

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



Customer								
Product line	: NEMA Premium Efficiency Three-Phase	Product code	: 12115182					
		Catalog #	: 25018ST3QIERB449T-W2					
Frame	: 447/9T	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	: 2859 lb					
Protection degree	: IP55	Moment of inertia (J)	: 89.6 sq.ft.lb					
Design	: B							
Output [HP]	250	200	200	200	250	250	250	
Poles	4	4	4	4	4	4	4	
Frequency [Hz]	60	50	50	50	50	50	50	
Rated voltage [V]	460	380	400	415	380	400	415	
Rated current [A]	281	273	263	256	342	323	314	
L. R. Amperes [A]	1827	1665	1788	1894	1744	1841	1915	
LRC [A]	6.5x(Code G)	6.1x(Code F)	6.8x(Code G)	7.4x(Code H)	5.1x(Code E)	5.7x(Code F)	6.1x(Code F)	
No load current [A]	85.0	85.0	90.0	95.0	85.0	90.0	95.0	
Rated speed [RPM]	1780	1480	1485	1485	1475	1475	1480	
Slip [%]	1.11	1.33	1.00	1.00	1.67	1.67	1.33	
Rated torque [ft.lb]	738	710	707	707	890	890	887	
Locked rotor torque [%]	229	200	260	290	180	200	220	
Breakdown torque [%]	229	229	260	290	210	210	229	
Service factor	1.15	1.15	1.15	1.15	1.00	1.00	1.00	
Temperature rise	80 K	80 K	80 K	80 K	105 K	105 K	105 K	
Locked rotor time	27s (cold) 15s (hot)	36s (cold) 20s (hot)	32s (cold) 18s (hot)	28s (cold) 16s (hot)	18s (cold) 10s (hot)	18s (cold) 10s (hot)	18s (cold) 10s (hot)	
Noise level ²	75.0 dB(A)	71.0 dB(A)	71.0 dB(A)	71.0 dB(A)	71.0 dB(A)	71.0 dB(A)	71.0 dB(A)	
Efficiency (%)	25%	95.7	94.8	95.0	95.0	93.9	94.8	95.6
	50%	95.8	95.0	95.1	95.1	94.1	94.9	95.4
	75%	96.2	95.8	95.8	95.8	94.5	95.0	95.8
	100%	96.2	95.8	95.8	95.8	94.5	95.0	95.4
Power Factor	25%	0.51	0.52	0.49	0.46	0.58	0.54	0.51
	50%	0.75	0.77	0.74	0.72	0.80	0.77	0.75
	75%	0.83	0.84	0.83	0.81	0.86	0.84	0.83
	100%	0.86	0.87	0.86	0.85	0.87	0.87	0.86
Bearing type	: NU-322 C3	6319 C3	Foundation loads					
Sealing	: Inpro/Seal	Inpro/Seal	Max. traction	: 4009 lb				
Lubrication interval	: 4000 h	8000 h	Max. compression	: 6868 lb				
Lubricant amount	: 60 g	45 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



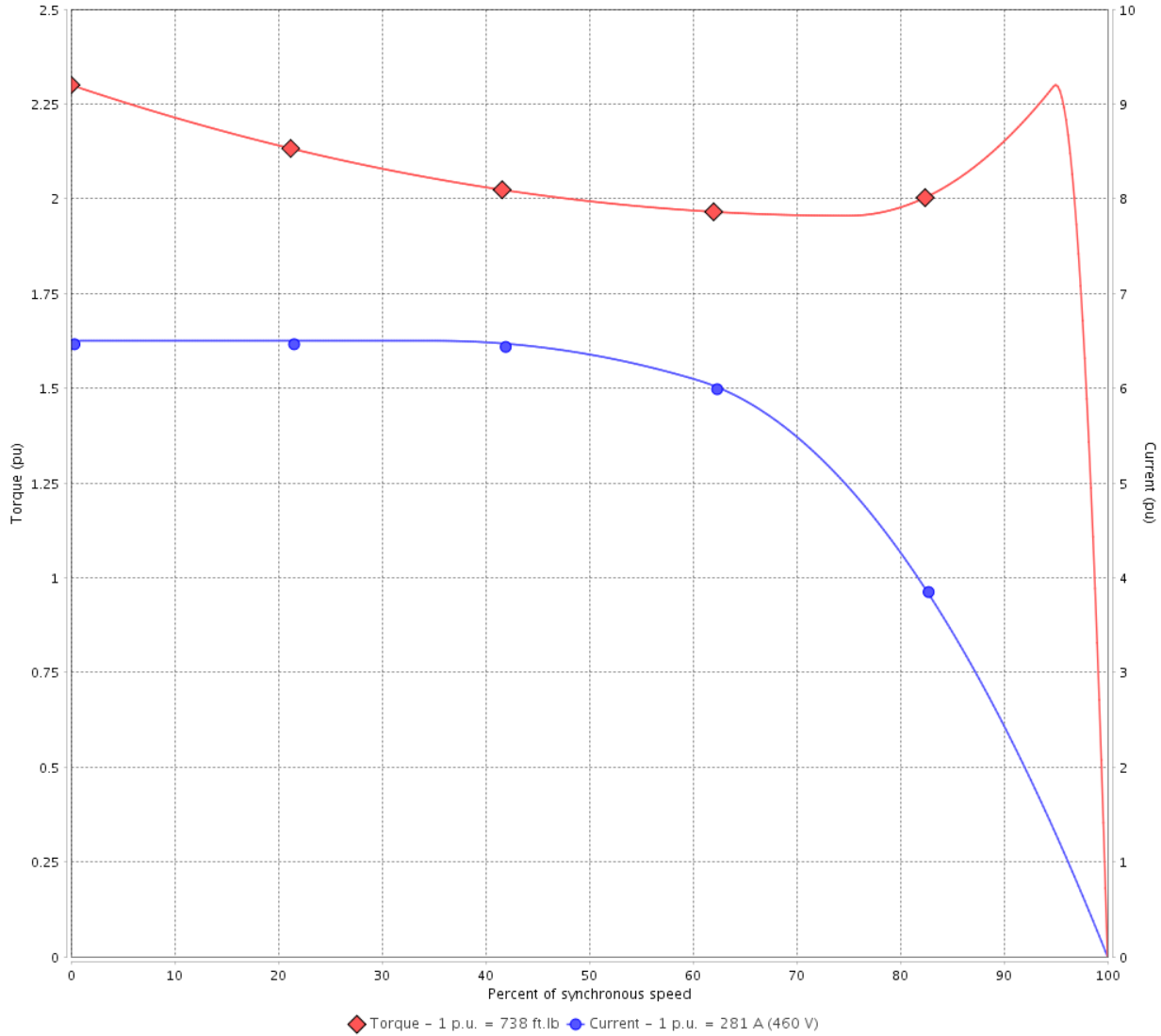
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12115182

Catalog # : 25018ST3QIERB449T-W2

TORQUE AND CURRENT VS SPEED CURVE



Performance : 460 V 60 Hz 4P

Rated current	: 281 A	Moment of inertia (J)	: 89.6 sq.ft.lb
LRC	: 6.5	Duty cycle	: Cont.(S1)
Rated torque	: 738 ft.lb	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.15
Breakdown torque	: 229 %	Temperature rise	: 80 K
Rated speed	: 1780 rpm	Design	: B

Locked rotor time : 27s (cold) 15s (hot)

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TORQUE AND CURRENT VS SPEED CURVE



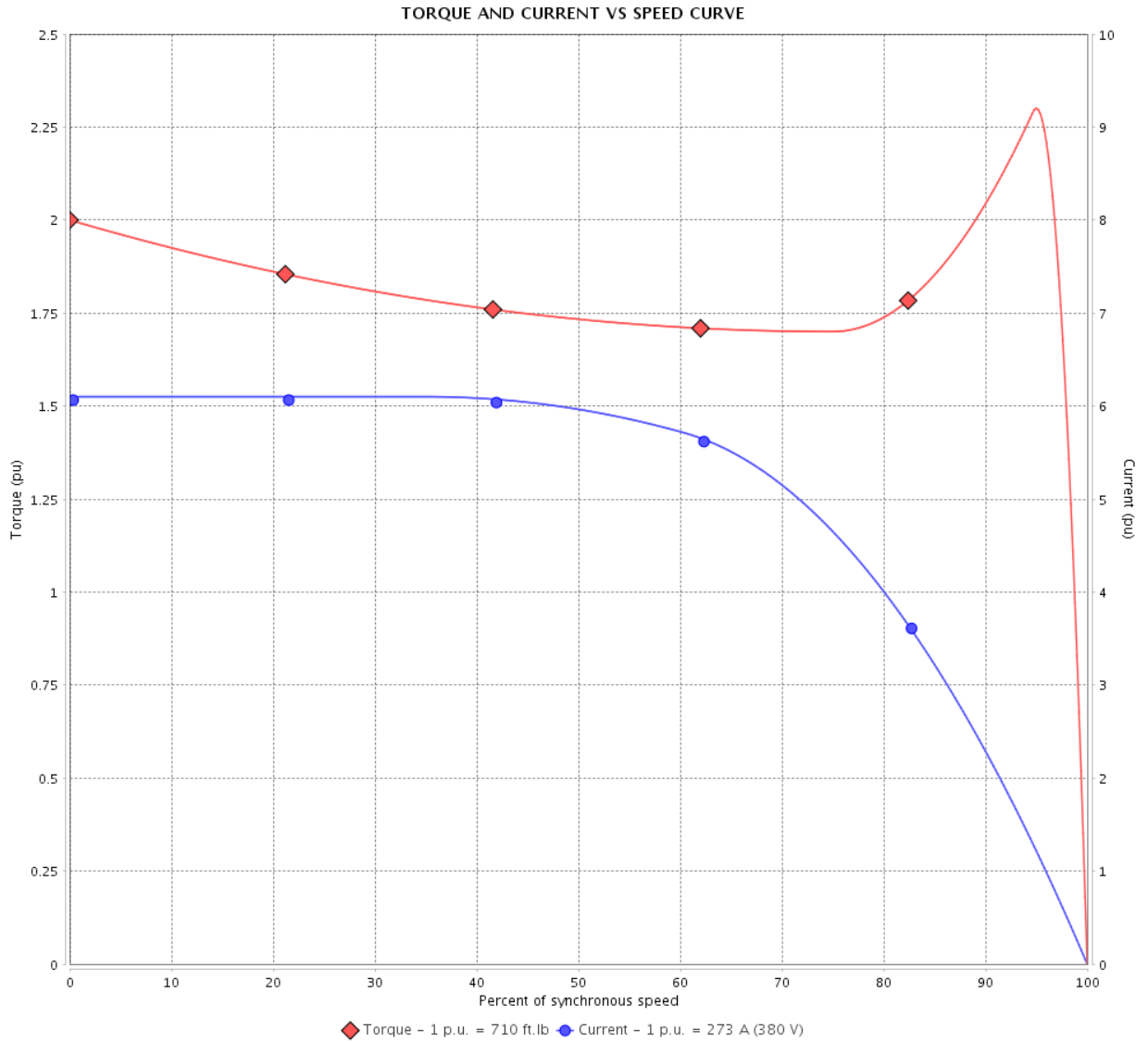
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Catalog # : 25018ST3QIERB449T-W2



Performance : 380 V 50 Hz 4P IE3

Rated current	: 273 A	Moment of inertia (J)	: 89.6 sq.ft.lb
LRC	: 6.1	Duty cycle	: Cont.(S1)
Rated torque	: 710 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.15
Breakdown torque	: 229 %	Temperature rise	: 80 K
Rated speed	: 1480 rpm	Design	: B

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

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TORQUE AND CURRENT VS SPEED CURVE

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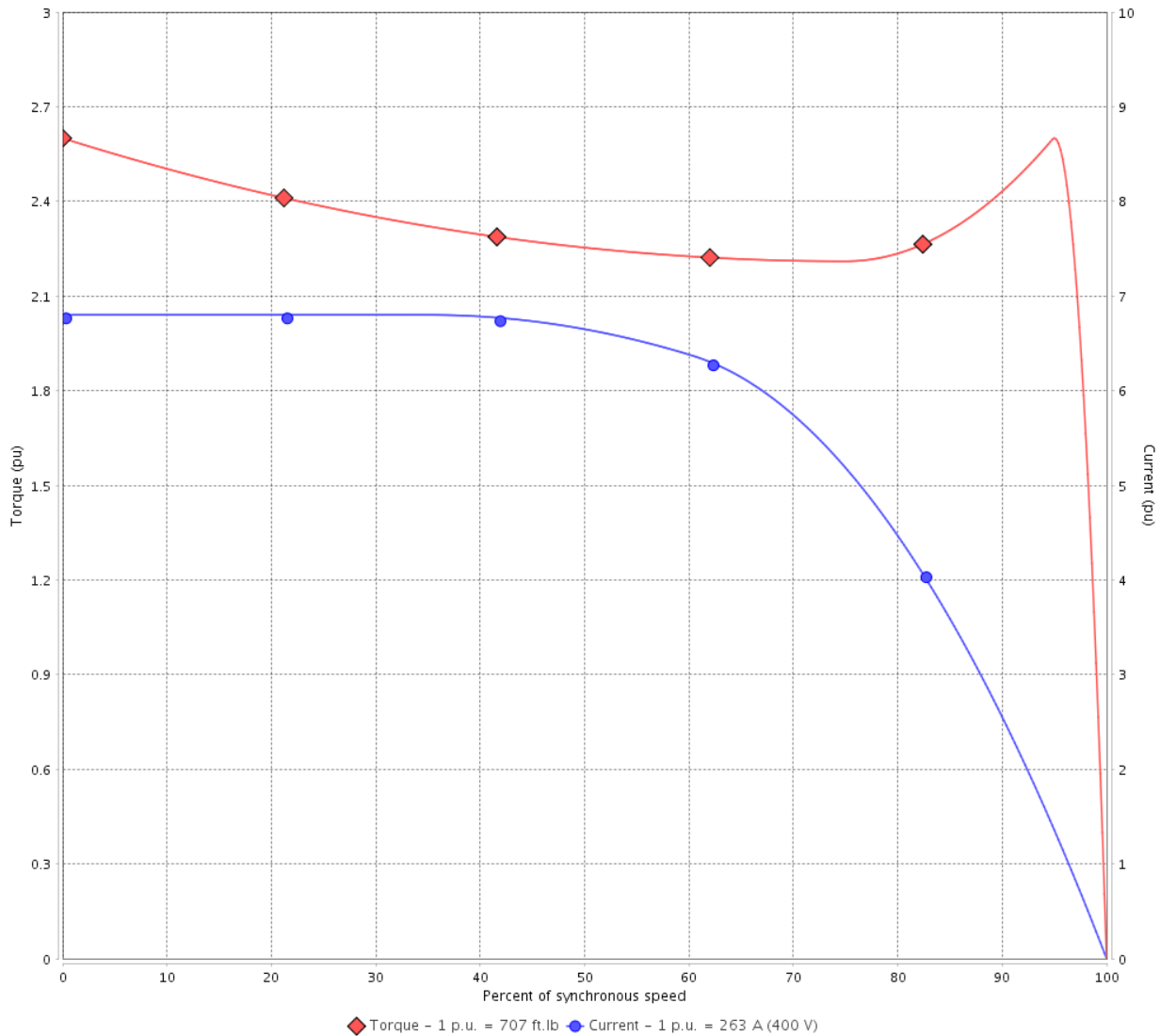
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TORQUE AND CURRENT VS SPEED CURVE



Performance : 400 V 50 Hz 4P IE3

Rated current	: 263 A	Moment of inertia (J)	: 89.6 sq.ft.lb
LRC	: 6.8	Duty cycle	: Cont.(S1)
Rated torque	: 707 ft.lb	Insulation class	: F
Locked rotor torque	: 260 %	Service factor	: 1.15
Breakdown torque	: 260 %	Temperature rise	: 80 K
Rated speed	: 1485 rpm	Design	: B

