

DATA SHEET



Three Phase Induction Motor - Squirrel Cage

Customer :				
Product line : EXPLOSION PROOF		Product code : 14406886		
		Catalog # : 02036XT3E256T		
Frame : 256T		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 : 360 lb		
Protection degree : IP55		Moment of inertia (J) : 1.45 sq.ft.lb		
Design : B				
Output [HP]	20	20	20	20
Poles	2	2	2	2
Frequency [Hz]	60	50	50	50
Rated voltage [V]	230/460	380	400	415
Rated current [A]	46.4/23.2	27.8	26.4	25.8
L. R. Amperes [A]	288/144	136	145	157
LRC [A]	6.2x(Code G)	4.9x(Code D)	5.5x(Code F)	6.1x(Code G)
No load current [A]	13.4/6.70	6.40	6.80	7.20
Rated speed [RPM]	3530	2900	2910	2920
Slip [%]	1.94	3.33	3.00	2.67
Rated torque [ft.lb]	29.8	36.2	36.1	36.0
Locked rotor torque [%]	200	140	160	180
Breakdown torque [%]	250	190	210	229
Service factor	1.15	1.00	1.00	1.00
Temperature rise	80 K	80 K	80 K	80 K
Locked rotor time	46s (cold) 26s (hot)	30s (cold) 17s (hot)	30s (cold) 17s (hot)	30s (cold) 17s (hot)
Noise level ²	75.0 dB(A)	70.0 dB(A)	70.0 dB(A)	70.0 dB(A)
Efficiency (%)	25%	90.0	89.9	89.9
	50%	90.2	90.2	90.2
	75%	91.0	91.0	91.0
	100%	91.0	91.0	91.0
Power Factor	25%	0.55	0.61	0.58
	50%	0.79	0.83	0.81
	75%	0.86	0.88	0.87
	100%	0.89	0.90	0.90
Bearing type : <u>Drive end</u> 6309 C3 <u>Non drive end</u> 6209 C3		Foundation loads		
Sealing : Oil Seal Lip Seal		Max. traction : 217 lb		
Lubrication interval : 15797 h 18447 h		Max. compression : 576 lb		
Lubricant amount : 13 g 9 g				
Lubricant type : Mobil Polyrex EM				
Notes USABLE @208V 50.6A SF 1.10 SFA 55.6A				
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
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Checked by				
Date	10/02/2023			

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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 :

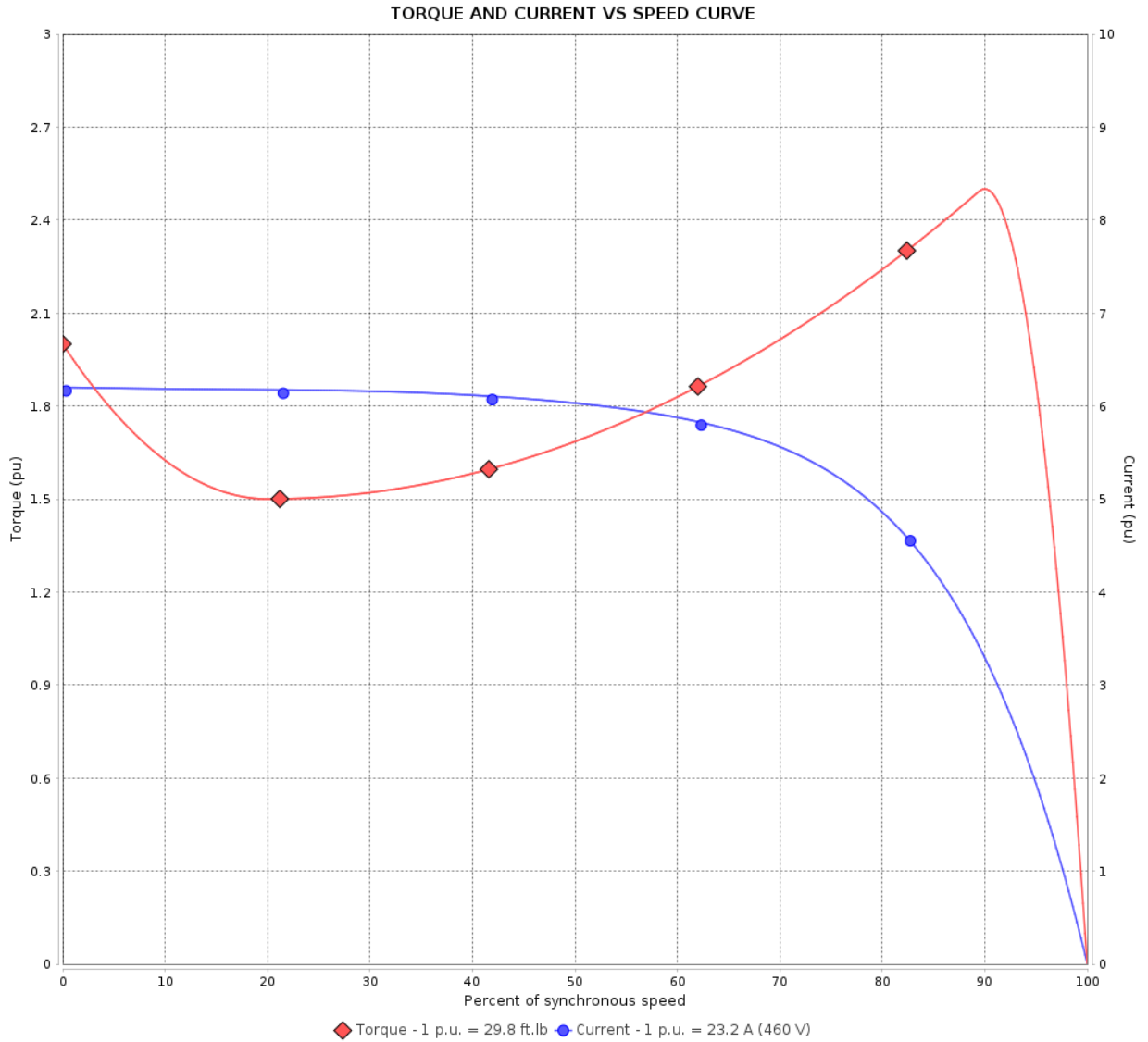
Product line : EXPLOSION PROOF

Product code :

14406886

Catalog # :

02036XT3E256T



Performance : 230/460 V 60 Hz 2P

Rated current : 46.4/23.2 A
 LRC : 6.2
 Rated torque : 29.8 ft.lb
 Locked rotor torque : 200 %
 Breakdown torque : 250 %
 Rated speed : 3530 rpm

Moment of inertia (J) : 1.45 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.15
 Temperature rise : 80 K
 Design : B

Locked rotor time : 46s (cold) 26s (hot)

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Checked by				
Date	10/02/2023			

TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



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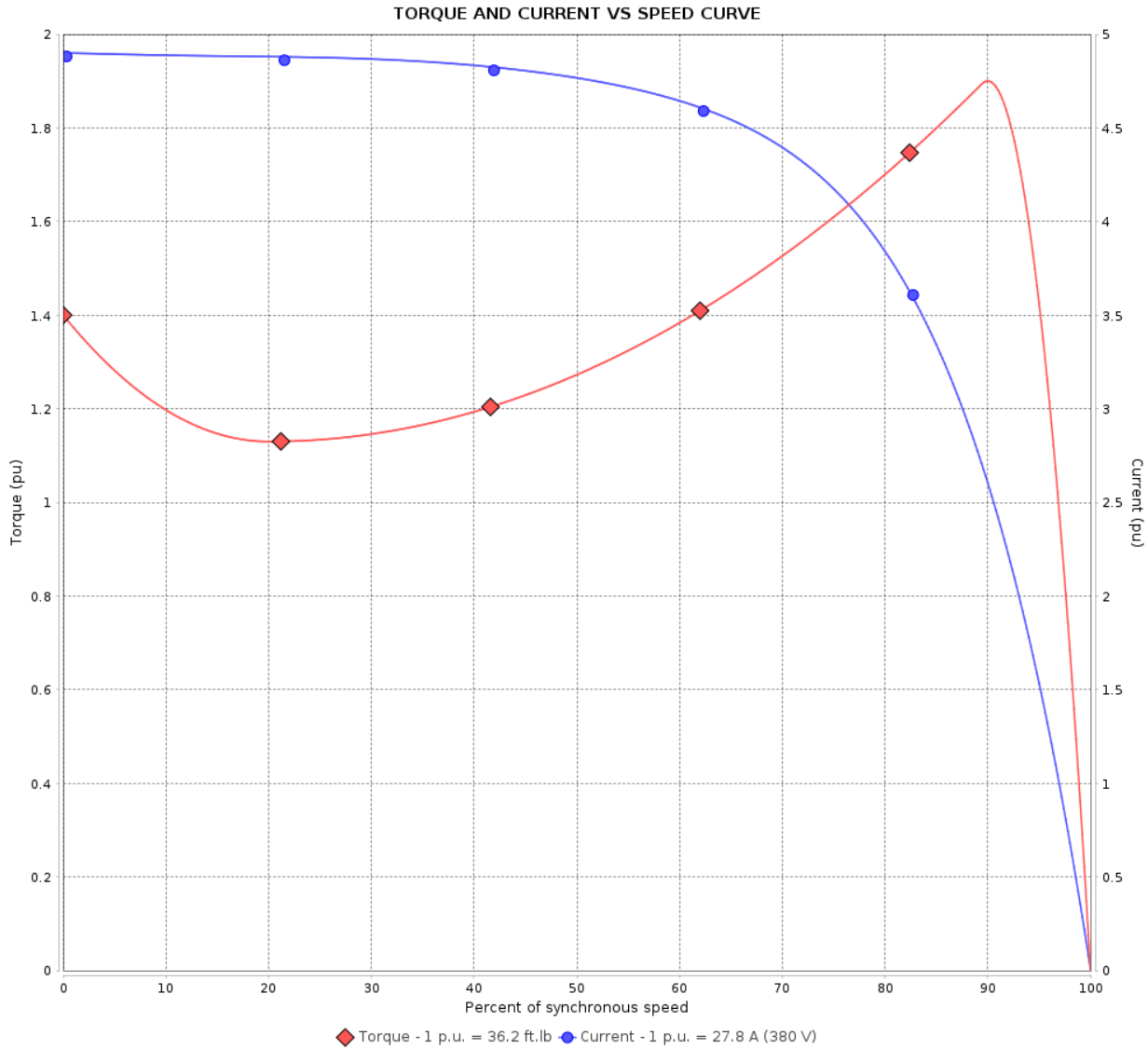
Product line : EXPLOSION PROOF

