

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer					
Product line		: NEMA Premium Efficiency Three-Phase	Product code :		12373436
			Catalog # :		00118ST3QIE143TC-W22
Frame		: 143/5TC	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>		: 54.9 lb
Protection degree		: IP55	Moment of inertia (J)		: 0.1172 sq.ft.lb
Design		: B			
Output [HP]		1	1	1	1
Poles		4	4	4	4
Frequency [Hz]		60	50	50	50
Rated voltage [V]		460	380	400	415
Rated current [A]		1.47	1.71	1.65	1.63
L. R. Amperes [A]		12.6	10.9	11.5	12.1
LRC [A]		8.6x(Code M)	6.4x(Code J)	7.0x(Code K)	7.4x(Code K)
No load current [A]		0.940	0.930	1.00	1.08
Rated speed [RPM]		1760	1450	1455	1455
Slip [%]		2.22	3.33	3.00	3.00
Rated torque [ft.lb]		2.98	3.62	3.61	3.61
Locked rotor torque [%]		290	220	240	260
Breakdown torque [%]		350	250	290	310
Service factor		1.25	1.25	1.25	1.25
Temperature rise		80 K	80 K	80 K	80 K
Locked rotor time		32s (cold) 18s (hot)	32s (cold) 18s (hot)	32s (cold) 18s (hot)	32s (cold) 18s (hot)
Noise level <sup>2</sup>		51.0 dB(A)	49.0 dB(A)	49.0 dB(A)	49.0 dB(A)
Efficiency (%)	25%	78.4	79.6	78.4	78.4
	50%	80.0	80.0	80.0	80.0
	75%	84.0	82.5	82.5	82.5
	100%	85.5	82.5	84.0	84.0
Power Factor	25%	0.31	0.36	0.33	0.31
	50%	0.55	0.62	0.58	0.55
	75%	0.68	0.74	0.71	0.69
	100%	0.75	0.81	0.78	0.76
Bearing type		: <u>Drive end</u> 6205 C3 <u>Non drive end</u> 6204 C3	Foundation loads		
Sealing		: Inpro/Seal Inpro/Seal	Max. traction : 70 lb		
Lubrication interval		: 20000 h 20000 h	Max. compression : 125 lb		
Lubricant amount		: 4 g 4 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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Checked by				Page	Revision
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# TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



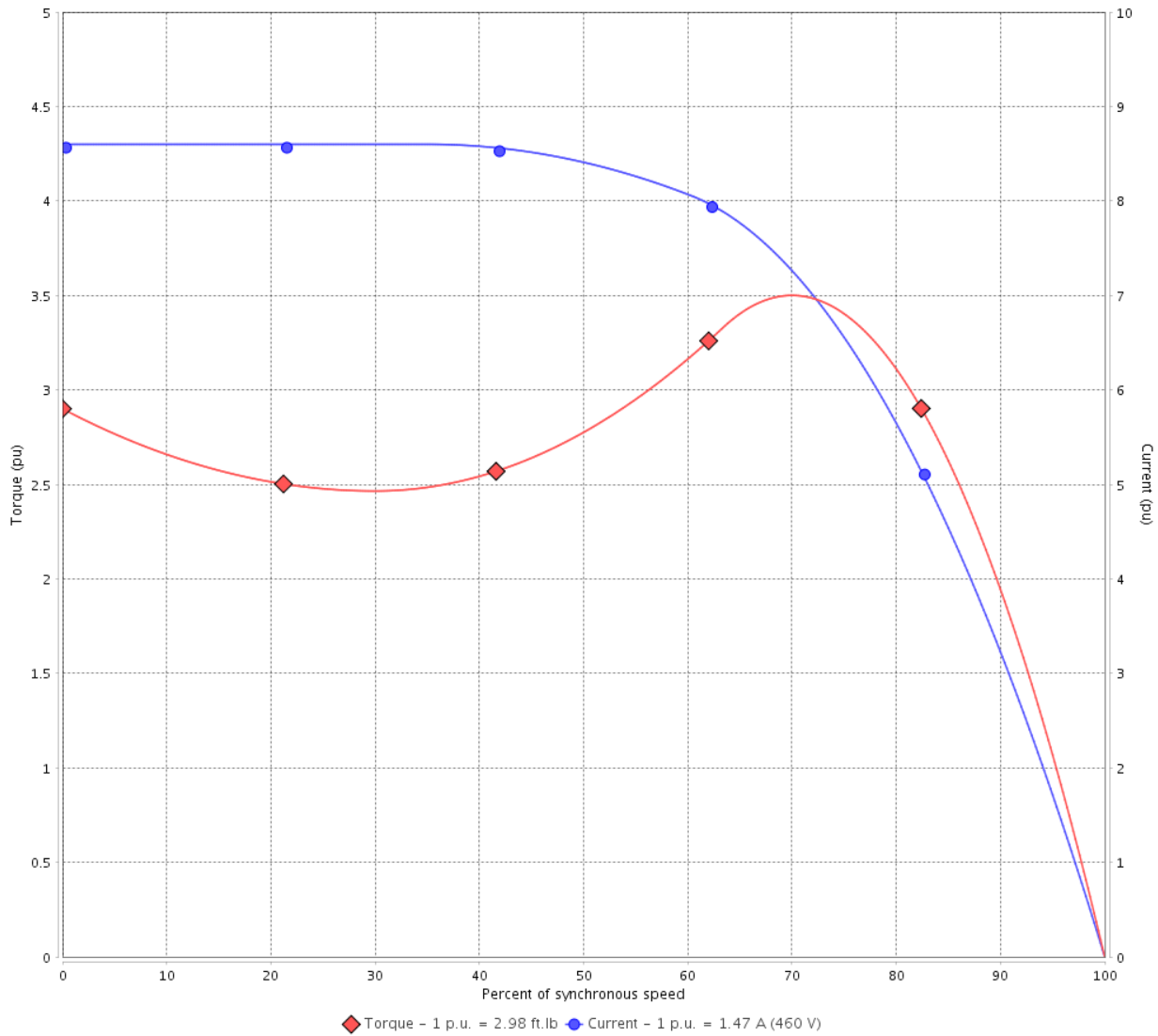
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12373436

Catalog # : 00118ST3QIE143TC-W22

TORQUE AND CURRENT VS SPEED CURVE



Performance : 460 V 60 Hz 4P

Rated current	: 1.47 A	Moment of inertia (J)	: 0.1172 sq.ft.lb
LRC	: 8.6	Duty cycle	: Cont.(S1)
Rated torque	: 2.98 ft.lb	Insulation class	: F
Locked rotor torque	: 290 %	Service factor	: 1.25
Breakdown torque	: 350 %	Temperature rise	: 80 K
Rated speed	: 1760 rpm	Design	: B

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

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# TORQUE AND CURRENT VS SPEED CURVE



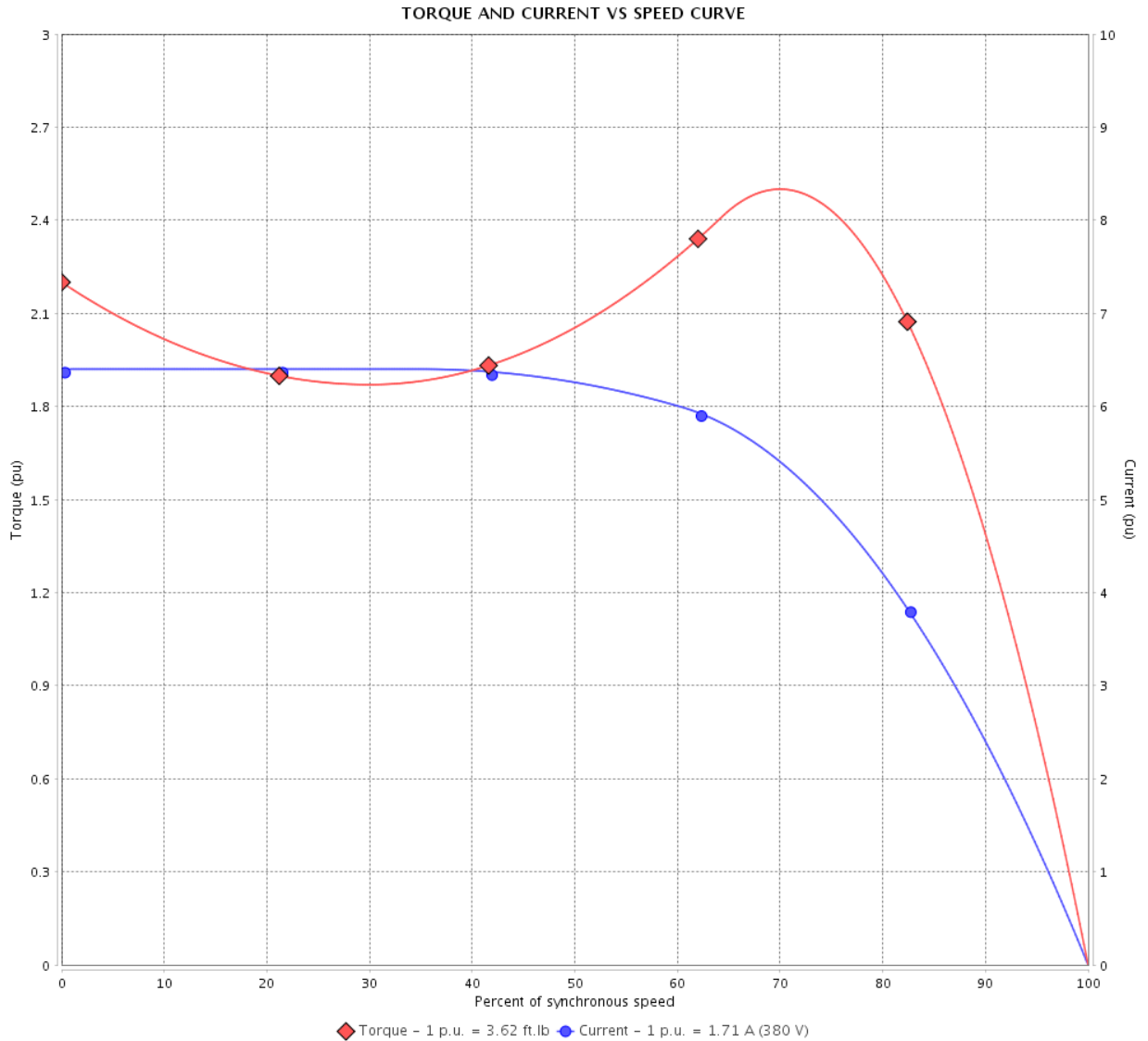
## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12373436

