

DATA SHEET



Three Phase Induction Motor - Squirrel Cage

Customer							
Product line	: NEMA Premium Efficiency Three-Phase			Product code :	12407831		
				Catalog # :	04012ET3E364TC-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	: 921 lb		
Protection degree	: IP55			Moment of inertia (J)	: 21.8 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]	230/460	380	400	415	380	400	415
Rated current [A]	93.0/46.5	42.0	40.2	39.6	56.5	53.9	52.2
L. R. Amperes [A]	595/298	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]	34.0/17.0	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%						
	50%	93.6	92.4	92.3	91.9	93.0	93.0
	75%	93.6	92.8	93.1	93.0	92.4	93.0
	100%	94.1	92.5	93.0	93.2	91.7	92.4
Power Factor	25%						
	50%	0.73	0.68	0.66	0.63	0.78	0.76
	75%	0.82	0.80	0.79	0.76	0.85	0.84
	100%	0.86	0.86	0.85	0.83	0.88	0.87
Bearing type	: 6314 C3	6314 C3	Foundation loads				
Sealing	: WSeal	WSeal	Max. traction	: 1219 lb			
Lubrication interval	: 17000 h	17000 h	Max. compression	: 2139 lb			
Lubricant amount	: 27 g	27 g					
Lubricant type	: Mobil Polyrex EM						
Notes							
USABLE @208V 103A SF 1.10 SFA 113A							
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



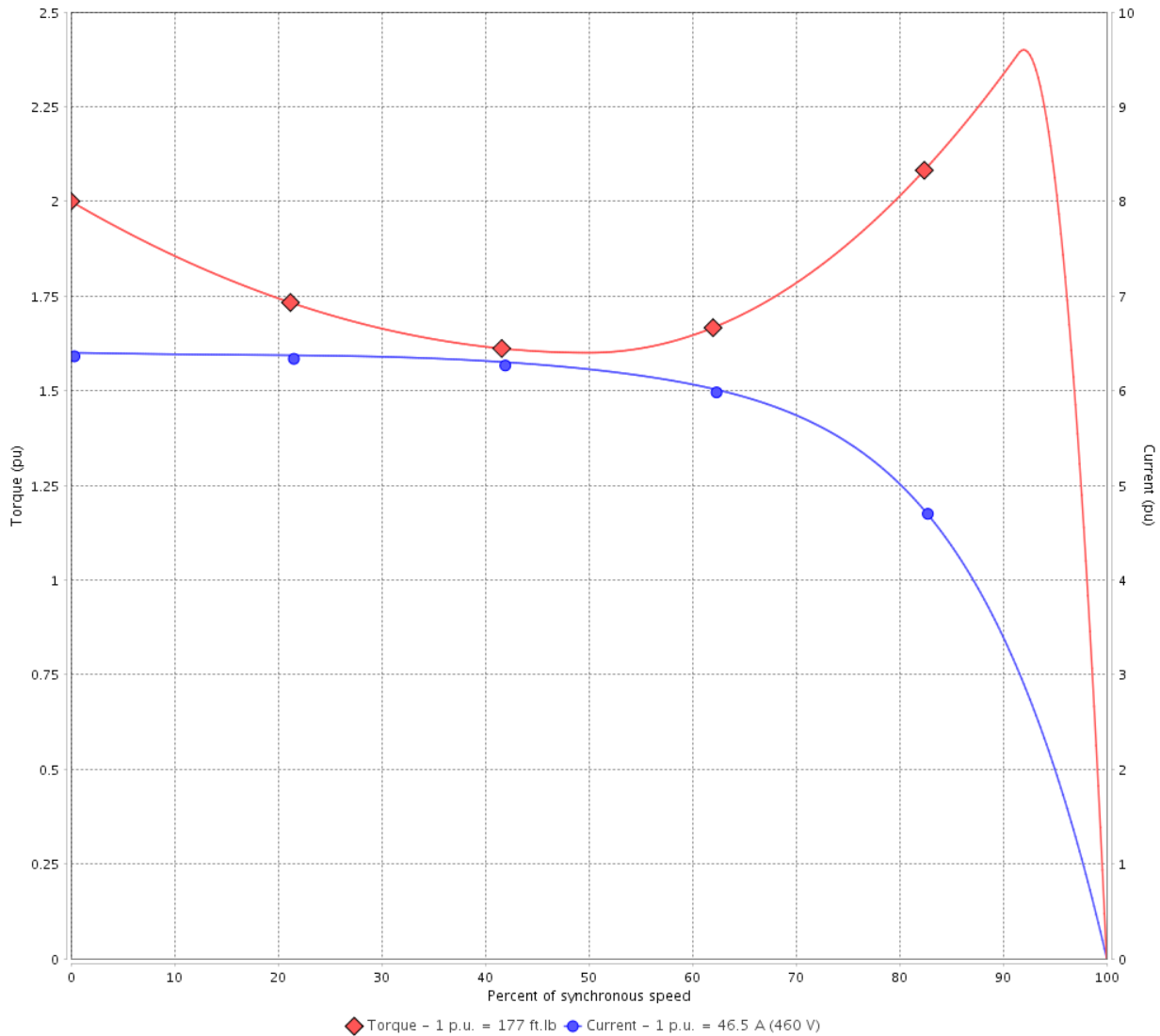
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12407831

Catalog # : 04012ET3E364TC-W22

TORQUE AND CURRENT VS SPEED CURVE



Performance : 230/460 V 60 Hz 6P

Rated current	: 93.0/46.5 A	Moment of inertia (J)	: 21.8 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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TORQUE AND CURRENT VS SPEED CURVE



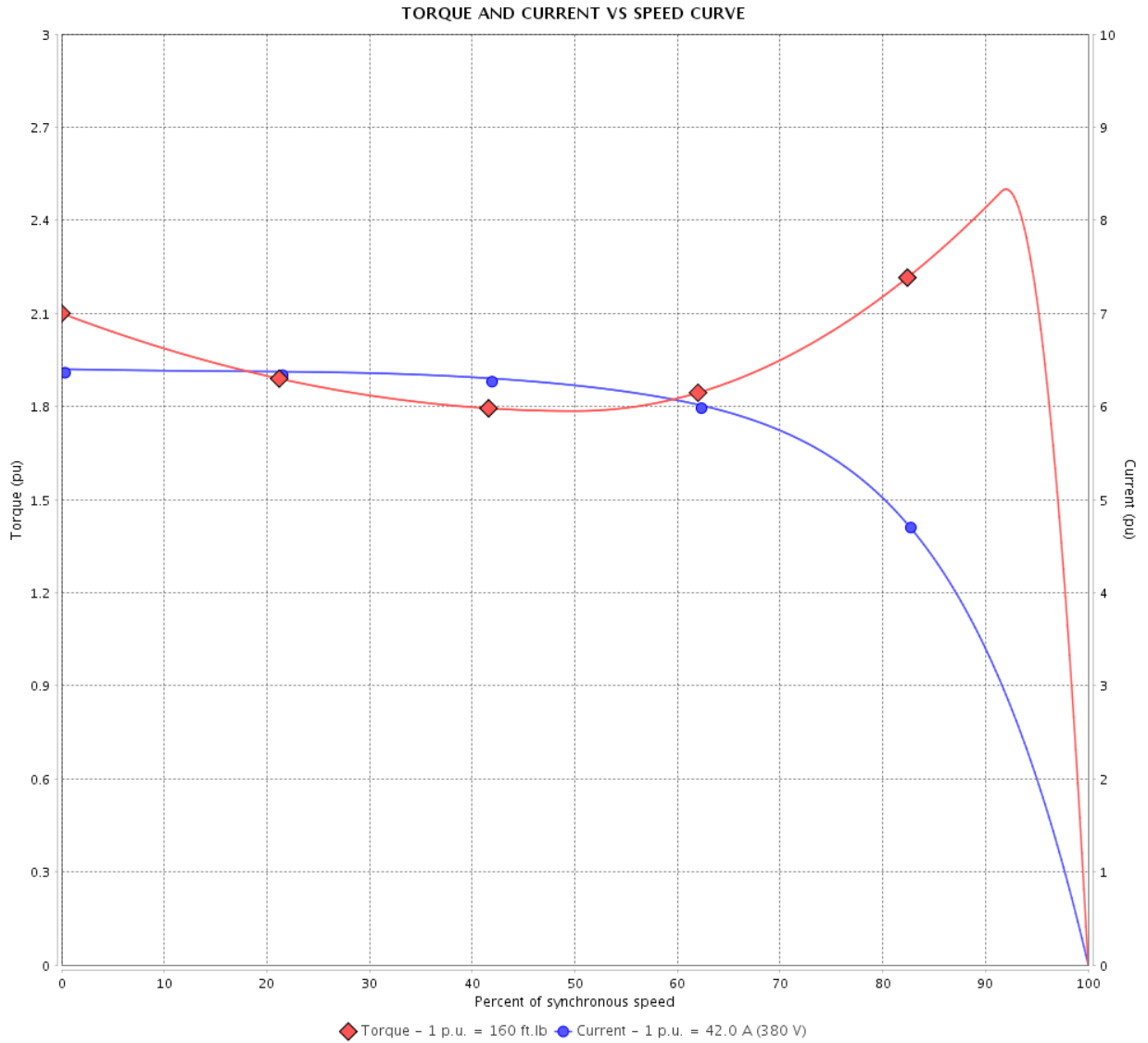
Three Phase Induction Motor - Squirrel Cage

Customer :

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Performance : 380 V 50 Hz 6P IE3

Rated current	: 42.0 A	Moment of inertia (J)	: 21.8 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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TORQUE AND CURRENT VS SPEED CURVE

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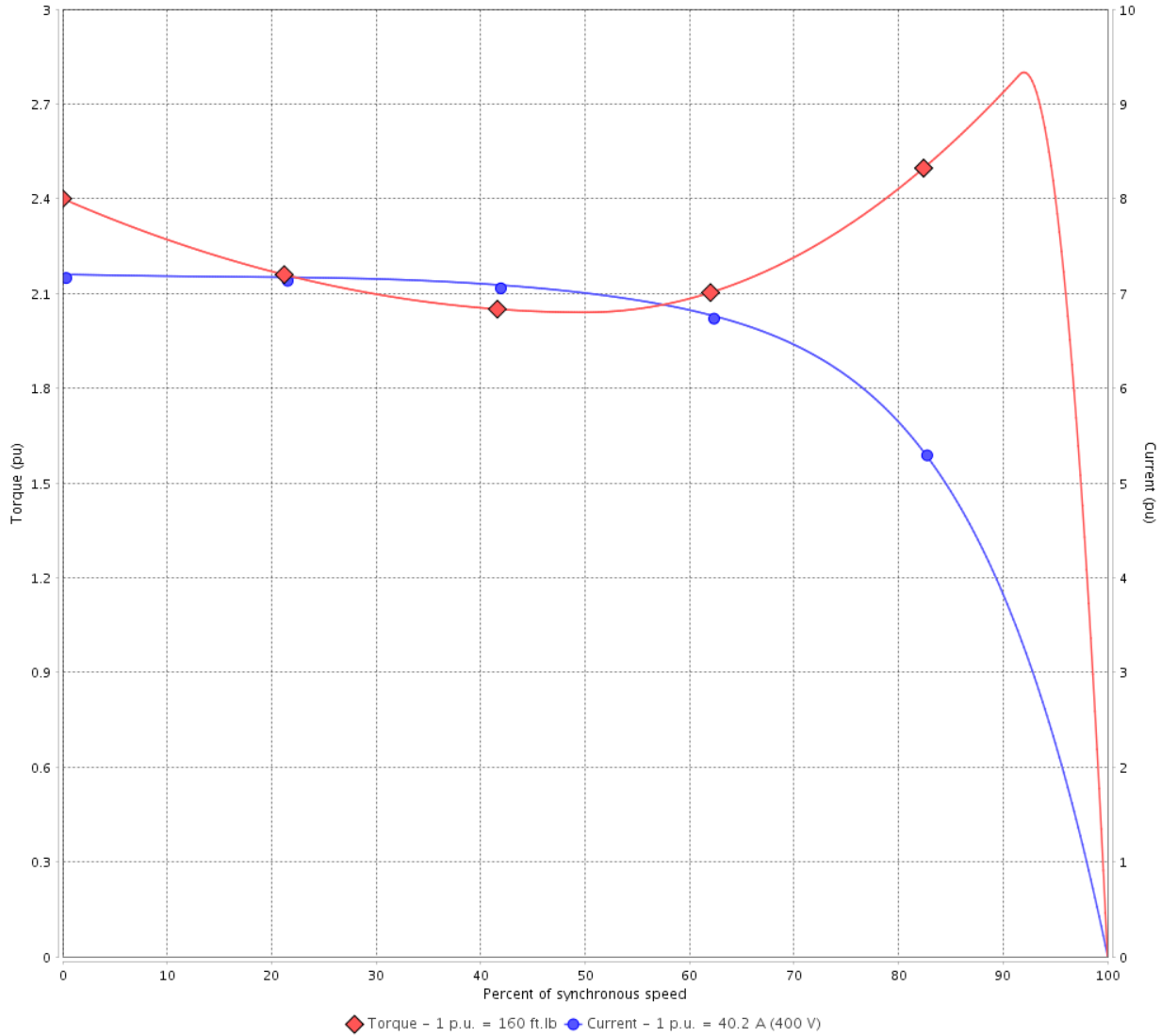
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TORQUE AND CURRENT VS SPEED CURVE



Performance : 400 V 50 Hz 6P IE3

Rated current	: 40.2 A	Moment of inertia (J)	: 21.8 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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TORQUE AND CURRENT VS SPEED CURVE



