

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



Customer :				
Product line	: NEMA Premium Efficiency Three-Phase	Product code :	11431716	
		Catalog # :	03009ST3QIE364T-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	: 820 lb	
Protection degree	: IP55	Moment of inertia (J)	: 23.5 sq.ft.lb	
Design	: B			
Output [HP]	30	30	30	30
Poles	8	8	8	8
Frequency [Hz]	60	50	50	50
Rated voltage [V]	460	380	400	415
Rated current [A]	37.6	45.5	42.7	42.2
L. R. Amperes [A]	233	223	235	249
LRC [A]	6.2x(Code G)	4.9x(Code E)	5.5x(Code F)	5.9x(Code G)
No load current [A]	14.7	14.4	15.3	16.0
Rated speed [RPM]	880	720	725	730
Slip [%]	2.22	4.00	3.33	2.67
Rated torque [ft.lb]	179	219	217	216
Locked rotor torque [%]	160	120	140	150
Breakdown torque [%]	229	190	190	200
Service factor	1.25	1.00	1.00	1.00
Temperature rise	80 K	105 K	105 K	105 K
Locked rotor time	64s (cold) 36s (hot)	48s (cold) 27s (hot)	48s (cold) 27s (hot)	48s (cold) 27s (hot)
Noise level ²	60.0 dB(A)	56.0 dB(A)	56.0 dB(A)	56.0 dB(A)
Efficiency (%)	25%			
	50%	91.5	90.5	90.5
	75%	91.7	90.6	90.6
	100%	91.7	89.5	90.6
Power Factor	25%			
	50%	0.63	0.70	0.66
	75%	0.73	0.79	0.76
	100%	0.80	0.82	0.82
Bearing type	: <u>Drive end</u> 6314 C3 <u>Non drive end</u> 6314 C3	Foundation loads		
Sealing	: Inpro/Seal Inpro/Seal	Max. traction	: 1067 lb	
Lubrication interval	: 20000 h 20000 h	Max. compression	: 1887 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



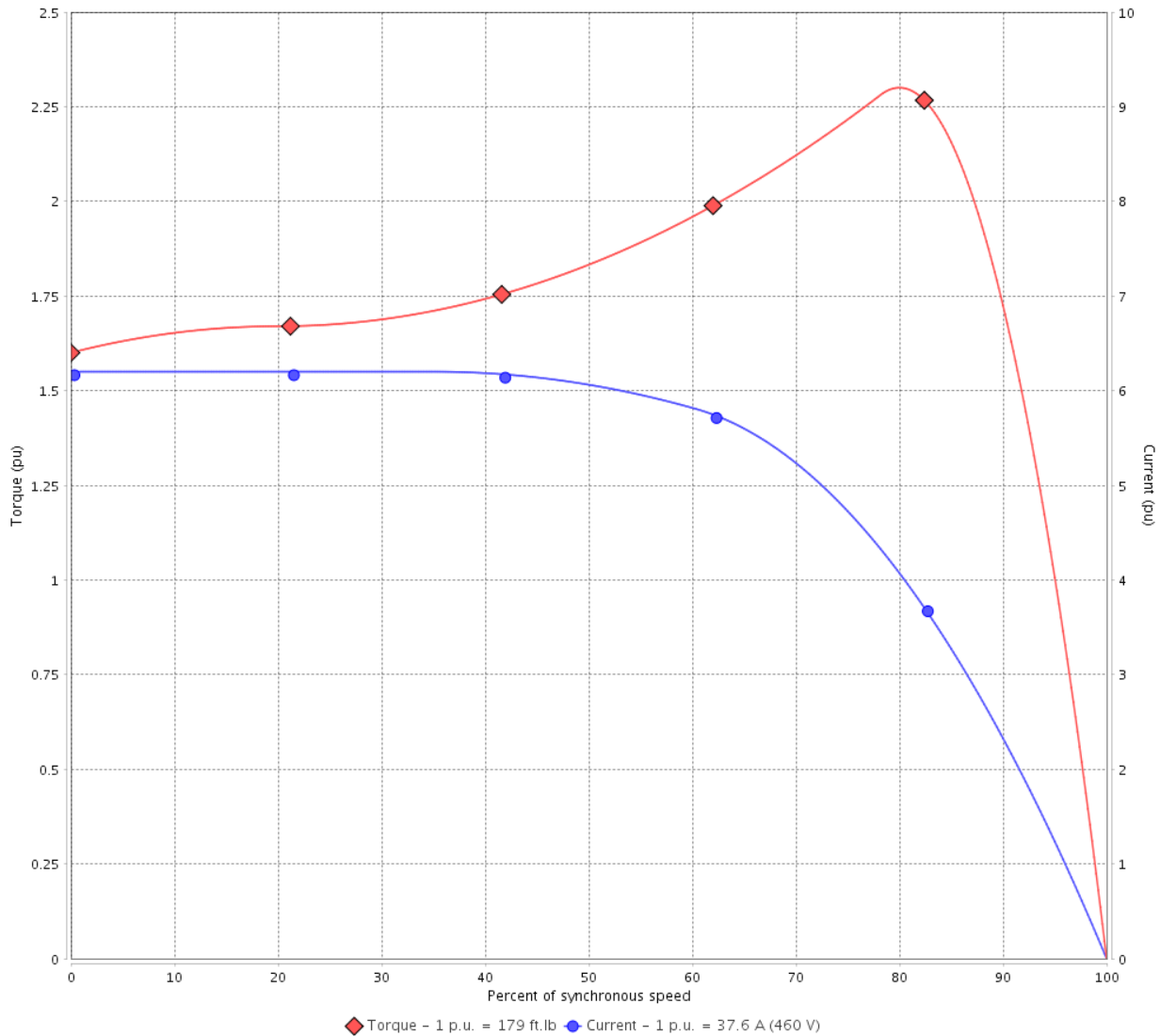
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11431716

Catalog # : 03009ST3QIE364T-W22

TORQUE AND CURRENT VS SPEED CURVE



Performance : 460 V 60 Hz 8P

Rated current	: 37.6 A	Moment of inertia (J)	: 23.5 sq.ft.lb
LRC	: 6.2	Duty cycle	: Cont.(S1)
Rated torque	: 179 ft.lb	Insulation class	: F
Locked rotor torque	: 160 %	Service factor	: 1.25
Breakdown torque	: 229 %	Temperature rise	: 80 K
Rated speed	: 880 rpm	Design	: B

Locked rotor time : 64s (cold) 36s (hot)

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TORQUE AND CURRENT VS SPEED CURVE



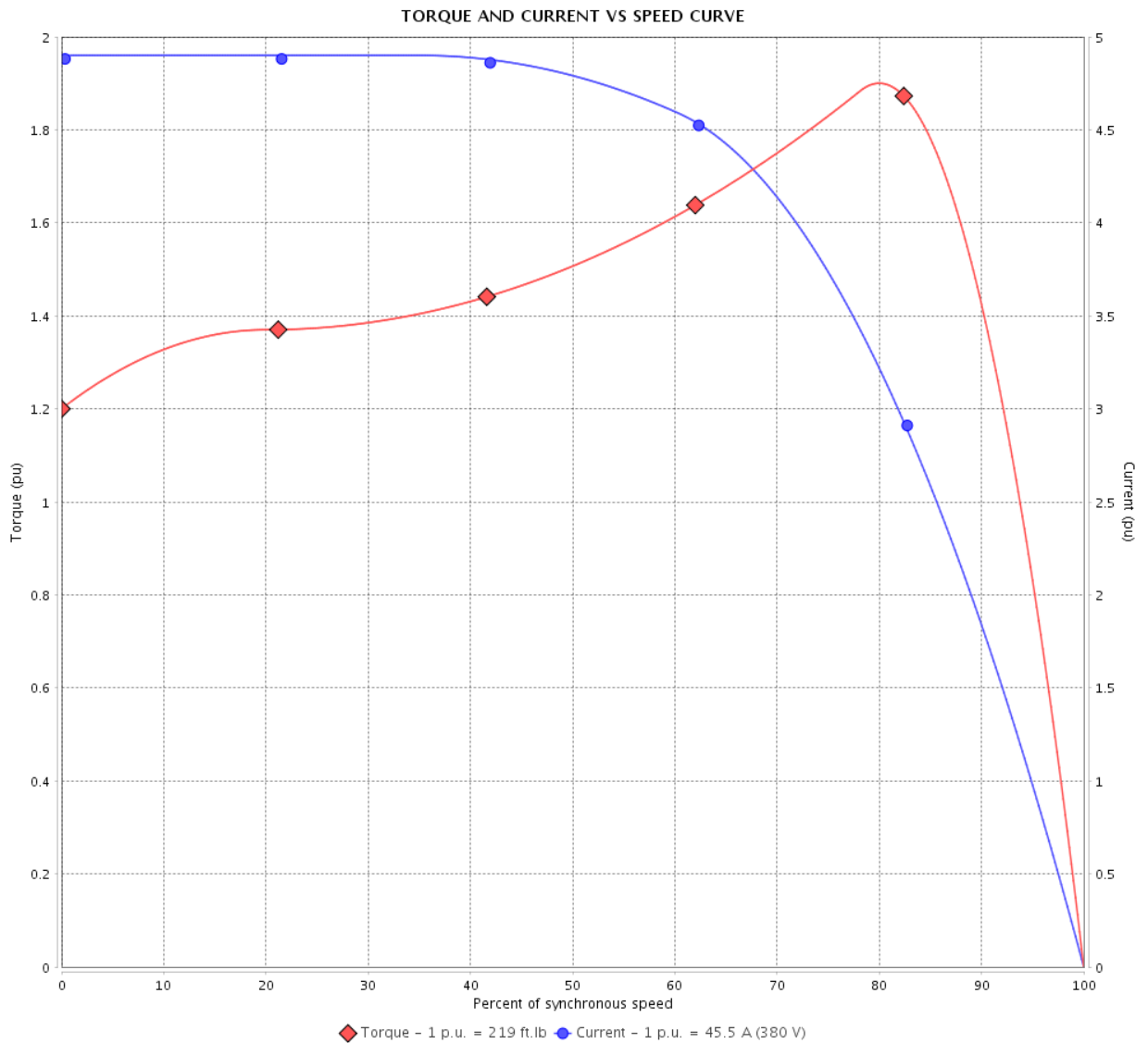
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11431716

