

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer					
Product line		: W40 NEMA Premium Efficiency Three-Phase		Product code : 14284557 Catalog # : 10012OT3E444T-W40	
Frame : 444/5T		Cooling method : IC01 - ODP			
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> : 1341 lb			
Protection degree : IP23		Moment of inertia (J) : 60.6 sq.ft.lb			
Design : B					
Output [HP]	100	75	75	75	
Poles	6	6	6	6	
Frequency [Hz]	60	50	50	50	
Rated voltage [V]	230/460	380	400	415	
Rated current [A]	254/127	115	112	111	
L. R. Amperes [A]	1549/775	794	773	799	
LRC [A]	6.1x(Code G)	6.9x(Code H)	6.9x(Code J)	7.2x(Code J)	
No load current [A]	113/56.5	55.8	60.2	63.7	
Rated speed [RPM]	1190	990	990	990	
Slip [%]	0.83	1.00	1.00	1.00	
Rated torque [ft.lb]	441	398	398	398	
Locked rotor torque [%]	200	220	240	260	
Breakdown torque [%]	250	250	270	290	
Service factor	1.25	1.00	1.00	1.00	
Temperature rise	80 K	80 K	80 K	80 K	
Locked rotor time	23s (cold) 13s (hot)	25s (cold) 14s (hot)	25s (cold) 14s (hot)	23s (cold) 13s (hot)	
Noise level <sup>2</sup>	69.0 dB(A)				
Efficiency (%)	25%	94.4	93.6	92.8	91.9
	50%	94.5	93.7	93.0	92.4
	75%	95.0	94.1	94.1	93.8
	100%	95.0	94.1	94.1	94.1
Power Factor	25%	0.37	0.34	0.31	0.29
	50%	0.61	0.56	0.53	0.50
	75%	0.71	0.69	0.65	0.61
	100%	0.78	0.77	0.75	0.73
Bearing type		Drive end : 6319 C3	Non drive end : 6314 C3	Foundation loads	
Sealing		Without	Without	Max. traction : 2405 lb	
Lubrication interval		Bearing Seal : 20000 h	Bearing Seal : 20000 h	Max. compression : 3746 lb	
Lubricant amount		45 g	27 g		
Lubricant type		Mobil Polyrex EM			
Notes USABLE @208V 281A SF 1.15 SFA 323A					
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



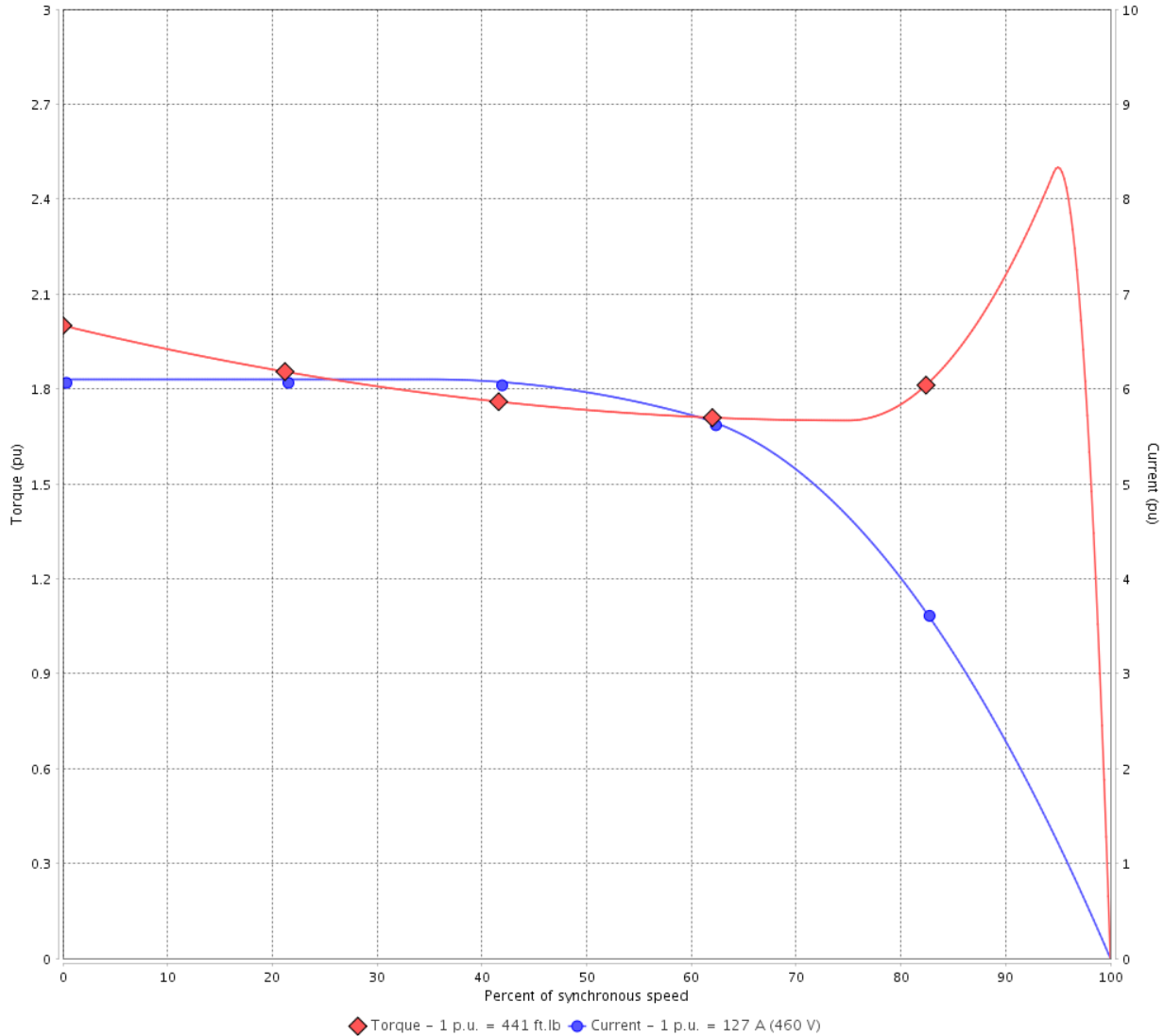
Customer :

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 14284557

Catalog # : 100120T3E444T-W40

TORQUE AND CURRENT VS SPEED CURVE



Performance : 230/460 V 60 Hz 6P

Rated current : 254/127 A  
LRC : 6.1  
Rated torque : 441 ft.lb  
Locked rotor torque : 200 %  
Breakdown torque : 250 %  
Rated speed : 1190 rpm

Moment of inertia (J) : 60.6 sq.ft.lb  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.25  
Temperature rise : 80 K  
Design : B

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

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# TORQUE AND CURRENT VS SPEED CURVE



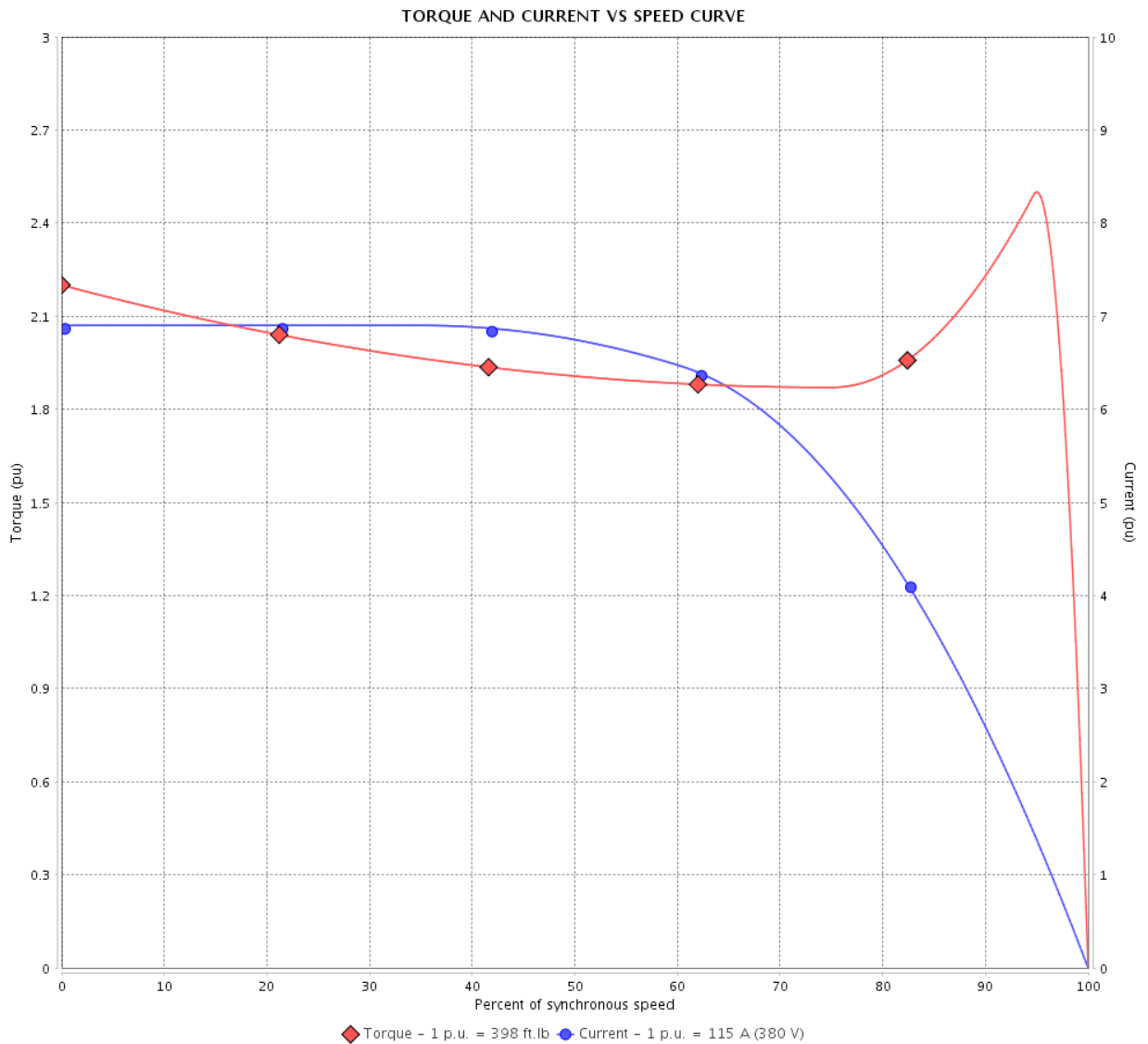
## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 14284557

