

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



Customer								
Product line	: NEMA Premium Efficiency Three-Phase	Product code	: 12679071					
		Catalog #	: 04012ST3QIE364TC-W22					
Frame	: 364/5TC	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	: 925 lb					
Protection degree	: IP55	Moment of inertia (J)	: 29.0 sq.ft.lb					
Design	: B							
Output [HP]	40	30	30	30	40	40	40	
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]	46.5	42.0	40.2	39.6	56.5	53.9	52.2	
L. R. Amperes [A]	298	269	289	305	277	296	313	
LRC [A]	6.4x(Code G)	6.4x(Code G)	7.2x(Code H)	7.7x(Code J)	4.9x(Code E)	5.5x(Code F)	6.0x(Code G)	
No load current [A]	17.0	16.8	17.9	18.7	16.8	17.9	18.7	
Rated speed [RPM]	1185	985	985	990	980	980	985	
Slip [%]	1.25	1.50	1.50	1.00	2.00	2.00	1.50	
Rated torque [ft.lb]	177	160	160	159	214	214	213	
Locked rotor torque [%]	200	210	240	270	160	180	200	
Breakdown torque [%]	240	250	280	310	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	80 K	80 K	80 K	
Locked rotor time	37s (cold) 21s (hot)	32s (cold) 18s (hot)	32s (cold) 18s (hot)	32s (cold) 18s (hot)	32s (cold) 18s (hot)	32s (cold) 18s (hot)	32s (cold) 18s (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%	93.1	92.5	92.2	91.6	93.5	93.4	92.9
	50%	93.6	92.4	92.3	91.9	93.0	93.0	93.0
	75%	93.6	92.8	93.1	93.0	92.4	93.0	93.0
	100%	94.1	92.5	93.0	93.2	91.7	92.4	93.0
Power Factor	25%	0.47	0.43	0.41	0.38	0.53	0.50	0.47
	50%	0.73	0.68	0.66	0.63	0.78	0.76	0.73
	75%	0.82	0.80	0.79	0.76	0.85	0.84	0.82
	100%	0.86	0.86	0.85	0.83	0.88	0.87	0.86
Bearing type	: 6314 C3	6314 C3	Foundation loads					
Sealing	: Inpro/Seal	Inpro/Seal	Max. traction	: 1216 lb				
Lubrication interval	: 17000 h	17000 h	Max. compression	: 2141 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



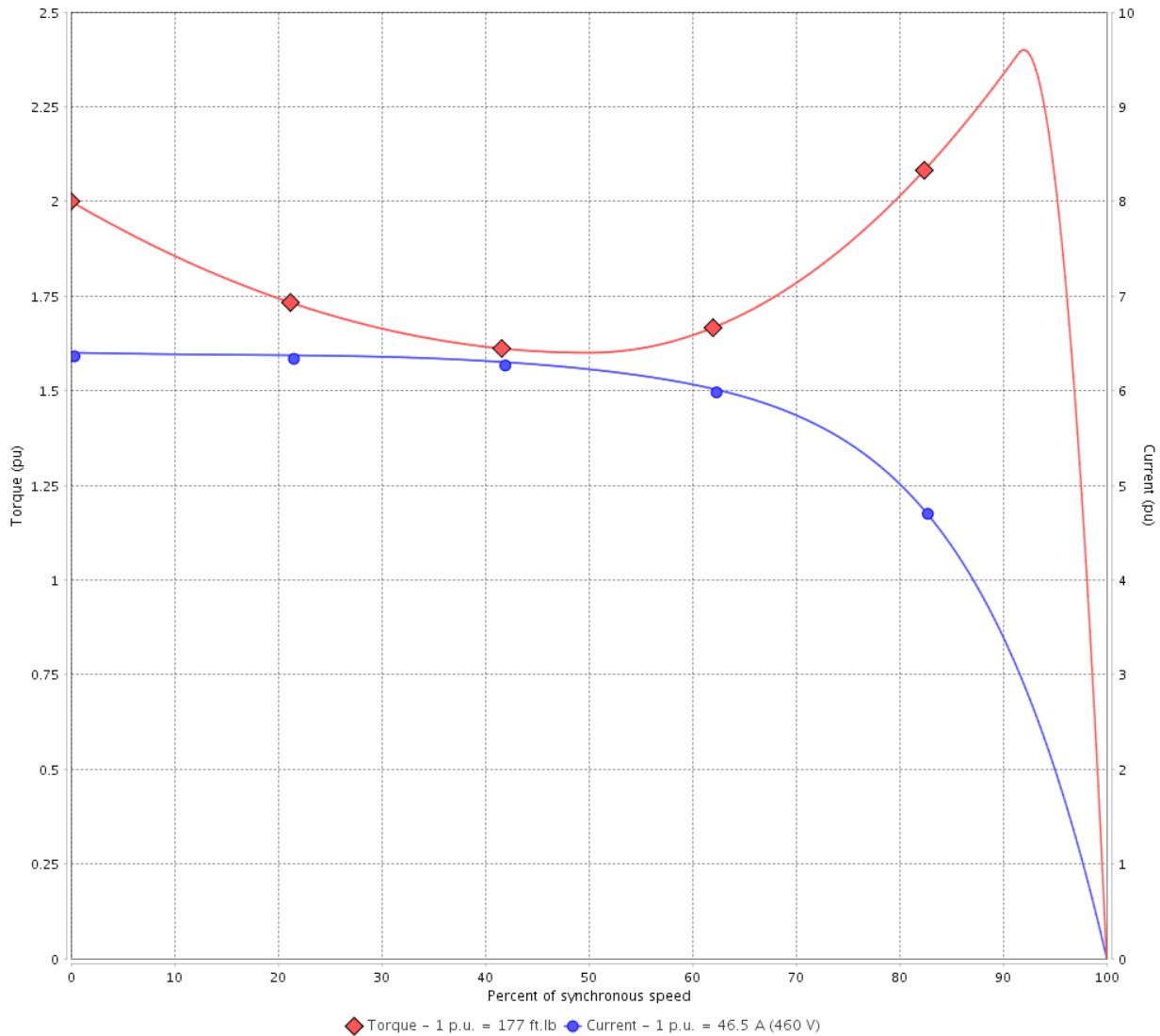
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12679071

Catalog # : 04012ST3QIE364TC-W22

TORQUE AND CURRENT VS SPEED CURVE



Performance : 460 V 60 Hz 6P

Rated current	: 46.5 A	Moment of inertia (J)	: 29.0 sq.ft.lb
LRC	: 6.4	Duty cycle	: Cont.(S1)
Rated torque	: 177 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.25
Breakdown torque	: 240 %	Temperature rise	: 80 K
Rated speed	: 1185 rpm	Design	: B

Locked rotor time : 37s (cold) 21s (hot)

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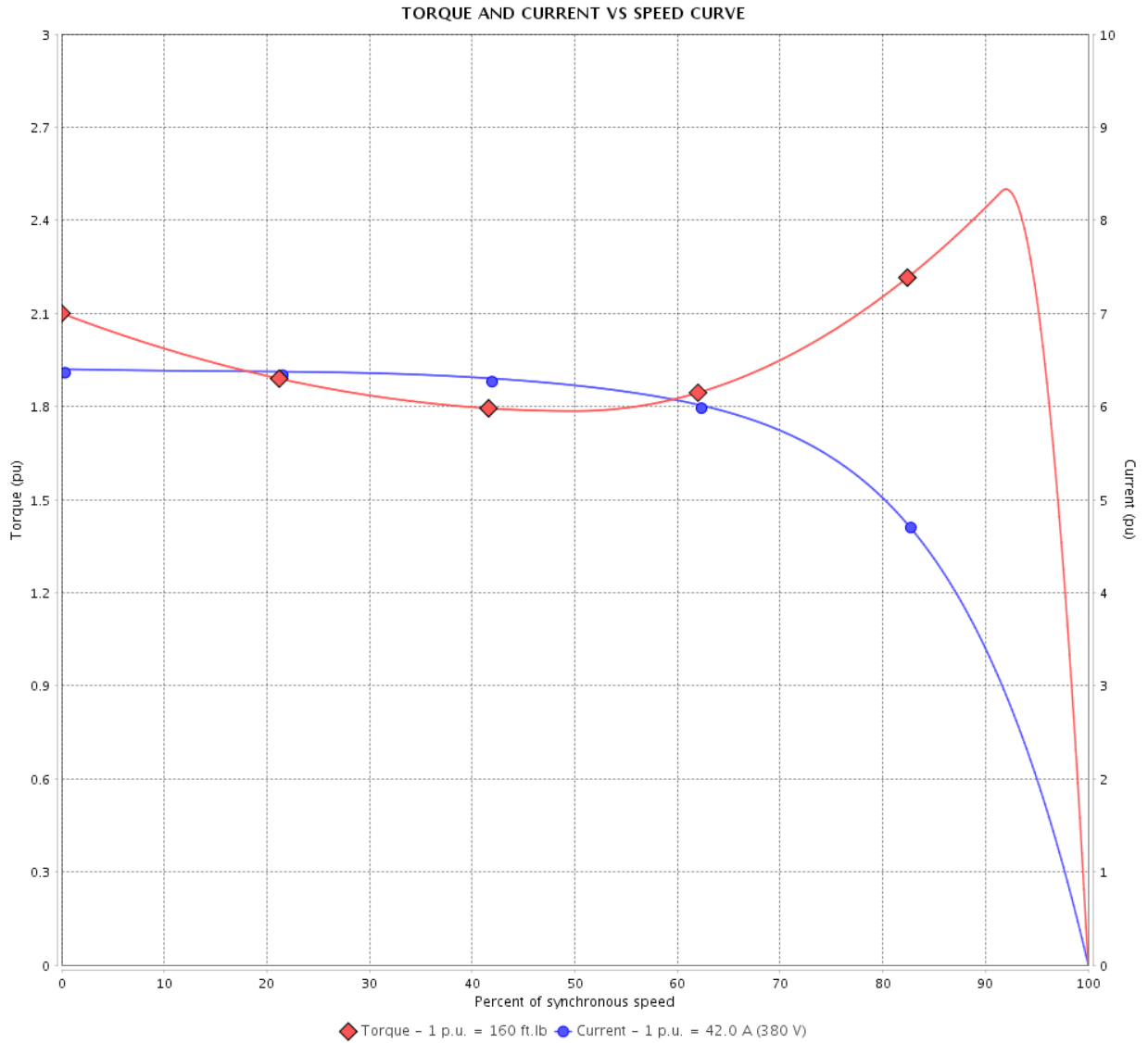
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Performance : 380 V 50 Hz 6P IE3

Rated current	: 42.0 A	Moment of inertia (J)	: 29.0 sq.ft.lb
LRC	: 6.4	Duty cycle	: Cont.(S1)
Rated torque	: 160 ft.lb	Insulation class	: F
Locked rotor torque	: 210 %	Service factor	: 1.00
Breakdown torque	: 250 %	Temperature rise	: 80 K
Rated speed	: 985 rpm	Design	: B

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

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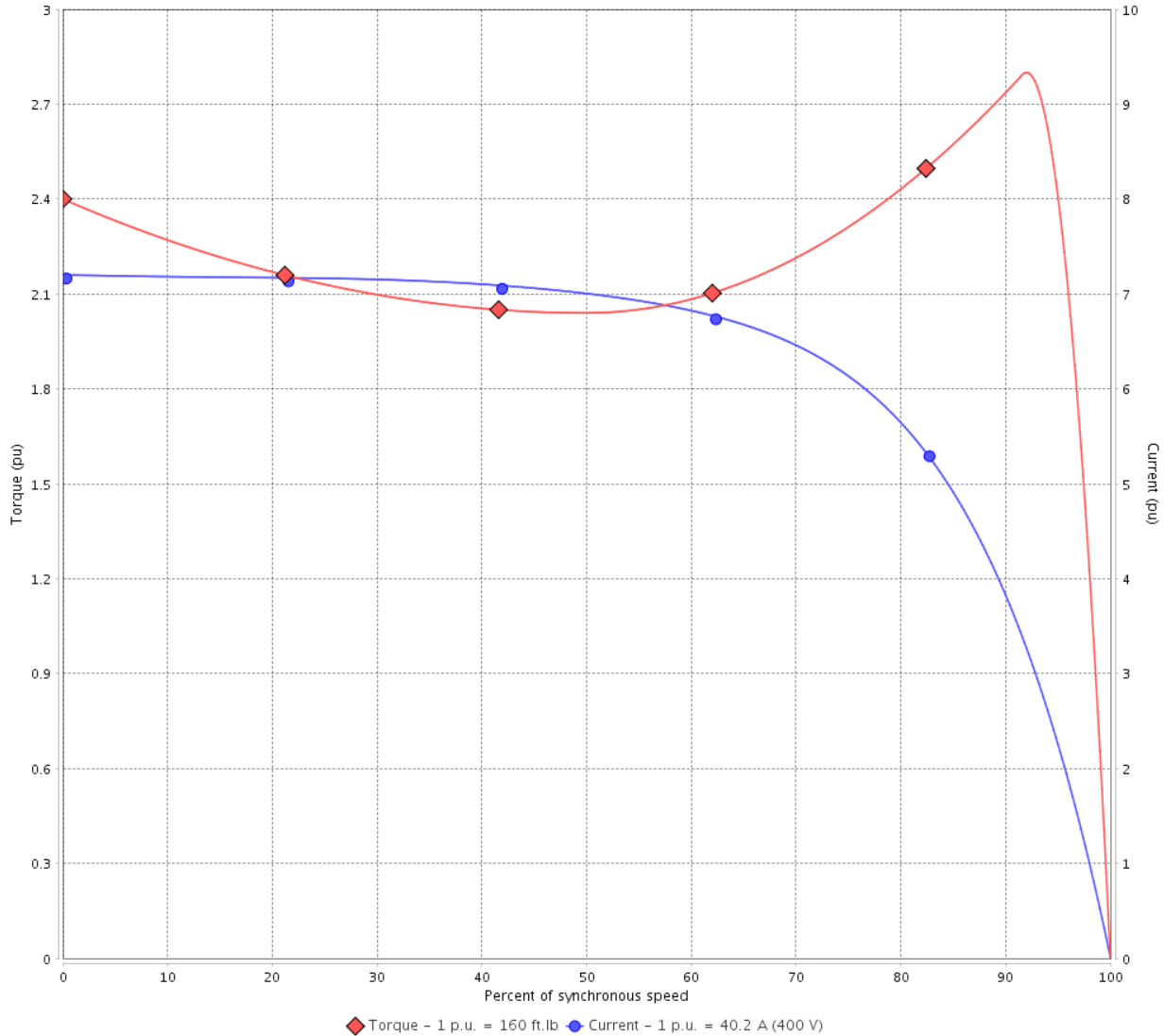
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TORQUE AND CURRENT VS SPEED CURVE



Performance : 400 V 50 Hz 6P IE3

Rated current	: 40.2 A	Moment of inertia (J)	: 29.0 sq.ft.lb
LRC	: 7.2	Duty cycle	: Cont.(S1)
Rated torque	: 160 ft.lb	Insulation class	: F
Locked rotor torque	: 240 %	Service factor	: 1.00
Breakdown torque	: 280 %	Temperature rise	: 80 K
Rated speed	: 985 rpm	Design	: B