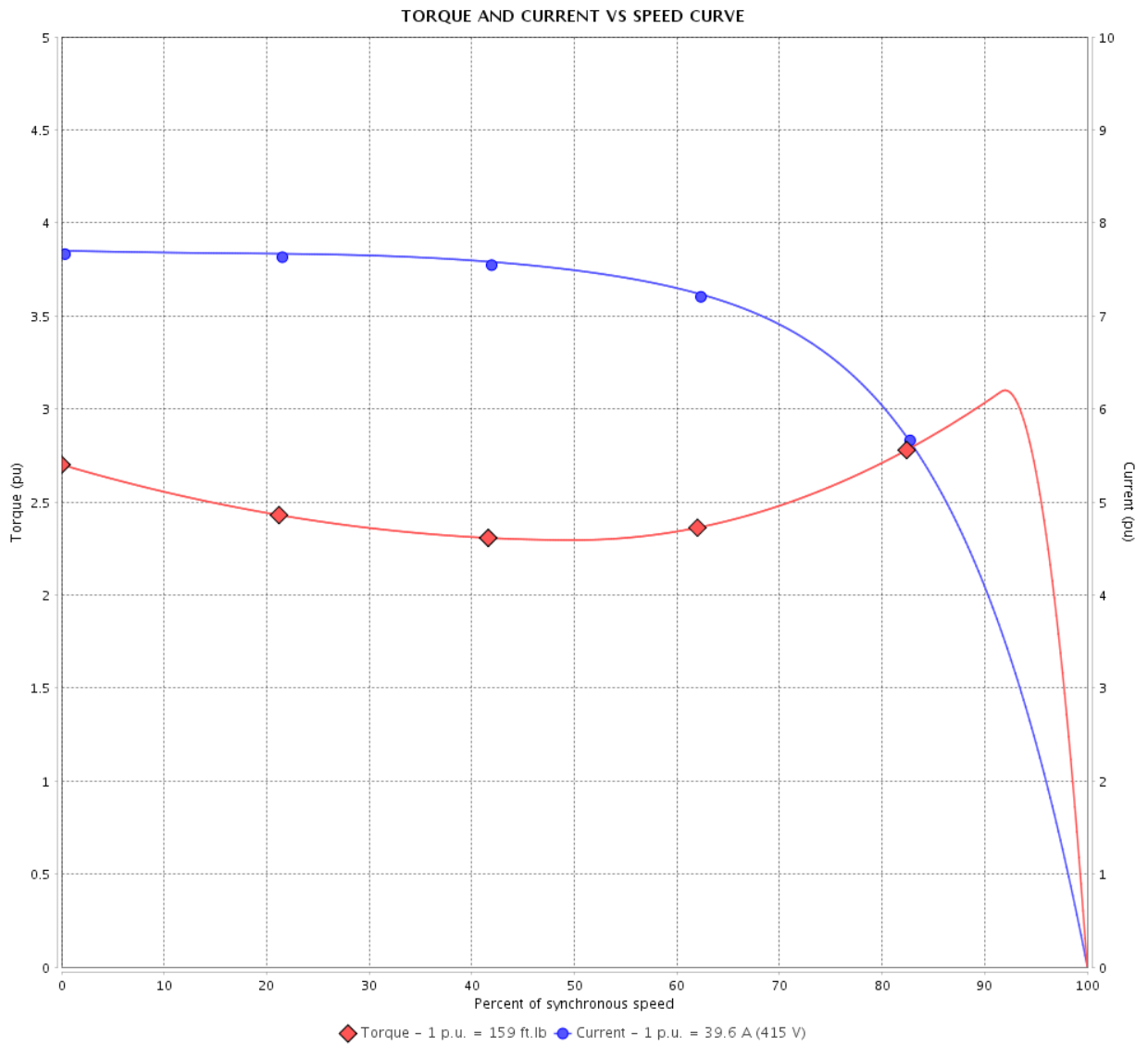
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Performance : 415 V 50 Hz 6P IE3

Rated current	: 39.6 A	Moment of inertia (J)	: 21.8 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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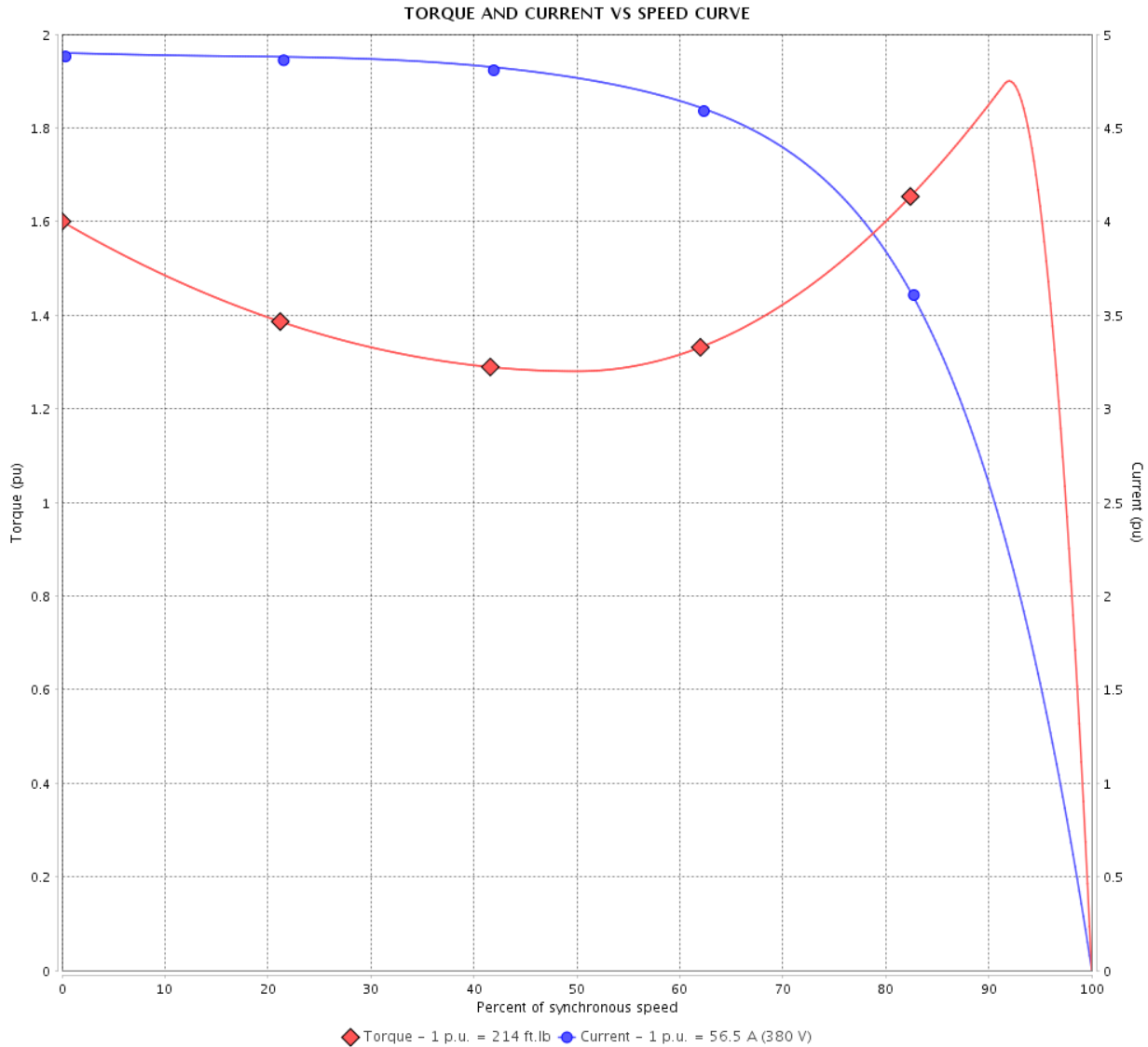


Customer :

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Product code : 12407831

Catalog # : 04012ET3E364TC-W22



Performance : 380 V 50 Hz 6P IE2

Rated current	: 56.5 A	Moment of inertia (J)	: 21.8 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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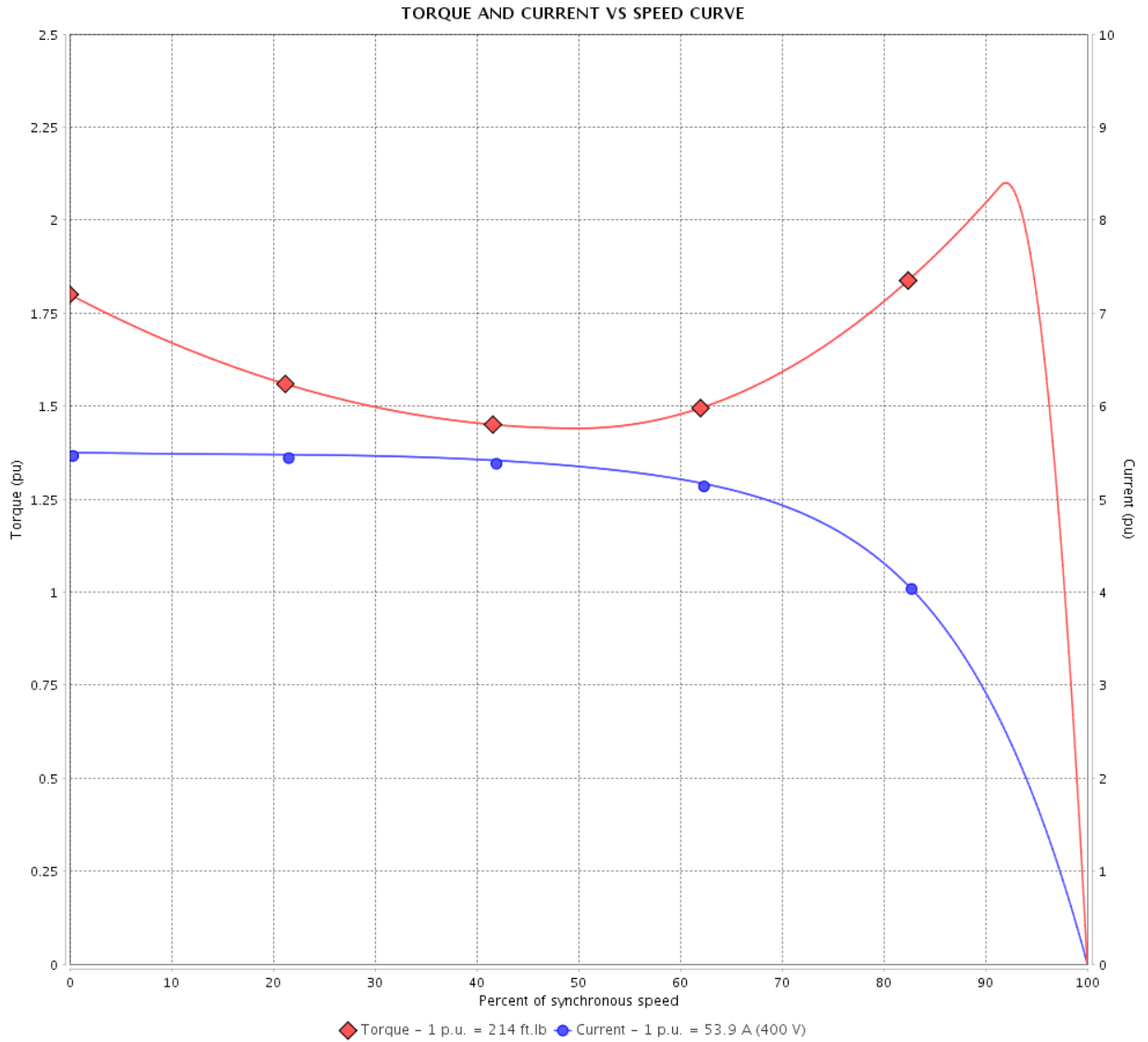
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Customer :

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Performance : 400 V 50 Hz 6P IE2

Rated current	: 53.9 A	Moment of inertia (J)	: 21.8 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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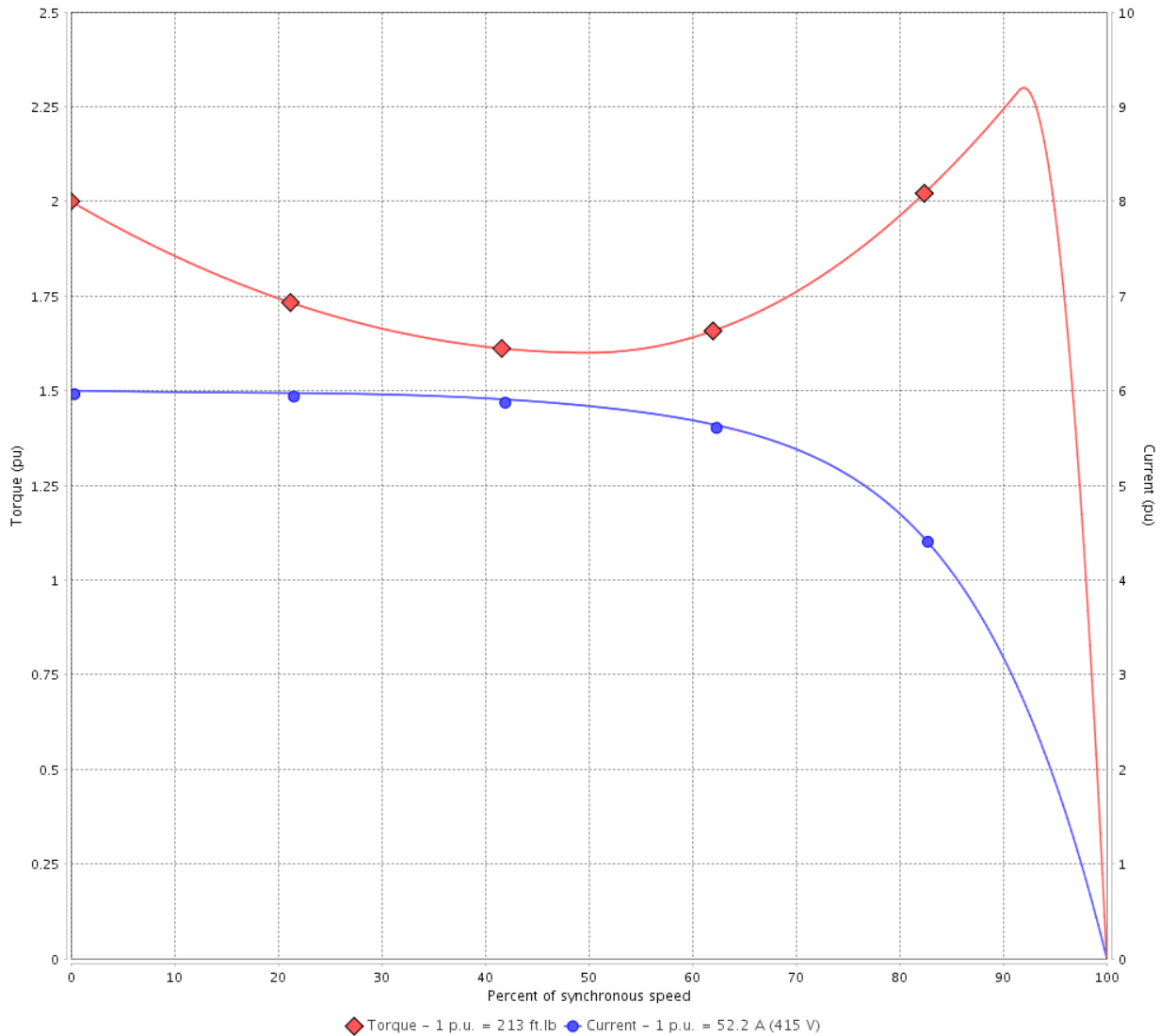
Customer :

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Catalog # : 04012ET3E364TC-W22