Catalog # : 10012OT3E444T-W40



Performance : 380 V 50 Hz 6P IE3

Rated current	: 115 A	Moment of inertia (J)	: 60.6 sq.ft.lb
LRC	: 6.9	Duty cycle	: Cont.(S1)
Rated torque	: 398 ft.lb	Insulation class	: F
Locked rotor torque	: 220 %	Service factor	: 1.00
Breakdown torque	: 250 %	Temperature rise	: 80 K
Rated speed	: 990 rpm	Design	: B

Locked rotor time : 25s (cold) 14s (hot)

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# TORQUE AND CURRENT VS SPEED CURVE

## Three Phase Induction Motor - Squirrel Cage



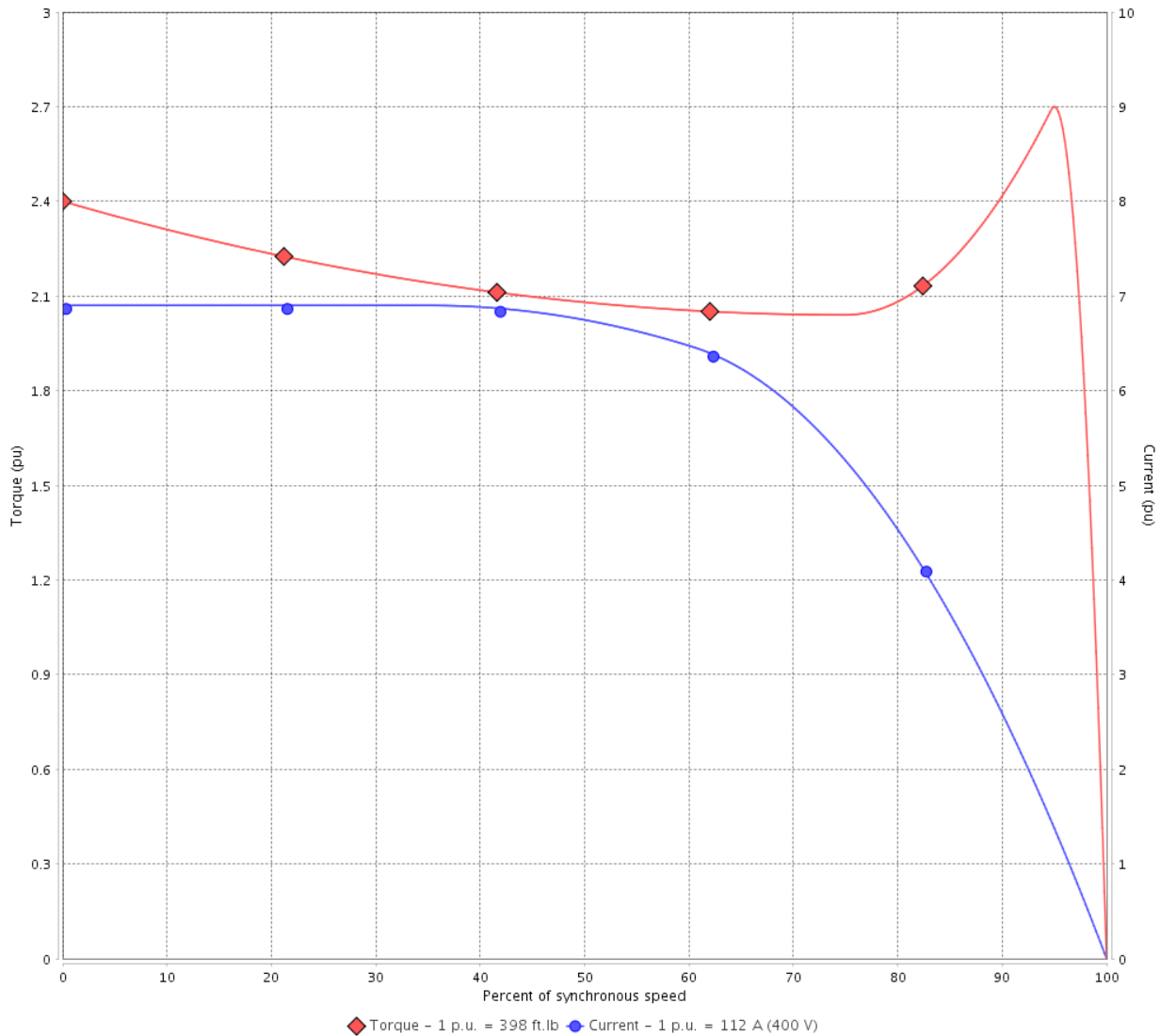
Customer :

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 14284557

Catalog # : 10012OT3E444T-W40

TORQUE AND CURRENT VS SPEED CURVE



Performance : 400 V 50 Hz 6P IE3

Rated current	: 112 A	Moment of inertia (J)	: 60.6 sq.ft.lb
LRC	: 6.9	Duty cycle	: Cont.(S1)
Rated torque	: 398 ft.lb	Insulation class	: F
Locked rotor torque	: 240 %	Service factor	: 1.00
Breakdown torque	: 270 %	Temperature rise	: 80 K
Rated speed	: 990 rpm	Design	: B

Locked rotor time : 25s (cold) 14s (hot)

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# TORQUE AND CURRENT VS SPEED CURVE



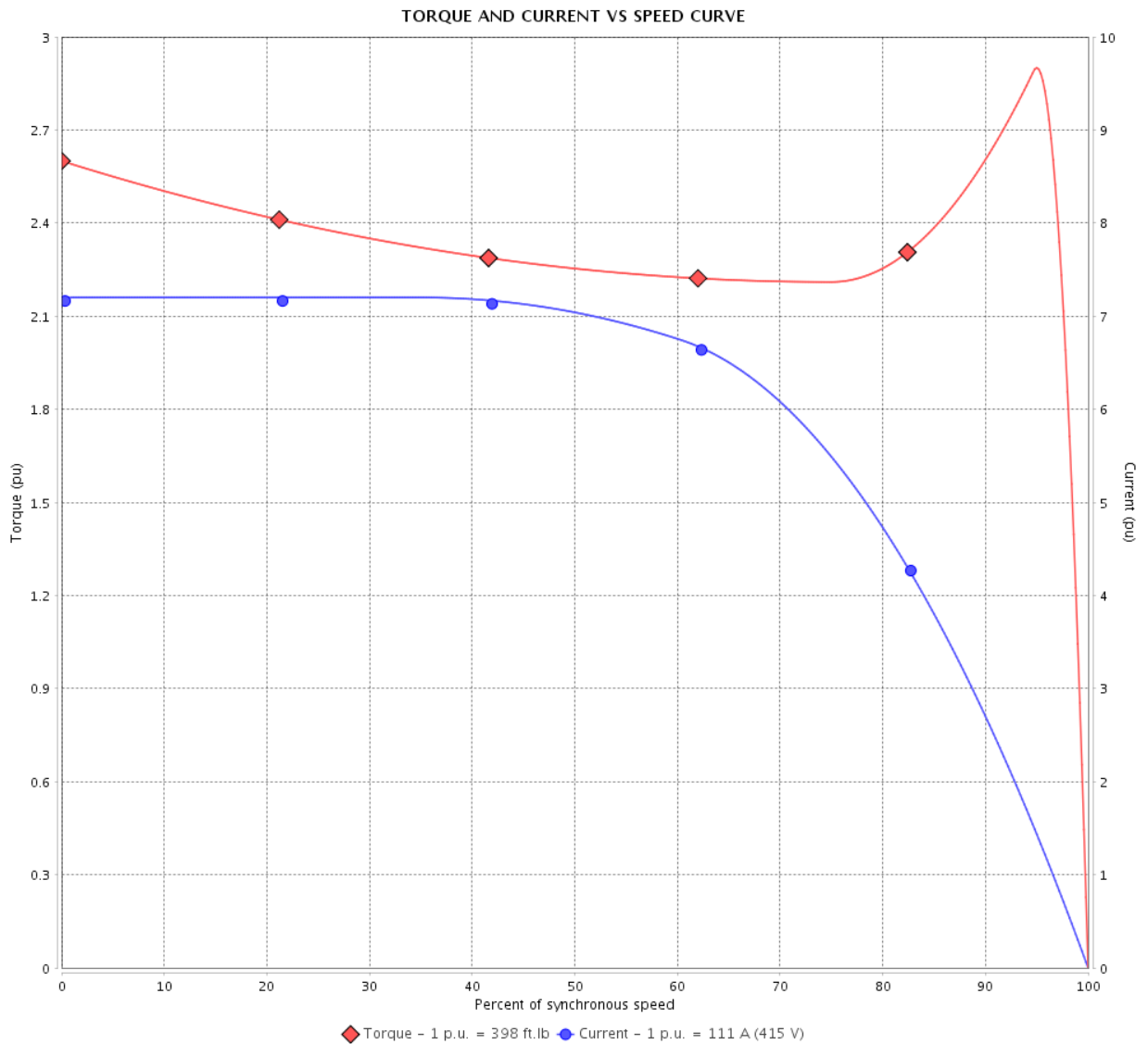
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Customer :