Catalog # : 03009ST3QIE364T-W22



Performance : 380 V 50 Hz 8P IE2

Rated current	: 45.5 A	Moment of inertia (J)	: 23.5 sq.ft.lb
LRC	: 4.9	Duty cycle	: Cont.(S1)
Rated torque	: 219 ft.lb	Insulation class	: F
Locked rotor torque	: 120 %	Service factor	: 1.00
Breakdown torque	: 190 %	Temperature rise	: 105 K
Rated speed	: 720 rpm	Design	: B

Locked rotor time : 48s (cold) 27s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



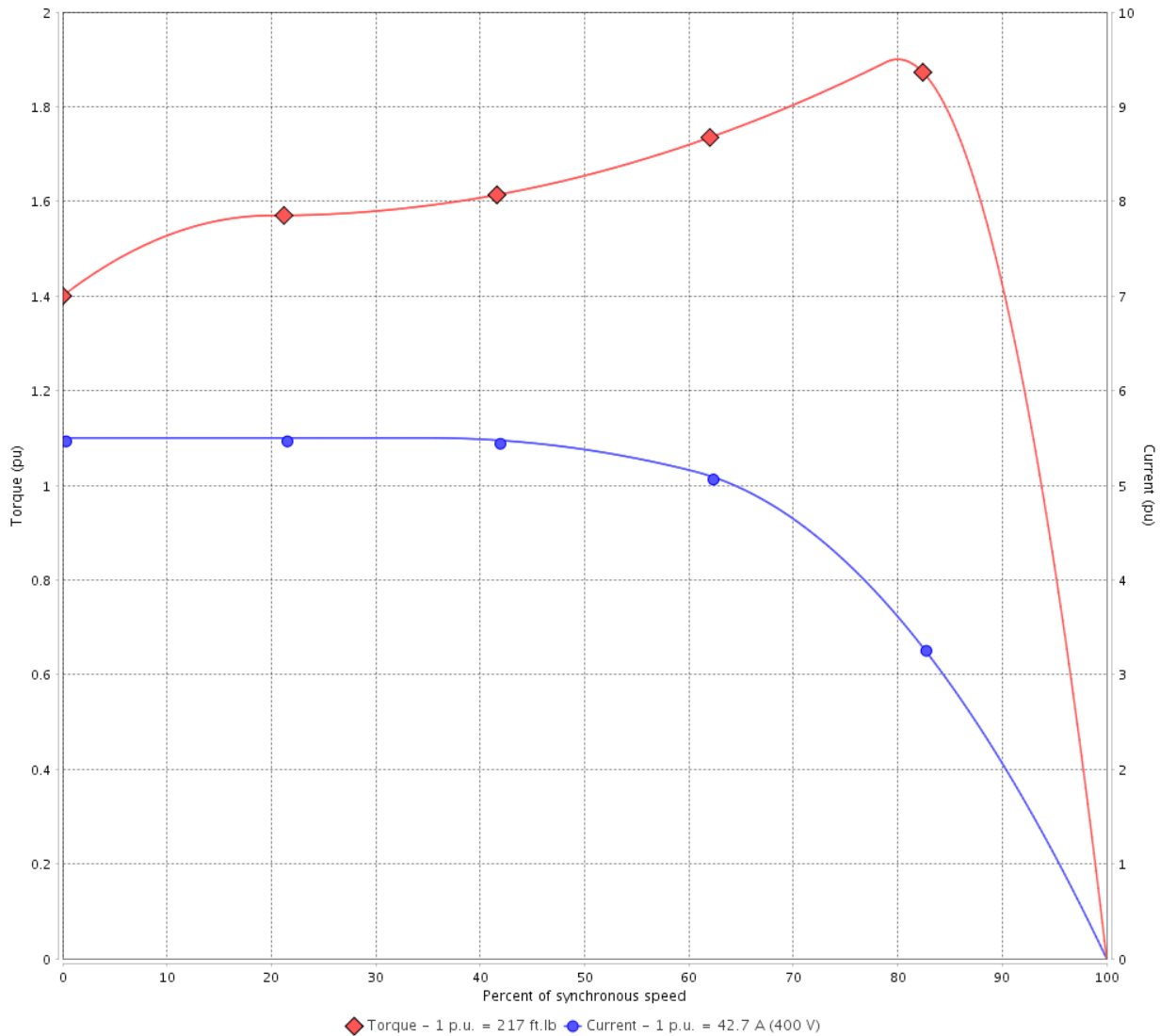
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11431716

Catalog # : 03009ST3QIE364T-W22

TORQUE AND CURRENT VS SPEED CURVE



Performance : 400 V 50 Hz 8P IE3

Rated current	: 42.7 A	Moment of inertia (J)	: 23.5 sq.ft.lb
LRC	: 5.5	Duty cycle	: Cont.(S1)
Rated torque	: 217 ft.lb	Insulation class	: F
Locked rotor torque	: 140 %	Service factor	: 1.00
Breakdown torque	: 190 %	Temperature rise	: 105 K
Rated speed	: 725 rpm	Design	: B

Locked rotor time : 48s (cold) 27s (hot)

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TORQUE AND CURRENT VS SPEED CURVE



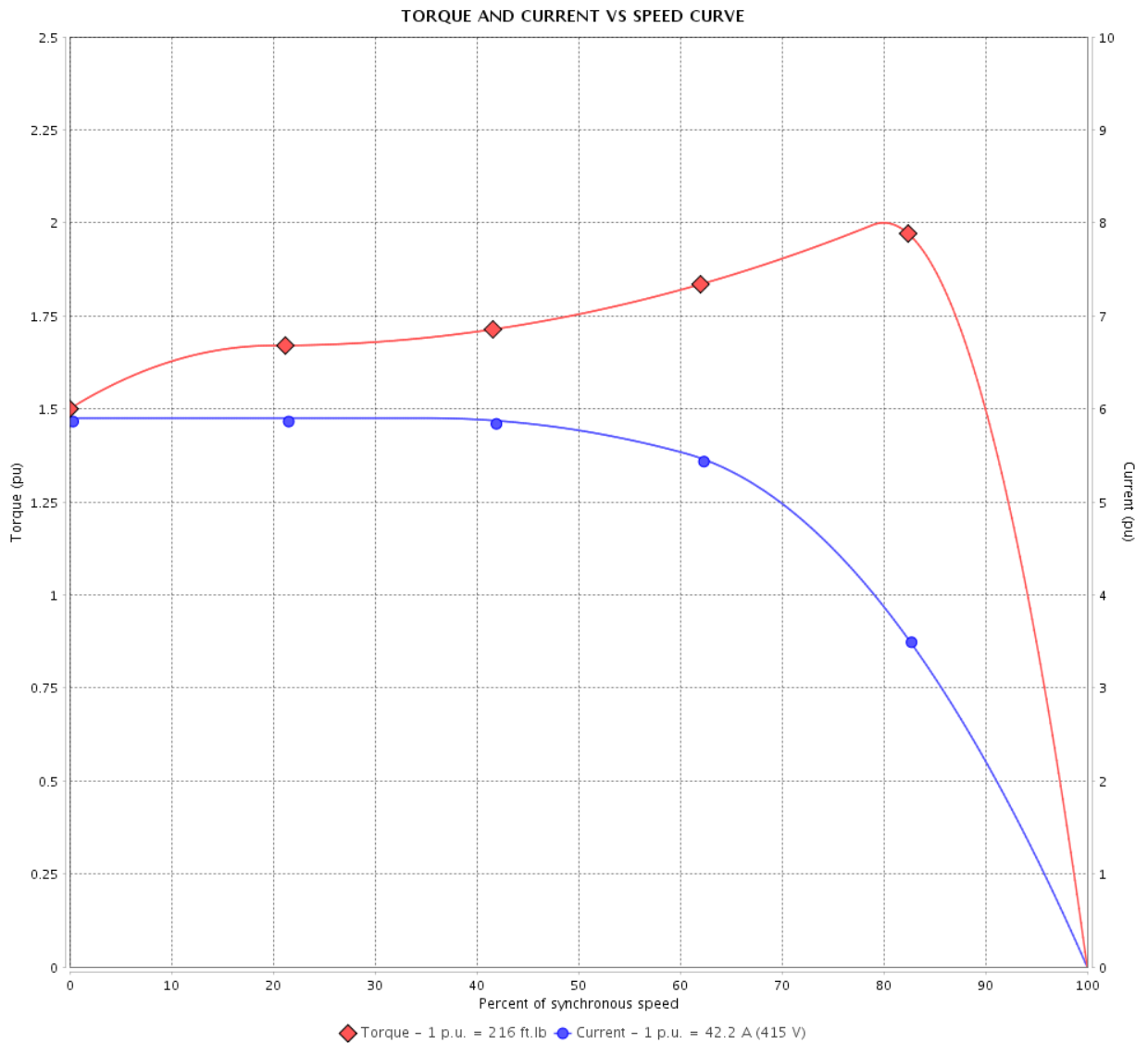
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11431716

