

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :					
Product line	: W40 NEMA Premium Efficiency Three-Phase	Product code :	14285005		
		Catalog # :	10018OT3E404TS-W40G		
Frame	: 404/5TS	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>	: 938 lb		
Protection degree	: IP23	Moment of inertia (J)	: 21.9 sq.ft.lb		
Design	: B				
Output [HP]	100	75	75	75	75
Poles	4	4	4	4	4
Frequency [Hz]	60	50	50	50	50
Rated voltage [V]	230/460	380	400	415	415
Rated current [A]	230/115	103	97.5	96.2	96.2
L. R. Amperes [A]	1564/782	742	683	750	750
LRC [A]	6.8x(Code G)	7.2x(Code H)	7.0x(Code H)	7.8x(Code J)	7.8x(Code J)
No load current [A]	79.4/39.7	33.0	36.5	40.0	40.0
Rated speed [RPM]	1780	1482	1484	1485	1485
Slip [%]	1.11	1.20	1.07	1.00	1.00
Rated torque [ft.lb]	295	266	265	265	265
Locked rotor torque [%]	200	220	240	270	270
Breakdown torque [%]	250	250	280	300	300
Service factor	1.25	1.00	1.00	1.00	1.00
Temperature rise	80 K	80 K	80 K	80 K	80 K
Locked rotor time	21s (cold) 12s (hot)	23s (cold) 13s (hot)	21s (cold) 12s (hot)	25s (cold) 14s (hot)	25s (cold) 14s (hot)
Noise level <sup>2</sup>	69.0 dB(A)				
Efficiency (%)	25%	94.9	90.2	90.3	90.3
	50%	95.0	91.9	92.0	92.0
	75%	95.4	92.9	92.9	92.9
	100%	95.4	94.7	94.7	94.7
Power Factor	25%	0.49	0.50	0.47	0.44
	50%	0.75	0.73	0.72	0.70
	75%	0.83	0.82	0.80	0.80
	100%	0.86	0.86	0.86	0.84
Bearing type	: <u>Drive end</u> 6314 C3 <u>Non drive end</u> 6212 Z C3	Foundation loads			
Sealing	: Without Without	Max. traction : 1917 lb			
	: Bearing Seal Bearing Seal	Max. compression : 2855 lb			
Lubrication interval	: 20000 h 20000 h				
Lubricant amount	: 27 g 13 g				
Lubricant type	: Mobil Polyrex EM				
Notes USABLE @208V 254A SF 1.15 SFA 292A					
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



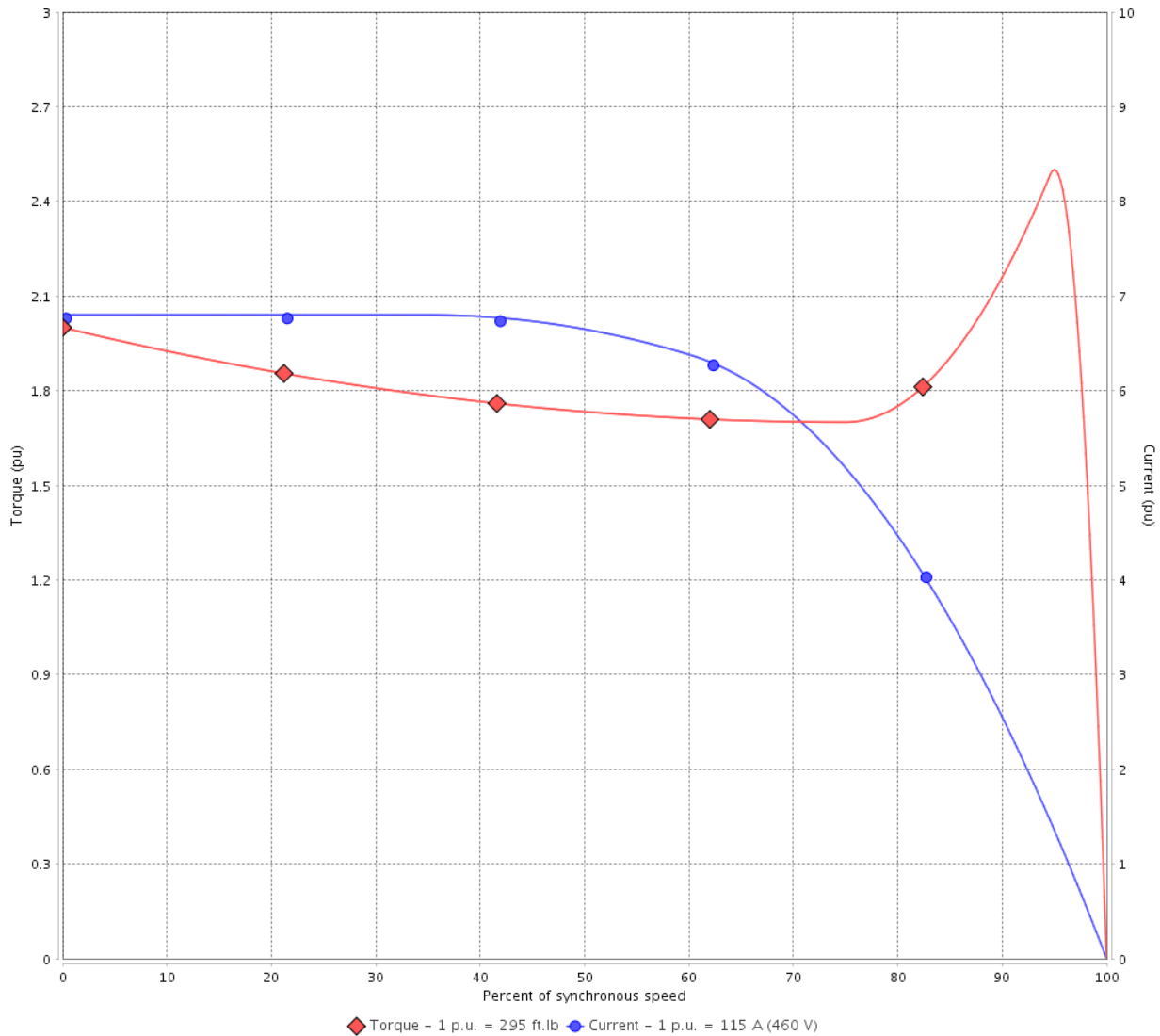
Customer :

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 14285005

Catalog # : 10018OT3E404TS-W40G

TORQUE AND CURRENT VS SPEED CURVE



Performance : 230/460 V 60 Hz 4P

Rated current : 230/115 A  
LRC : 6.8  
Rated torque : 295 ft.lb  
Locked rotor torque : 200 %  
Breakdown torque : 250 %  
Rated speed : 1780 rpm

Moment of inertia (J) : 21.9 sq.ft.lb  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.25  
Temperature rise : 80 K  
Design : B

Locked rotor time : 21s (cold) 12s (hot)

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# TORQUE AND CURRENT VS SPEED CURVE



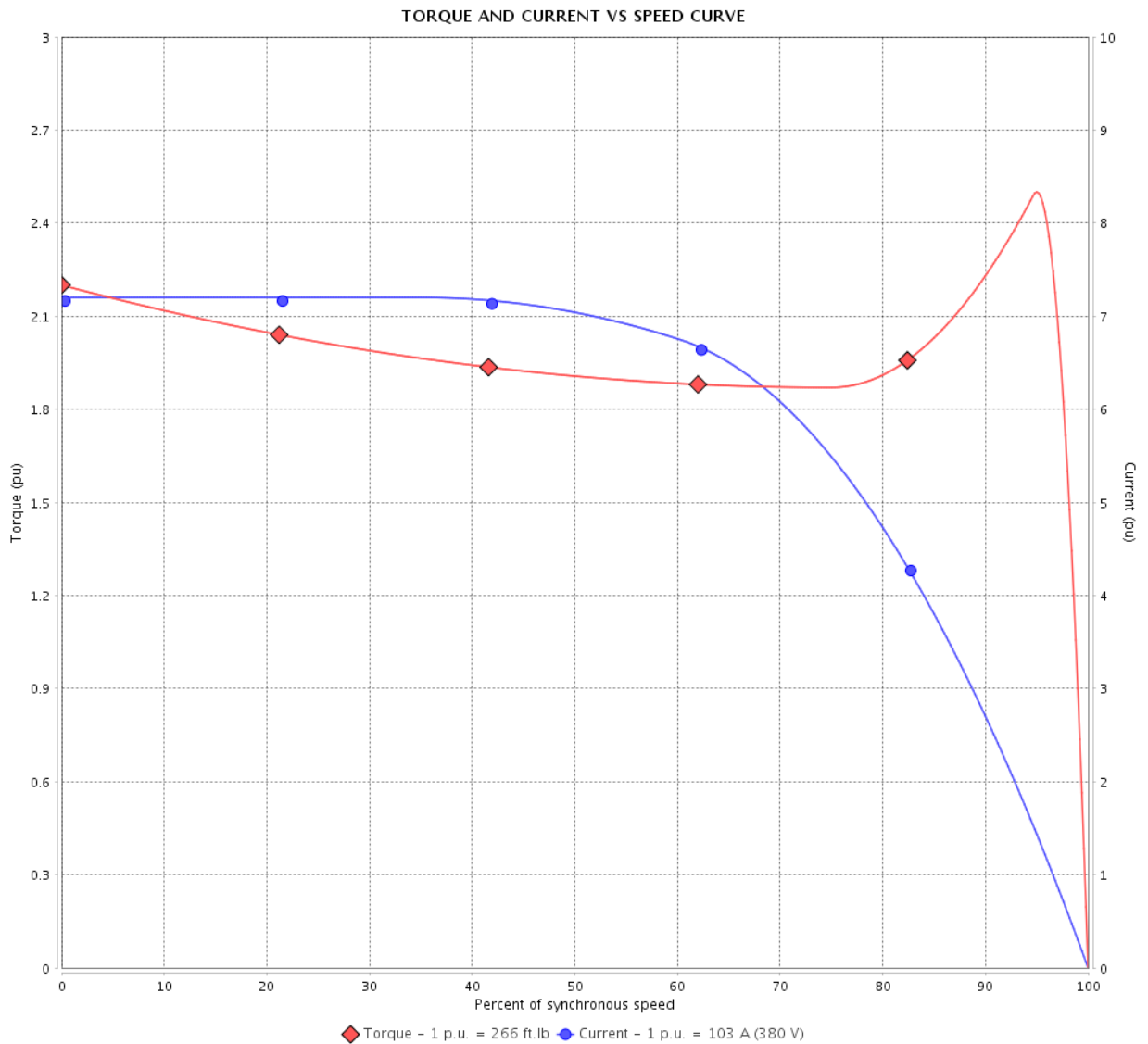
## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 14285005

