

DATA SHEET



Three Phase Induction Motor - Squirrel Cage

Customer :								
Product line		: NEMA Premium Efficiency Three-Phase			Product code :		12447793	
					Catalog # :		02512ST3QIE324T-W22	
Frame : 324/6T Insulation class : F Duty cycle : Cont.(S1) Ambient temperature : -20°C to +40°C Altitude : 1000 m.a.s.l. Protection degree : IP55 Design : B				Cooling method : IC411 - TEFC Mounting : F-1 Rotation ¹ : Both (CW and CCW) Starting method : Direct On Line Approx. weight ² : 552 lb Moment of inertia (J) : 11.5 sq.ft.lb				
Output [HP]	25	20	20	20	25	25	25	
Poles	6	6	6	6	6	6	6	
Frequency [Hz]	60	50	50	50	50	50	50	
Rated voltage [V]	460	380	400	415	380	400	415	
Rated current [A]	30.4	30.0	29.4	28.6	36.3	35.1	34.2	
L. R. Amperes [A]	182	174	185	194	171	183	192	
LRC [A]	6.0x(Code G)	5.8x(Code G)	6.3x(Code H)	6.8x(Code H)	4.7x(Code D)	5.2x(Code F)	5.6x(Code F)	
No load current [A]	12.5	12.3	13.3	14.2	12.3	13.3	14.2	
Rated speed [RPM]	1175	970	975	980	965	970	975	
Slip [%]	2.08	3.00	2.50	2.00	3.50	3.00	2.50	
Rated torque [ft.lb]	112	108	108	107	136	135	135	
Locked rotor torque [%]	210	200	229	250	160	180	190	
Breakdown torque [%]	250	240	280	300	190	220	240	
Service factor	1.25	1.00	1.15	1.15	1.00	1.15	1.15	
Temperature rise	80 K	80 K	80 K	80 K	80 K	80 K	80 K	
Locked rotor time	46s (cold)	32s (cold)	32s (cold)	32s (cold)	32s (cold)	32s (cold)	32s (cold)	
	26s (hot)	18s (hot)	18s (hot)	18s (hot)	18s (hot)	18s (hot)	18s (hot)	
Noise level ²	62.0 dB(A)	60.0 dB(A)	60.0 dB(A)	60.0 dB(A)	60.0 dB(A)	60.0 dB(A)	60.0 dB(A)	
Efficiency (%)	25%							
	50%	91.7	91.1	91.1	91.1	91.7	91.7	
	75%	93.0	91.8	92.2	92.2	91.7	92.4	
	100%	93.0	91.6	92.2	92.2	91.0	91.7	
Power Factor	25%							
	50%	0.65	0.63	0.60	0.57	0.71	0.68	
	75%	0.77	0.76	0.74	0.71	0.81	0.79	
	100%	0.82	0.83	0.80	0.79	0.85	0.83	
Bearing type		Drive end	Non drive end	Foundation loads				
Sealing		Inpro/Seal	Inpro/Seal	Max. traction		: 964 lb		
Lubrication interval		20000 h	20000 h	Max. compression		: 1516 lb		
Lubricant amount		21 g	13 g					
Lubricant type		Mobil Polyrex EM						
Notes								
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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TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



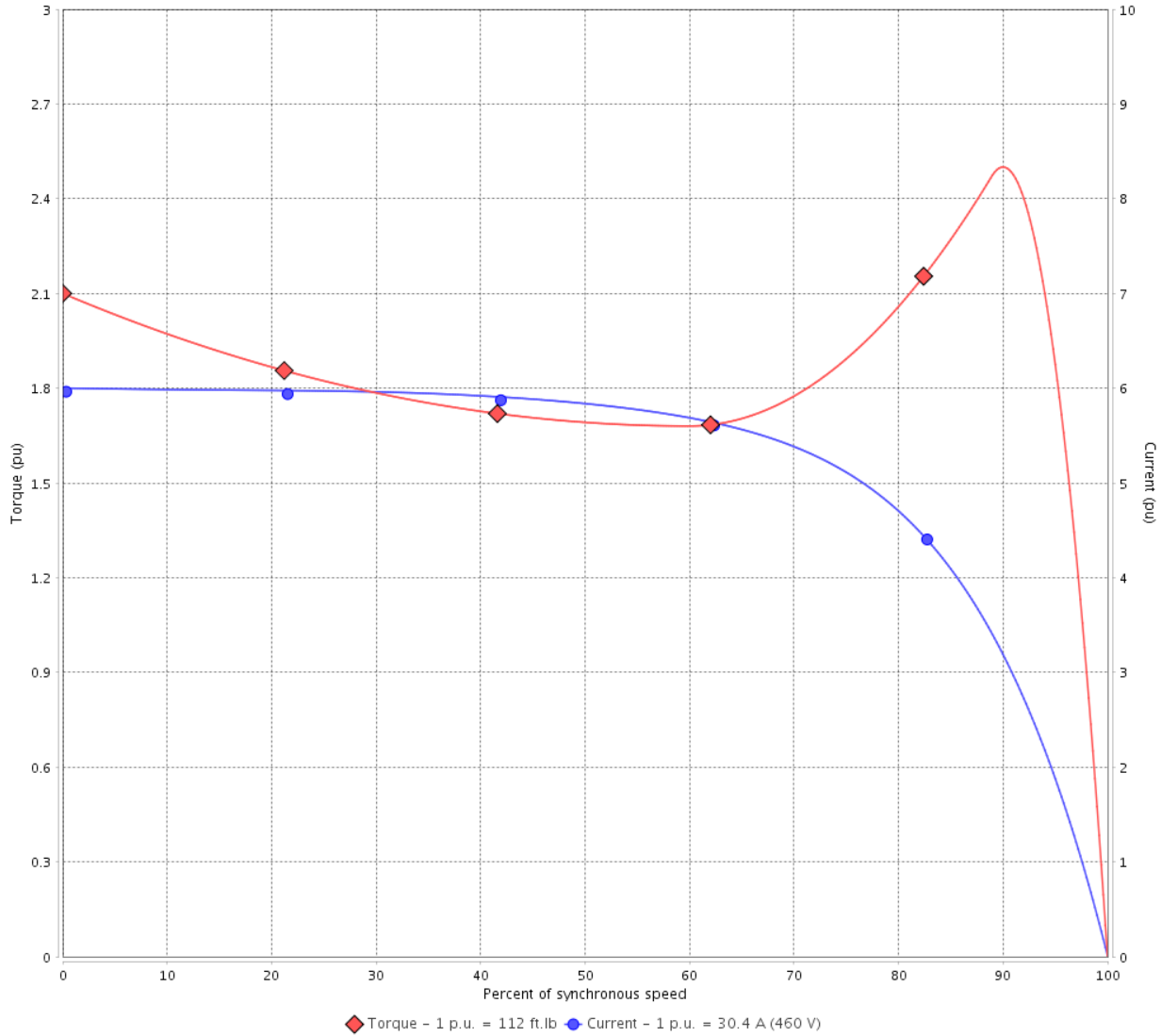
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12447793

Catalog # : 02512ST3QIE324T-W22

TORQUE AND CURRENT VS SPEED CURVE



Performance : 460 V 60 Hz 6P

Rated current	: 30.4 A	Moment of inertia (J)	: 11.5 sq.ft.lb
LRC	: 6.0	Duty cycle	: Cont.(S1)
Rated torque	: 112 ft.lb	Insulation class	: F
Locked rotor torque	: 210 %	Service factor	: 1.25
Breakdown torque	: 250 %	Temperature rise	: 80 K
Rated speed	: 1175 rpm	Design	: B

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

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TORQUE AND CURRENT VS SPEED CURVE



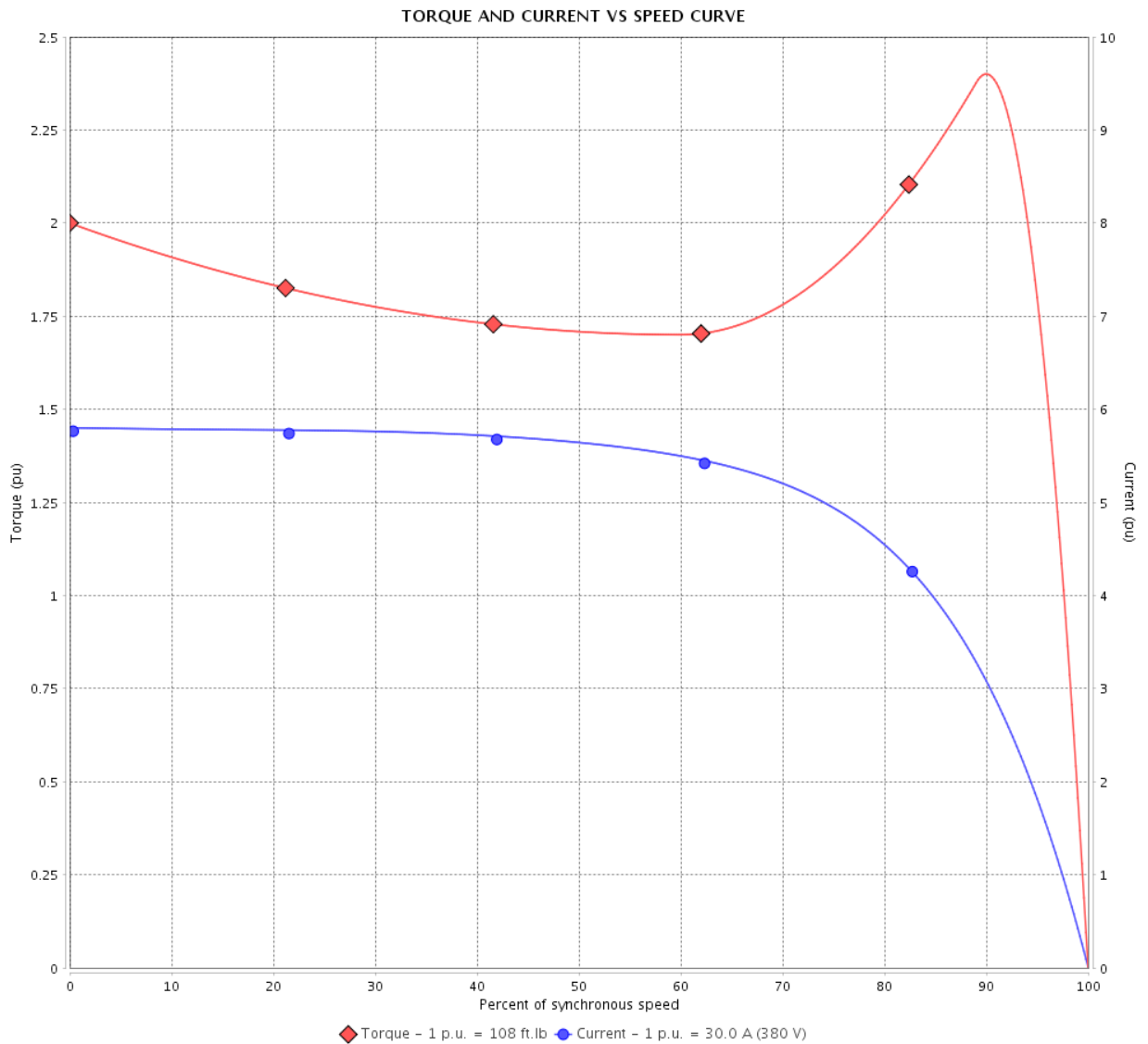
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Customer :

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Product code : 12447793

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Performance : 380 V 50 Hz 6P IE3

Rated current	: 30.0 A	Moment of inertia (J)	: 11.5 sq.ft.lb
LRC	: 5.8	Duty cycle	: Cont.(S1)
Rated torque	: 108 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.00
Breakdown torque	: 240 %	Temperature rise	: 80 K
Rated speed	: 970 rpm	Design	: B

Locked rotor time : 32s (cold) 18s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

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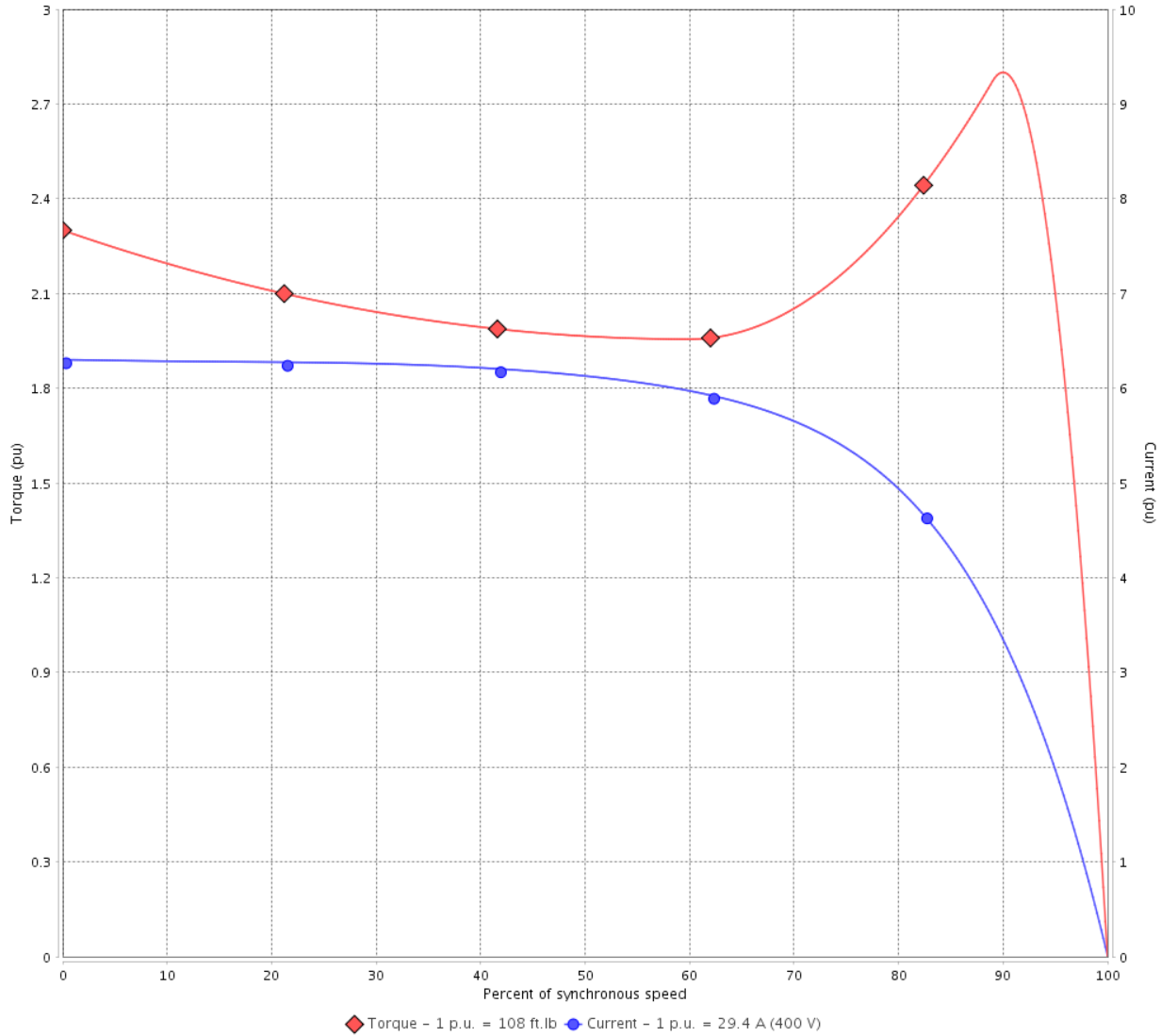
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TORQUE AND CURRENT VS SPEED CURVE



Performance : 400 V 50 Hz 6P IE3

Rated current	: 29.4 A	Moment of inertia (J)	: 11.5 sq.ft.lb
LRC	: 6.3	Duty cycle	: Cont.(S1)
Rated torque	: 108 ft.lb	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.15
Breakdown torque	: 280 %	Temperature rise	: 80 K
Rated speed	: 975 rpm	Design	: B