Catalog # : 03009ST3QIE364T-W22



Performance : 415 V 50 Hz 8P IE3

Rated current	: 42.2 A	Moment of inertia (J)	: 23.5 sq.ft.lb
LRC	: 5.9	Duty cycle	: Cont.(S1)
Rated torque	: 216 ft.lb	Insulation class	: F
Locked rotor torque	: 150 %	Service factor	: 1.00
Breakdown torque	: 200 %	Temperature rise	: 105 K
Rated speed	: 730 rpm	Design	: B

Locked rotor time : 48s (cold) 27s (hot)

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LOAD PERFORMANCE CURVE

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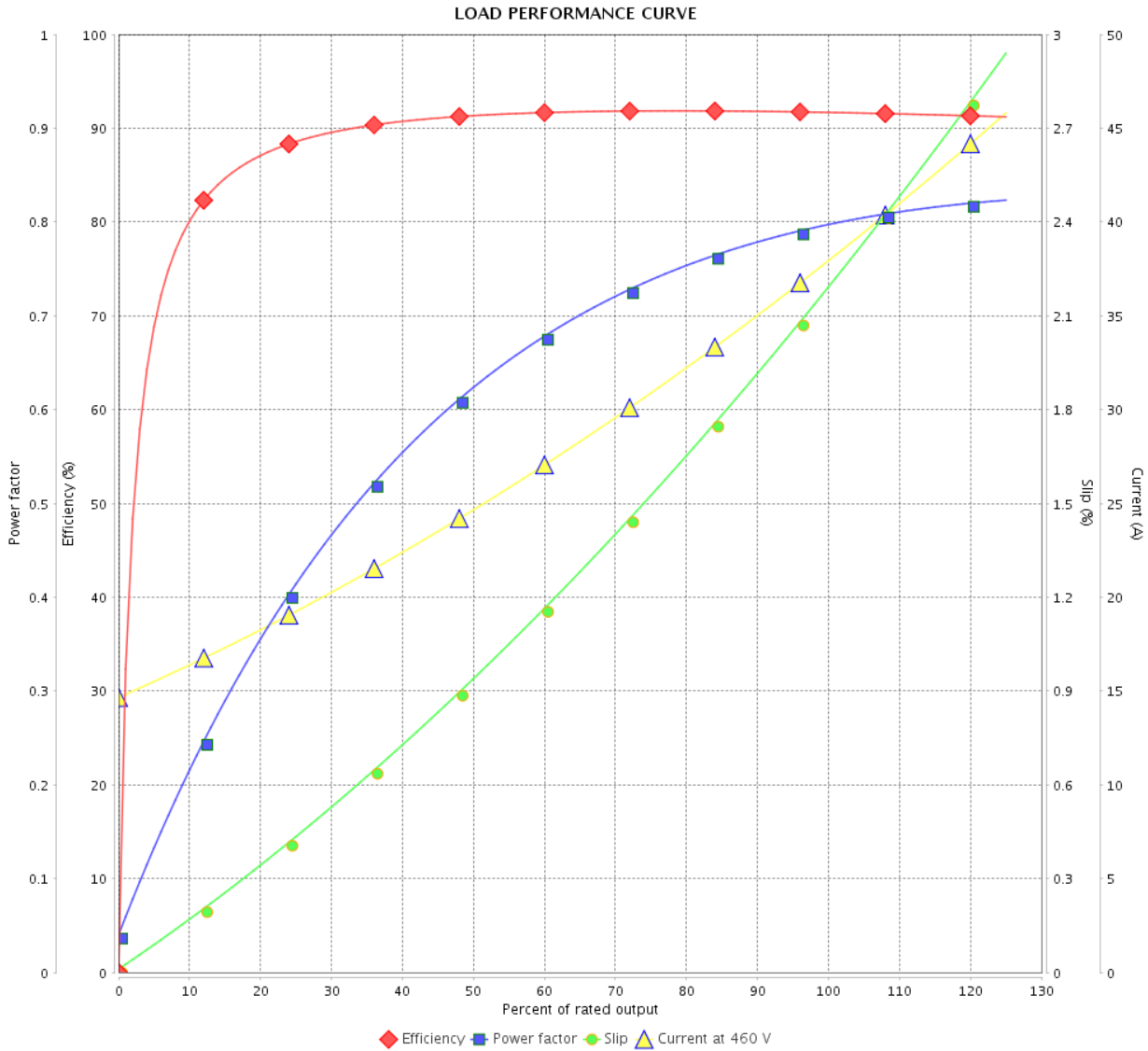


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Catalog # : 03009ST3QIE364T-W22



Performance : 460 V 60 Hz 8P

Rated current	: 37.6 A	Moment of inertia (J)	: 23.5 sq.ft.lb
LRC	: 6.2	Duty cycle	: Cont.(S1)
Rated torque	: 179 ft.lb	Insulation class	: F
Locked rotor torque	: 160 %	Service factor	: 1.25
Breakdown torque	: 229 %	Temperature rise	: 80 K
Rated speed	: 880 rpm	Design	: B

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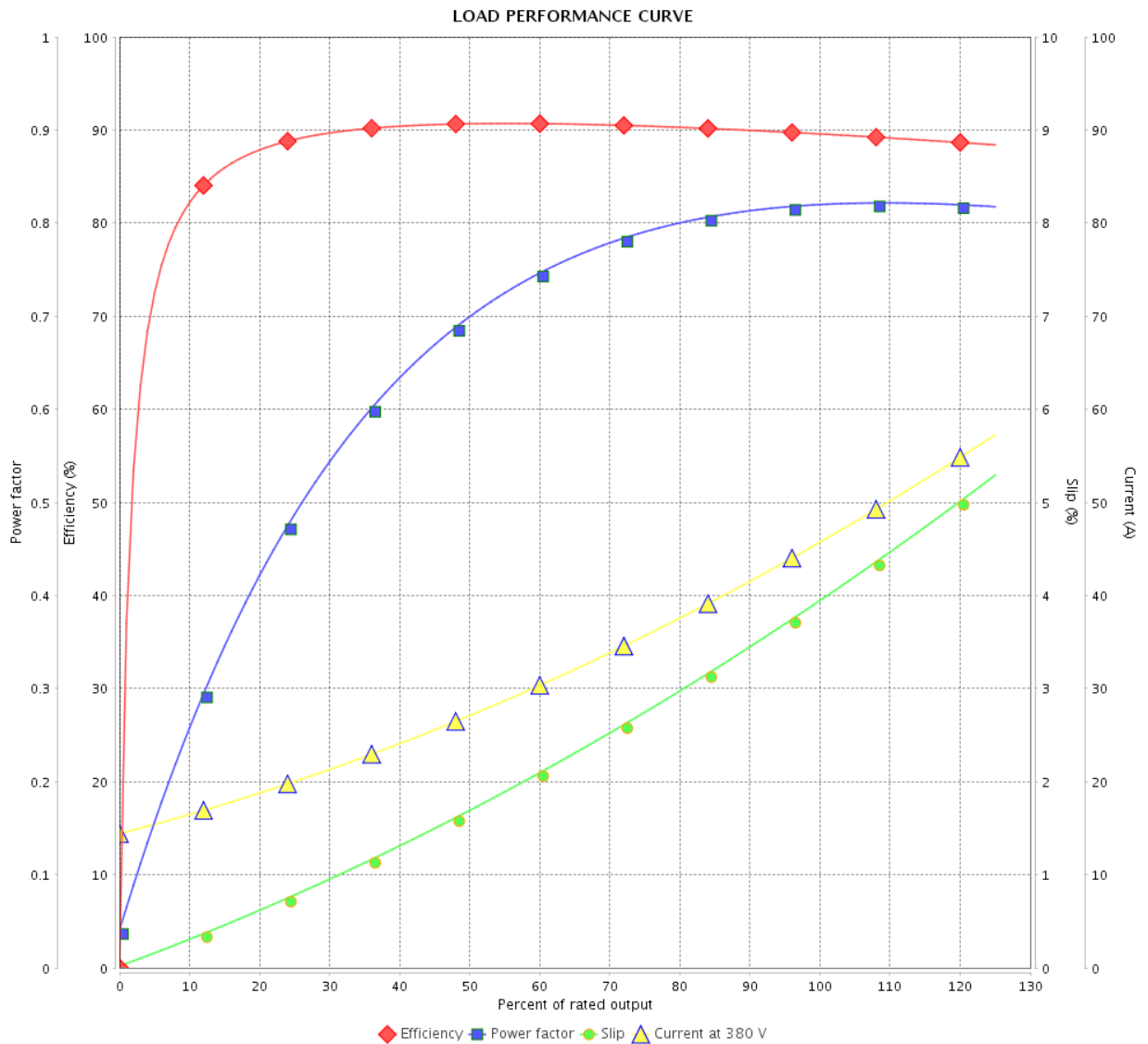


