

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



Customer :					
Product line	: NEMA Premium Efficiency Three-Phase	Product code :	11431935		
		Catalog # :	10018ST3QIE405T-W22		
Frame	: 404/5T	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	: 1227 lb		
Protection degree	: IP55	Moment of inertia (J)	: 29.9 sq.ft.lb		
Design	: B				
Output [HP]	100	100	100	100	
Poles	4	4	4	4	
Frequency [Hz]	60	50	50	50	
Rated voltage [V]	460	380	400	415	
Rated current [A]	116	142	135	131	
L. R. Amperes [A]	719	795	837	865	
LRC [A]	6.2x(Code G)	5.6x(Code F)	6.2x(Code G)	6.6x(Code G)	
No load current [A]	32.0	31.7	33.7	35.0	
Rated speed [RPM]	1775	1465	1470	1475	
Slip [%]	1.39	2.33	2.00	1.67	
Rated torque [ft.lb]	296	358	357	356	
Locked rotor torque [%]	240	190	210	220	
Breakdown torque [%]	220	170	190	210	
Service factor	1.25	1.00	1.00	1.00	
Temperature rise	80 K	105 K	105 K	105 K	
Locked rotor time	23s (cold) 13s (hot)	16s (cold) 9s (hot)	16s (cold) 9s (hot)	16s (cold) 9s (hot)	
Noise level ²	68.0 dB(A)	64.0 dB(A)	64.0 dB(A)	64.0 dB(A)	
Efficiency (%)	25%	94.5	94.8	94.7	94.4
	50%	95.0	94.5	94.5	94.5
	75%	95.0	94.1	94.5	94.5
	100%	95.4	93.6	94.1	94.5
Power Factor	25%	0.54	0.60	0.57	0.55
	50%	0.77	0.82	0.79	0.77
	75%	0.84	0.86	0.85	0.84
	100%	0.85	0.86	0.85	0.84
Bearing type	: <u>Drive end</u> 6316 C3 <u>Non drive end</u> 6314 C3	Foundation loads			
Sealing	: Inpro/Seal Inpro/Seal	Max. traction	: 1631 lb		
Lubrication interval	: 10000 h 12000 h	Max. compression	: 2858 lb		
Lubricant amount	: 34 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



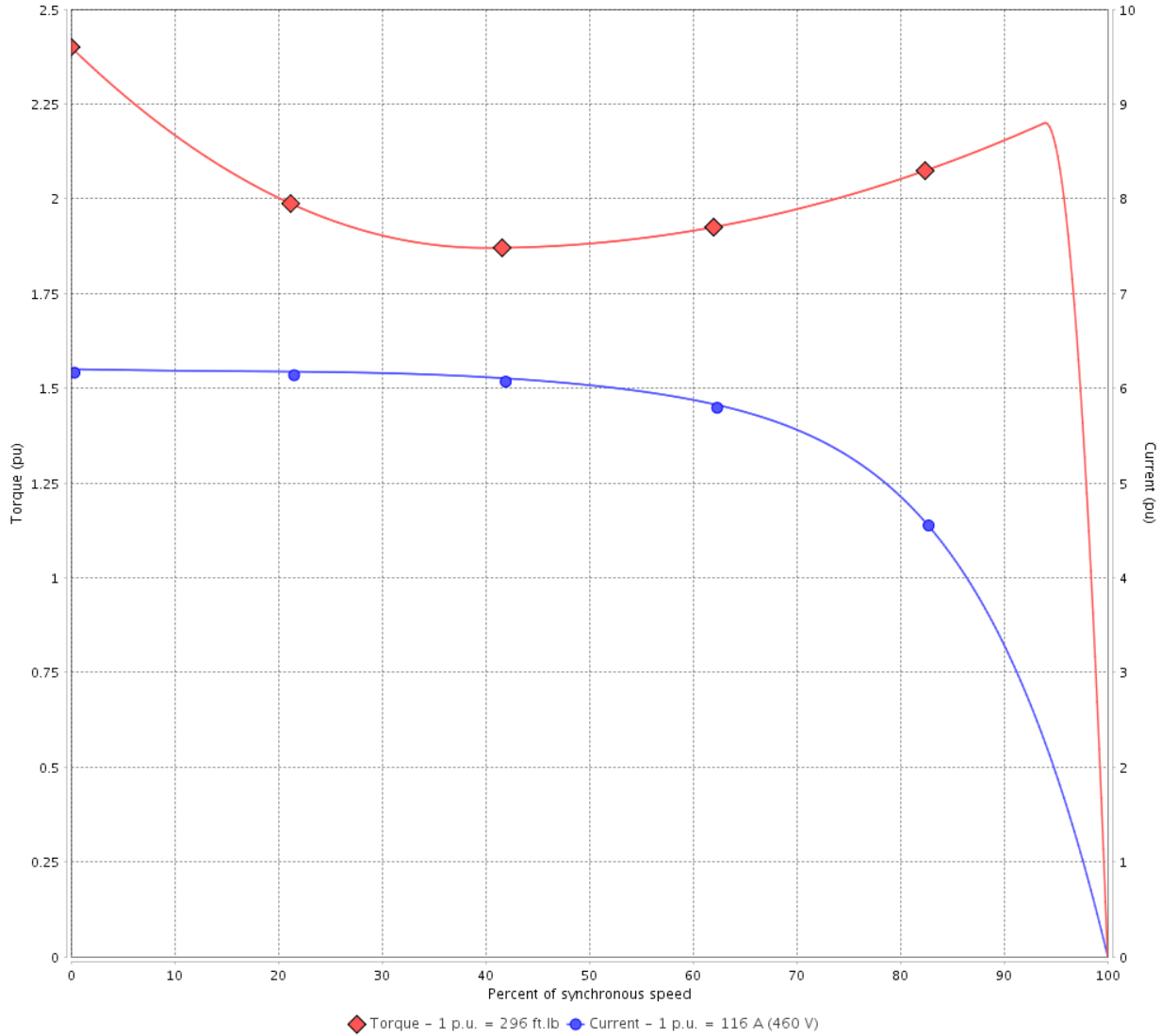
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11431935

Catalog # : 10018ST3QIE405T-W22

TORQUE AND CURRENT VS SPEED CURVE



Performance : 460 V 60 Hz 4P

Rated current	: 116 A	Moment of inertia (J)	: 29.9 sq.ft.lb
LRC	: 6.2	Duty cycle	: Cont.(S1)
Rated torque	: 296 ft.lb	Insulation class	: F
Locked rotor torque	: 240 %	Service factor	: 1.25
Breakdown torque	: 220 %	Temperature rise	: 80 K
Rated speed	: 1775 rpm	Design	: B

Locked rotor time : 23s (cold) 13s (hot)

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TORQUE AND CURRENT VS SPEED CURVE



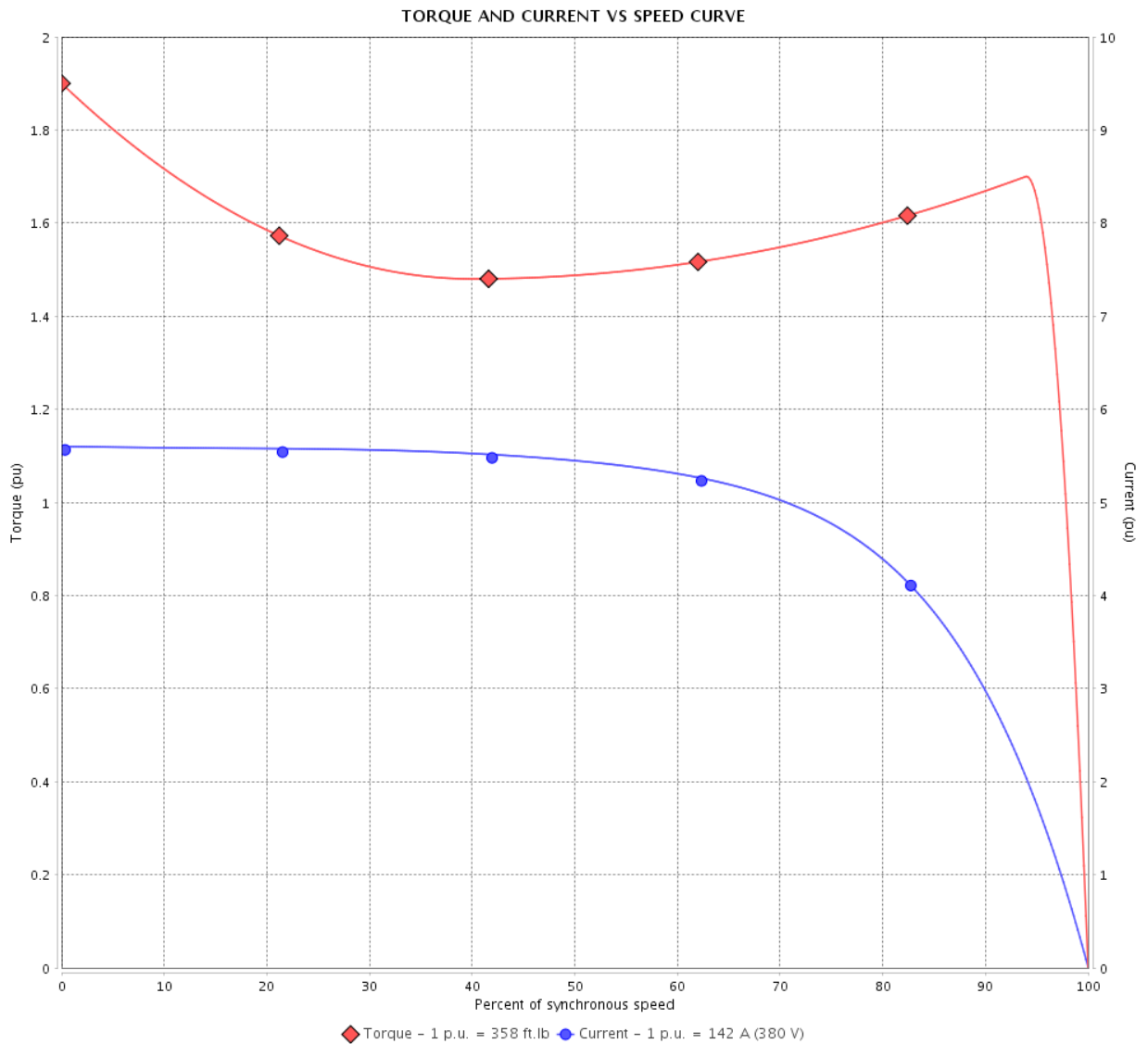
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11431935