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Three-Phase

Product code : 14284557

Catalog # : 10012OT3E444T-W40



Performance : 415 V 50 Hz 6P IE3

Rated current	: 111 A	Moment of inertia (J)	: 60.6 sq.ft.lb
LRC	: 7.2	Duty cycle	: Cont.(S1)
Rated torque	: 398 ft.lb	Insulation class	: F
Locked rotor torque	: 260 %	Service factor	: 1.00
Breakdown torque	: 290 %	Temperature rise	: 80 K
Rated speed	: 990 rpm	Design	: B

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

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# LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage



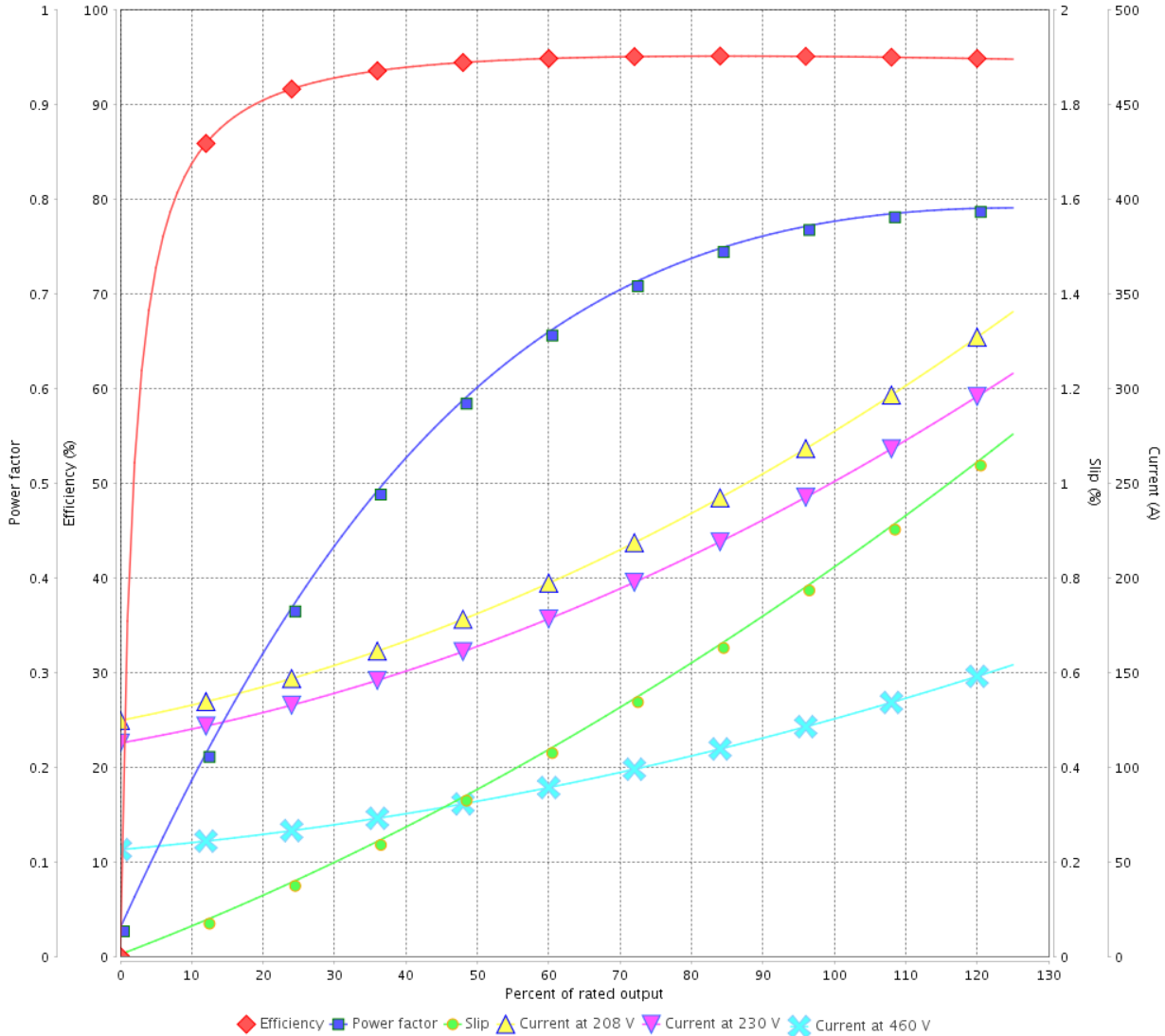
Customer :

Product line : W40 NEMA Premium Efficiency Three-Phase

Product code : 14284557

Catalog # : 100120T3E444T-W40

LOAD PERFORMANCE CURVE



Performance : 230/460 V 60 Hz 6P

Rated current : 254/127 A  
 LRC : 6.1  
 Rated torque : 441 ft.lb  
 Locked rotor torque : 200 %  
 Breakdown torque : 250 %  
 Rated speed : 1190 rpm

Moment of inertia (J) : 60.6 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

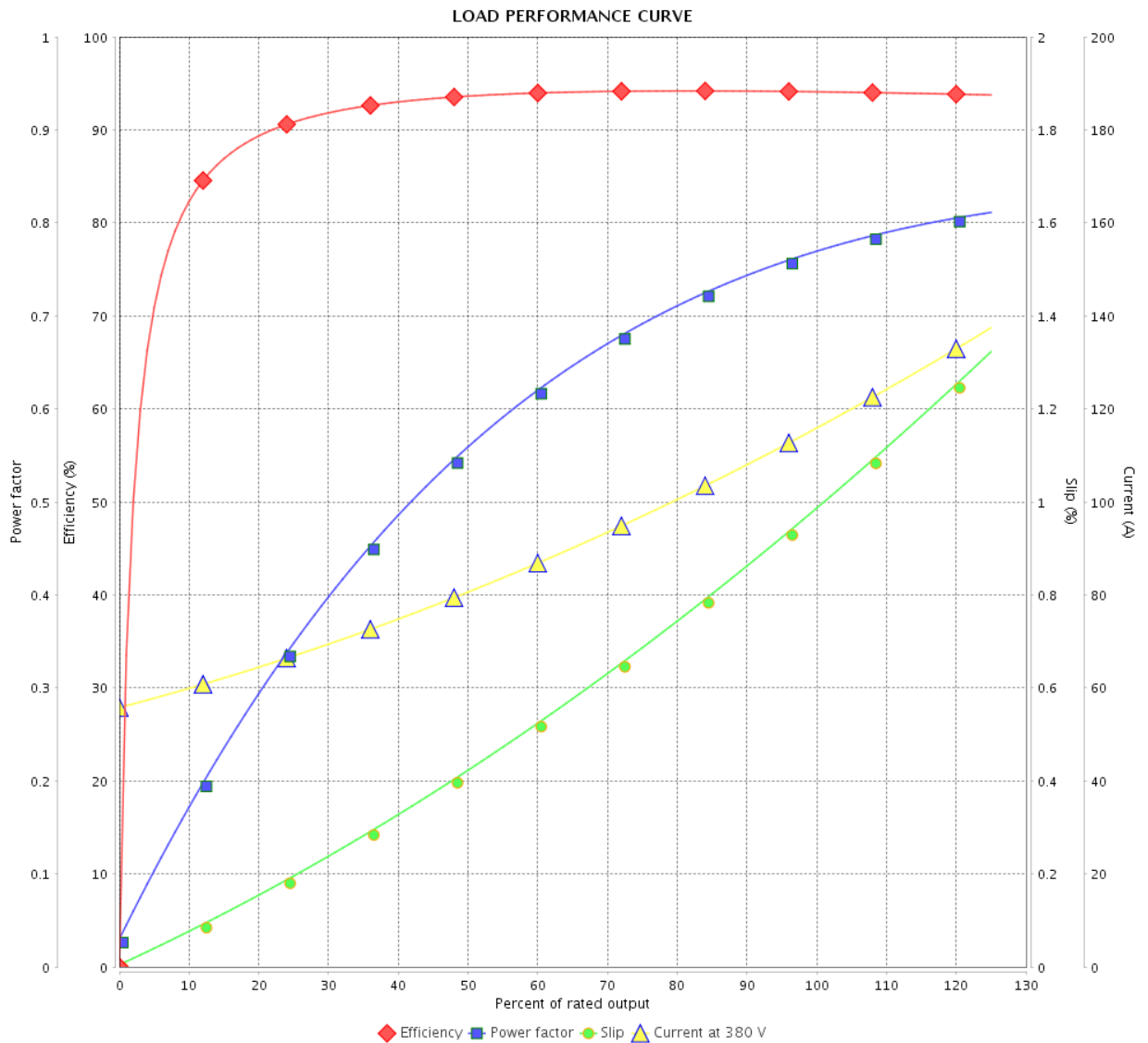


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Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 14284557

Catalog # : 10012OT3E444T-W40



Performance : 380 V 50 Hz 6P IE3

Rated current : 115 A  
 LRC : 6.9  
 Rated torque : 398 ft.lb  
 Locked rotor torque : 220 %  
 Breakdown torque : 250 %  
 Rated speed : 990 rpm

Moment of inertia (J) : 60.6 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 80 K  
 Design : B

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# LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage

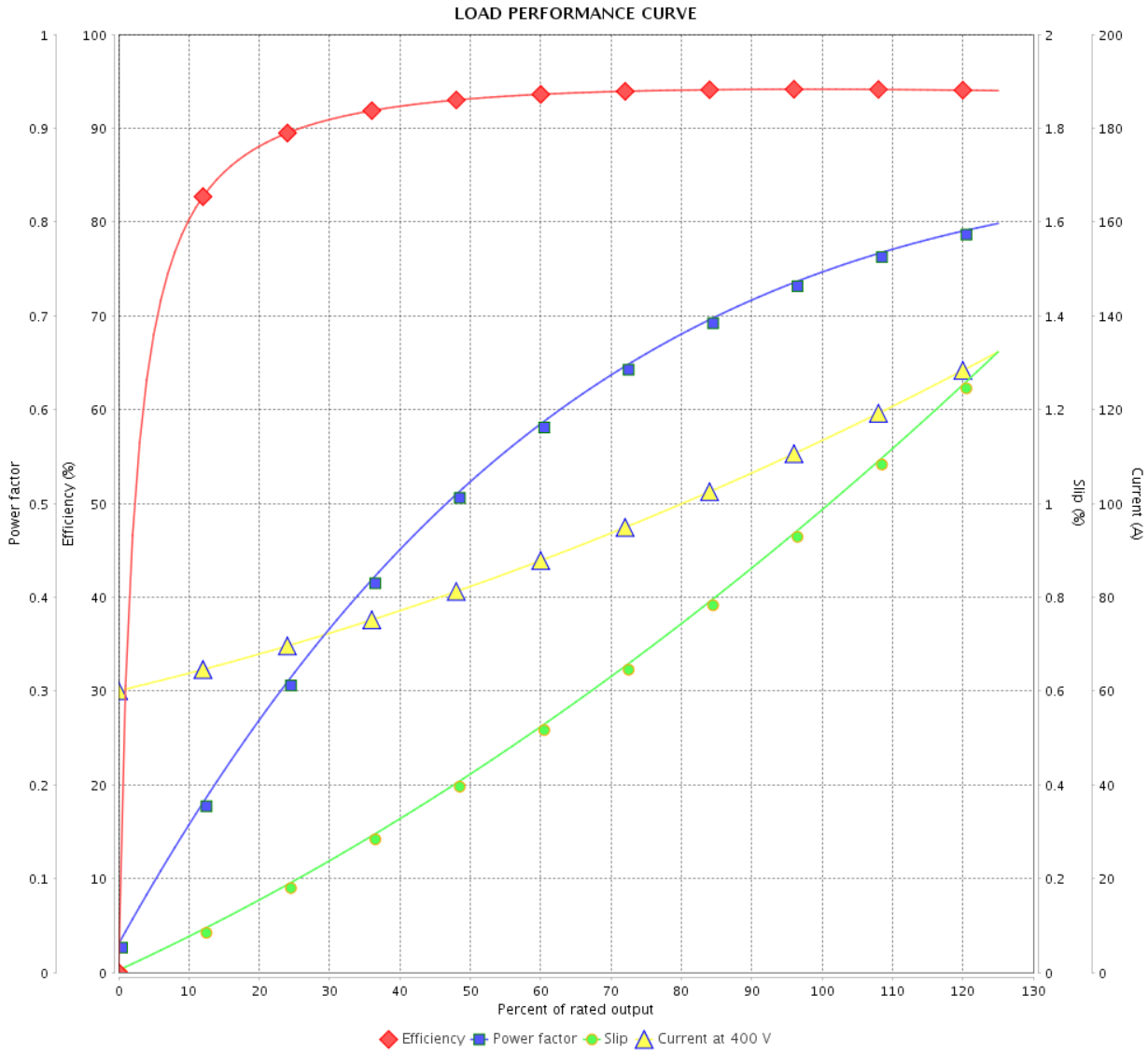


Customer :

Product line : W40 NEMA Premium Efficiency  
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Product code : 14284557

Catalog # : 100120T3E444T-W40



Performance : 400 V 50 Hz 6P IE3

Rated current : 112 A  
 LRC : 6.9  
 Rated torque : 398 ft.lb  
 Locked rotor torque : 240 %  
 Breakdown torque : 270 %  
 Rated speed : 990 rpm

Moment of inertia (J) : 60.6 sq.ft.lb  
 Duty cycle : Cont.(S1)  
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# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage

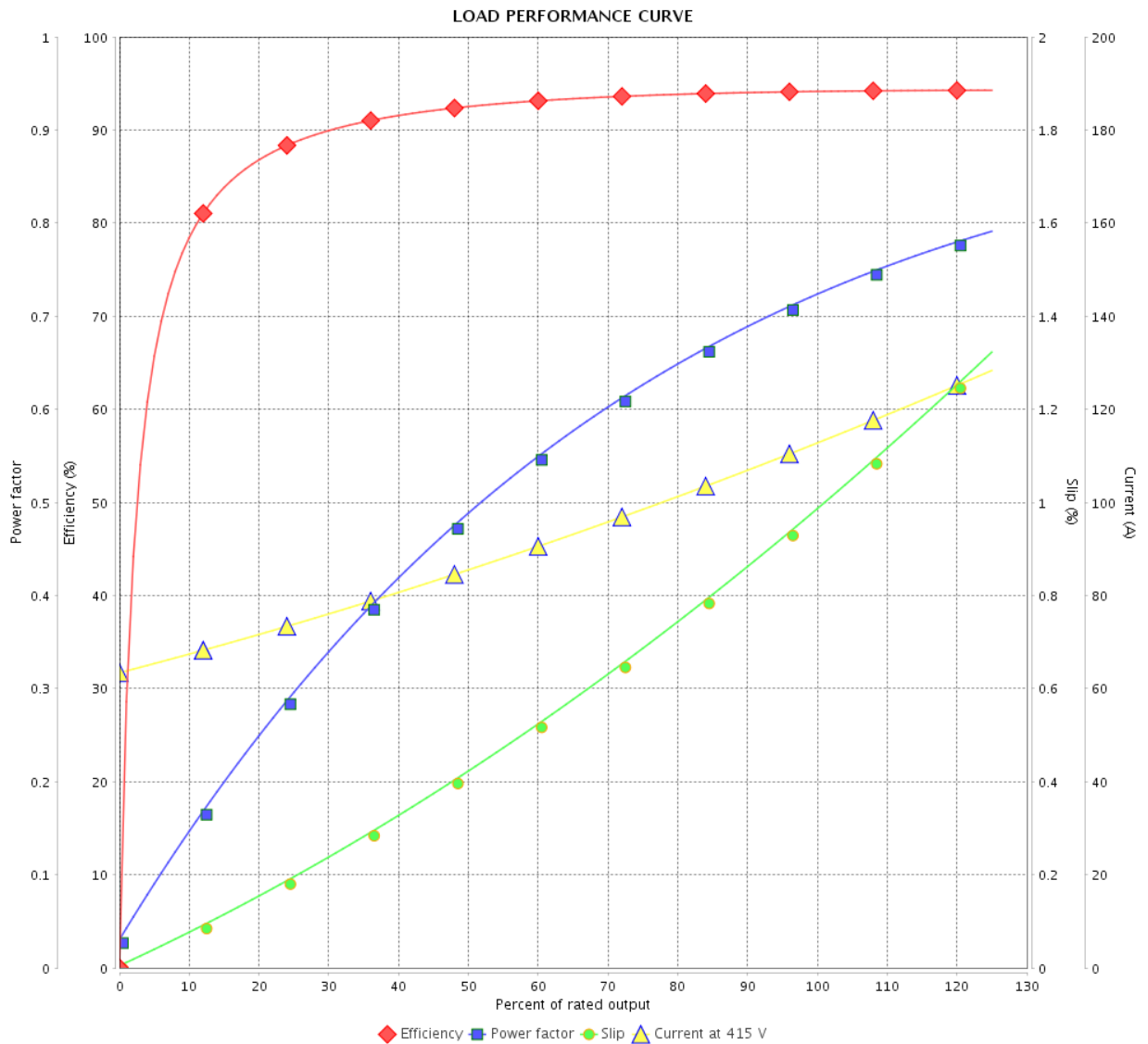


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 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 80 K  
 Design : B

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# THERMAL LIMIT CURVE



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Insulation class : F  
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Temperature rise : 80 K  
Design : B

