

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :					
Product line	: W40 NEMA Premium Efficiency Three-Phase	Product code :	14284929		
		Catalog # :	12518OT3E405TS-W40		
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>	: 1014 lb		
Protection degree	: IP23	Moment of inertia (J)	: 25.5 sq.ft.lb		
Design	: B				
Output [HP]	125	100	100	100	
Poles	4	4	4	4	
Frequency [Hz]	60	50	50	50	
Rated voltage [V]	230/460	380	400	415	
Rated current [A]	276/138	138	133	129	
L. R. Amperes [A]	1904/952	994	1024	1032	
LRC [A]	6.9x(Code G)	7.2x(Code H)	7.7x(Code H)	8.0x(Code J)	
No load current [A]	94.0/47.0	46.3	50.2	53.7	
Rated speed [RPM]	1780	1480	1480	1480	
Slip [%]	1.11	1.33	1.33	1.33	
Rated torque [ft.lb]	369	355	355	355	
Locked rotor torque [%]	270	240	270	290	
Breakdown torque [%]	260	260	300	320	
Service factor	1.25	1.00	1.00	1.00	
Temperature rise	80 K	80 K	80 K	80 K	
Locked rotor time	18s (cold) 10s (hot)	16s (cold) 9s (hot)	16s (cold) 9s (hot)	14s (cold) 8s (hot)	
Noise level <sup>2</sup>	69.0 dB(A)				
Efficiency (%)	25%	94.9	94.5	94.5	94.8
	50%	95.0	94.6	94.6	94.9
	75%	95.4	95.0	95.0	95.0
	100%	95.4	95.0	95.0	95.0
Power Factor	25%	0.50	0.50	0.46	0.43
	50%	0.75	0.76	0.72	0.69
	75%	0.83	0.84	0.82	0.80
	100%	0.86	0.87	0.86	0.85
Bearing type	: <u>Drive end</u> 6314 C3 <u>Non drive end</u> 6212 Z C3	Foundation loads			
Sealing	: Without Without	Max. traction	: 2898 lb		
	: Bearing Seal Bearing Seal	Max. compression	: 3912 lb		
Lubrication interval	: 20000 h 20000 h				
Lubricant amount	: 27 g 13 g				
Lubricant type	: Mobil Polyrex EM				
Notes USABLE @208V 305A SF 1.15 SFA 351A					
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



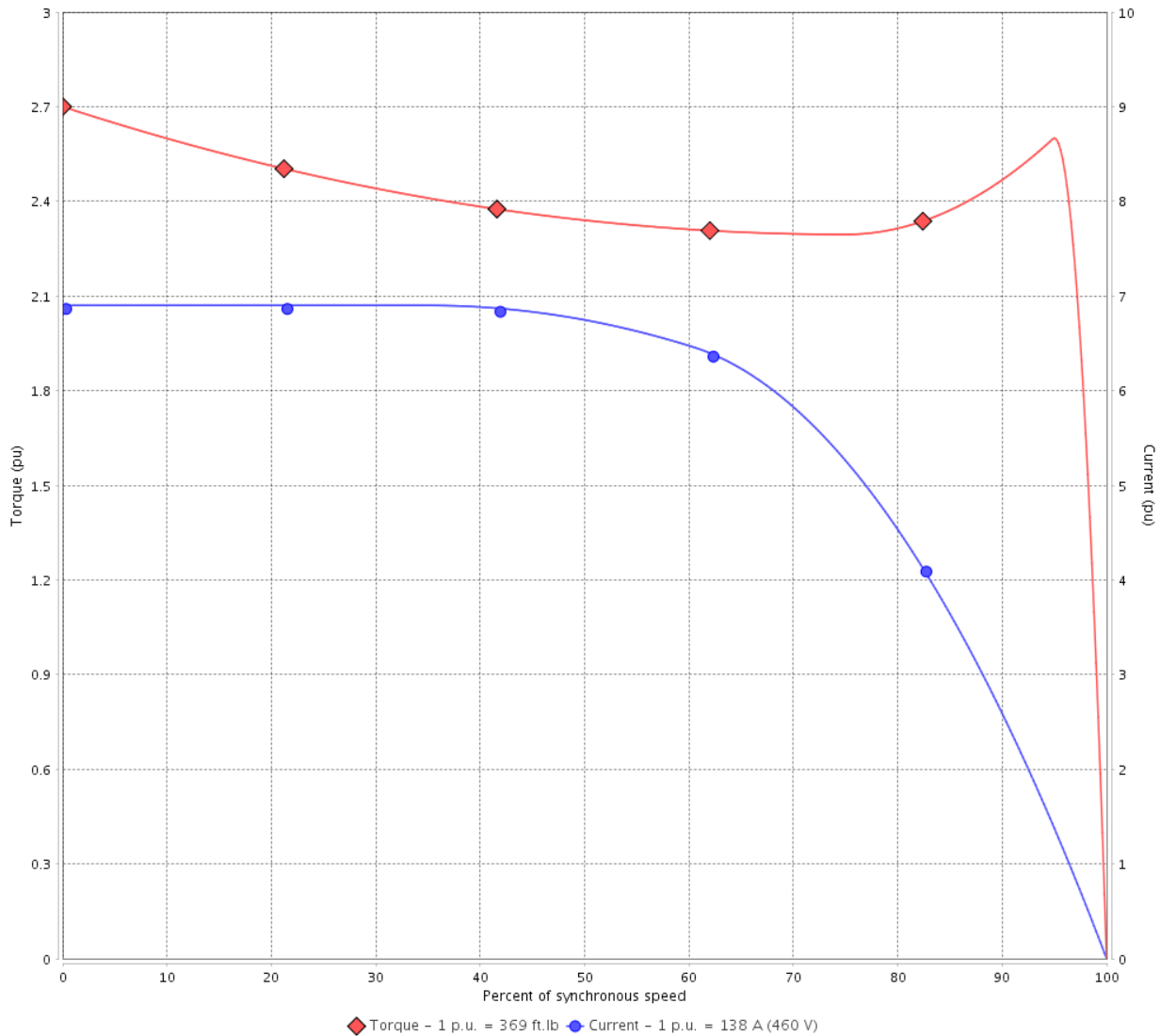
Customer :

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 14284929

Catalog # : 12518OT3E405TS-W40

TORQUE AND CURRENT VS SPEED CURVE



Performance : 230/460 V 60 Hz 4P

Rated current	: 276/138 A	Moment of inertia (J)	: 25.5 sq.ft.lb
LRC	: 6.9	Duty cycle	: Cont.(S1)
Rated torque	: 369 ft.lb	Insulation class	: F
Locked rotor torque	: 270 %	Service factor	: 1.25
Breakdown torque	: 260 %	Temperature rise	: 80 K
Rated speed	: 1780 rpm	Design	: B

Locked rotor time : 18s (cold) 10s (hot)

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# TORQUE AND CURRENT VS SPEED CURVE