Catalog # : 10018OT3E404TS-W40G



Performance : 380 V 50 Hz 4P IE3

Rated current	: 103 A	Moment of inertia (J)	: 21.9 sq.ft.lb
LRC	: 7.2	Duty cycle	: Cont.(S1)
Rated torque	: 266 ft.lb	Insulation class	: F
Locked rotor torque	: 220 %	Service factor	: 1.00
Breakdown torque	: 250 %	Temperature rise	: 80 K
Rated speed	: 1482 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



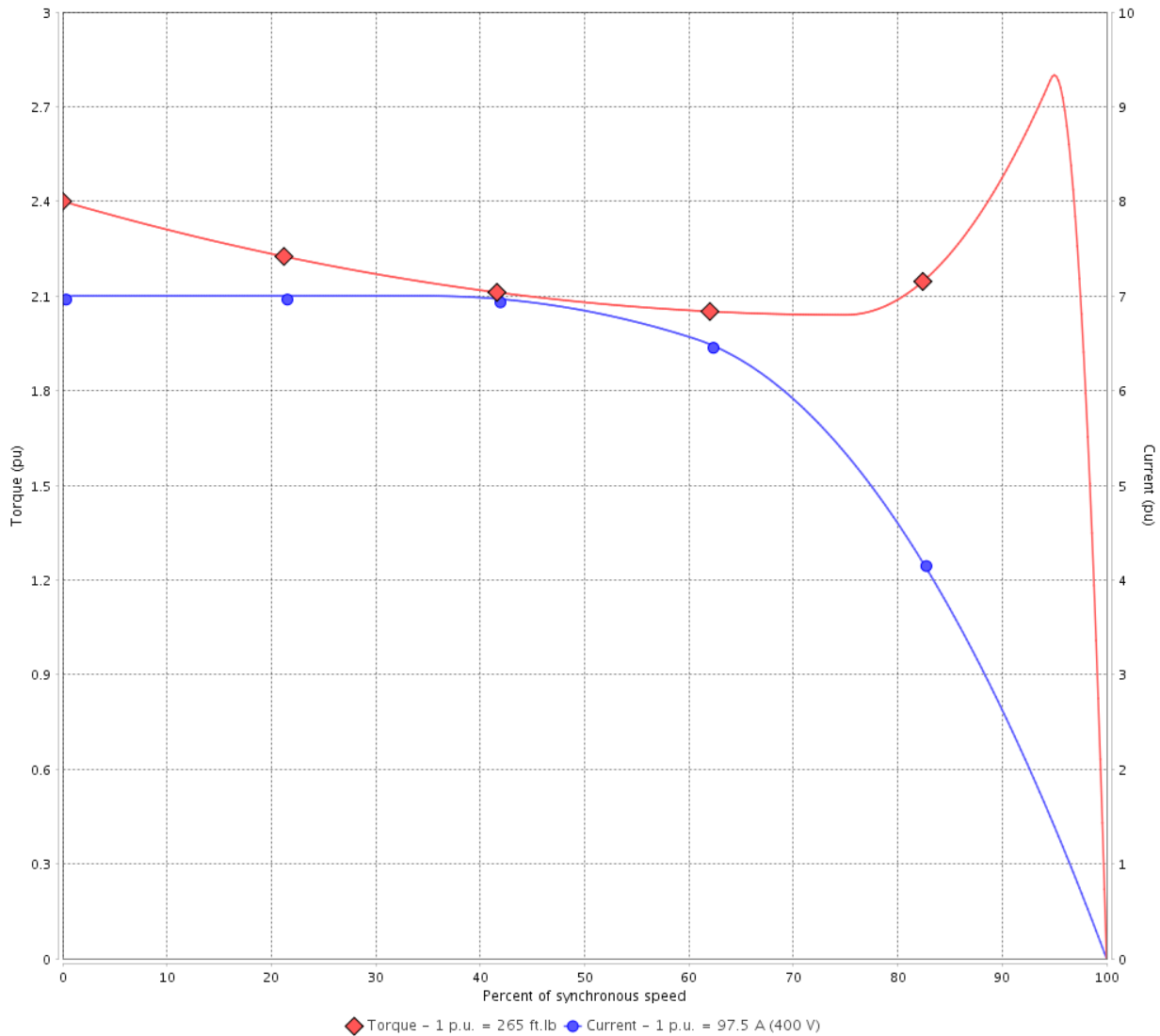
Customer :

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 14285005

Catalog # : 10018OT3E404TS-W40G

TORQUE AND CURRENT VS SPEED CURVE



Performance : 400 V 50 Hz 4P IE3

Rated current	: 97.5 A	Moment of inertia (J)	: 21.9 sq.ft.lb
LRC	: 7.0	Duty cycle	: Cont.(S1)
Rated torque	: 265 ft.lb	Insulation class	: F
Locked rotor torque	: 240 %	Service factor	: 1.00
Breakdown torque	: 280 %	Temperature rise	: 80 K
Rated speed	: 1484 rpm	Design	: B

Locked rotor time : 21s (cold) 12s (hot)

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# TORQUE AND CURRENT VS SPEED CURVE



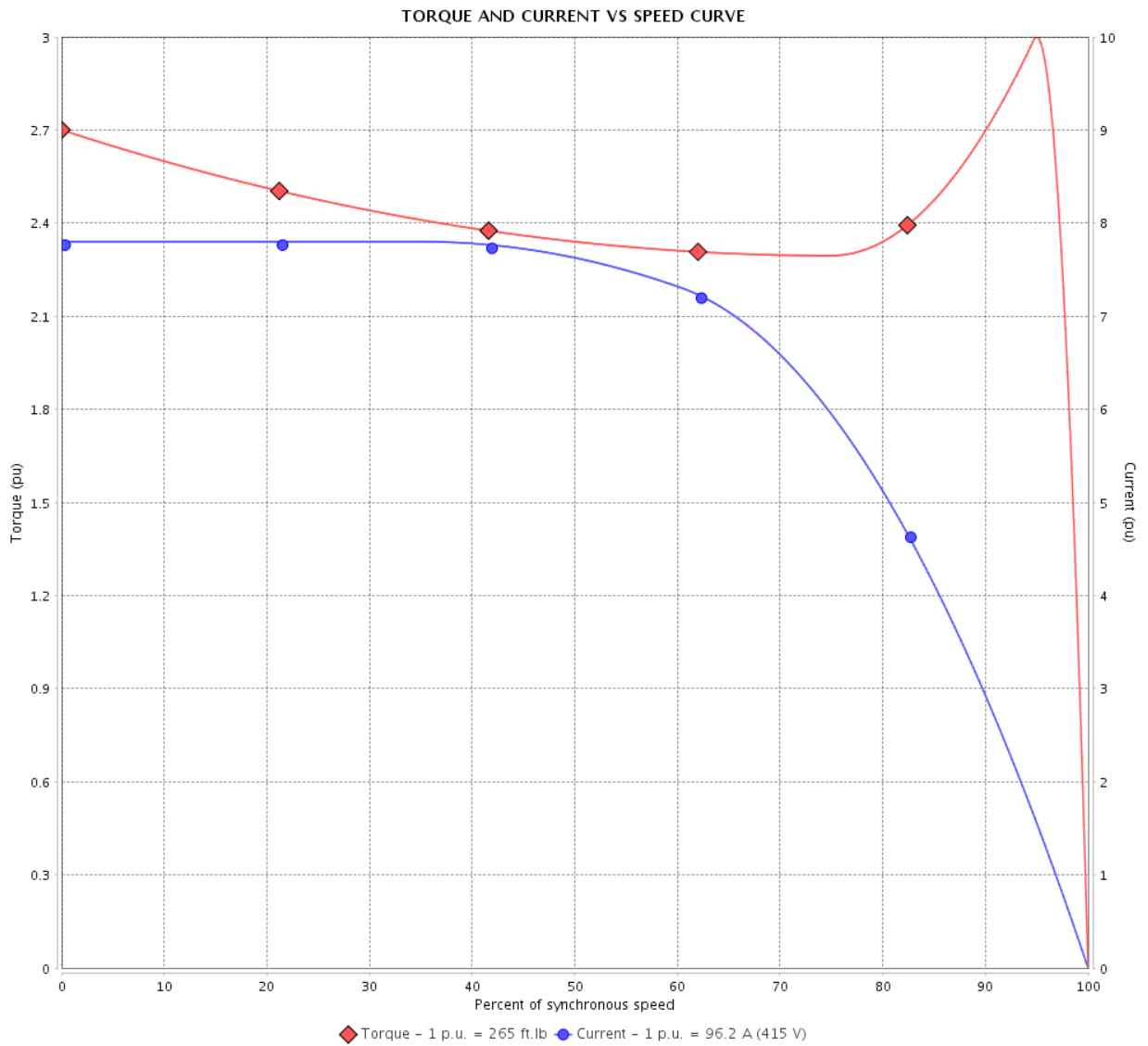
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Customer :

