

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :					
Product line	: W40 NEMA Premium Efficiency Three-Phase	Product code :	14497382		
		Catalog # :	05036OT3E324TSC-W40		
Frame	: 324TSC	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>	: 432 lb		
Protection degree	: IP23	Moment of inertia (J)	: 3.02 sq.ft.lb		
Design	: B				
Output [HP]	50	40	40	40	
Poles	2	2	2	2	
Frequency [Hz]	60	50	50	50	
Rated voltage [V]	230/460	380	400	415	
Rated current [A]	119/59.4	57.5	56.6	56.6	
L. R. Amperes [A]	748/374	368	374	385	
LRC [A]	6.3x(Code G)	6.4x(Code G)	6.6x(Code H)	6.8x(Code H)	
No load current [A]	45.0/22.5	20.5	24.0	27.0	
Rated speed [RPM]	3560	2960	2965	2965	
Slip [%]	1.11	1.33	1.17	1.17	
Rated torque [ft.lb]	73.8	71.0	70.8	70.8	
Locked rotor torque [%]	200	200	229	240	
Breakdown torque [%]	220	220	240	260	
Service factor	1.25	1.00	1.00	1.00	
Temperature rise	80 K	80 K	80 K	80 K	
Locked rotor time	25s (cold) 14s (hot)	19s (cold) 11s (hot)	21s (cold) 12s (hot)	19s (cold) 11s (hot)	
Noise level <sup>2</sup>	75.0 dB(A)				
Efficiency (%)	25%	91.5	88.3	88.4	88.5
	50%	91.7	90.0	90.0	90.1
	75%	93.0	91.6	91.7	91.7
	100%	93.0	93.3	93.3	93.3
Power Factor	25%	0.46	0.48	0.42	0.37
	50%	0.72	0.73	0.67	0.60
	75%	0.81	0.82	0.77	0.73
	100%	0.84	0.85	0.82	0.79
Bearing type	: Drive end : 6312 Z C3	Non drive end : 6211 Z C3	Foundation loads		
Sealing	: Without	Without	Max. traction		
	Bearing Seal	Bearing Seal	Max. compression		
Lubrication interval	: 19658 h	20000 h			
Lubricant amount	: 21 g	11 g			
Lubricant type	: Mobil Polyrex EM				
Notes					
USABLE @208V 130A SF 1.15 SFA 149A					
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



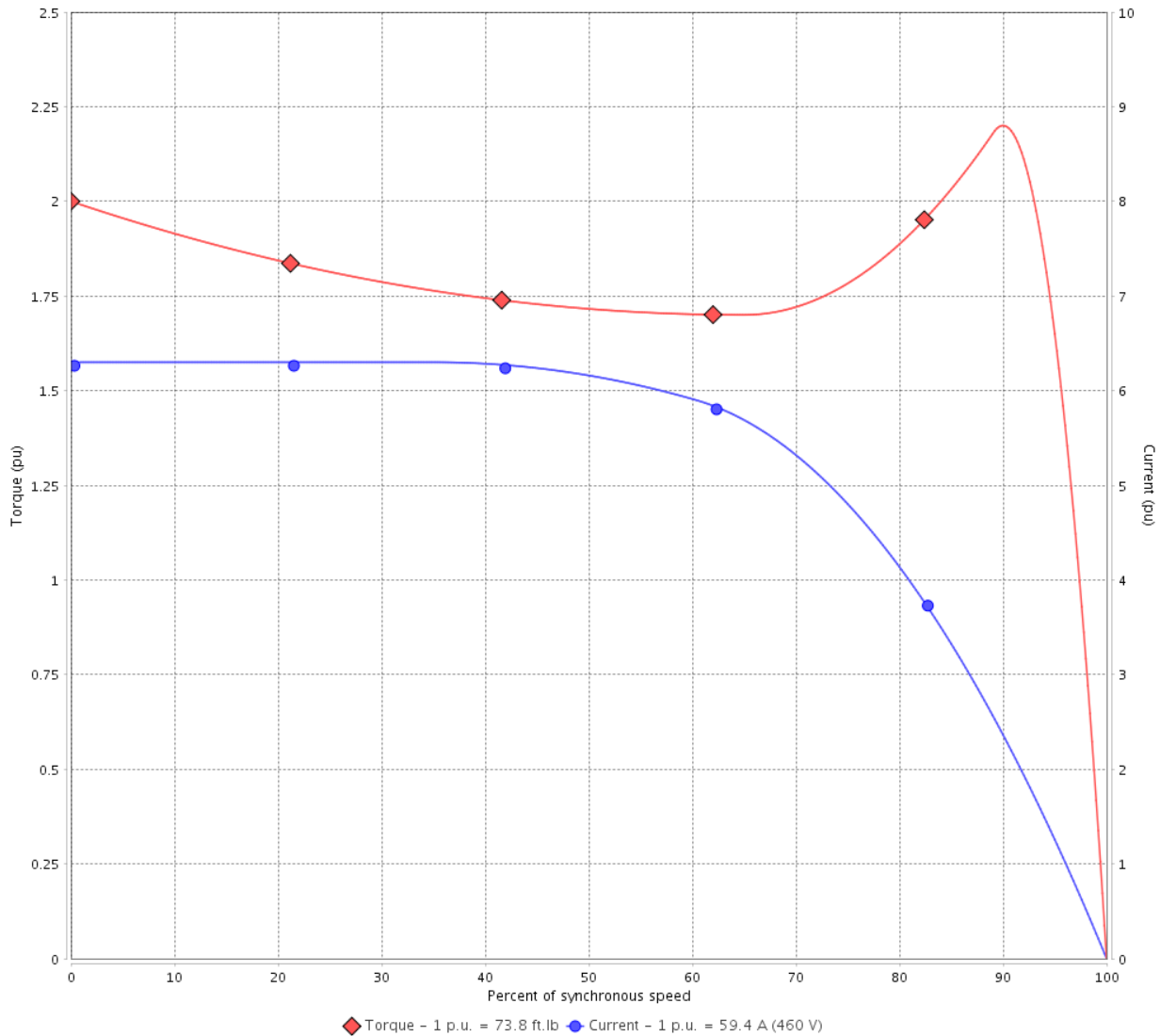
Customer :

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 14497382

Catalog # : 05036OT3E324TSC-W40

TORQUE AND CURRENT VS SPEED CURVE



Performance : 230/460 V 60 Hz 2P

Rated current : 119/59.4 A  
LRC : 6.3  
Rated torque : 73.8 ft.lb  
Locked rotor torque : 200 %  
Breakdown torque : 220 %  
Rated speed : 3560 rpm

Moment of inertia (J) : 3.02 sq.ft.lb  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.25  
Temperature rise : 80 K  
Design : B

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

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# TORQUE AND CURRENT VS SPEED CURVE



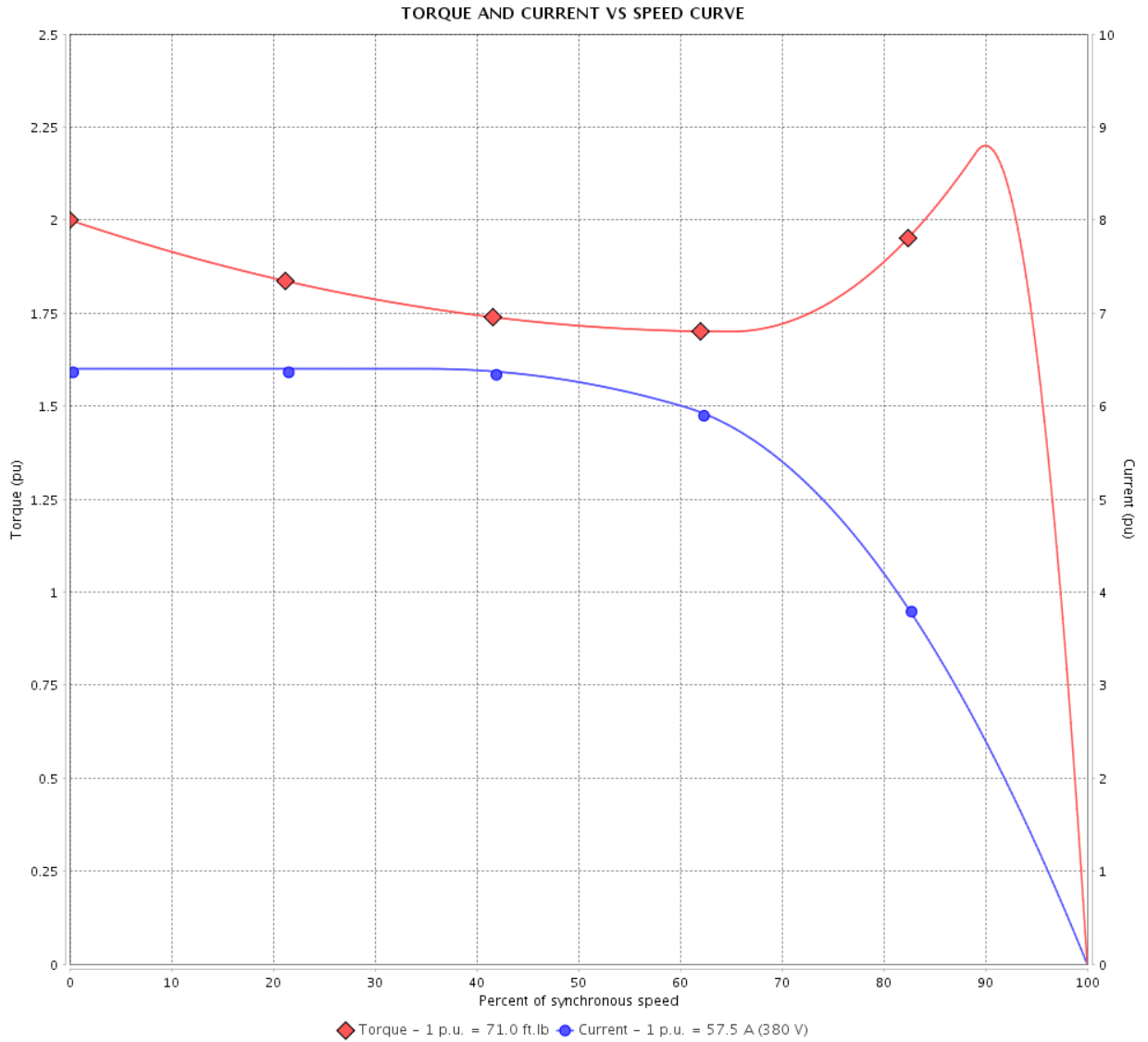
## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 14497382