Product code :

14406886

Catalog # :

02036XT3E256T



Performance : 380 V 50 Hz 2P IE2

Rated current	: 27.8 A	Moment of inertia (J)	: 1.45 sq.ft.lb
LRC	: 4.9	Duty cycle	: Cont.(S1)
Rated torque	: 36.2 ft.lb	Insulation class	: F
Locked rotor torque	: 140 %	Service factor	: 1.00
Breakdown torque	: 190 %	Temperature rise	: 80 K
Rated speed	: 2900 rpm	Design	: B

Locked rotor time : 30s (cold) 17s (hot)

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Date	10/02/2023			

TORQUE AND CURRENT VS SPEED CURVE



Three Phase Induction Motor - Squirrel Cage

Customer :

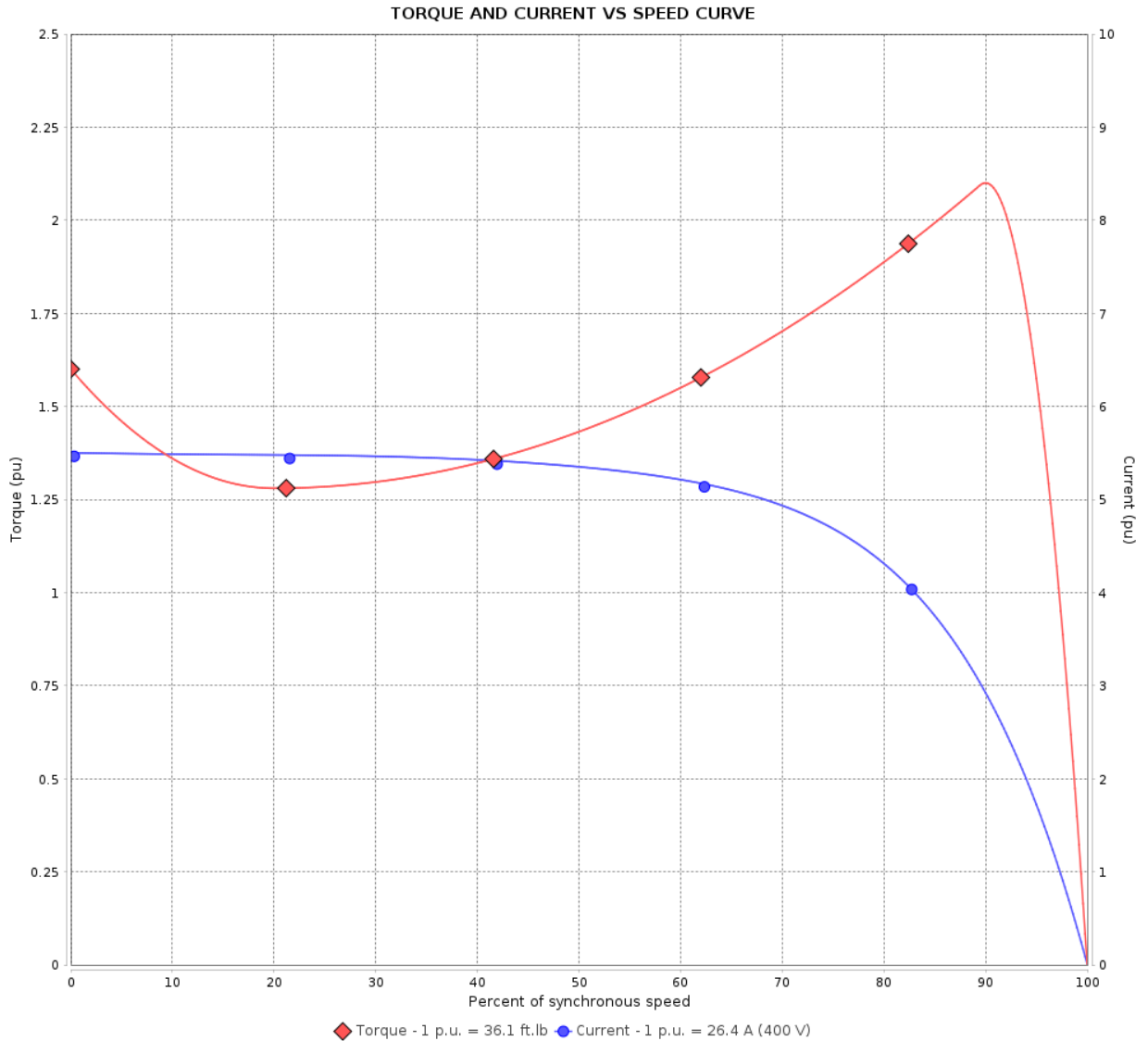
Product line : EXPLOSION PROOF

Product code :

14406886

Catalog # :

02036XT3E256T



Performance : 400 V 50 Hz 2P IE2

Rated current	: 26.4 A	Moment of inertia (J)	: 1.45 sq.ft.lb
LRC	: 5.5	Duty cycle	: Cont.(S1)
Rated torque	: 36.1 ft.lb	Insulation class	: F
Locked rotor torque	: 160 %	Service factor	: 1.00
Breakdown torque	: 210 %	Temperature rise	: 80 K
Rated speed	: 2910 rpm	Design	: B

Locked rotor time : 30s (cold) 17s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



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Product line : EXPLOSION PROOF

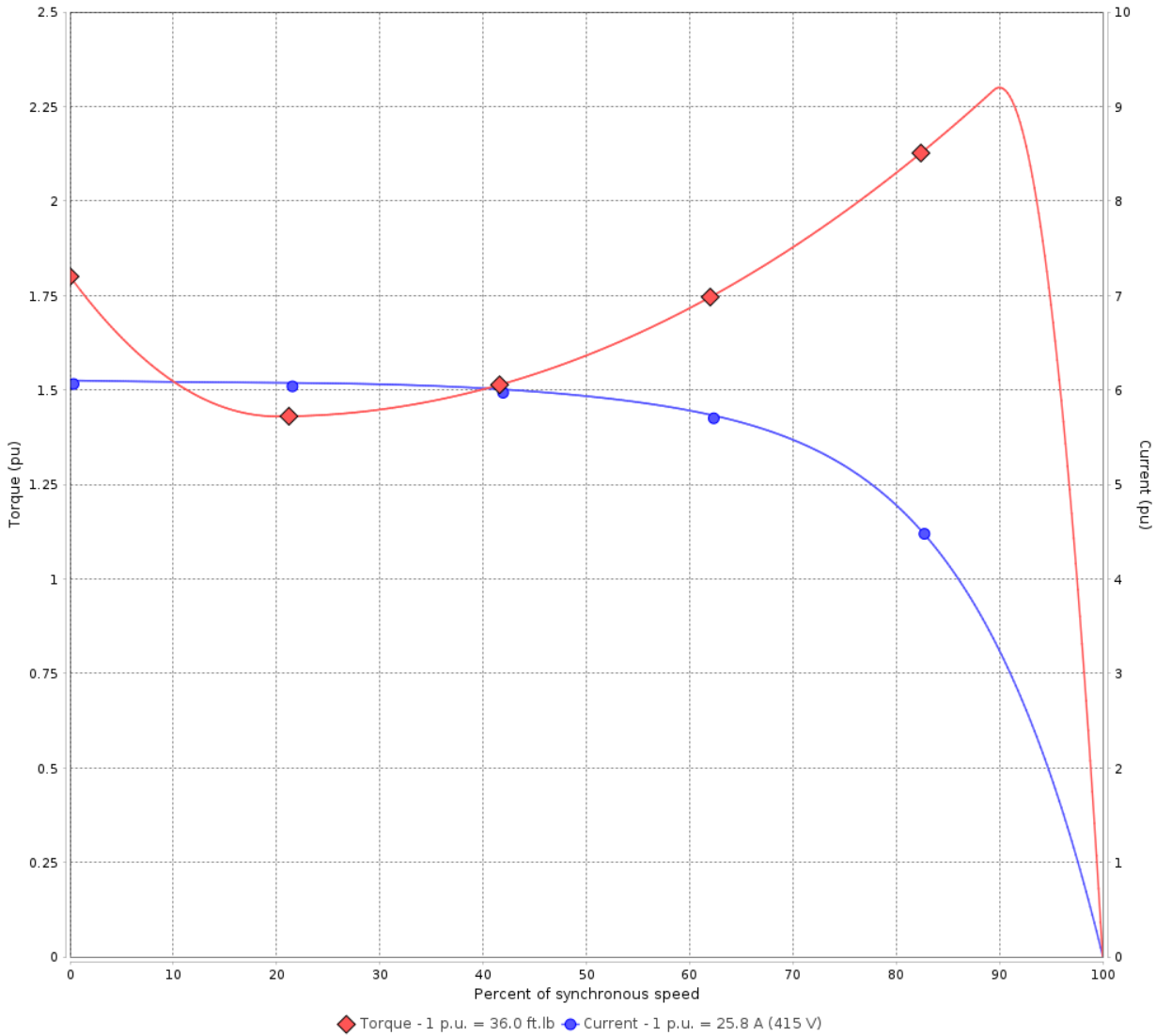
Product code :