Catalog # : 00118ST3QIE143TC-W22



Performance : 380 V 50 Hz 4P IE3

Rated current : 1.71 A  
 LRC : 6.4  
 Rated torque : 3.62 ft.lb  
 Locked rotor torque : 220 %  
 Breakdown torque : 250 %  
 Rated speed : 1450 rpm

Moment of inertia (J) : 0.1172 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.25  
 Temperature rise : 80 K  
 Design : B

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

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# TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



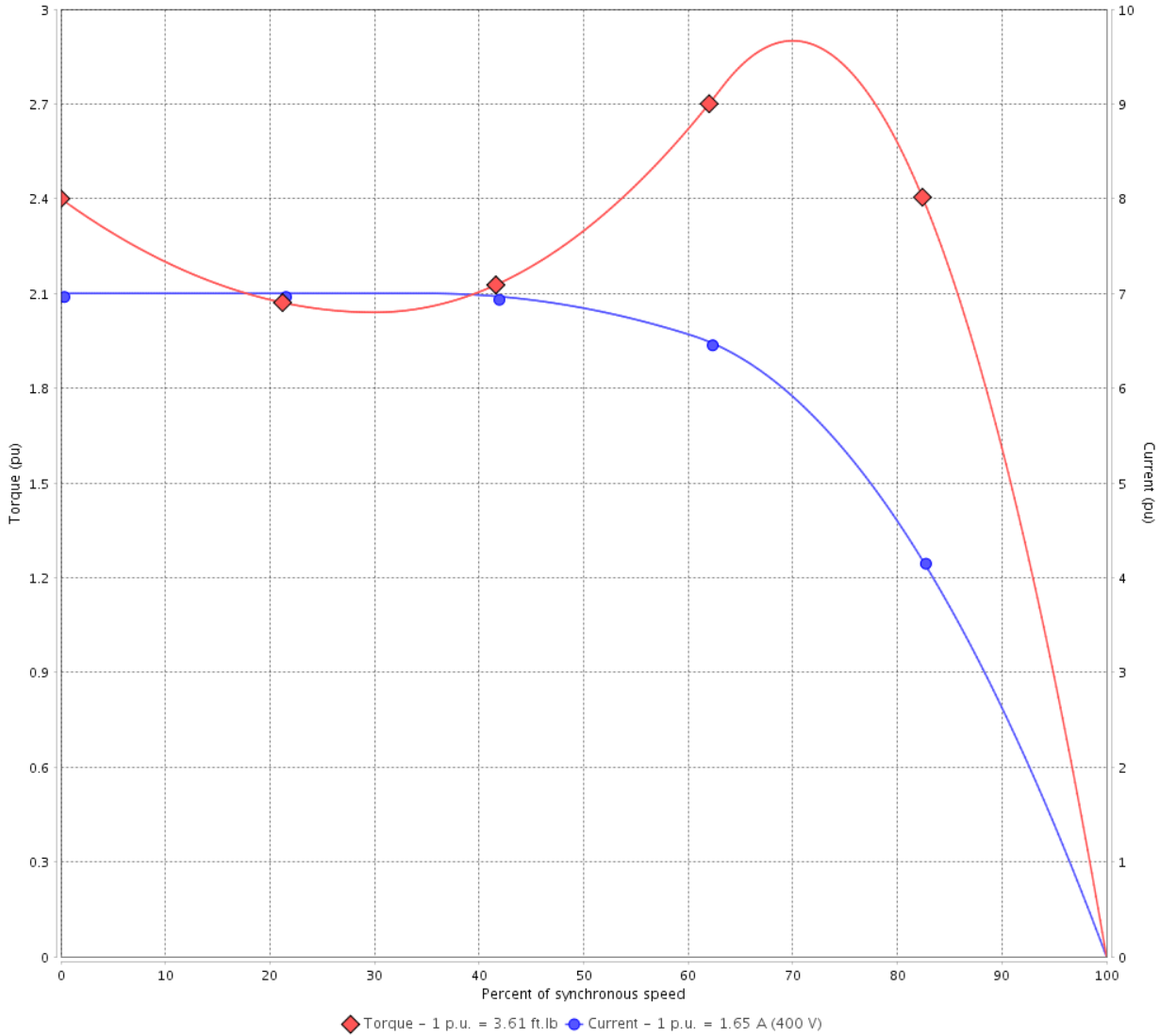
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12373436

Catalog # : 00118ST3QIE143TC-W22

TORQUE AND CURRENT VS SPEED CURVE



Performance : 400 V 50 Hz 4P IE3

Rated current	: 1.65 A	Moment of inertia (J)	: 0.1172 sq.ft.lb
LRC	: 7.0	Duty cycle	: Cont.(S1)
Rated torque	: 3.61 ft.lb	Insulation class	: F
Locked rotor torque	: 240 %	Service factor	: 1.25
Breakdown torque	: 290 %	Temperature rise	: 80 K
Rated speed	: 1455 rpm	Design	: B

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

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# TORQUE AND CURRENT VS SPEED CURVE



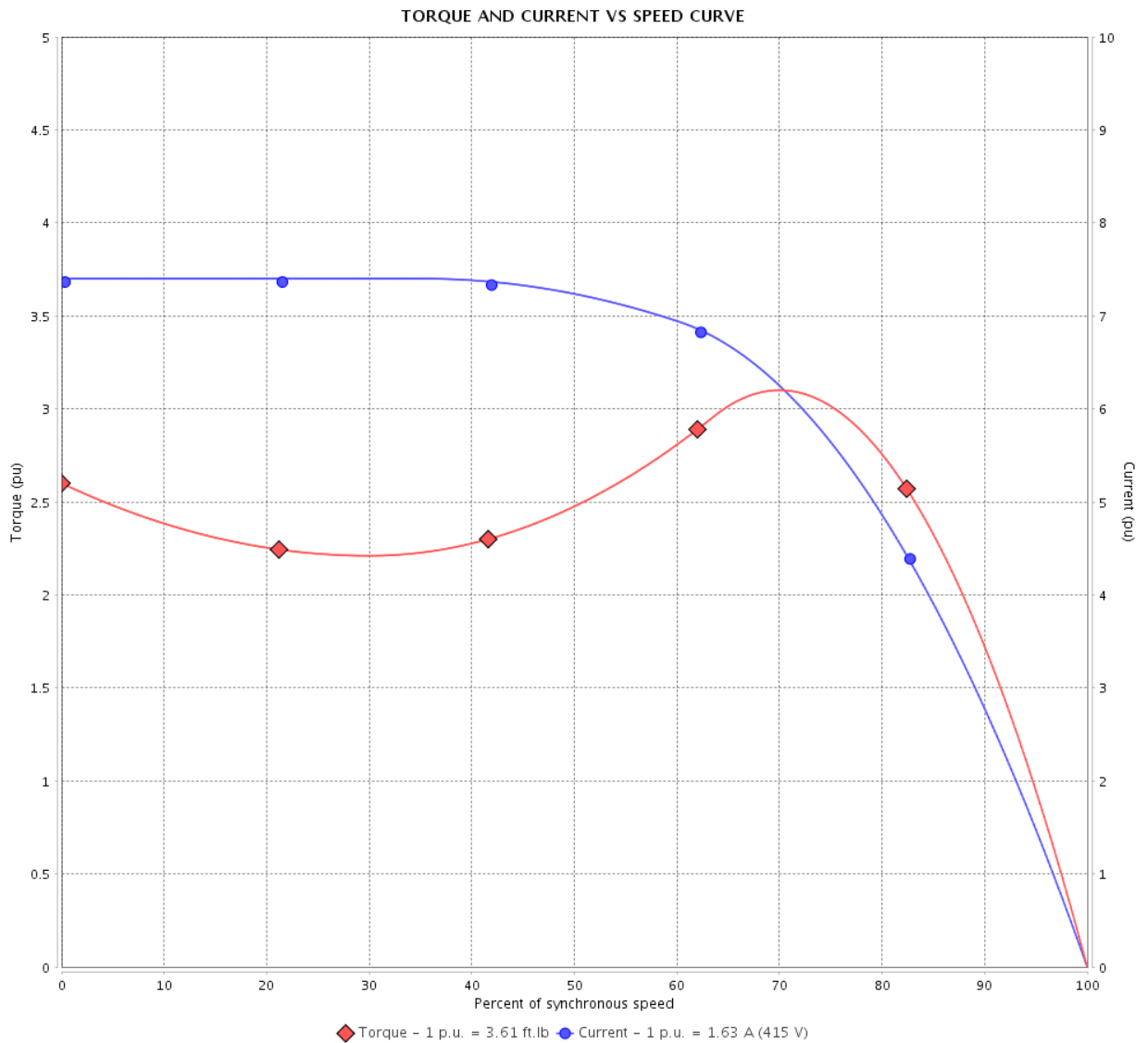
## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12373436

