

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



Customer							
Product line	: NEMA Premium Efficiency Three-Phase	Product code	: 11507519				
		Catalog #	: 10012ST3QIE444T-W22				
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	: 1700 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%						
	50%	94.5	93.8	93.8	93.7	94.5	94.5
	75%	95.0	94.3	94.6	94.6	94.0	94.5
	100%	95.0	94.2	94.5	94.6	93.6	94.0
Power Factor	25%						
	50%	0.68	0.64	0.60	0.57	0.74	0.71
	75%	0.78	0.77	0.74	0.71	0.82	0.80
	100%	0.82	0.83	0.81	0.79	0.84	0.83
Bearing type	: Drive end 6319 C3	Non drive end 6316 C3	Foundation loads				
Sealing	: Inpro/Seal	Inpro/Seal	Max. traction : 2276 lb				
Lubrication interval	: 13000 h	16000 h	Max. compression : 3977 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.			
Rev.	Changes Summary			Performed	Checked	Date	
Performed by							
Checked by					Page	Revision	
Date	13/04/2022				1 / 36		

TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



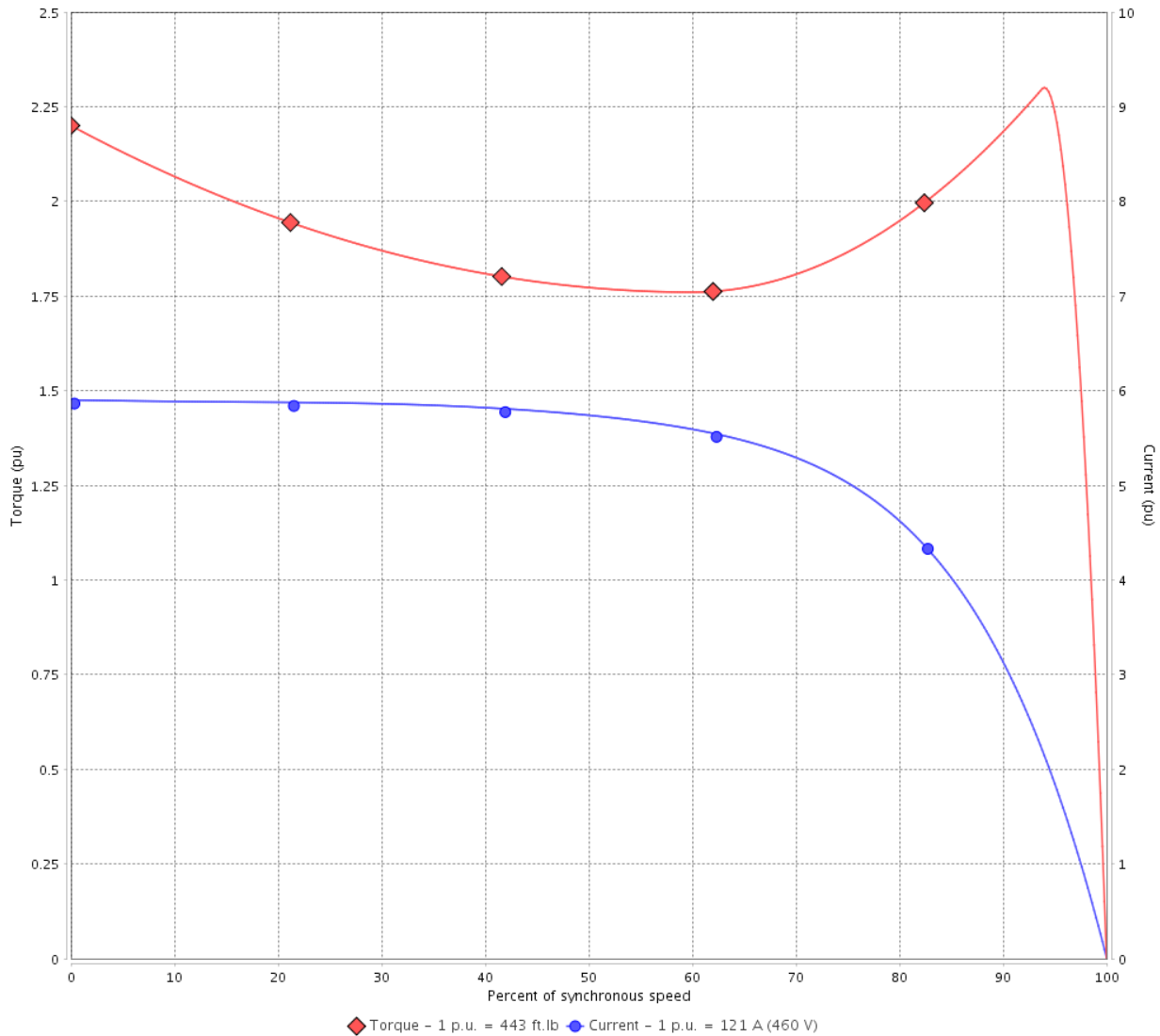
Customer :

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Catalog # : 10012ST3QIE444T-W22

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)

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 2 / 36	Revision
Checked by				
Date	13/04/2022			

TORQUE AND CURRENT VS SPEED CURVE



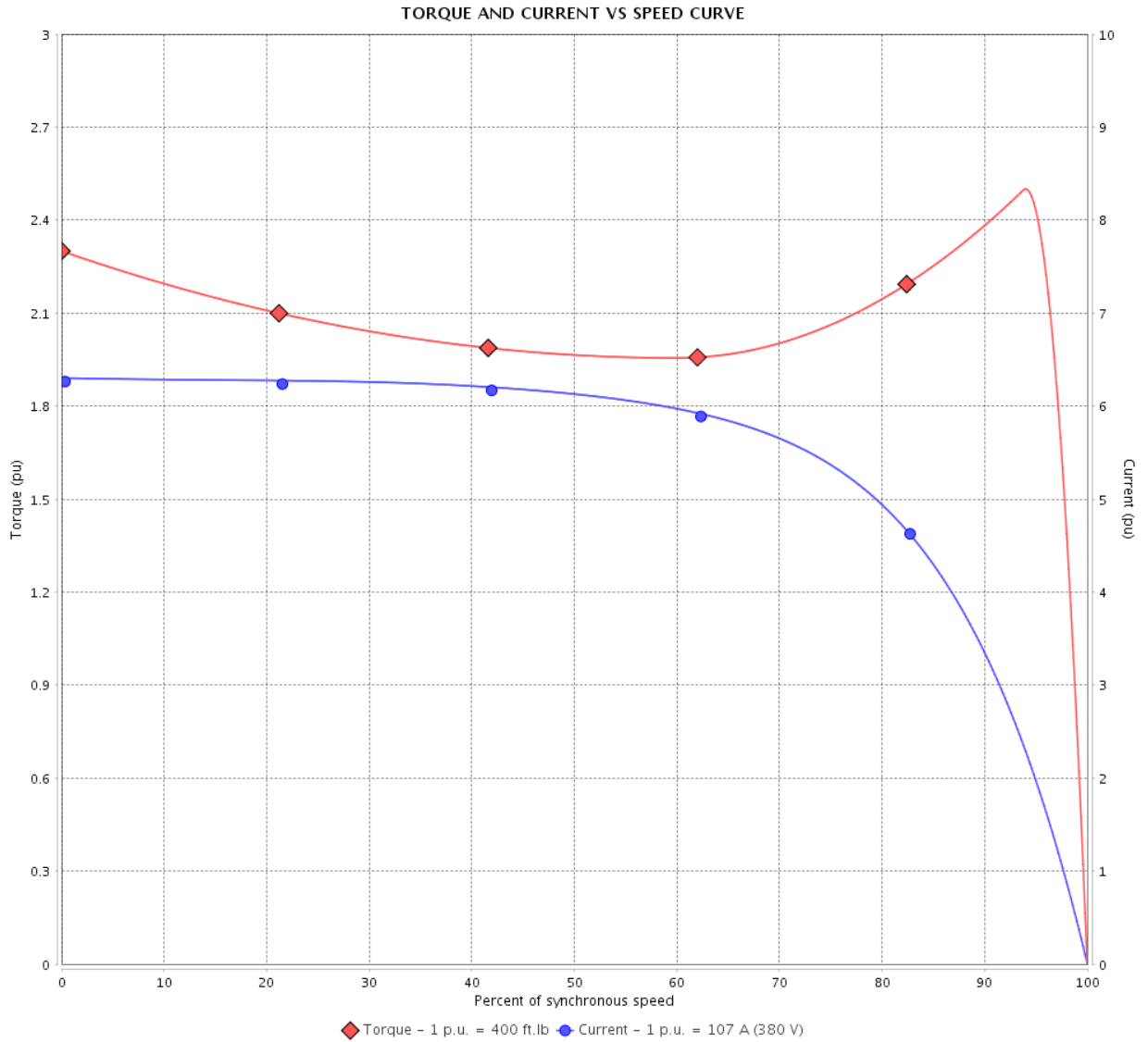
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Performance : 380 V 50 Hz 6P IE3

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)

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 3 / 36	Revision
Checked by				
Date	13/04/2022			

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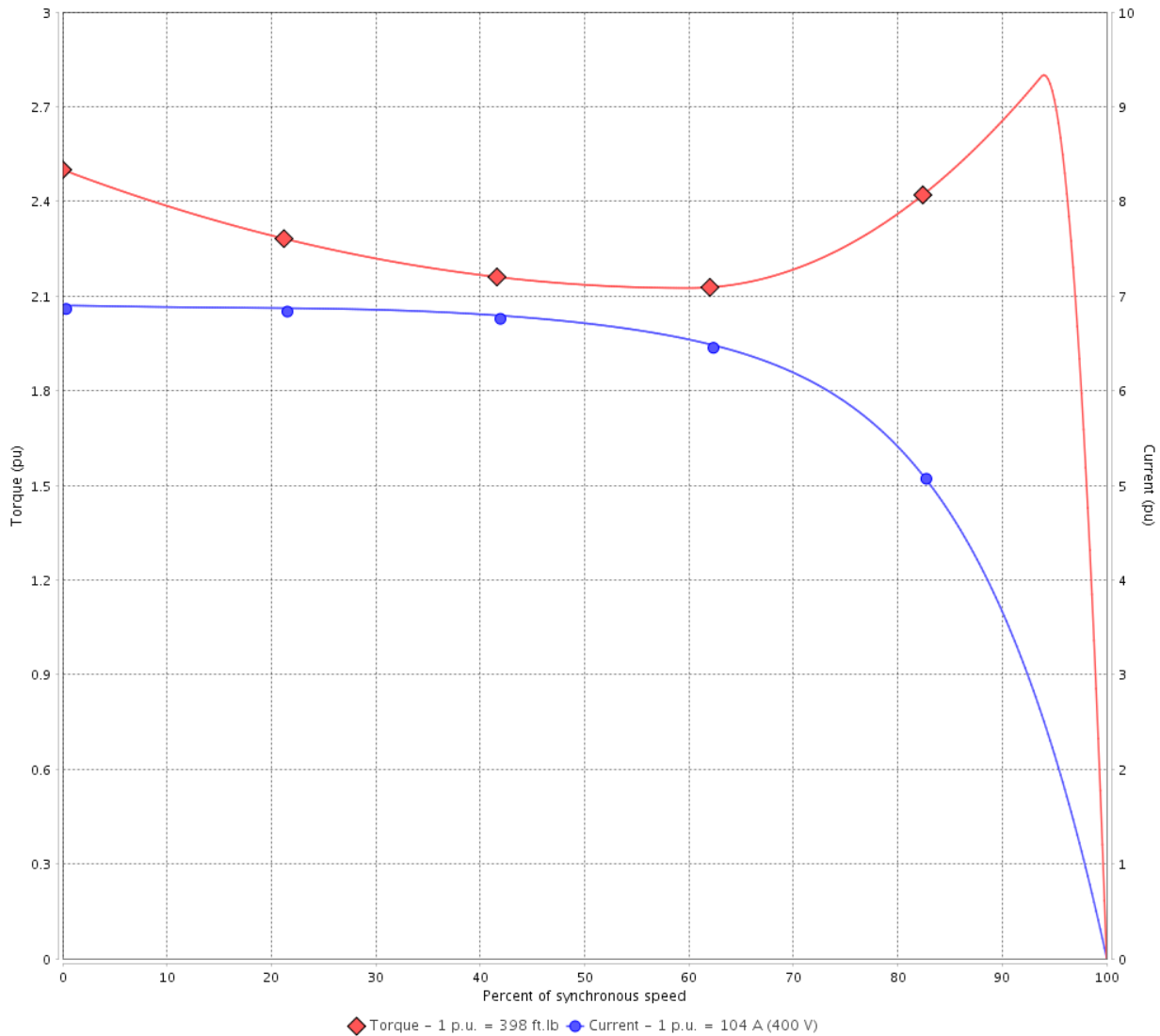
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Performance : 400 V 50 Hz 6P IE3

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)

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 4 / 36	Revision
Checked by				
Date	13/04/2022			

