

DATA SHEET



Three Phase Induction Motor - Squirrel Cage

Customer :								
Product line	: NEMA Premium Efficiency Three-Phase	Product code :	11853778					
		Catalog # :	10012ST3QIERB444T-W2					
Frame	: 444/5T	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	: 1711 lb					
Protection degree	: IP55	Moment of inertia (J)	: 87.3 sq.ft.lb					
Design	: B							
Output [HP]	100	75	75	75	100	100	100	
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]	121	107	104	102	145	139	135	
L. R. Amperes [A]	714	674	718	755	682	723	770	
LRC [A]	5.9x(Code G)	6.3x(Code G)	6.9x(Code H)	7.4x(Code J)	4.7x(Code D)	5.2x(Code F)	5.7x(Code F)	
No load current [A]	42.0	41.4	44.9	47.7	41.4	44.9	47.7	
Rated speed [RPM]	1185	985	990	990	980	985	985	
Slip [%]	1.25	1.50	1.00	1.00	2.00	1.50	1.50	
Rated torque [ft.lb]	443	400	398	398	536	533	533	
Locked rotor torque [%]	220	229	250	270	170	190	200	
Breakdown torque [%]	229	250	280	310	180	200	220	
Service factor	1.25	1.00	1.00	1.00	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	36s (cold) 20s (hot)	27s (cold) 15s (hot)	27s (cold) 15s (hot)	27s (cold) 15s (hot)	27s (cold) 15s (hot)	27s (cold) 15s (hot)	27s (cold) 15s (hot)	
Noise level ²	69.0 dB(A)	65.0 dB(A)	65.0 dB(A)	65.0 dB(A)	65.0 dB(A)	65.0 dB(A)	65.0 dB(A)	
Efficiency (%)	25%	94.4	93.7	93.7	93.5	94.8	94.8	94.8
	50%	94.5	93.8	93.8	93.7	94.5	94.5	94.5
	75%	95.0	94.3	94.6	94.6	94.0	94.5	94.5
	100%	95.0	94.2	94.5	94.6	93.6	94.0	94.0
Power Factor	25%	0.45	0.41	0.38	0.35	0.51	0.47	0.44
	50%	0.68	0.64	0.60	0.57	0.74	0.71	0.68
	75%	0.78	0.77	0.74	0.71	0.82	0.80	0.78
	100%	0.82	0.83	0.81	0.79	0.84	0.83	0.82
Bearing type	: NU-319 C3	6316 C3	Foundation loads					
Sealing	: Inpro/Seal	Inpro/Seal	Max. traction	: 2271 lb				
Lubrication interval	: 9000 h	16000 h	Max. compression	: 3982 lb				
Lubricant amount	: 45 g	34 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



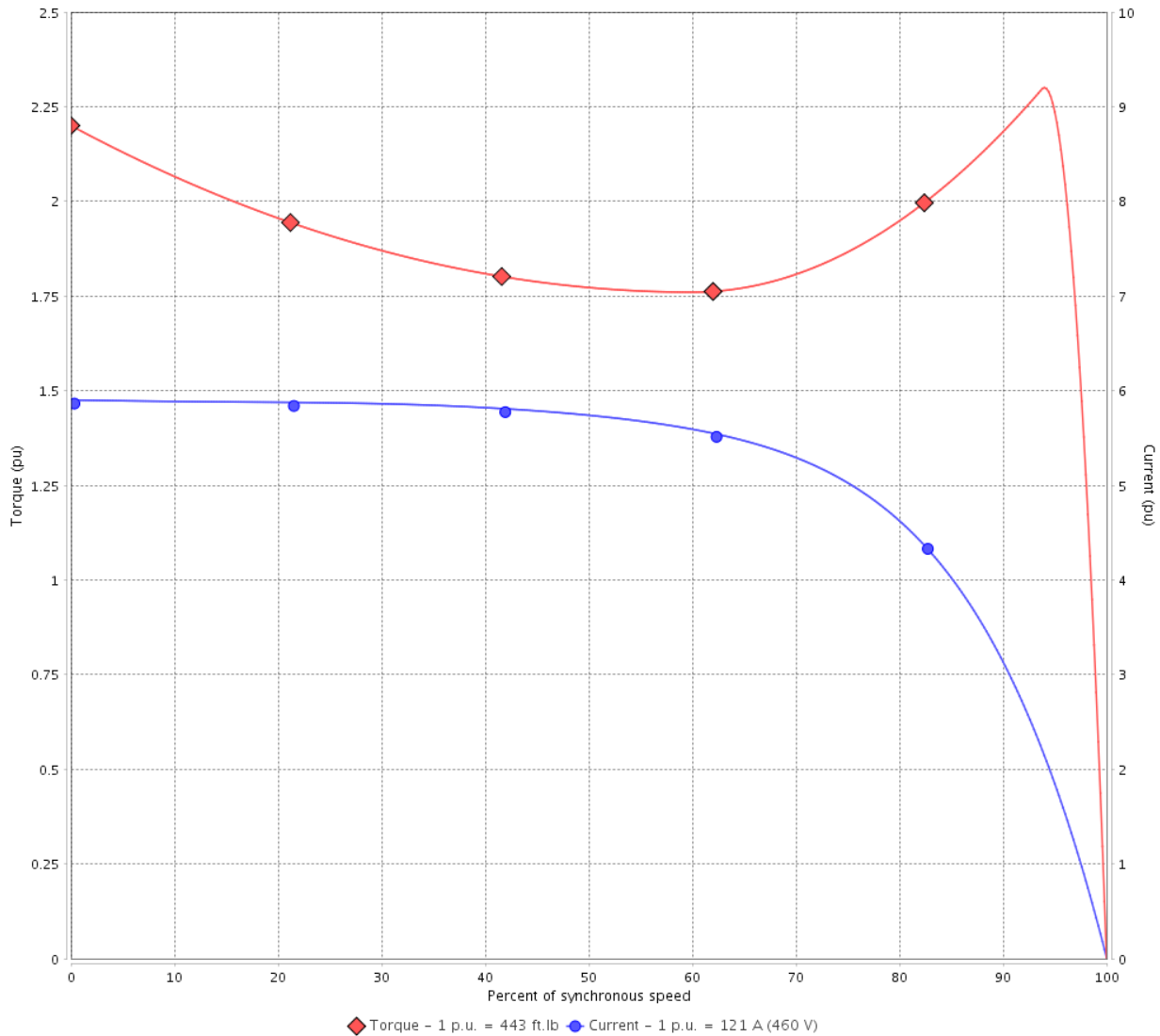
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11853778

Catalog # : 10012ST3QIERB444T-W2

TORQUE AND CURRENT VS SPEED CURVE



Performance : 460 V 60 Hz 6P

Rated current	: 121 A	Moment of inertia (J)	: 87.3 sq.ft.lb
LRC	: 5.9	Duty cycle	: Cont.(S1)
Rated torque	: 443 ft.lb	Insulation class	: F
Locked rotor torque	: 220 %	Service factor	: 1.25
Breakdown torque	: 229 %	Temperature rise	: 80 K
Rated speed	: 1185 rpm	Design	: B

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

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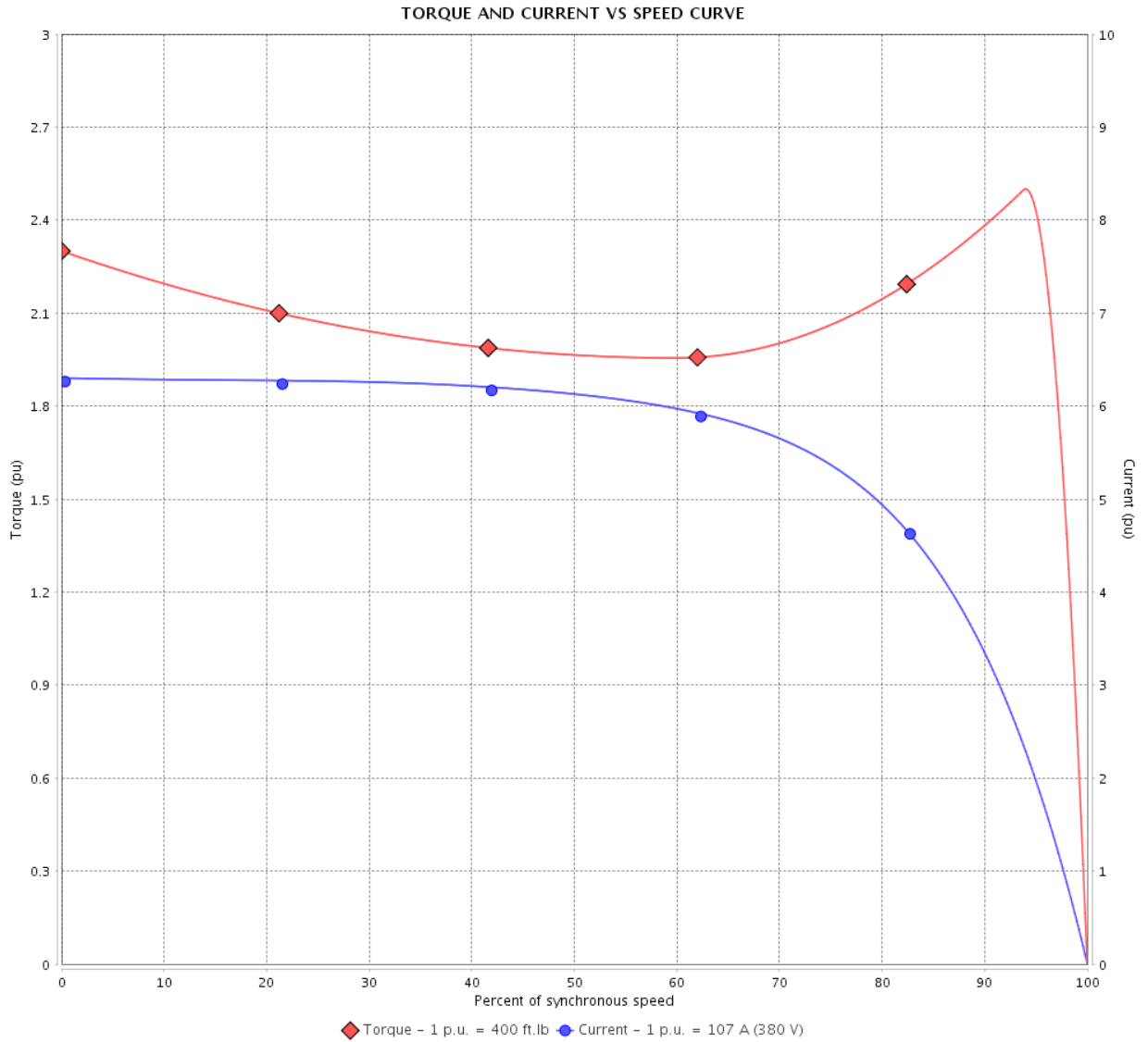
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Performance : 380 V 50 Hz 6P IE3

Rated current	: 107 A	Moment of inertia (J)	: 87.3 sq.ft.lb
LRC	: 6.3	Duty cycle	: Cont.(S1)
Rated torque	: 400 ft.lb	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.00
Breakdown torque	: 250 %	Temperature rise	: 80 K
Rated speed	: 985 rpm	Design	: B

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

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TORQUE AND CURRENT VS SPEED CURVE

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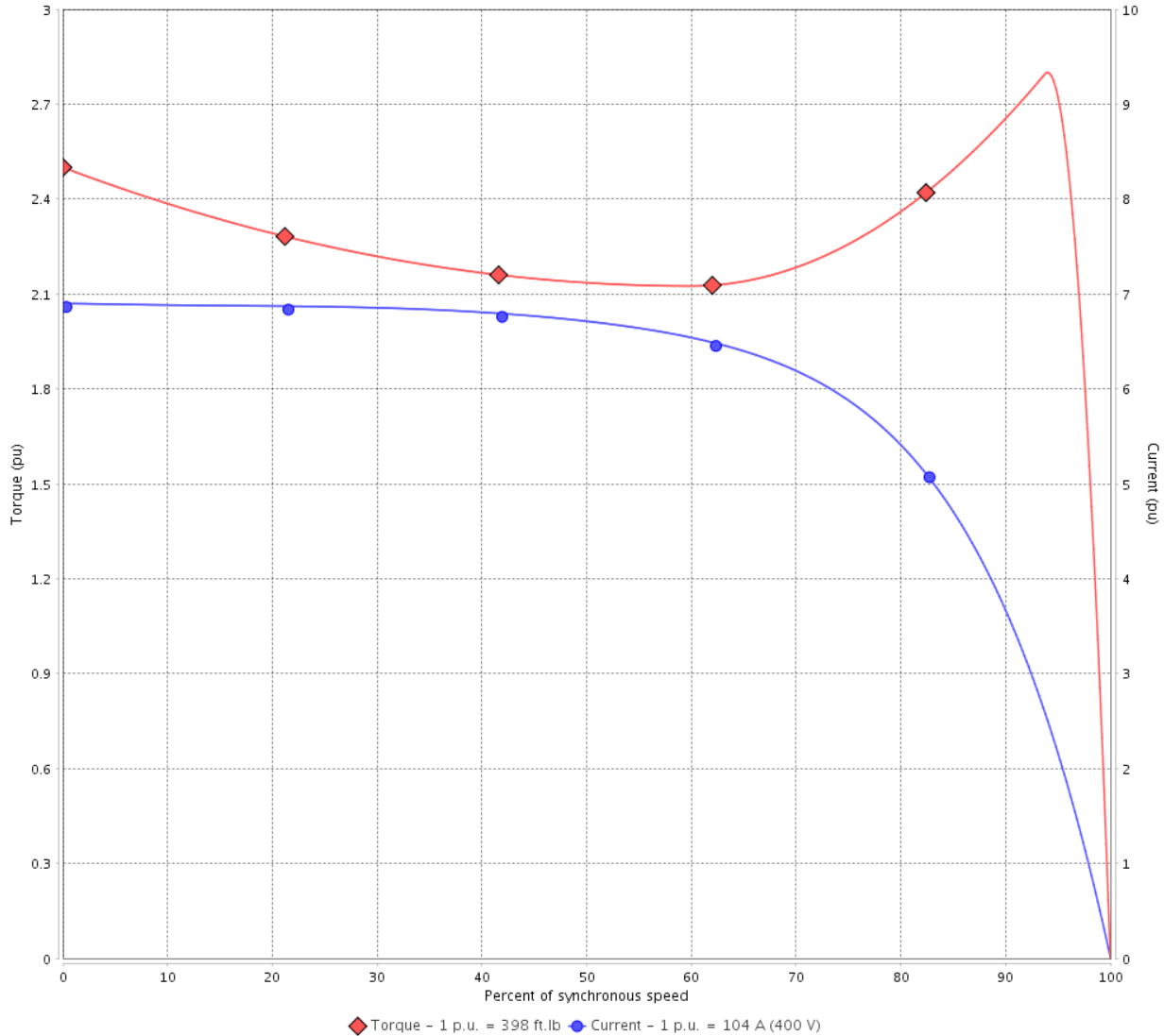
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TORQUE AND CURRENT VS SPEED CURVE



Performance : 400 V 50 Hz 6P IE3

Rated current	: 104 A	Moment of inertia (J)	: 87.3 sq.ft.lb
LRC	: 6.9	Duty cycle	: Cont.(S1)
Rated torque	: 398 ft.lb	Insulation class	: F
Locked rotor torque	: 250 %	Service factor	: 1.00
Breakdown torque	: 280 %	Temperature rise	: 80 K
Rated speed	: 990 rpm	Design	: B

