

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :					
Product line	: W40 NEMA Premium Efficiency Three-Phase	Product code :	14503636		
		Catalog # :	02518OT3E284TC-W40G		
Frame	: 284TC	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>	: 358 lb		
Protection degree	: IP23	Moment of inertia (J)	: 3.71 sq.ft.lb		
Design	: B				
Output [HP]	25	20	20	20	20
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]	59.0/29.5	29.5	28.7	28.0	28.0
L. R. Amperes [A]	372/186	171	192	190	190
LRC [A]	6.3x(Code G)	5.8x(Code G)	6.7x(Code H)	6.8x(Code J)	6.8x(Code J)
No load current [A]	22.0/11.0	10.0	11.0	12.0	12.0
Rated speed [RPM]	1765	1465	1470	1475	1475
Slip [%]	1.94	2.33	2.00	1.67	1.67
Rated torque [ft.lb]	74.2	71.4	71.2	71.2	71.2
Locked rotor torque [%]	250	229	250	270	270
Breakdown torque [%]	270	250	290	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	64s (cold) 36s (hot)	70s (cold) 39s (hot)	64s (cold) 36s (hot)	61s (cold) 34s (hot)	61s (cold) 34s (hot)
Noise level <sup>2</sup>	64.0 dB(A)				
Efficiency (%)	25%	92.8	91.5	91.5	91.5
	50%	93.0	91.7	91.7	91.7
	75%	93.6	92.1	92.1	92.1
	100%	93.6	92.1	92.1	92.1
Power Factor	25%	0.45	0.46	0.42	0.38
	50%	0.69	0.69	0.65	0.62
	75%	0.80	0.79	0.77	0.74
	100%	0.84	0.84	0.82	0.81
Bearing type	: Drive end : 6311 Z C3	Non drive end : 6211 Z C3	Foundation loads		
Sealing	: Without	Without	Max. traction		
	Bearing Seal	Bearing Seal	Max. compression		
Lubrication interval	: 20000 h	20000 h			
Lubricant amount	: 18 g	11 g			
Lubricant type	: Mobil Polyrex EM				
Notes					
USABLE @208V 65.2A SF 1.15 SFA 75.0A					
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



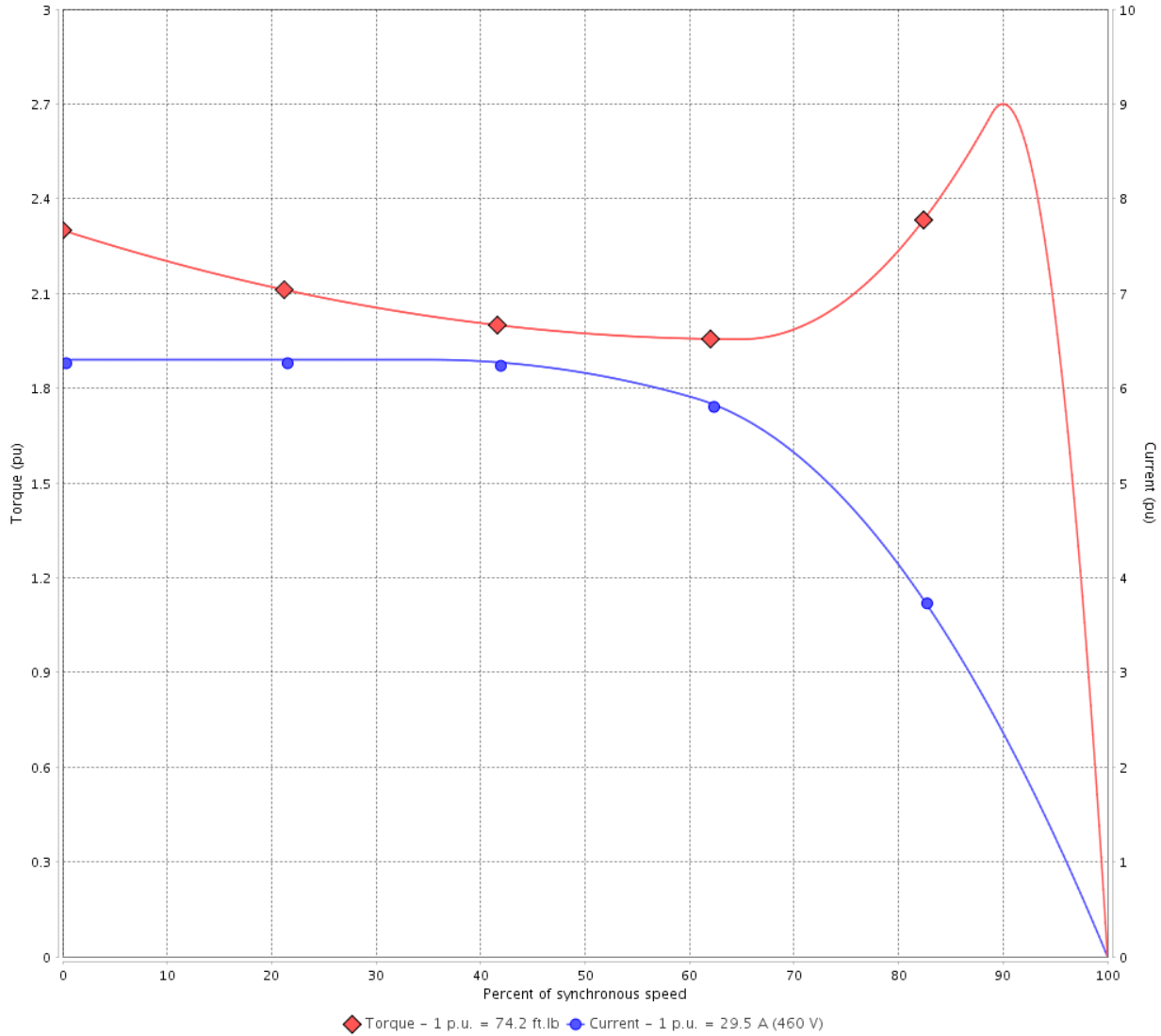
Customer :

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 14503636

Catalog # : 02518OT3E284TC-W40G

TORQUE AND CURRENT VS SPEED CURVE



Performance : 230/460 V 60 Hz 4P

Rated current	: 59.0/29.5 A	Moment of inertia (J)	: 3.71 sq.ft.lb
LRC	: 6.3	Duty cycle	: Cont.(S1)
Rated torque	: 74.2 ft.lb	Insulation class	: F
Locked rotor torque	: 250 %	Service factor	: 1.25
Breakdown torque	: 270 %	Temperature rise	: 80 K
Rated speed	: 1765 rpm	Design	: B

Locked rotor time : 64s (cold) 36s (hot)

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# TORQUE AND CURRENT VS SPEED CURVE



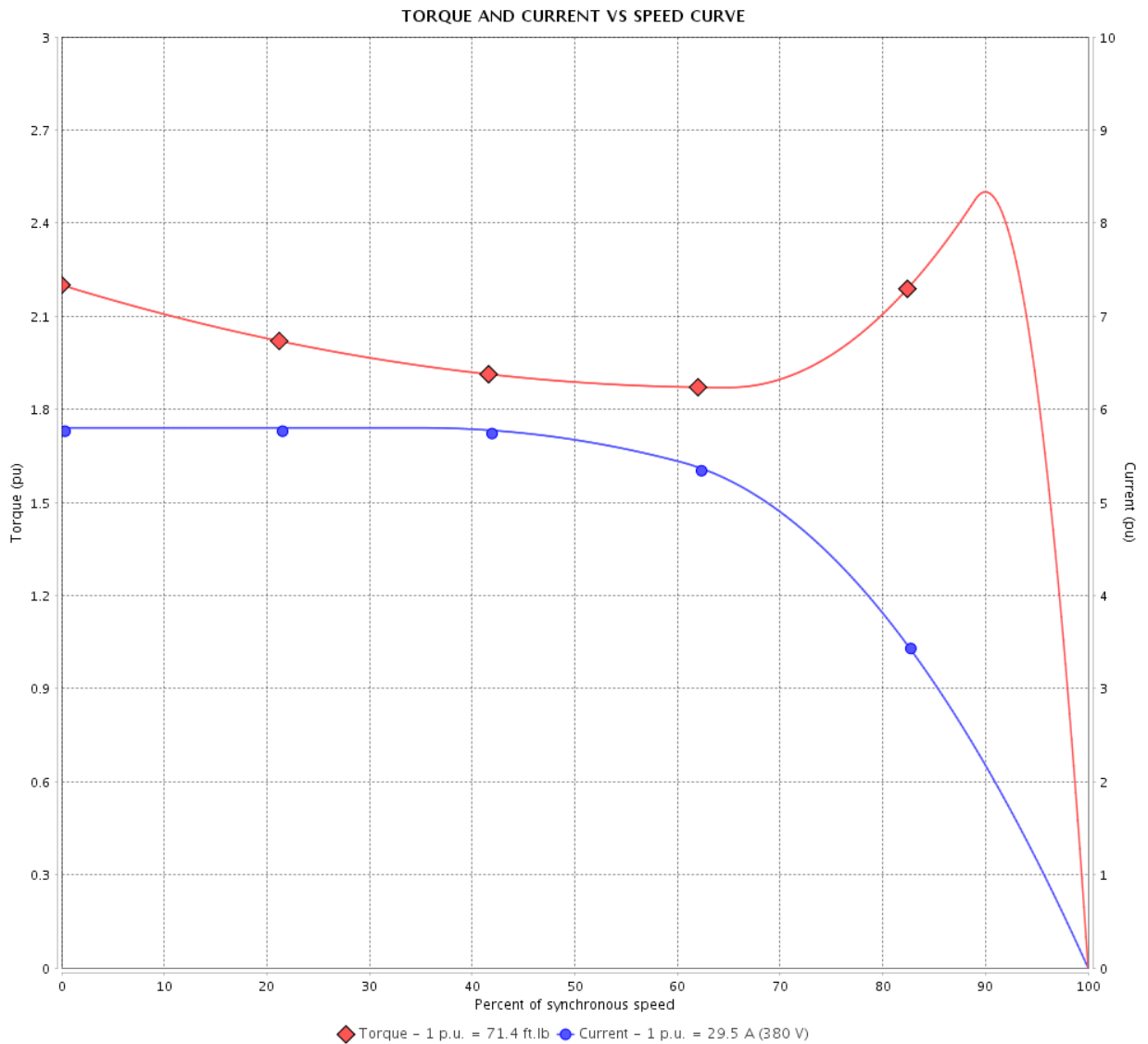
## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W40 NEMA Premium Efficiency Three-Phase

