

DATA SHEET



Three Phase Induction Motor - Squirrel Cage

Customer							
Product line	: NEMA Premium Efficiency Three-Phase	Product code	: 11431708				
		Catalog #	: 05012ST3QIE365T-W22				
Frame	: 364/5T	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	: 912 lb				
Protection degree	: IP55	Moment of inertia (J)	: 32.4 sq.ft.lb				
Design	: B						
Output [HP]	50	40	40	40	50	50	50
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]	57.4	57.7	55.5	53.5	70.5	66.4	64.8
L. R. Amperes [A]	367	358	377	396	345	365	389
LRC [A]	6.4x(Code G)	6.2x(Code G)	6.8x(Code H)	7.4x(Code J)	4.9x(Code E)	5.5x(Code F)	6.0x(Code F)
No load current [A]	20.0	19.8	21.1	22.1	19.8	21.1	22.1
Rated speed [RPM]	1180	980	980	985	970	975	980
Slip [%]	1.67	2.00	2.00	1.50	3.00	2.50	2.00
Rated torque [ft.lb]	223	214	214	213	271	269	268
Locked rotor torque [%]	200	200	229	250	160	180	200
Breakdown torque [%]	240	240	260	290	190	210	229
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	80 K	80 K
Locked rotor time	32s (cold) 18s (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	66.0 dB(A)	63.0 dB(A)	63.0 dB(A)	63.0 dB(A)	63.0 dB(A)	63.0 dB(A)	63.0 dB(A)
Efficiency (%)	25%						
	50%	93.6	92.7	92.7	92.6	93.0	93.0
	75%	94.1	92.8	93.1	93.1	92.4	93.0
	100%	94.1	92.9	92.9	92.9	91.7	92.4
Power Factor	25%						
	50%	0.74	0.72	0.70	0.66	0.77	0.74
	75%	0.83	0.82	0.81	0.79	0.84	0.83
	100%	0.86	0.85	0.84	0.84	0.87	0.86
Bearing type	: 6314 C3	6314 C3	Foundation loads				
Sealing	: Inpro/Seal	Inpro/Seal	Max. traction	: 1653 lb			
Lubrication interval	: 17000 h	17000 h	Max. compression	: 2565 lb			
Lubricant amount	: 27 g	27 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



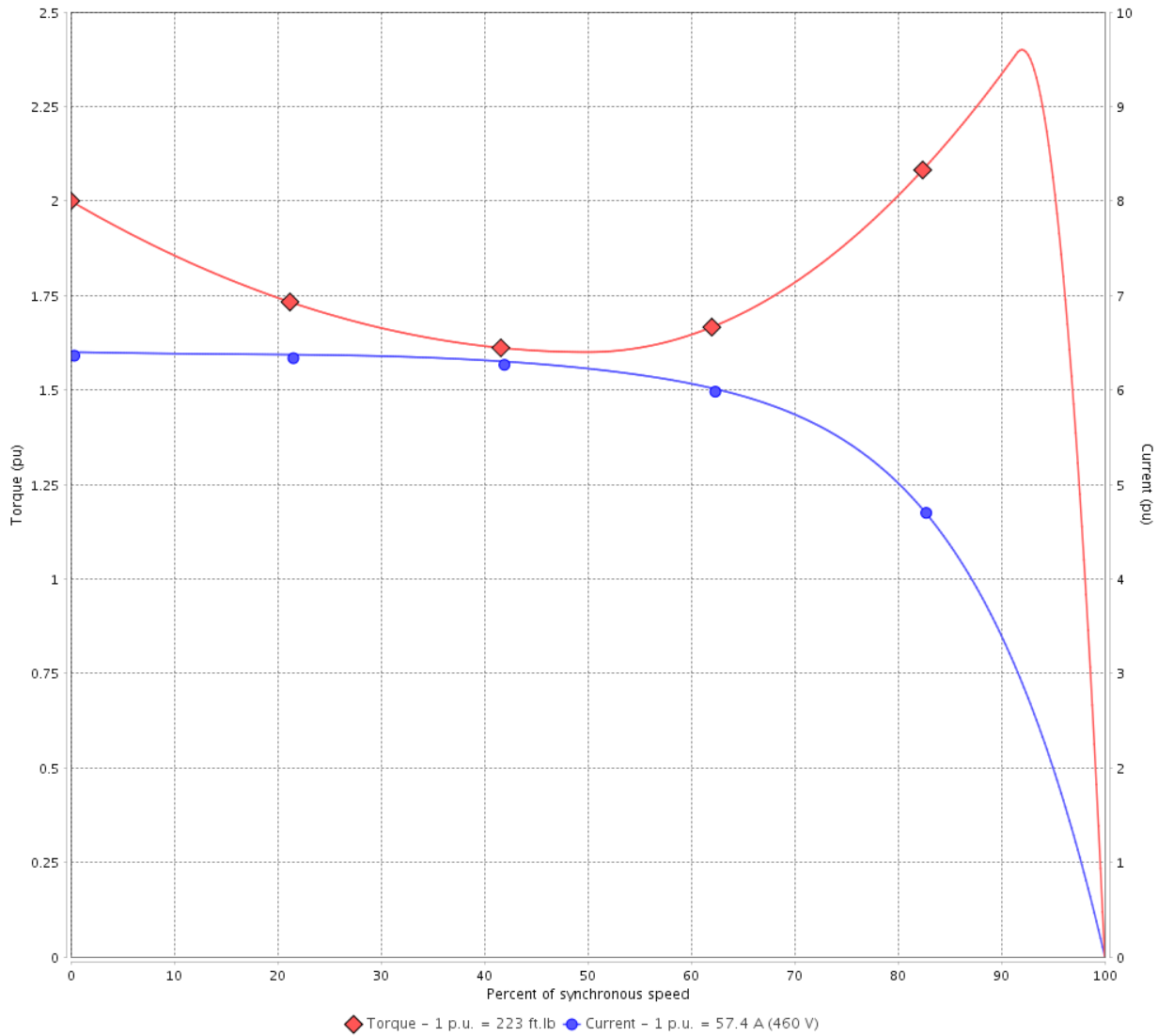
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11431708

Catalog # : 05012ST3QIE365T-W22

TORQUE AND CURRENT VS SPEED CURVE



Performance : 460 V 60 Hz 6P

Rated current	: 57.4 A	Moment of inertia (J)	: 32.4 sq.ft.lb
LRC	: 6.4	Duty cycle	: Cont.(S1)
Rated torque	: 223 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.25
Breakdown torque	: 240 %	Temperature rise	: 80 K
Rated speed	: 1180 rpm	Design	: B

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

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TORQUE AND CURRENT VS SPEED CURVE



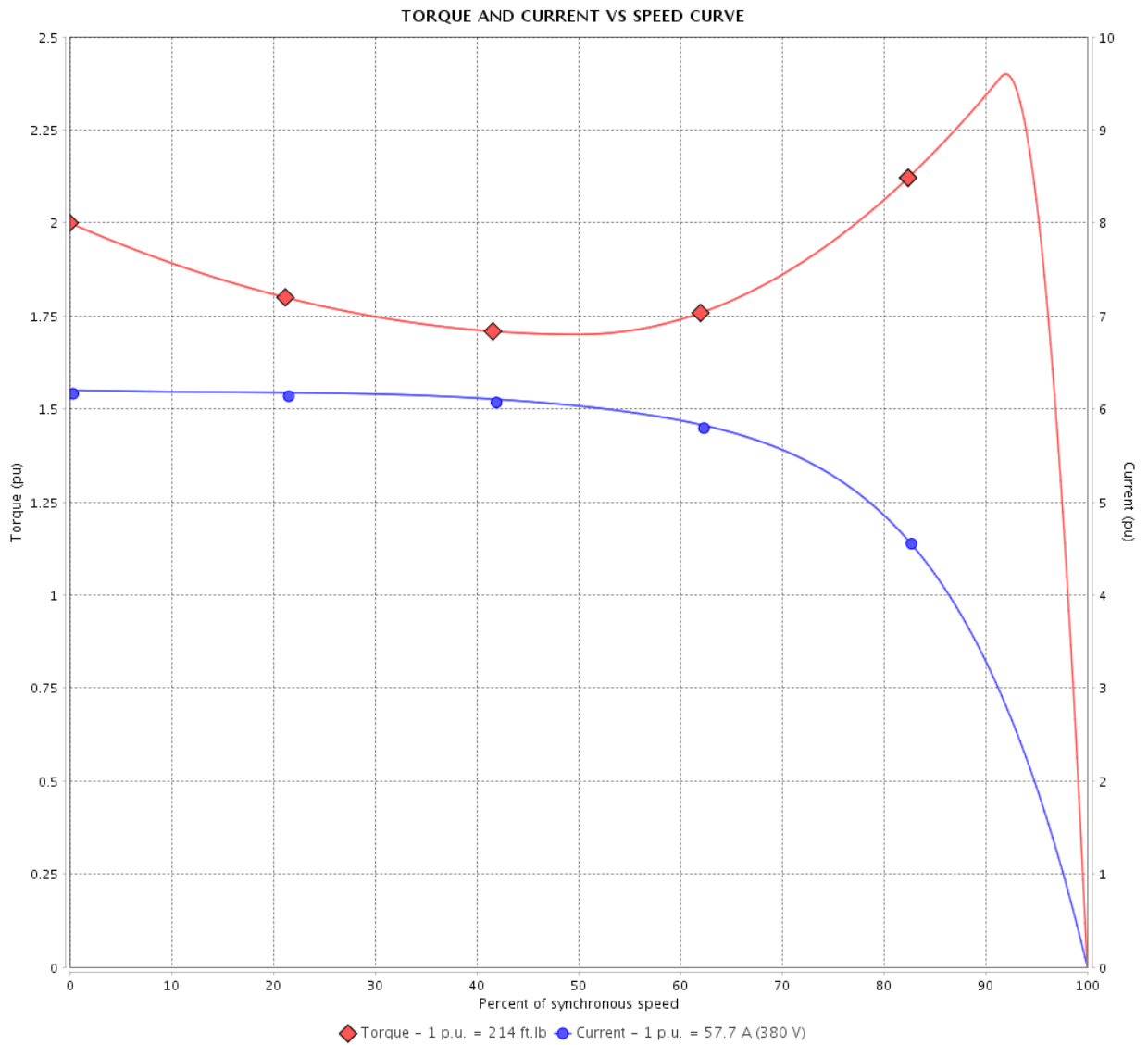
Three Phase Induction Motor - Squirrel Cage

Customer :

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Product code : 11431708

Catalog # : 05012ST3QIE365T-W22



Performance : 380 V 50 Hz 6P IE3

Rated current	: 57.7 A	Moment of inertia (J)	: 32.4 sq.ft.lb
LRC	: 6.2	Duty cycle	: Cont.(S1)
Rated torque	: 214 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.00
Breakdown torque	: 240 %	Temperature rise	: 80 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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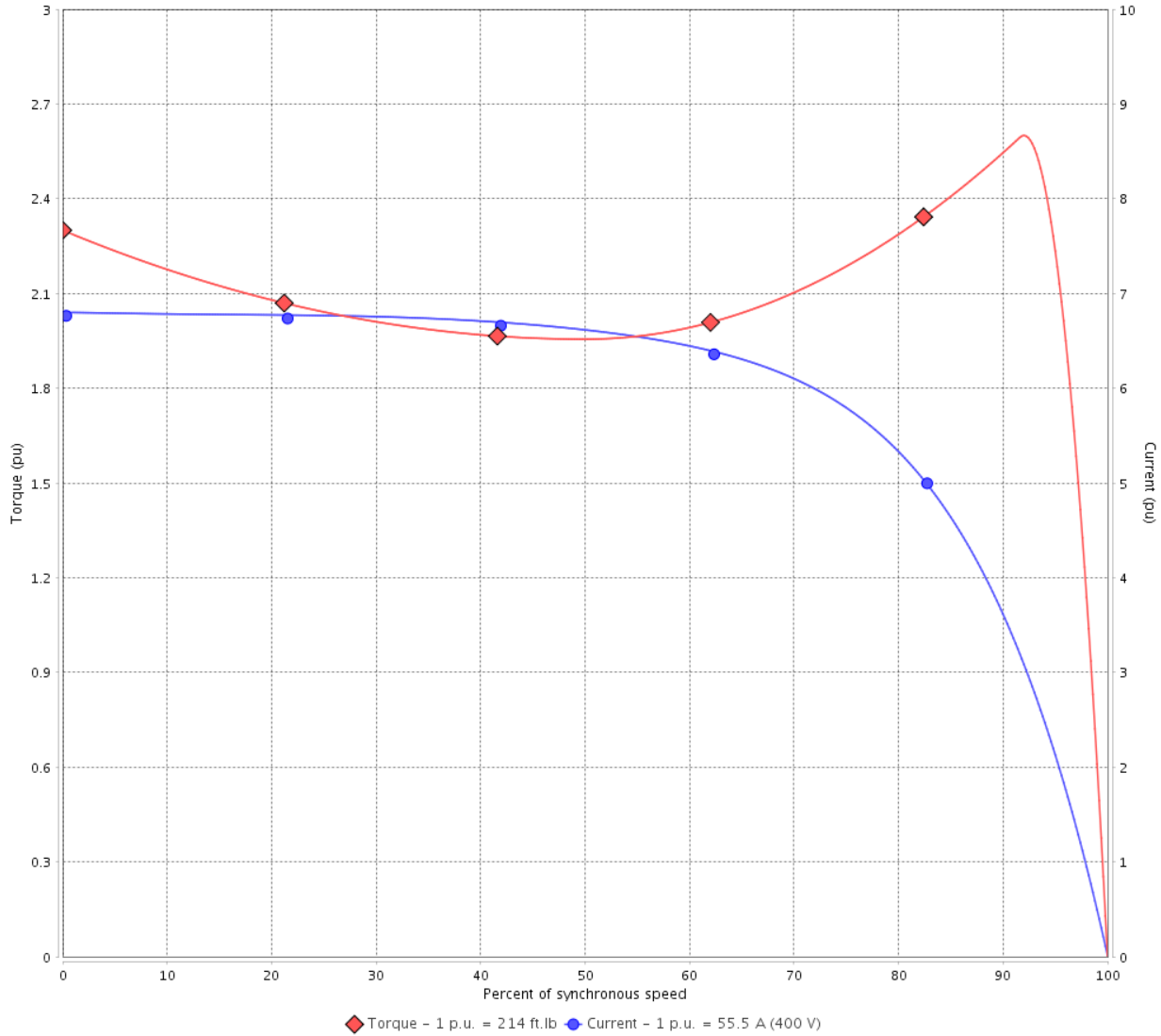
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TORQUE AND CURRENT VS SPEED CURVE



Performance : 400 V 50 Hz 6P IE3

Rated current	: 55.5 A	Moment of inertia (J)	: 32.4 sq.ft.lb
LRC	: 6.8	Duty cycle	: Cont.(S1)
Rated torque	: 214 ft.lb	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.00
Breakdown torque	: 260 %	Temperature rise	: 80 K
Rated speed	: 980 rpm	Design	: B

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

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TORQUE AND CURRENT VS SPEED CURVE