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

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TORQUE AND CURRENT VS SPEED CURVE



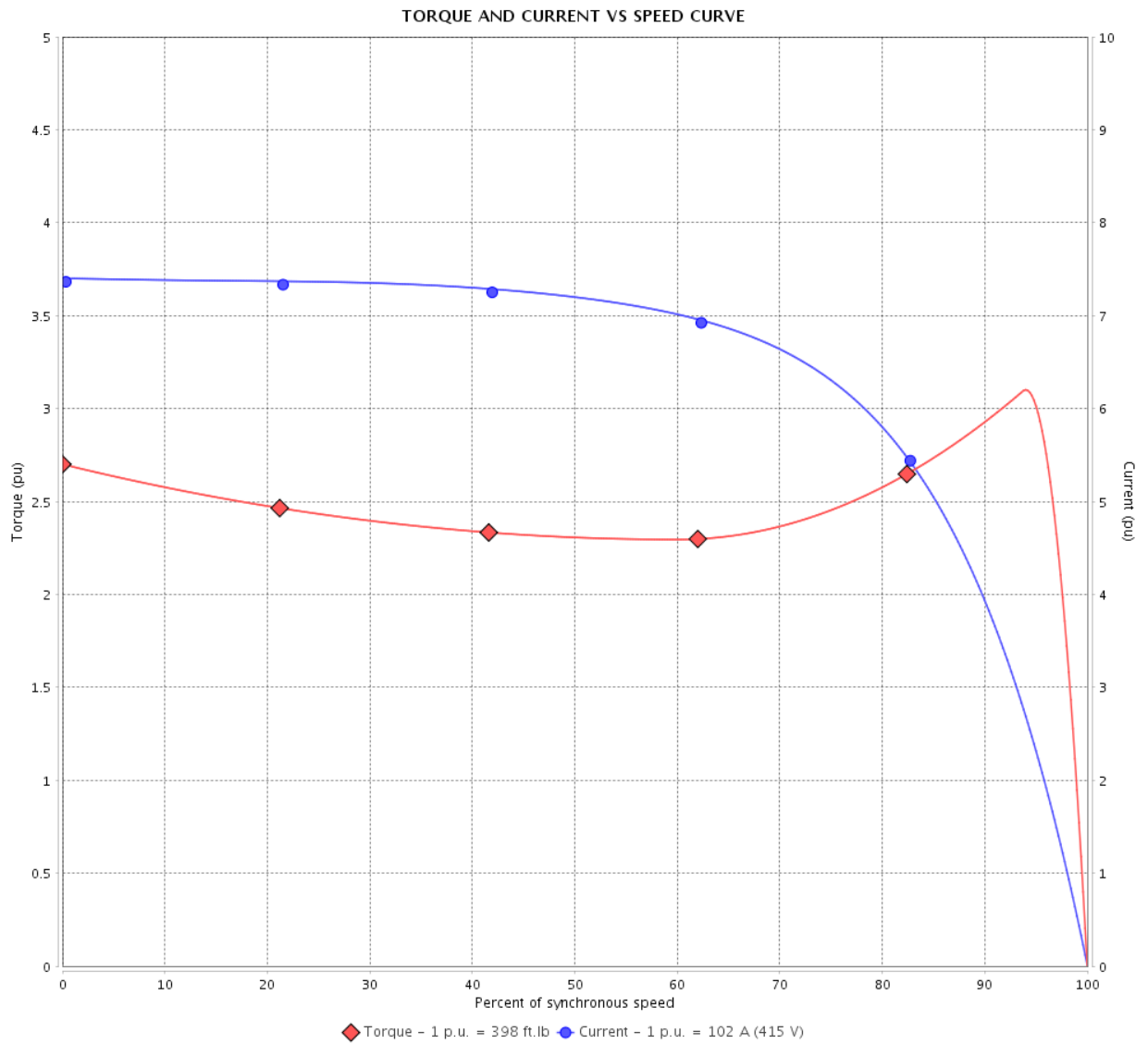
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Performance : 415 V 50 Hz 6P IE3

Rated current	: 102 A	Moment of inertia (J)	: 87.3 sq.ft.lb
LRC	: 7.4	Duty cycle	: Cont.(S1)
Rated torque	: 398 ft.lb	Insulation class	: F
Locked rotor torque	: 270 %	Service factor	: 1.00
Breakdown torque	: 310 %	Temperature rise	: 80 K
Rated speed	: 990 rpm	Design	: B

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

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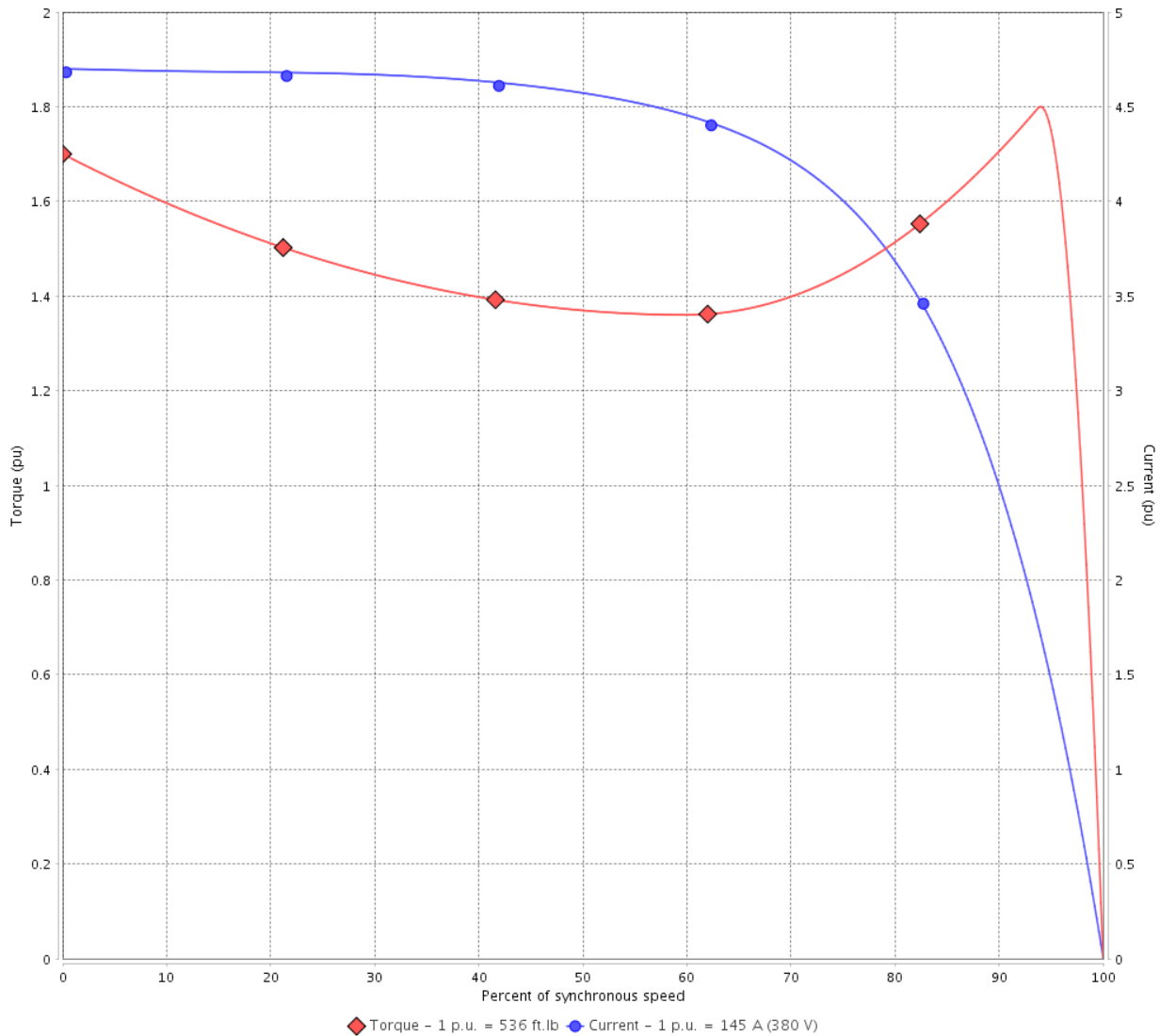
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Catalog # : 10012ST3QIERB444T-W2

TORQUE AND CURRENT VS SPEED CURVE



Performance : 380 V 50 Hz 6P IE1

Rated current	: 145 A	Moment of inertia (J)	: 87.3 sq.ft.lb
LRC	: 4.7	Duty cycle	: Cont.(S1)
Rated torque	: 536 ft.lb	Insulation class	: F
Locked rotor torque	: 170 %	Service factor	: 1.00
Breakdown torque	: 180 %	Temperature rise	: 105 K
Rated speed	: 980 rpm	Design	: B

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

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TORQUE AND CURRENT VS SPEED CURVE



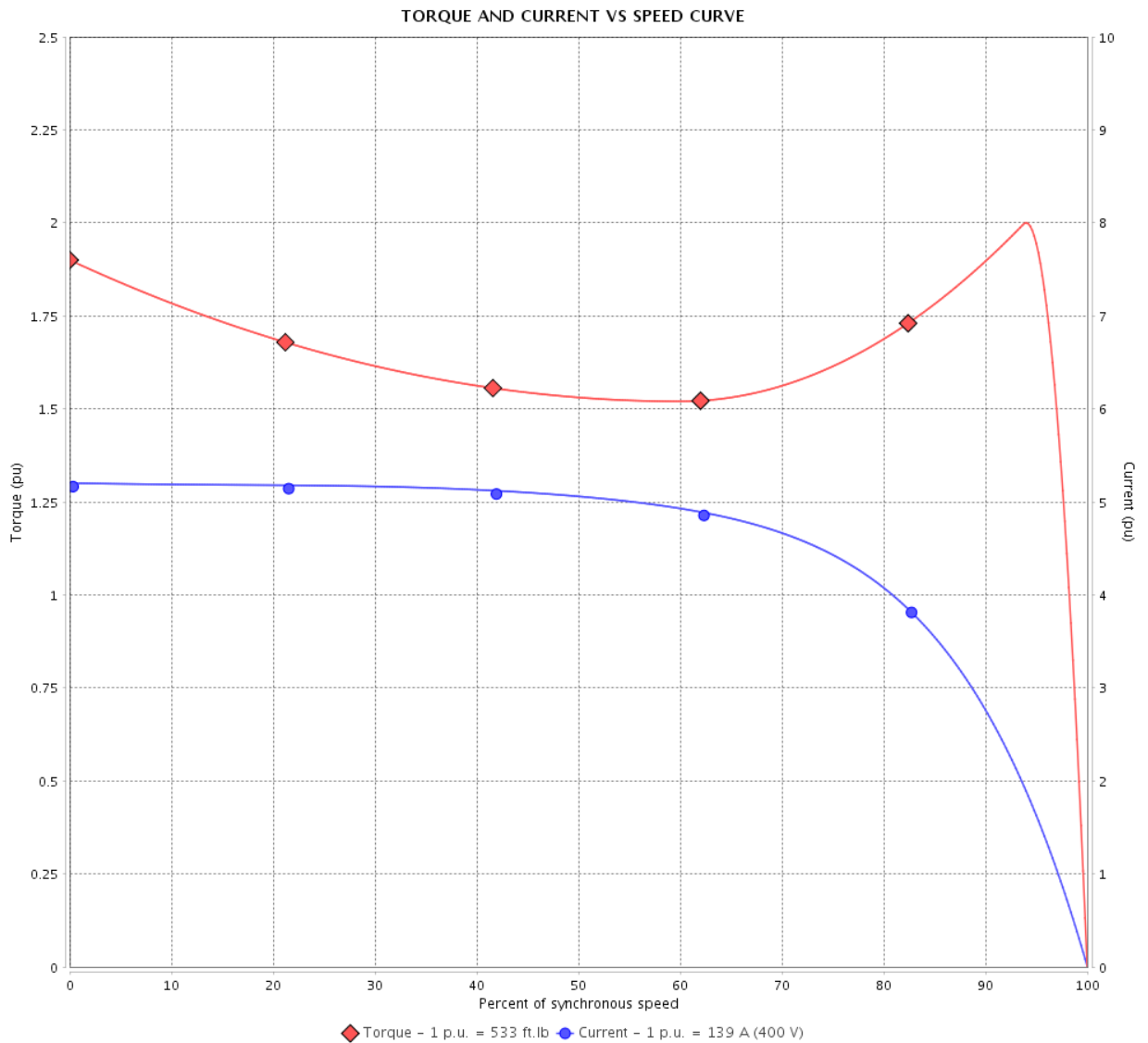
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Performance : 400 V 50 Hz 6P IE2

Rated current	: 139 A	Moment of inertia (J)	: 87.3 sq.ft.lb
LRC	: 5.2	Duty cycle	: Cont.(S1)
Rated torque	: 533 ft.lb	Insulation class	: F
Locked rotor torque	: 190 %	Service factor	: 1.00
Breakdown torque	: 200 %	Temperature rise	: 105 K
Rated speed	: 985 rpm	Design	: B

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

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TORQUE AND CURRENT VS SPEED CURVE

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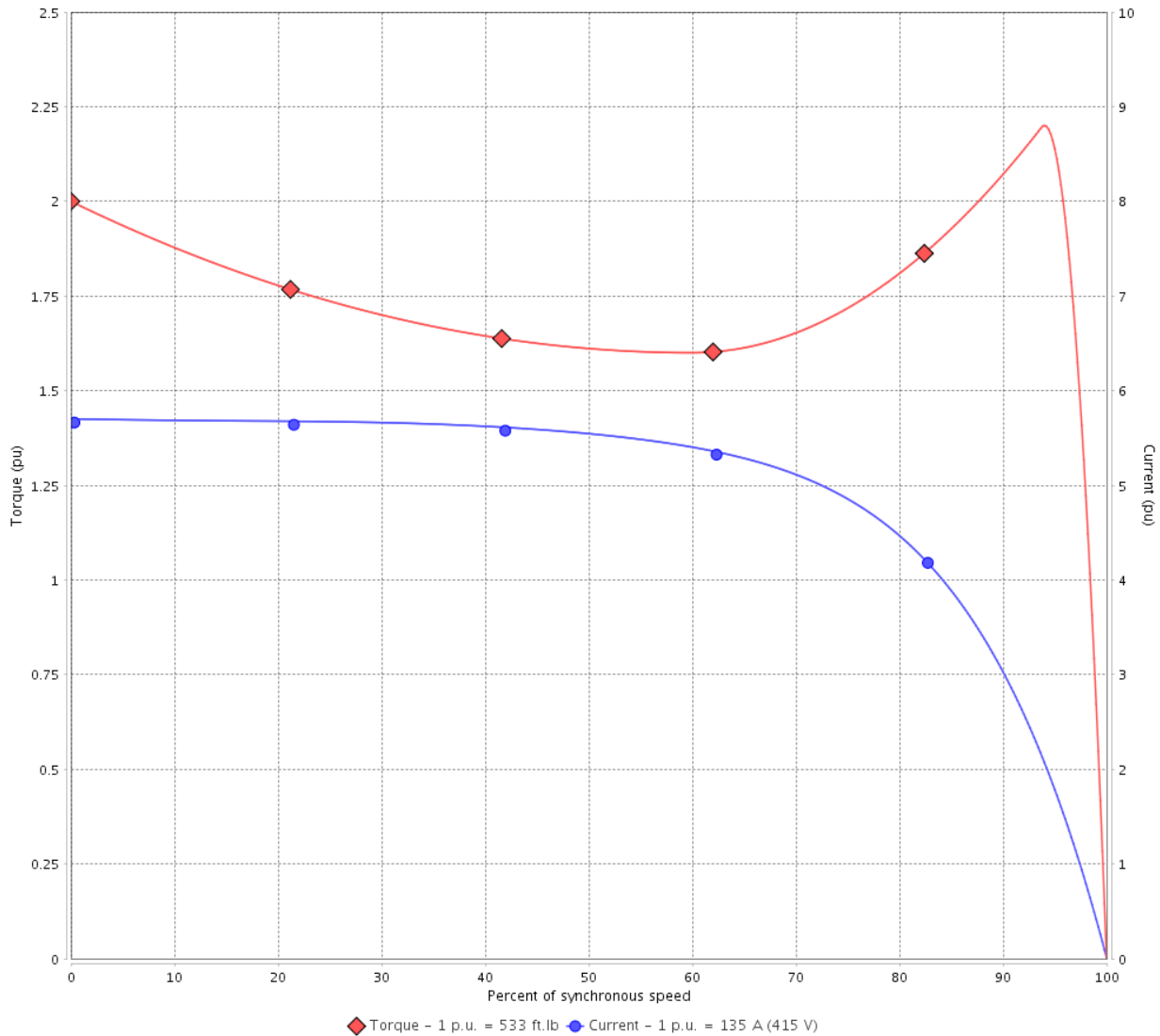
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LRC	: 5.7	Duty cycle	: Cont.(S1)
Rated torque	: 533 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.00
Breakdown torque	: 220 %	Temperature rise	: 105 K
Rated speed	: 985 rpm	Design	: B