TORQUE AND CURRENT VS SPEED CURVE



Performance : 415 V 50 Hz 6P IE3

Rated current	: 52.2 A	Moment of inertia (J)	: 21.8 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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Three Phase Induction Motor - Squirrel Cage

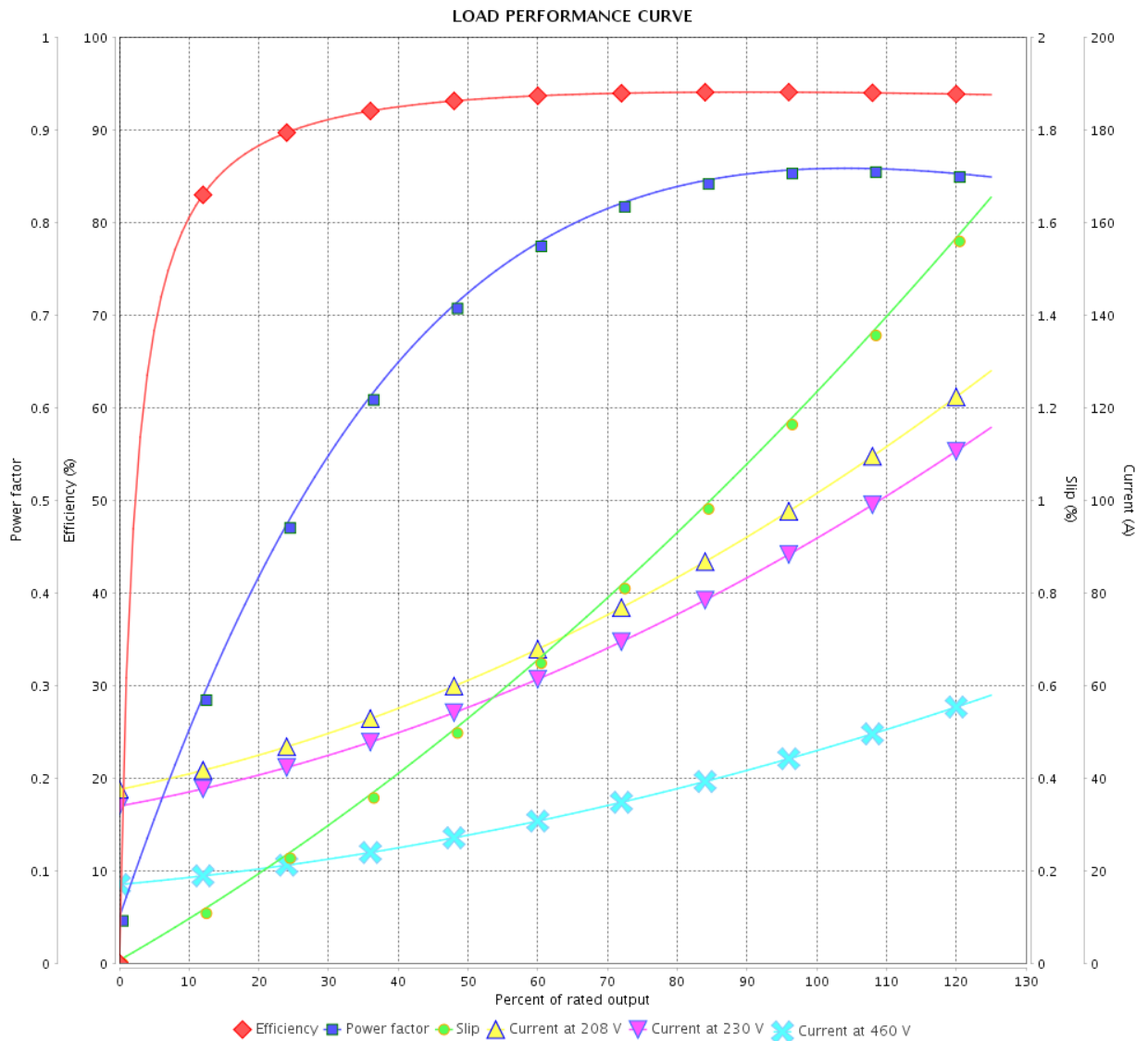


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Performance : 230/460 V 60 Hz 6P

Rated current : 93.0/46.5 A
 LRC : 6.4
 Rated torque : 177 ft.lb
 Locked rotor torque : 200 %
 Breakdown torque : 240 %
 Rated speed : 1185 rpm

Moment of inertia (J) : 21.8 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.25
 Temperature rise : 80 K
 Design : B

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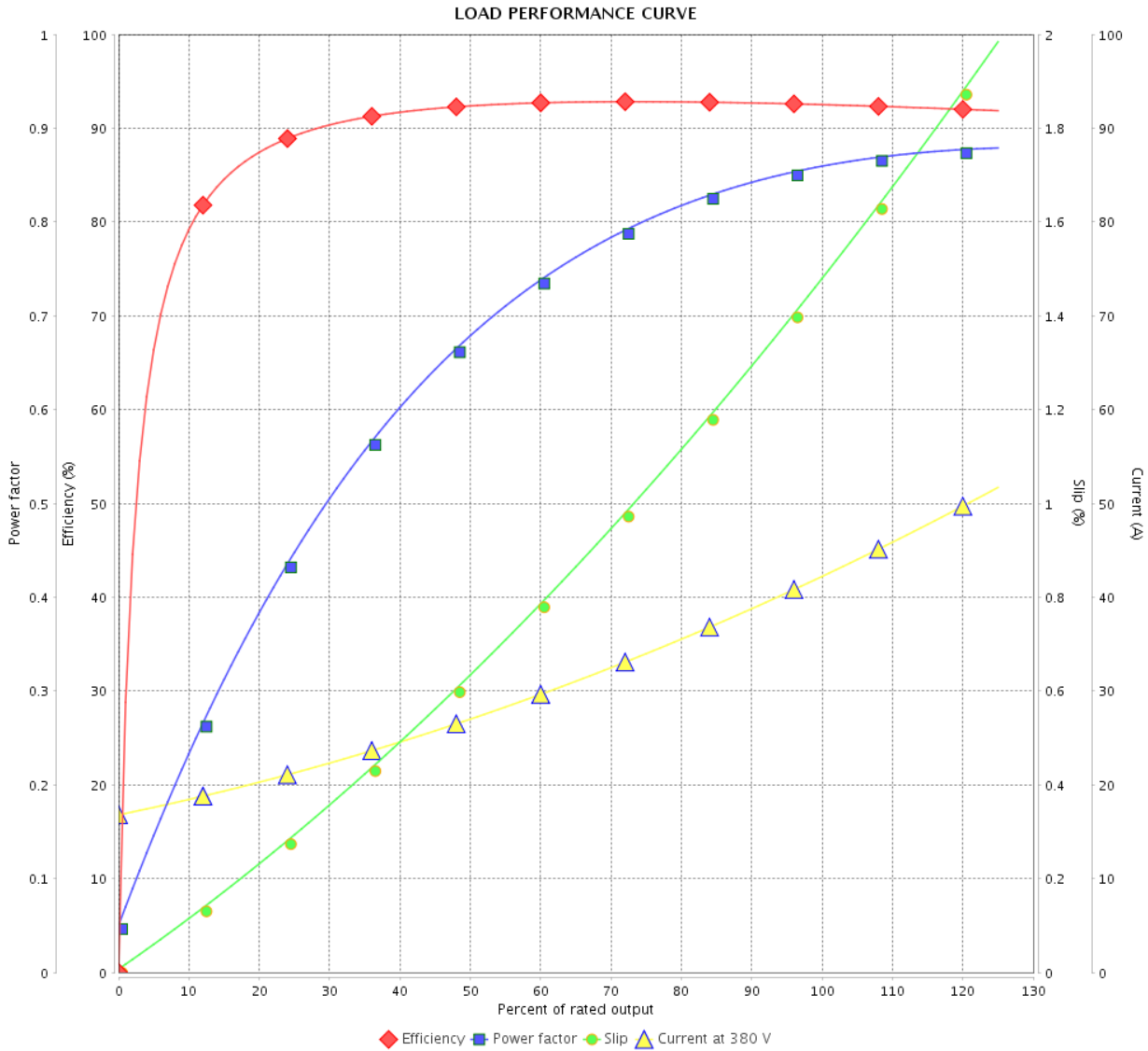


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Performance : 380 V 50 Hz 6P IE3

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) : 21.8 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

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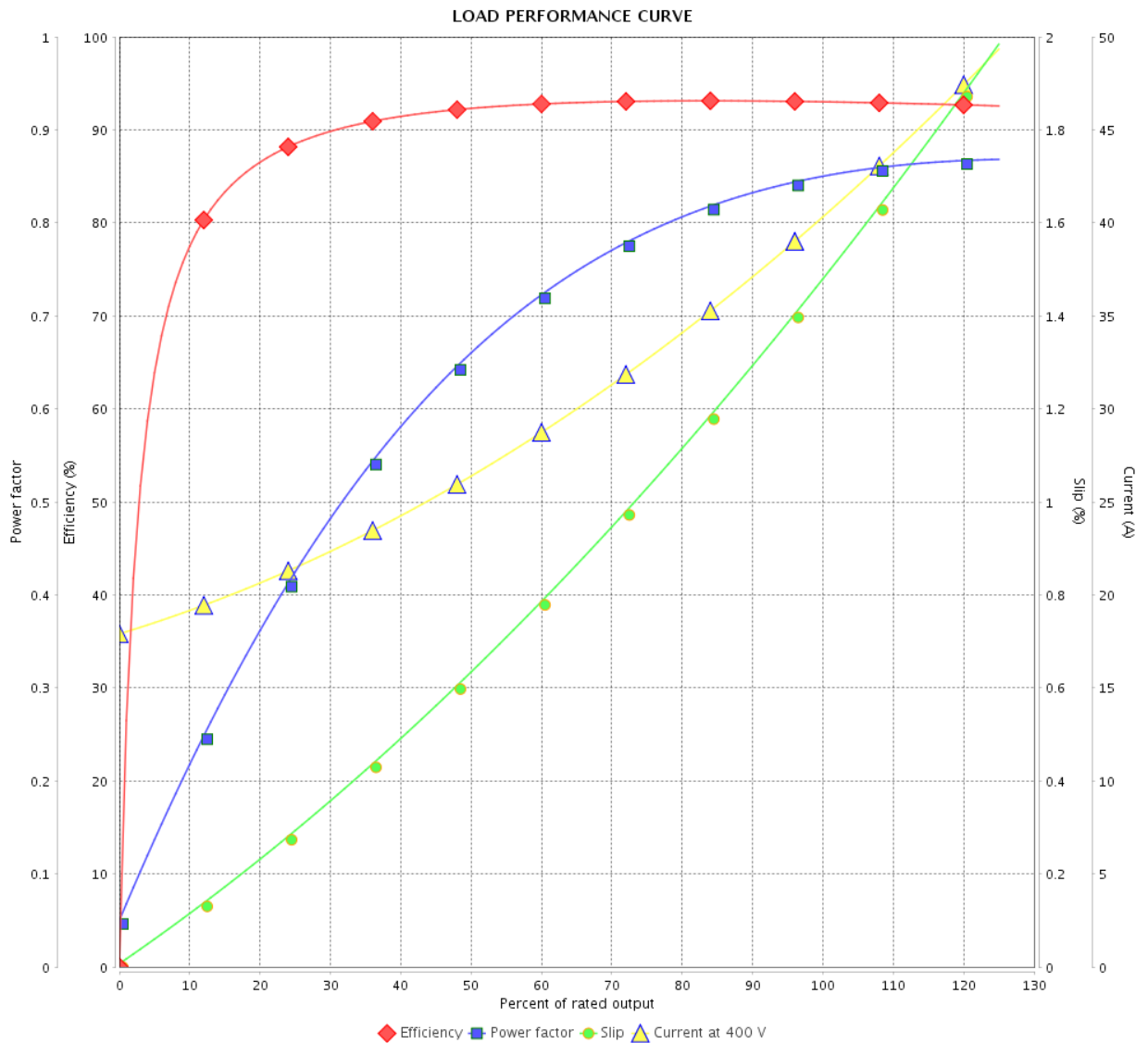


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Performance : 400 V 50 Hz 6P IE3

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) : 21.8 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

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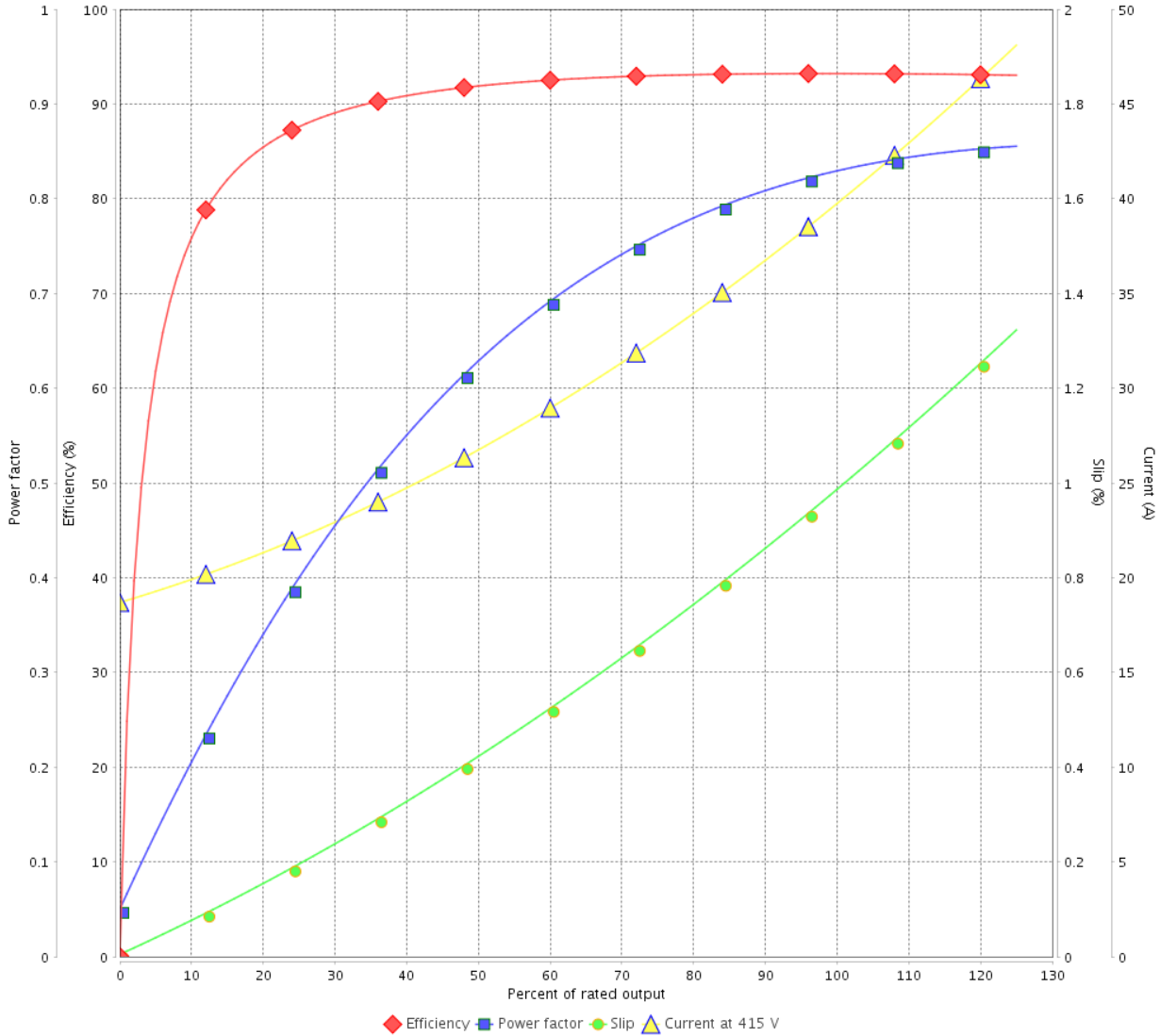
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Performance : 415 V 50 Hz 6P IE3