Catalog # : 10018ST3QIE405T-W22



Performance : 380 V 50 Hz 4P IE1

Rated current	: 142 A	Moment of inertia (J)	: 29.9 sq.ft.lb
LRC	: 5.6	Duty cycle	: Cont.(S1)
Rated torque	: 358 ft.lb	Insulation class	: F
Locked rotor torque	: 190 %	Service factor	: 1.00
Breakdown torque	: 170 %	Temperature rise	: 105 K
Rated speed	: 1465 rpm	Design	: B

Locked rotor time : 16s (cold) 9s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



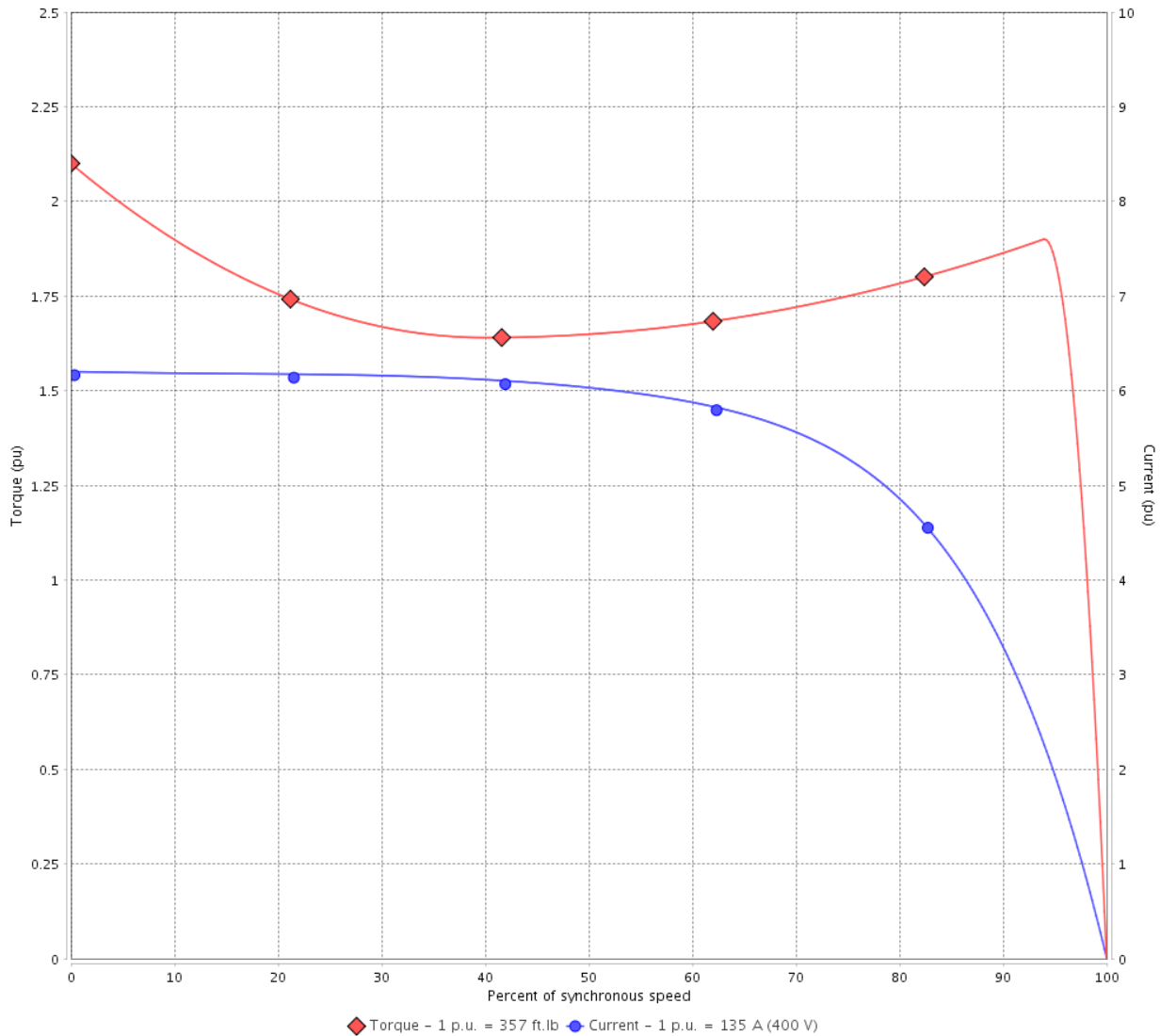
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11431935

Catalog # : 10018ST3QIE405T-W22

TORQUE AND CURRENT VS SPEED CURVE



Performance : 400 V 50 Hz 4P IE2

Rated current	: 135 A	Moment of inertia (J)	: 29.9 sq.ft.lb
LRC	: 6.2	Duty cycle	: Cont.(S1)
Rated torque	: 357 ft.lb	Insulation class	: F
Locked rotor torque	: 210 %	Service factor	: 1.00
Breakdown torque	: 190 %	Temperature rise	: 105 K
Rated speed	: 1470 rpm	Design	: B

Locked rotor time : 16s (cold) 9s (hot)

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TORQUE AND CURRENT VS SPEED CURVE



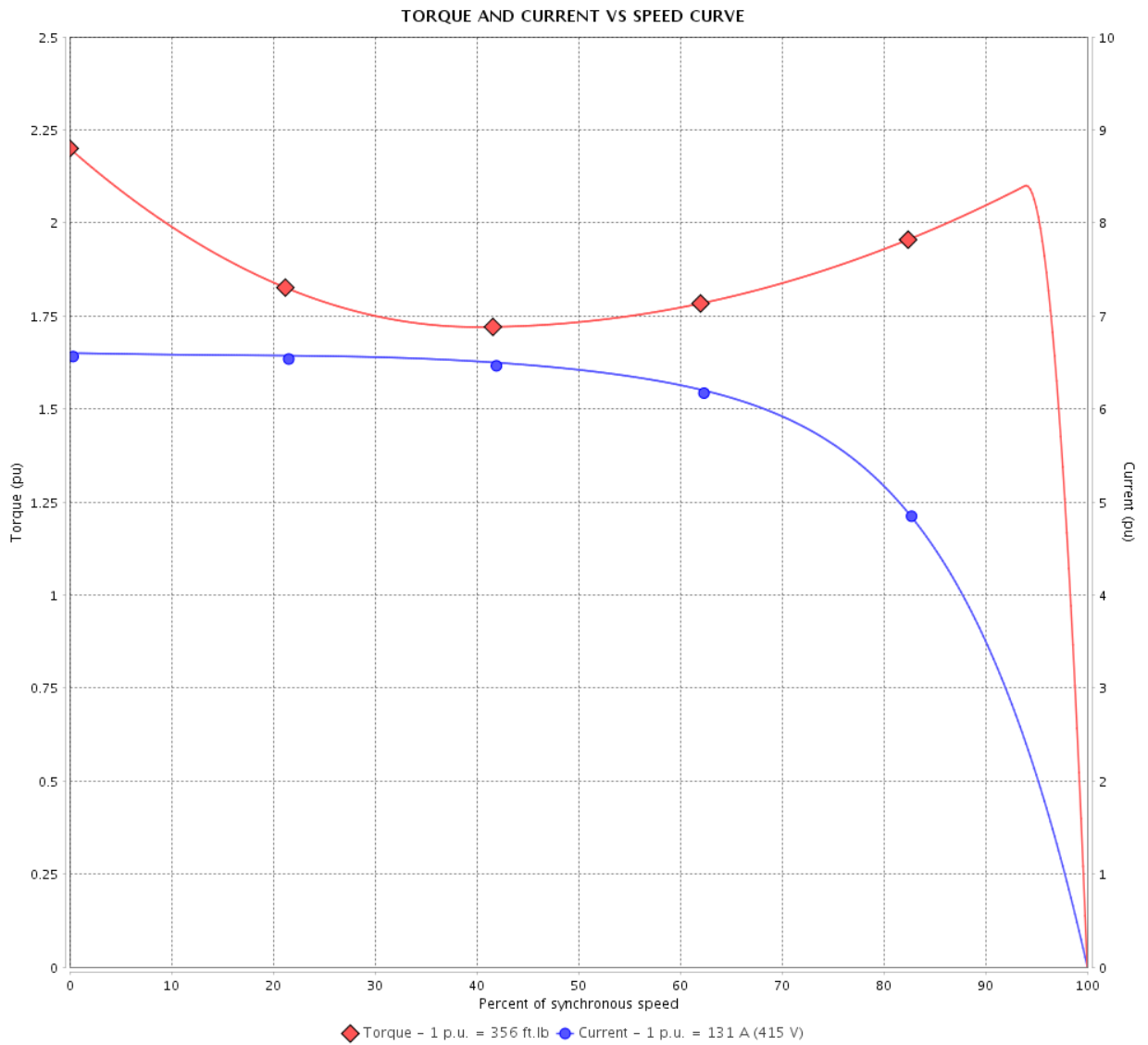
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Rated torque	: 356 ft.lb	Insulation class	: F
Locked rotor torque	: 220 %	Service factor	: 1.00
Breakdown torque	: 210 %	Temperature rise	: 105 K
Rated speed	: 1475 rpm	Design	: B