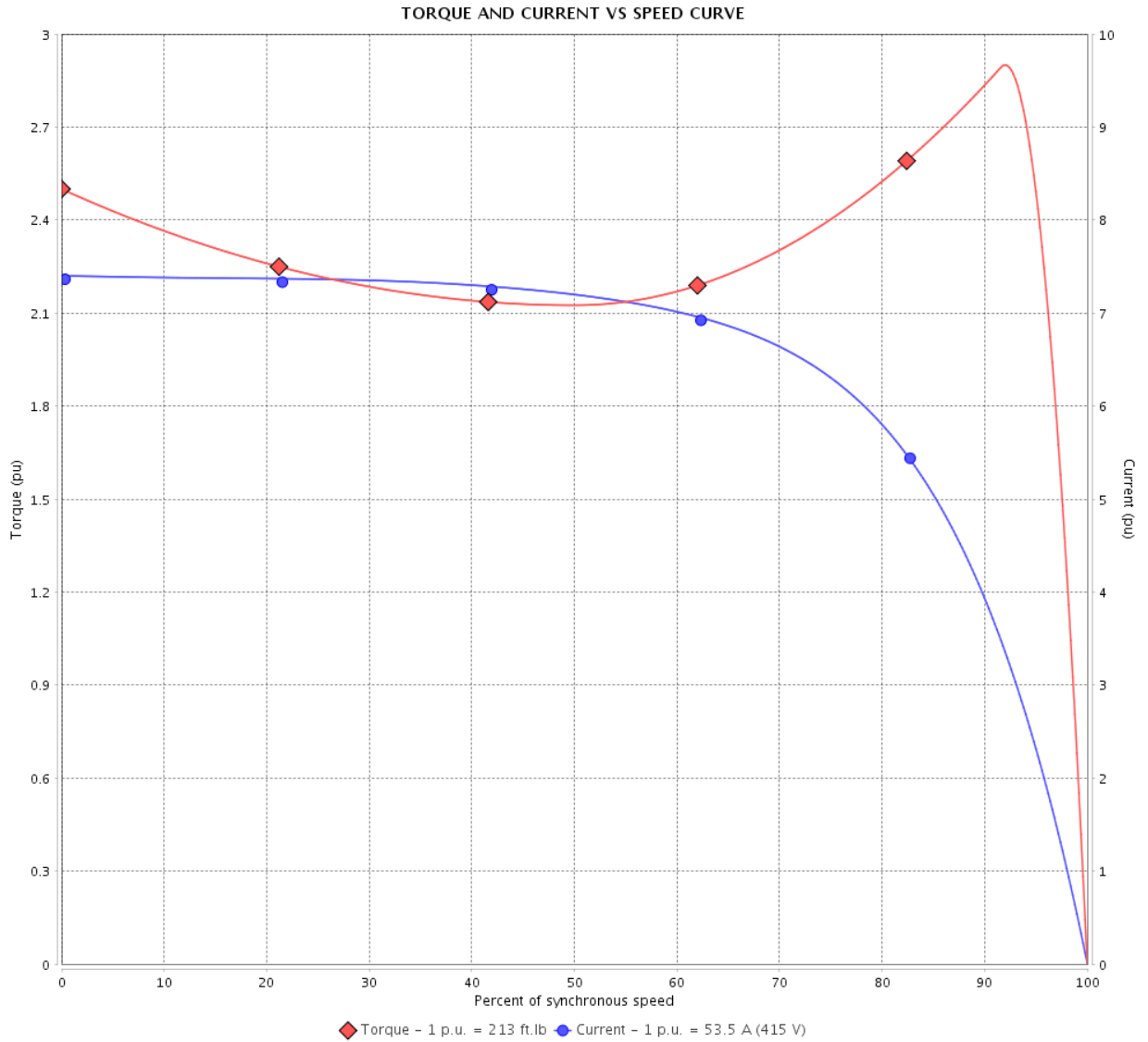
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Performance : 415 V 50 Hz 6P IE3

Rated current	: 53.5 A	Moment of inertia (J)	: 32.4 sq.ft.lb
LRC	: 7.4	Duty cycle	: Cont.(S1)
Rated torque	: 213 ft.lb	Insulation class	: F
Locked rotor torque	: 250 %	Service factor	: 1.00
Breakdown torque	: 290 %	Temperature rise	: 80 K
Rated speed	: 985 rpm	Design	: B

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

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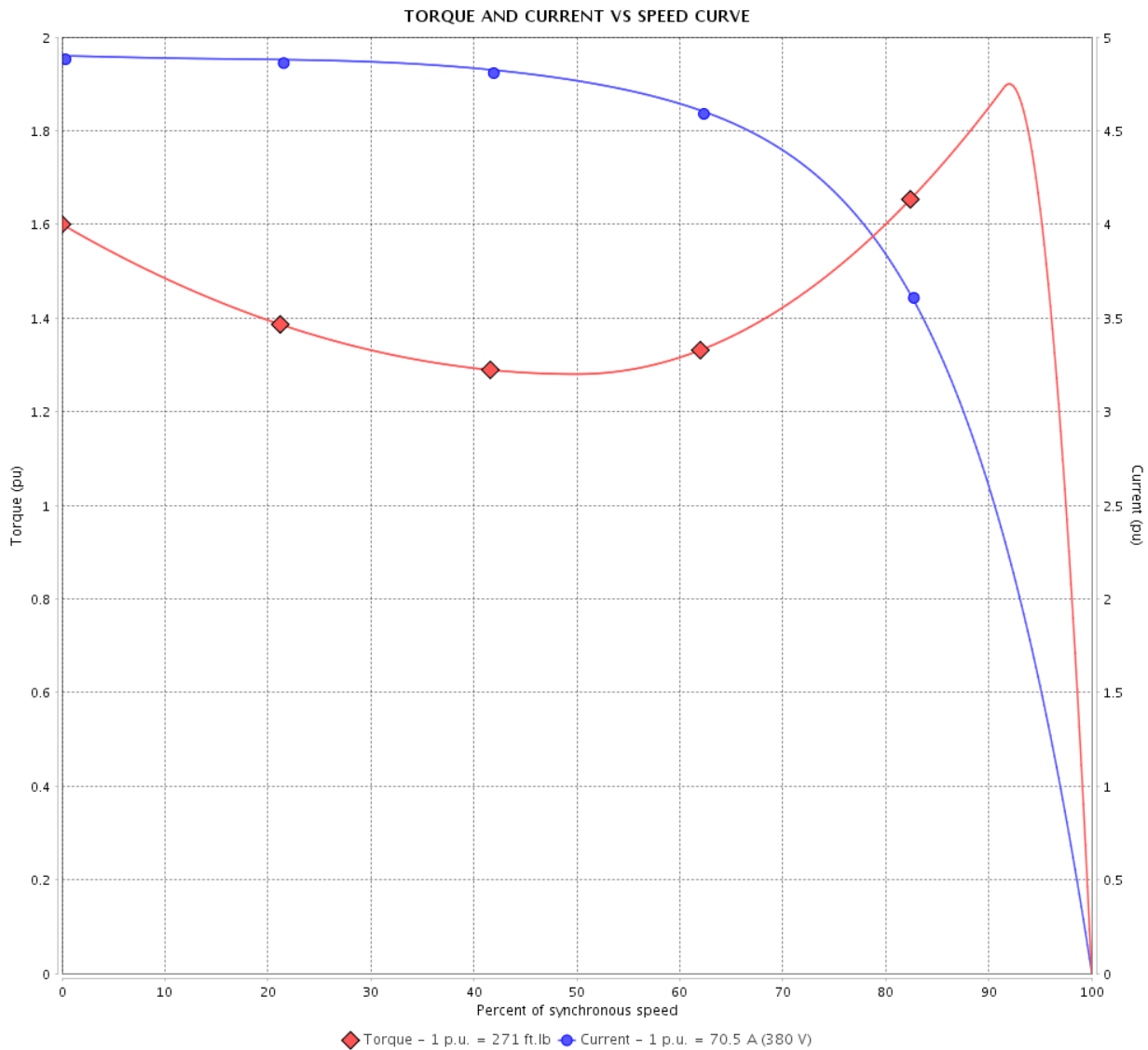


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Product code : 11431708

Catalog # : 05012ST3QIE365T-W22



Performance : 380 V 50 Hz 6P IE1

Rated current	: 70.5 A	Moment of inertia (J)	: 32.4 sq.ft.lb
LRC	: 4.9	Duty cycle	: Cont.(S1)
Rated torque	: 271 ft.lb	Insulation class	: F
Locked rotor torque	: 160 %	Service factor	: 1.00
Breakdown torque	: 190 %	Temperature rise	: 105 K
Rated speed	: 970 rpm	Design	: B

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

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TORQUE AND CURRENT VS SPEED CURVE



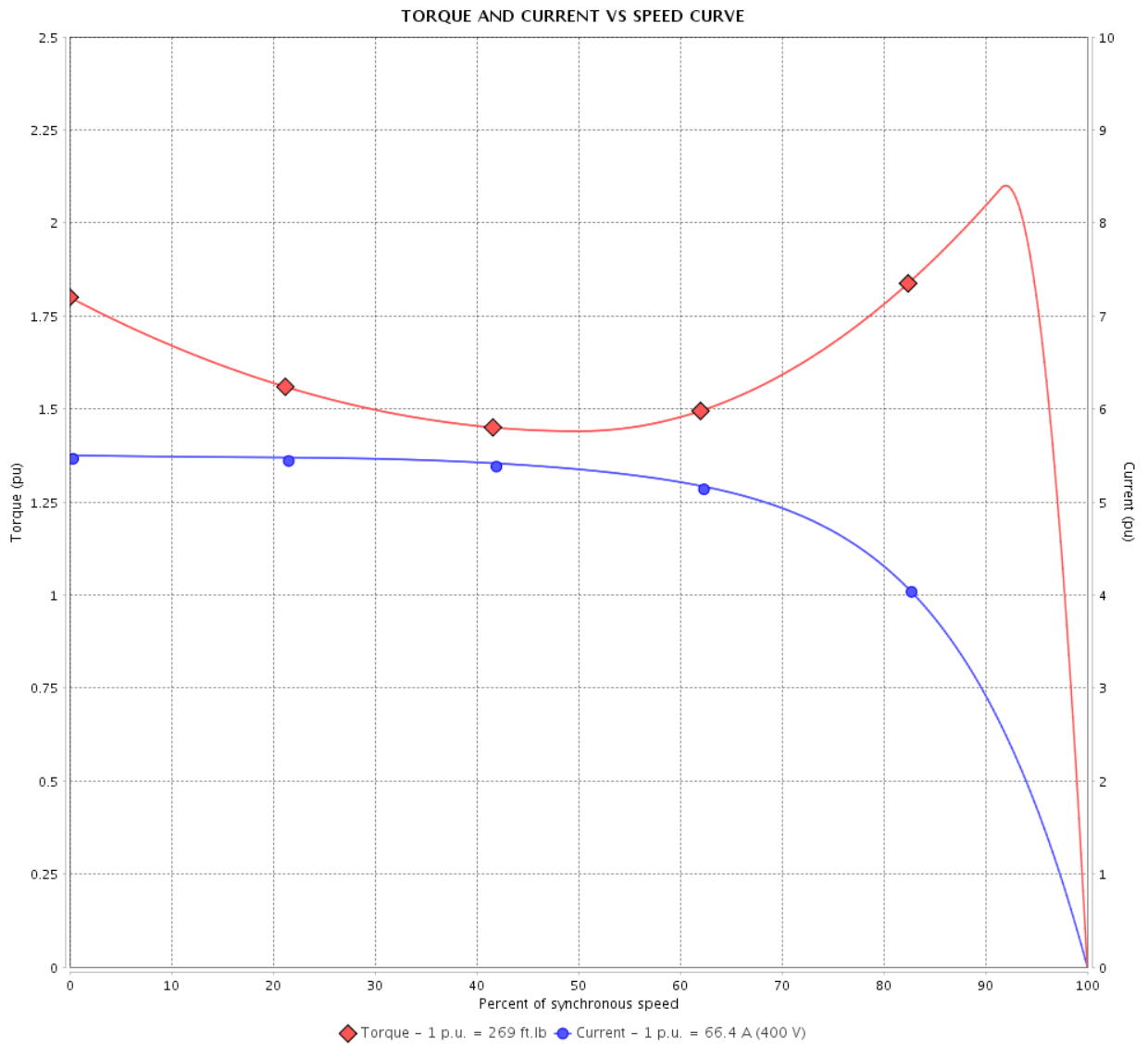
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Customer :

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Performance : 400 V 50 Hz 6P IE2

Rated current	: 66.4 A	Moment of inertia (J)	: 32.4 sq.ft.lb
LRC	: 5.5	Duty cycle	: Cont.(S1)
Rated torque	: 269 ft.lb	Insulation class	: F
Locked rotor torque	: 180 %	Service factor	: 1.00
Breakdown torque	: 210 %	Temperature rise	: 80 K
Rated speed	: 975 rpm	Design	: B

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

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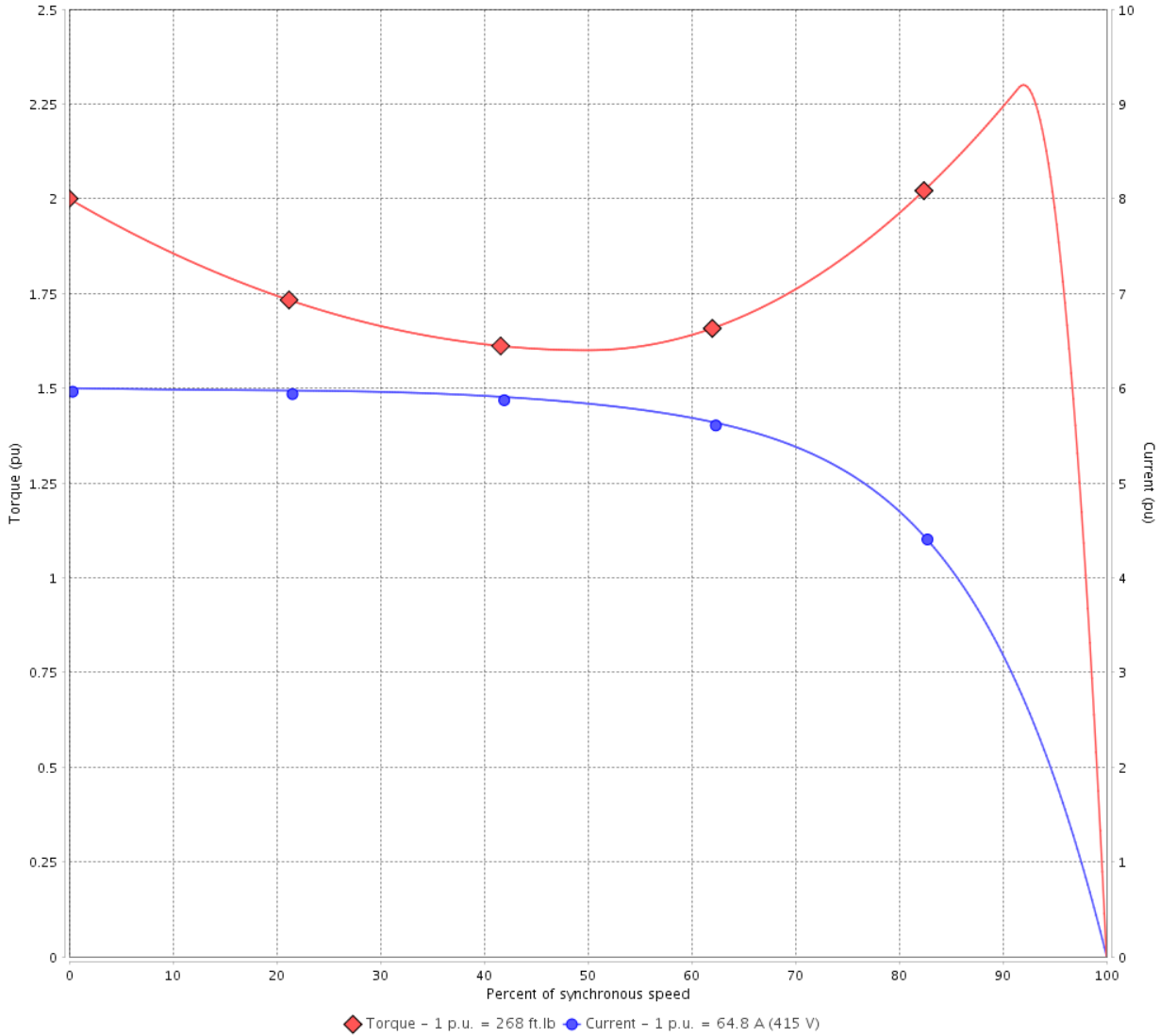
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TORQUE AND CURRENT VS SPEED CURVE