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

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TORQUE AND CURRENT VS SPEED CURVE



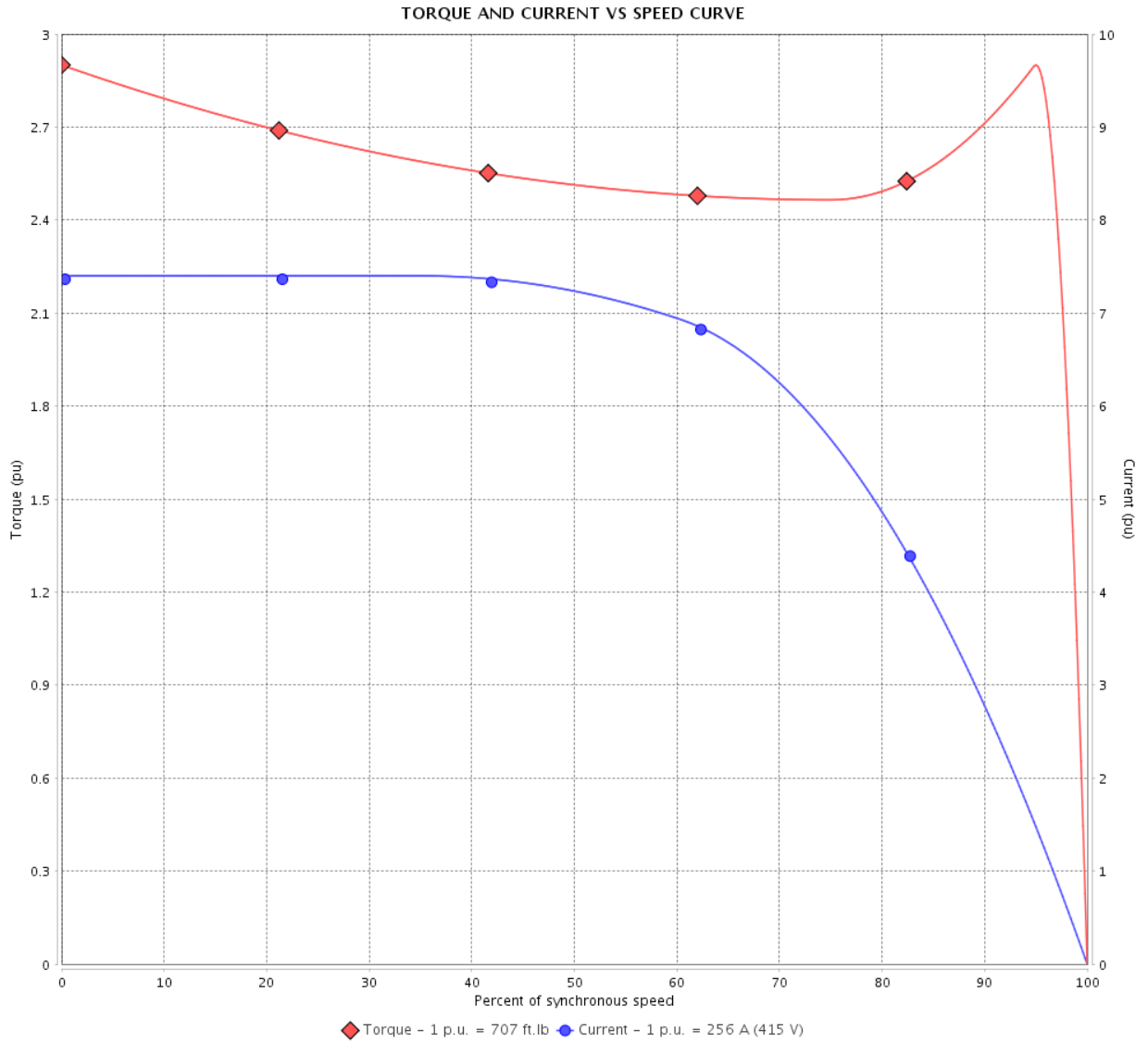
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Performance : 415 V 50 Hz 4P IE3

Rated current	: 256 A	Moment of inertia (J)	: 89.6 sq.ft.lb
LRC	: 7.4	Duty cycle	: Cont.(S1)
Rated torque	: 707 ft.lb	Insulation class	: F
Locked rotor torque	: 290 %	Service factor	: 1.15
Breakdown torque	: 290 %	Temperature rise	: 80 K
Rated speed	: 1485 rpm	Design	: B

Locked rotor time : 28s (cold) 16s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

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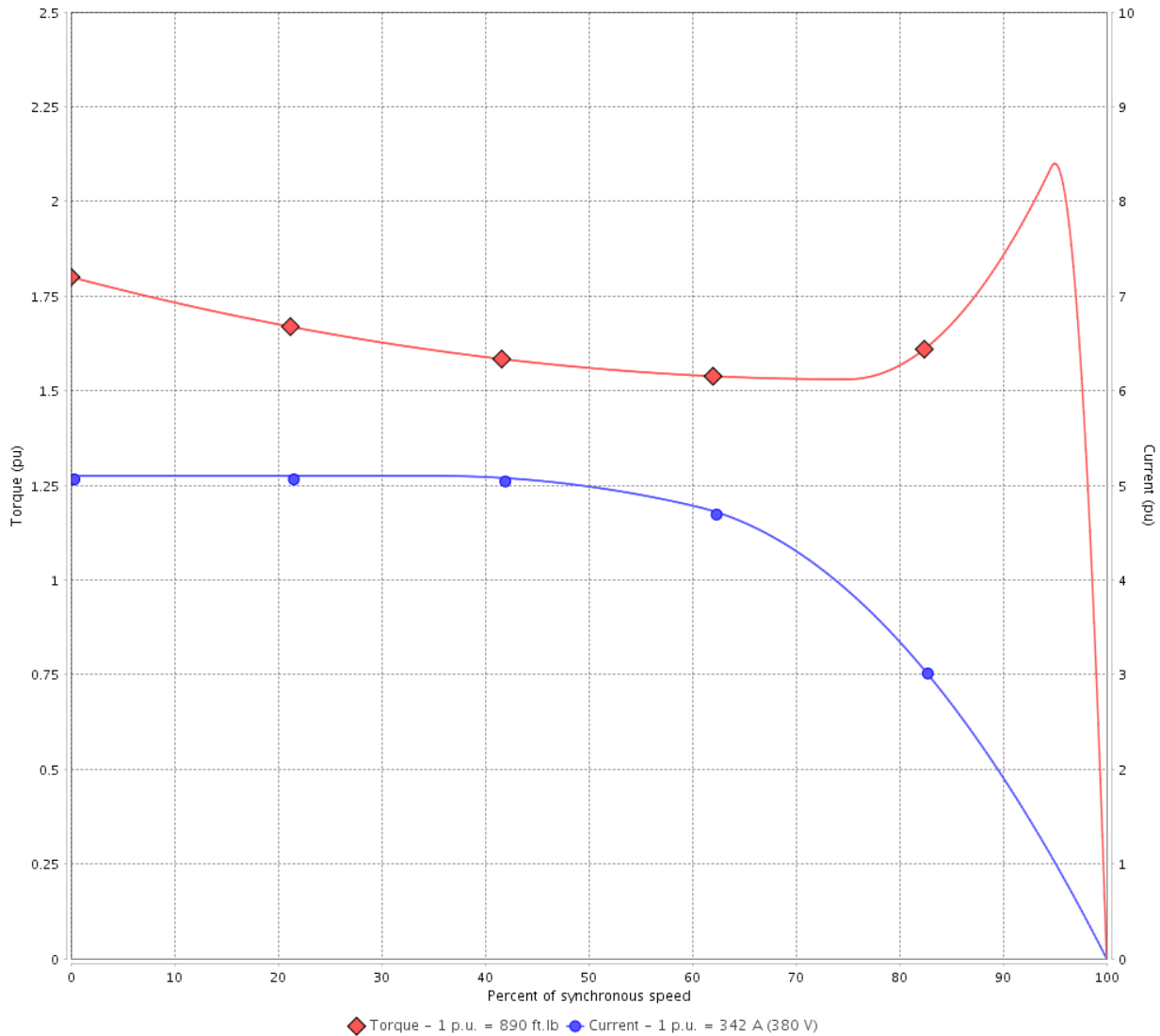
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TORQUE AND CURRENT VS SPEED CURVE



Performance : 380 V 50 Hz 4P IE1

Rated current	: 342 A	Moment of inertia (J)	: 89.6 sq.ft.lb
LRC	: 5.1	Duty cycle	: Cont.(S1)
Rated torque	: 890 ft.lb	Insulation class	: F
Locked rotor torque	: 180 %	Service factor	: 1.00
Breakdown torque	: 210 %	Temperature rise	: 105 K
Rated speed	: 1475 rpm	Design	: B

Locked rotor time : 18s (cold) 10s (hot)

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TORQUE AND CURRENT VS SPEED CURVE



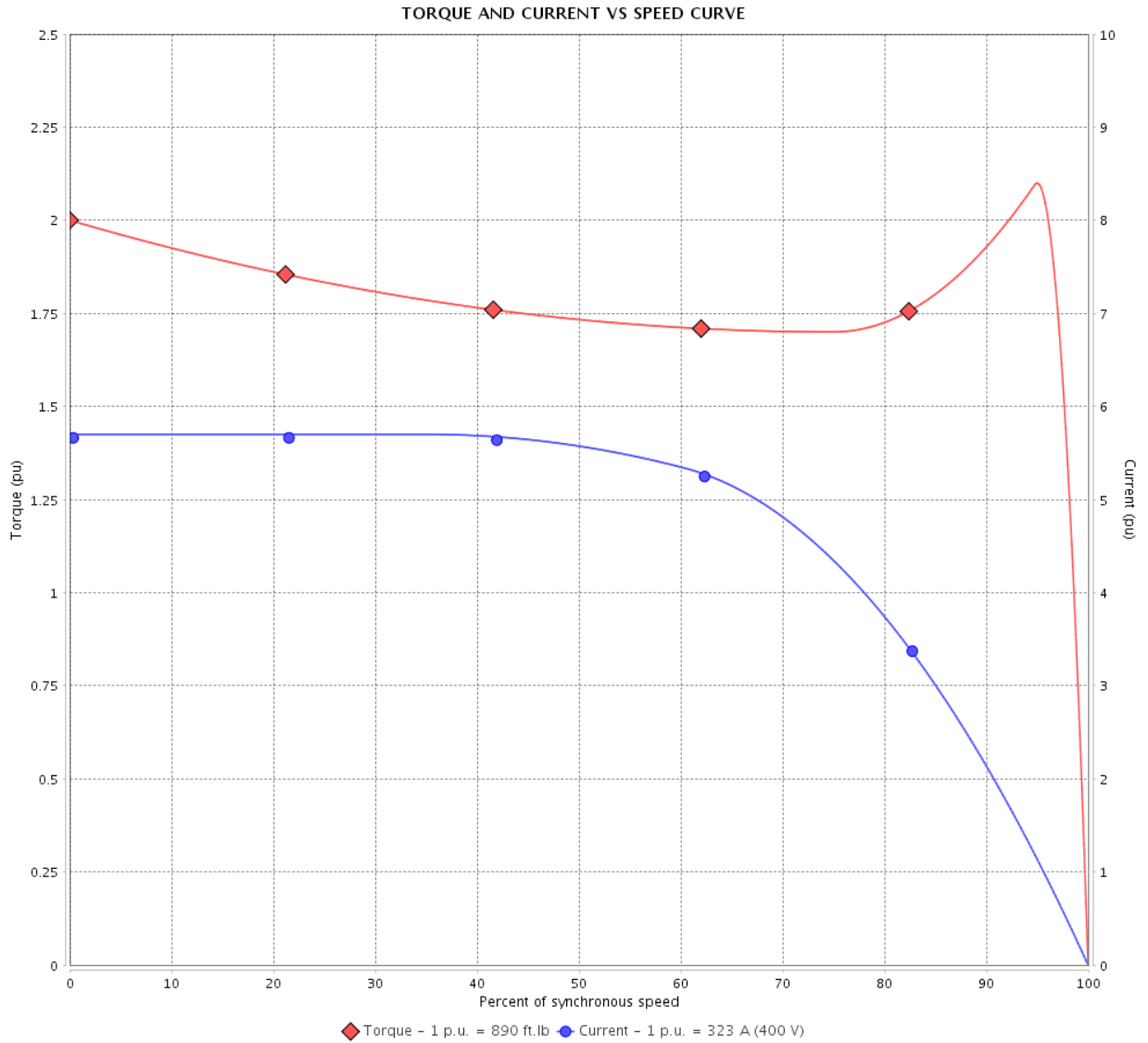
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Performance : 400 V 50 Hz 4P IE1

Rated current	: 323 A	Moment of inertia (J)	: 89.6 sq.ft.lb
LRC	: 5.7	Duty cycle	: Cont.(S1)
Rated torque	: 890 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.00
Breakdown torque	: 210 %	Temperature rise	: 105 K
Rated speed	: 1475 rpm	Design	: B

Locked rotor time : 18s (cold) 10s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



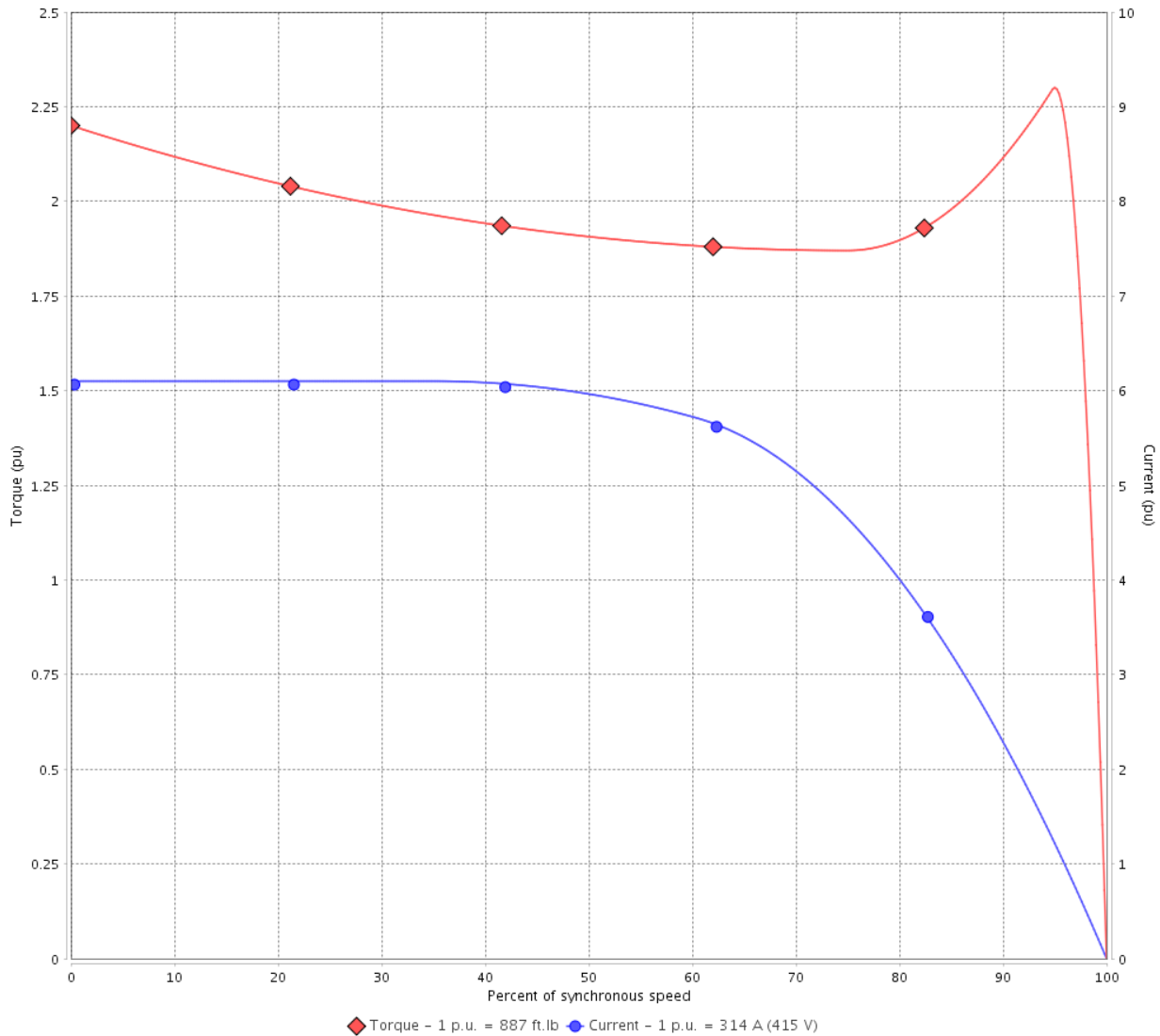
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Product code : 12115182