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Three-Phase

Product code : 14285005

Catalog # : 10018OT3E404TS-W40G



Performance : 415 V 50 Hz 4P IE3

Rated current	: 96.2 A	Moment of inertia (J)	: 21.9 sq.ft.lb
LRC	: 7.8	Duty cycle	: Cont.(S1)
Rated torque	: 265 ft.lb	Insulation class	: F
Locked rotor torque	: 270 %	Service factor	: 1.00
Breakdown torque	: 300 %	Temperature rise	: 80 K
Rated speed	: 1485 rpm	Design	: B

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

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# LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage

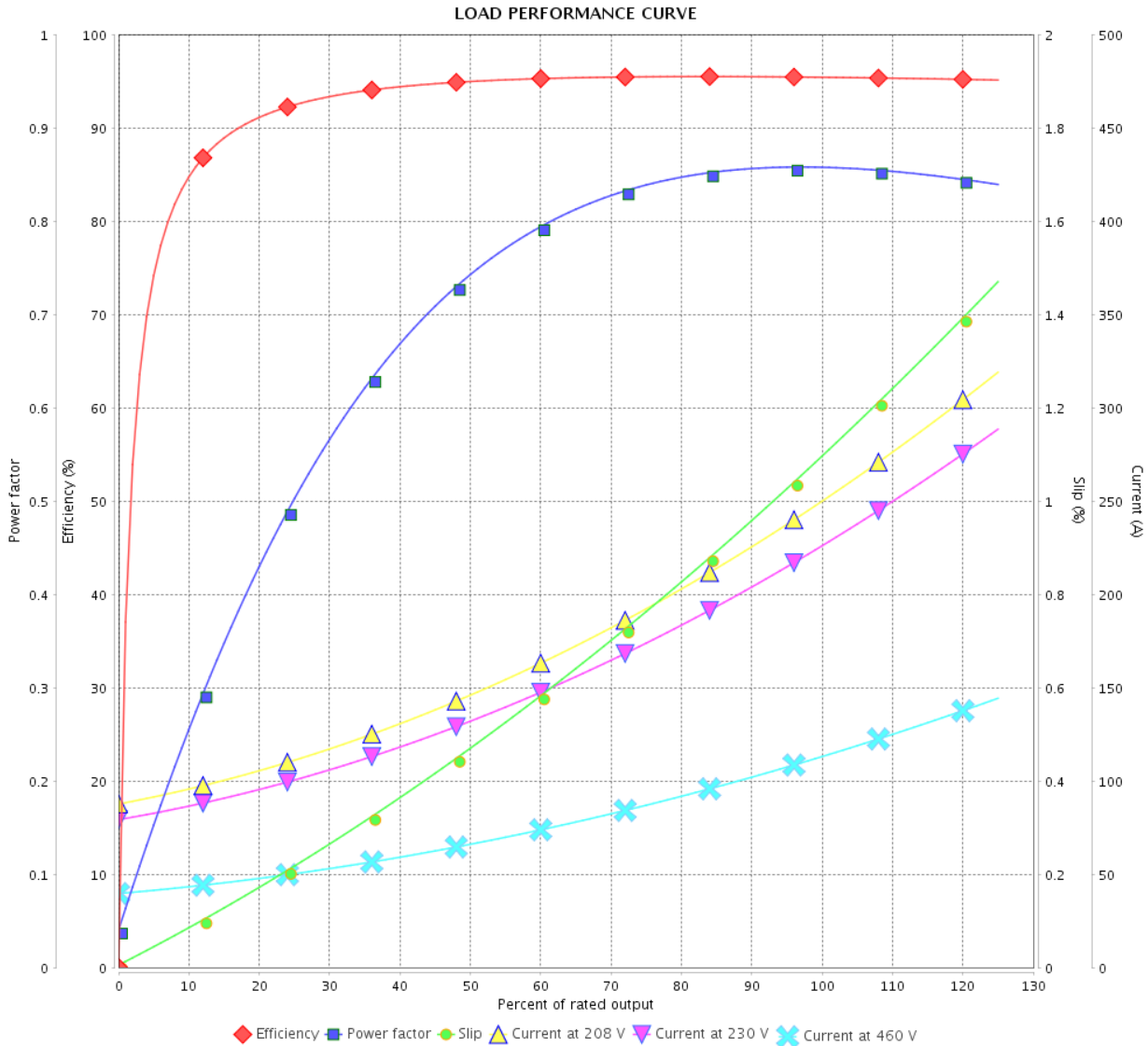


Customer :

Product line : W40 NEMA Premium Efficiency Three-Phase

Product code : 14285005

Catalog # : 10018OT3E404TS-W40G



Performance : 230/460 V 60 Hz 4P

Rated current : 230/115 A  
 LRC : 6.8  
 Rated torque : 295 ft.lb  
 Locked rotor torque : 200 %  
 Breakdown torque : 250 %  
 Rated speed : 1780 rpm

Moment of inertia (J) : 21.9 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

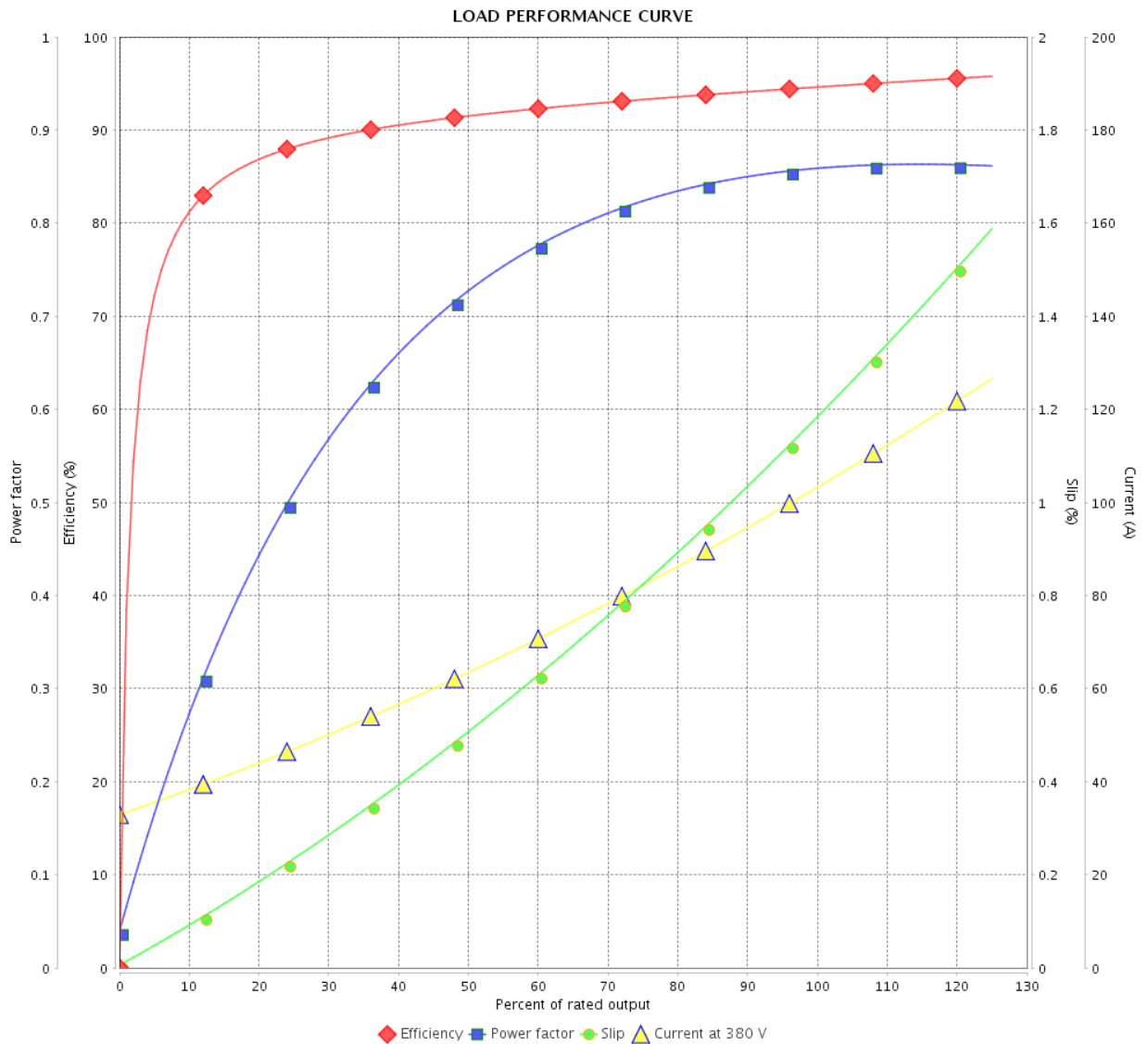


Customer :

Product line : W40 NEMA Premium Efficiency Three-Phase

Product code : 14285005

Catalog # : 10018OT3E404TS-W40G



Performance : 380 V 50 Hz 4P IE3

Rated current : 103 A  
 LRC : 7.2  
 Rated torque : 266 ft.lb  
 Locked rotor torque : 220 %  
 Breakdown torque : 250 %  
 Rated speed : 1482 rpm

Moment of inertia (J) : 21.9 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