Performance : 415 V 50 Hz 6P IE2

Rated current	: 64.8 A	Moment of inertia (J)	: 32.4 sq.ft.lb
LRC	: 6.0	Duty cycle	: Cont.(S1)
Rated torque	: 268 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.00
Breakdown torque	: 229 %	Temperature rise	: 80 K
Rated speed	: 980 rpm	Design	: B

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

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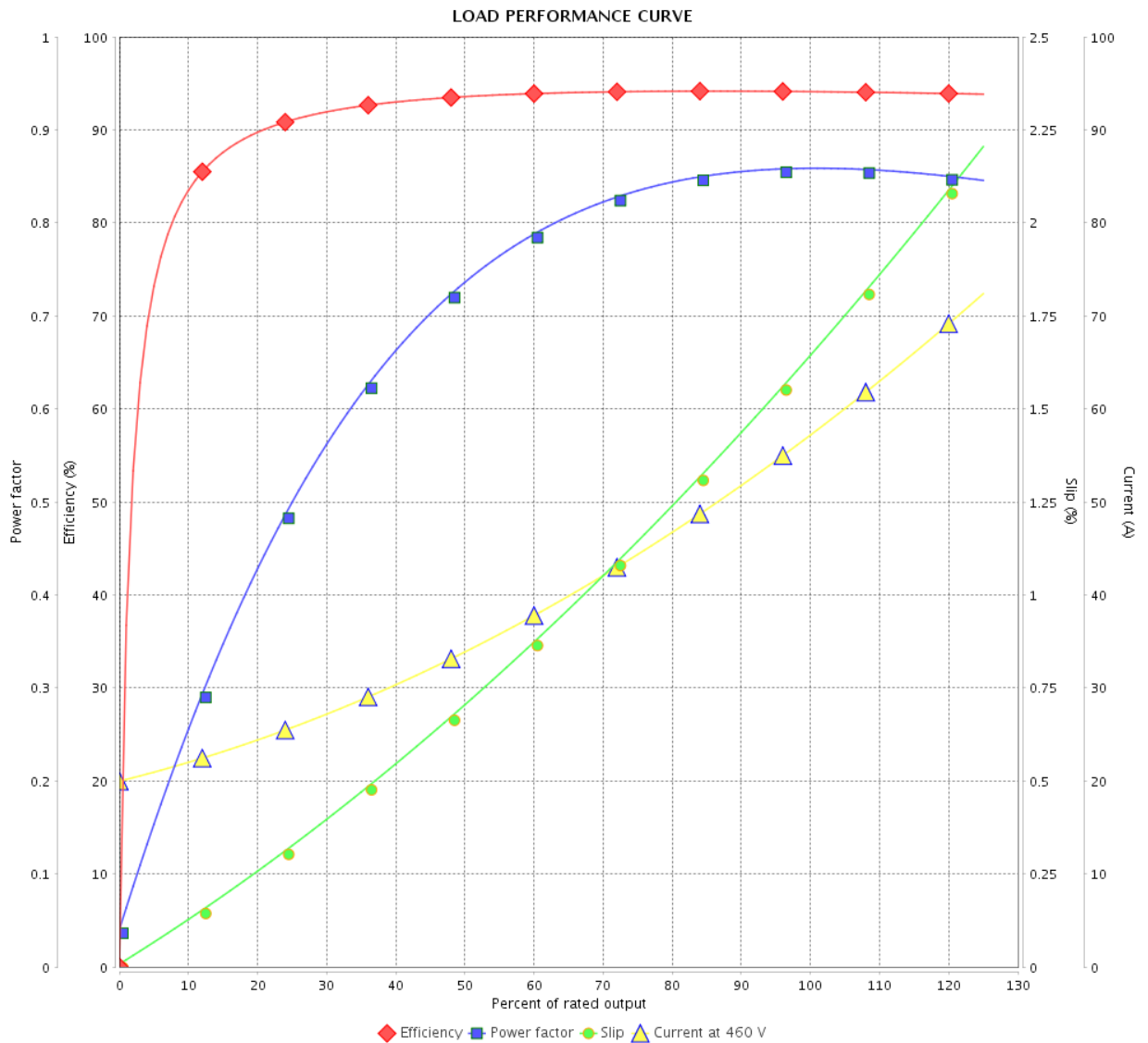


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Performance : 460 V 60 Hz 6P

Rated current : 57.4 A
 LRC : 6.4
 Rated torque : 223 ft.lb
 Locked rotor torque : 200 %
 Breakdown torque : 240 %
 Rated speed : 1180 rpm

Moment of inertia (J) : 32.4 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.25
 Temperature rise : 80 K
 Design : B

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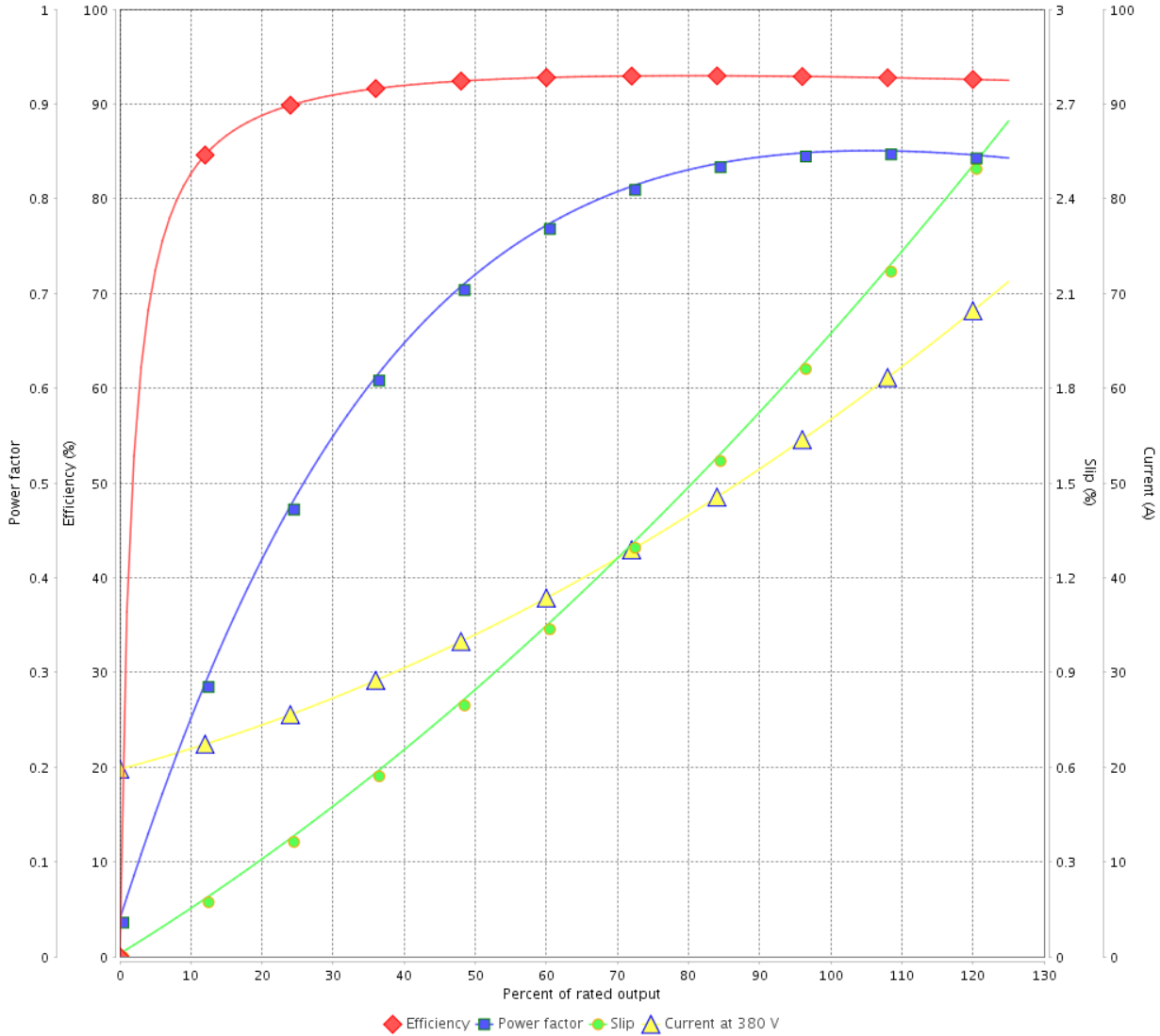
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Performance : 380 V 50 Hz 6P IE3

Rated current : 57.7 A
 LRC : 6.2
 Rated torque : 214 ft.lb
 Locked rotor torque : 200 %
 Breakdown torque : 240 %
 Rated speed : 980 rpm

Moment of inertia (J) : 32.4 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

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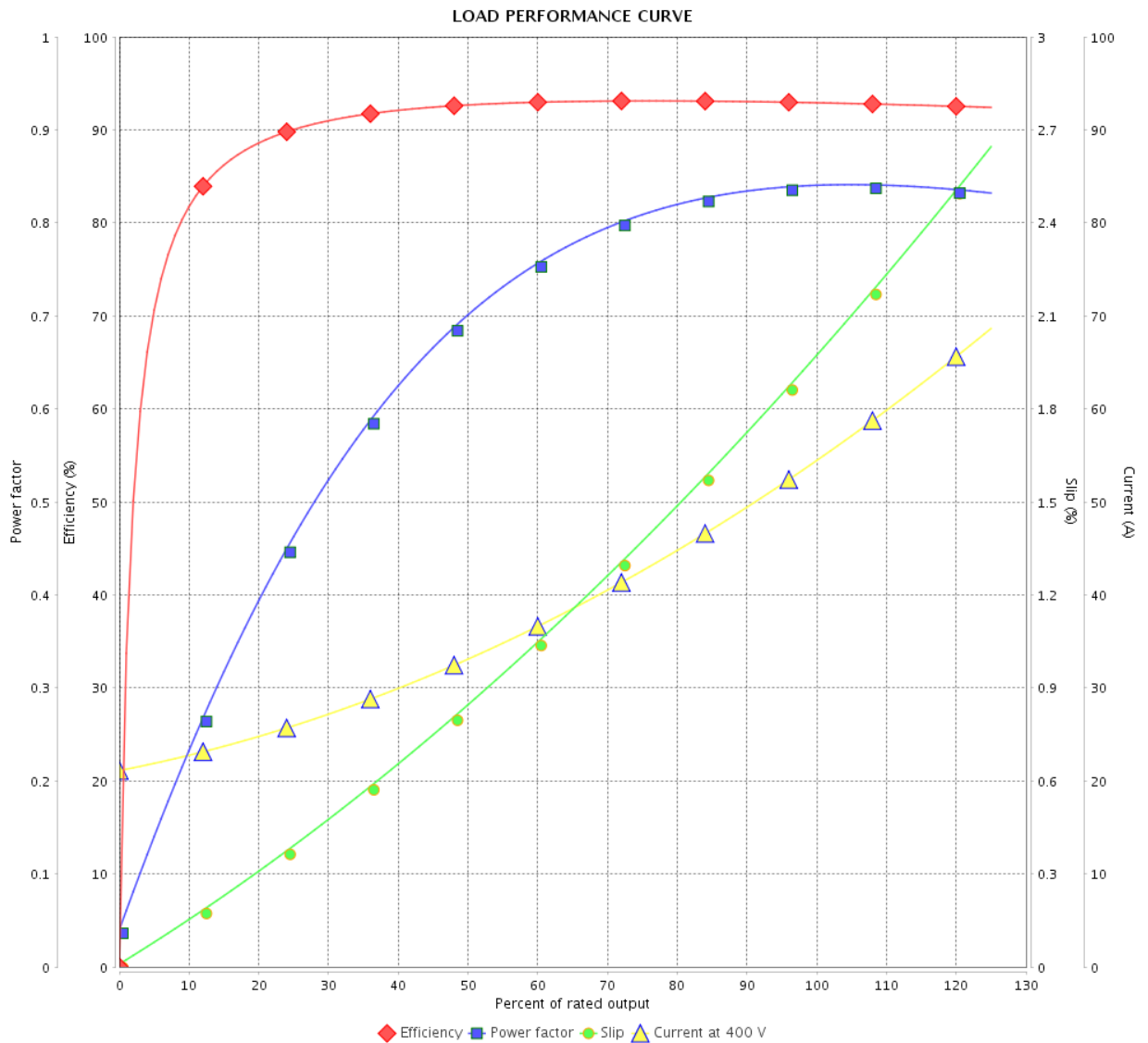


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Performance : 400 V 50 Hz 6P IE3

Rated current : 55.5 A
 LRC : 6.8
 Rated torque : 214 ft.lb
 Locked rotor torque : 229 %
 Breakdown torque : 260 %
 Rated speed : 980 rpm

Moment of inertia (J) : 32.4 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