Catalog # : 05036OT3E324TSC-W40



Performance : 380 V 50 Hz 2P IE3

Rated current	: 57.5 A	Moment of inertia (J)	: 3.02 sq.ft.lb
LRC	: 6.4	Duty cycle	: Cont.(S1)
Rated torque	: 71.0 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.00
Breakdown torque	: 220 %	Temperature rise	: 80 K
Rated speed	: 2960 rpm	Design	: B

Locked rotor time : 19s (cold) 11s (hot)

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# TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



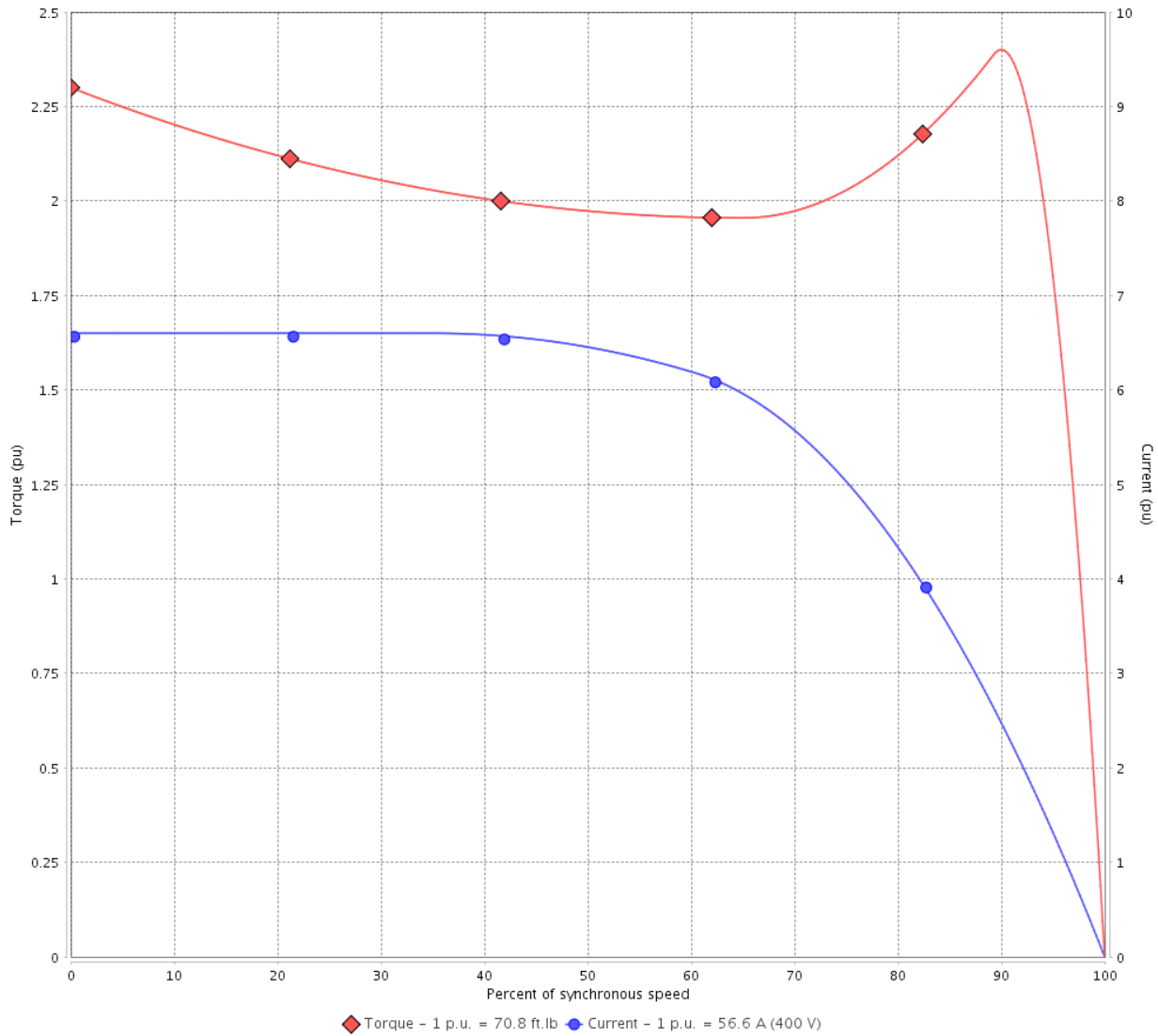
Customer :

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 14497382

Catalog # : 05036OT3E324TSC-W40

TORQUE AND CURRENT VS SPEED CURVE



Performance : 400 V 50 Hz 2P IE3

Rated current	: 56.6 A	Moment of inertia (J)	: 3.02 sq.ft.lb
LRC	: 6.6	Duty cycle	: Cont.(S1)
Rated torque	: 70.8 ft.lb	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.00
Breakdown torque	: 240 %	Temperature rise	: 80 K
Rated speed	: 2965 rpm	Design	: B

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

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# TORQUE AND CURRENT VS SPEED CURVE



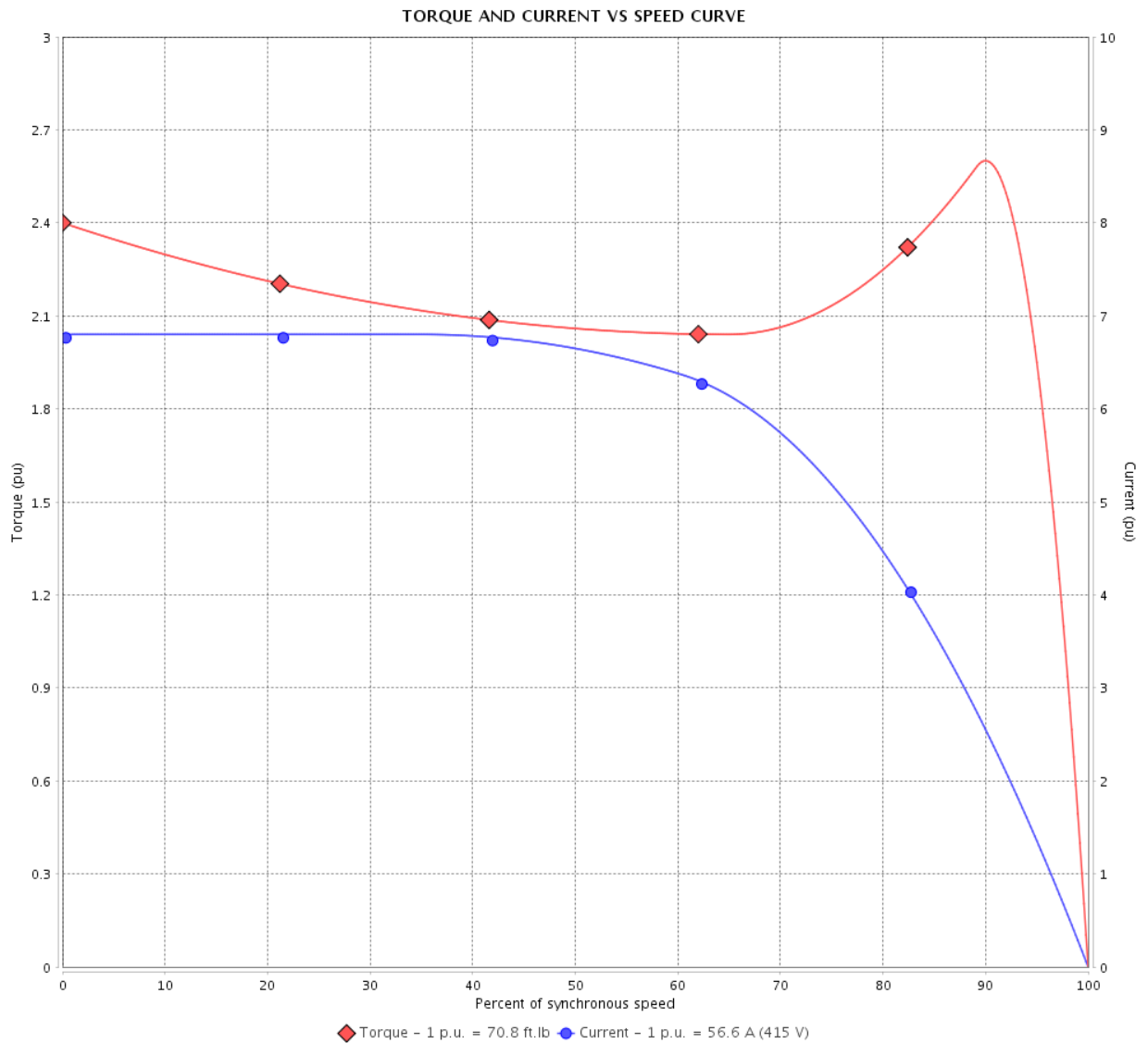
## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 14497382

