

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :					
Product line		: NEMA Premium Efficiency Three-Phase	Product code :	11545431	
			Catalog # :	03018ST3QIE286TC-W22	
Frame		: 284/6TC	Cooling method	: IC411 - TEFC	
Insulation class		: F	Mounting	: F-1	
Duty cycle		: Cont.(S1)	Rotation <sup>1</sup>	: Both (CW and CCW)	
Ambient temperature		: -20°C to +40°C	Starting method	: Direct On Line	
Altitude		: 1000 m.a.s.l.	Approx. weight <sup>2</sup>	: 486 lb	
Protection degree		: IP55	Moment of inertia (J)	: 5.85 sq.ft.lb	
Design		: B			
Output [HP]	30	30	30	30	
Poles	4	4	4	4	
Frequency [Hz]	60	50	50	50	
Rated voltage [V]	460	380	400	415	
Rated current [A]	35.1	42.4	40.4	39.4	
L. R. Amperes [A]	214	212	226	236	
LRC [A]	6.1x(Code G)	5.0x(Code F)	5.6x(Code G)	6.0x(Code G)	
No load current [A]	13.0	12.9	13.8	14.5	
Rated speed [RPM]	1760	1450	1455	1455	
Slip [%]	2.22	3.33	3.00	3.00	
Rated torque [ft.lb]	89.0	108	108	108	
Locked rotor torque [%]	240	180	210	229	
Breakdown torque [%]	240	210	240	260	
Service factor	1.25	1.00	1.00	1.00	
Temperature rise	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)	
Noise level <sup>2</sup>	63.0 dB(A)	61.0 dB(A)	61.0 dB(A)	61.0 dB(A)	
Efficiency (%)	25%	92.3	92.8	92.8	
	50%	93.0	92.4	93.0	
	75%	93.0	92.4	92.4	
	100%	93.6	91.7	92.4	
Power Factor	25%	0.46	0.52	0.48	
	50%	0.70	0.76	0.73	
	75%	0.80	0.83	0.82	
	100%	0.84	0.86	0.85	
Bearing type		Drive end : 6311 C3 Non drive end : 6211 C3	Foundation loads		
Sealing		: Inpro/Seal Inpro/Seal	Max. traction : 985 lb		
Lubrication interval		: 20000 h 20000 h	Max. compression : 1471 lb		
Lubricant amount		: 18 g 11 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

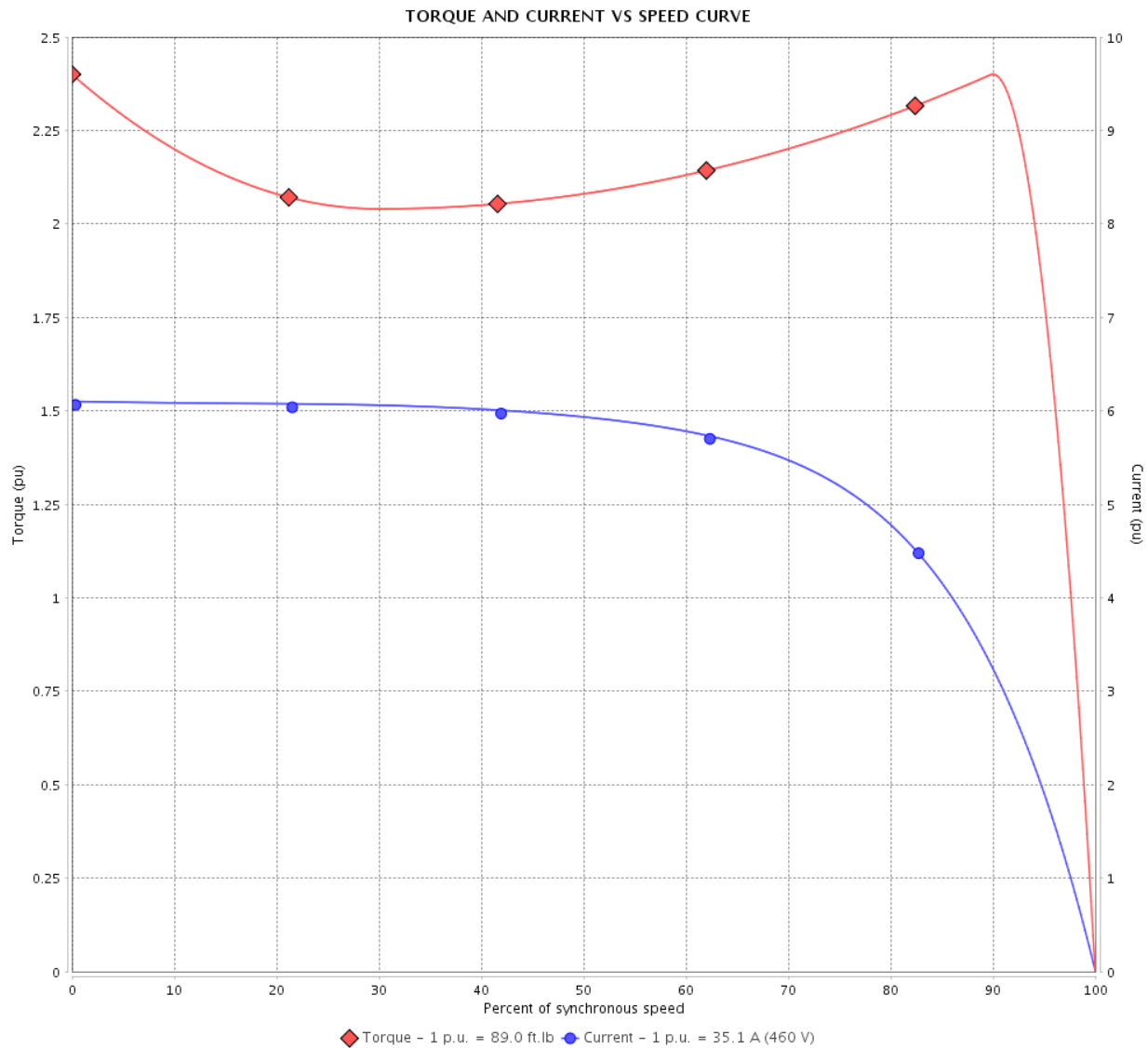


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11545431

Catalog # : 03018ST3QIE286TC-W22



Performance : 460 V 60 Hz 4P

Rated current	: 35.1 A	Moment of inertia (J)	: 5.85 sq.ft.lb
LRC	: 6.1	Duty cycle	: Cont.(S1)
Rated torque	: 89.0 ft.lb	Insulation class	: F
Locked rotor torque	: 240 %	Service factor	: 1.25
Breakdown torque	: 240 %	Temperature rise	: 80 K
Rated speed	: 1760 rpm	Design	: B

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

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# TORQUE AND CURRENT VS SPEED CURVE



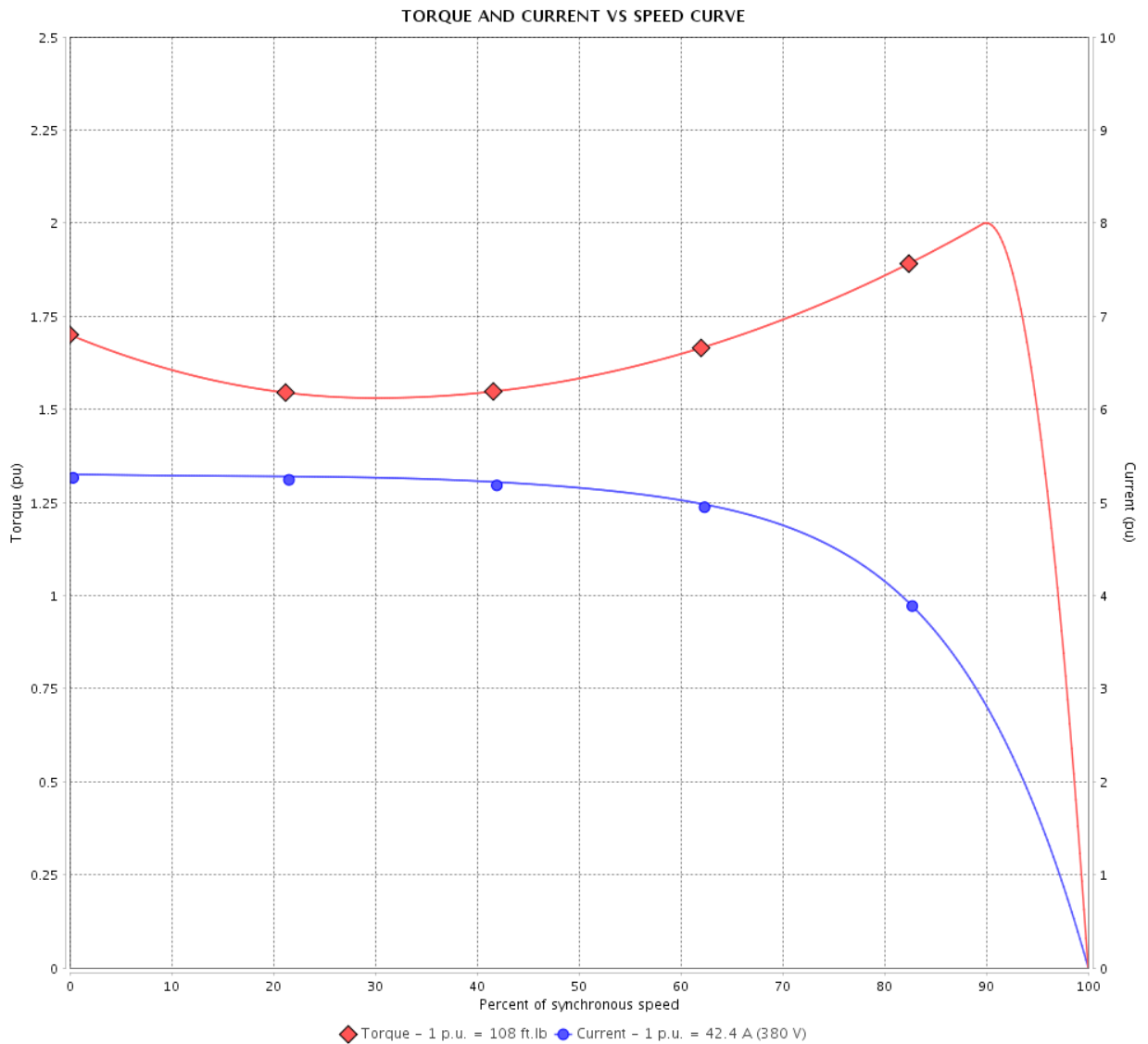
## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11545431

