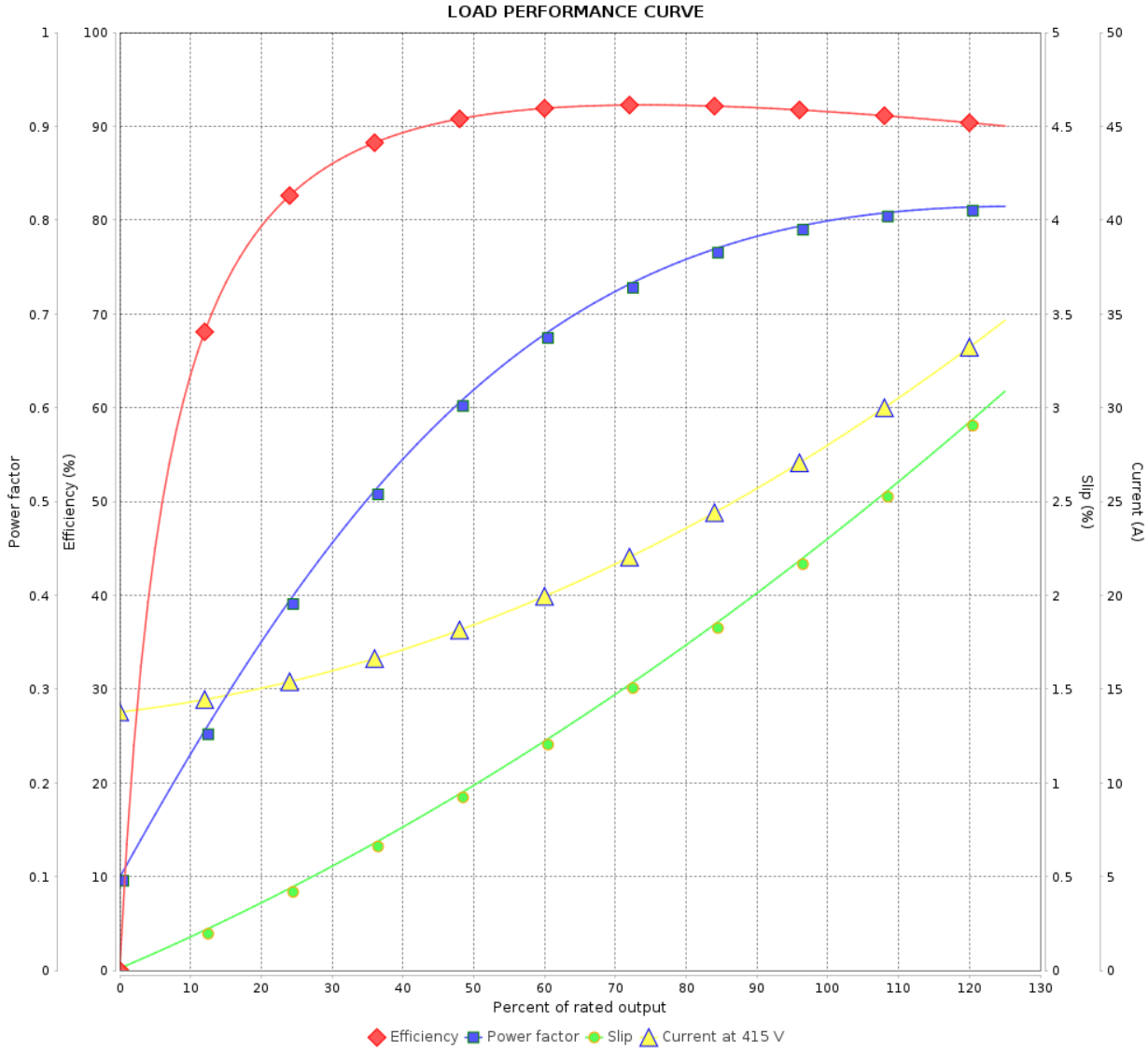
Product line : EXPLOSION PROOF

Product code :

14406917

Catalog # :

02018XT3E256TC



Performance : 415 V 50 Hz 4P IE2

Rated current	: 28.4 A	Moment of inertia (J)	: 2.89 sq.ft.lb
LRC	: 7.0	Duty cycle	: Cont.(S1)
Rated torque	: 71.7 ft.lb	Insulation class	: F
Locked rotor torque	: 260 %	Service factor	: 1.00
Breakdown torque	: 260 %	Temperature rise	: 80 K
Rated speed	: 1465 rpm	Design	: B

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page	Revision
Checked by			10 / 18	
Date	10/02/2023			

THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : _____

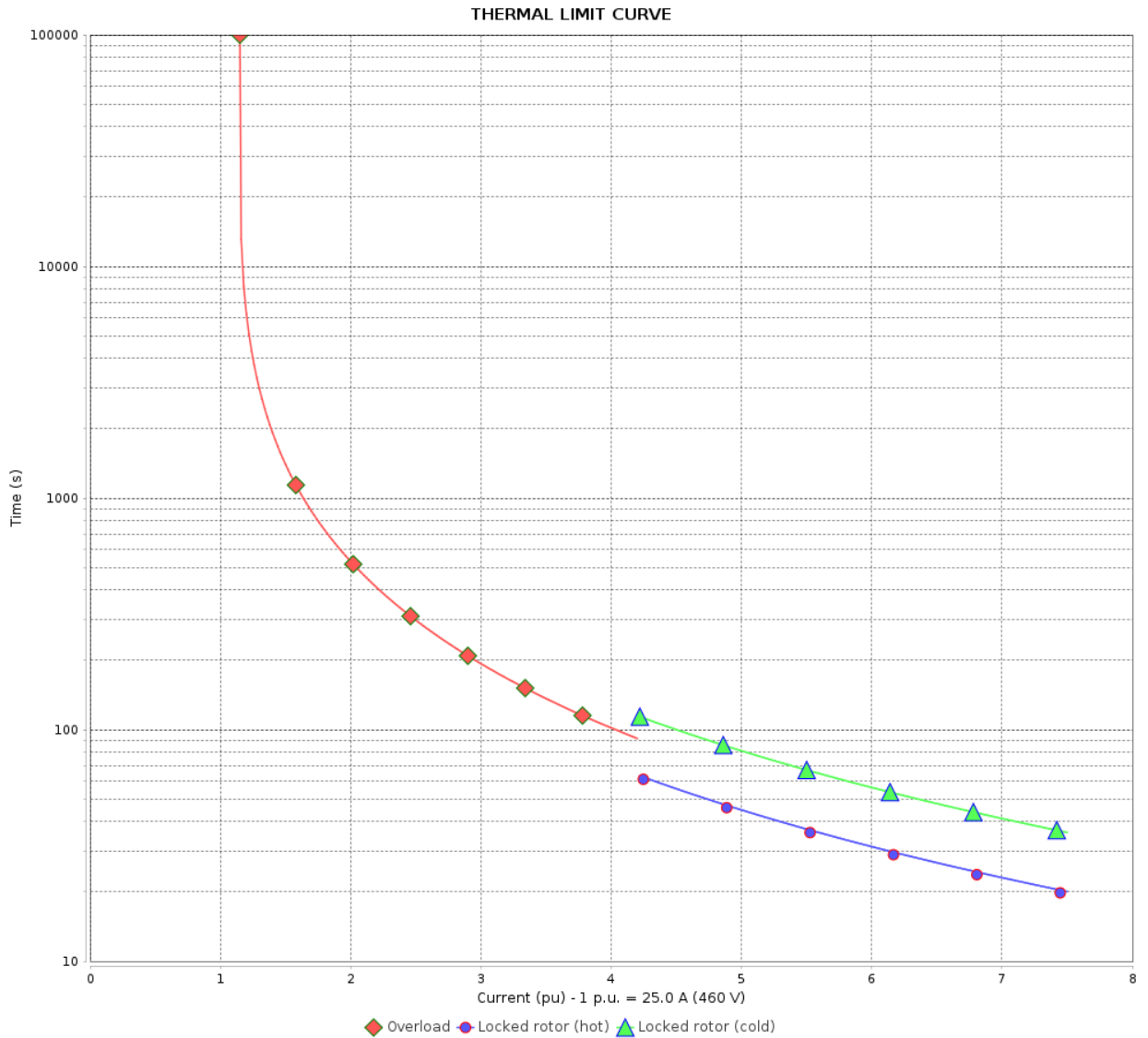
Product line : EXPLOSION PROOF

Product code :

14406917

Catalog # :

02018XT3E256TC



Performance : 230/460 V 60 Hz 4P

Rated current : 50.0/25.0 A
 LRC : 7.5
 Rated torque : 59.3 ft.lb
 Locked rotor torque : 300 %
 Breakdown torque : 300 %
 Rated speed : 1770 rpm

Moment of inertia (J) : 2.89 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.15
 Temperature rise : 80 K
 Design : B

Heating constant

Cooling constant

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 11 / 18	Revision
Checked by				
Date	10/02/2023			

THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer :

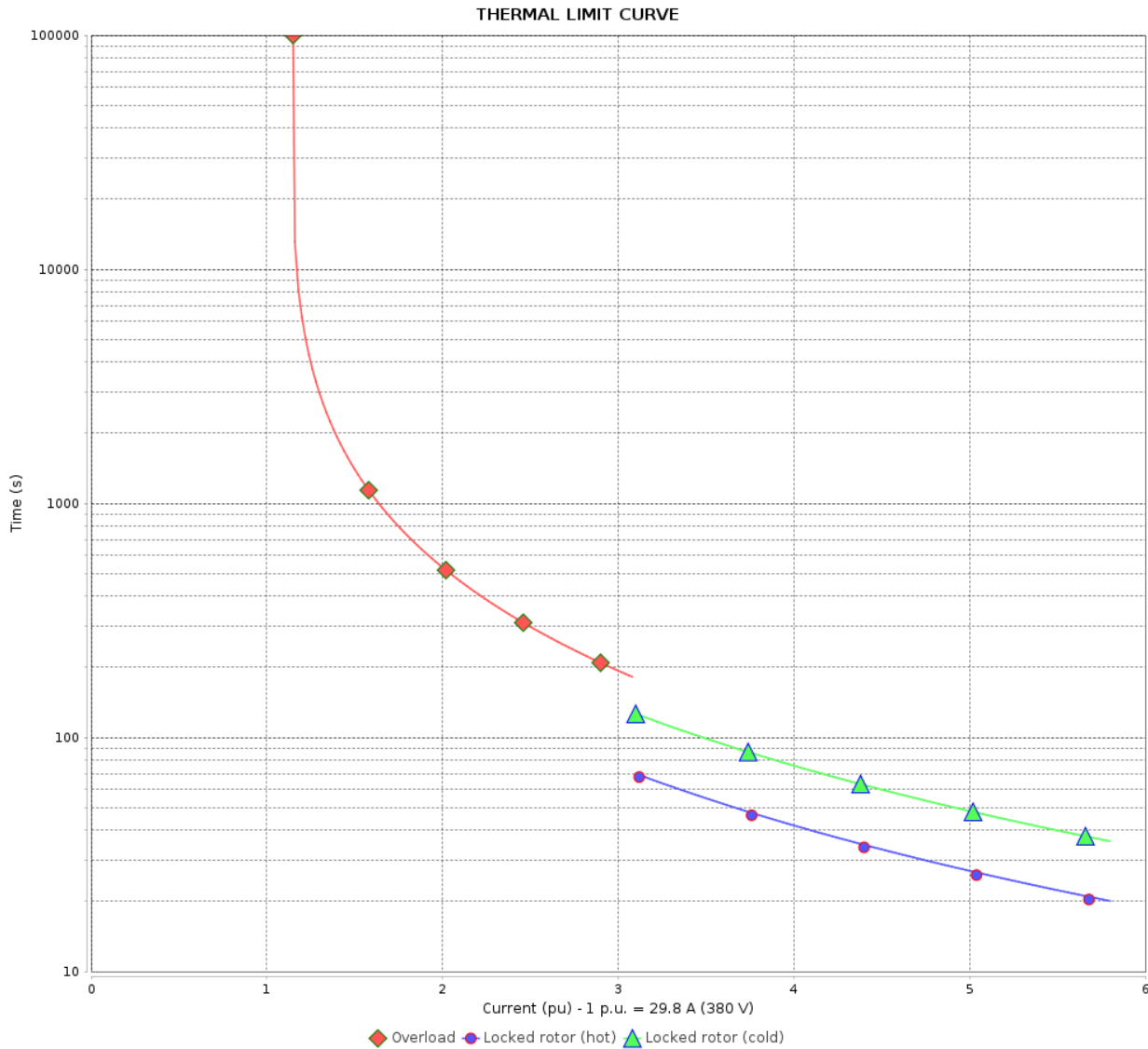
Product line : EXPLOSION PROOF

Product code :