Locked rotor time : 16s (cold) 9s (hot)

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LOAD PERFORMANCE CURVE

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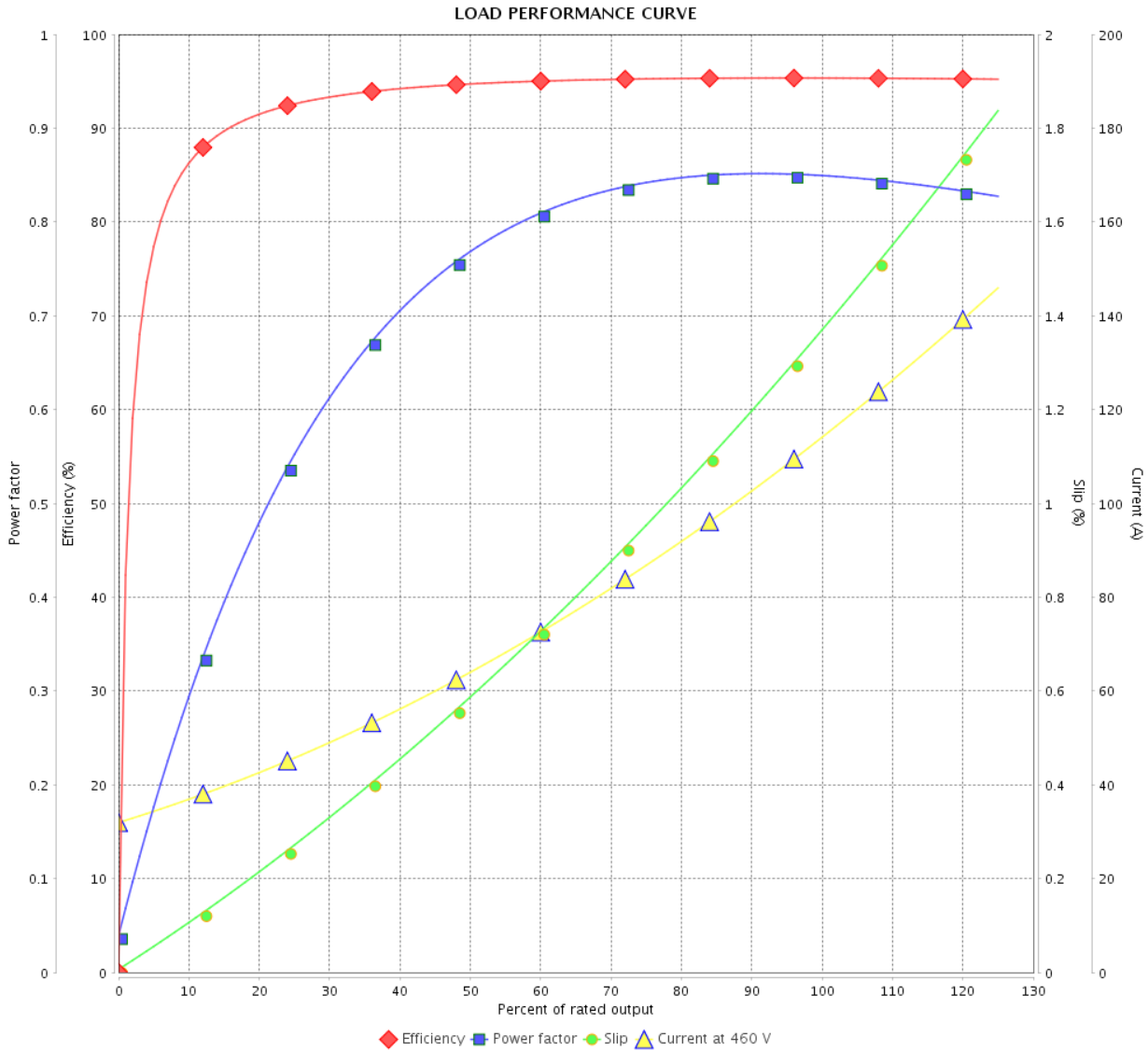


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11431935

Catalog # : 10018ST3QIE405T-W22



Performance : 460 V 60 Hz 4P

Rated current : 116 A	Moment of inertia (J) : 29.9 sq.ft.lb
LRC : 6.2	Duty cycle : Cont.(S1)
Rated torque : 296 ft.lb	Insulation class : F
Locked rotor torque : 240 %	Service factor : 1.25
Breakdown torque : 220 %	Temperature rise : 80 K
Rated speed : 1775 rpm	Design : B

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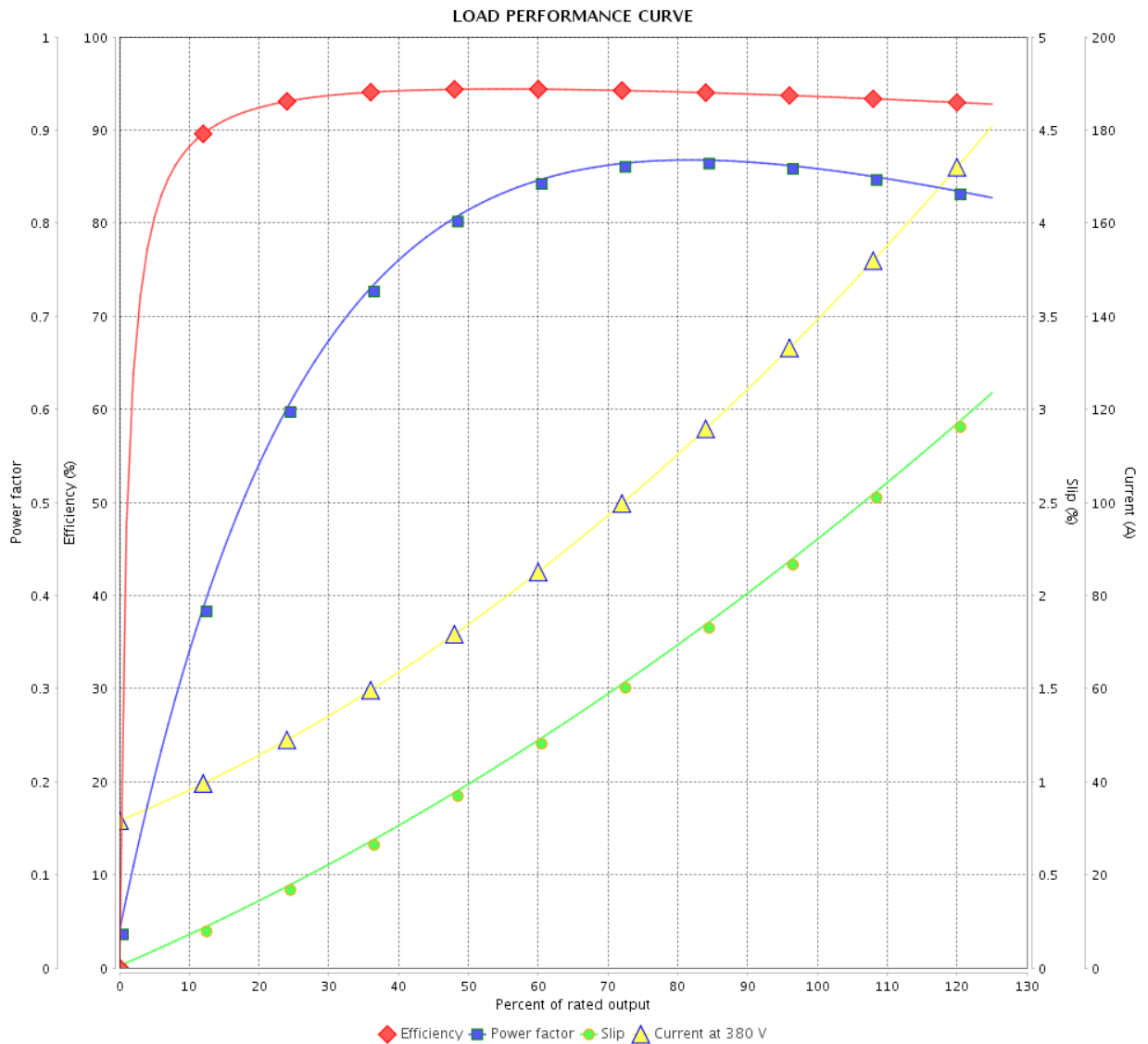