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) : 21.8 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

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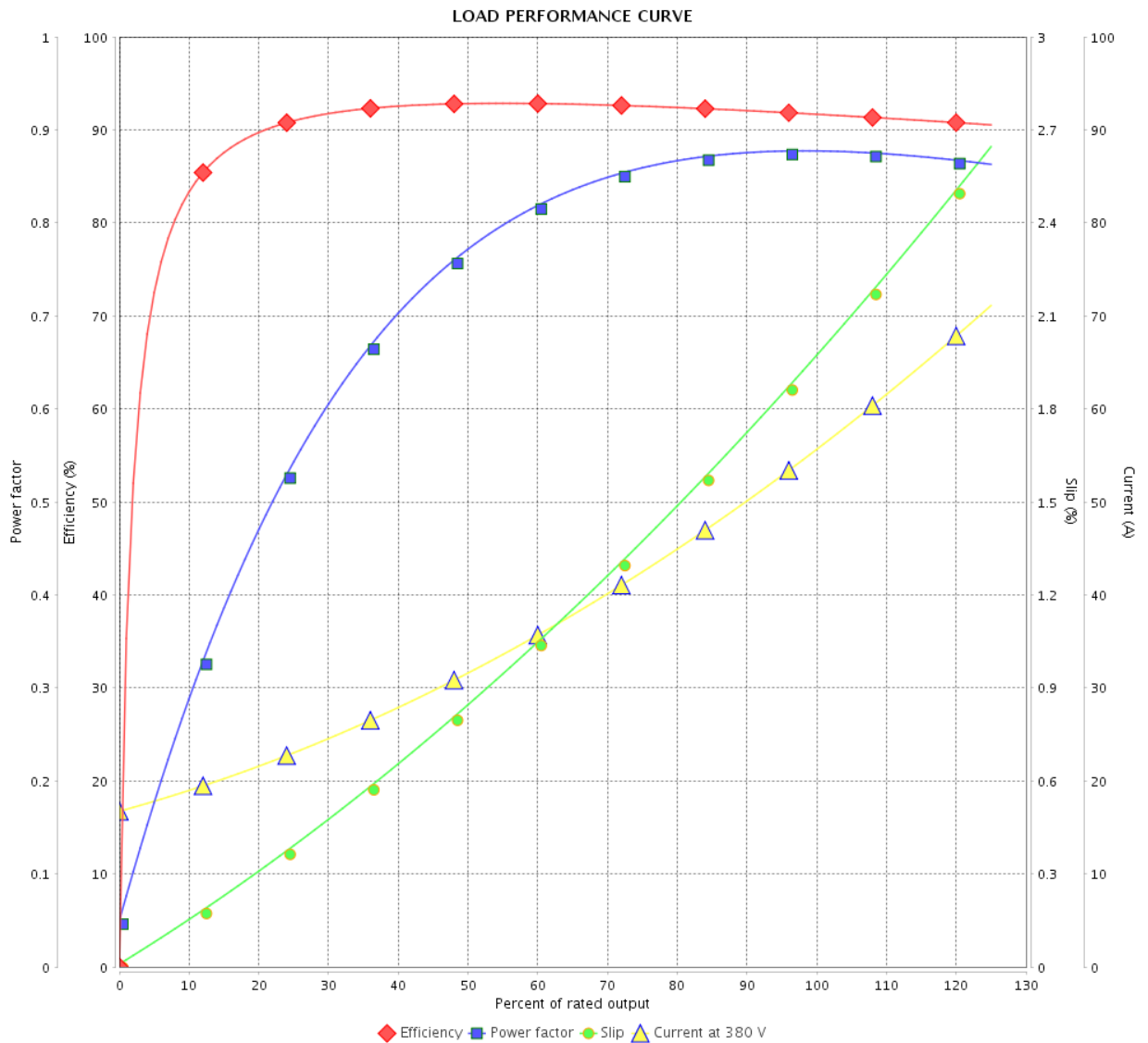


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Performance : 380 V 50 Hz 6P IE2

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) : 21.8 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

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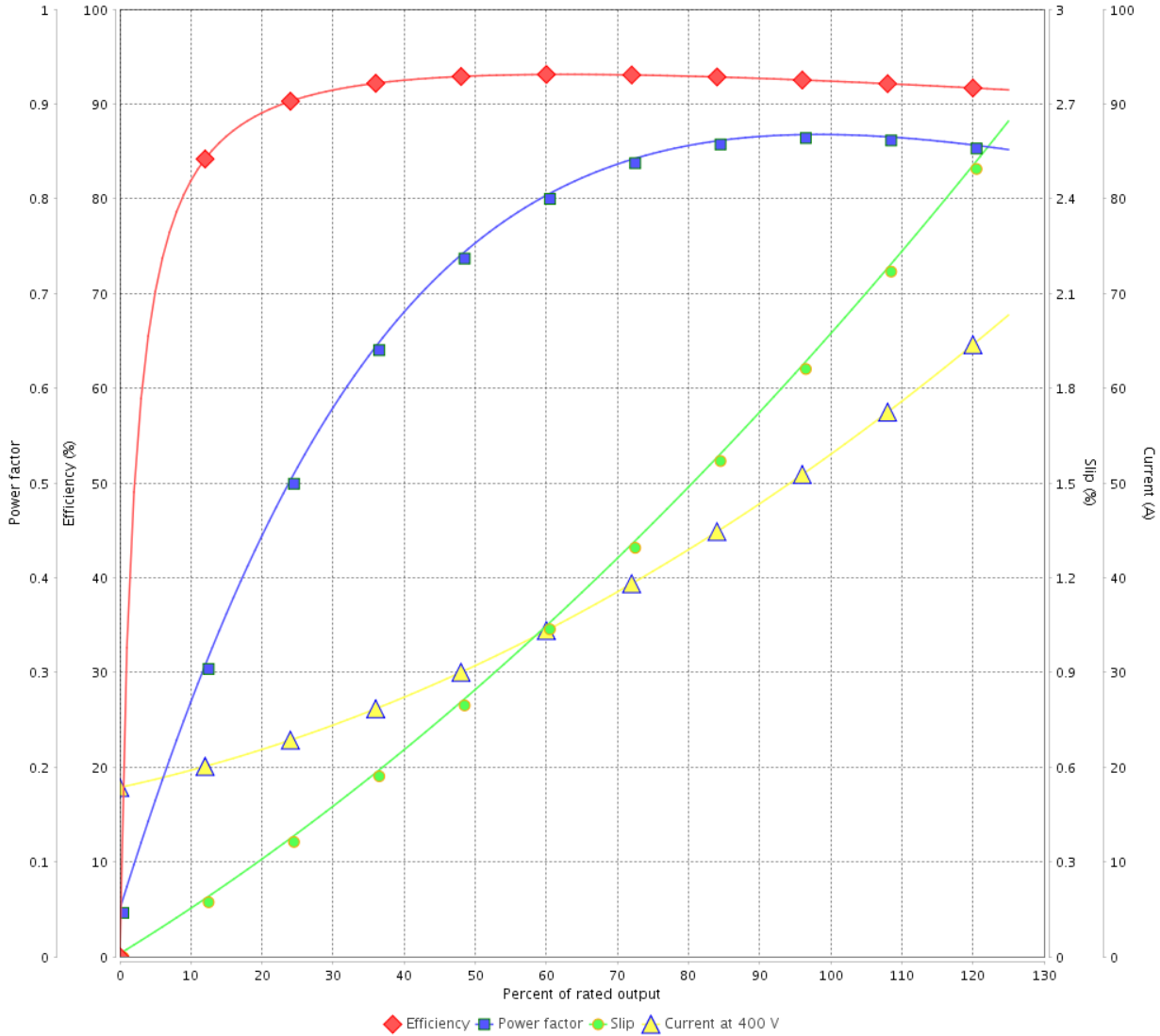
Customer :

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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) : 21.8 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

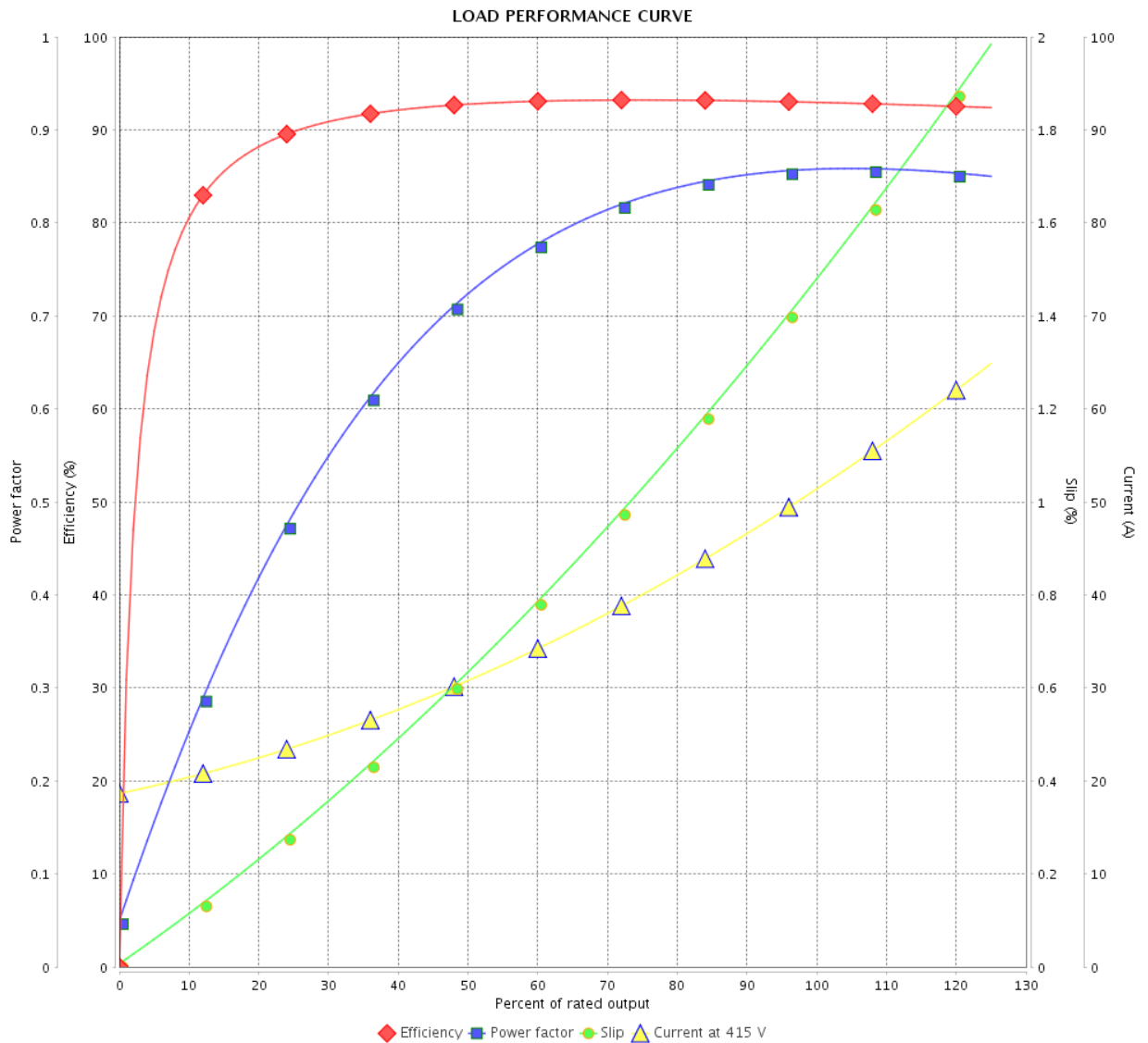


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Performance : 415 V 50 Hz 6P IE3

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) : 21.8 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



Three Phase Induction Motor - Squirrel Cage

Customer :

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Performance : 230/460 V 60 Hz 6P

Rated current : 93.0/46.5 A	Moment of inertia (J) : 21.8 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