Heating constant

Cooling constant

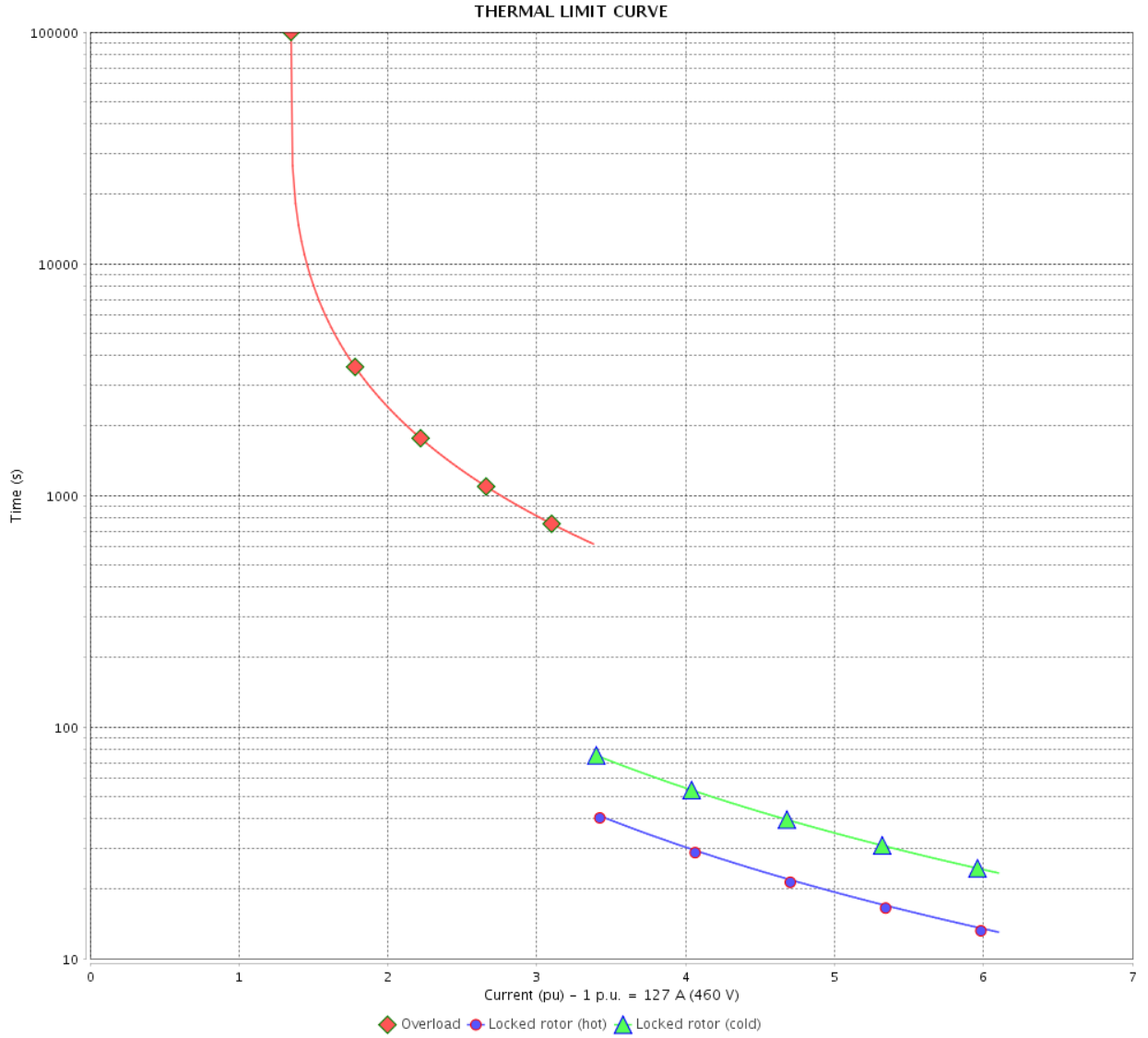
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# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



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## Three Phase Induction Motor - Squirrel Cage

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Catalog # : 10012OT3E444T-W40

Performance : 380 V 50 Hz 6P IE3

Rated current : 115 A	Moment of inertia (J) : 60.6 sq.ft.lb
LRC : 6.9	Duty cycle : Cont.(S1)
Rated torque : 398 ft.lb	Insulation class : F
Locked rotor torque : 220 %	Service factor : 1.00
Breakdown torque : 250 %	Temperature rise : 80 K
Rated speed : 990 rpm	Design : B

Heating constant

Cooling constant

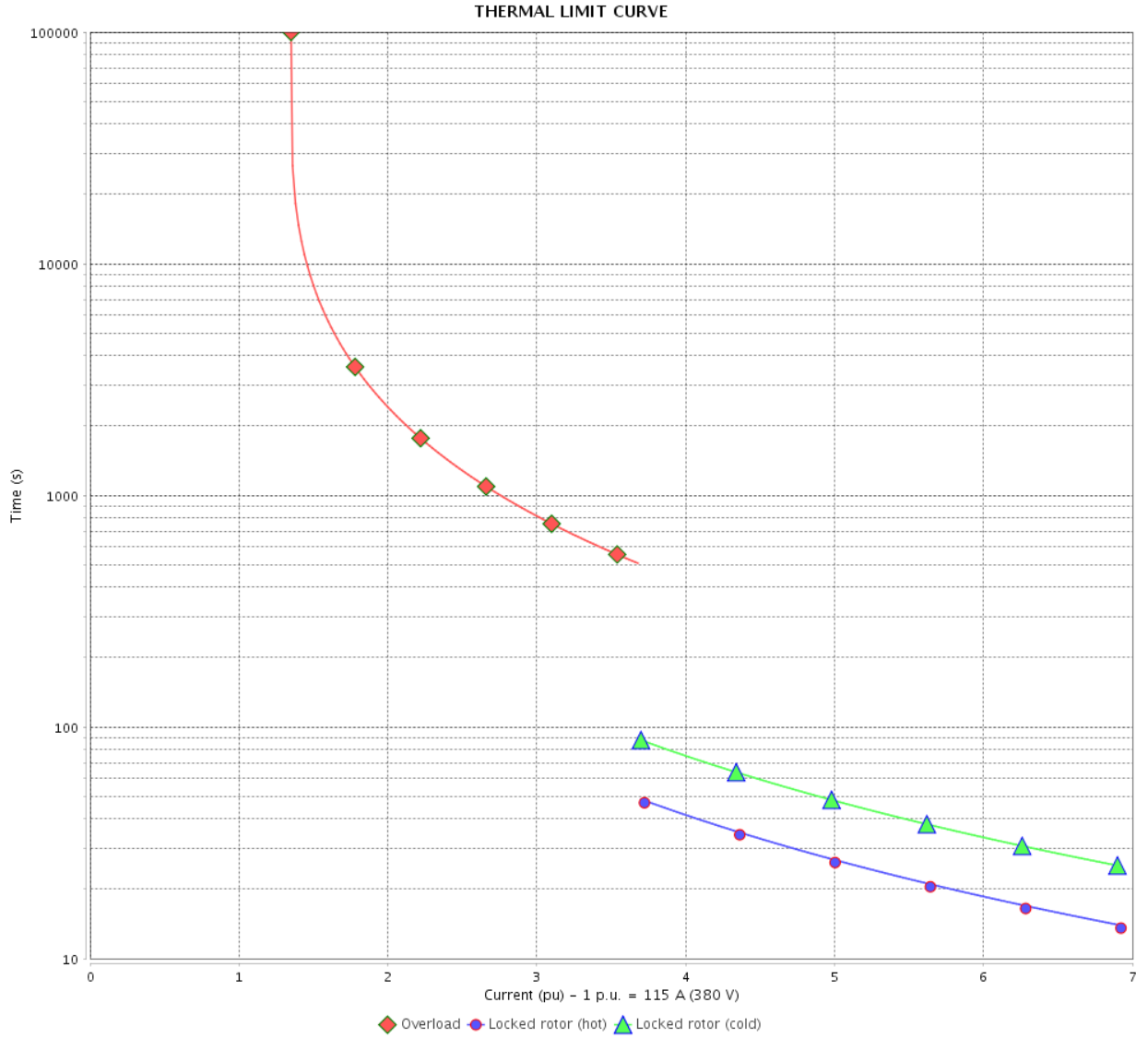
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Three Phase Induction Motor - Squirrel Cage



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Performance : 400 V 50 Hz 6P IE3

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LRC	: 6.9	Duty cycle	: Cont.(S1)
Rated torque	: 398 ft.lb	Insulation class	: F
Locked rotor torque	: 240 %	Service factor	: 1.00
Breakdown torque	: 270 %	Temperature rise	: 80 K
Rated speed	: 990 rpm	Design	: B

Heating constant

Cooling constant

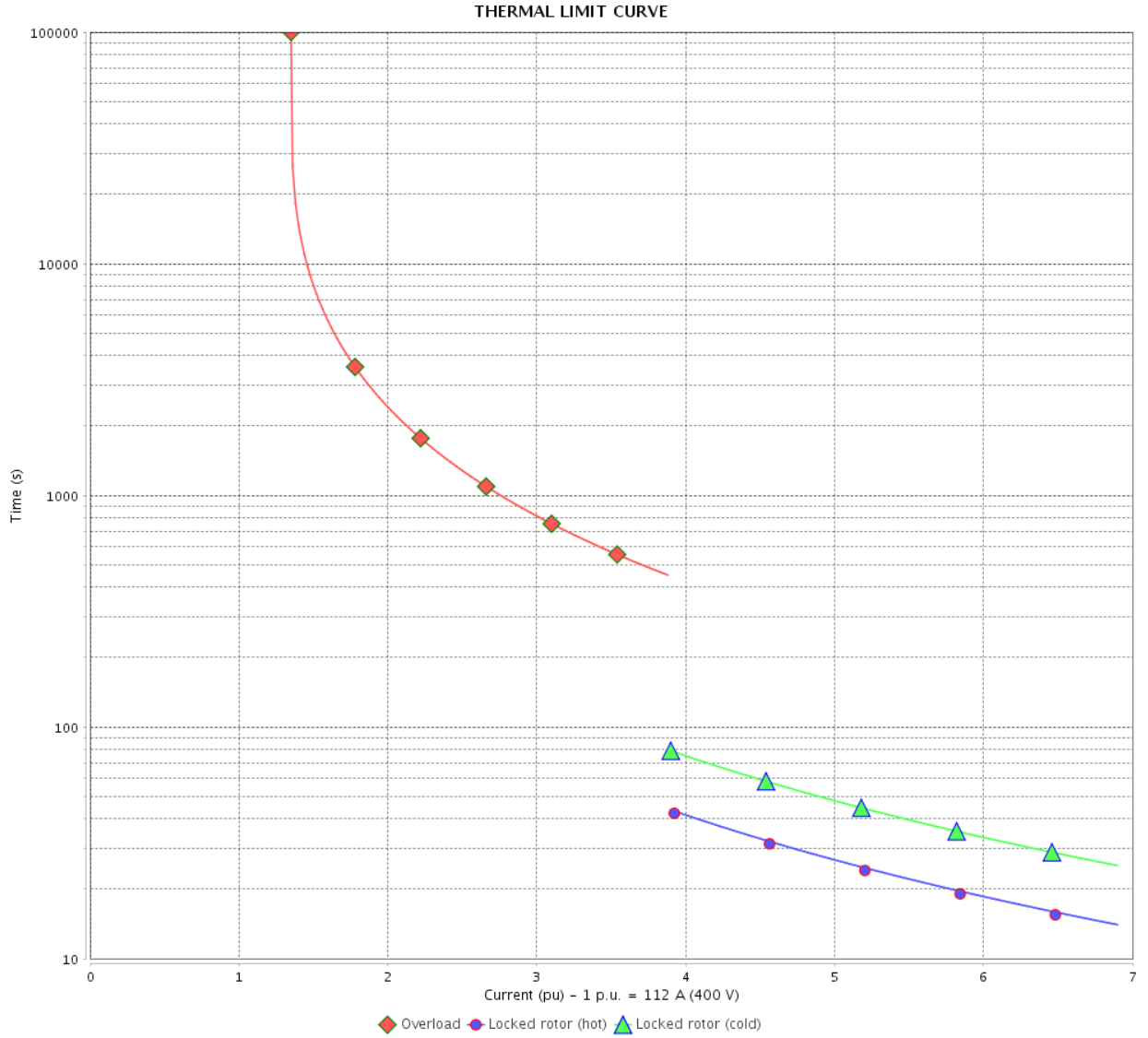
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Checked by			Page	Revision
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# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