Catalog # : 05036OT3E324TSC-W40



Performance : 415 V 50 Hz 2P IE3

Rated current : 56.6 A  
LRC : 6.8  
Rated torque : 70.8 ft.lb  
Locked rotor torque : 240 %  
Breakdown torque : 260 %  
Rated speed : 2965 rpm

Moment of inertia (J) : 3.02 sq.ft.lb  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.00  
Temperature rise : 80 K  
Design : B

Locked rotor time : 19s (cold) 11s (hot)

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# LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage

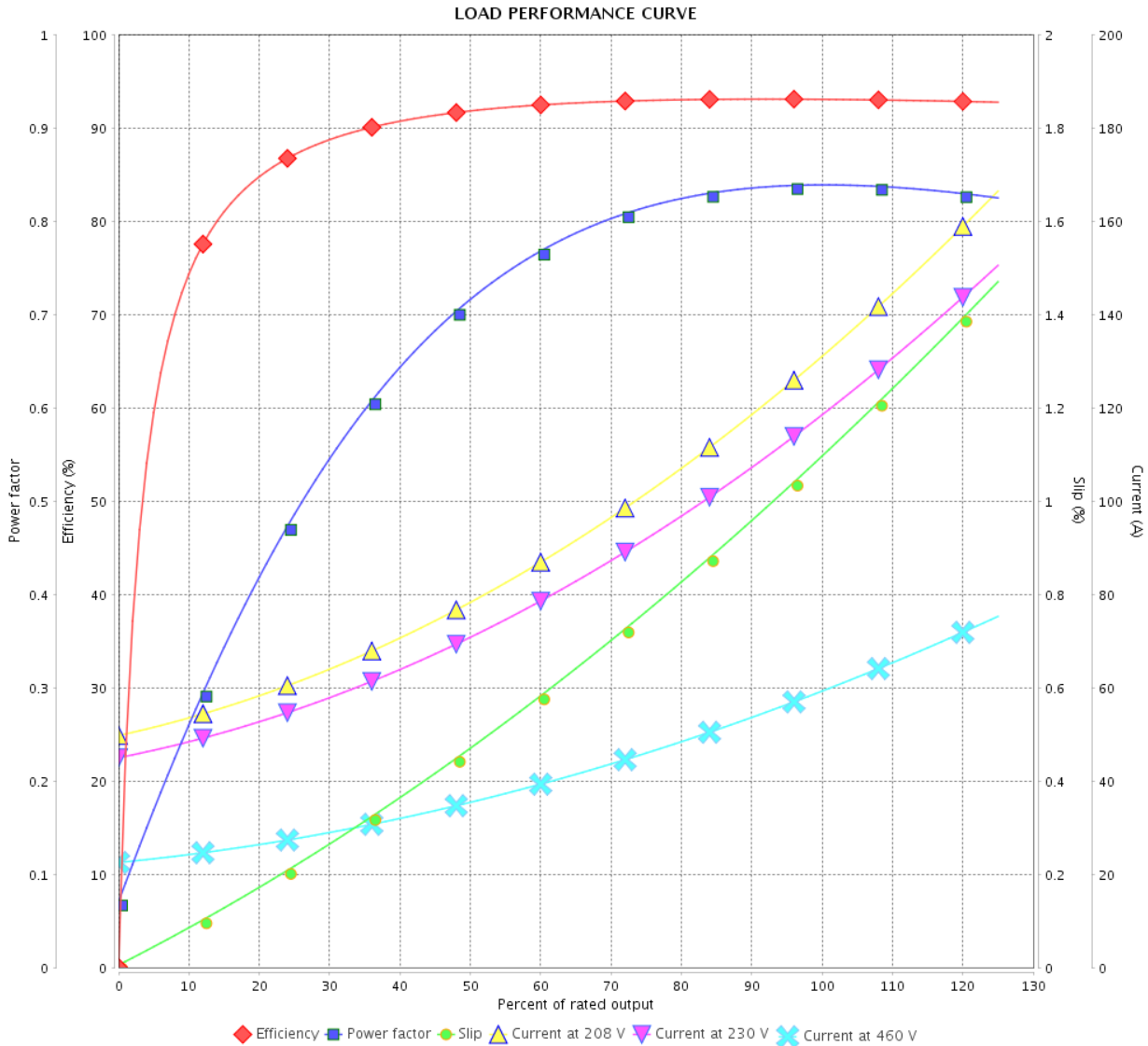


Customer : \_\_\_\_\_

Product line : W40 NEMA Premium Efficiency Three-Phase

Product code : 14497382

Catalog # : 05036OT3E324TSC-W40



Performance : 230/460 V 60 Hz 2P

Rated current : 119/59.4 A  
 LRC : 6.3  
 Rated torque : 73.8 ft.lb  
 Locked rotor torque : 200 %  
 Breakdown torque : 220 %  
 Rated speed : 3560 rpm

Moment of inertia (J) : 3.02 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

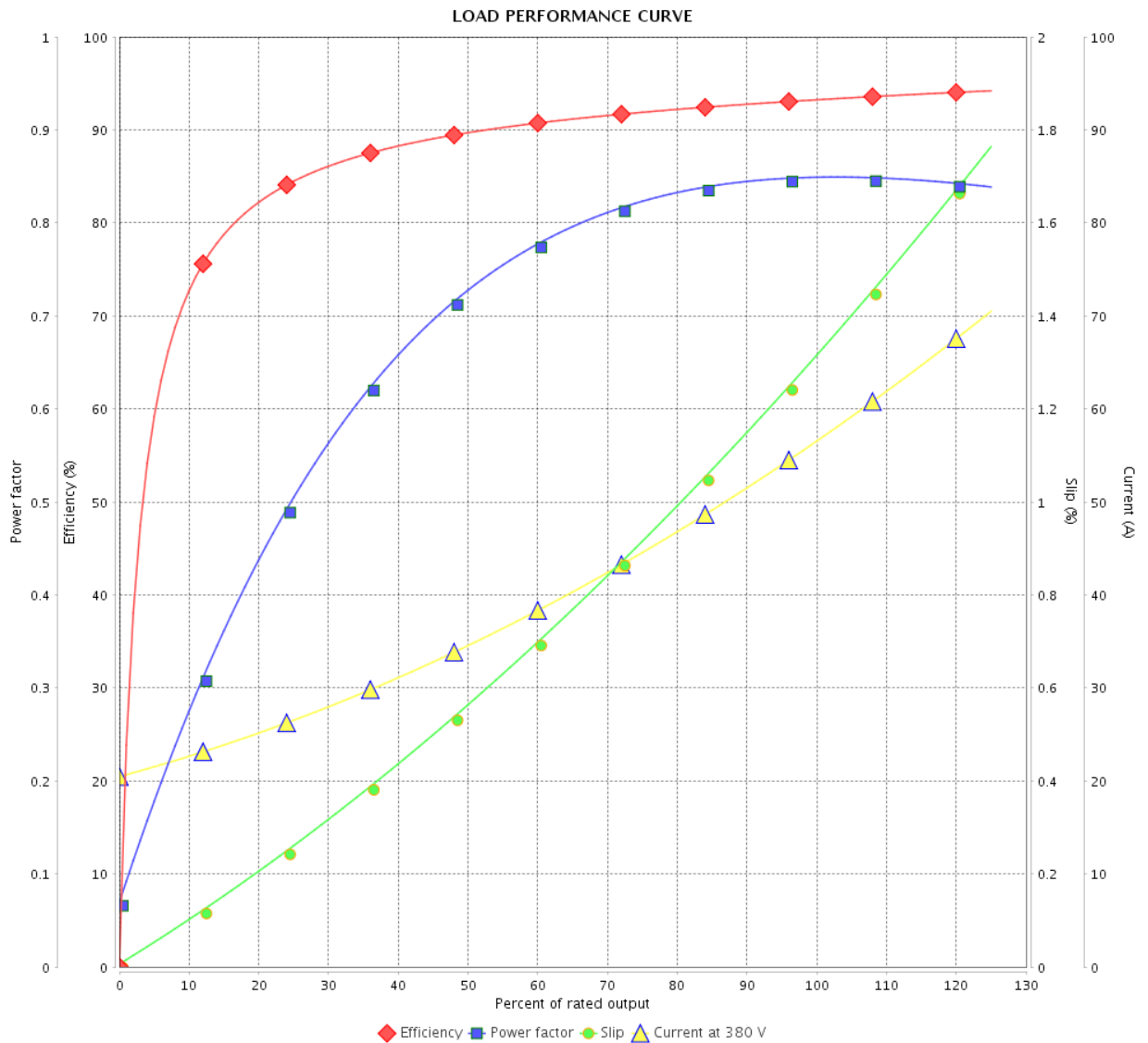


Customer : \_\_\_\_\_

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 14497382

Catalog # : 05036OT3E324TSC-W40



Performance : 380 V 50 Hz 2P IE3

Rated current : 57.5 A  
 LRC : 6.4  
 Rated torque : 71.0 ft.lb  
 Locked rotor torque : 200 %  
 Breakdown torque : 220 %  
 Rated speed : 2960 rpm

Moment of inertia (J) : 3.02 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