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Performance : 380 V 50 Hz 8P IE2

Rated current : 45.5 A
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 Rated torque : 219 ft.lb
 Locked rotor torque : 120 %
 Breakdown torque : 190 %
 Rated speed : 720 rpm

Moment of inertia (J) : 23.5 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 105 K
 Design : B

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Three Phase Induction Motor - Squirrel Cage

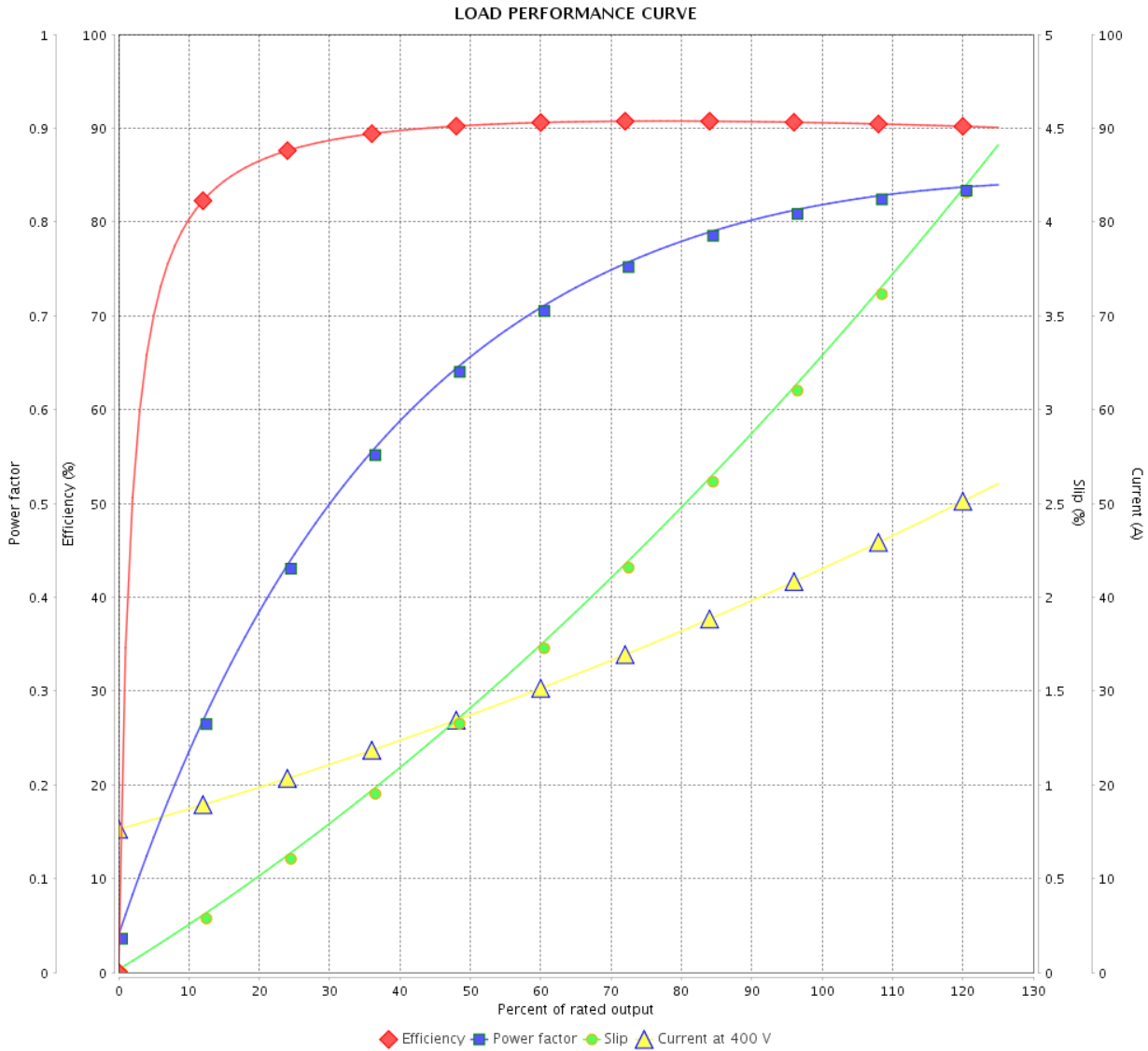


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Performance : 400 V 50 Hz 8P IE3

Rated current : 42.7 A
 LRC : 5.5
 Rated torque : 217 ft.lb
 Locked rotor torque : 140 %
 Breakdown torque : 190 %
 Rated speed : 725 rpm

Moment of inertia (J) : 23.5 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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Three Phase Induction Motor - Squirrel Cage

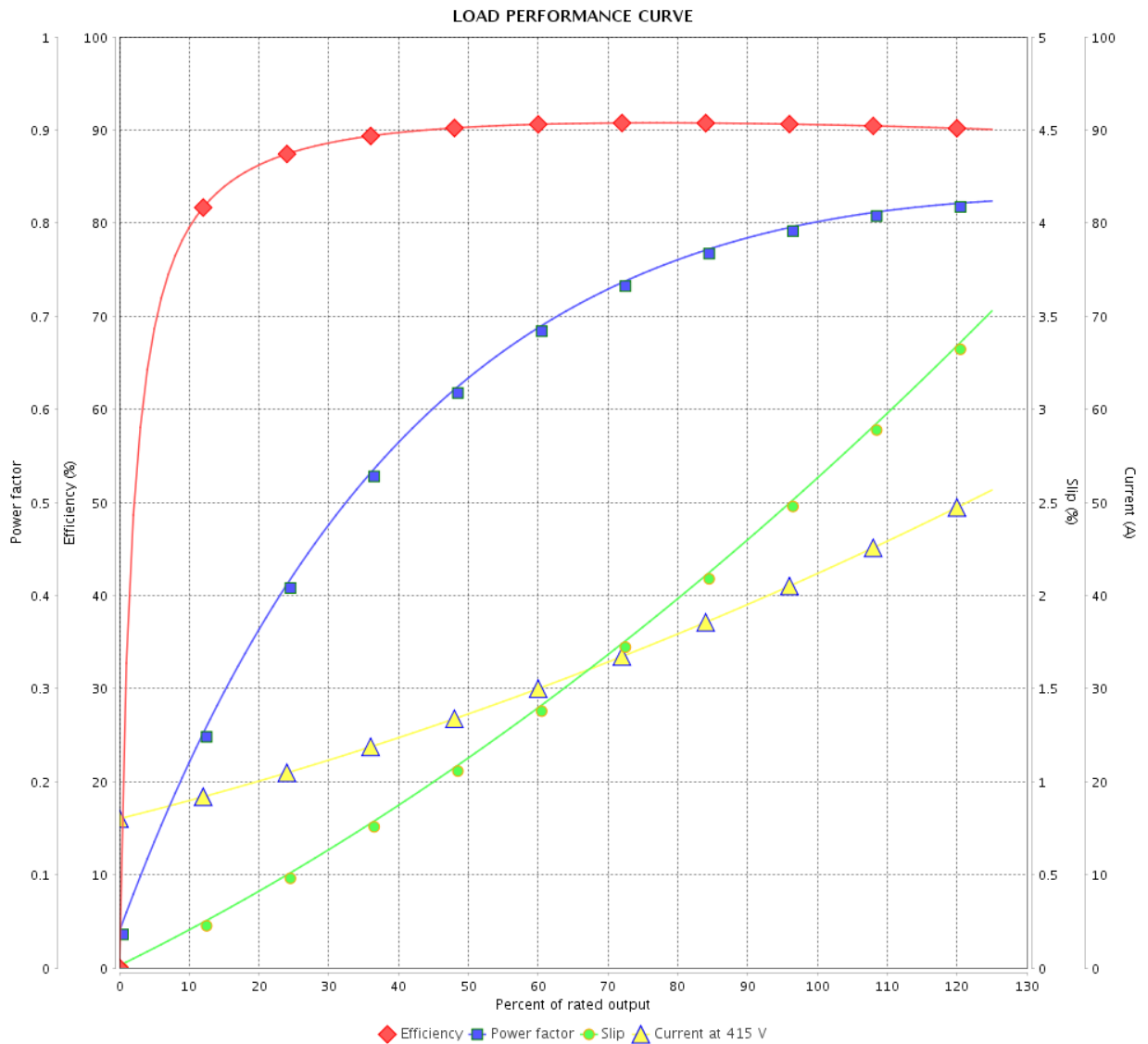


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 Duty cycle : Cont.(S1)
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THERMAL LIMIT CURVE