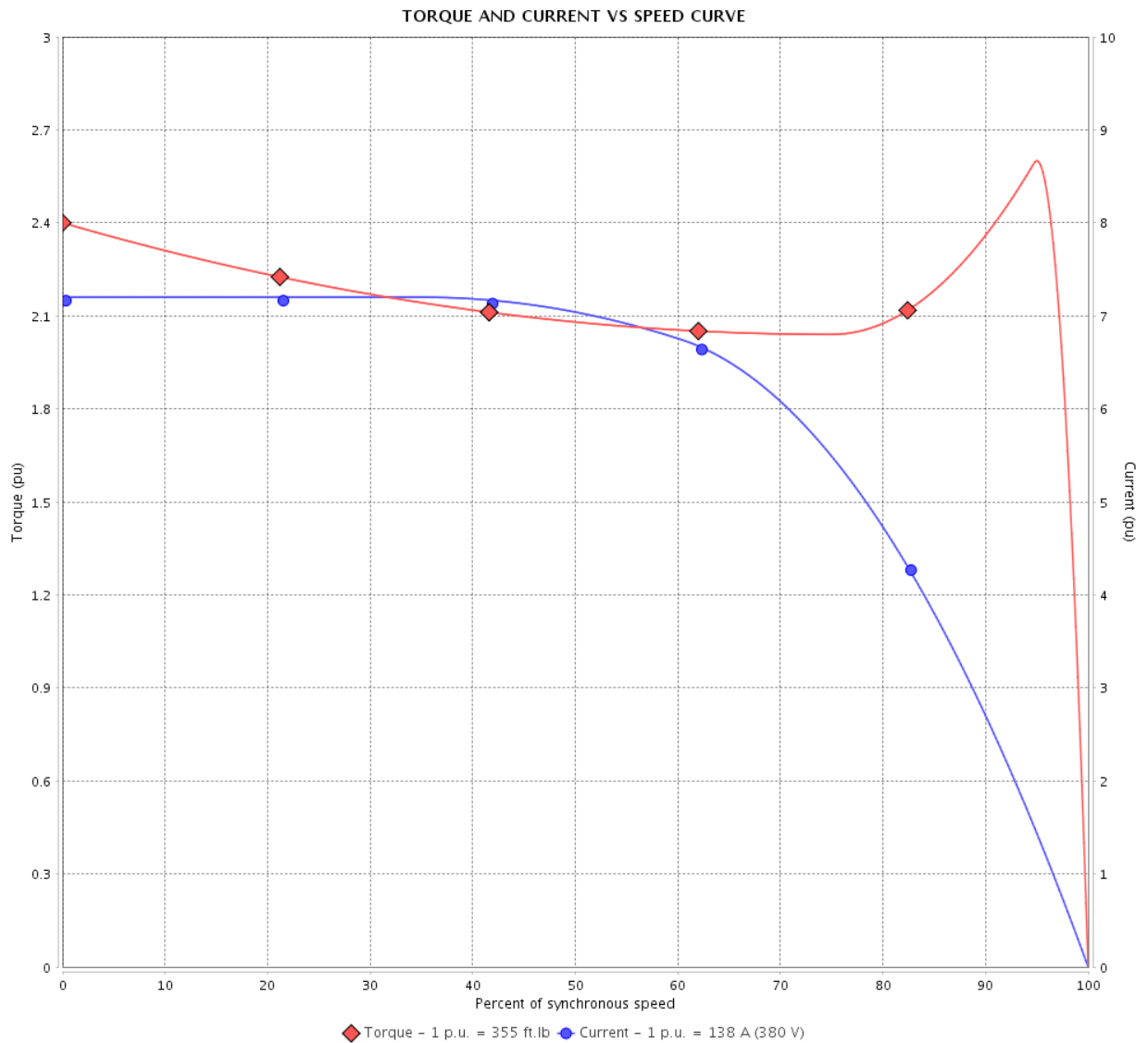
## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 14284929

Catalog # : 12518OT3E405TS-W40



Performance : 380 V 50 Hz 4P IE3

Rated current	: 138 A	Moment of inertia (J)	: 25.5 sq.ft.lb
LRC	: 7.2	Duty cycle	: Cont.(S1)
Rated torque	: 355 ft.lb	Insulation class	: F
Locked rotor torque	: 240 %	Service factor	: 1.00
Breakdown torque	: 260 %	Temperature rise	: 80 K
Rated speed	: 1480 rpm	Design	: B

Locked rotor time : 16s (cold) 9s (hot)

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# TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



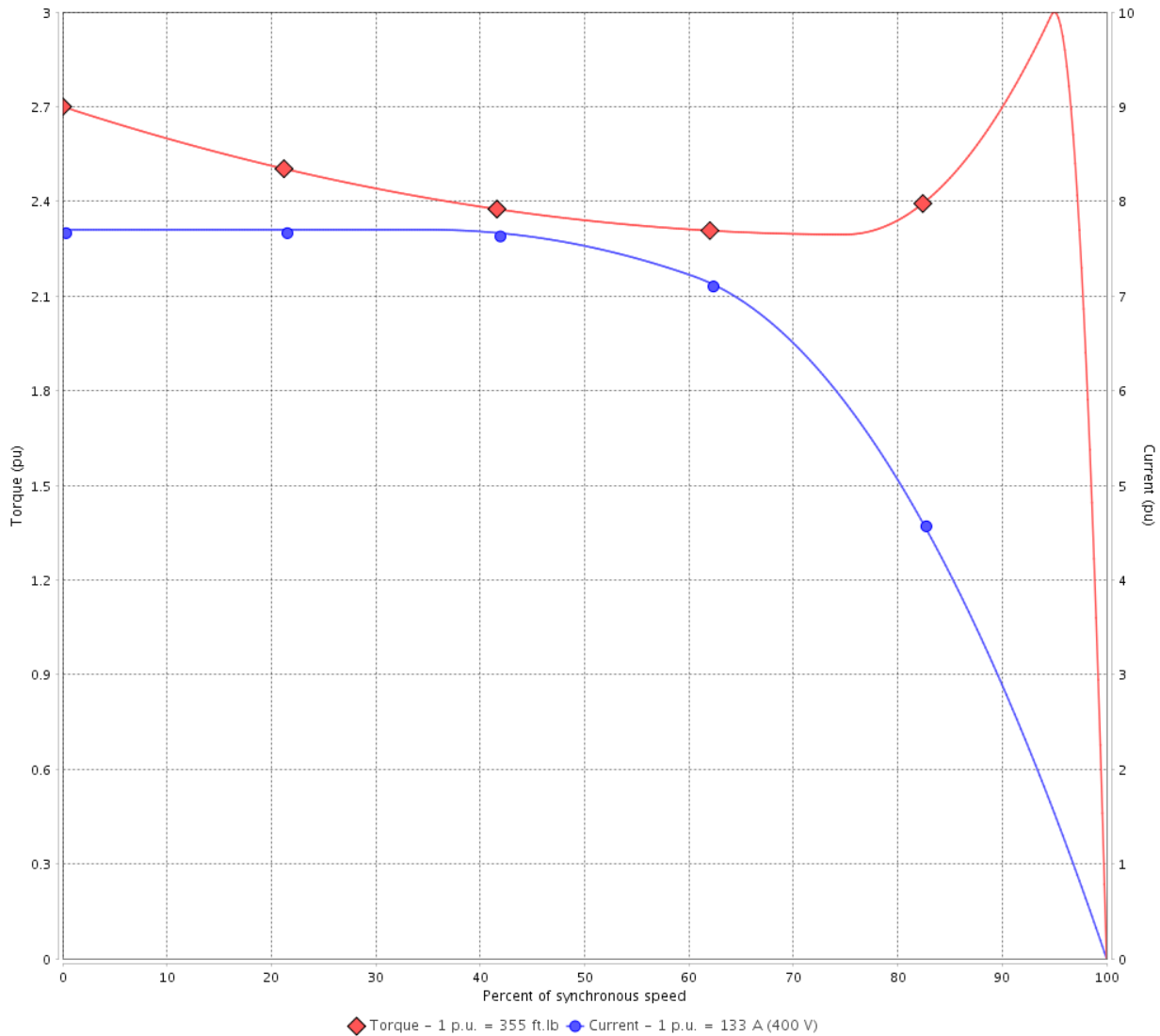
Customer :