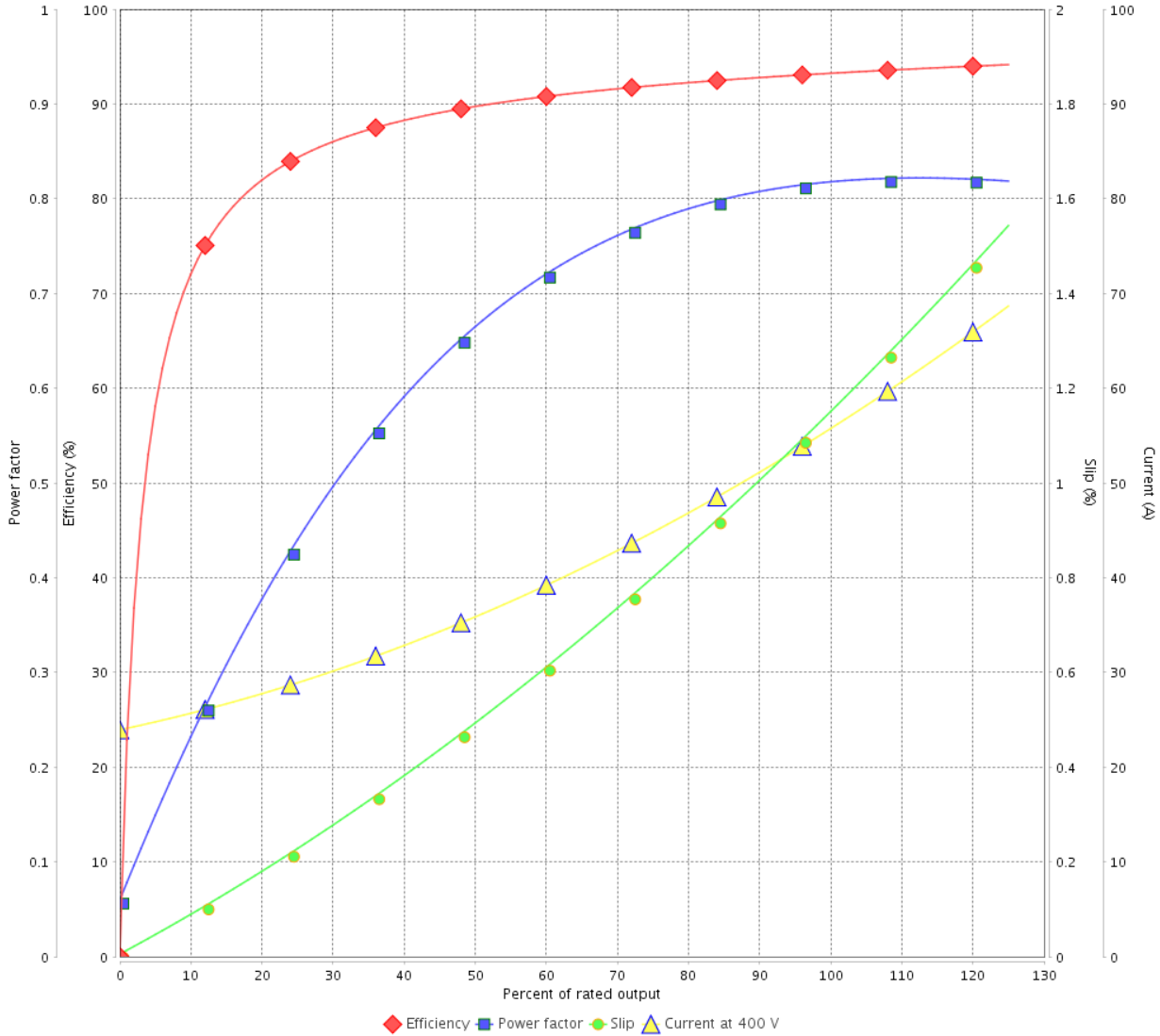
Customer :

Product line : W40 NEMA Premium Efficiency Three-Phase

Product code : 14497382

Catalog # : 05036OT3E324TSC-W40

LOAD PERFORMANCE CURVE



Performance : 400 V 50 Hz 2P IE3

Rated current : 56.6 A  
 LRC : 6.6  
 Rated torque : 70.8 ft.lb  
 Locked rotor torque : 229 %  
 Breakdown torque : 240 %  
 Rated speed : 2965 rpm

Moment of inertia (J) : 3.02 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

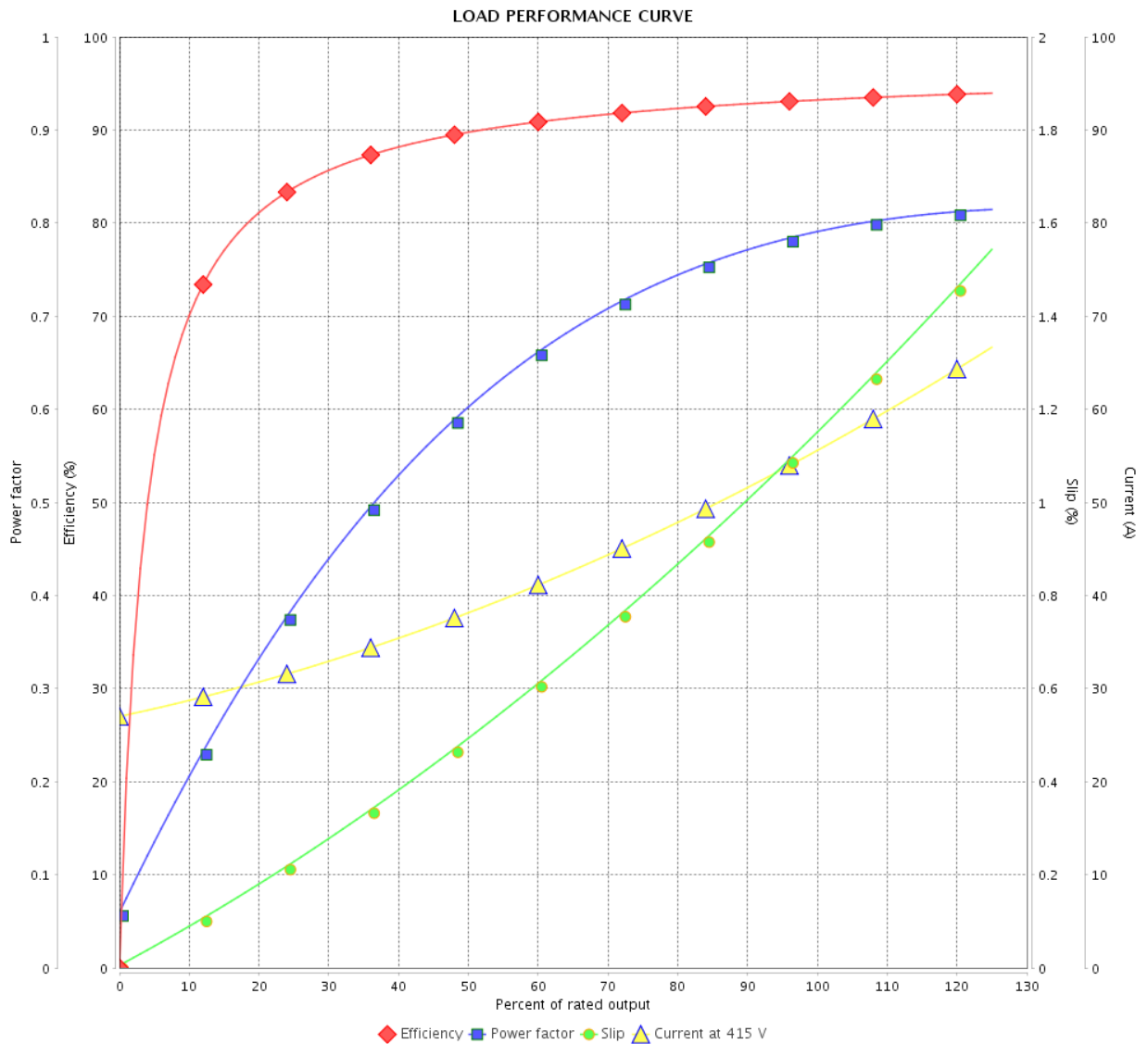


Customer : \_\_\_\_\_

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 14497382

Catalog # : 05036OT3E324TSC-W40



Performance : 415 V 50 Hz 2P IE3

Rated current : 56.6 A  
 LRC : 6.8  
 Rated torque : 70.8 ft.lb  
 Locked rotor torque : 240 %  
 Breakdown torque : 260 %  
 Rated speed : 2965 rpm

Moment of inertia (J) : 3.02 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



## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 14497382

Catalog # : 05036OT3E324TSC-W40

Performance : 230/460 V 60 Hz 2P

Rated current : 119/59.4 A  
LRC : 6.3  
Rated torque : 73.8 ft.lb  
Locked rotor torque : 200 %  
Breakdown torque : 220 %  
Rated speed : 3560 rpm

Moment of inertia (J) : 3.02 sq.ft.lb  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.25  
Temperature rise : 80 K  
Design : B