Locked rotor time : 32s (cold) 18s (hot)

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TORQUE AND CURRENT VS SPEED CURVE



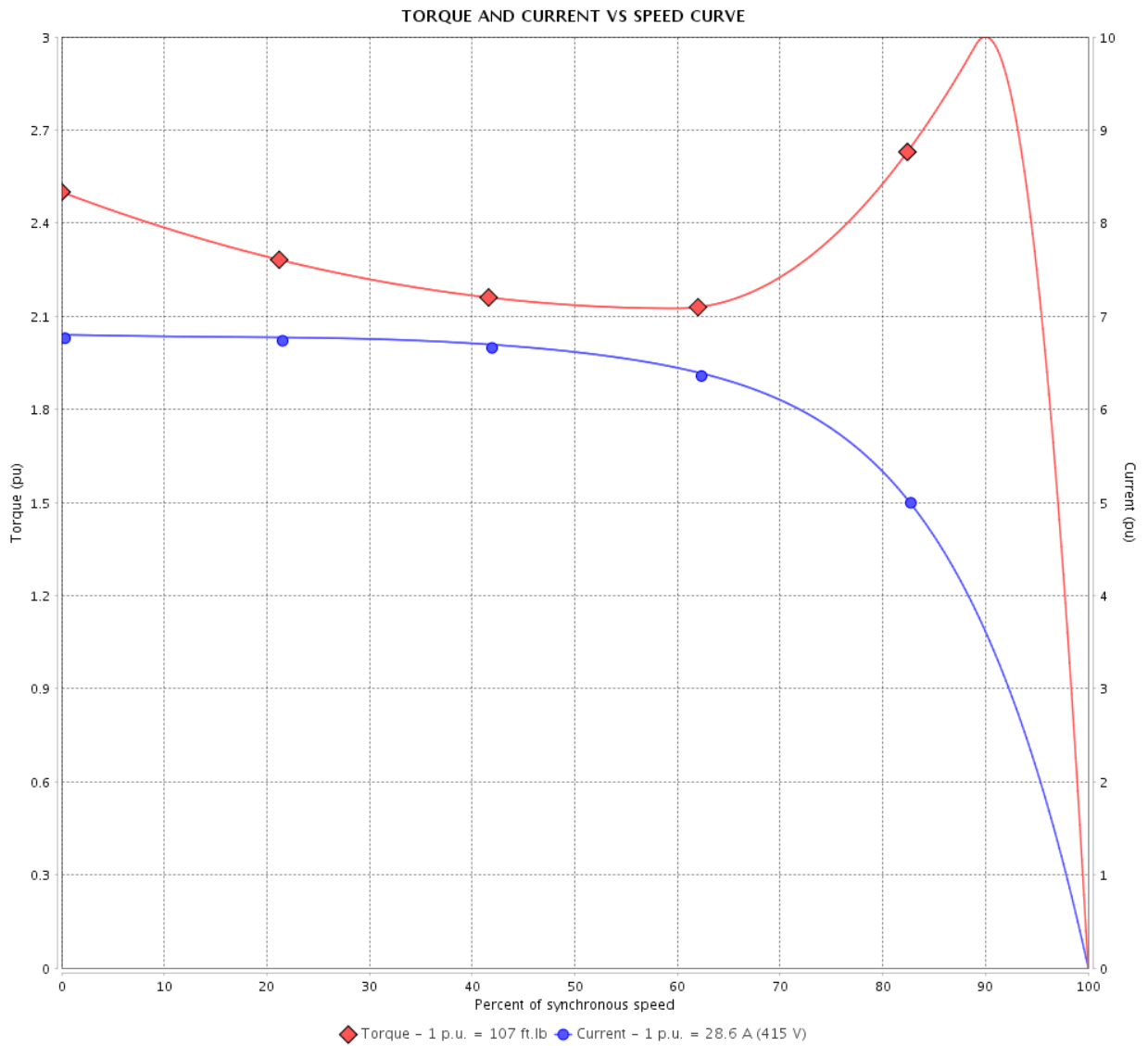
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Performance : 415 V 50 Hz 6P IE3

Rated current	: 28.6 A	Moment of inertia (J)	: 11.5 sq.ft.lb
LRC	: 6.8	Duty cycle	: Cont.(S1)
Rated torque	: 107 ft.lb	Insulation class	: F
Locked rotor torque	: 250 %	Service factor	: 1.15
Breakdown torque	: 300 %	Temperature rise	: 80 K
Rated speed	: 980 rpm	Design	: B

Locked rotor time : 32s (cold) 18s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

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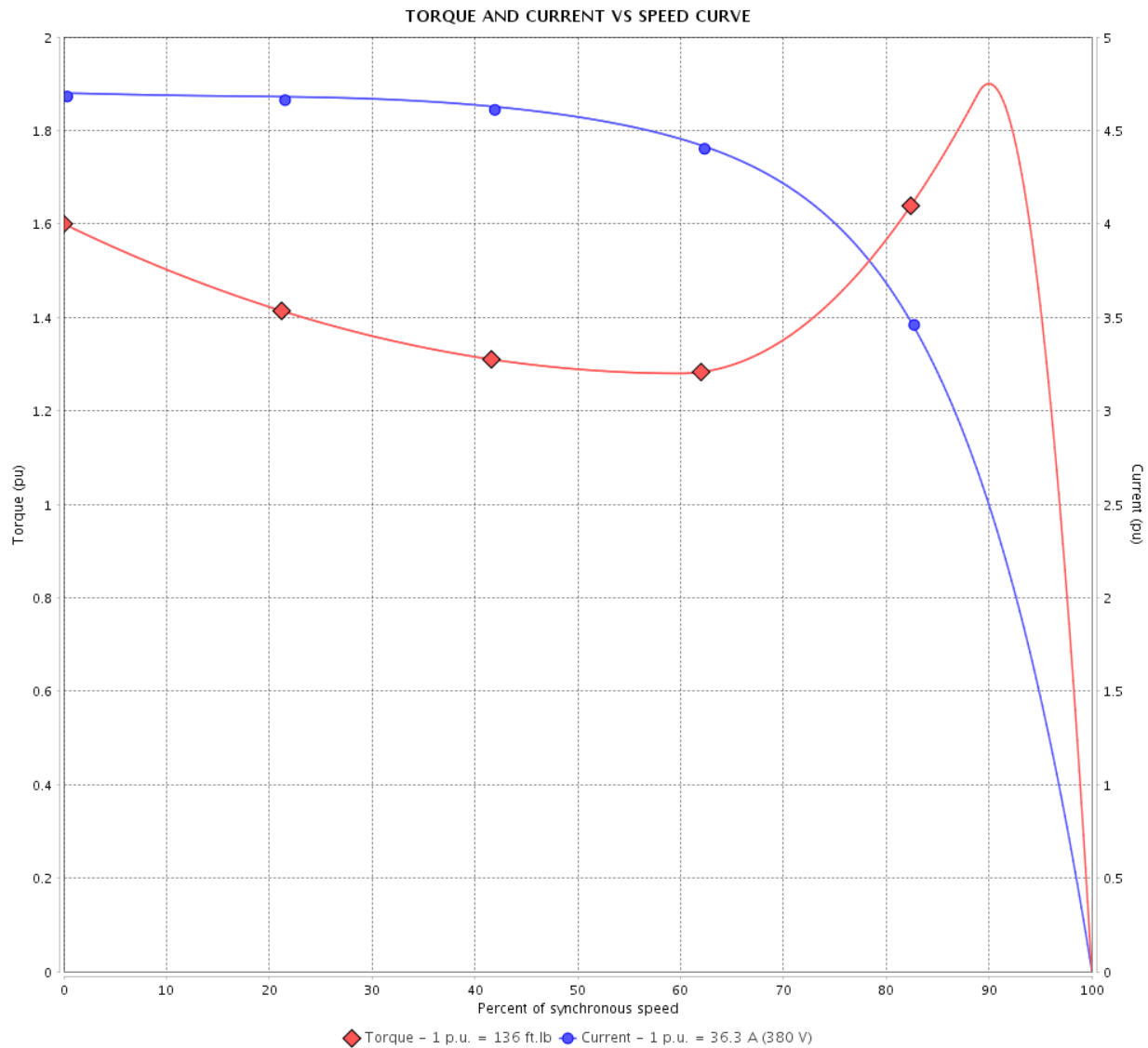


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Performance : 380 V 50 Hz 6P IE2

Rated current	: 36.3 A	Moment of inertia (J)	: 11.5 sq.ft.lb
LRC	: 4.7	Duty cycle	: Cont.(S1)
Rated torque	: 136 ft.lb	Insulation class	: F
Locked rotor torque	: 160 %	Service factor	: 1.00
Breakdown torque	: 190 %	Temperature rise	: 80 K
Rated speed	: 965 rpm	Design	: B

Locked rotor time : 32s (cold) 18s (hot)

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TORQUE AND CURRENT VS SPEED CURVE



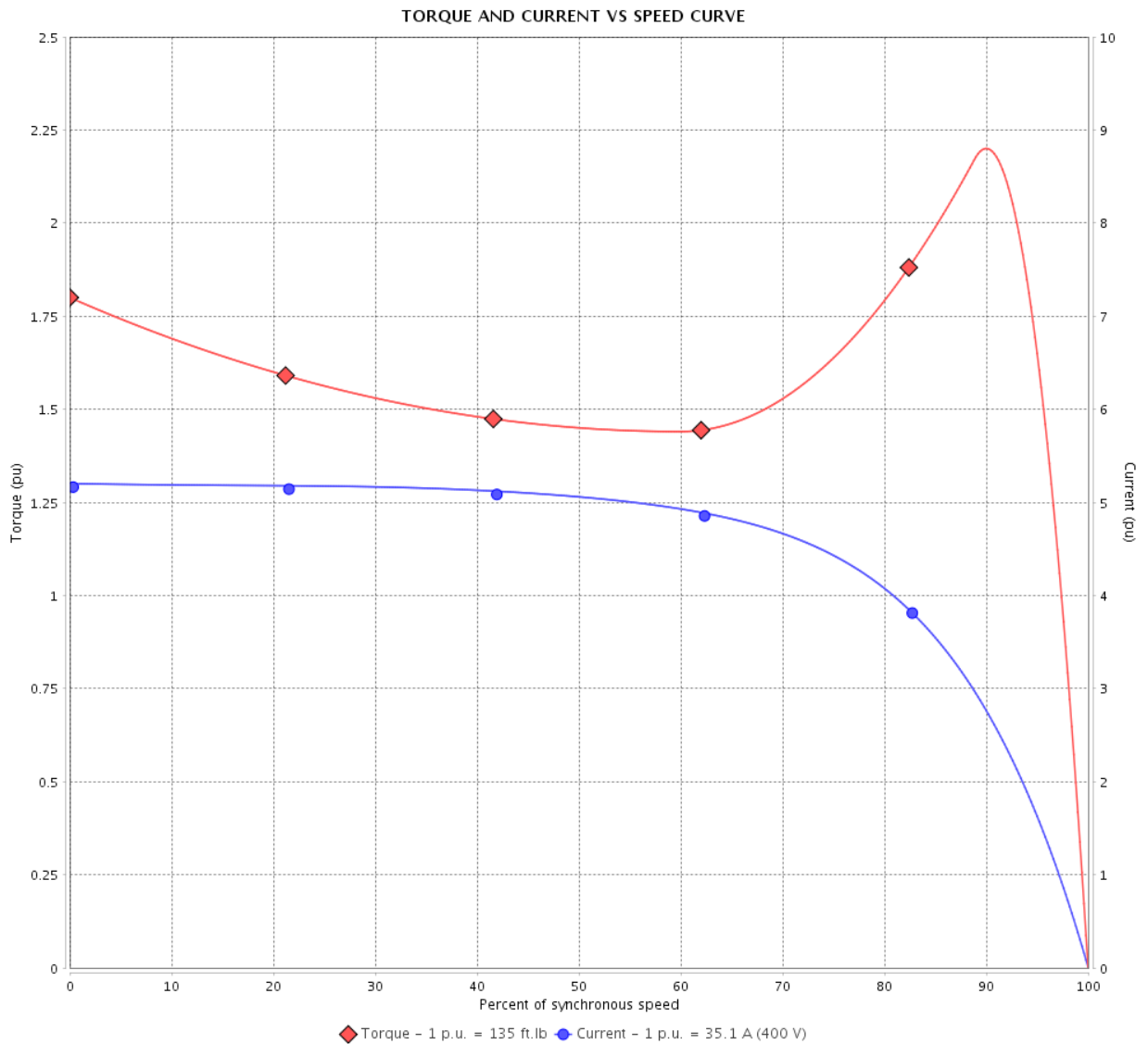
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Performance : 400 V 50 Hz 6P IE3

Rated current	: 35.1 A	Moment of inertia (J)	: 11.5 sq.ft.lb
LRC	: 5.2	Duty cycle	: Cont.(S1)
Rated torque	: 135 ft.lb	Insulation class	: F
Locked rotor torque	: 180 %	Service factor	: 1.15
Breakdown torque	: 220 %	Temperature rise	: 80 K
Rated speed	: 970 rpm	Design	: B

Locked rotor time : 32s (cold) 18s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

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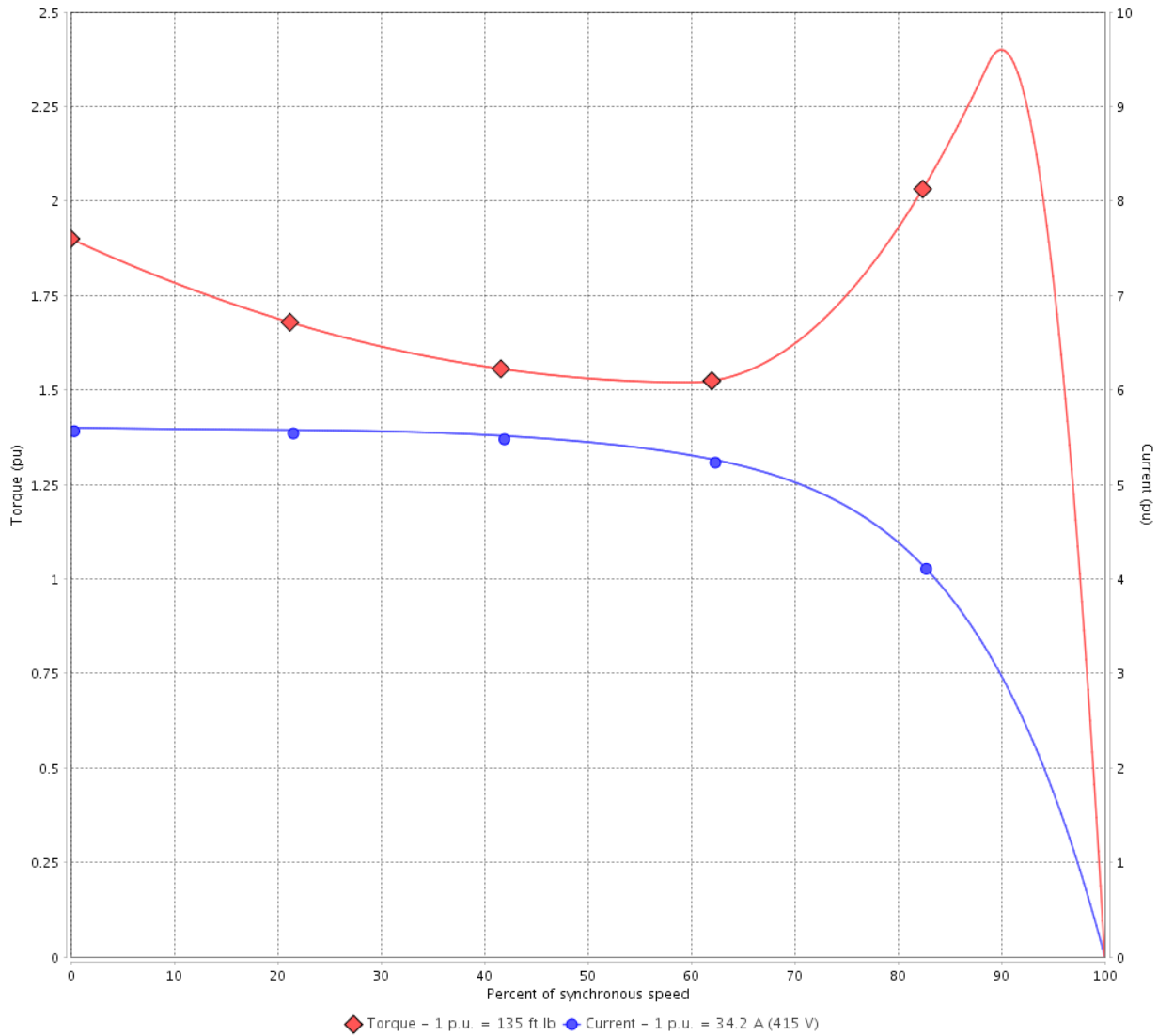
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TORQUE AND CURRENT VS SPEED CURVE