TORQUE AND CURRENT VS SPEED CURVE



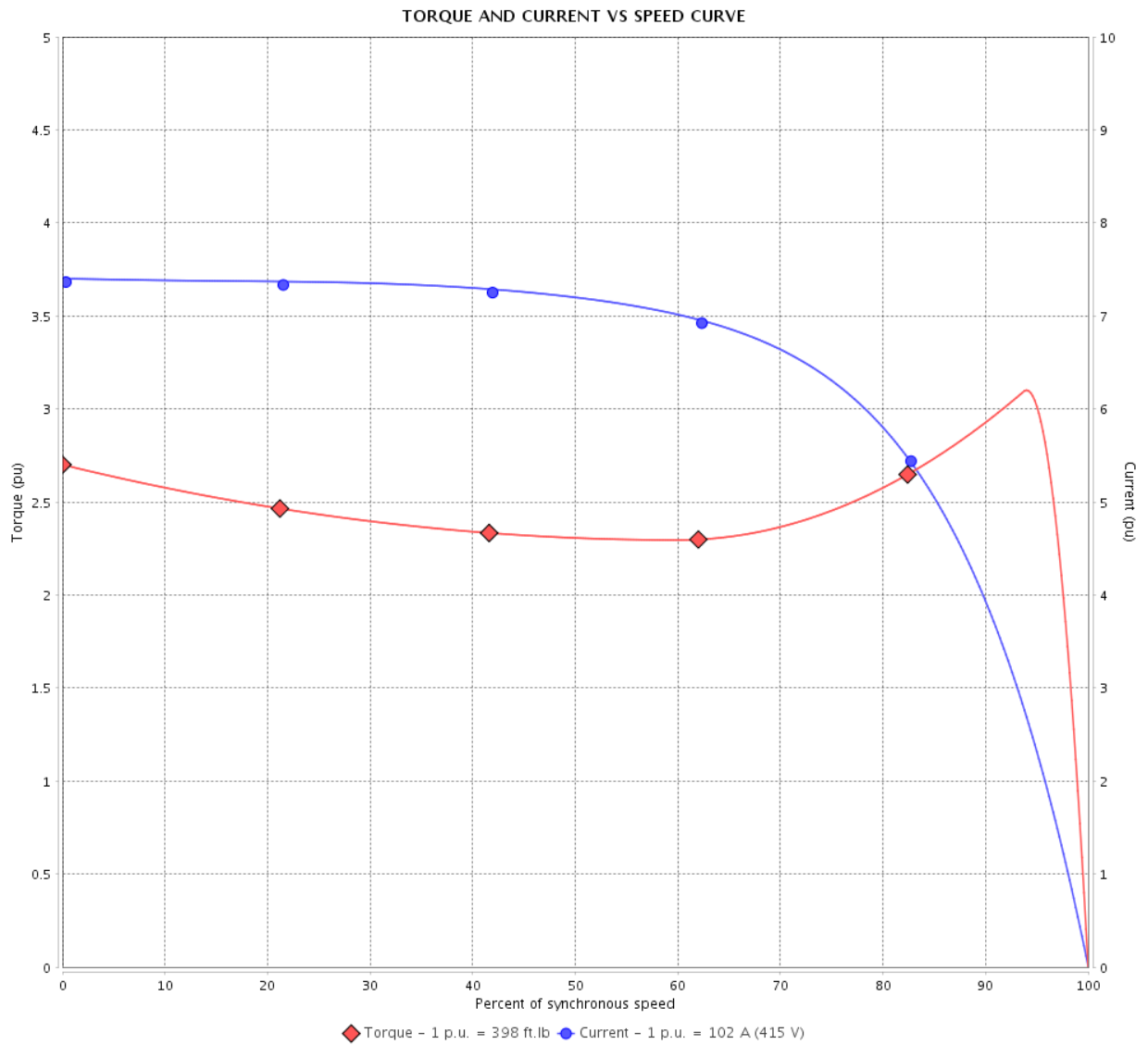
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Performance : 415 V 50 Hz 6P IE3

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)

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 5 / 36	Revision
Checked by				
Date	13/04/2022			

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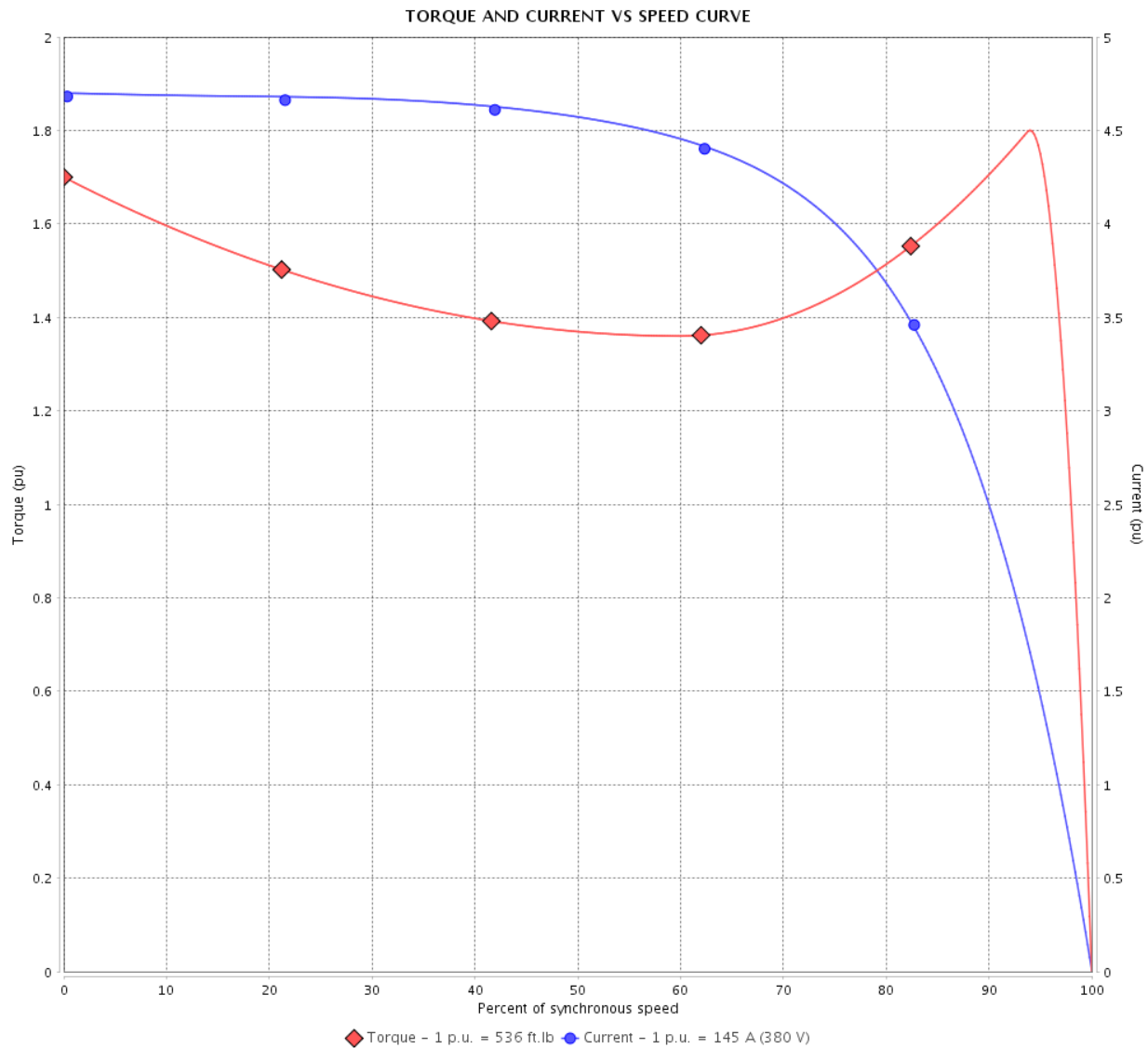


Customer :

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Product code : 11507519

Catalog # : 10012ST3QIE444T-W22



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)

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 6 / 36	Revision
Checked by				
Date	13/04/2022			

TORQUE AND CURRENT VS SPEED CURVE



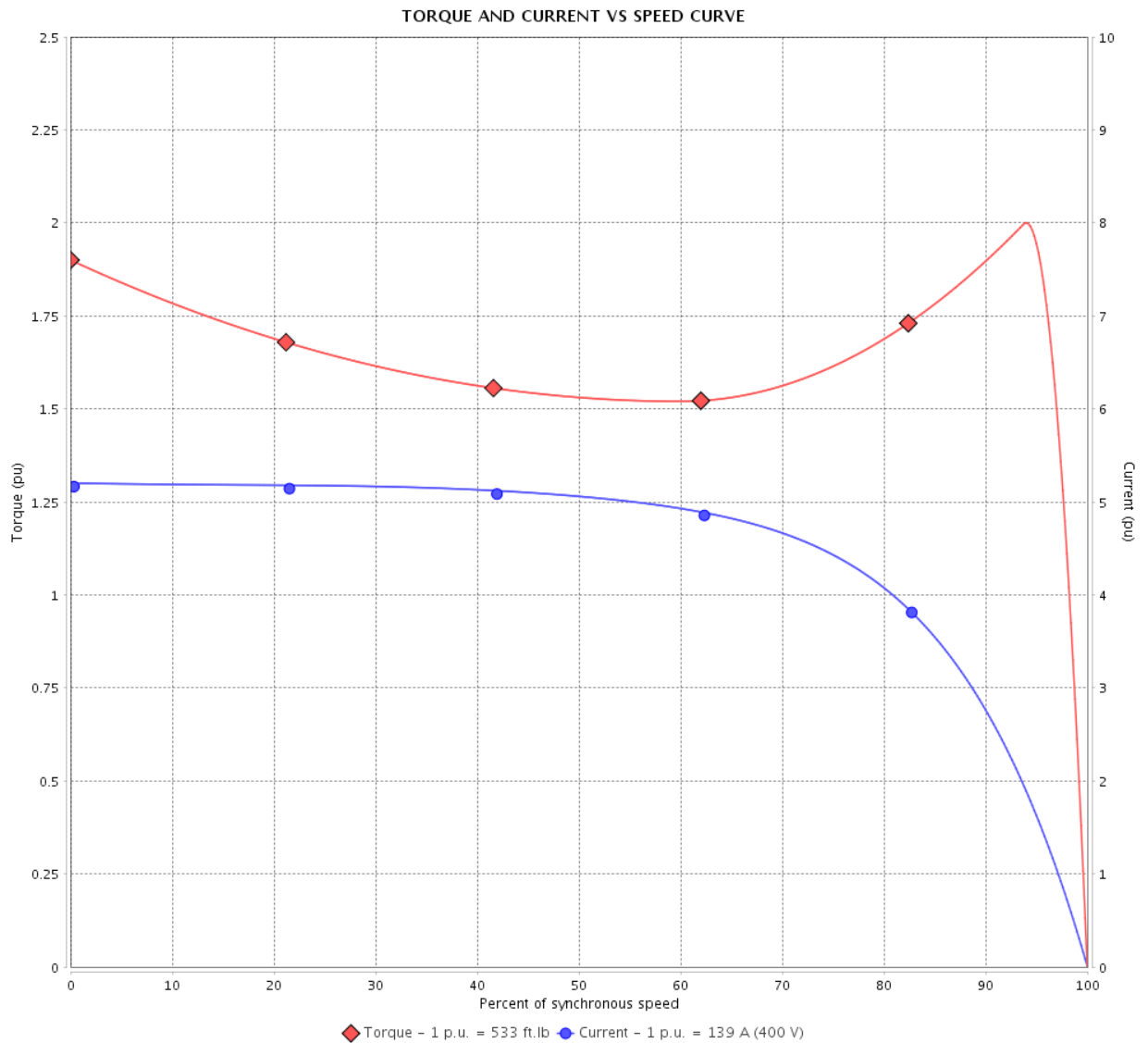
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Performance : 400 V 50 Hz 6P IE2

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)

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 7 / 36	Revision
Checked by				
Date	13/04/2022			

TORQUE AND CURRENT VS SPEED CURVE

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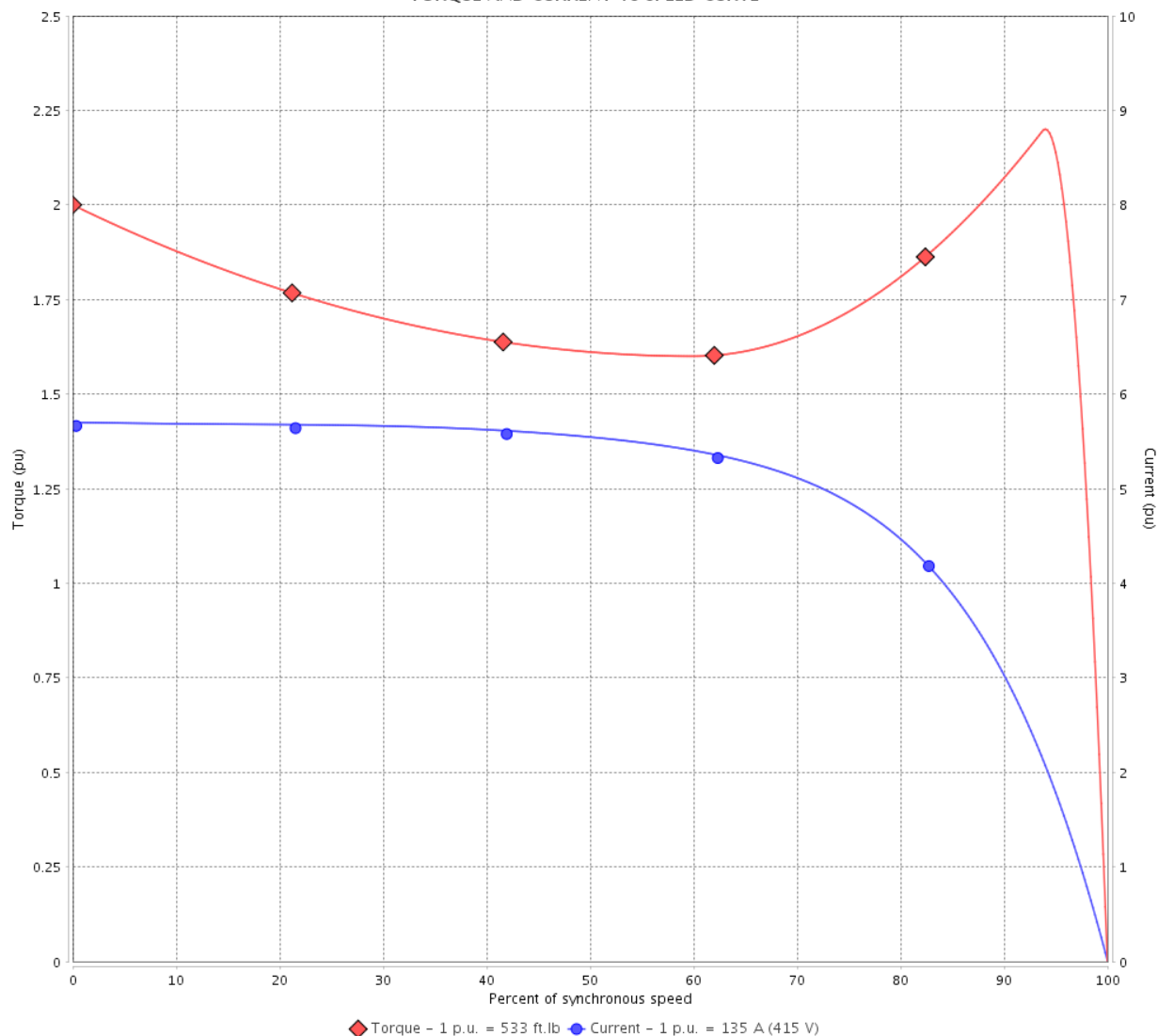
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Performance : 415 V 50 Hz 6P IE2

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

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

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 8 / 36	Revision
Checked by				
Date	13/04/2022			