14406886

Catalog # :

02036XT3E256T

TORQUE AND CURRENT VS SPEED CURVE



Performance : 415 V 50 Hz 2P IE2

Rated current	: 25.8 A	Moment of inertia (J)	: 1.45 sq.ft.lb
LRC	: 6.1	Duty cycle	: Cont.(S1)
Rated torque	: 36.0 ft.lb	Insulation class	: F
Locked rotor torque	: 180 %	Service factor	: 1.00
Breakdown torque	: 229 %	Temperature rise	: 80 K
Rated speed	: 2920 rpm	Design	: B

Locked rotor time : 30s (cold) 17s (hot)

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LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : _____

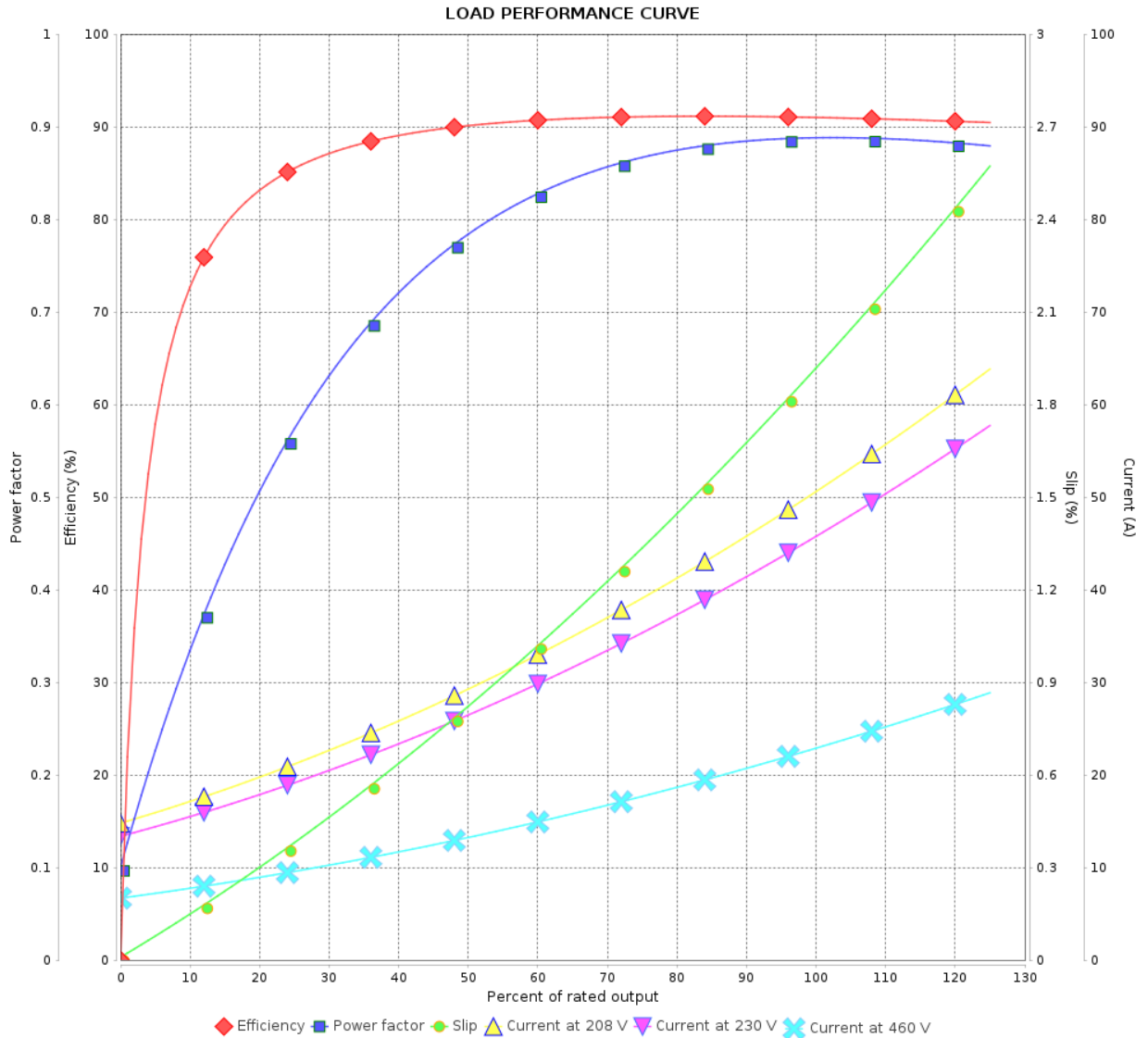
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Performance : 230/460 V 60 Hz 2P

Rated current : 46.4/23.2 A
 LRC : 6.2
 Rated torque : 29.8 ft.lb
 Locked rotor torque : 200 %
 Breakdown torque : 250 %
 Rated speed : 3530 rpm

Moment of inertia (J) : 1.45 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
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Product line : EXPLOSION PROOF

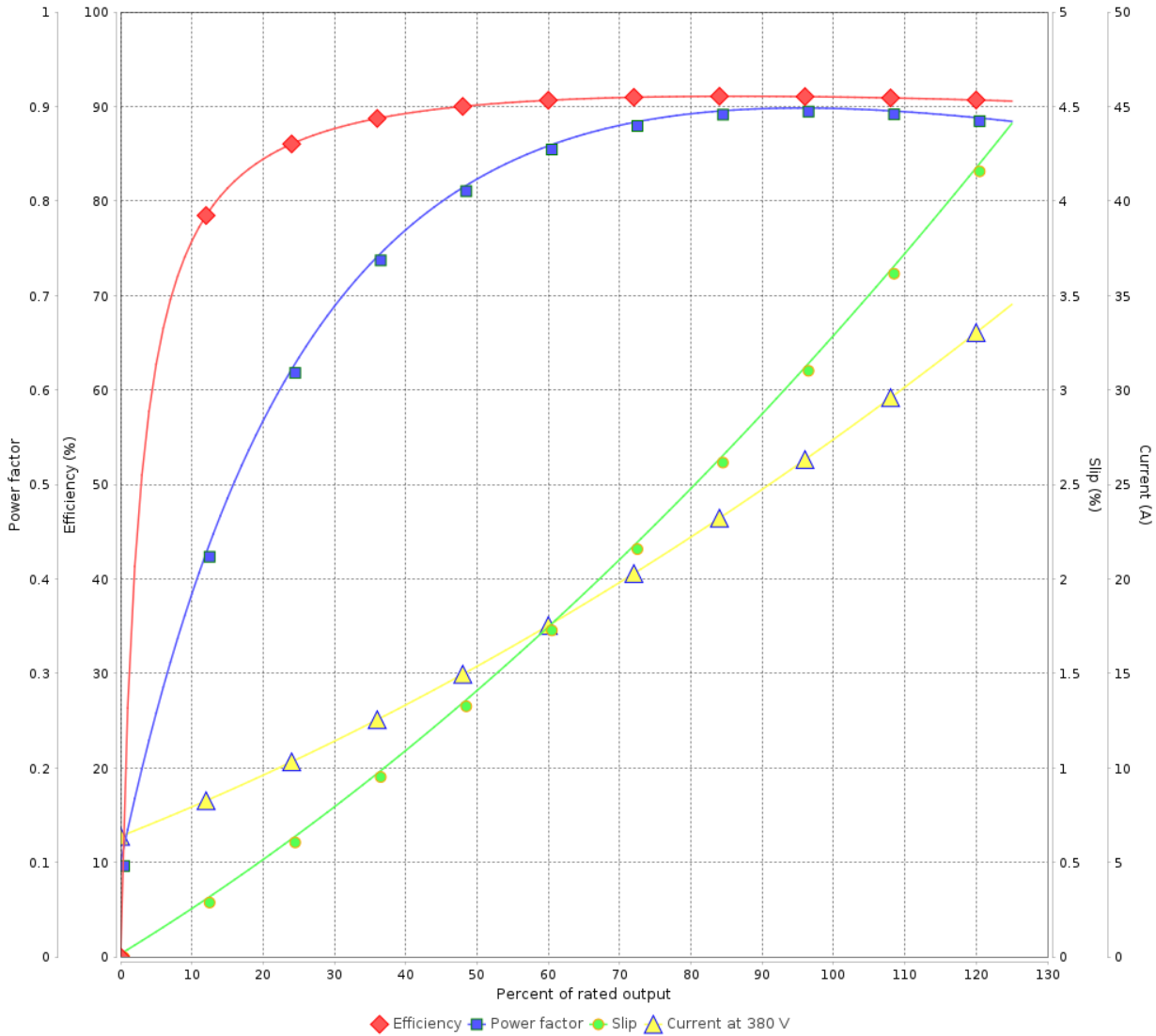
Product code :