Performance : 415 V 50 Hz 6P IE3

Rated current	: 34.2 A	Moment of inertia (J)	: 11.5 sq.ft.lb
LRC	: 5.6	Duty cycle	: Cont.(S1)
Rated torque	: 135 ft.lb	Insulation class	: F
Locked rotor torque	: 190 %	Service factor	: 1.15
Breakdown torque	: 240 %	Temperature rise	: 80 K
Rated speed	: 975 rpm	Design	: B

Locked rotor time : 32s (cold) 18s (hot)

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Three Phase Induction Motor - Squirrel Cage

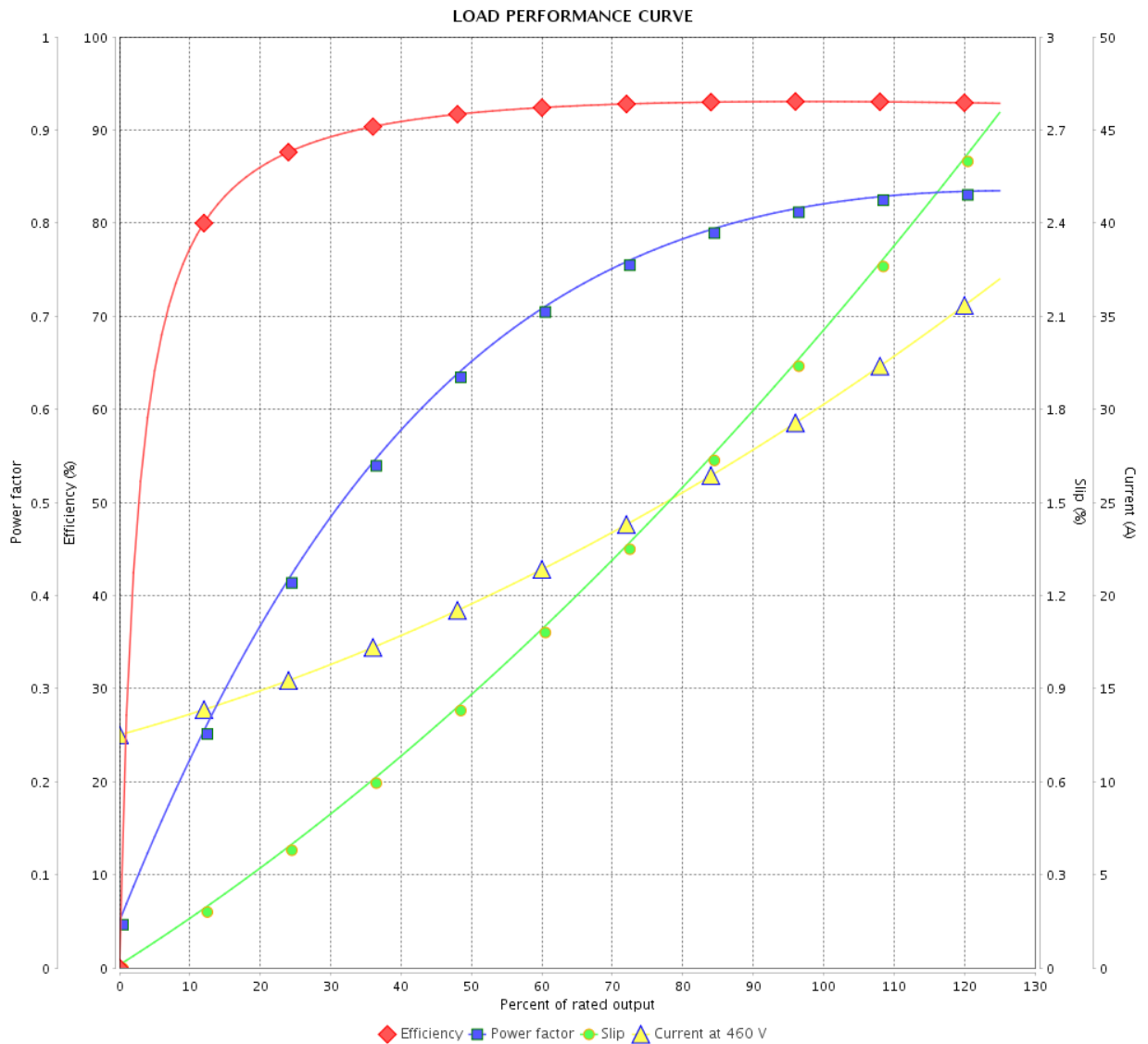


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Performance : 460 V 60 Hz 6P

Rated current : 30.4 A
 LRC : 6.0
 Rated torque : 112 ft.lb
 Locked rotor torque : 210 %
 Breakdown torque : 250 %
 Rated speed : 1175 rpm

Moment of inertia (J) : 11.5 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.25
 Temperature rise : 80 K
 Design : B

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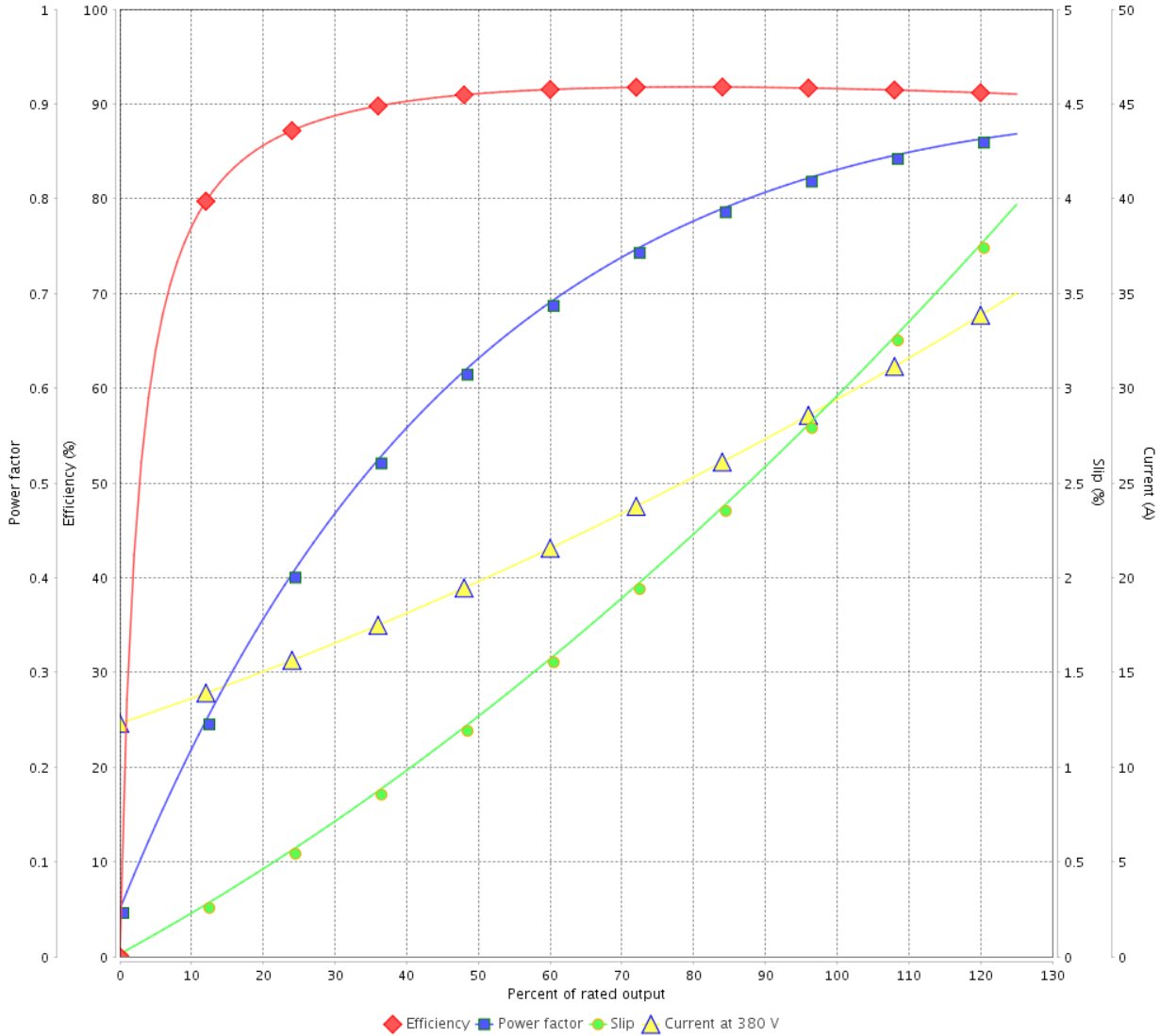
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Performance : 380 V 50 Hz 6P IE3

Rated current : 30.0 A
 LRC : 5.8
 Rated torque : 108 ft.lb
 Locked rotor torque : 200 %
 Breakdown torque : 240 %
 Rated speed : 970 rpm

Moment of inertia (J) : 11.5 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

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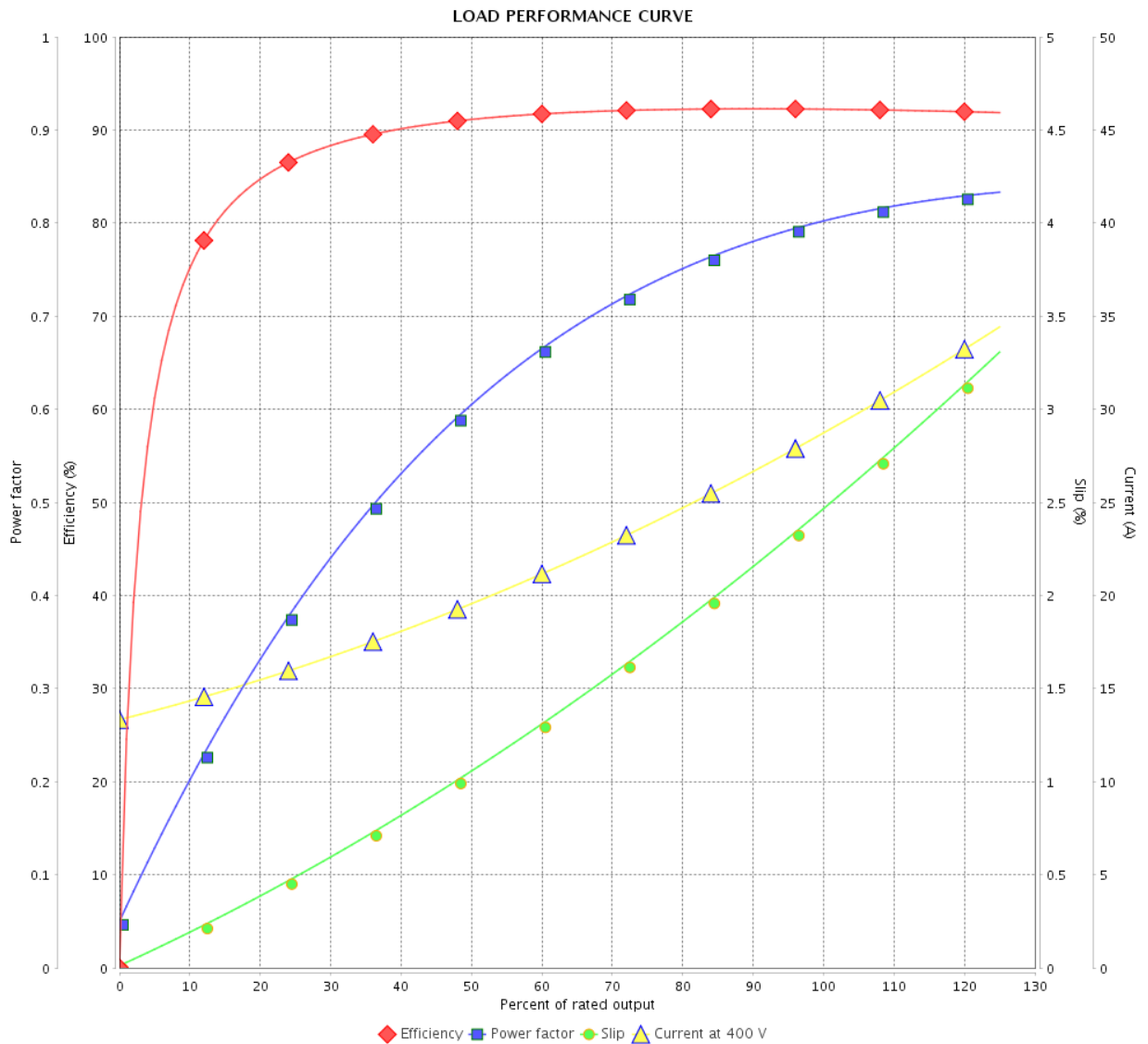


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Performance : 400 V 50 Hz 6P IE3

Rated current : 29.4 A
 LRC : 6.3
 Rated torque : 108 ft.lb
 Locked rotor torque : 229 %
 Breakdown torque : 280 %
 Rated speed : 975 rpm

Moment of inertia (J) : 11.5 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.15
 Temperature rise : 80 K
 Design : B