LOAD PERFORMANCE CURVE

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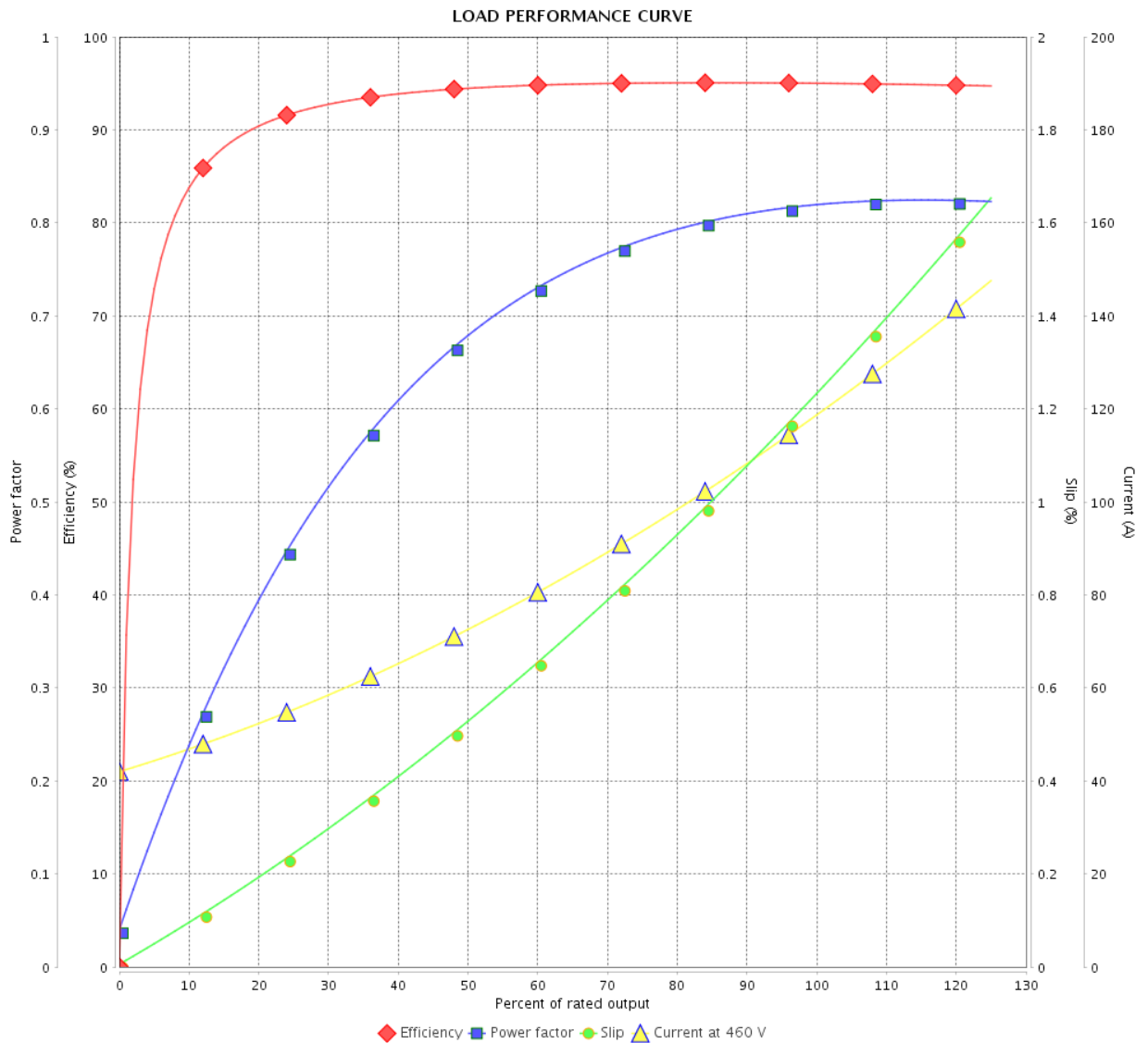


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Performance : 460 V 60 Hz 6P

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

Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		9 / 36		
Date		13/04/2022		

LOAD PERFORMANCE CURVE

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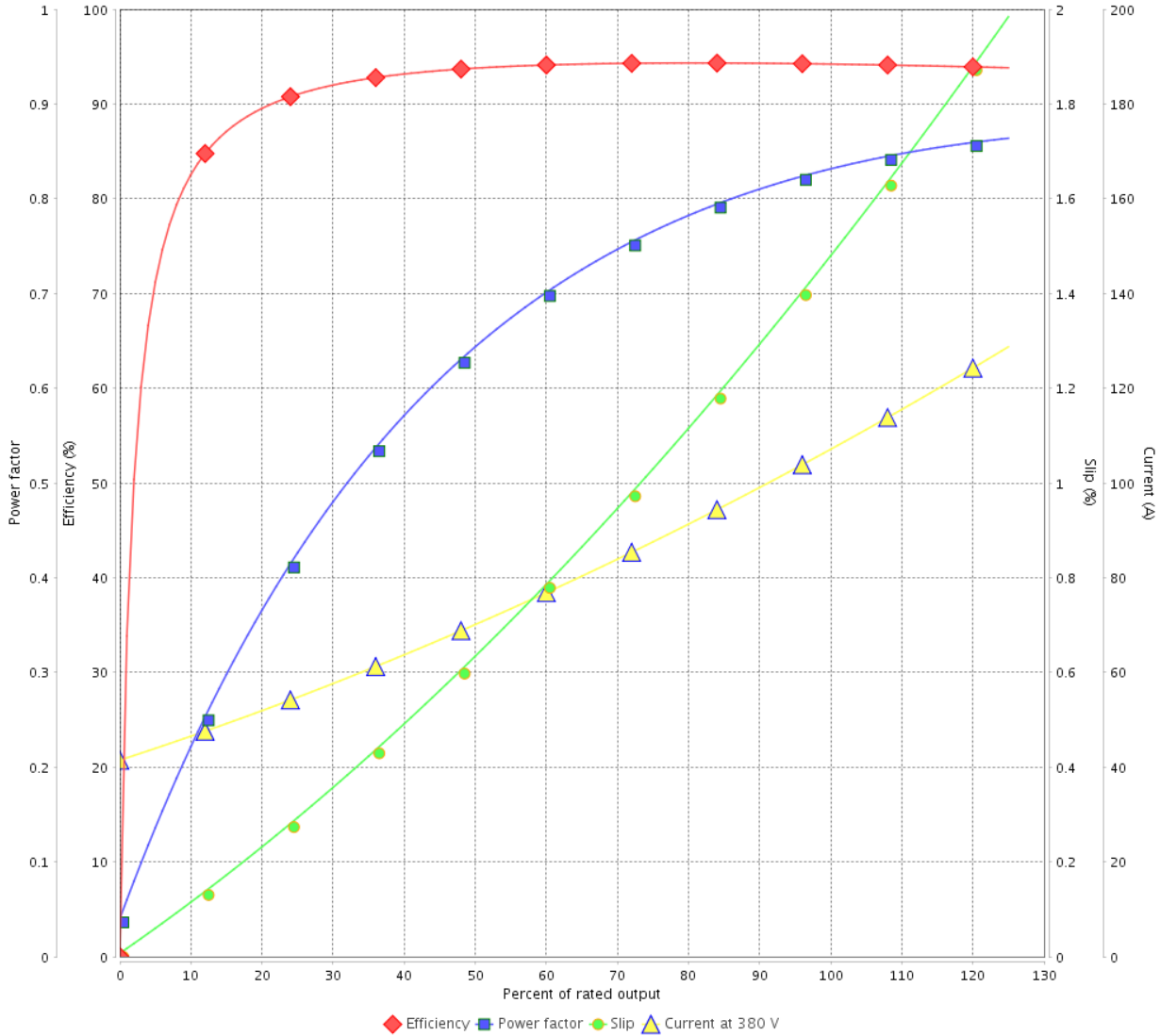
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Performance : 380 V 50 Hz 6P IE3

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

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page	Revision
Checked by			10 / 36	
Date	13/04/2022			

LOAD PERFORMANCE CURVE

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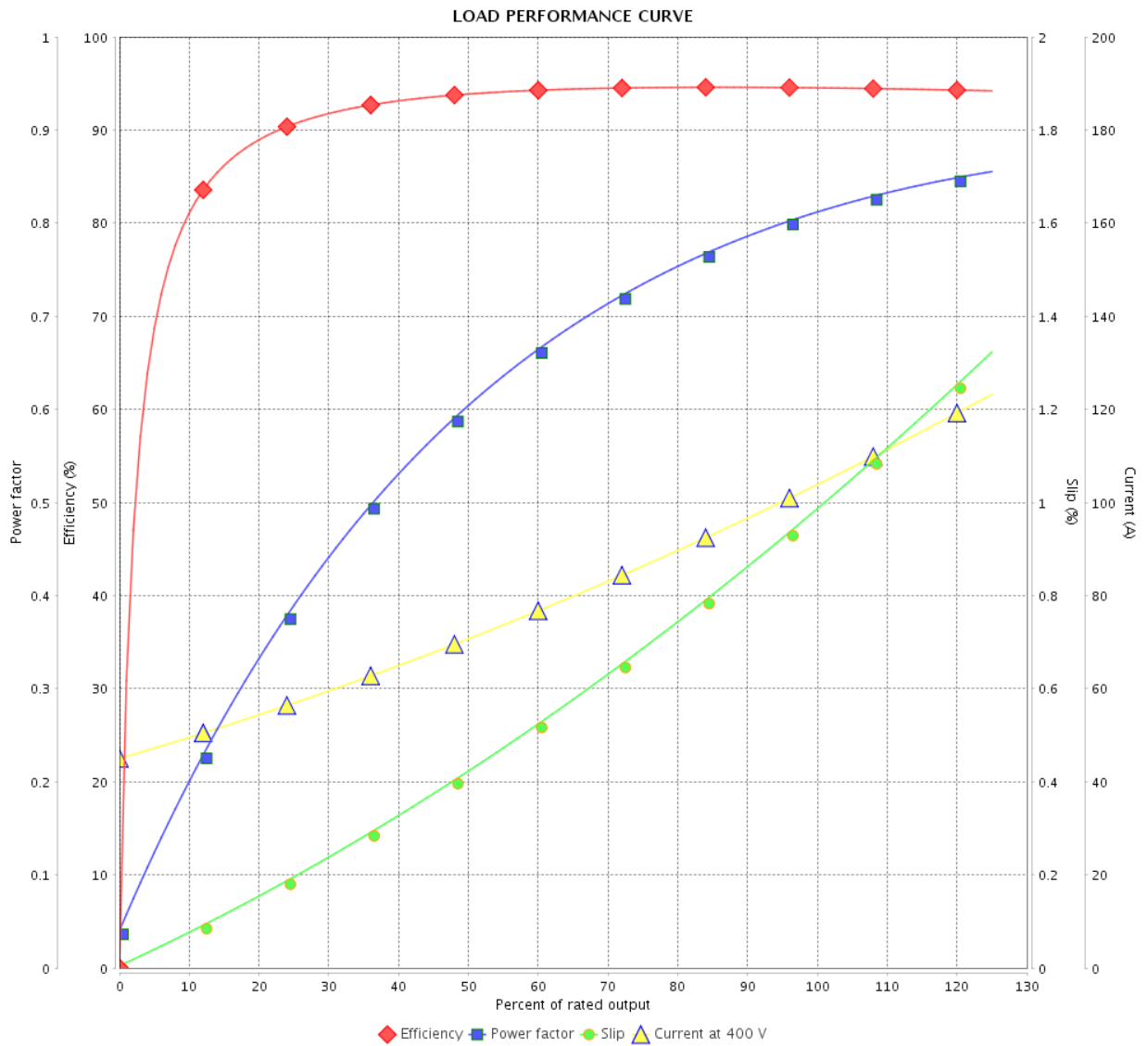


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Performance : 400 V 50 Hz 6P IE3

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

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page	Revision
Checked by			11 / 36	
Date	13/04/2022			

LOAD PERFORMANCE CURVE

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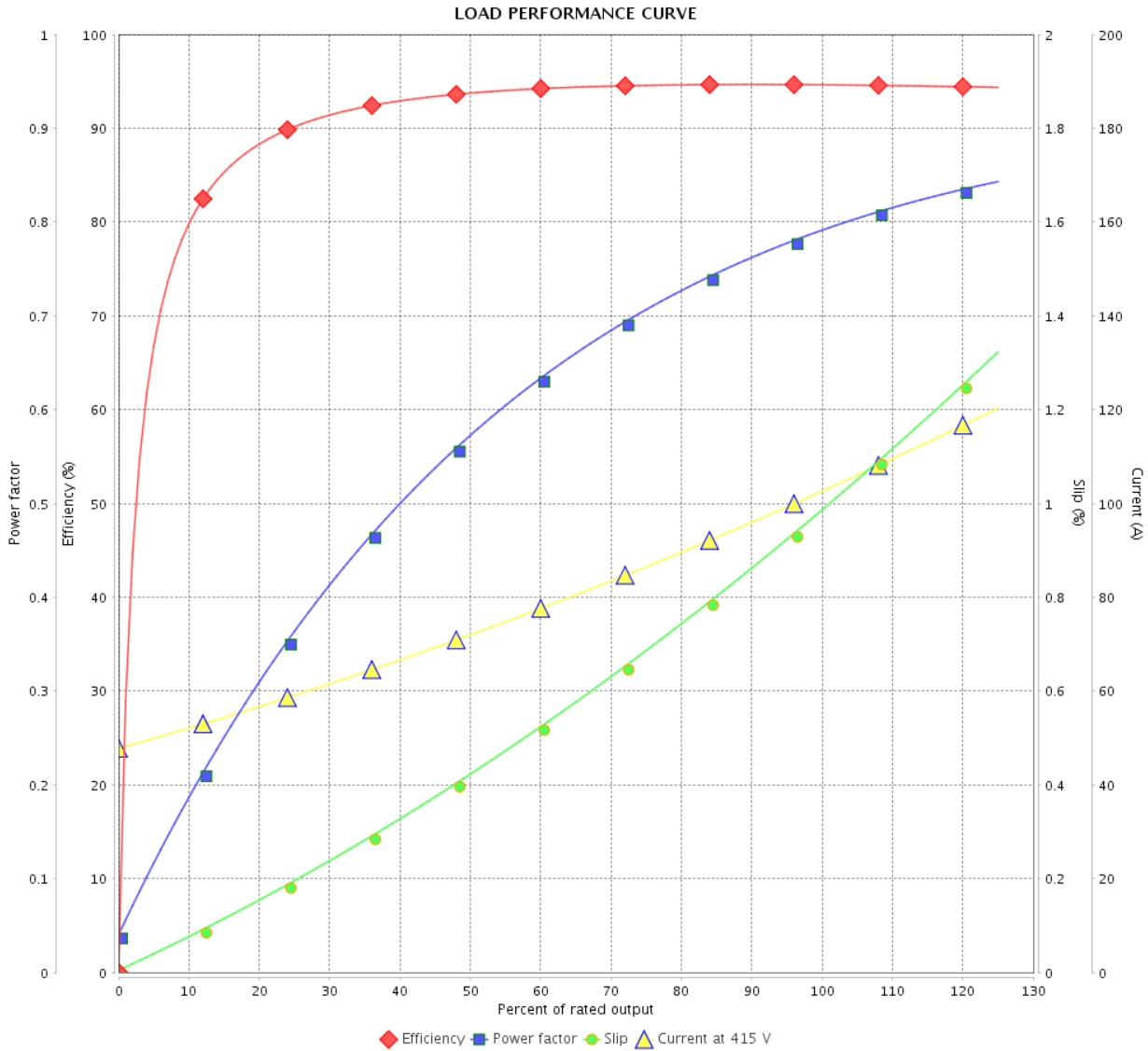