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Performance : 380 V 50 Hz 4P IE1

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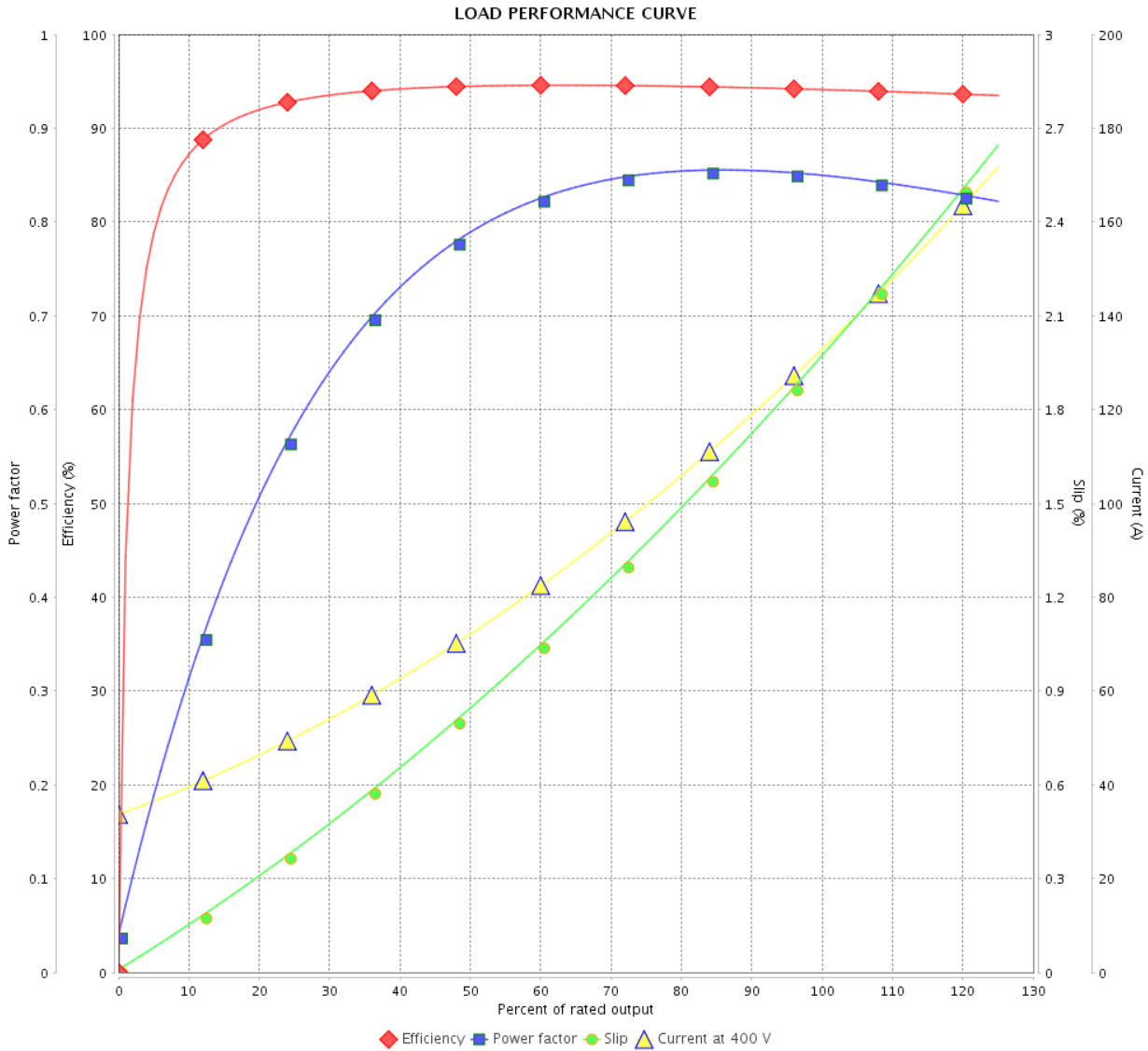


Customer :

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Catalog # : 10018ST3QIE405T-W22



Performance : 400 V 50 Hz 4P IE2

Rated current	: 135 A	Moment of inertia (J)	: 29.9 sq.ft.lb
LRC	: 6.2	Duty cycle	: Cont.(S1)
Rated torque	: 357 ft.lb	Insulation class	: F
Locked rotor torque	: 210 %	Service factor	: 1.00
Breakdown torque	: 190 %	Temperature rise	: 105 K
Rated speed	: 1470 rpm	Design	: B

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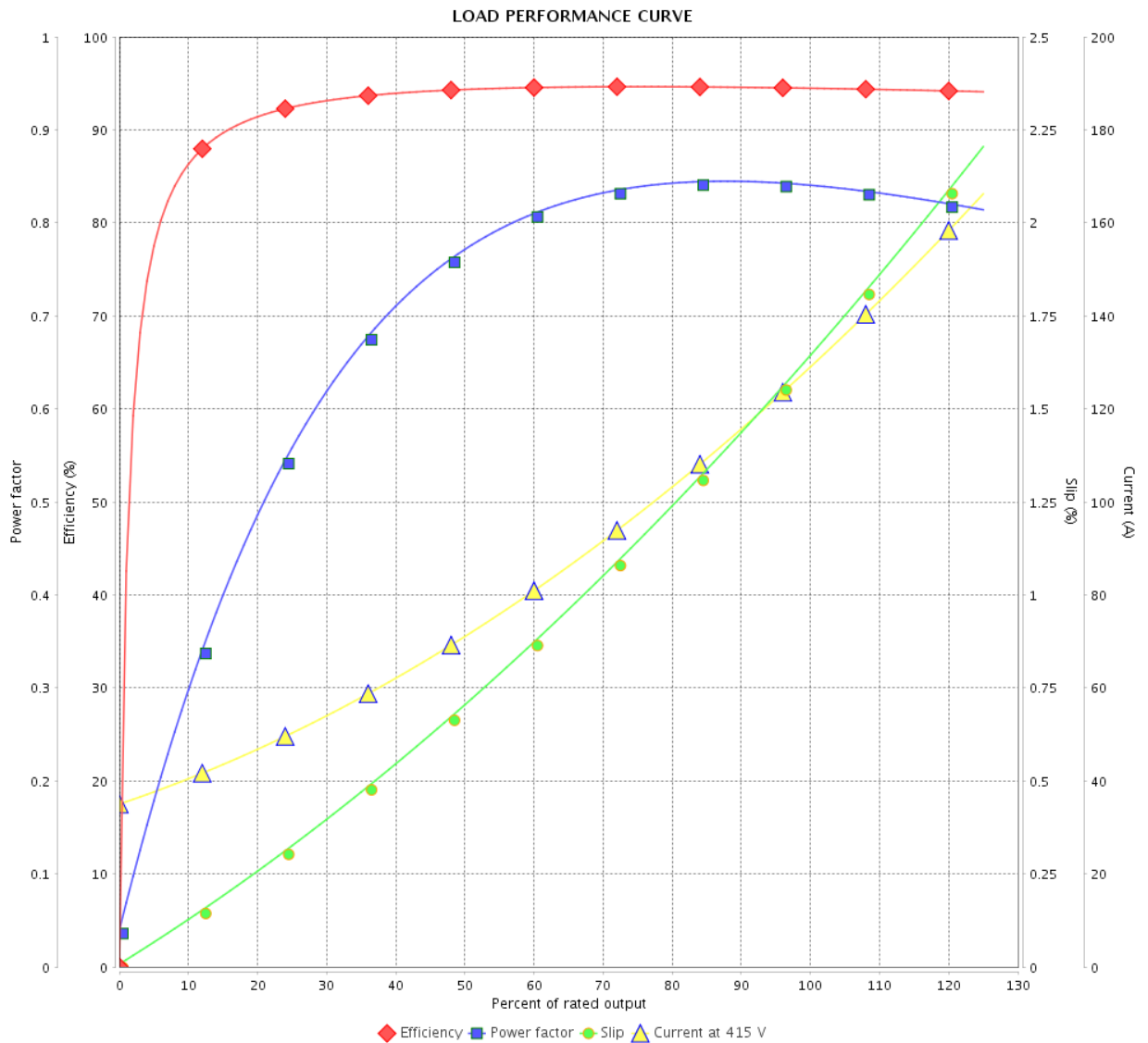