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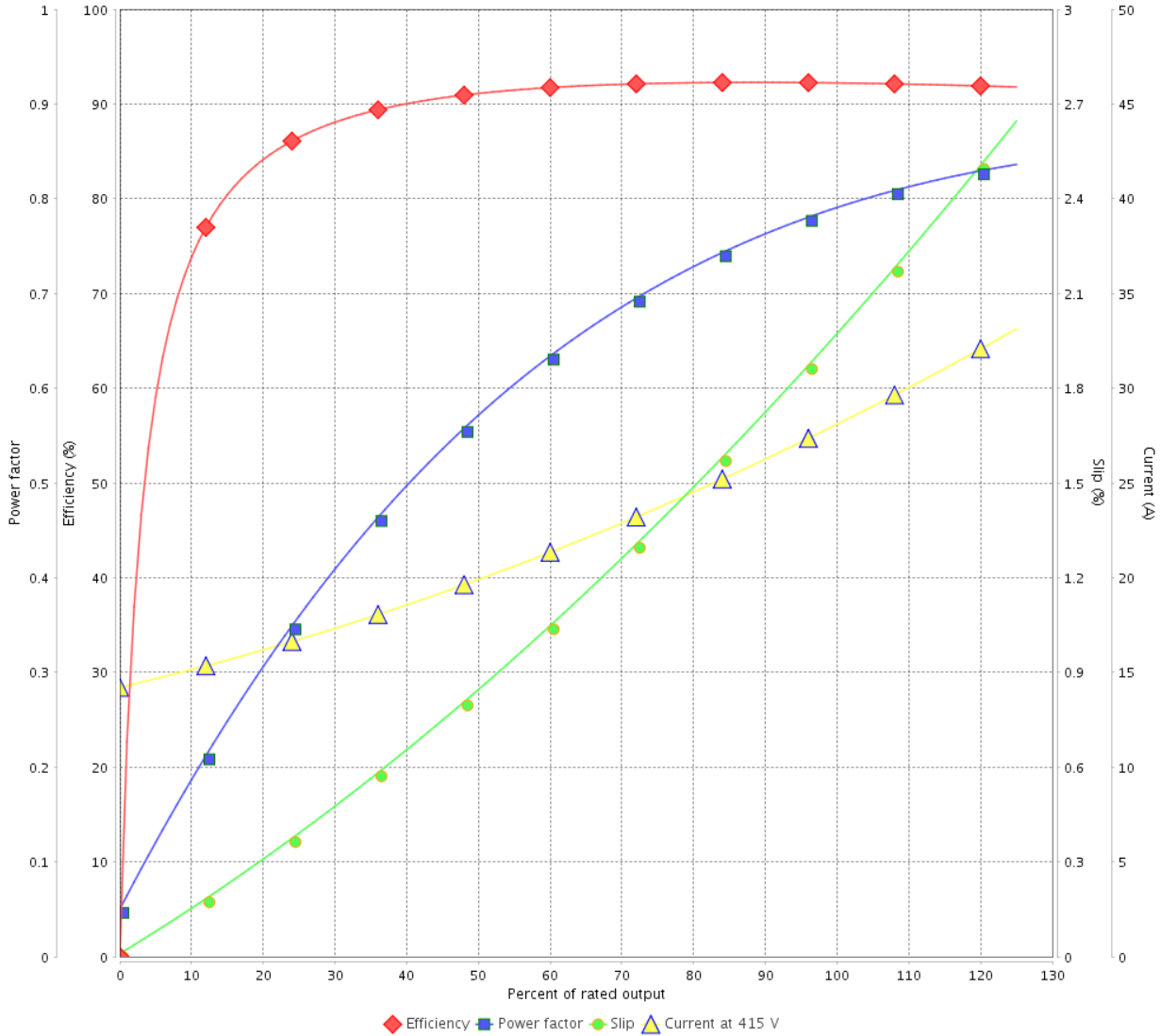
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Performance : 415 V 50 Hz 6P IE3

Rated current : 28.6 A
 LRC : 6.8
 Rated torque : 107 ft.lb
 Locked rotor torque : 250 %
 Breakdown torque : 300 %
 Rated speed : 980 rpm

Moment of inertia (J) : 11.5 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.15
 Temperature rise : 80 K
 Design : B

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Three Phase Induction Motor - Squirrel Cage

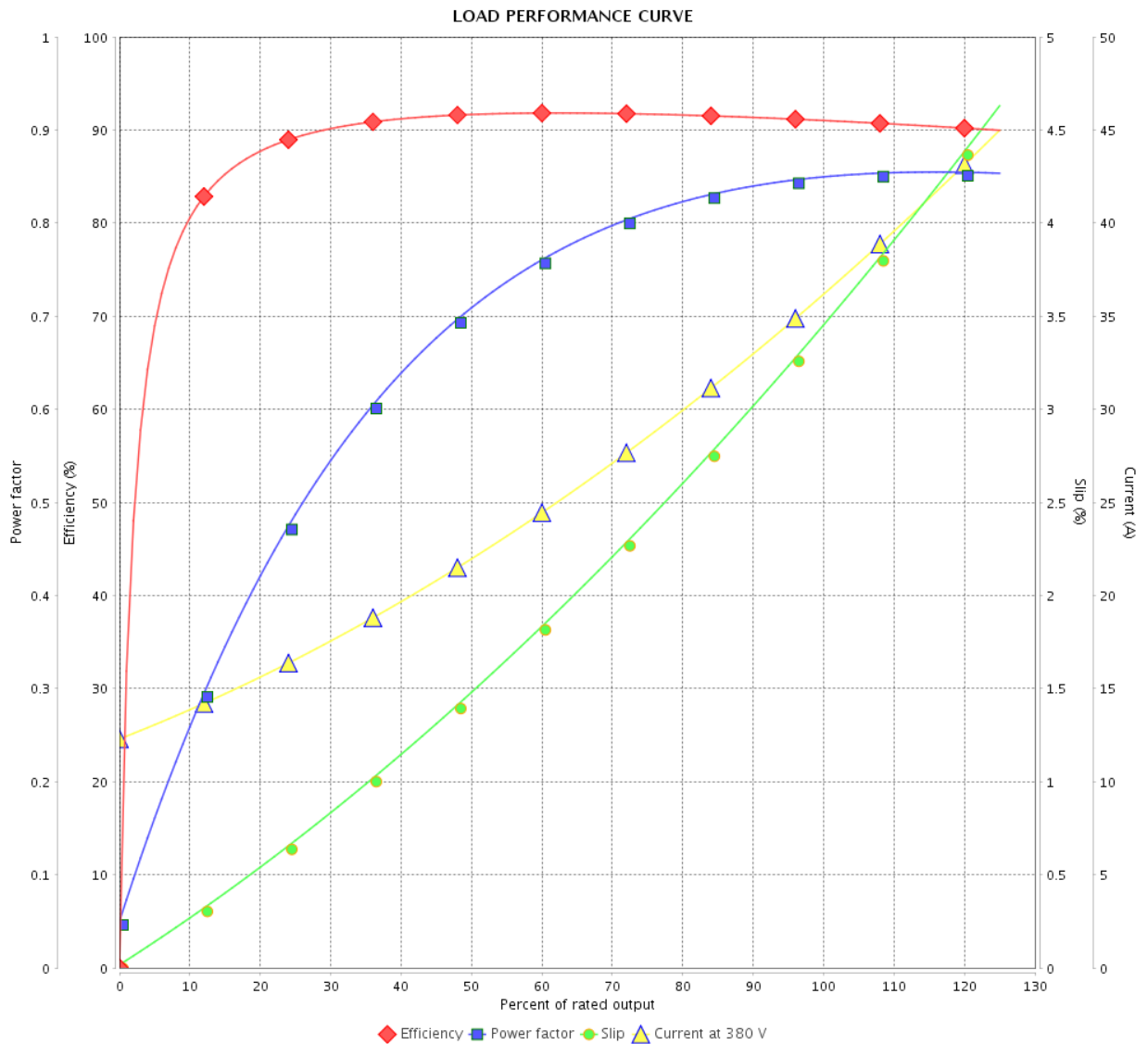


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Product line : NEMA Premium Efficiency Three-Phase

Product code : 12447793

Catalog # : 02512ST3QIE324T-W22



Performance : 380 V 50 Hz 6P IE2

Rated current : 36.3 A
 LRC : 4.7
 Rated torque : 136 ft.lb
 Locked rotor torque : 160 %
 Breakdown torque : 190 %
 Rated speed : 965 rpm

Moment of inertia (J) : 11.5 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

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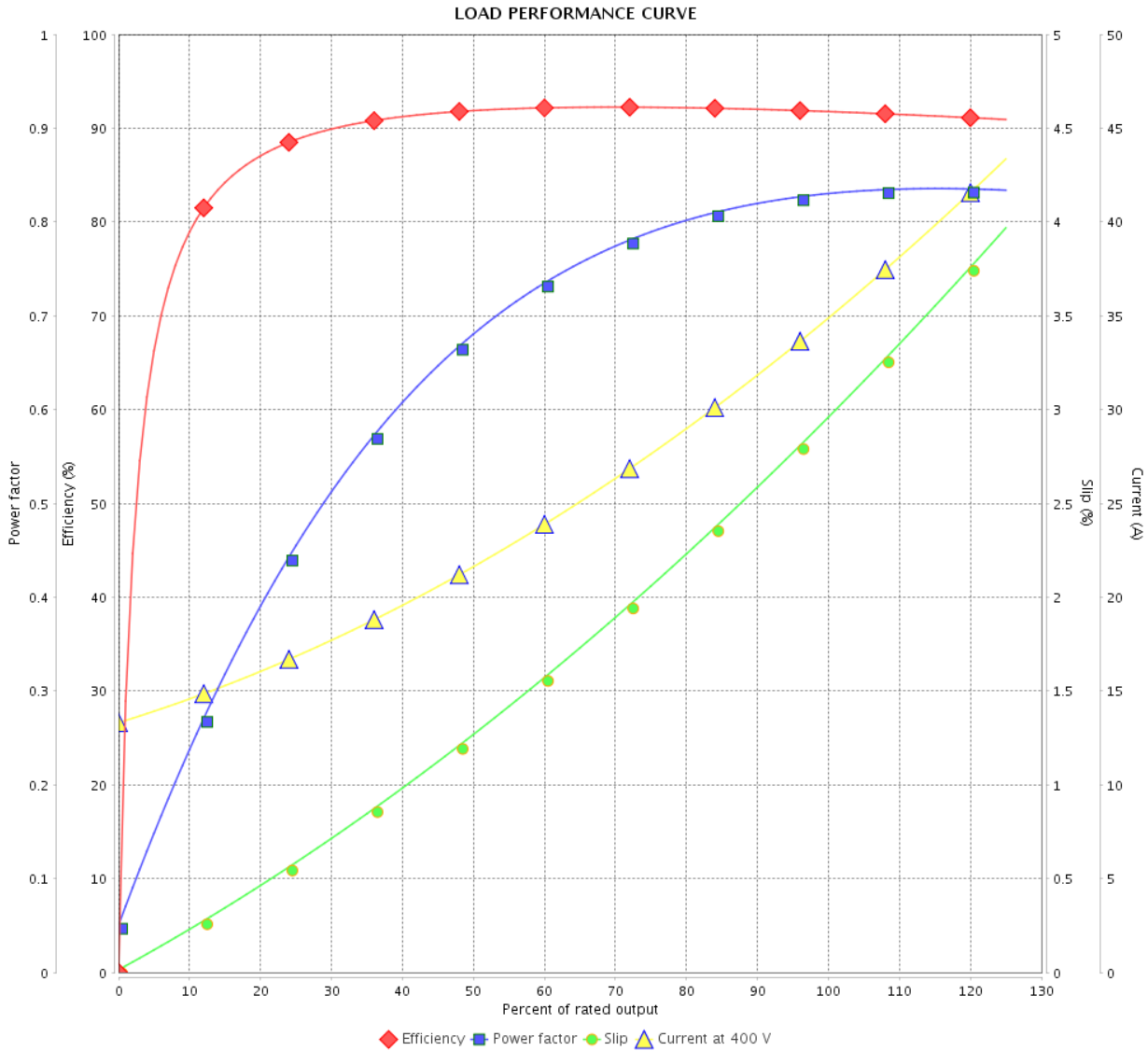


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Performance : 400 V 50 Hz 6P IE3

Rated current : 35.1 A
 LRC : 5.2
 Rated torque : 135 ft.lb
 Locked rotor torque : 180 %
 Breakdown torque : 220 %
 Rated speed : 970 rpm

Moment of inertia (J) : 11.5 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.15
 Temperature rise : 80 K
 Design : B

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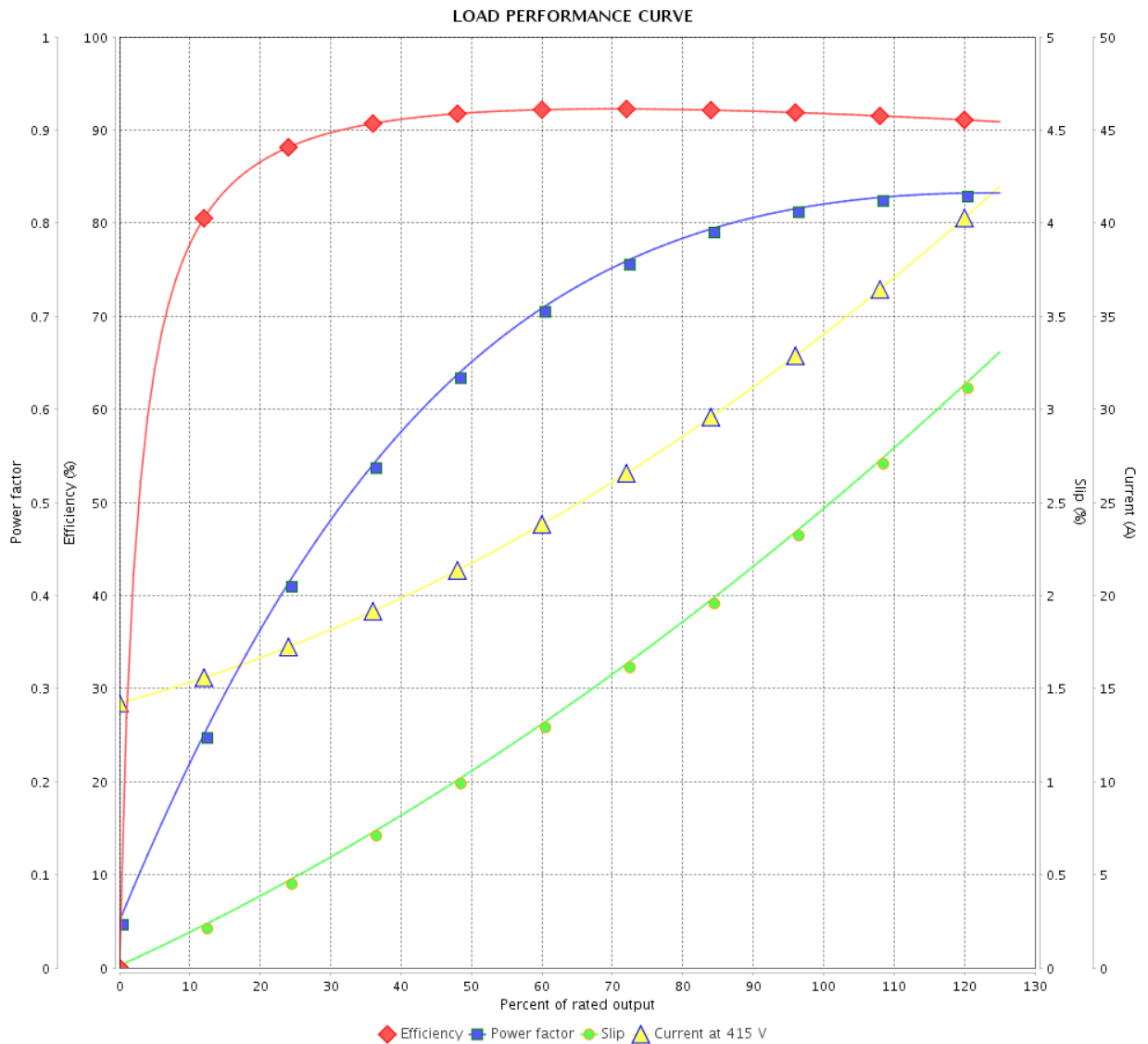


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Product code : 12447793

Catalog # : 02512ST3QIE324T-W22



Performance : 415 V 50 Hz 6P IE3

Rated current : 34.2 A
 LRC : 5.6
 Rated torque : 135 ft.lb
 Locked rotor torque : 190 %
 Breakdown torque : 240 %
 Rated speed : 975 rpm

Moment of inertia (J) : 11.5 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.15
 Temperature rise : 80 K
 Design : B

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Catalog # : 02512ST3QIE324T-W22

Performance : 460 V 60 Hz 6P

Rated current	: 30.4 A	Moment of inertia (J)	: 11.5 sq.ft.lb
LRC	: 6.0	Duty cycle	: Cont.(S1)
Rated torque	: 112 ft.lb	Insulation class	: F
Locked rotor torque	: 210 %	Service factor	: 1.25
Breakdown torque	: 250 %	Temperature rise	: 80 K
Rated speed	: 1175 rpm	Design	: B