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Performance : 415 V 50 Hz 6P IE3

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

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 12 / 36	Revision
Checked by				
Date	13/04/2022			

LOAD PERFORMANCE CURVE

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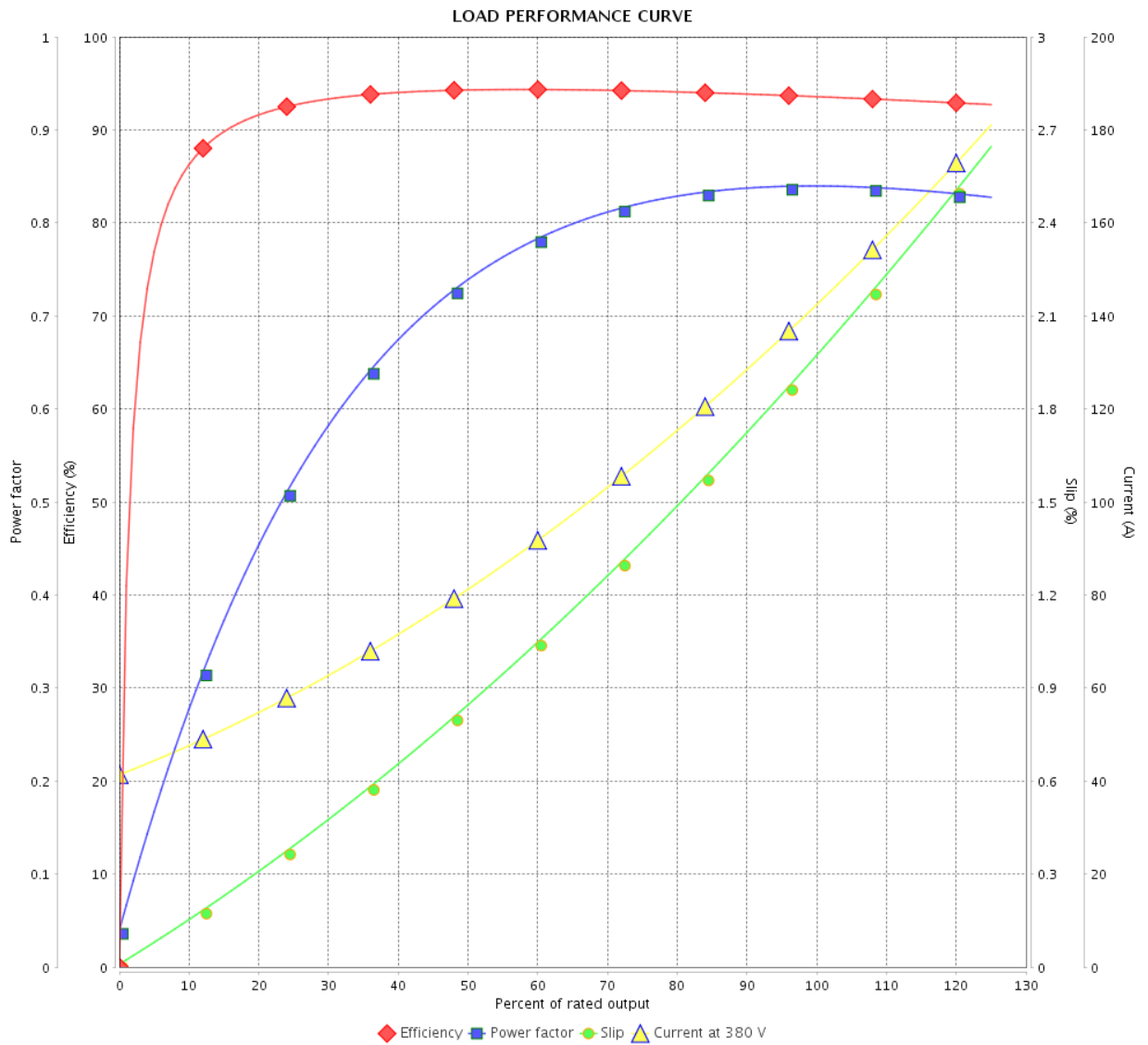


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Performance : 380 V 50 Hz 6P IE1

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

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

LOAD PERFORMANCE CURVE

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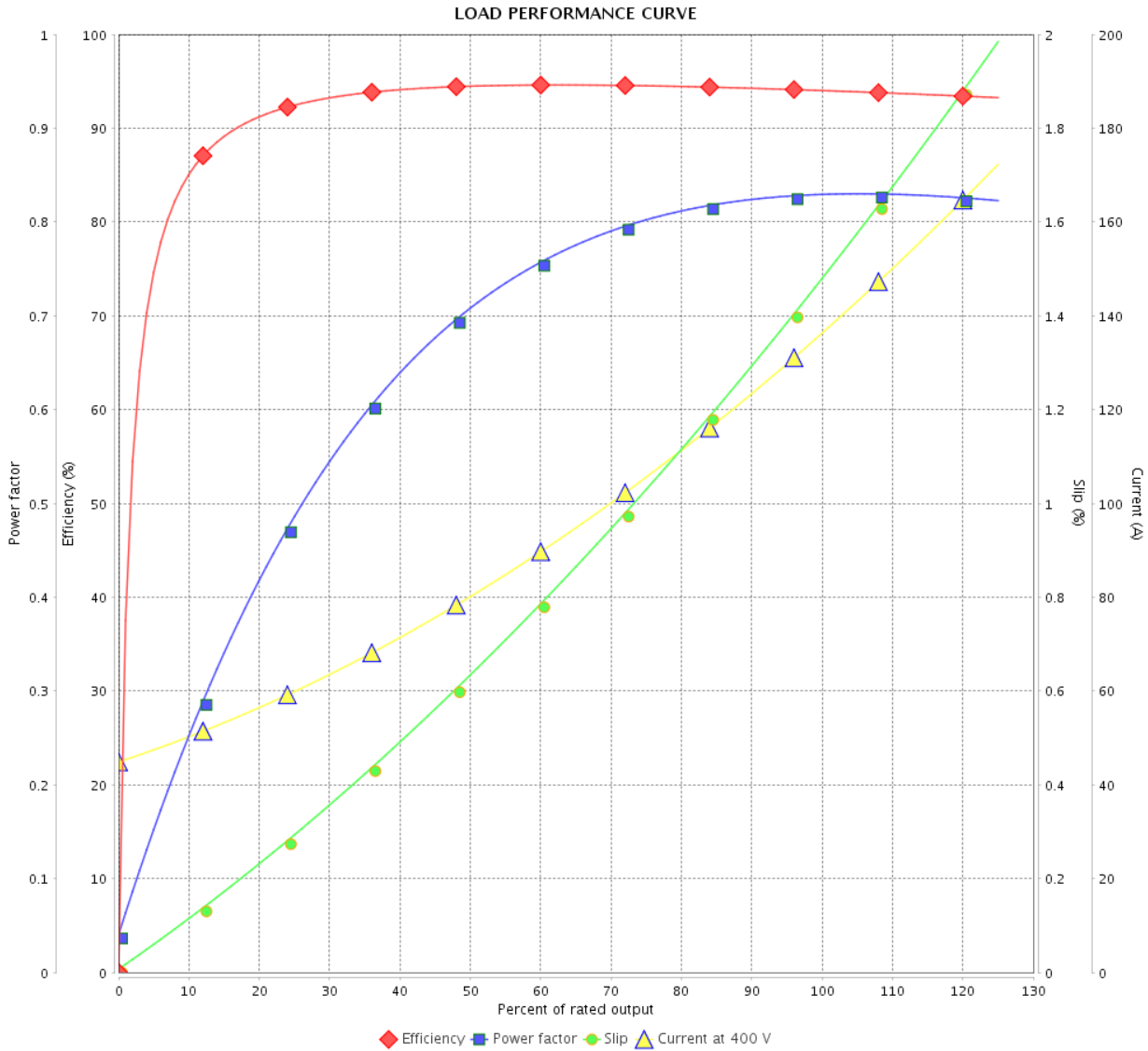


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Performance : 400 V 50 Hz 6P IE2

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

Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		14 / 36		
Date		13/04/2022		

LOAD PERFORMANCE CURVE

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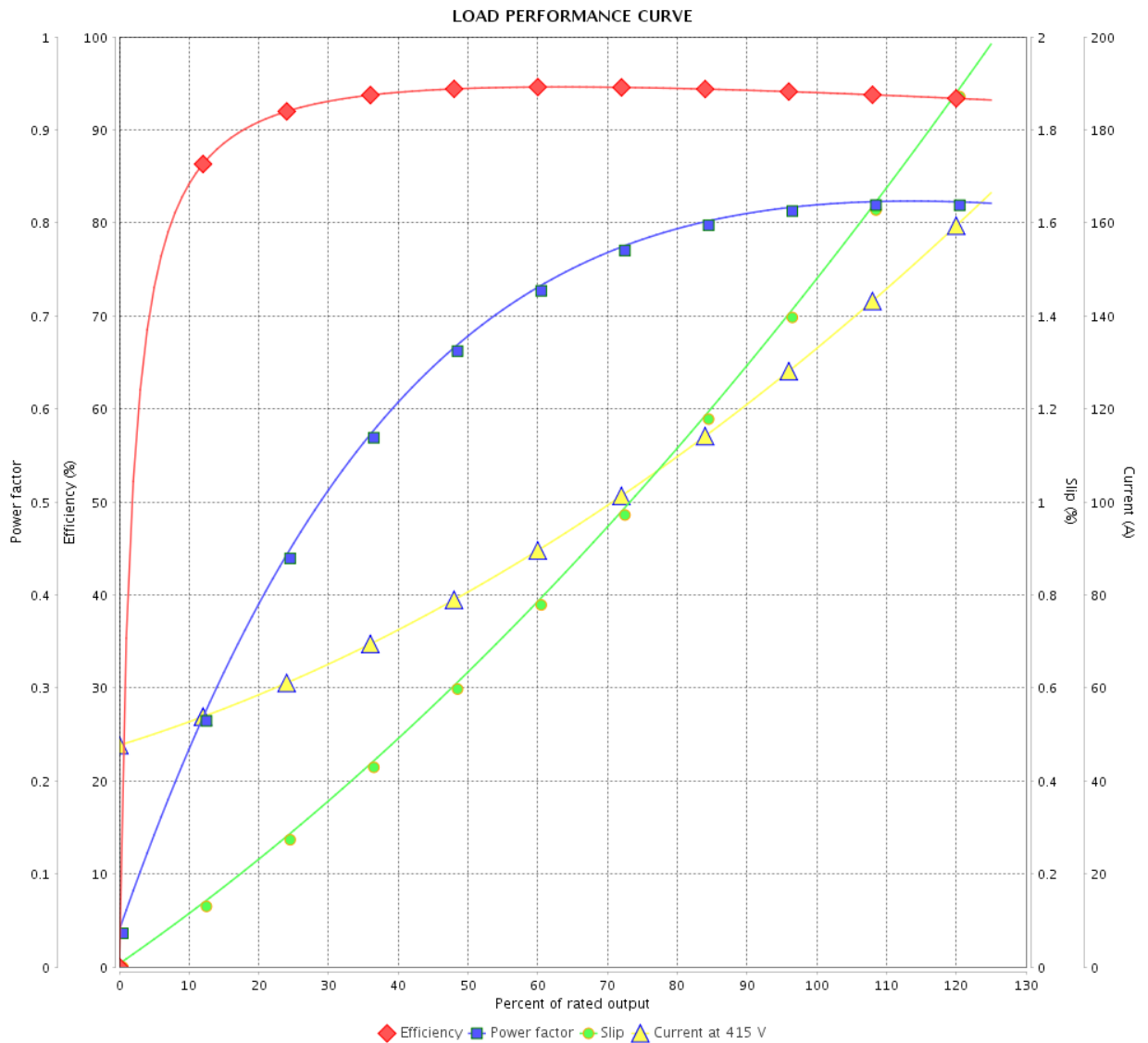


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Performance : 415 V 50 Hz 6P IE2

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 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		15 / 36		
Date		13/04/2022		

THERMAL LIMIT CURVE



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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