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THERMAL LIMIT CURVE



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Heating constant

Cooling constant

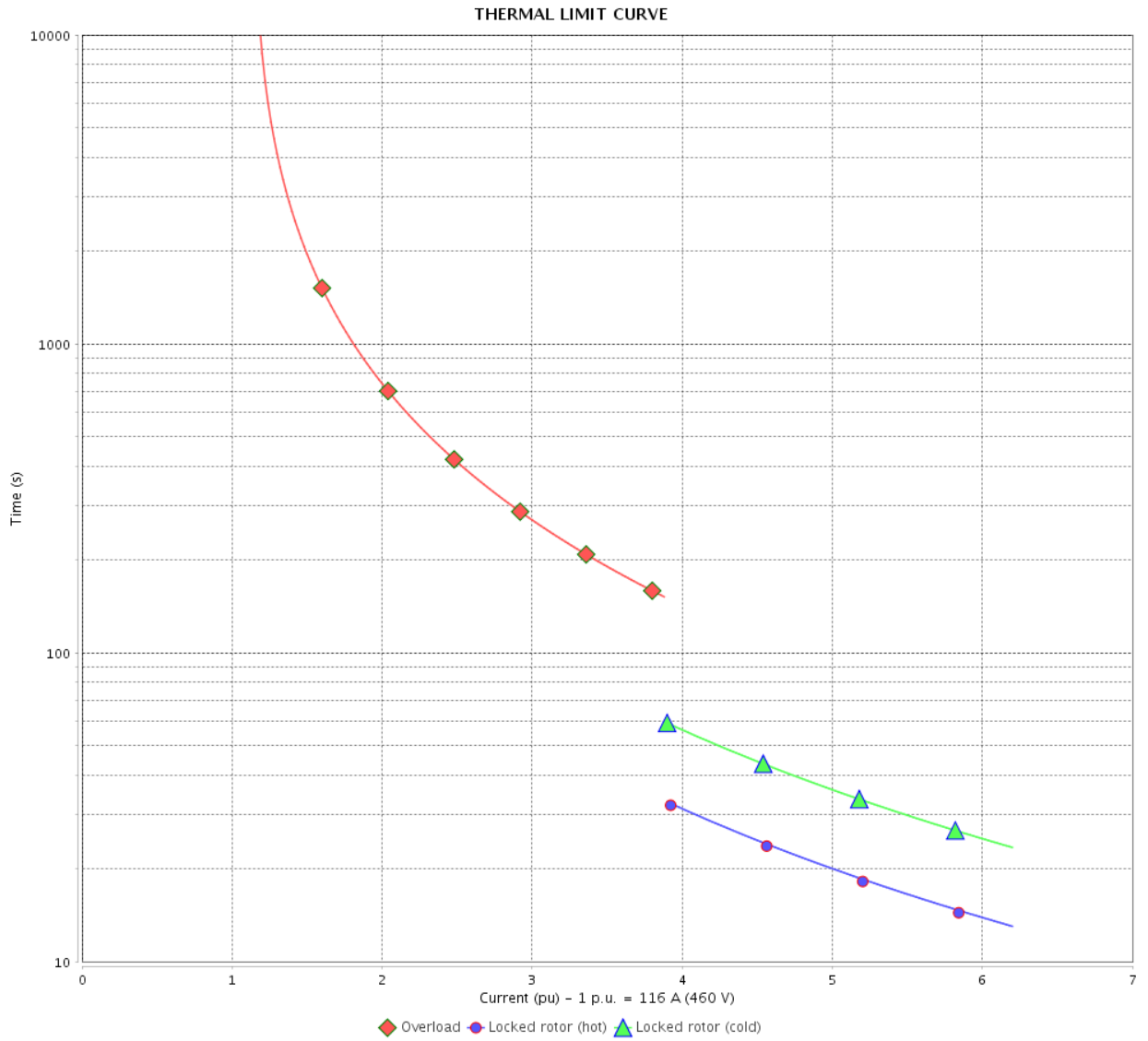
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THERMAL LIMIT CURVE

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Heating constant

Cooling constant

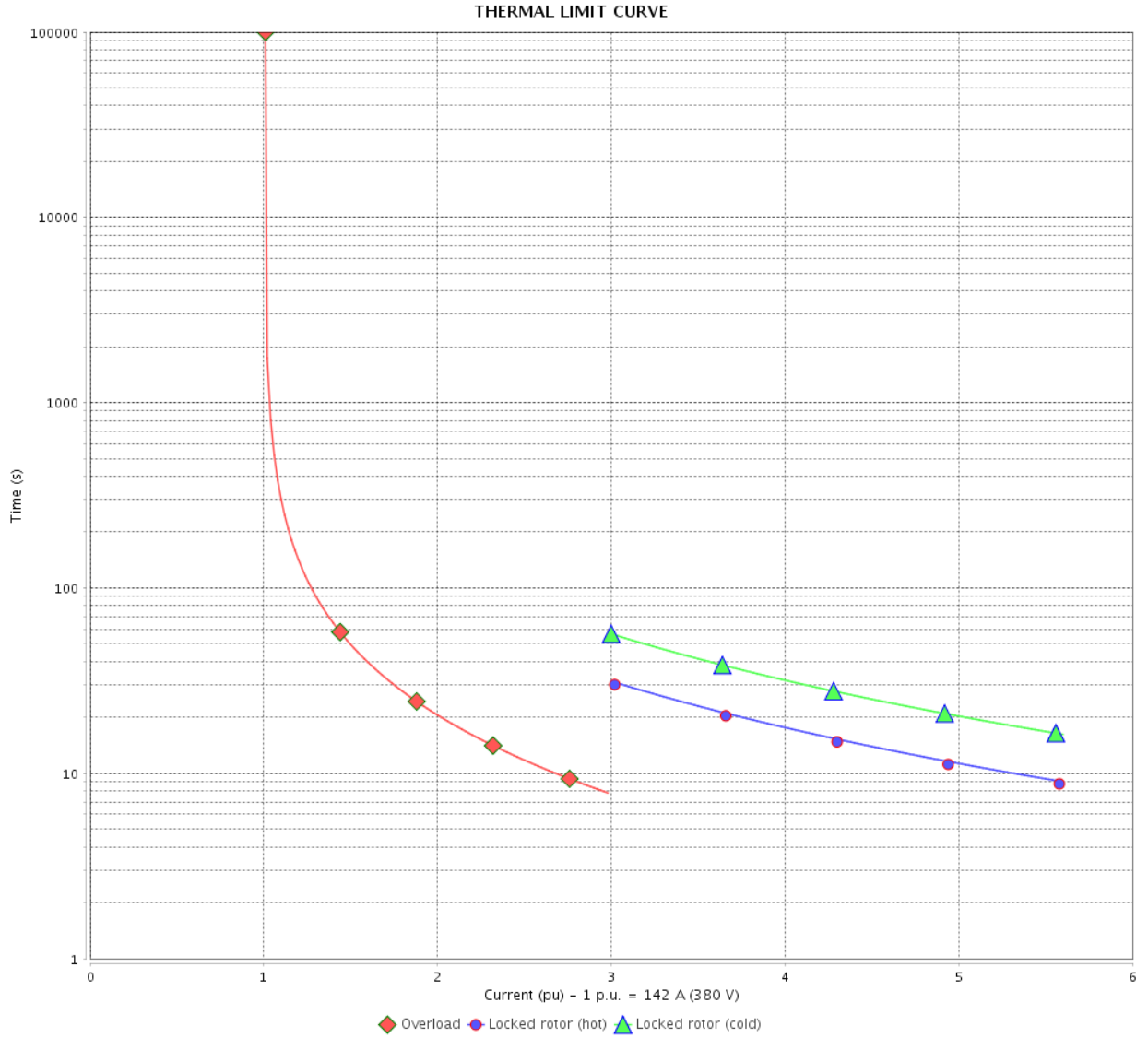
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Performance : 400 V 50 Hz 4P IE2

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LRC	: 6.2	Duty cycle	: Cont.(S1)
Rated torque	: 357 ft.lb	Insulation class	: F
Locked rotor torque	: 210 %	Service factor	: 1.00
Breakdown torque	: 190 %	Temperature rise	: 105 K
Rated speed	: 1470 rpm	Design	: B

