

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer					
Product line		: W40 NEMA Premium Efficiency Three-Phase		Product code : 14285004 Catalog # : 10018OT3E404T-W40G	
Frame : 404/5T		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> : 955 lb			
Protection degree : IP23		Moment of inertia (J) : 21.9 sq.ft.lb			
Design : B					
Output [HP]	100	75	75	75	
Poles	4	4	4	4	
Frequency [Hz]	60	50	50	50	
Rated voltage [V]	230/460	380	400	415	
Rated current [A]	230/115	103	97.5	96.2	
L. R. Amperes [A]	1564/782	742	683	750	
LRC [A]	6.8x(Code G)	7.2x(Code H)	7.0x(Code H)	7.8x(Code J)	
No load current [A]	79.4/39.7	33.0	36.5	40.0	
Rated speed [RPM]	1780	1482	1484	1485	
Slip [%]	1.11	1.20	1.07	1.00	
Rated torque [ft.lb]	295	266	265	265	
Locked rotor torque [%]	200	220	240	270	
Breakdown torque [%]	250	250	280	300	
Service factor	1.25	1.00	1.00	1.00	
Temperature rise	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)	
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		Drive end : 6316 C3	Non drive end : 6212 Z C3	Foundation loads	
Sealing		Without	Without	Max. traction : 1909 lb	
Lubrication interval		Bearing Seal : 20000 h	Bearing Seal : 20000 h	Max. compression : 2863 lb	
Lubricant amount		34 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.		
Rev.	Changes Summary		Performed	Checked	Date
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Checked by				Page	Revision
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# TORQUE AND CURRENT VS SPEED CURVE

## Three Phase Induction Motor - Squirrel Cage



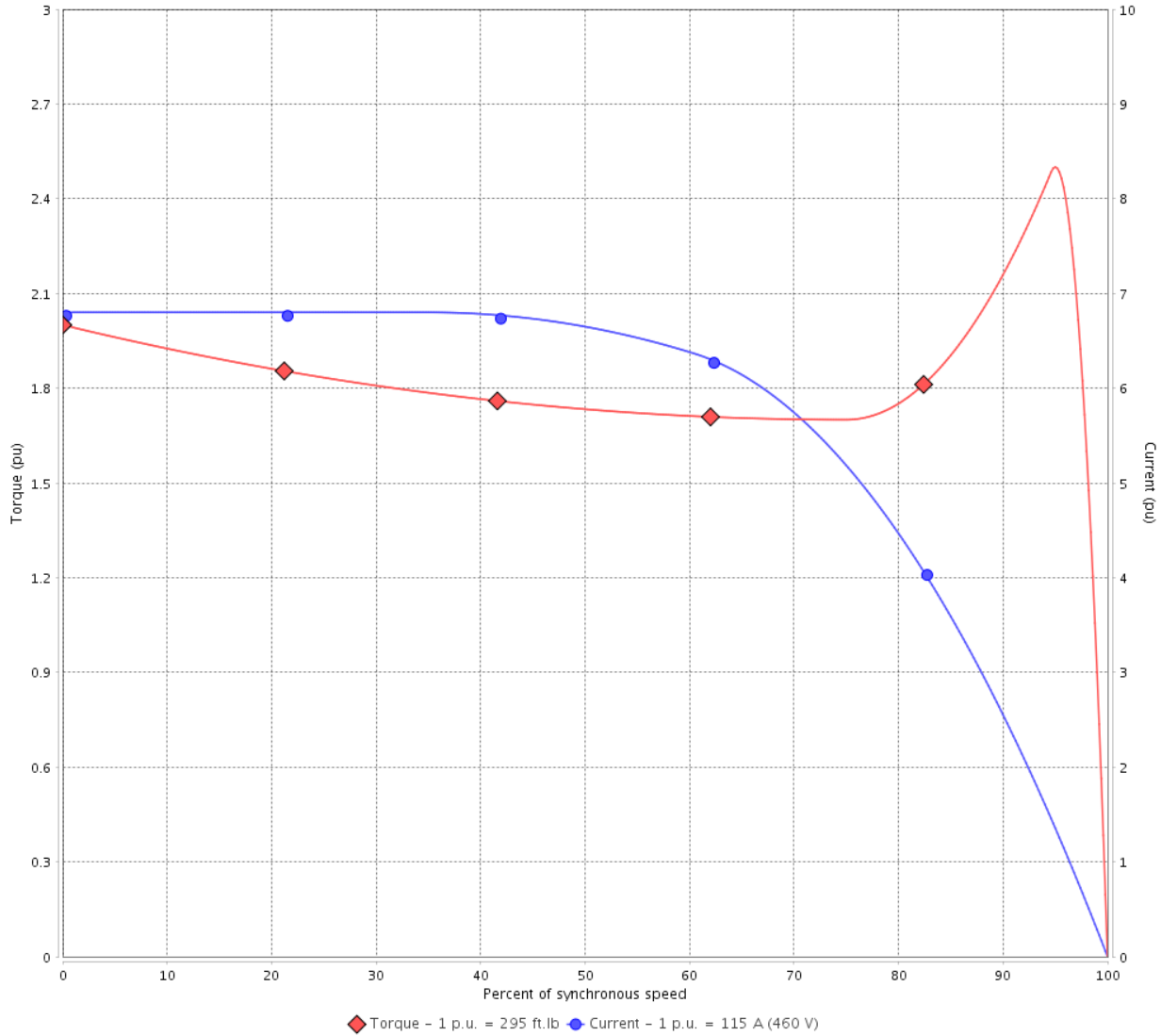
Customer :

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 14285004

Catalog # : 10018OT3E404T-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



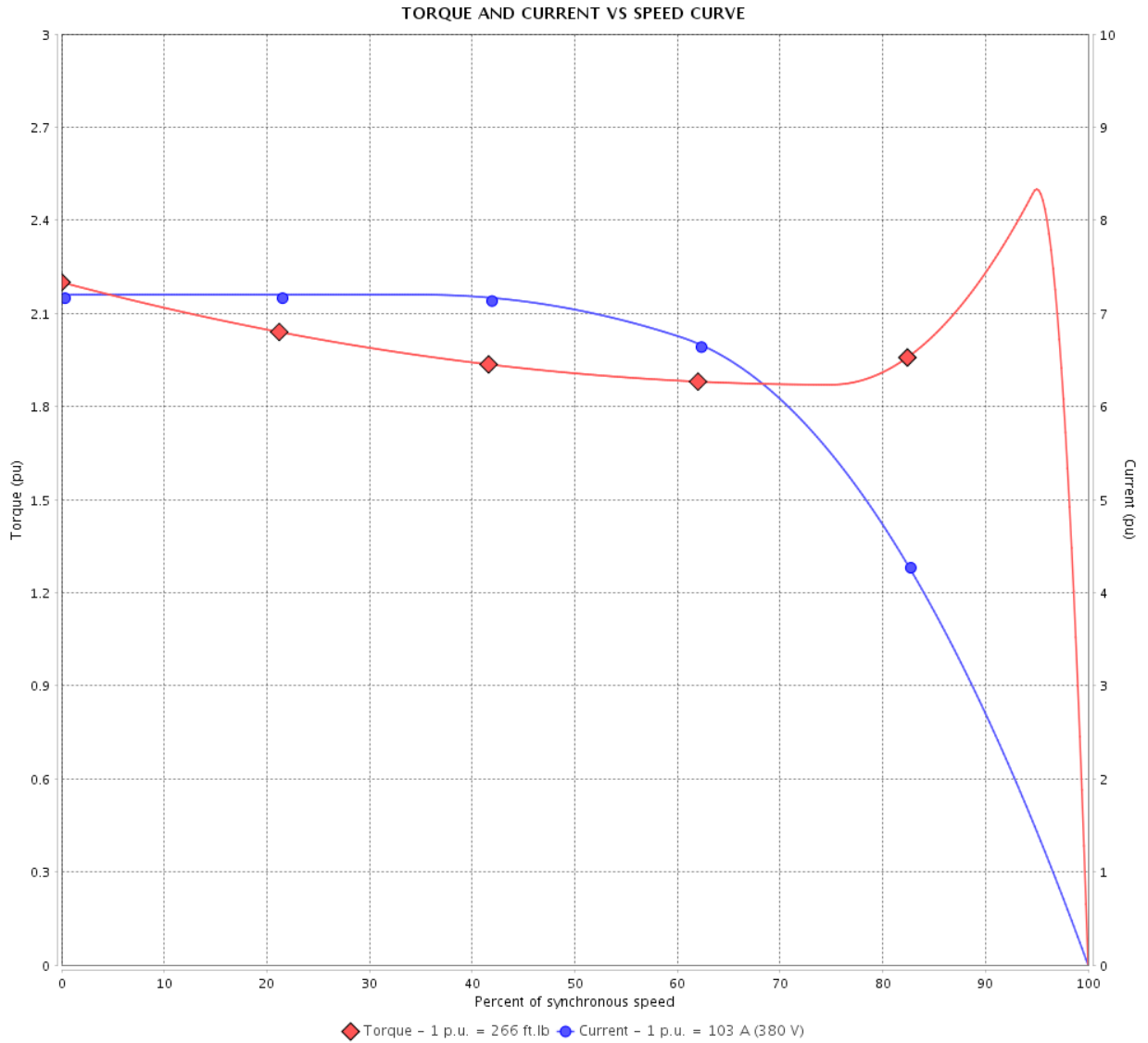
## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 14285004