Catalog # : 25018ST3QIERB449T-W2

TORQUE AND CURRENT VS SPEED CURVE



Performance : 415 V 50 Hz 4P IE2

Rated current	: 314 A	Moment of inertia (J)	: 89.6 sq.ft.lb
LRC	: 6.1	Duty cycle	: Cont.(S1)
Rated torque	: 887 ft.lb	Insulation class	: F
Locked rotor torque	: 220 %	Service factor	: 1.00
Breakdown torque	: 229 %	Temperature rise	: 105 K
Rated speed	: 1480 rpm	Design	: B

Locked rotor time : 18s (cold) 10s (hot)

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Three Phase Induction Motor - Squirrel Cage

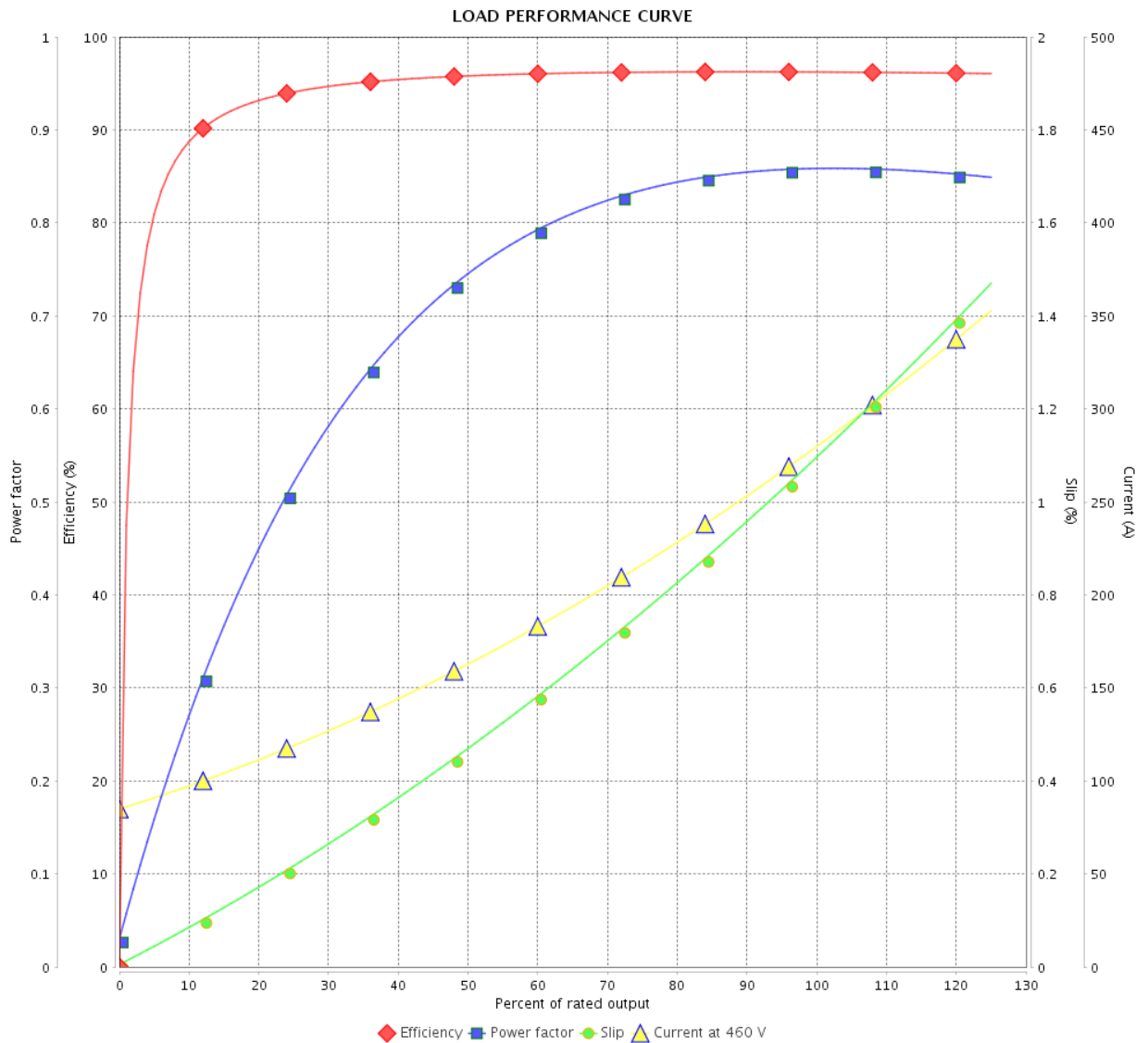


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Performance : 460 V 60 Hz 4P

Rated current : 281 A
 LRC : 6.5
 Rated torque : 738 ft.lb
 Locked rotor torque : 229 %
 Breakdown torque : 229 %
 Rated speed : 1780 rpm

Moment of inertia (J) : 89.6 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.15
 Temperature rise : 80 K
 Design : B

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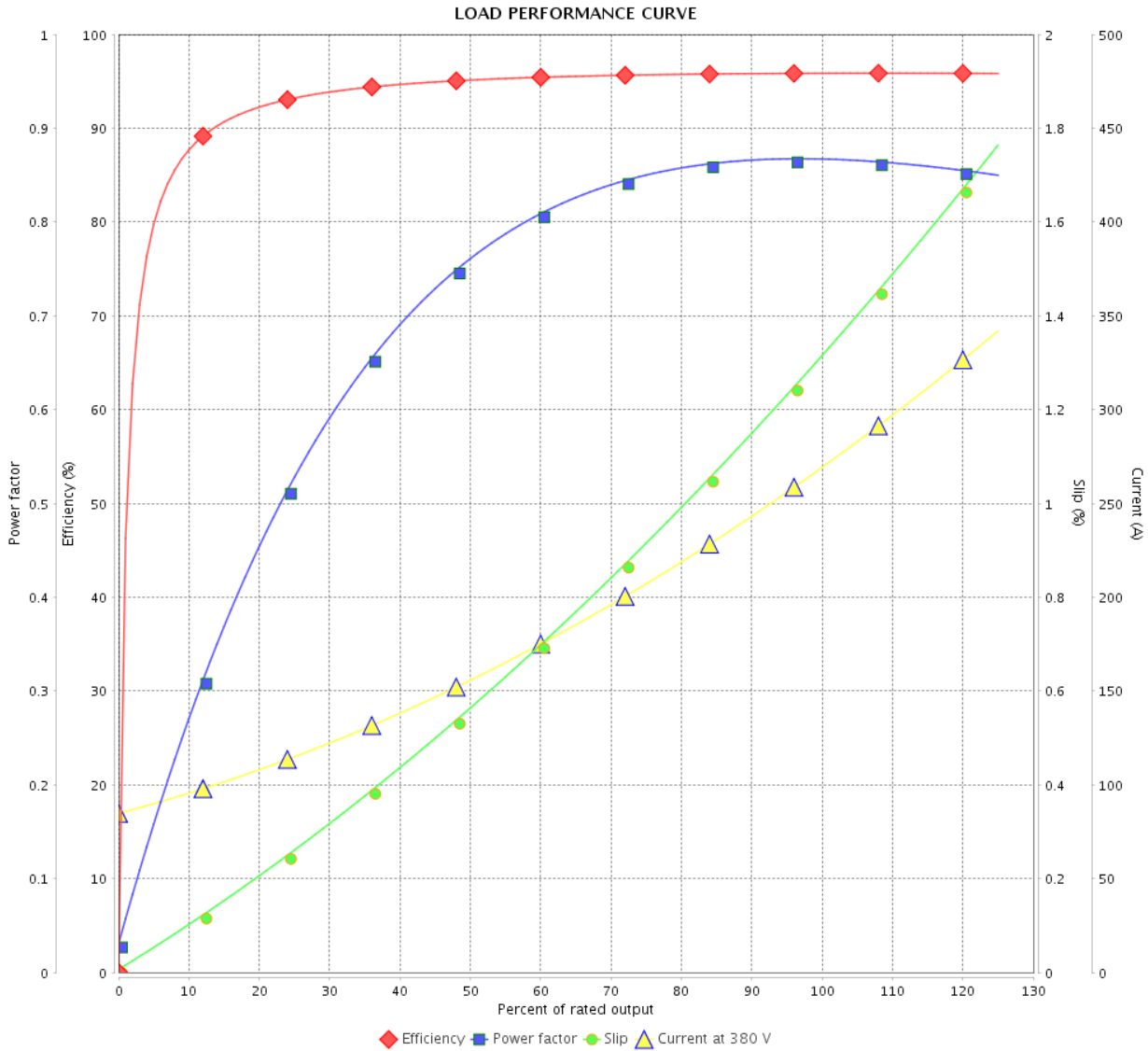


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Performance : 380 V 50 Hz 4P IE3

Rated current	: 273 A	Moment of inertia (J)	: 89.6 sq.ft.lb
LRC	: 6.1	Duty cycle	: Cont.(S1)
Rated torque	: 710 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.15
Breakdown torque	: 229 %	Temperature rise	: 80 K
Rated speed	: 1480 rpm	Design	: B

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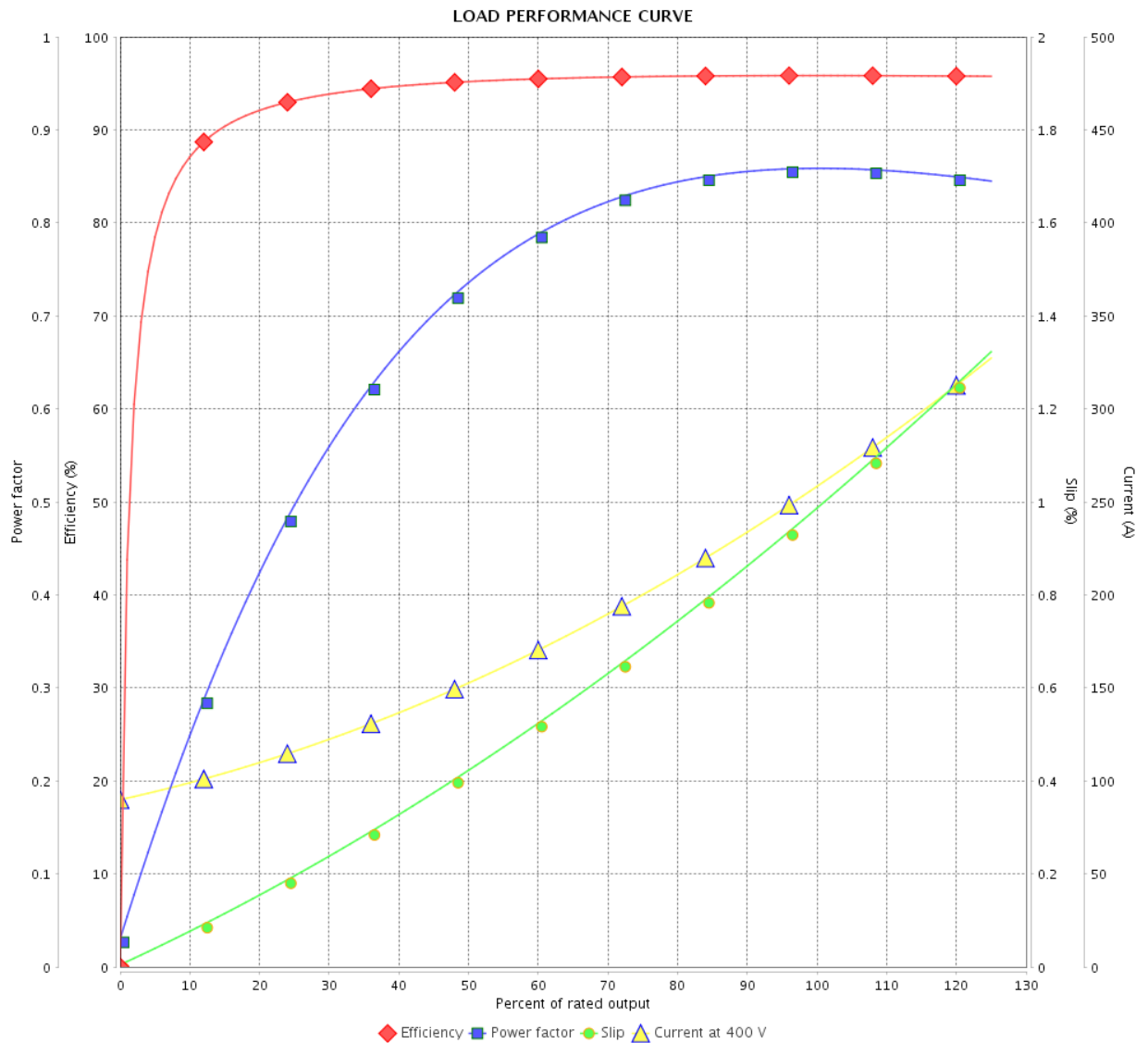


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Performance : 400 V 50 Hz 4P IE3

Rated current : 263 A
 LRC : 6.8
 Rated torque : 707 ft.lb
 Locked rotor torque : 260 %
 Breakdown torque : 260 %
 Rated speed : 1485 rpm

Moment of inertia (J) : 89.6 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