Heating constant

Cooling constant

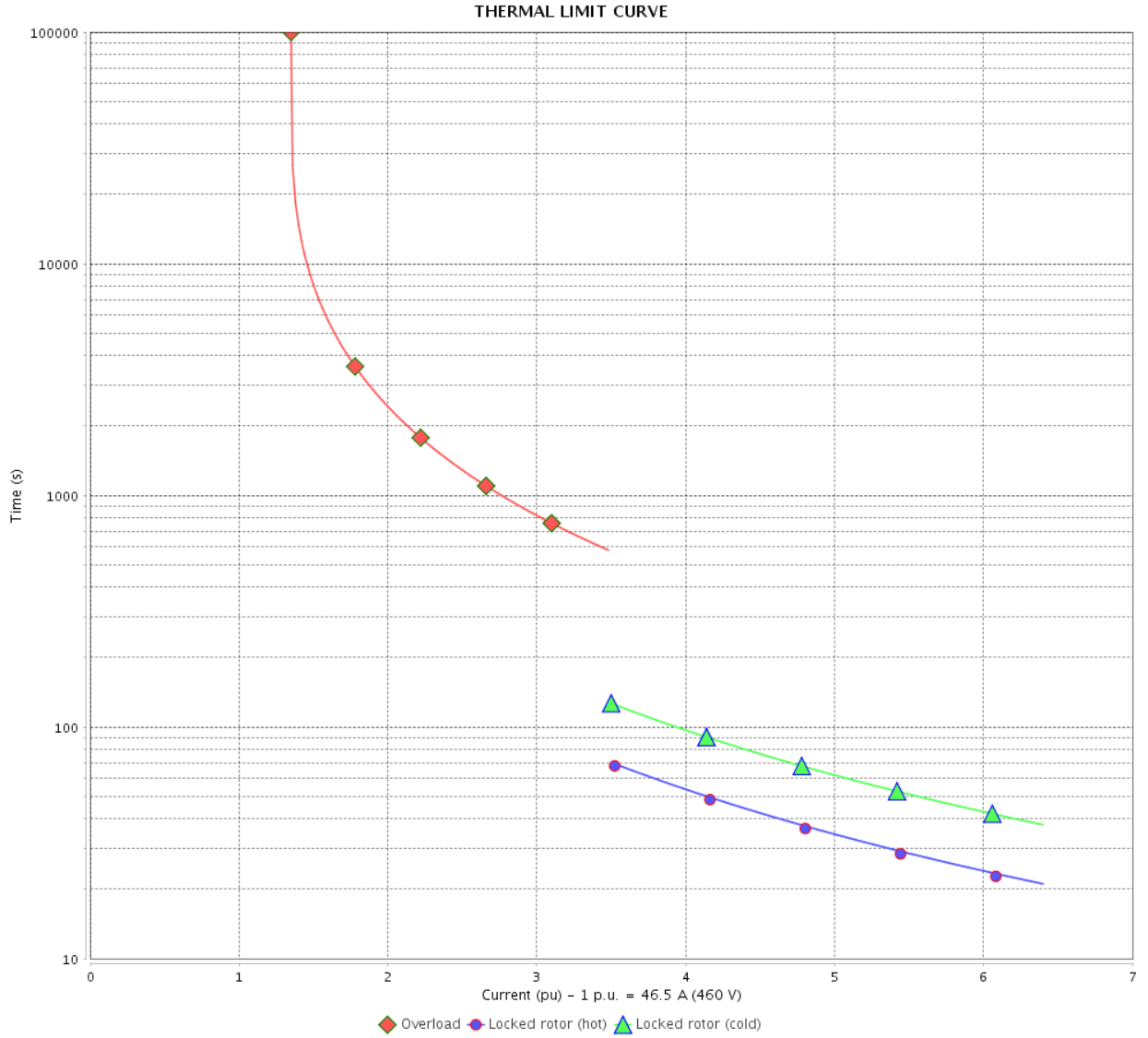
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Three Phase Induction Motor - Squirrel Cage



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Performance : 380 V 50 Hz 6P IE3

Rated current : 42.0 A	Moment of inertia (J) : 21.8 sq.ft.lb
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Locked rotor torque : 210 %	Service factor : 1.00
Breakdown torque : 250 %	Temperature rise : 80 K
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Cooling constant

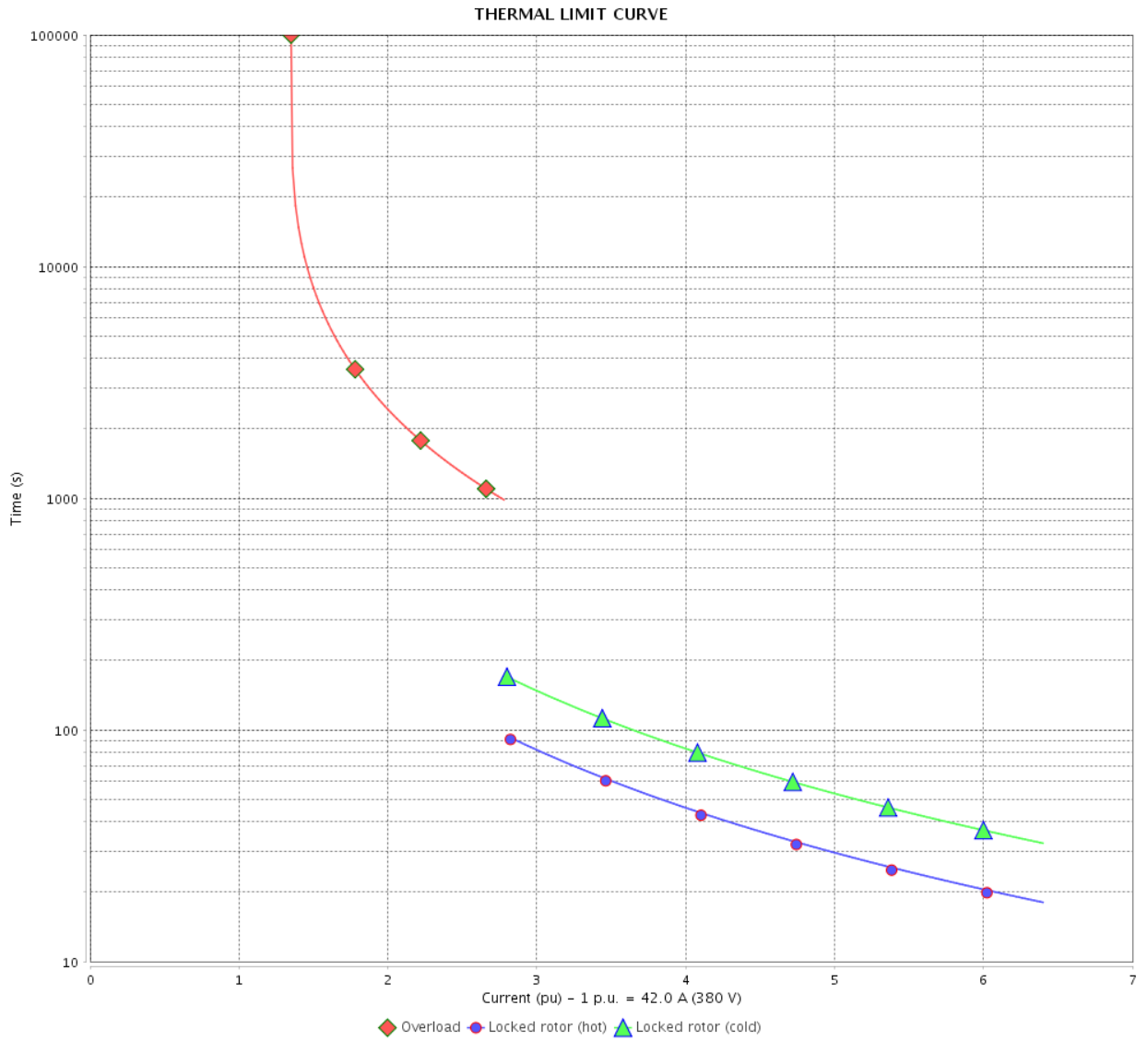
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Performance : 400 V 50 Hz 6P IE3

Rated current	: 40.2 A	Moment of inertia (J)	: 21.8 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

Heating constant

Cooling constant

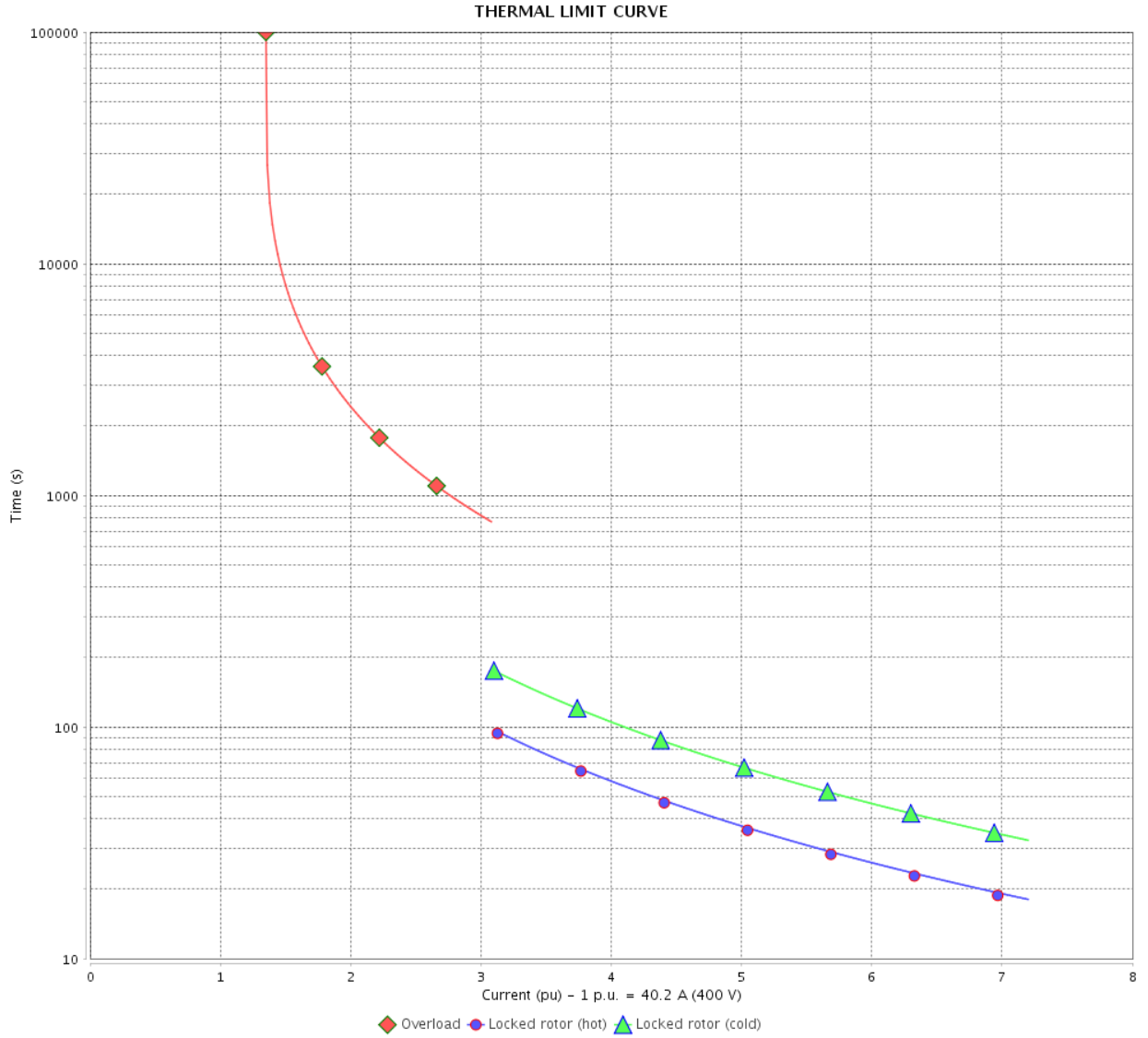
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LRC : 7.7	Duty cycle : Cont.(S1)
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Locked rotor torque : 270 %	Service factor : 1.00
Breakdown torque : 310 %	Temperature rise : 80 K
Rated speed : 990 rpm	Design : B

Heating constant

Cooling constant

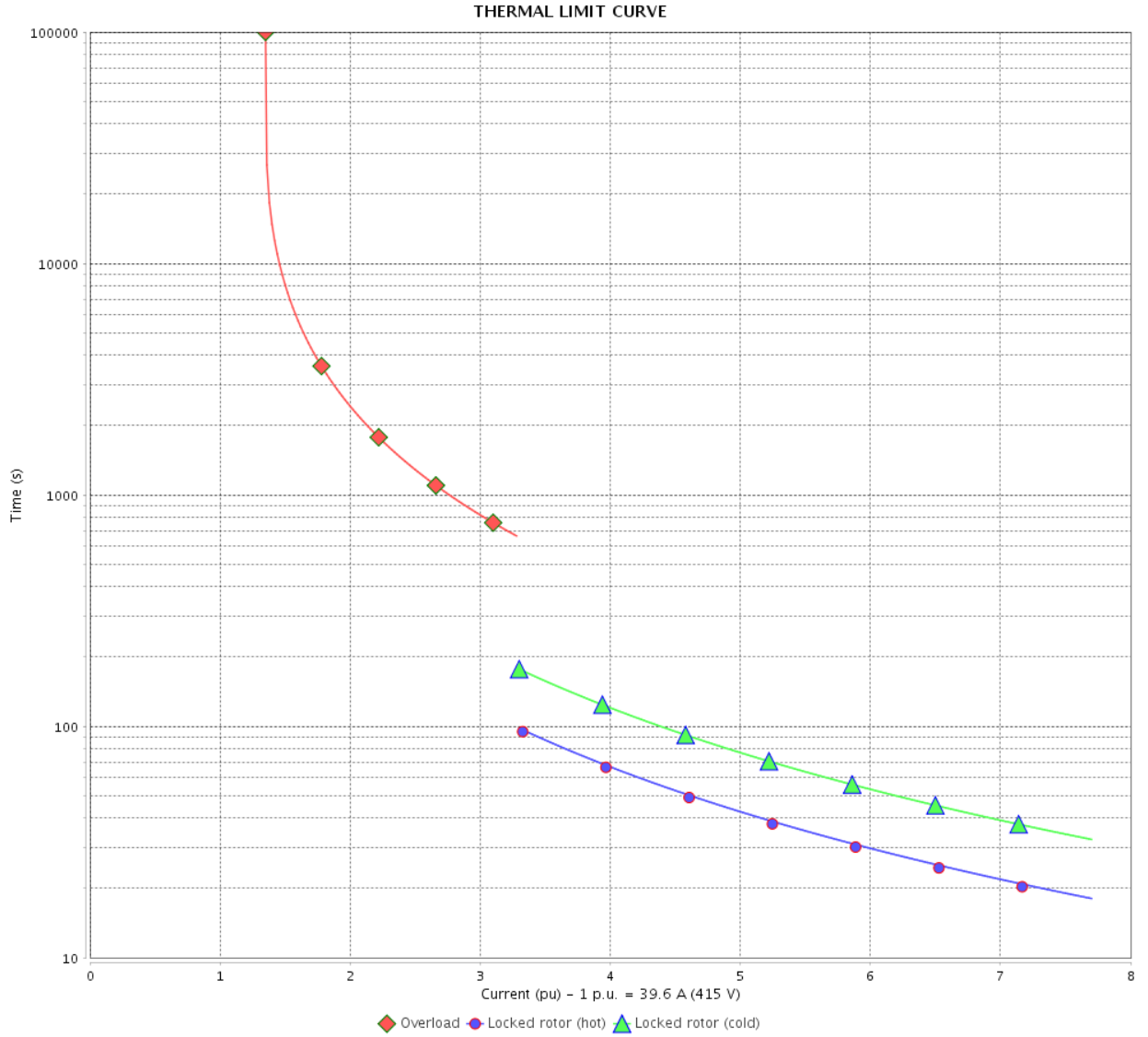
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Performance : 380 V 50 Hz 6P IE2

Rated current	: 56.5 A	Moment of inertia (J)	: 21.8 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