Catalog # : 10018OT3E404T-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



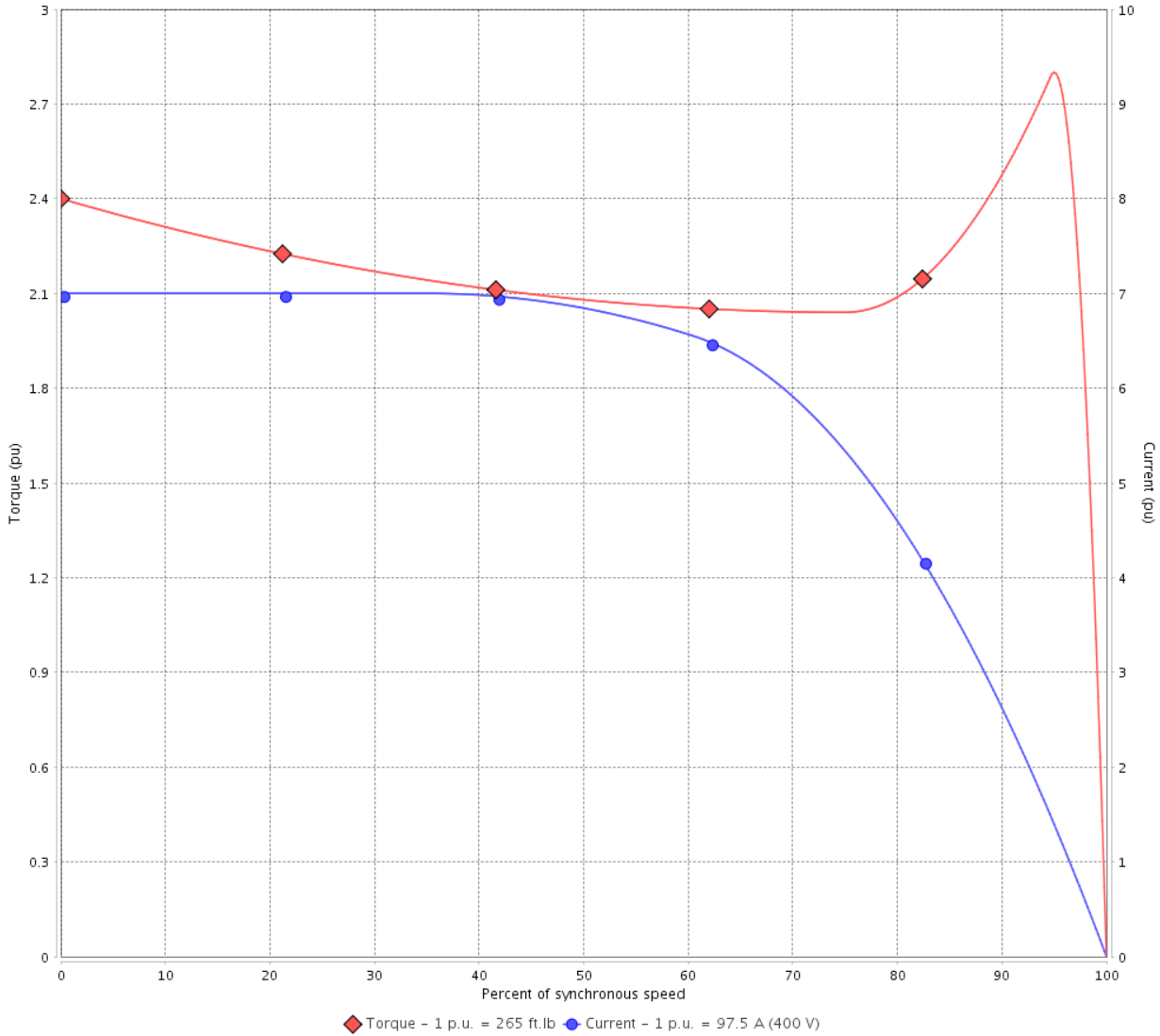
Customer :

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 14285004

Catalog # : 10018OT3E404T-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



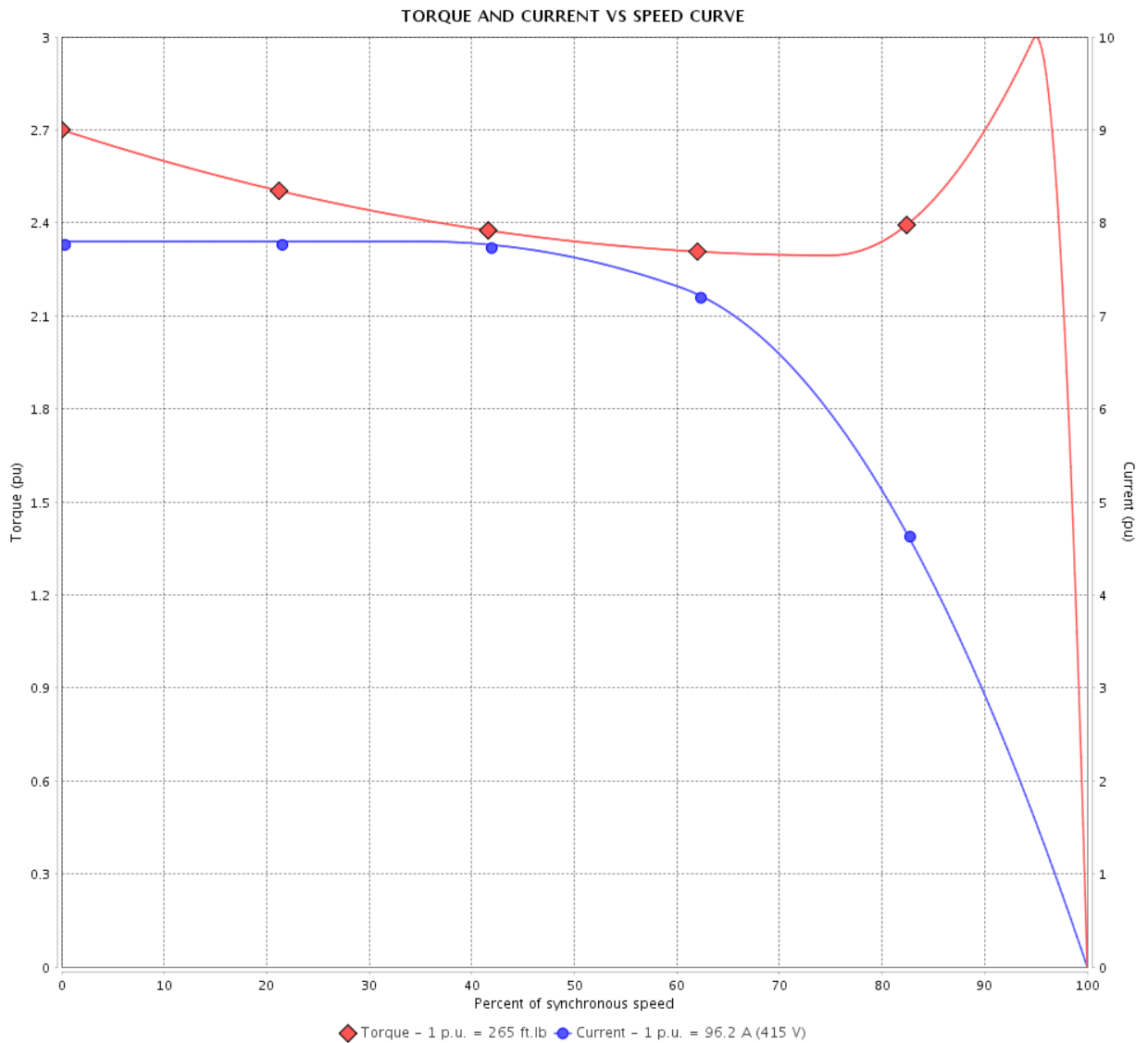
## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 14285004