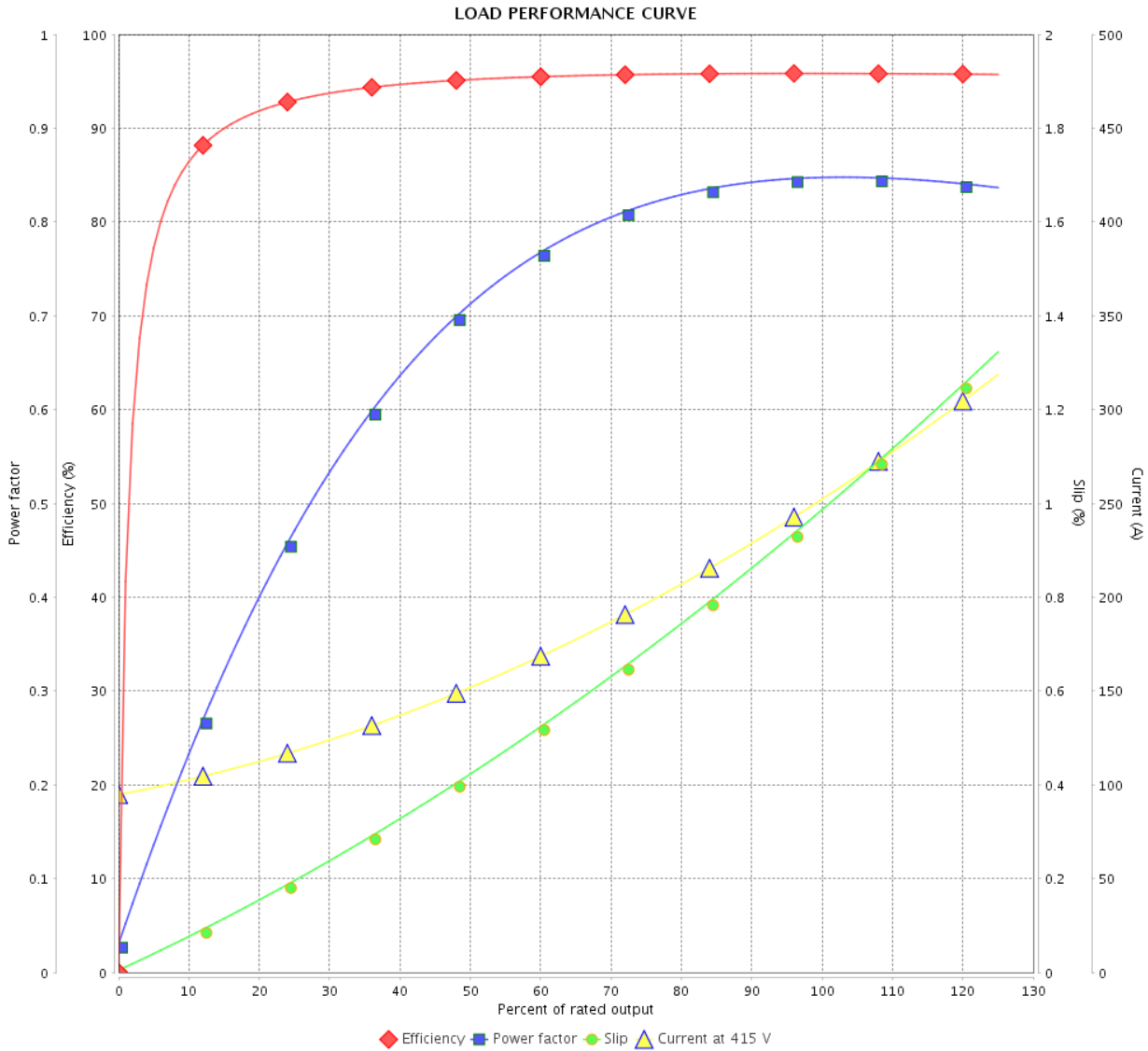


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Performance : 415 V 50 Hz 4P IE3

Rated current : 256 A
 LRC : 7.4
 Rated torque : 707 ft.lb
 Locked rotor torque : 290 %
 Breakdown torque : 290 %
 Rated speed : 1485 rpm

Moment of inertia (J) : 89.6 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

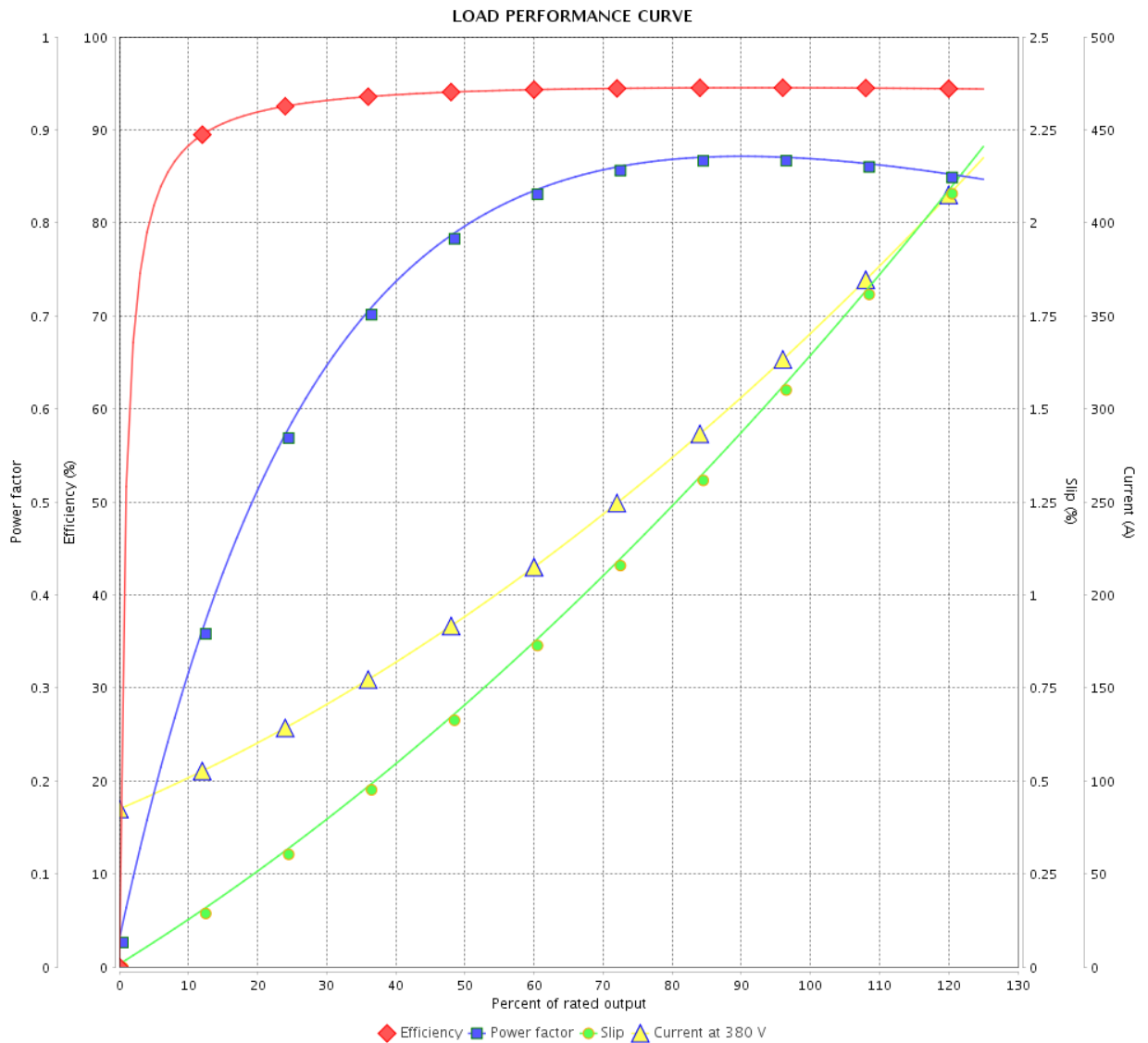


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Catalog # : 25018ST3QIERB449T-W2



Performance : 380 V 50 Hz 4P IE1

Rated current : 342 A
 LRC : 5.1
 Rated torque : 890 ft.lb
 Locked rotor torque : 180 %
 Breakdown torque : 210 %
 Rated speed : 1475 rpm

Moment of inertia (J) : 89.6 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 105 K
 Design : B

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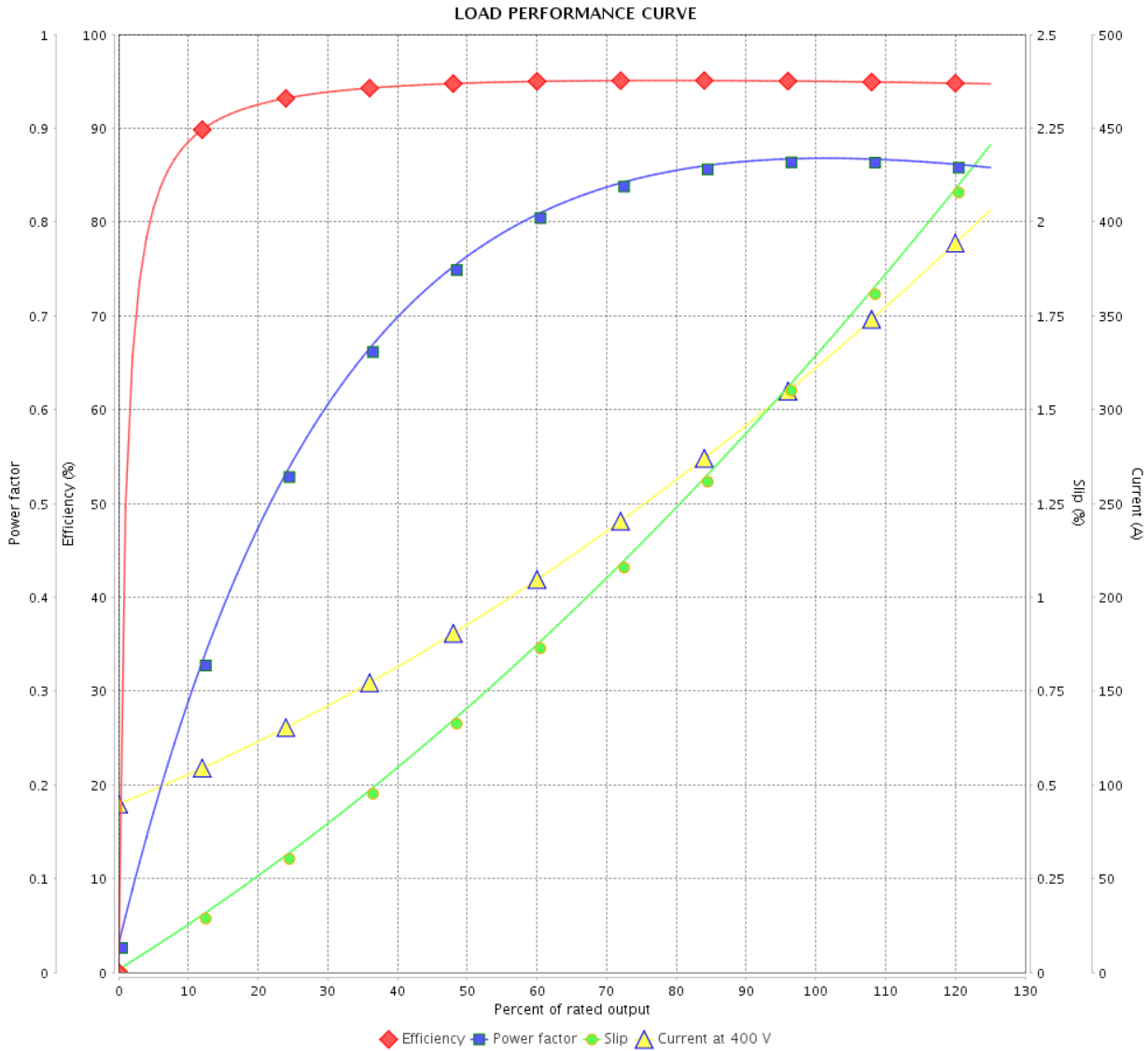


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Performance : 400 V 50 Hz 4P IE1

Rated current : 323 A
 LRC : 5.7
 Rated torque : 890 ft.lb
 Locked rotor torque : 200 %
 Breakdown torque : 210 %
 Rated speed : 1475 rpm

Moment of inertia (J) : 89.6 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 105 K
 Design : B

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Three Phase Induction Motor - Squirrel Cage

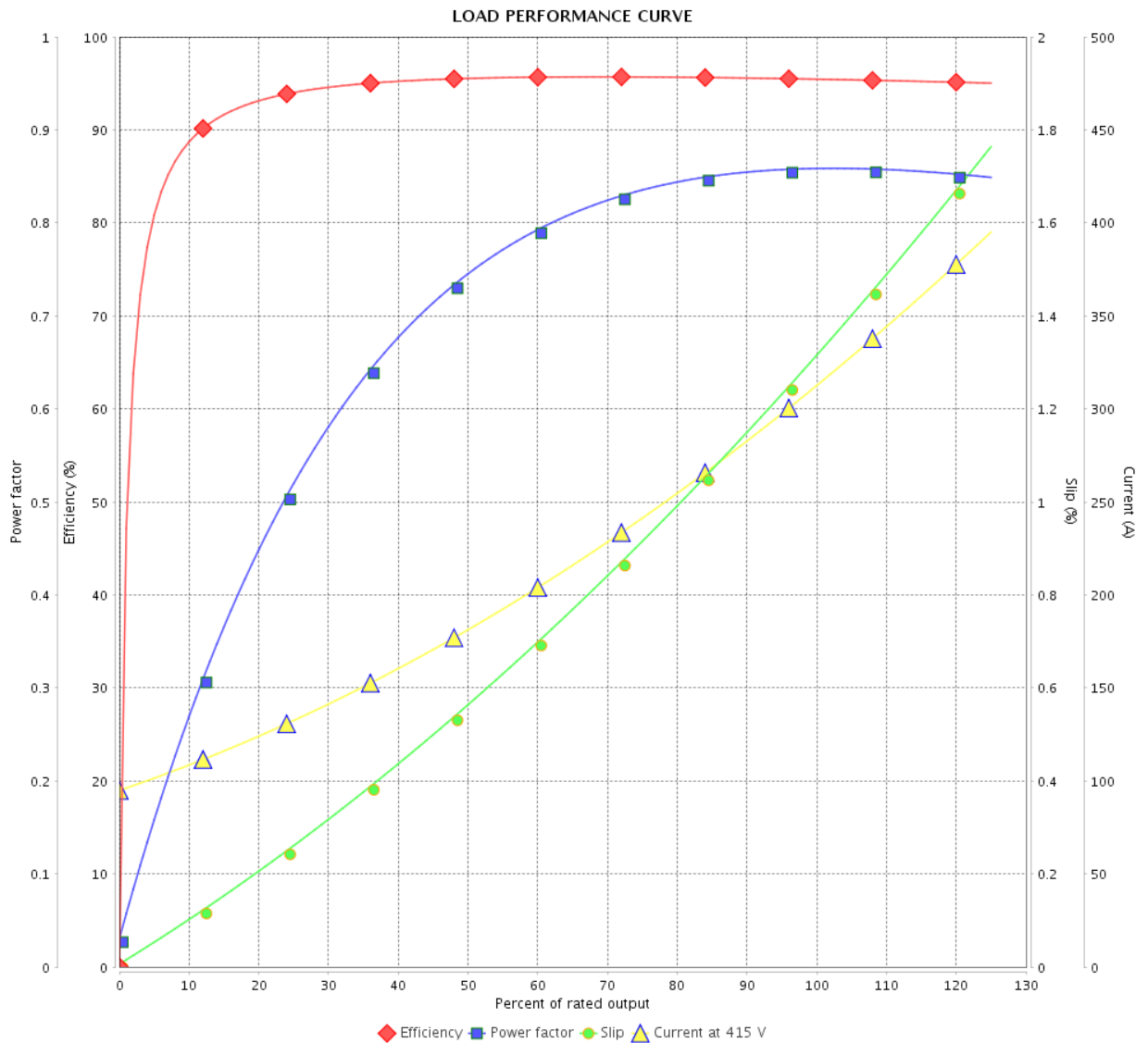


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Performance : 415 V 50 Hz 4P IE2

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 Locked rotor torque : 220 %
 Breakdown torque : 229 %
 Rated speed : 1480 rpm

Moment of inertia (J) : 89.6 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 105 K
 Design : B

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THERMAL LIMIT CURVE



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Locked rotor torque	: 229 %	Service factor	: 1.15
Breakdown torque	: 229 %	Temperature rise	: 80 K
Rated speed	: 1780 rpm	Design	: B