14406917

Catalog # :

02018XT3E256TC



Performance : 380 V 50 Hz 4P IE2

Rated current	: 29.8 A	Moment of inertia (J)	: 2.89 sq.ft.lb
LRC	: 5.8	Duty cycle	: Cont.(S1)
Rated torque	: 72.2 ft.lb	Insulation class	: F
Locked rotor torque	: 210 %	Service factor	: 1.00
Breakdown torque	: 220 %	Temperature rise	: 80 K
Rated speed	: 1455 rpm	Design	: B

Heating constant

Cooling constant

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 12 / 18	Revision
Checked by				
Date	10/02/2023			

THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : _____

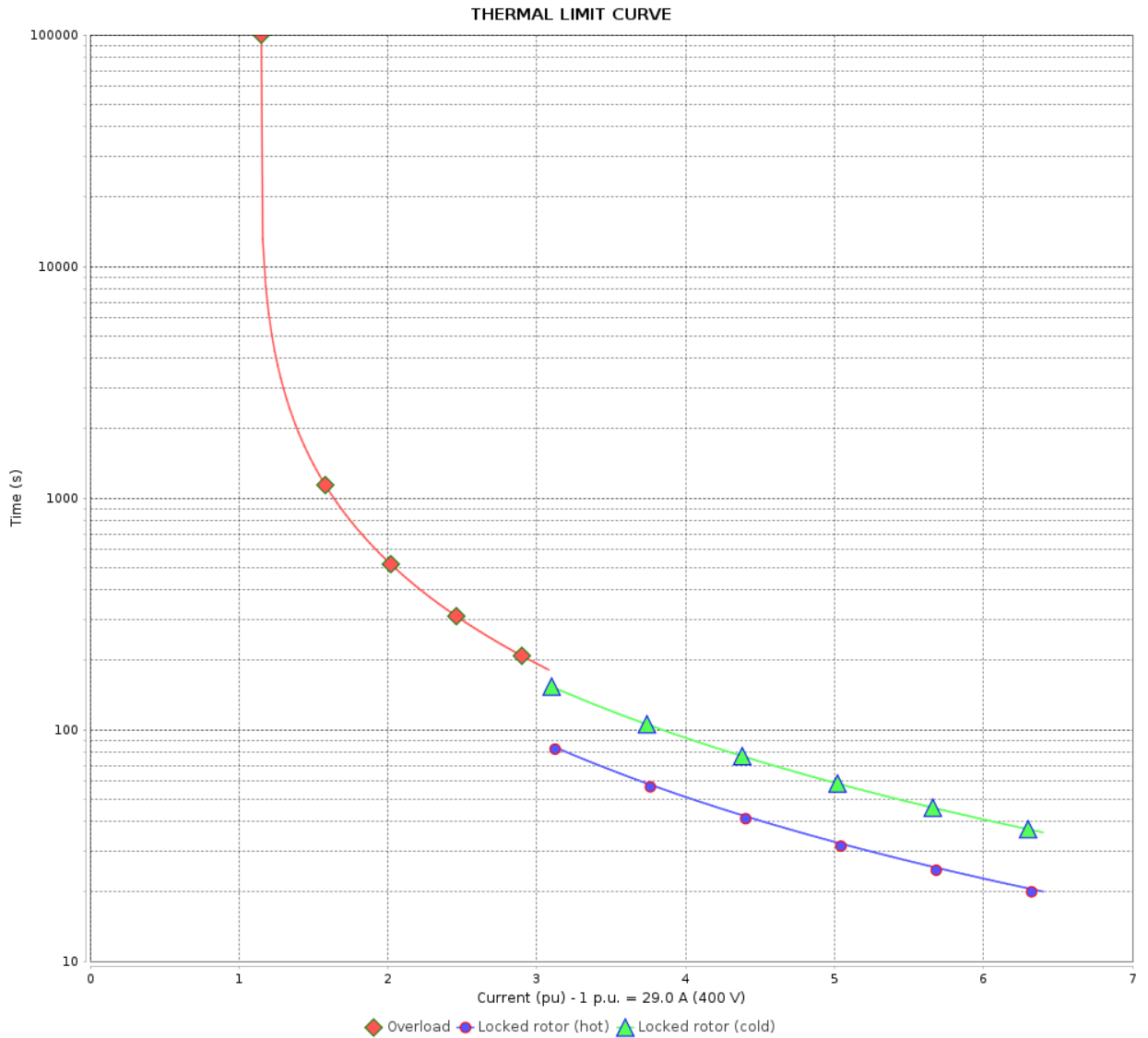
Product line : EXPLOSION PROOF

Product code :

14406917

Catalog # :

02018XT3E256TC



Performance : 400 V 50 Hz 4P IE2

Rated current : 29.0 A
 LRC : 6.4
 Rated torque : 71.9 ft.lb
 Locked rotor torque : 240 %
 Breakdown torque : 240 %
 Rated speed : 1460 rpm

Moment of inertia (J) : 2.89 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

Heating constant

Cooling constant

Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by				
Date				
		Page	Revision	
		13 / 18		

THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer :

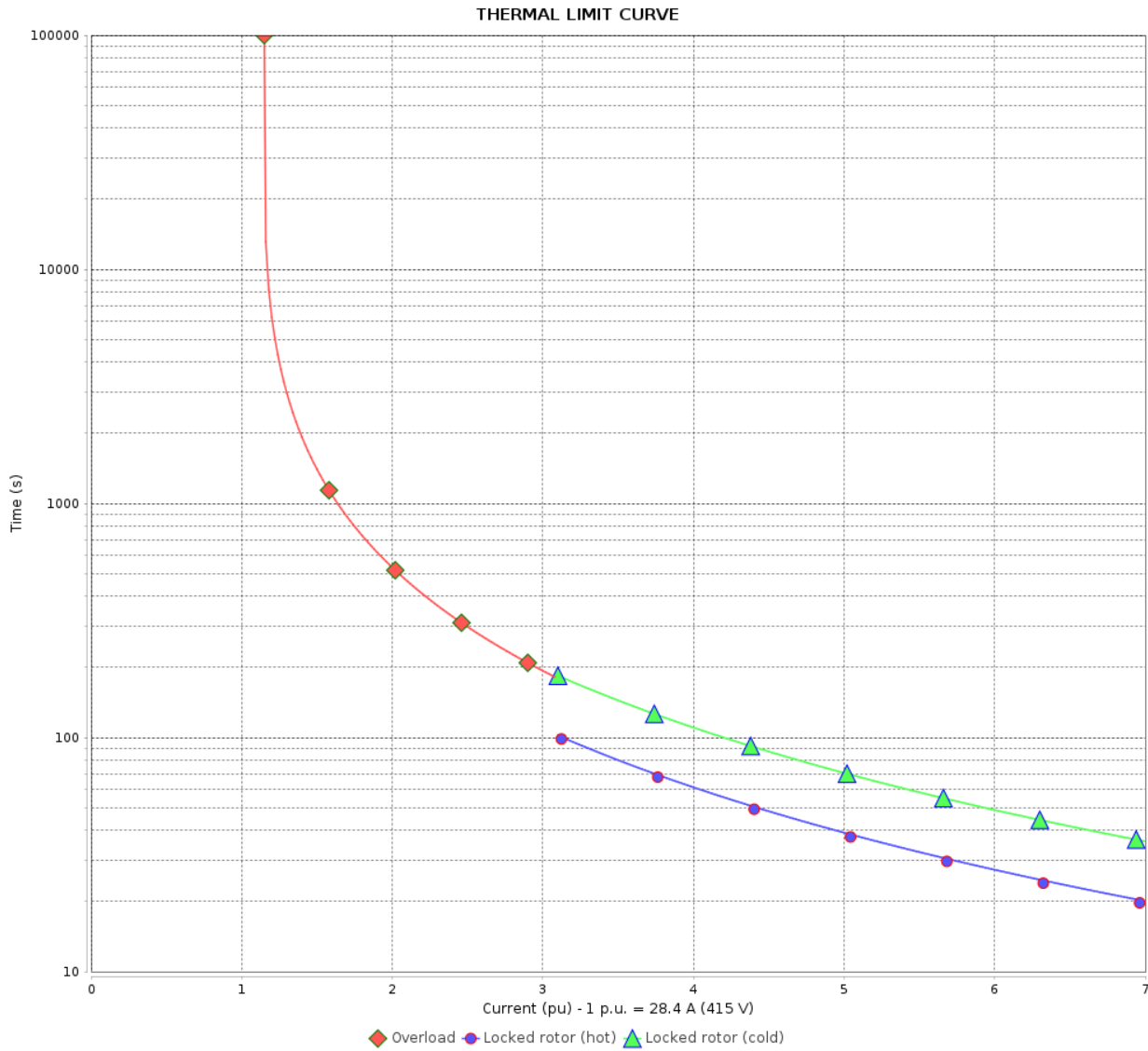
Product line : EXPLOSION PROOF

Product code :

14406917

Catalog # :

02018XT3E256TC



Performance : 415 V 50 Hz 4P IE2

Rated current	: 28.4 A	Moment of inertia (J)	: 2.89 sq.ft.lb
LRC	: 7.0	Duty cycle	: Cont.(S1)
Rated torque	: 71.7 ft.lb	Insulation class	: F
Locked rotor torque	: 260 %	Service factor	: 1.00
Breakdown torque	: 260 %	Temperature rise	: 80 K
Rated speed	: 1465 rpm	Design	: B

Heating constant

Cooling constant

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 14 / 18	Revision
Checked by				
Date	10/02/2023			