Product code : 14503636

Catalog # : 02518OT3E284TC-W40G



Performance : 380 V 50 Hz 4P IE3

Rated current	: 29.5 A	Moment of inertia (J)	: 3.71 sq.ft.lb
LRC	: 5.8	Duty cycle	: Cont.(S1)
Rated torque	: 71.4 ft.lb	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.00
Breakdown torque	: 250 %	Temperature rise	: 80 K
Rated speed	: 1465 rpm	Design	: B

Locked rotor time : 70s (cold) 39s (hot)

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# TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



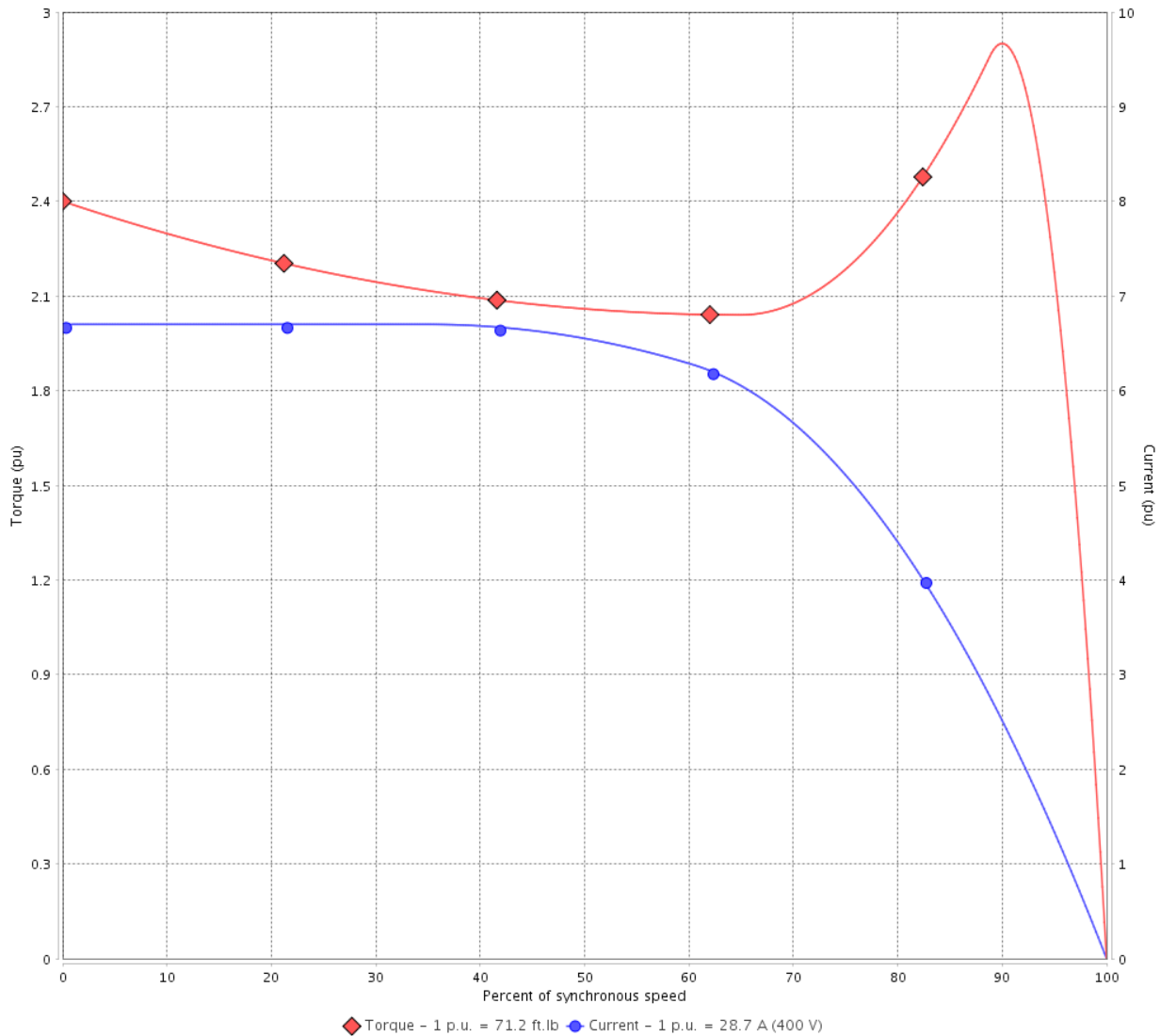
Customer :

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 14503636

Catalog # : 02518OT3E284TC-W40G

TORQUE AND CURRENT VS SPEED CURVE



Performance : 400 V 50 Hz 4P IE3

Rated current	: 28.7 A	Moment of inertia (J)	: 3.71 sq.ft.lb
LRC	: 6.7	Duty cycle	: Cont.(S1)
Rated torque	: 71.2 ft.lb	Insulation class	: F
Locked rotor torque	: 250 %	Service factor	: 1.00
Breakdown torque	: 290 %	Temperature rise	: 80 K
Rated speed	: 1470 rpm	Design	: B

Locked rotor time : 64s (cold) 36s (hot)

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# TORQUE AND CURRENT VS SPEED CURVE



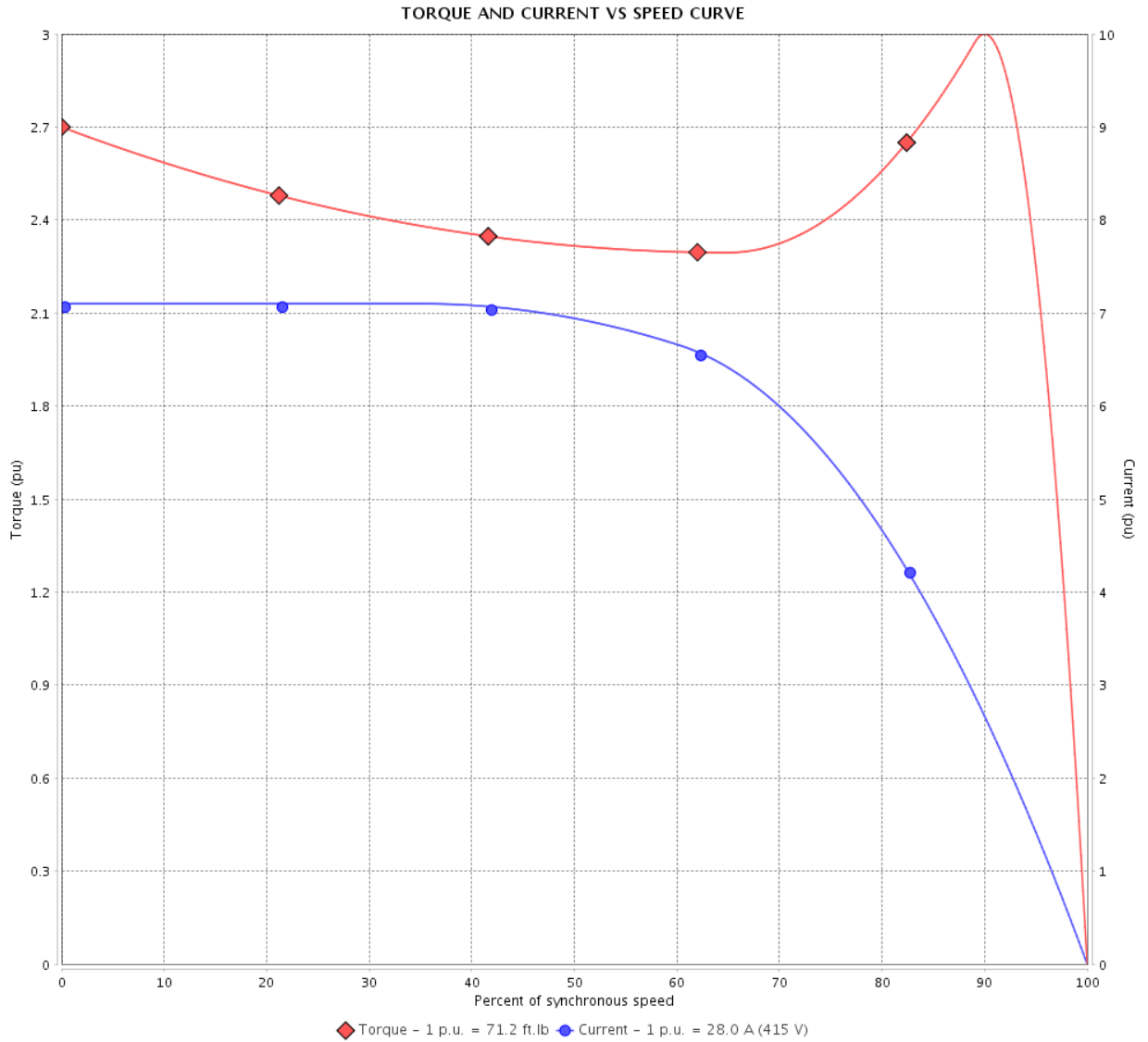
## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 14503636