Heating constant

Cooling constant

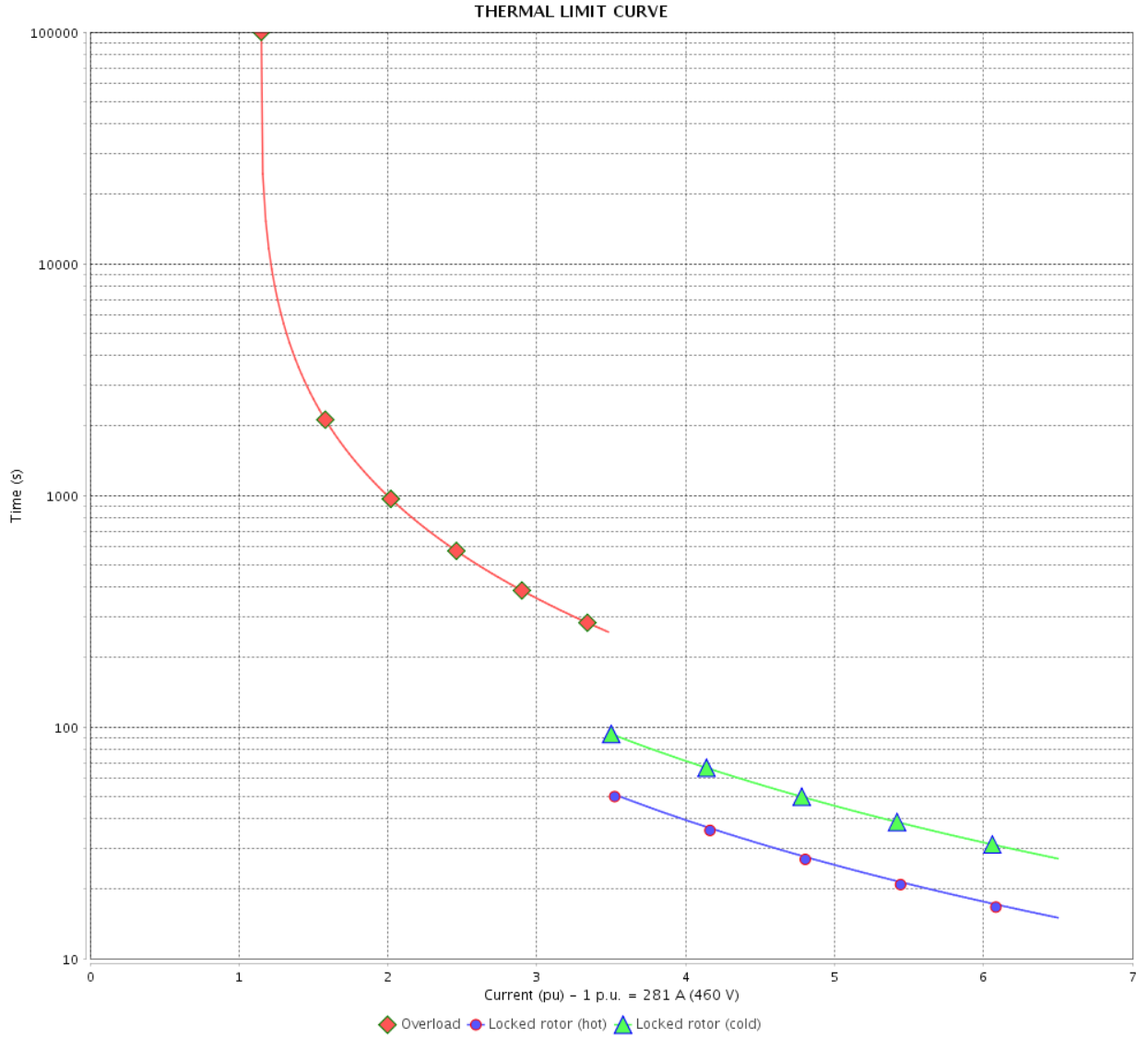
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Three Phase Induction Motor - Squirrel Cage



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Performance : 380 V 50 Hz 4P IE3

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Heating constant

Cooling constant

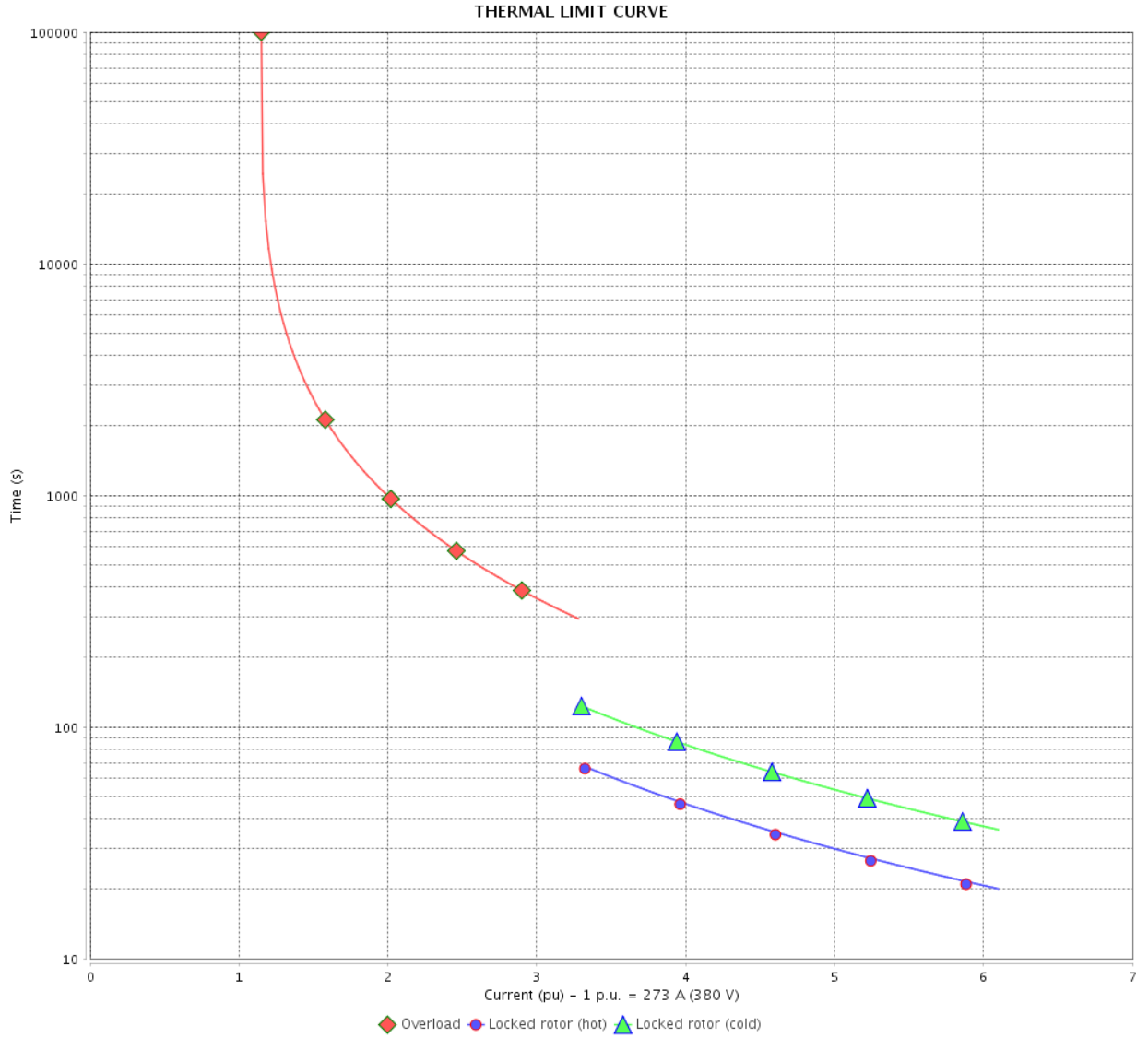
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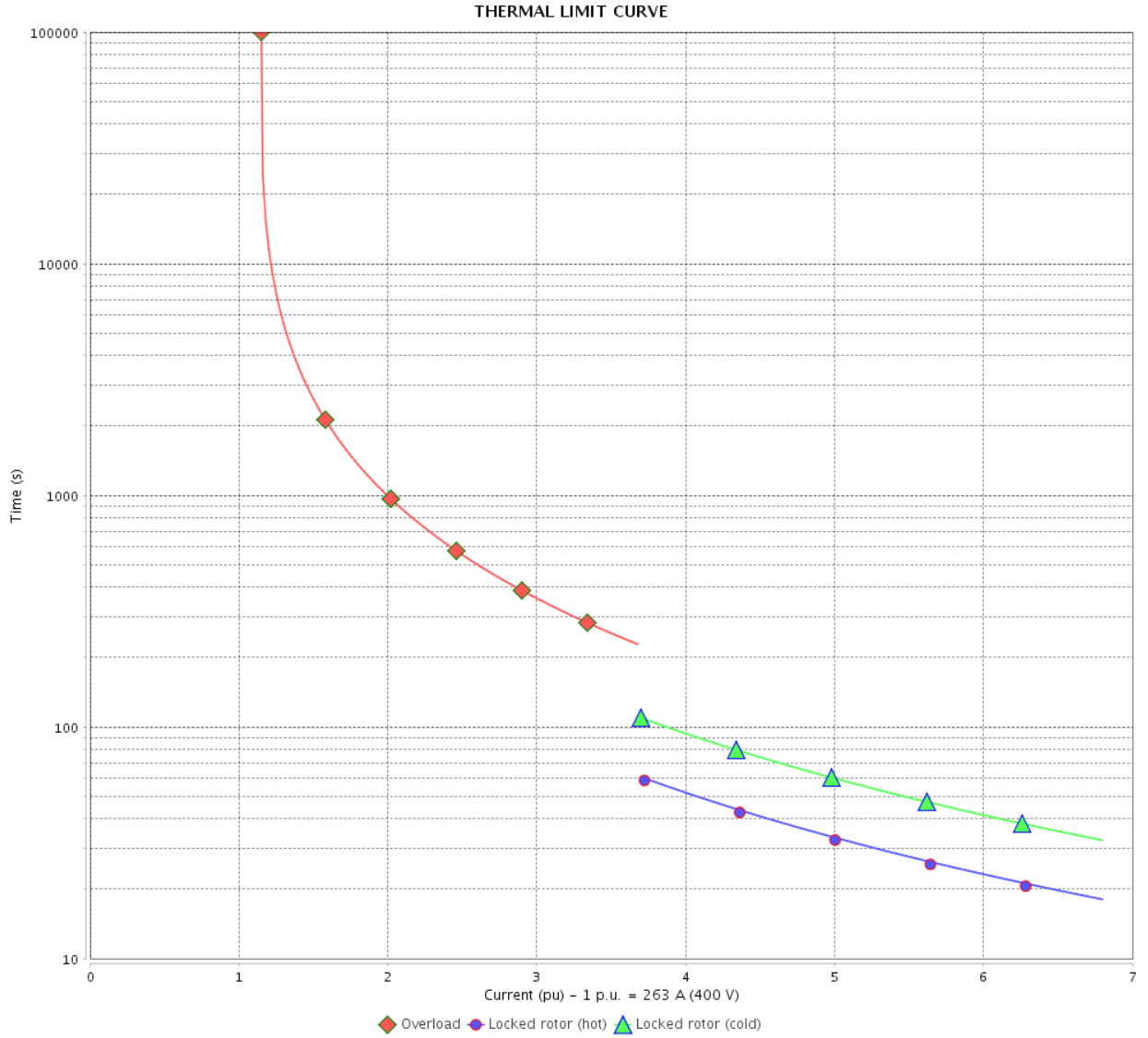
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Rated speed : 1485 rpm	Design : B

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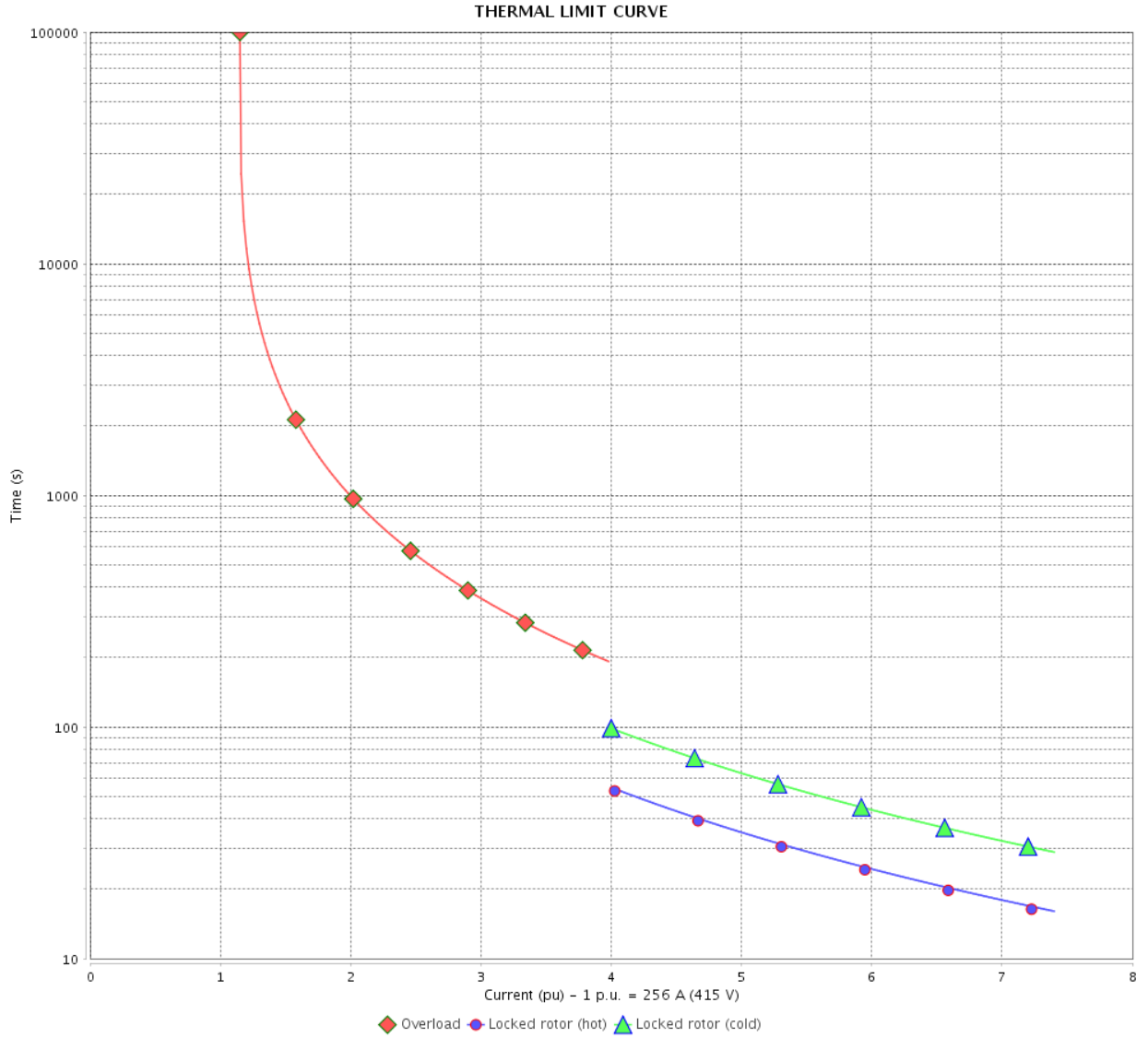
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THERMAL LIMIT CURVE