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Performance : 380 V 50 Hz 2P IE2

Rated current : 27.8 A
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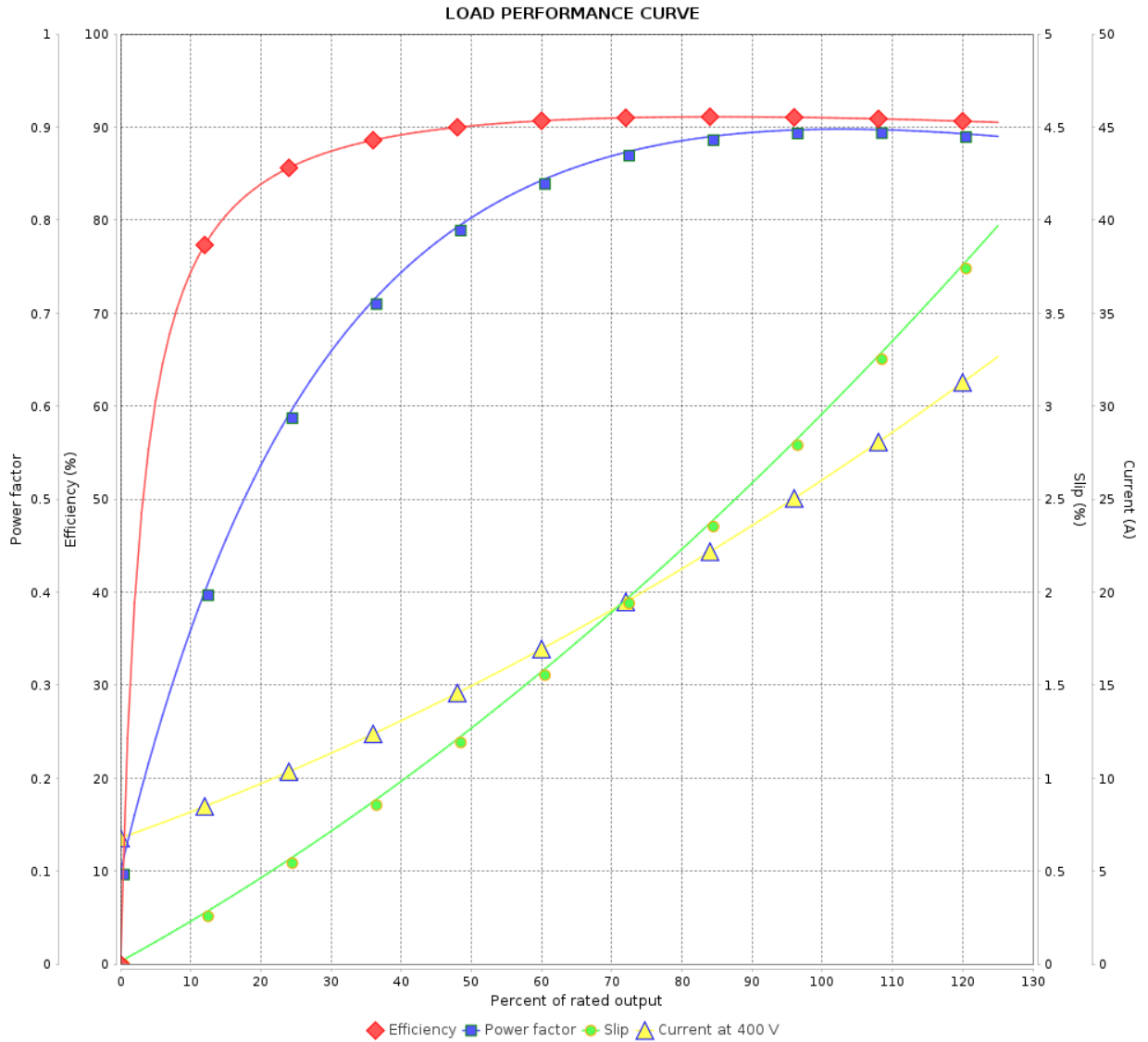
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Performance : 400 V 50 Hz 2P IE2

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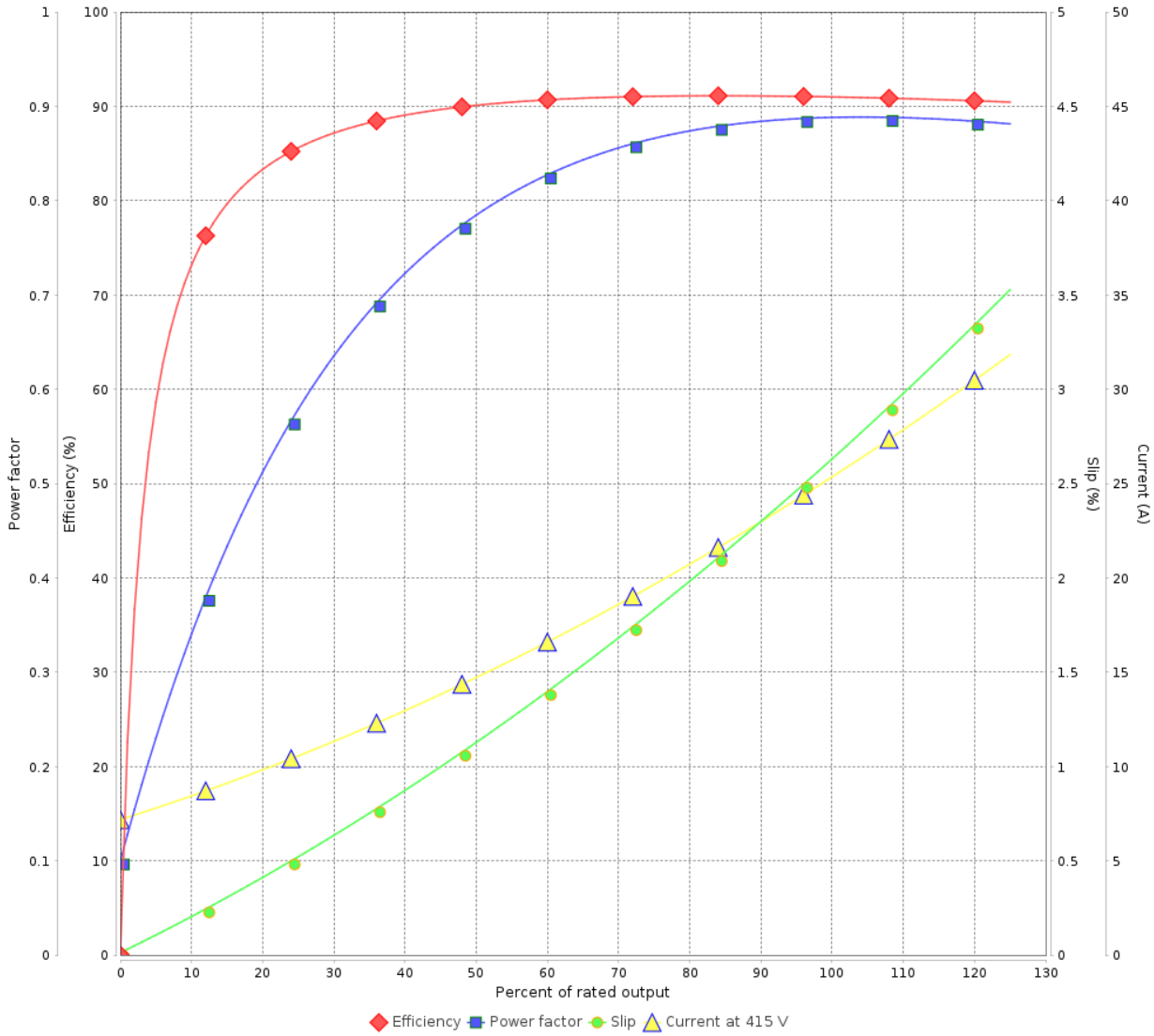
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Date		10/02/2023		

THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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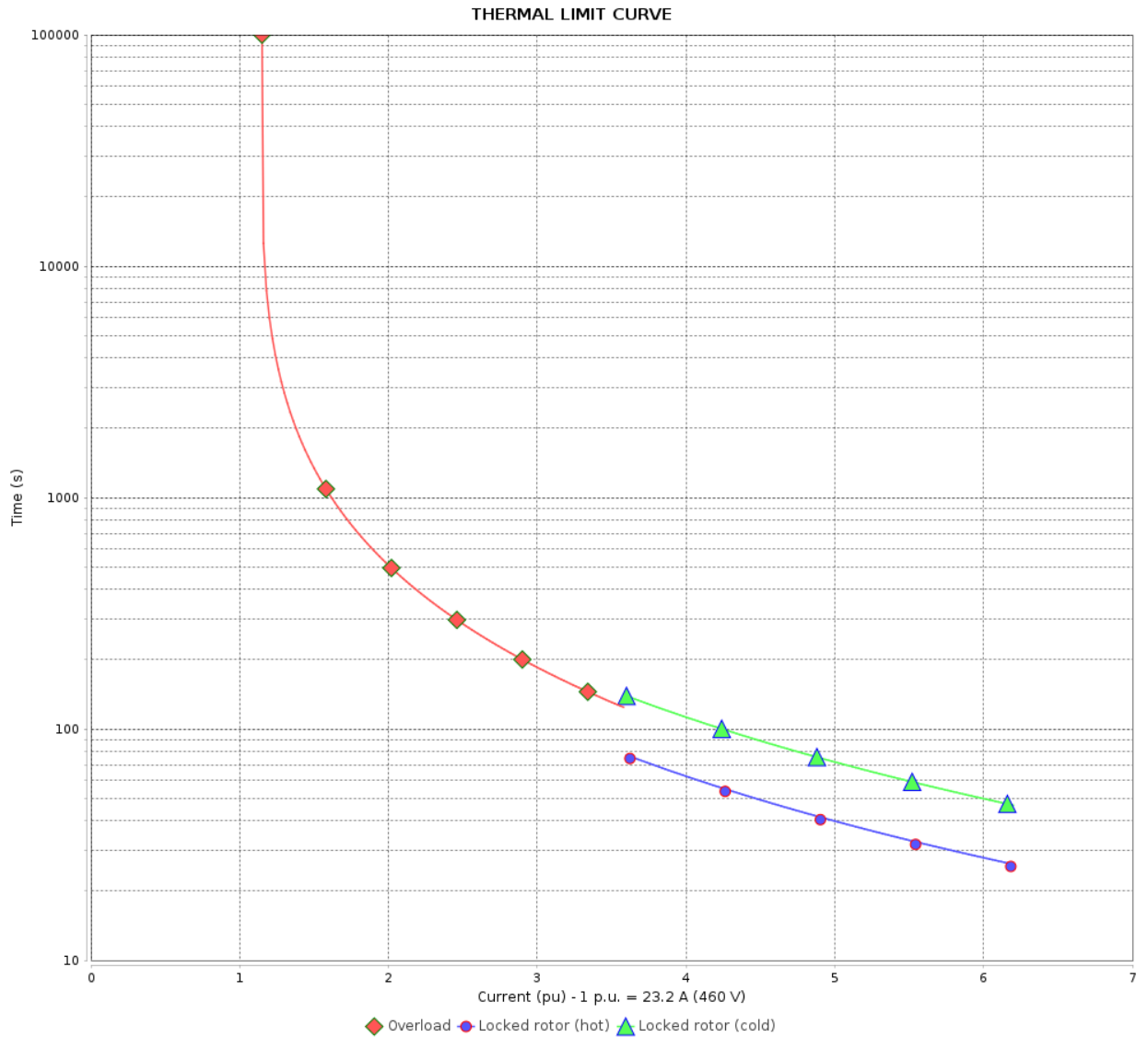
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 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.15
 Temperature rise : 80 K
 Design : B

Heating constant

Cooling constant

Rev.	Changes Summary	Performed	Checked	Date
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THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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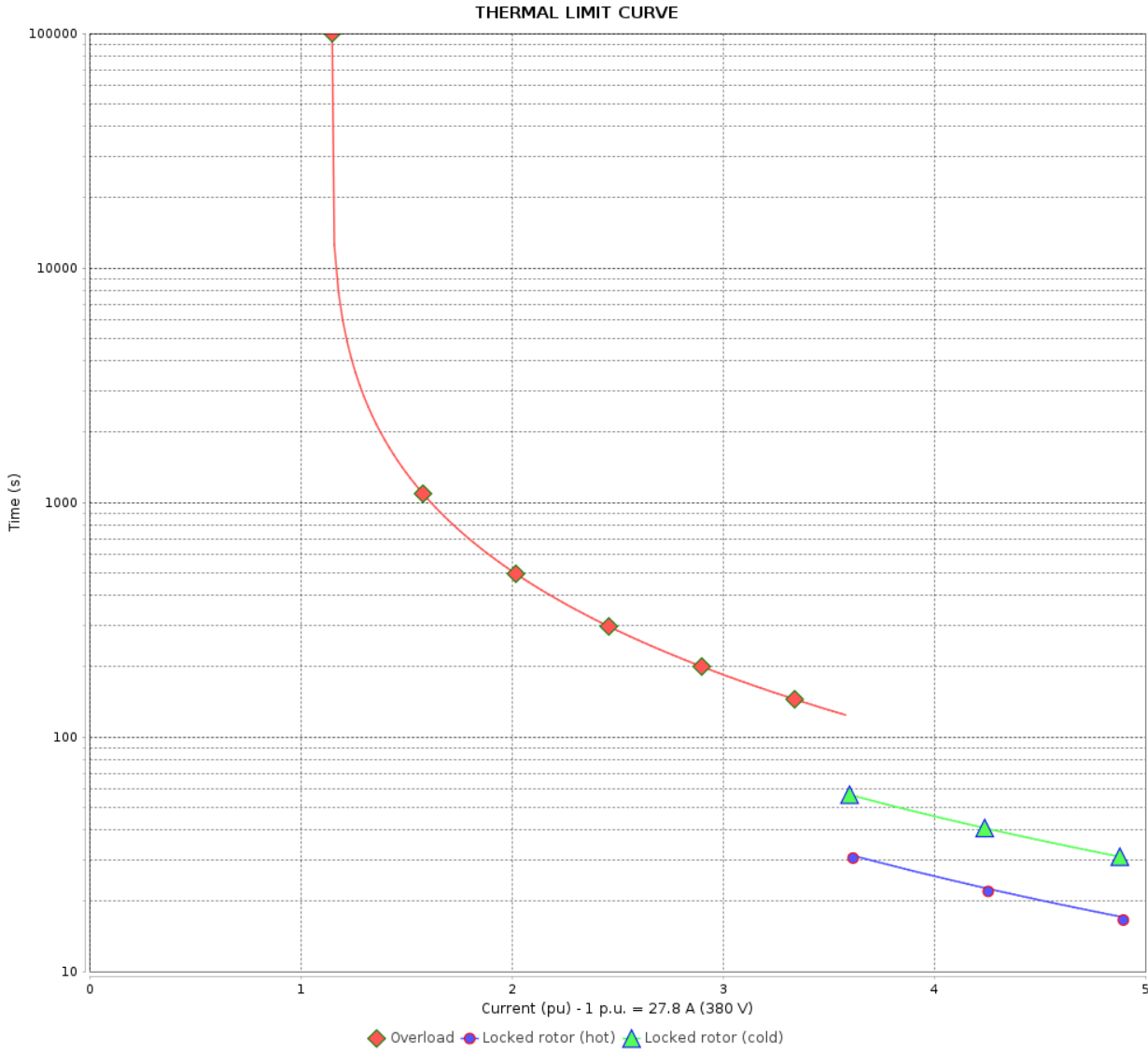
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Locked rotor torque	: 140 %	Service factor	: 1.00
Breakdown torque	: 190 %	Temperature rise	: 80 K
Rated speed	: 2900 rpm	Design	: B

Heating constant

Cooling constant

Rev.	Changes Summary	Performed	Checked	Date
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THERMAL LIMIT CURVE

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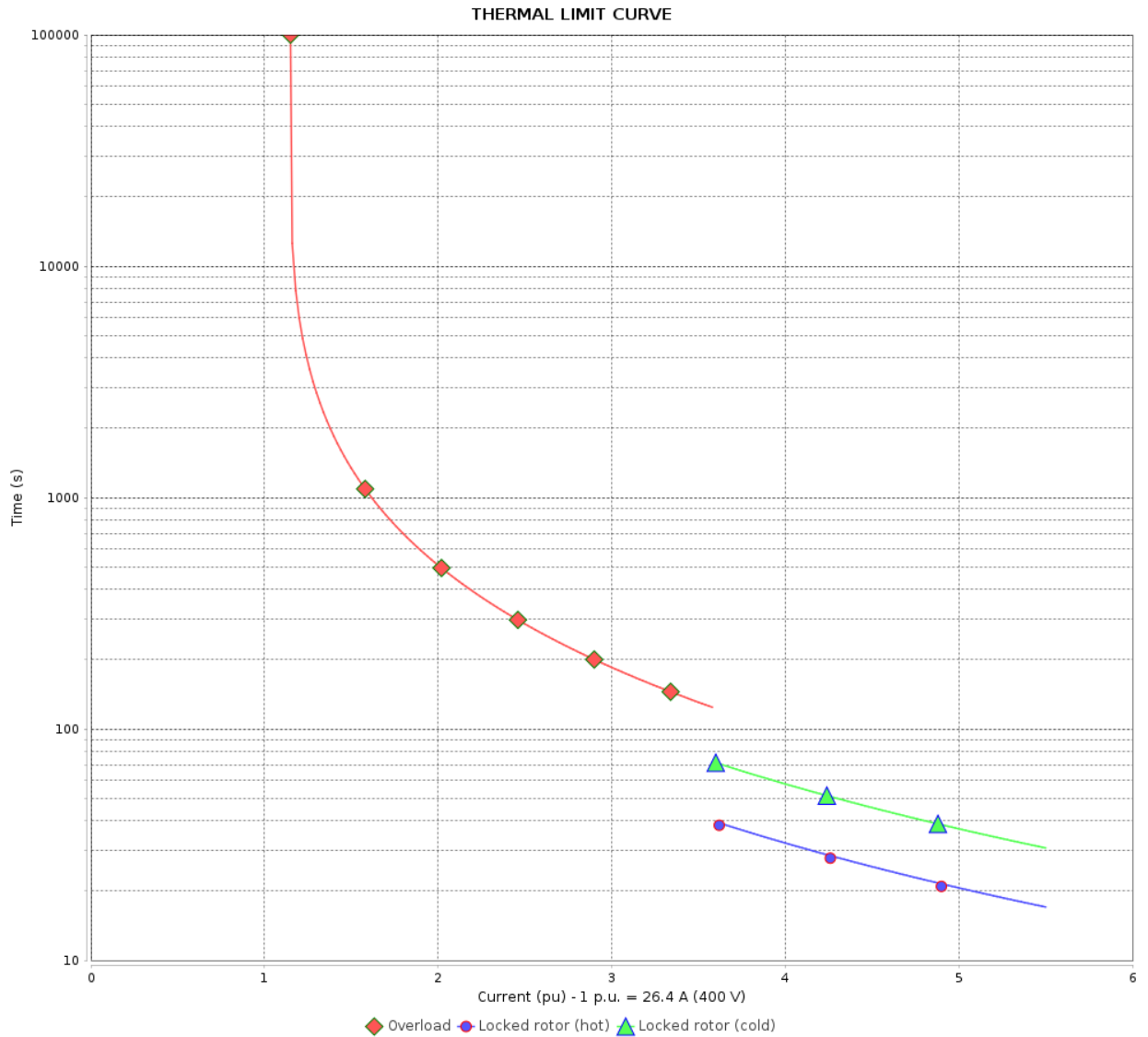
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 Temperature rise : 80 K
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Cooling constant