Heating constant

Cooling constant

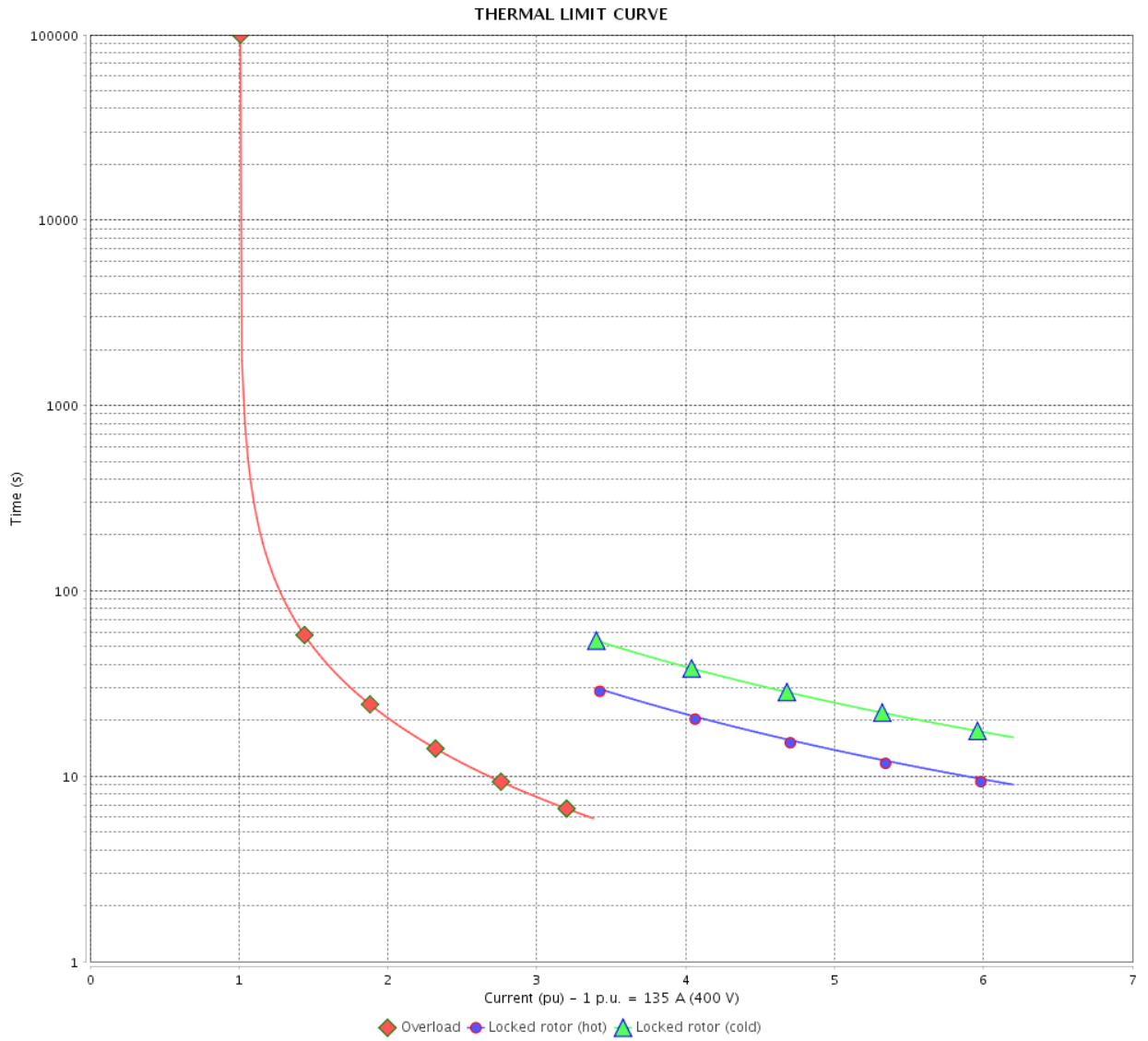
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Three Phase Induction Motor - Squirrel Cage



Customer : _____



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Date				

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Performance : 415 V 50 Hz 4P IE2

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Locked rotor torque	: 220 %	Service factor	: 1.00
Breakdown torque	: 210 %	Temperature rise	: 105 K
Rated speed	: 1475 rpm	Design	: B

Heating constant

Cooling constant

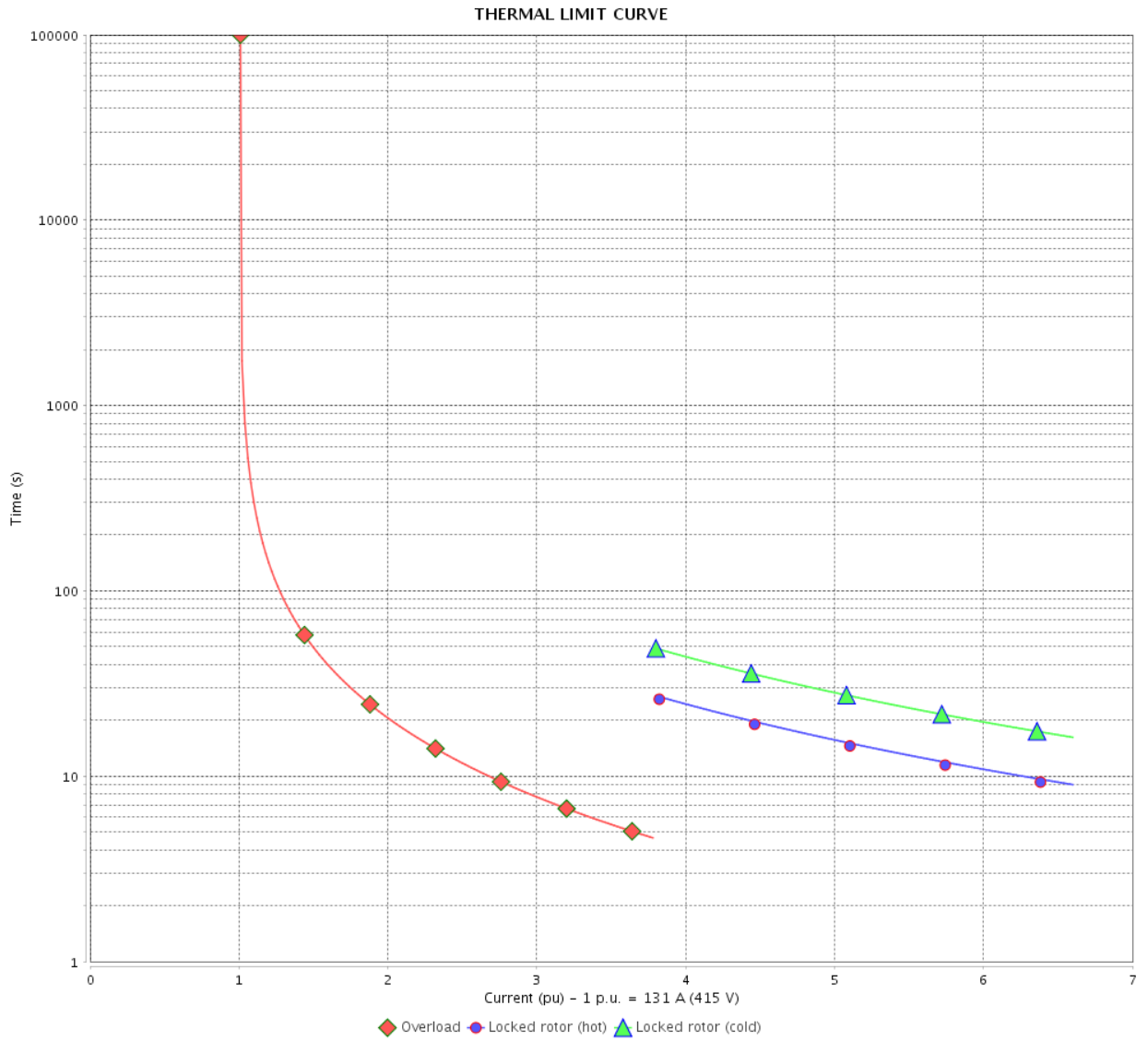
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THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : _____



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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

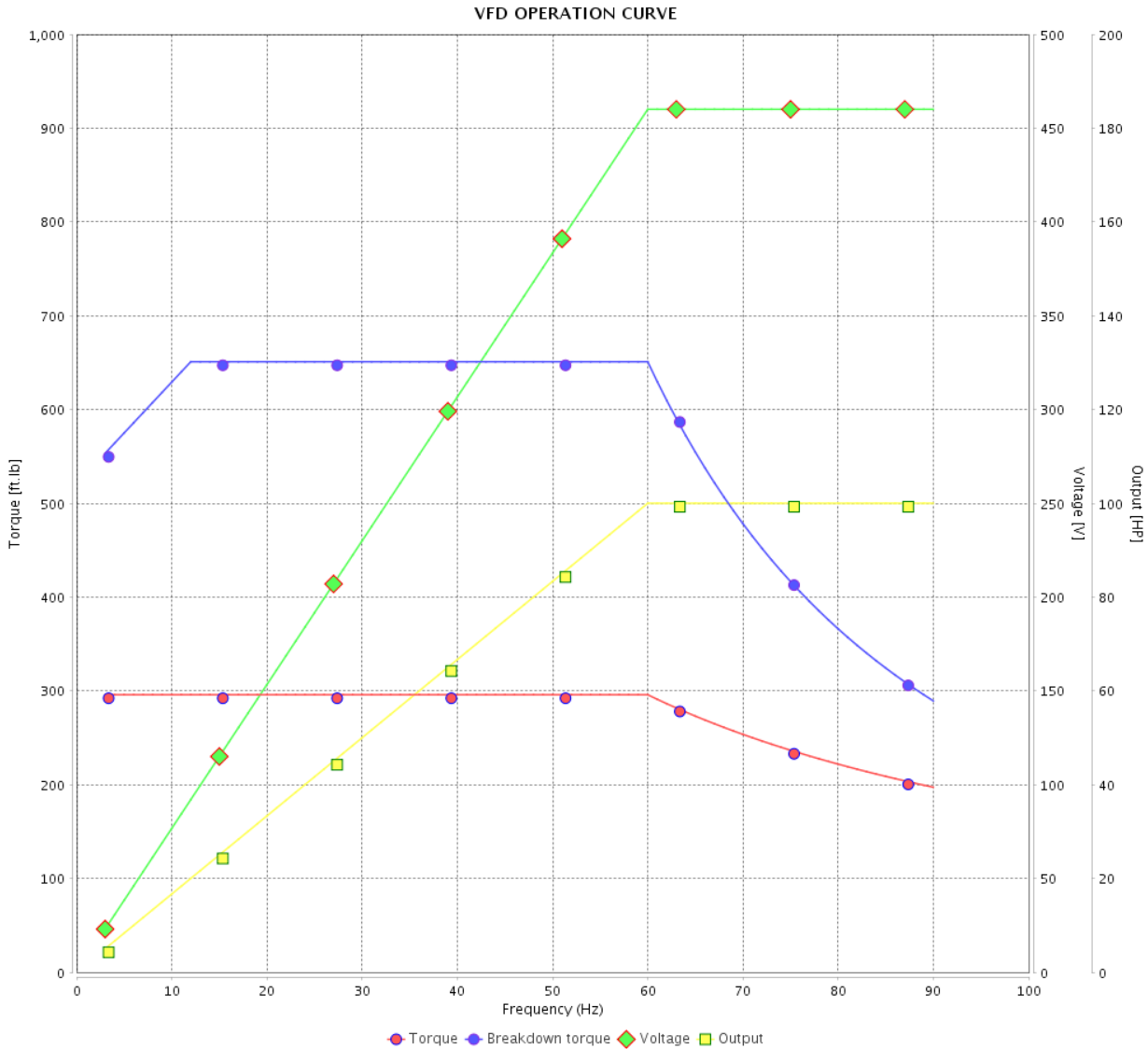


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Catalog # : 10018ST3QIE405T-W22