Heating constant

Cooling constant

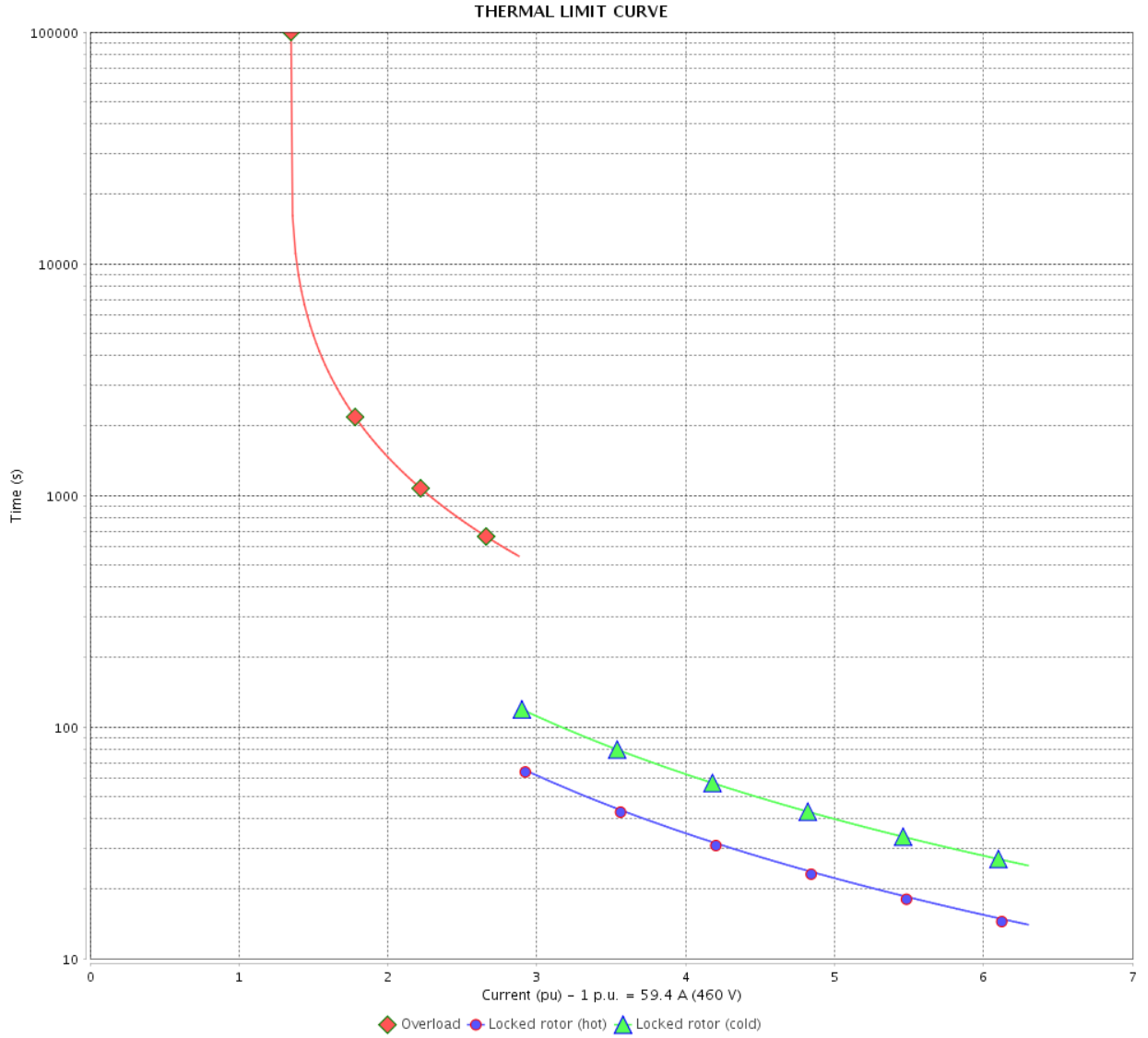
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# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



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## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 14497382

Catalog # : 05036OT3E324TSC-W40

Performance : 380 V 50 Hz 2P IE3

Rated current	: 57.5 A	Moment of inertia (J)	: 3.02 sq.ft.lb
LRC	: 6.4	Duty cycle	: Cont.(S1)
Rated torque	: 71.0 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.00
Breakdown torque	: 220 %	Temperature rise	: 80 K
Rated speed	: 2960 rpm	Design	: B

Heating constant

Cooling constant

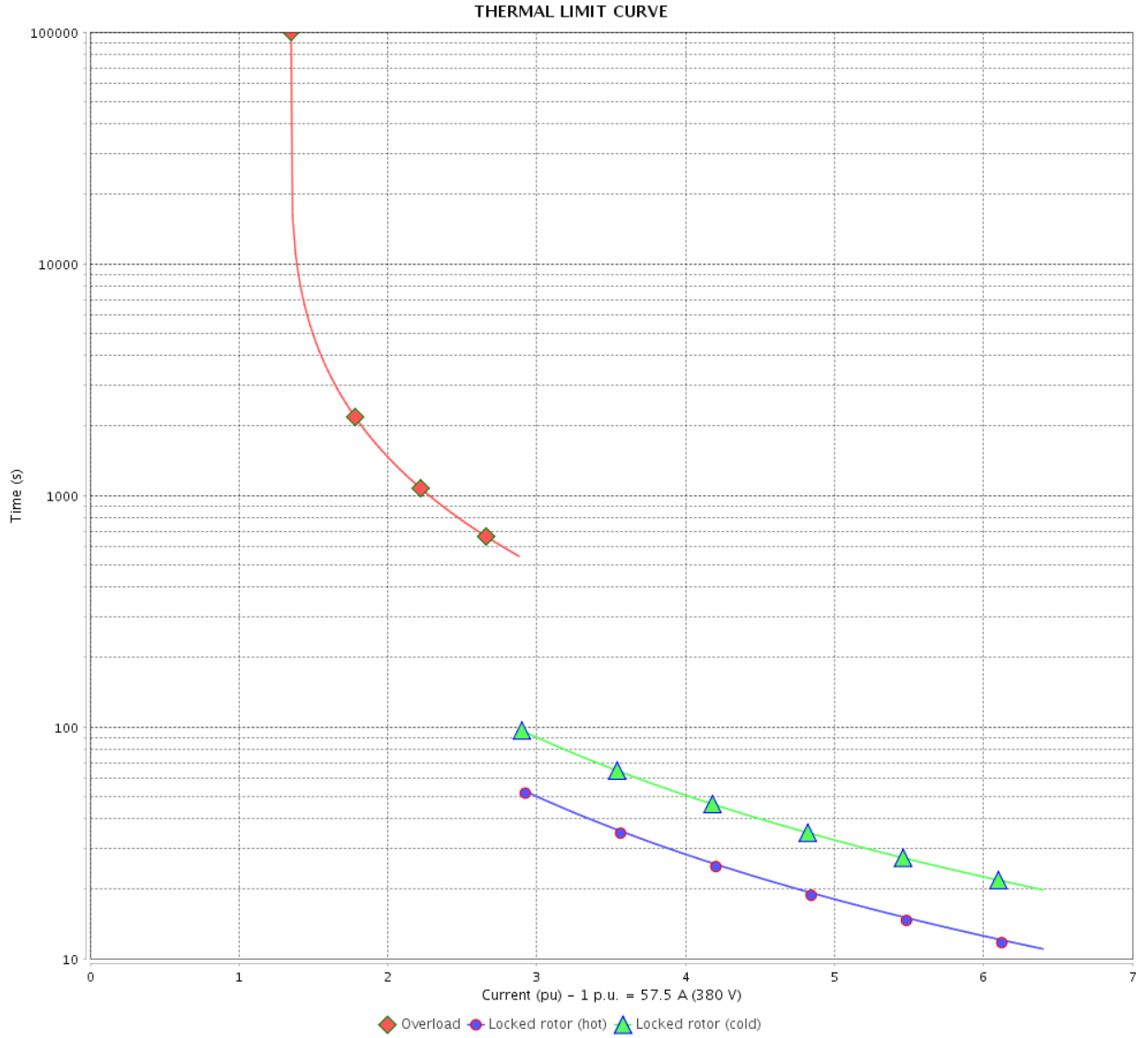
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# THERMAL LIMIT CURVE

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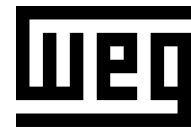


Customer : \_\_\_\_\_



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# THERMAL LIMIT CURVE



## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 14497382

Catalog # : 05036OT3E324TSC-W40

Performance : 400 V 50 Hz 2P IE3

Rated current	: 56.6 A	Moment of inertia (J)	: 3.02 sq.ft.lb
LRC	: 6.6	Duty cycle	: Cont.(S1)
Rated torque	: 70.8 ft.lb	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.00
Breakdown torque	: 240 %	Temperature rise	: 80 K
Rated speed	: 2965 rpm	Design	: B

Heating constant

Cooling constant

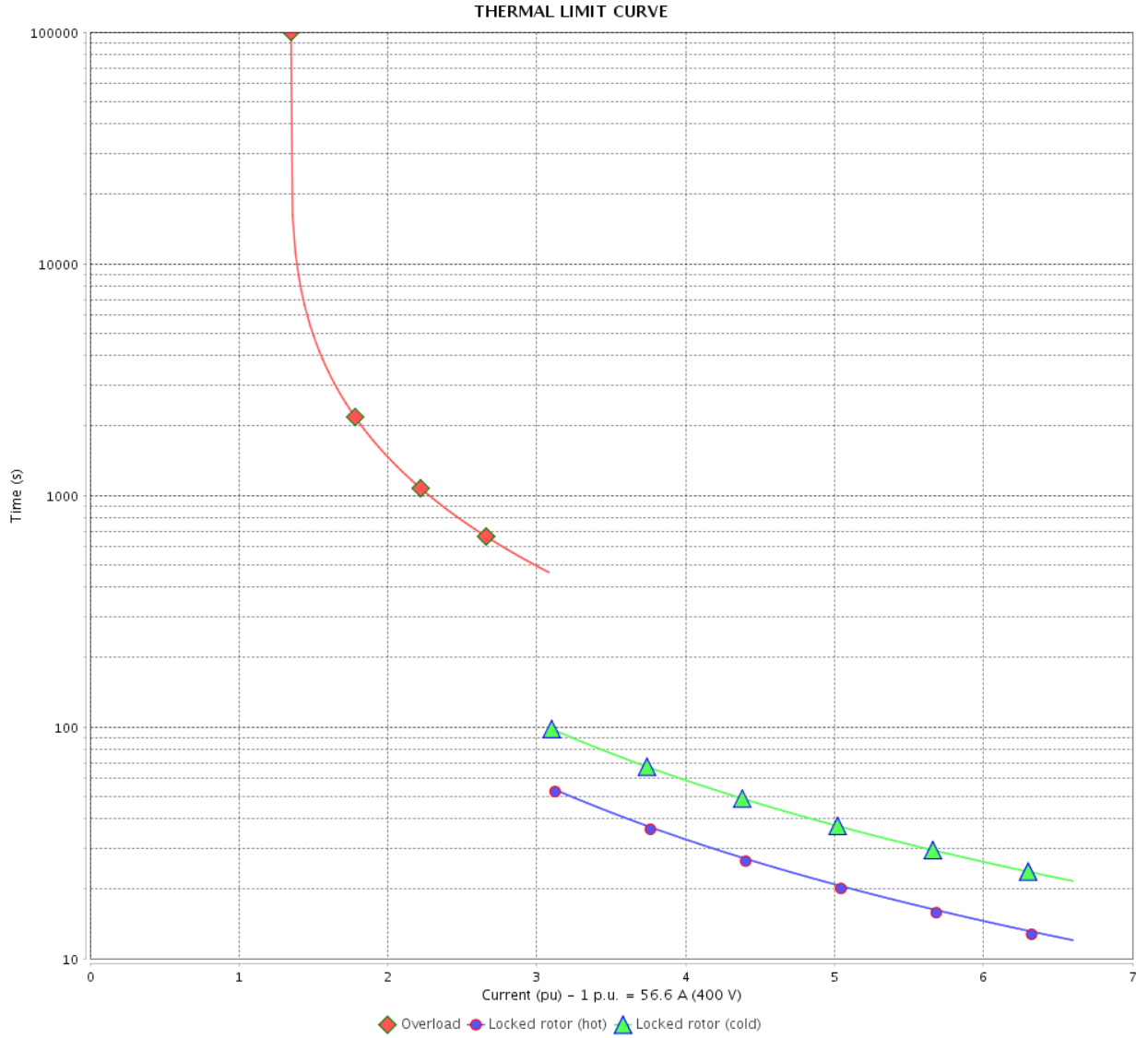
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# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