Catalog # : 02518OT3E284TC-W40G



Performance : 415 V 50 Hz 4P IE3

Rated current	: 28.0 A	Moment of inertia (J)	: 3.71 sq.ft.lb
LRC	: 6.8	Duty cycle	: Cont.(S1)
Rated torque	: 71.2 ft.lb	Insulation class	: F
Locked rotor torque	: 270 %	Service factor	: 1.00
Breakdown torque	: 300 %	Temperature rise	: 80 K
Rated speed	: 1475 rpm	Design	: B

Locked rotor time : 61s (cold) 34s (hot)

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# LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage



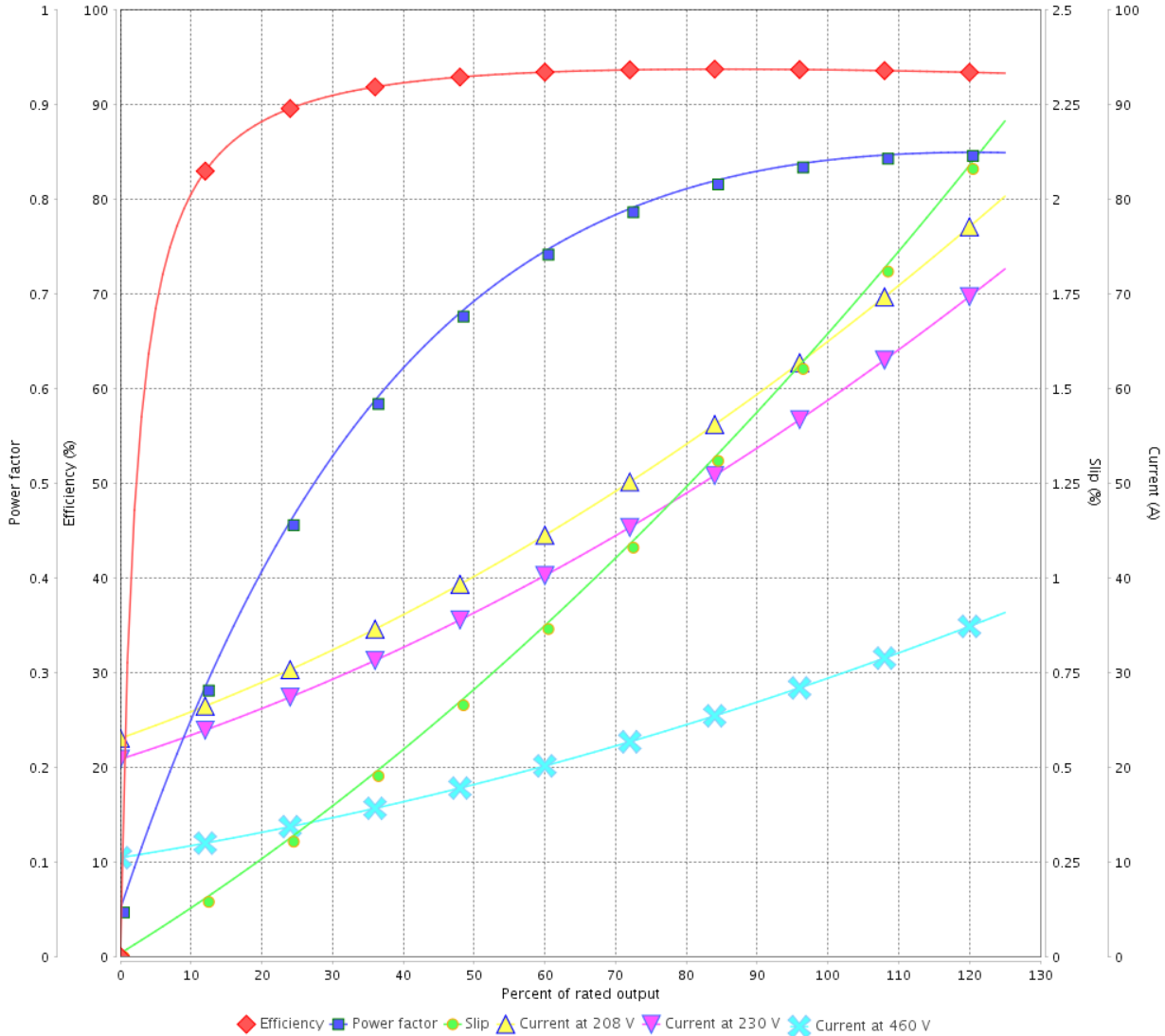
Customer :

Product line : W40 NEMA Premium Efficiency Three-Phase

Product code : 14503636

Catalog # : 02518OT3E284TC-W40G

LOAD PERFORMANCE CURVE



Performance : 230/460 V 60 Hz 4P

Rated current : 59.0/29.5 A  
 LRC : 6.3  
 Rated torque : 74.2 ft.lb  
 Locked rotor torque : 250 %  
 Breakdown torque : 270 %  
 Rated speed : 1765 rpm

Moment of inertia (J) : 3.71 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

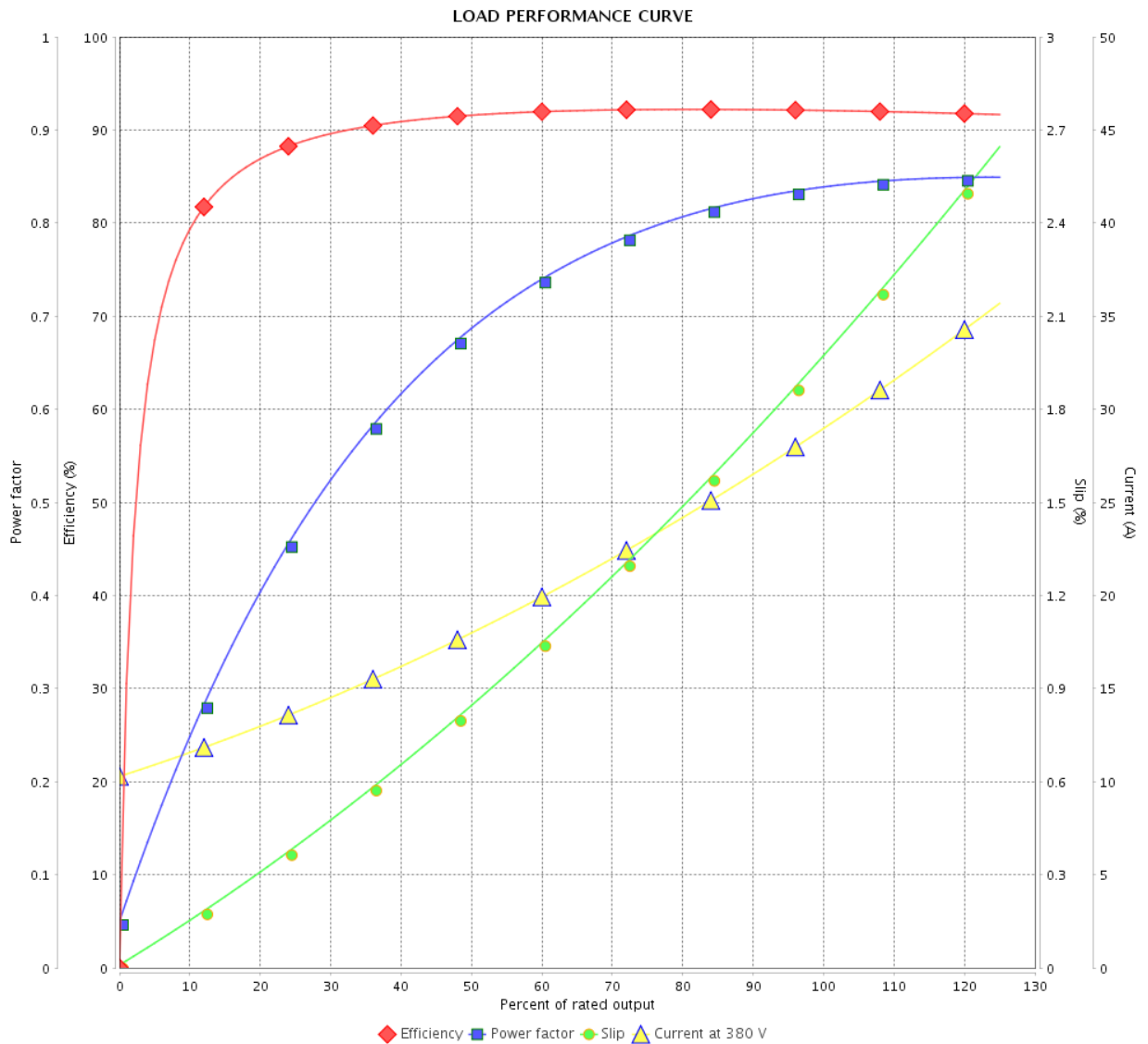


Customer :

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 14503636

Catalog # : 02518OT3E284TC-W40G



Performance : 380 V 50 Hz 4P IE3

Rated current : 29.5 A  
LRC : 5.8  
Rated torque : 71.4 ft.lb  
Locked rotor torque : 229 %  
Breakdown torque : 250 %  
Rated speed : 1465 rpm

Moment of inertia (J) : 3.71 sq.ft.lb  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.00  
Temperature rise : 80 K  
Design : B