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Heating constant

Cooling constant

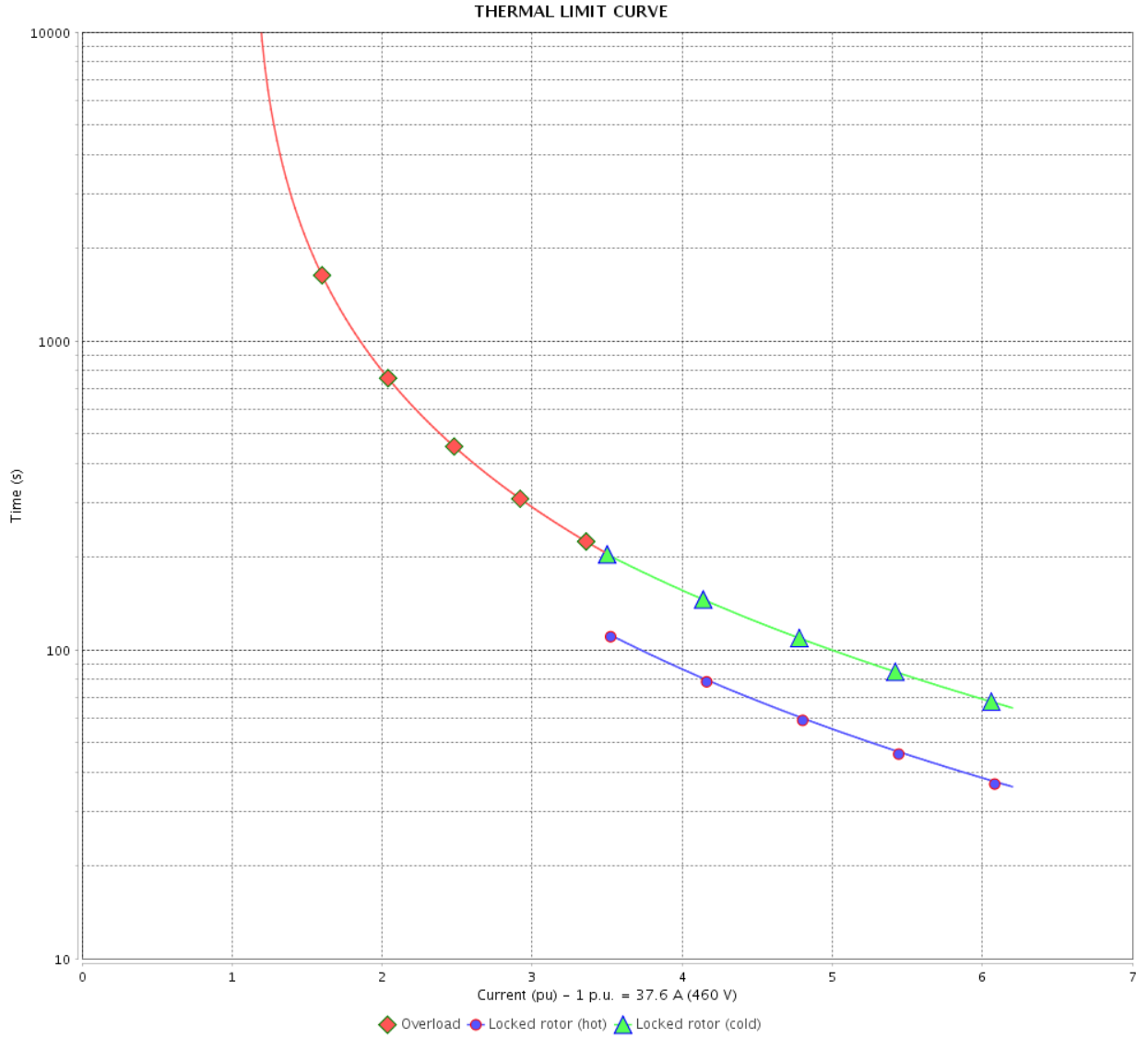
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THERMAL LIMIT CURVE

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Locked rotor torque	: 120 %	Service factor	: 1.00
Breakdown torque	: 190 %	Temperature rise	: 105 K
Rated speed	: 720 rpm	Design	: B

Heating constant

Cooling constant

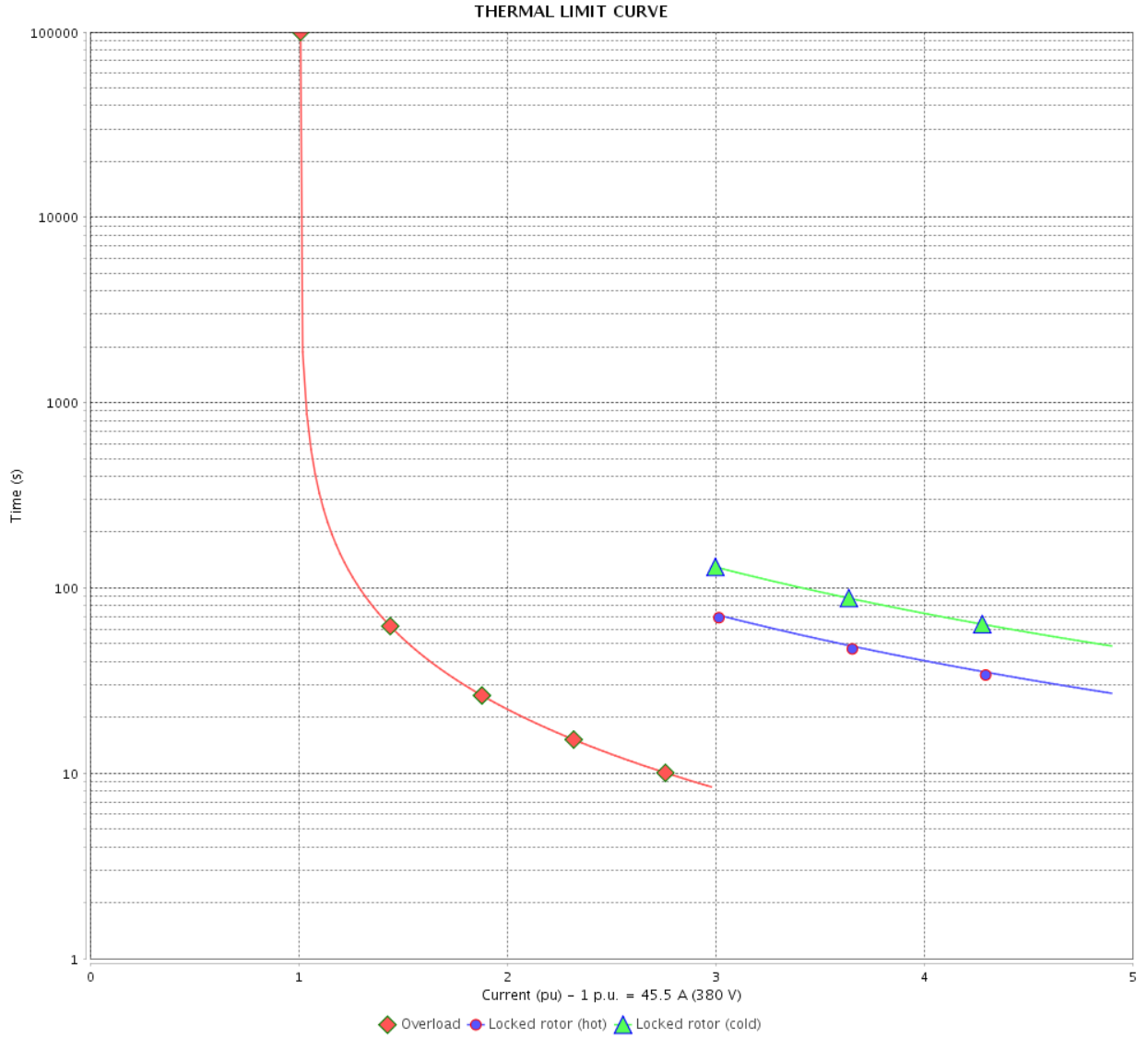
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Locked rotor torque	: 140 %	Service factor	: 1.00
Breakdown torque	: 190 %	Temperature rise	: 105 K
Rated speed	: 725 rpm	Design	: B