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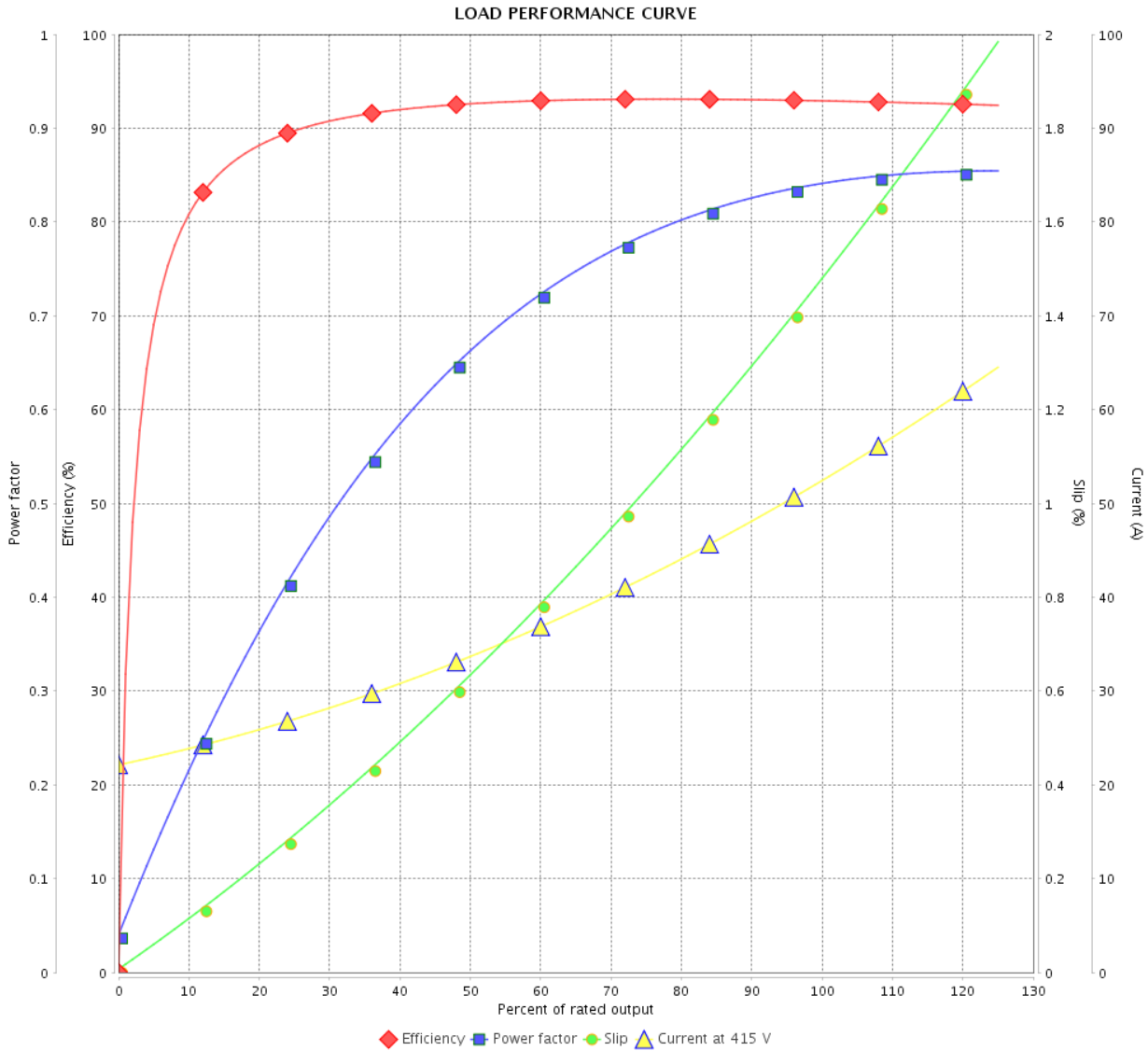


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Performance : 415 V 50 Hz 6P IE3

Rated current : 53.5 A
 LRC : 7.4
 Rated torque : 213 ft.lb
 Locked rotor torque : 250 %
 Breakdown torque : 290 %
 Rated speed : 985 rpm

Moment of inertia (J) : 32.4 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

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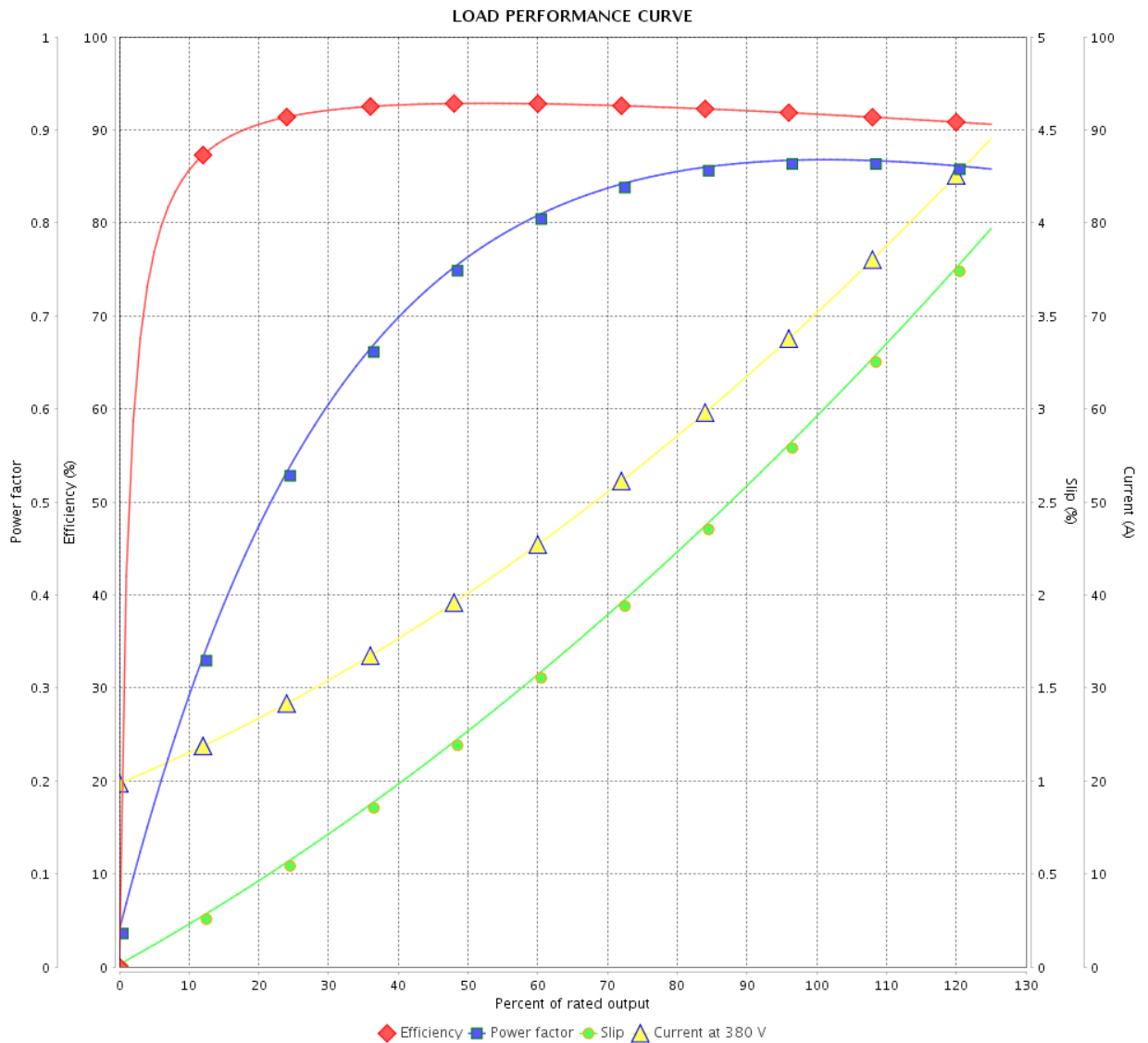


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Performance : 380 V 50 Hz 6P IE1

Rated current : 70.5 A
 LRC : 4.9
 Rated torque : 271 ft.lb
 Locked rotor torque : 160 %
 Breakdown torque : 190 %
 Rated speed : 970 rpm

Moment of inertia (J) : 32.4 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 105 K
 Design : B

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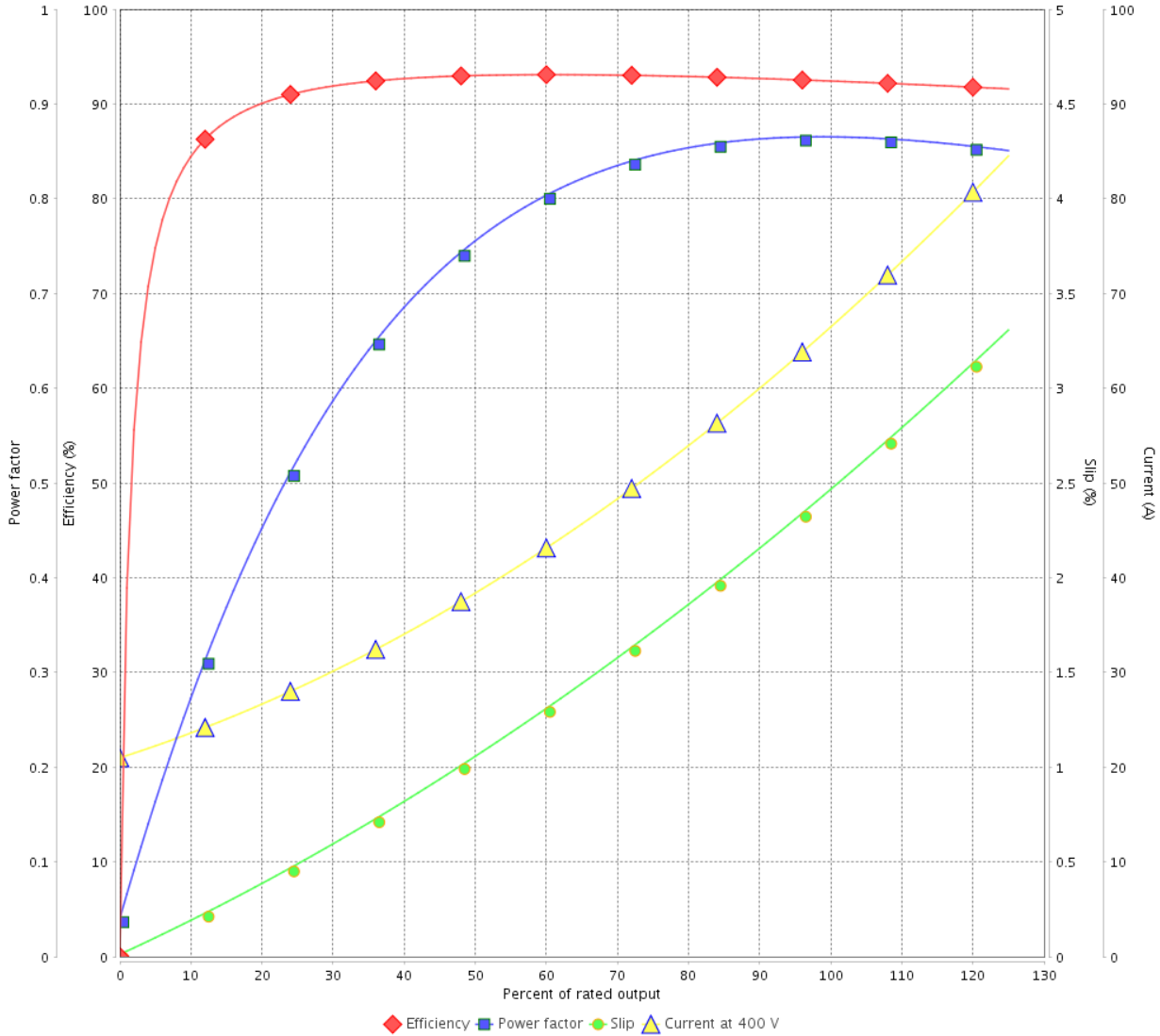
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Performance : 400 V 50 Hz 6P IE2

Rated current : 66.4 A
 LRC : 5.5
 Rated torque : 269 ft.lb
 Locked rotor torque : 180 %
 Breakdown torque : 210 %
 Rated speed : 975 rpm

Moment of inertia (J) : 32.4 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

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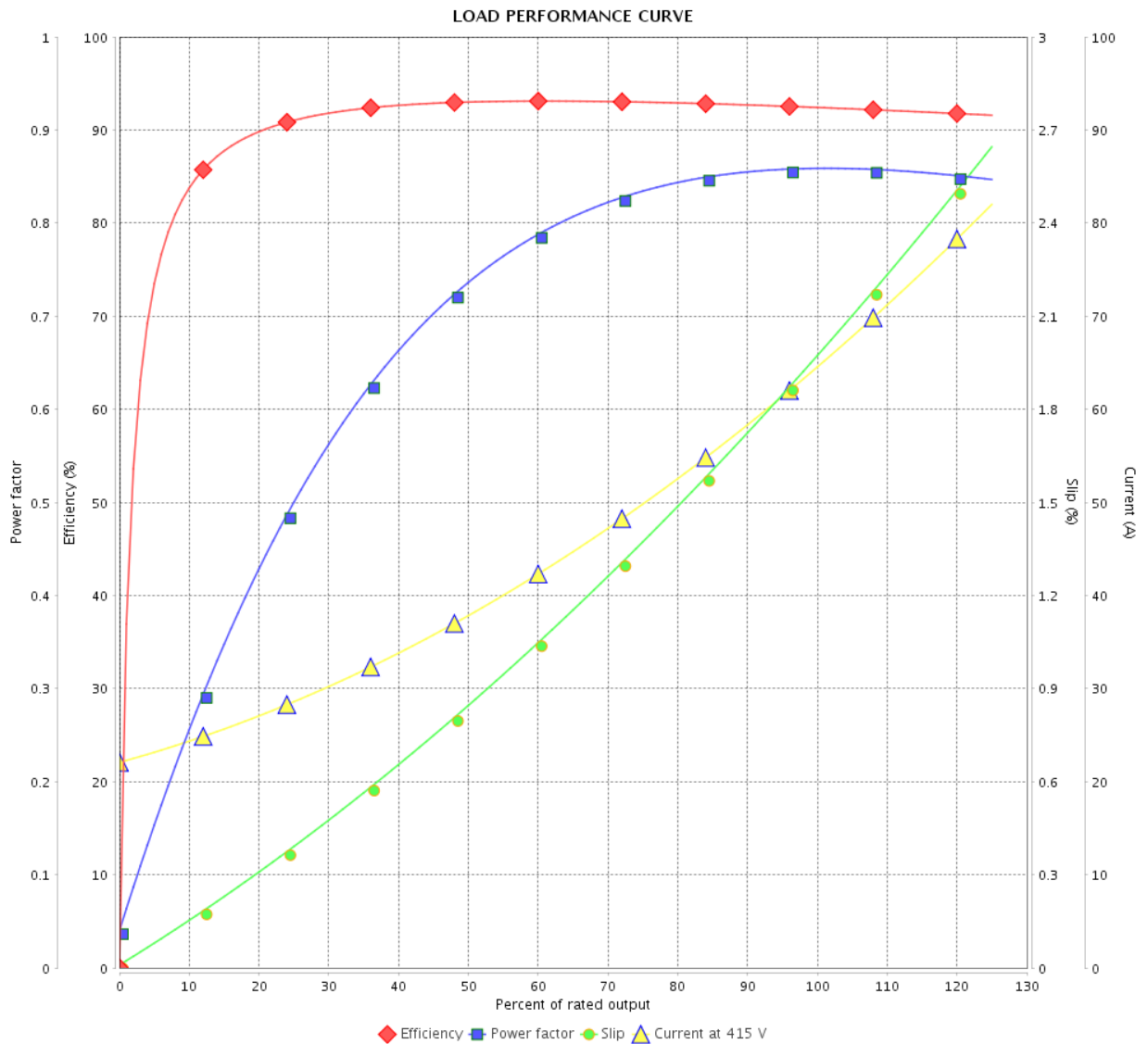


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Performance : 415 V 50 Hz 6P IE2

Rated current : 64.8 A
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 Locked rotor torque : 200 %
 Breakdown torque : 229 %
 Rated speed : 980 rpm

Moment of inertia (J) : 32.4 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

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THERMAL LIMIT CURVE



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Performance : 460 V 60 Hz 6P

Rated current : 57.4 A	Moment of inertia (J) : 32.4 sq.ft.lb
LRC : 6.4	Duty cycle : Cont.(S1)
Rated torque : 223 ft.lb	Insulation class : F
Locked rotor torque : 200 %	Service factor : 1.25
Breakdown torque : 240 %	Temperature rise : 80 K
Rated speed : 1180 rpm	Design : B