Heating constant

Cooling constant

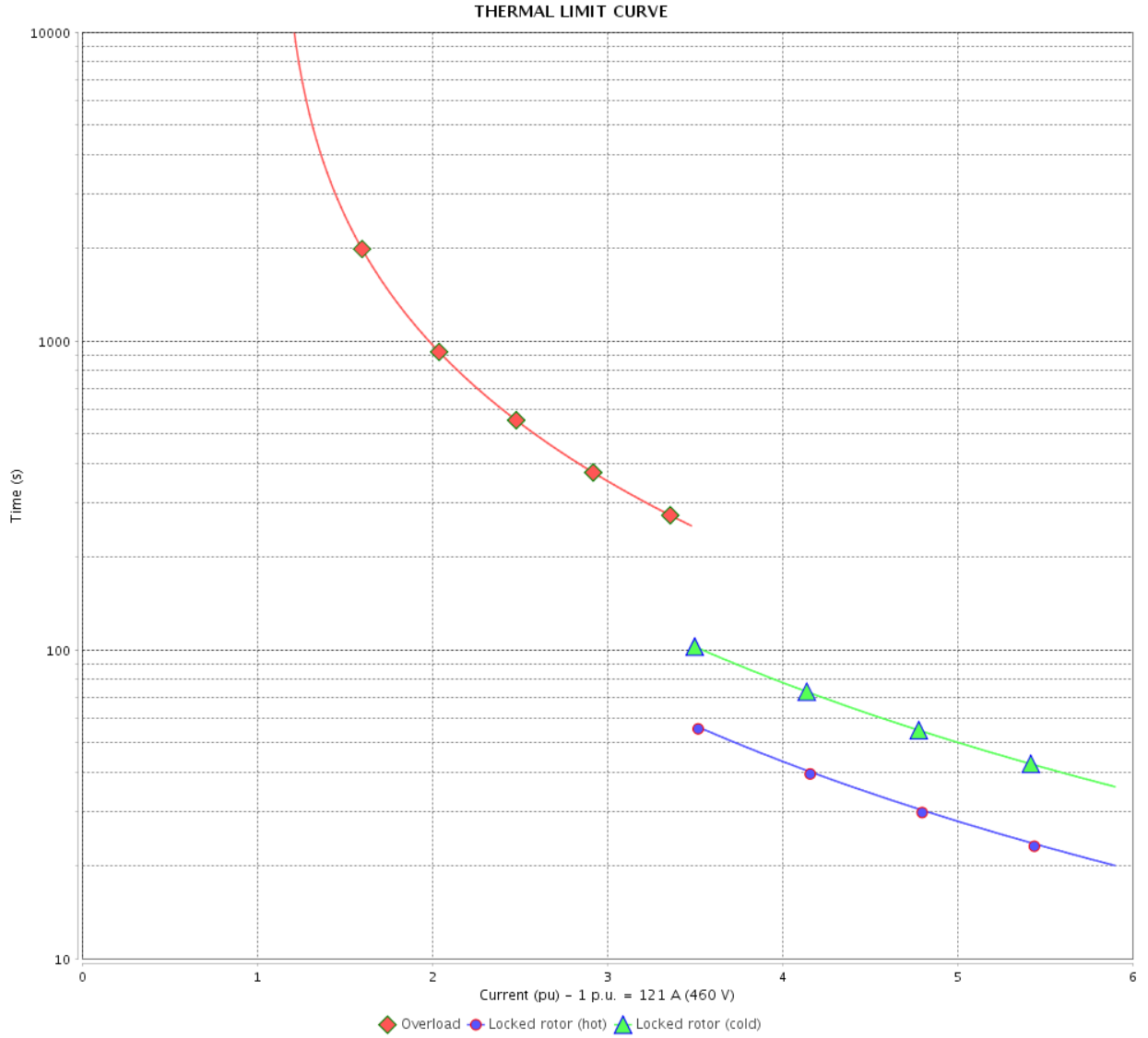
Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 16 / 36	Revision
Checked by				
Date	13/04/2022			

THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page 17 / 36		Revision
Checked by				
Date				

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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
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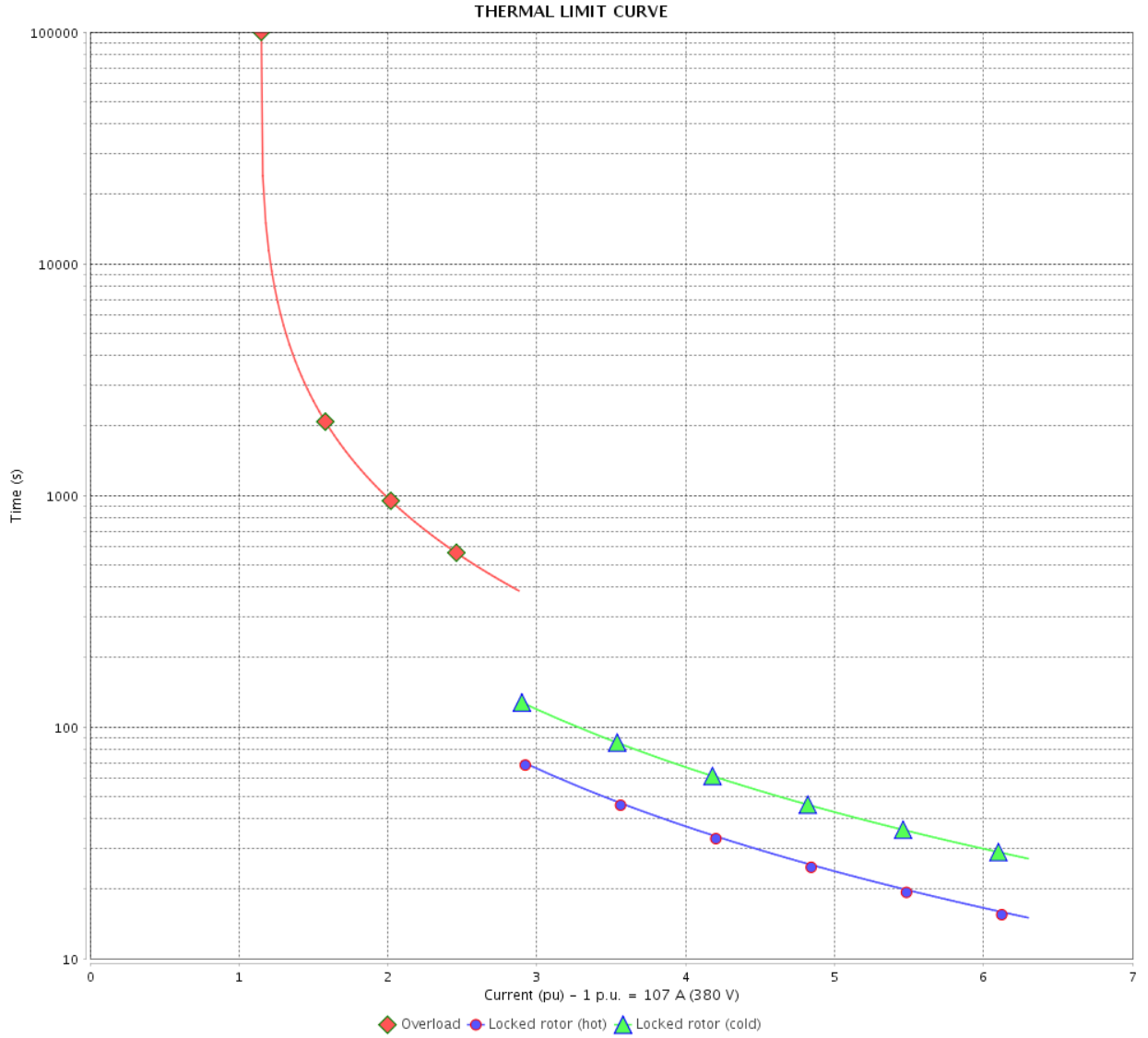
Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by			Page	Revision
Date	13/04/2022		18 / 36	

THERMAL LIMIT CURVE

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Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page 19 / 36		Revision
Checked by				
Date				

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LRC	: 6.9	Duty cycle	: Cont.(S1)
Rated torque	: 398 ft.lb	Insulation class	: F
Locked rotor torque	: 250 %	Service factor	: 1.00
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Rated speed	: 990 rpm	Design	: B

Heating constant

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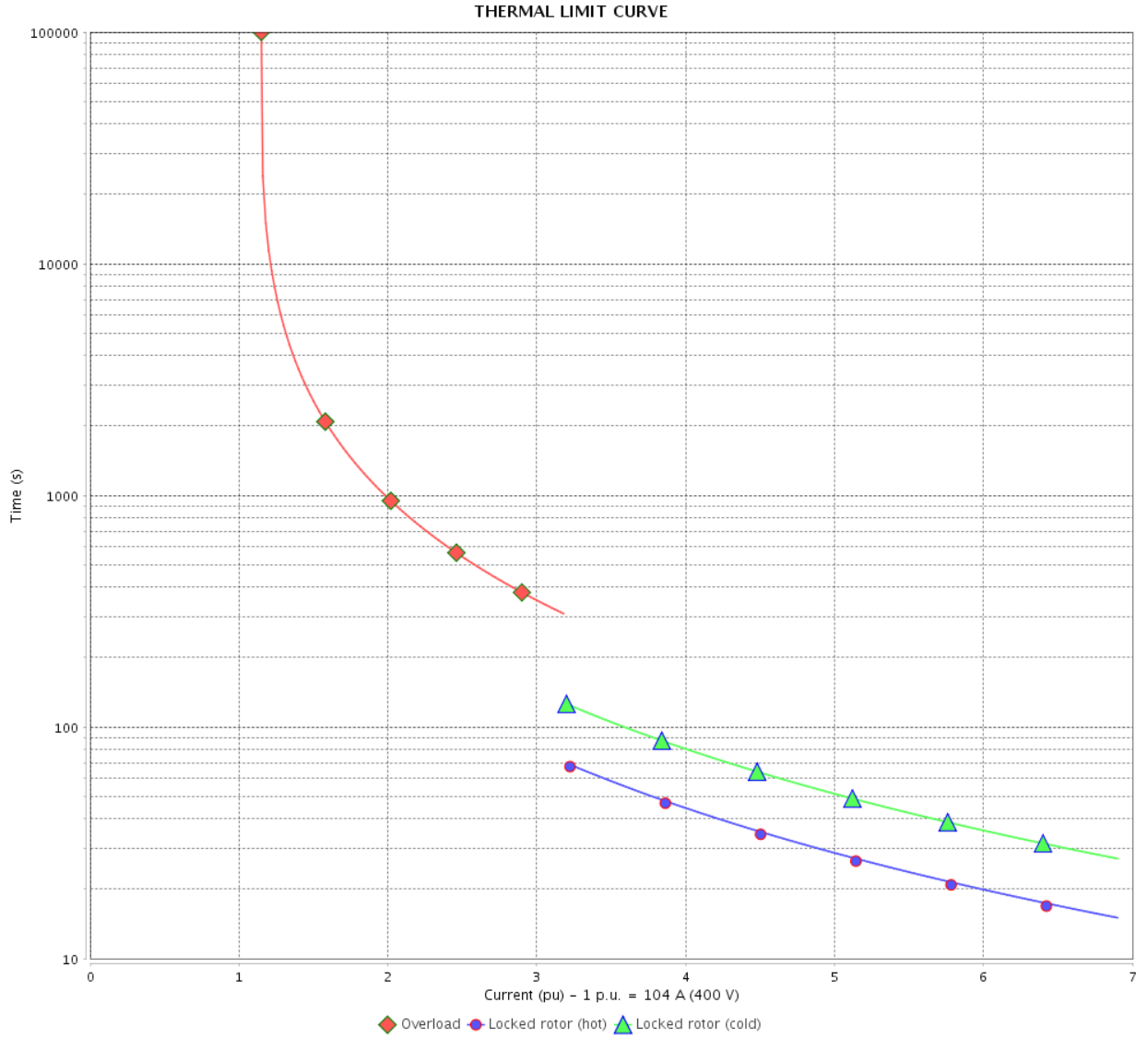
Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by			Page	Revision
Date	13/04/2022		20 / 36	

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Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page 21 / 36		Revision
Checked by				
Date				

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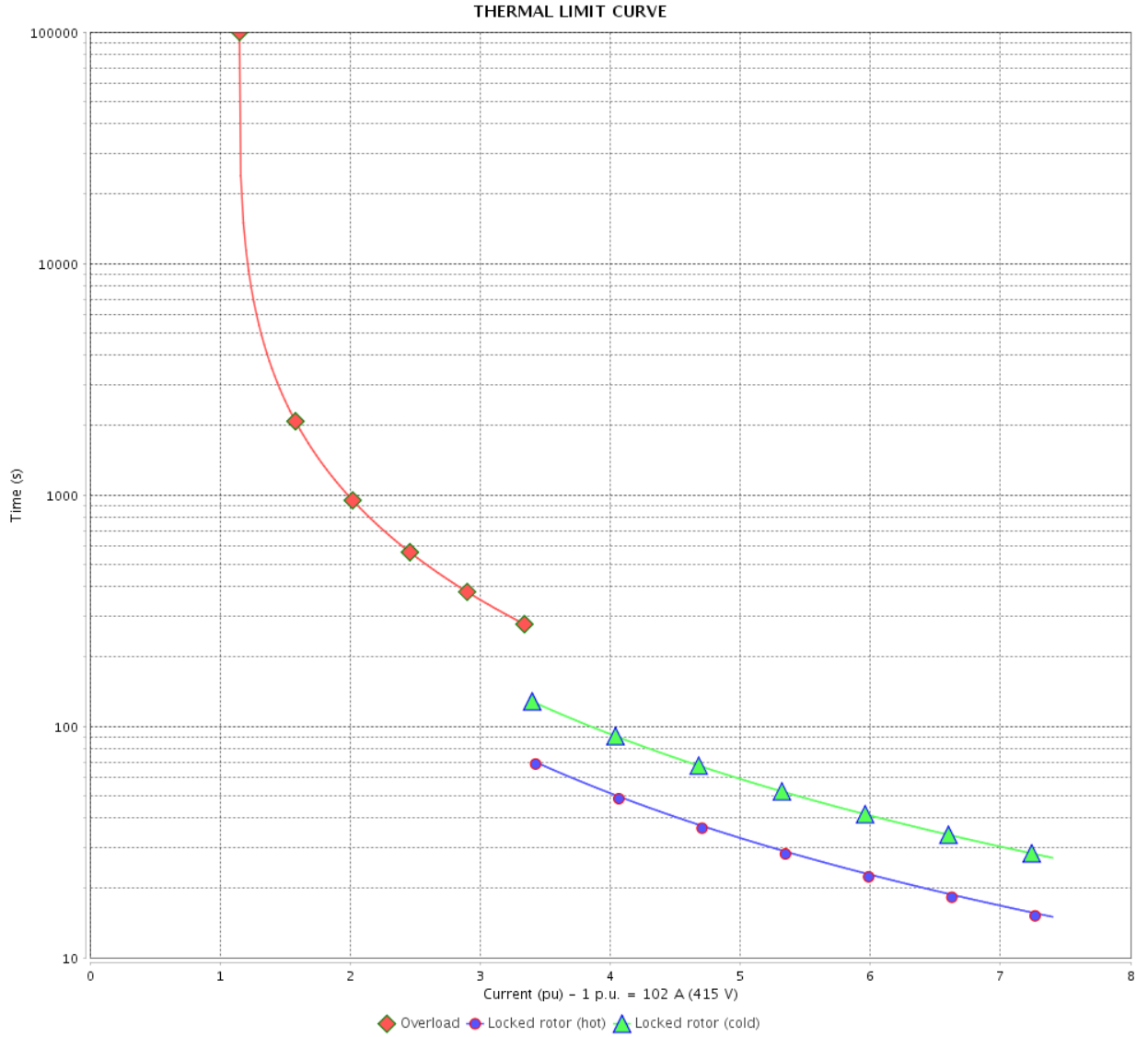
Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by			Page	Revision
Date	13/04/2022		22 / 36	

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Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		23 / 36		
Date		13/04/2022		