Catalog # : 03018ST3QIE286TC-W22



Performance : 380 V 50 Hz 4P IE2

Rated current	: 42.4 A	Moment of inertia (J)	: 5.85 sq.ft.lb
LRC	: 5.0	Duty cycle	: Cont.(S1)
Rated torque	: 108 ft.lb	Insulation class	: F
Locked rotor torque	: 180 %	Service factor	: 1.00
Breakdown torque	: 210 %	Temperature rise	: 105 K
Rated speed	: 1450 rpm	Design	: B

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

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# TORQUE AND CURRENT VS SPEED CURVE

## Three Phase Induction Motor - Squirrel Cage



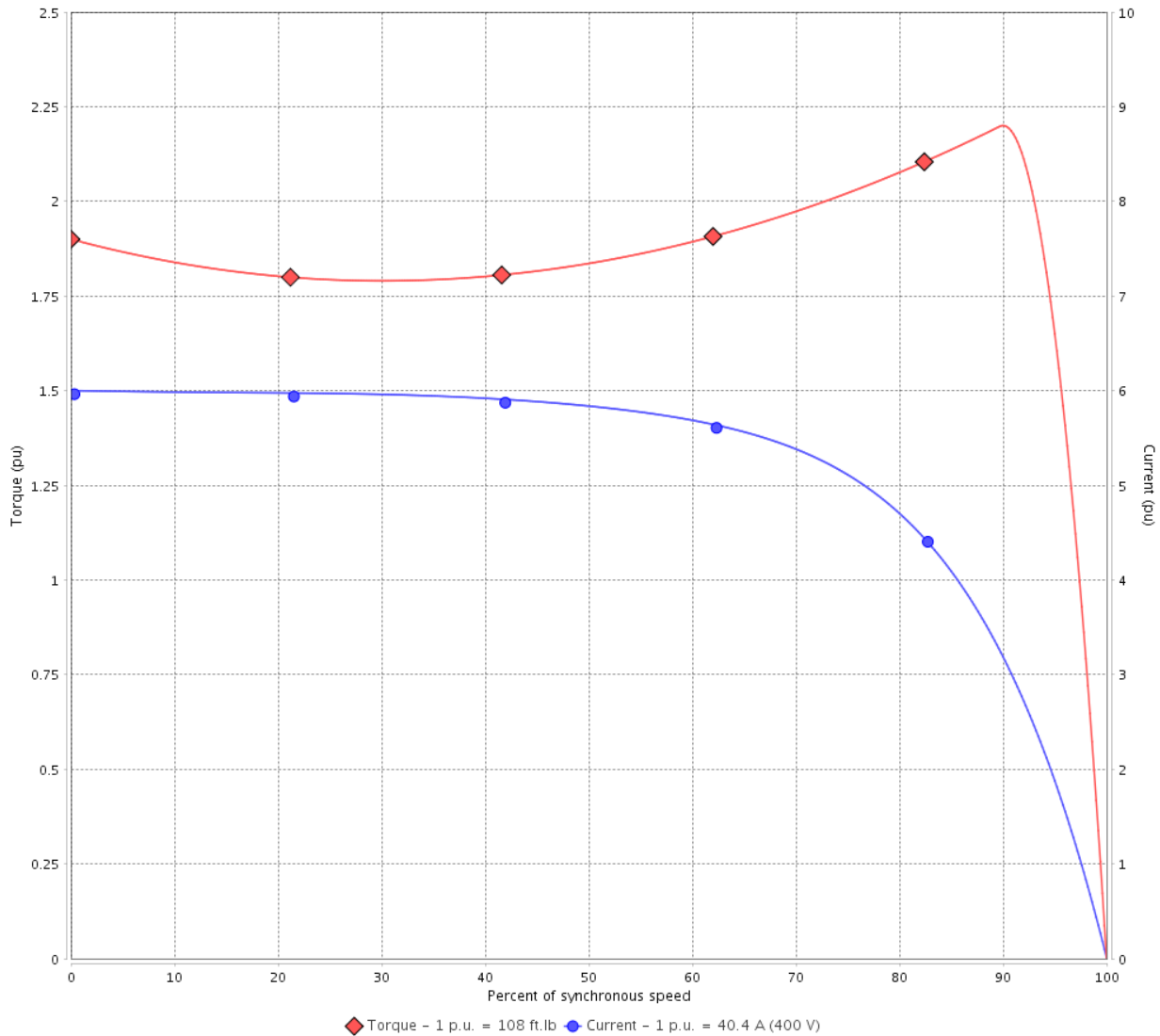
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11545431

Catalog # : 03018ST3QIE286TC-W22

TORQUE AND CURRENT VS SPEED CURVE



Performance : 400 V 50 Hz 4P IE2

Rated current	: 40.4 A	Moment of inertia (J)	: 5.85 sq.ft.lb
LRC	: 5.6	Duty cycle	: Cont.(S1)
Rated torque	: 108 ft.lb	Insulation class	: F
Locked rotor torque	: 210 %	Service factor	: 1.00
Breakdown torque	: 240 %	Temperature rise	: 105 K
Rated speed	: 1455 rpm	Design	: B

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

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# TORQUE AND CURRENT VS SPEED CURVE



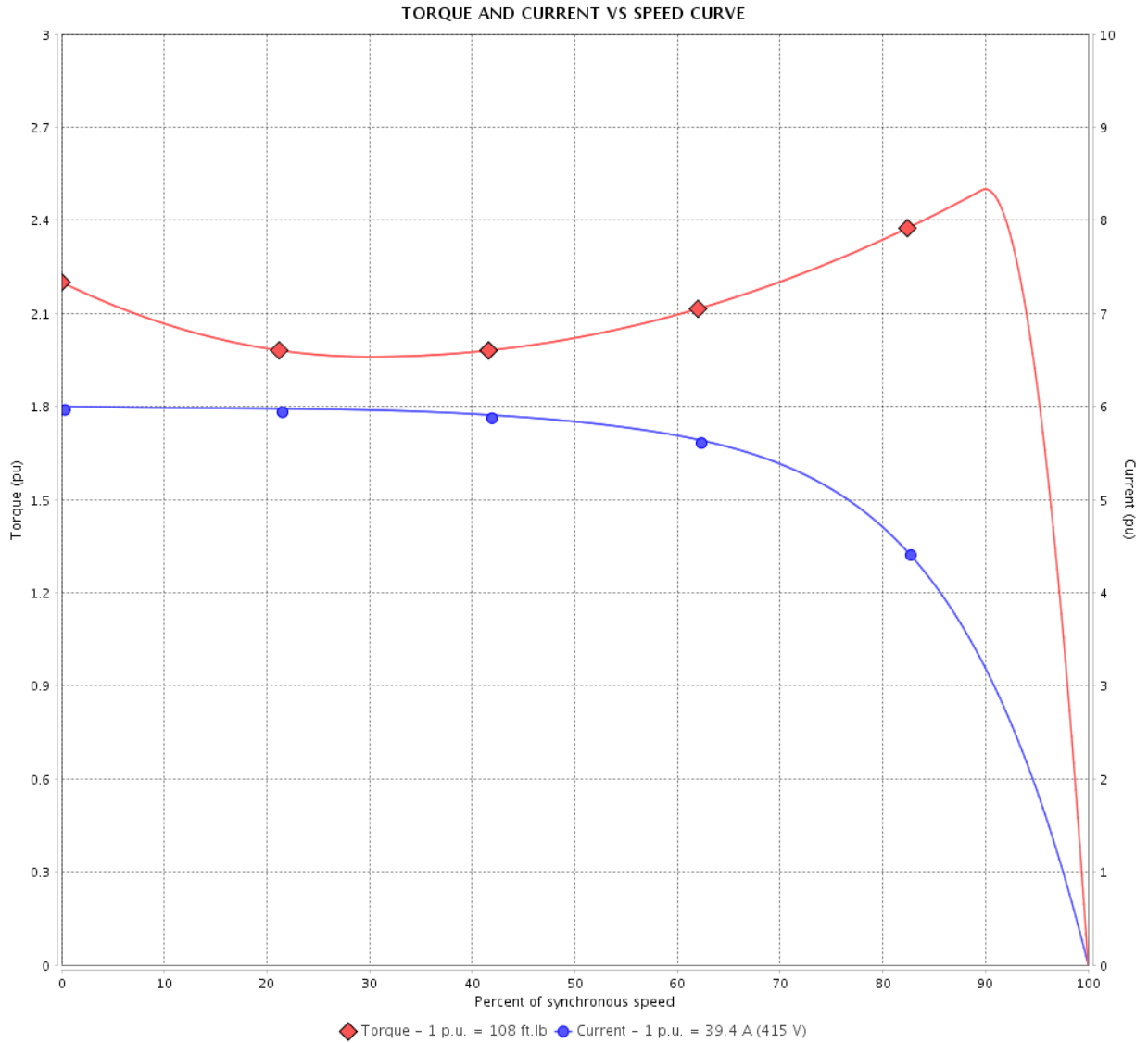
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LRC	: 6.0	Duty cycle	: Cont.(S1)
Rated torque	: 108 ft.lb	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.00
Breakdown torque	: 260 %	Temperature rise	: 105 K
Rated speed	: 1455 rpm	Design	: B