Heating constant

Cooling constant

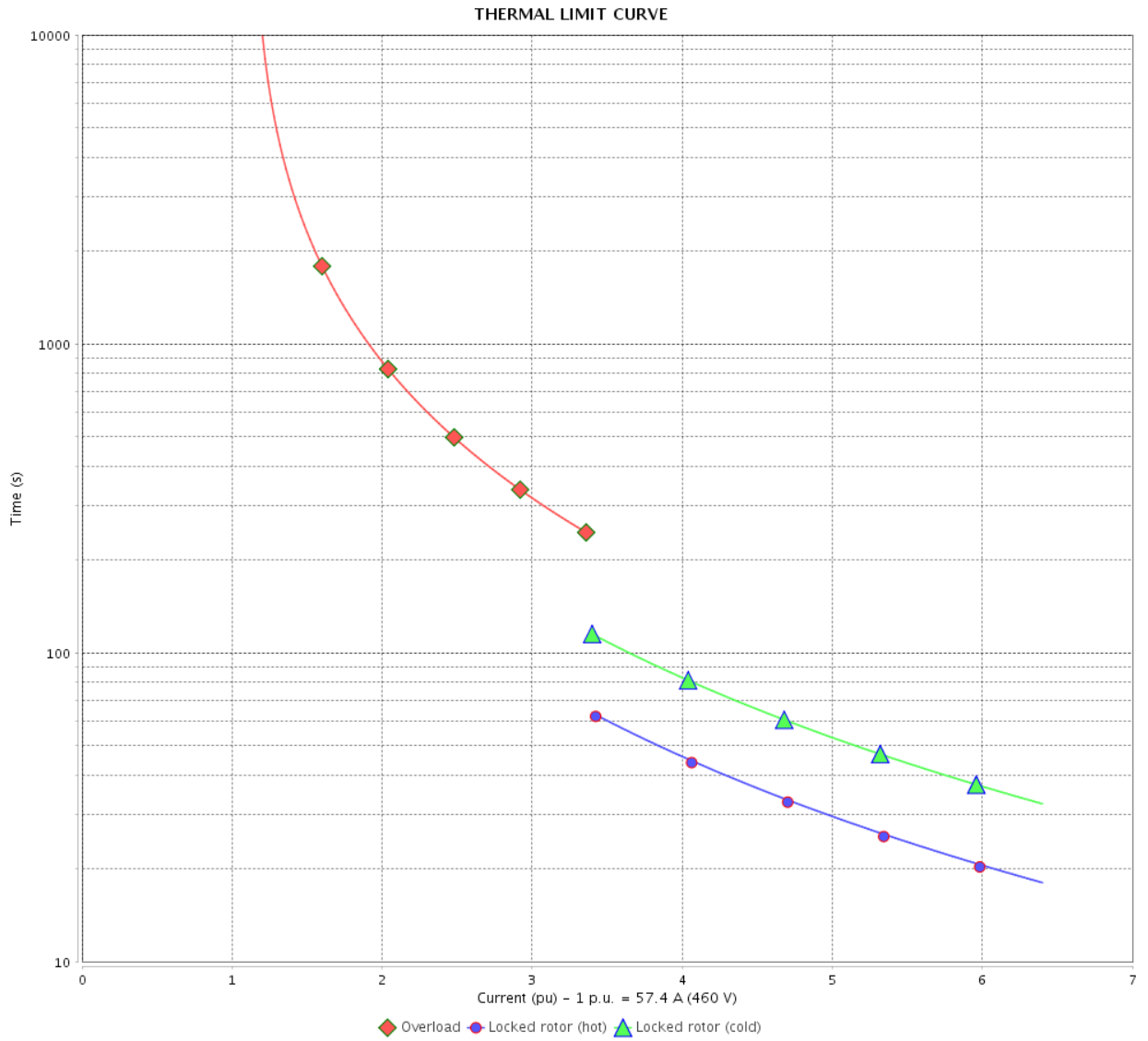
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Three Phase Induction Motor - Squirrel Cage



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Performance : 380 V 50 Hz 6P IE3

Rated current : 57.7 A	Moment of inertia (J) : 32.4 sq.ft.lb
LRC : 6.2	Duty cycle : Cont.(S1)
Rated torque : 214 ft.lb	Insulation class : F
Locked rotor torque : 200 %	Service factor : 1.00
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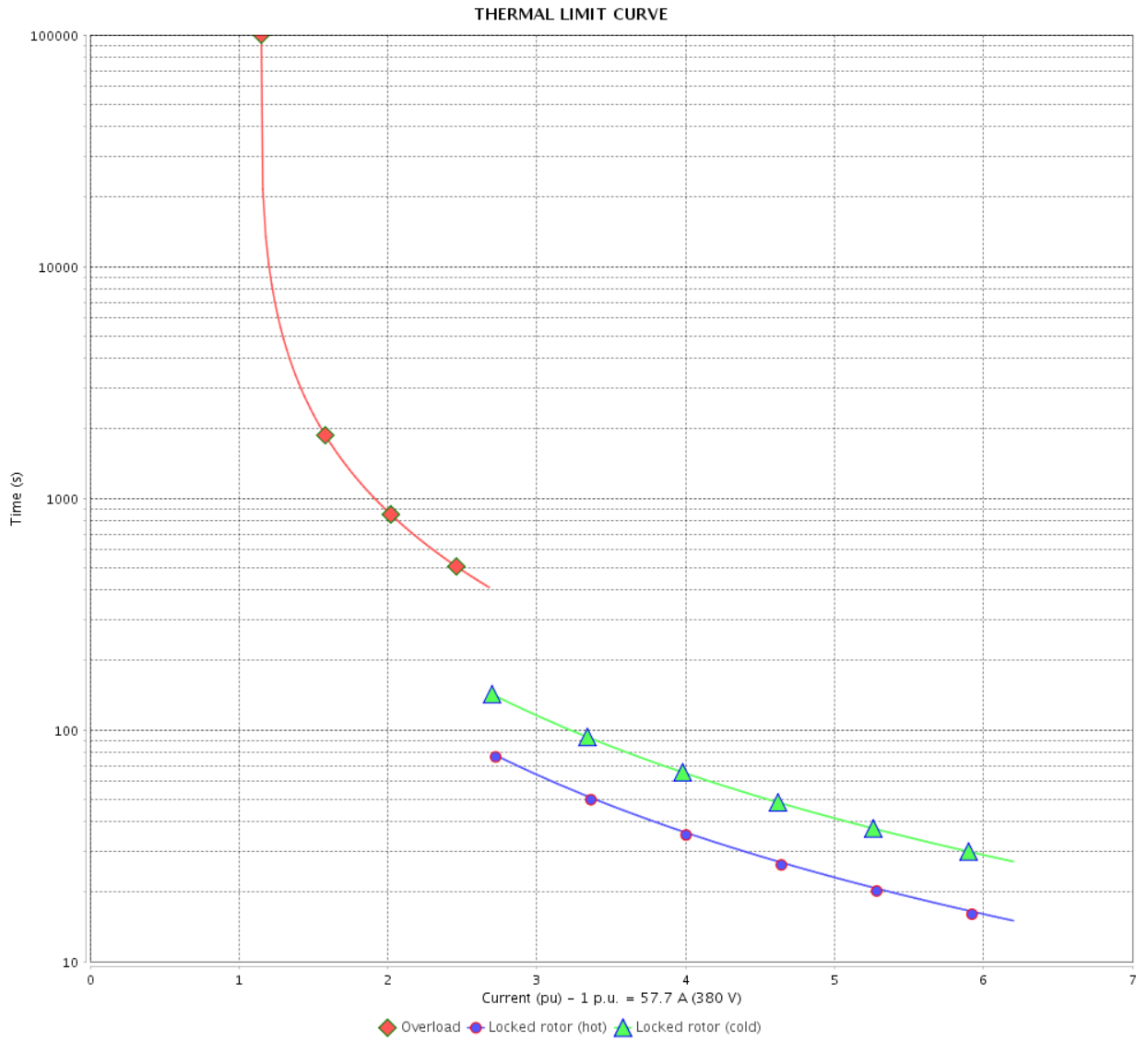
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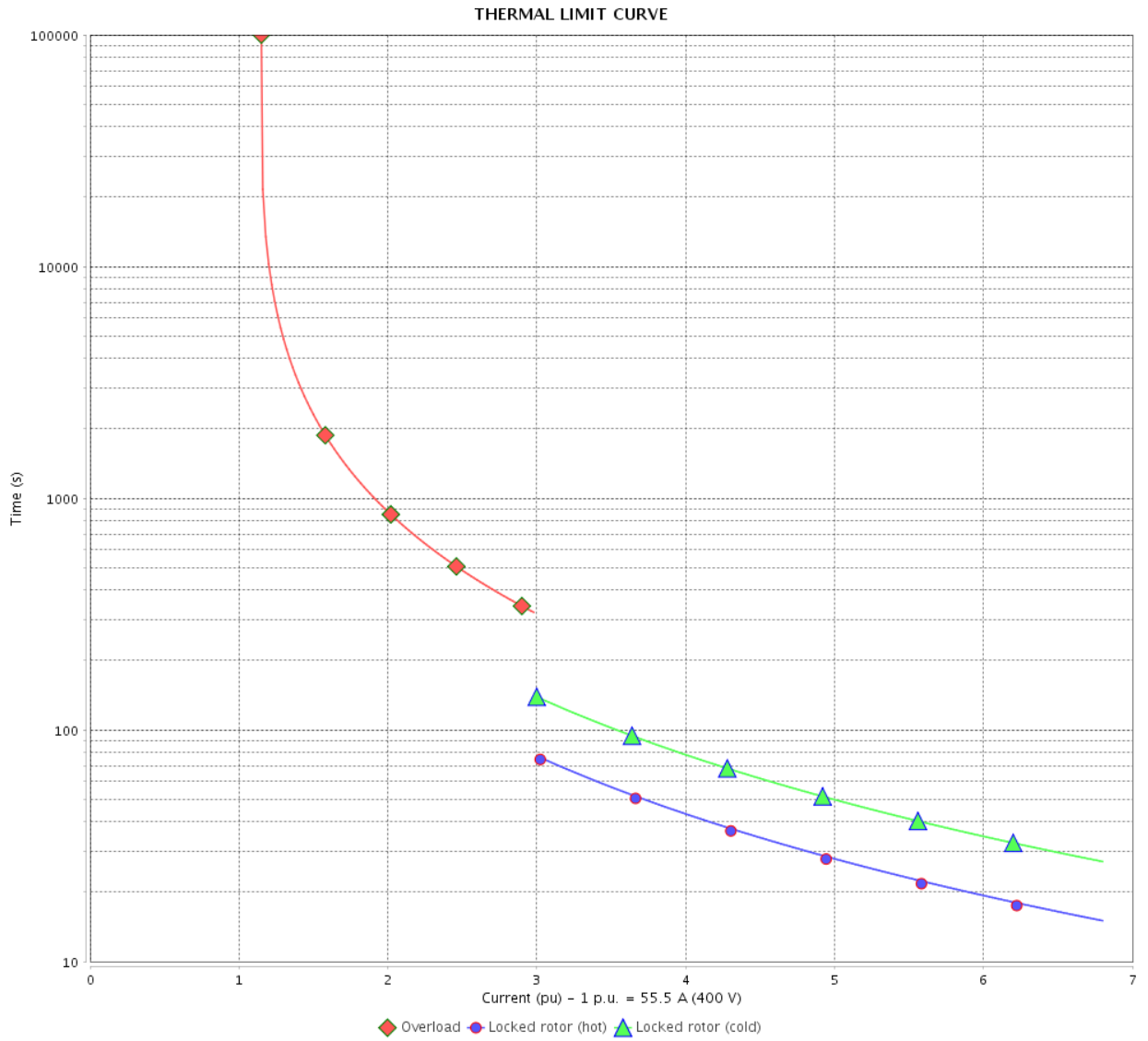
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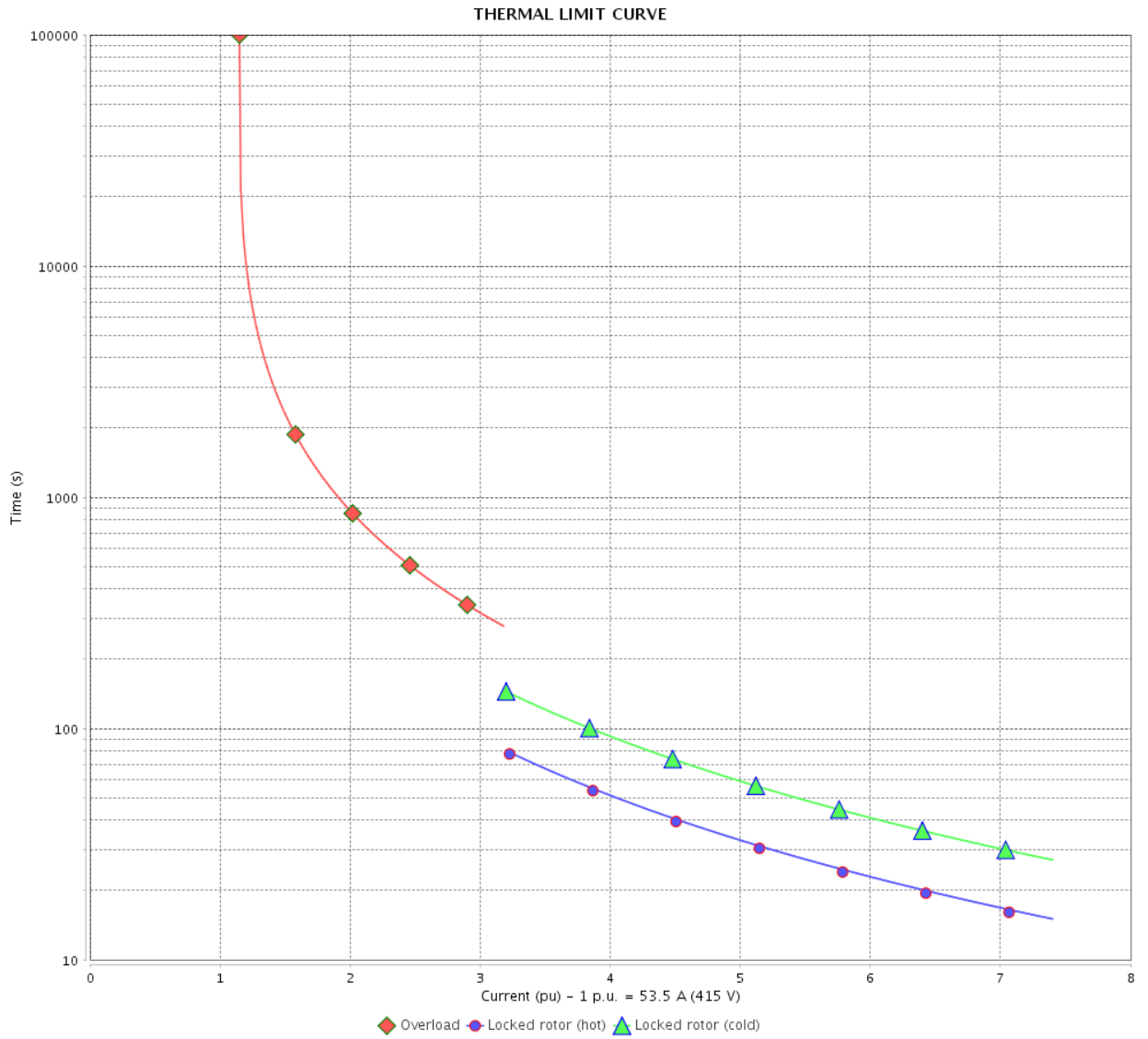
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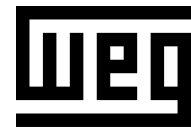