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

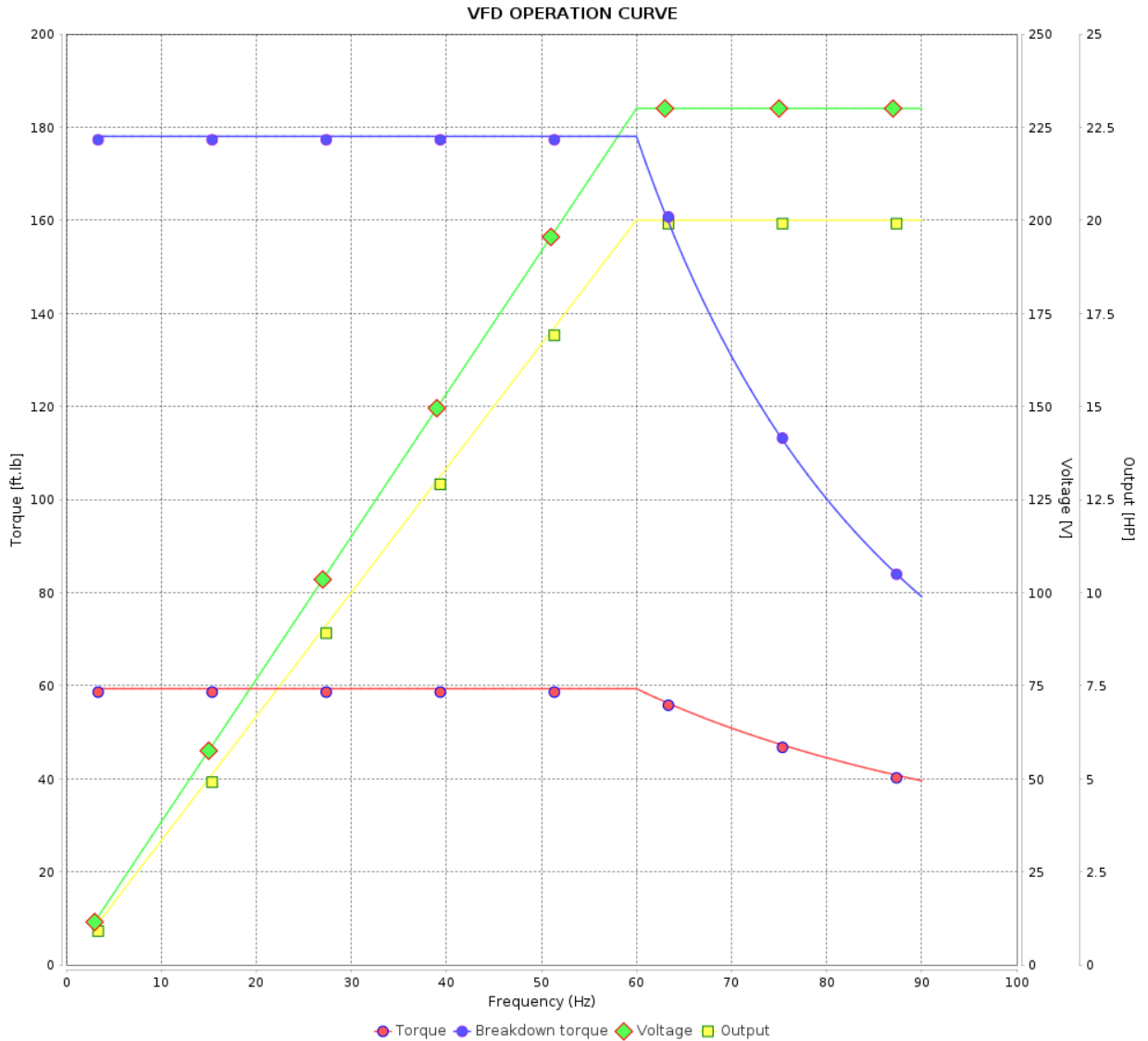


Customer :

Product line : EXPLOSION PROOF

Product code :
Catalog # :

14406917
02018XT3E256TC



Performance : 230/460 V 60 Hz 4P

Rated current : 50.0/25.0 A
 LRC : 7.5
 Rated torque : 59.3 ft.lb
 Locked rotor torque : 300 %
 Breakdown torque : 300 %
 Rated speed : 1770 rpm

Moment of inertia (J) : 2.89 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 15 / 18	Revision
Checked by				
Date	10/02/2023			

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : _____

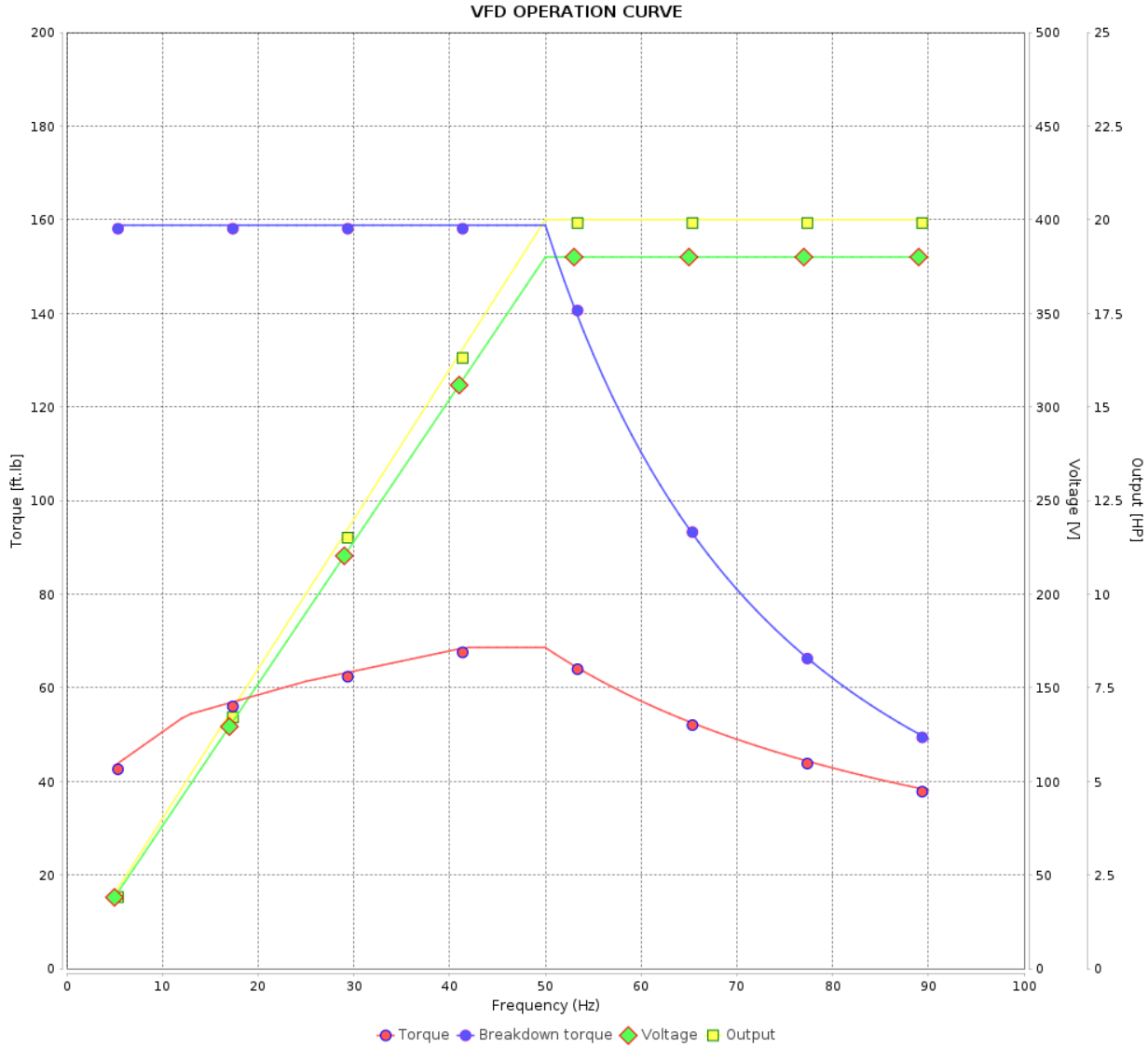
Product line : EXPLOSION PROOF

Product code :