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

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# LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage



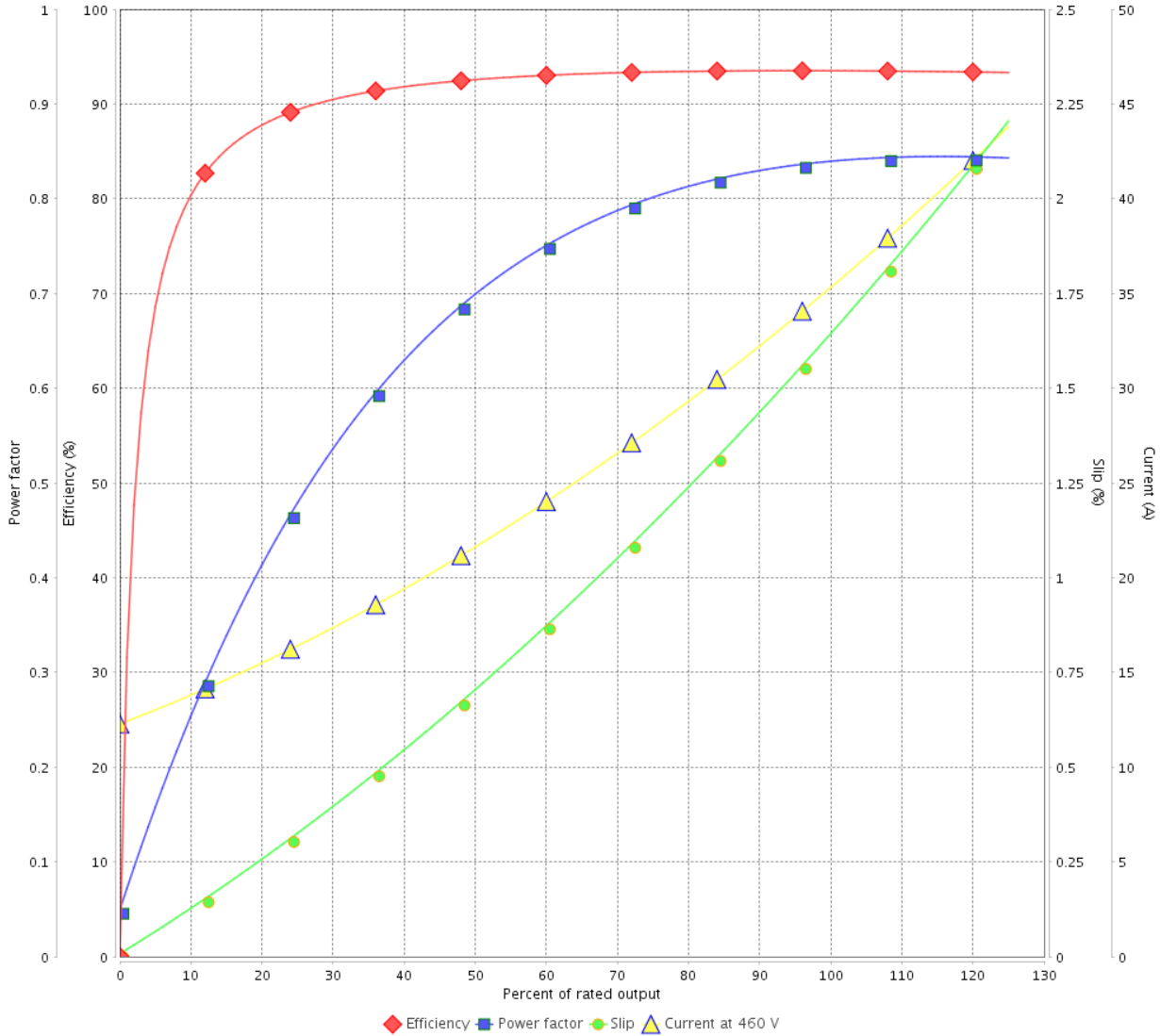
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11545431

Catalog # : 03018ST3QIE286TC-W22

LOAD PERFORMANCE CURVE



Performance : 460 V 60 Hz 4P

Rated current : 35.1 A  
 LRC : 6.1  
 Rated torque : 89.0 ft.lb  
 Locked rotor torque : 240 %  
 Breakdown torque : 240 %  
 Rated speed : 1760 rpm

Moment of inertia (J) : 5.85 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.25  
 Temperature rise : 80 K  
 Design : B

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# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage

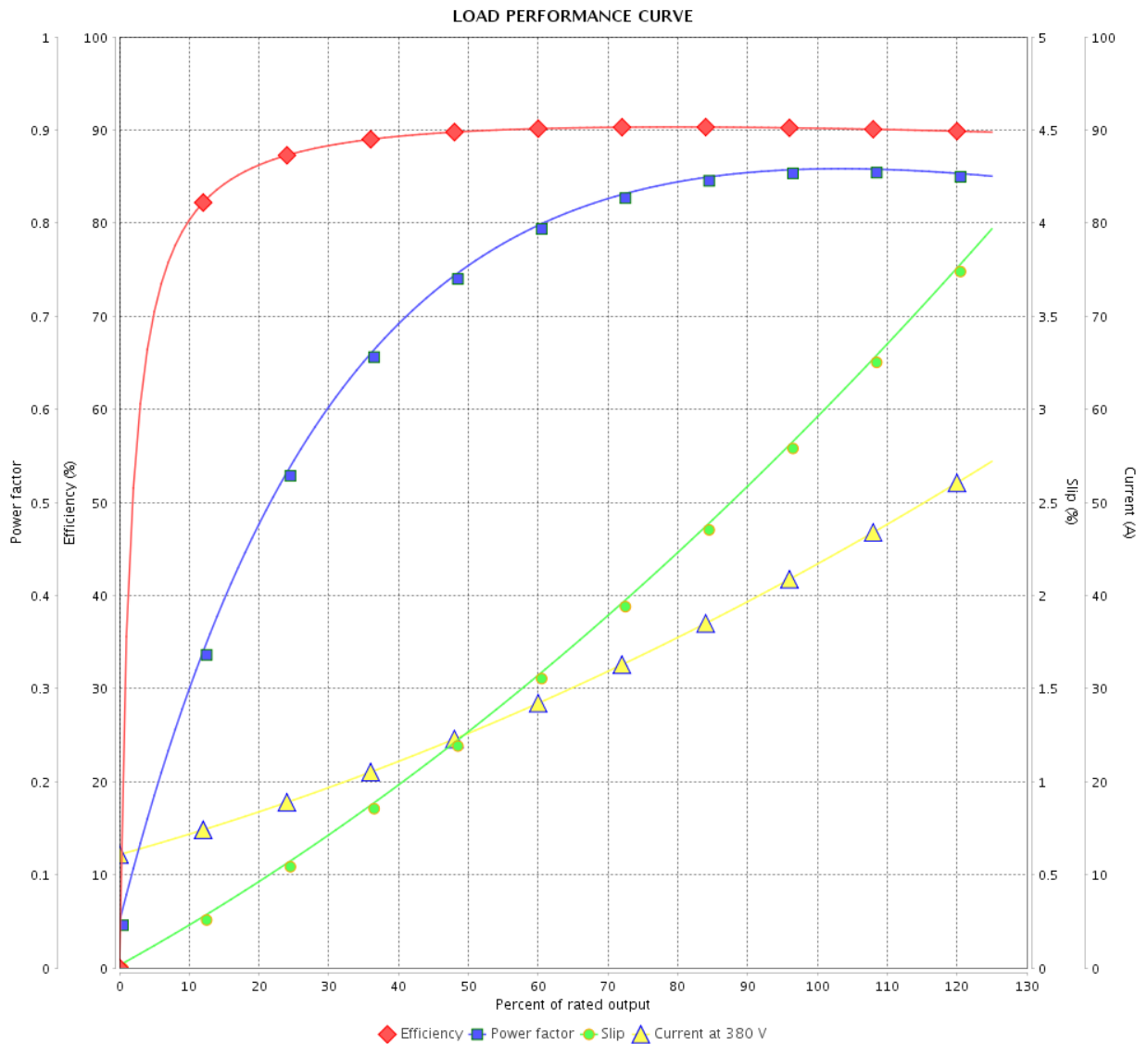


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Product line : NEMA Premium Efficiency Three-Phase

Product code : 11545431

Catalog # : 03018ST3QIE286TC-W22



Performance : 380 V 50 Hz 4P IE2

Rated current : 42.4 A  
 LRC : 5.0  
 Rated torque : 108 ft.lb  
 Locked rotor torque : 180 %  
 Breakdown torque : 210 %  
 Rated speed : 1450 rpm