Heating constant

Cooling constant

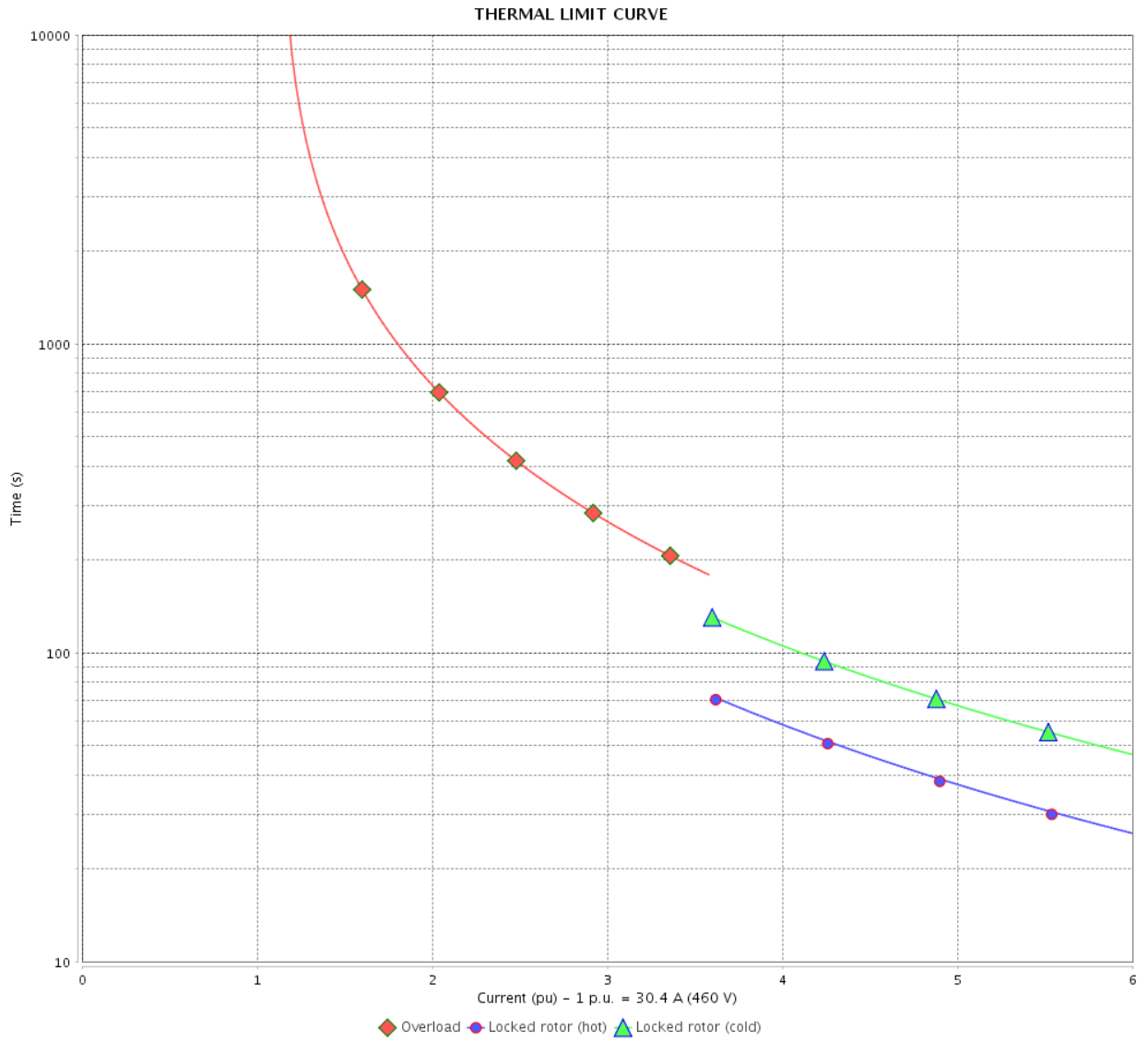
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Performance : 380 V 50 Hz 6P IE3

Rated current	: 30.0 A	Moment of inertia (J)	: 11.5 sq.ft.lb
LRC	: 5.8	Duty cycle	: Cont.(S1)
Rated torque	: 108 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.00
Breakdown torque	: 240 %	Temperature rise	: 80 K
Rated speed	: 970 rpm	Design	: B

Heating constant

Cooling constant

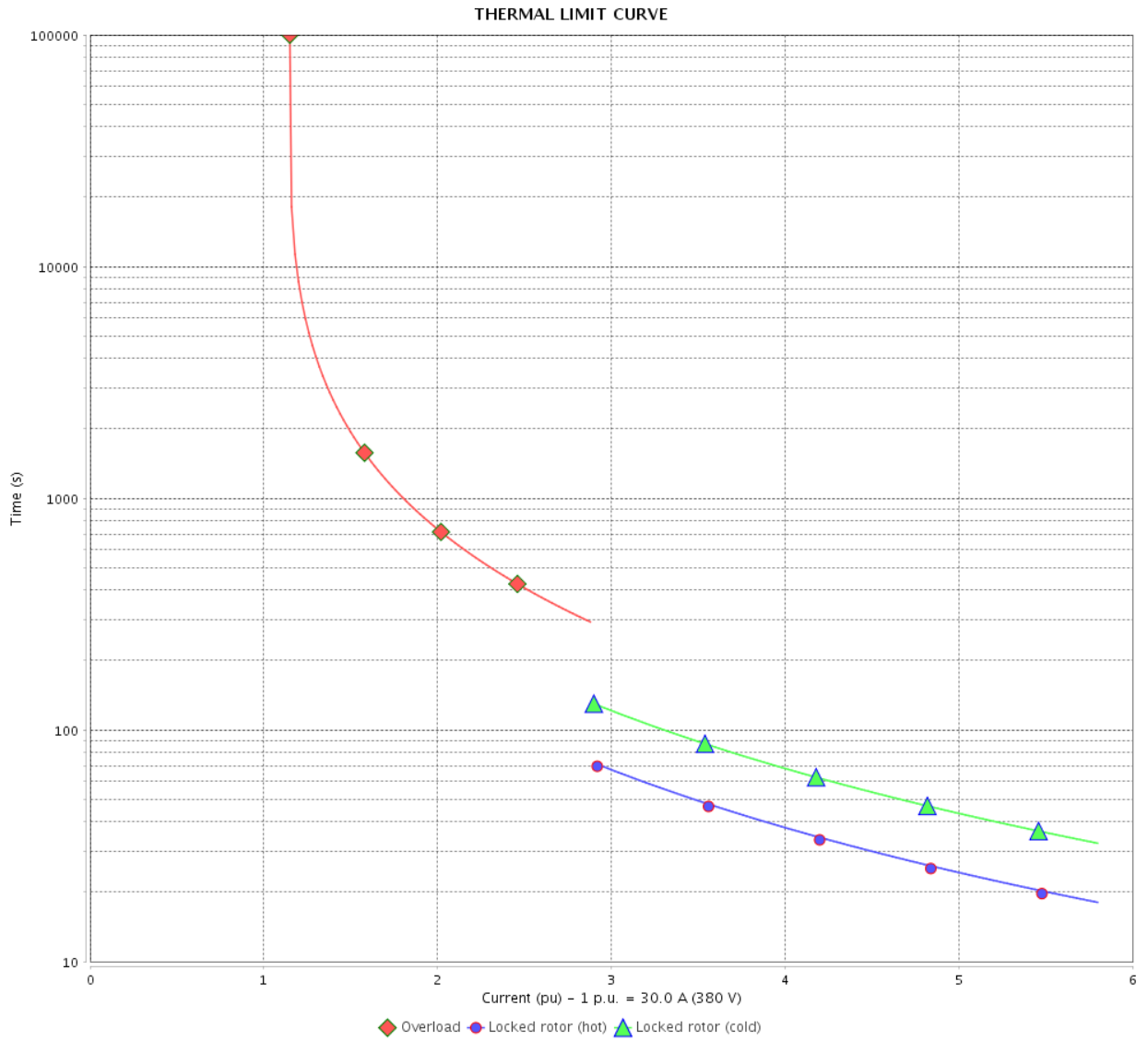
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Breakdown torque	: 280 %	Temperature rise	: 80 K
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Heating constant

Cooling constant

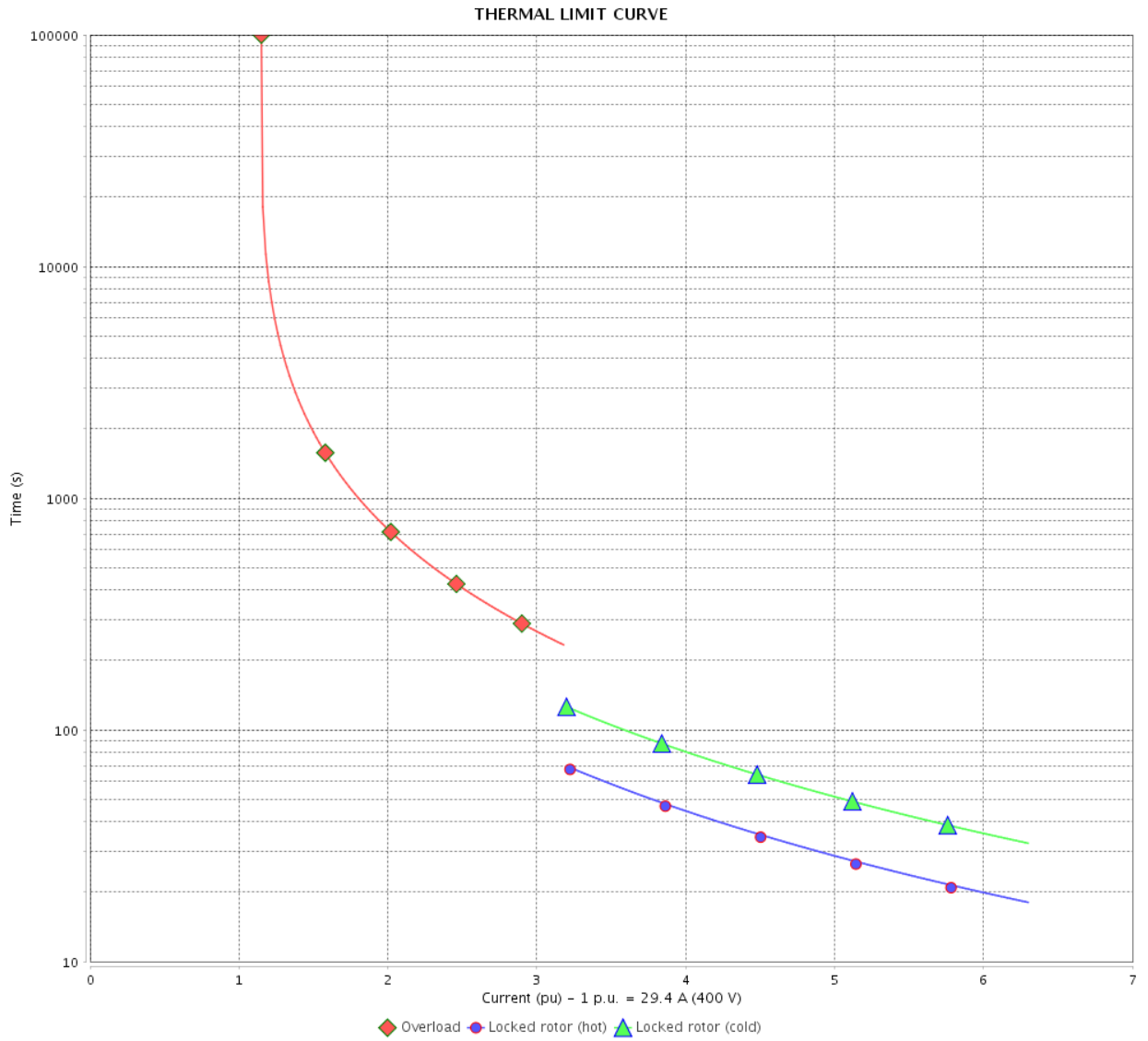
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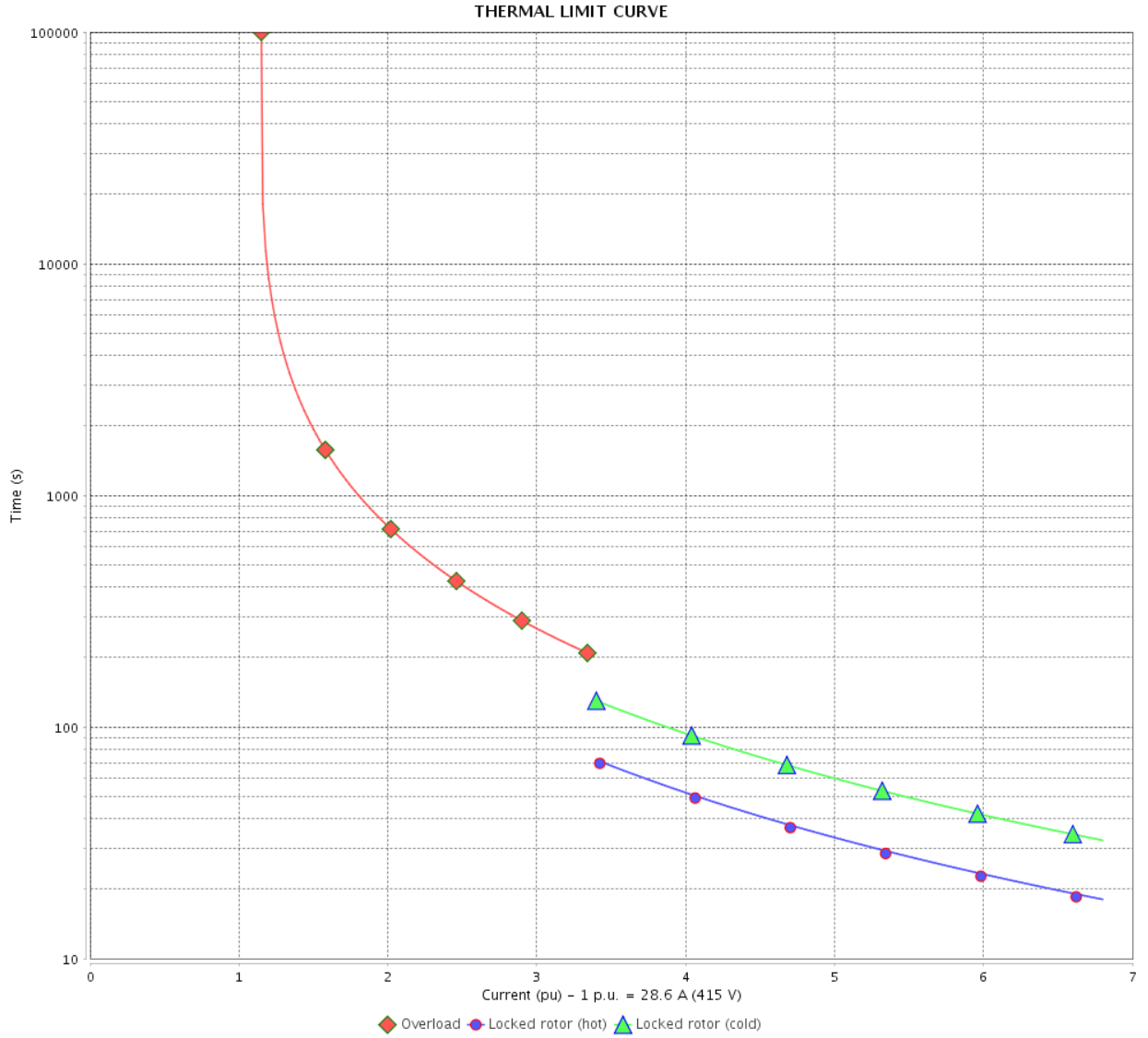
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Performance : 380 V 50 Hz 6P IE2

Rated current	: 36.3 A	Moment of inertia (J)	: 11.5 sq.ft.lb
LRC	: 4.7	Duty cycle	: Cont.(S1)
Rated torque	: 136 ft.lb	Insulation class	: F
Locked rotor torque	: 160 %	Service factor	: 1.00
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Heating constant