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

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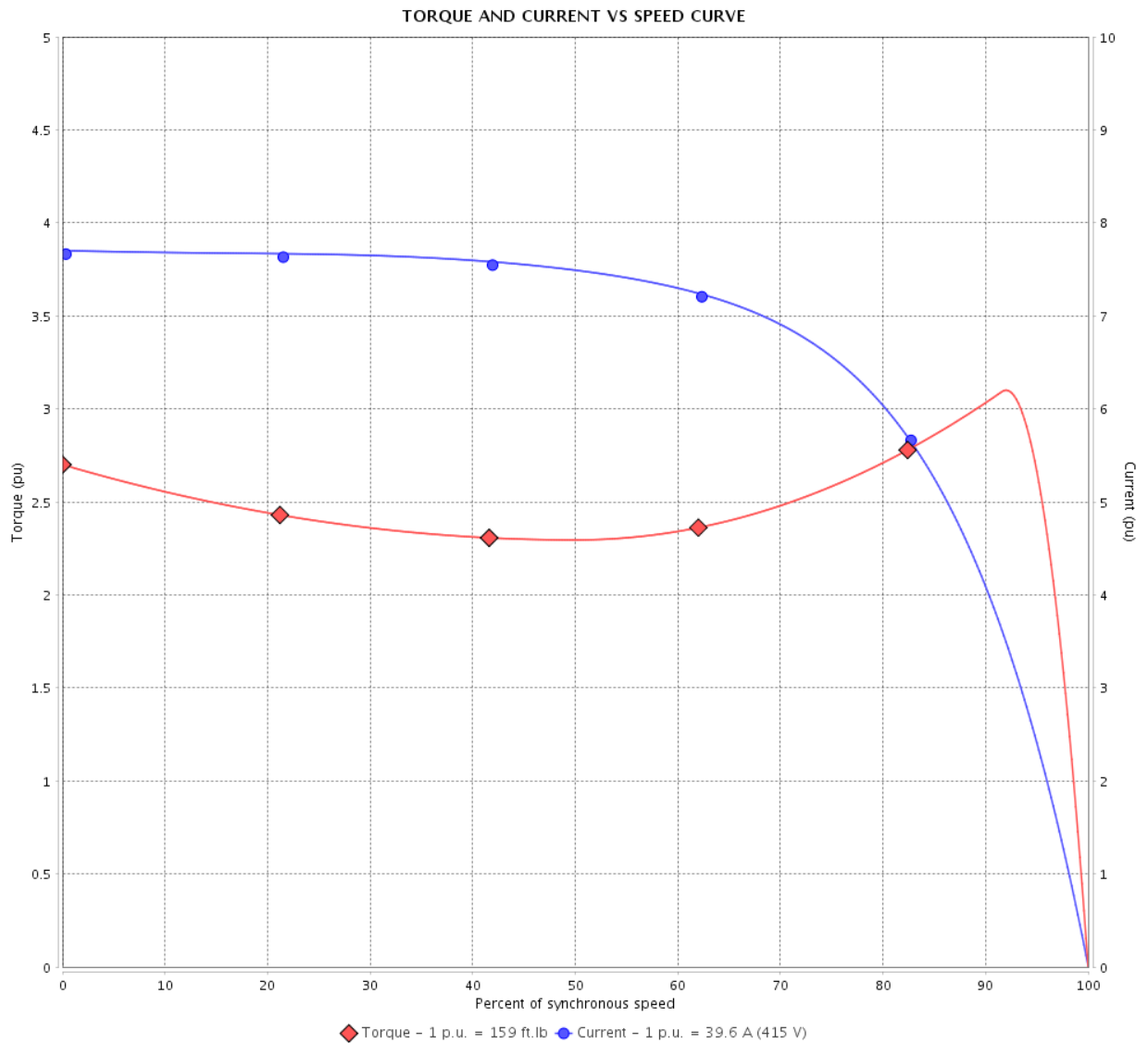
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Performance : 415 V 50 Hz 6P IE3

Rated current	: 39.6 A	Moment of inertia (J)	: 29.0 sq.ft.lb
LRC	: 7.7	Duty cycle	: Cont.(S1)
Rated torque	: 159 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 : 32s (cold) 18s (hot)

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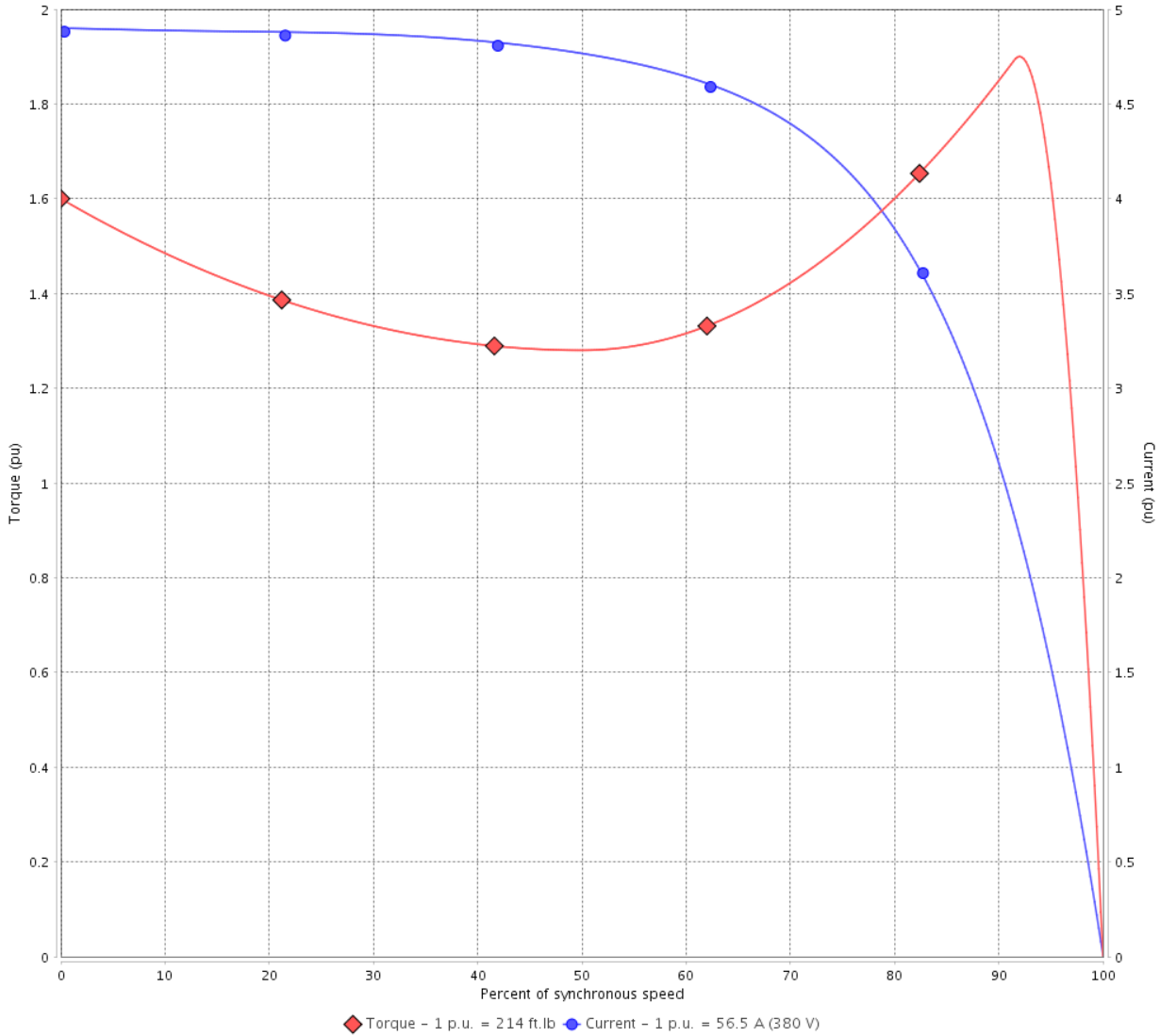
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TORQUE AND CURRENT VS SPEED CURVE



Performance : 380 V 50 Hz 6P IE2

Rated current	: 56.5 A	Moment of inertia (J)	: 29.0 sq.ft.lb
LRC	: 4.9	Duty cycle	: Cont.(S1)
Rated torque	: 214 ft.lb	Insulation class	: F
Locked rotor torque	: 160 %	Service factor	: 1.00
Breakdown torque	: 190 %	Temperature rise	: 80 K
Rated speed	: 980 rpm	Design	: B

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

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TORQUE AND CURRENT VS SPEED CURVE



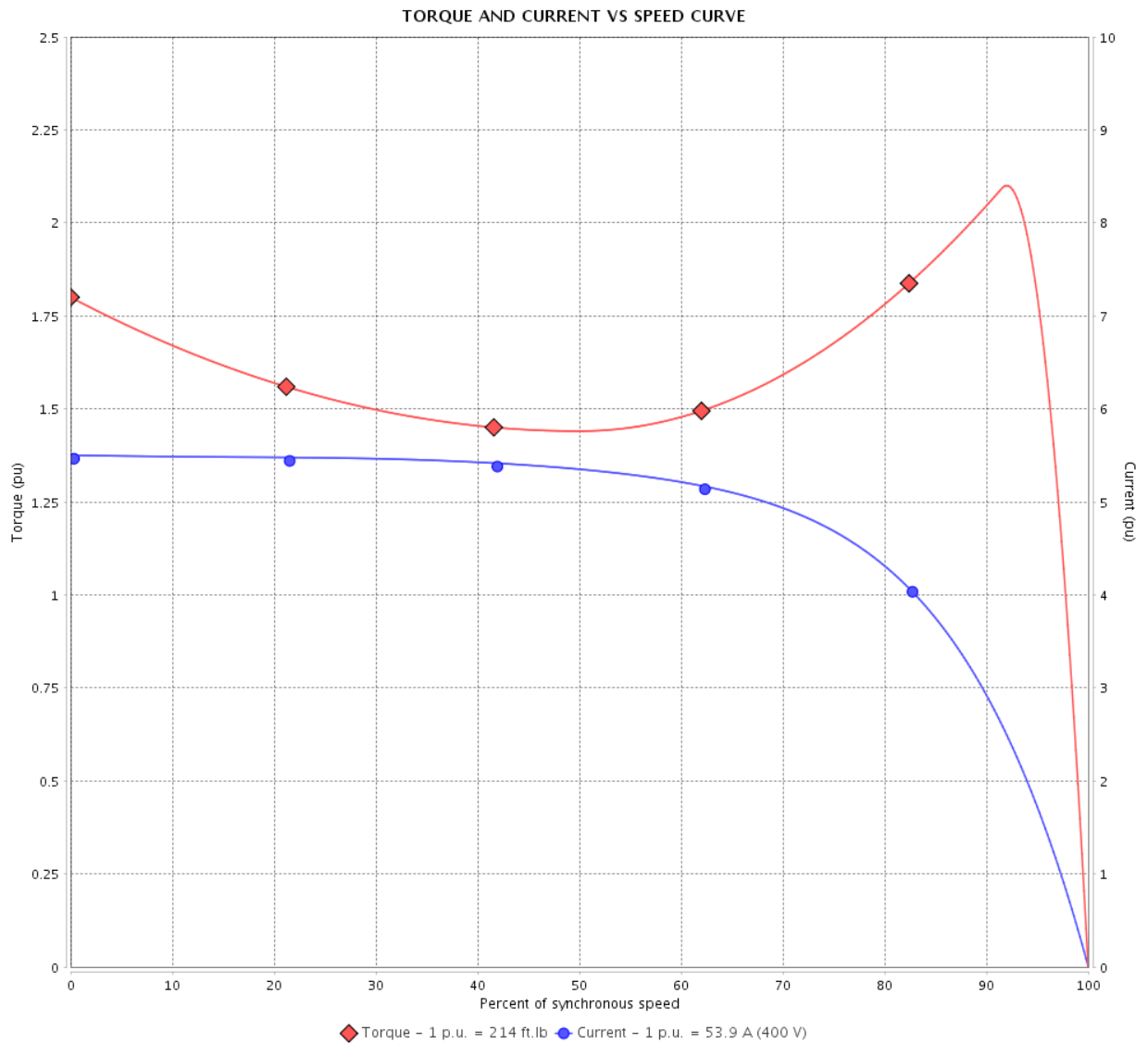
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Performance : 400 V 50 Hz 6P IE2

Rated current	: 53.9 A	Moment of inertia (J)	: 29.0 sq.ft.lb
LRC	: 5.5	Duty cycle	: Cont.(S1)
Rated torque	: 214 ft.lb	Insulation class	: F
Locked rotor torque	: 180 %	Service factor	: 1.00
Breakdown torque	: 210 %	Temperature rise	: 80 K
Rated speed	: 980 rpm	Design	: B

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

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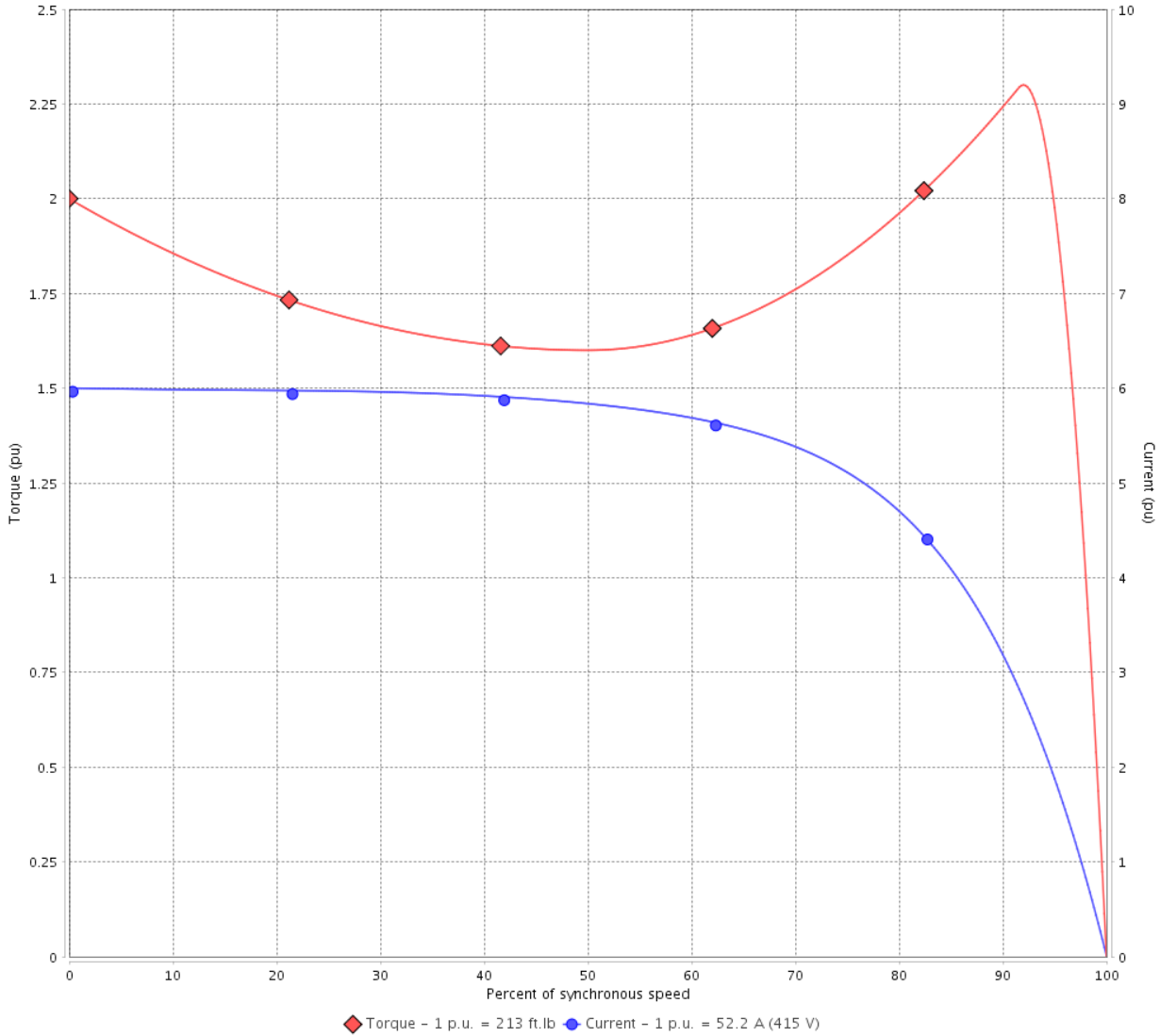
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TORQUE AND CURRENT VS SPEED CURVE