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# THERMAL LIMIT CURVE



## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 14497382

Catalog # : 05036OT3E324TSC-W40

Performance : 415 V 50 Hz 2P IE3

Rated current	: 56.6 A	Moment of inertia (J)	: 3.02 sq.ft.lb
LRC	: 6.8	Duty cycle	: Cont.(S1)
Rated torque	: 70.8 ft.lb	Insulation class	: F
Locked rotor torque	: 240 %	Service factor	: 1.00
Breakdown torque	: 260 %	Temperature rise	: 80 K
Rated speed	: 2965 rpm	Design	: B

Heating constant

Cooling constant

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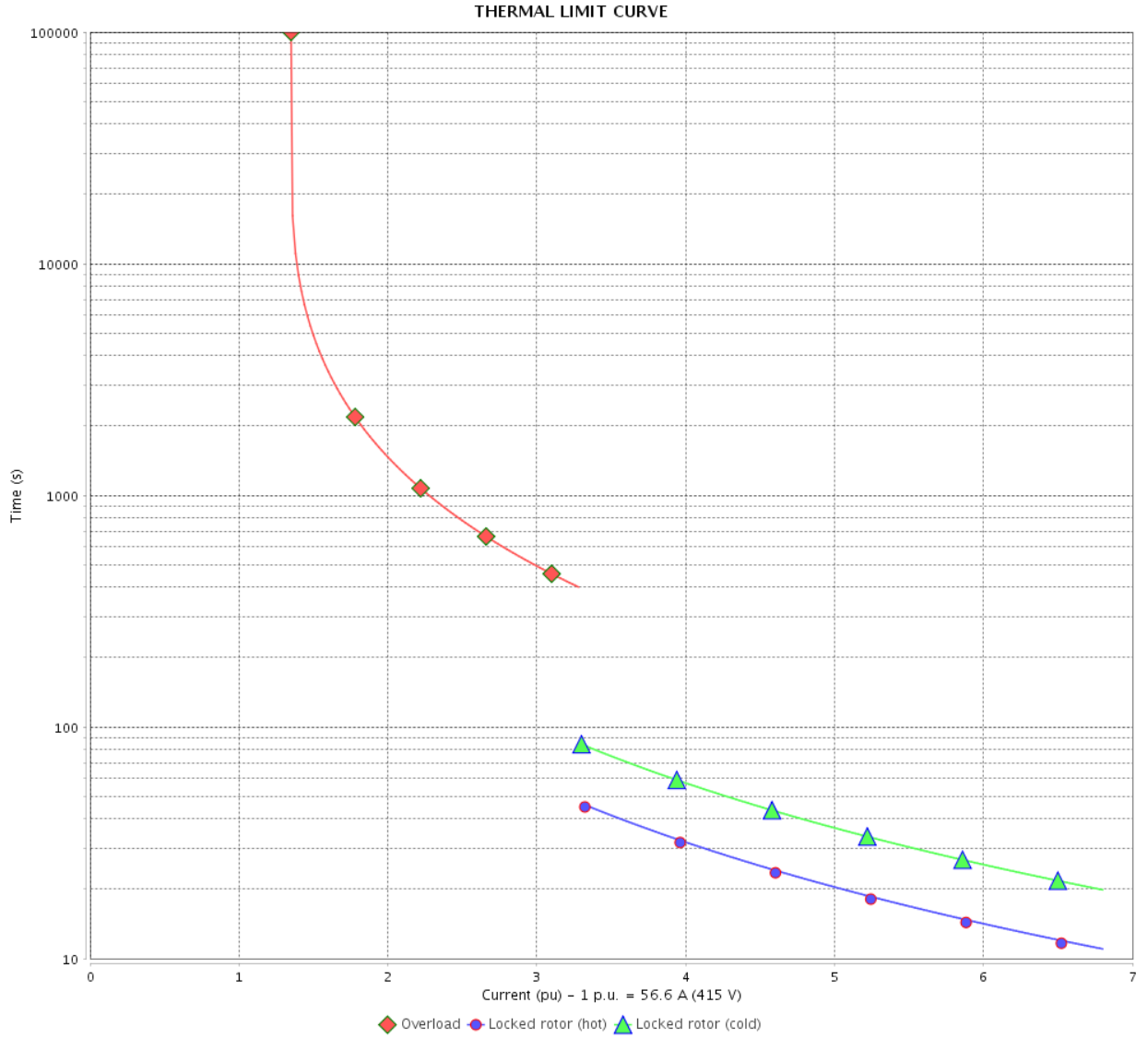


# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



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Date				

# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

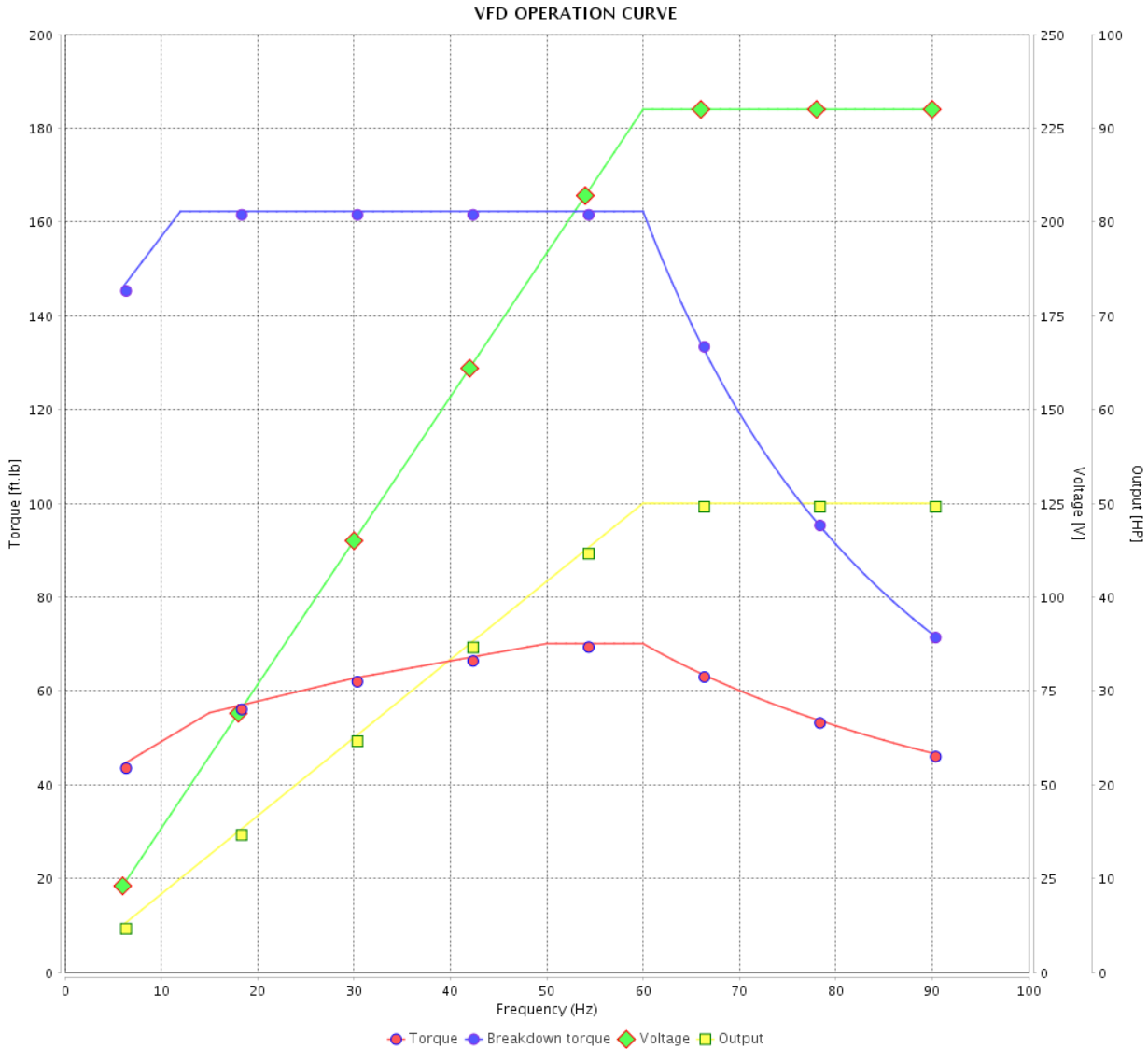


Customer :