Catalog # : 00118ST3QIE143TC-W22



Performance : 415 V 50 Hz 4P IE3

Rated current : 1.63 A  
 LRC : 7.4  
 Rated torque : 3.61 ft.lb  
 Locked rotor torque : 260 %  
 Breakdown torque : 310 %  
 Rated speed : 1455 rpm

Moment of inertia (J) : 0.1172 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.25  
 Temperature rise : 80 K  
 Design : B

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

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# LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage



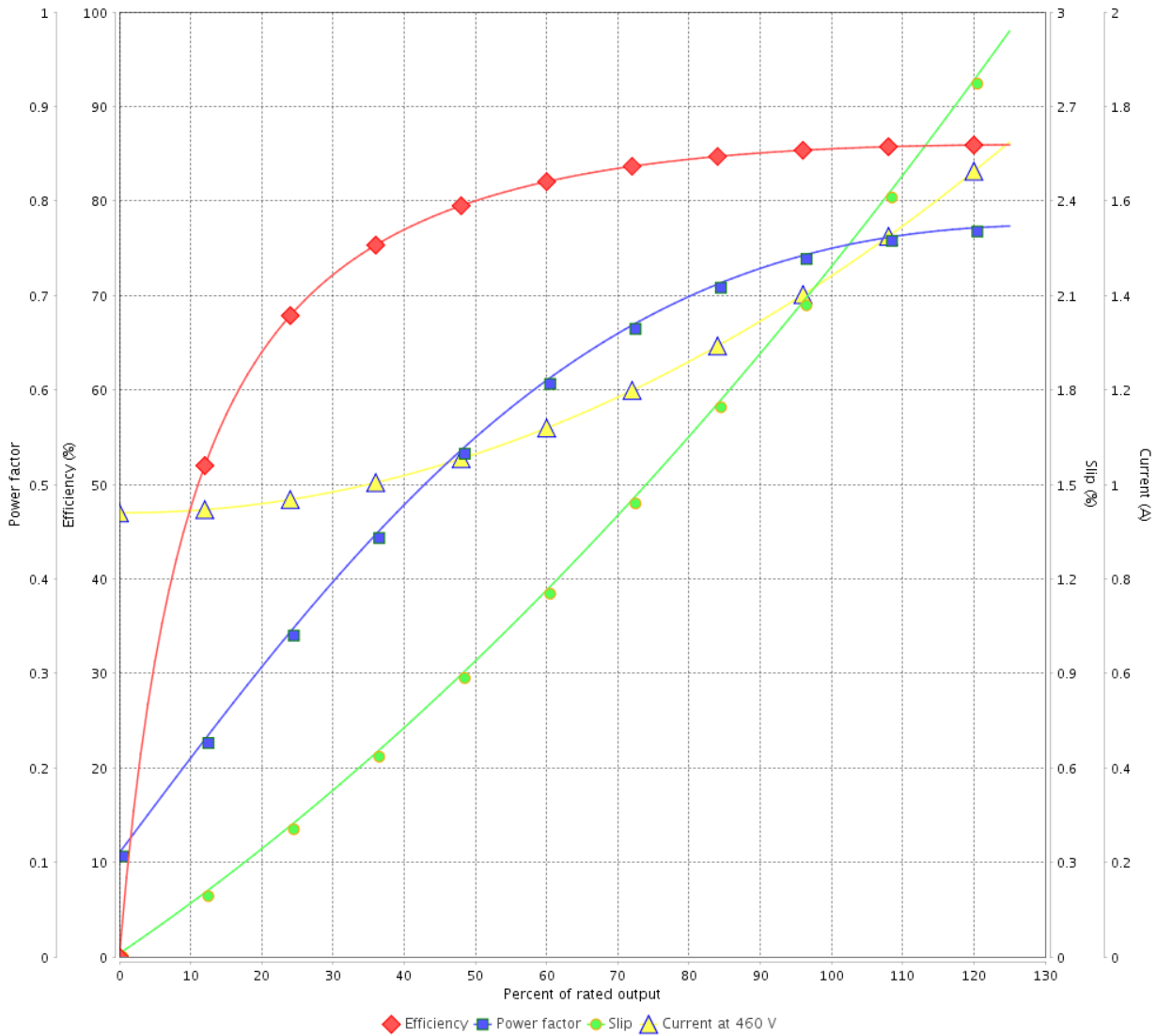
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12373436

Catalog # : 00118ST3QIE143TC-W22

LOAD PERFORMANCE CURVE



Performance : 460 V 60 Hz 4P

Rated current : 1.47 A  
 LRC : 8.6  
 Rated torque : 2.98 ft.lb  
 Locked rotor torque : 290 %  
 Breakdown torque : 350 %  
 Rated speed : 1760 rpm

Moment of inertia (J) : 0.1172 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

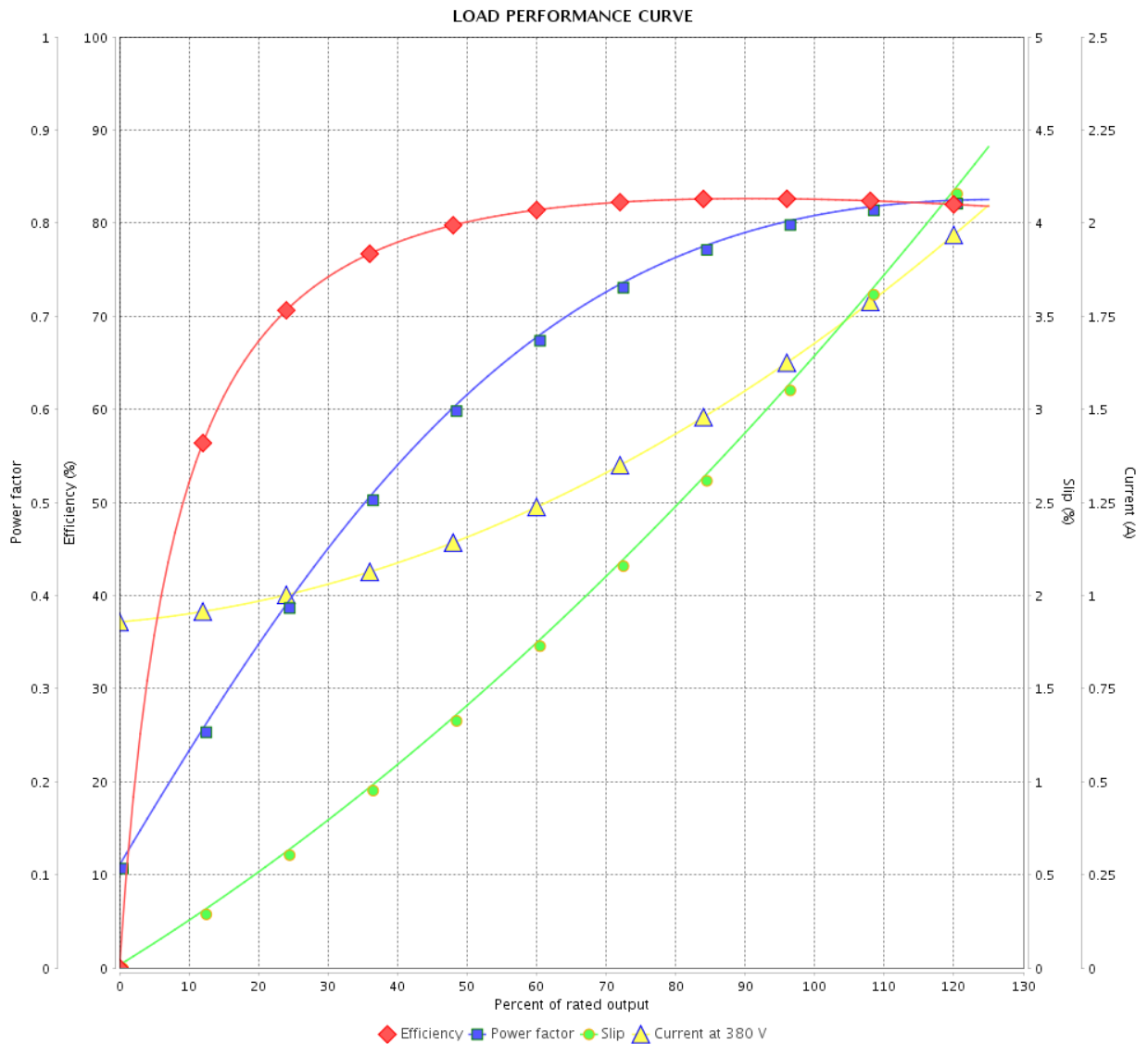


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Performance : 380 V 50 Hz 4P IE3

Rated current : 1.71 A  
 LRC : 6.4  
 Rated torque : 3.62 ft.lb  
 Locked rotor torque : 220 %  
 Breakdown torque : 250 %  
 Rated speed : 1450 rpm

Moment of inertia (J) : 0.1172 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