Catalog # : 10018OT3E404T-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

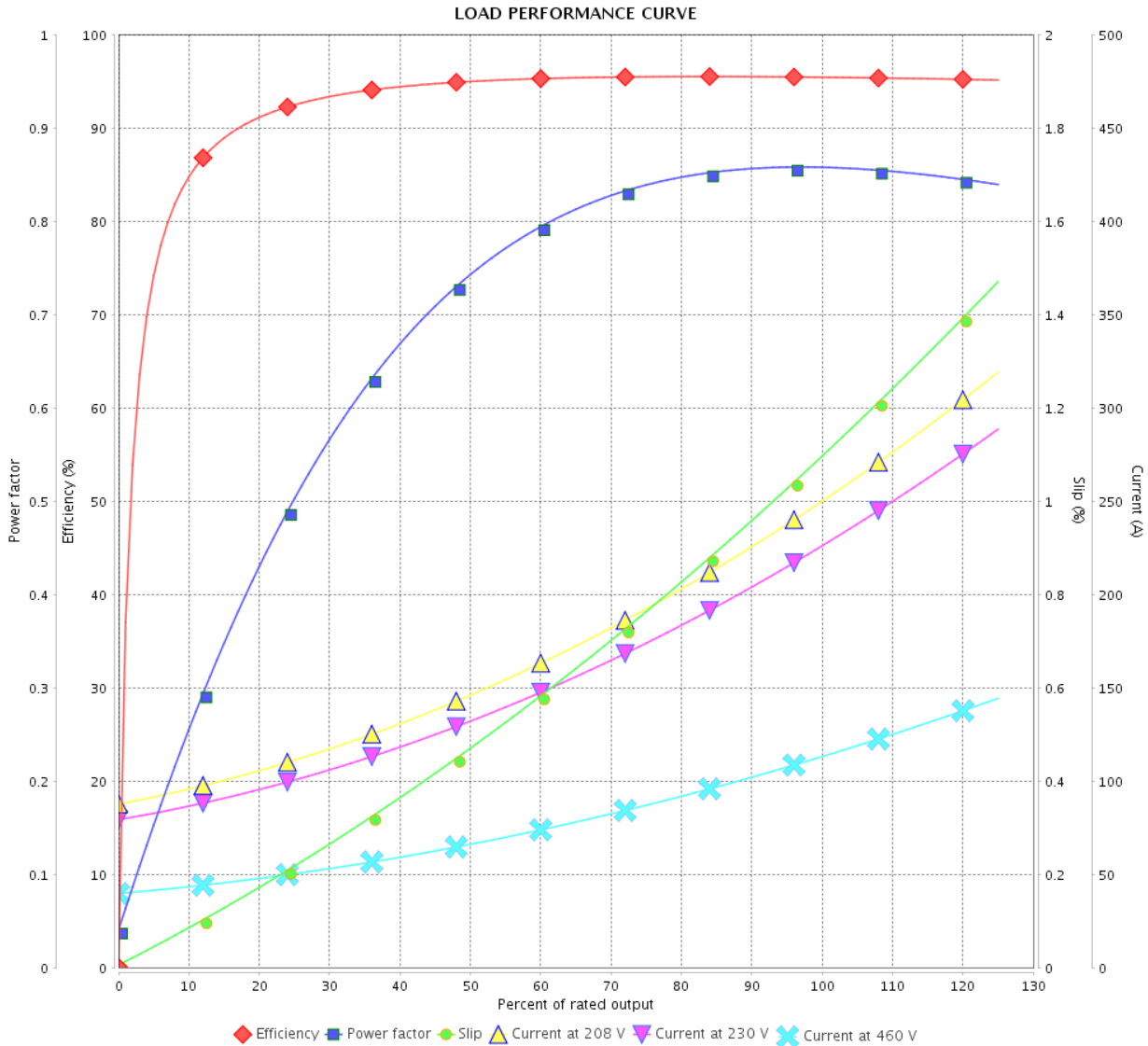


Customer :

Product line : W40 NEMA Premium Efficiency Three-Phase

Product code : 14285004

Catalog # : 10018OT3E404T-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

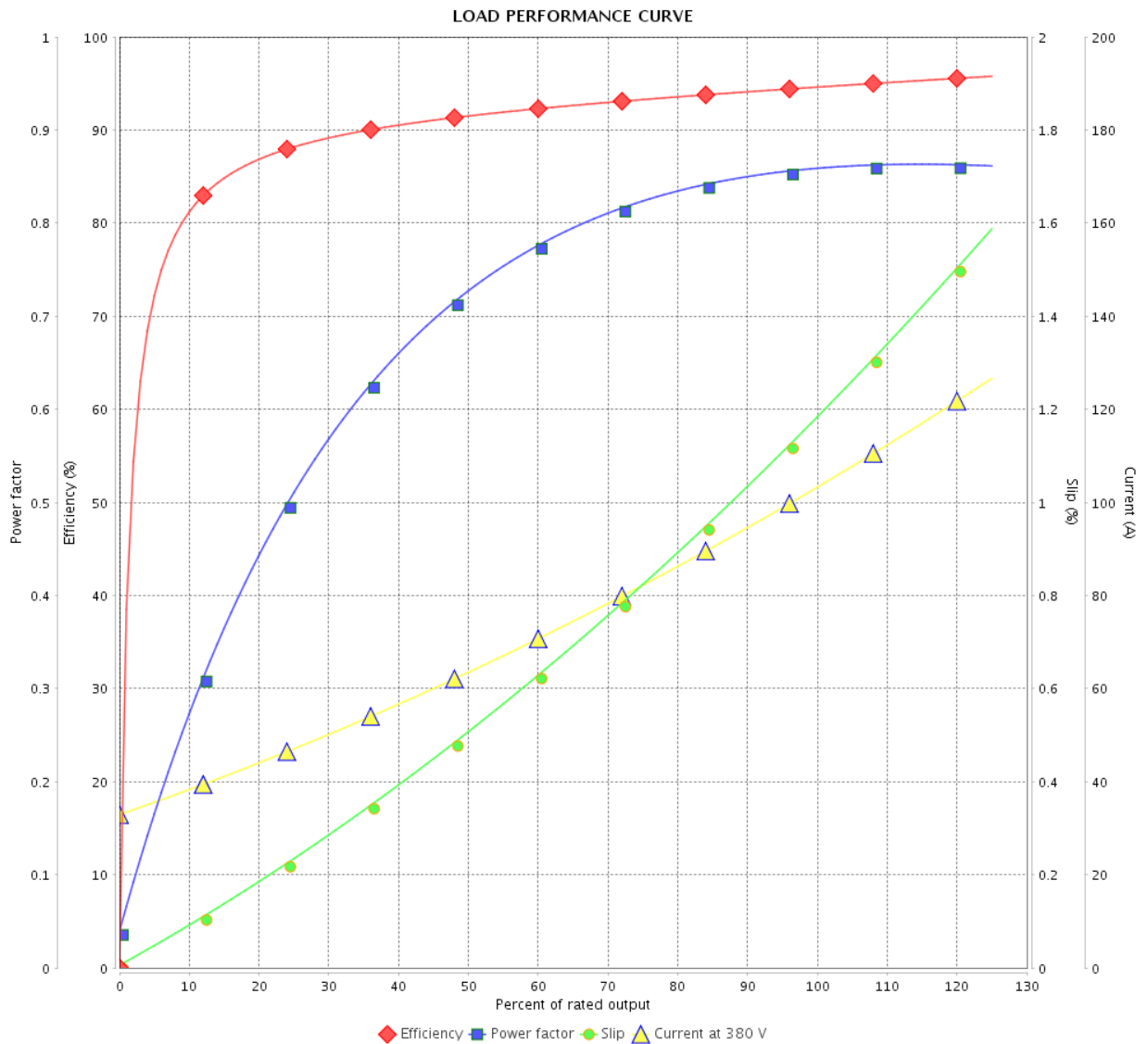


Customer :