Product line : W40 NEMA Premium Efficiency Three-Phase

Product code : 14497382

Catalog # : 05036OT3E324TSC-W40



Performance : 230/460 V 60 Hz 2P

Rated current : 119/59.4 A  
 LRC : 6.3  
 Rated torque : 73.8 ft.lb  
 Locked rotor torque : 200 %  
 Breakdown torque : 220 %  
 Rated speed : 3560 rpm

Moment of inertia (J) : 3.02 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

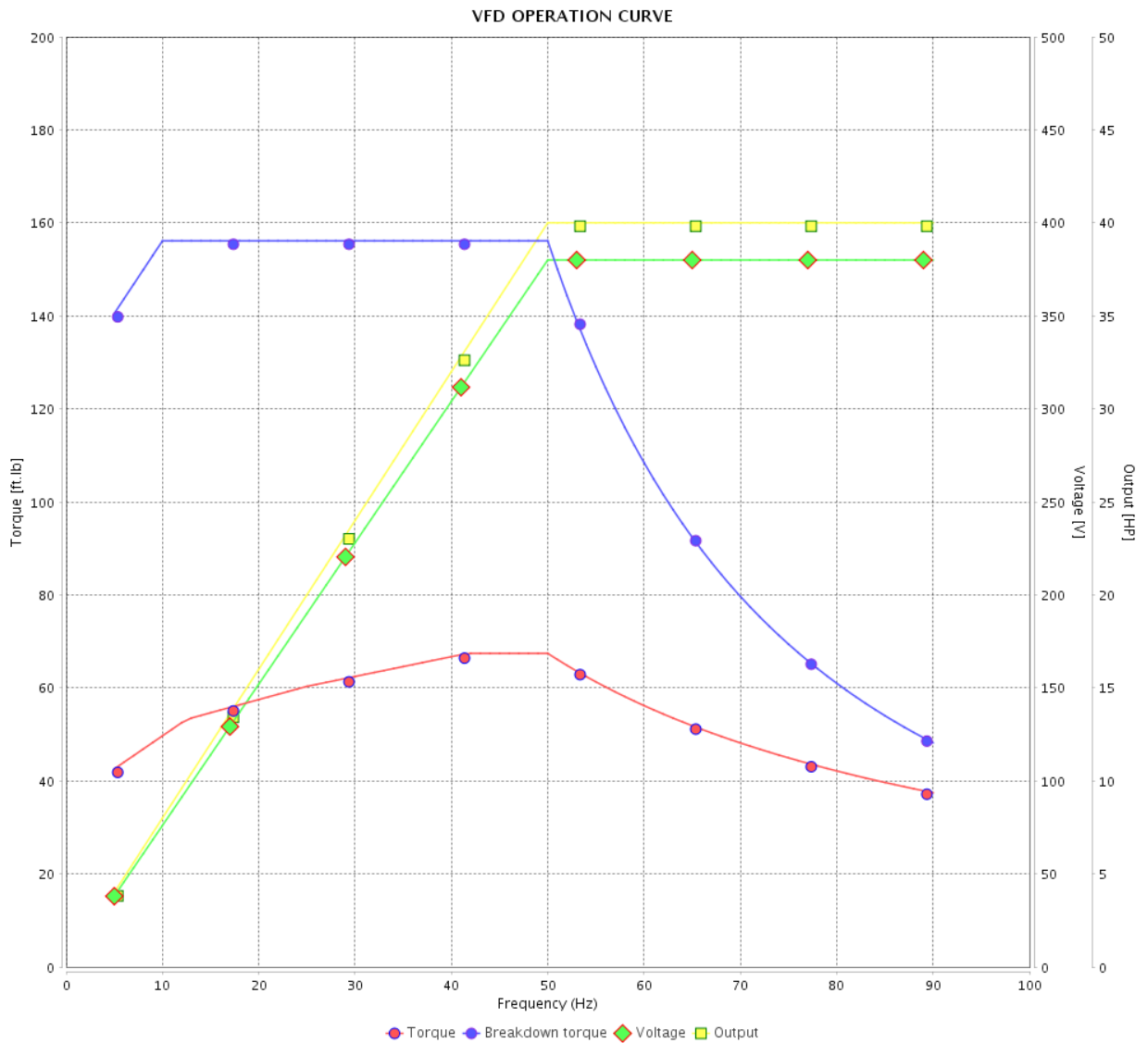


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Three-Phase

Product code : 14497382

Catalog # : 05036OT3E324TSC-W40



Performance : 380 V 50 Hz 2P IE3

Rated current : 57.5 A  
LRC : 6.4  
Rated torque : 71.0 ft.lb  
Locked rotor torque : 200 %  
Breakdown torque : 220 %  
Rated speed : 2960 rpm

Moment of inertia (J) : 3.02 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



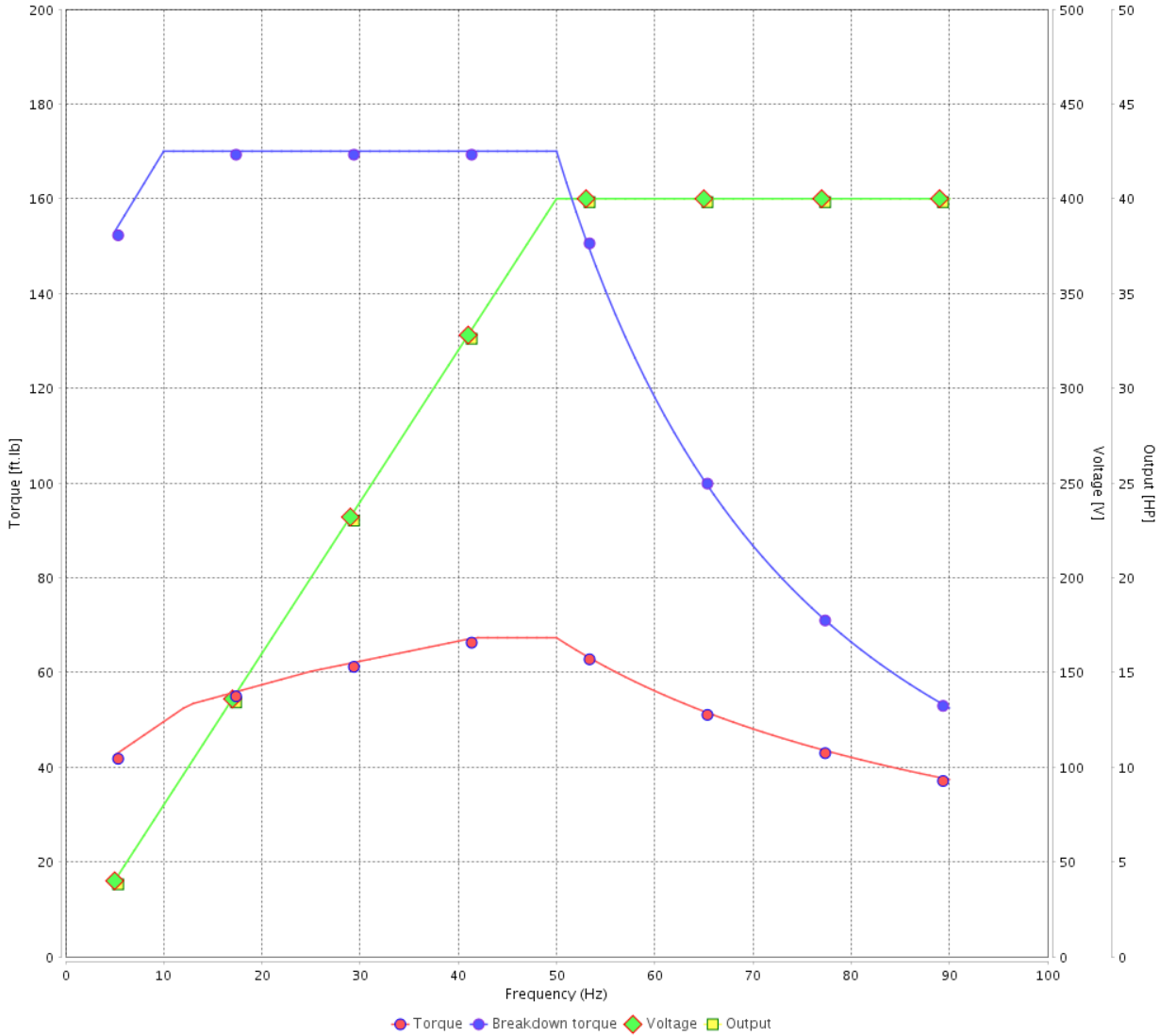
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Product code : 14497382

Catalog # : 05036OT3E324TSC-W40

VFD OPERATION CURVE



Performance : 400 V 50 Hz 2P IE3

Rated current : 56.6 A  
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 Breakdown torque : 240 %  
 Rated speed : 2965 rpm

Moment of inertia (J) : 3.02 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