Cooling constant

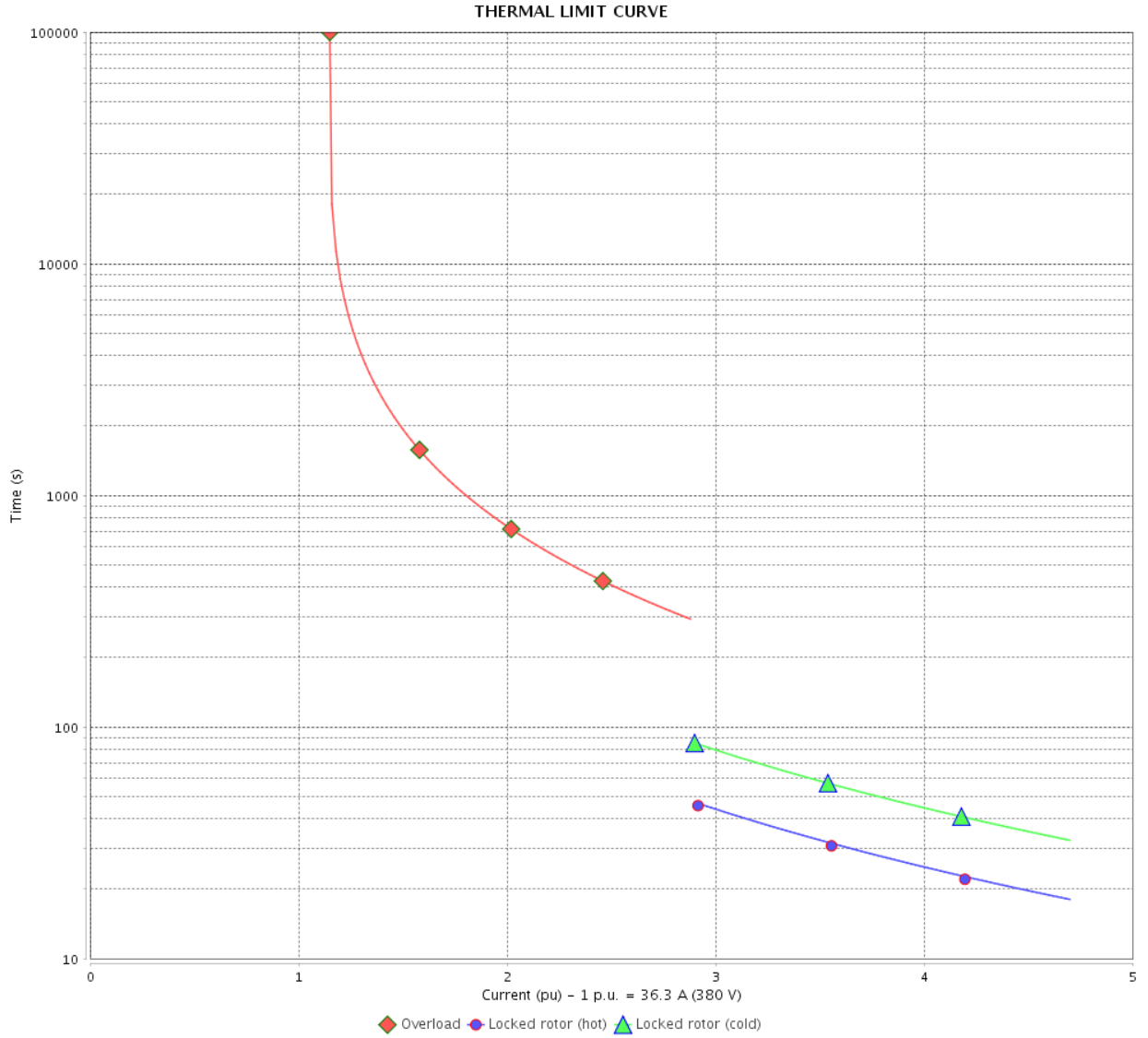
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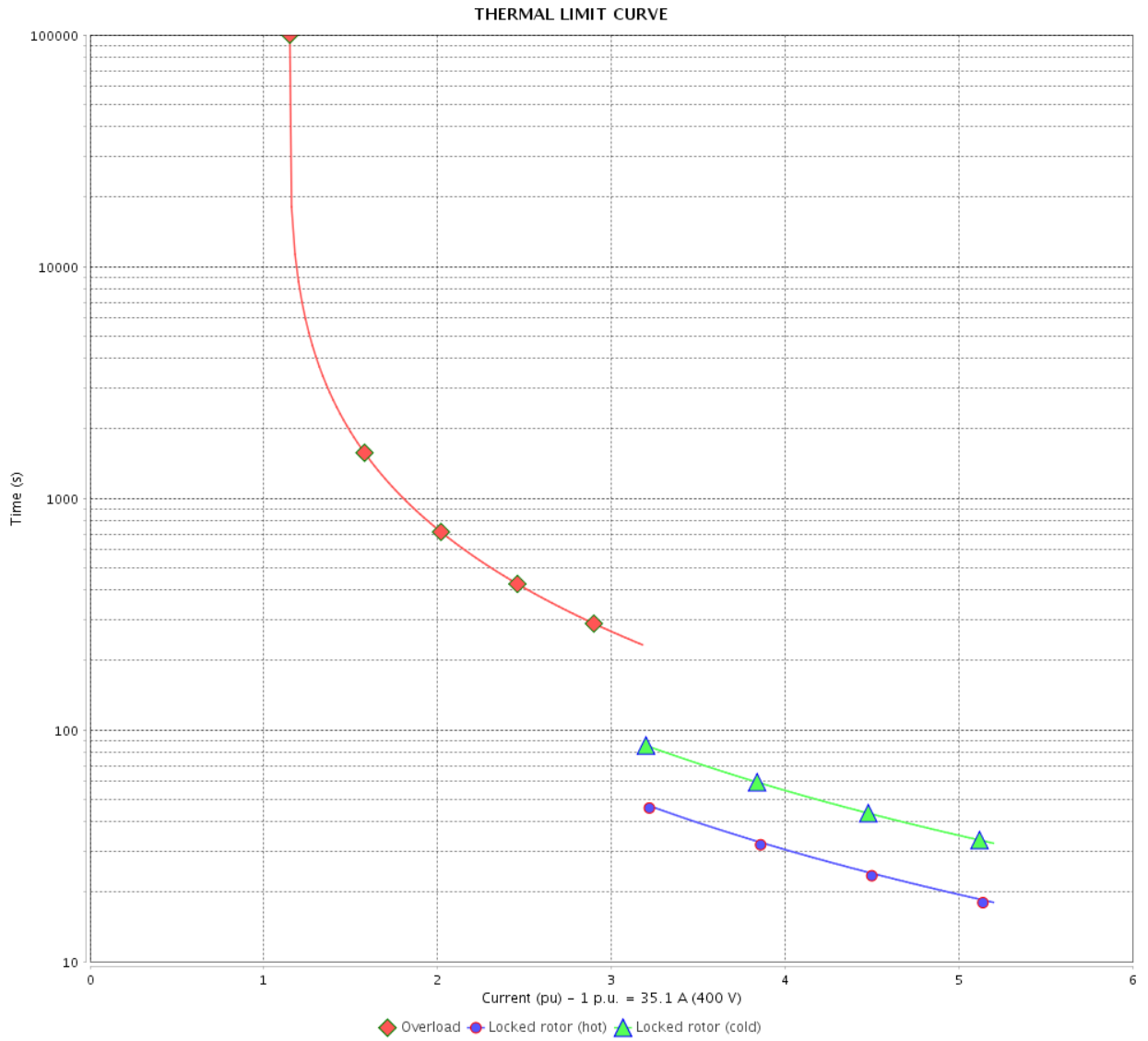
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THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : _____



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Checked by				
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THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : NEMA Premium Efficiency Three-Phase
Product code : 12447793
Catalog # : 02512ST3QIE324T-W22

Performance : 415 V 50 Hz 6P IE3

Rated current	: 34.2 A	Moment of inertia (J)	: 11.5 sq.ft.lb
LRC	: 5.6	Duty cycle	: Cont.(S1)
Rated torque	: 135 ft.lb	Insulation class	: F
Locked rotor torque	: 190 %	Service factor	: 1.15
Breakdown torque	: 240 %	Temperature rise	: 80 K
Rated speed	: 975 rpm	Design	: B

Heating constant

Cooling constant

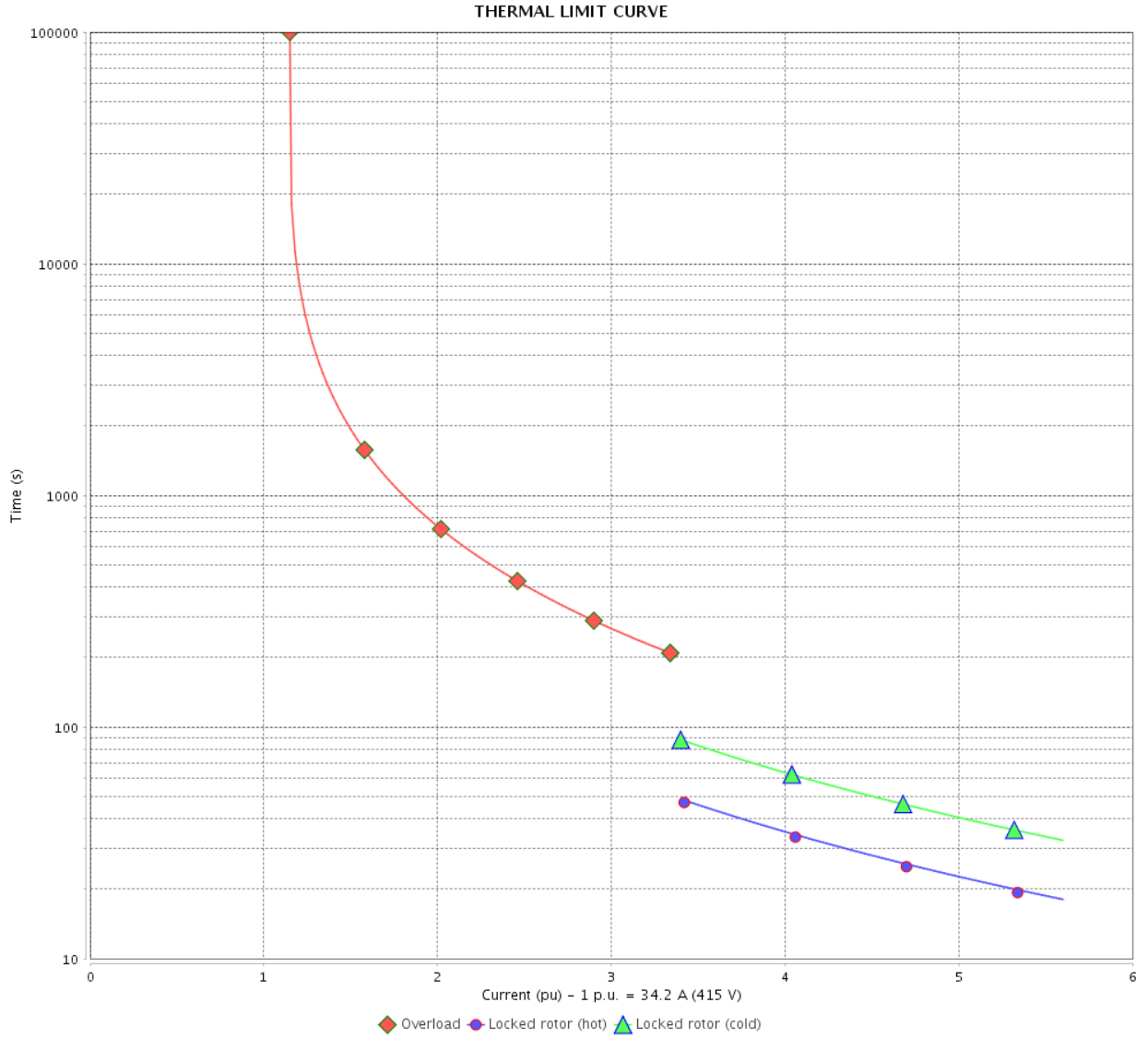
Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by				
Date	13/04/2022		Page 28 / 36	Revision

THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : _____



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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

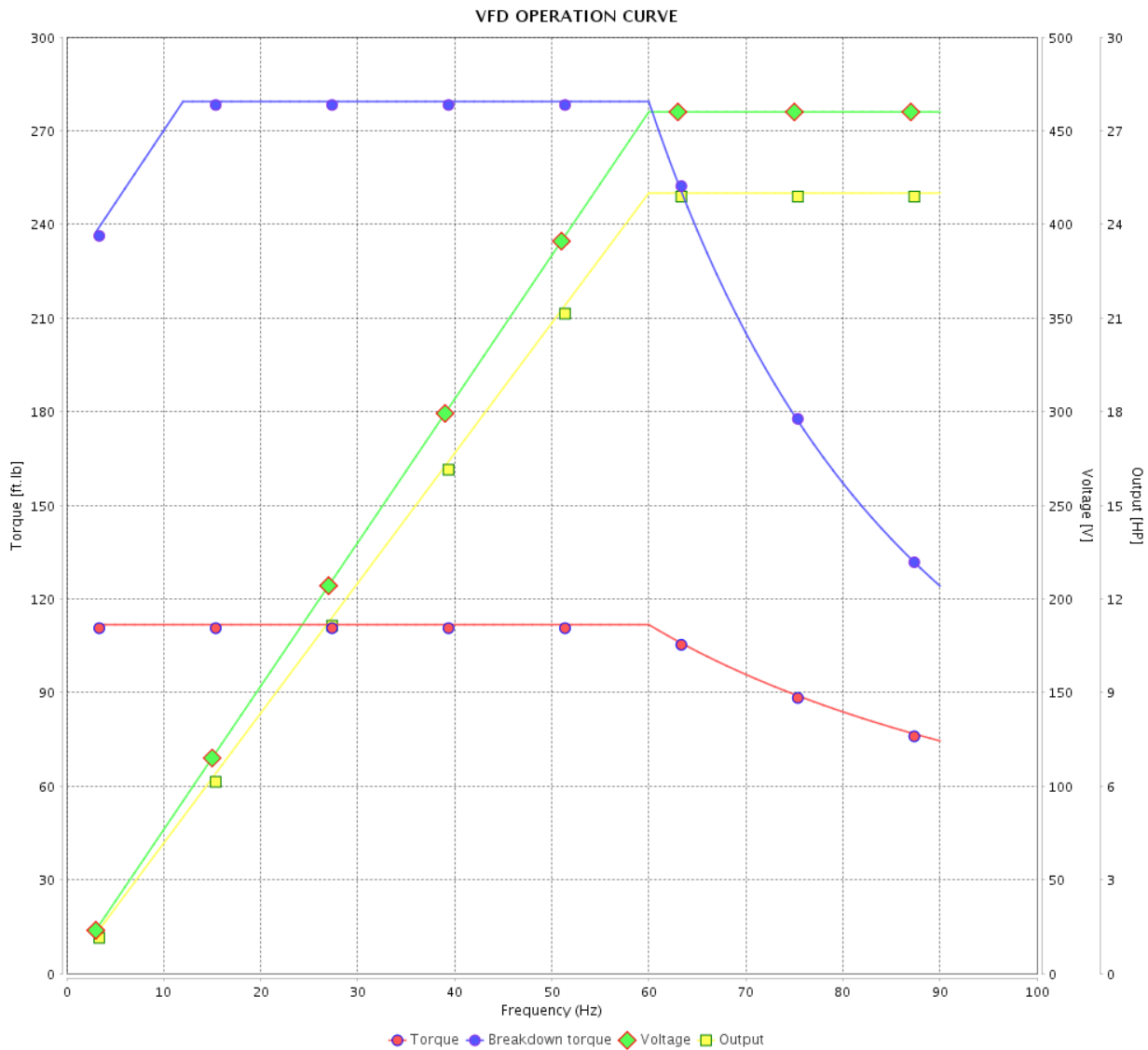


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12447793

Catalog # : 02512ST3QIE324T-W22



Performance : 460 V 60 Hz 6P

Rated current	: 30.4 A	Moment of inertia (J)	: 11.5 sq.ft.lb
LRC	: 6.0	Duty cycle	: Cont.(S1)
Rated torque	: 112 ft.lb	Insulation class	: F
Locked rotor torque	: 210 %	Service factor	: 1.25
Breakdown torque	: 250 %	Temperature rise	: 80 K
Rated speed	: 1175 rpm	Design	: B