Performance : 415 V 50 Hz 6P IE3

Rated current	: 52.2 A	Moment of inertia (J)	: 29.0 sq.ft.lb
LRC	: 6.0	Duty cycle	: Cont.(S1)
Rated torque	: 213 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.00
Breakdown torque	: 229 %	Temperature rise	: 80 K
Rated speed	: 985 rpm	Design	: B

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

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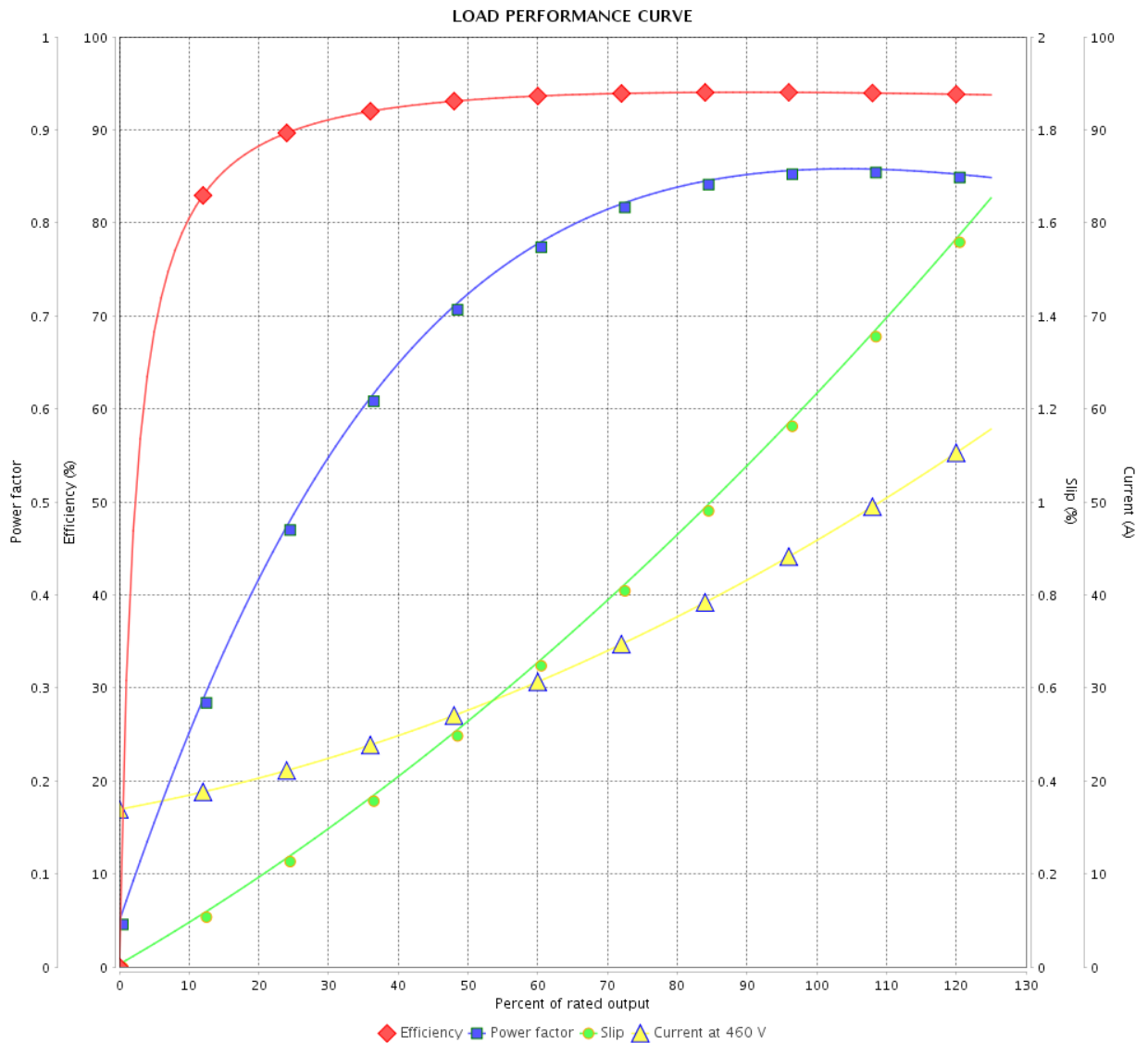


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Performance : 460 V 60 Hz 6P

Rated current : 46.5 A
 LRC : 6.4
 Rated torque : 177 ft.lb
 Locked rotor torque : 200 %
 Breakdown torque : 240 %
 Rated speed : 1185 rpm

Moment of inertia (J) : 29.0 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.25
 Temperature rise : 80 K
 Design : B

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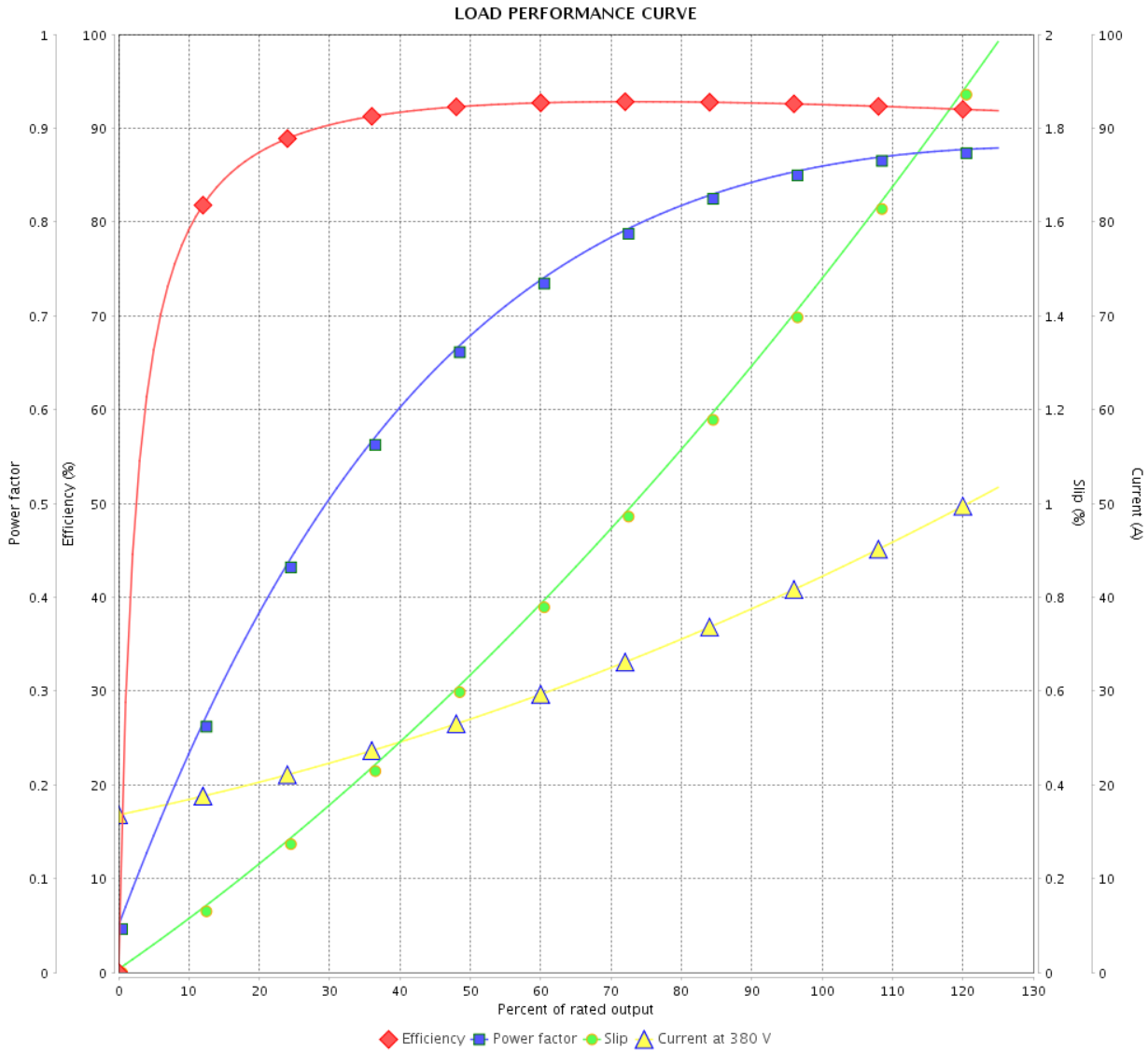


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Performance : 380 V 50 Hz 6P IE3

Rated current : 42.0 A
 LRC : 6.4
 Rated torque : 160 ft.lb
 Locked rotor torque : 210 %
 Breakdown torque : 250 %
 Rated speed : 985 rpm

Moment of inertia (J) : 29.0 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

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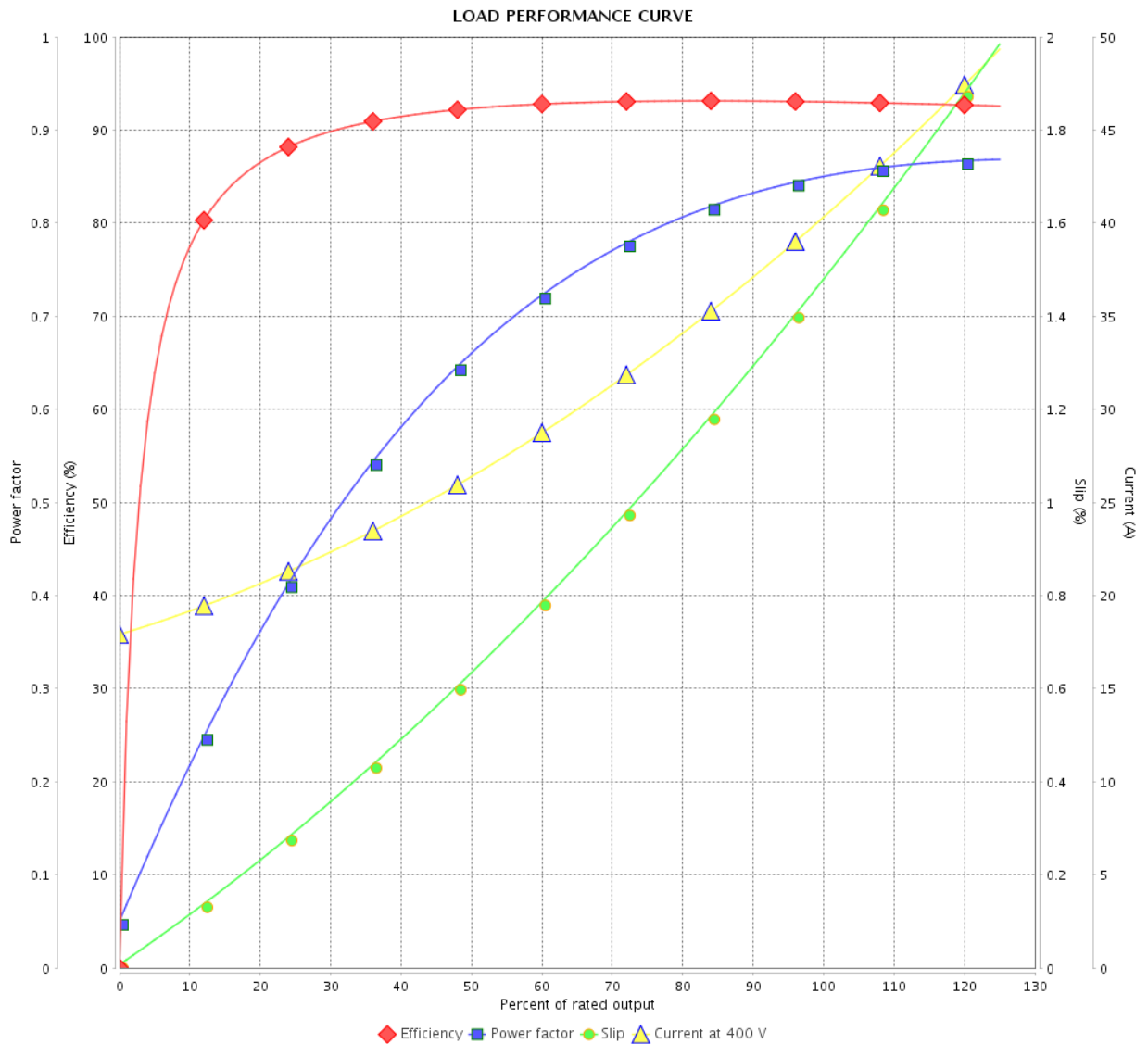


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Performance : 400 V 50 Hz 6P IE3

Rated current : 40.2 A
 LRC : 7.2
 Rated torque : 160 ft.lb
 Locked rotor torque : 240 %
 Breakdown torque : 280 %
 Rated speed : 985 rpm

Moment of inertia (J) : 29.0 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

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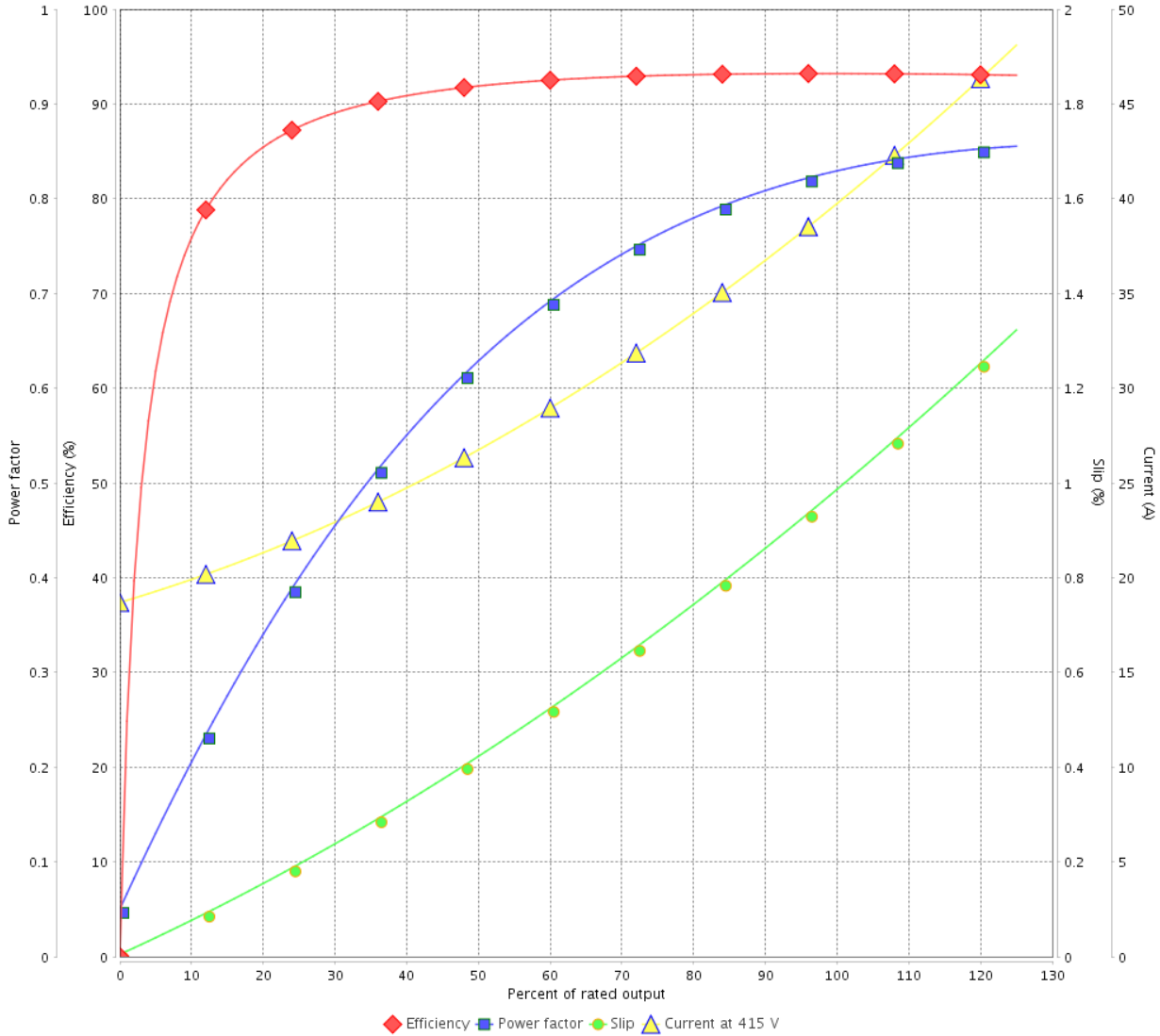
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Performance : 415 V 50 Hz 6P IE3