Product line : W40 NEMA Premium Efficiency Three-Phase

Product code : 14285004

Catalog # : 10018OT3E404T-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

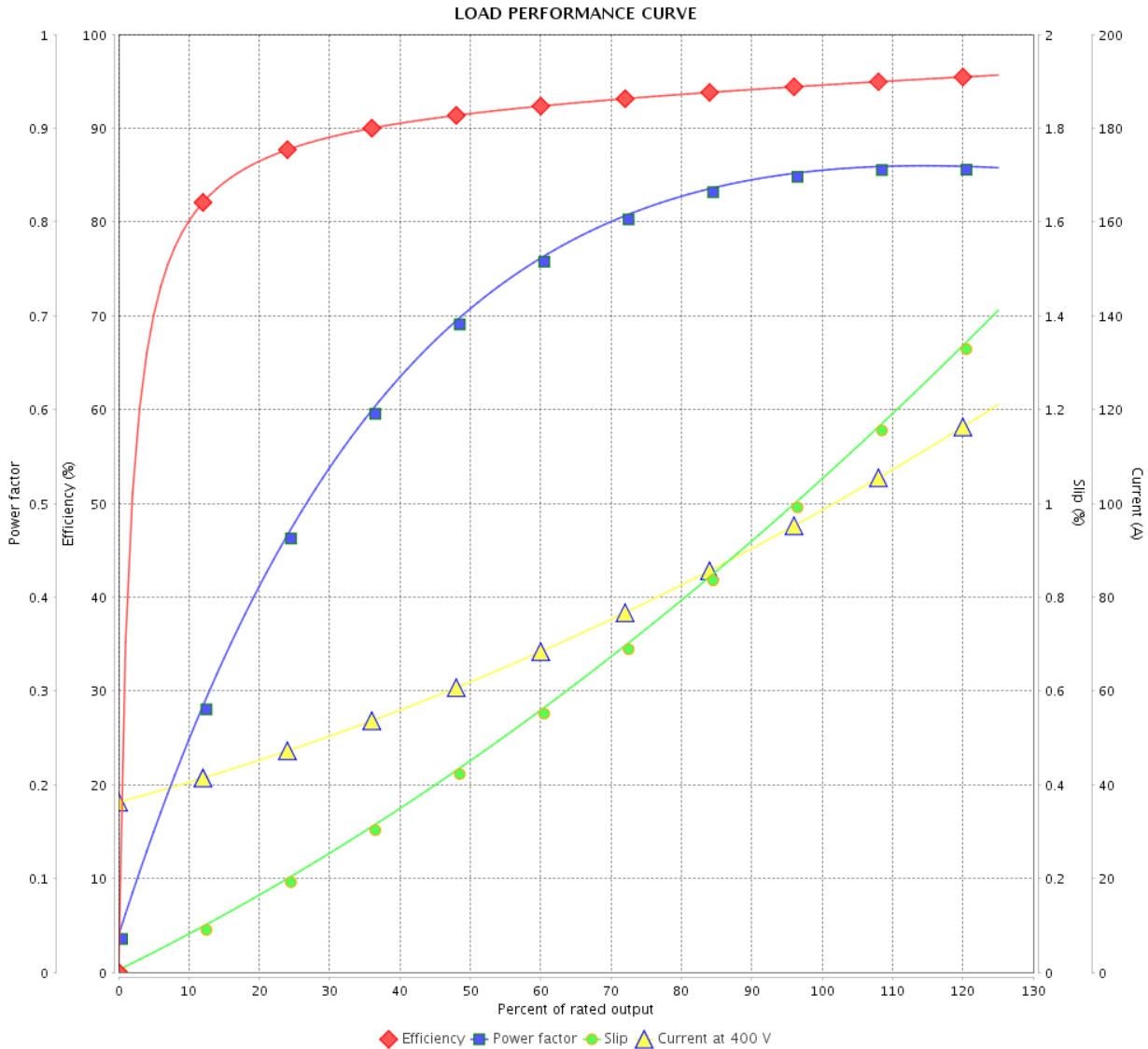


Customer :

Product line : W40 NEMA Premium Efficiency Three-Phase

Product code : 14285004

Catalog # : 10018OT3E404T-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

Rev.	Changes Summary	Performed	Checked	Date
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Date	12/04/2022			



# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage

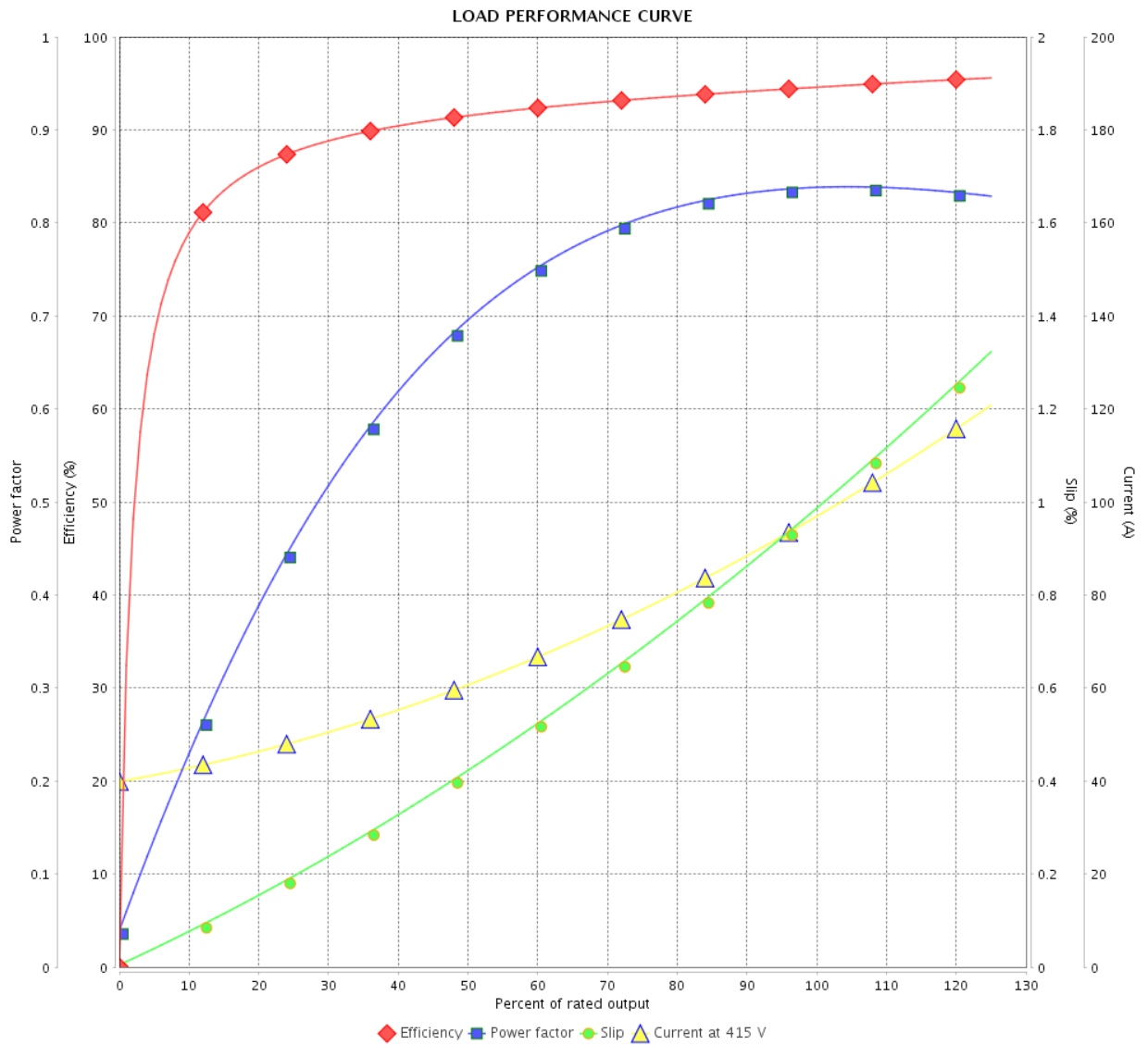


Customer : \_\_\_\_\_

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 14285004

Catalog # : 10018OT3E404T-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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Breakdown torque : 250 %  
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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