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 14284929

Catalog # : 12518OT3E405TS-W40

TORQUE AND CURRENT VS SPEED CURVE



Performance : 400 V 50 Hz 4P IE3

Rated current	: 133 A	Moment of inertia (J)	: 25.5 sq.ft.lb
LRC	: 7.7	Duty cycle	: Cont.(S1)
Rated torque	: 355 ft.lb	Insulation class	: F
Locked rotor torque	: 270 %	Service factor	: 1.00
Breakdown torque	: 300 %	Temperature rise	: 80 K
Rated speed	: 1480 rpm	Design	: B

Locked rotor time : 16s (cold) 9s (hot)

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# TORQUE AND CURRENT VS SPEED CURVE



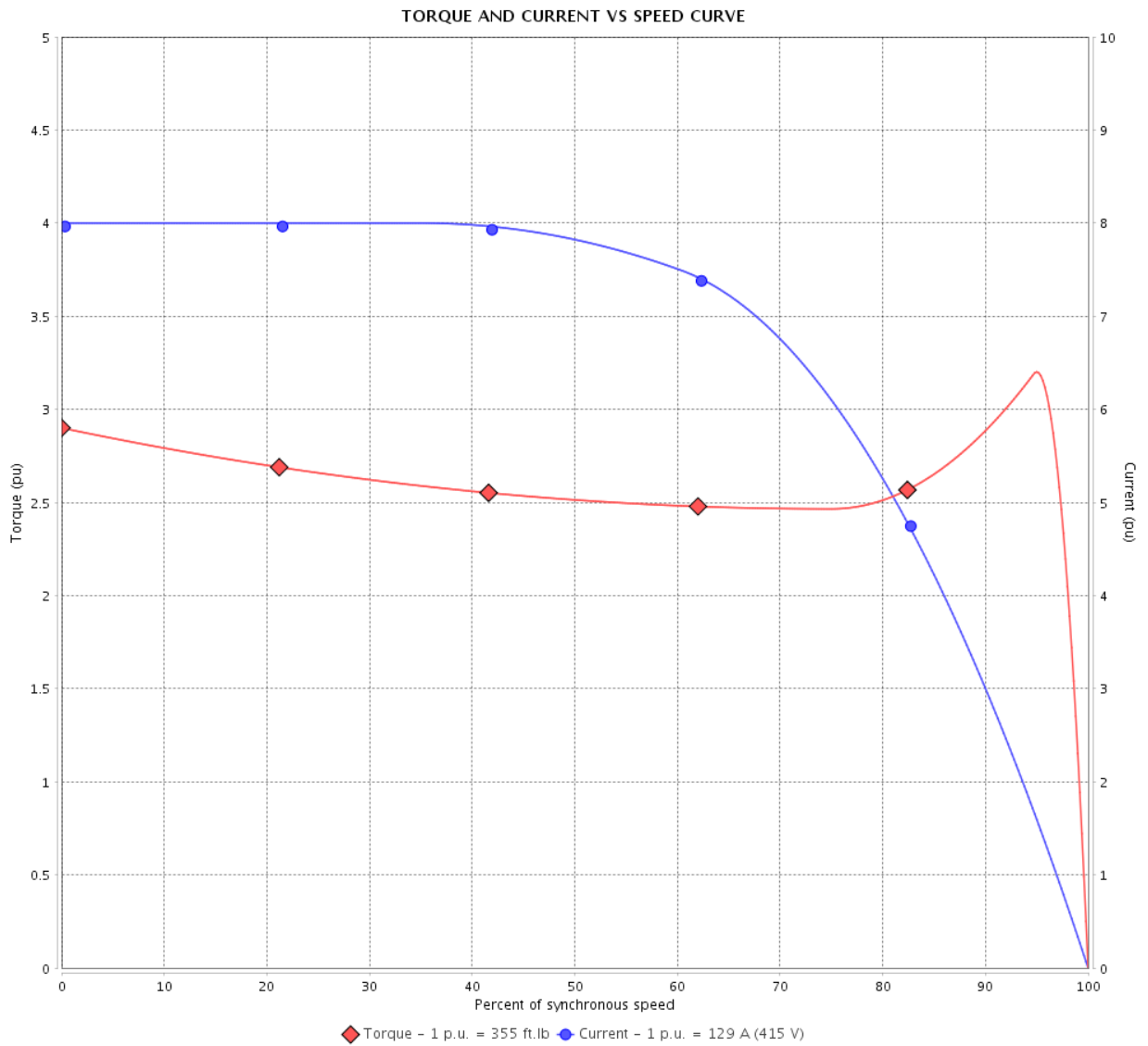
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Customer :

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 14284929

Catalog # : 12518OT3E405TS-W40



Performance : 415 V 50 Hz 4P IE3

Rated current	: 129 A	Moment of inertia (J)	: 25.5 sq.ft.lb
LRC	: 8.0	Duty cycle	: Cont.(S1)
Rated torque	: 355 ft.lb	Insulation class	: F
Locked rotor torque	: 290 %	Service factor	: 1.00
Breakdown torque	: 320 %	Temperature rise	: 80 K
Rated speed	: 1480 rpm	Design	: B

Locked rotor time : 14s (cold) 8s (hot)

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# LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage



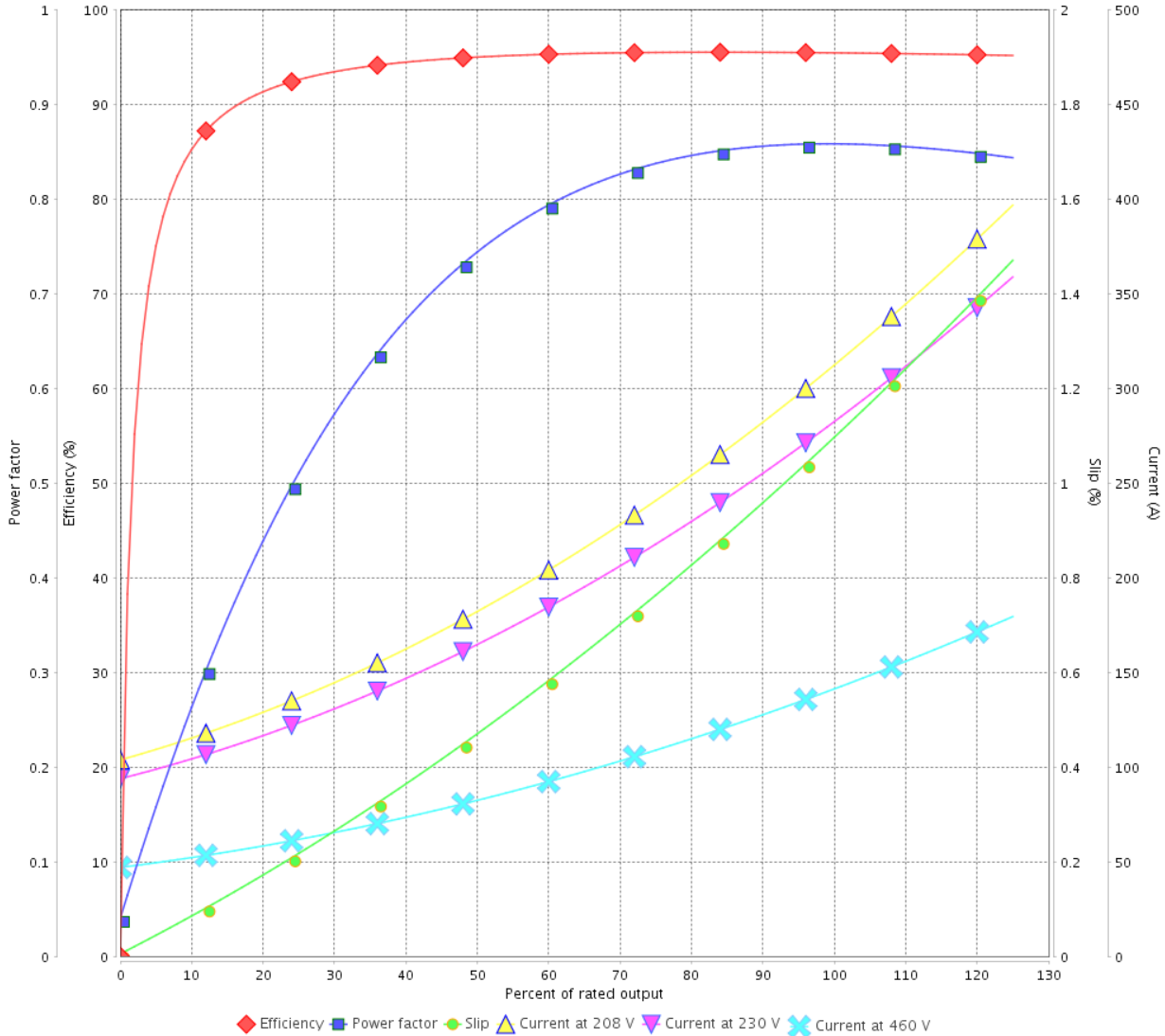
Customer :

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 14284929

Catalog # : 12518OT3E405TS-W40

LOAD PERFORMANCE CURVE



Performance : 230/460 V 60 Hz 4P

Rated current : 276/138 A  
LRC : 6.9  
Rated torque : 369 ft.lb  
Locked rotor torque : 270 %  
Breakdown torque : 260 %  
Rated speed : 1780 rpm

Moment of inertia (J) : 25.5 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