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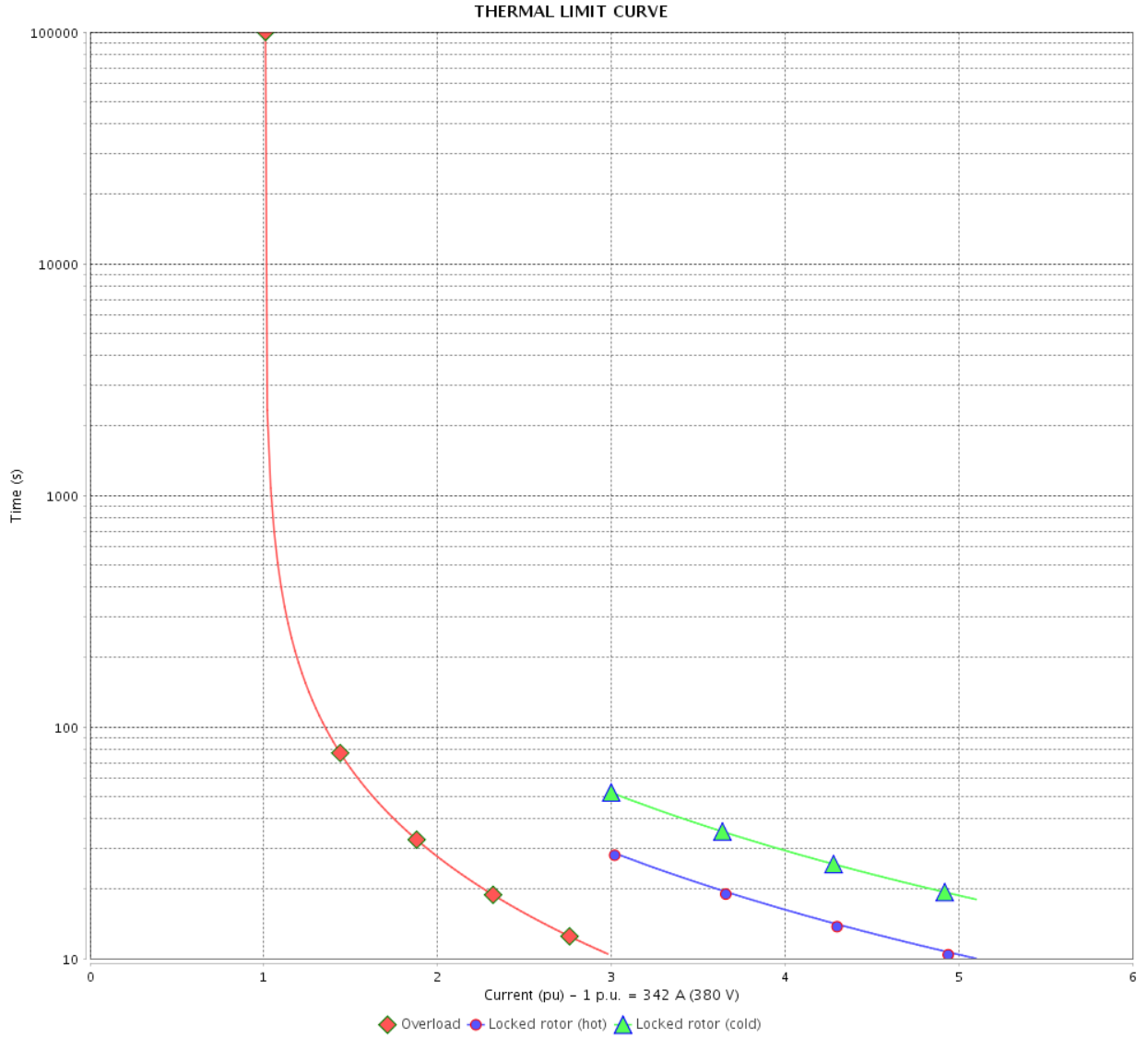
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Heating constant

Cooling constant

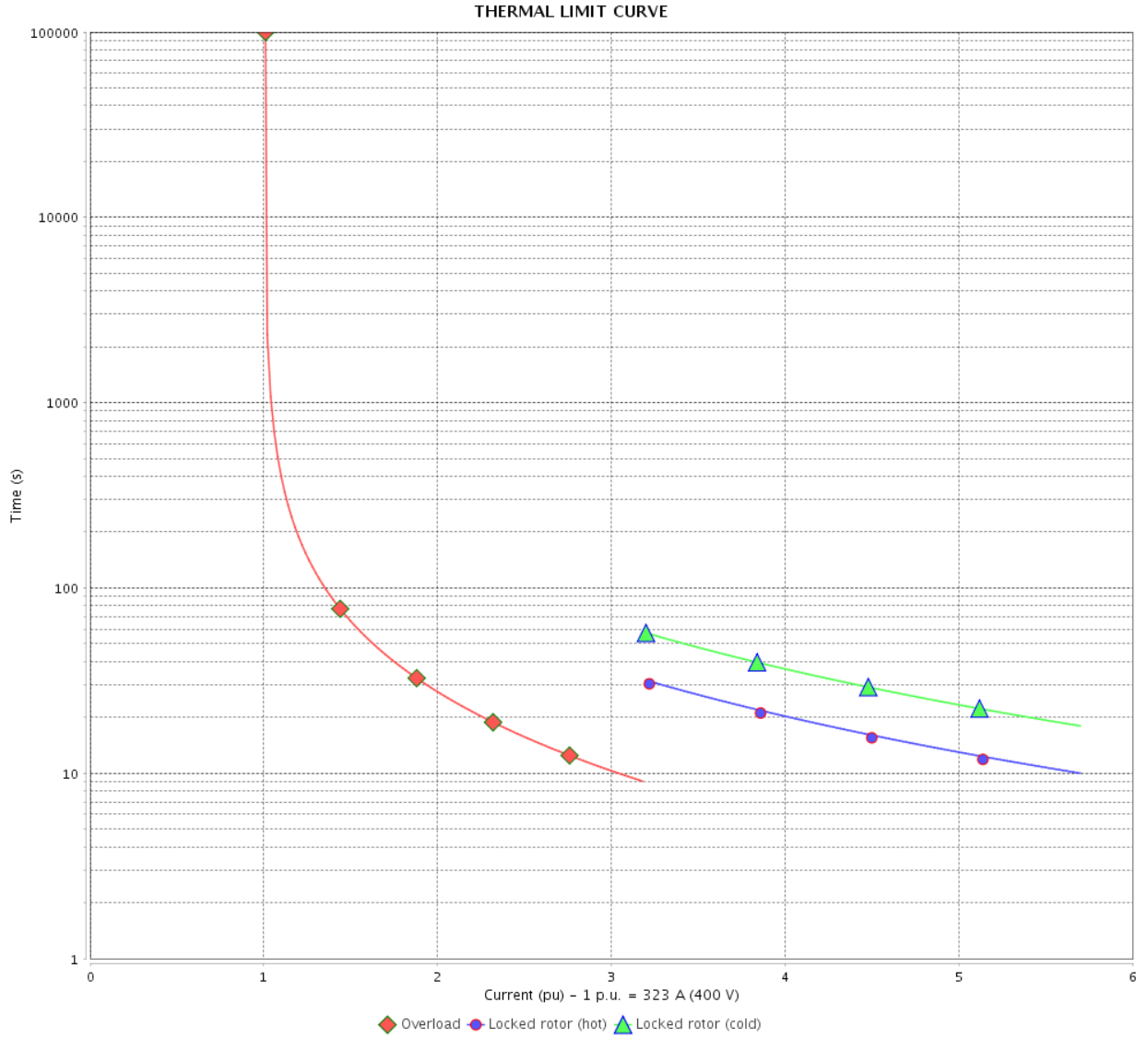
Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by			Page	Revision
Date	13/04/2022		26 / 36	

THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : _____



Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page 27 / 36		Revision
Checked by				
Date				

THERMAL LIMIT CURVE



Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase
Product code : 12115182
Catalog # : 25018ST3QIERB449T-W2

Performance : 415 V 50 Hz 4P IE2

Rated current	: 314 A	Moment of inertia (J)	: 89.6 sq.ft.lb
LRC	: 6.1	Duty cycle	: Cont.(S1)
Rated torque	: 887 ft.lb	Insulation class	: F
Locked rotor torque	: 220 %	Service factor	: 1.00
Breakdown torque	: 229 %	Temperature rise	: 105 K
Rated speed	: 1480 rpm	Design	: B

Heating constant

Cooling constant

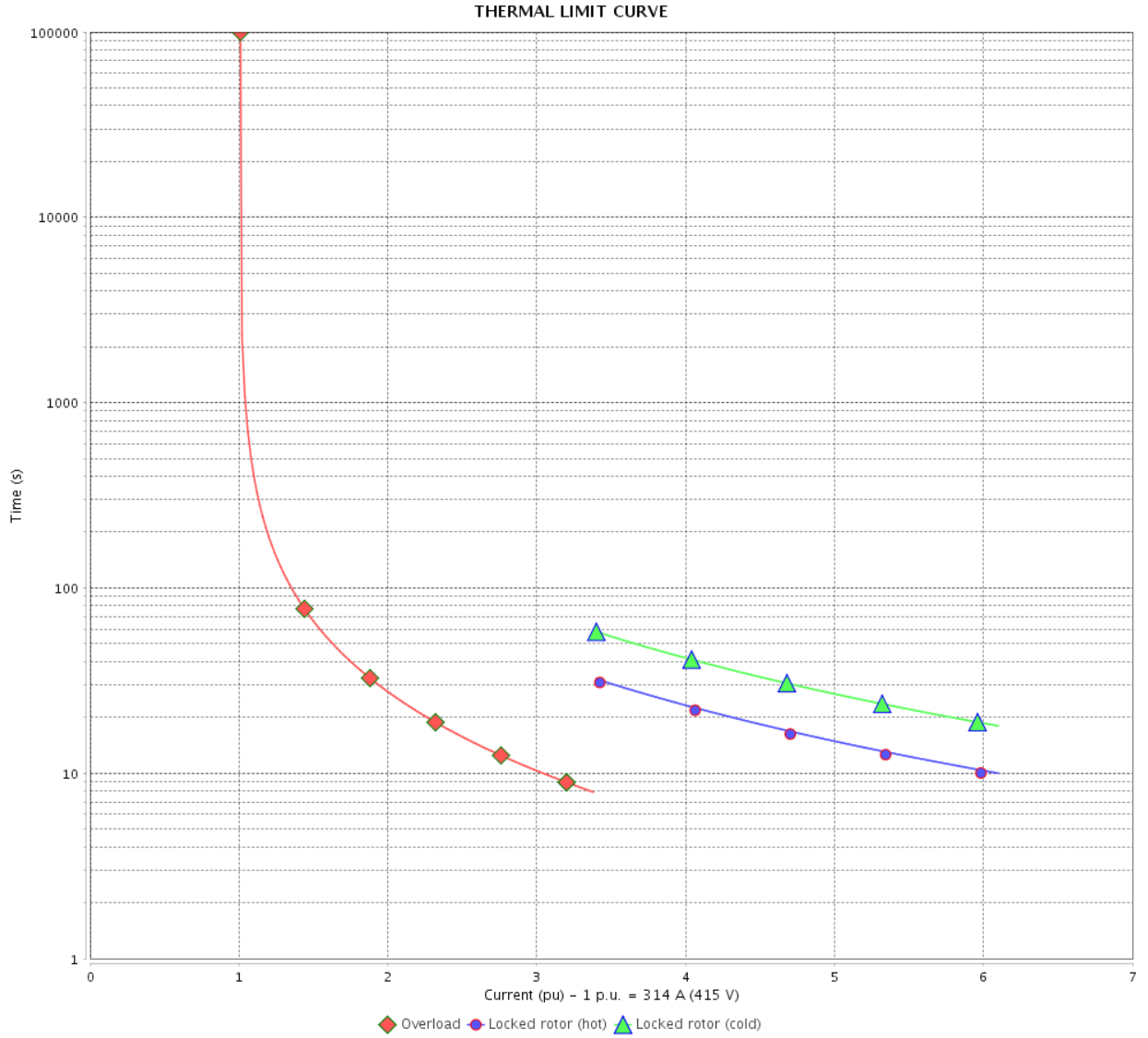
Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by			Page	Revision
Date	13/04/2022		28 / 36	

THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : _____



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

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



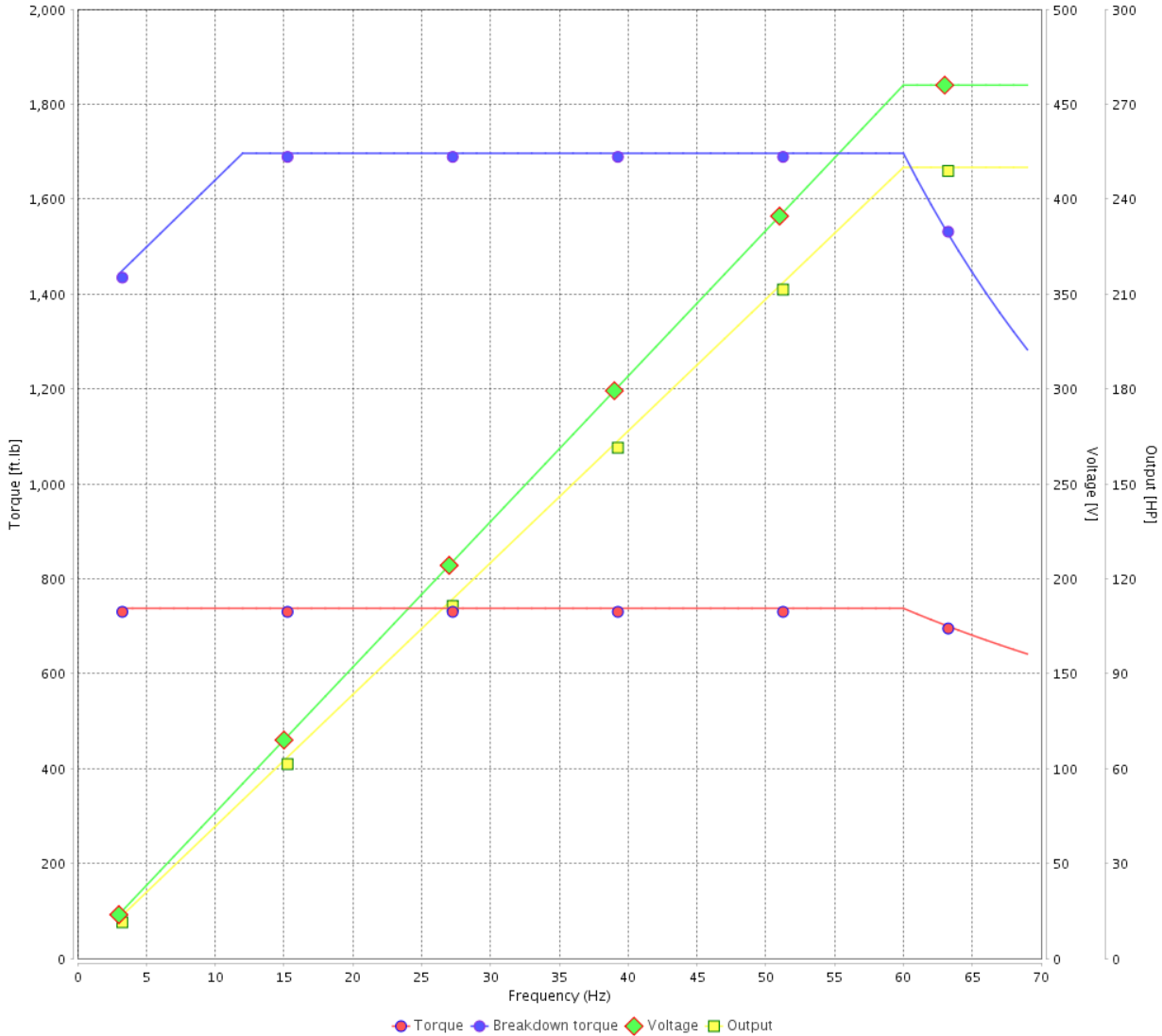
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12115182

Catalog # : 25018ST3QIERB449T-W2

VFD OPERATION CURVE



Performance : 460 V 60 Hz 4P

Rated current	: 281 A	Moment of inertia (J)	: 89.6 sq.ft.lb
LRC	: 6.5	Duty cycle	: Cont.(S1)
Rated torque	: 738 ft.lb	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.15
Breakdown torque	: 229 %	Temperature rise	: 80 K
Rated speed	: 1780 rpm	Design	: B