Customer : _____



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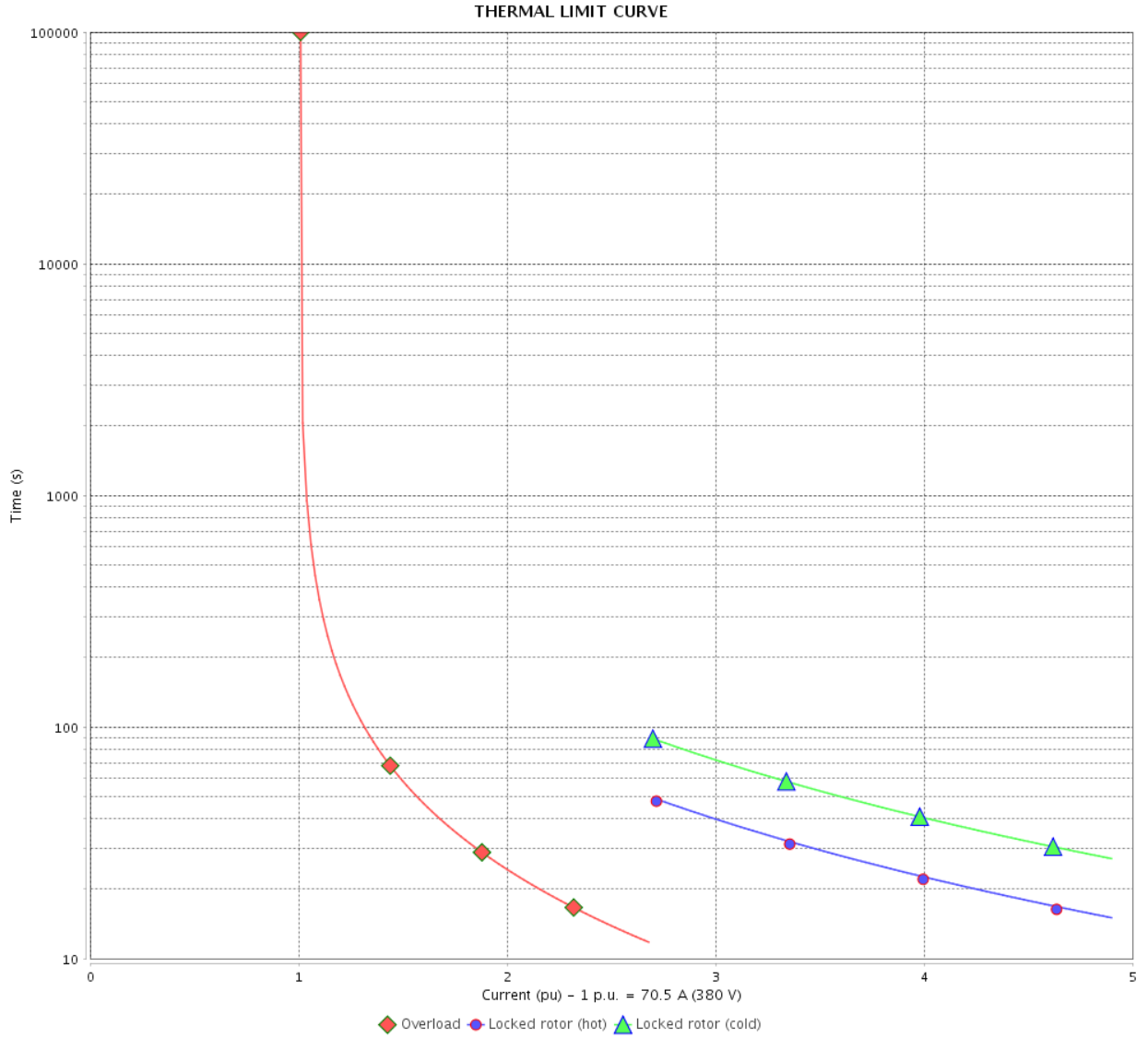
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Locked rotor torque : 180 %	Service factor : 1.00
Breakdown torque : 210 %	Temperature rise : 80 K
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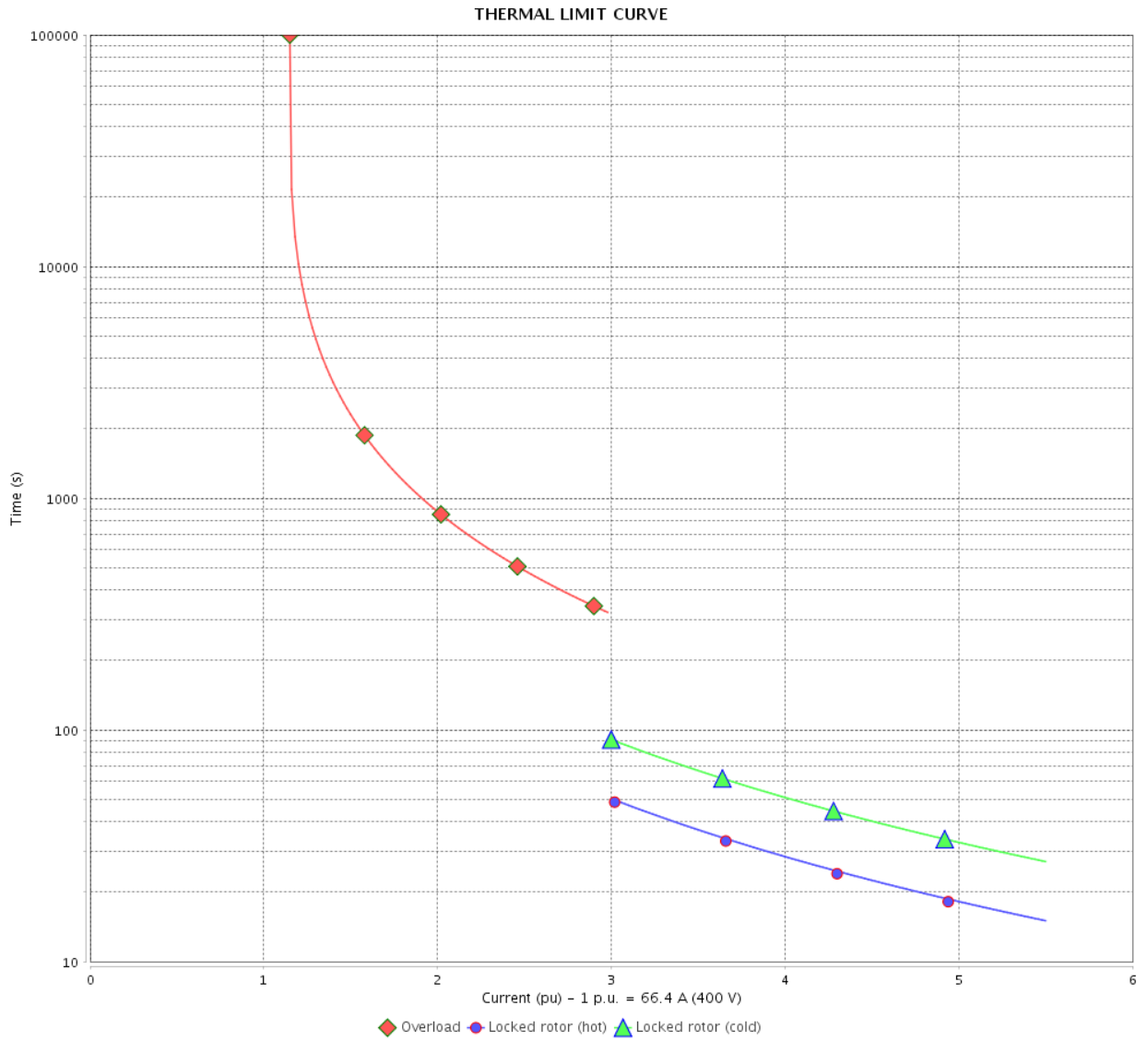
Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 26 / 36	Revision
Checked by				
Date	12/04/2022			

THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : _____



Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		27 / 36		
Date		12/04/2022		

THERMAL LIMIT CURVE



Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11431708

Catalog # : 05012ST3QIE365T-W22

Performance : 415 V 50 Hz 6P IE2

Rated current	: 64.8 A	Moment of inertia (J)	: 32.4 sq.ft.lb
LRC	: 6.0	Duty cycle	: Cont.(S1)
Rated torque	: 268 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.00
Breakdown torque	: 229 %	Temperature rise	: 80 K
Rated speed	: 980 rpm	Design	: B

Heating constant

Cooling constant

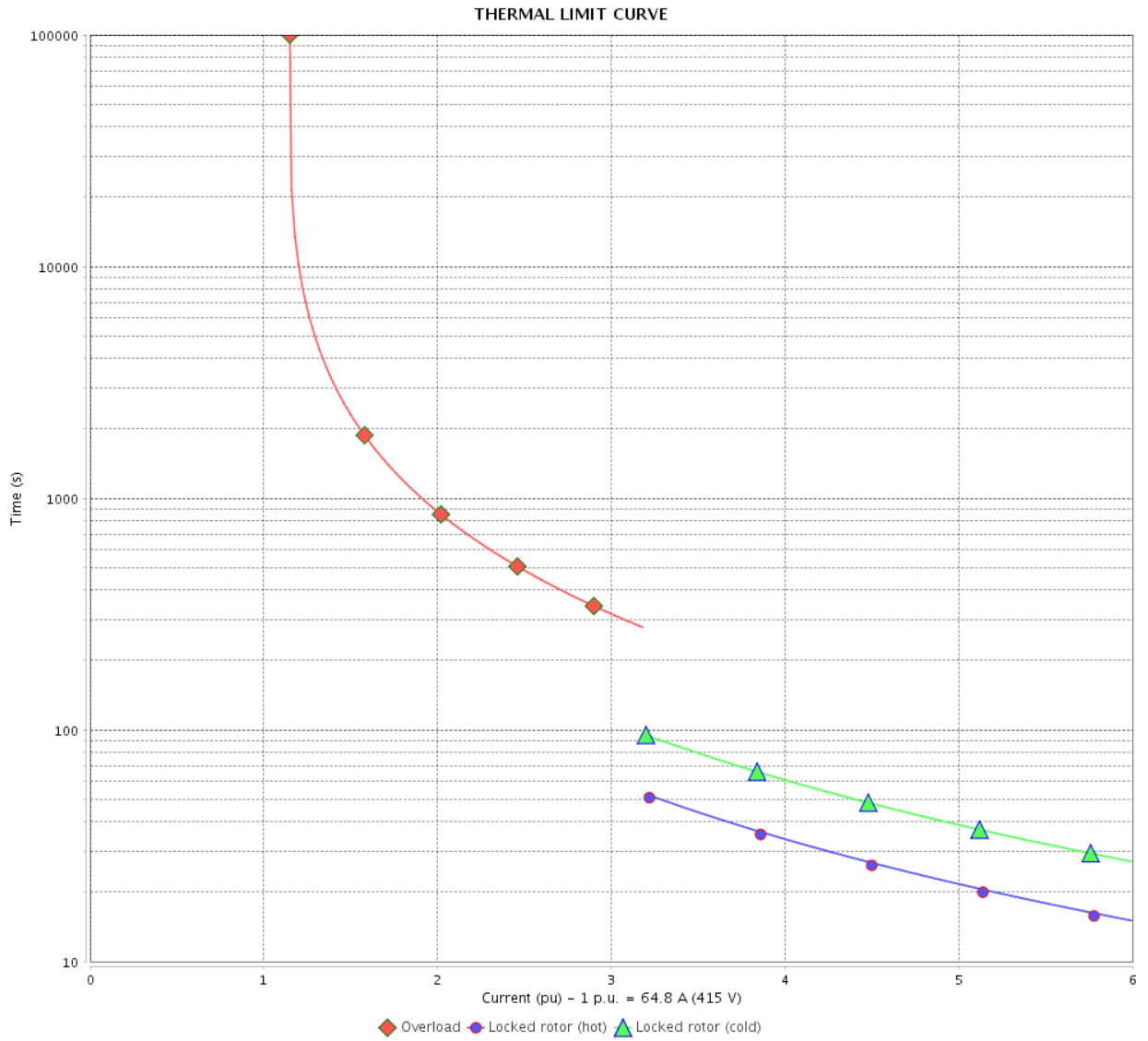
Rev.	Changes Summary	Performed	Checked	Date
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Checked by			Page	Revision
Date	12/04/2022		28 / 36	

THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : _____



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Performed by				
Checked by				
Date				
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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

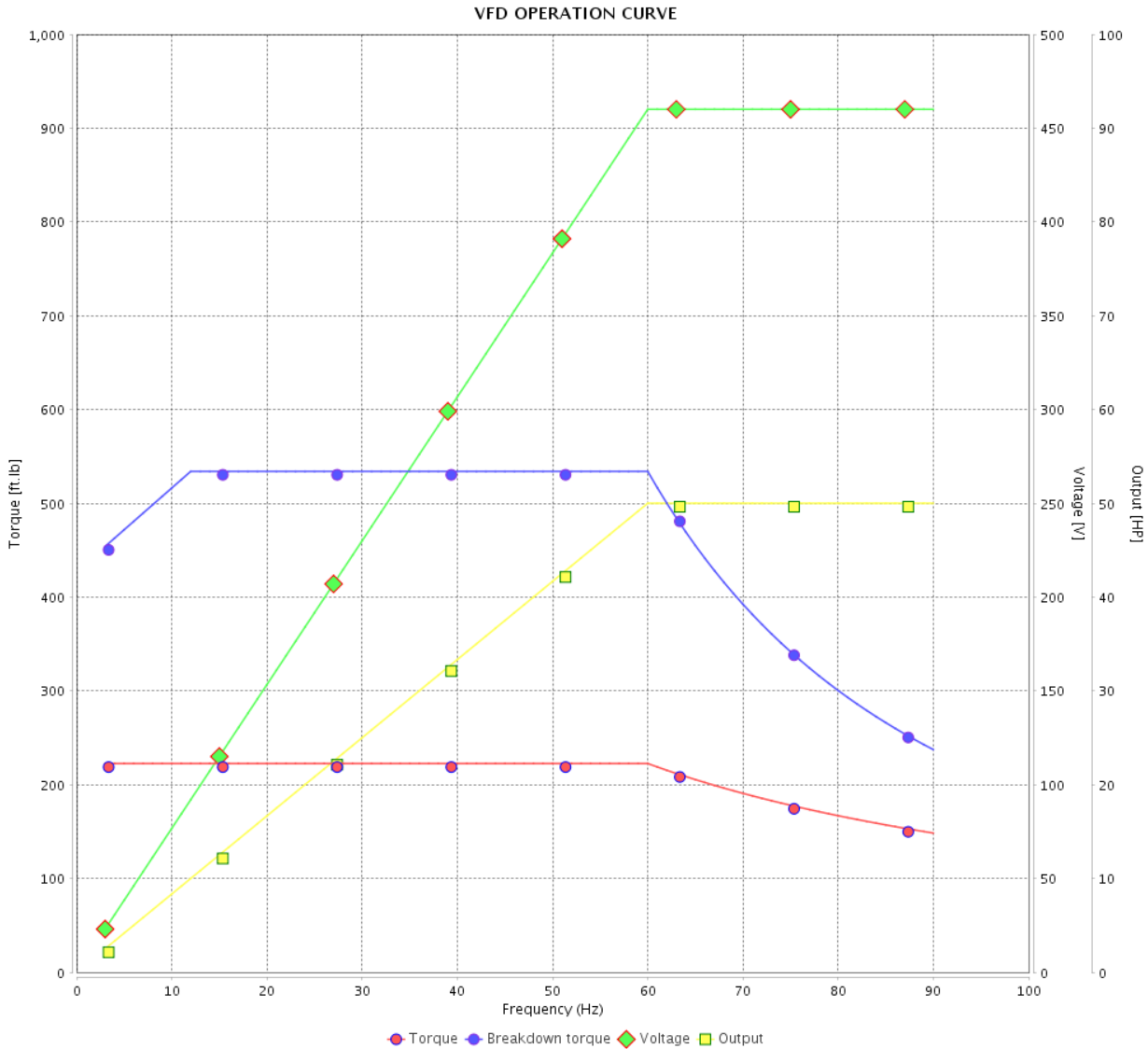


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11431708

Catalog # : 05012ST3QIE365T-W22



Performance : 460 V 60 Hz 6P

Rated current : 57.4 A
 LRC : 6.4
 Rated torque : 223 ft.lb
 Locked rotor torque : 200 %
 Breakdown torque : 240 %
 Rated speed : 1180 rpm