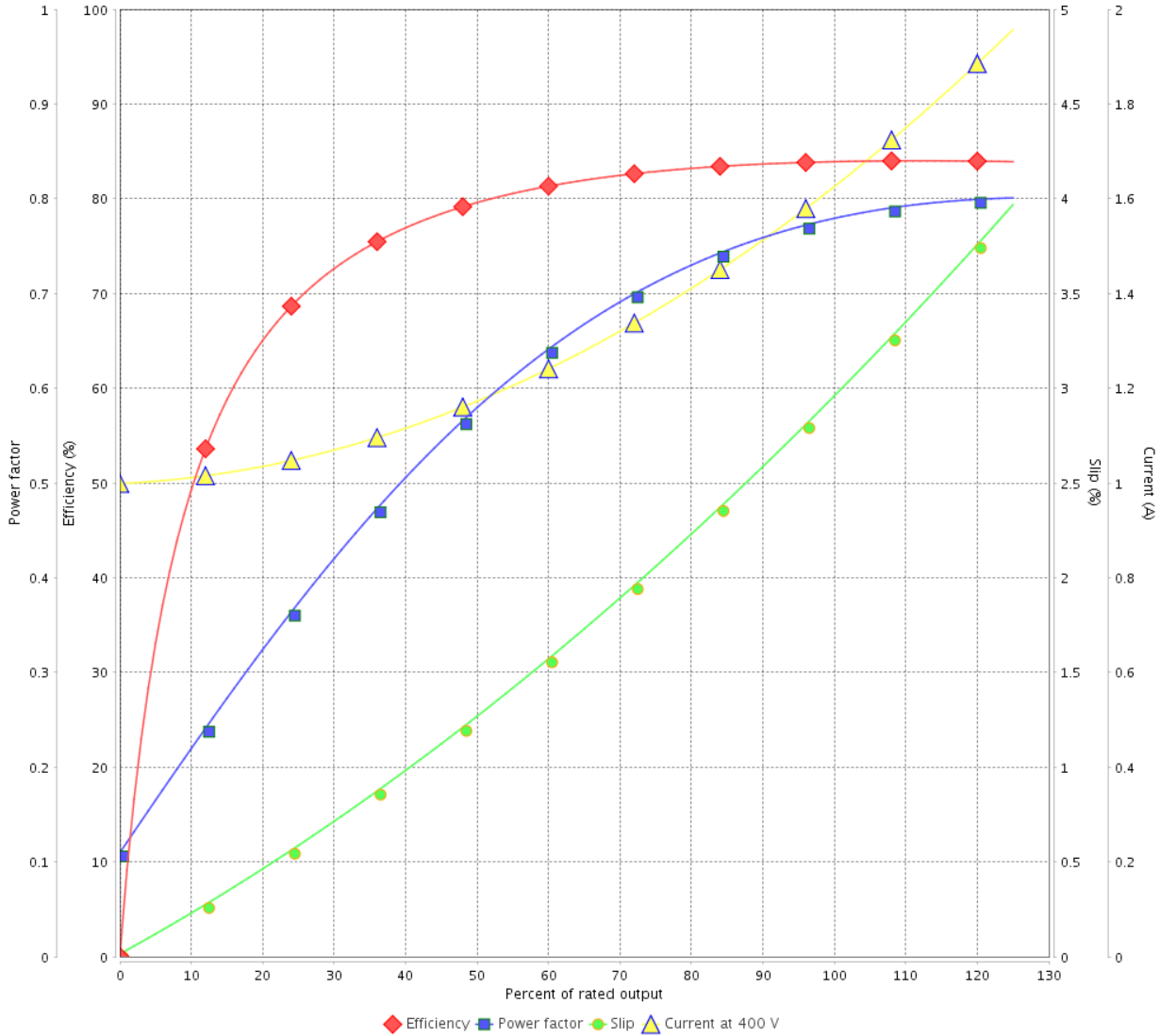
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12373436

Catalog # : 00118ST3QIE143TC-W22

LOAD PERFORMANCE CURVE



Performance : 400 V 50 Hz 4P IE3

Rated current : 1.65 A  
 LRC : 7.0  
 Rated torque : 3.61 ft.lb  
 Locked rotor torque : 240 %  
 Breakdown torque : 290 %  
 Rated speed : 1455 rpm

Moment of inertia (J) : 0.1172 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

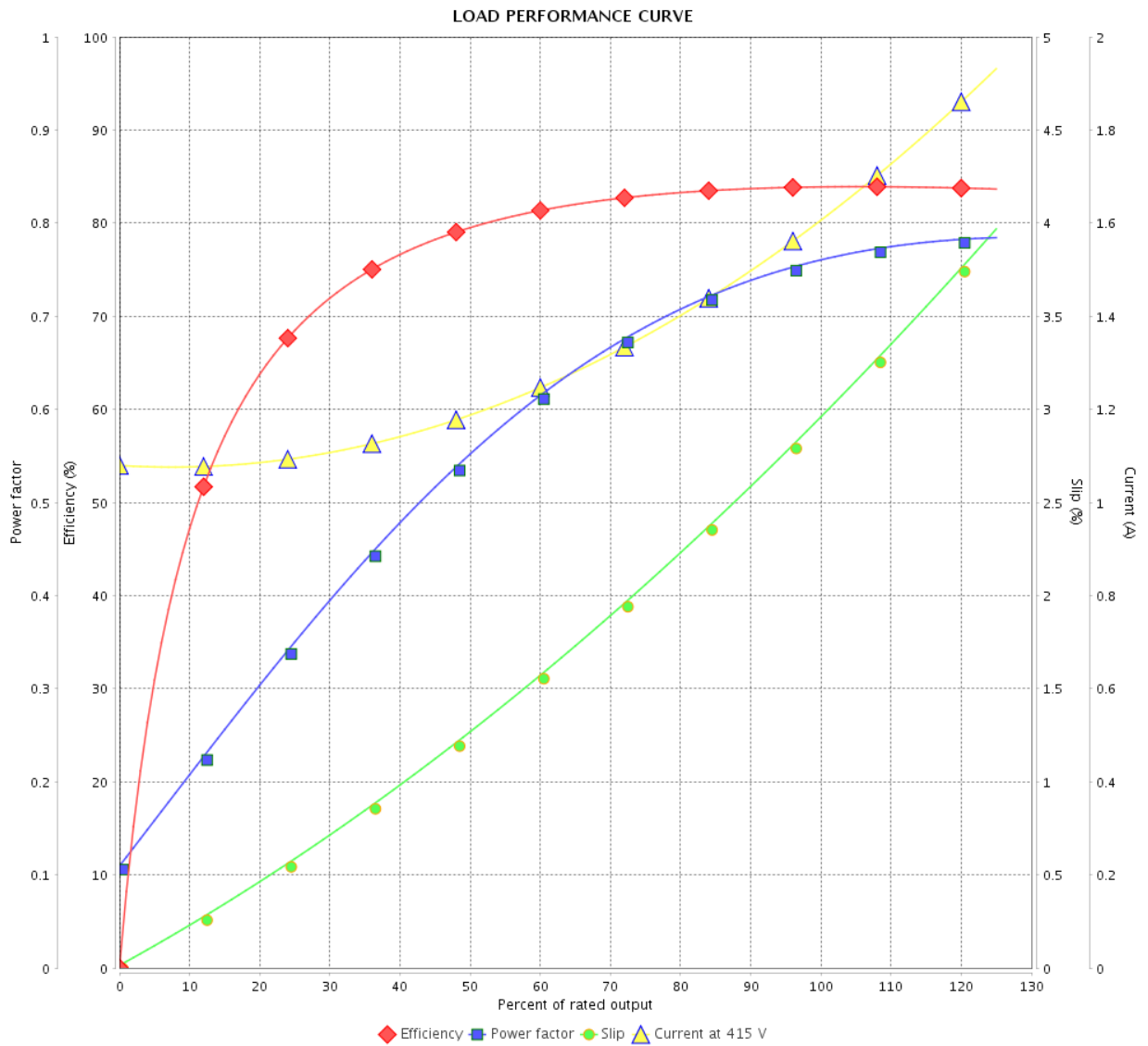


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Performance : 415 V 50 Hz 4P IE3

Rated current : 1.63 A  
 LRC : 7.4  
 Rated torque : 3.61 ft.lb  
 Locked rotor torque : 260 %  
 Breakdown torque : 310 %  
 Rated speed : 1455 rpm

Moment of inertia (J) : 0.1172 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.25  
 Temperature rise : 80 K  
 Design : B

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# THERMAL LIMIT CURVE



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LRC : 8.6	Duty cycle : Cont.(S1)
Rated torque : 2.98 ft.lb	Insulation class : F
Locked rotor torque : 290 %	Service factor : 1.25
Breakdown torque : 350 %	Temperature rise : 80 K
Rated speed : 1760 rpm	Design : B