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 30 / 36	Revision
Checked by				
Date	13/04/2022			

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

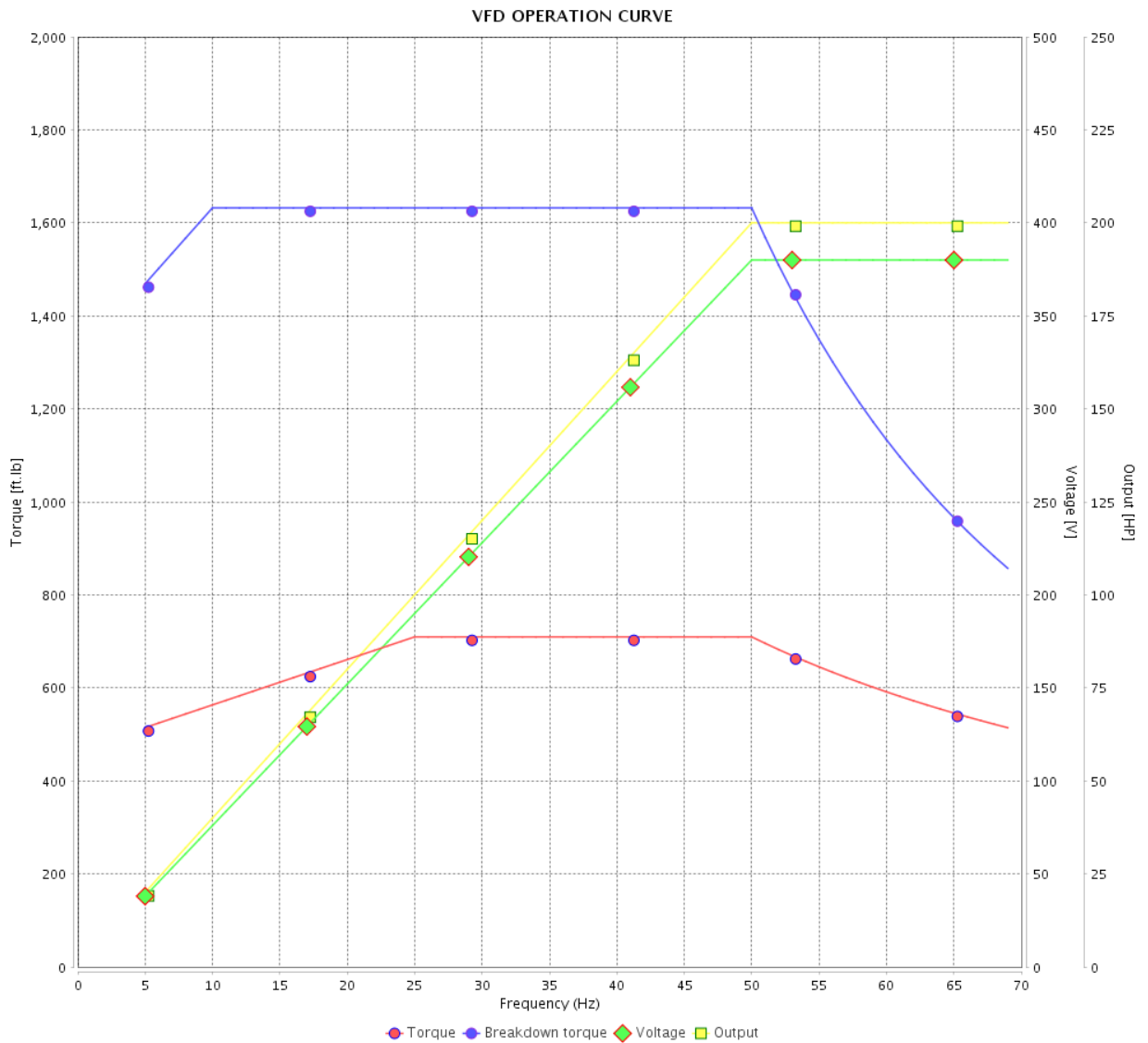


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12115182

Catalog # : 25018ST3QIERB449T-W2



Performance : 380 V 50 Hz 4P IE3

Rated current : 273 A
 LRC : 6.1
 Rated torque : 710 ft.lb
 Locked rotor torque : 200 %
 Breakdown torque : 229 %
 Rated speed : 1480 rpm

Moment of inertia (J) : 89.6 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 31 / 36	Revision
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Date	13/04/2022			

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

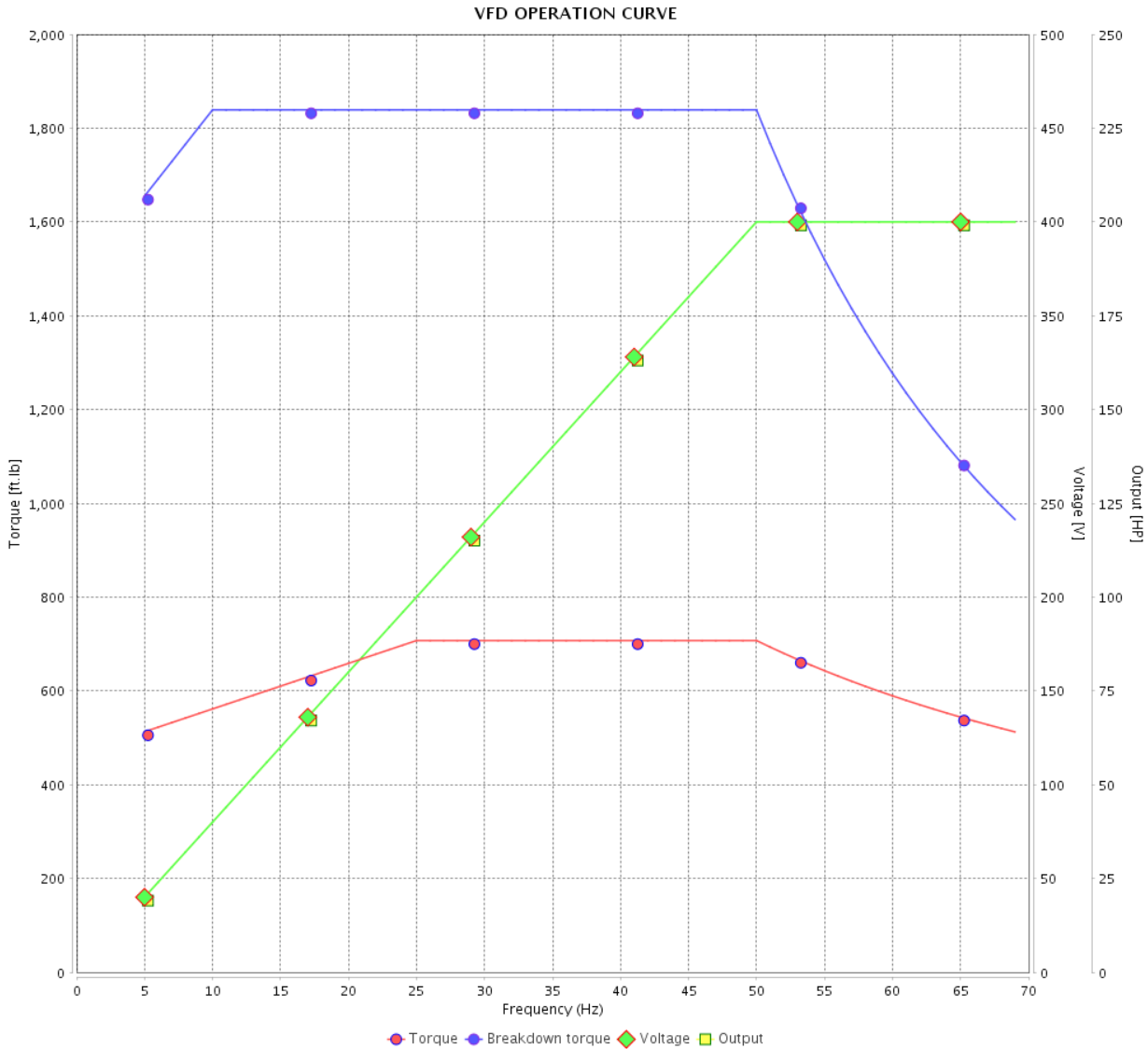


Customer : _____

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12115182

Catalog # : 25018ST3QIERB449T-W2



Performance : 400 V 50 Hz 4P IE3

Rated current : 263 A
 LRC : 6.8
 Rated torque : 707 ft.lb
 Locked rotor torque : 260 %
 Breakdown torque : 260 %
 Rated speed : 1485 rpm

Moment of inertia (J) : 89.6 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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Date	13/04/2022			

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

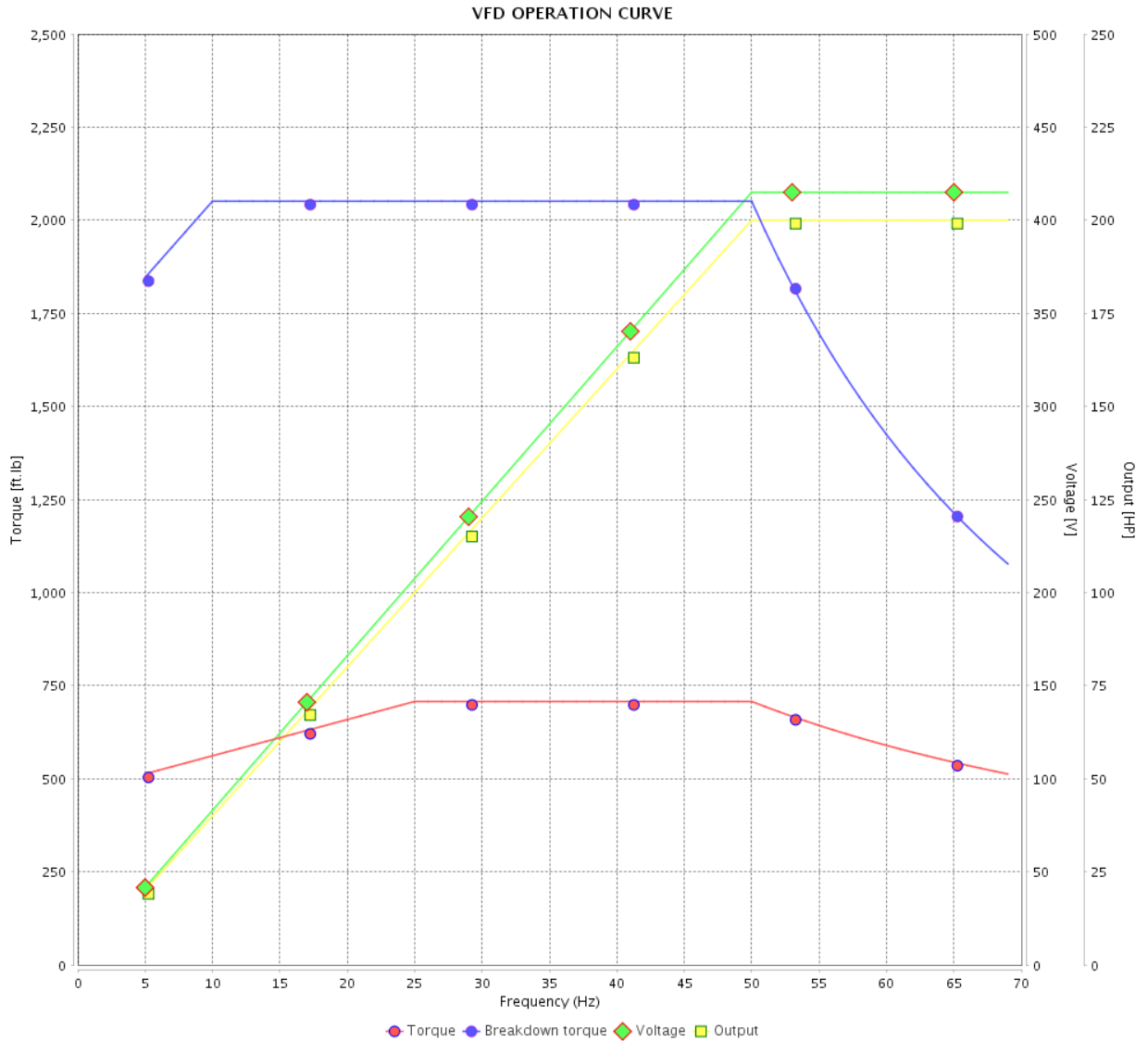


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12115182

Catalog # : 25018ST3QIERB449T-W2



Performance : 415 V 50 Hz 4P IE3

Rated current : 256 A
 LRC : 7.4
 Rated torque : 707 ft.lb
 Locked rotor torque : 290 %
 Breakdown torque : 290 %
 Rated speed : 1485 rpm

Moment of inertia (J) : 89.6 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
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Date		13/04/2022		

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

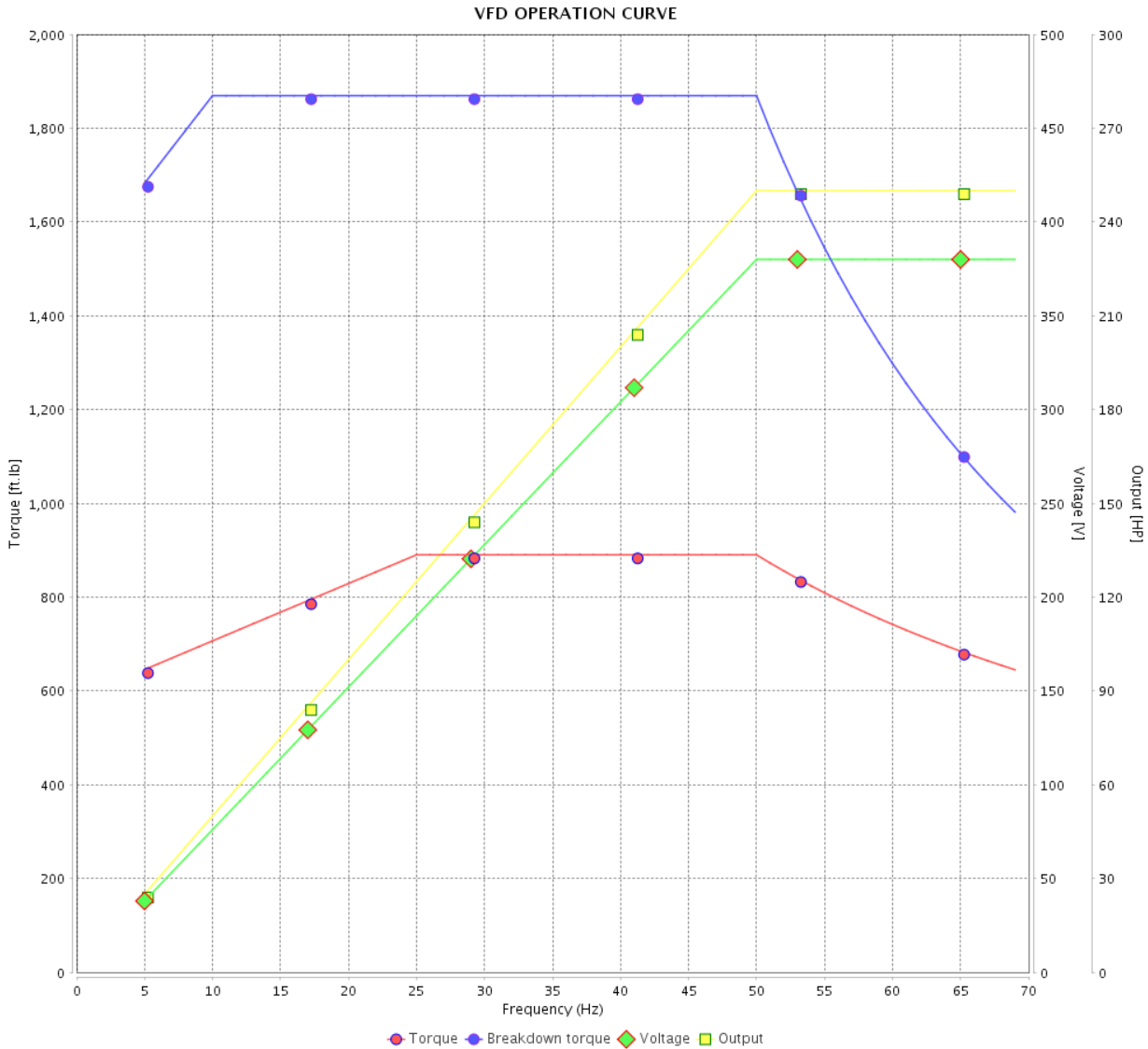


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12115182

Catalog # : 25018ST3QIERB449T-W2



Performance : 380 V 50 Hz 4P IE1

Rated current : 342 A
 LRC : 5.1
 Rated torque : 890 ft.lb
 Locked rotor torque : 180 %
 Breakdown torque : 210 %
 Rated speed : 1475 rpm