14406917

Catalog # :

02018XT3E256TC



Performance : 380 V 50 Hz 4P IE2

Rated current : 29.8 A
 LRC : 5.8
 Rated torque : 72.2 ft.lb
 Locked rotor torque : 210 %
 Breakdown torque : 220 %
 Rated speed : 1455 rpm

Moment of inertia (J) : 2.89 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
Performed by			Page	Revision
Checked by				
Date				

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

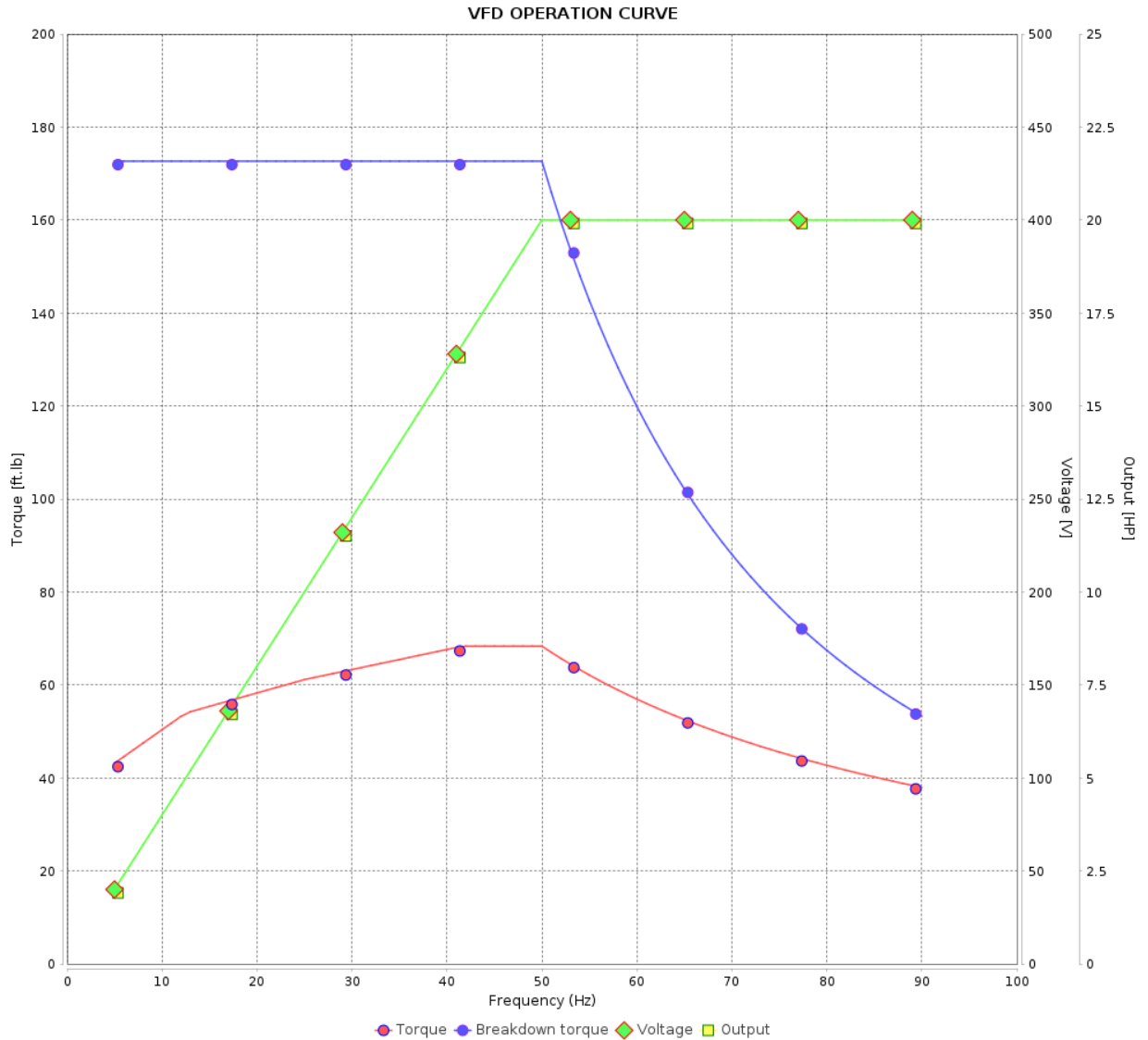


Customer :

Product line : EXPLOSION PROOF

Product code :
Catalog # :

14406917
02018XT3E256TC



Performance : 400 V 50 Hz 4P IE2

Rated current : 29.0 A
LRC : 6.4
Rated torque : 71.9 ft.lb
Locked rotor torque : 240 %
Breakdown torque : 240 %
Rated speed : 1460 rpm

Moment of inertia (J) : 2.89 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
Performed by			Page	Revision
Checked by				
Date				