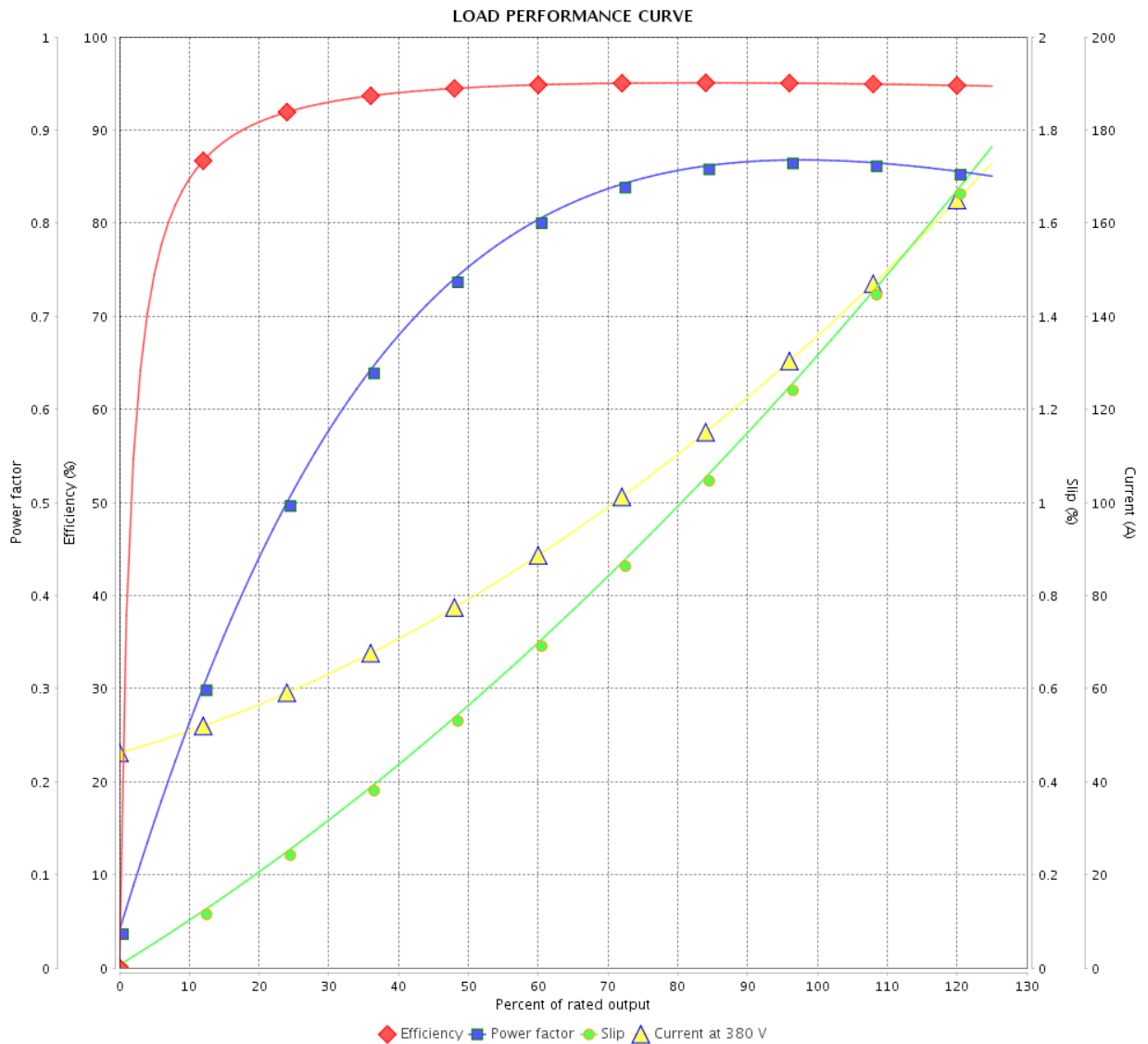


Customer : \_\_\_\_\_

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 14284929

Catalog # : 12518OT3E405TS-W40



Performance : 380 V 50 Hz 4P IE3

Rated current : 138 A  
 LRC : 7.2  
 Rated torque : 355 ft.lb  
 Locked rotor torque : 240 %  
 Breakdown torque : 260 %  
 Rated speed : 1480 rpm

Moment of inertia (J) : 25.5 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



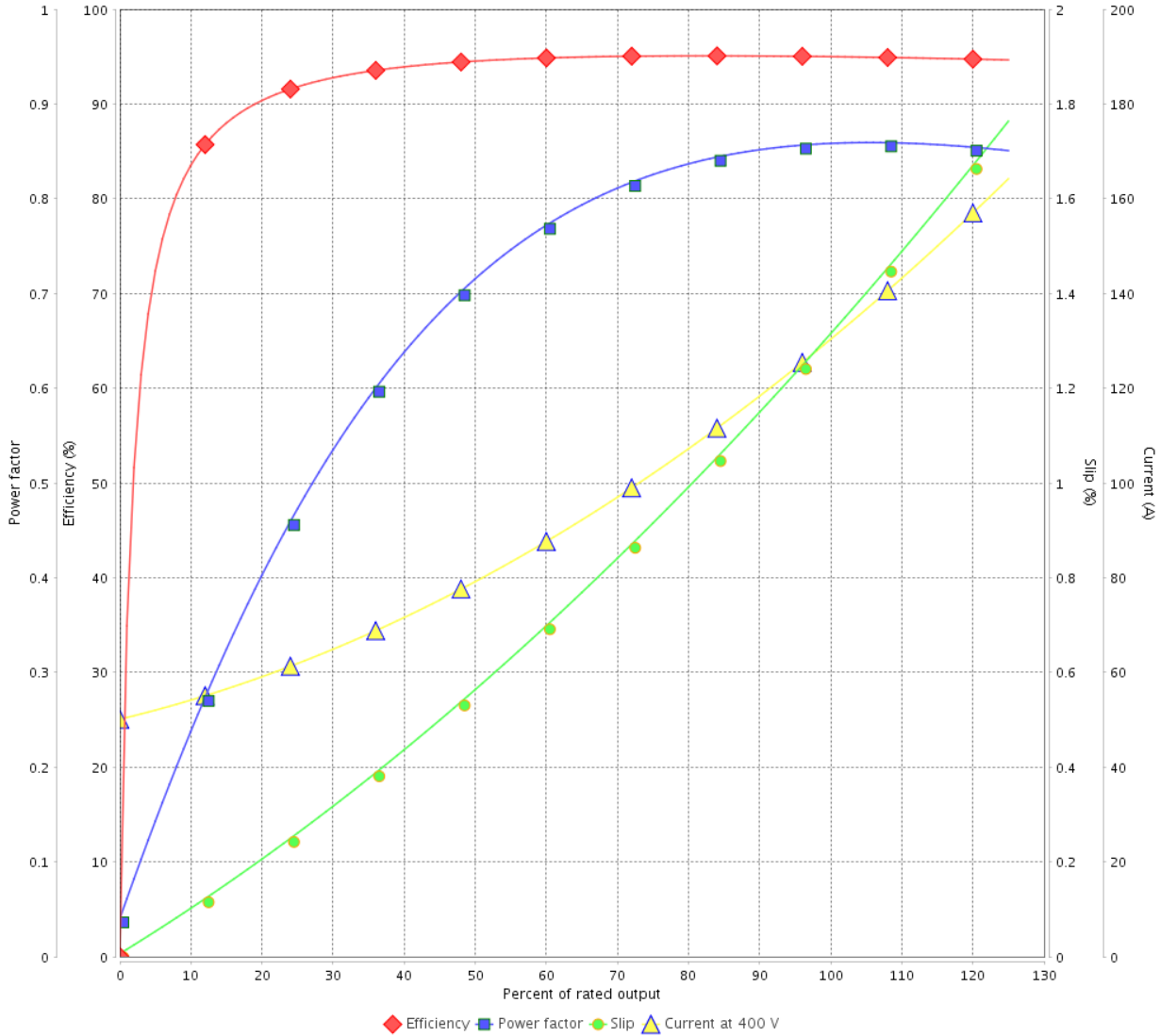
Customer :

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 14284929

Catalog # : 12518OT3E405TS-W40

LOAD PERFORMANCE CURVE



Performance : 400 V 50 Hz 4P IE3

Rated current : 133 A  
 LRC : 7.7  
 Rated torque : 355 ft.lb  
 Locked rotor torque : 270 %  
 Breakdown torque : 300 %  
 Rated speed : 1480 rpm

Moment of inertia (J) : 25.5 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