Rated current : 39.6 A
 LRC : 7.7
 Rated torque : 159 ft.lb
 Locked rotor torque : 270 %
 Breakdown torque : 310 %
 Rated speed : 990 rpm

Moment of inertia (J) : 29.0 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

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Three Phase Induction Motor - Squirrel Cage

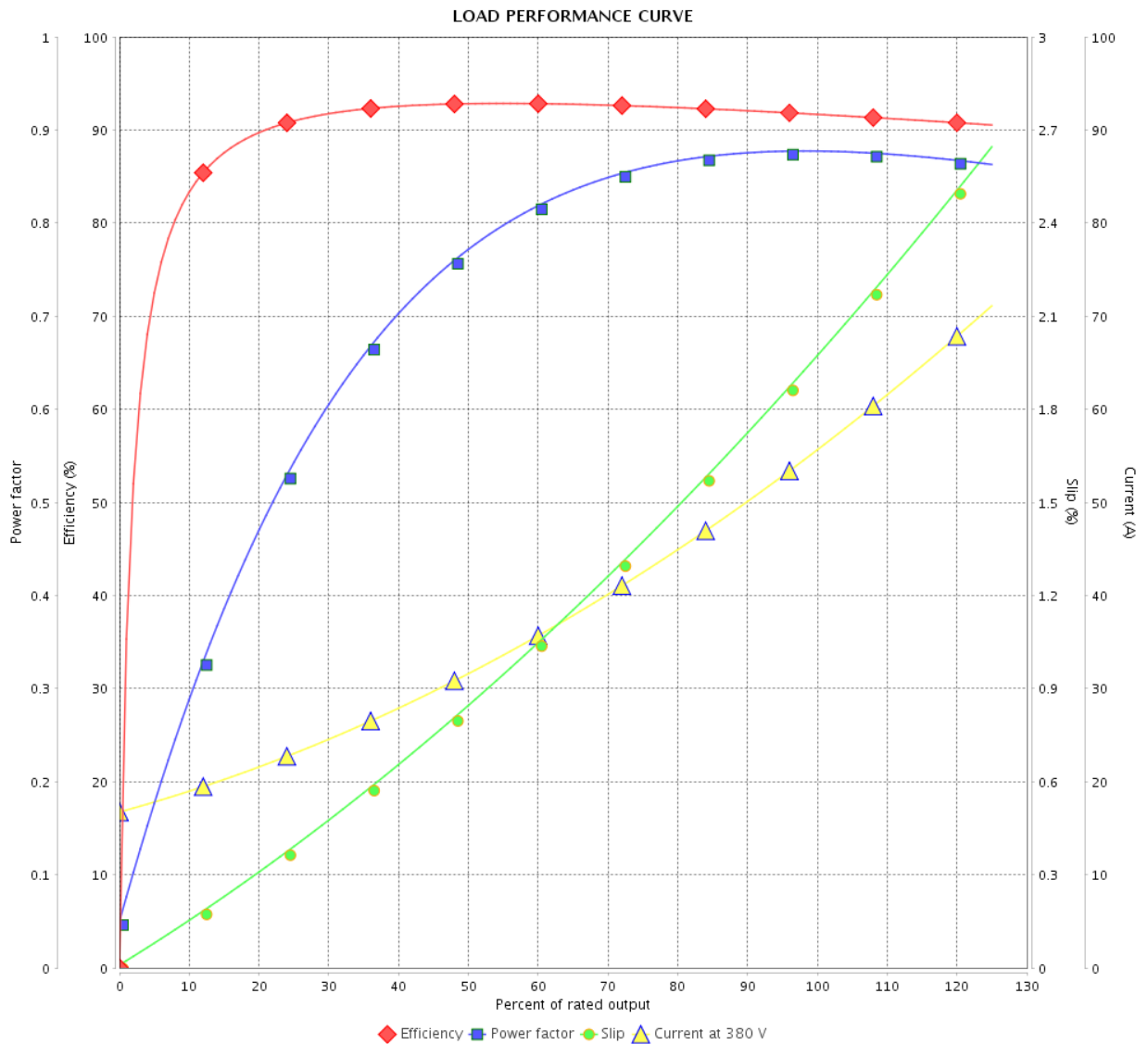


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Performance : 380 V 50 Hz 6P IE2

Rated current : 56.5 A
 LRC : 4.9
 Rated torque : 214 ft.lb
 Locked rotor torque : 160 %
 Breakdown torque : 190 %
 Rated speed : 980 rpm

Moment of inertia (J) : 29.0 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

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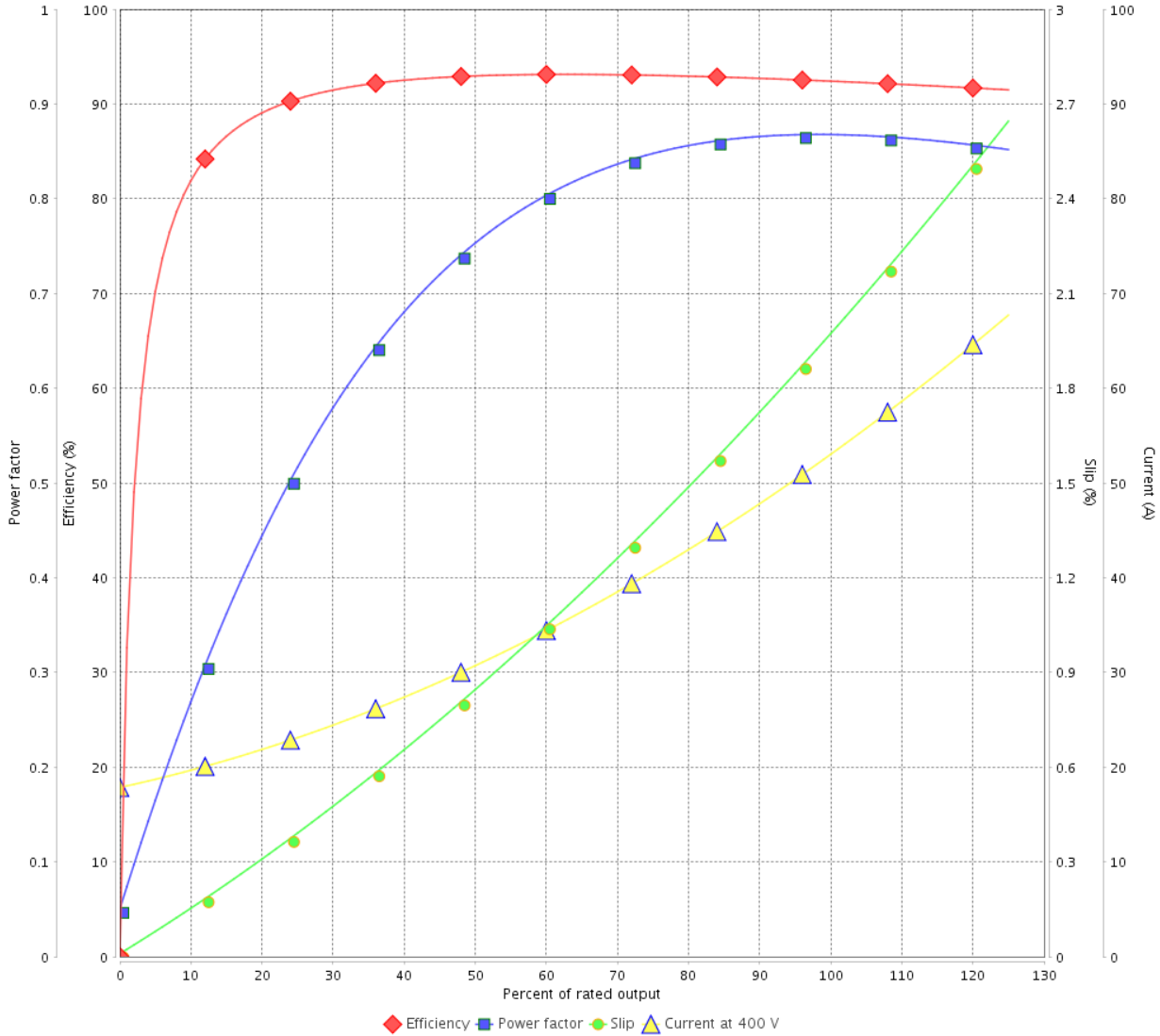
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Performance : 400 V 50 Hz 6P IE2

Rated current	: 53.9 A	Moment of inertia (J)	: 29.0 sq.ft.lb
LRC	: 5.5	Duty cycle	: Cont.(S1)
Rated torque	: 214 ft.lb	Insulation class	: F
Locked rotor torque	: 180 %	Service factor	: 1.00
Breakdown torque	: 210 %	Temperature rise	: 80 K
Rated speed	: 980 rpm	Design	: B

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Three Phase Induction Motor - Squirrel Cage

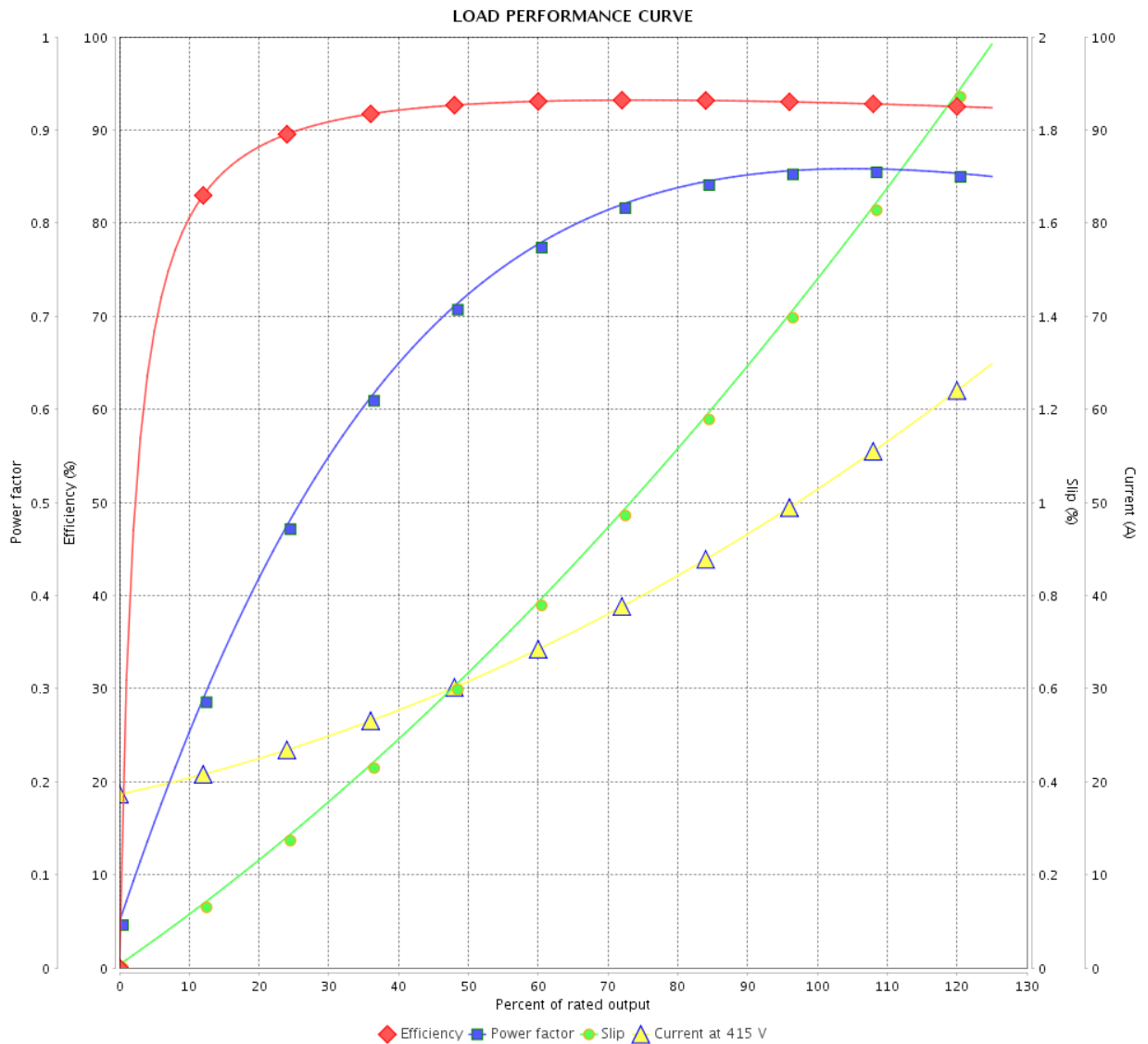


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Performance : 415 V 50 Hz 6P IE3

Rated current : 52.2 A
 LRC : 6.0
 Rated torque : 213 ft.lb
 Locked rotor torque : 200 %
 Breakdown torque : 229 %
 Rated speed : 985 rpm

Moment of inertia (J) : 29.0 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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LRC : 6.4	Duty cycle : Cont.(S1)
Rated torque : 177 ft.lb	Insulation class : F
Locked rotor torque : 200 %	Service factor : 1.25
Breakdown torque : 240 %	Temperature rise : 80 K
Rated speed : 1185 rpm	Design : B