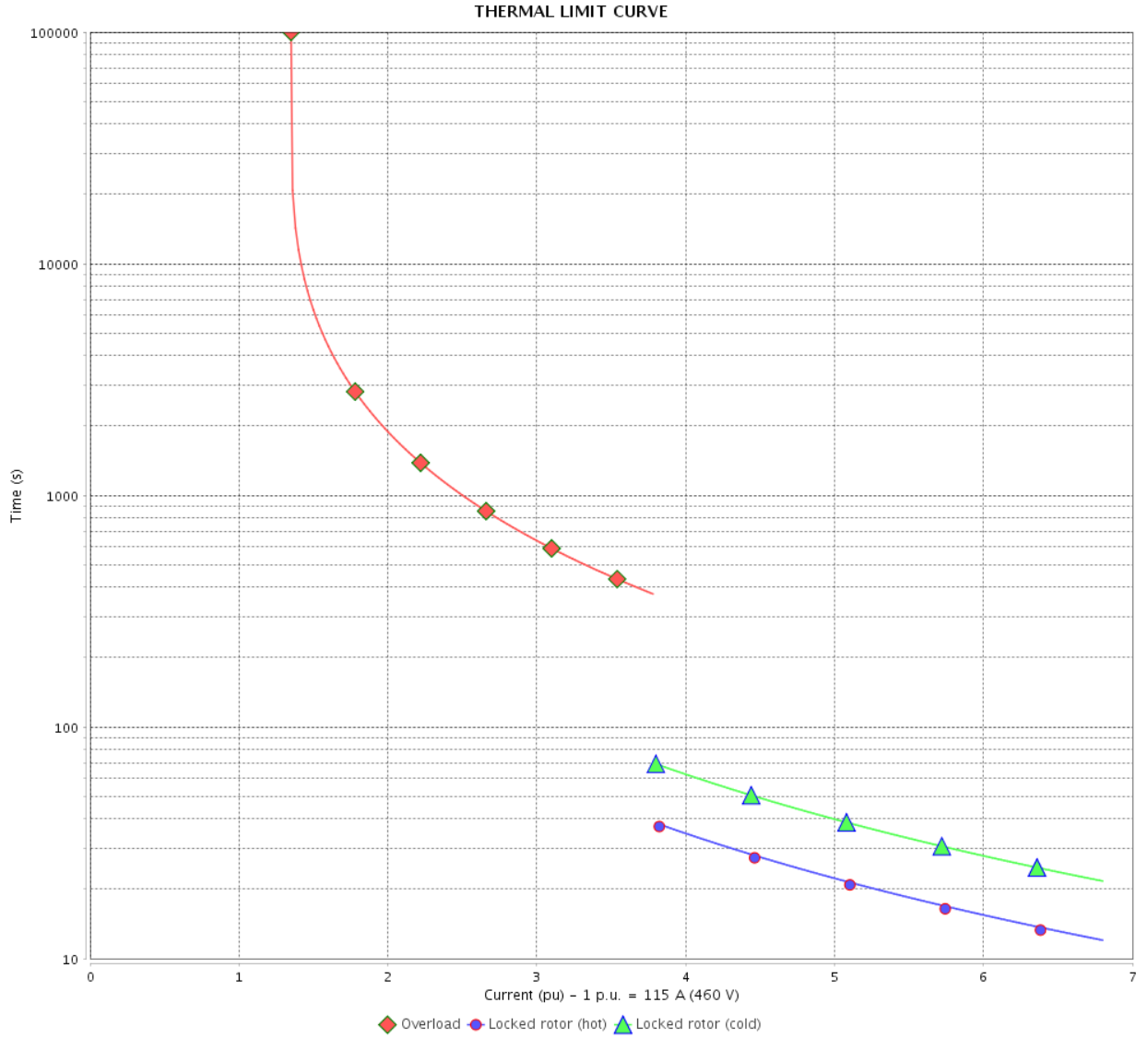
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Performed by				
Checked by			Page	Revision
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Three Phase Induction Motor - Squirrel Cage



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# THERMAL LIMIT CURVE



## Three Phase Induction Motor - Squirrel Cage

Customer :

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 Product code : 14285004  
 Catalog # : 10018OT3E404T-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

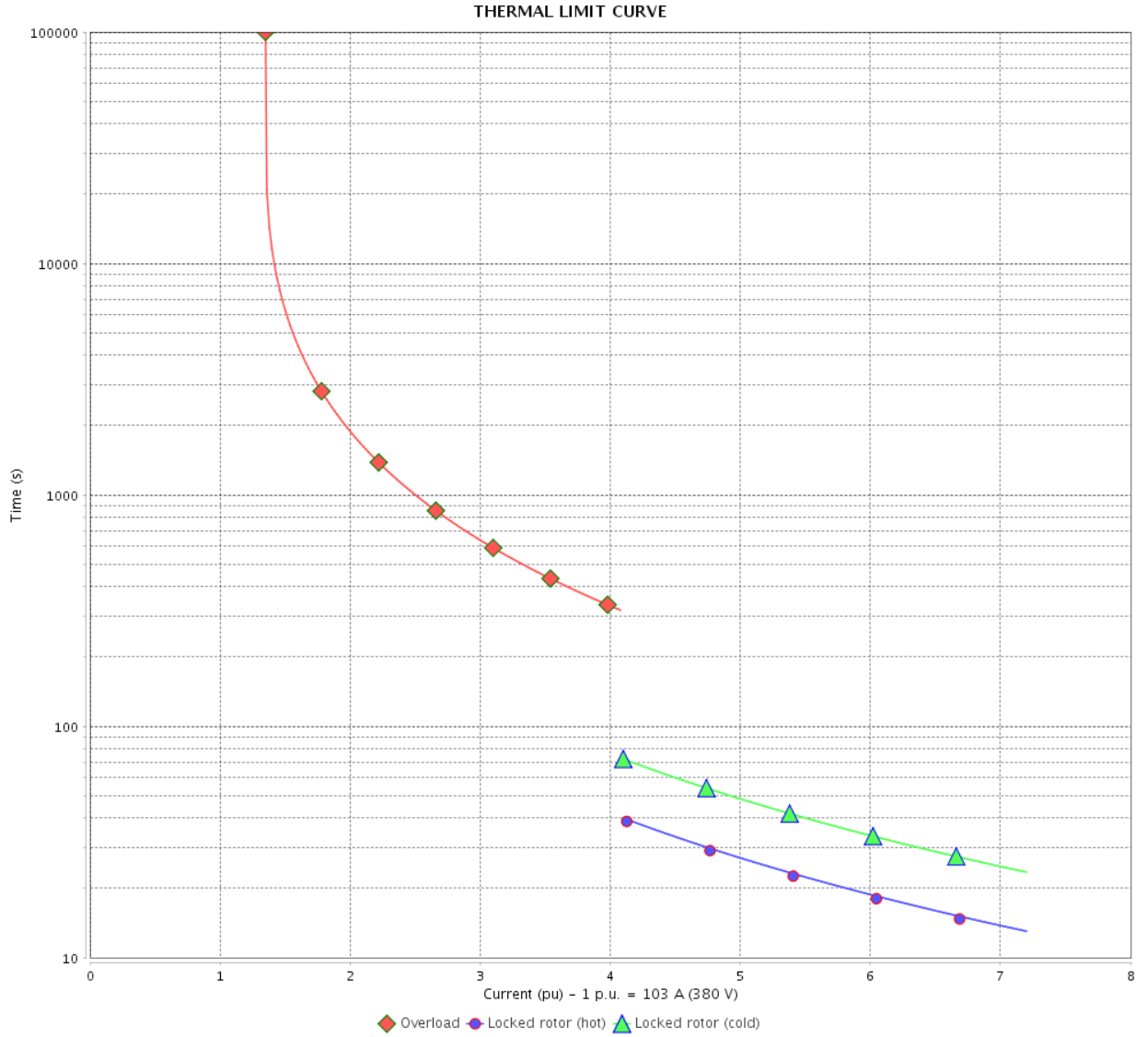
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Date	12/04/2022			

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Three Phase Induction Motor - Squirrel Cage



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# THERMAL LIMIT CURVE



## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 14285004

Catalog # : 10018OT3E404T-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

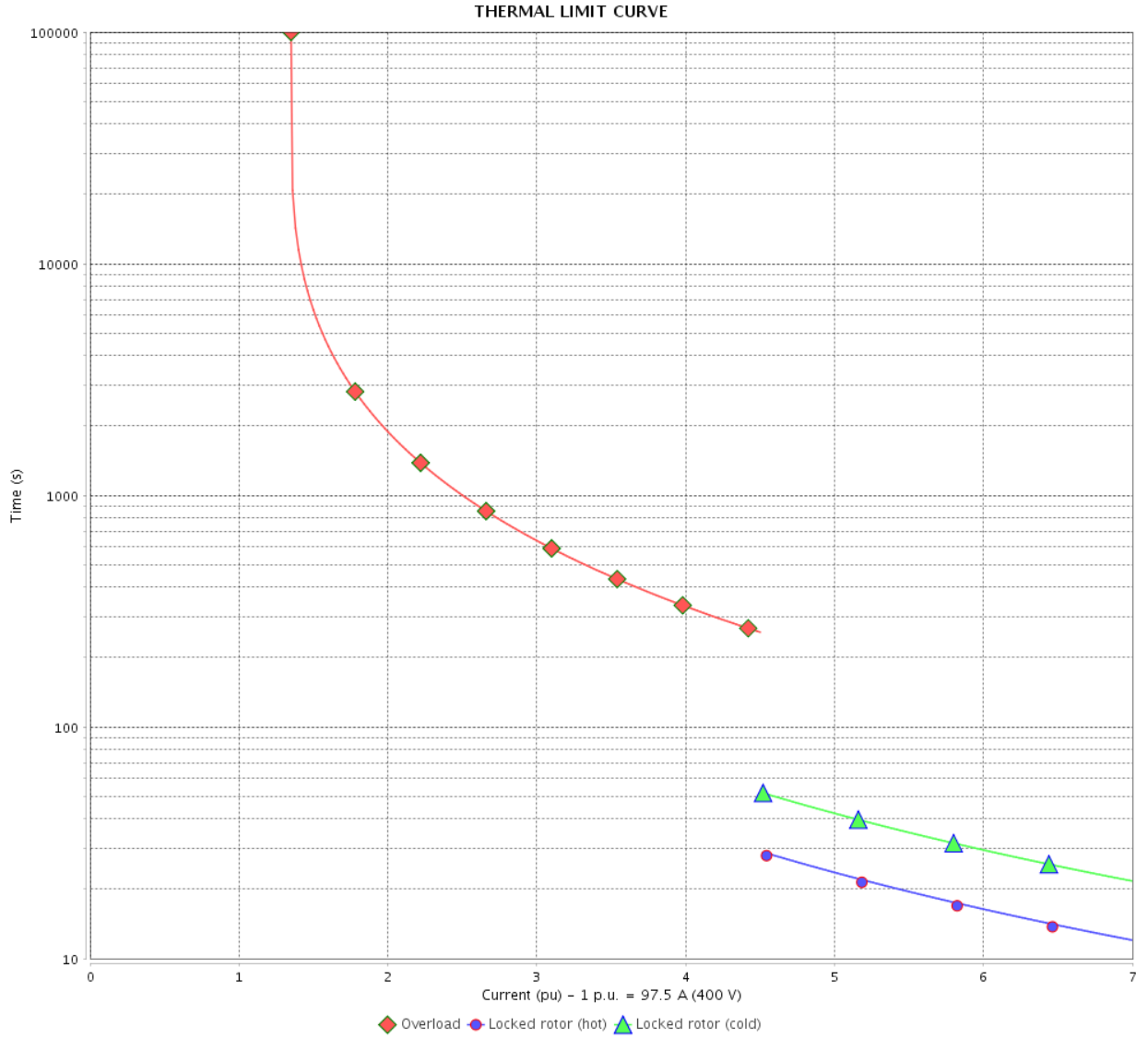
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Date	12/04/2022			