Moment of inertia (J) : 5.85 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 105 K  
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Three Phase Induction Motor - Squirrel Cage



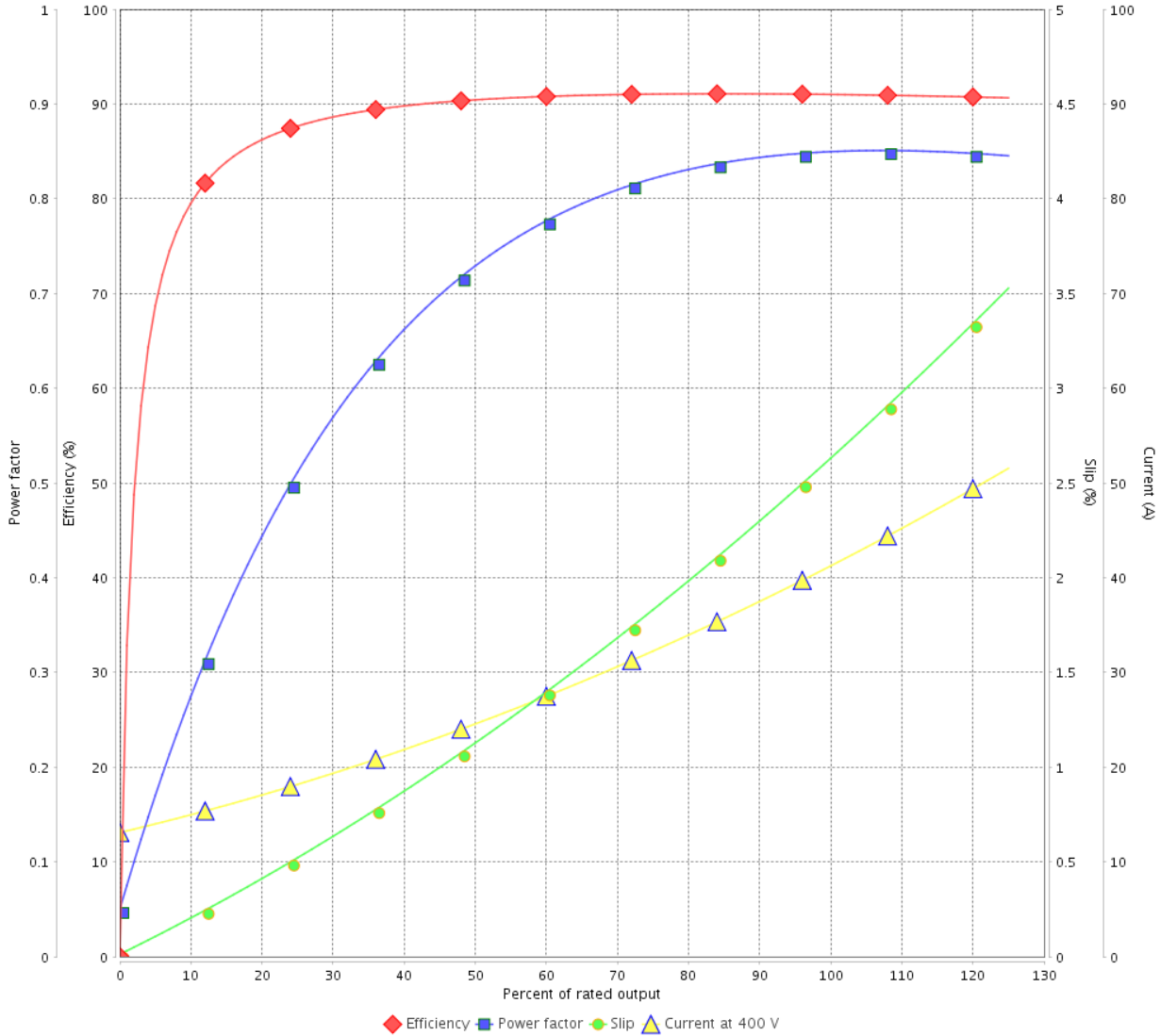
Customer : \_\_\_\_\_

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11545431

Catalog # : 03018ST3QIE286TC-W22

LOAD PERFORMANCE CURVE



Performance : 400 V 50 Hz 4P IE2

Rated current : 40.4 A  
 LRC : 5.6  
 Rated torque : 108 ft.lb  
 Locked rotor torque : 210 %  
 Breakdown torque : 240 %  
 Rated speed : 1455 rpm

Moment of inertia (J) : 5.85 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 105 K  
 Design : B

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# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage

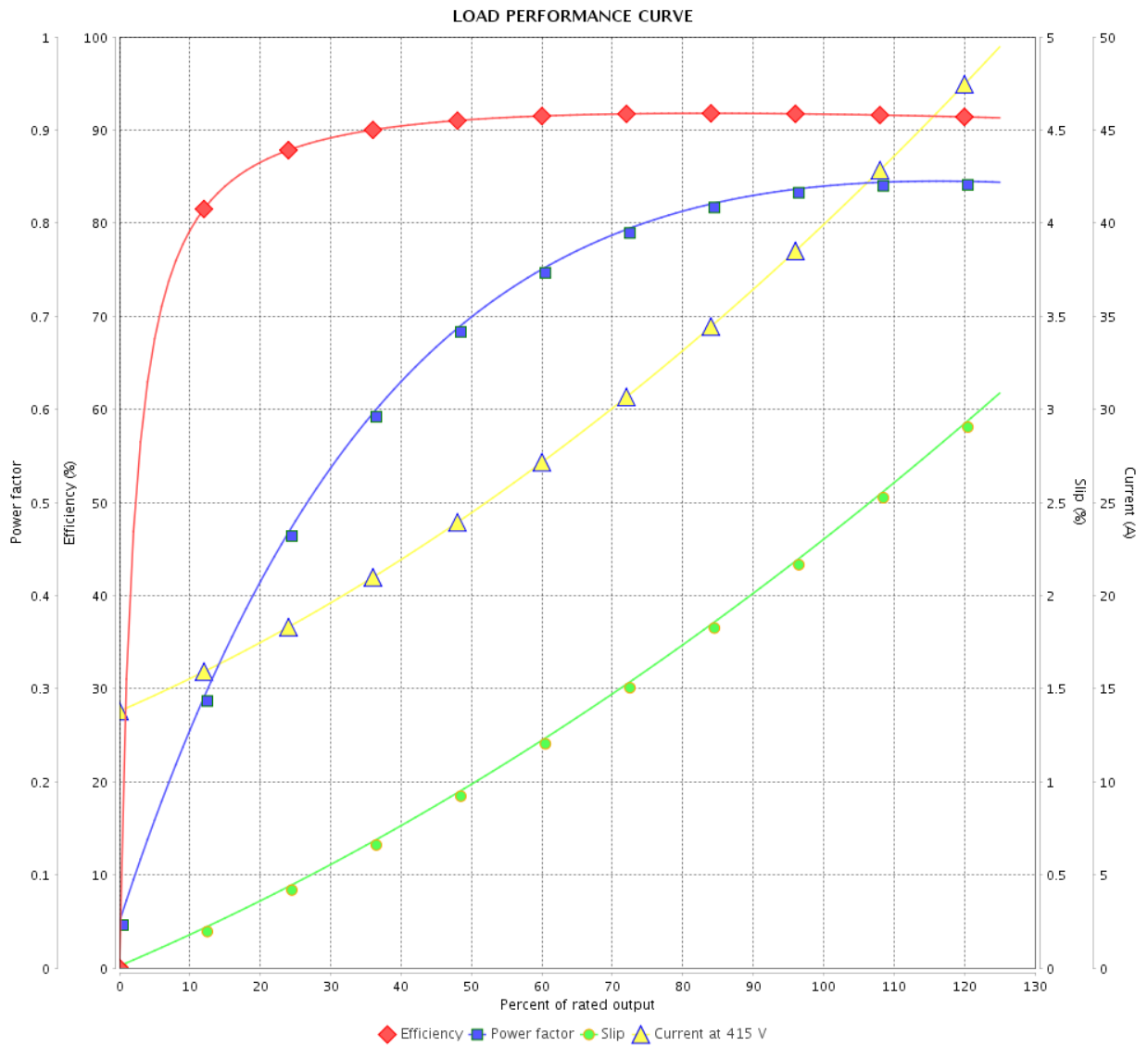


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 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 105 K  
 Design : B

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# THERMAL LIMIT CURVE



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LRC : 6.1	Duty cycle : Cont.(S1)
Rated torque : 89.0 ft.lb	Insulation class : F
Locked rotor torque : 240 %	Service factor : 1.25
Breakdown torque : 240 %	Temperature rise : 80 K
Rated speed : 1760 rpm	Design : B