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

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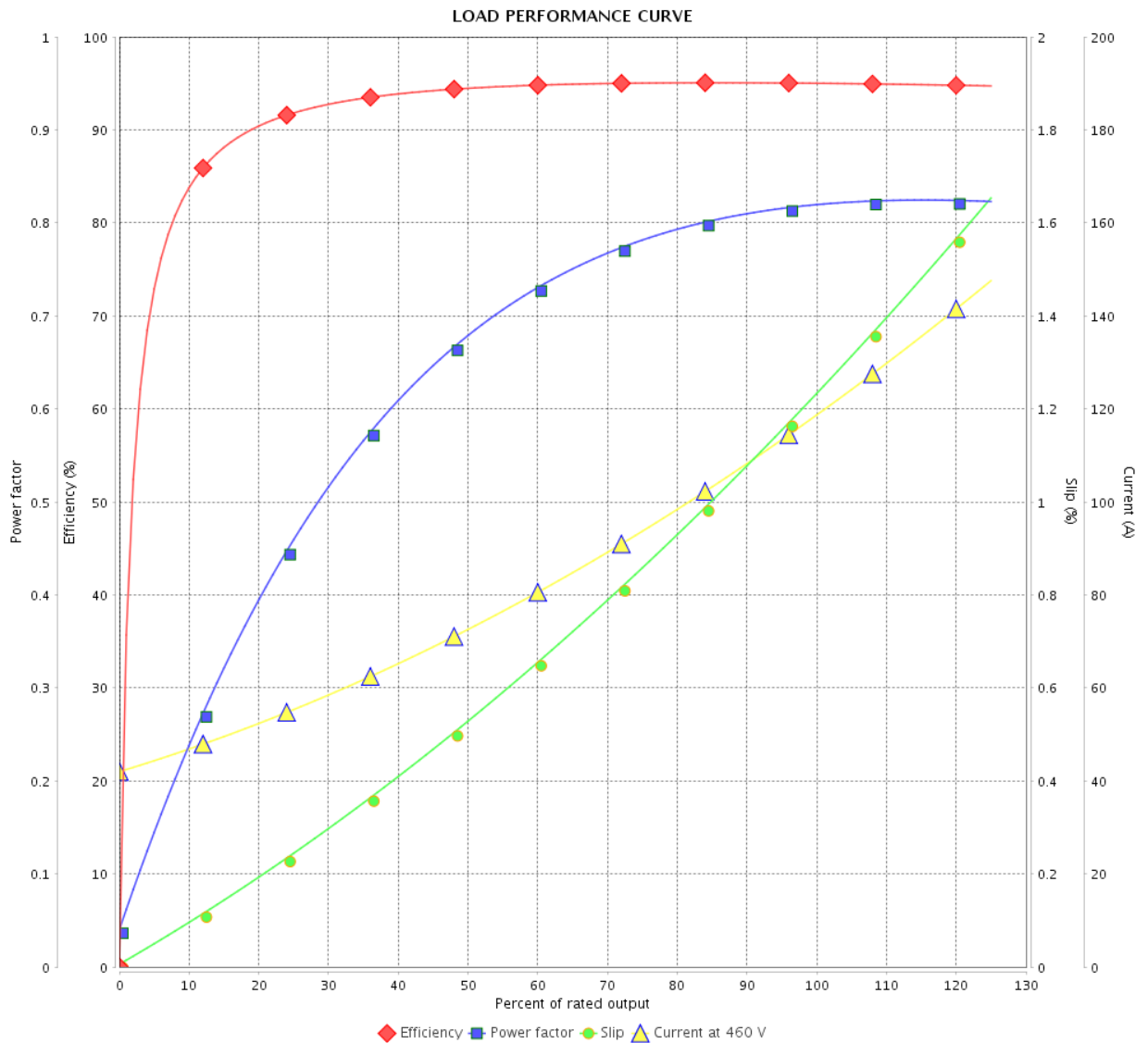


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Performance : 460 V 60 Hz 6P

Rated current : 121 A
 LRC : 5.9
 Rated torque : 443 ft.lb
 Locked rotor torque : 220 %
 Breakdown torque : 229 %
 Rated speed : 1185 rpm

Moment of inertia (J) : 87.3 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.25
 Temperature rise : 80 K
 Design : B

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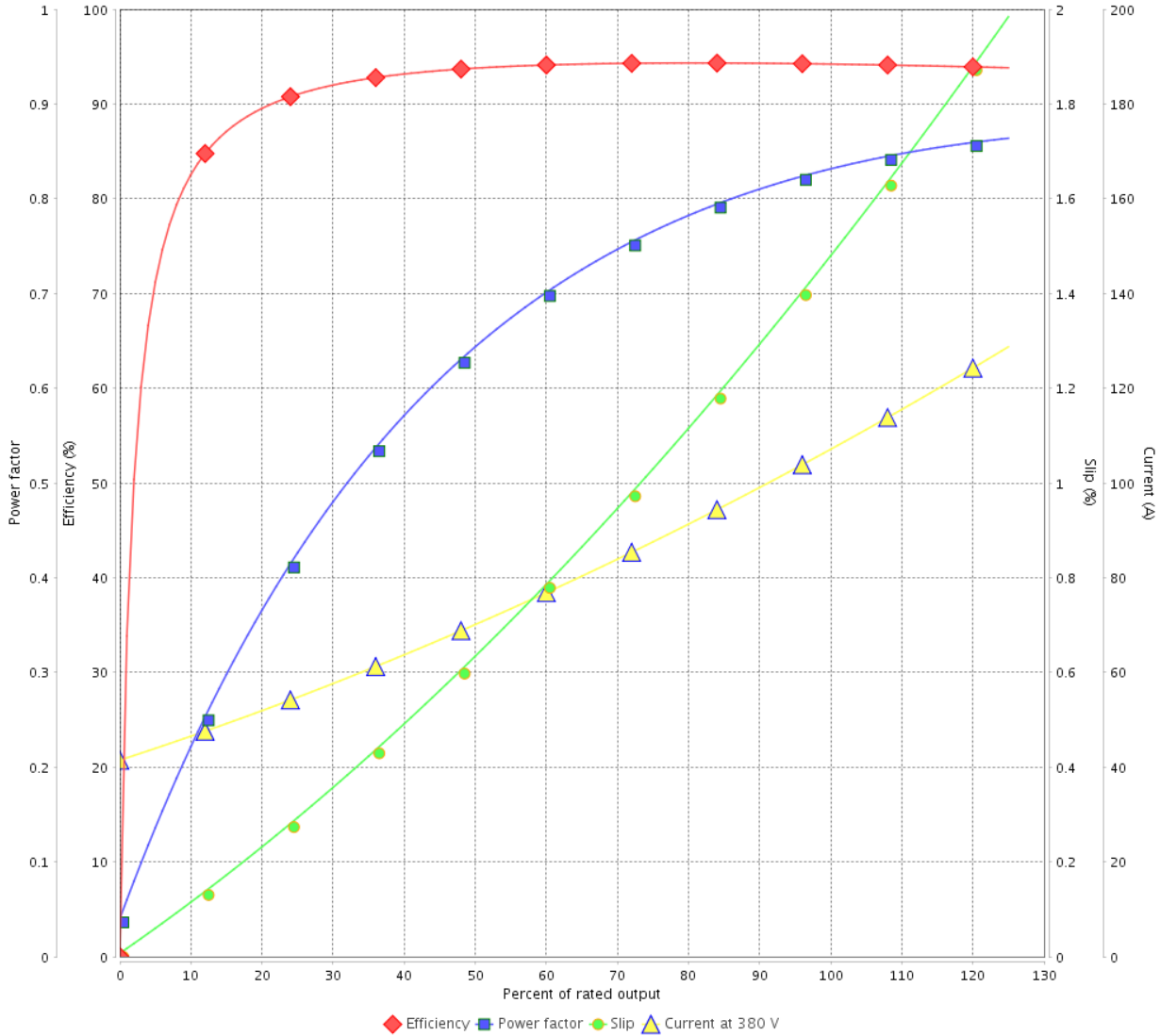
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Performance : 380 V 50 Hz 6P IE3

Rated current : 107 A
 LRC : 6.3
 Rated torque : 400 ft.lb
 Locked rotor torque : 229 %
 Breakdown torque : 250 %
 Rated speed : 985 rpm

Moment of inertia (J) : 87.3 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

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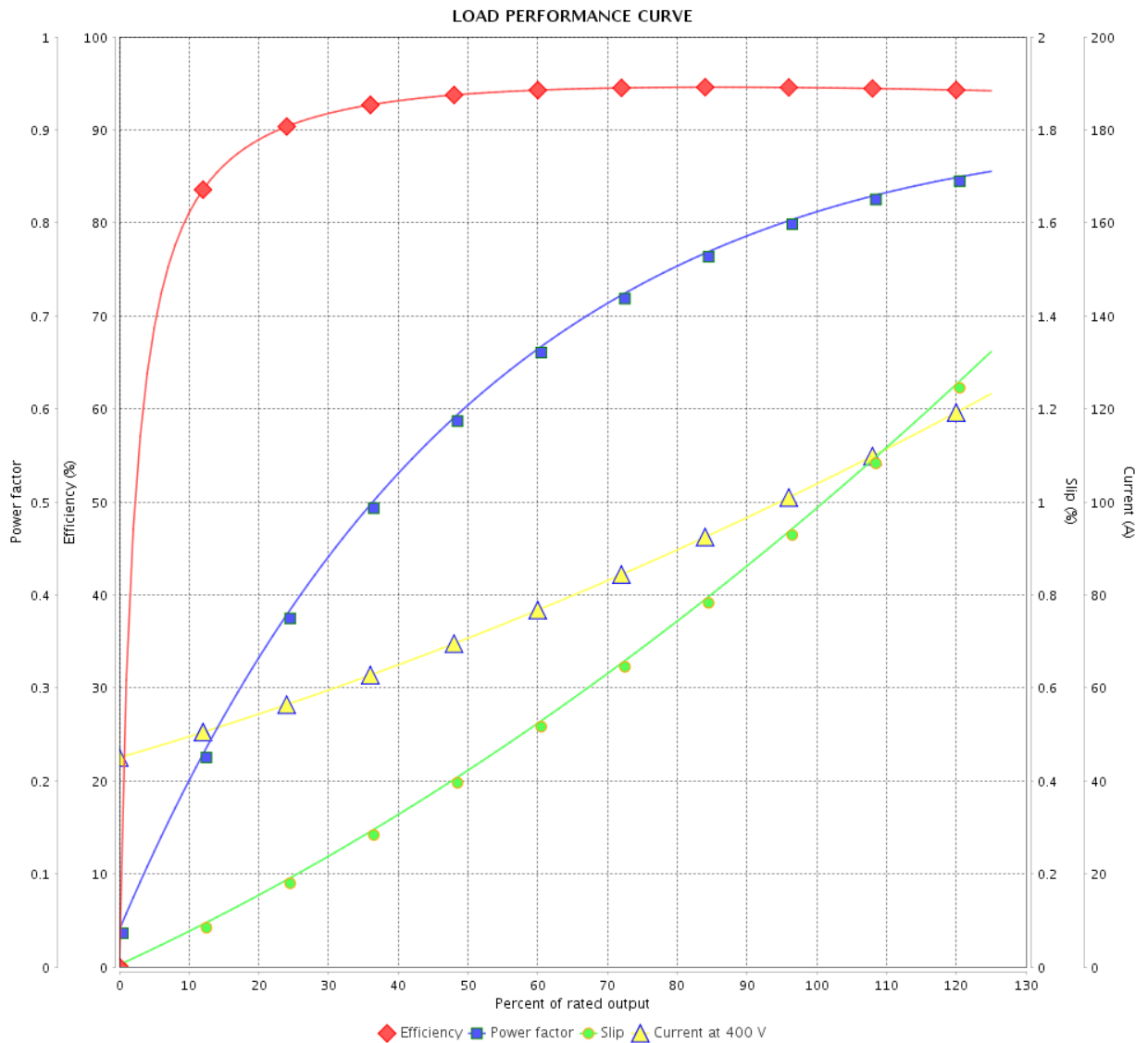


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Performance : 400 V 50 Hz 6P IE3

Rated current : 104 A
 LRC : 6.9
 Rated torque : 398 ft.lb
 Locked rotor torque : 250 %
 Breakdown torque : 280 %
 Rated speed : 990 rpm

Moment of inertia (J) : 87.3 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