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : _____

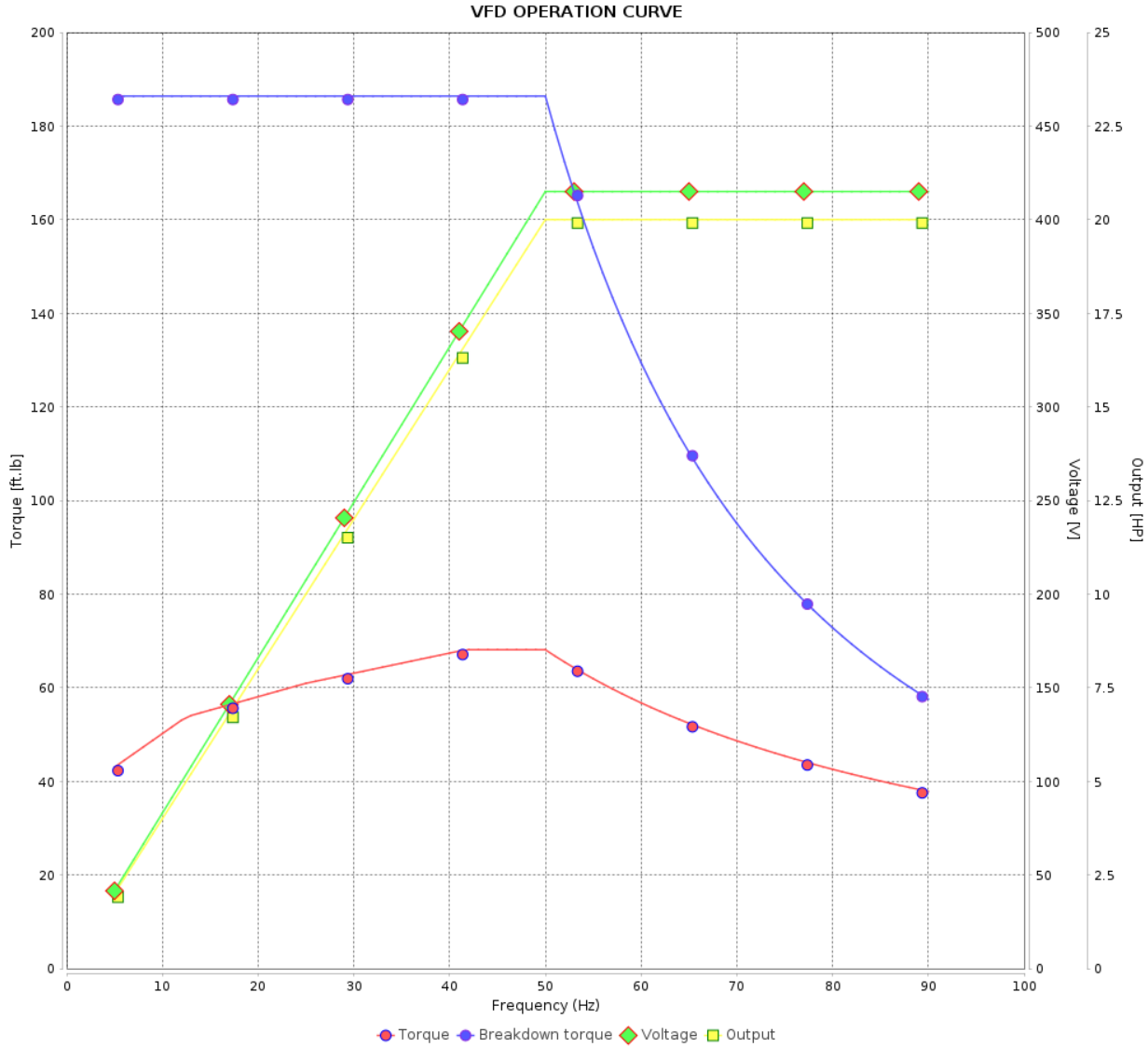
Product line : EXPLOSION PROOF

Product code :

14406917

Catalog # :

02018XT3E256TC



Performance : 415 V 50 Hz 4P IE2

Rated current : 28.4 A
 LRC : 7.0
 Rated torque : 71.7 ft.lb
 Locked rotor torque : 260 %
 Breakdown torque : 260 %
 Rated speed : 1465 rpm

Moment of inertia (J) : 2.89 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