Heating constant

Cooling constant

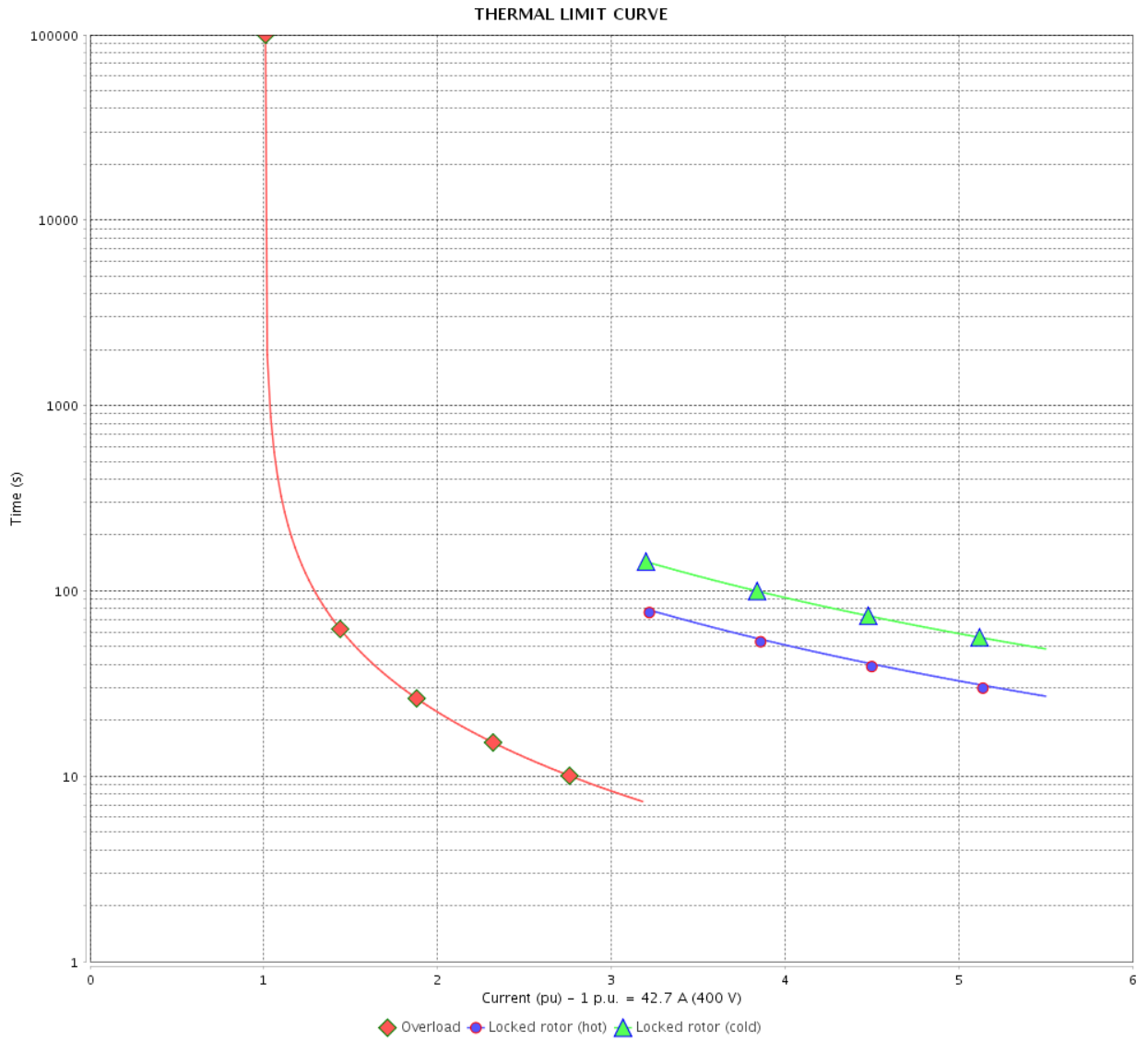
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Date				
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Rated torque	: 216 ft.lb	Insulation class	: F
Locked rotor torque	: 150 %	Service factor	: 1.00
Breakdown torque	: 200 %	Temperature rise	: 105 K
Rated speed	: 730 rpm	Design	: B

Heating constant

Cooling constant

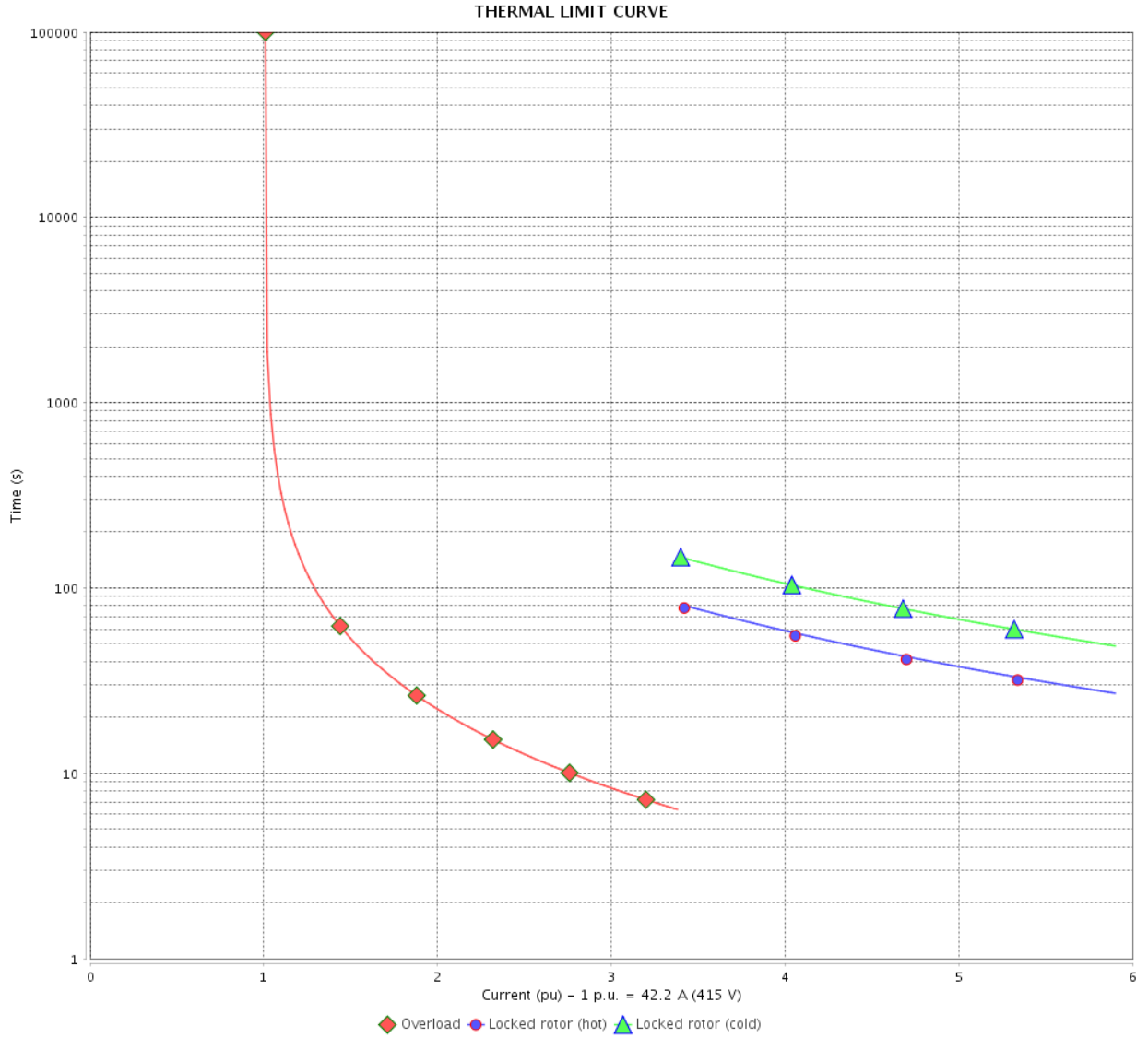
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THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : _____



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Checked by				
Date				
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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

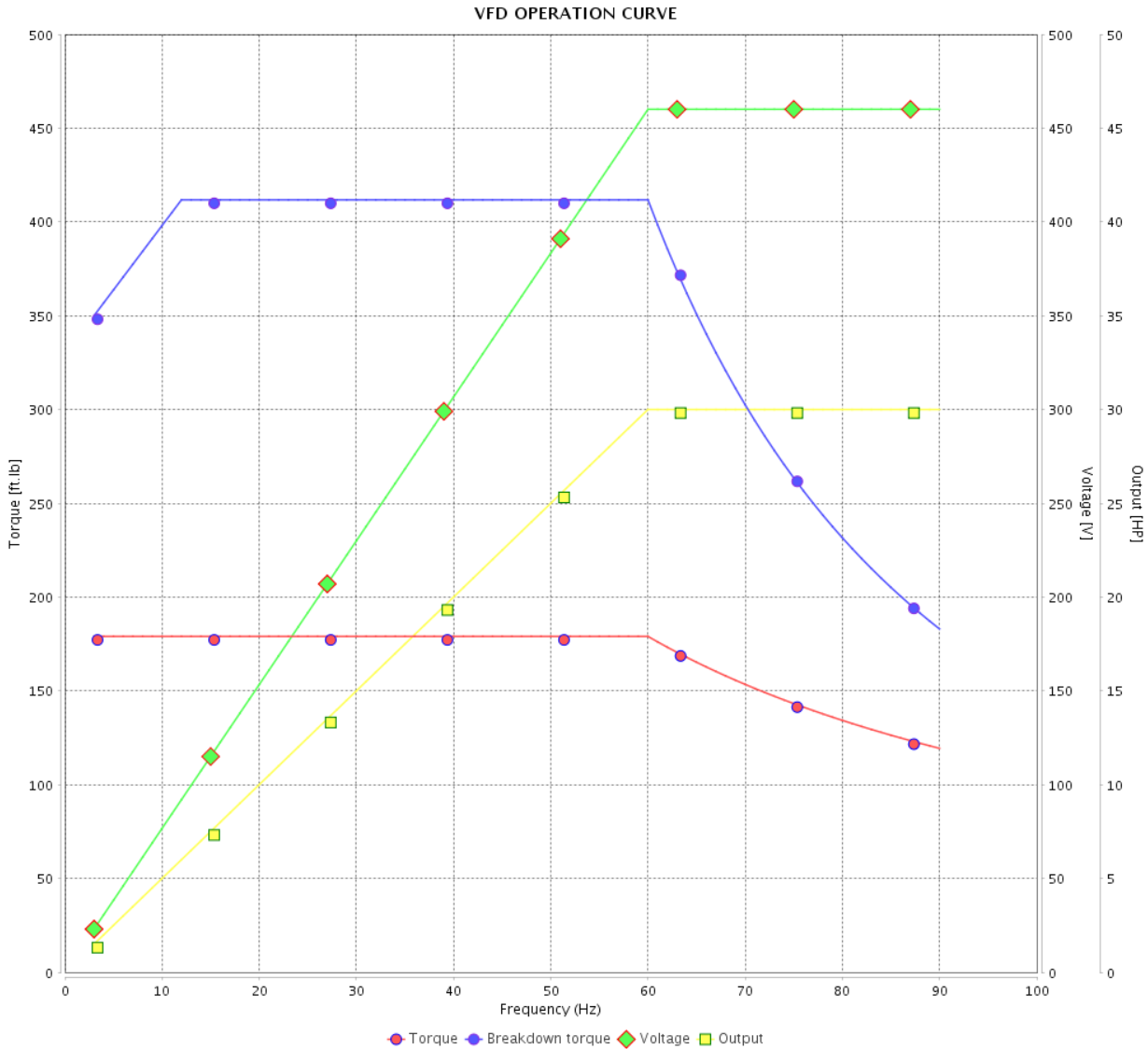


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Rated current	: 37.6 A	Moment of inertia (J)	: 23.5 sq.ft.lb
LRC	: 6.2	Duty cycle	: Cont.(S1)
Rated torque	: 179 ft.lb	Insulation class	: F
Locked rotor torque	: 160 %	Service factor	: 1.25
Breakdown torque	: 229 %	Temperature rise	: 80 K
Rated speed	: 880 rpm	Design	: B