Heating constant

Cooling constant

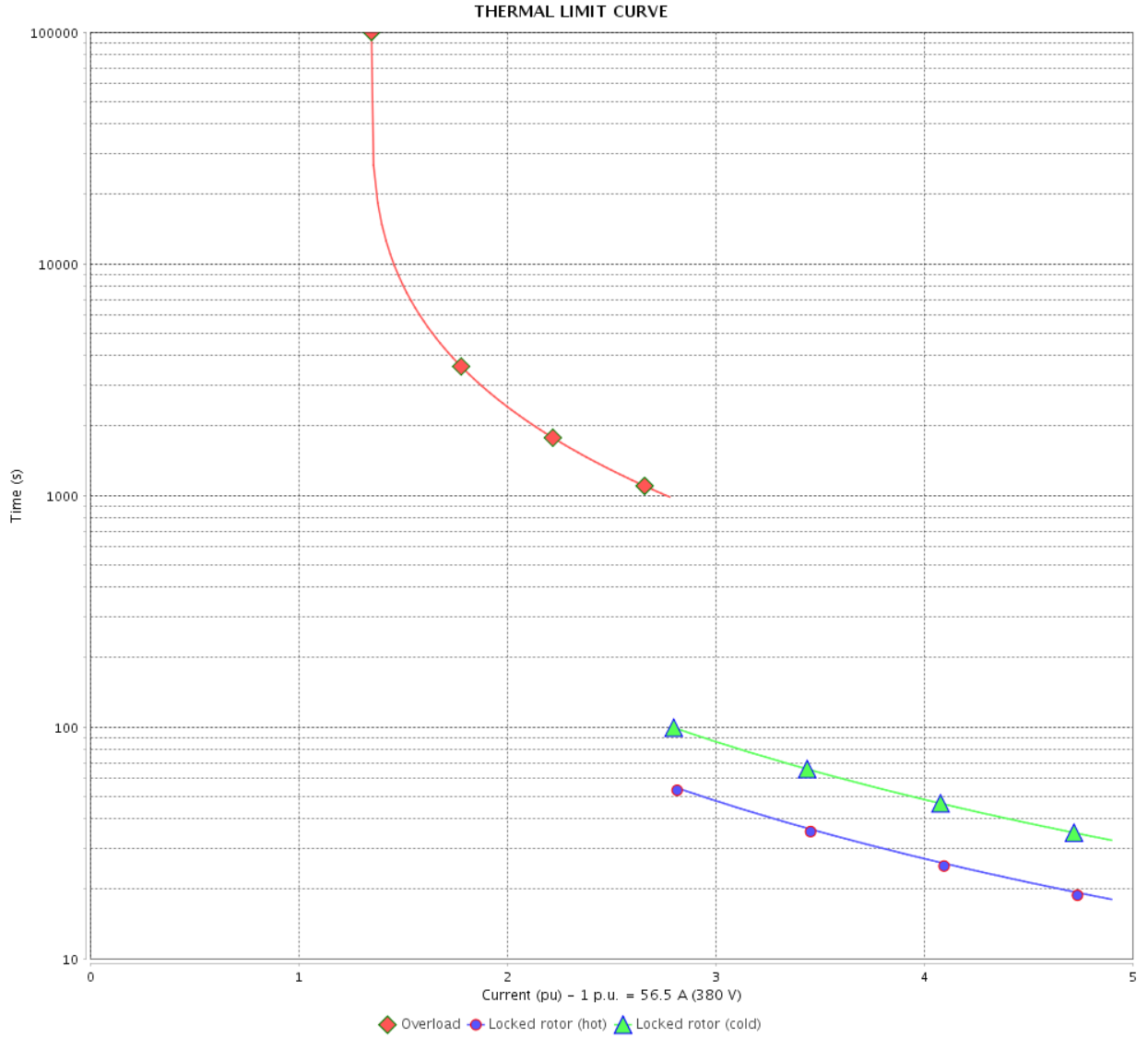
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LRC	: 5.5	Duty cycle	: Cont.(S1)
Rated torque	: 214 ft.lb	Insulation class	: F
Locked rotor torque	: 180 %	Service factor	: 1.00
Breakdown torque	: 210 %	Temperature rise	: 80 K
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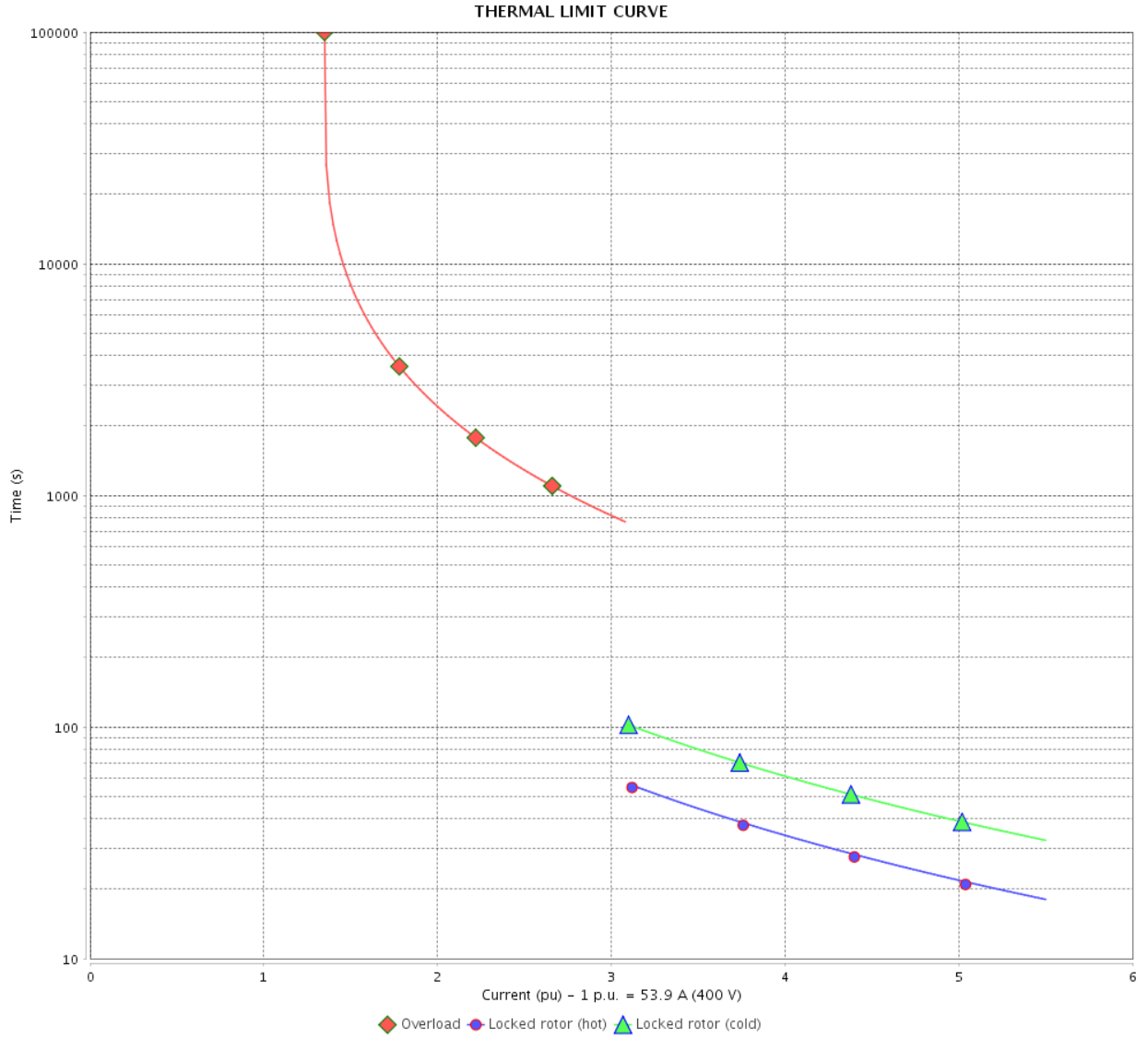
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THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : _____



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THERMAL LIMIT CURVE



Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase
Product code : 12407831
Catalog # : 04012ET3E364TC-W22

Performance : 415 V 50 Hz 6P IE3

Rated current	: 52.2 A	Moment of inertia (J)	: 21.8 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

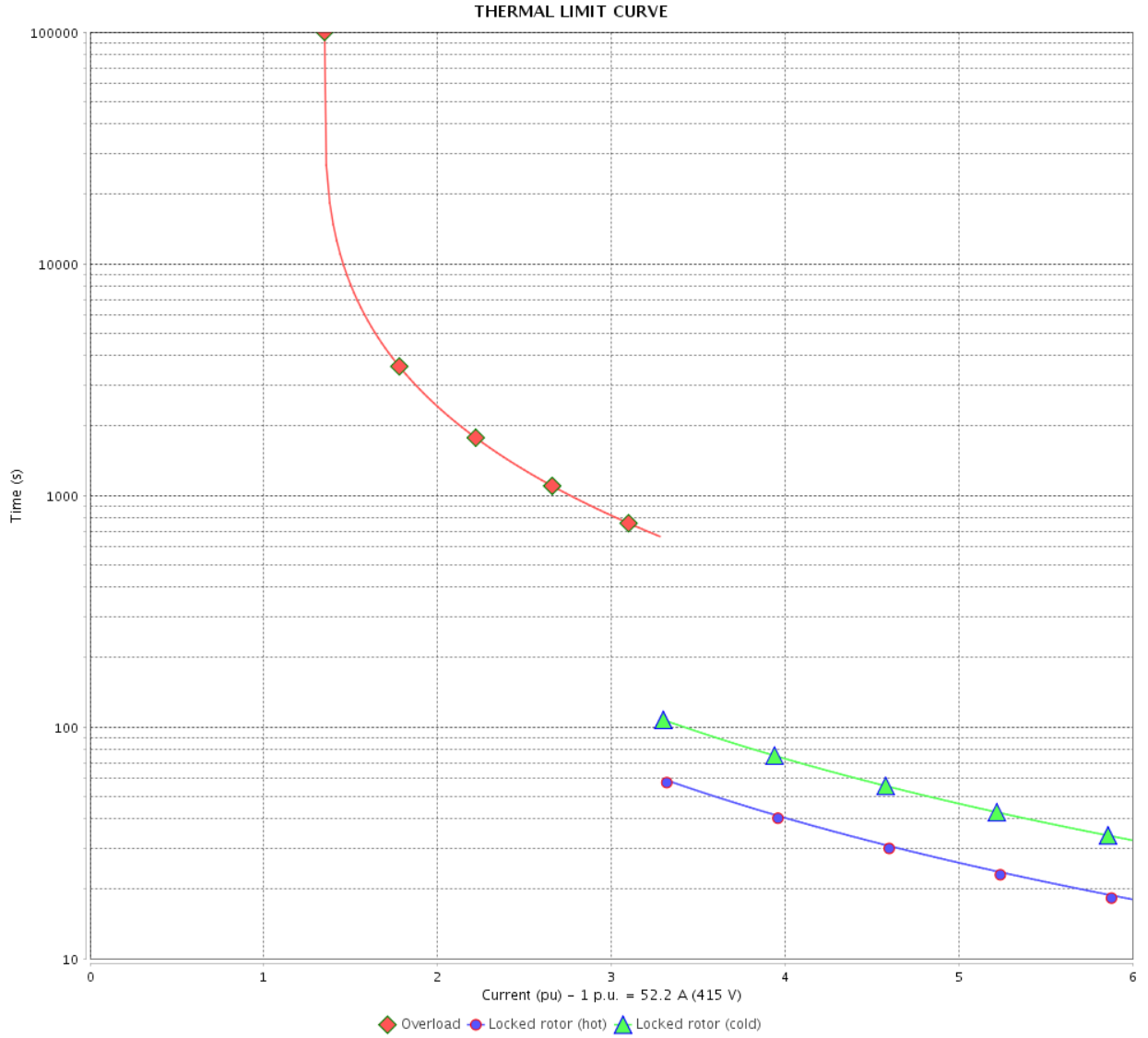
Rev.	Changes Summary	Performed	Checked	Date
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THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : _____



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Date				

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



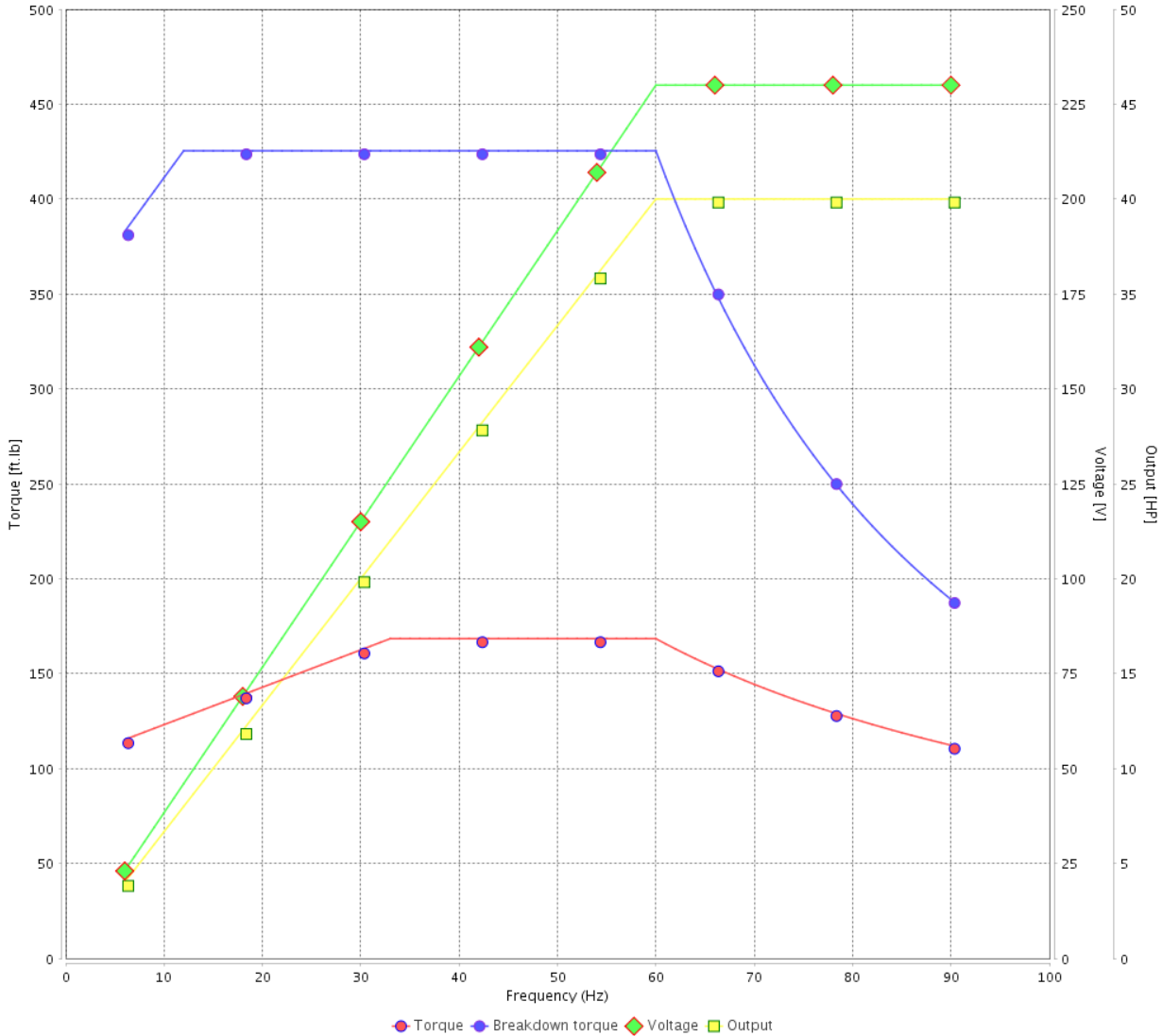
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12407831