Heating constant

Cooling constant

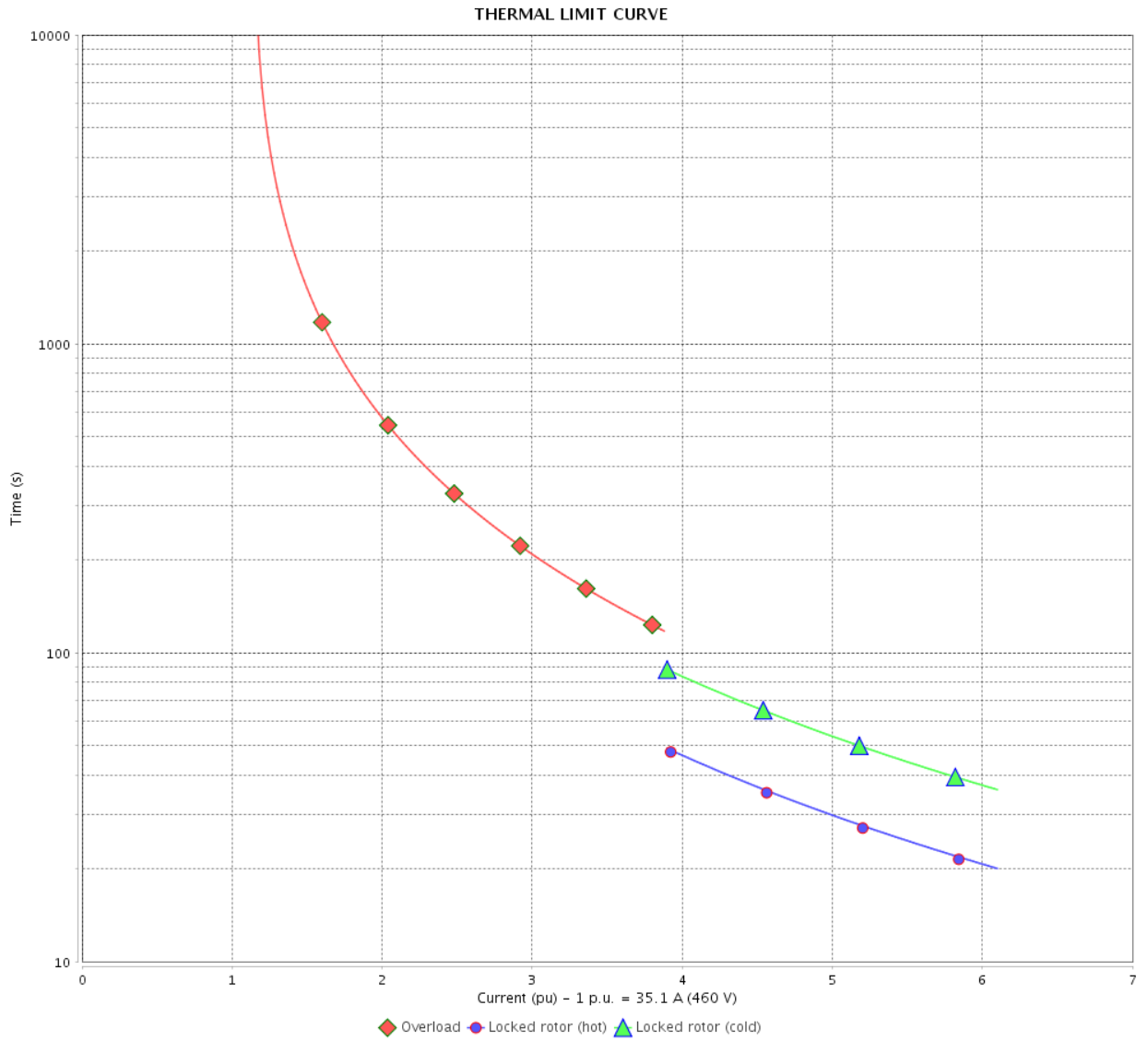
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Three Phase Induction Motor - Squirrel Cage



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## Three Phase Induction Motor - Squirrel Cage



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LRC	: 5.0	Duty cycle	: Cont.(S1)
Rated torque	: 108 ft.lb	Insulation class	: F
Locked rotor torque	: 180 %	Service factor	: 1.00
Breakdown torque	: 210 %	Temperature rise	: 105 K
Rated speed	: 1450 rpm	Design	: B

Heating constant

Cooling constant

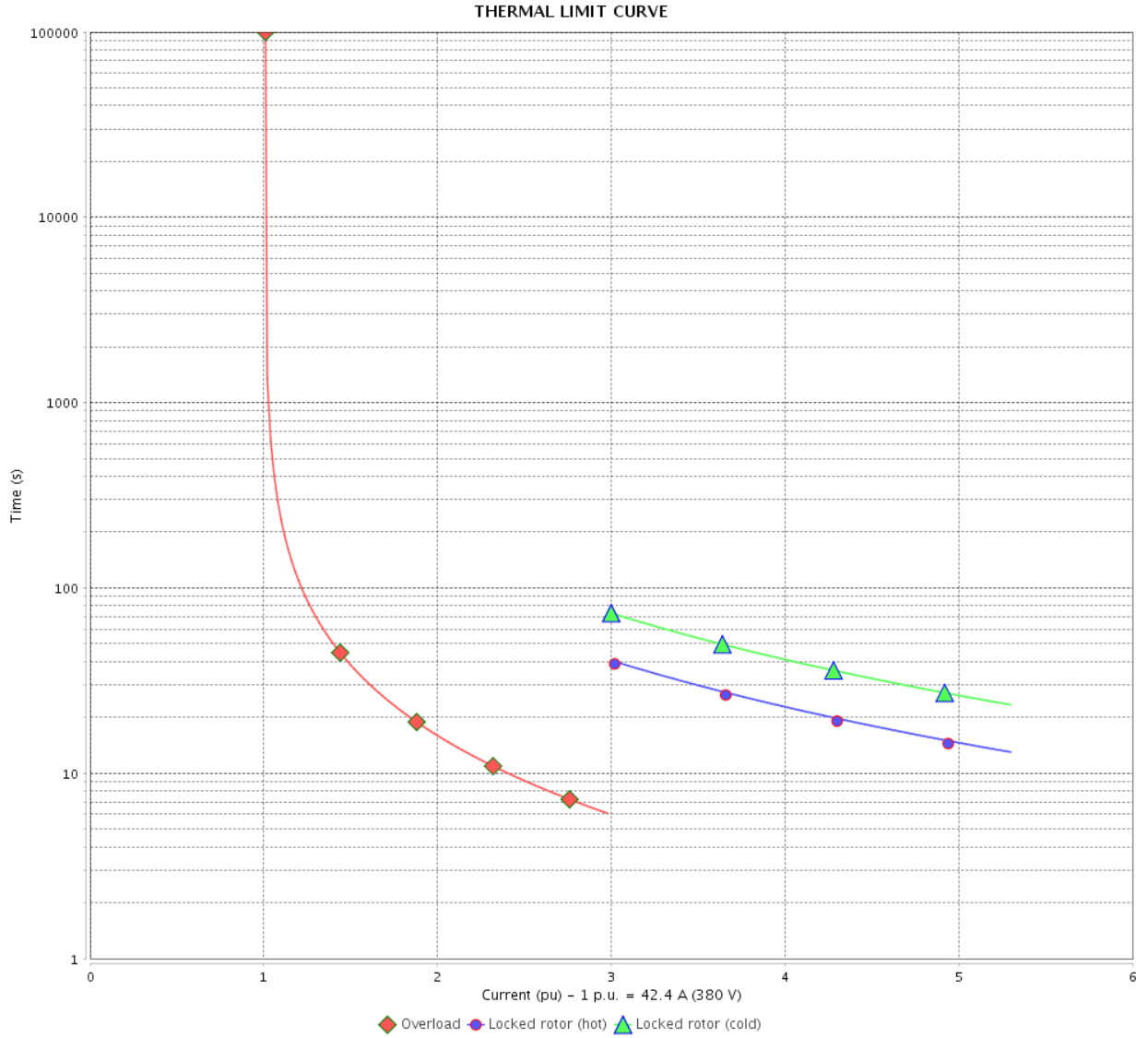
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Three Phase Induction Motor - Squirrel Cage



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Date				

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Rated current	: 40.4 A	Moment of inertia (J)	: 5.85 sq.ft.lb
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Locked rotor torque	: 210 %	Service factor	: 1.00
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Cooling constant