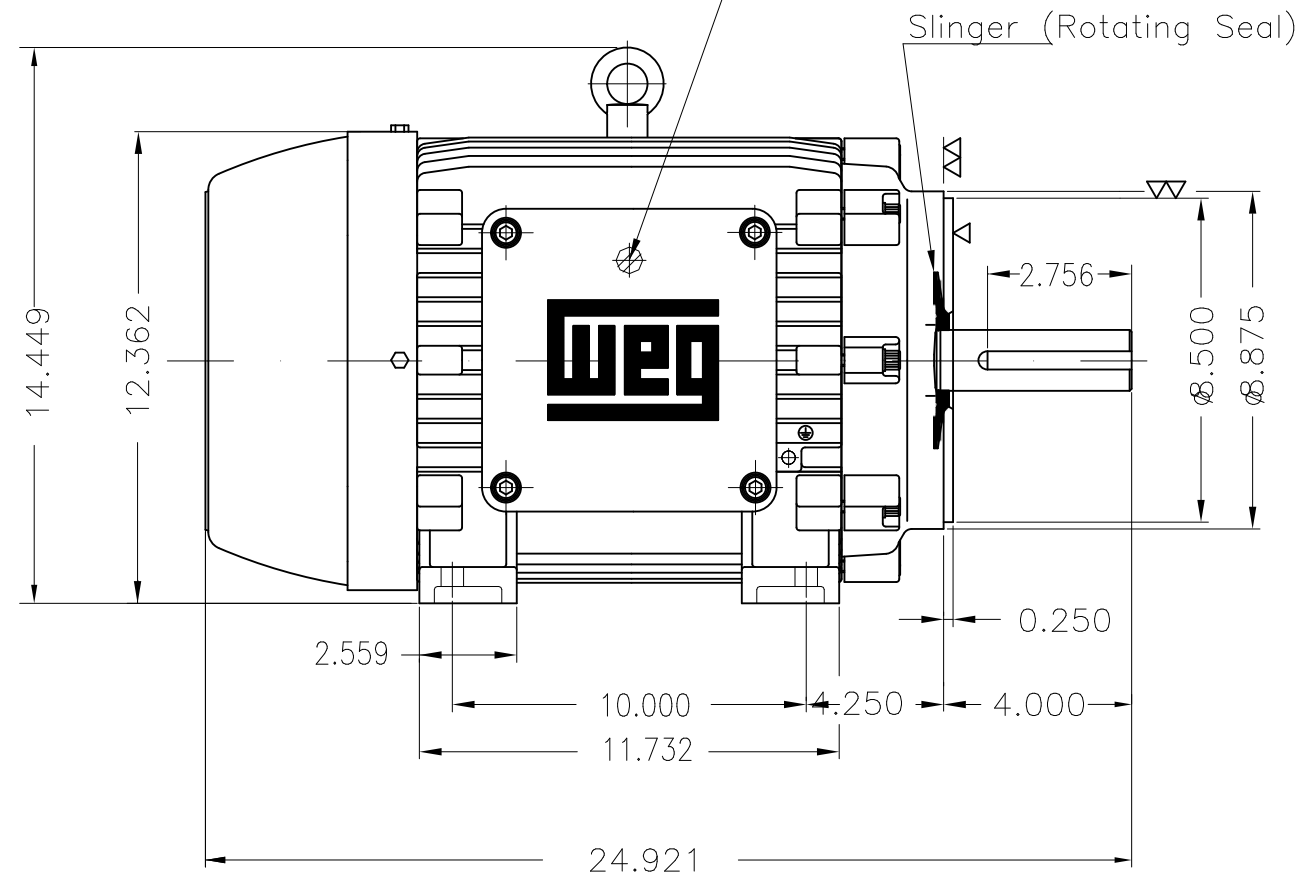
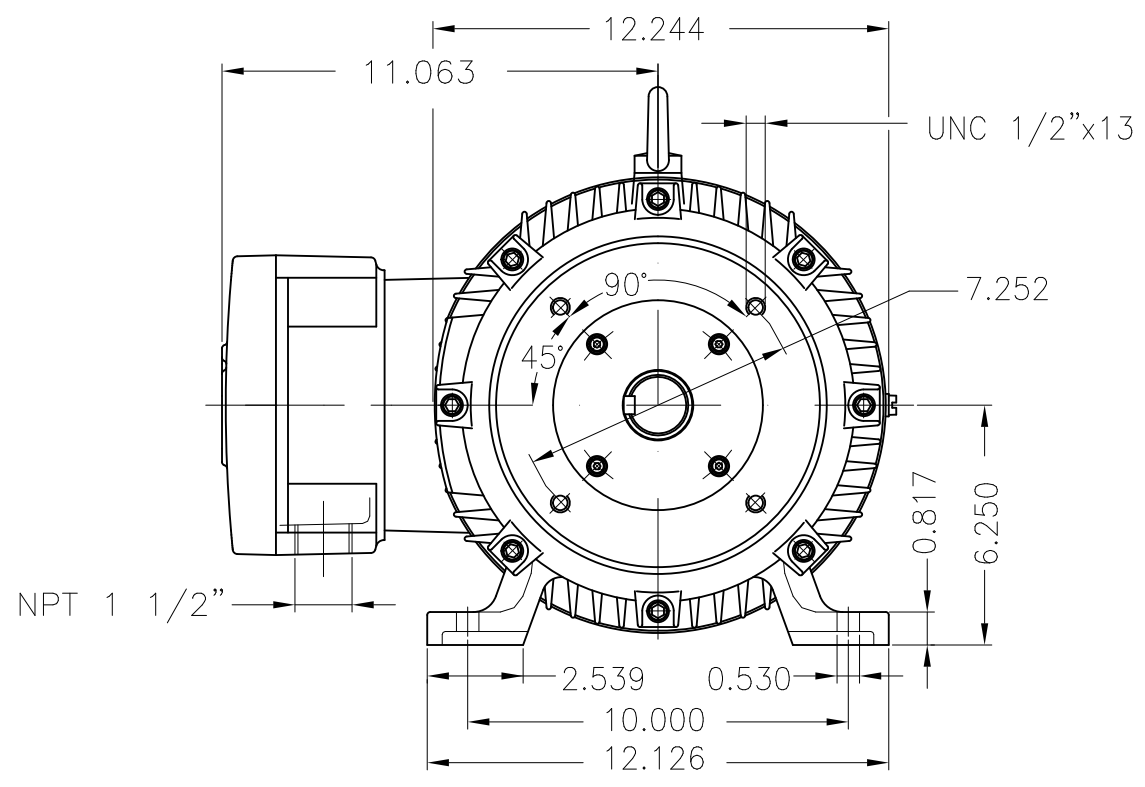
Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page	Revision
Checked by				
Date				

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

A

B

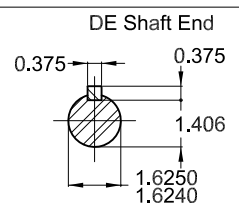
C



D

E

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



20 HP 04 Poles 60 Hz A

						HYBRISUSER								00	
ECM	LOC	SUMMARY OF MODIFICATIONS				EXECUTED	CHECKED	RELEASED	DATE	VER					
EXECUTED	HYBRISUSER	THREE PH. MOTOR EXPLOSION PROOF		NEMA PREM. EFF.		PREVIEW									
CHECKED		FRAME 256TC IP55 TEFC				WDD		00							
RELEASED						SHEET		1 / 1							
REL. DATE		WMO	Jaragua do Sul	Product Engineering											



MADE IN BRAZIL

**W21X NEMA**
Premium

14406917



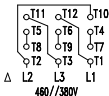
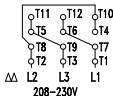
LISTED

CC029A

Inverter Duty Motor
Severe Duty

MODEL 02018XT3E256TC

PH 3	FR 256TC		
HP(kW) 20.0(15.0)		HZ 60	IP55
V 230/460		A 50.0/25.0	
RPM 1770		NEMA NOM EFF 93.0%	
PF 0.81		SFA 57.5/28.7	DES B
INS CL F Δ T 80 K		SF 1.15	ENCL TEFC
DUTY CONT.		CODE J	ALT 1000 m.a.s.l.
AMB 40°C	USABLE @208V	55.3 A	SF 1.15 SFA 63.6
AMB 55°C SF1.0			
20HP 15kW 50Hz 380V 29.8A 1455RPM SF1.00 EFF 91.0% (IE2)			



→ 6309-C3 MOBIL POLYREX EM
→ 6209-C3 13 g 20000 h

379 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.