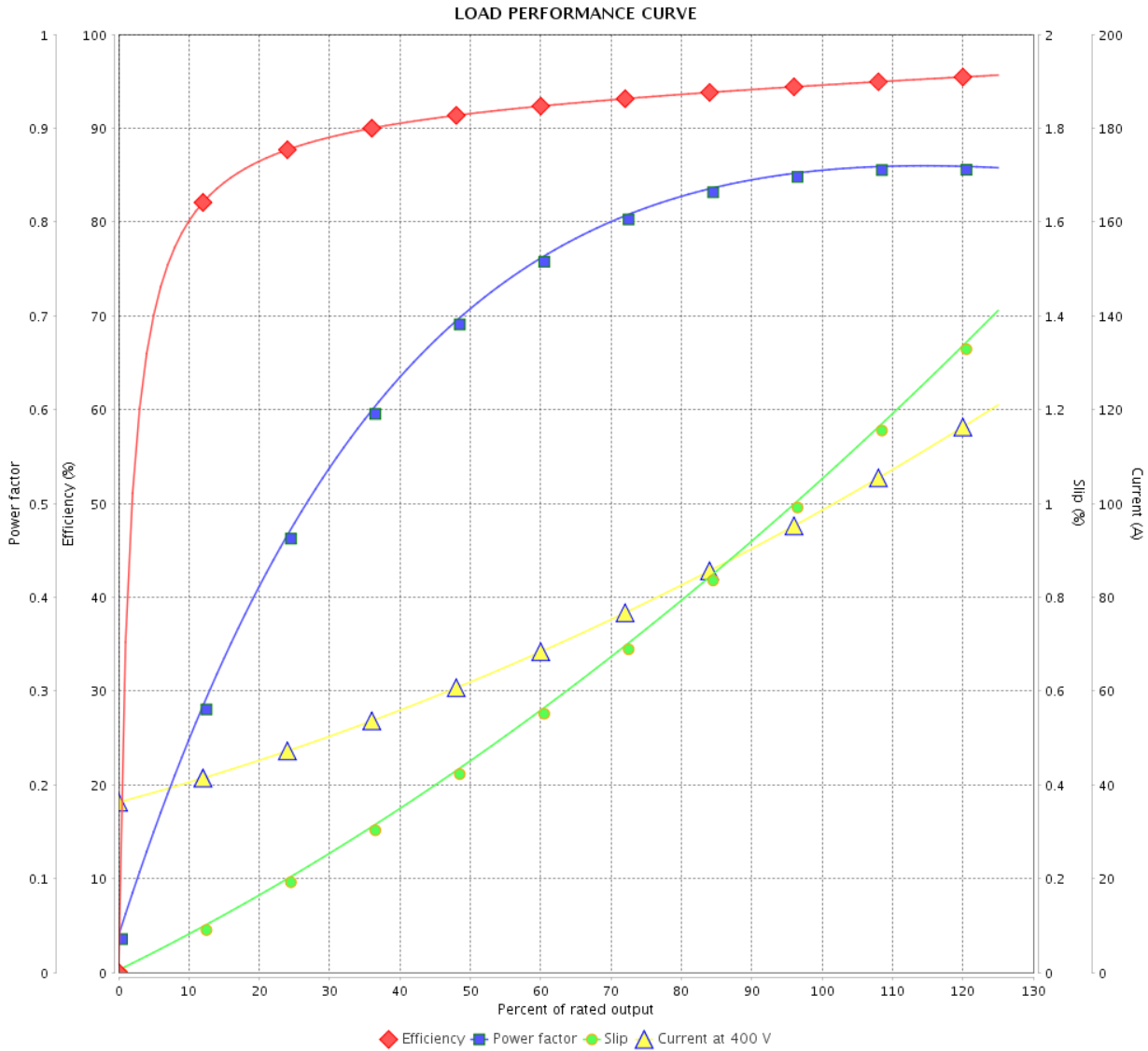


Customer :

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 14285005

Catalog # : 10018OT3E404TS-W40G



Performance : 400 V 50 Hz 4P IE3

Rated current : 97.5 A  
 LRC : 7.0  
 Rated torque : 265 ft.lb  
 Locked rotor torque : 240 %  
 Breakdown torque : 280 %  
 Rated speed : 1484 rpm

Moment of inertia (J) : 21.9 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

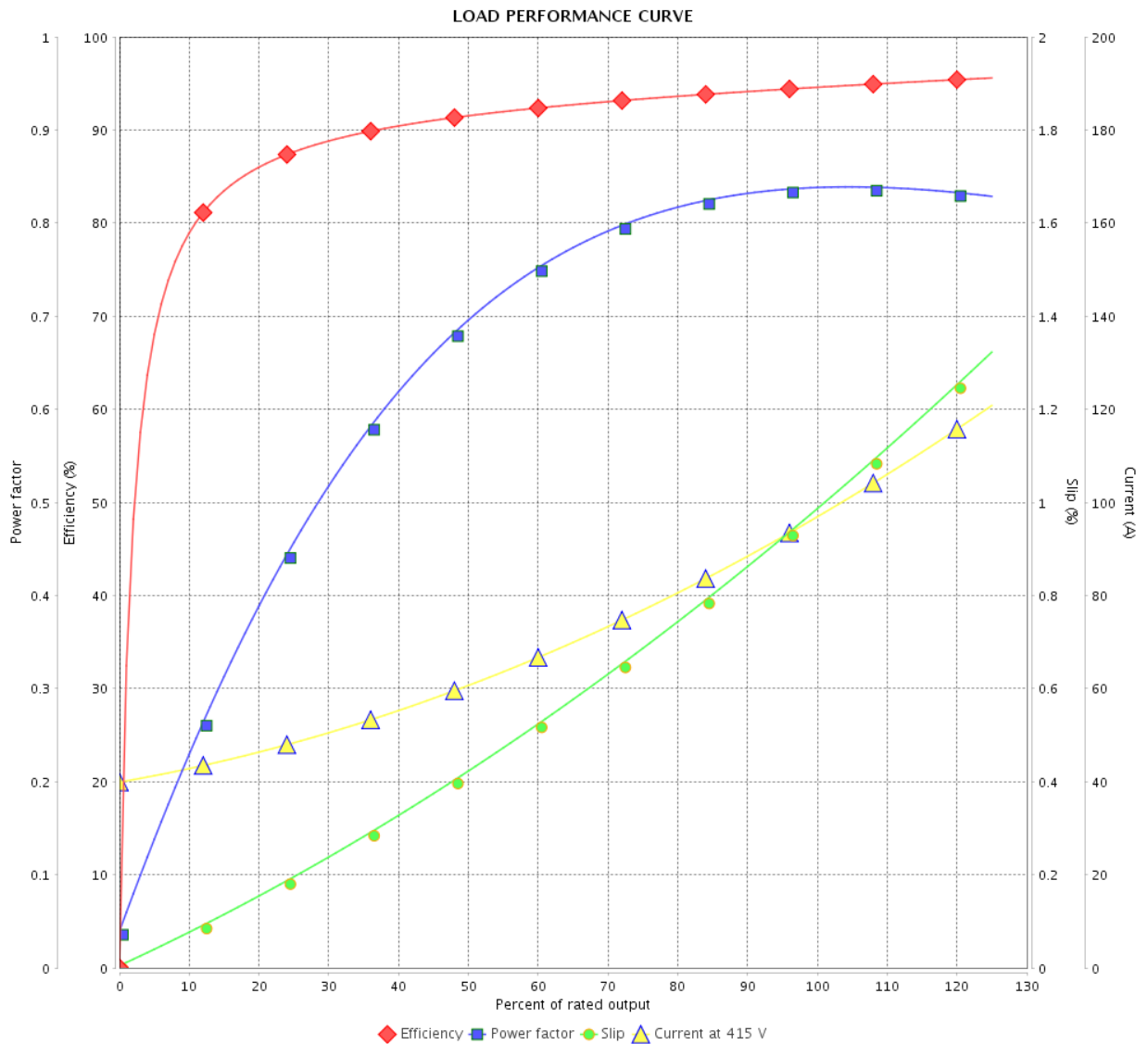


Customer : \_\_\_\_\_

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 14285005

Catalog # : 10018OT3E404TS-W40G



Performance : 415 V 50 Hz 4P IE3

Rated current : 96.2 A  
 LRC : 7.8  
 Rated torque : 265 ft.lb  
 Locked rotor torque : 270 %  
 Breakdown torque : 300 %  
 Rated speed : 1485 rpm

Moment of inertia (J) : 21.9 sq.ft.lb  
 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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Locked rotor torque : 200 %  
Breakdown torque : 250 %  
Rated speed : 1780 rpm

Moment of inertia (J) : 21.9 sq.ft.lb  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.25  
Temperature rise : 80 K  
Design : B