# 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 : 14285004

Catalog # : 10018OT3E404T-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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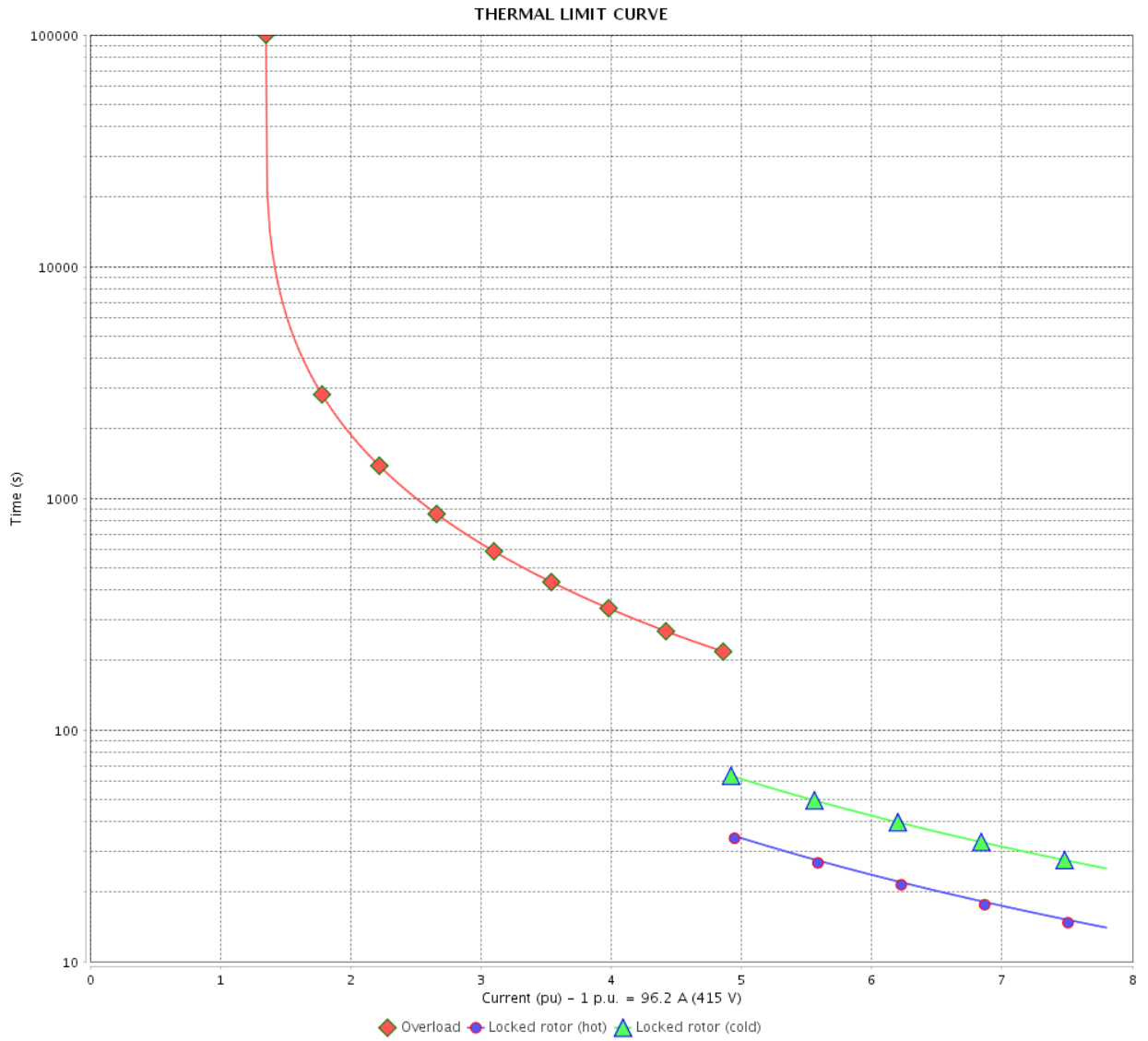


# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



Rev.	Changes Summary	Performed	Checked	Date
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Date				

# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



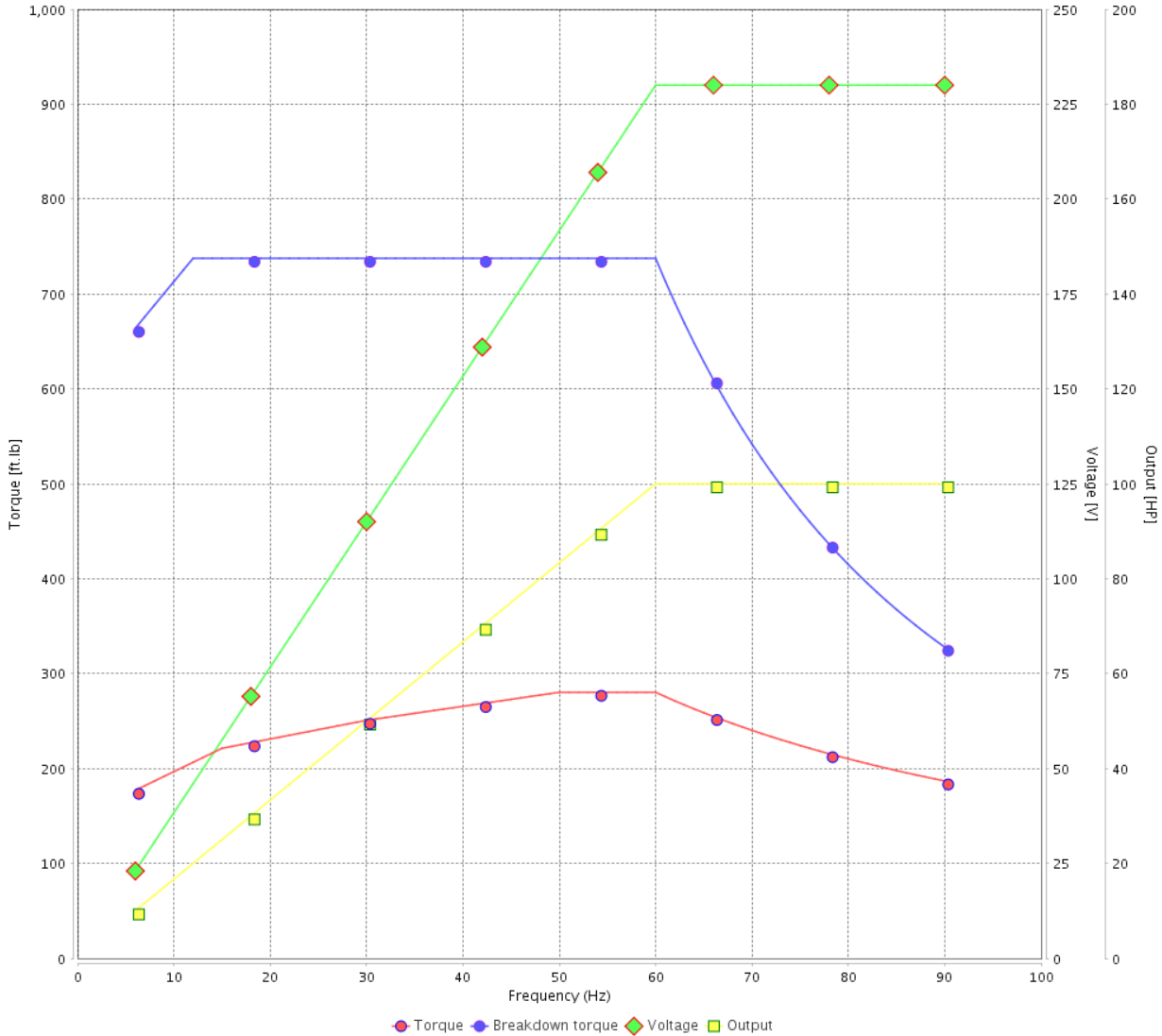
Customer :