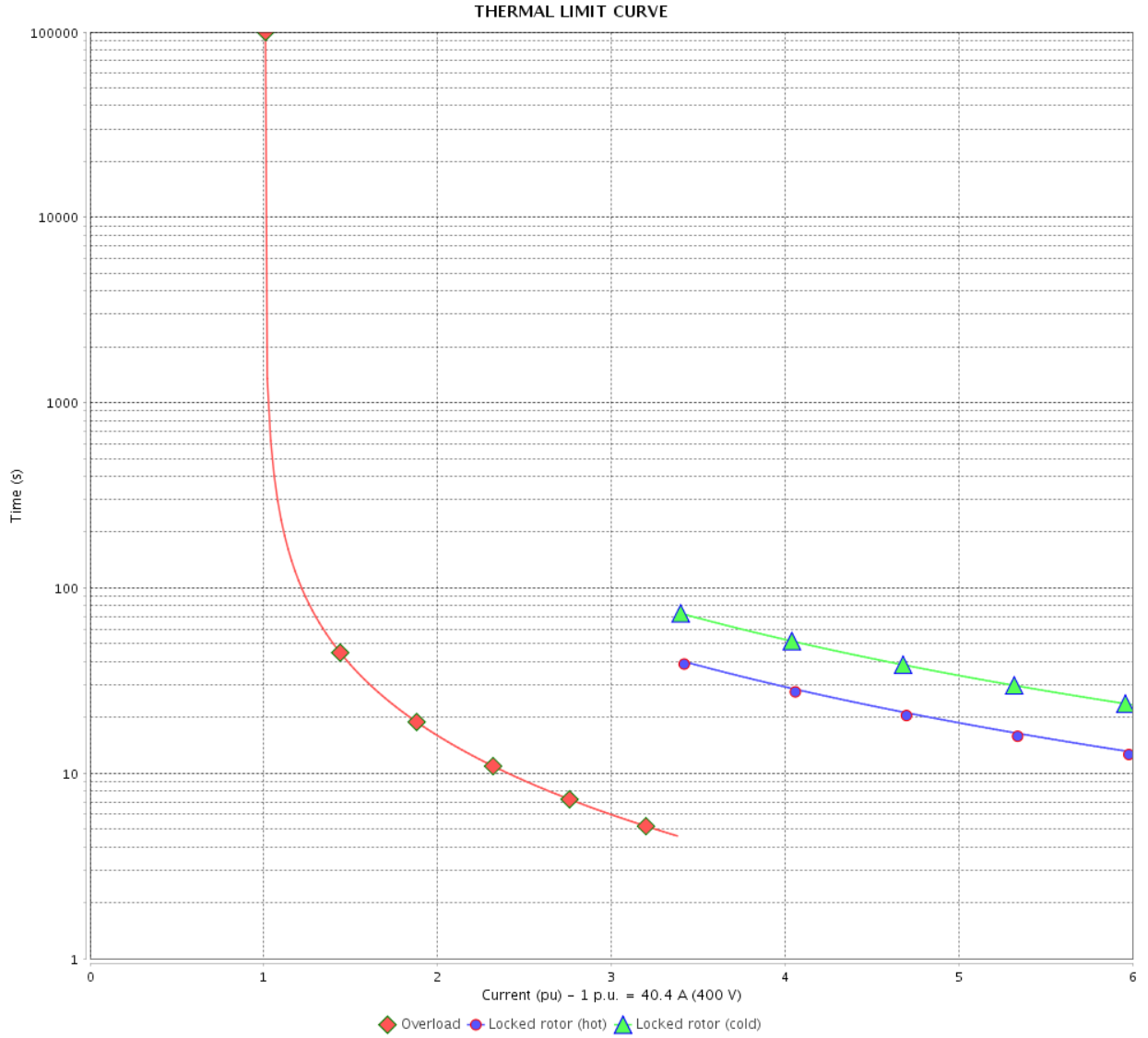
Rev.	Changes Summary	Performed	Checked	Date
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Locked rotor torque	: 229 %	Service factor	: 1.00
Breakdown torque	: 260 %	Temperature rise	: 105 K
Rated speed	: 1455 rpm	Design	: B

Heating constant

Cooling constant

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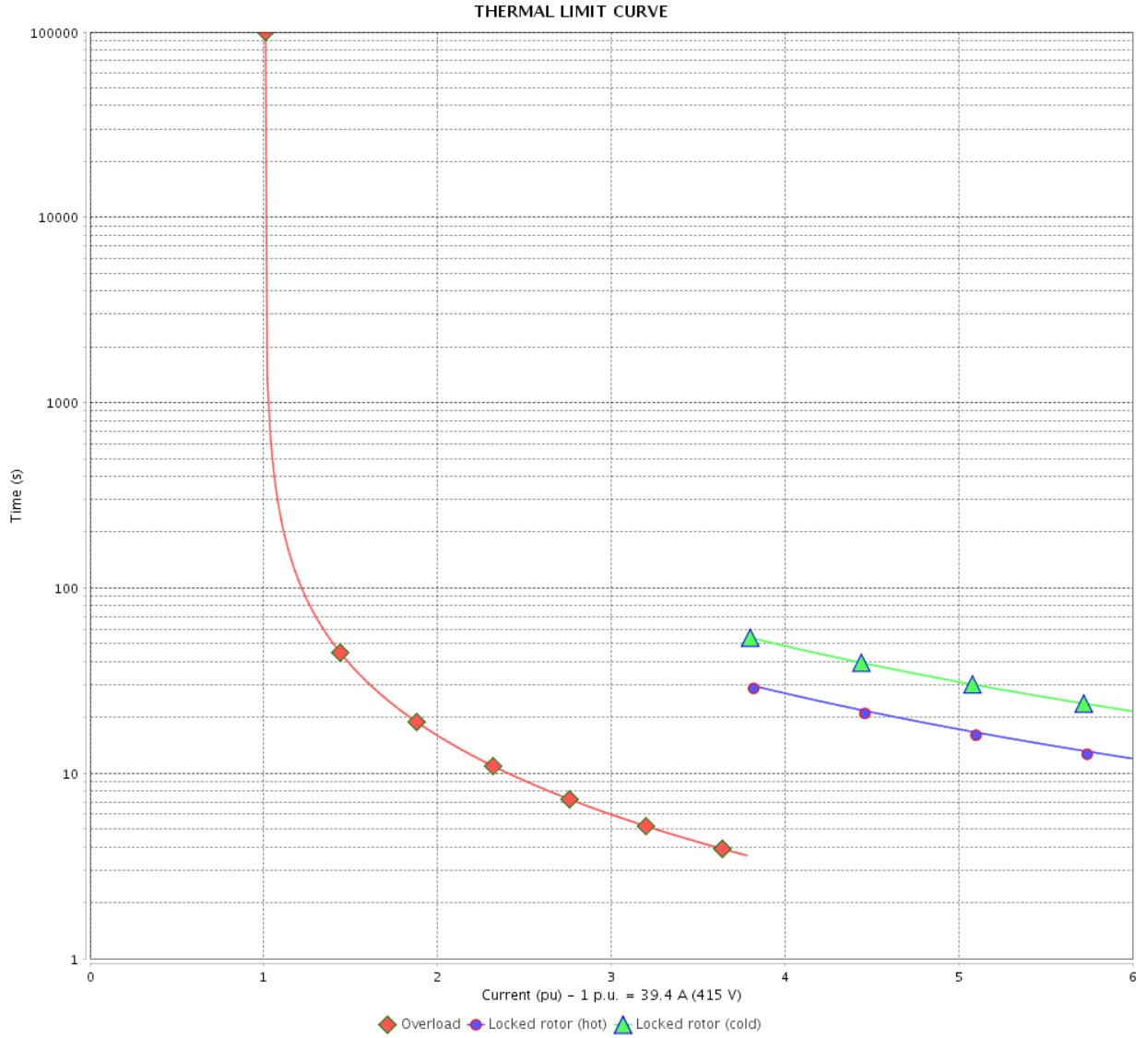


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# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



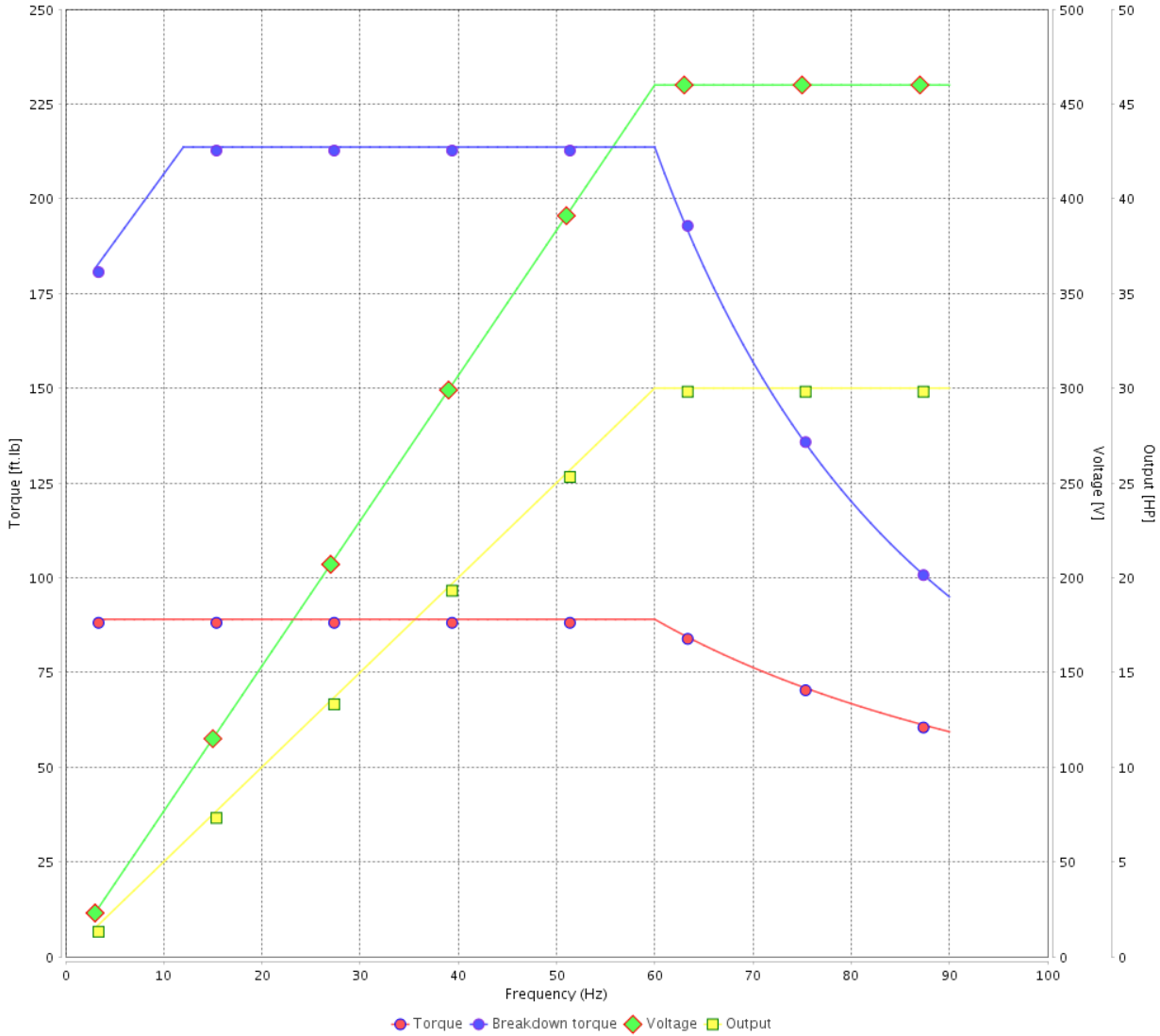
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VFD OPERATION CURVE