Heating constant

Cooling constant

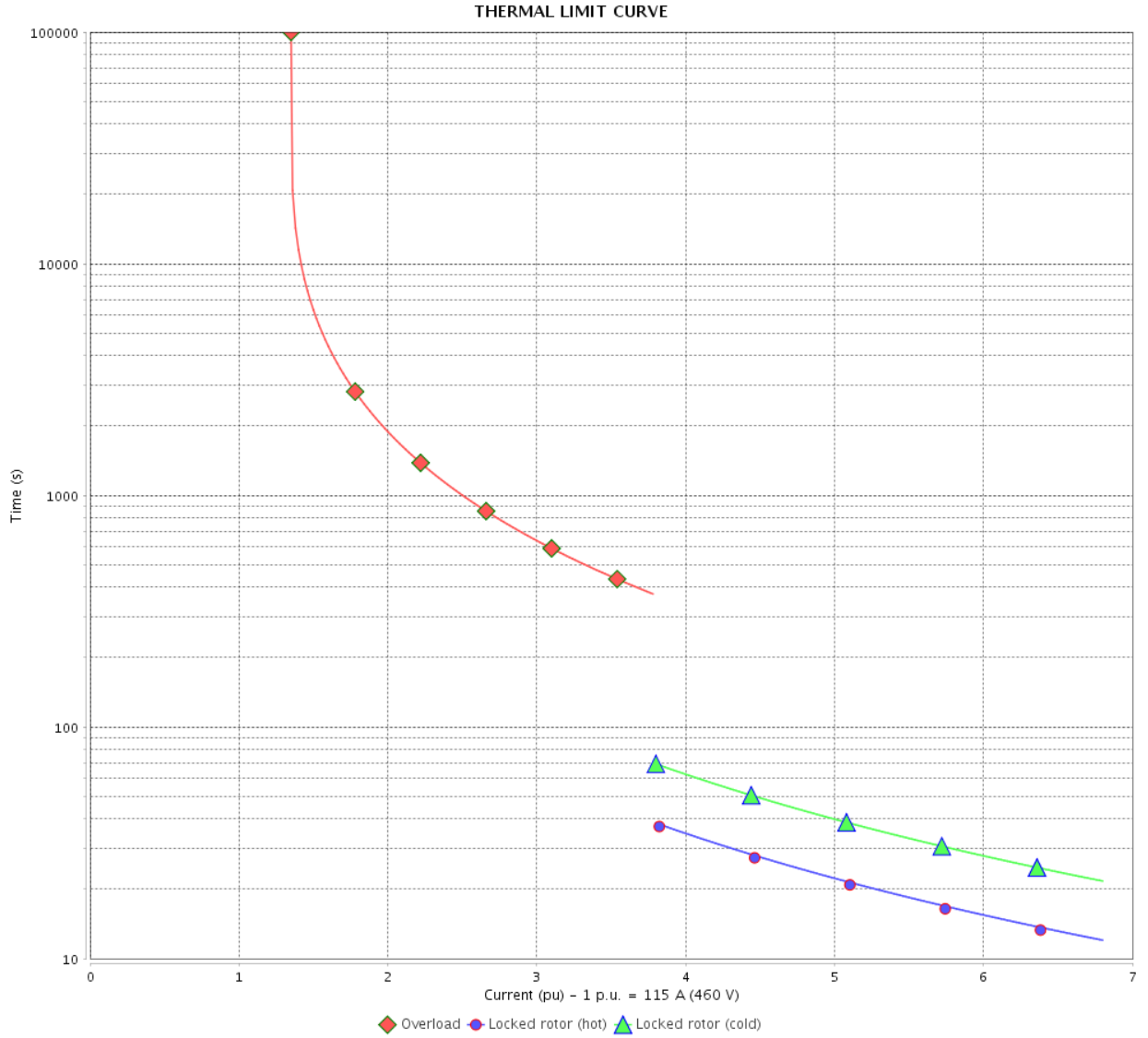
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# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



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# THERMAL LIMIT CURVE



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Customer :

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Catalog # : 10018OT3E404TS-W40G

Performance : 380 V 50 Hz 4P IE3

Rated current : 103 A	Moment of inertia (J) : 21.9 sq.ft.lb
LRC : 7.2	Duty cycle : Cont.(S1)
Rated torque : 266 ft.lb	Insulation class : F
Locked rotor torque : 220 %	Service factor : 1.00
Breakdown torque : 250 %	Temperature rise : 80 K
Rated speed : 1482 rpm	Design : B

Heating constant

Cooling constant

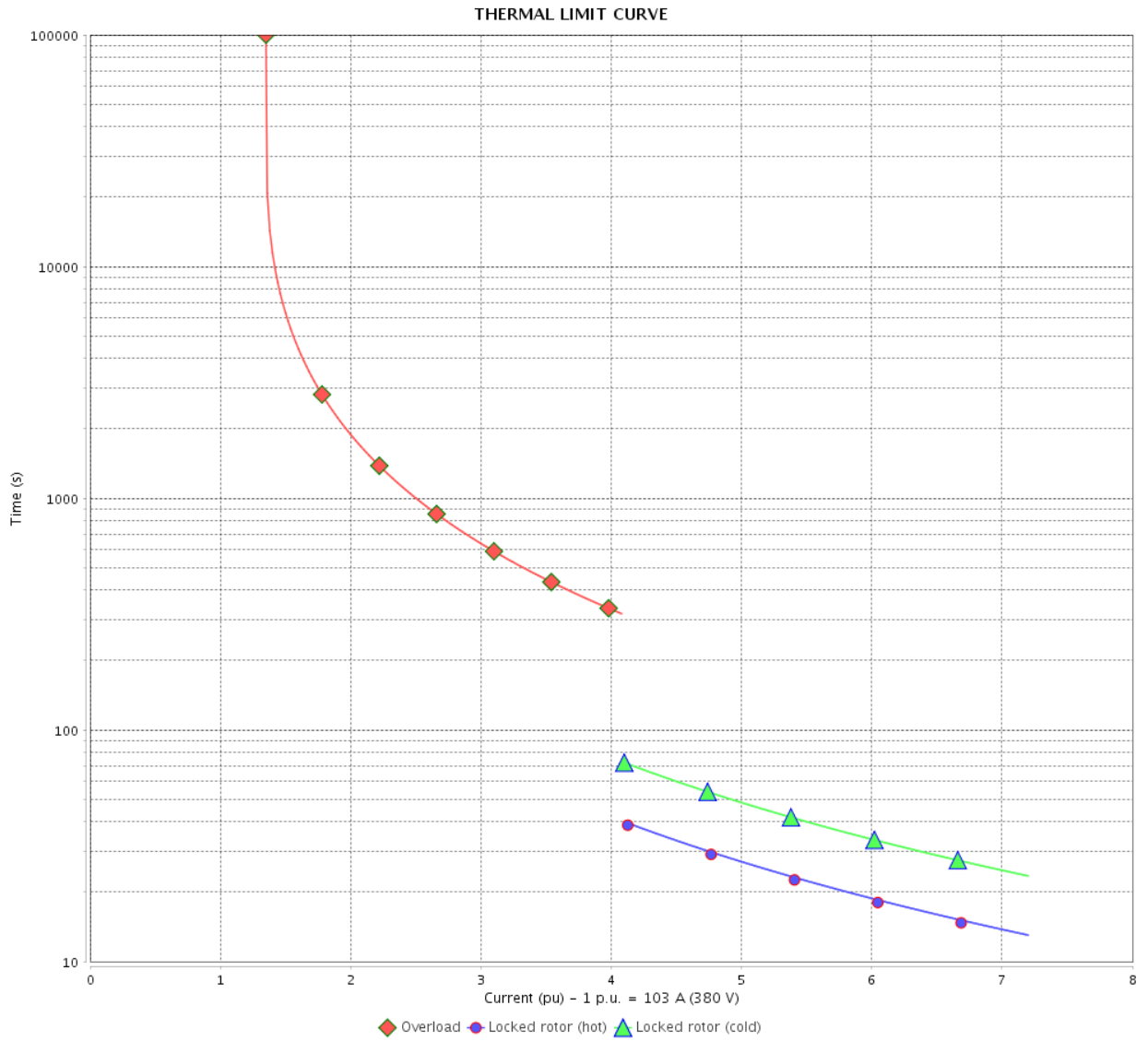
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# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



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Date		12/04/2022		

# THERMAL LIMIT CURVE



## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 14285005

Catalog # : 10018OT3E404TS-W40G

Performance : 400 V 50 Hz 4P IE3

Rated current : 97.5 A	Moment of inertia (J) : 21.9 sq.ft.lb
LRC : 7.0	Duty cycle : Cont.(S1)
Rated torque : 265 ft.lb	Insulation class : F
Locked rotor torque : 240 %	Service factor : 1.00
Breakdown torque : 280 %	Temperature rise : 80 K
Rated speed : 1484 rpm	Design : B

Heating constant

Cooling constant

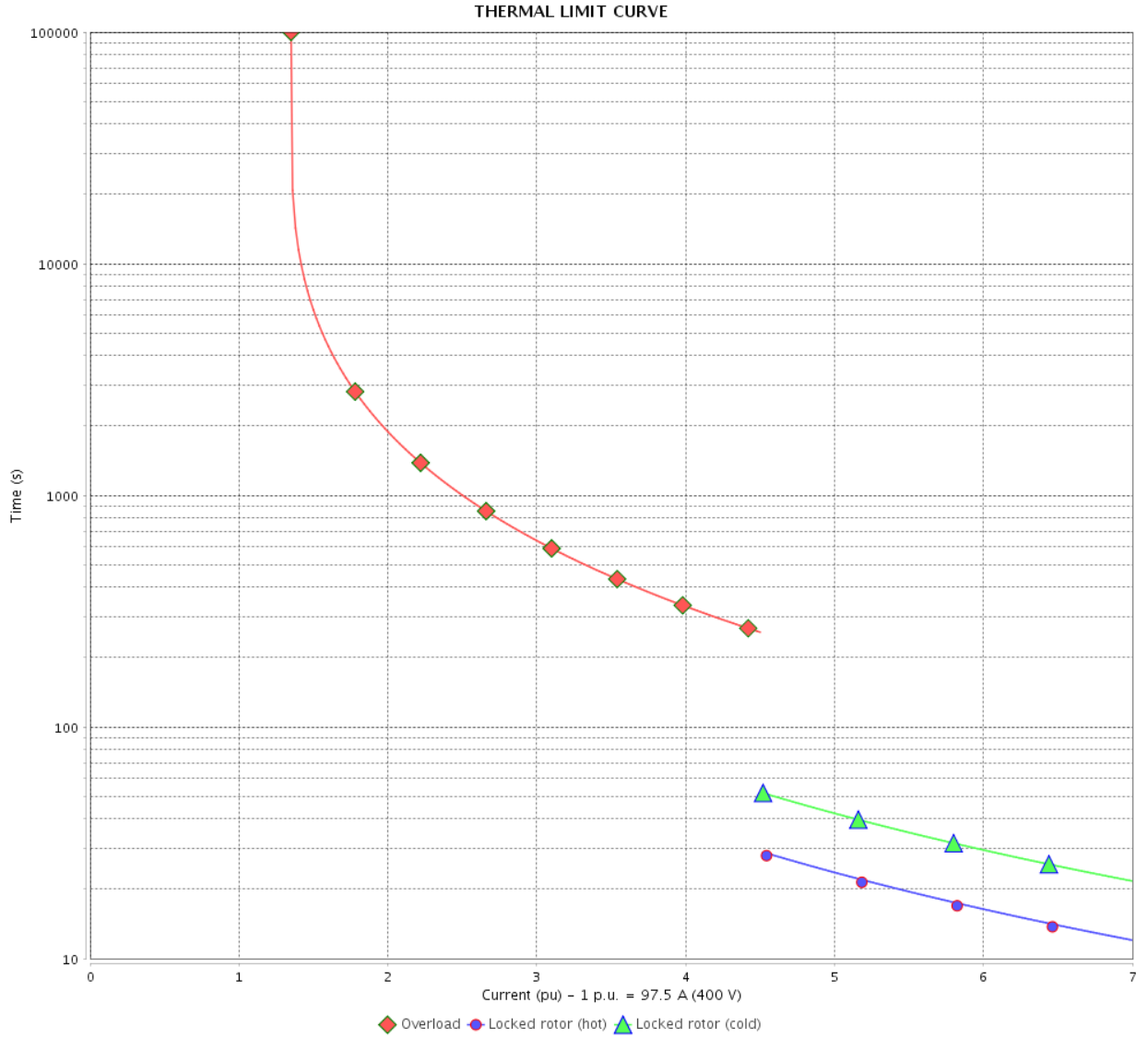
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Date	12/04/2022			

# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



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# THERMAL LIMIT CURVE



## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 14285005

Catalog # : 10018OT3E404TS-W40G

Performance : 415 V 50 Hz 4P IE3

Rated current	: 96.2 A	Moment of inertia (J)	: 21.9 sq.ft.lb
LRC	: 7.8	Duty cycle	: Cont.(S1)
Rated torque	: 265 ft.lb	Insulation class	: F
Locked rotor torque	: 270 %	Service factor	: 1.00
Breakdown torque	: 300 %	Temperature rise	: 80 K
Rated speed	: 1485 rpm	Design	: B

Heating constant

Cooling constant

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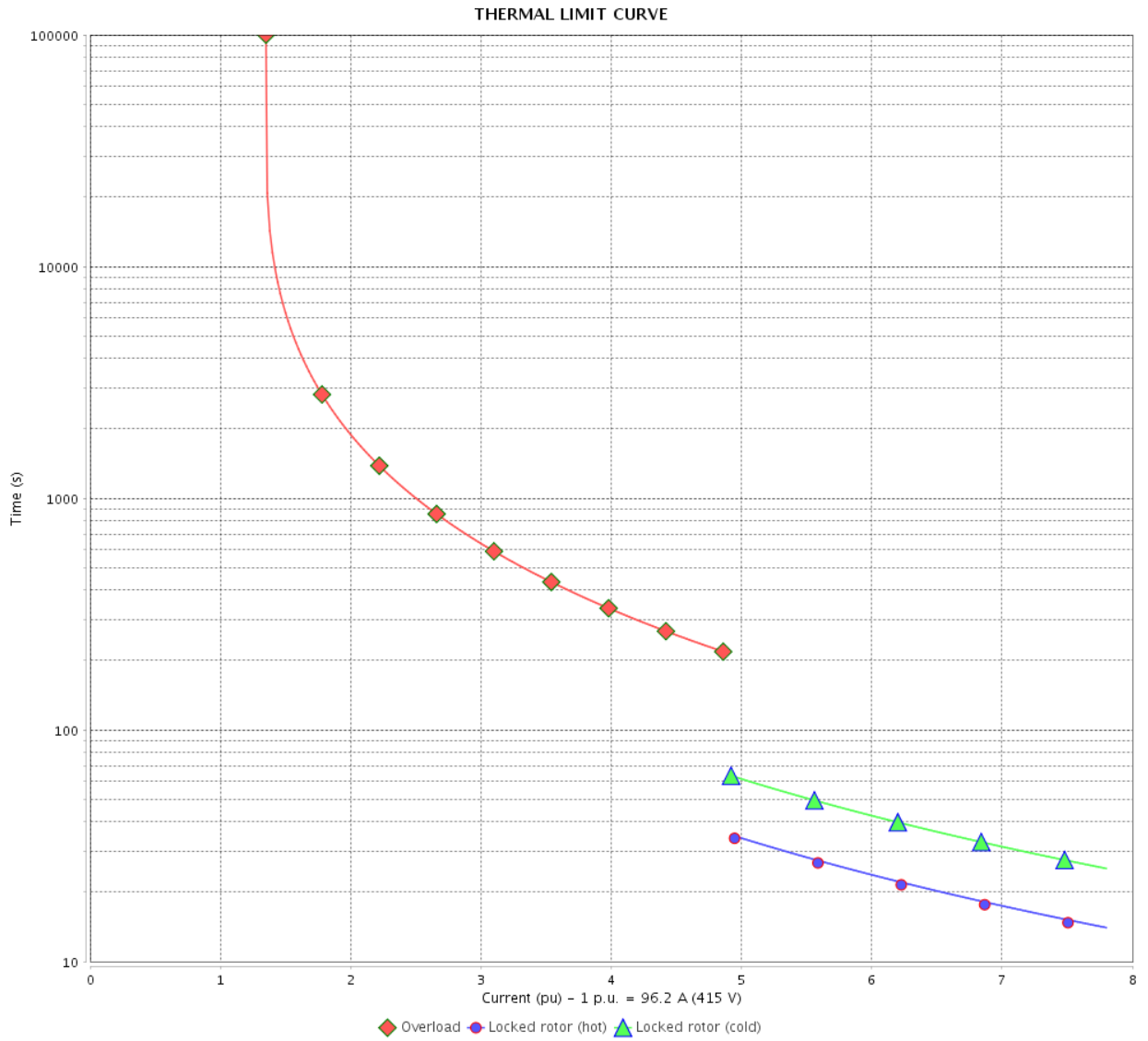


# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



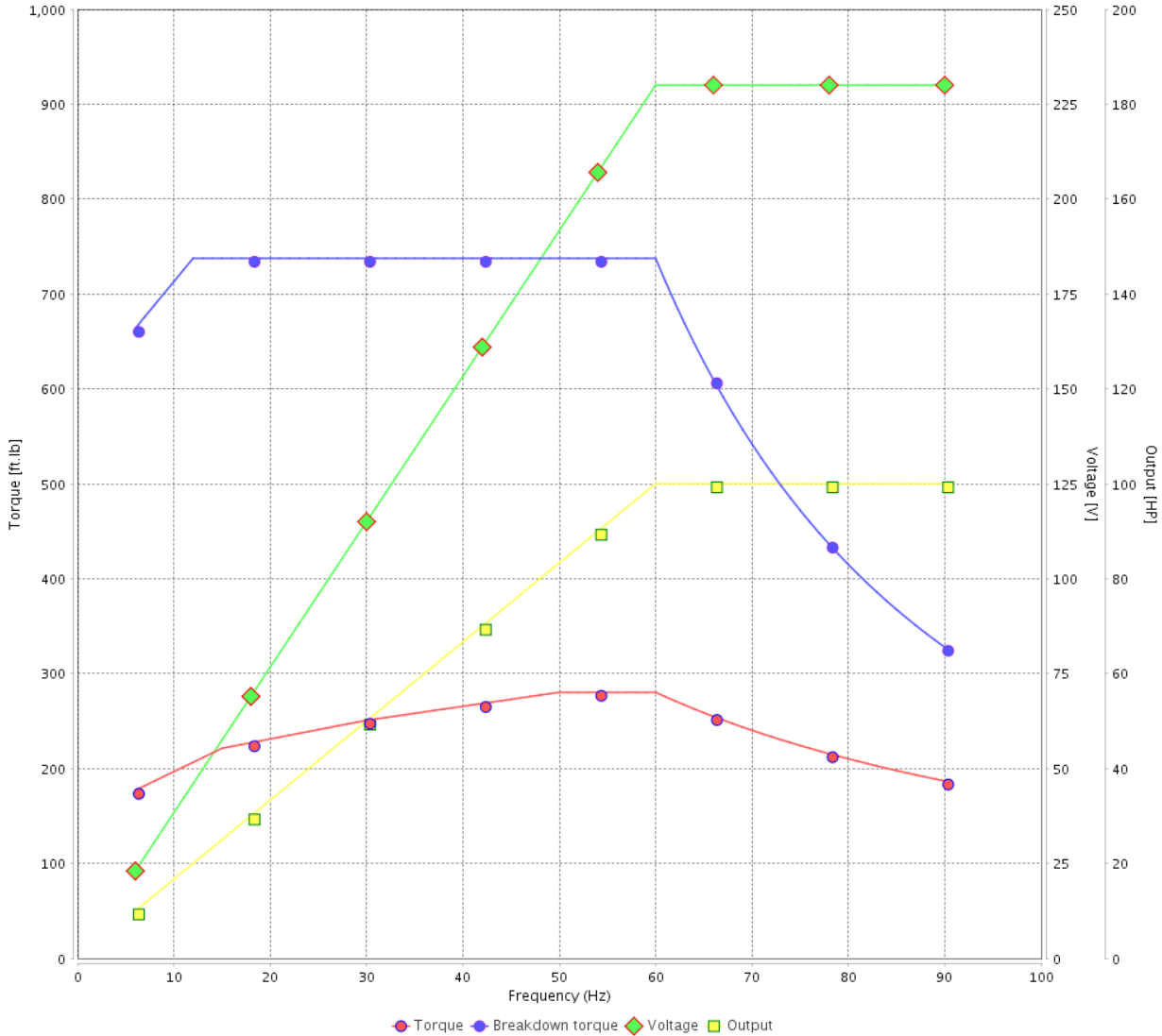
Customer :