Heating constant

Cooling constant

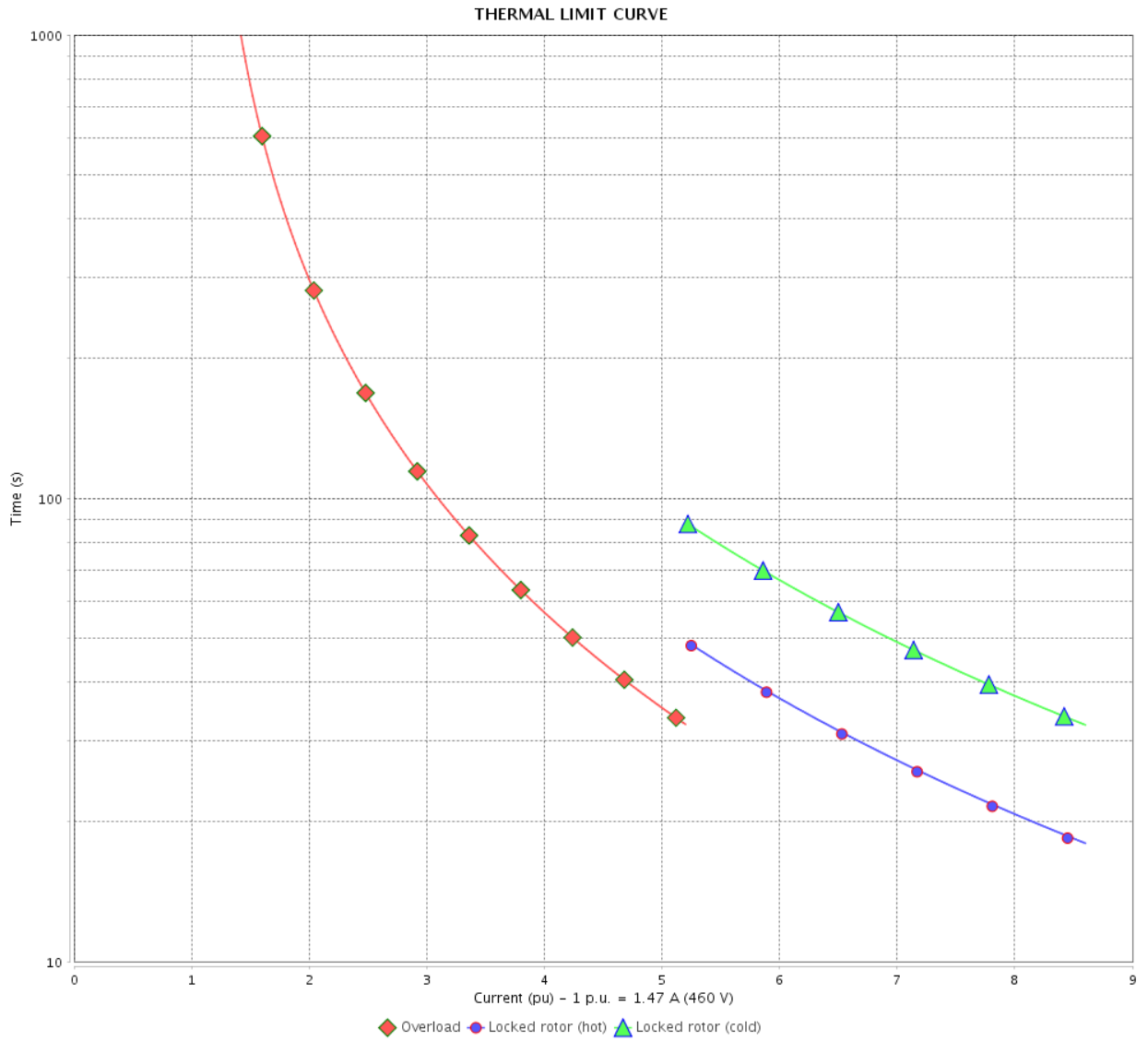
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# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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LRC : 6.4	Duty cycle : Cont.(S1)
Rated torque : 3.62 ft.lb	Insulation class : F
Locked rotor torque : 220 %	Service factor : 1.25
Breakdown torque : 250 %	Temperature rise : 80 K
Rated speed : 1450 rpm	Design : B

Heating constant

Cooling constant

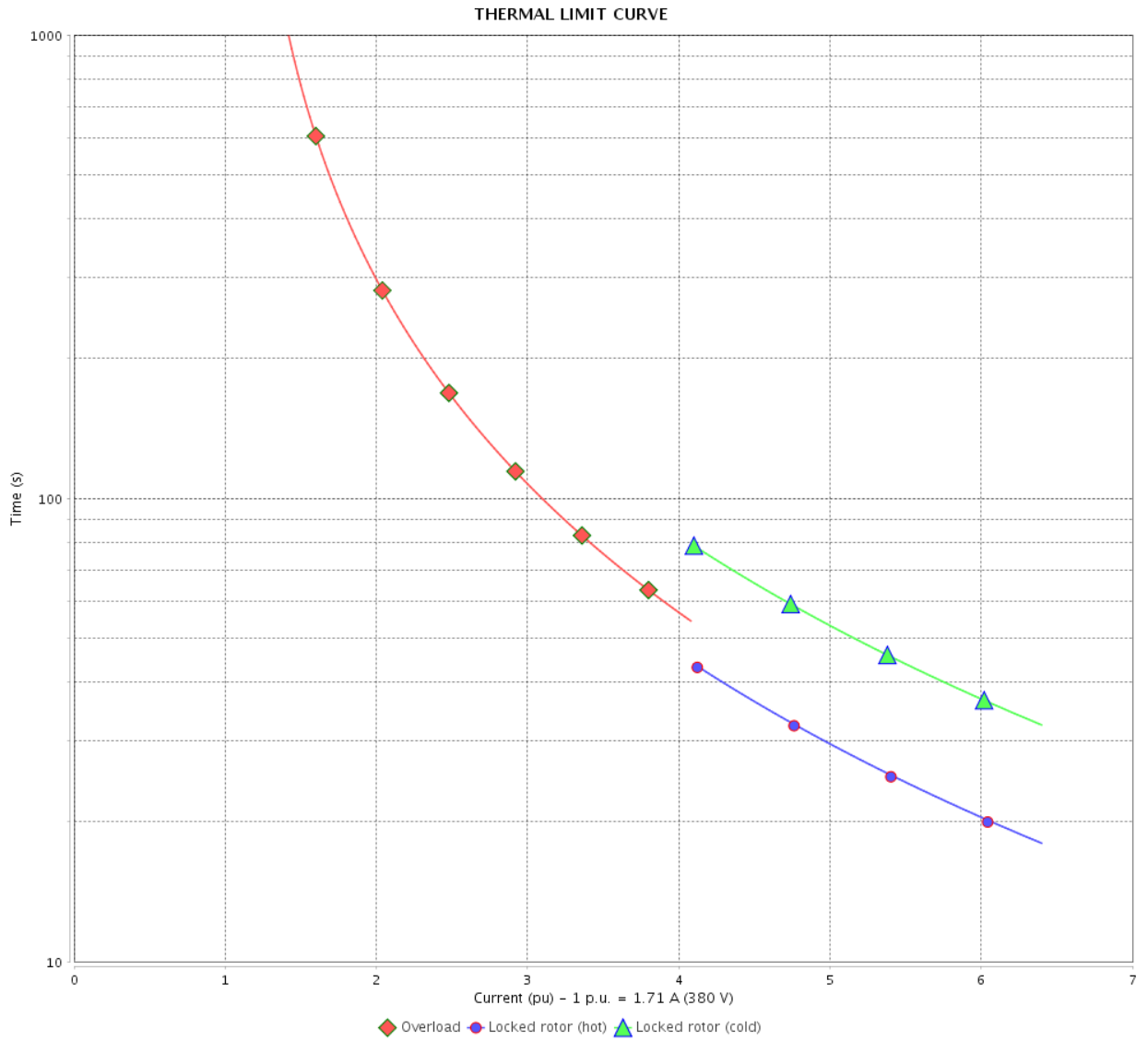
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# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



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Date		11/04/2022		

# THERMAL LIMIT CURVE



## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase  
 Product code : 12373436  
 Catalog # : 00118ST3QIE143TC-W22

Performance : 400 V 50 Hz 4P IE3

Rated current : 1.65 A	Moment of inertia (J) : 0.1172 sq.ft.lb
LRC : 7.0	Duty cycle : Cont.(S1)
Rated torque : 3.61 ft.lb	Insulation class : F
Locked rotor torque : 240 %	Service factor : 1.25
Breakdown torque : 290 %	Temperature rise : 80 K
Rated speed : 1455 rpm	Design : B