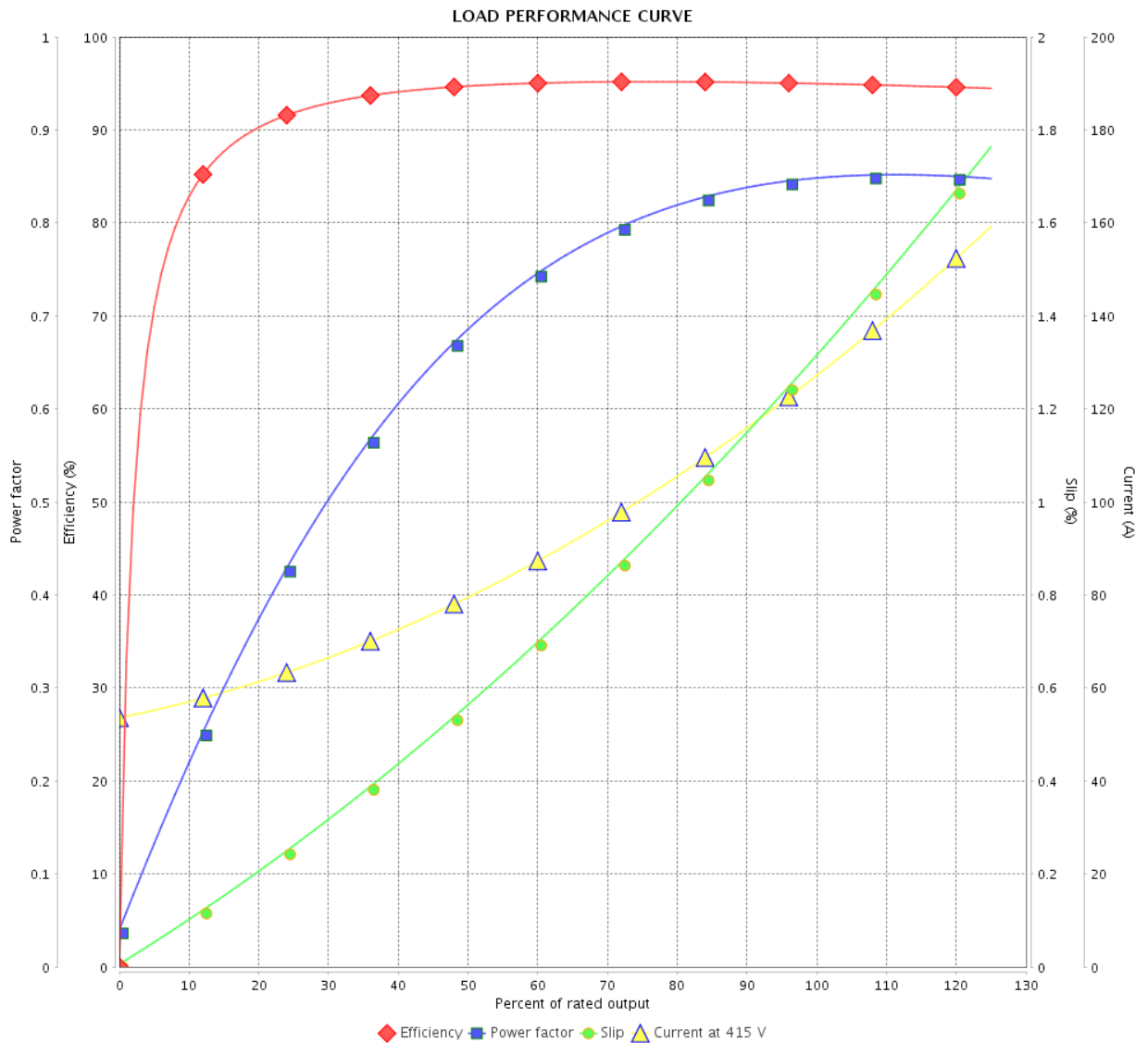


Customer : \_\_\_\_\_

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 14284929

Catalog # : 12518OT3E405TS-W40



Performance : 415 V 50 Hz 4P IE3

Rated current : 129 A  
 LRC : 8.0  
 Rated torque : 355 ft.lb  
 Locked rotor torque : 290 %  
 Breakdown torque : 320 %  
 Rated speed : 1480 rpm

Moment of inertia (J) : 25.5 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

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Three-Phase

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Catalog # : 12518OT3E405TS-W40

Performance : 230/460 V 60 Hz 4P

Rated current : 276/138 A  
LRC : 6.9  
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Breakdown torque : 260 %  
Rated speed : 1780 rpm

Moment of inertia (J) : 25.5 sq.ft.lb  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.25  
Temperature rise : 80 K  
Design : B

Heating constant

Cooling constant

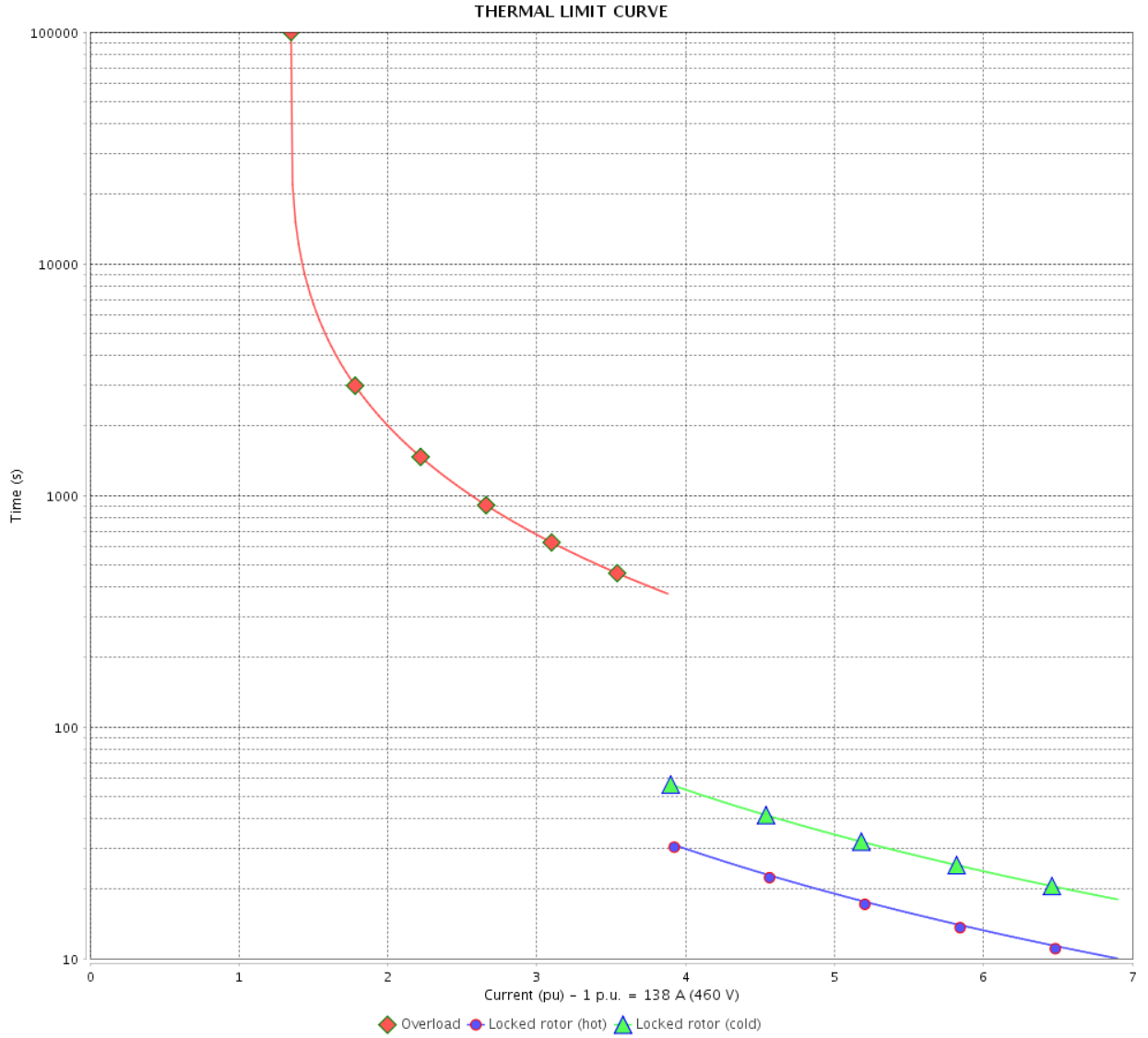
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# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