Product line : W40 NEMA Premium Efficiency Three-Phase

Product code : 14285005

Catalog # : 10018OT3E404TS-W40G

VFD OPERATION CURVE



Performance : 230/460 V 60 Hz 4P

Rated current : 230/115 A  
 LRC : 6.8  
 Rated torque : 295 ft.lb  
 Locked rotor torque : 200 %  
 Breakdown torque : 250 %  
 Rated speed : 1780 rpm

Moment of inertia (J) : 21.9 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

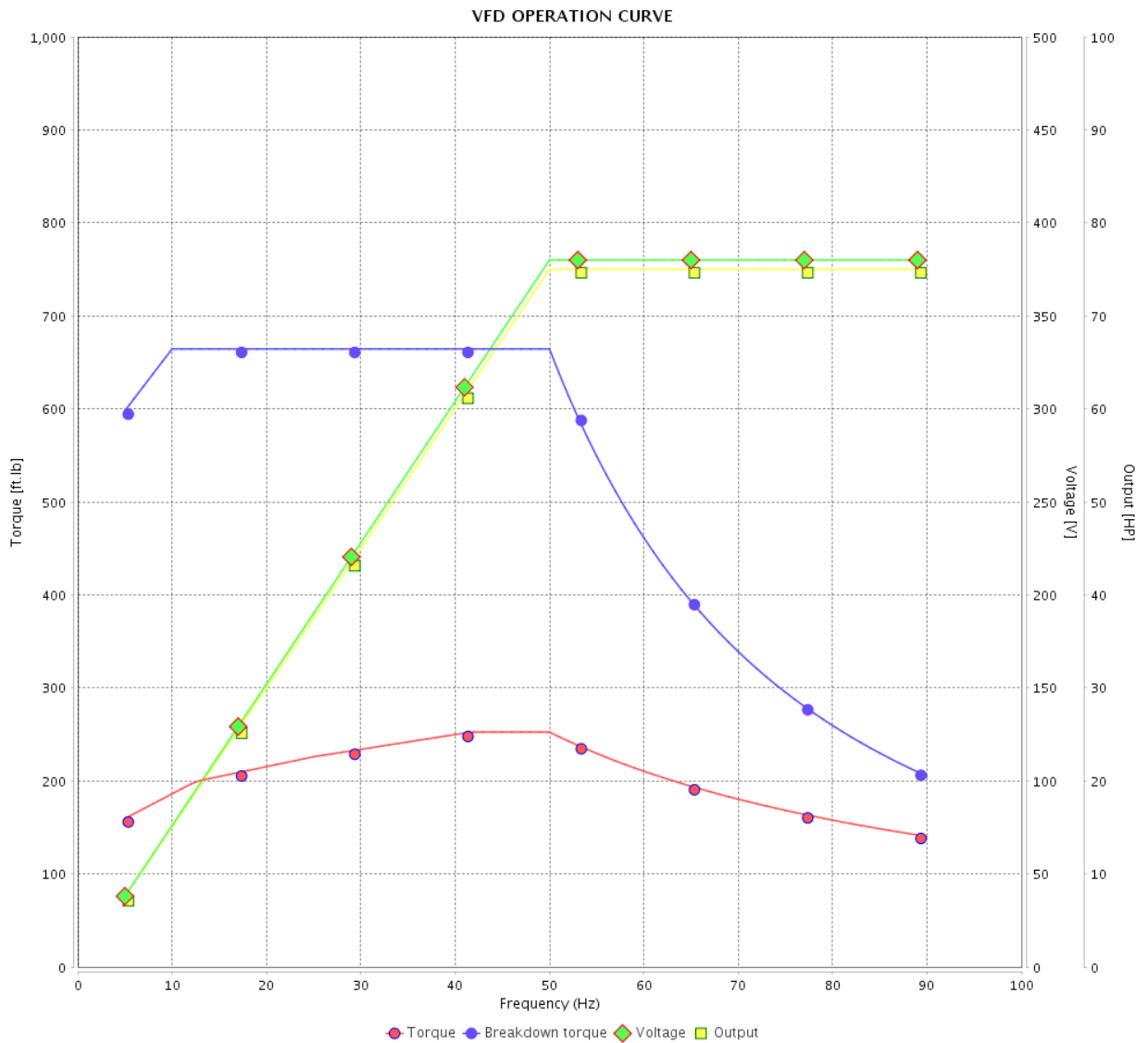


Customer :

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Three-Phase

Product code : 14285005

Catalog # : 10018OT3E404TS-W40G



Performance : 380 V 50 Hz 4P IE3

Rated current : 103 A  
LRC : 7.2  
Rated torque : 266 ft.lb  
Locked rotor torque : 220 %  
Breakdown torque : 250 %  
Rated speed : 1482 rpm

Moment of inertia (J) : 21.9 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



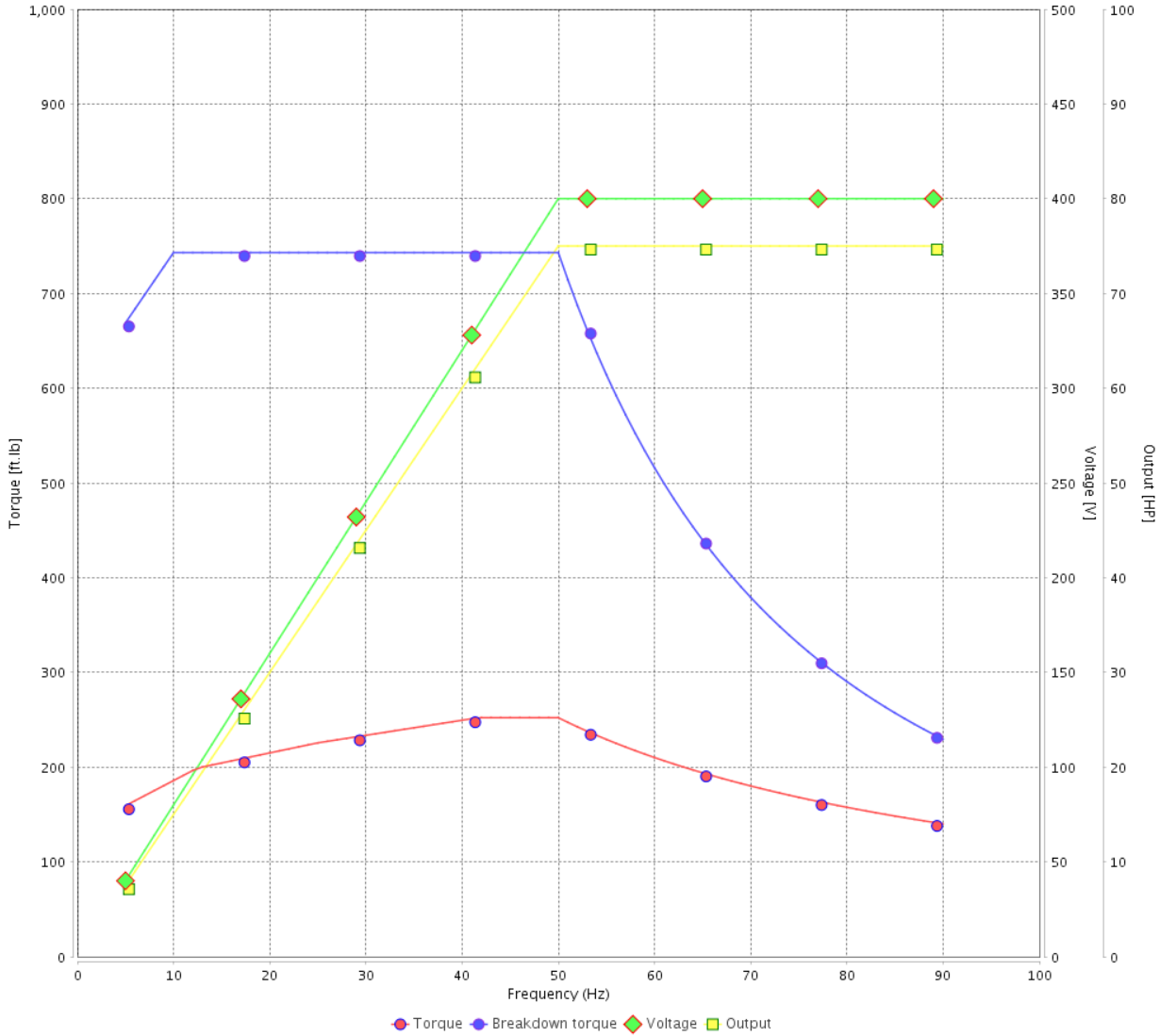
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VFD OPERATION CURVE



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Breakdown torque : 280 %  
Rated speed : 1484 rpm

Moment of inertia (J) : 21.9 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