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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

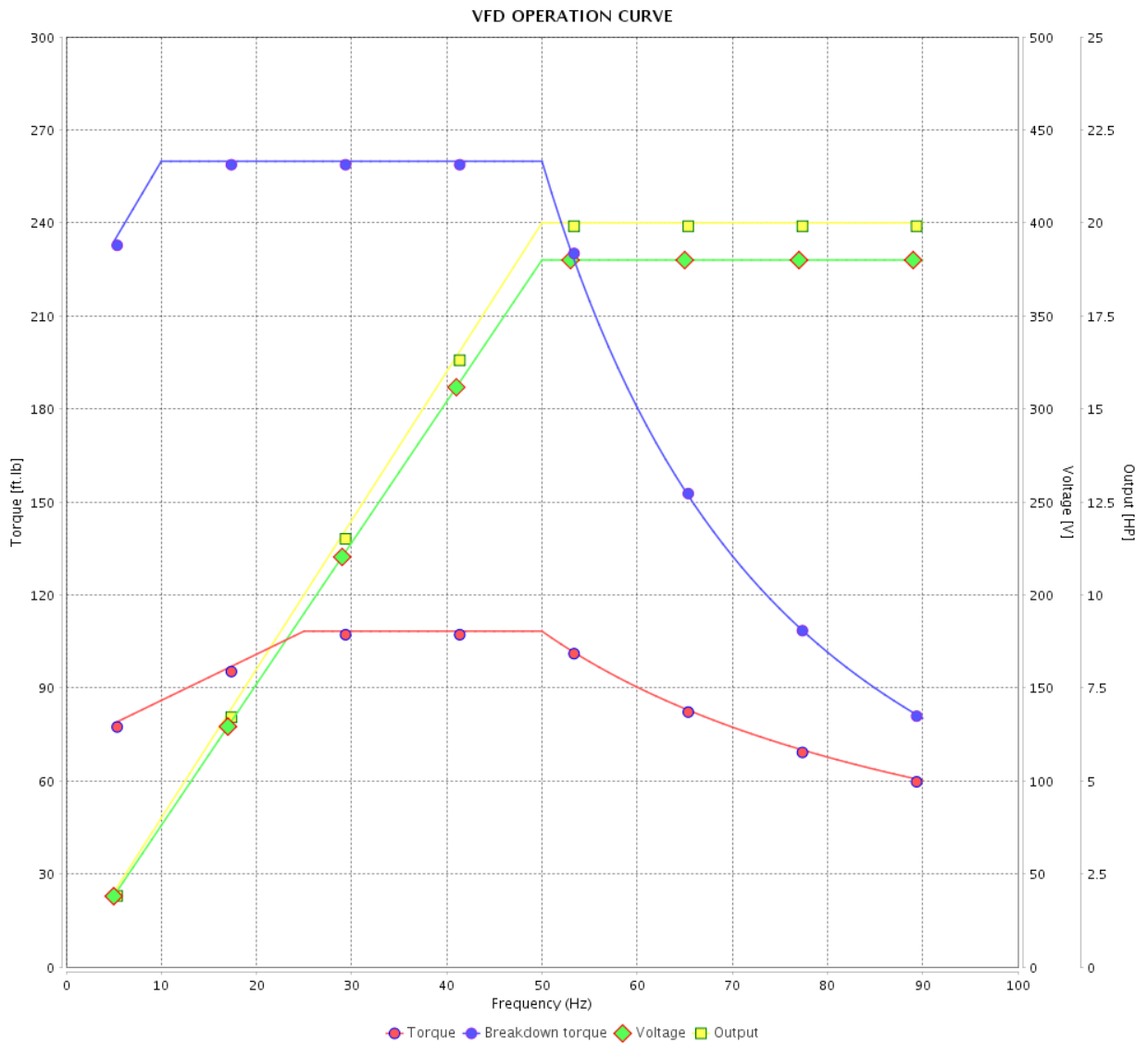


Customer : _____

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12447793

Catalog # : 02512ST3QIE324T-W22



Performance : 380 V 50 Hz 6P IE3

Rated current : 30.0 A
 LRC : 5.8
 Rated torque : 108 ft.lb
 Locked rotor torque : 200 %
 Breakdown torque : 240 %
 Rated speed : 970 rpm

Moment of inertia (J) : 11.5 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

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				Revision

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



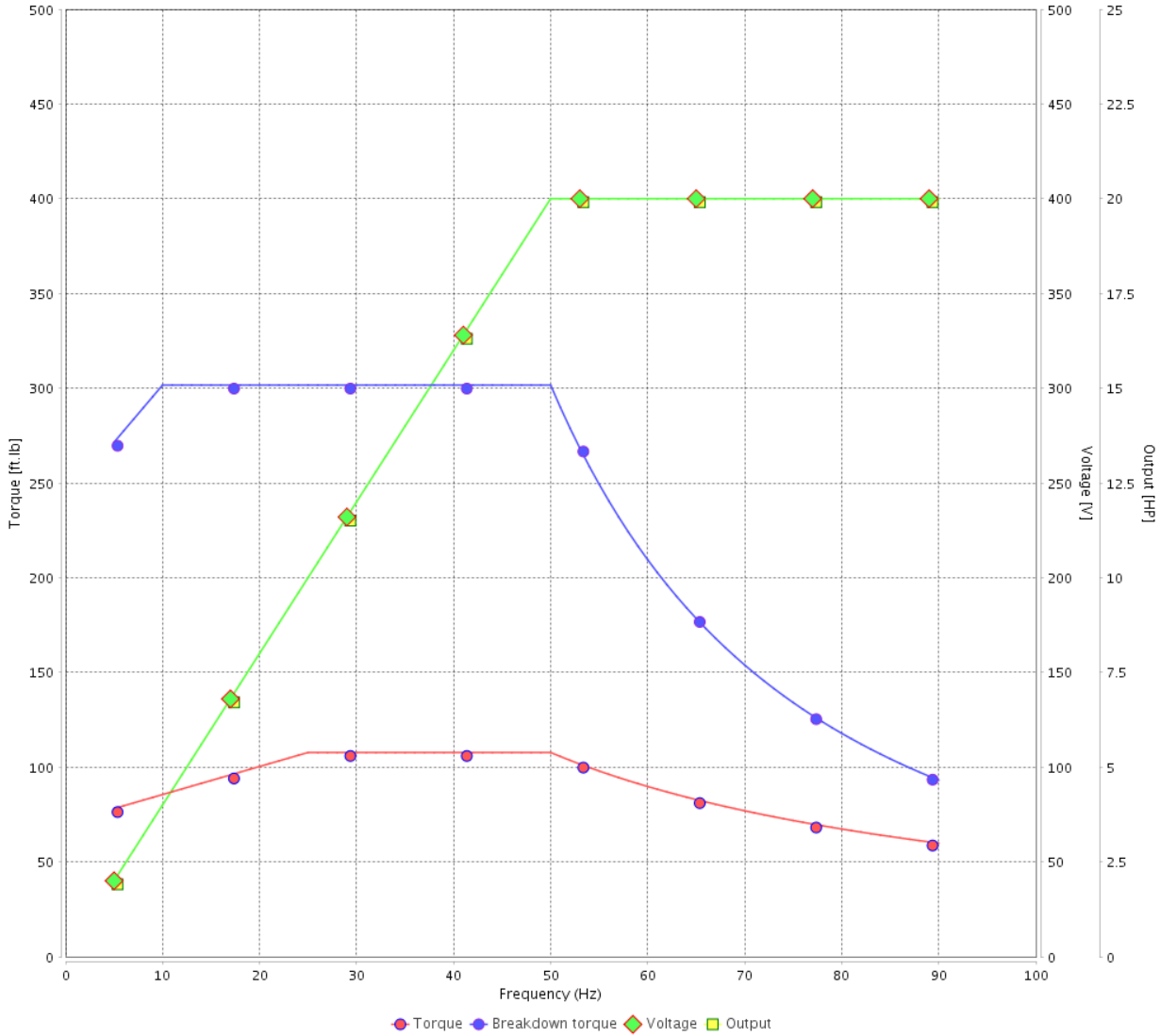
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12447793

Catalog # : 02512ST3QIE324T-W22

VFD OPERATION CURVE



Performance : 400 V 50 Hz 6P IE3

Rated current : 29.4 A
 LRC : 6.3
 Rated torque : 108 ft.lb
 Locked rotor torque : 229 %
 Breakdown torque : 280 %
 Rated speed : 975 rpm

Moment of inertia (J) : 11.5 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	13/04/2022			

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

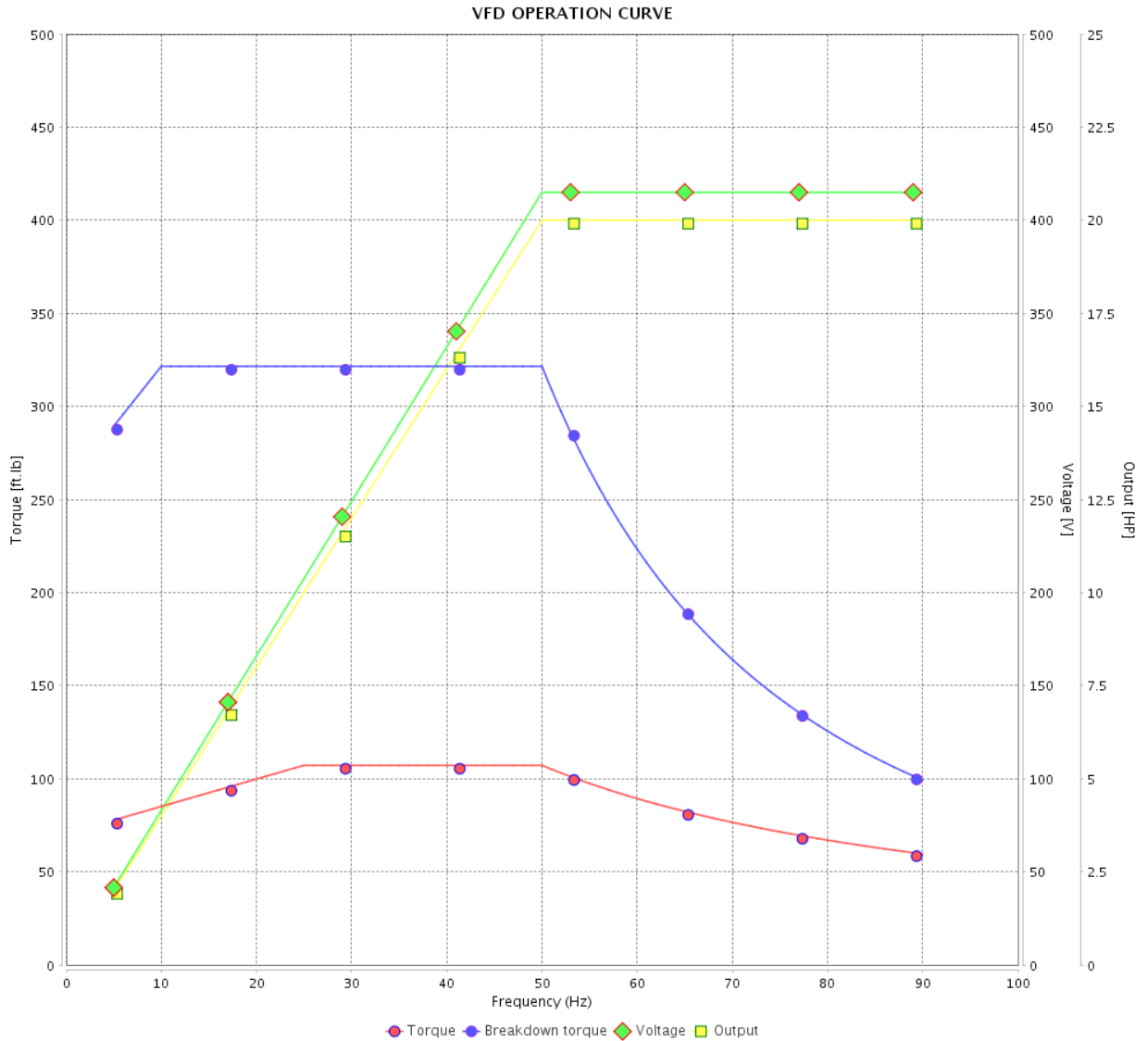


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12447793

Catalog # : 02512ST3QIE324T-W22



Performance : 415 V 50 Hz 6P IE3

Rated current : 28.6 A
 LRC : 6.8
 Rated torque : 107 ft.lb
 Locked rotor torque : 250 %
 Breakdown torque : 300 %
 Rated speed : 980 rpm

Moment of inertia (J) : 11.5 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

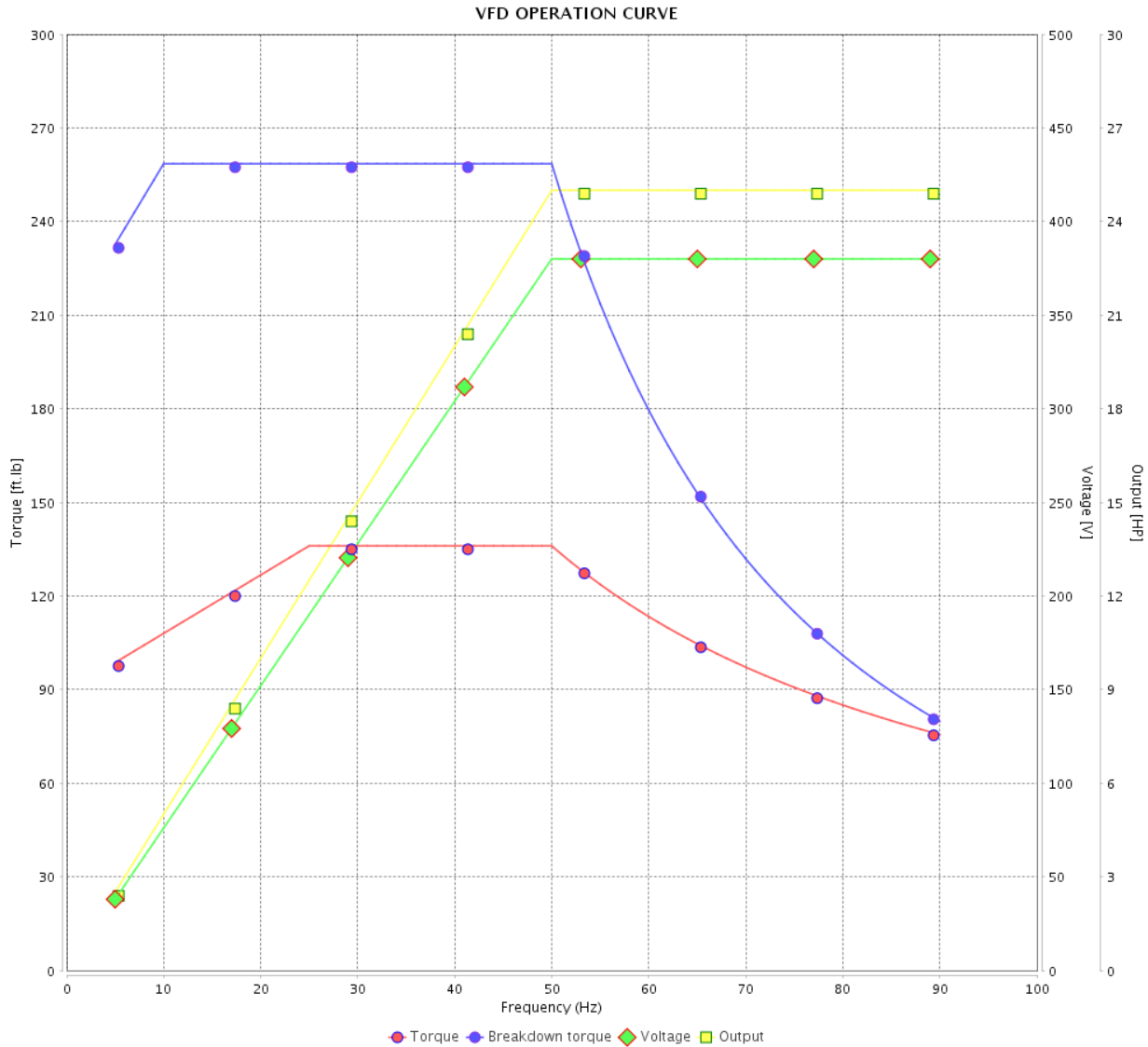


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12447793

Catalog # : 02512ST3QIE324T-W22



Performance : 380 V 50 Hz 6P IE2

Rated current : 36.3 A
 LRC : 4.7
 Rated torque : 136 ft.lb
 Locked rotor torque : 160 %
 Breakdown torque : 190 %
 Rated speed : 965 rpm