Heating constant

Cooling constant

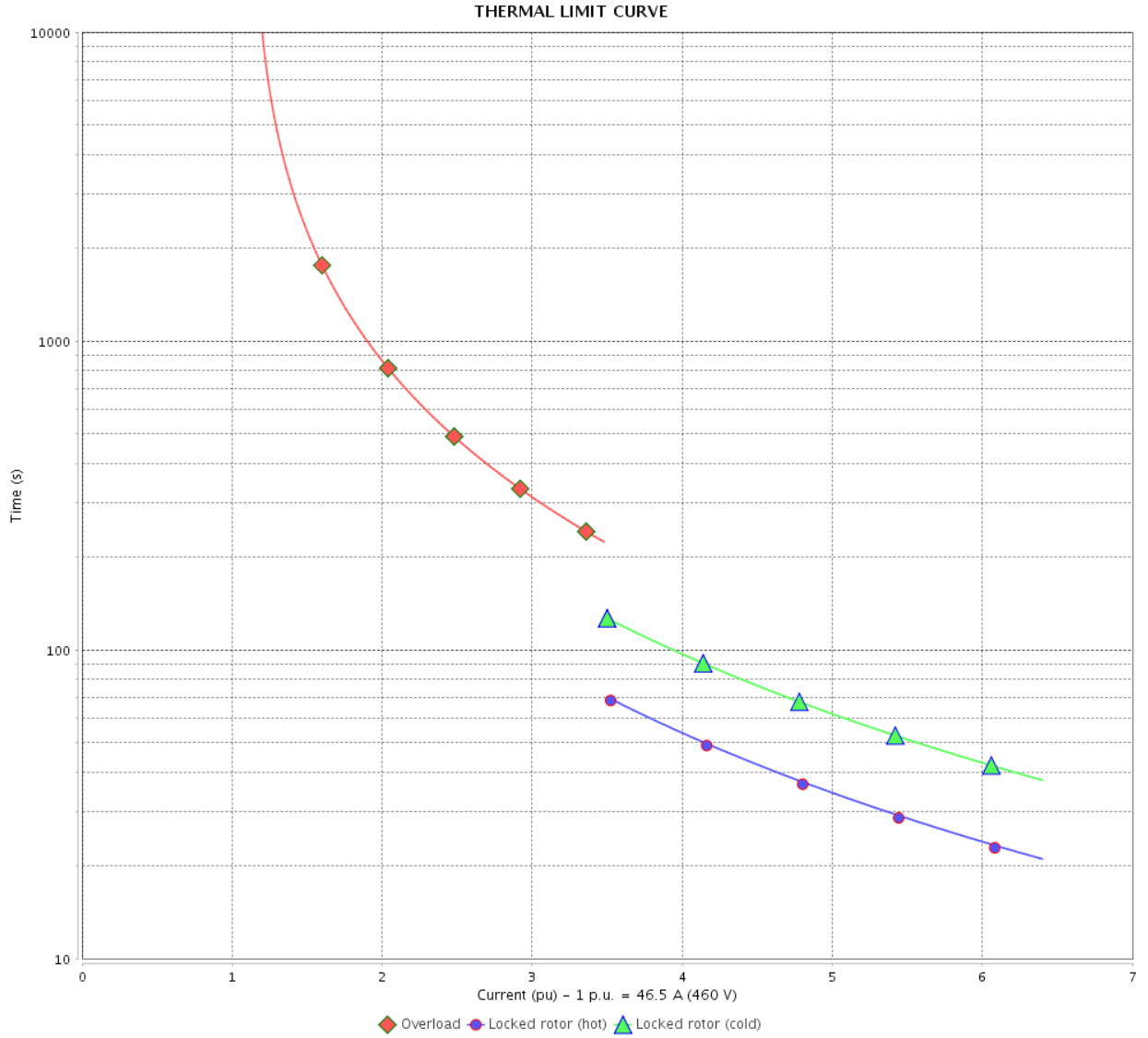
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Three Phase Induction Motor - Squirrel Cage



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Heating constant

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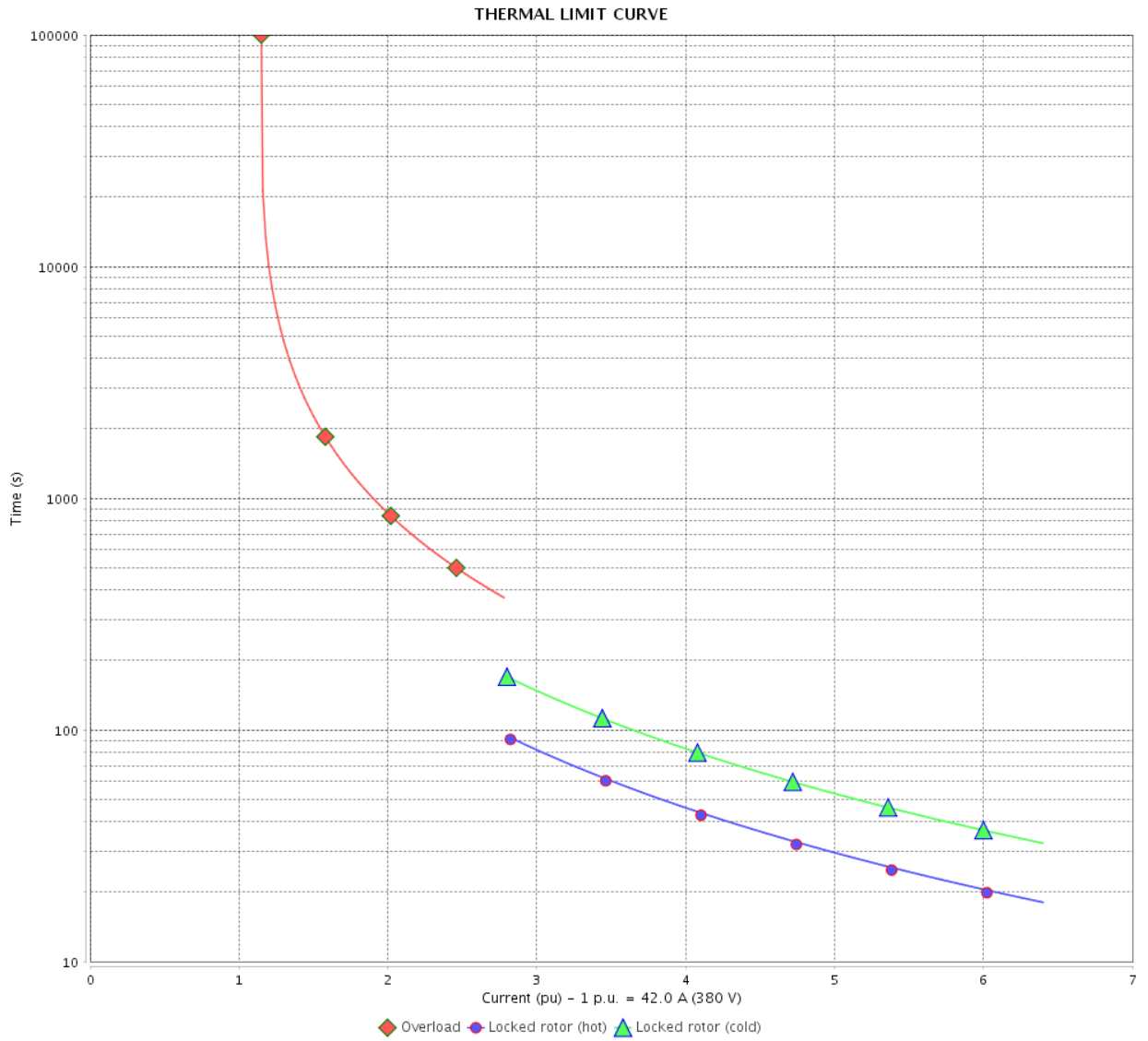
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Performance : 400 V 50 Hz 6P IE3

Rated current	: 40.2 A	Moment of inertia (J)	: 29.0 sq.ft.lb
LRC	: 7.2	Duty cycle	: Cont.(S1)
Rated torque	: 160 ft.lb	Insulation class	: F
Locked rotor torque	: 240 %	Service factor	: 1.00
Breakdown torque	: 280 %	Temperature rise	: 80 K
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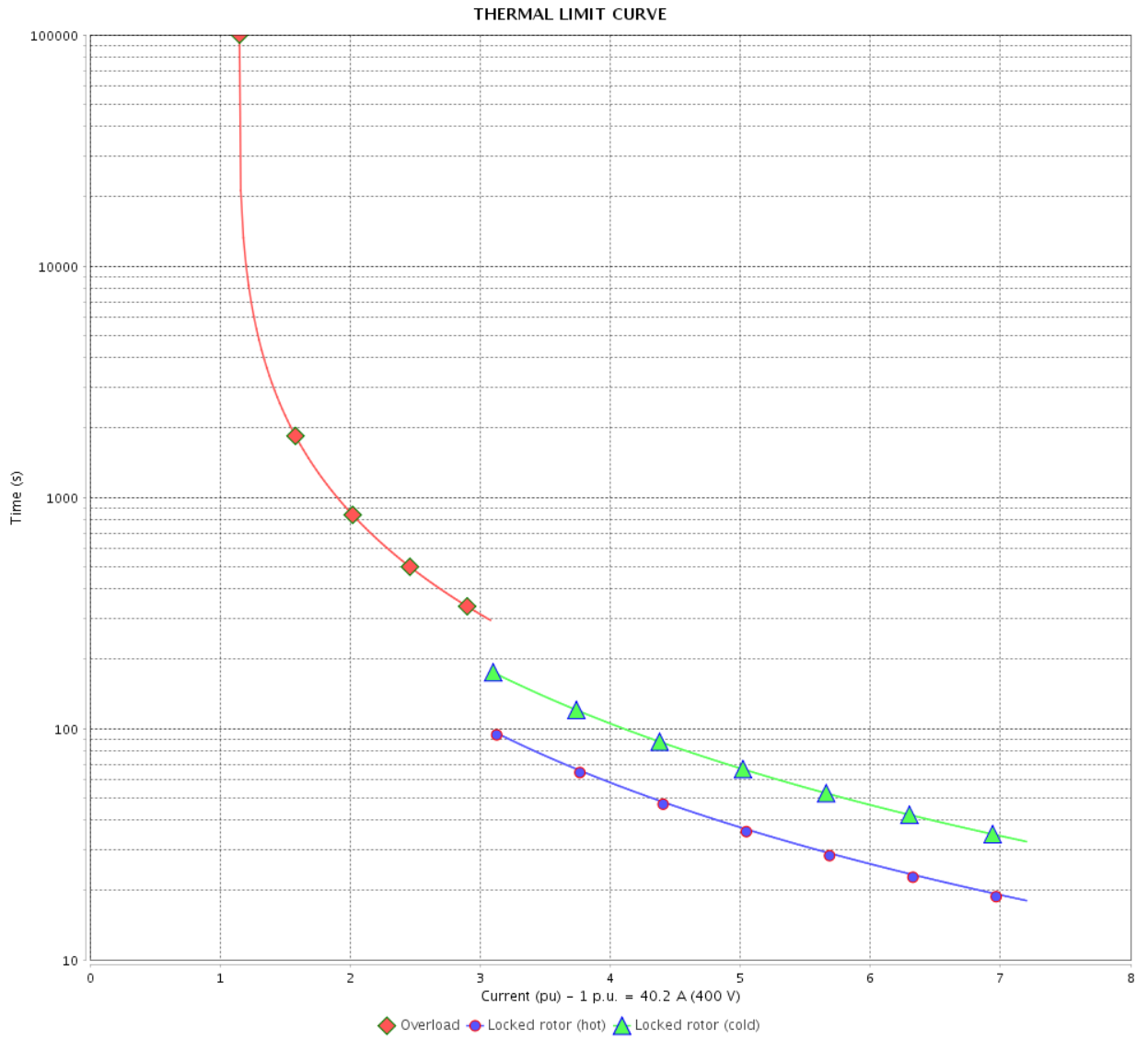
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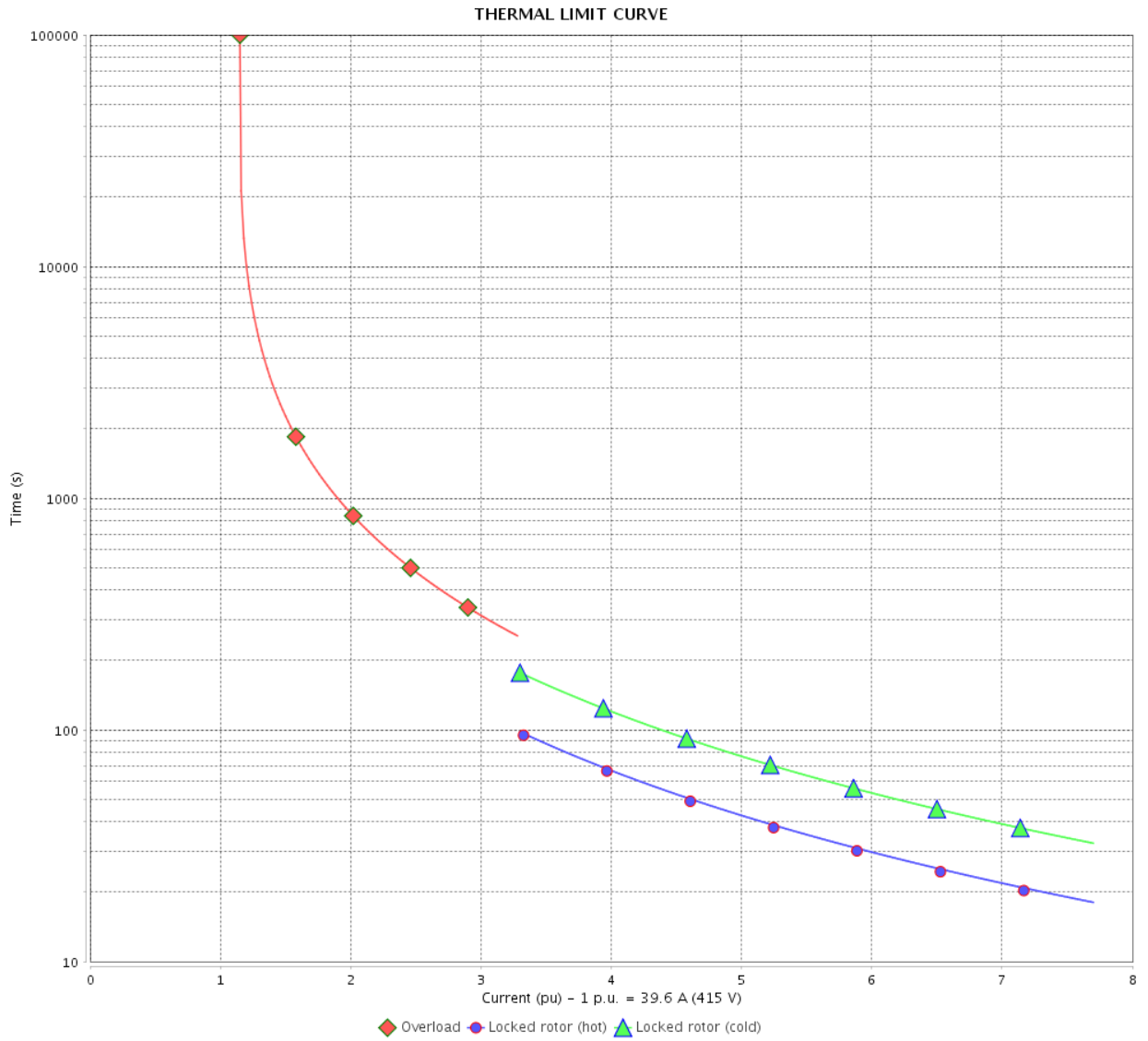
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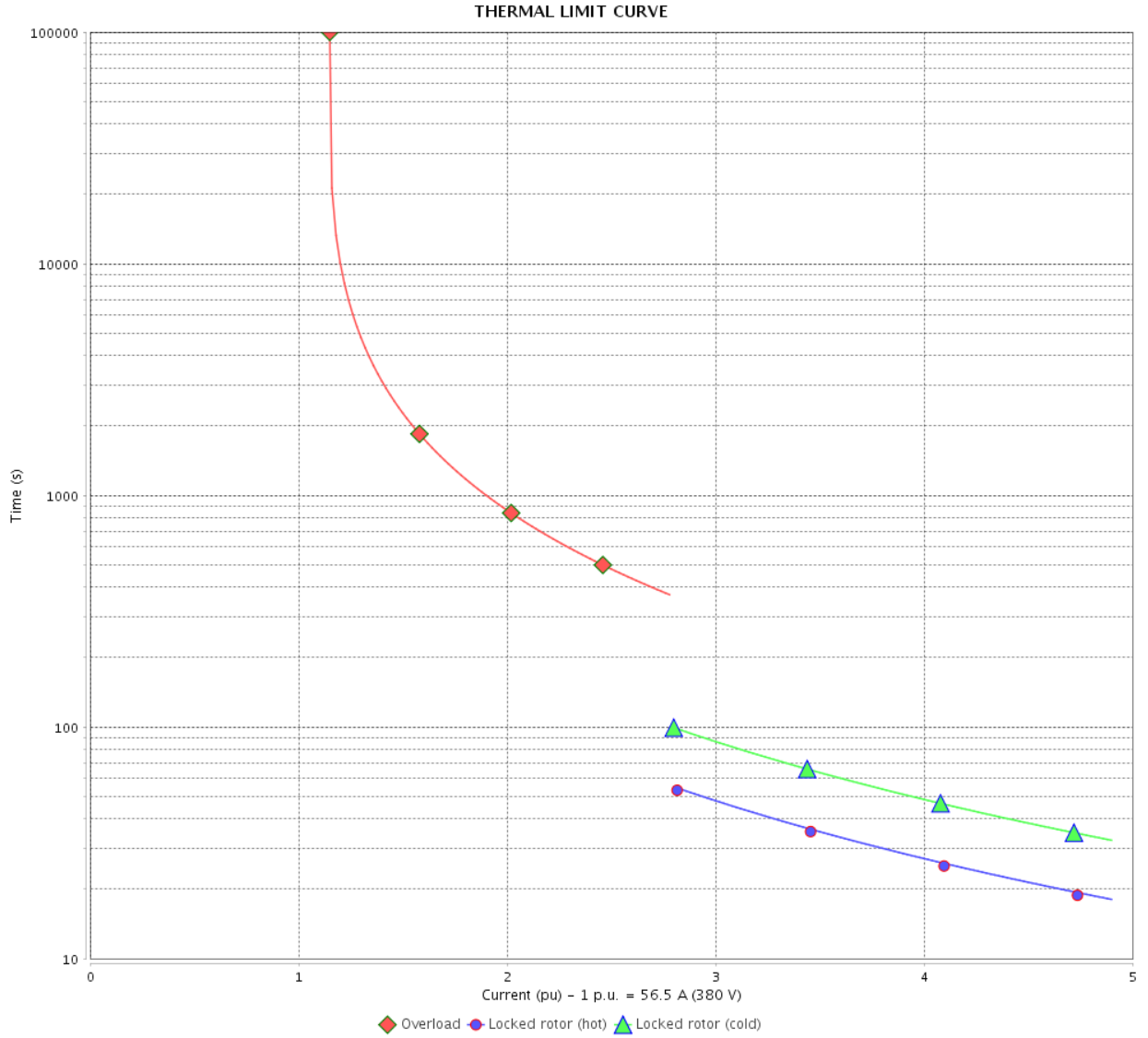
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Locked rotor torque	: 180 %	Service factor	: 1.00
Breakdown torque	: 210 %	Temperature rise	: 80 K
Rated speed	: 980 rpm	Design	: B