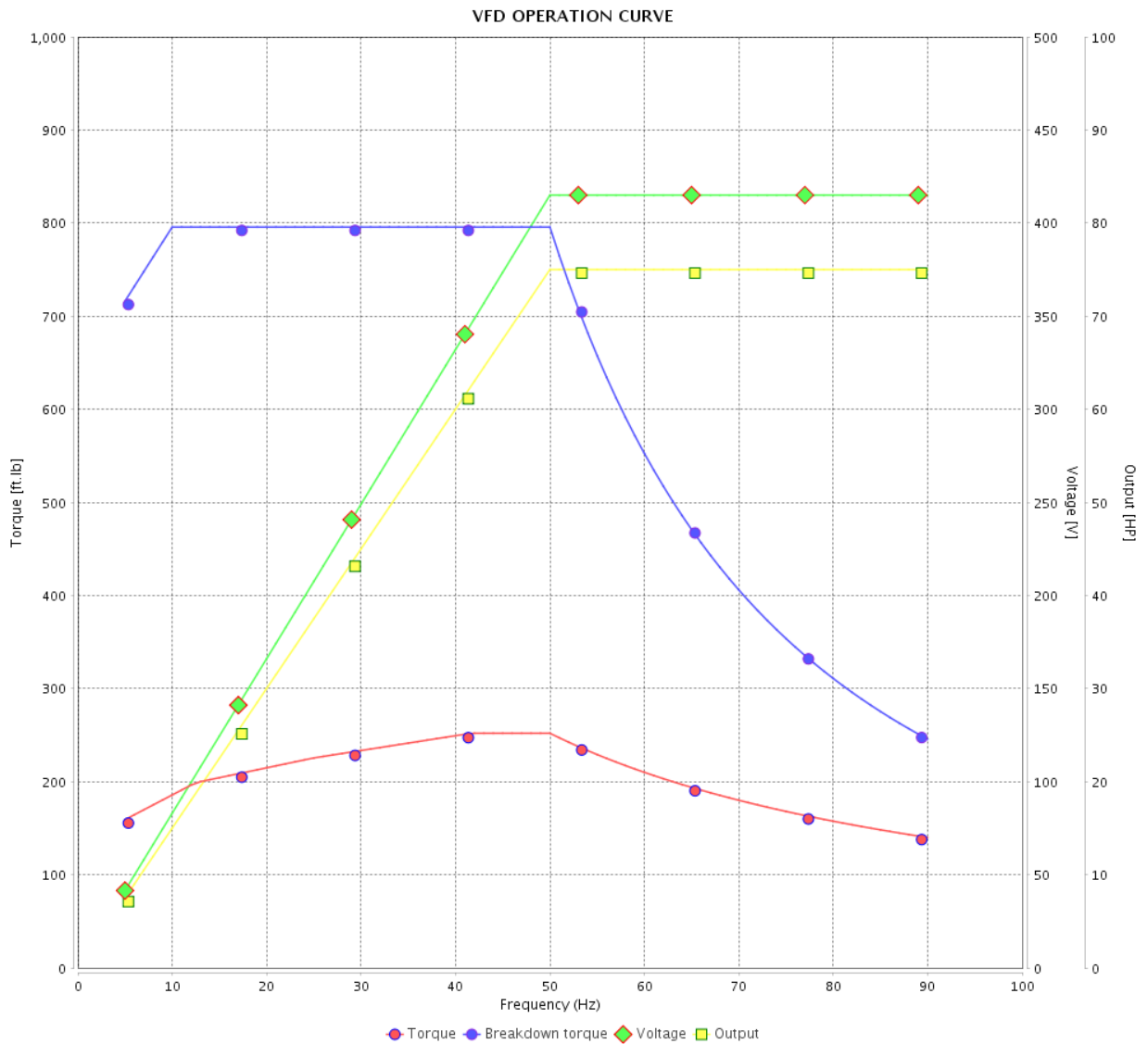


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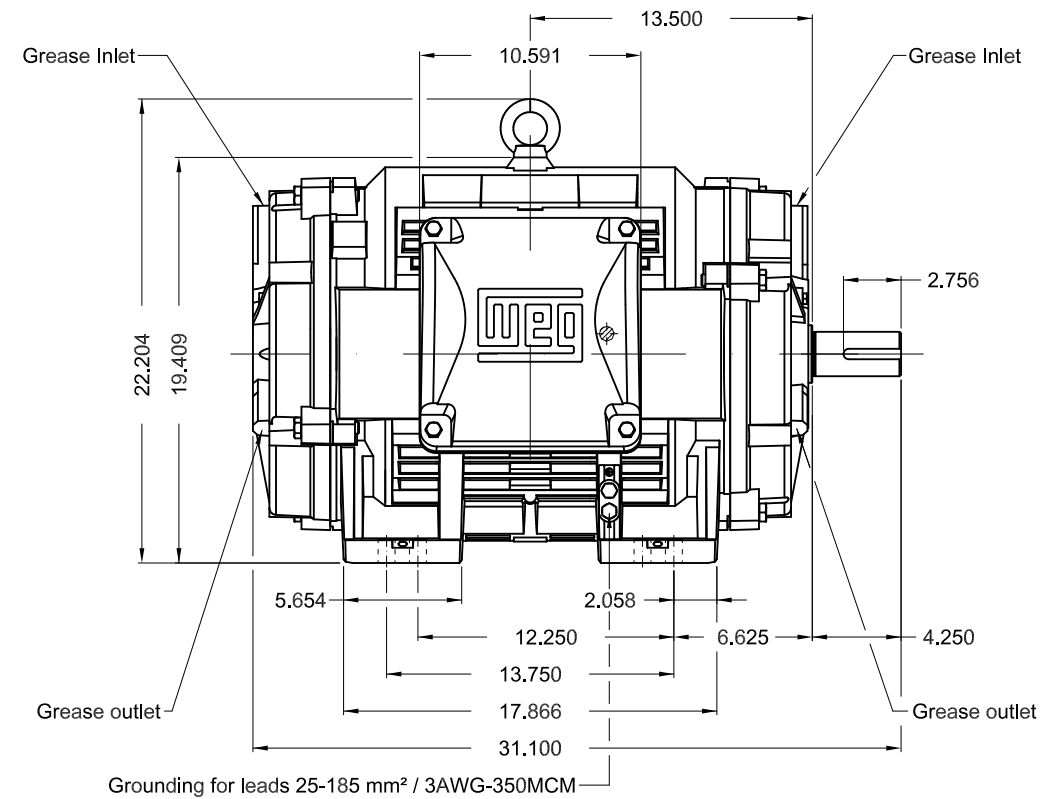
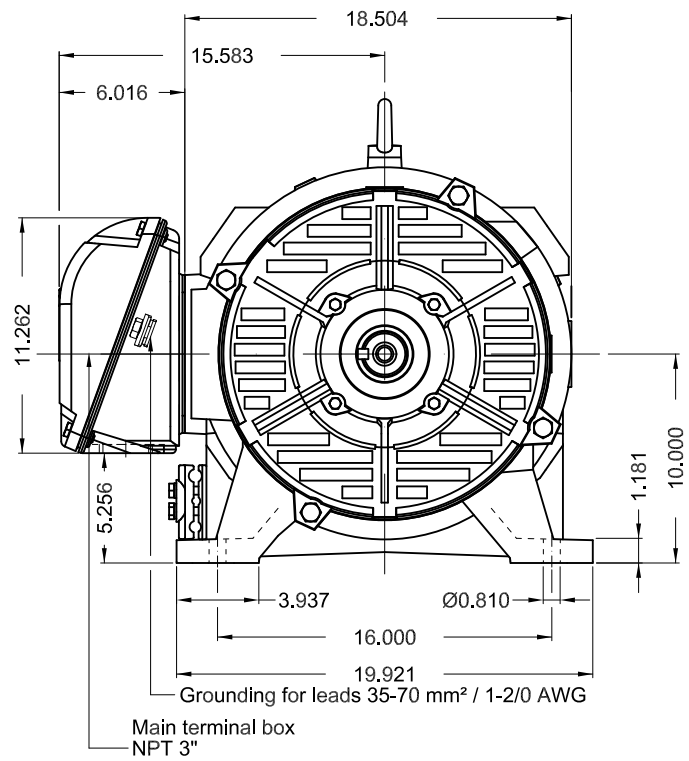


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Design : B

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100 HP 04 Poles 60 Hz

A

1:9

TS shaft end

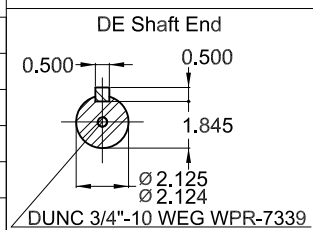
Internal AEGIS ground ring on the DE

Color RAL 5009

Painting plan 203A

Mounting NEMA F-1

Mounting B3R(D)



ECM	LOC	SUMMARY OF MODIFICATIONS	EXECUTED	CHECKED	RELEASED	DATE	VER
EXECUTED	PIRWBUSER	THREE PH. MOTOR W40 PREM. EFF.					
CHECKED		FRAME 404/5TS IP23 ODP					
RELEASED							
REL DT.	WMO	Jaragua do Sul	Product Engineering	SHEET	1 / 1		

PREVIEW

WDD



MODEL 100180T3E404TS-W40G  
MADE IN BRAZIL  
14285005

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

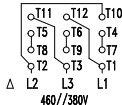
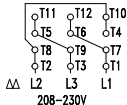


IEC 60034-1  
MOD.T01#FOXON



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

PH 3	FR 404/5TS	HP(kW) 100.0(75.0)	Hz 60
V 230/460	A 230/115	RPM 1780	DES B
NEMA NOM EFF 95.4 %	INS. CL. F $\Delta$ T 80 K	IP23	
ENCL ODP	DUTY CONT.	AMB. 40°C	
CODE G	PF 0.86	SF 1.25	SFA 288/144
USABLE @208V	254 A	SF 1.15	SFA 292
75HP 55kW 50Hz 380V 103A 1482RPM SF1.00 EFF 94.7% (IE3)	ALT 1000 m.a.s.l.		



→ 6314-C3(27g)  
→ 6212-Z-C3(13g)

MOBIL POLYREX EM  
20000 h