Catalog # : 04012ET3E364TC-W22

VFD OPERATION CURVE



Performance : 230/460 V 60 Hz 6P

Rated current : 93.0/46.5 A
 LRC : 6.4
 Rated torque : 177 ft.lb
 Locked rotor torque : 200 %
 Breakdown torque : 240 %
 Rated speed : 1185 rpm

Moment of inertia (J) : 21.8 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.25
 Temperature rise : 80 K
 Design : B

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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

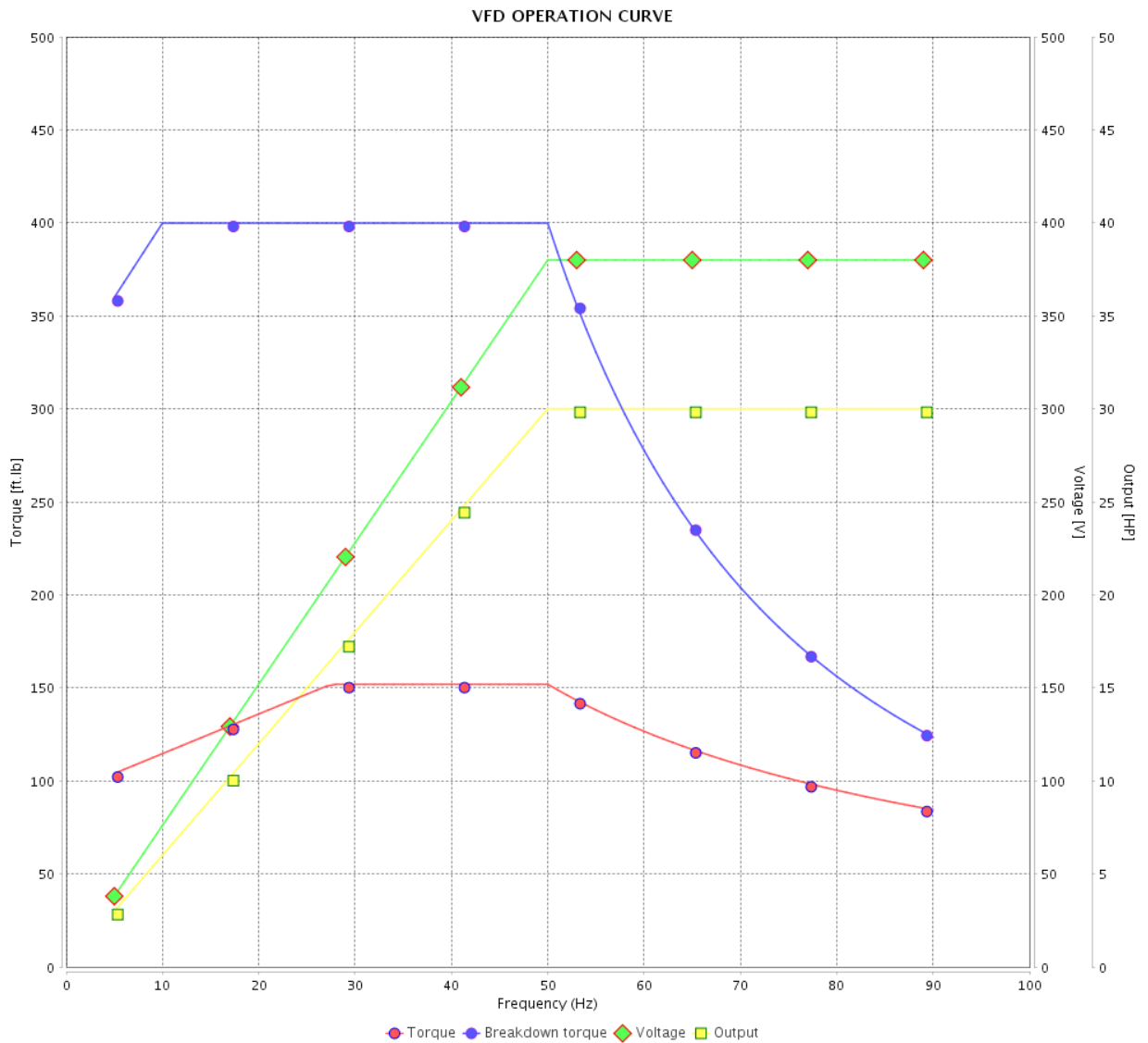


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12407831

Catalog # : 04012ET3E364TC-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) : 21.8 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



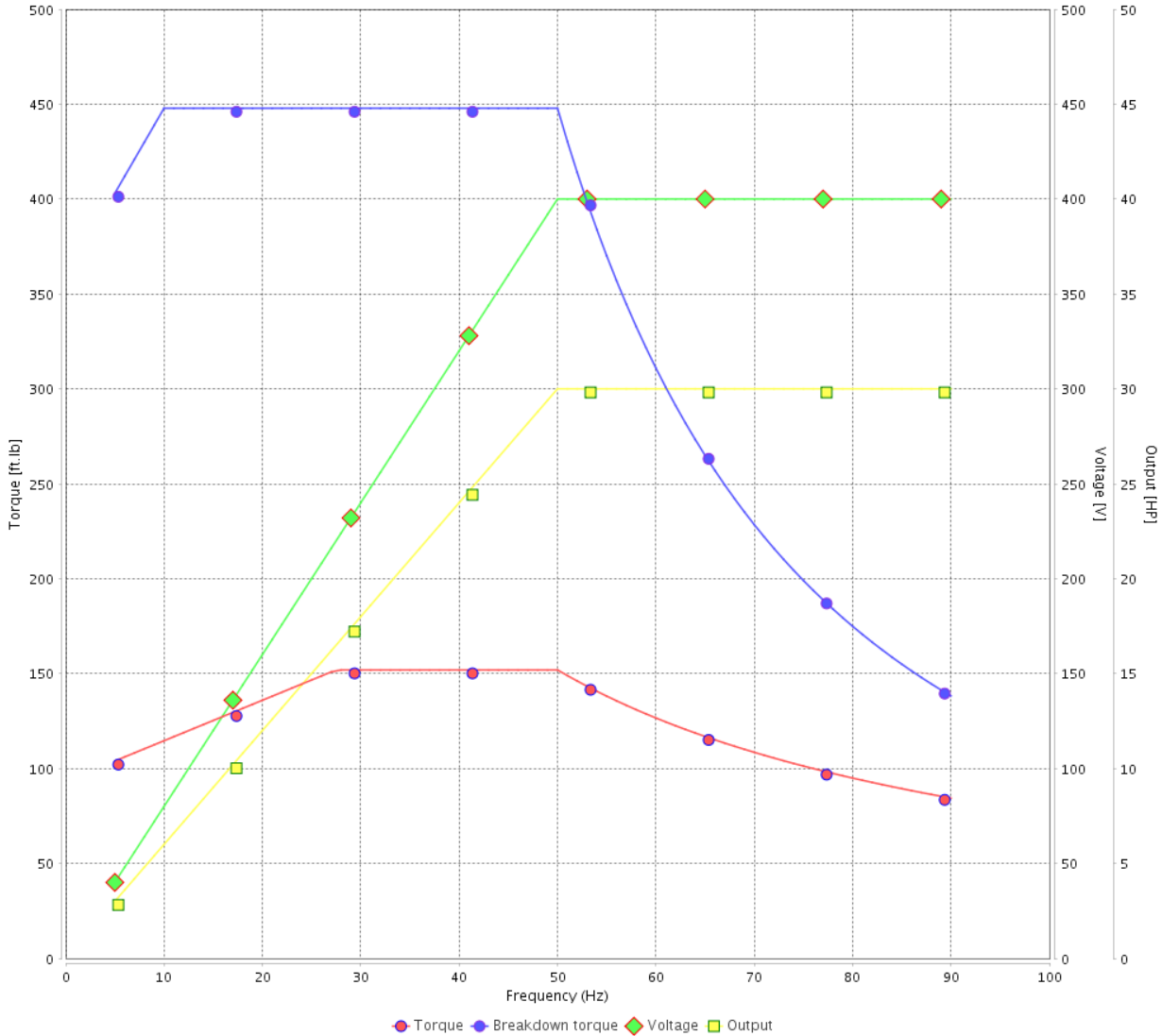
Customer : _____

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12407831

Catalog # : 04012ET3E364TC-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) : 21.8 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

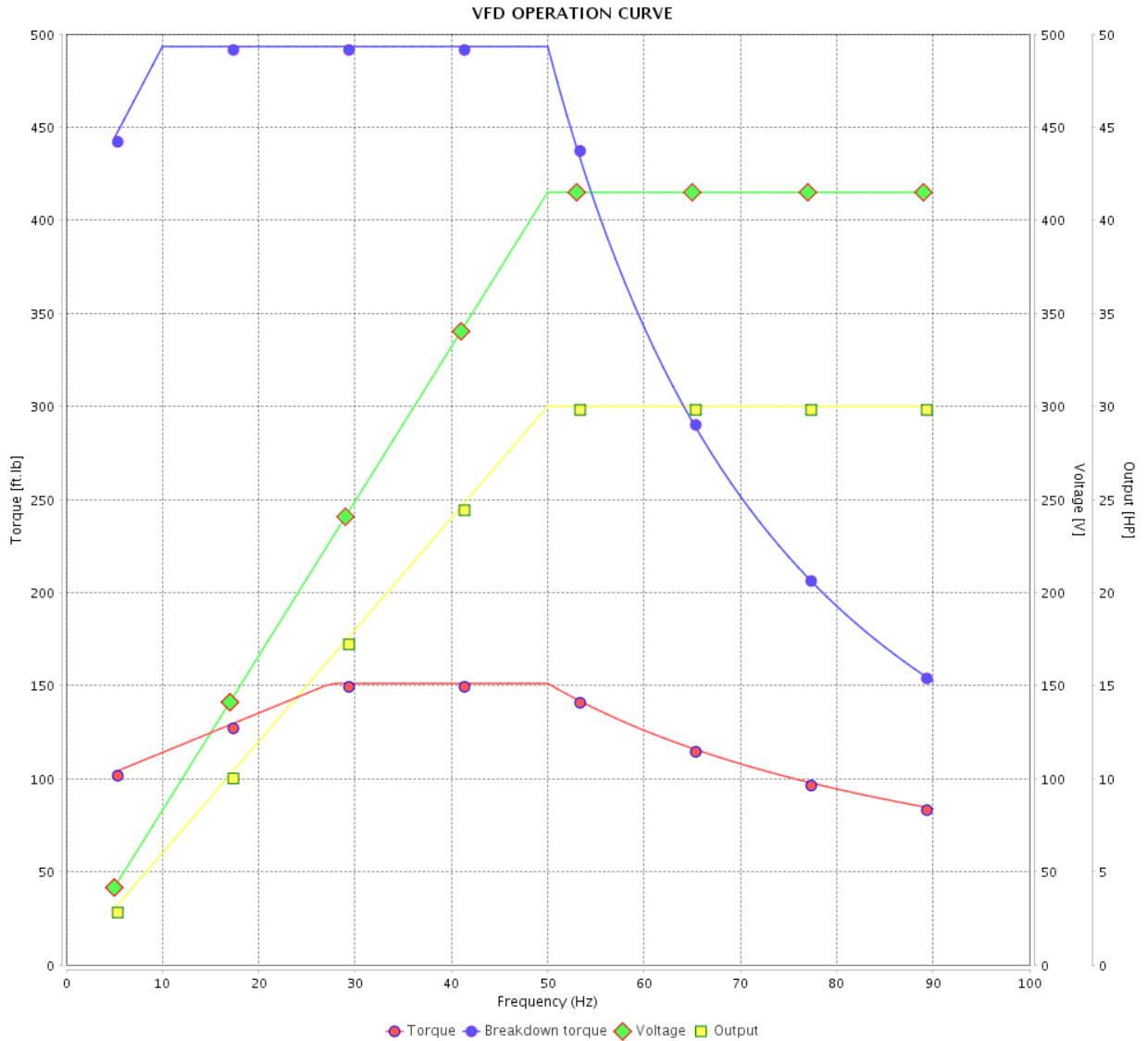


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12407831

Catalog # : 04012ET3E364TC-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) : 21.8 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