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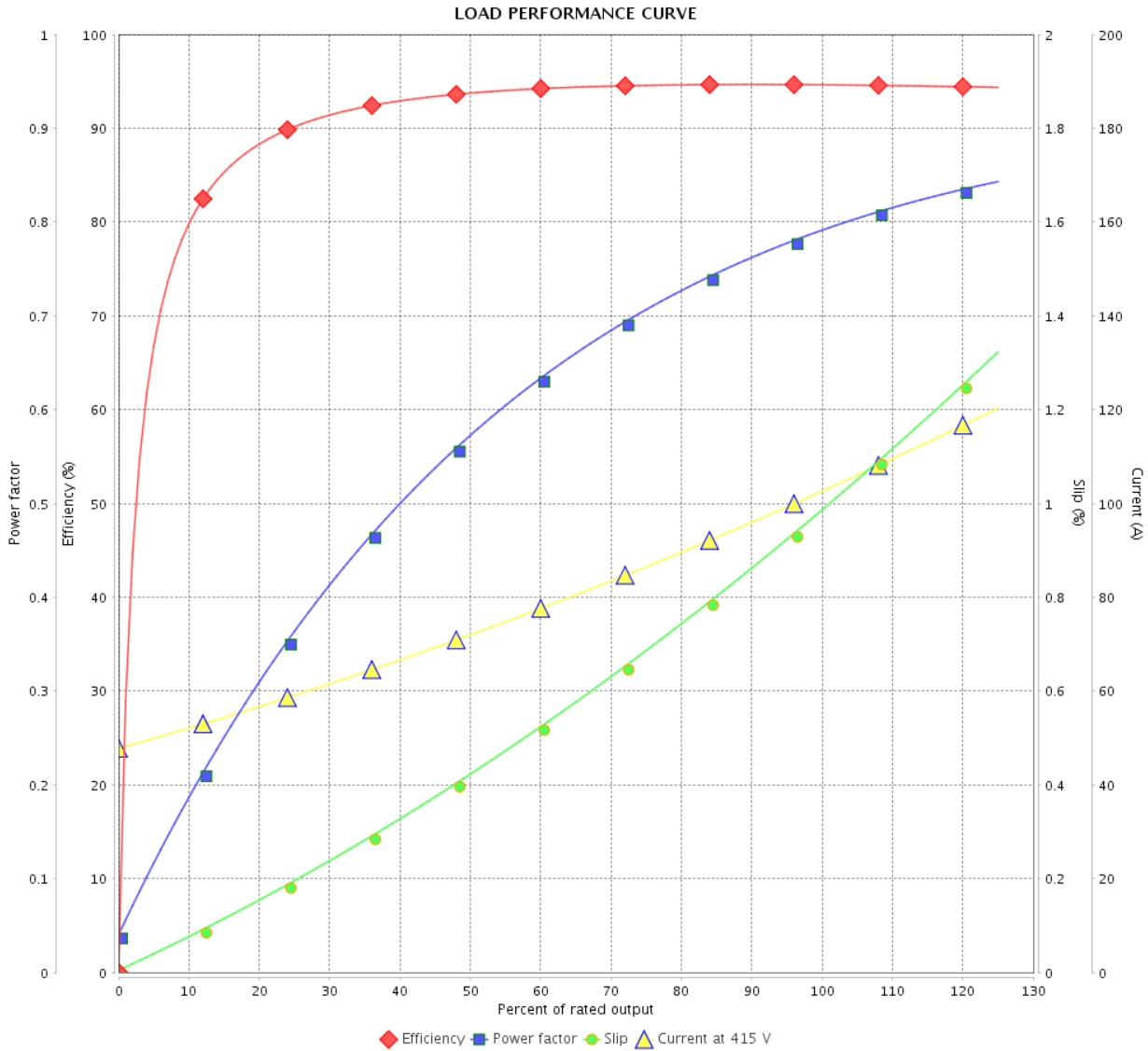


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LRC	: 7.4	Duty cycle	: Cont.(S1)
Rated torque	: 398 ft.lb	Insulation class	: F
Locked rotor torque	: 270 %	Service factor	: 1.00
Breakdown torque	: 310 %	Temperature rise	: 80 K
Rated speed	: 990 rpm	Design	: B

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Three Phase Induction Motor - Squirrel Cage

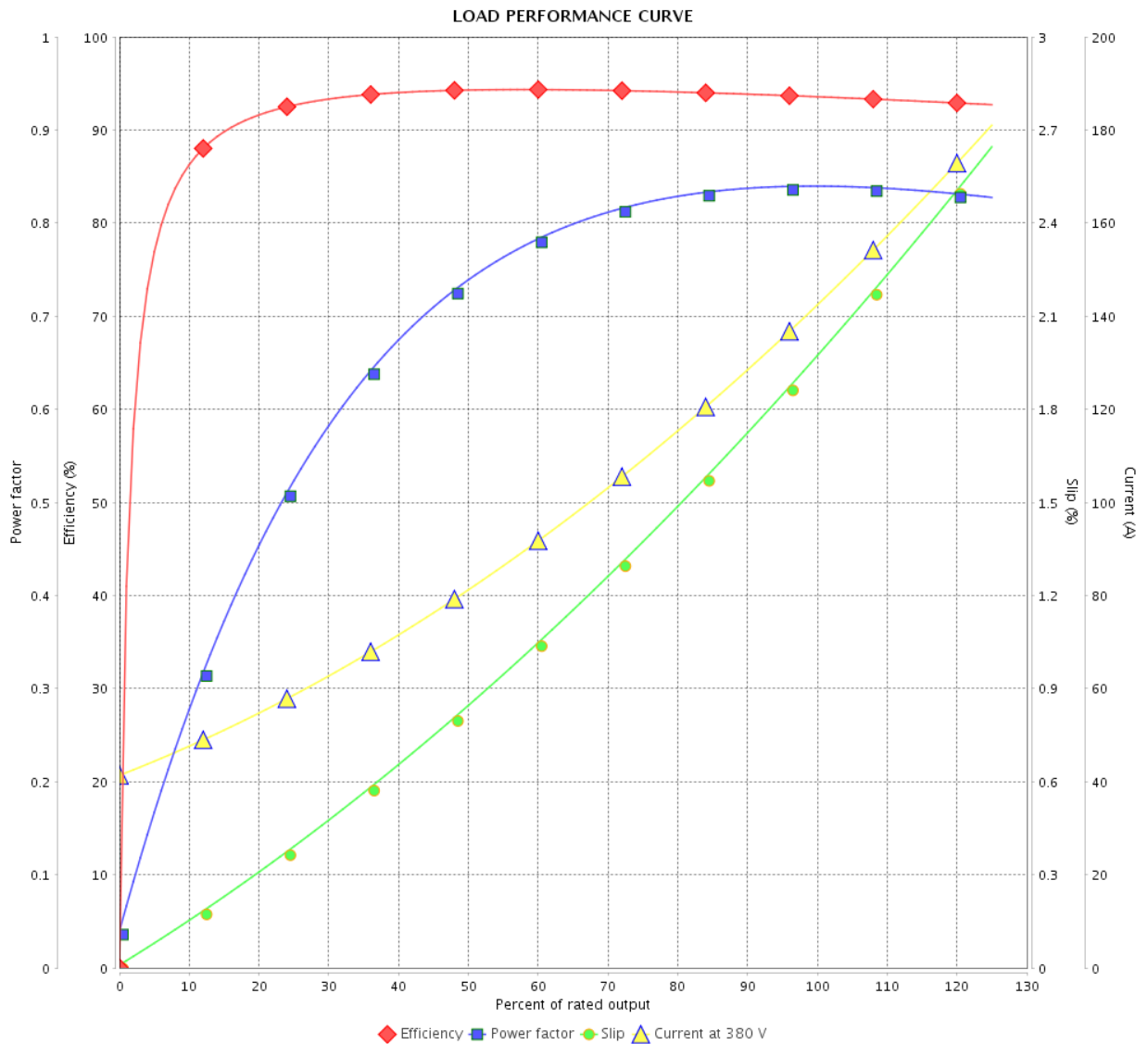


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Performance : 380 V 50 Hz 6P IE1

Rated current : 145 A
 LRC : 4.7
 Rated torque : 536 ft.lb
 Locked rotor torque : 170 %
 Breakdown torque : 180 %
 Rated speed : 980 rpm

Moment of inertia (J) : 87.3 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

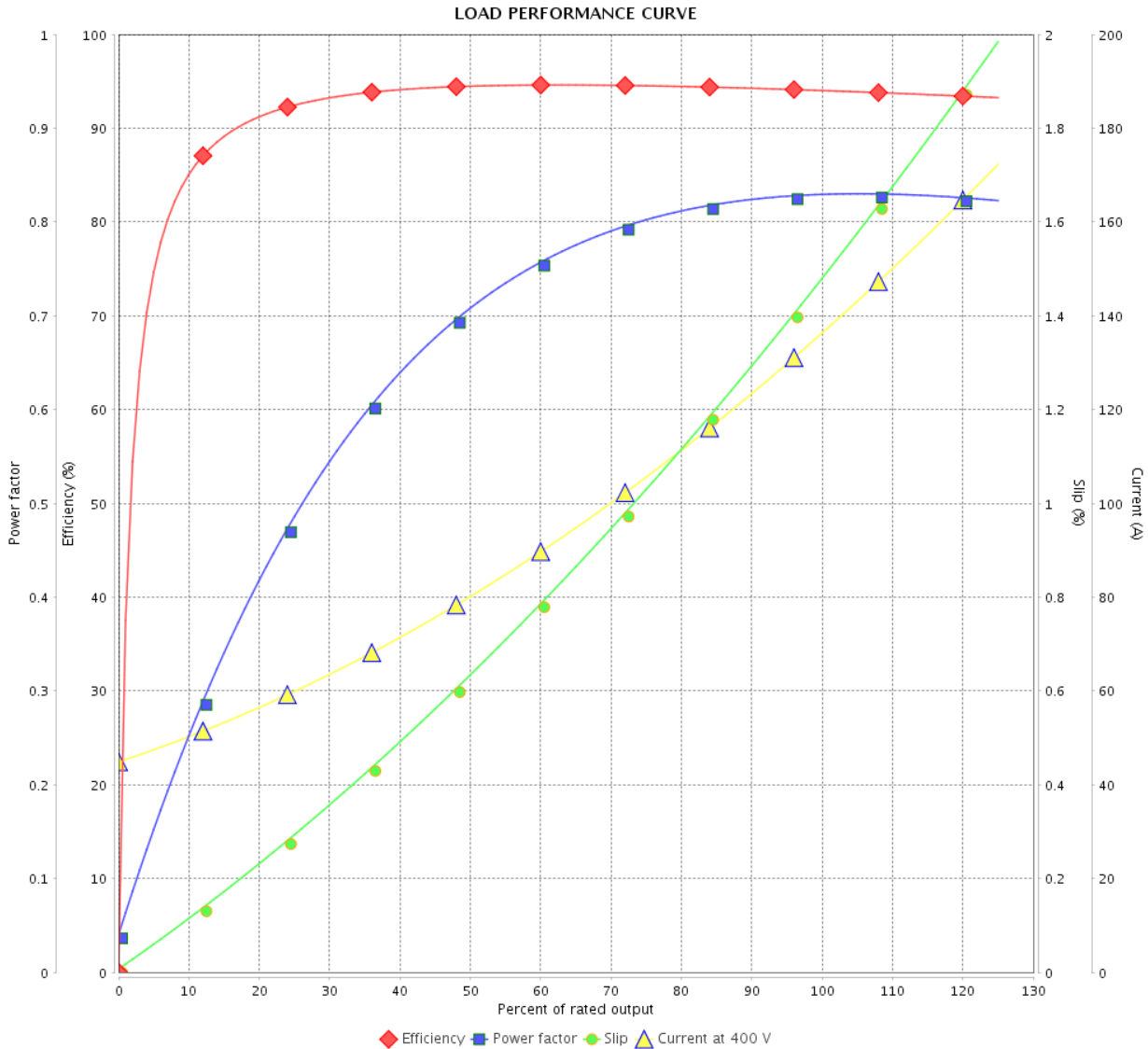


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Performance : 400 V 50 Hz 6P IE2

Rated current : 139 A
 LRC : 5.2
 Rated torque : 533 ft.lb
 Locked rotor torque : 190 %
 Breakdown torque : 200 %
 Rated speed : 985 rpm

Moment of inertia (J) : 87.3 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

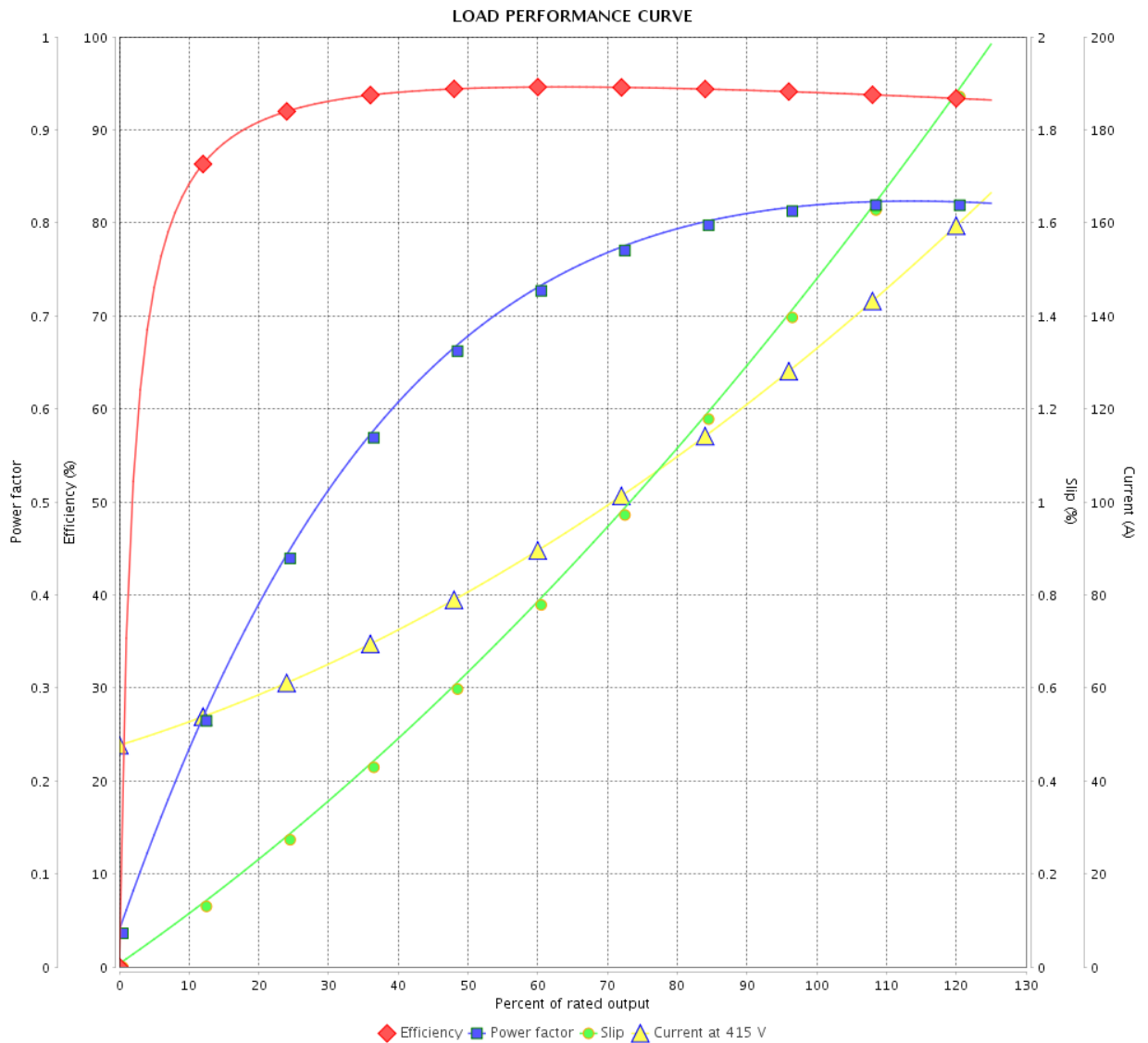


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THERMAL LIMIT CURVE

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LRC	: 5.9	Duty cycle	: Cont.(S1)
Rated torque	: 443 ft.lb	Insulation class	: F
Locked rotor torque	: 220 %	Service factor	: 1.25
Breakdown torque	: 229 %	Temperature rise	: 80 K
Rated speed	: 1185 rpm	Design	: B