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Date				

# THERMAL LIMIT CURVE



## Three Phase Induction Motor - Squirrel Cage

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Catalog # : 10012OT3E444T-W40

Performance : 415 V 50 Hz 6P IE3

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LRC	: 7.2	Duty cycle	: Cont.(S1)
Rated torque	: 398 ft.lb	Insulation class	: F
Locked rotor torque	: 260 %	Service factor	: 1.00
Breakdown torque	: 290 %	Temperature rise	: 80 K
Rated speed	: 990 rpm	Design	: B

Heating constant

Cooling constant

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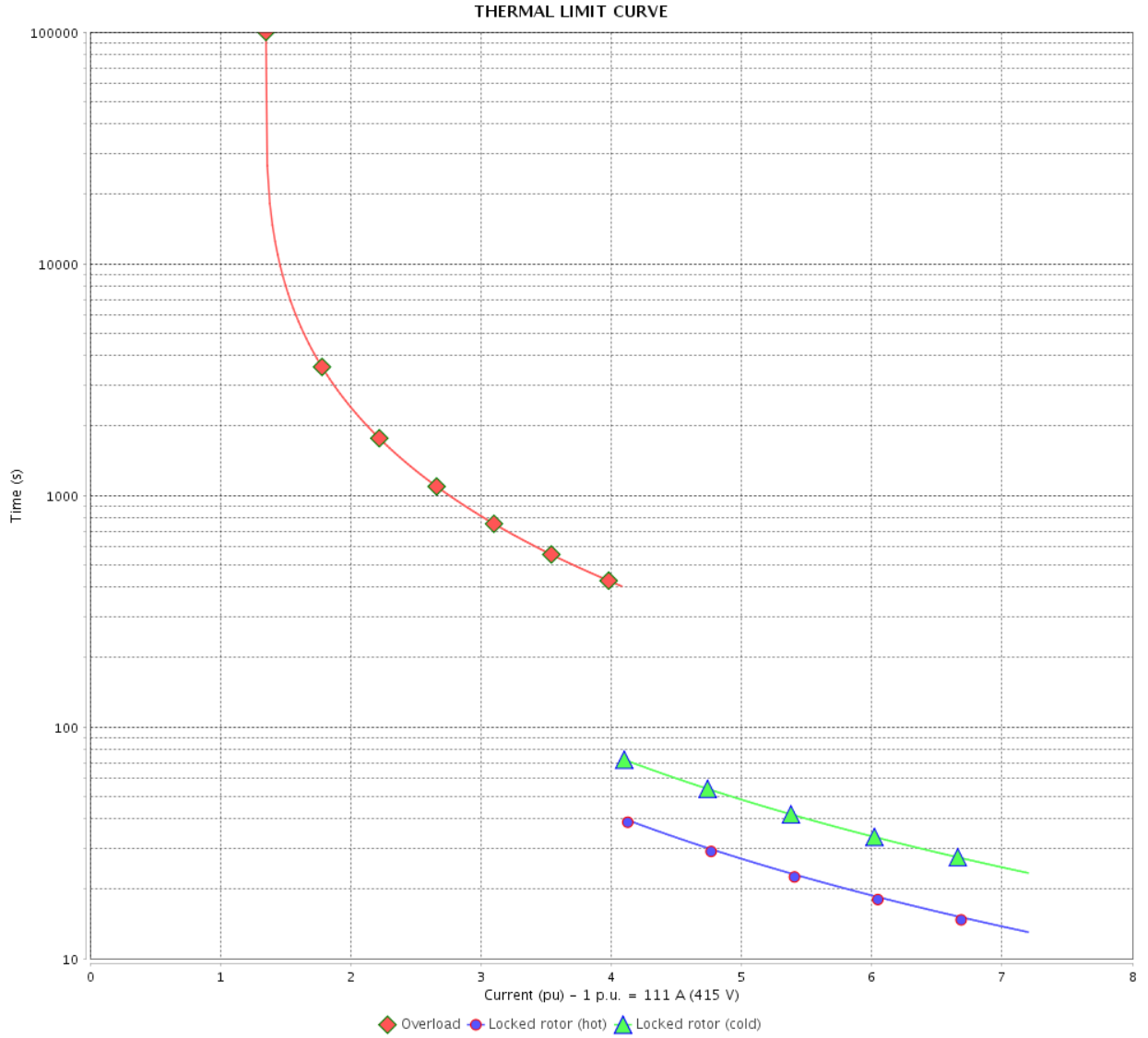


# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

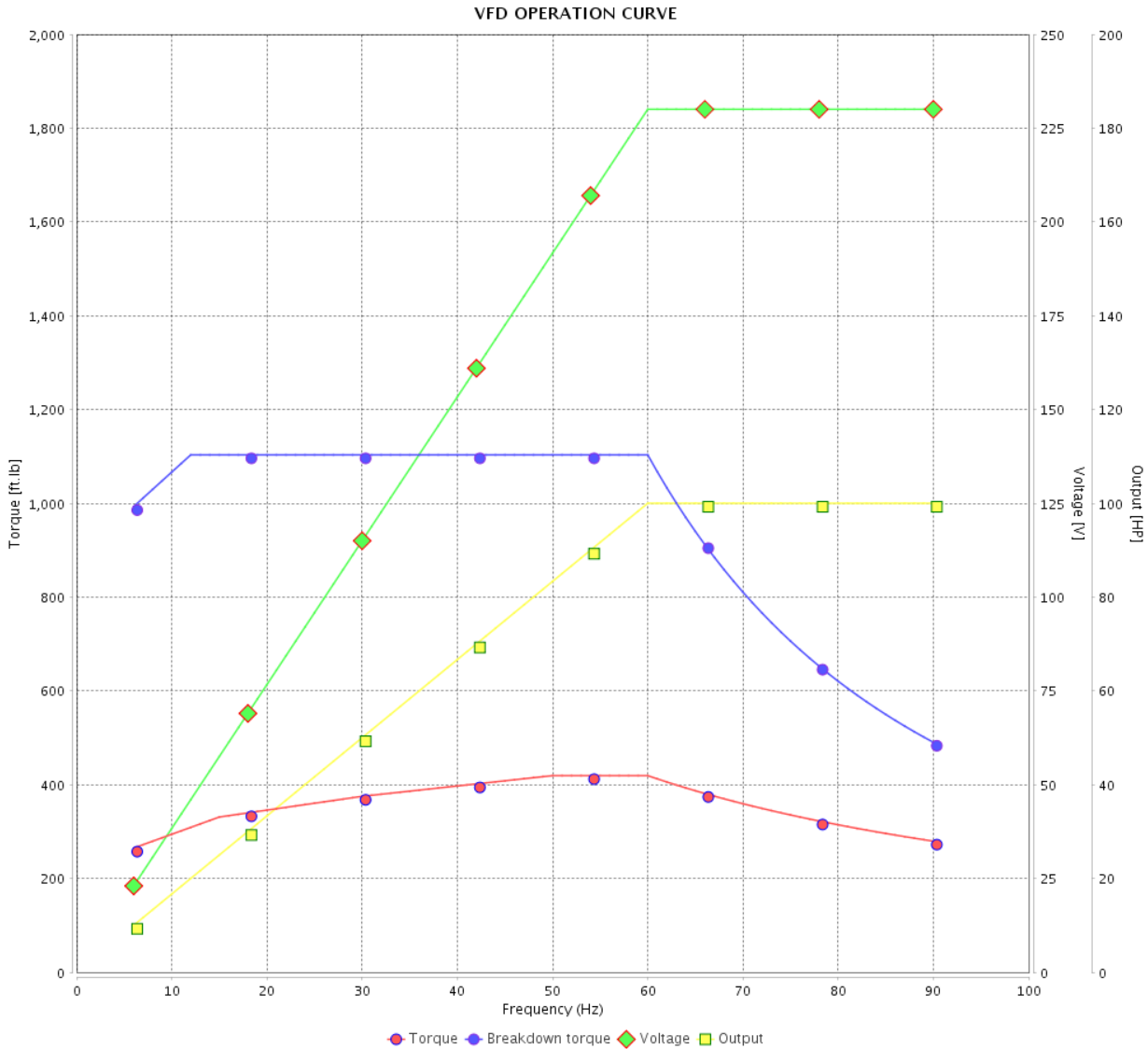


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Three-Phase

Product code : 14284557

Catalog # : 100120T3E444T-W40



Performance : 230/460 V 60 Hz 6P

Rated current : 254/127 A  
LRC : 6.1  
Rated torque : 441 ft.lb  
Locked rotor torque : 200 %  
Breakdown torque : 250 %  
Rated speed : 1190 rpm