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Product code : 14285004

Catalog # : 10018OT3E404T-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

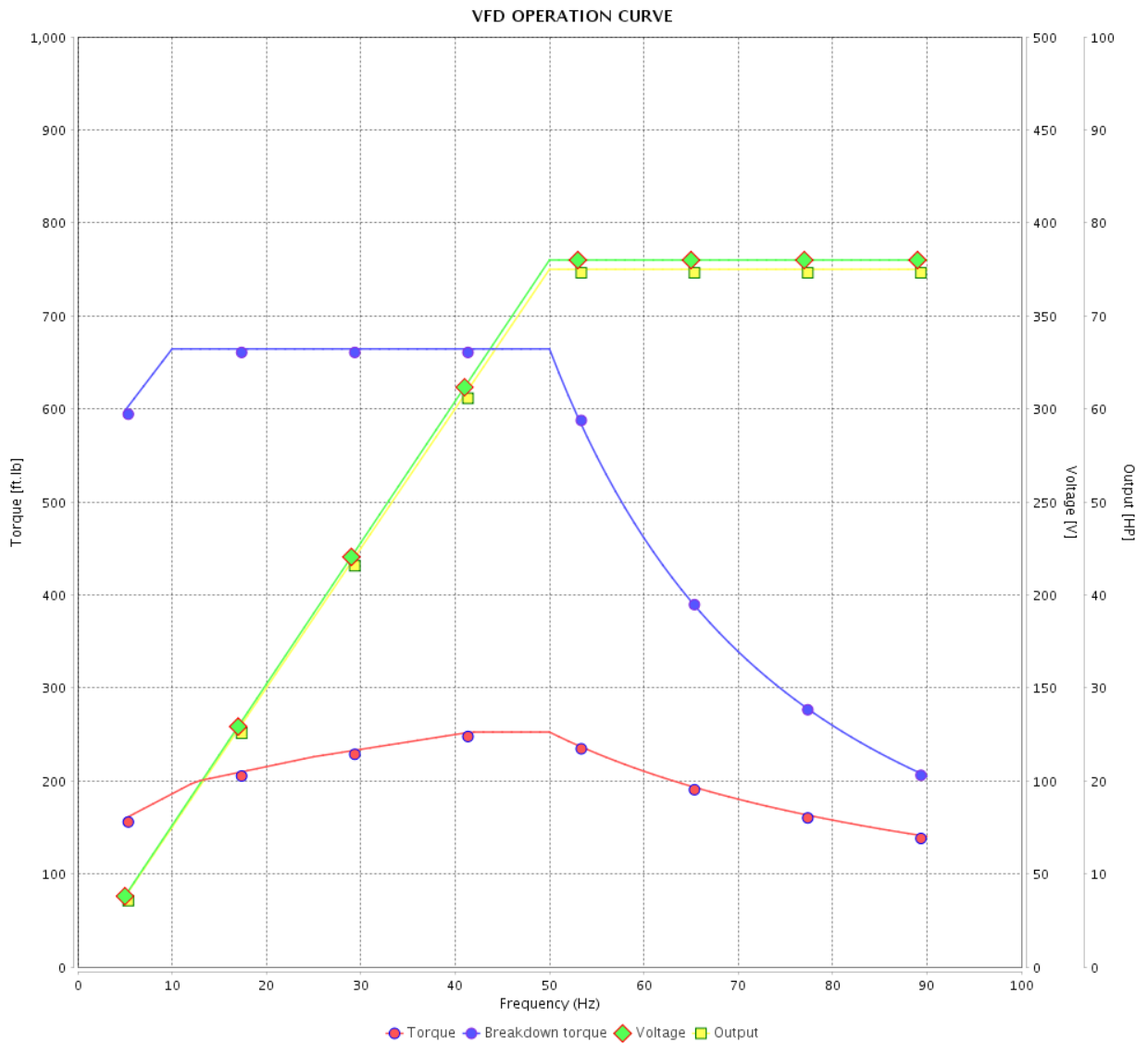


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Three-Phase

Product code : 14285004

Catalog # : 10018OT3E404T-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



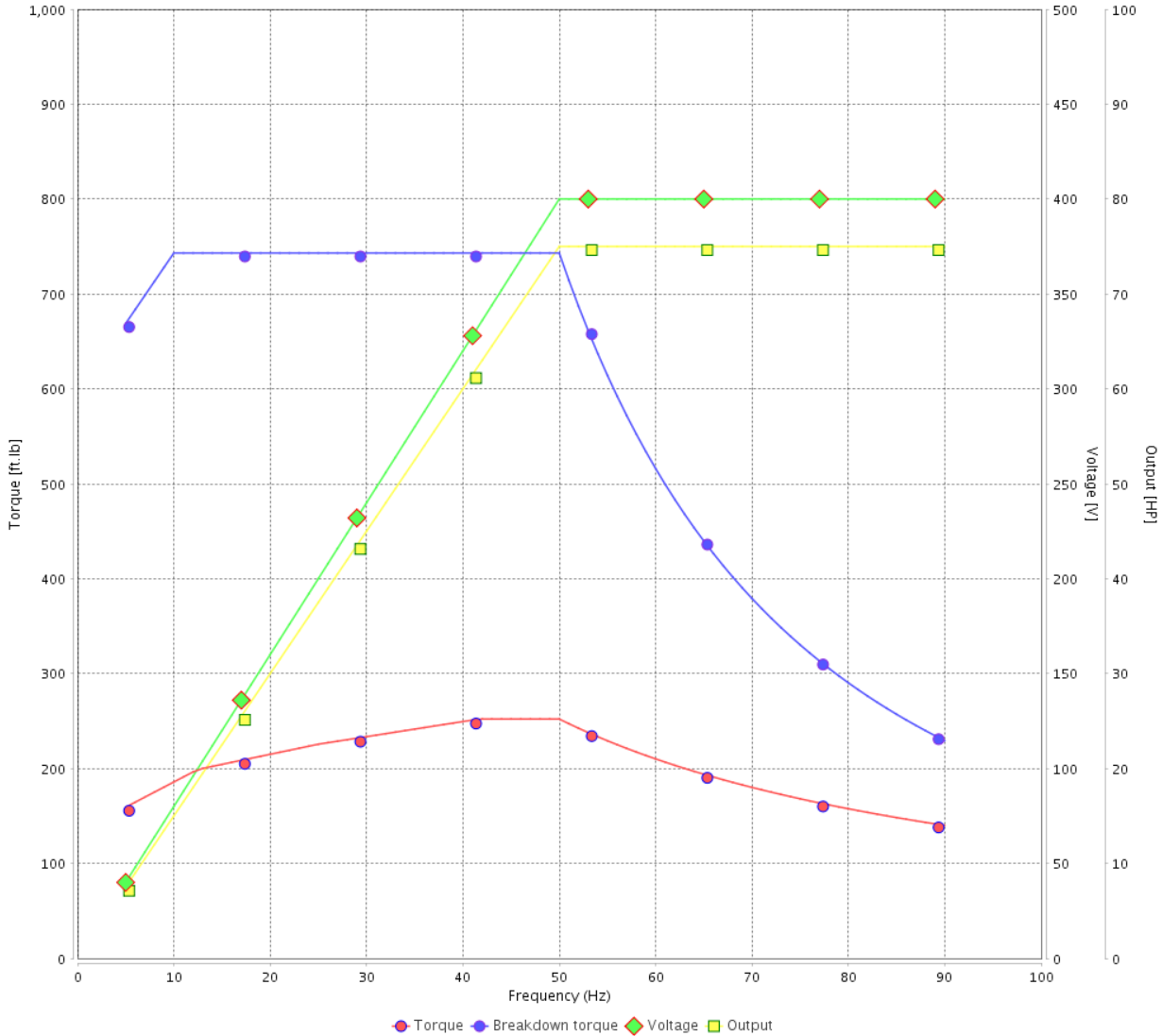
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Product code : 14285004

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VFD OPERATION CURVE



Performance : 400 V 50 Hz 4P IE3

Rated current : 97.5 A  
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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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# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