Performance : 460 V 60 Hz 4P

Rated current : 35.1 A  
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 Breakdown torque : 240 %  
 Rated speed : 1760 rpm

Moment of inertia (J) : 5.85 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

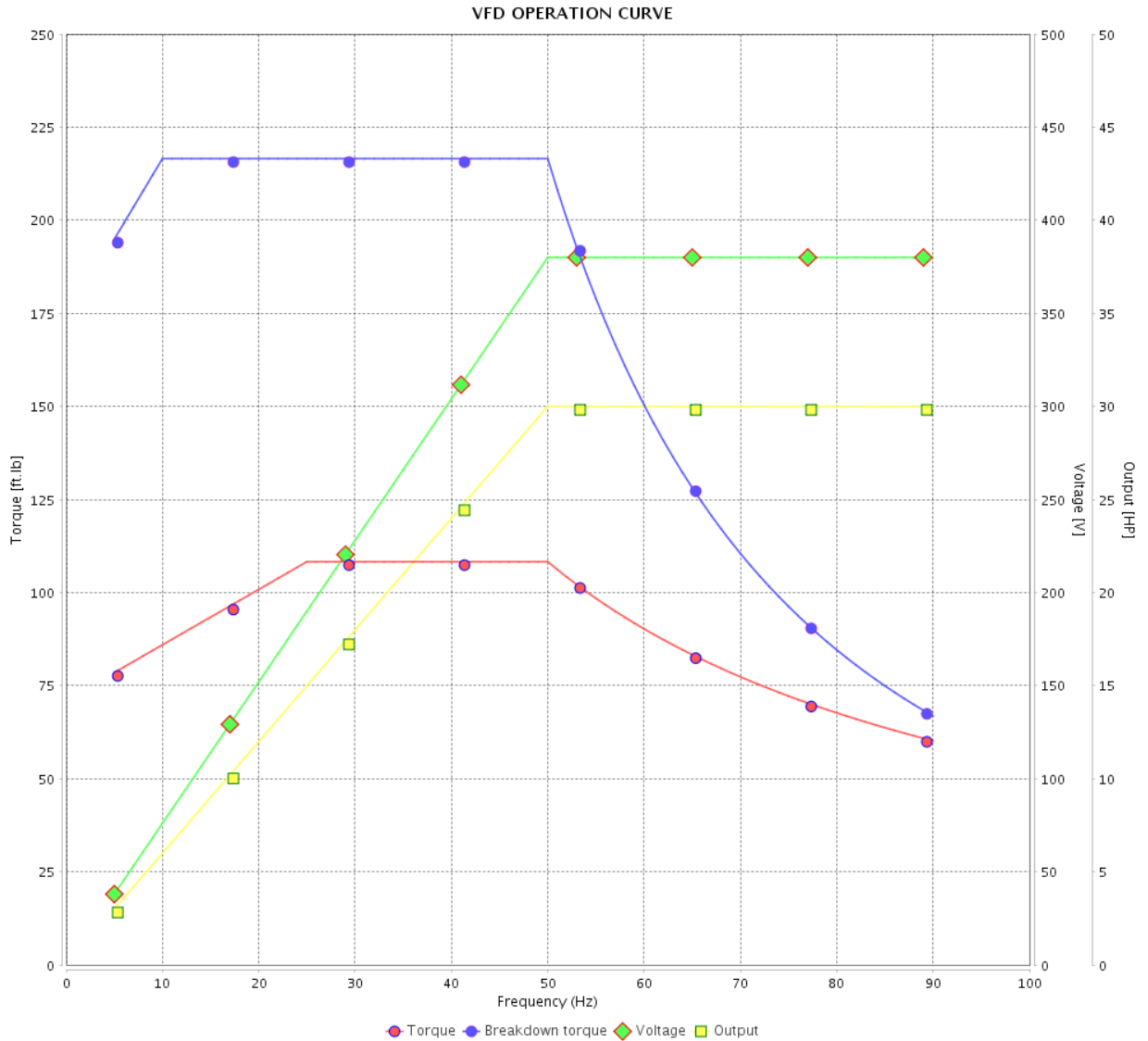


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Performance : 380 V 50 Hz 4P IE2

Rated current : 42.4 A  
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 Rated torque : 108 ft.lb  
 Locked rotor torque : 180 %  
 Breakdown torque : 210 %  
 Rated speed : 1450 rpm

Moment of inertia (J) : 5.85 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 105 K  
 Design : B

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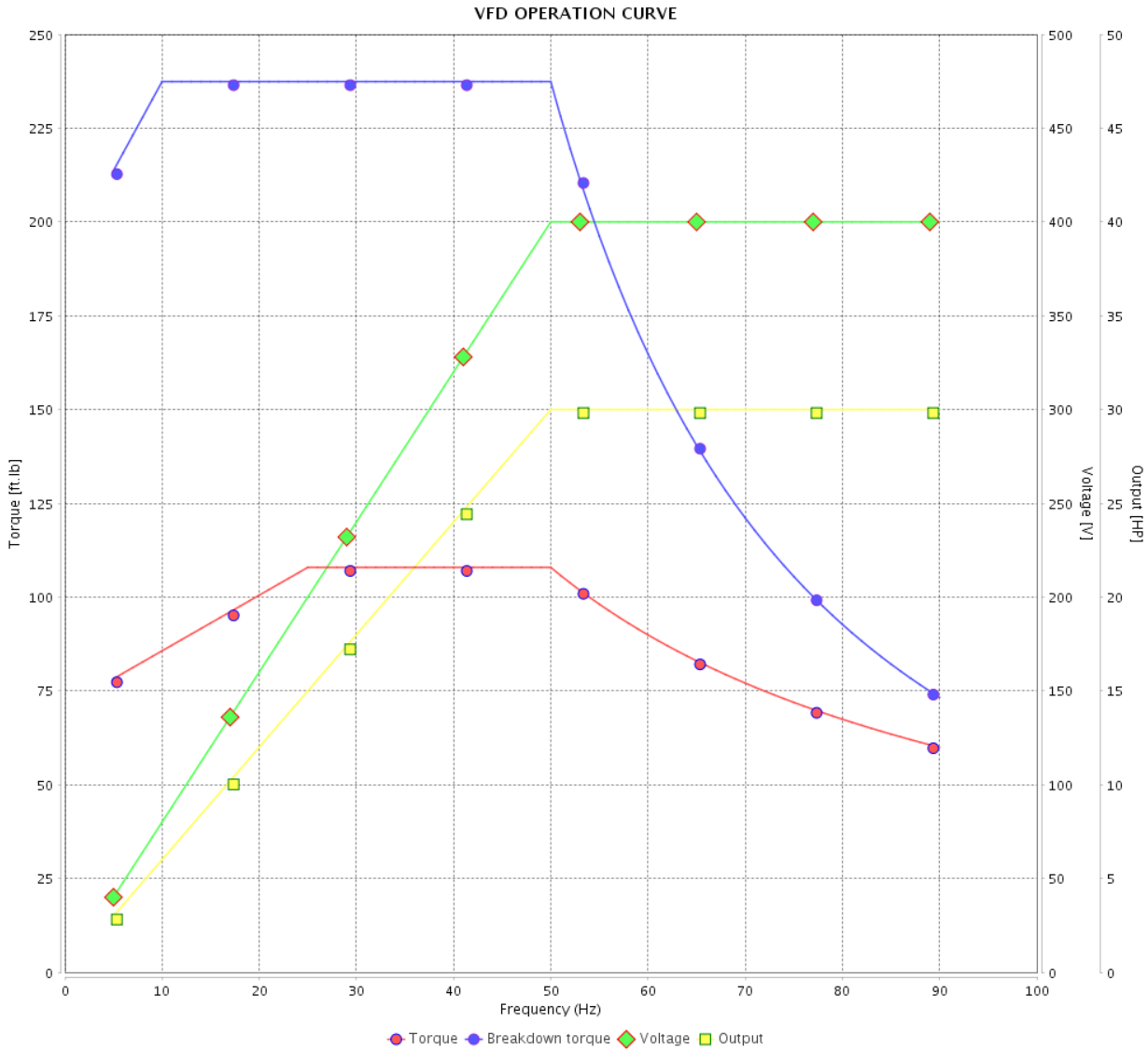