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THERMAL LIMIT CURVE

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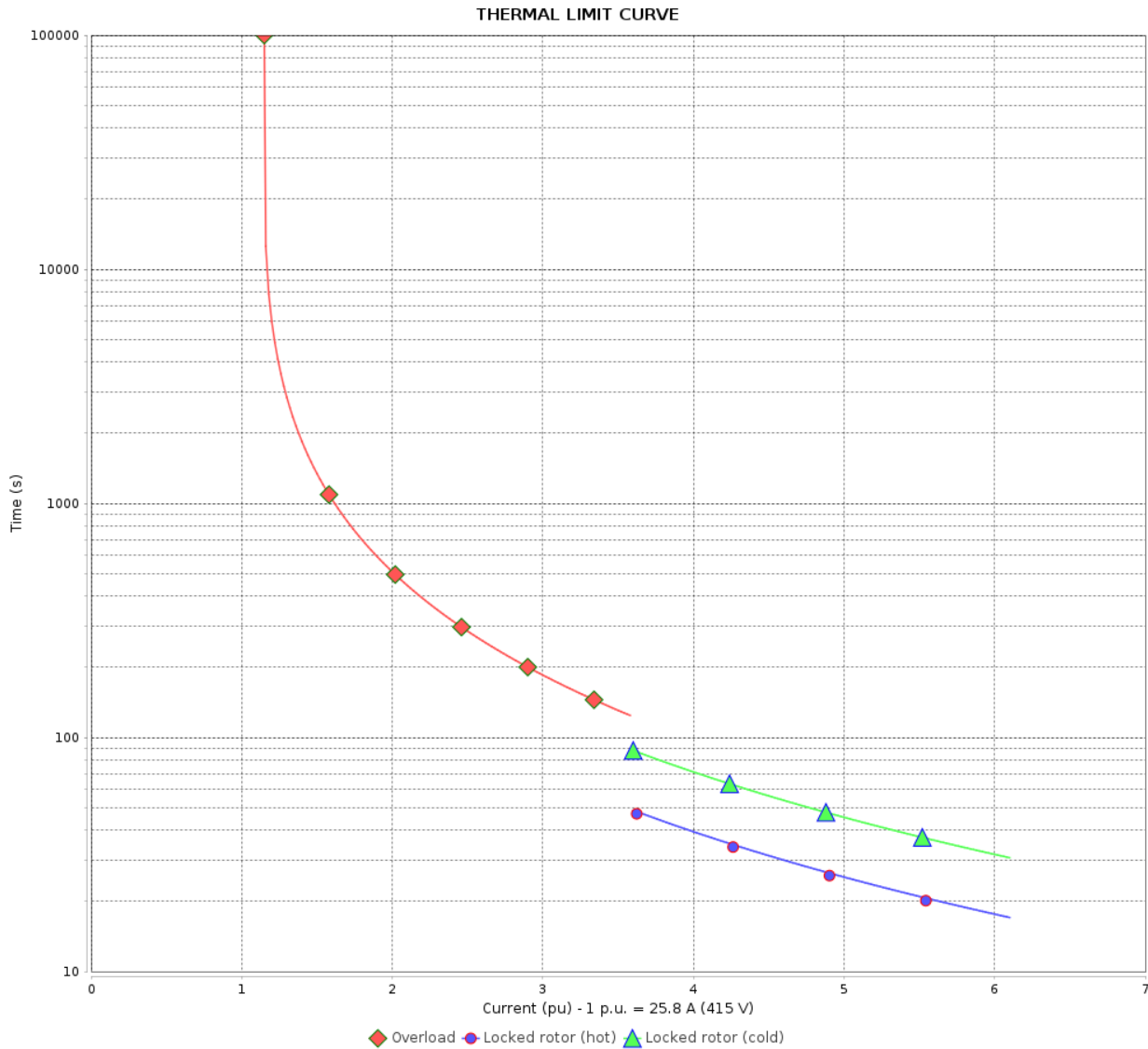
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 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

Heating constant

Cooling constant

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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



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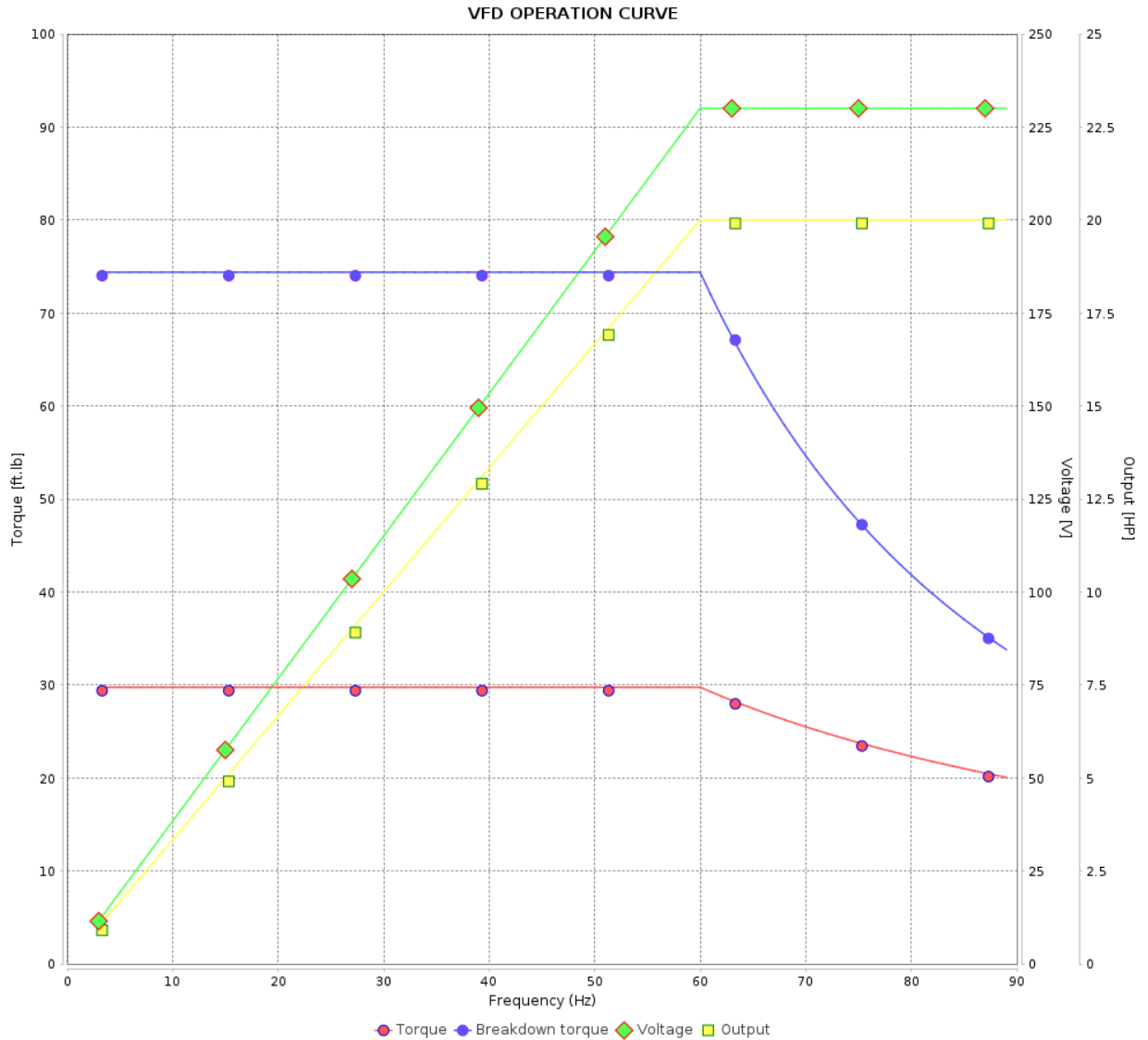
Product line : EXPLOSION PROOF