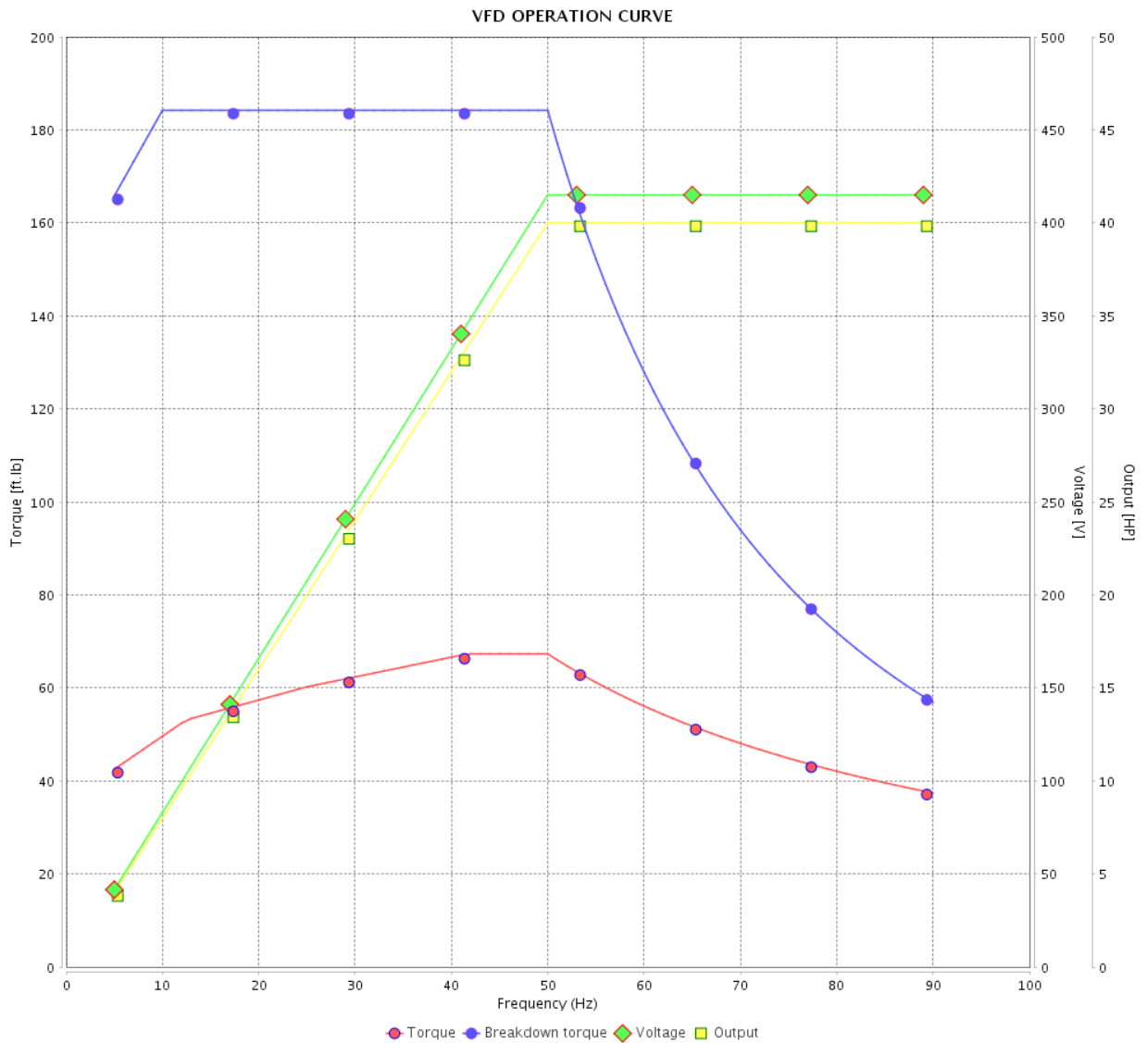


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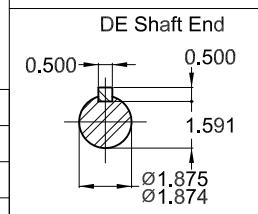
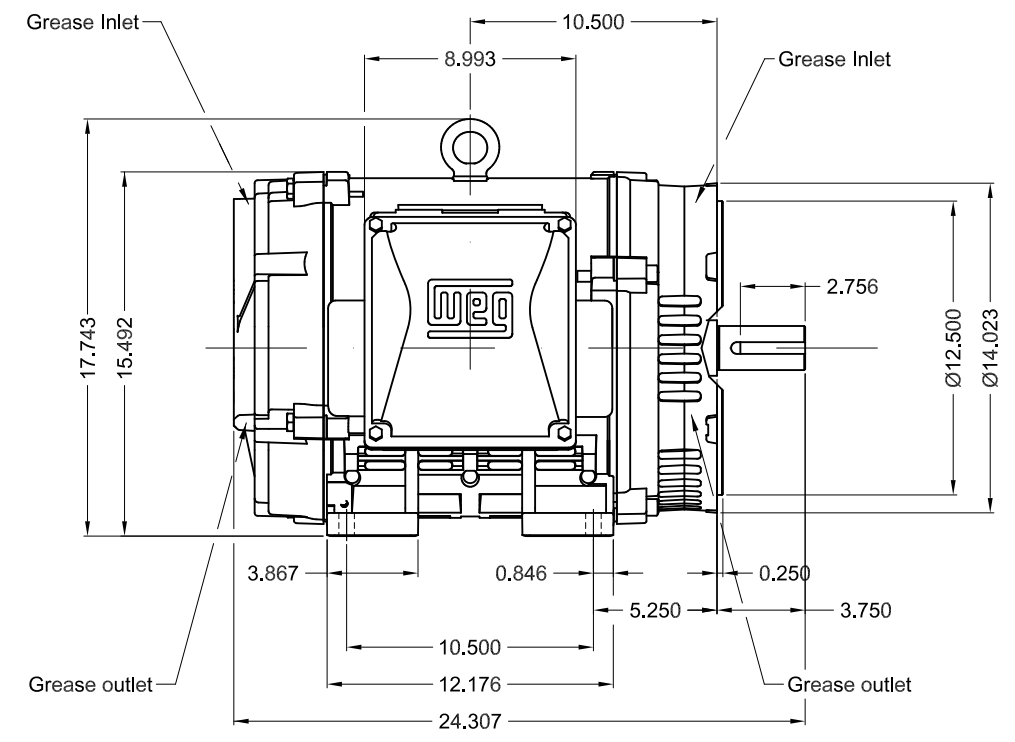
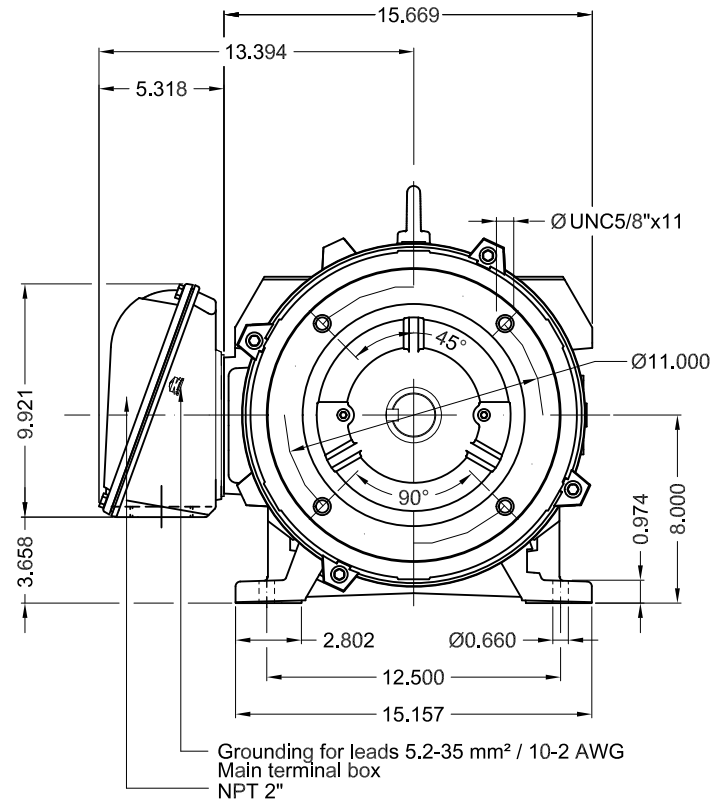


Performance : 415 V 50 Hz 2P IE3

Rated current : 56.6 A  
LRC : 6.8  
Rated torque : 70.8 ft.lb  
Locked rotor torque : 240 %  
Breakdown torque : 260 %  
Rated speed : 2965 rpm

Moment of inertia (J) : 3.02 sq.ft.lb  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.00  
Temperature rise : 80 K  
Design : B

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Color RAL 5009  
 Painting plan 203A  
 Mounting NEMA F-1  
 Mounting B34R(D)

50 HP 02 Poles 60 Hz A

1:8

ECM	LOC	SUMMARY OF MODIFICATIONS	EXECUTED	CHECKED	RELEASED	DATE	VER
EXECUTED	PIRWBUSER	THREE PH. MOTOR W40 PREM. EFF.					
CHECKED		FRAME 324TSC IP23 ODP					
RELEASED							
REL DT.	WMO	Jaragua do Sul	Product Engineering	SHEET	1 / 1		

**PREVIEW**  
**WDD**



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



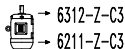
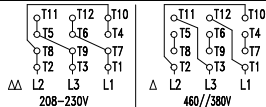
IEC 60034-1  
 MOD.T01#FOXON



For 60Hz use on PWM, VT 1000:1, CT 3:1, 1.0SF

MODEL 050360T3E324TSC-W40  
 MADE IN BRAZIL  
 14497382

PH 3	FR 324TSC	HP(kW) 50.0(37.0)	Hz 60
V 230/460	A 119/59.4	RPM 3560	DES B
NEMA NOM EFF 93.0 %	INS. CL. F $\Delta$ T 80 K	IP23	
ENCL ODP	DUTY CONT.	AMB. 40°C	
CODE G	PF 0.84	SF 1.25	SFA 149/74.3
USABLE @208V	130 A	SF 1.15	SFA 150
40HP 30kW 50Hz 380V 57.5A 2960RPM SF1.00 EFF 93.3% (IE3)	ALT 1000 m.a.s.l.		



MOBIL POLYREX EM  
 21 g 19658 h