Moment of inertia (J) : 32.4 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

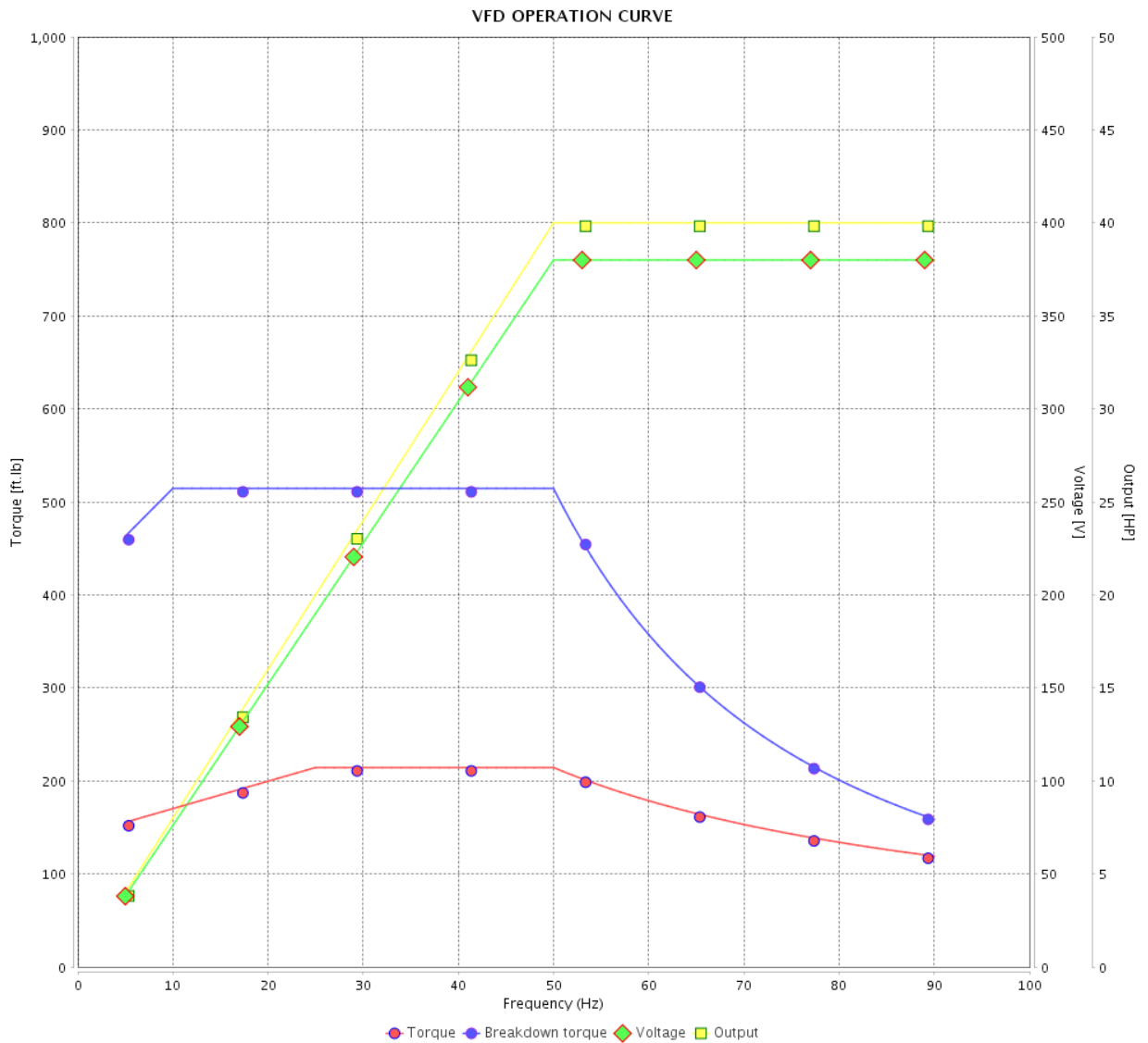


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11431708

Catalog # : 05012ST3QIE365T-W22



Performance : 380 V 50 Hz 6P IE3

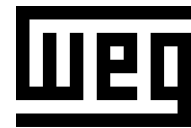
Rated current : 57.7 A
 LRC : 6.2
 Rated torque : 214 ft.lb
 Locked rotor torque : 200 %
 Breakdown torque : 240 %
 Rated speed : 980 rpm

Moment of inertia (J) : 32.4 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	12/04/2022			

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



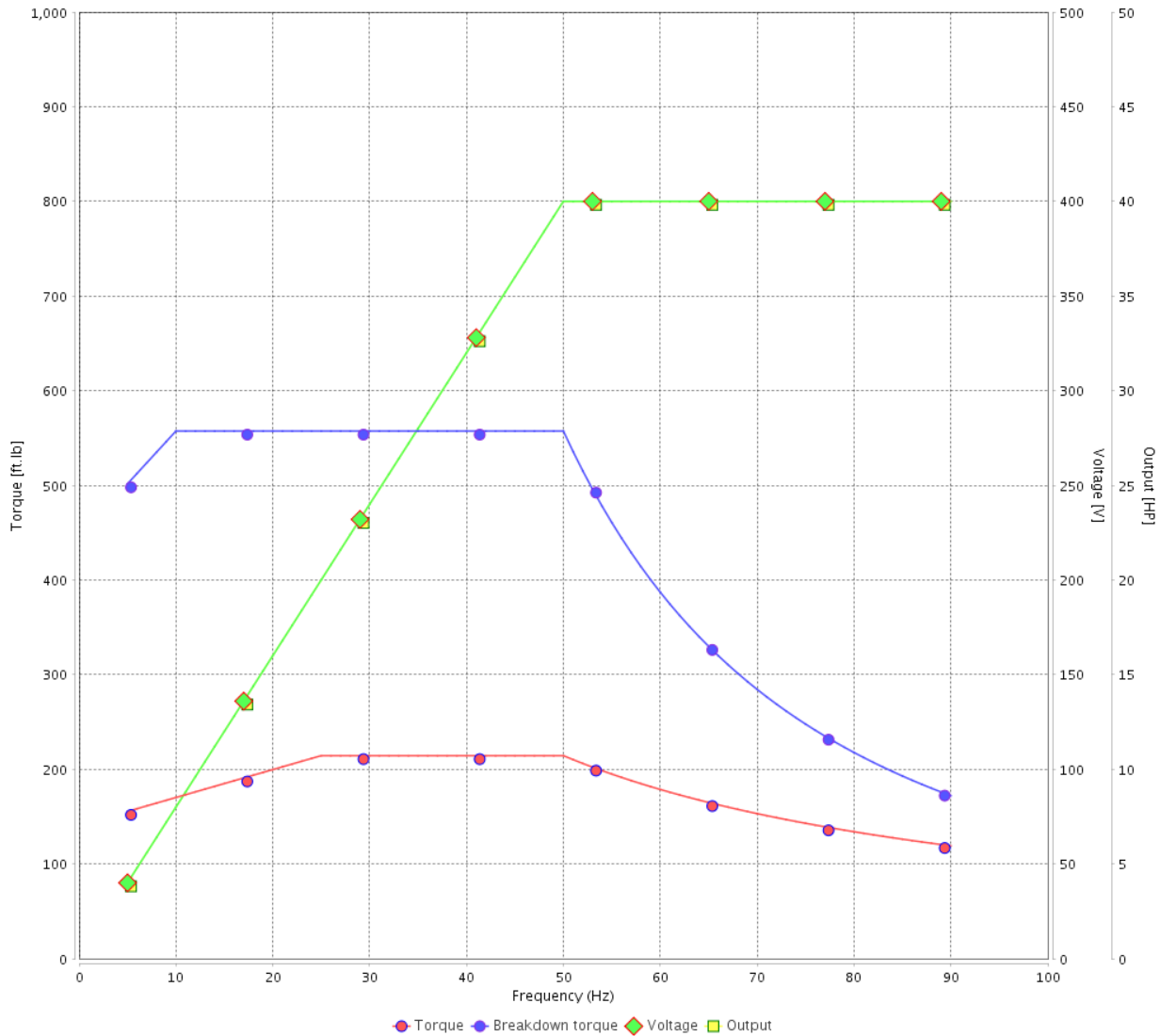
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11431708

Catalog # : 05012ST3QIE365T-W22

VFD OPERATION CURVE



Performance : 400 V 50 Hz 6P IE3

Rated current	: 55.5 A	Moment of inertia (J)	: 32.4 sq.ft.lb
LRC	: 6.8	Duty cycle	: Cont.(S1)
Rated torque	: 214 ft.lb	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.00
Breakdown torque	: 260 %	Temperature rise	: 80 K
Rated speed	: 980 rpm	Design	: B

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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

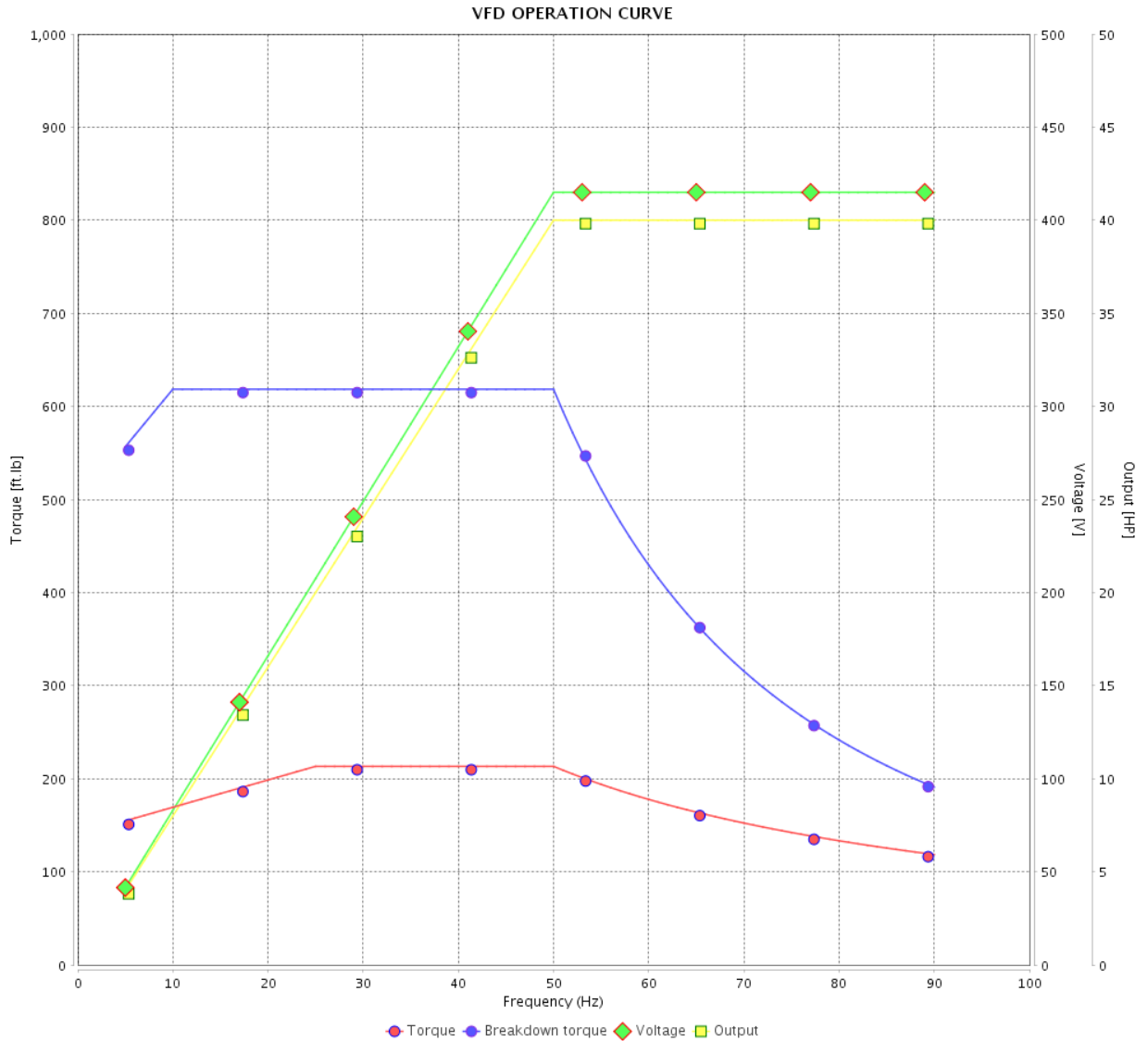


Customer : _____

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11431708

Catalog # : 05012ST3QIE365T-W22



Performance : 415 V 50 Hz 6P IE3

Rated current : 53.5 A
 LRC : 7.4
 Rated torque : 213 ft.lb
 Locked rotor torque : 250 %
 Breakdown torque : 290 %
 Rated speed : 985 rpm

Moment of inertia (J) : 32.4 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