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# VFD OPERATION CURVE

## Three Phase Induction Motor - Squirrel Cage

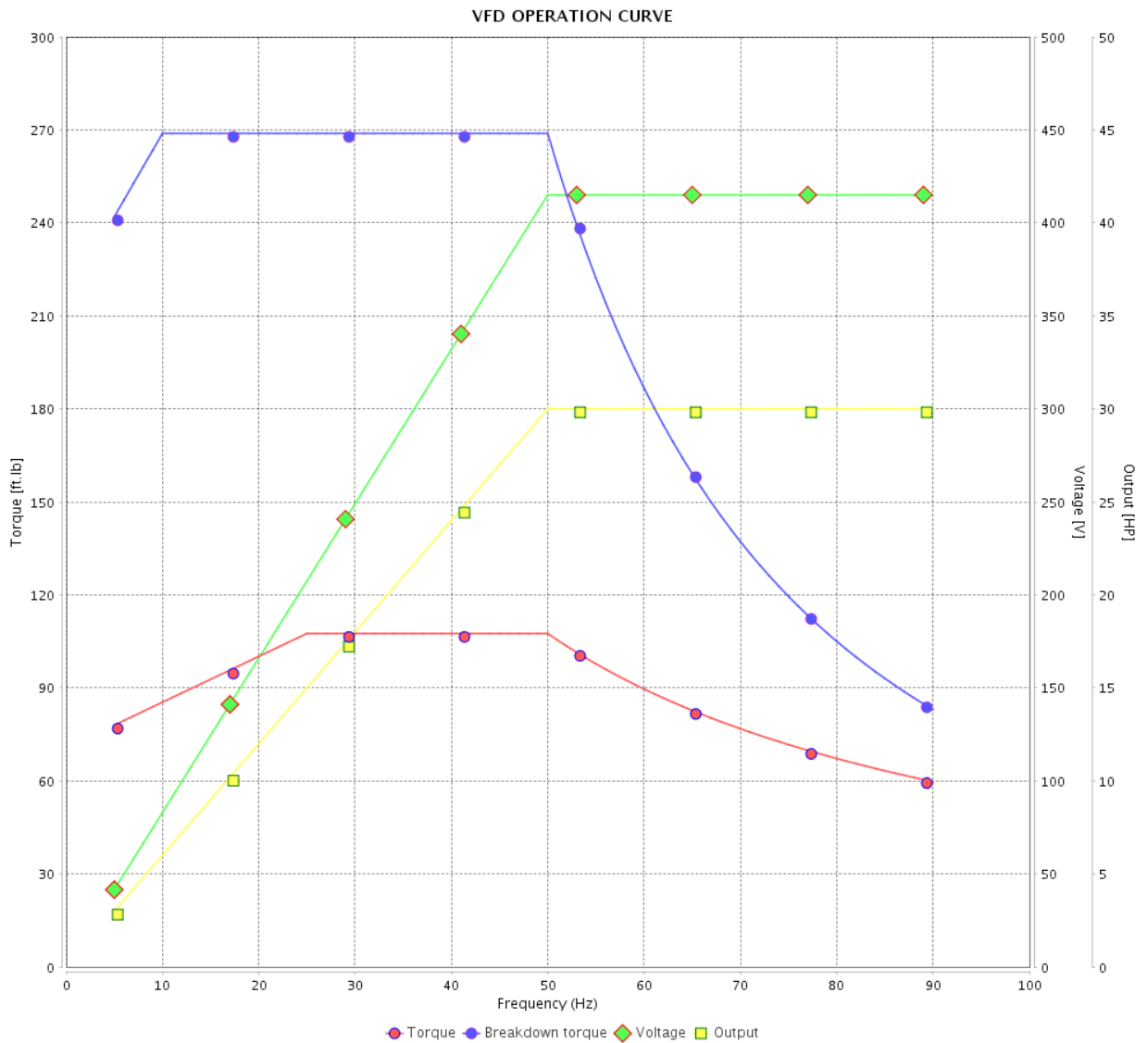


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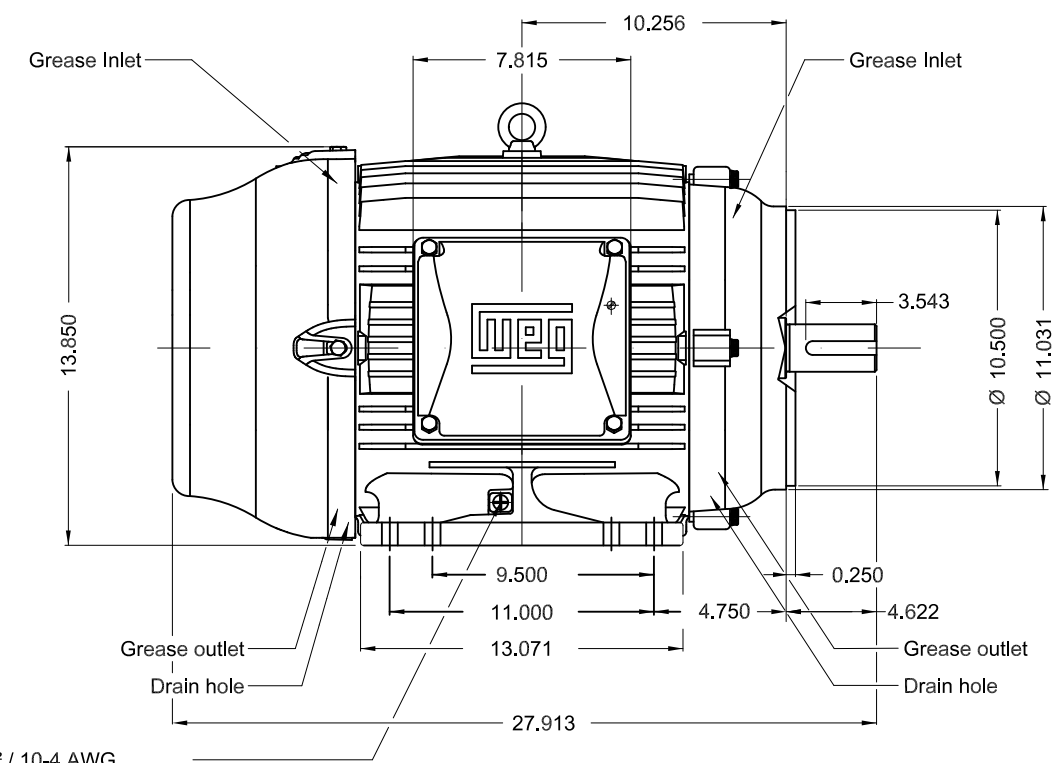
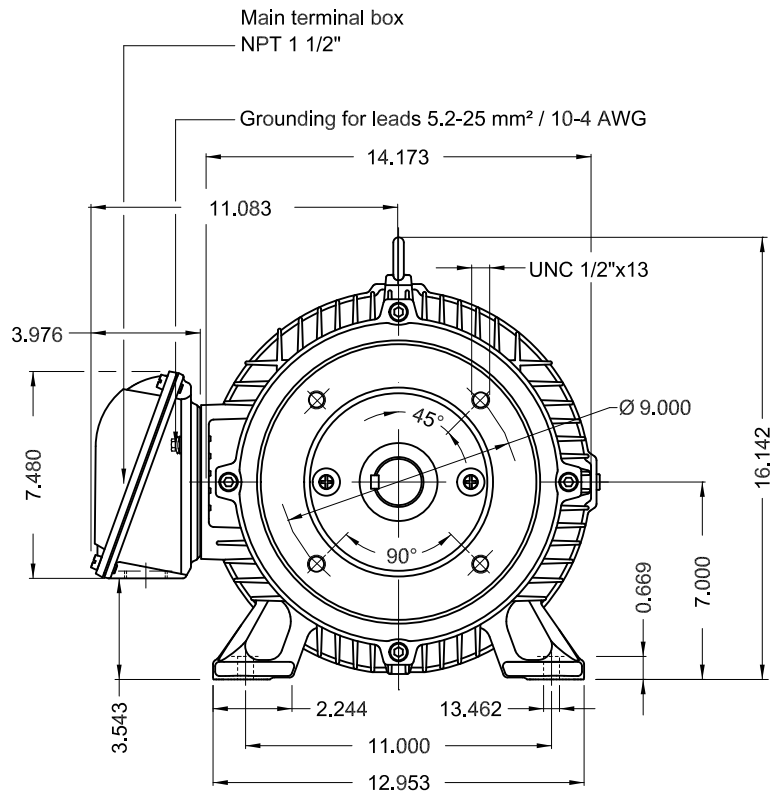
Rev.	Changes Summary	Performed	Checked	Date
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1 2 3 4 5 6

A

B

C

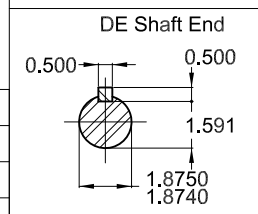


Grounding for leads 5.2-25 mm² / 10-4 AWG

D

E

Without vertical jackscrews  
 Color RAL 5009  
 Painting plan 202E  
 Mounting B34R(D)



30 HP 04 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 284/6TC 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 - T4  
For use on PWM: Gr. A, B, C, D and F,  
VT 1000:1, CT 20:1, 1.00SF - T3A

MODEL 03018ST3QIE286TC-W22



Inverter Duty Motor  
Severe Duty

MADE IN BRAZIL  
11545431

PH3 60Hz Fr. 284/6TC 1000m.a.s.l. IP55 TEFC 486lb

V 460

A 35.1

HP 30

kW 22

SF 1.25

SFA 43.9

RPM 1760

PF 0.84

AMB 40°C

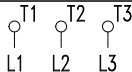
INS cl. F DT80K

NEMA NOM EFF 93.6%

DUTY CONT.

DES B Code G

GUARANT. EFF 92.4%



460V



→ 6311-C3 (18g) 55BC03X30

→ 6211-C3 (11g) 55BC02X30



MOBIL POLYREX EM (20000h)