Rev.	Changes Summary	Performed	Checked	Date
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Date	14/04/2022			

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

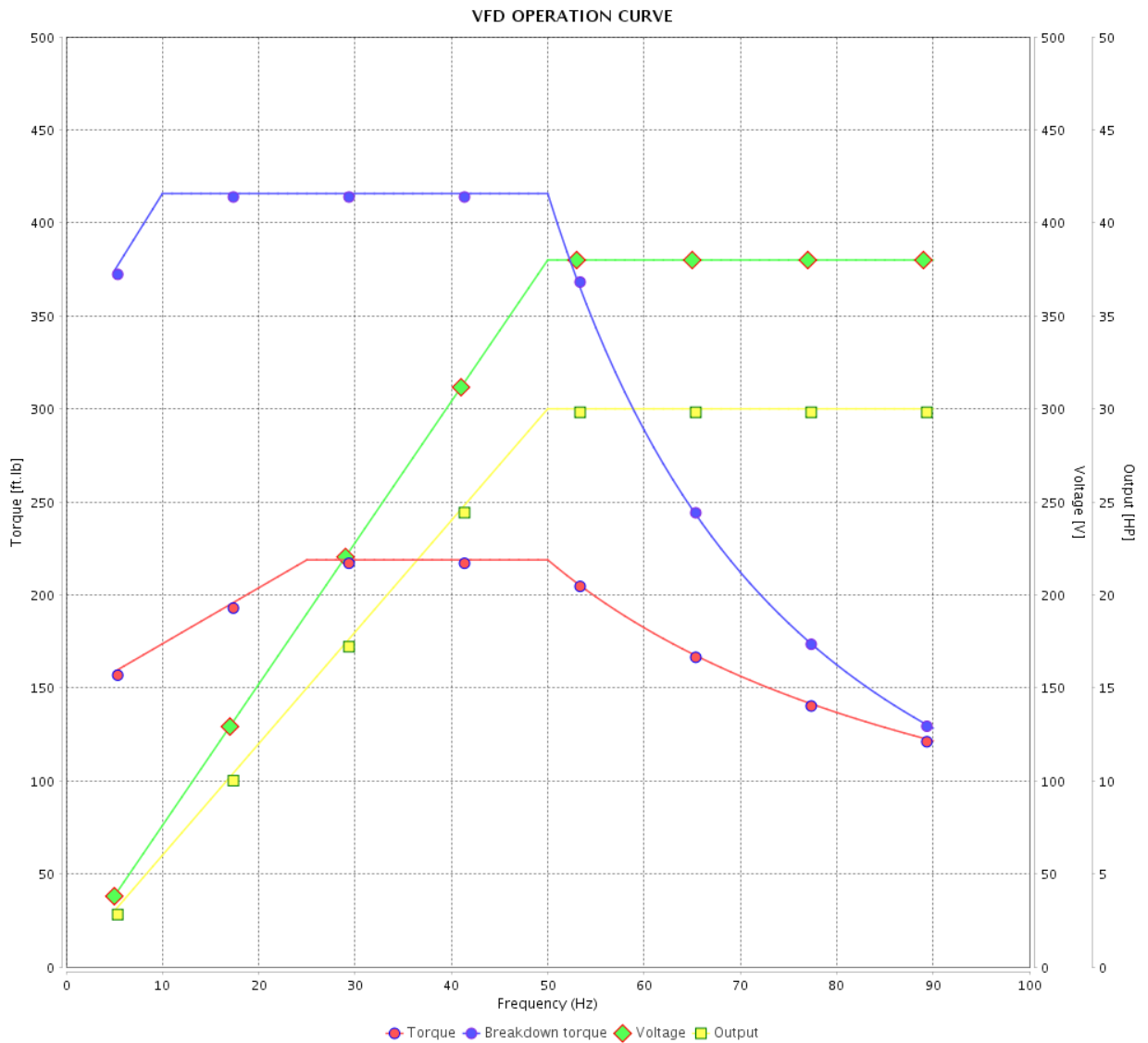


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Performance : 380 V 50 Hz 8P IE2

Rated current : 45.5 A
 LRC : 4.9
 Rated torque : 219 ft.lb
 Locked rotor torque : 120 %
 Breakdown torque : 190 %
 Rated speed : 720 rpm

Moment of inertia (J) : 23.5 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

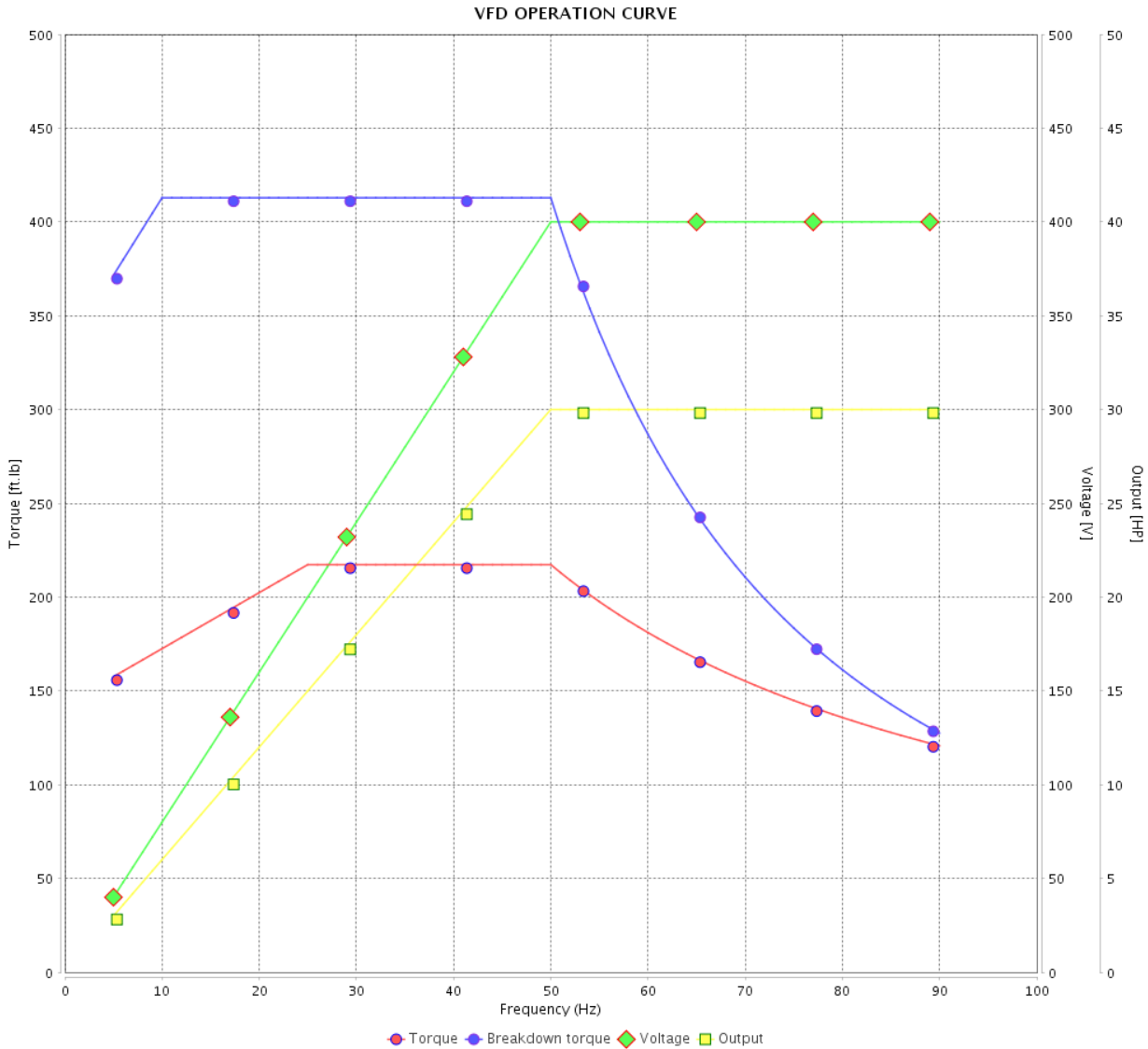


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Performance : 400 V 50 Hz 8P IE3