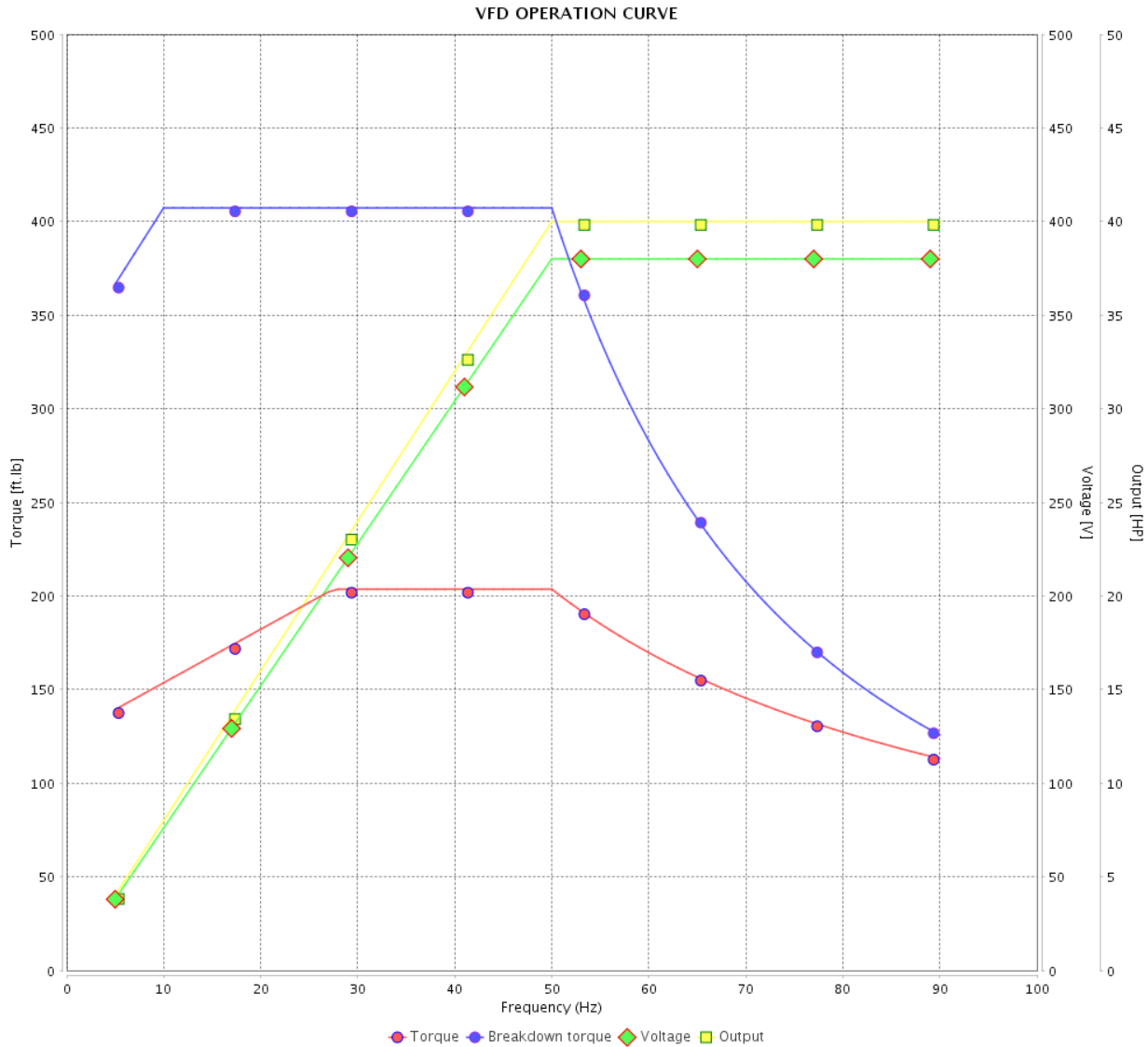


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12407831

Catalog # : 04012ET3E364TC-W22



Performance : 380 V 50 Hz 6P IE2

Rated current	: 56.5 A	Moment of inertia (J)	: 21.8 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

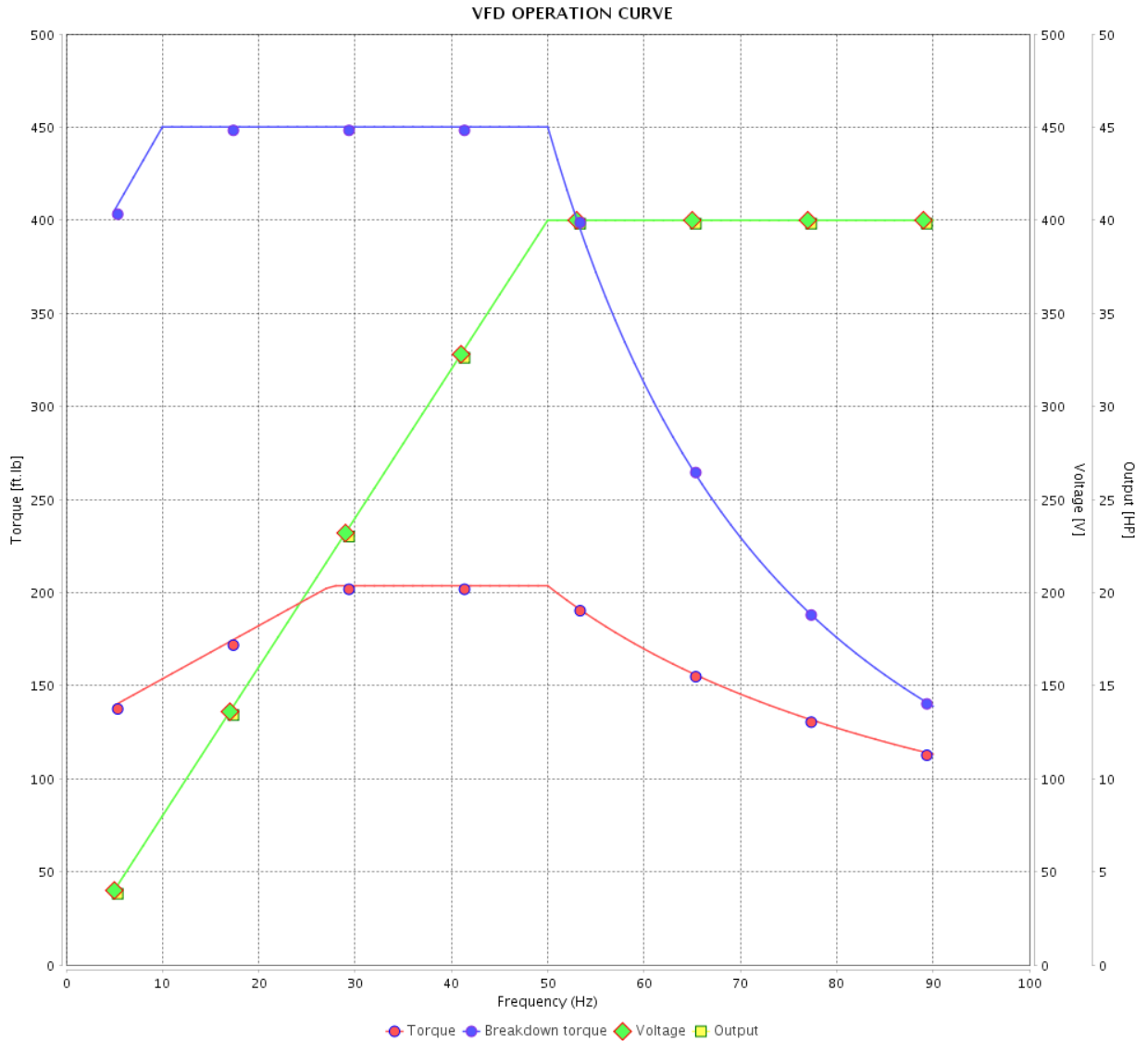


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12407831

Catalog # : 04012ET3E364TC-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) : 21.8 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

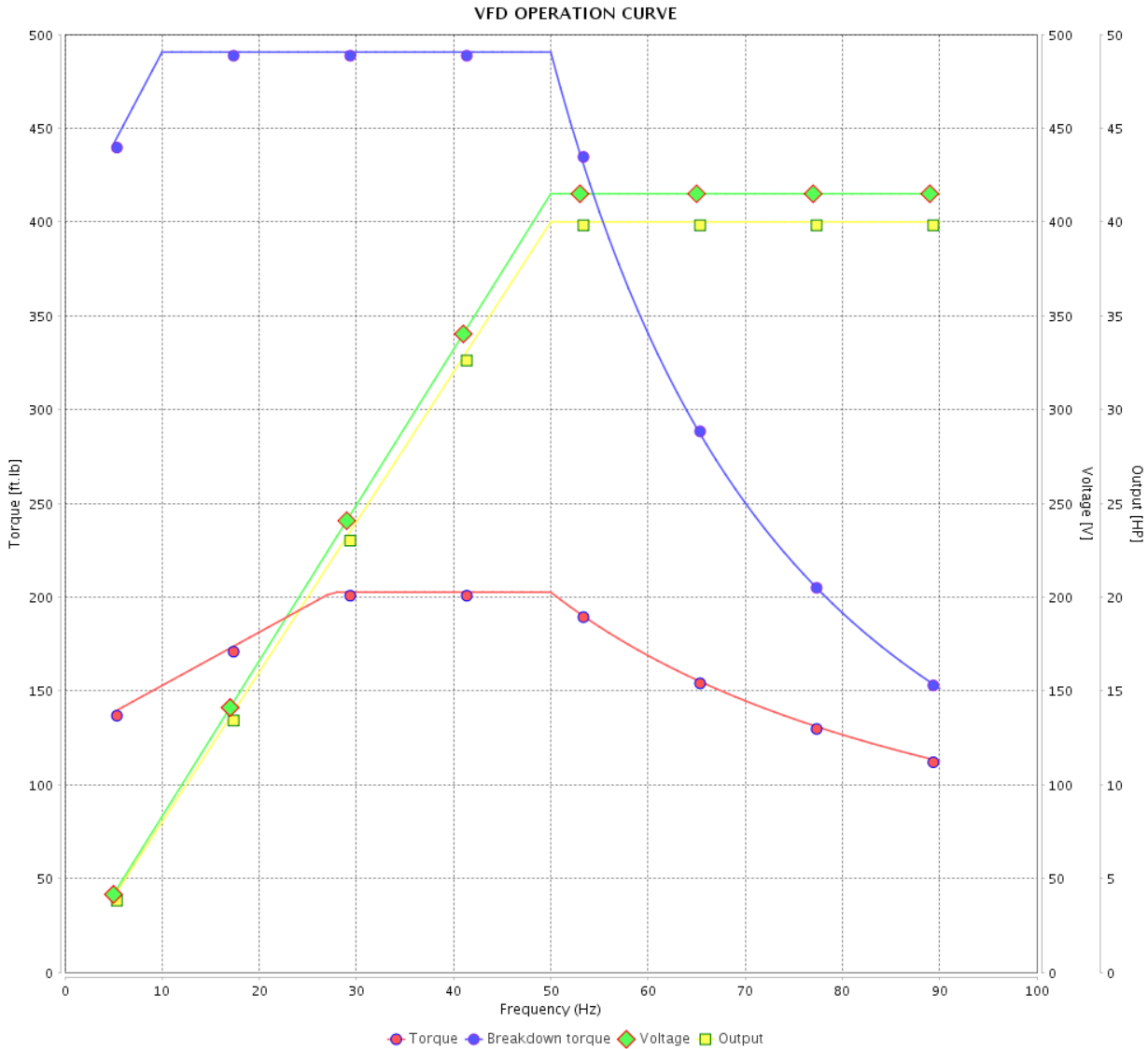


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12407831

Catalog # : 04012ET3E364TC-W22



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) : 21.8 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

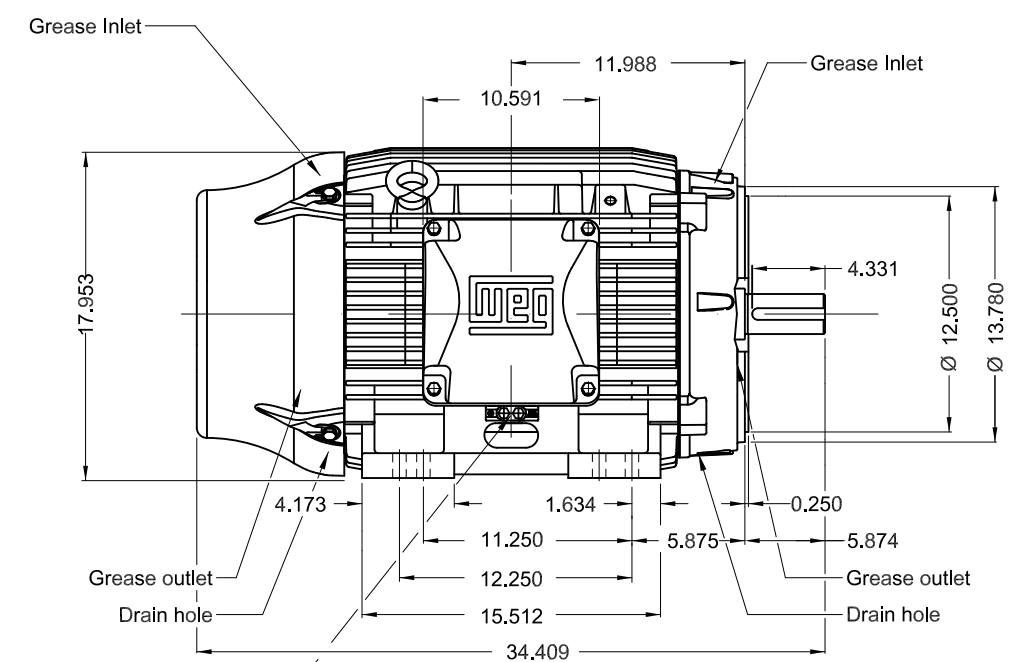
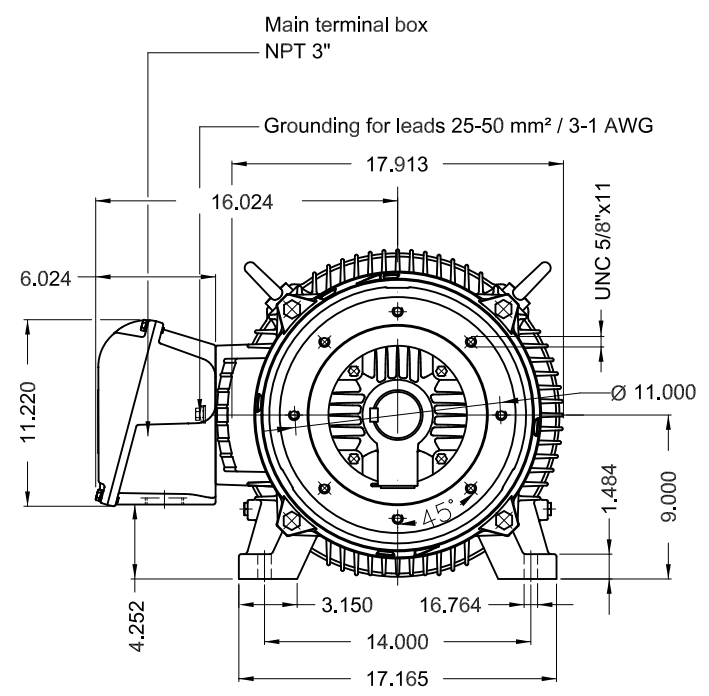
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1 2 3 4 5 6

A

B

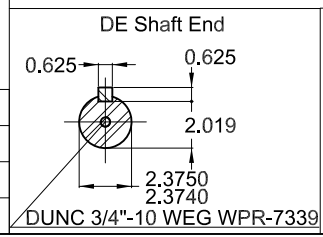
C



D

E

Without vertical jackscrews
 Color RAL 5009
 Painting plan 203A
 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 W22 PREM. EFF. FRAME 364/5TC IP55 TEFC					
CHECKED							
RELEASED							
REL DT.	WMO	Jaragua do Sul	Product Engineering	SHEET	1 / 1		

PREVIEW
WDD