Heating constant

Cooling constant

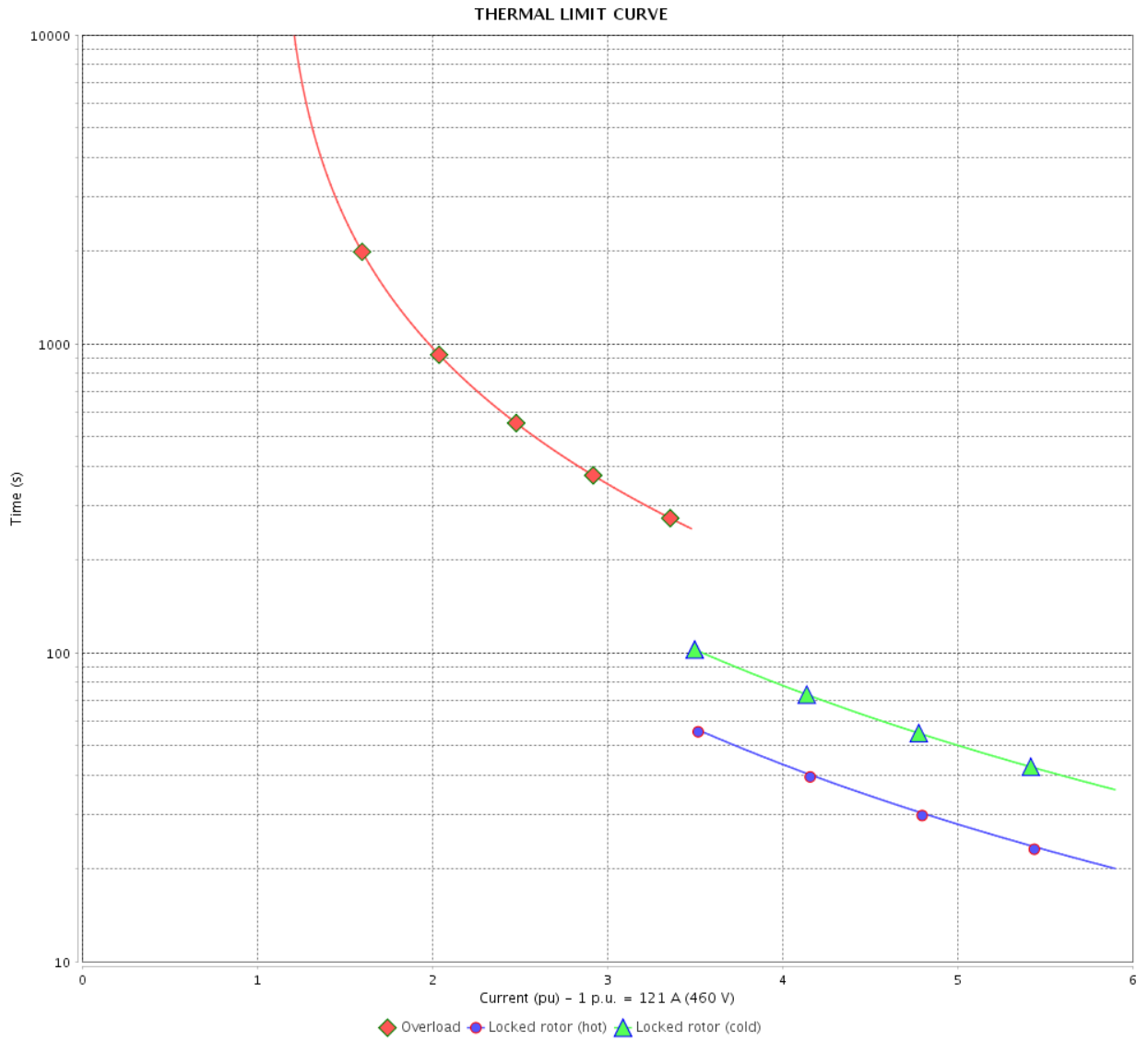
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Three Phase Induction Motor - Squirrel Cage



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Rated current	: 107 A	Moment of inertia (J)	: 87.3 sq.ft.lb
LRC	: 6.3	Duty cycle	: Cont.(S1)
Rated torque	: 400 ft.lb	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.00
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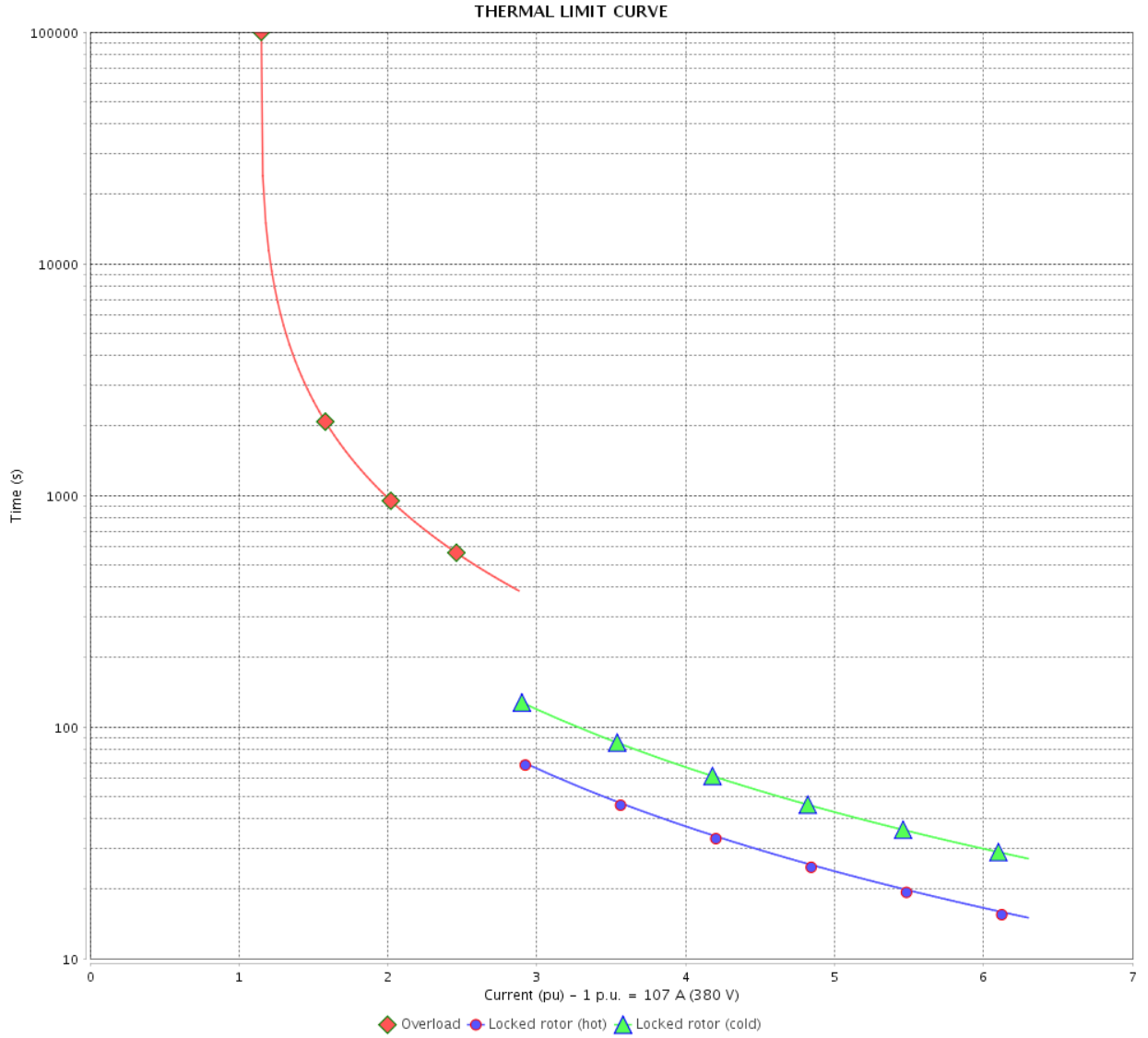
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THERMAL LIMIT CURVE

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Breakdown torque	: 280 %	Temperature rise	: 80 K
Rated speed	: 990 rpm	Design	: B

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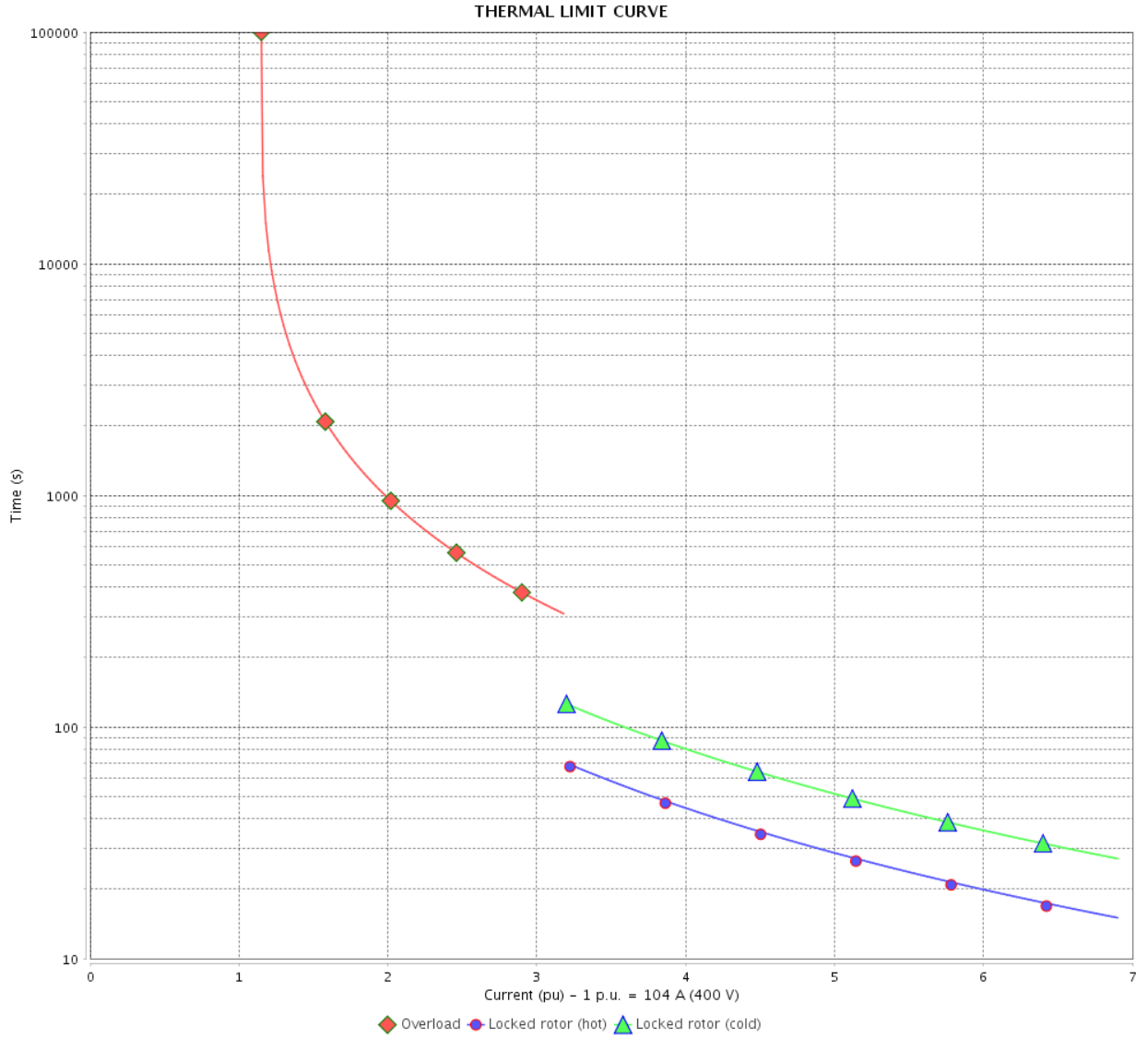
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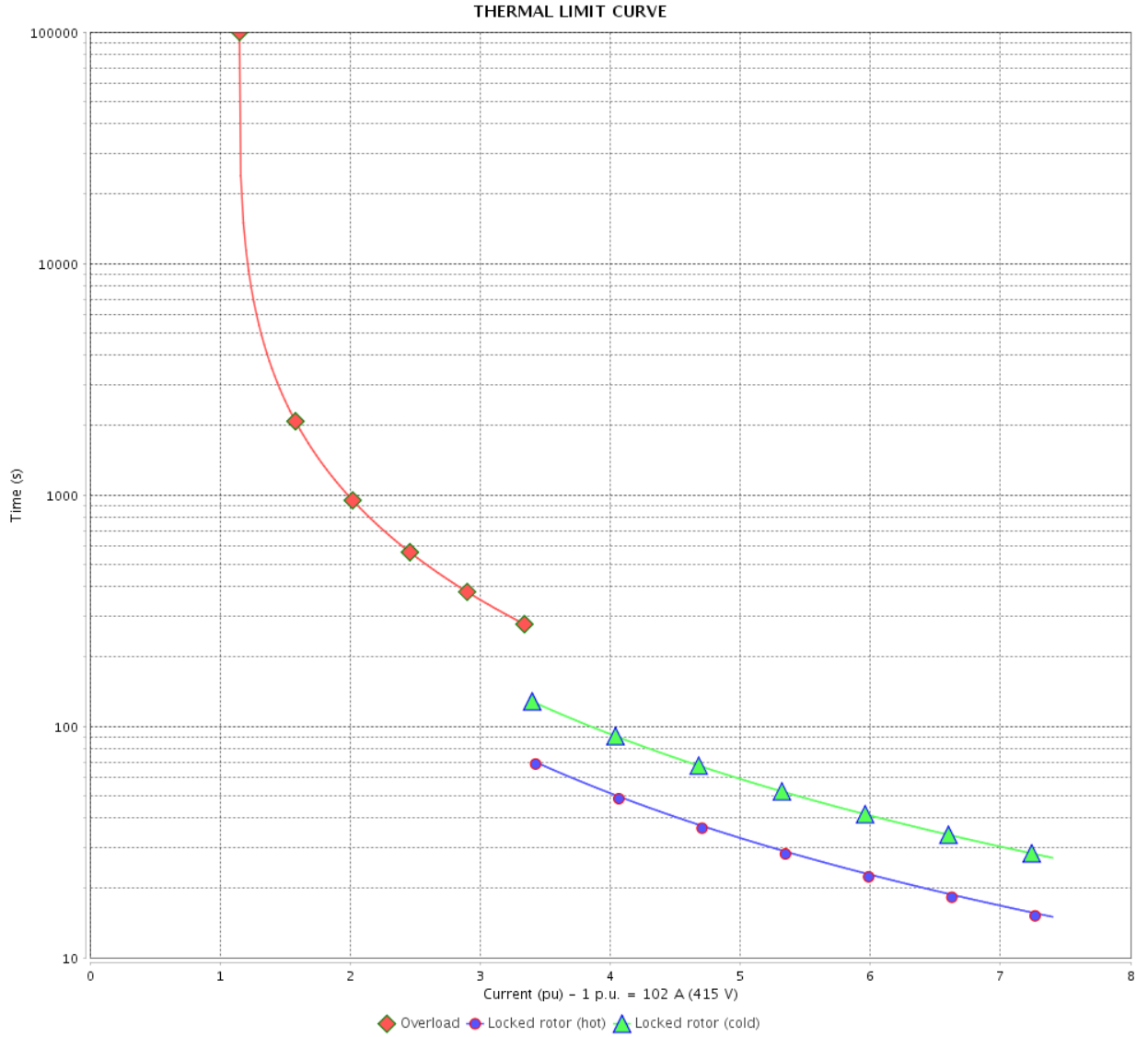
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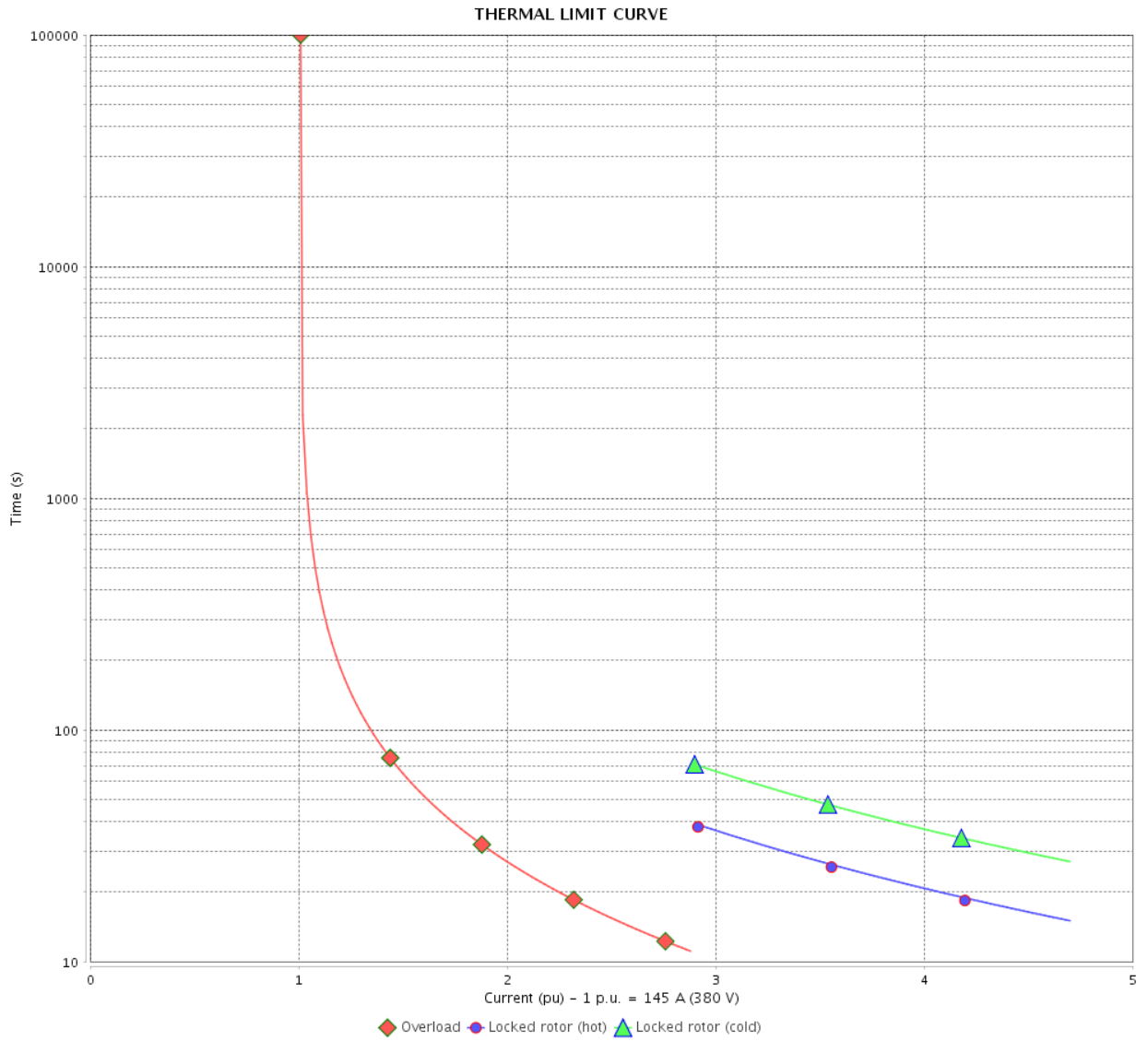
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Heating constant