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Date				

# LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage



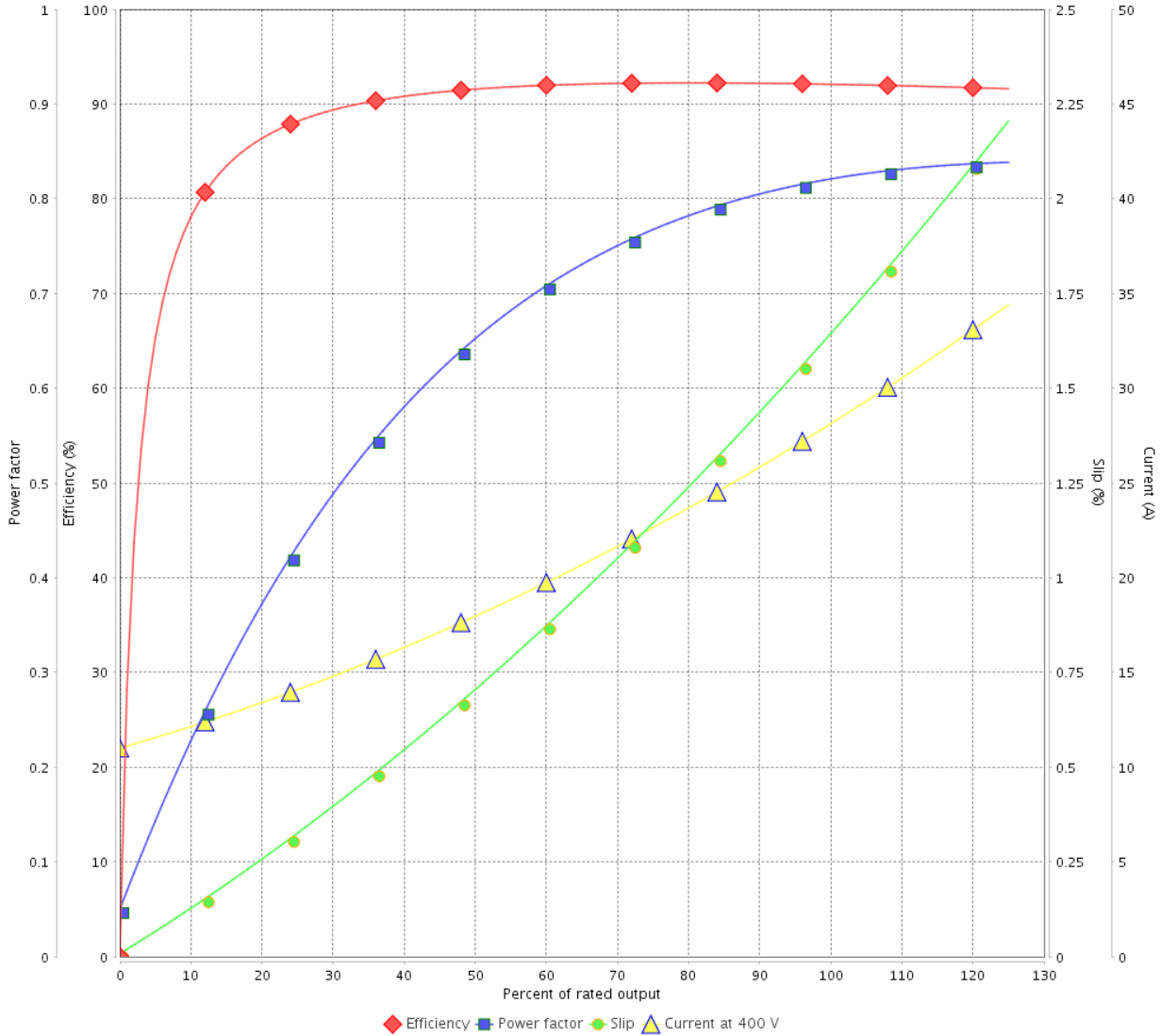
Customer :

Product line : W40 NEMA Premium Efficiency Three-Phase

Product code : 14503636

Catalog # : 02518OT3E284TC-W40G

LOAD PERFORMANCE CURVE



Performance : 400 V 50 Hz 4P IE3

Rated current : 28.7 A  
 LRC : 6.7  
 Rated torque : 71.2 ft.lb  
 Locked rotor torque : 250 %  
 Breakdown torque : 290 %  
 Rated speed : 1470 rpm

Moment of inertia (J) : 3.71 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

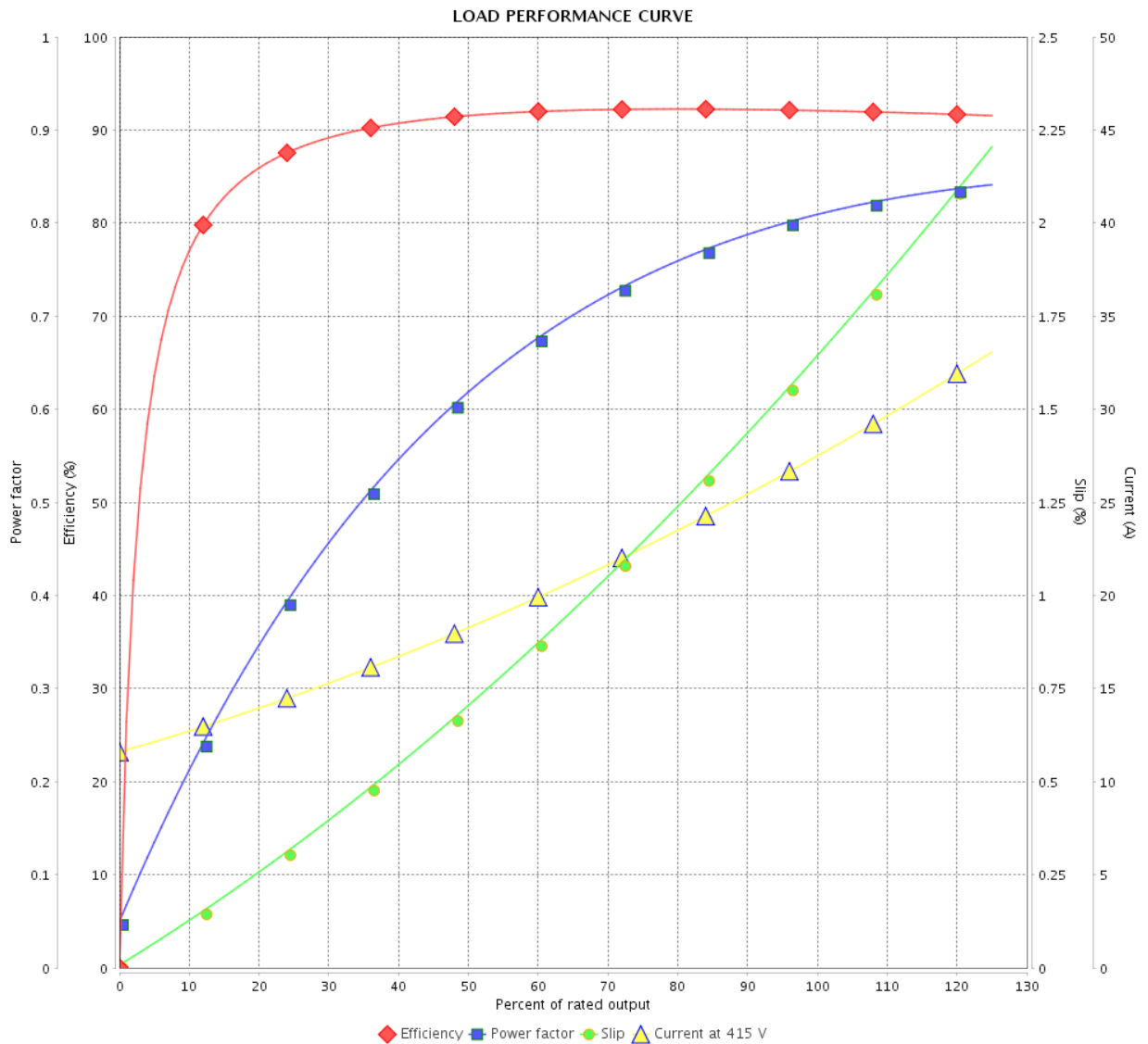


Customer :

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 14503636

Catalog # : 02518OT3E284TC-W40G



Performance : 415 V 50 Hz 4P IE3

Rated current : 28.0 A  
 LRC : 6.8  
 Rated torque : 71.2 ft.lb  
 Locked rotor torque : 270 %  
 Breakdown torque : 300 %  
 Rated speed : 1475 rpm

Moment of inertia (J) : 3.71 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 :

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Three-Phase

Product code : 14503636

Catalog # : 02518OT3E284TC-W40G

Performance : 230/460 V 60 Hz 4P

Rated current : 59.0/29.5 A  
LRC : 6.3  
Rated torque : 74.2 ft.lb  
Locked rotor torque : 250 %  
Breakdown torque : 270 %  
Rated speed : 1765 rpm

Moment of inertia (J) : 3.71 sq.ft.lb  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.25  
Temperature rise : 80 K  
Design : B