Heating constant

Cooling constant

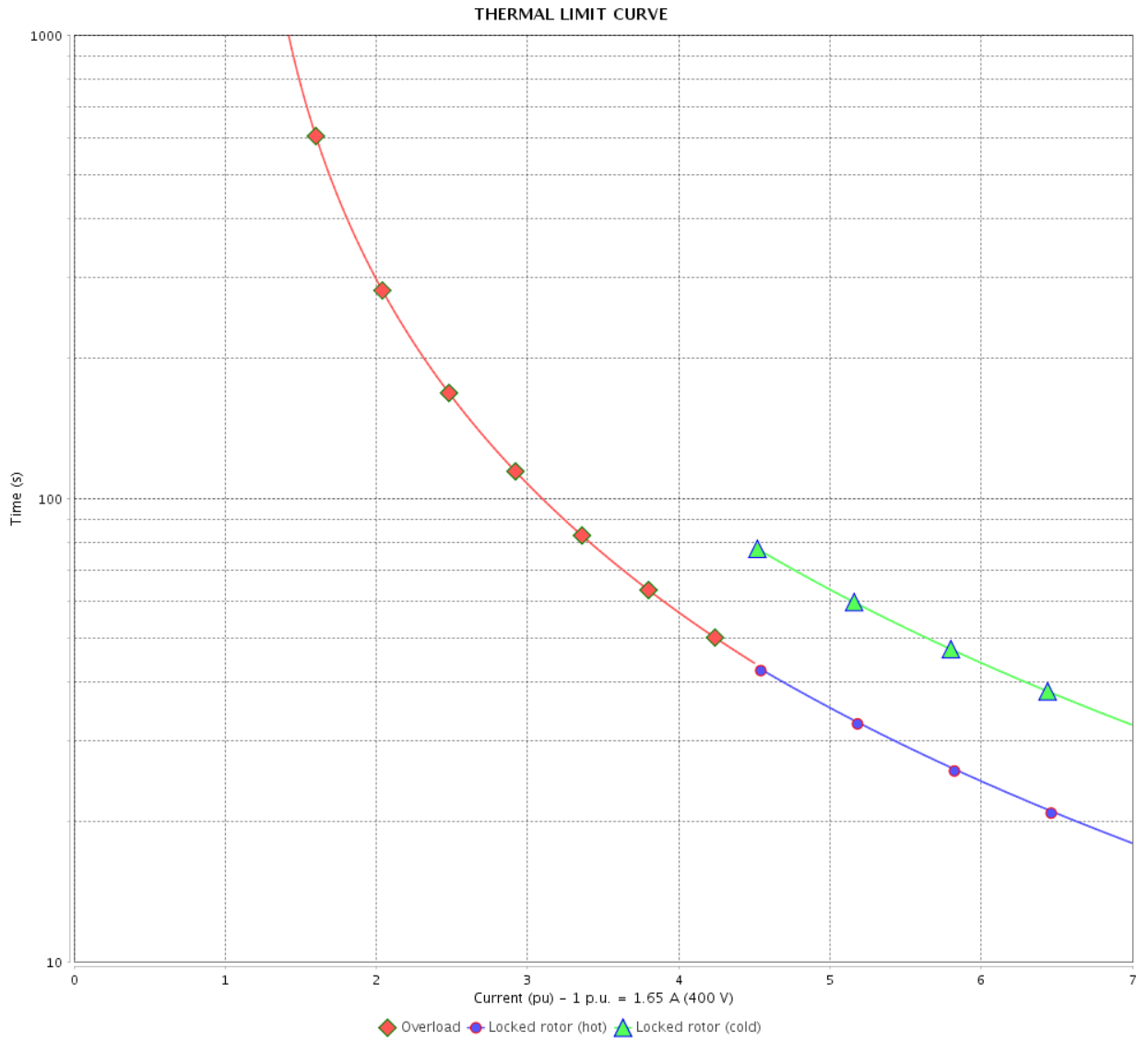
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Date	11/04/2022			

# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



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# THERMAL LIMIT CURVE



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Rated torque	: 3.61 ft.lb	Insulation class	: F
Locked rotor torque	: 260 %	Service factor	: 1.25
Breakdown torque	: 310 %	Temperature rise	: 80 K
Rated speed	: 1455 rpm	Design	: B

Heating constant

Cooling constant

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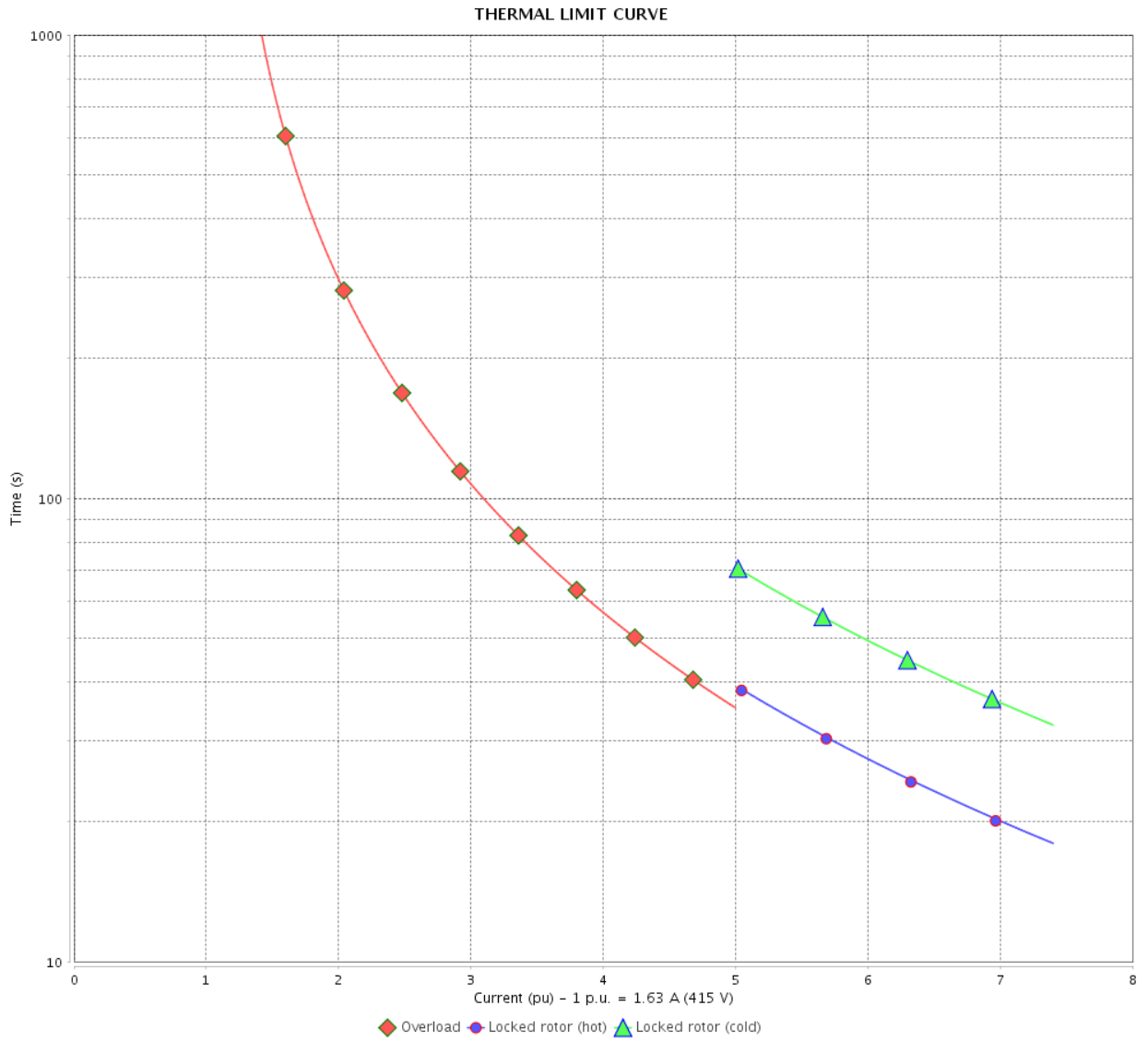


# THERMAL LIMIT CURVE

## Three Phase Induction Motor - Squirrel Cage



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



Rev.	Changes Summary	Performed	Checked	Date
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Date				

# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

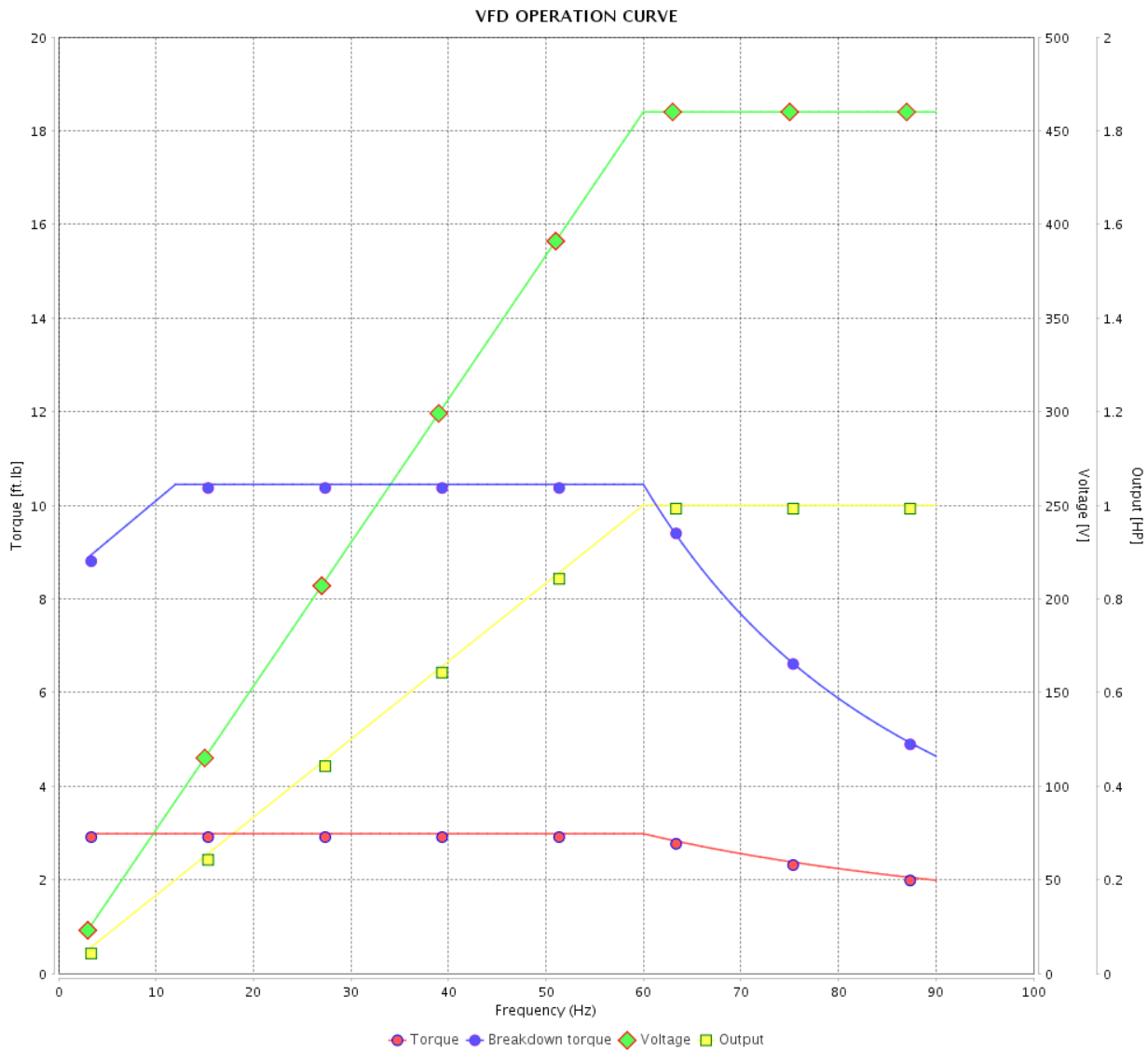


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 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.25  
 Temperature rise : 80 K  
 Design : B