Cooling constant

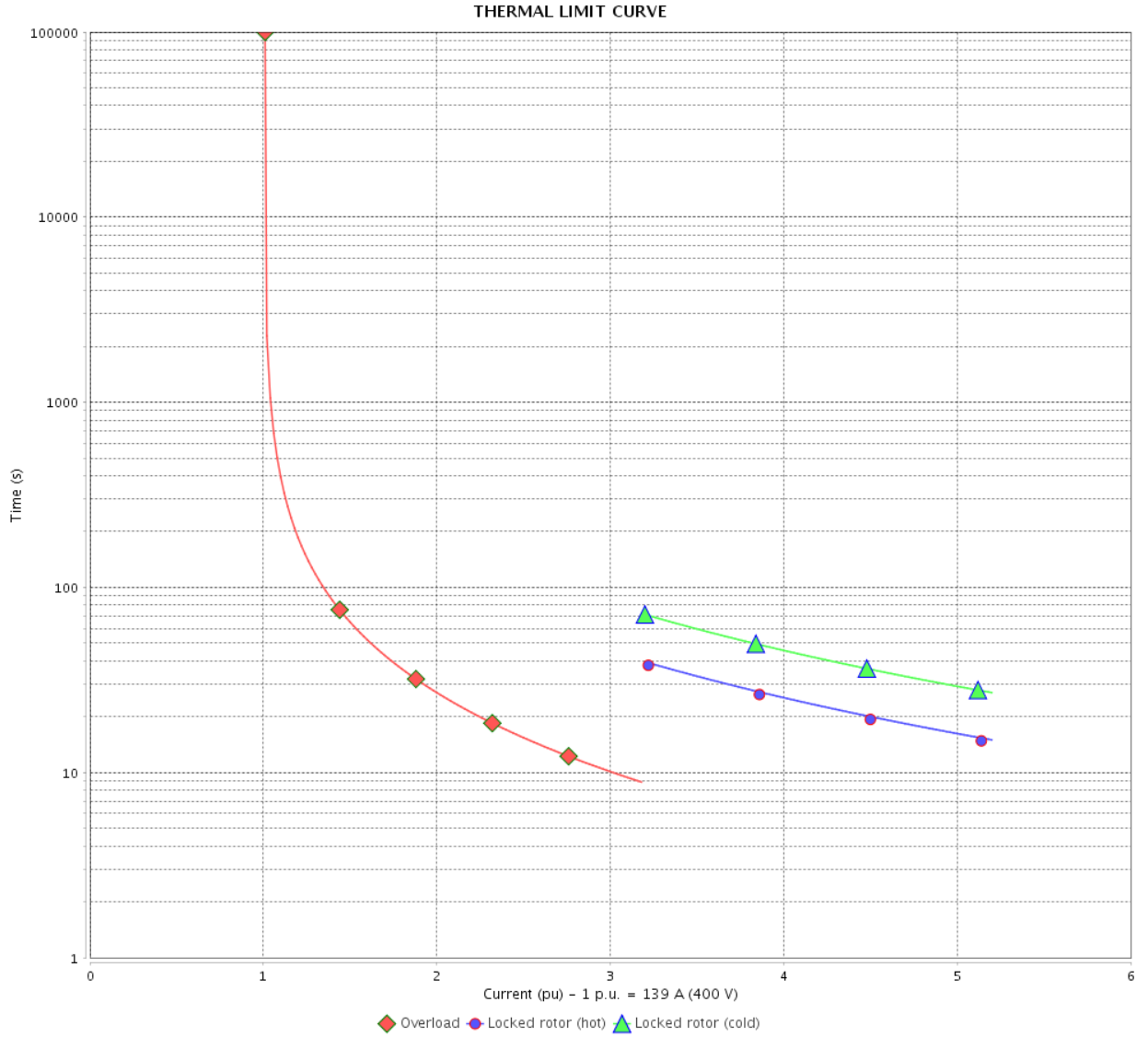
Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by			Page	Revision
Date	14/04/2022		26 / 36	

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 : 11853778
Catalog # : 10012ST3QIERB444T-W2

Performance : 415 V 50 Hz 6P IE2

Rated current	: 135 A	Moment of inertia (J)	: 87.3 sq.ft.lb
LRC	: 5.7	Duty cycle	: Cont.(S1)
Rated torque	: 533 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.00
Breakdown torque	: 220 %	Temperature rise	: 105 K
Rated speed	: 985 rpm	Design	: B

Heating constant

Cooling constant

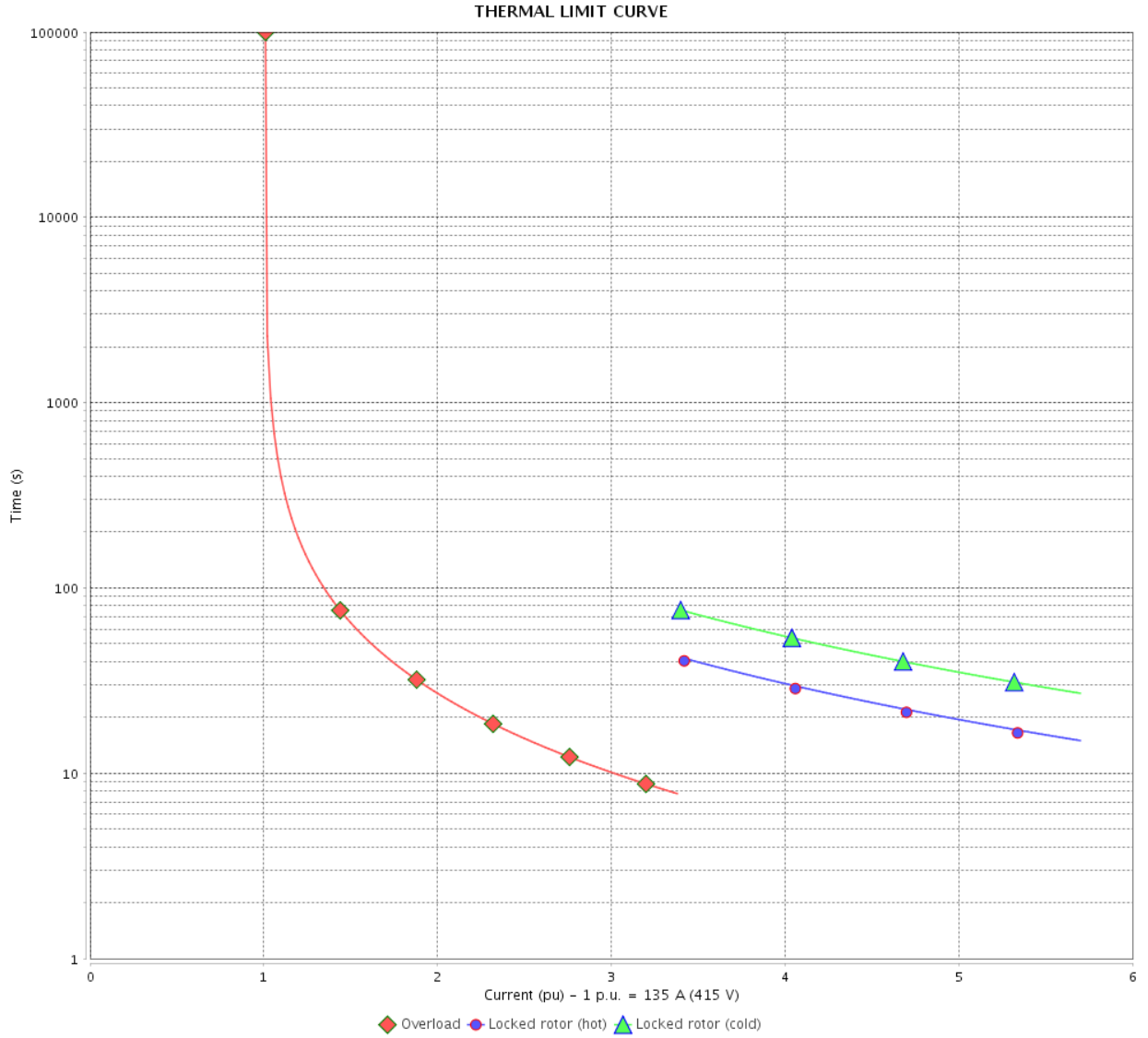
Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by			Page	Revision
Date	14/04/2022		28 / 36	

THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : _____



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Checked by				
Date				

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

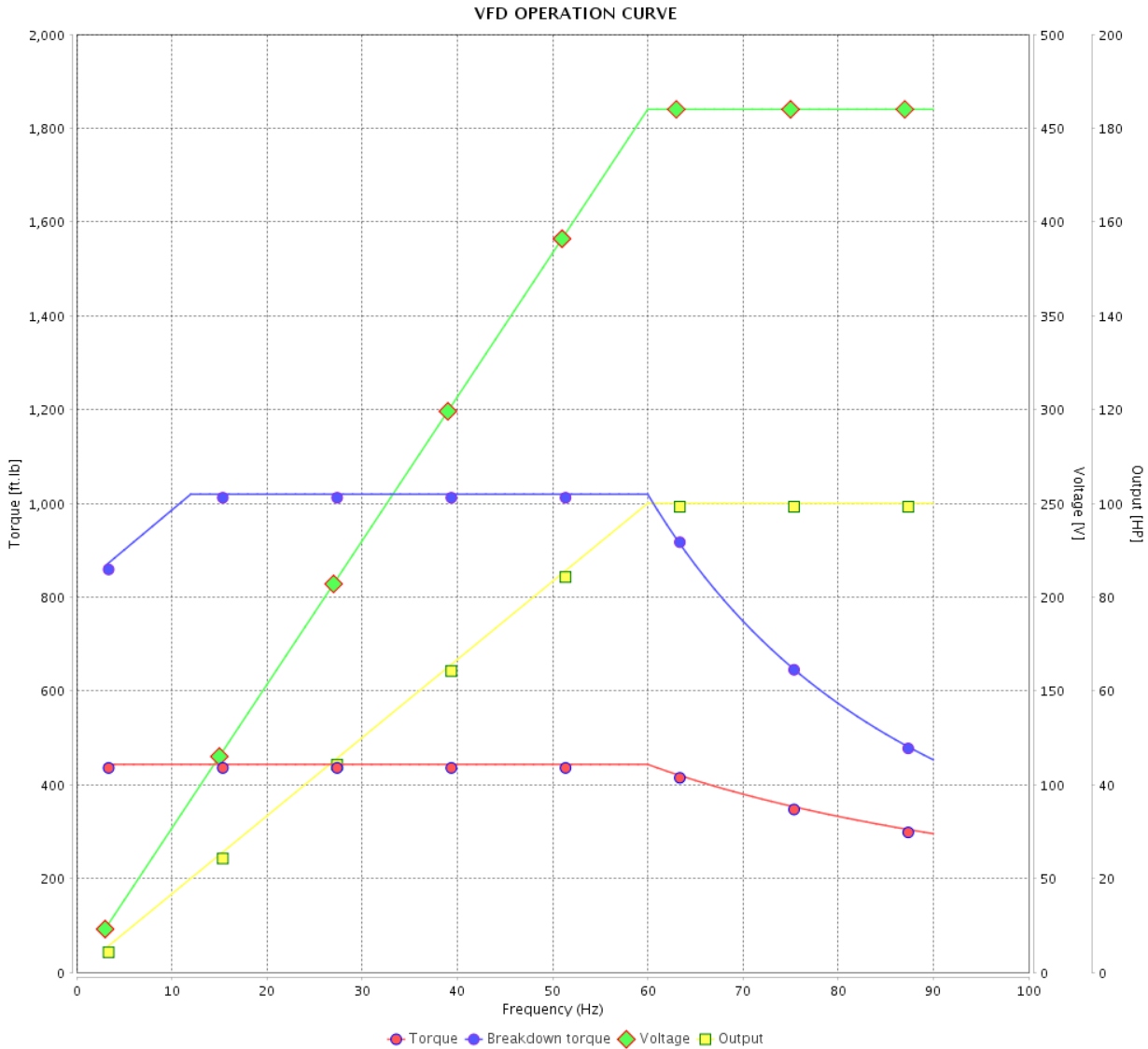


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11853778

Catalog # : 10012ST3QIERB444T-W2



Performance : 460 V 60 Hz 6P

Rated current : 121 A
 LRC : 5.9
 Rated torque : 443 ft.lb
 Locked rotor torque : 220 %
 Breakdown torque : 229 %
 Rated speed : 1185 rpm