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 Rated speed : 3530 rpm

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 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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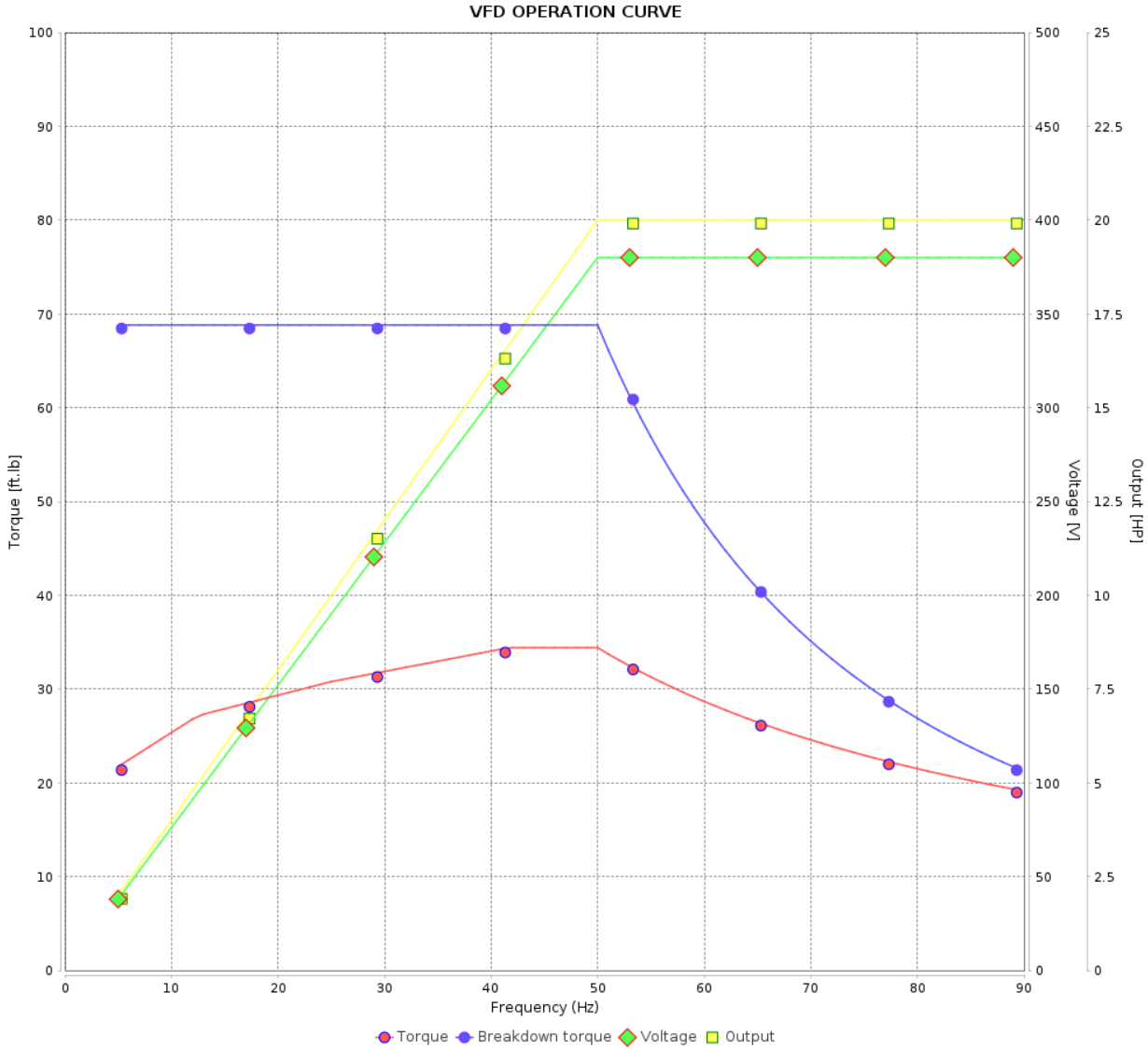
Product line : EXPLOSION PROOF

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Rated torque	: 36.2 ft.lb	Insulation class	: F
Locked rotor torque	: 140 %	Service factor	: 1.00
Breakdown torque	: 190 %	Temperature rise	: 80 K
Rated speed	: 2900 rpm	Design	: B

Rev.	Changes Summary	Performed	Checked	Date
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Date	10/02/2023			

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



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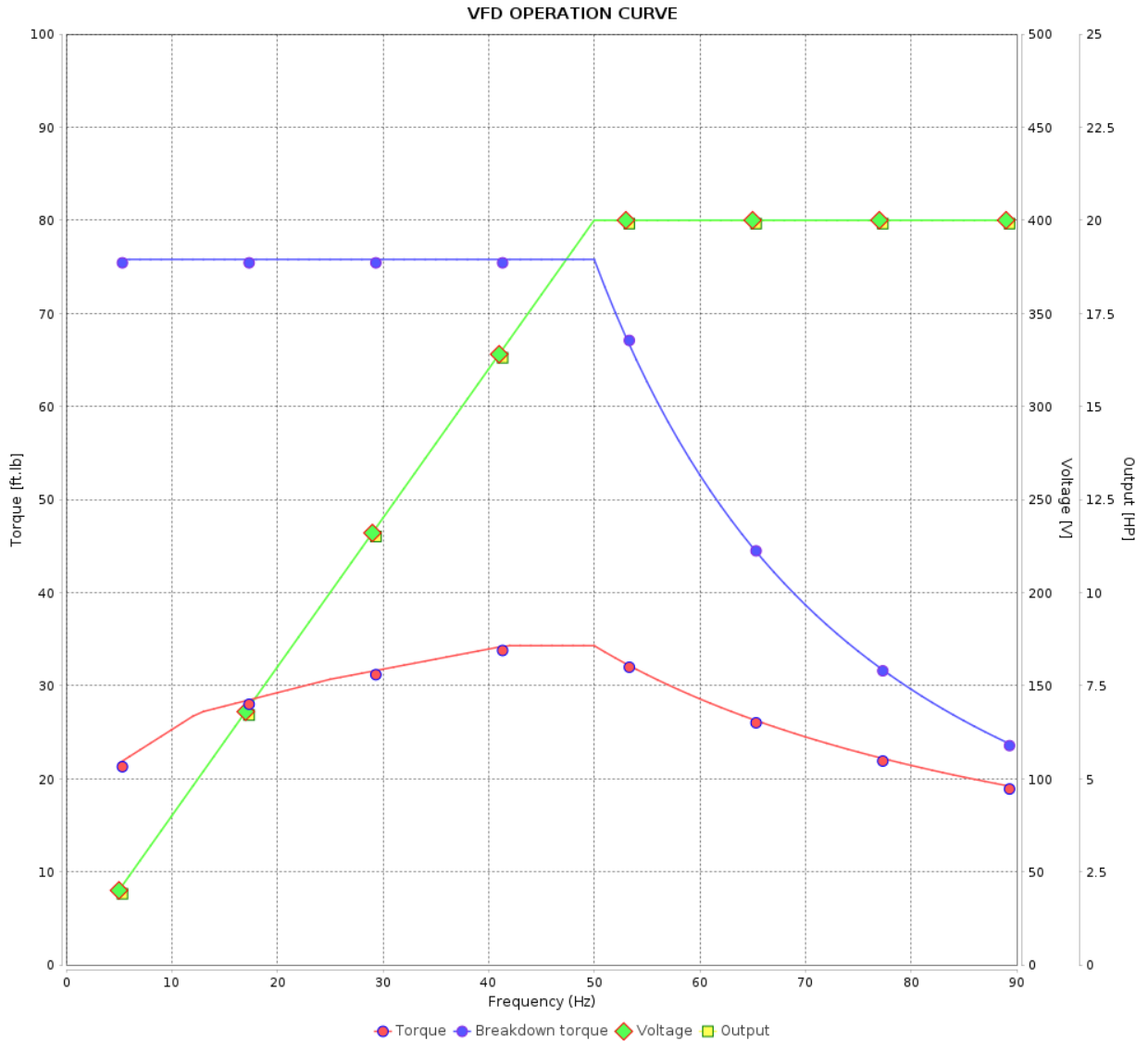
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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