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Date				

# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

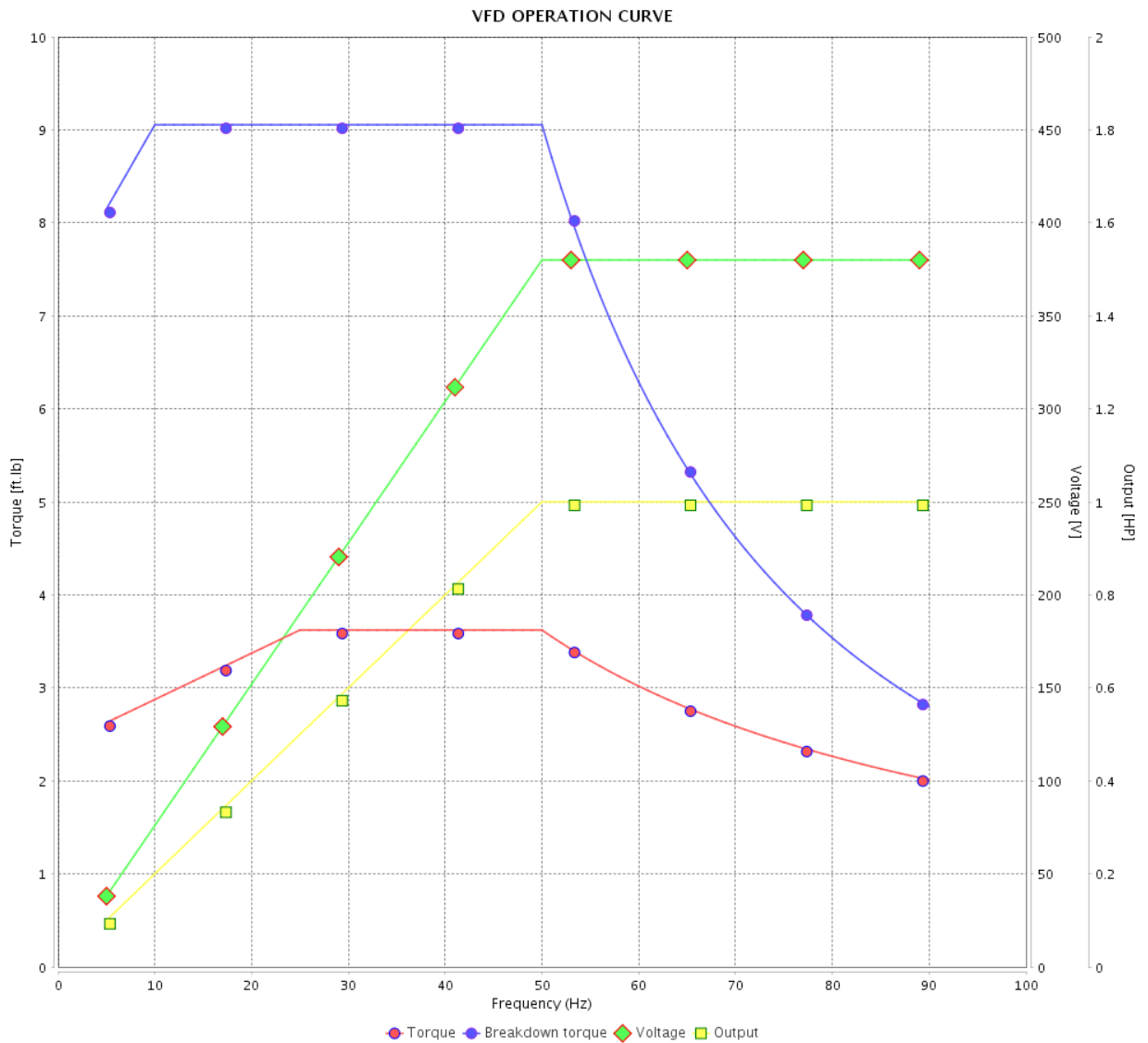


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Product code : 12373436

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Performance : 380 V 50 Hz 4P IE3

Rated current : 1.71 A  
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 Rated speed : 1450 rpm

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# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



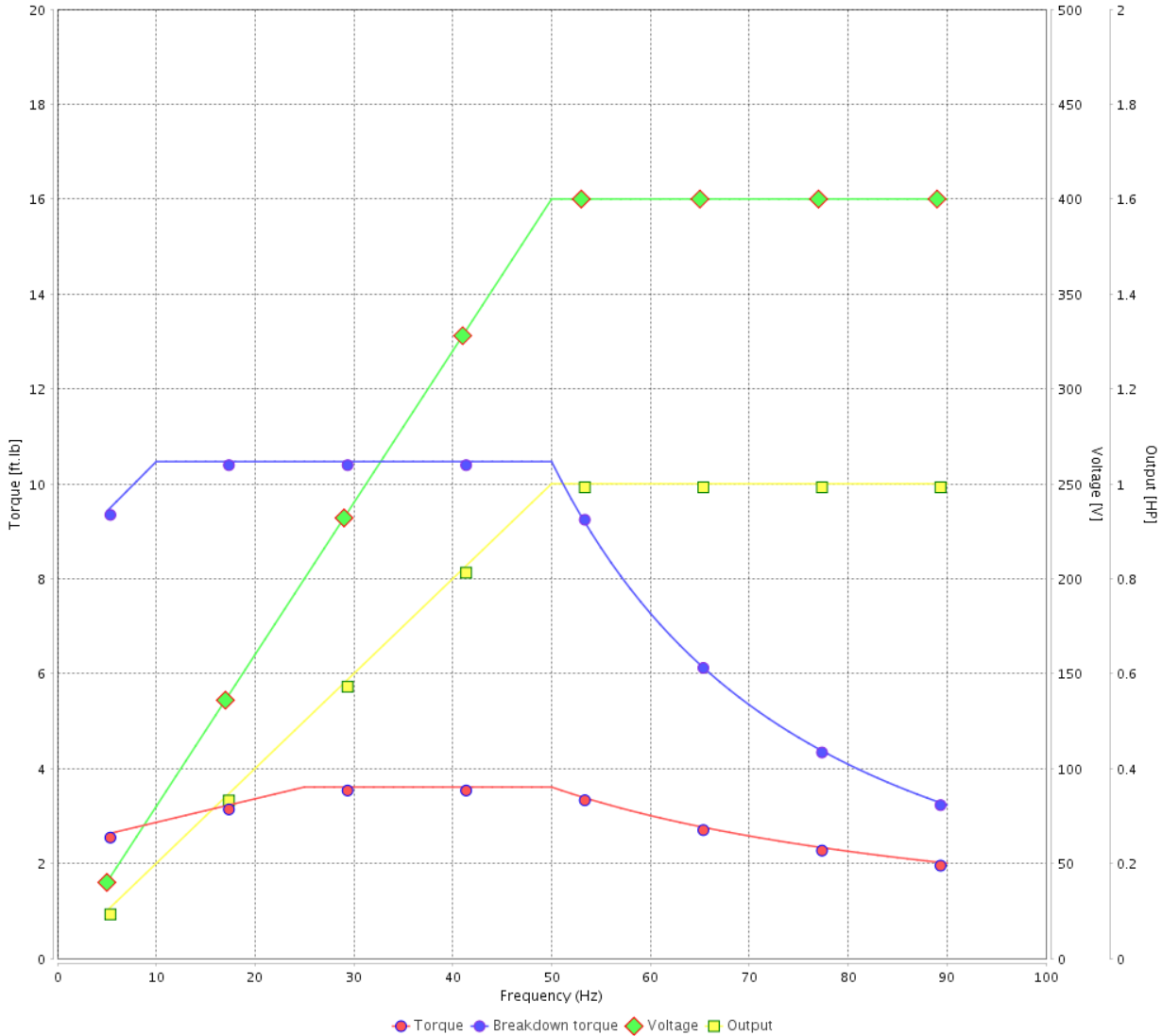
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VFD OPERATION CURVE



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# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