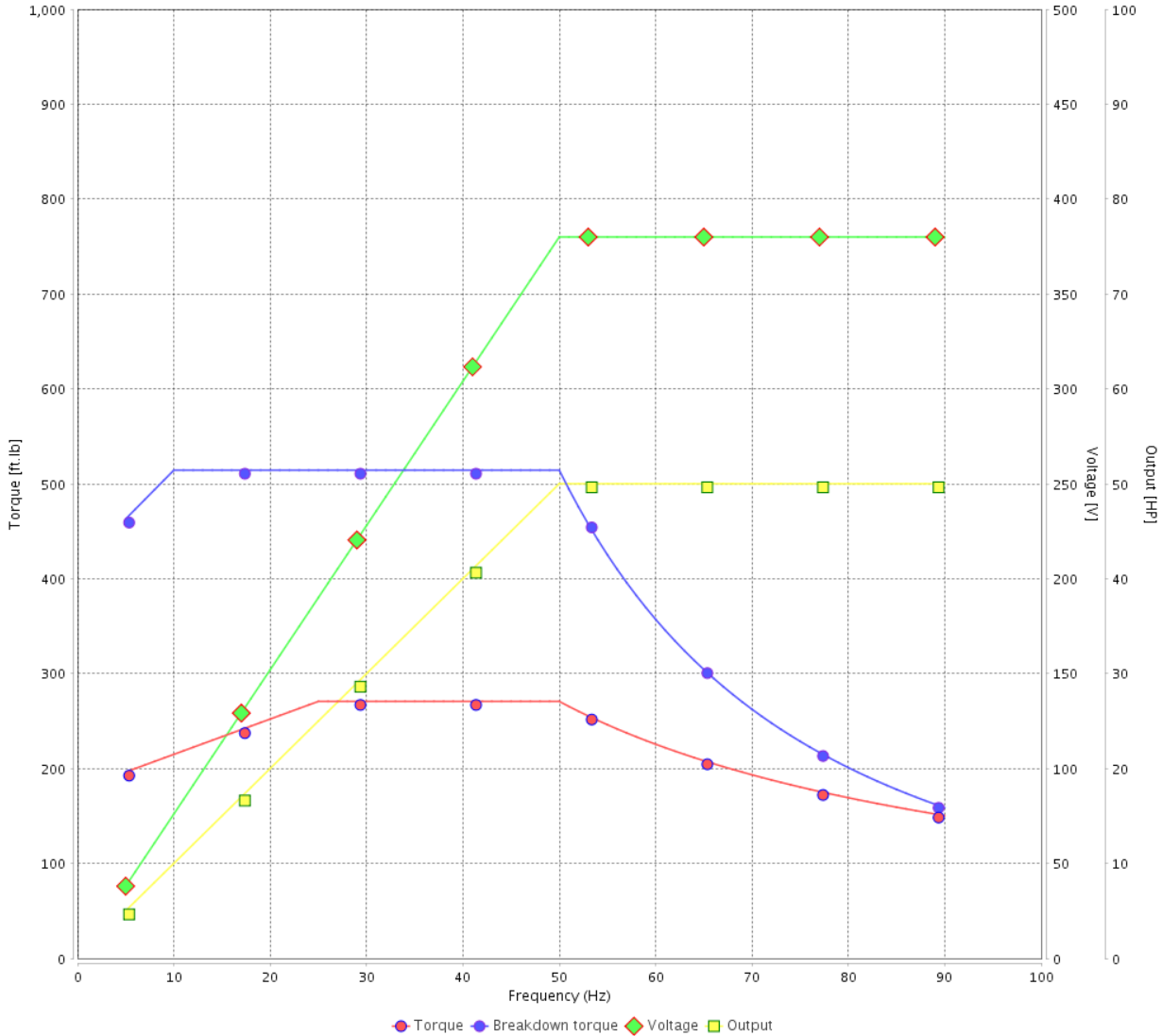
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11431708

Catalog # : 05012ST3QIE365T-W22

VFD OPERATION CURVE



Performance : 380 V 50 Hz 6P IE1

Rated current : 70.5 A
 LRC : 4.9
 Rated torque : 271 ft.lb
 Locked rotor torque : 160 %
 Breakdown torque : 190 %
 Rated speed : 970 rpm

Moment of inertia (J) : 32.4 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 105 K
 Design : B

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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

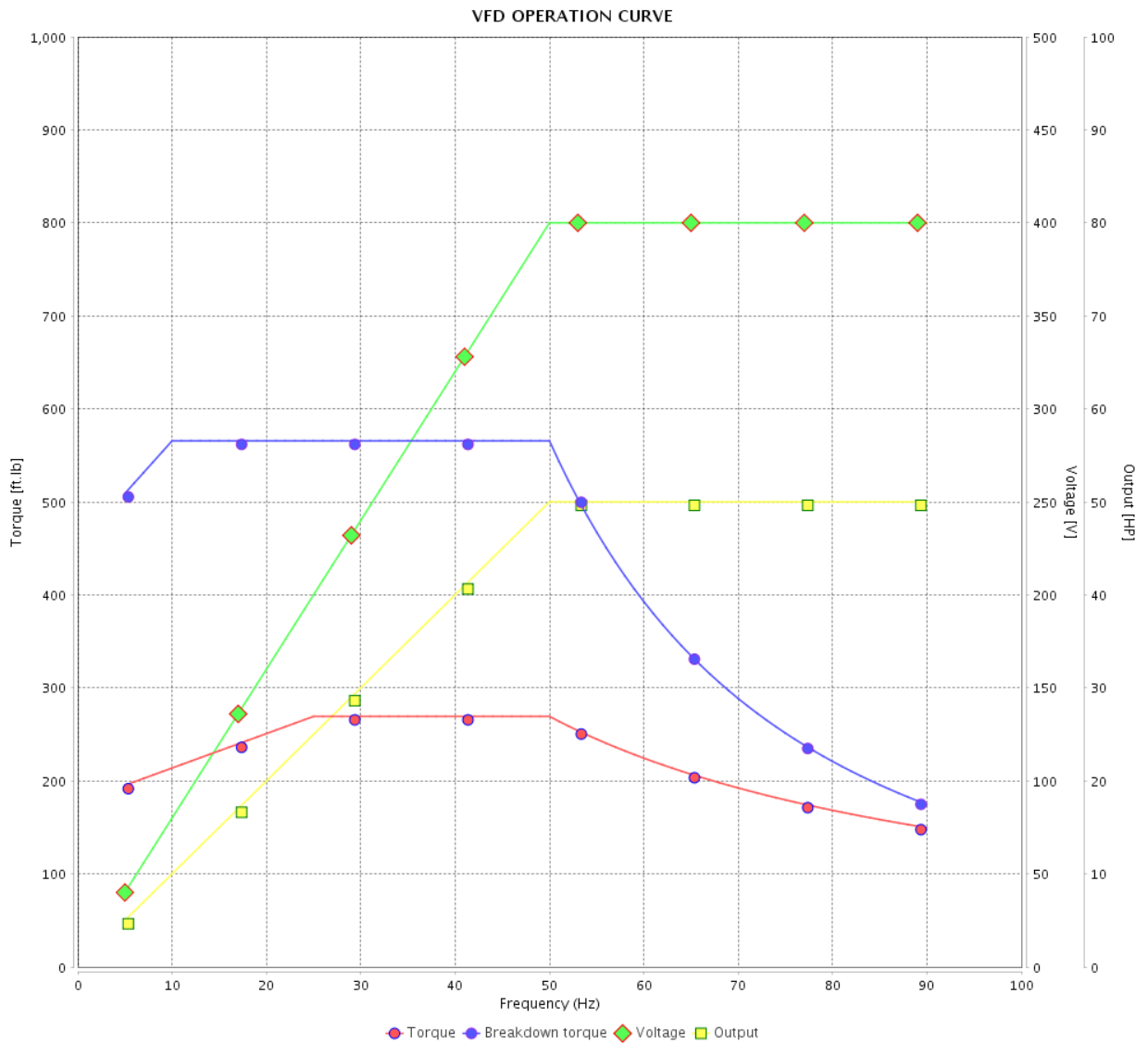


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11431708

Catalog # : 05012ST3QIE365T-W22



Performance : 400 V 50 Hz 6P IE2

Rated current : 66.4 A
 LRC : 5.5
 Rated torque : 269 ft.lb
 Locked rotor torque : 180 %
 Breakdown torque : 210 %
 Rated speed : 975 rpm

Moment of inertia (J) : 32.4 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

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Performed by		Page		Revision
Checked by		35 / 36		
Date		12/04/2022		

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



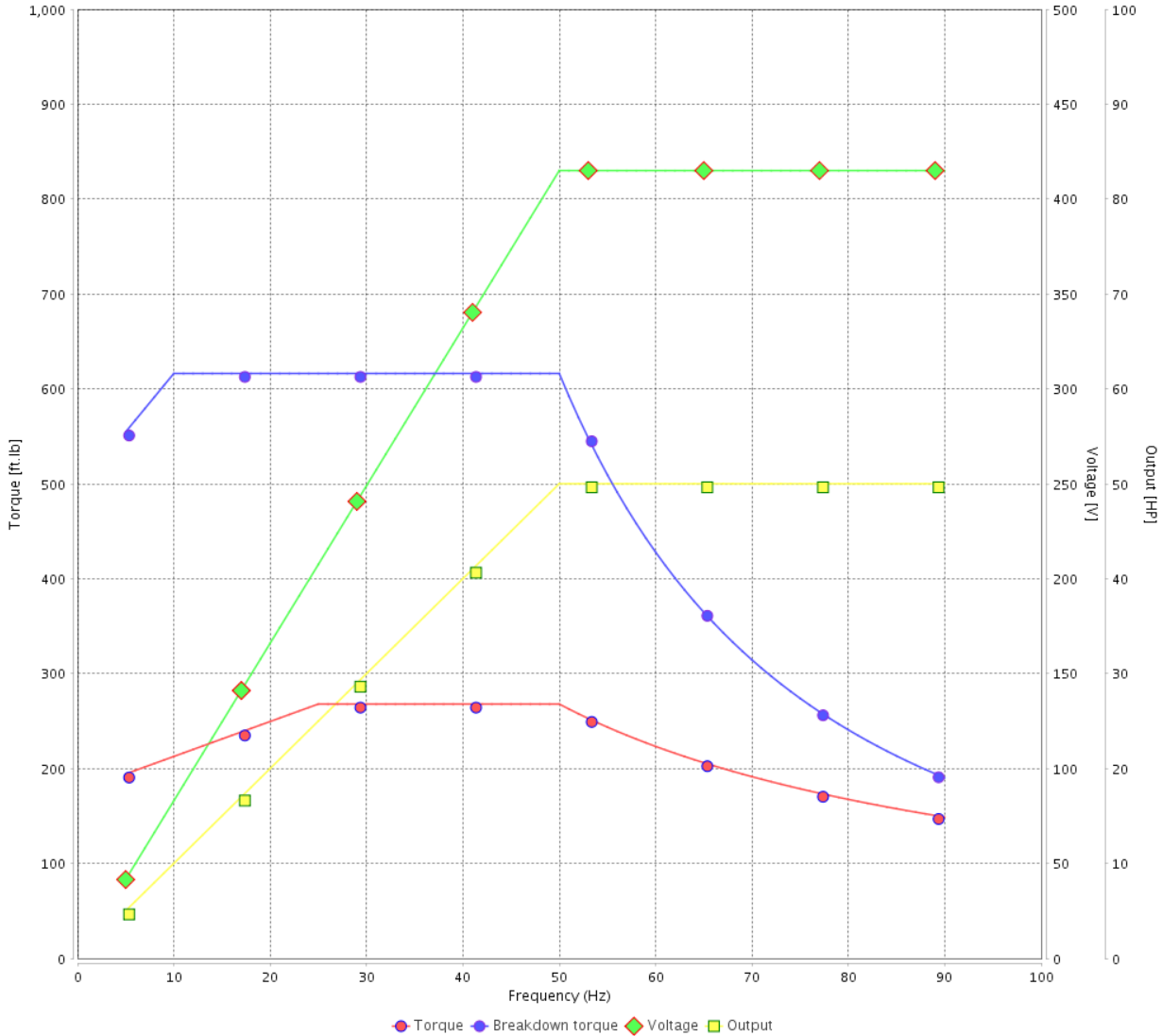
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11431708

Catalog # : 05012ST3QIE365T-W22

VFD OPERATION CURVE



Performance : 415 V 50 Hz 6P IE2

Rated current : 64.8 A
 LRC : 6.0
 Rated torque : 268 ft.lb
 Locked rotor torque : 200 %
 Breakdown torque : 229 %
 Rated speed : 980 rpm

Moment of inertia (J) : 32.4 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

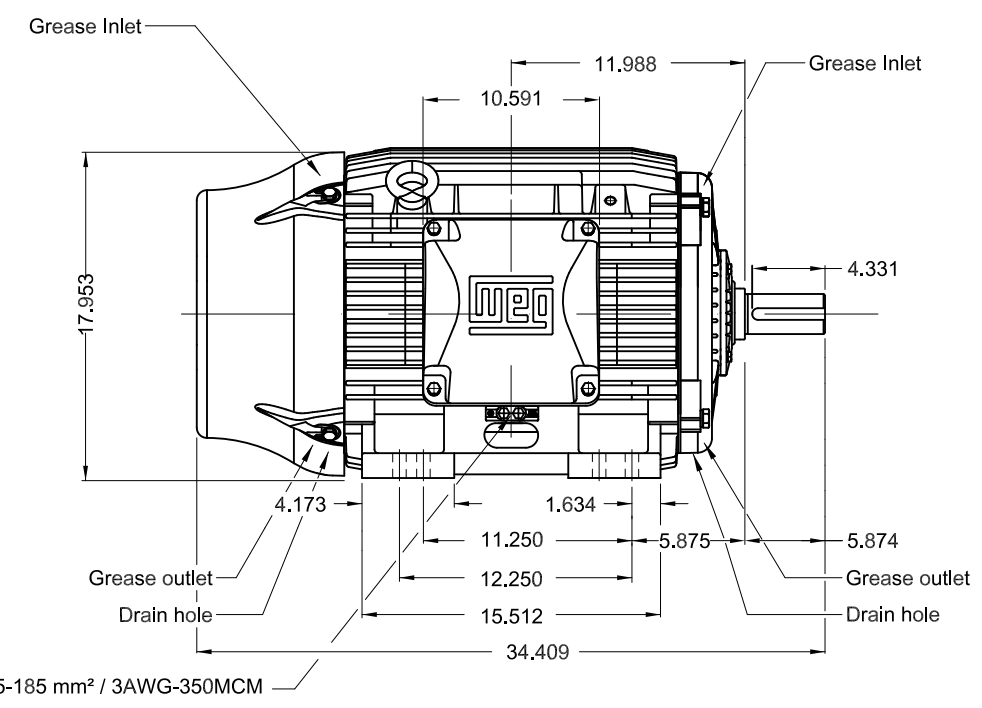
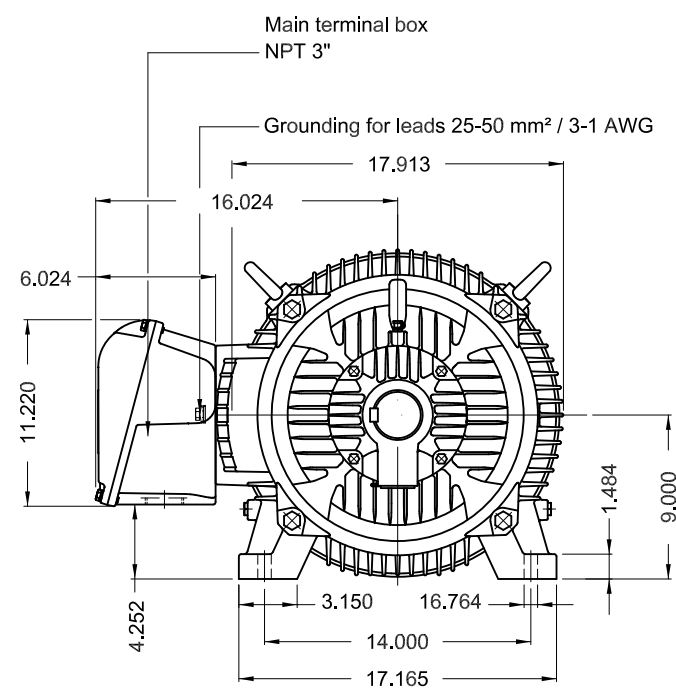
Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page	Revision
Checked by				
Date				

1 2 3 4 5 6

A

B

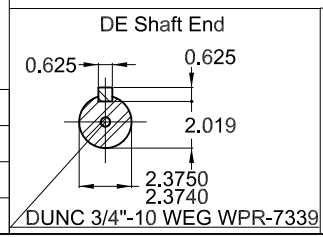
C



D

E

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



50 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 364/5T IP55 TEFC					
CHECKED							
RELEASED							
REL DT.	WMO	Jaragua do Sul	Product Engineering	SHEET	1 / 1		

PREVIEW

WDD

Dimensions in inches XME A3