Heating constant

Cooling constant

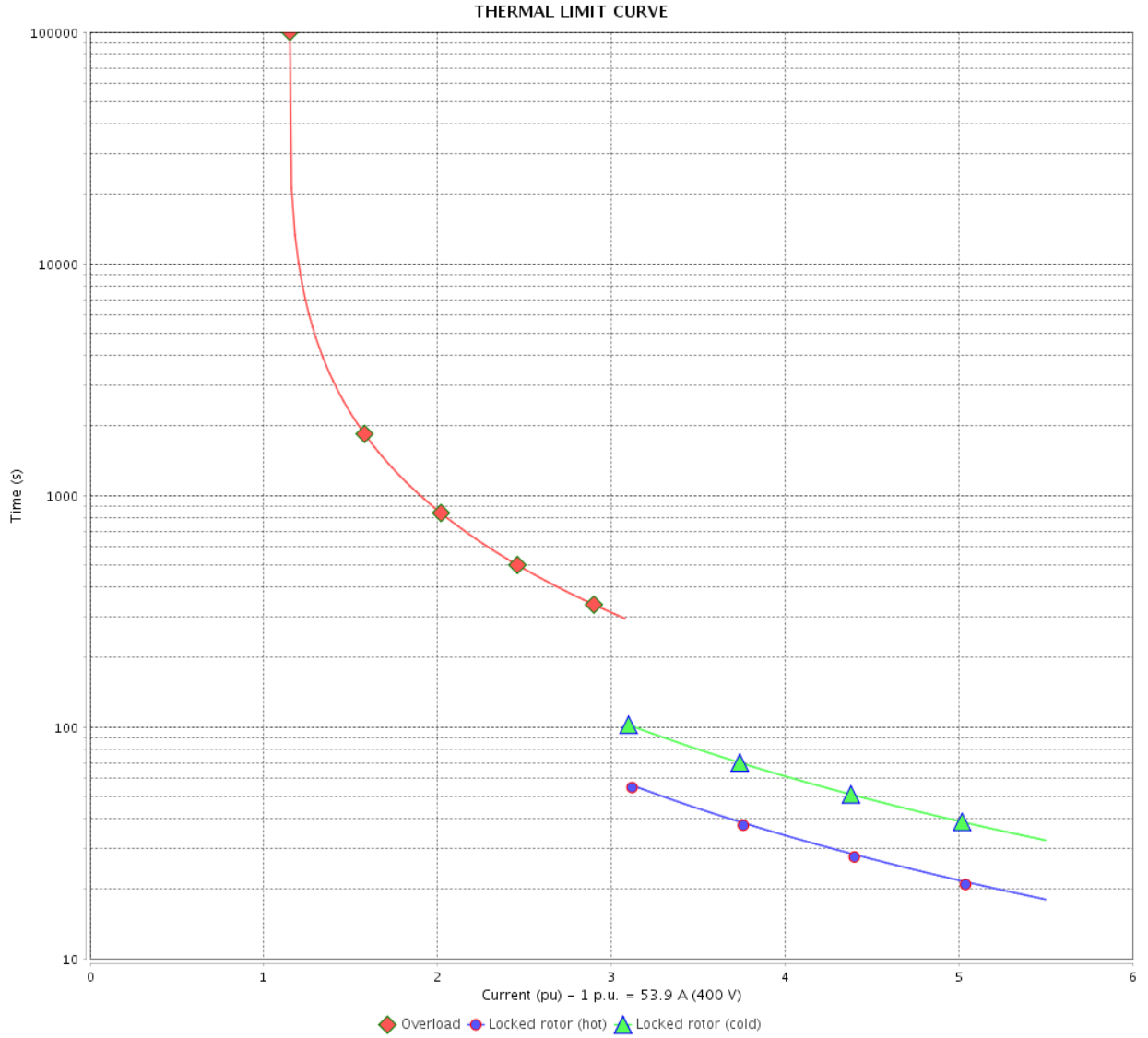
Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by			Page	Revision
Date	12/04/2022		26 / 36	

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 : 12679071
Catalog # : 04012ST3QIE364TC-W22

Performance : 415 V 50 Hz 6P IE3

Rated current : 52.2 A	Moment of inertia (J) : 29.0 sq.ft.lb
LRC : 6.0	Duty cycle : Cont.(S1)
Rated torque : 213 ft.lb	Insulation class : F
Locked rotor torque : 200 %	Service factor : 1.00
Breakdown torque : 229 %	Temperature rise : 80 K
Rated speed : 985 rpm	Design : B

Heating constant

Cooling constant

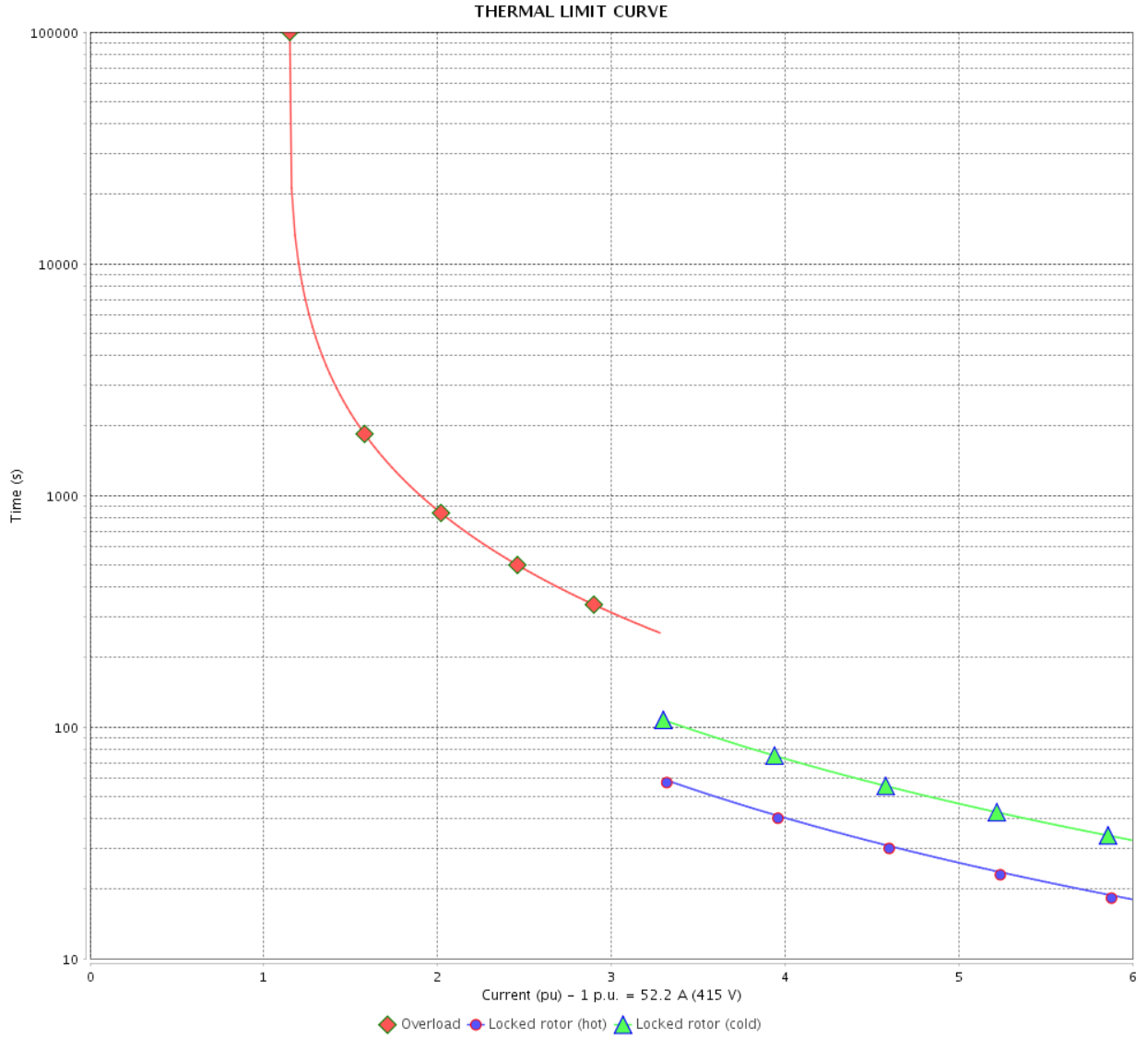
Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page	Revision
Checked by				
Date				
			28 / 36	

THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : _____



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Performed by		Page 29 / 36		Revision
Checked by				
Date				

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



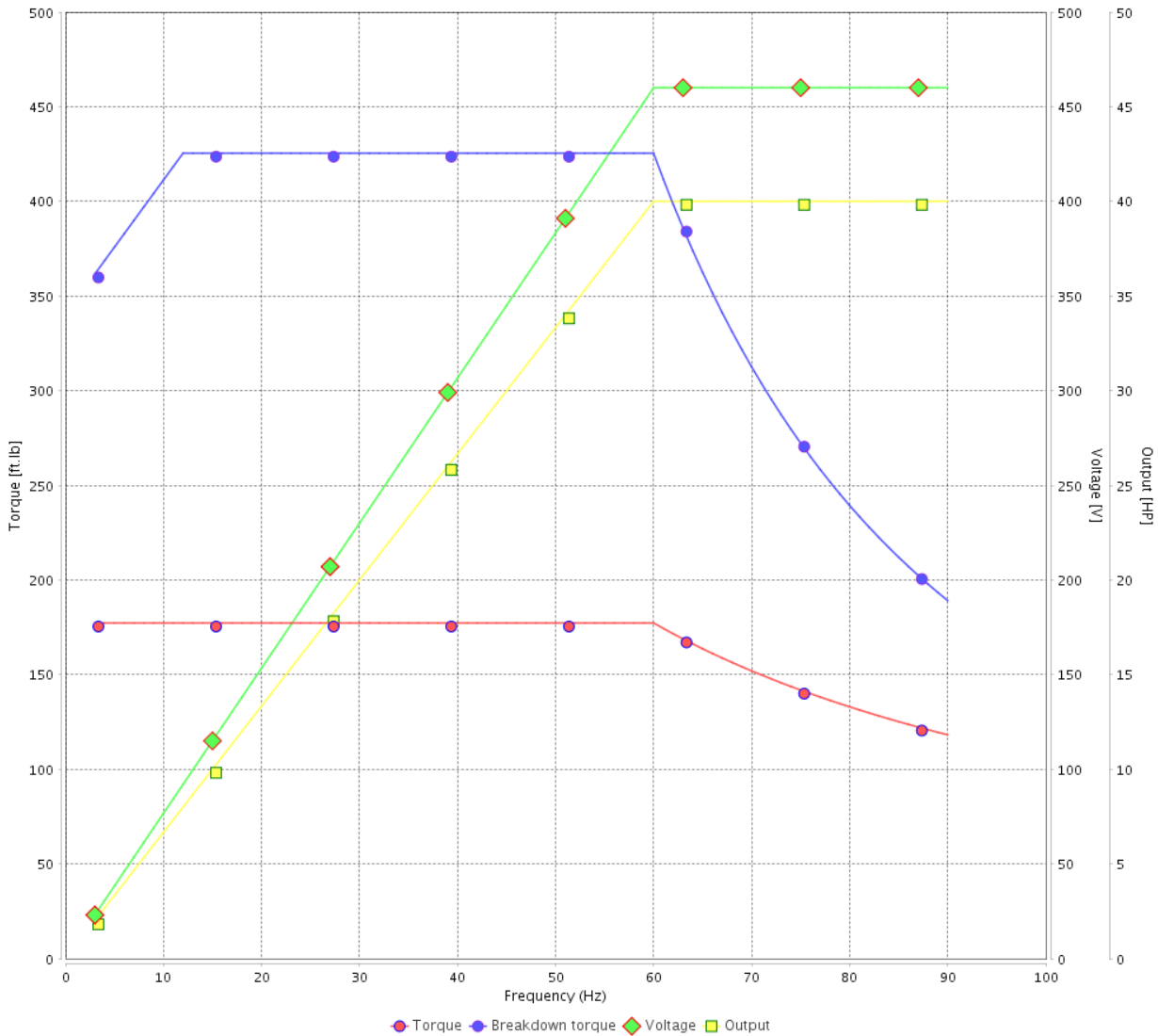
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12679071