Heating constant

Cooling constant

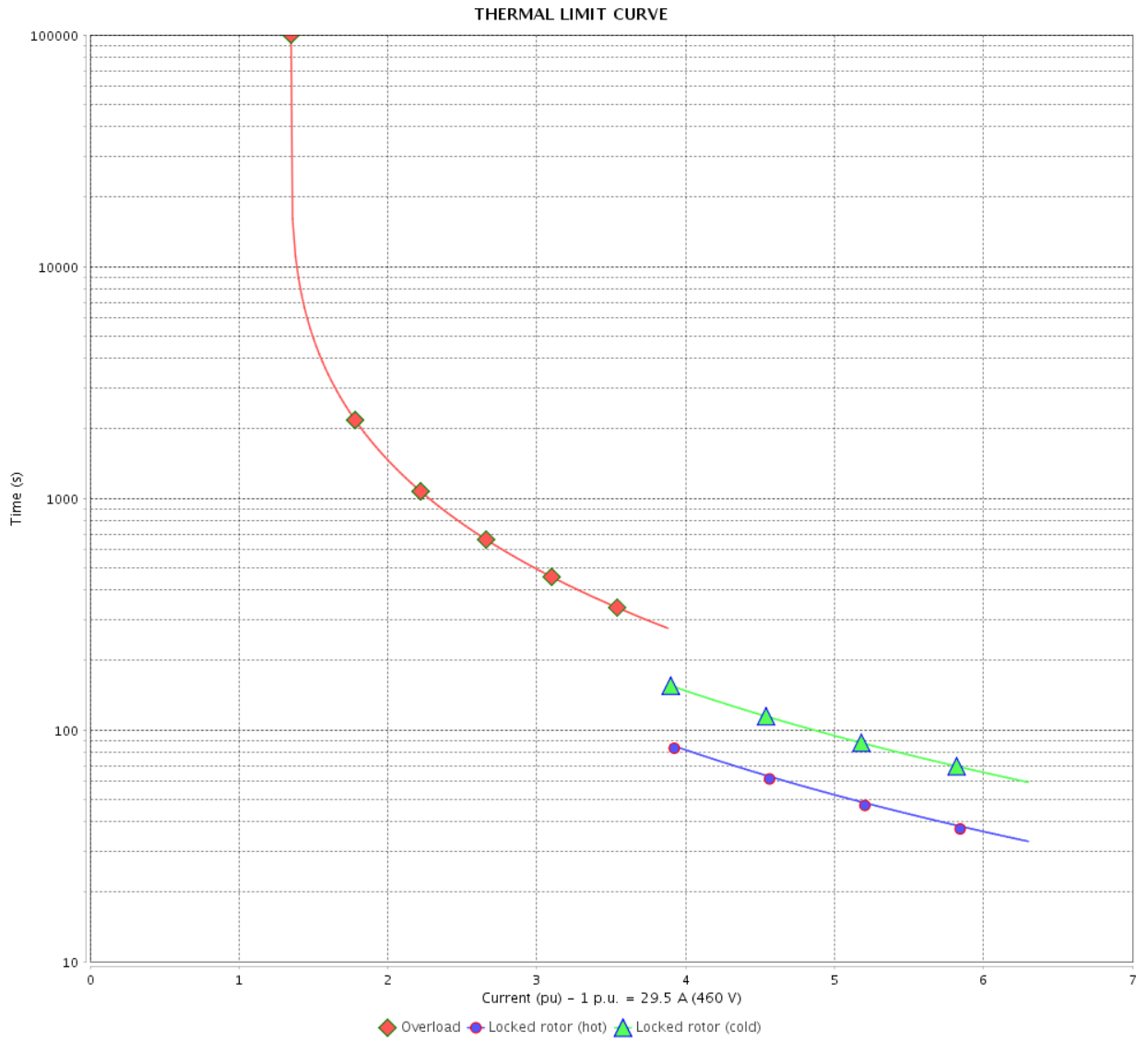
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# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



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Date				

# THERMAL LIMIT CURVE



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Customer :

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Catalog # : 02518OT3E284TC-W40G

Performance : 380 V 50 Hz 4P IE3

Rated current	: 29.5 A	Moment of inertia (J)	: 3.71 sq.ft.lb
LRC	: 5.8	Duty cycle	: Cont.(S1)
Rated torque	: 71.4 ft.lb	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.00
Breakdown torque	: 250 %	Temperature rise	: 80 K
Rated speed	: 1465 rpm	Design	: B

Heating constant

Cooling constant

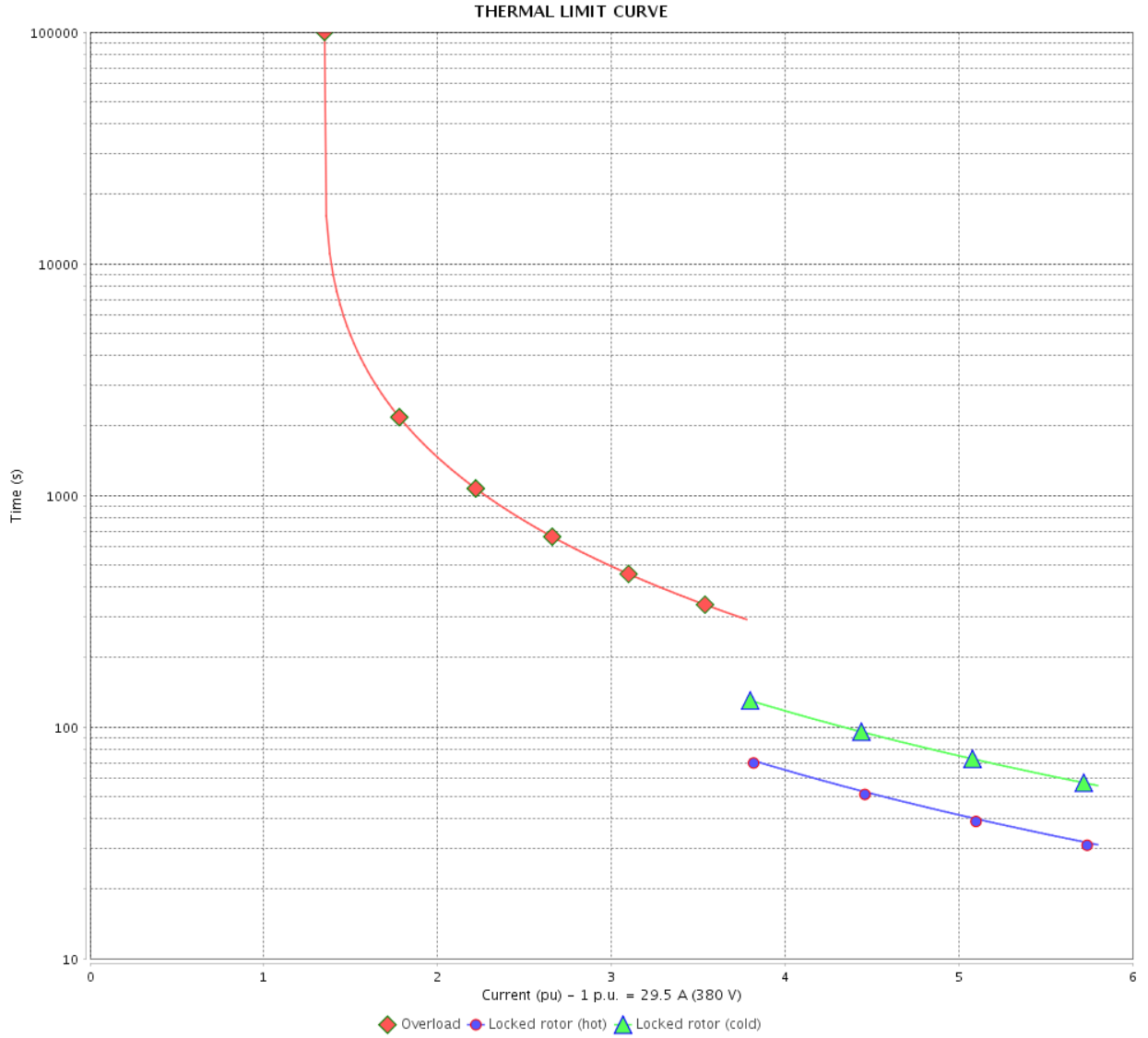
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Three Phase Induction Motor - Squirrel Cage



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 : 14503636

Catalog # : 02518OT3E284TC-W40G

Performance : 400 V 50 Hz 4P IE3

Rated current	: 28.7 A	Moment of inertia (J)	: 3.71 sq.ft.lb
LRC	: 6.7	Duty cycle	: Cont.(S1)
Rated torque	: 71.2 ft.lb	Insulation class	: F
Locked rotor torque	: 250 %	Service factor	: 1.00
Breakdown torque	: 290 %	Temperature rise	: 80 K
Rated speed	: 1470 rpm	Design	: B

Heating constant

Cooling constant

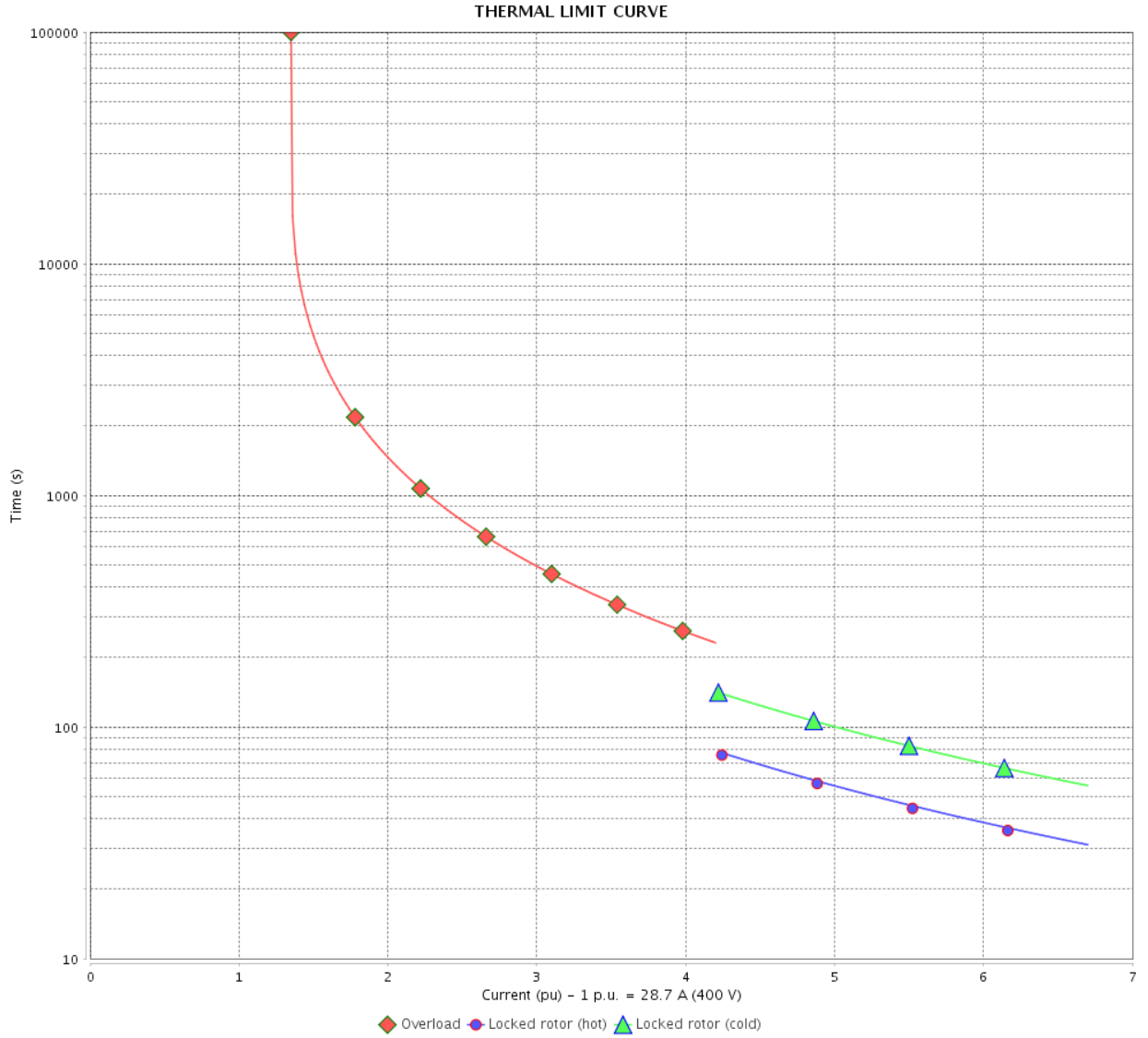
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# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage

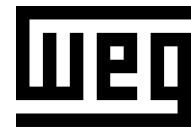


Customer : \_\_\_\_\_



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# THERMAL LIMIT CURVE



## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 14503636

Catalog # : 02518OT3E284TC-W40G

Performance : 415 V 50 Hz 4P IE3

Rated current	: 28.0 A	Moment of inertia (J)	: 3.71 sq.ft.lb
LRC	: 6.8	Duty cycle	: Cont.(S1)
Rated torque	: 71.2 ft.lb	Insulation class	: F
Locked rotor torque	: 270 %	Service factor	: 1.00
Breakdown torque	: 300 %	Temperature rise	: 80 K
Rated speed	: 1475 rpm	Design	: B

Heating constant

Cooling constant

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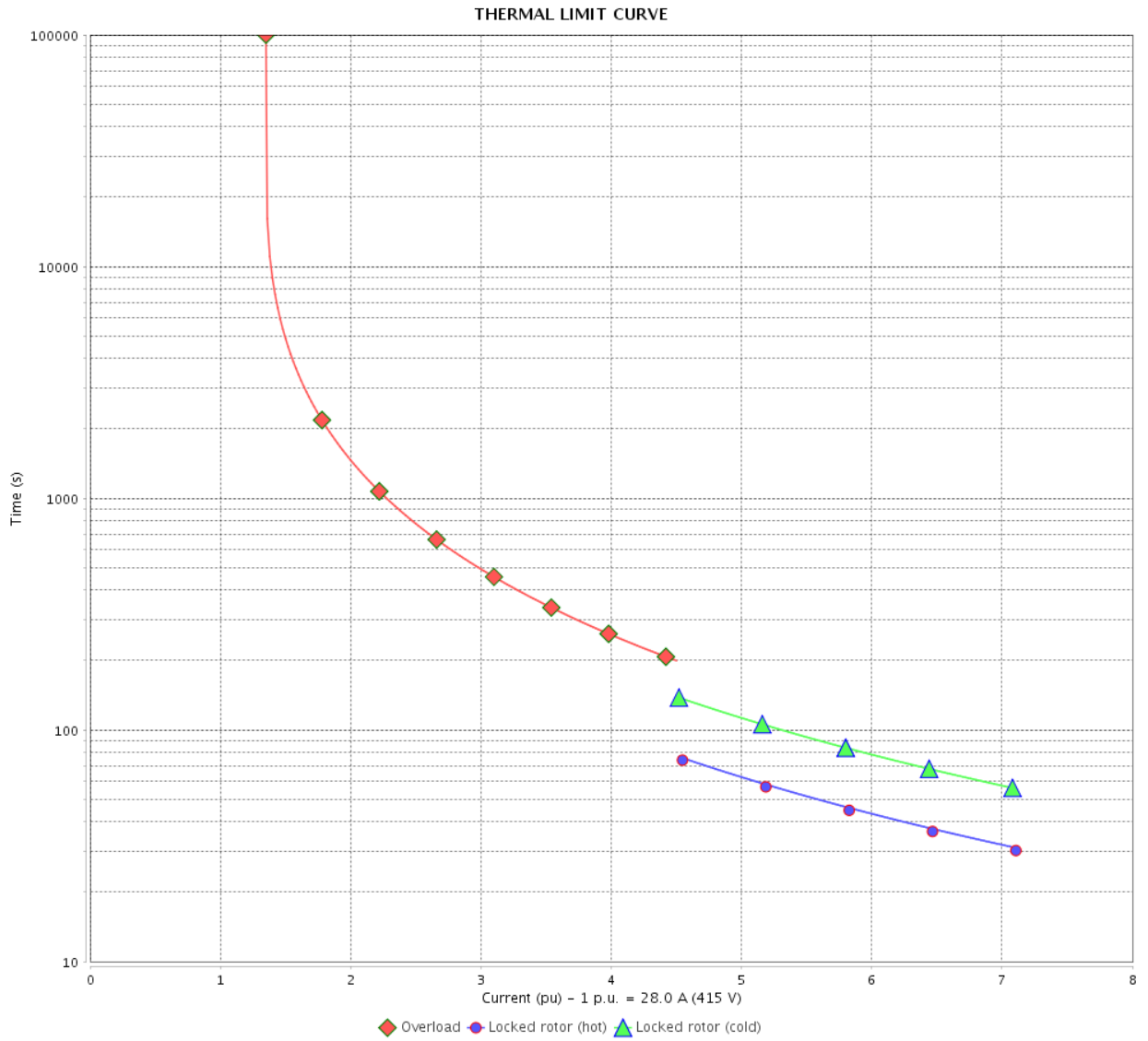


# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



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# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



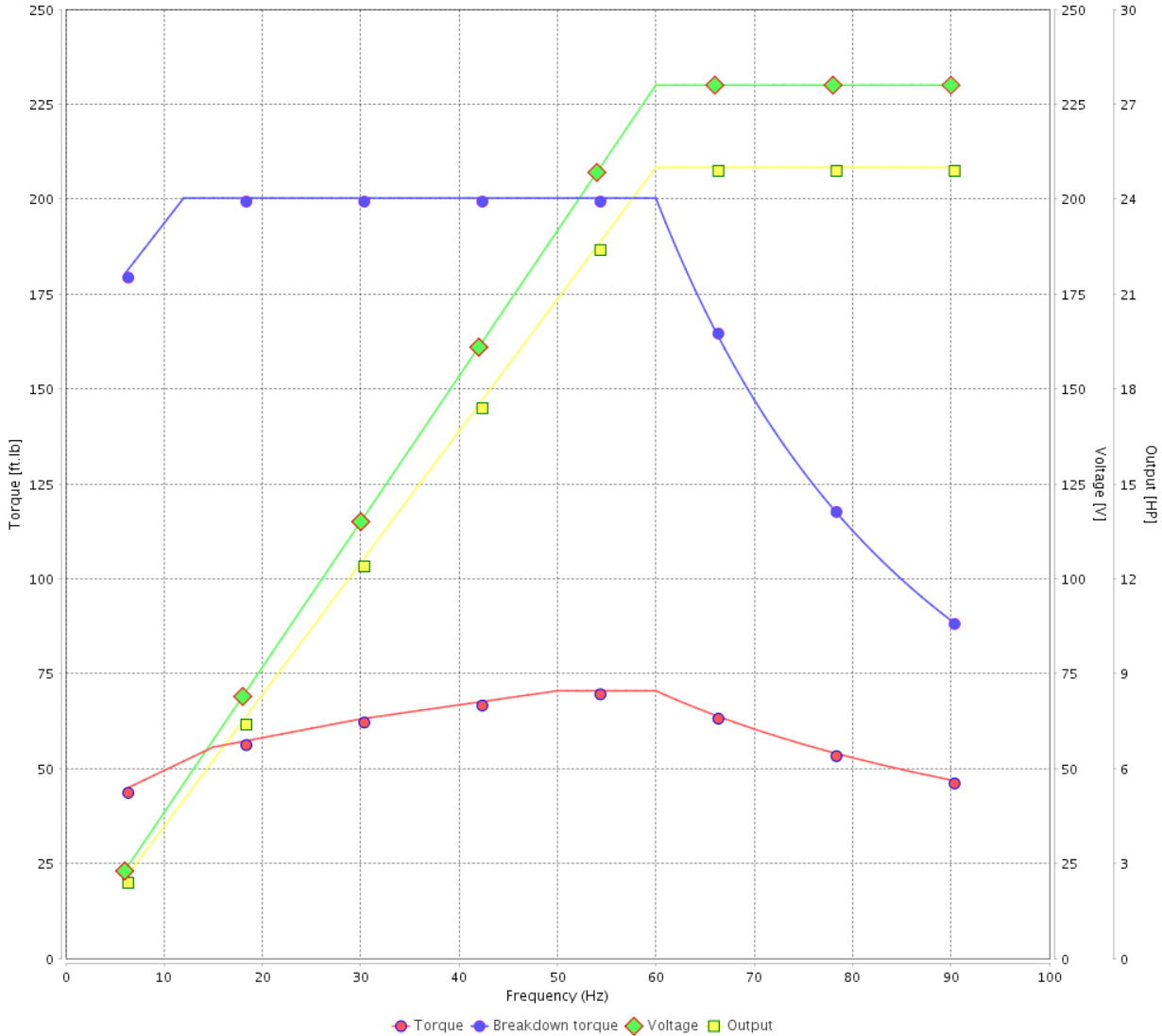
Customer :

Product line : W40 NEMA Premium Efficiency Three-Phase

Product code : 14503636

Catalog # : 02518OT3E284TC-W40G

VFD OPERATION CURVE



Performance : 230/460 V 60 Hz 4P

Rated current : 59.0/29.5 A  
 LRC : 6.3  
 Rated torque : 74.2 ft.lb  
 Locked rotor torque : 250 %  
 Breakdown torque : 270 %  
 Rated speed : 1765 rpm