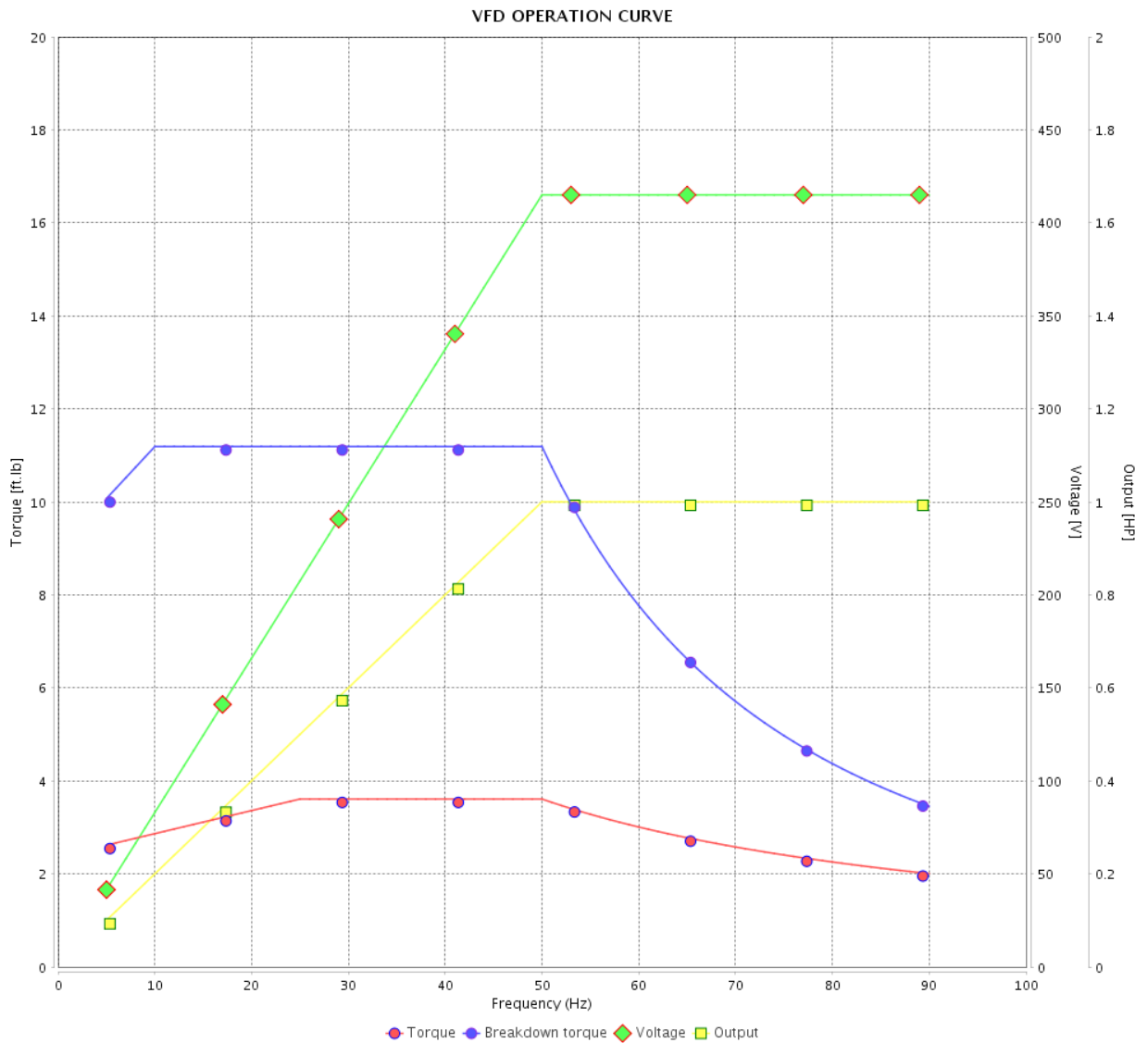


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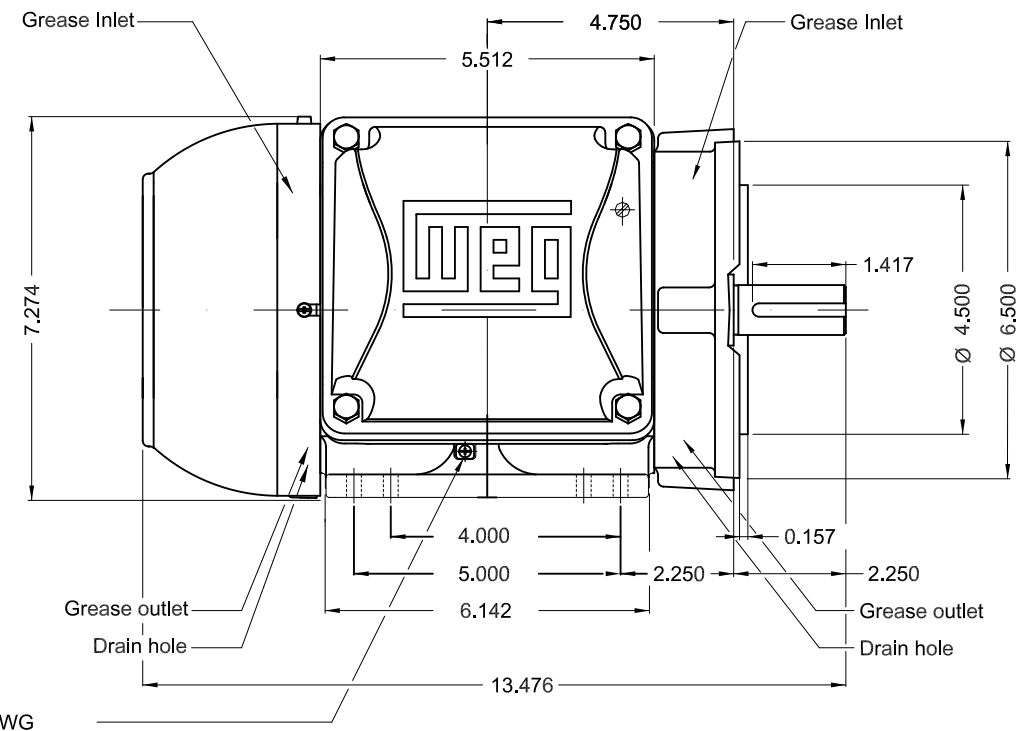
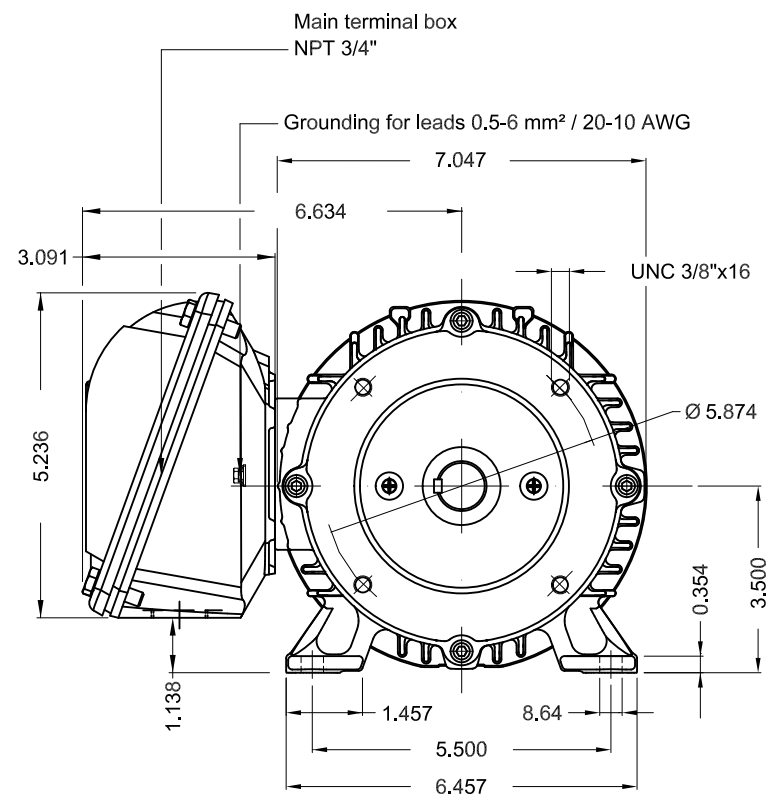


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 Breakdown torque : 310 %  
 Rated speed : 1455 rpm

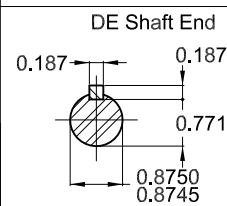
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 Temperature rise : 80 K  
 Design : B

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				Revision



Grounding for leads 0.5-6 mm<sup>2</sup> / 20-10 AWG

Color RAL 5009  
 Painting plan 202E  
 Mounting B34R(D)



1 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 143/5TC IP55 TEFC					
RELEASED							
REL DT.	WMO	Jaragua do Sul	Product Engineering	SHEET	1 / 1		

**PREVIEW**  
**WDD**



MADE IN BRAZIL  
12373436



**NEMA**  
**Premium**

**W22**

IE000404W22CIS

Inverter Duty Motor  
Severe Duty

**IEEE**  
**841-2009**



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 - T5  
For use on PWM: Gr. A, B, C, D, F and G,  
VT 1000:1, CT 20:1, 1.00SF - T4A



FOR SAFE AREA  
Mod. TE1BFOXON  
CC029A

PH3 60Hz Fr. 143/5TC 1000m.a.s.l. IP55 TEFC 55lb

V 460

A 1.47

HP 1.0

kW 0.75

SF 1.25

SFA 1.84

RPM 1760

PF 0.75

AMB 40°C

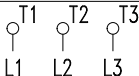
INS cl. F DT80K

NEMA NOM EFF 85.5%

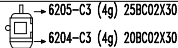
DUTY CONT.

DES B Code M

GUARANT. EFF 82.5%



460V



MOBIL POLYREX EM (20000h)