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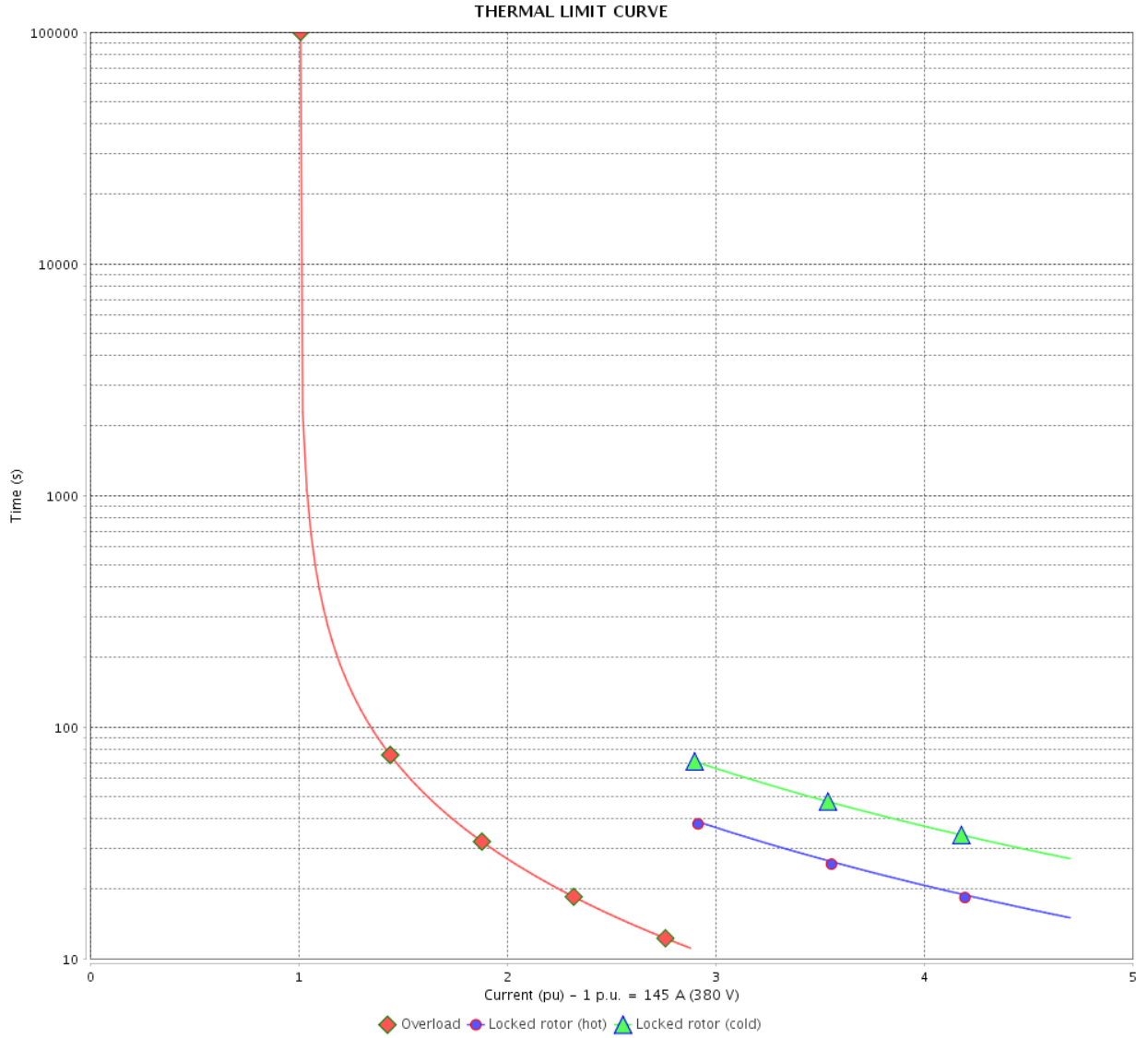
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Performed by				
Checked by			Page	Revision
Date	13/04/2022		24 / 36	

THERMAL LIMIT CURVE

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Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by				
Date				
			Page	Revision
			25 / 36	

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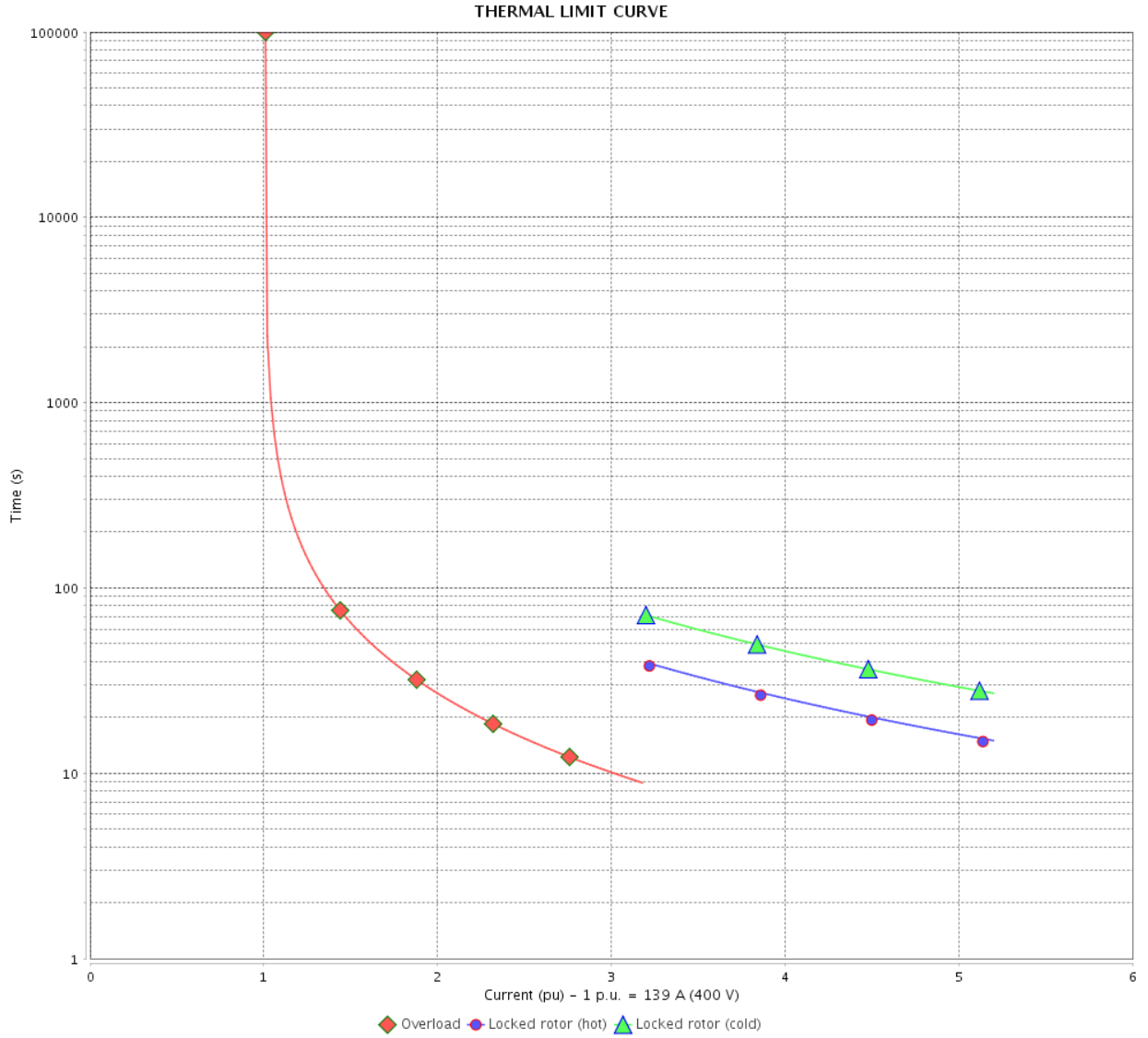
Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by			Page	Revision
Date	13/04/2022		26 / 36	

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 : 11507519
Catalog # : 10012ST3QIE444T-W22

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

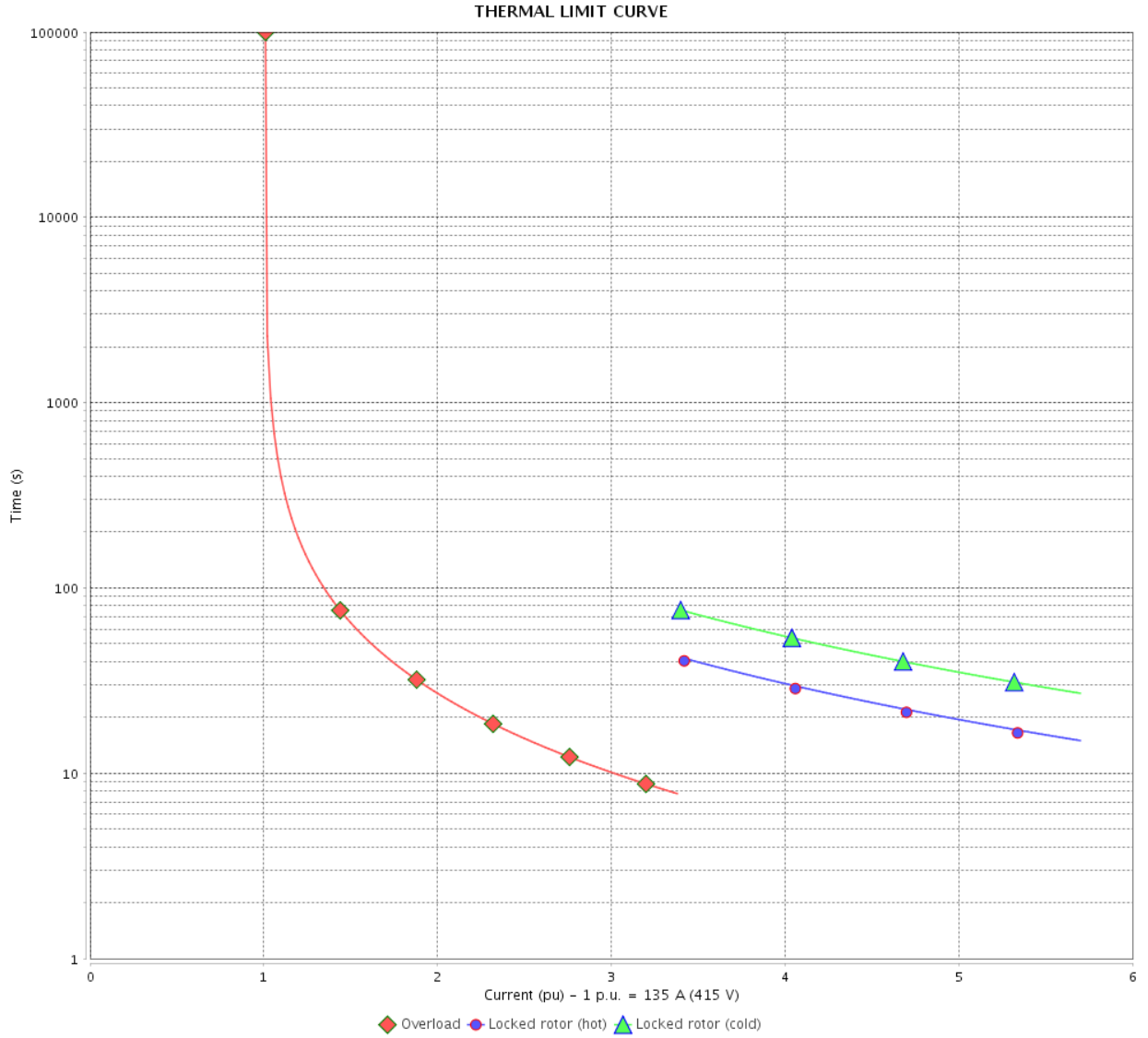
Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by			Page	Revision
Date	13/04/2022		28 / 36	

THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : _____



Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		29 / 36		
Date		13/04/2022		