Moment of inertia (J) : 3.71 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.25  
 Temperature rise : 80 K  
 Design : B

Rev.	Changes Summary	Performed	Checked	Date
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# VFD OPERATION CURVE

## Three Phase Induction Motor - Squirrel Cage

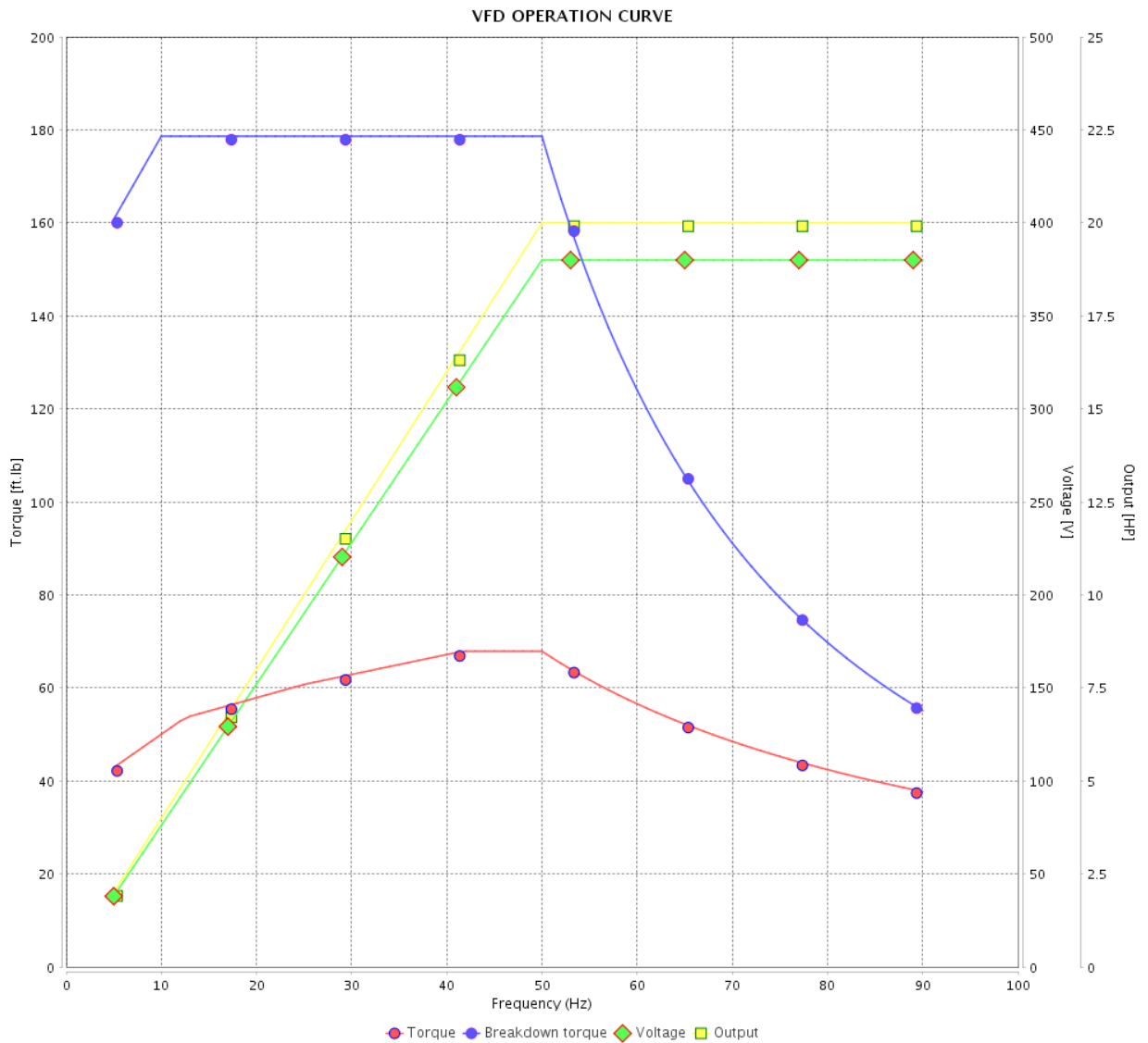


Customer :

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Three-Phase

Product code : 14503636

Catalog # : 02518OT3E284TC-W40G



Performance : 380 V 50 Hz 4P IE3

Rated current : 29.5 A  
LRC : 5.8  
Rated torque : 71.4 ft.lb  
Locked rotor torque : 229 %  
Breakdown torque : 250 %  
Rated speed : 1465 rpm

Moment of inertia (J) : 3.71 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



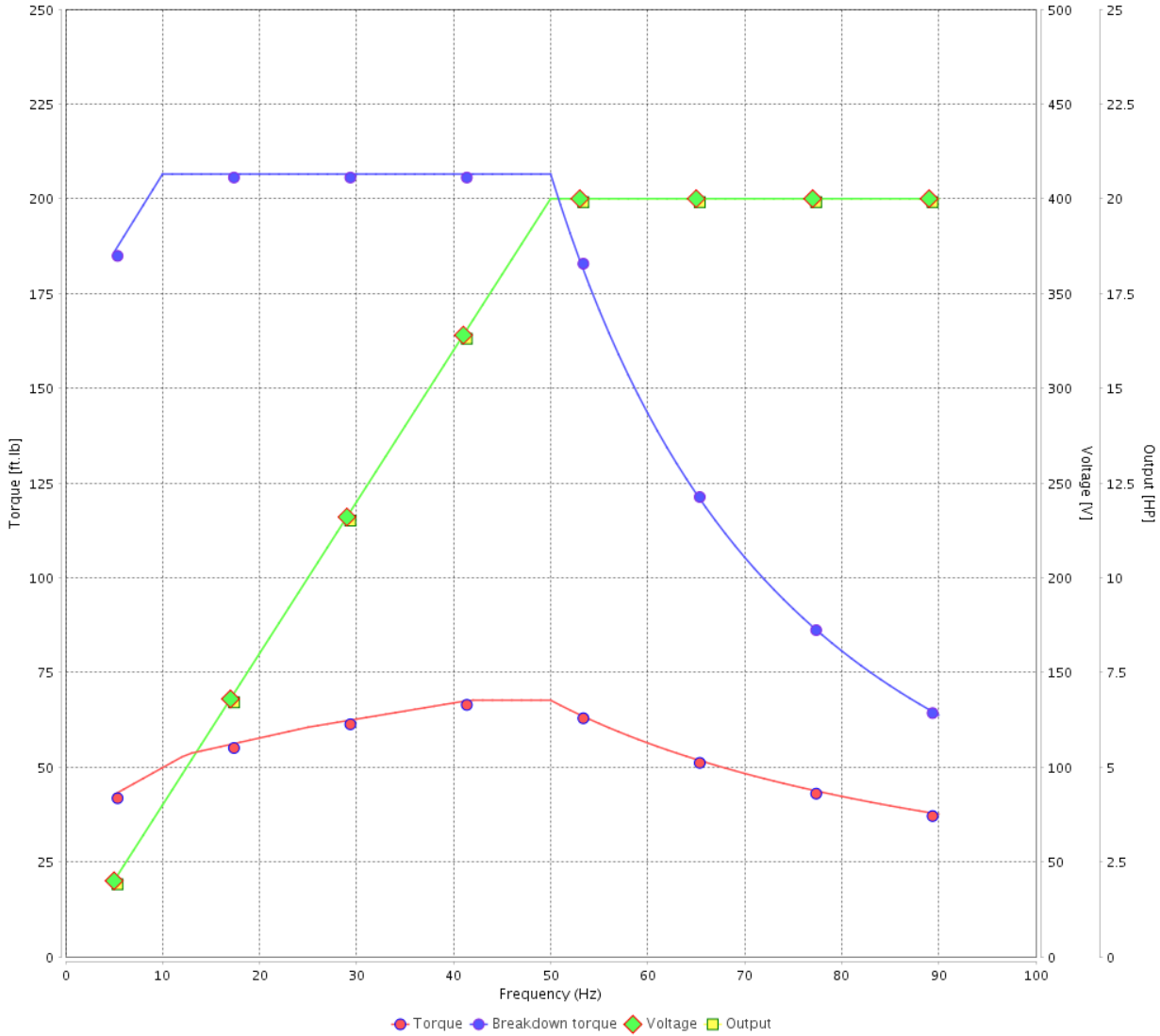
Customer :

Product line : W40 NEMA Premium Efficiency Three-Phase

Product code : 14503636

Catalog # : 02518OT3E284TC-W40G

VFD OPERATION CURVE



Performance : 400 V 50 Hz 4P IE3

Rated current : 28.7 A  
 LRC : 6.7  
 Rated torque : 71.2 ft.lb  
 Locked rotor torque : 250 %  
 Breakdown torque : 290 %  
 Rated speed : 1470 rpm

Moment of inertia (J) : 3.71 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