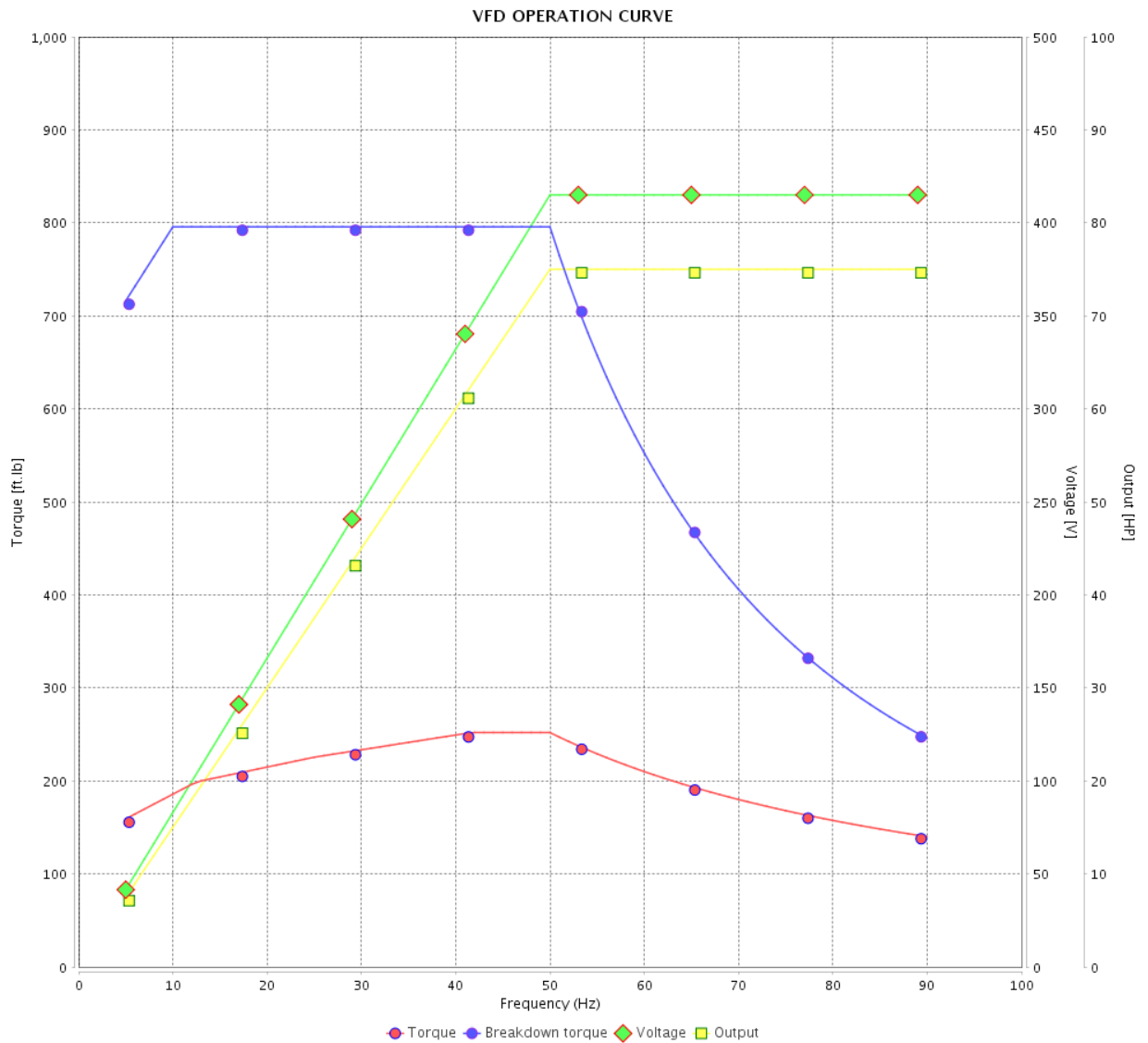


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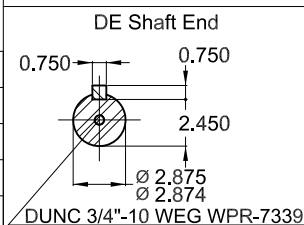
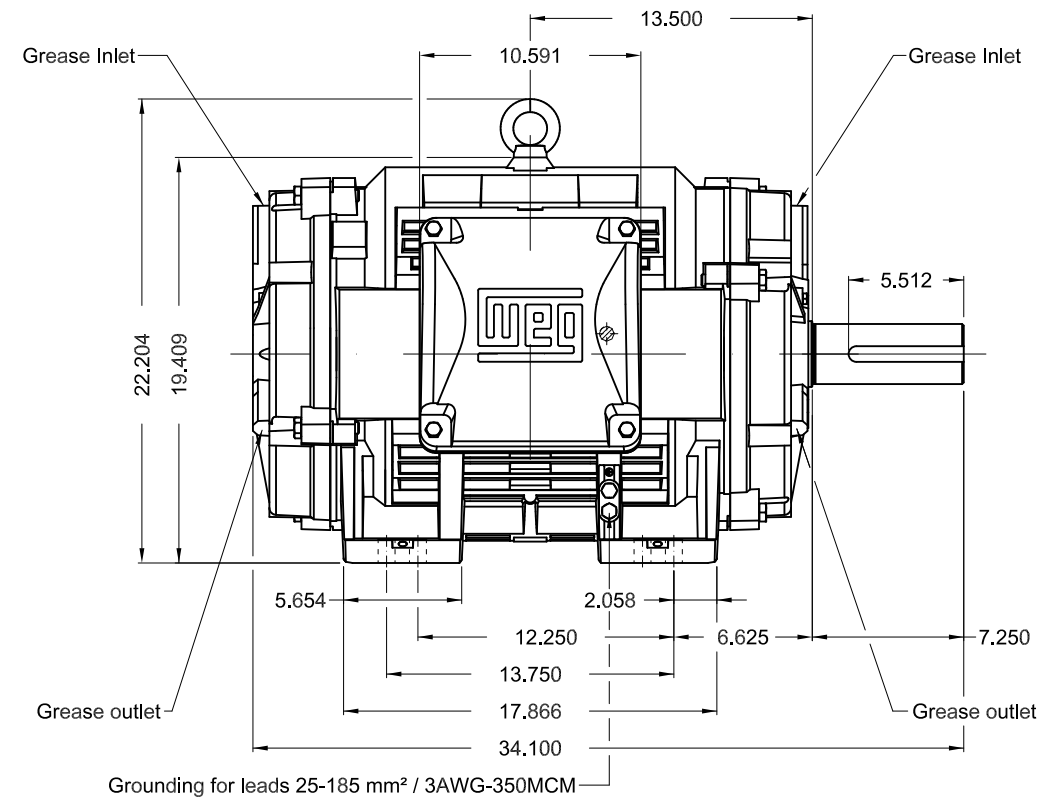
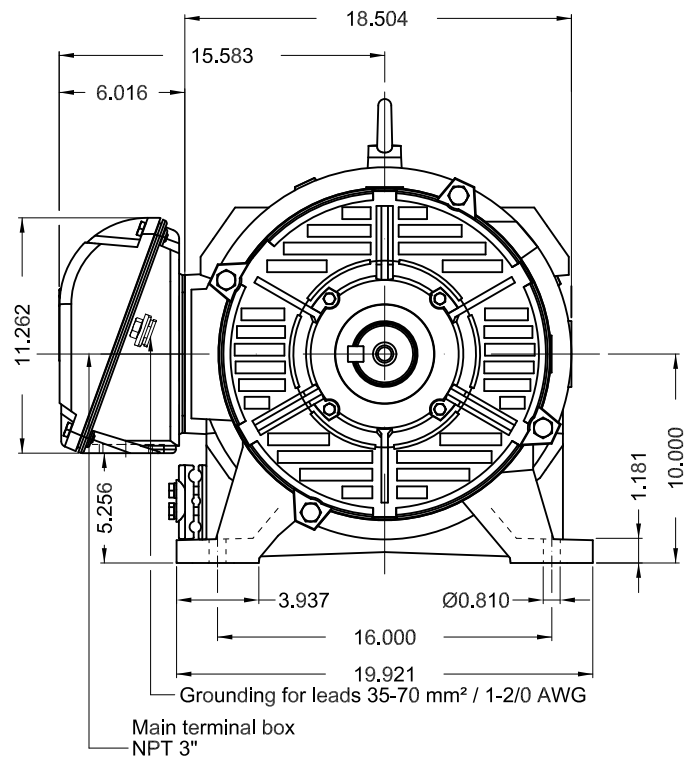


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Rated current : 96.2 A  
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Locked rotor torque : 270 %  
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Rated speed : 1485 rpm

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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Internal AEGIS ground ring on the DE

Color RAL 5009

Painting plan 203A

Mounting NEMA F-1

Mounting B3R(D)

100 HP 04 Poles 60 Hz

A

1:9

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

PREVIEW  
WDD



SHEET 1 / 1

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



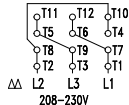
IEC 60034-1  
 MOD.T01#FOXON



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

MODEL 100180T3E404T-W40G  
 MADE IN BRAZIL  
 14285004

PH 3	FR 404/5T	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.	957 Lbs	



→ 6316-C3(34g)  
 → 6212-Z-C3(13g)

MOBIL POLYREX EM  
 20000 h