Moment of inertia (J) : 87.3 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.25
 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

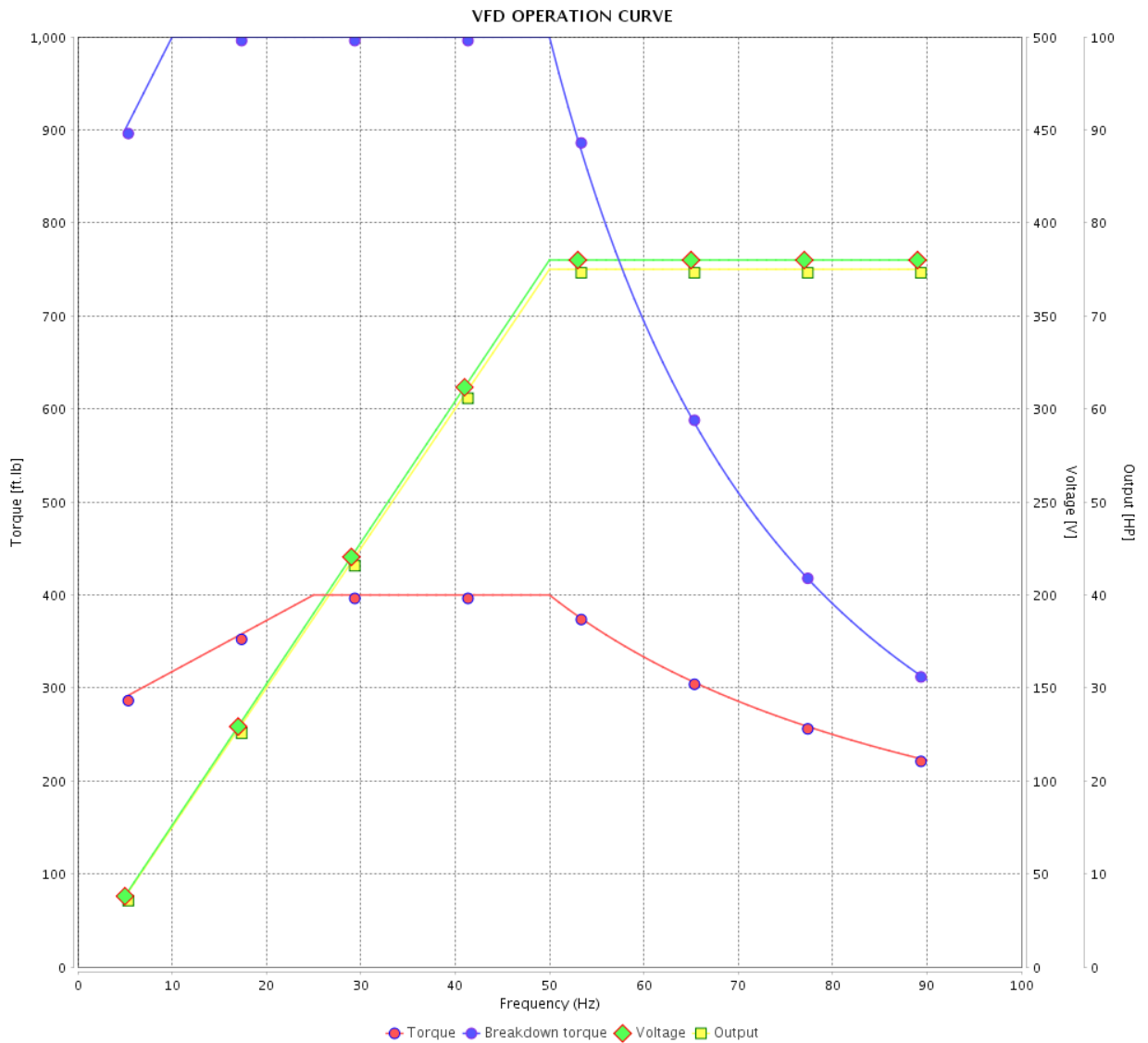


Customer : _____

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11853778

Catalog # : 10012ST3QIERB444T-W2



Performance : 380 V 50 Hz 6P IE3

Rated current : 107 A
 LRC : 6.3
 Rated torque : 400 ft.lb
 Locked rotor torque : 229 %
 Breakdown torque : 250 %
 Rated speed : 985 rpm

Moment of inertia (J) : 87.3 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

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Date	14/04/2022			

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



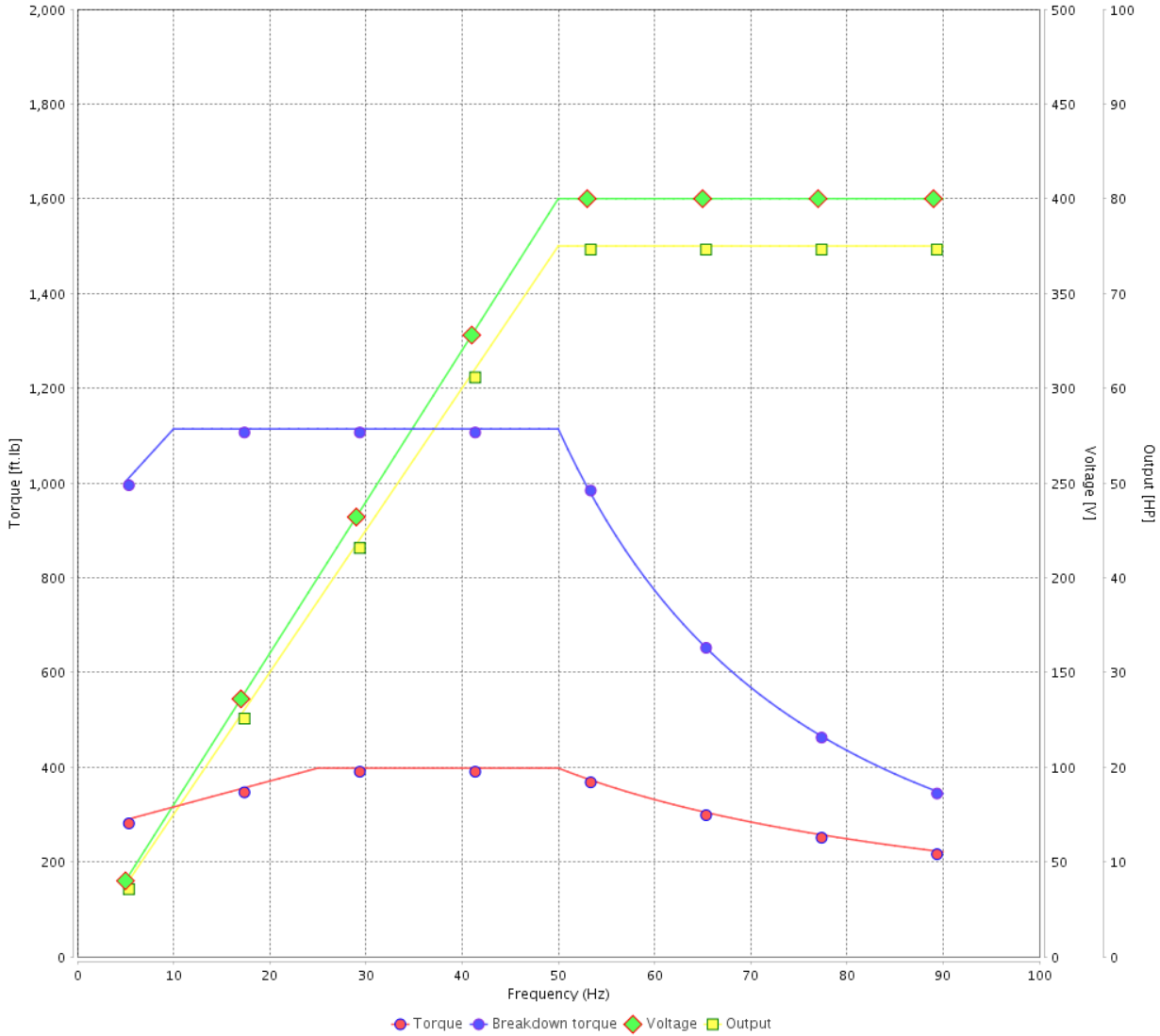
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11853778

Catalog # : 10012ST3QIERB444T-W2

VFD OPERATION CURVE



Performance : 400 V 50 Hz 6P IE3

Rated current : 104 A
 LRC : 6.9
 Rated torque : 398 ft.lb
 Locked rotor torque : 250 %
 Breakdown torque : 280 %
 Rated speed : 990 rpm

Moment of inertia (J) : 87.3 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

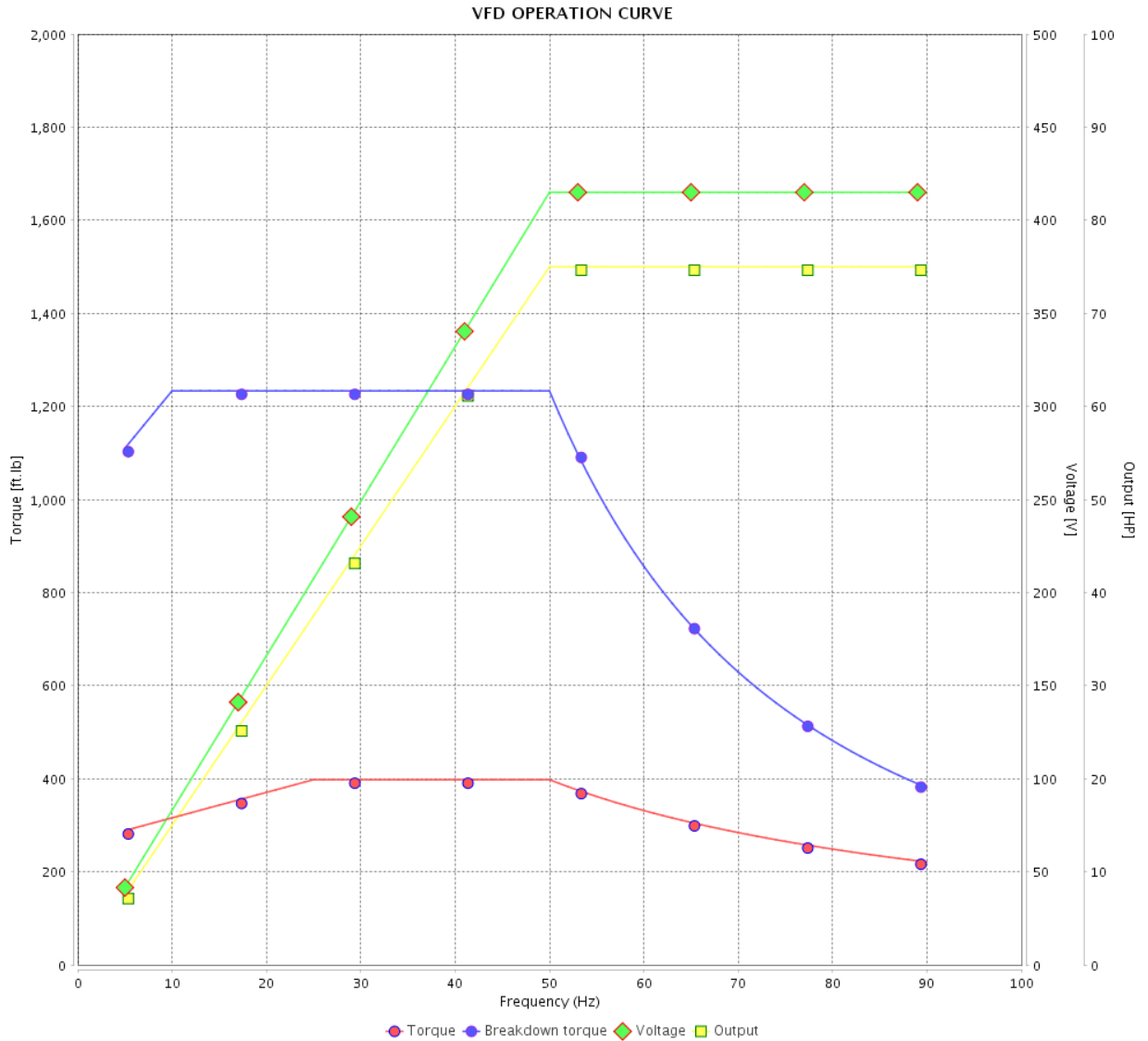


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11853778

Catalog # : 10012ST3QIERB444T-W2



Performance : 415 V 50 Hz 6P IE3

Rated current : 102 A
 LRC : 7.4
 Rated torque : 398 ft.lb
 Locked rotor torque : 270 %
 Breakdown torque : 310 %
 Rated speed : 990 rpm

Moment of inertia (J) : 87.3 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

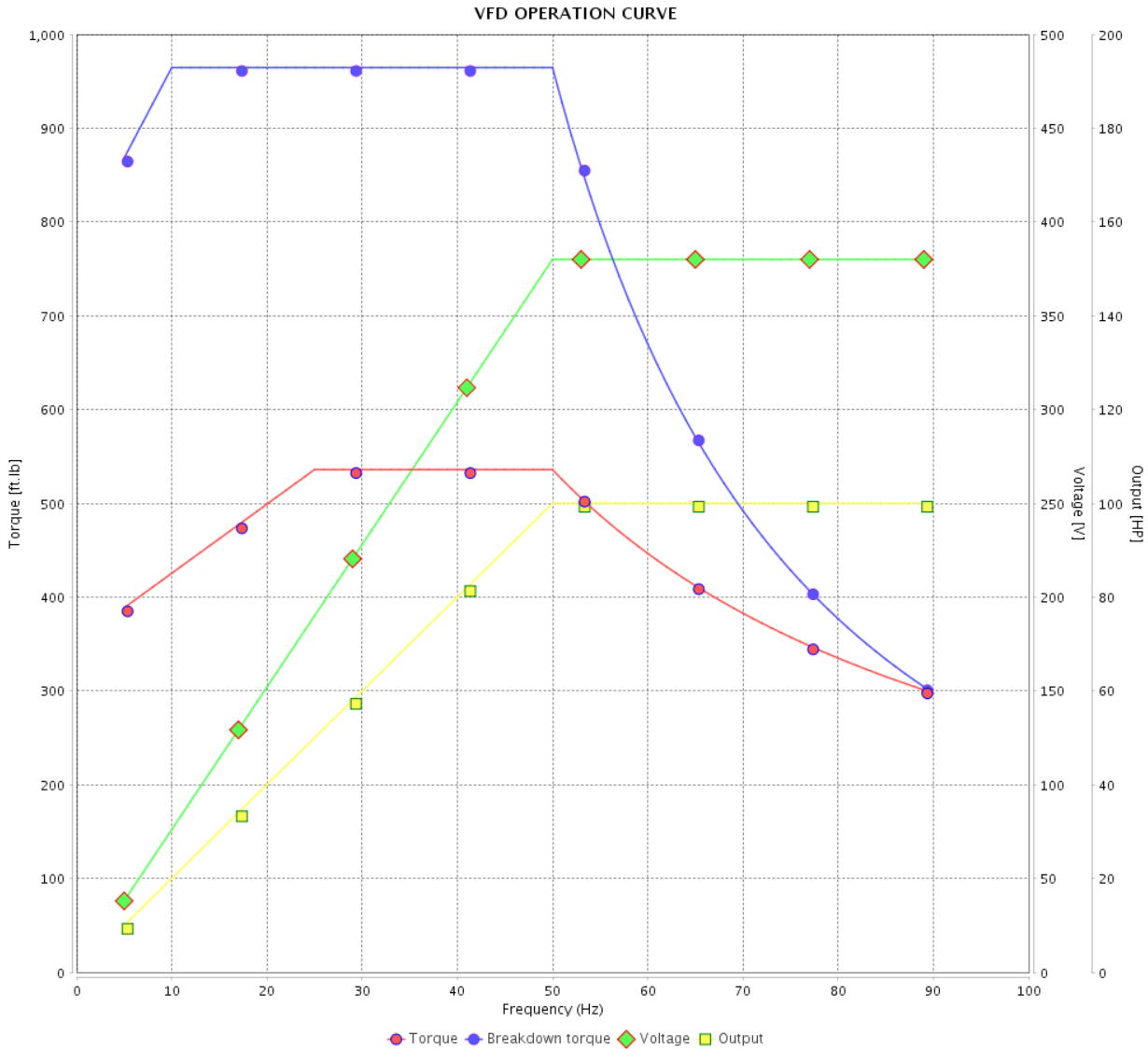


Customer : _____

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11853778

Catalog # : 10012ST3QIERB444T-W2



Performance : 380 V 50 Hz 6P IE1

Rated current	: 145 A	Moment of inertia (J)	: 87.3 sq.ft.lb
LRC	: 4.7	Duty cycle	: Cont.(S1)
Rated torque	: 536 ft.lb	Insulation class	: F
Locked rotor torque	: 170 %	Service factor	: 1.00
Breakdown torque	: 180 %	Temperature rise	: 105 K
Rated speed	: 980 rpm	Design	: B