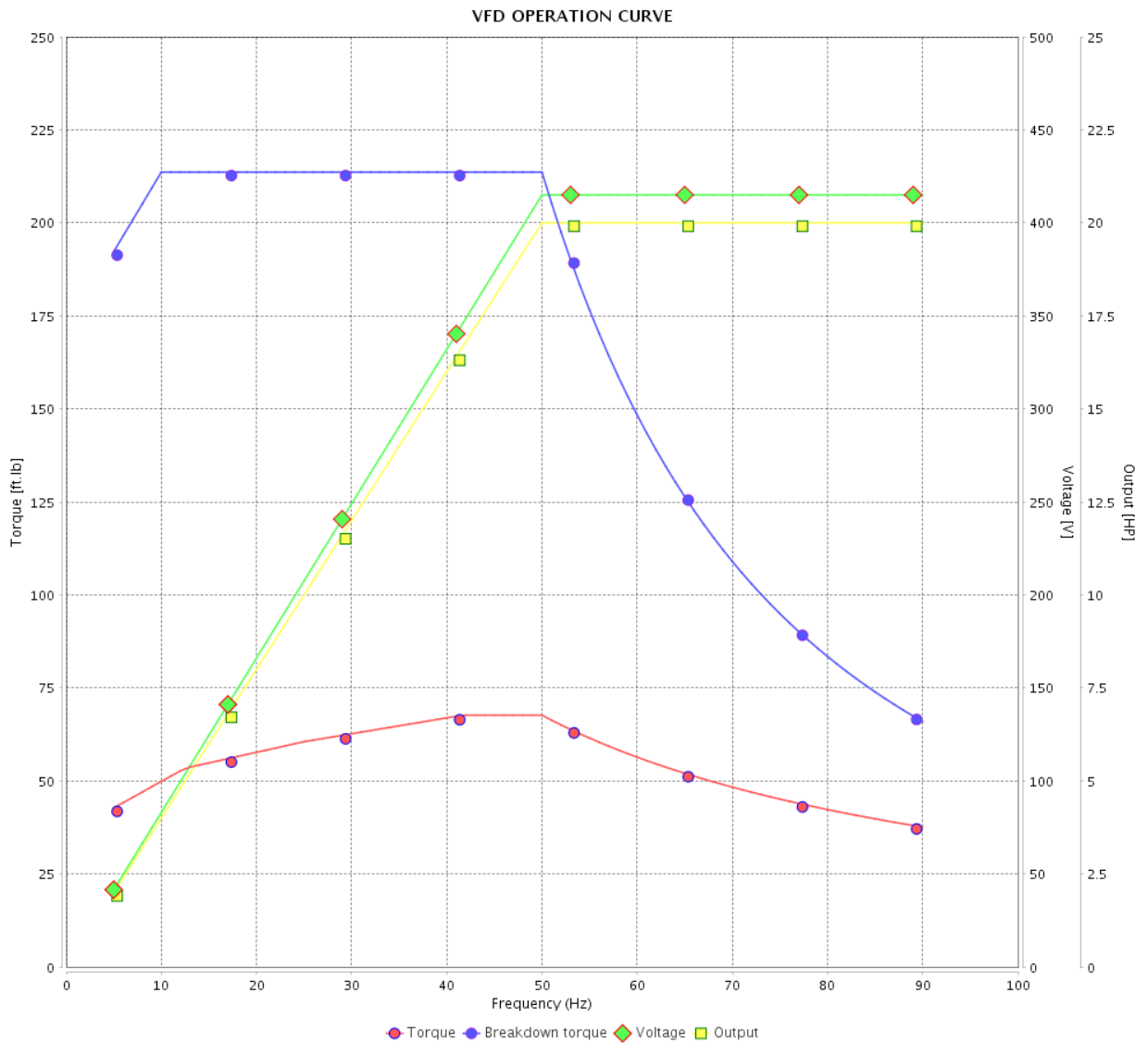


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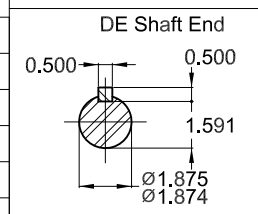
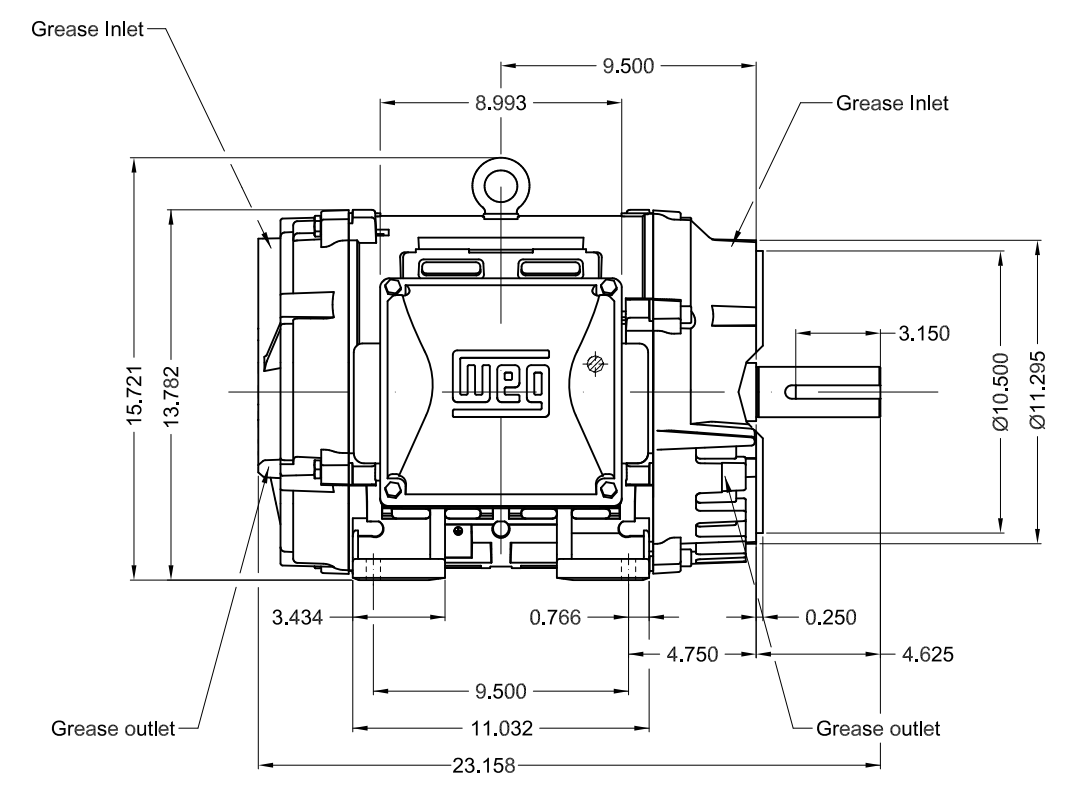
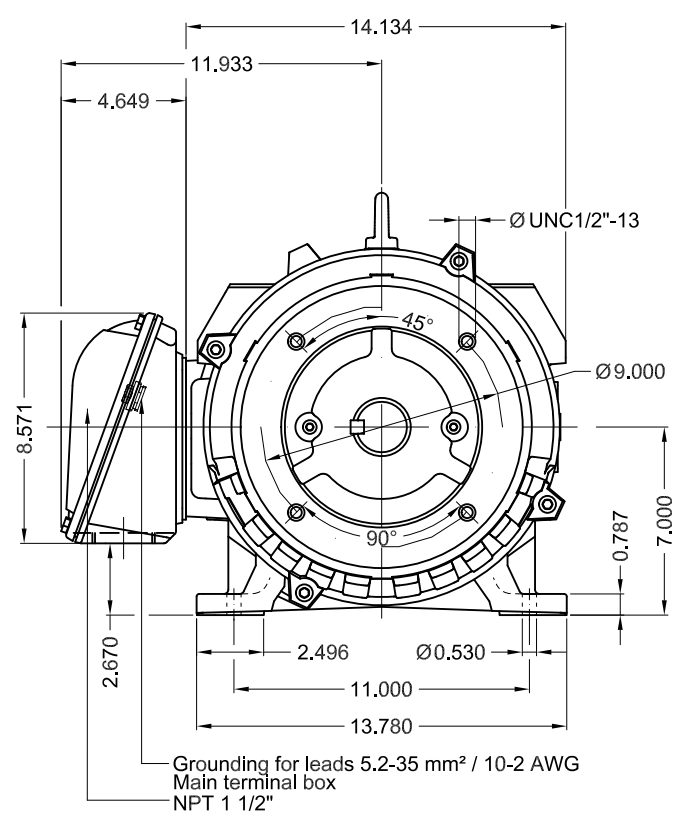


Performance : 415 V 50 Hz 4P IE3

Rated current : 28.0 A  
LRC : 6.8  
Rated torque : 71.2 ft.lb  
Locked rotor torque : 270 %  
Breakdown torque : 300 %  
Rated speed : 1475 rpm

Moment of inertia (J) : 3.71 sq.ft.lb  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.00  
Temperature rise : 80 K  
Design : B

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25 HP 04 Poles 60 Hz A

1:7

ECM	LOC	SUMMARY OF MODIFICATIONS	EXECUTED	CHECKED	RELEASED	DATE	VER
EXECUTED	PIRWBUSER	THREE PH. MOTOR W40 PREM. EFF.					
CHECKED		FRAME 284TC IP23 ODP					
RELEASED							
REL DT.		WMO Jaragua do Sul	Product Engineering	SHEET	1 / 1		

**PREVIEW**  
WDD



- Bearing cap
- Internal AEGIS ground ring on the DE
- Color RAL 5009
- Painting plan 203A
- Mounting NEMA F-1
- Mounting B34R(D)

Dimensions in inches XME A3

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



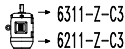
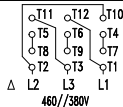
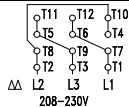
IEC 60034-1  
 MOD.T01#FOXON



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

MODEL 025180T3E284TC-W40G  
 MADE IN BRAZIL  
 14503636

PH 3	FR 284TC	HP(kW) 25.0(18.5)	Hz 60
V 230/460	A 59.0/29.5	RPM 1765	DES B
NEMA NOM EFF 93.6 %	INS. CL. F ΔT 80 K	IP23	
ENCL ODP	DUTY CONT.	AMB. 40°C	
CODE G	PF 0.84	SF 1.25	SFA 73.8/36.9
USABLE @208V	65.2 A	SF 1.15	SFA 75.0
20HP 15kW 50Hz 380V 29.5A 1465RPM SF1.00 EFF 92.1% (IE3)	ALT 1000 m.a.s.l.		



MOBIL POLYREX EM  
 18 g 20000 h

ALT 1000 m.a.s.l. 357 Lbs