Performance : 460 V 60 Hz 4P

Rated current : 116 A
 LRC : 6.2
 Rated torque : 296 ft.lb
 Locked rotor torque : 240 %
 Breakdown torque : 220 %
 Rated speed : 1775 rpm

Moment of inertia (J) : 29.9 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
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Date				

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

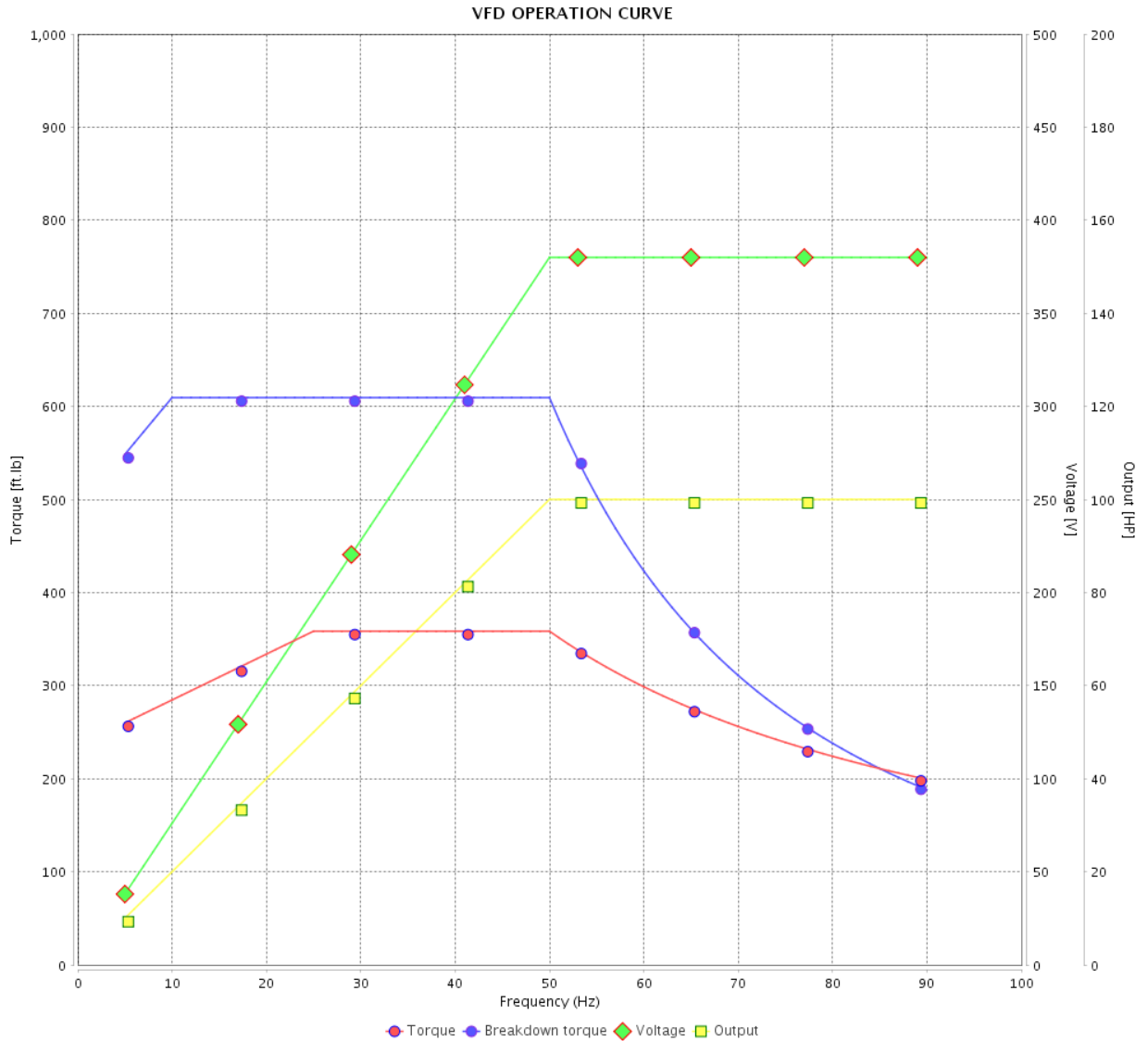


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Moment of inertia (J) : 29.9 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 105 K
 Design : B

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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



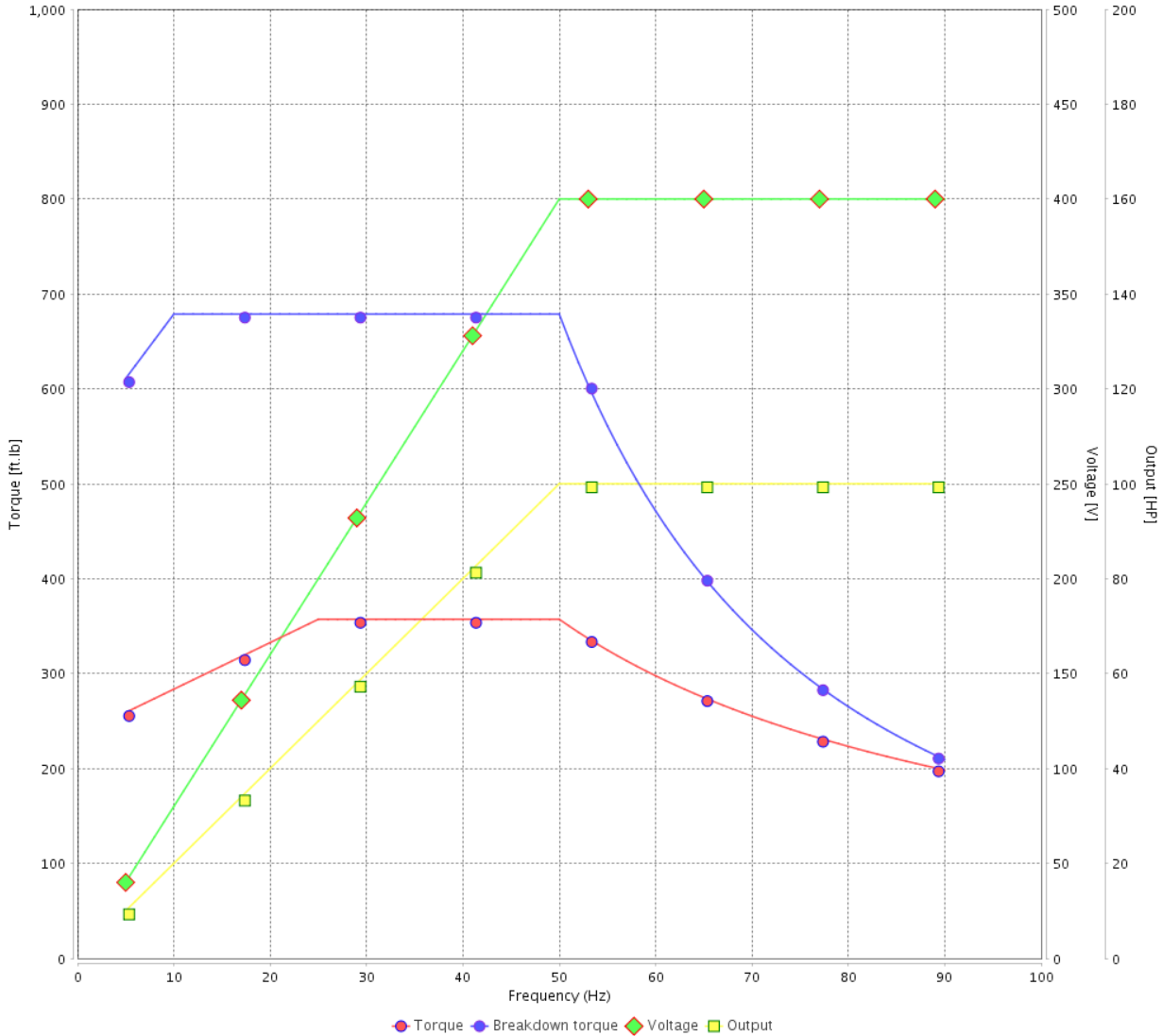
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11431935