Moment of inertia (J) : 60.6 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

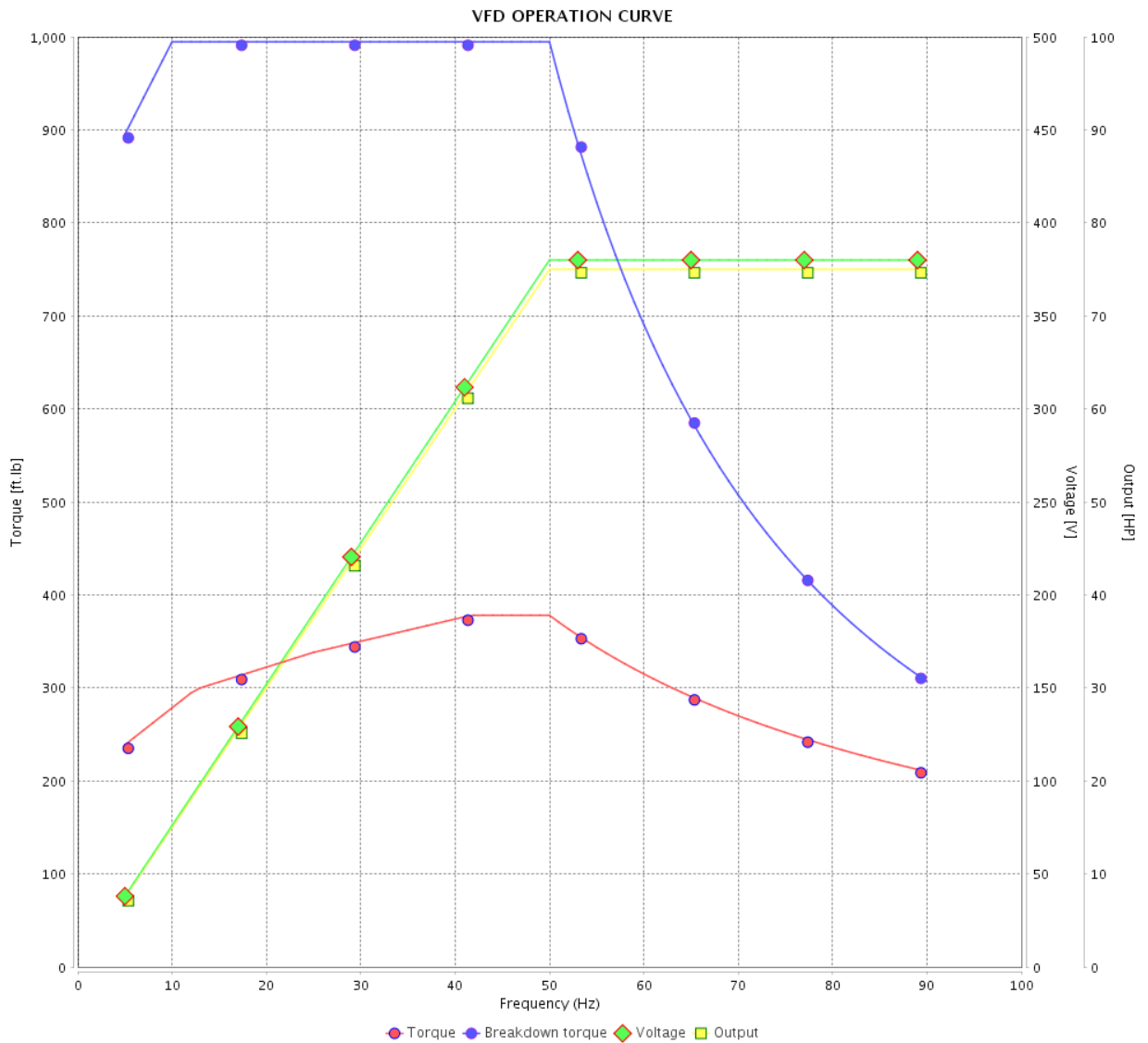


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Performance : 380 V 50 Hz 6P IE3

Rated current : 115 A  
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Rated torque : 398 ft.lb  
Locked rotor torque : 220 %  
Breakdown torque : 250 %  
Rated speed : 990 rpm

Moment of inertia (J) : 60.6 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

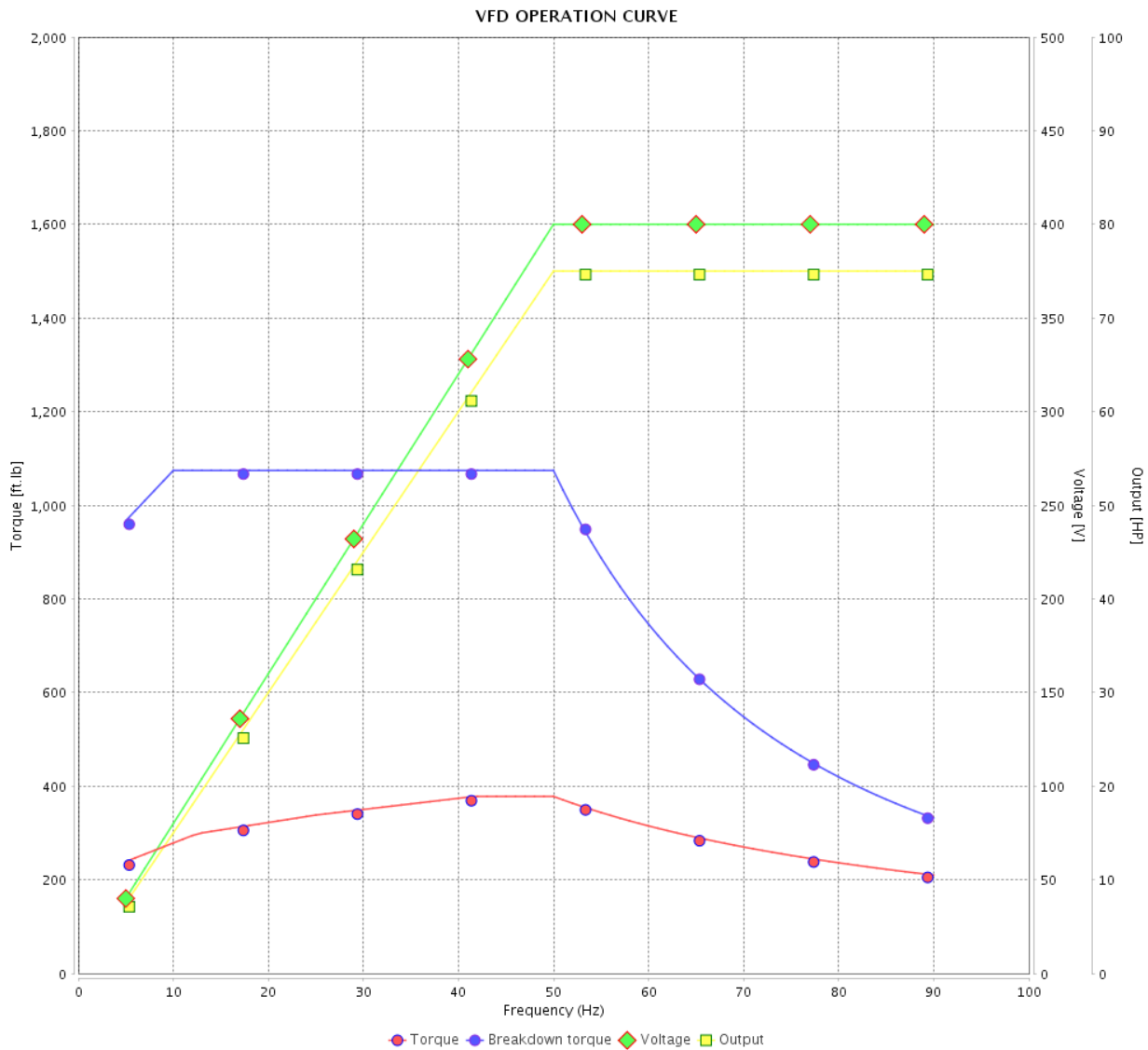


Customer :

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Performance : 400 V 50 Hz 6P IE3

Rated current	: 112 A	Moment of inertia (J)	: 60.6 sq.ft.lb
LRC	: 6.9	Duty cycle	: Cont.(S1)
Rated torque	: 398 ft.lb	Insulation class	: F
Locked rotor torque	: 240 %	Service factor	: 1.00
Breakdown torque	: 270 %	Temperature rise	: 80 K
Rated speed	: 990 rpm	Design	: B

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# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