Moment of inertia (J) : 11.5 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

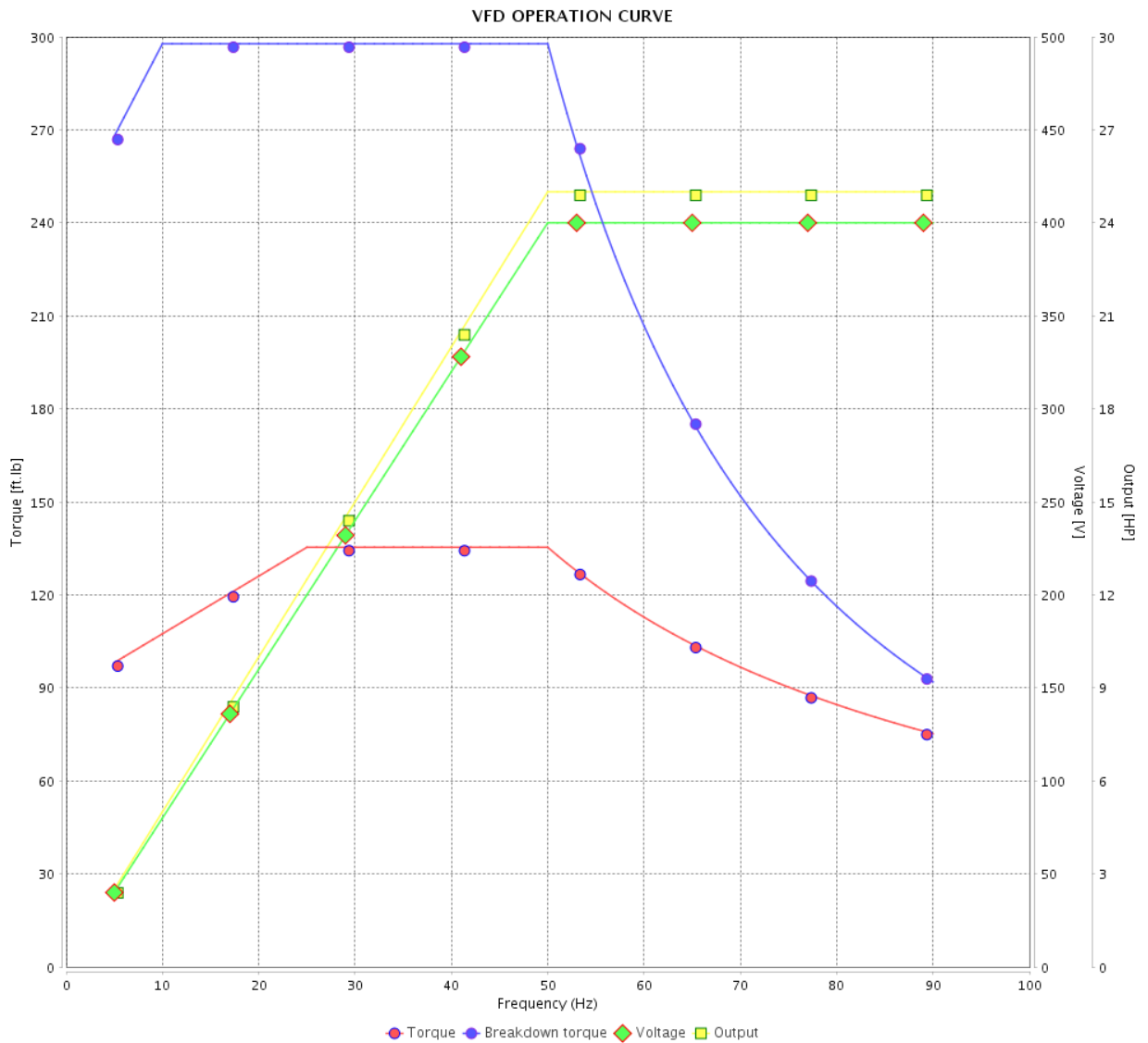


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12447793

Catalog # : 02512ST3QIE324T-W22



Performance : 400 V 50 Hz 6P IE3

Rated current : 35.1 A
 LRC : 5.2
 Rated torque : 135 ft.lb
 Locked rotor torque : 180 %
 Breakdown torque : 220 %
 Rated speed : 970 rpm

Moment of inertia (J) : 11.5 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



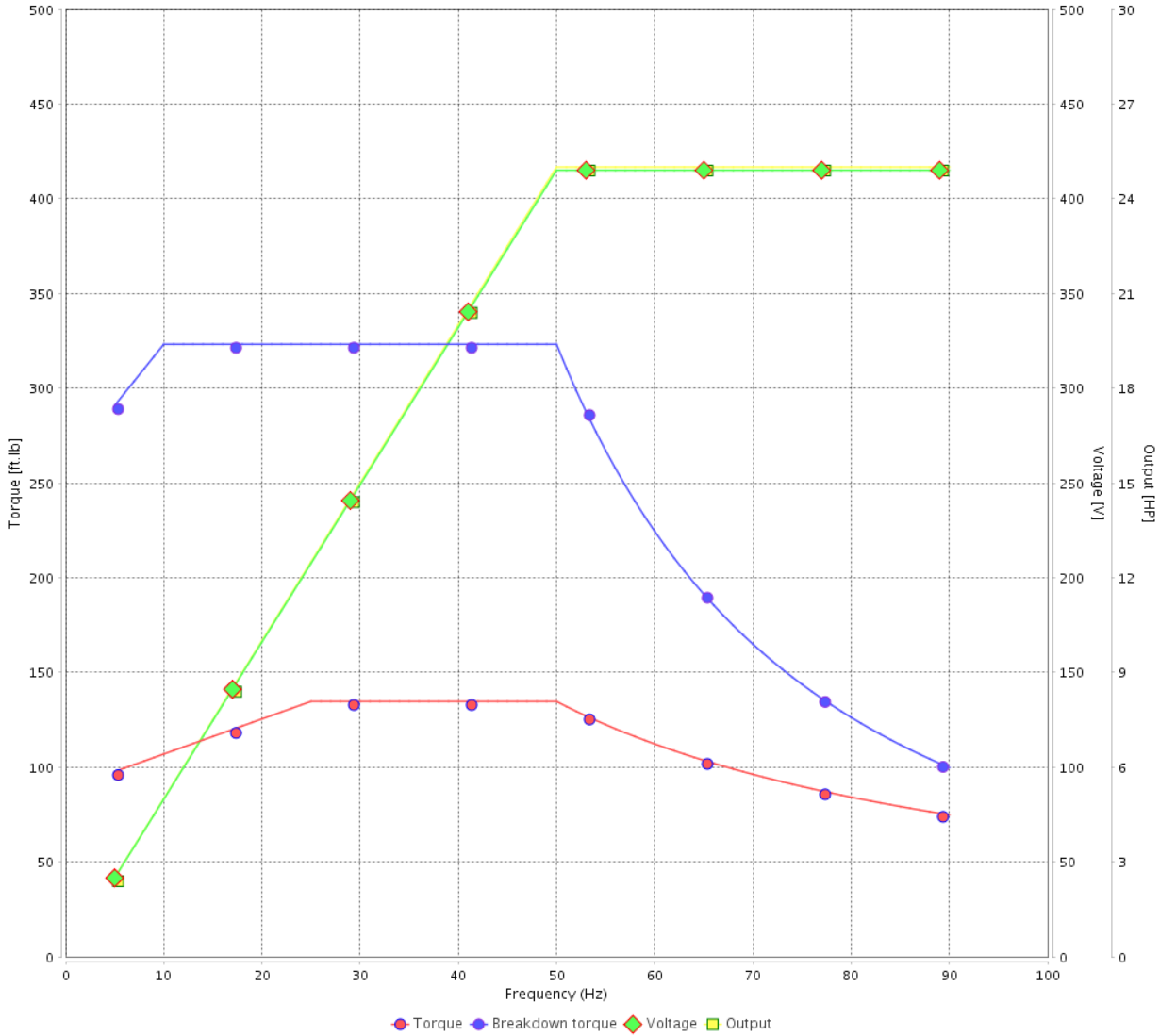
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12447793

Catalog # : 02512ST3QIE324T-W22

VFD OPERATION CURVE



Performance : 415 V 50 Hz 6P IE3

Rated current : 34.2 A
 LRC : 5.6
 Rated torque : 135 ft.lb
 Locked rotor torque : 190 %
 Breakdown torque : 240 %
 Rated speed : 975 rpm

Moment of inertia (J) : 11.5 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.15
 Temperature rise : 80 K
 Design : B

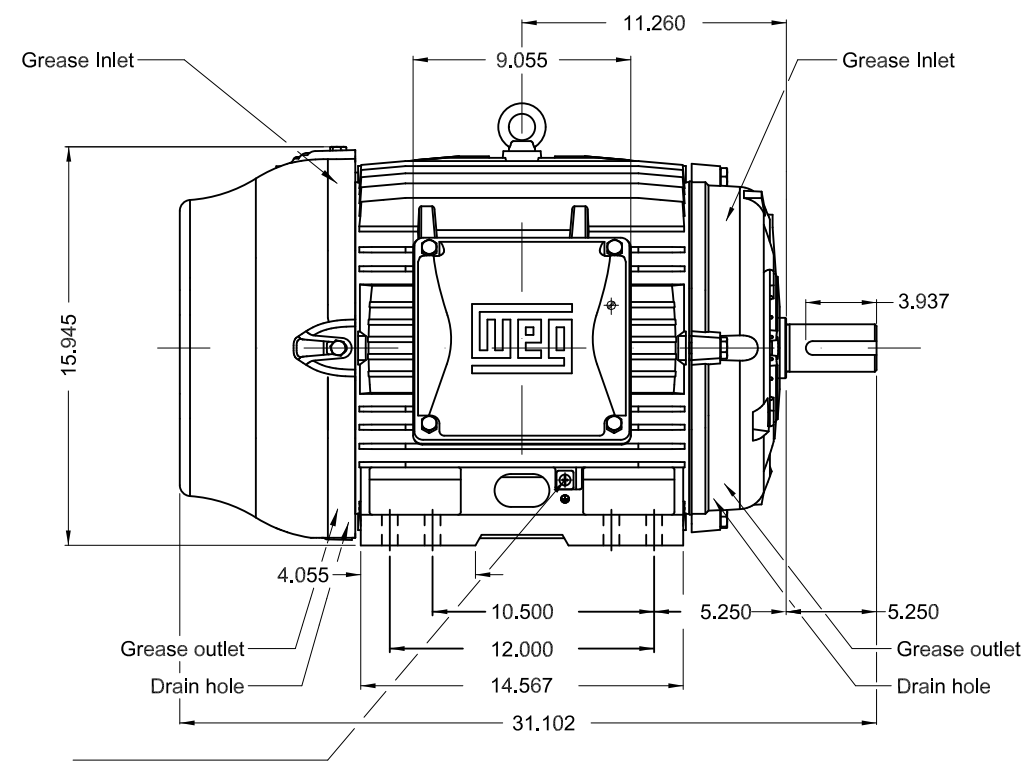
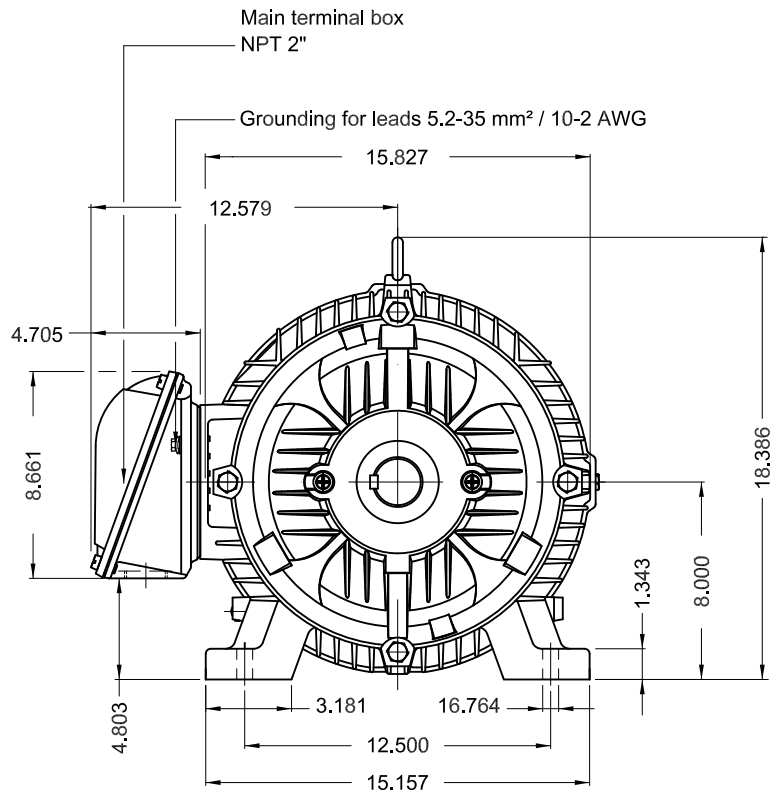
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Date	13/04/2022			

1 2 3 4 5 6

A

B

C

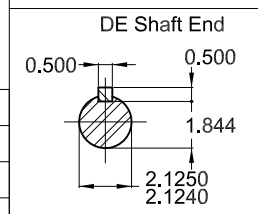


Grounding for leads 5.2-35 mm² / 10-2 AWG

D

E

Without vertical jackscrews
 Color RAL 5009
 Painting plan 202E
 Mounting B3R(D)



25 HP 06 Poles 60 Hz A

ECM	LOC	SUMMARY OF MODIFICATIONS	EXECUTED	CHECKED	RELEASED	DATE	VER
EXECUTED	PIRWBUSER	THREE PH. MOTOR IEEE 841 W22 PREM. EFF.					
CHECKED		FRAME 324/6T IP55 TEFC					
RELEASED							
REL DT.	WMO	Jaragua do Sul	Product Engineering				

PREVIEW
 WDD



SHEET 1 / 1

Dimensions in inches XME A3



NEMA
Premium
W22



FOR SAFE AREA
Mod.TE1BFOXON
CC029A



Class I, Div 2, Gr A, B, C and D - T3
Class I, Zone 2, IIC - T3
Class II, Div 2, Gr F and G - T4
For use on PWM: Gr. A, B, C, D and F,
VT 1000:1, CT 20:1, 1.00SF - T3A

MODEL 02512ST3QIE324T-W22



Inverter Duty Motor
Severe Duty

MADE IN BRAZIL
12447793

PH3 60Hz Fr. 324/6T 1000m.a.s.l. IP55 TEFC 552lb

V 460

A 30.4

HP 25

kW 18.5

SF 1.25

SFA 38.0

RPM 1175

PF 0.82

AMB 40°C

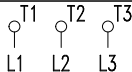
INS cl. F DT80K

NEMA NOM EFF 93.0%

DUTY CONT.

DES B Code G

GUARANT. EFF 91.7%



460V



→ 6312-C3 (21g) 60BC03X30

→ 6212-C3 (13g) 60BC02X30



MOBIL POLYREX EM (20000h)