Moment of inertia (J) : 89.6 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 105 K
 Design : B

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 34 / 36	Revision
Checked by				
Date	13/04/2022			

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

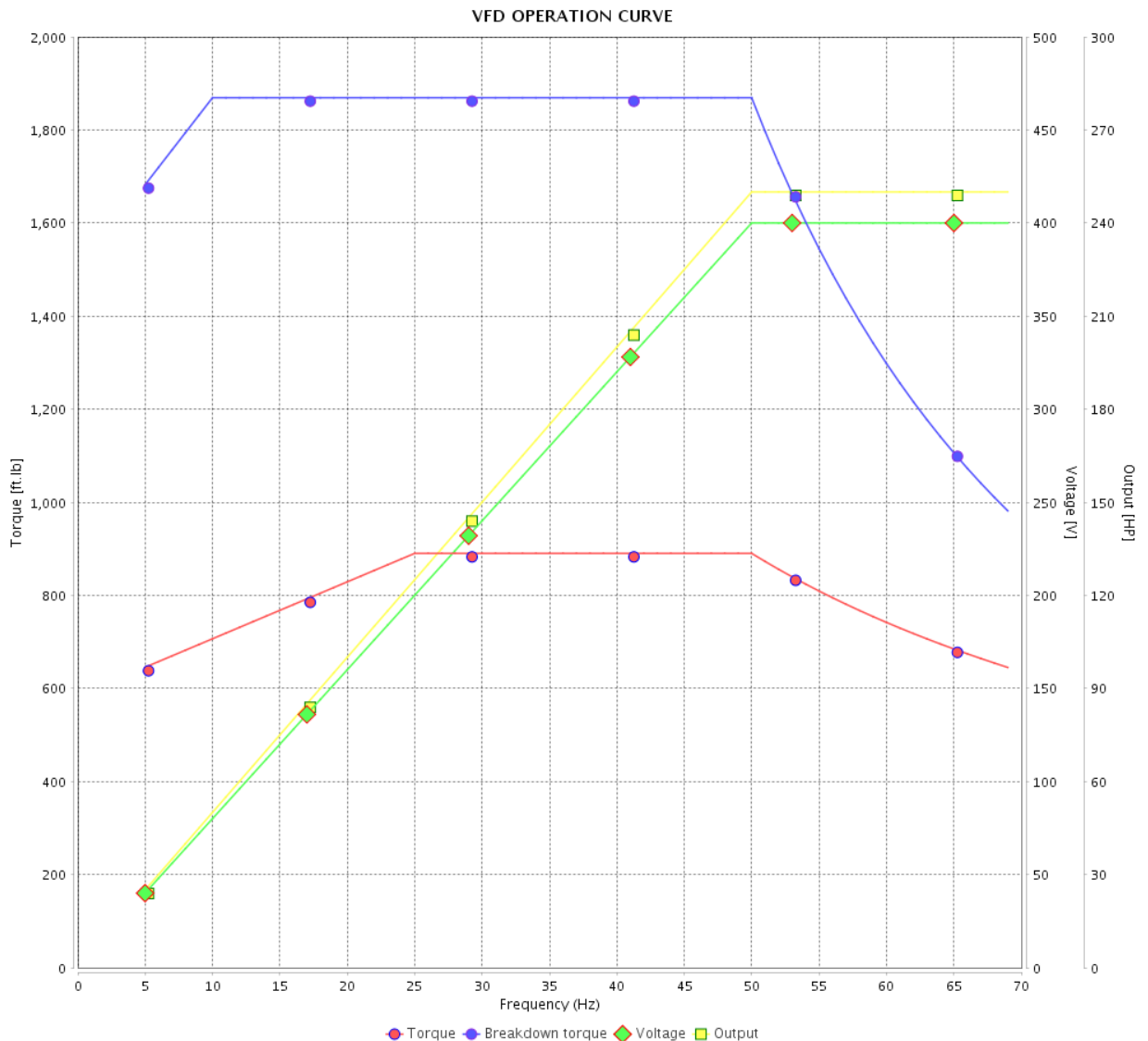


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12115182

Catalog # : 25018ST3QIERB449T-W2



Performance : 400 V 50 Hz 4P IE1

Rated current : 323 A
 LRC : 5.7
 Rated torque : 890 ft.lb
 Locked rotor torque : 200 %
 Breakdown torque : 210 %
 Rated speed : 1475 rpm

Moment of inertia (J) : 89.6 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 105 K
 Design : B

Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		35 / 36		
Date		13/04/2022		

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

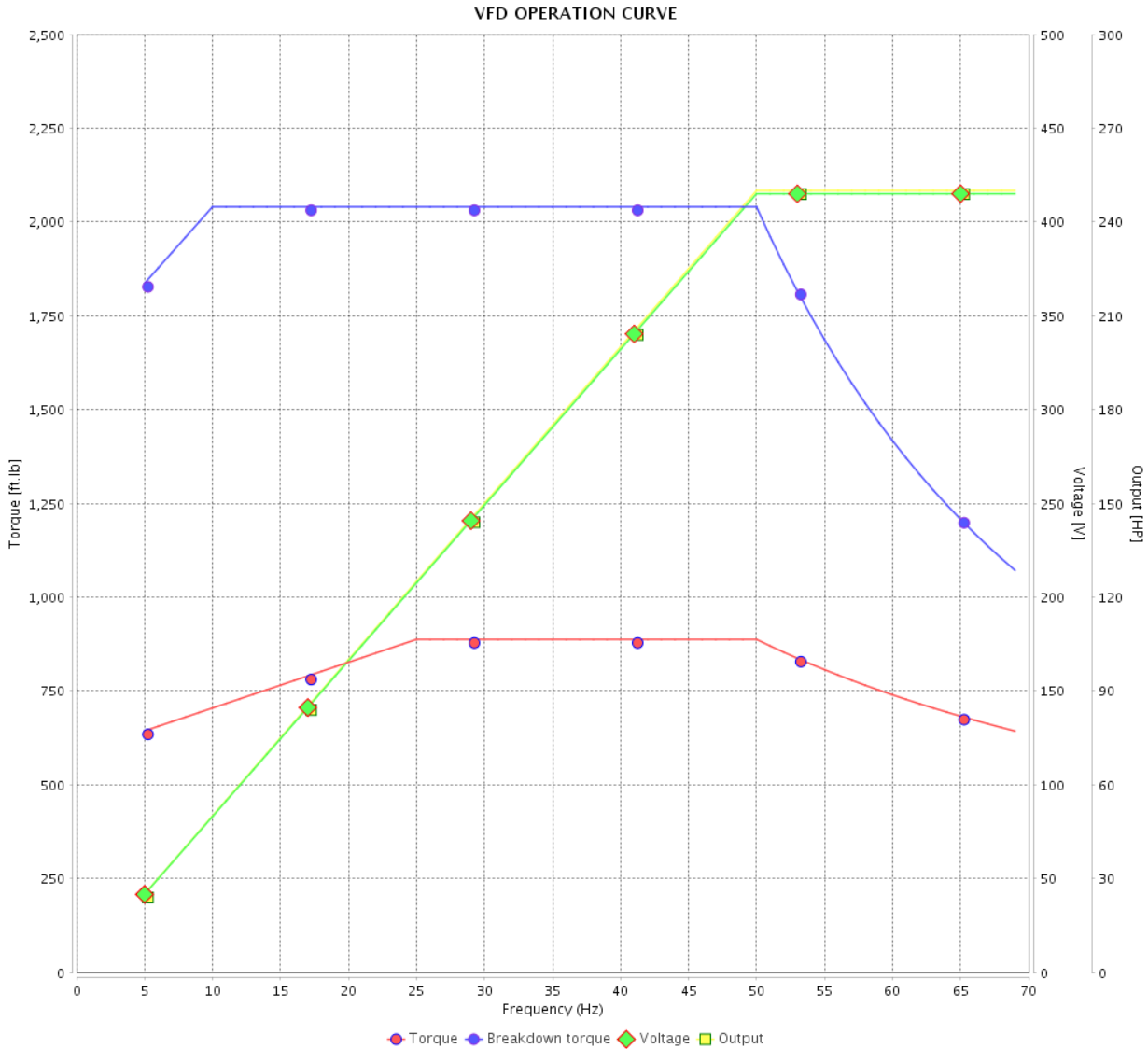


Customer : _____

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12115182

Catalog # : 25018ST3QIERB449T-W2

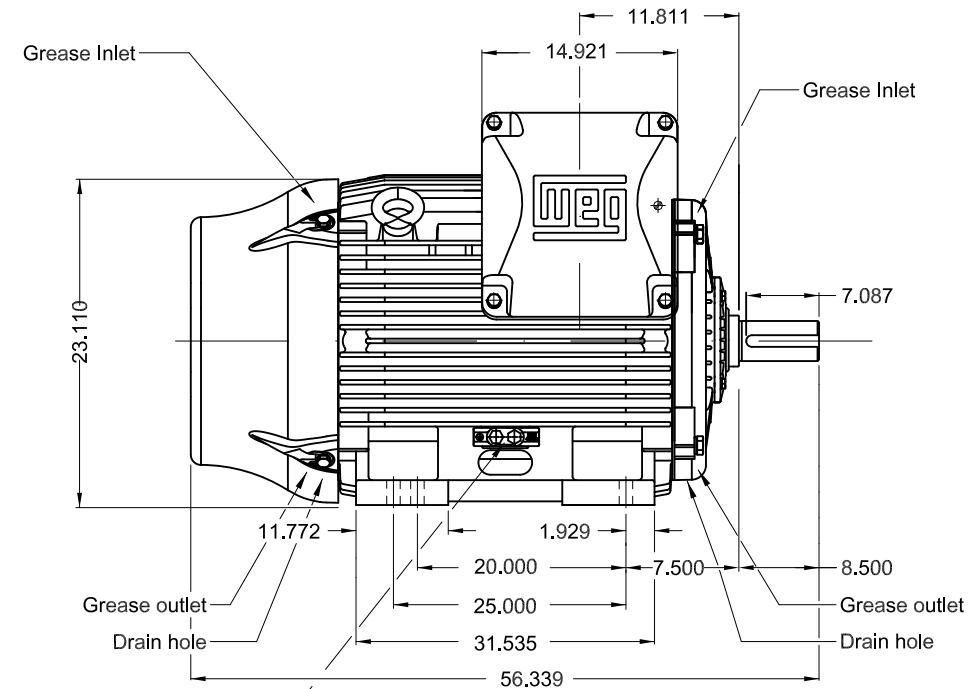
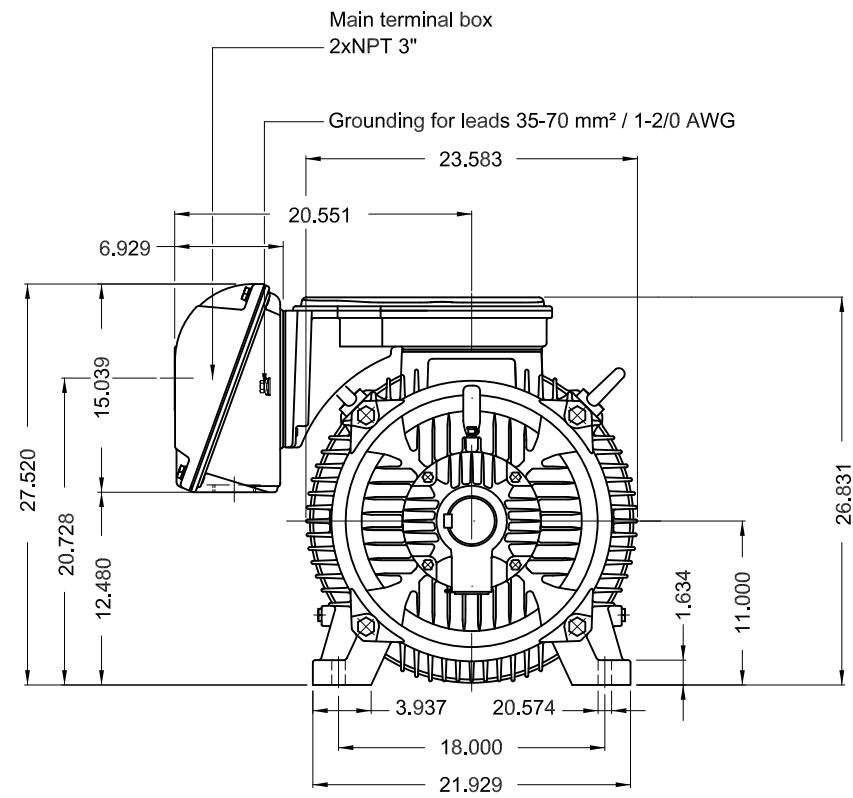


Performance : 415 V 50 Hz 4P IE2

Rated current : 314 A
 LRC : 6.1
 Rated torque : 887 ft.lb
 Locked rotor torque : 220 %
 Breakdown torque : 229 %
 Rated speed : 1480 rpm

Moment of inertia (J) : 89.6 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 105 K
 Design : B

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

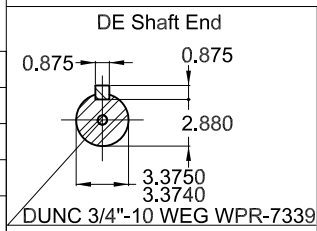


Grounding for leads 25-185 mm² / 3AWG-350MCM

250 HP 04 Poles 60 Hz

A

- DE roller bearing
- Shaft locking device
- Color RAL 5009
- Painting plan 202E
- Mounting B3R(D)



ECM	LOC	SUMMARY OF MODIFICATIONS	EXECUTED	CHECKED	RELEASED	DATE	VER
EXECUTED	PIRWBUSER	THREE PH. MOTOR IEEE 841 W22 PREM. EFF.					
CHECKED		FRAME 447/9T IP55 TEFC					
RELEASED							
REL DT.	WMO	Jaragua do Sul	Product Engineering	SHEET	1 / 1		

PREVIEW
WDD





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 - T3C
For use on PWM: Gr. A, B, C, D and F,
VT 1000:1, CT 20:1, 1.00SF - T3

MODEL 25018ST3QIERB449T-W2



Inverter Duty Motor
Severe Duty

MADE IN BRAZIL
12115182

PH3 60Hz Fr. 447/9T 1000m.a.s.l. IP55 TEFC 2858lb

V 460

A 281

HP 250

kW 185

SF 1.15

SFA 323

RPM 1780

PF 0.86

AMB 40°C

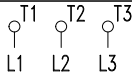
INS cl. F DT80K

NEMA NOM EFF 96.2%

DUTY CONT.

DES B Code G

GUARANT. EFF 95.4%



460V



→ NU-322-C3 (60g) 110RU03X30

→ 6319-C3 (45g) 95BC03X30



MOBIL POLYREX EM (4000h)