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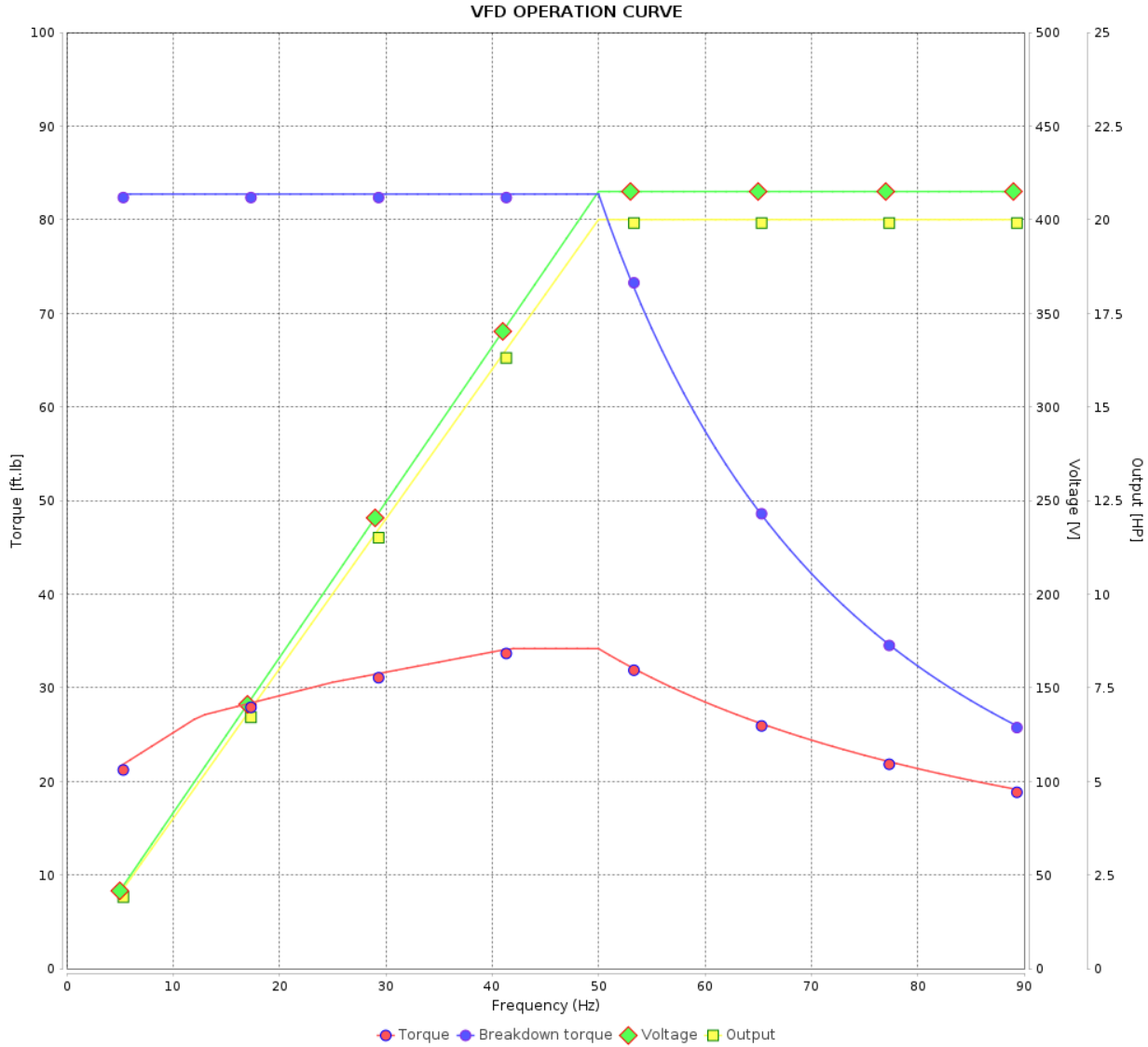
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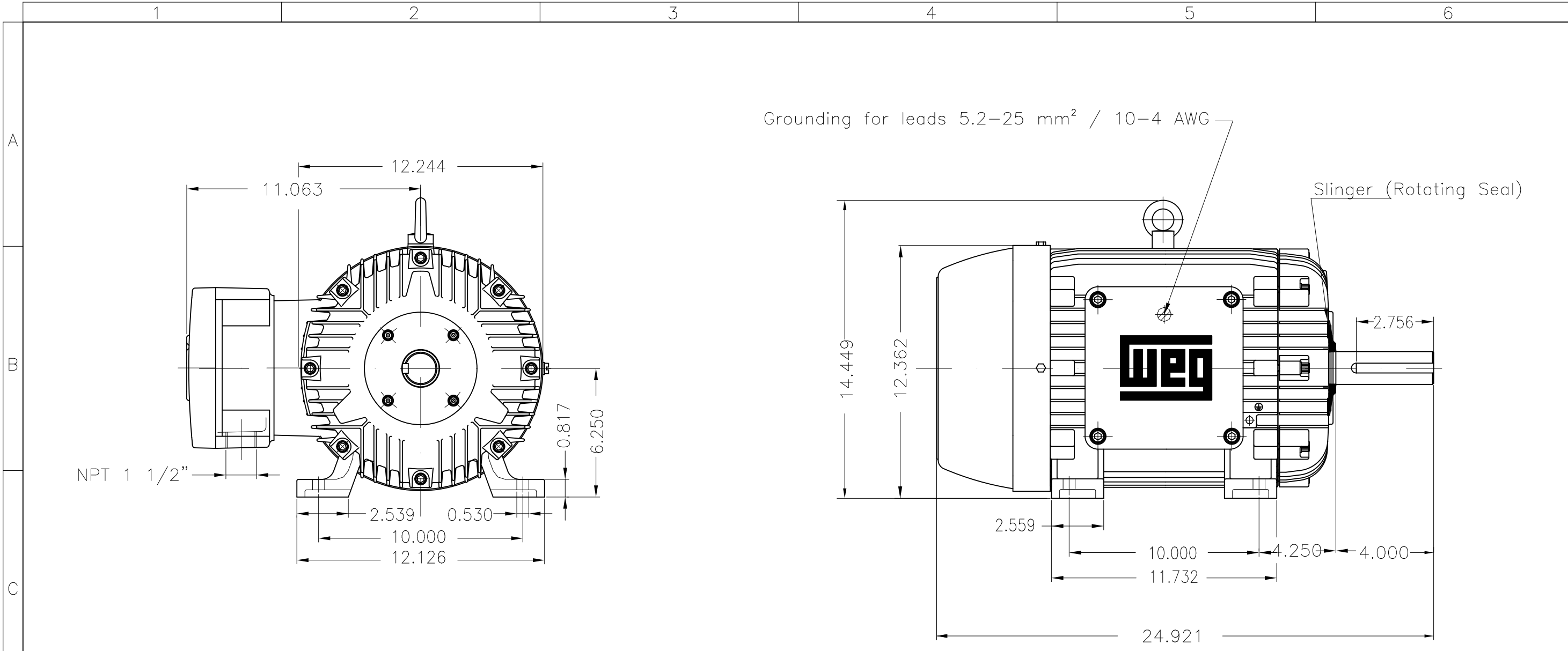
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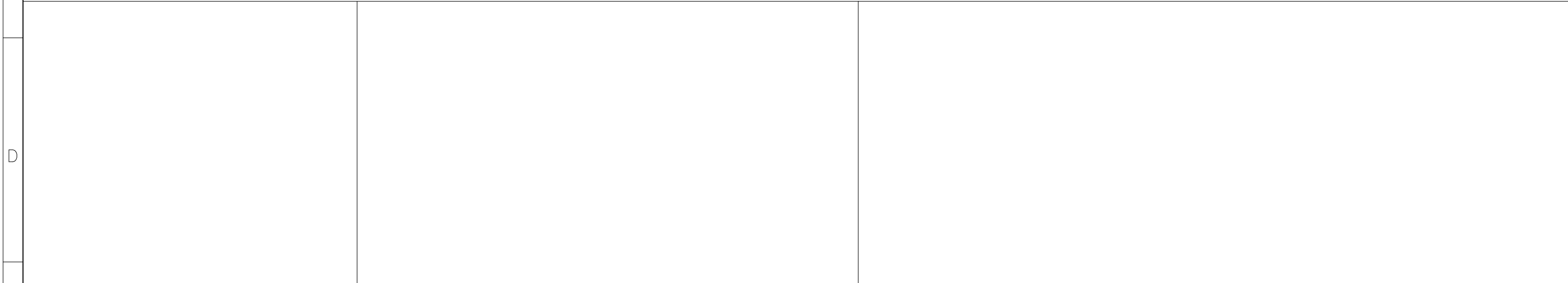
Rev.	Changes Summary	Performed	Checked	Date
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Date				

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

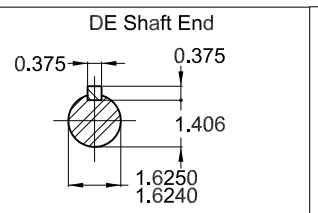
Slinger (Rotating Seal)



NPT 1 1/2"



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



20 HP 02 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.		FRAME 256T IP55 TEFC		PREVIEW		WDD		00					
CHECKED															
RELEASED															
REL. DATE		WMO	Jaragua do Sul	Product Engineering	SHEET	1 / 1									

MADE IN BRAZIL


W21X NEMA
Premium

14406886



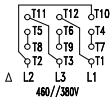
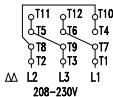
LISTED

CC029A

Inverter Duty Motor
Severe Duty

MODEL 02036XT3E256T

PH 3	FR 256T		
HP(kW) 20.0(15.0)		HZ 60	IP55
V 230/460		A 46.4/23.2	
RPM 3530		NEMA NOM EFF 91.0%	
PF 0.89		SFA 53.4/26.7	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	50.6 A	SF 1.10 SFA 55.7
AMB 55°C SF1.0 -bearings lub interval reduced by a factor of 50%			
20HP 15kW 50Hz 380V 27.8A 2900RPM SF1.00 EFF 91.0% (IE2)			



→ 6309-C3 MOBIL POLYREX EM
 → 6209-C3 13 g 15797 h

364 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.