Catalog # : 04012ST3QIE364TC-W22

VFD OPERATION CURVE



Performance : 460 V 60 Hz 6P

Rated current	: 46.5 A	Moment of inertia (J)	: 29.0 sq.ft.lb
LRC	: 6.4	Duty cycle	: Cont.(S1)
Rated torque	: 177 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.25
Breakdown torque	: 240 %	Temperature rise	: 80 K
Rated speed	: 1185 rpm	Design	: B

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Performed by			Page 30 / 36	Revision
Checked by				
Date	12/04/2022			

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

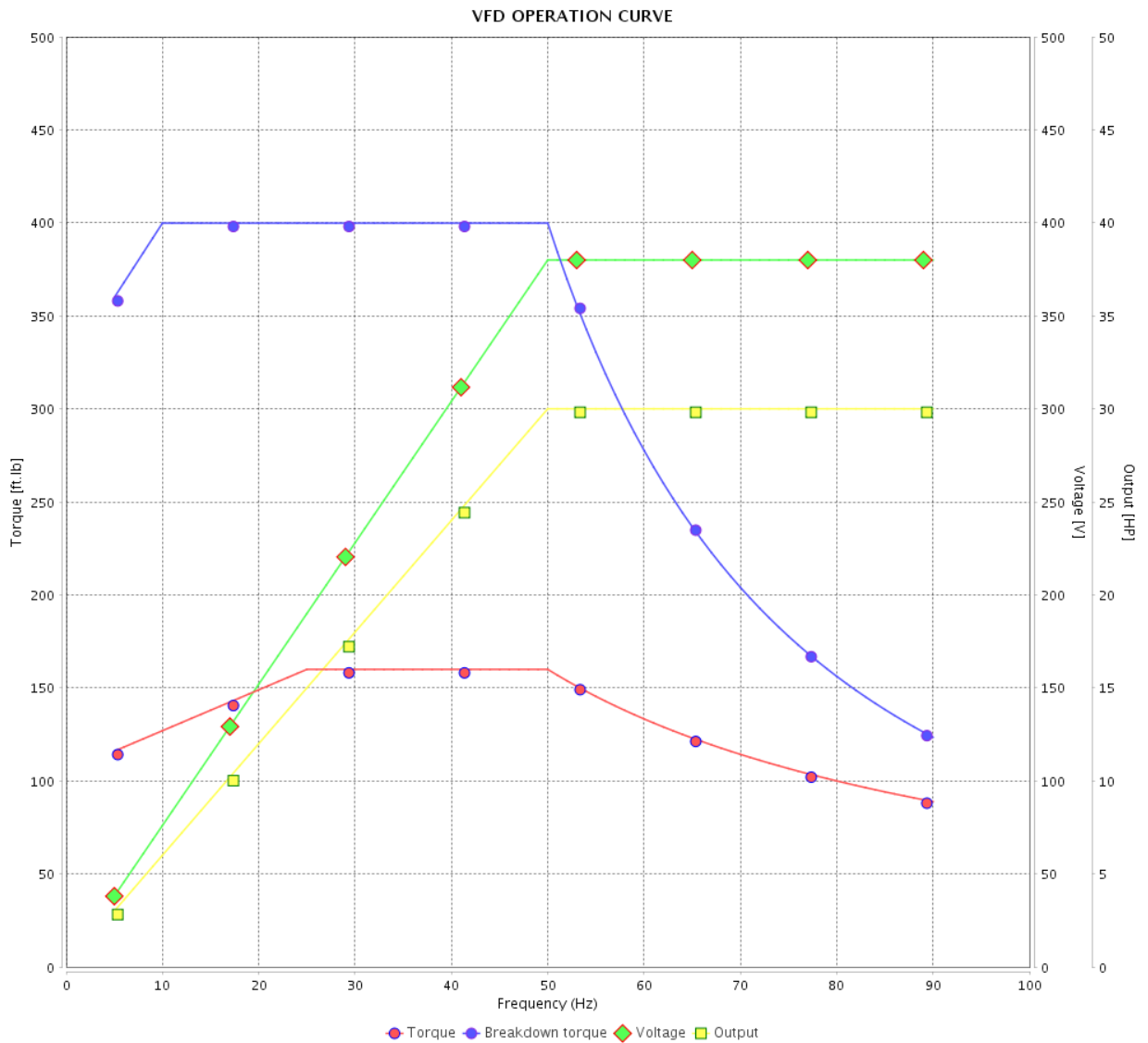


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12679071

Catalog # : 04012ST3QIE364TC-W22



Performance : 380 V 50 Hz 6P IE3

Rated current : 42.0 A
 LRC : 6.4
 Rated torque : 160 ft.lb
 Locked rotor torque : 210 %
 Breakdown torque : 250 %
 Rated speed : 985 rpm

Moment of inertia (J) : 29.0 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			31 / 36	
Date	12/04/2022			

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



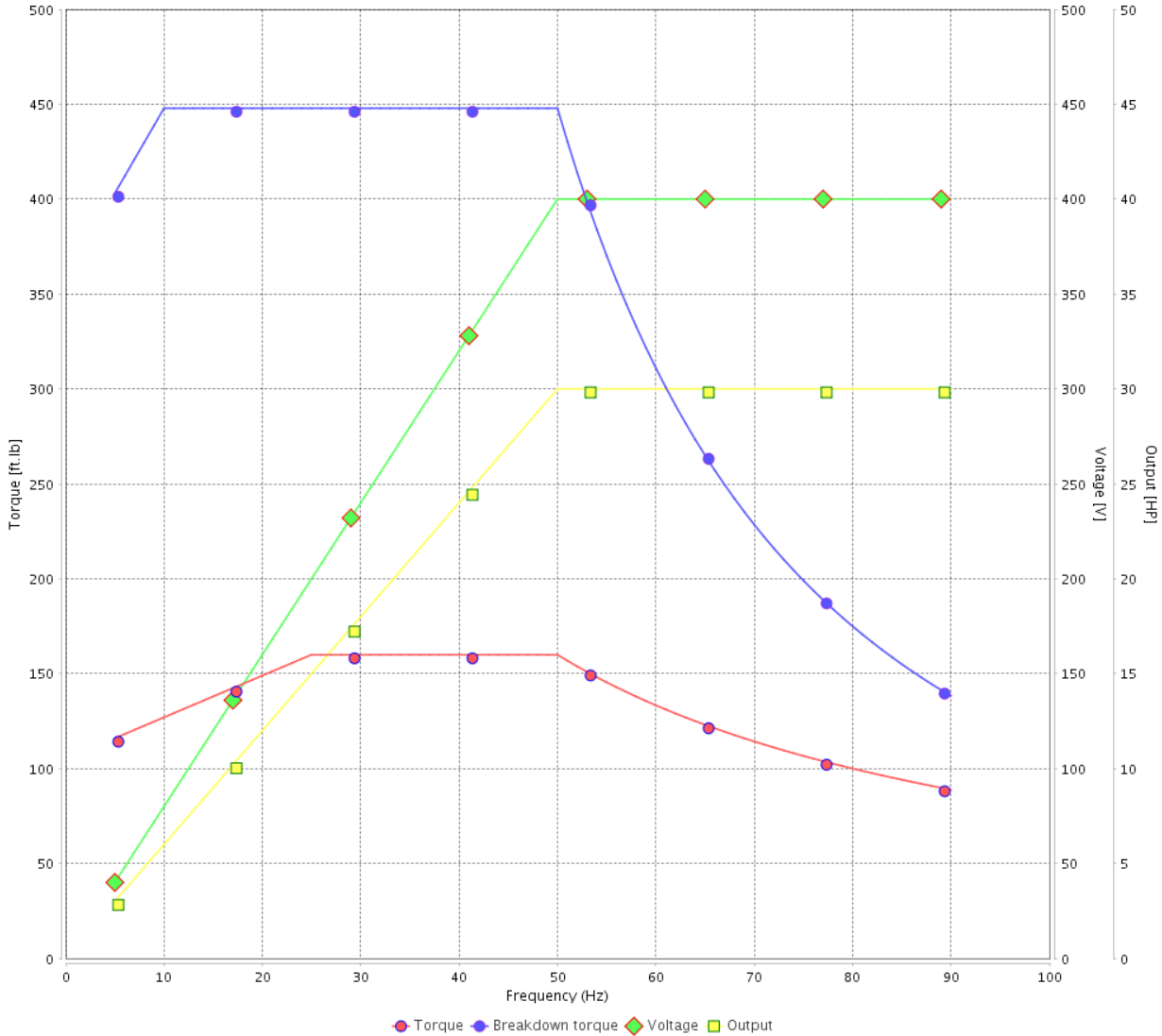
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12679071

Catalog # : 04012ST3QIE364TC-W22

VFD OPERATION CURVE



Performance : 400 V 50 Hz 6P IE3

Rated current : 40.2 A
 LRC : 7.2
 Rated torque : 160 ft.lb
 Locked rotor torque : 240 %
 Breakdown torque : 280 %
 Rated speed : 985 rpm

Moment of inertia (J) : 29.0 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
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Date	12/04/2022			

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

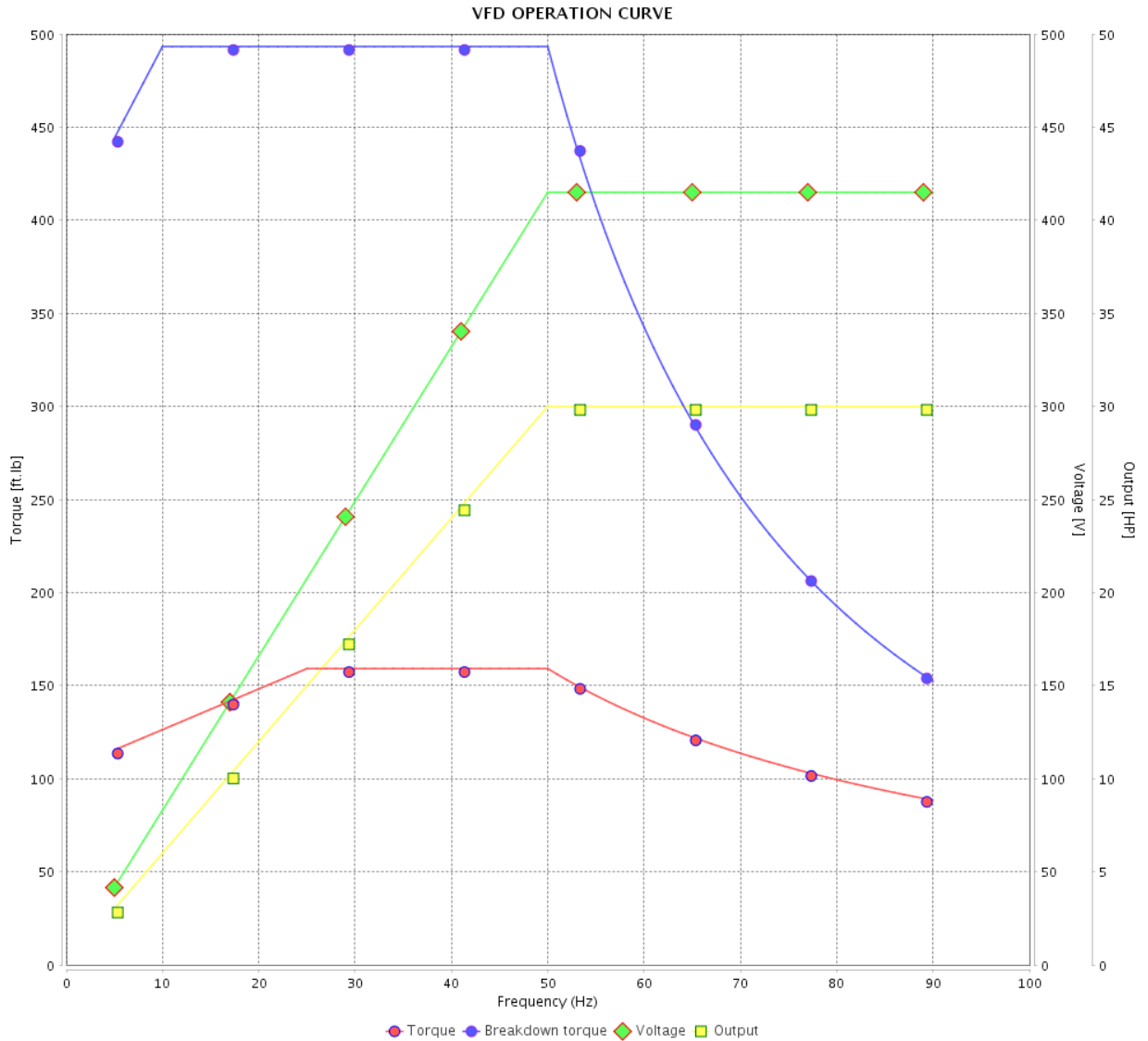


Customer : _____

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12679071

Catalog # : 04012ST3QIE364TC-W22



Performance : 415 V 50 Hz 6P IE3

Rated current : 39.6 A
 LRC : 7.7
 Rated torque : 159 ft.lb
 Locked rotor torque : 270 %
 Breakdown torque : 310 %
 Rated speed : 990 rpm

Moment of inertia (J) : 29.0 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



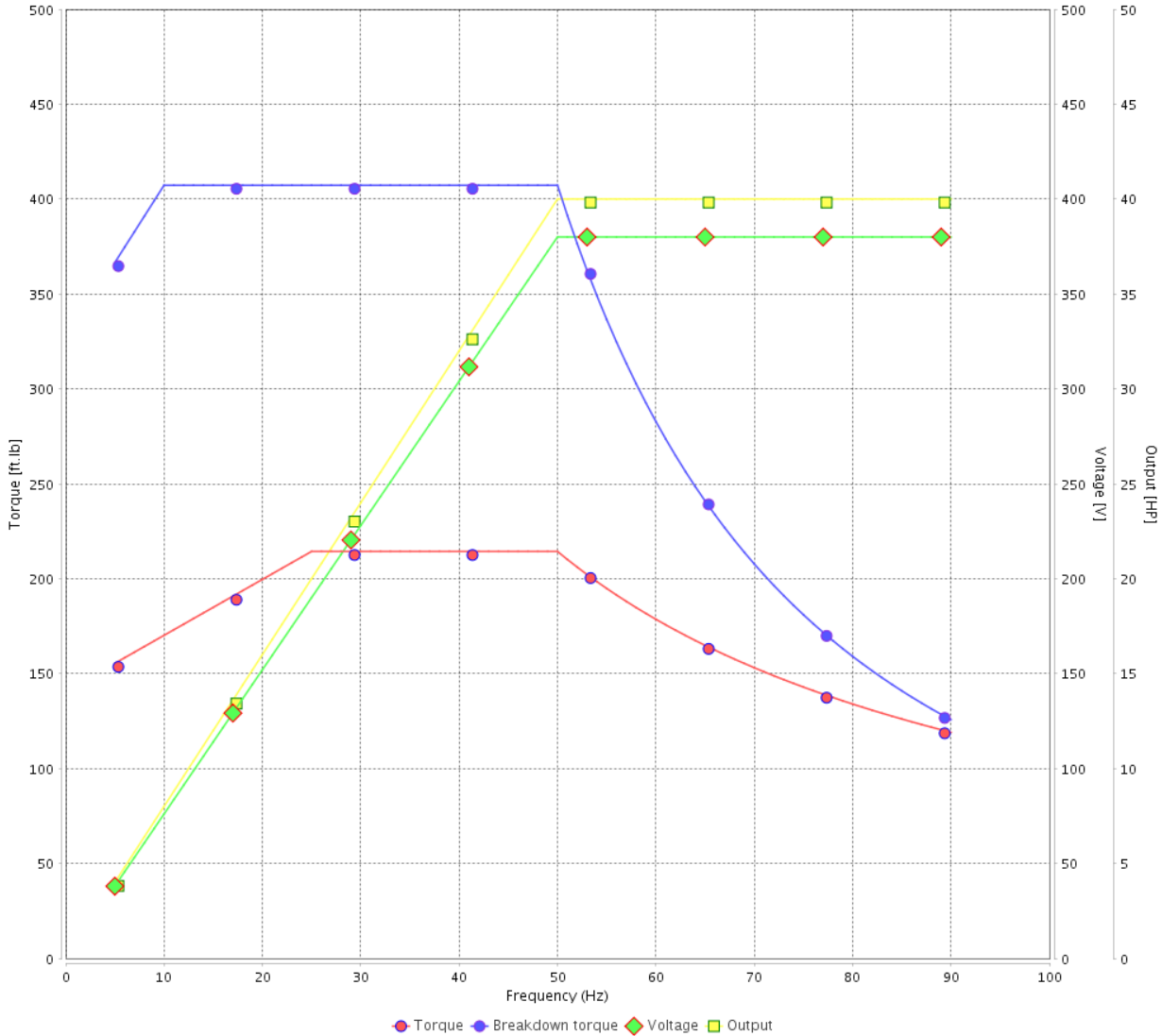
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12679071