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# THERMAL LIMIT CURVE



## Three Phase Induction Motor - Squirrel Cage

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Product code : 14284929

Catalog # : 12518OT3E405TS-W40

Performance : 380 V 50 Hz 4P IE3

Rated current	: 138 A	Moment of inertia (J)	: 25.5 sq.ft.lb
LRC	: 7.2	Duty cycle	: Cont.(S1)
Rated torque	: 355 ft.lb	Insulation class	: F
Locked rotor torque	: 240 %	Service factor	: 1.00
Breakdown torque	: 260 %	Temperature rise	: 80 K
Rated speed	: 1480 rpm	Design	: B

Heating constant

Cooling constant

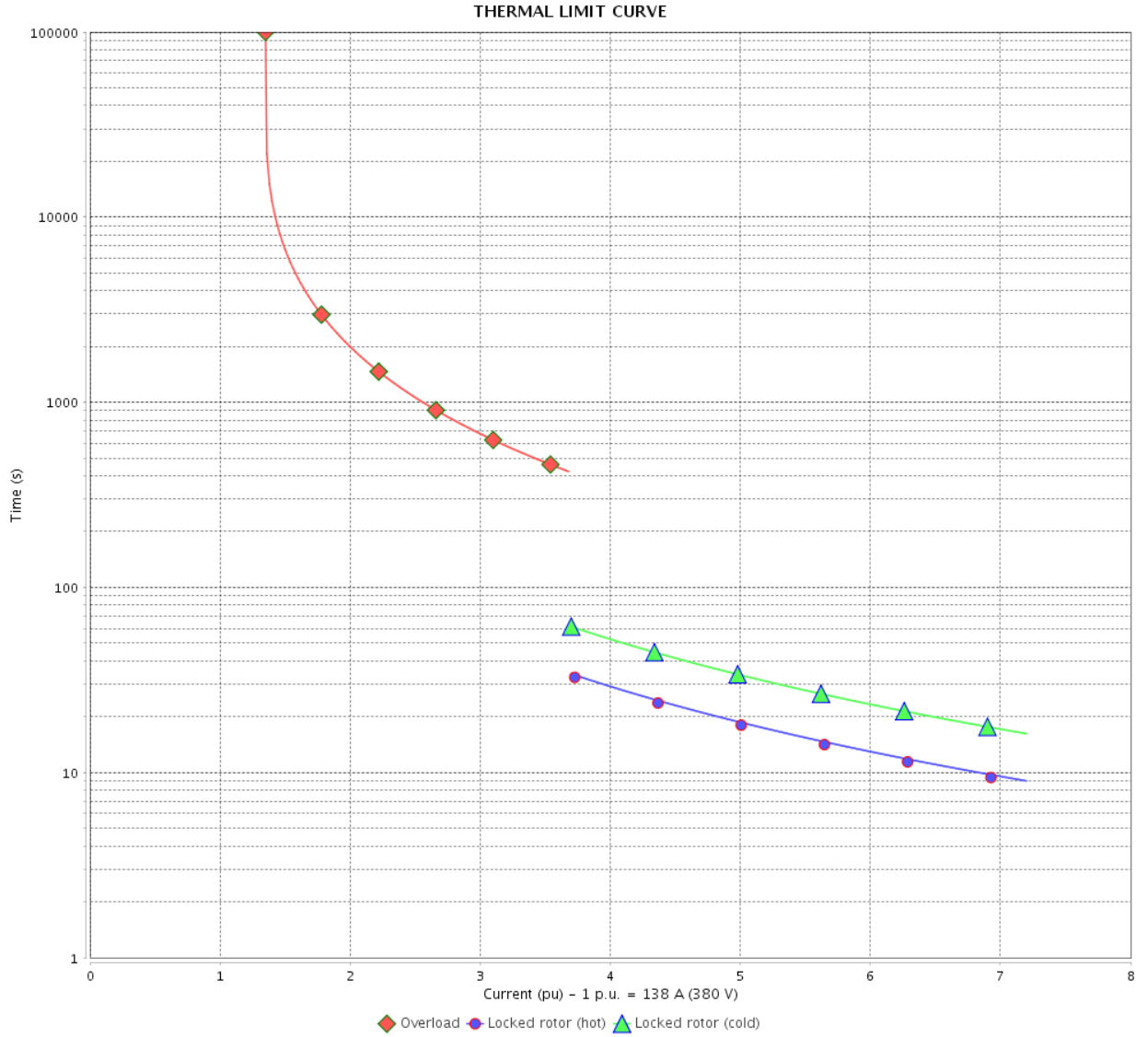
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# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



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Checked by				
Date				

# THERMAL LIMIT CURVE



## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 14284929

Catalog # : 12518OT3E405TS-W40

Performance : 400 V 50 Hz 4P IE3

Rated current	: 133 A	Moment of inertia (J)	: 25.5 sq.ft.lb
LRC	: 7.7	Duty cycle	: Cont.(S1)
Rated torque	: 355 ft.lb	Insulation class	: F
Locked rotor torque	: 270 %	Service factor	: 1.00
Breakdown torque	: 300 %	Temperature rise	: 80 K
Rated speed	: 1480 rpm	Design	: B