Catalog # : 10018ST3QIE405T-W22

VFD OPERATION CURVE



Performance : 400 V 50 Hz 4P IE2

Rated current : 135 A
 LRC : 6.2
 Rated torque : 357 ft.lb
 Locked rotor torque : 210 %
 Breakdown torque : 190 %
 Rated speed : 1470 rpm

Moment of inertia (J) : 29.9 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
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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

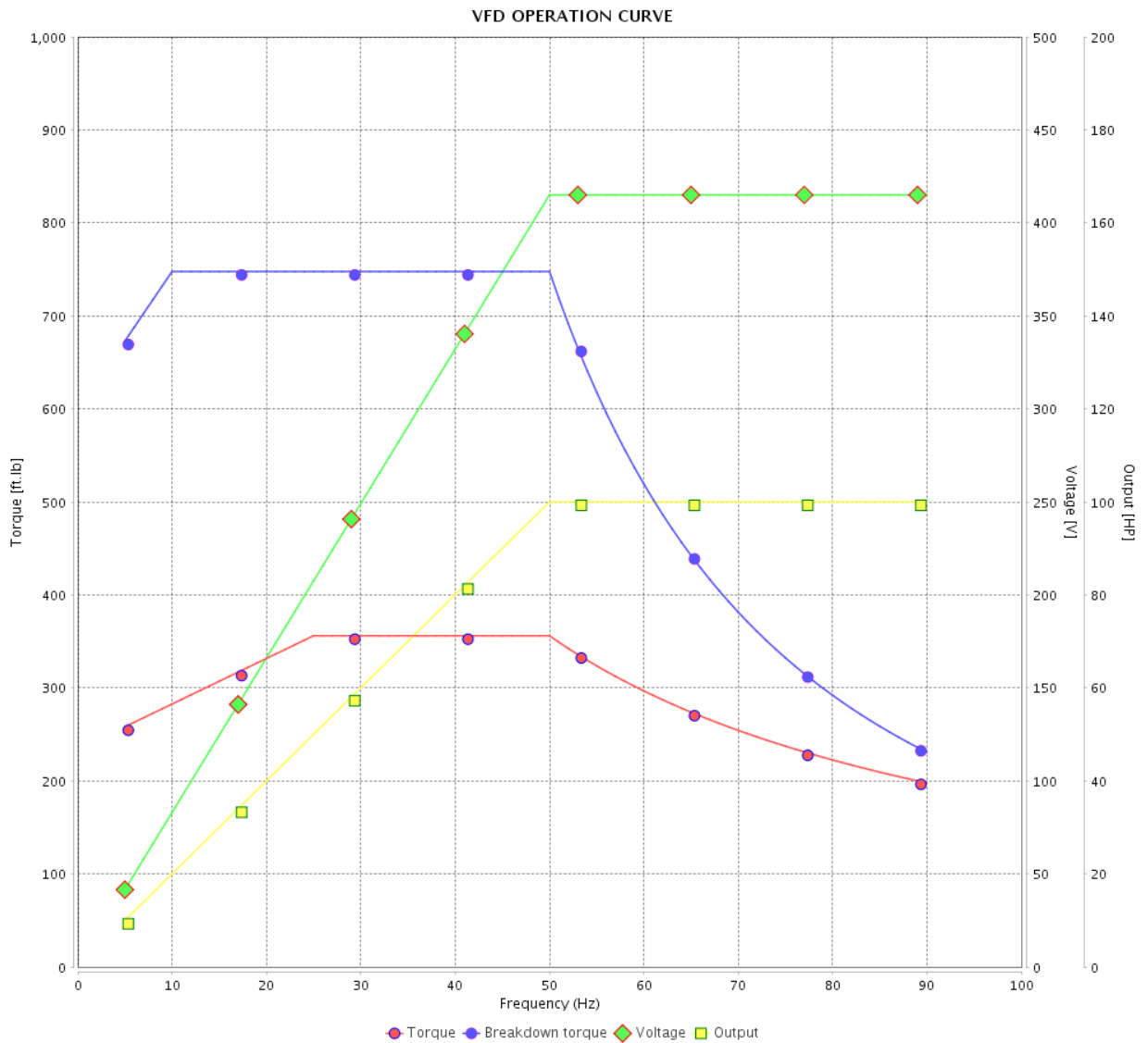


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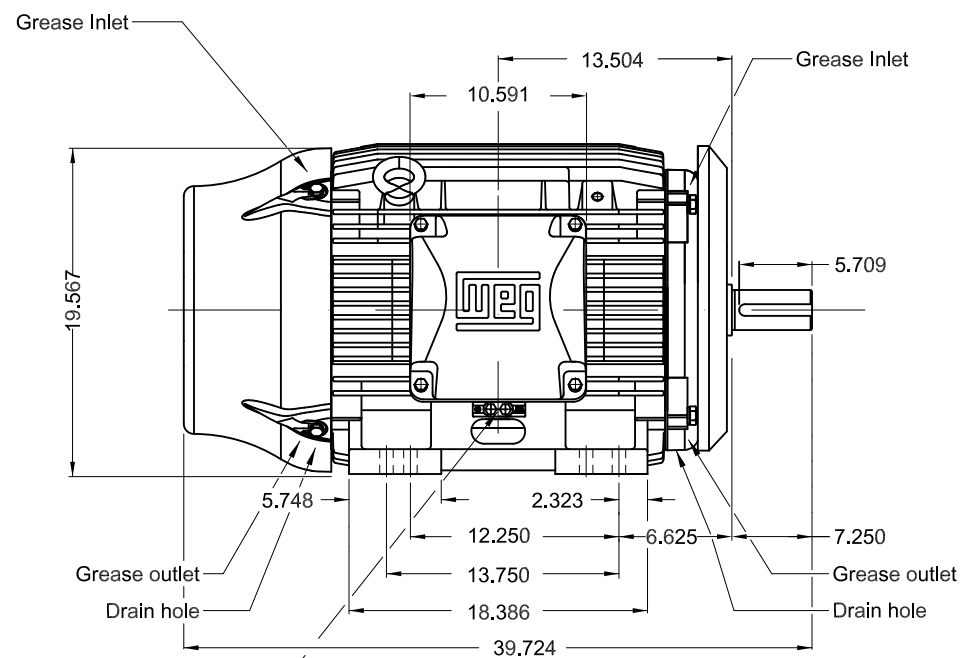
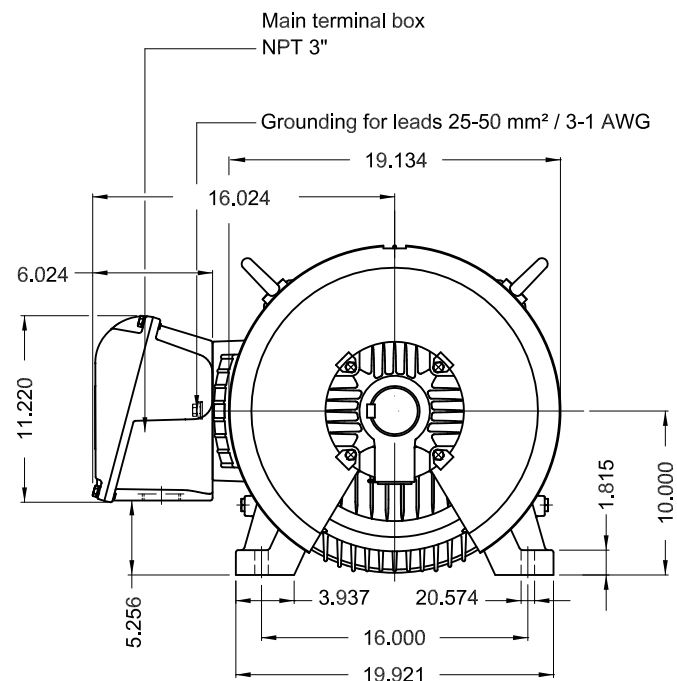
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Date	14/04/2022			

1 2 3 4 5 6

A

B

C

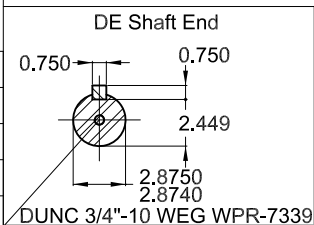


Grounding for leads 25-185 mm² / 3AWG-350MCM

D

E

- Without vertical jackscrews
- Drive-End Air Deflector
- Color RAL 5009
- Painting plan 202E
- Mounting B3R(D)



100 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. FRAME 404/5T IP55 TEFC					
CHECKED							
RELEASED							
REL DT.	WMO	Jaragua do Sul	Product Engineering	SHEET	1 / 1		

PREVIEW
WDD



Dimensions in inches XME A3



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 10018ST3QIE405T-W22



Inverter Duty Motor
Severe Duty

MADE IN BRAZIL
11431935

PH3 60Hz Fr. 404/5T 1000m.a.s.l. IP55 TEFC 1228lb

V 460

A 116

HP 100

kW 75

SF 1.25

SFA 145

RPM 1775

PF 0.85

AMB 40°C

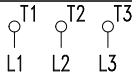
INS cl. F DT80K

NEMA NOM EFF 95.4%

DUTY CONT.

DES B Code G

GUARANT. EFF 94.5%



460V



→ 6316-C3 (34g) 80BC03X30

→ 6314-C3 (27g) 70BC03X30



MOBIL POLYREX EM (10000h)