Catalog # : 04012ST3QIE364TC-W22

VFD OPERATION CURVE



Performance : 380 V 50 Hz 6P IE2

Rated current	: 56.5 A	Moment of inertia (J)	: 29.0 sq.ft.lb
LRC	: 4.9	Duty cycle	: Cont.(S1)
Rated torque	: 214 ft.lb	Insulation class	: F
Locked rotor torque	: 160 %	Service factor	: 1.00
Breakdown torque	: 190 %	Temperature rise	: 80 K
Rated speed	: 980 rpm	Design	: B

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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

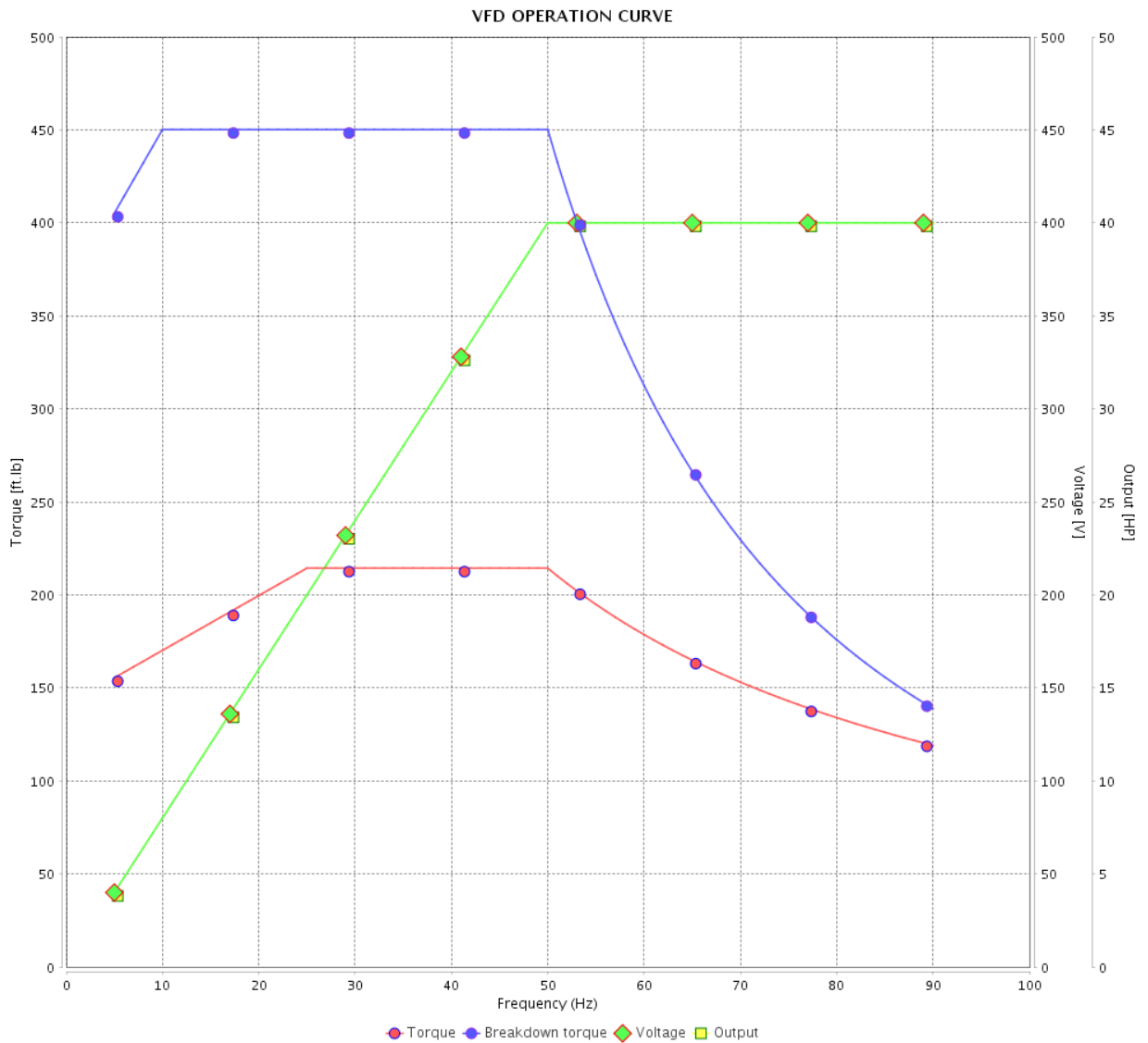


Customer : _____

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12679071

Catalog # : 04012ST3QIE364TC-W22



Performance : 400 V 50 Hz 6P IE2

Rated current : 53.9 A
 LRC : 5.5
 Rated torque : 214 ft.lb
 Locked rotor torque : 180 %
 Breakdown torque : 210 %
 Rated speed : 980 rpm

Moment of inertia (J) : 29.0 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

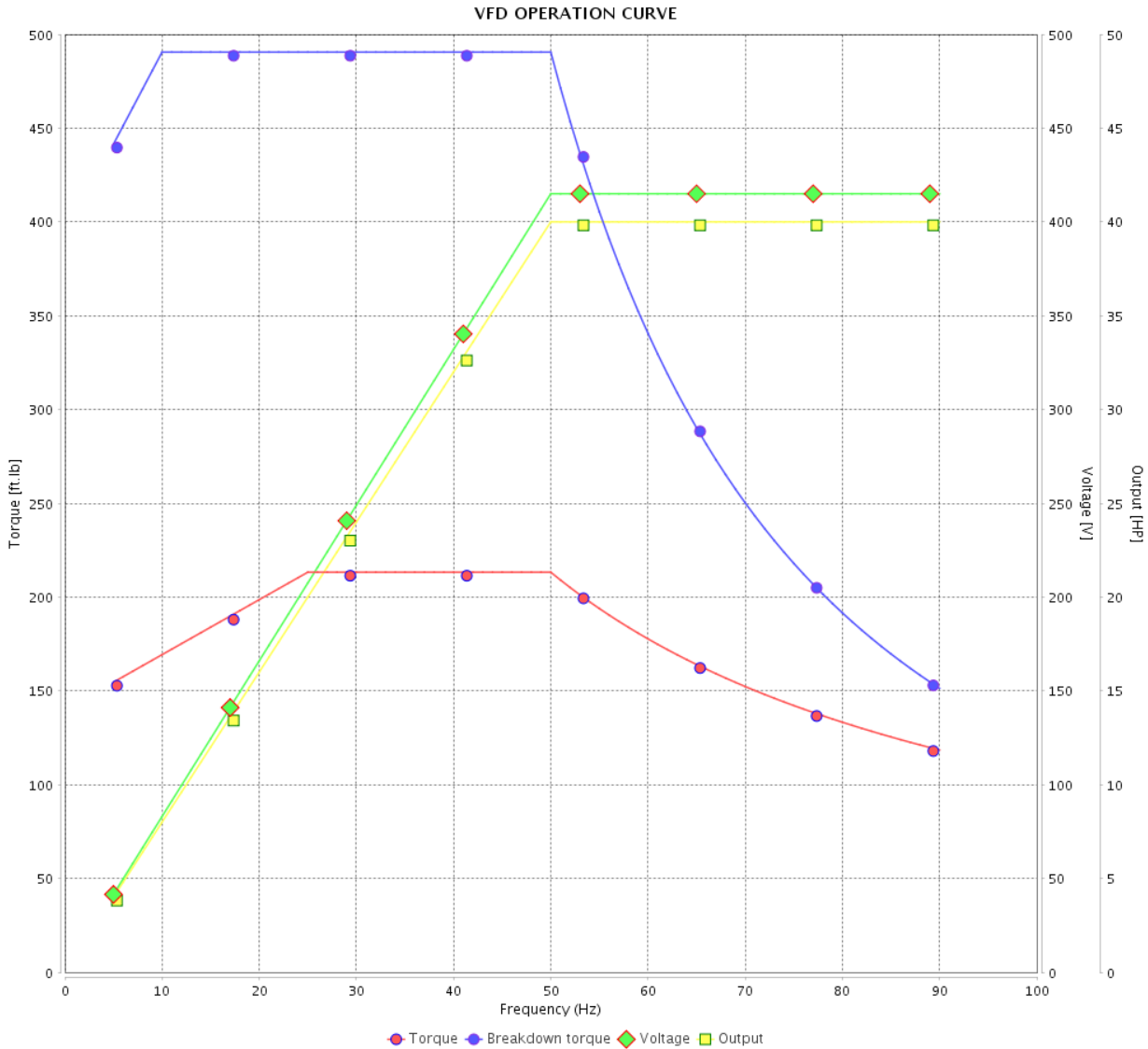


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12679071

Catalog # : 04012ST3QIE364TC-W22



Performance : 415 V 50 Hz 6P IE3

Rated current	: 52.2 A	Moment of inertia (J)	: 29.0 sq.ft.lb
LRC	: 6.0	Duty cycle	: Cont.(S1)
Rated torque	: 213 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.00
Breakdown torque	: 229 %	Temperature rise	: 80 K
Rated speed	: 985 rpm	Design	: B

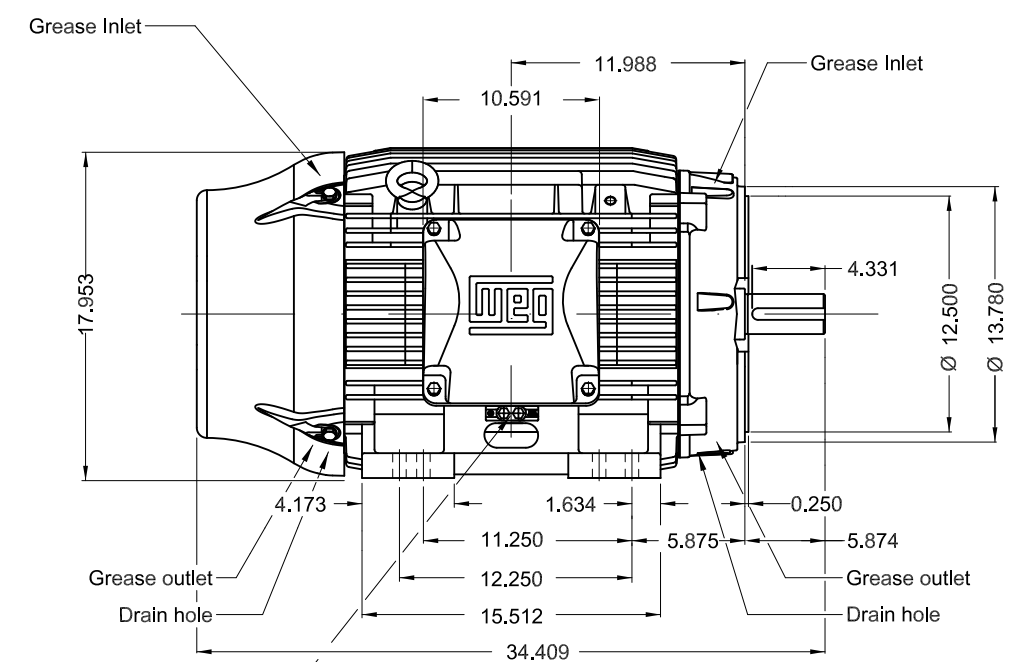
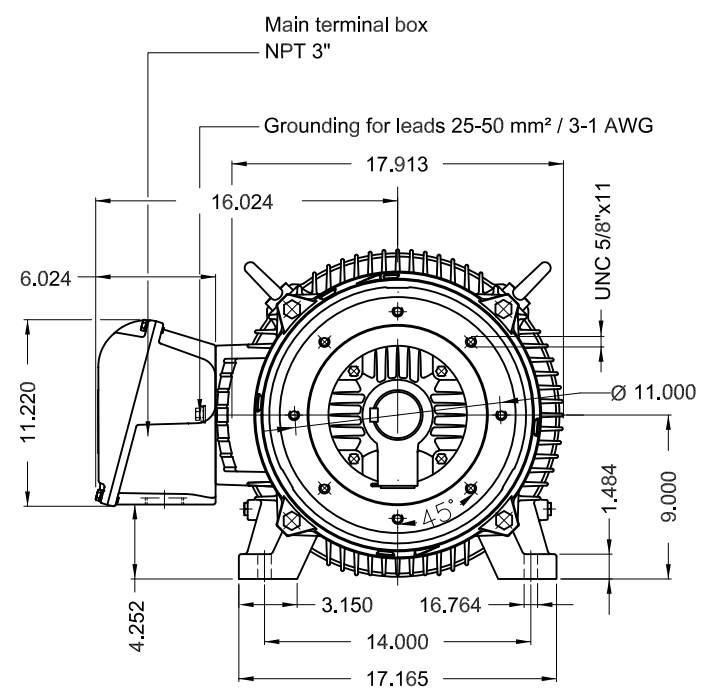
Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 36 / 36	Revision
Checked by				
Date	12/04/2022			

1 2 3 4 5 6

A

B

C

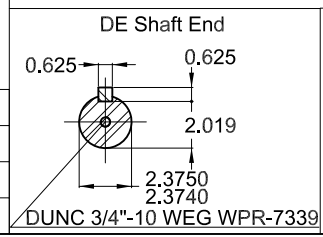


Grounding for leads 25-185 mm² / 3AWG-350MCM

D

E

Color RAL 5009
 Painting plan 202E
 Mounting NEMA F-1
 Mounting B34R(D)



40 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 364/5TC IP55 TEFC					
CHECKED							
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 - T4
For use on PWM: Gr. A, B, C, D and F,
VT 1000:1, CT 20:1, 1.00SF - T3A

MODEL 04012ST3QIE364TC-W22

Inverter Duty Motor
Severe Duty



MADE IN BRAZIL
12679071

PH3 60Hz Fr. 364/5TC 1000m.a.s.l. IP55 TEFC 925lb

V 460

A 46.5

HP 40

kW 30

SF 1.25

SFA 58.1

RPM 1185

PF 0.86

AMB 40°C

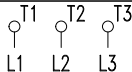
INS cl. F DT80K

NEMA NOM EFF 94.1%

DUTY CONT.

DES B Code G

GUARANT. EFF 93.0%



460V



→ 6314-C3 (27g) 70BC03X30

→ 6314-C3 (27g) 70BC03X30



MOBIL POLYREX EM (17000h)