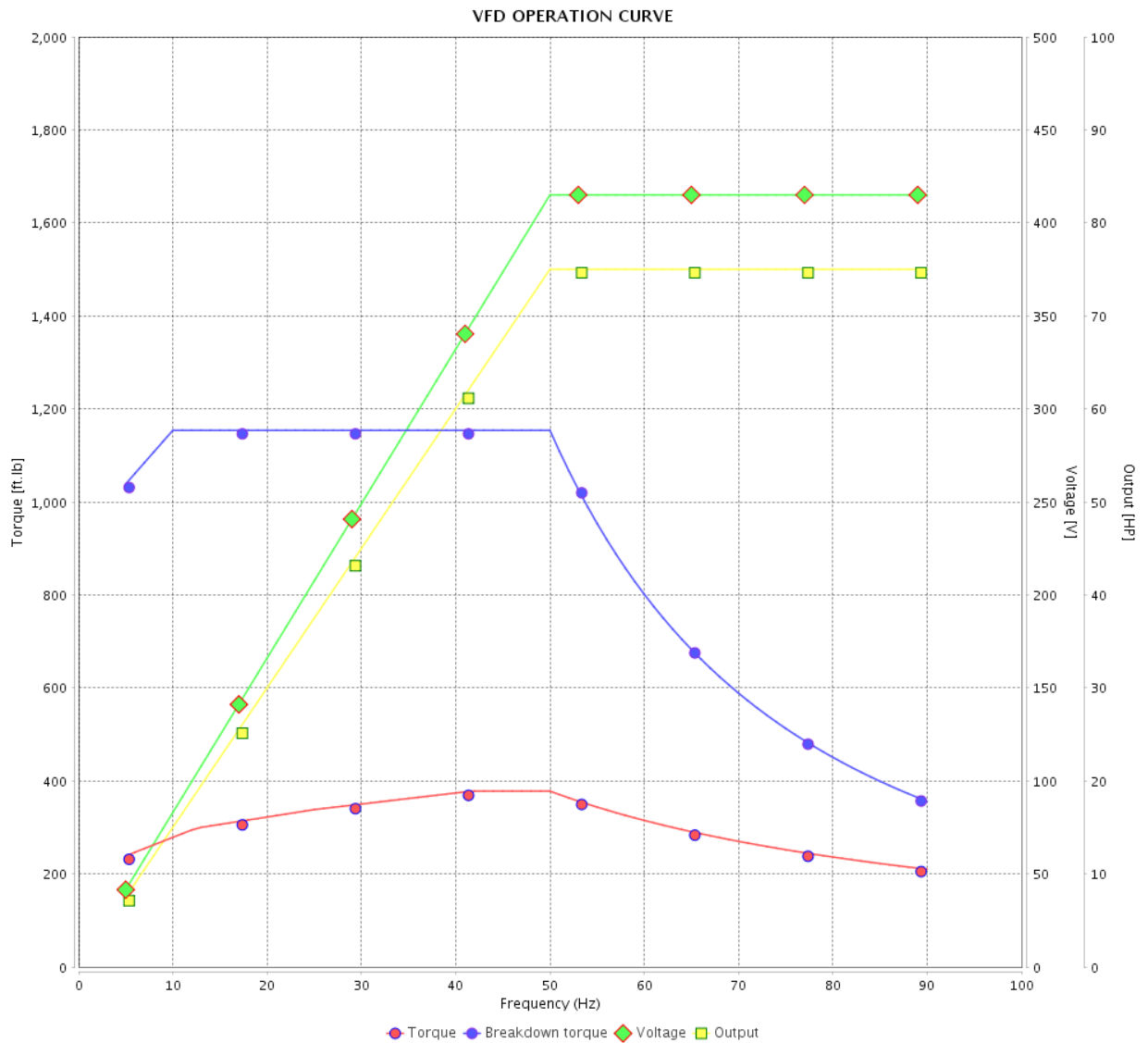


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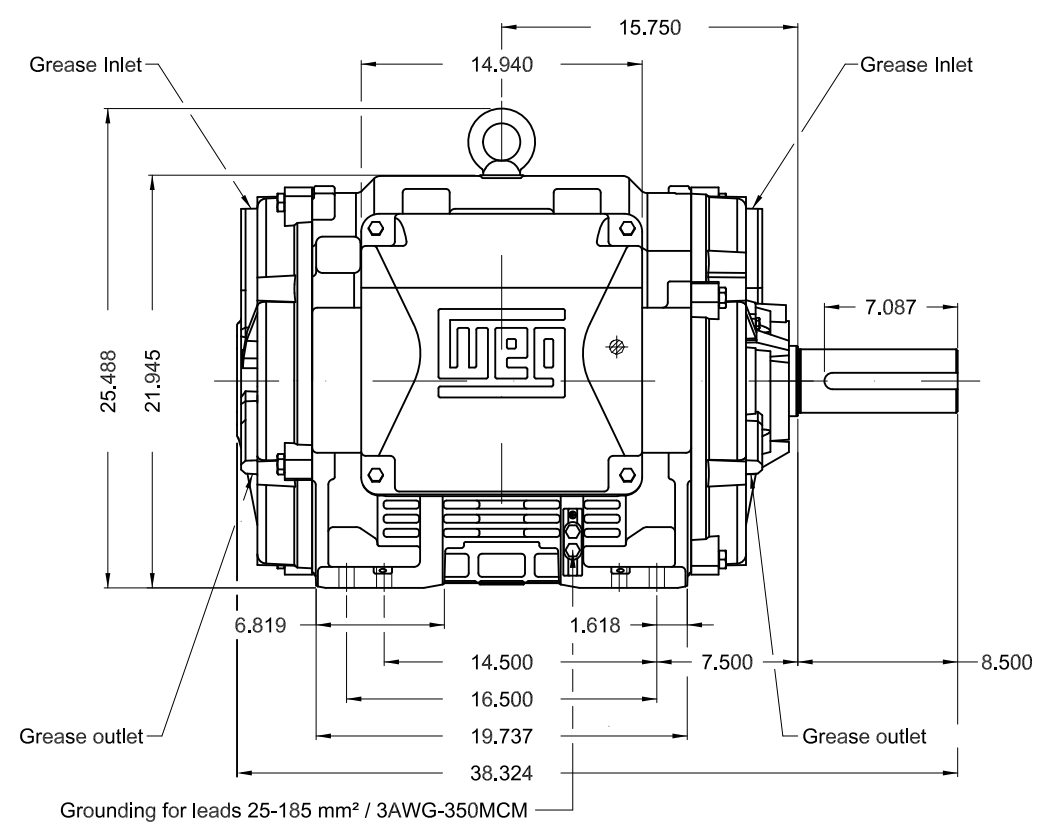
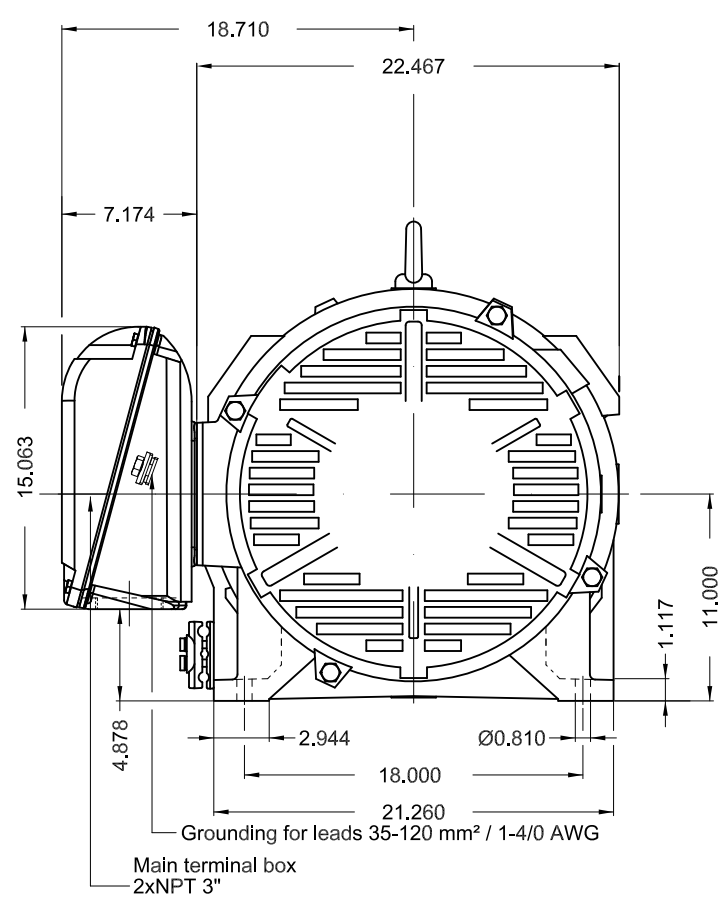


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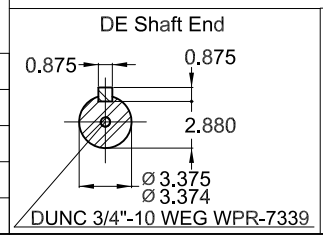
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Service factor : 1.00  
Temperature rise : 80 K  
Design : B

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C3 NDE bearing
Color RAL 5009
Painting plan 203A
Mounting NEMA F-1
Mounting B3R(D)




100 HP 06 Poles 60 Hz A

						1:10
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ECM	LOC	SUMMARY OF MODIFICATIONS	EXECUTED	CHECKED	RELEASED	DATE	VER
EXECUTED	PIRWUSER	THREE PH. MOTOR W40 PREM. EFF.					
CHECKED		FRAME 444/5T IP23 ODP					
RELEASED							
REL DT.		WMO Jaragua do Sul	Product Engineering	SHEET	1 / 1		

**PREVIEW**

**WDD**



Dimensions in inches XME A3

**WEG** **W40 NEMA**  
**CC029A Premium**  
*Inverter Duty Motor*



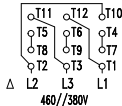
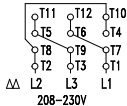
IEC 60034-1  
 MOD.T01#FOXON




For 60Hz use on PWM, VT 1000:1, CT 2:1, 1.0SF

MODEL 100120T3E444T-W40  
 MADE IN BRAZIL  
 14284557

PH 3	FR 444/5T	HP(kW) 100.0(75.0)	Hz 60
V 230/460	A 254/127	RPM 1190	DES B
NEMA NOM EFF 95.0 %	INS. CL. F $\Delta$ T 80 K	IP23	
ENCL ODP	DUTY CONT.	AMB. 40°C	
CODE G	PF 0.78	SF 1.25	SFA 318/159
USABLE @208V 281 A	SF 1.15	SFA 323	
75HP 55kW 50Hz 380V 115A 990RPM SF1.00 EFF 94.1% (IE3)	ALT 1000 m.a.s.l.	1343 Lbs	



 → 6319-C3(45g)  
 → 6314-C3(27g)

MOBIL POLYREX EM  
 20000 h