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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

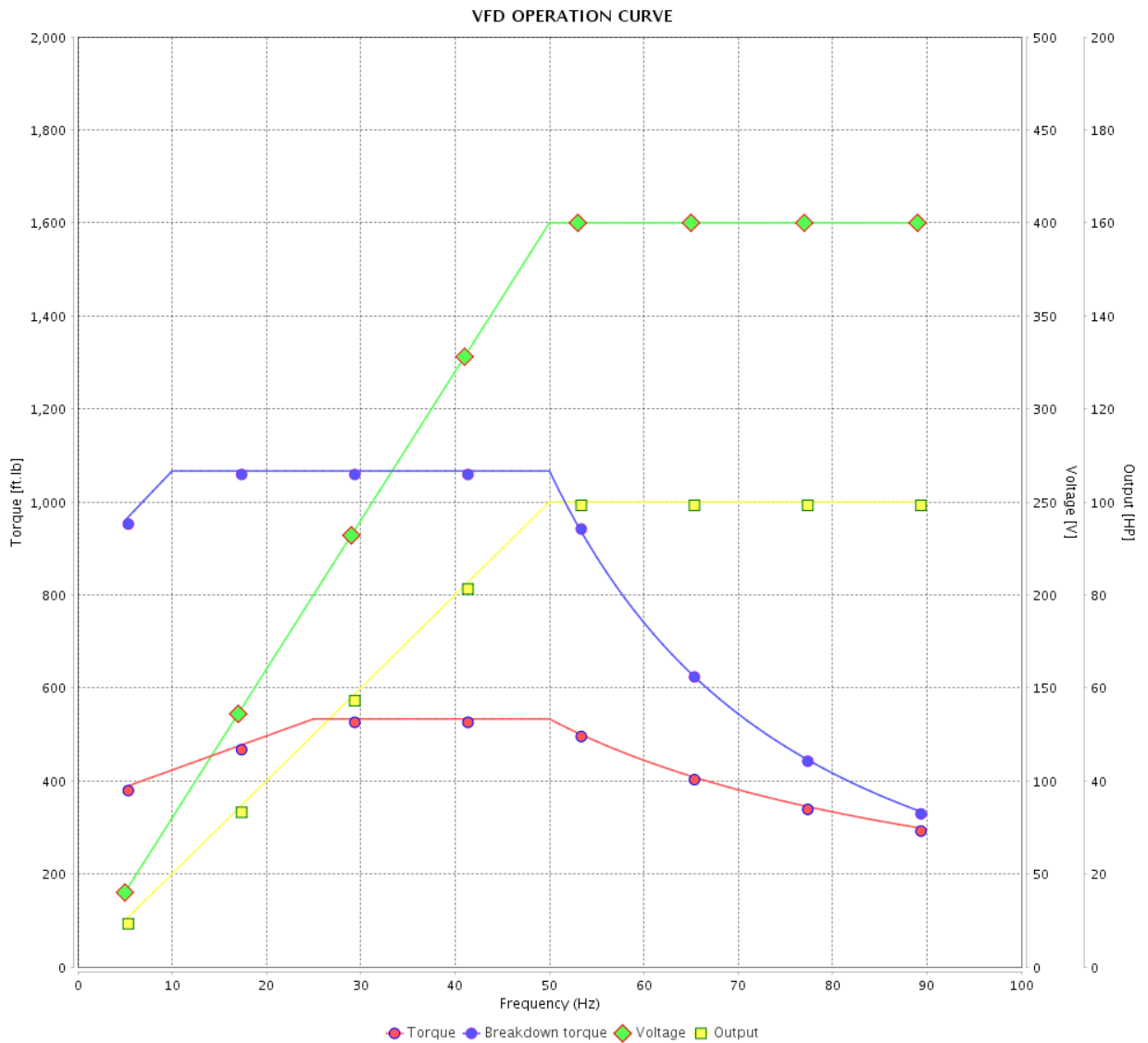


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11853778

Catalog # : 10012ST3QIERB444T-W2



Performance : 400 V 50 Hz 6P IE2

Rated current : 139 A
 LRC : 5.2
 Rated torque : 533 ft.lb
 Locked rotor torque : 190 %
 Breakdown torque : 200 %
 Rated speed : 985 rpm

Moment of inertia (J) : 87.3 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
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Date	14/04/2022			

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



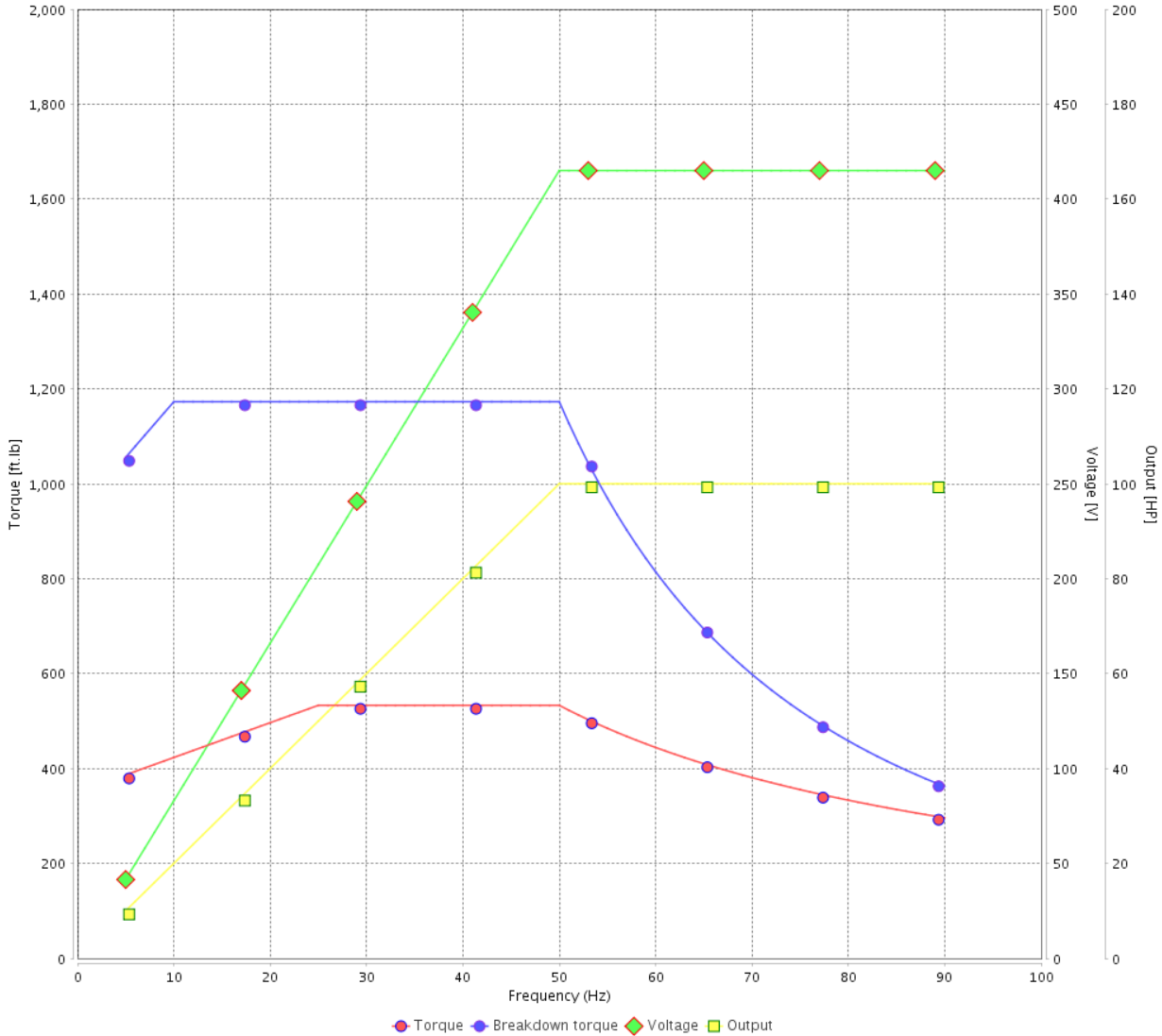
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11853778

Catalog # : 10012ST3QIERB444T-W2

VFD OPERATION CURVE



Performance : 415 V 50 Hz 6P IE2

Rated current : 135 A
 LRC : 5.7
 Rated torque : 533 ft.lb
 Locked rotor torque : 200 %
 Breakdown torque : 220 %
 Rated speed : 985 rpm

Moment of inertia (J) : 87.3 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 105 K
 Design : B

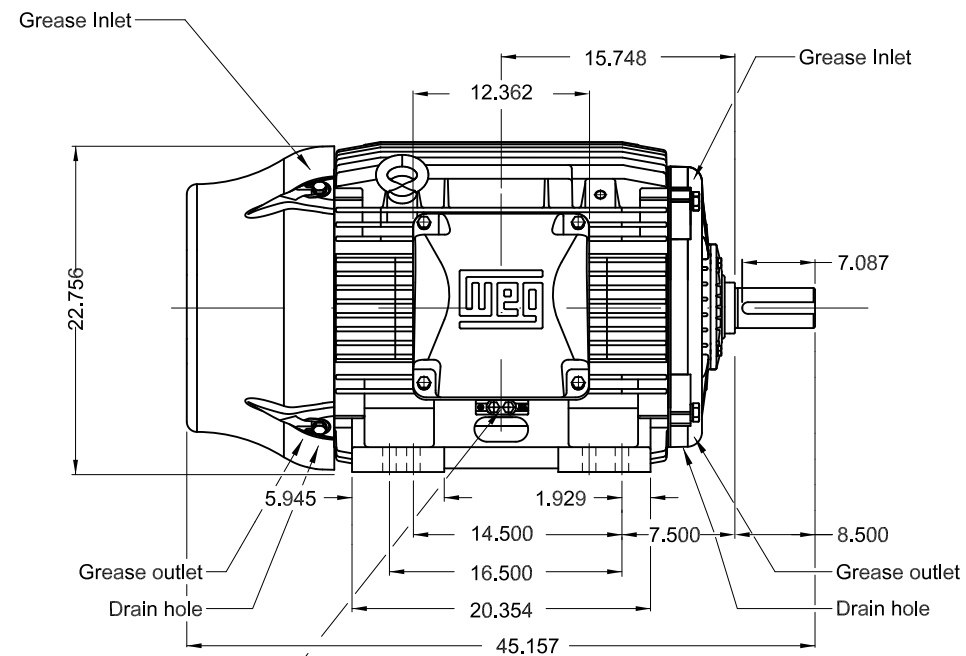
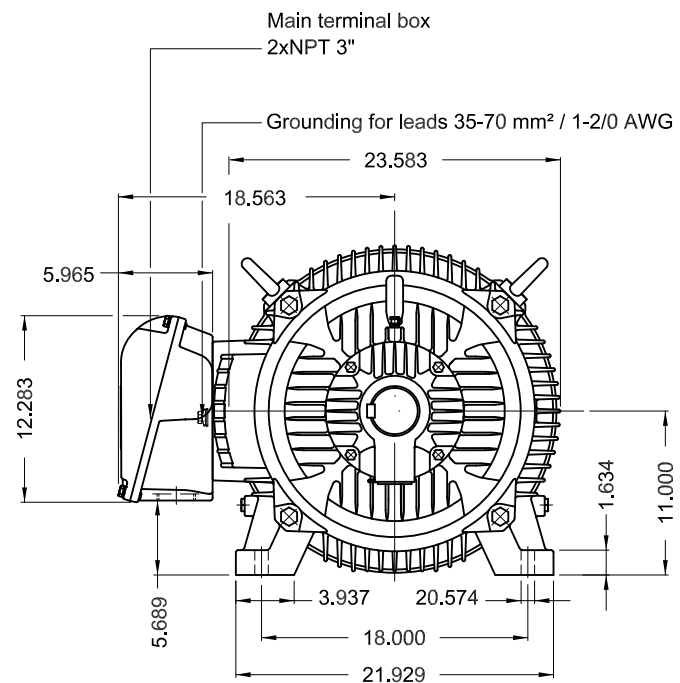
Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page	Revision
Checked by				
Date				

1 2 3 4 5 6

A

B

C

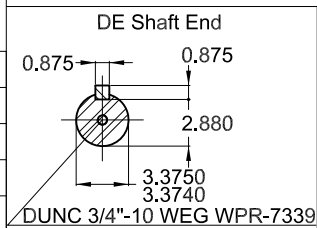


Grounding for leads 25-185 mm² / 3AWG-350MCM

D

E

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



100 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. FRAME 444/5T IP55 TEFC					
CHECKED							
RELEASED							
REL DT.							
		WMO Jaragua do Sul	Product Engineering	PREVIEW WDD			
			SHEET		1 / 1		



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 - T3A

MODEL 10012ST3QIERB444T-W2



Inverter Duty Motor
Severe Duty

MADE IN BRAZIL
11853778

PH3 60Hz Fr. 444/5T 1000m.a.s.l. IP55 TEFC 1712lb

V 460

A 121

HP 100

kW 75

SF 1.25

SFA 151

RPM 1185

PF 0.82

AMB 40°C

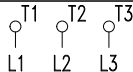
INS cl. F DT80K

NEMA NOM EFF 95.0%

DUTY CONT.

DES B Code G

GUARANT. EFF 94.1%



460V



→ NU-319-C3 (45g) 95RU03X30

→ 6316-C3 (34g) 80BC03X30



MOBIL POLYREX EM (9000h)