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

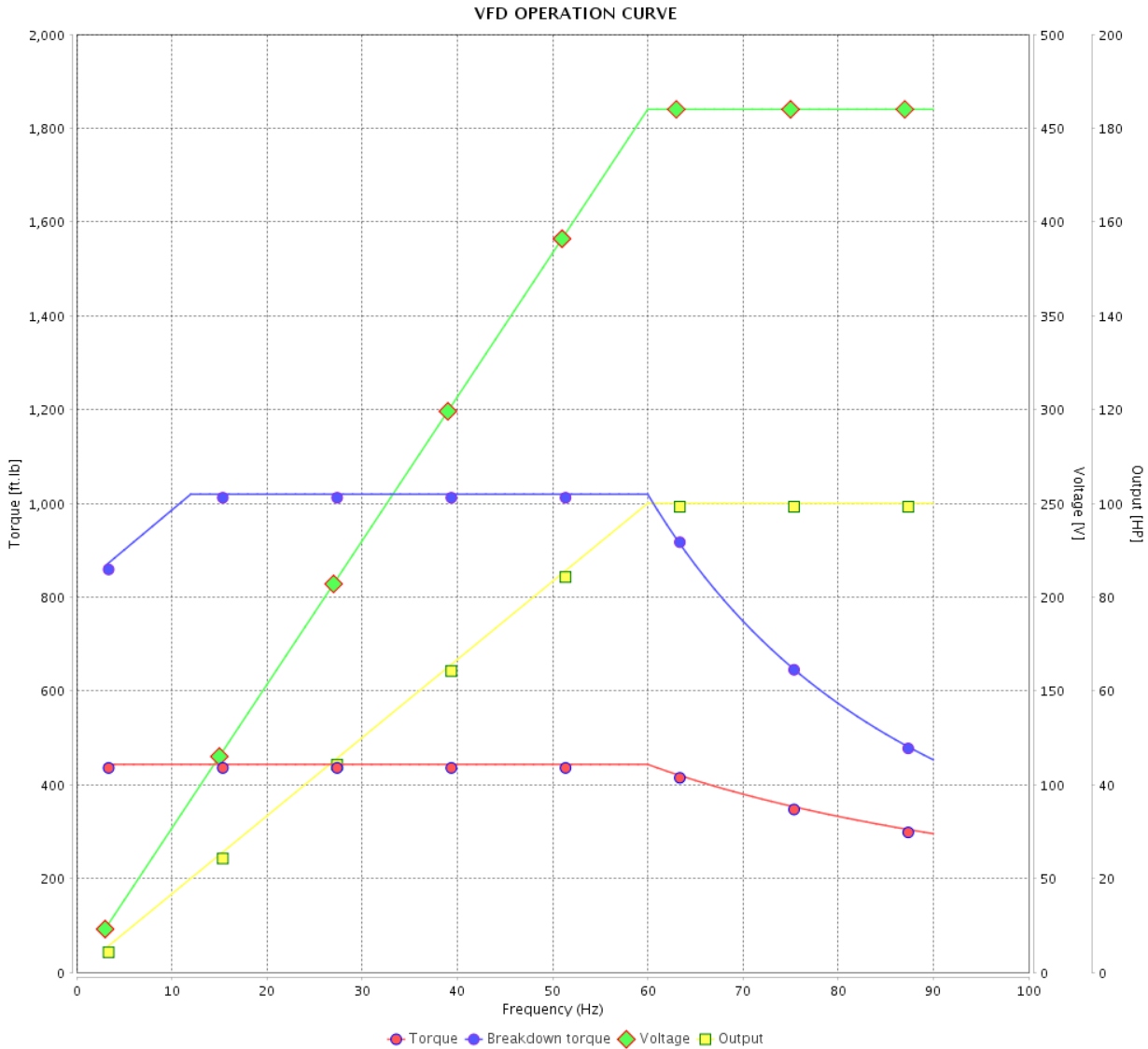


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11507519

Catalog # : 10012ST3QIE444T-W22



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

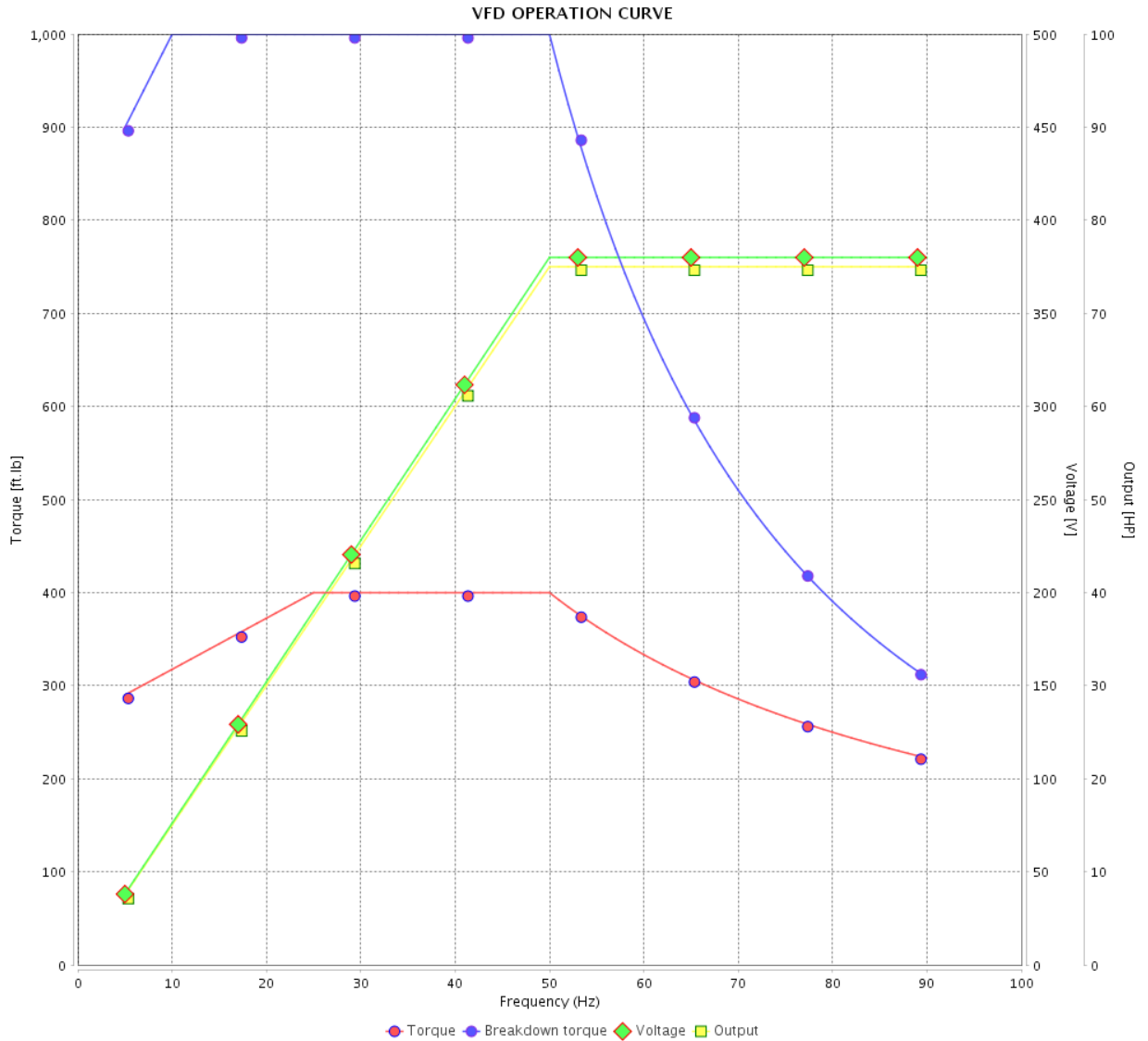


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11507519

Catalog # : 10012ST3QIE444T-W22



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

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 31 / 36	Revision
Checked by				
Date	13/04/2022			

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



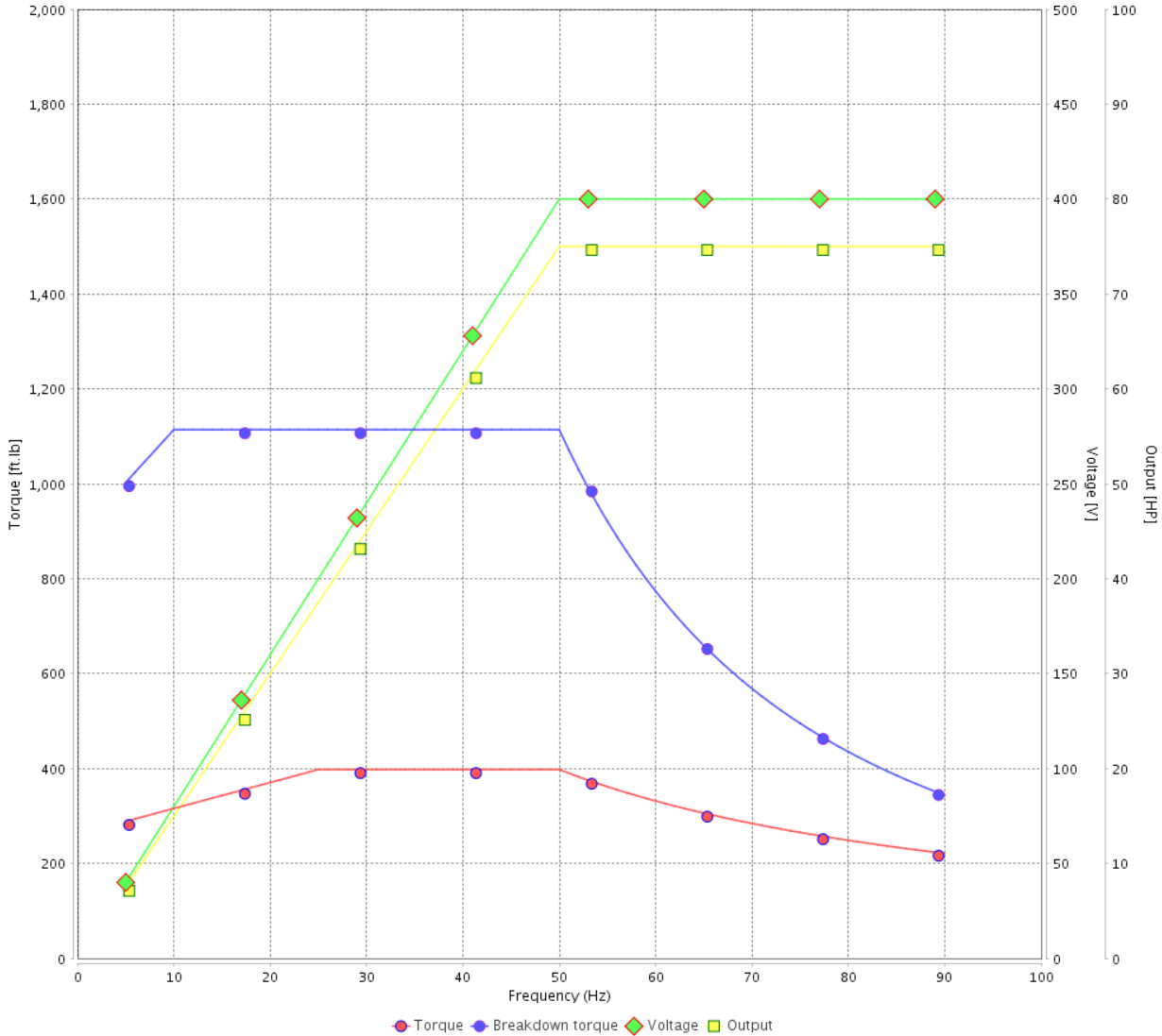
Customer : _____

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11507519

Catalog # : 10012ST3QIE444T-W22

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

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 32 / 36	Revision
Checked by				
Date	13/04/2022			

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

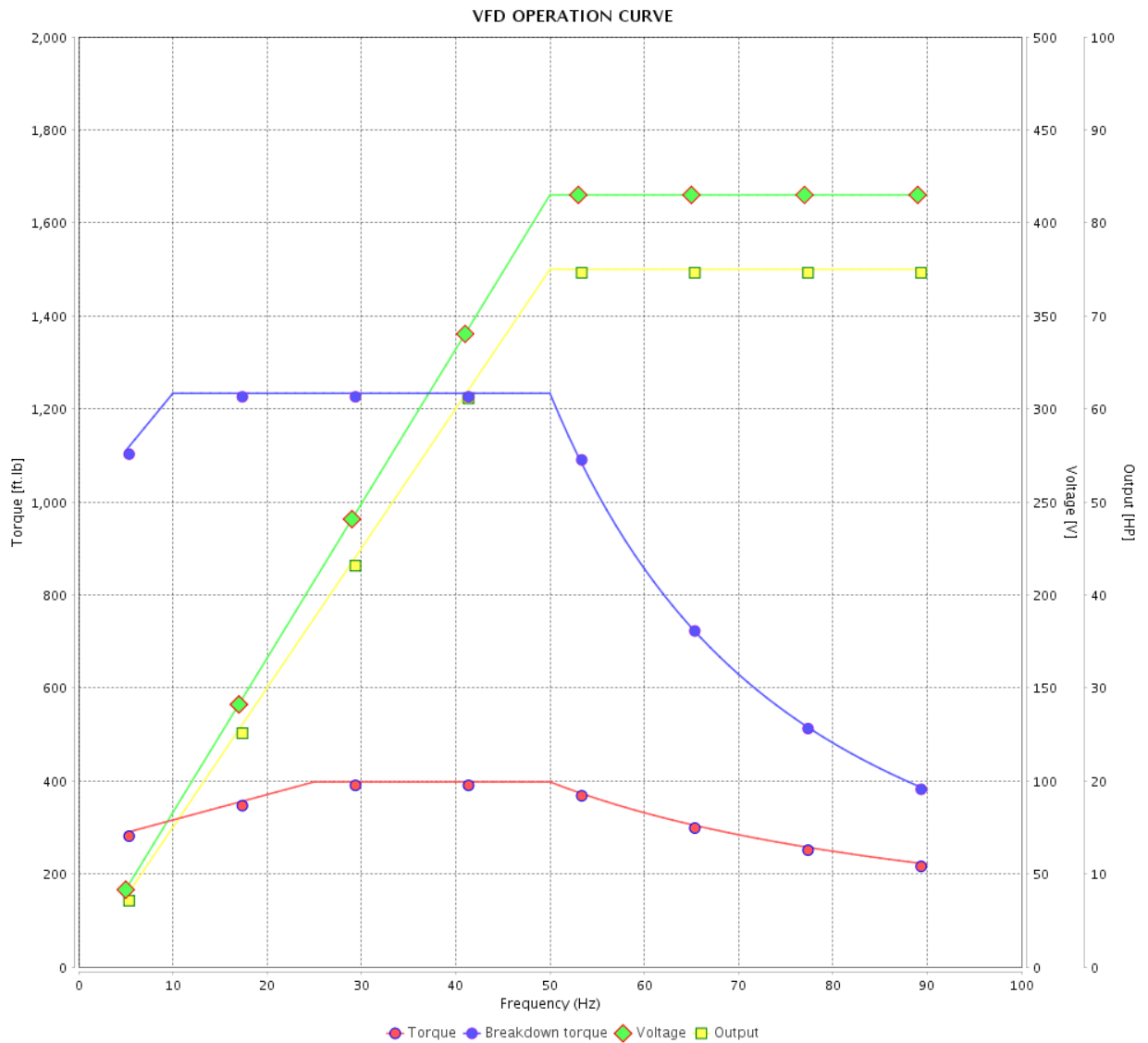


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11507519

Catalog # : 10012ST3QIE444T-W22



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

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 33 / 36	Revision
Checked by				
Date	13/04/2022			

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



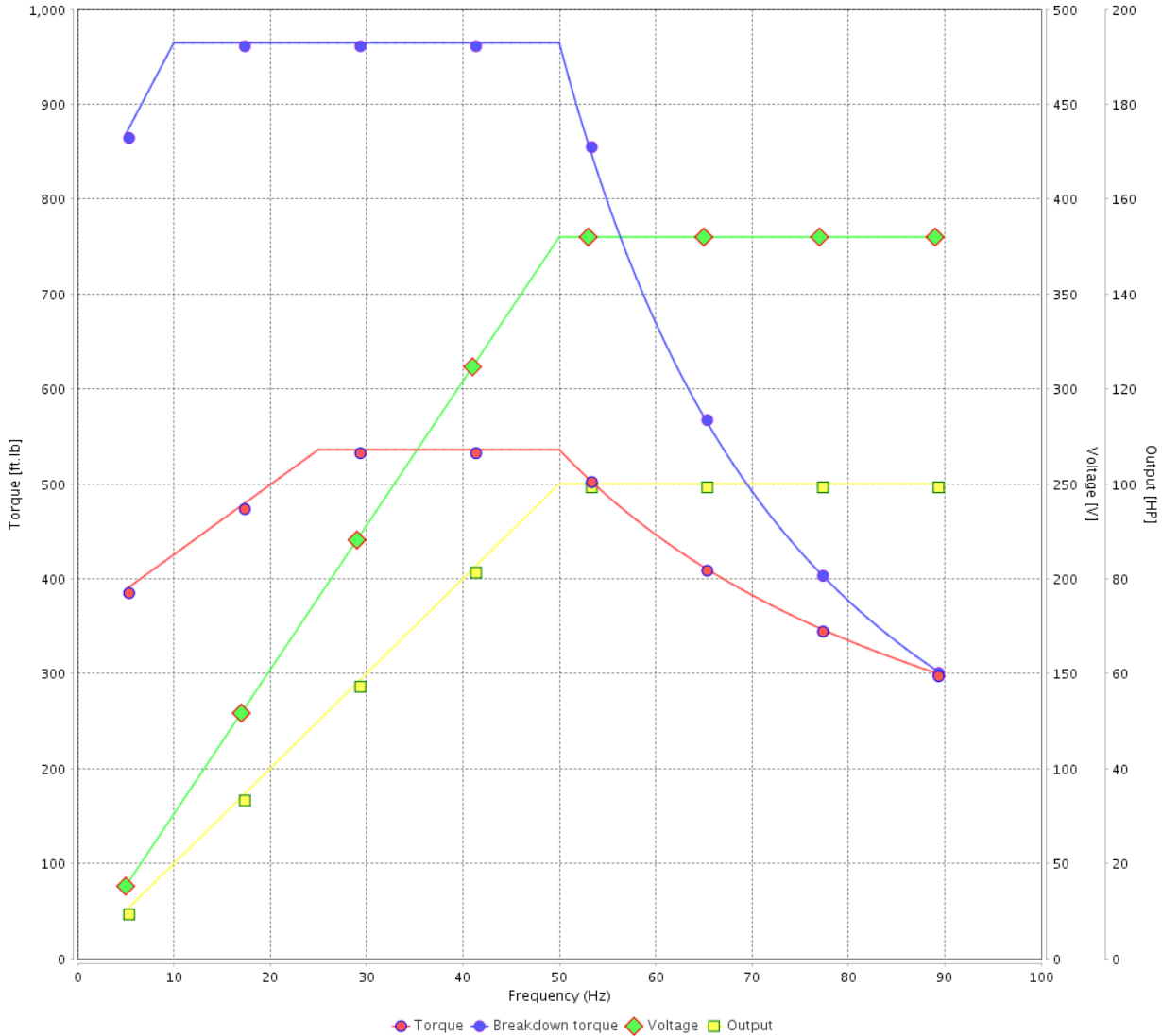
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11507519