Rated current	: 42.7 A	Moment of inertia (J)	: 23.5 sq.ft.lb
LRC	: 5.5	Duty cycle	: Cont.(S1)
Rated torque	: 217 ft.lb	Insulation class	: F
Locked rotor torque	: 140 %	Service factor	: 1.00
Breakdown torque	: 190 %	Temperature rise	: 105 K
Rated speed	: 725 rpm	Design	: B

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VFD OPERATION CURVE

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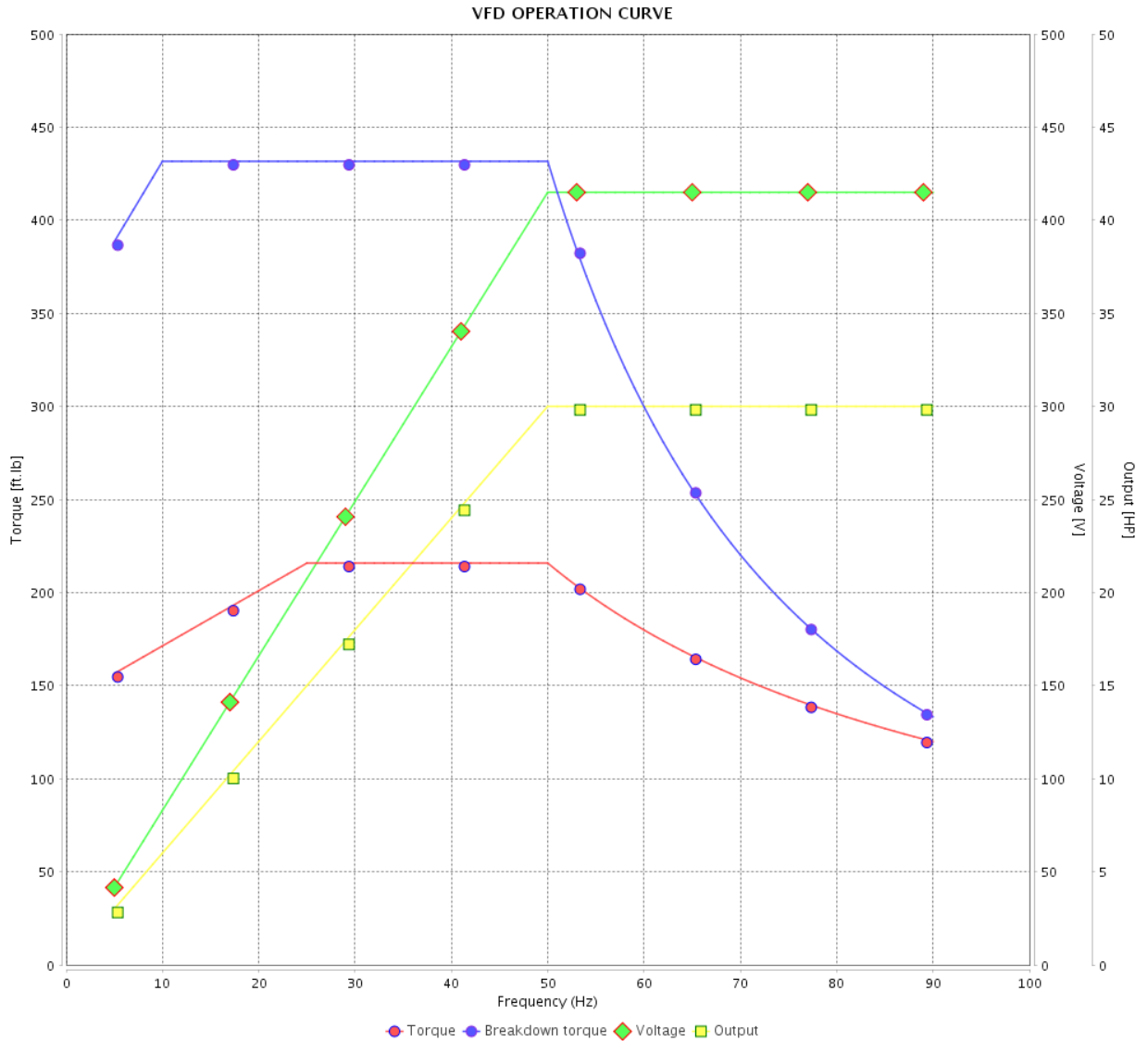


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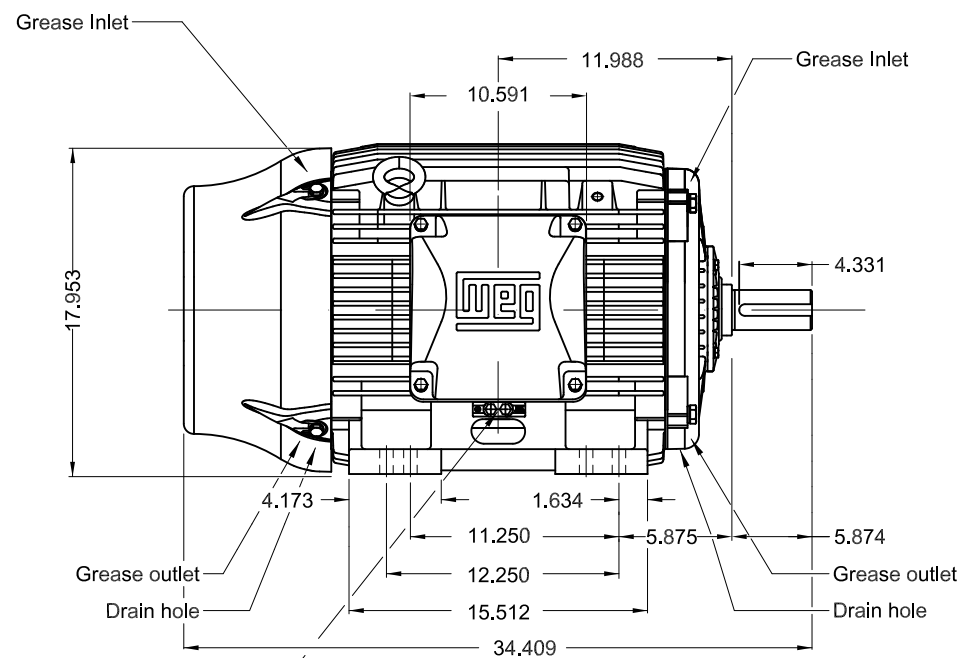
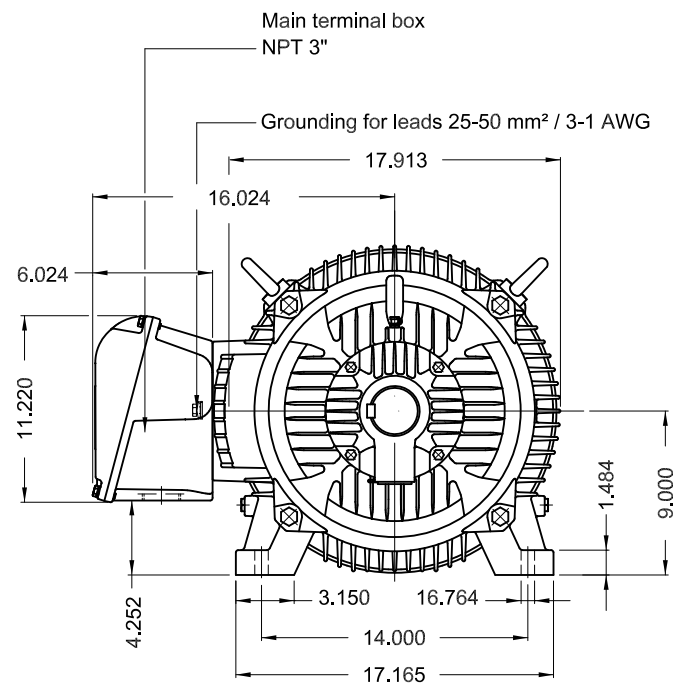
Rev.	Changes Summary	Performed	Checked	Date
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Date	14/04/2022			

1 2 3 4 5 6

A

B

C

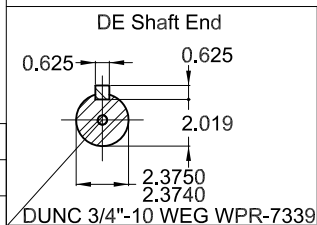


Grounding for leads 25-185 mm² / 3AWG-350MCM

D

E

Color RAL 5009
Painting plan 202E
Mounting B3R(D)



30 HP 08 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 364/5T IP55 TEFC					
RELEASED							
REL DT.	WMO	Jaragua do Sul	Product Engineering				

PREVIEW
WDD



SHEET 1 / 1

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 03009ST3QIE364T-W22

Inverter Duty Motor
Severe Duty

IEEE
841-2009

PH3 60Hz Fr. 364/5T 1000m.a.s.l. IP55 TEFC 797lb

V 460

A 37.0

HP 30

kW 22

SF 1.25

SFA 46.3

RPM 880

PF 0.80

AMB 40°C

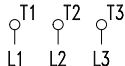
INS cl. F DT80K

NEMA NOM EFF 92.4%

DUTY CONT.

DES B Code G

GUARANT. EFF 91.0%



460V

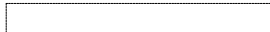


→ 6314-C3 (27g) 70BC03X30

→ 6314-C3 (27g) 70BC03X30



MOBIL POLYREX EM (20000h)



MADE IN BRAZIL
11431716