Catalog # : 10012ST3QIE444T-W22

VFD OPERATION 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

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

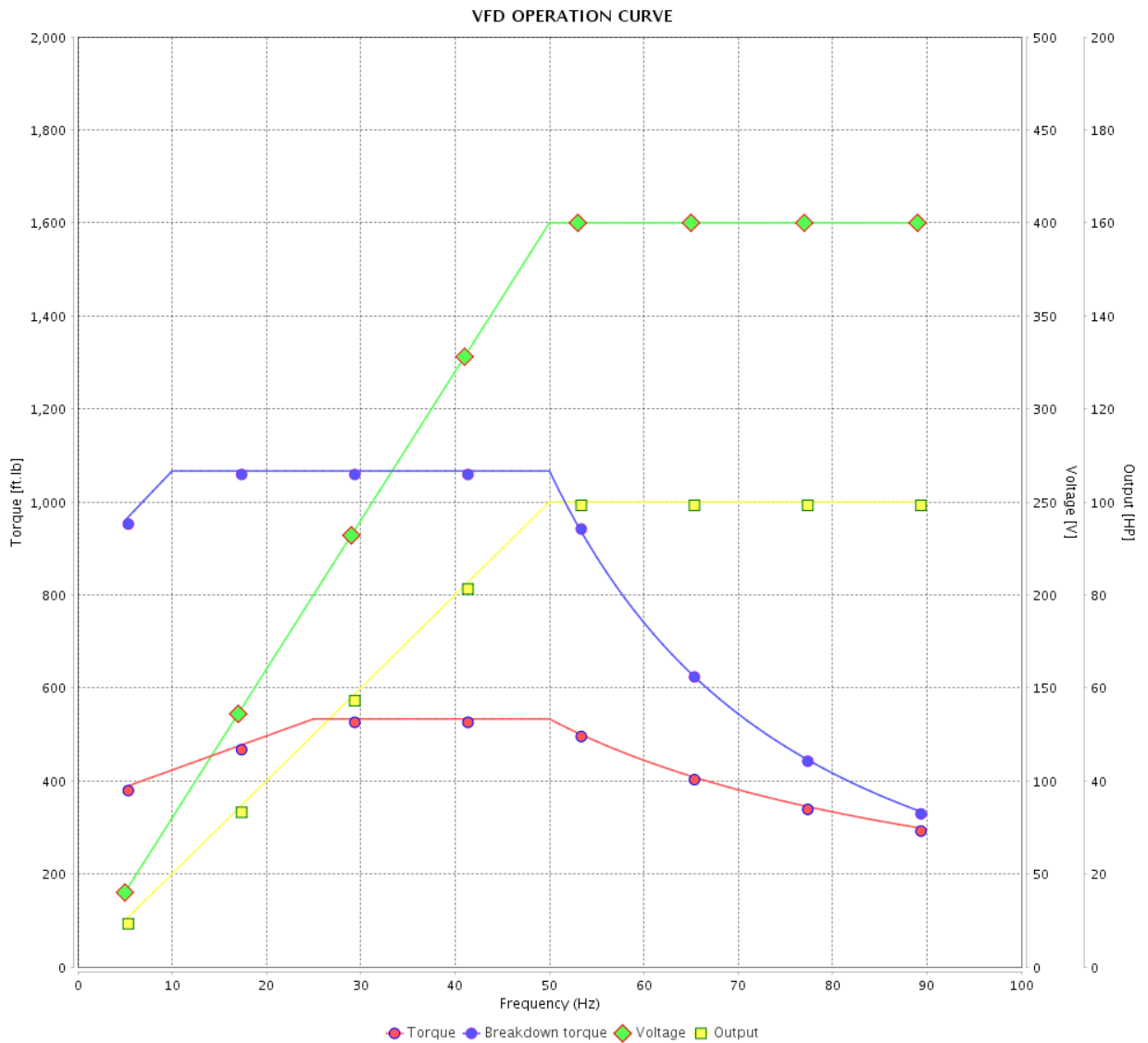


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11507519

Catalog # : 10012ST3QIE444T-W22



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 35 / 36	Revision
Checked by				
Date	13/04/2022			

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



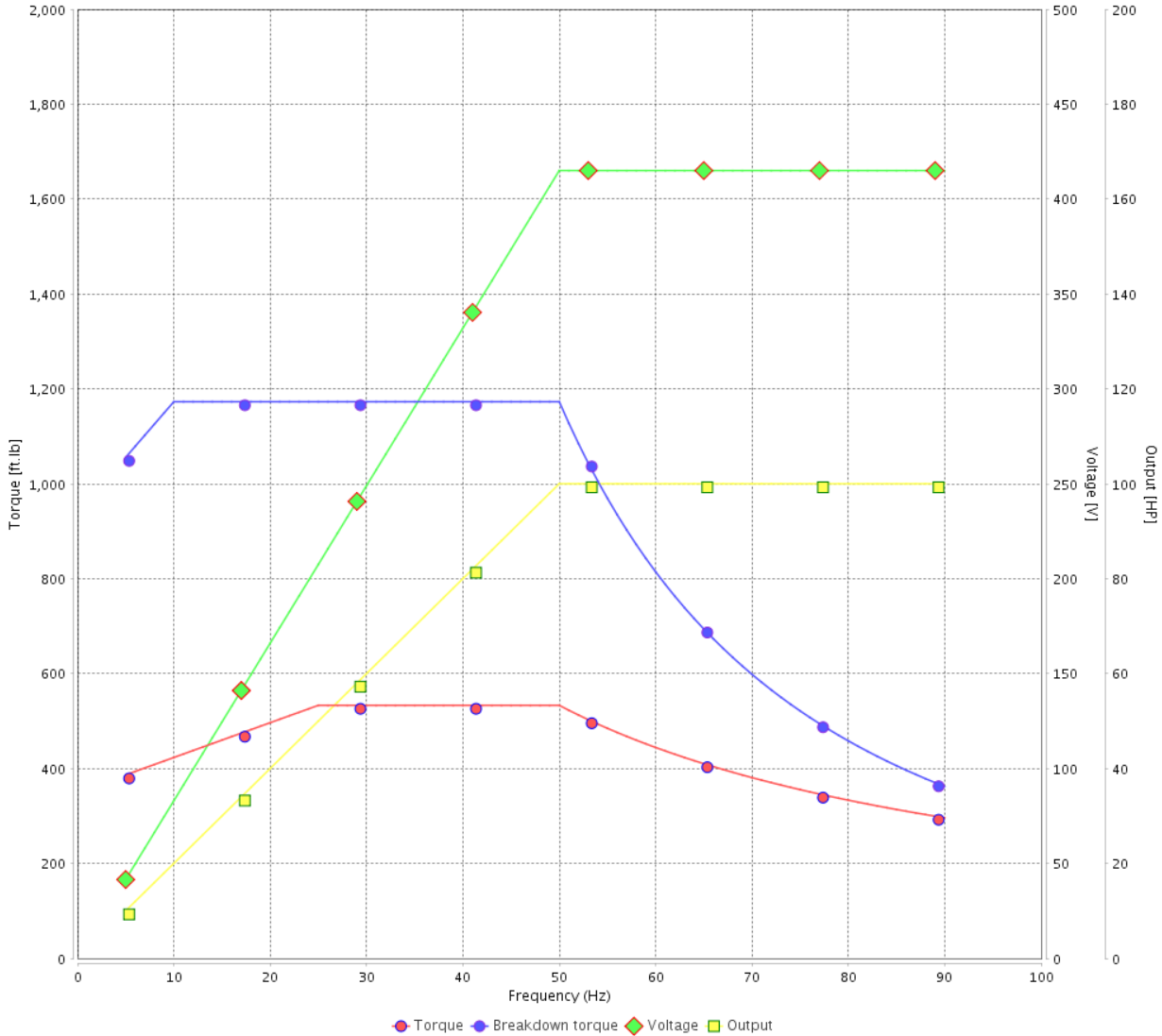
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11507519

Catalog # : 10012ST3QIE444T-W22

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

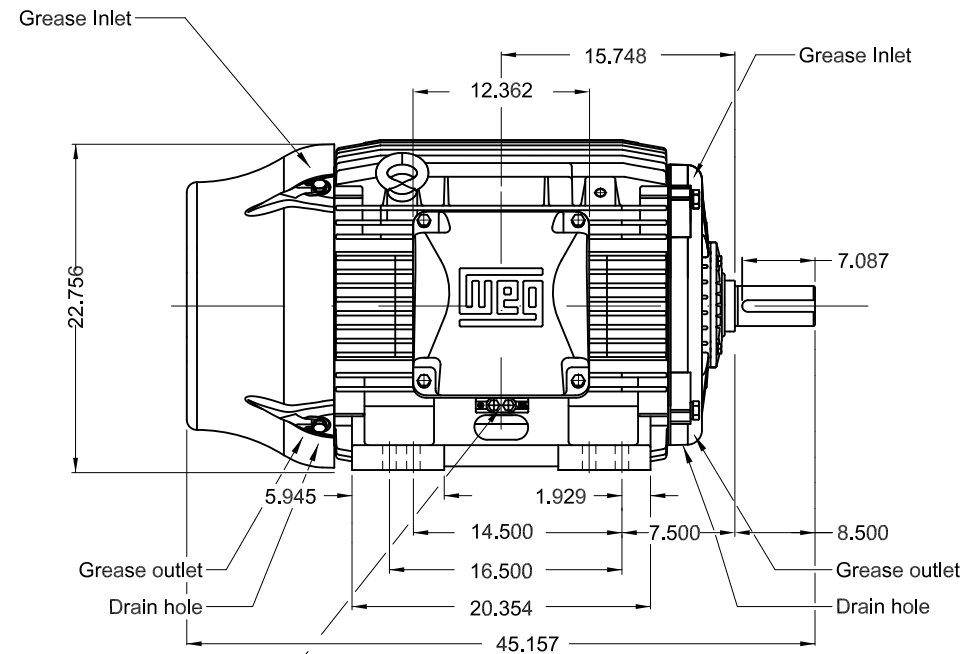
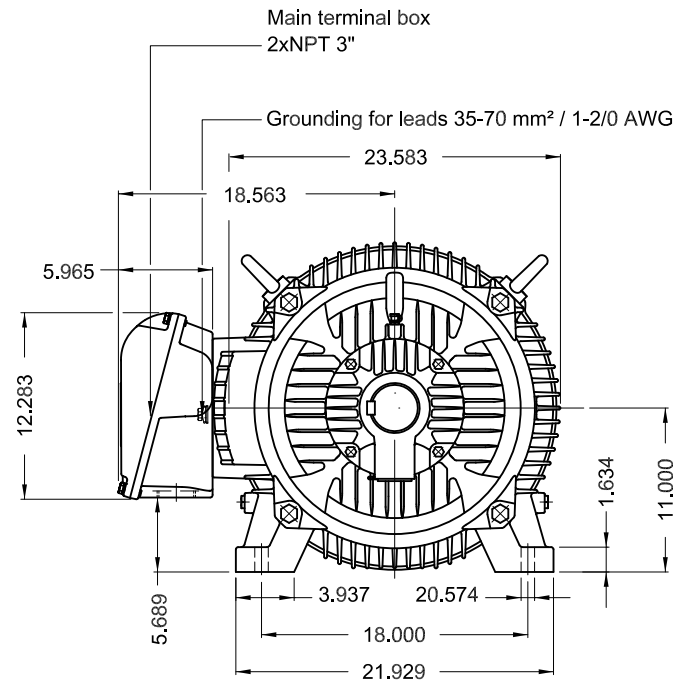
Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page	Revision
Checked by				
Date				

1 2 3 4 5 6

A

B

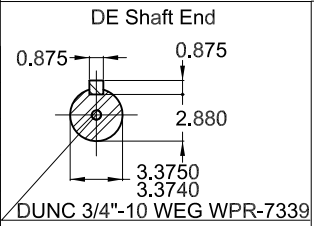
C



D

E

Without vertical jackscrews
 Color RAL 5009
 Painting plan 202E
 Mounting NEMA F-1
 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.					
CHECKED		FRAME 444/5T 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 - T3A

MODEL 10012ST3QIE444T-W22



Inverter Duty Motor
Severe Duty

MADE IN BRAZIL
11507519

PH3 60Hz Fr. 444/5T 1000m.a.s.l. IP55 TEFC 1700lb

V 460

A 121

HP 100

kW 75

SF 1.25

SFA 151

RPM 1185

PF 0.82

AMB 40°C

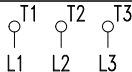
INS cl. F DT80K

NEMA NOM EFF 95.0%

DUTY CONT.

DES B Code G

GUARANT. EFF 94.1%



460V



→ 6319-C3 (45g) 95BC03X30

→ 6316-C3 (34g) 80BC03X30



MOBIL POLYREX EM (13000h)