Heating constant

Cooling constant

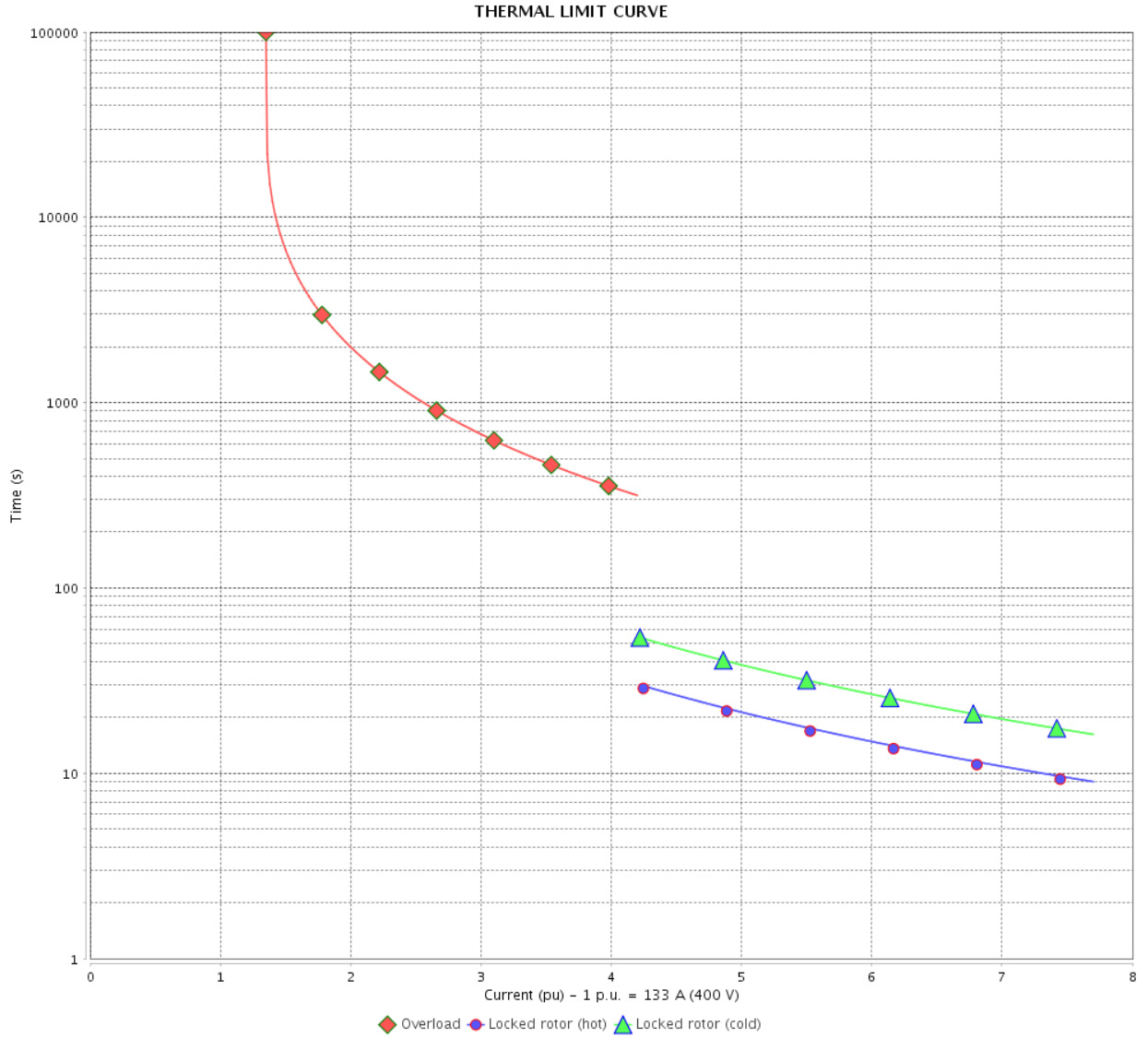
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# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



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## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 14284929

Catalog # : 12518OT3E405TS-W40

Performance : 415 V 50 Hz 4P IE3

Rated current	: 129 A	Moment of inertia (J)	: 25.5 sq.ft.lb
LRC	: 8.0	Duty cycle	: Cont.(S1)
Rated torque	: 355 ft.lb	Insulation class	: F
Locked rotor torque	: 290 %	Service factor	: 1.00
Breakdown torque	: 320 %	Temperature rise	: 80 K
Rated speed	: 1480 rpm	Design	: B

Heating constant

Cooling constant

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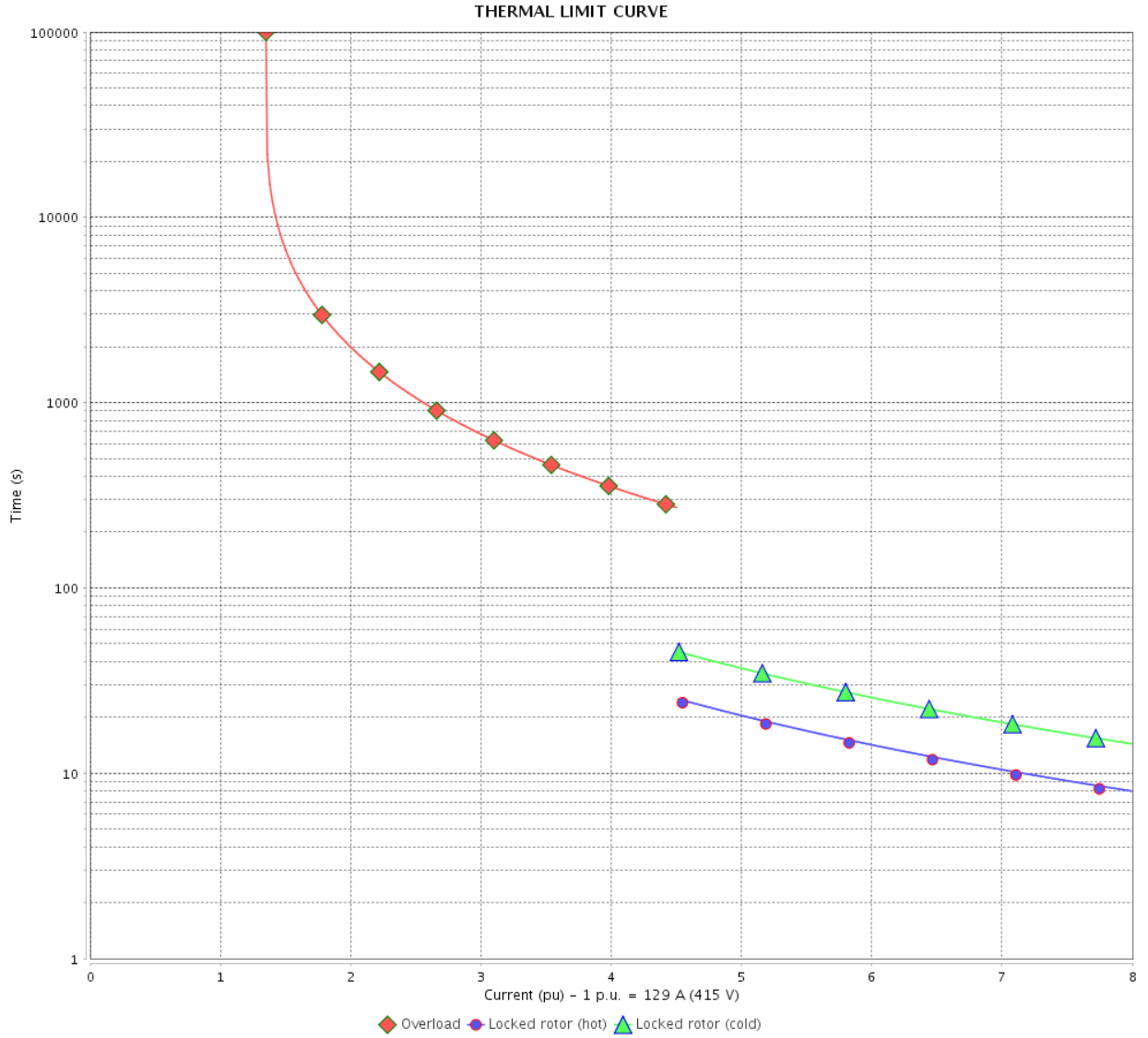


# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

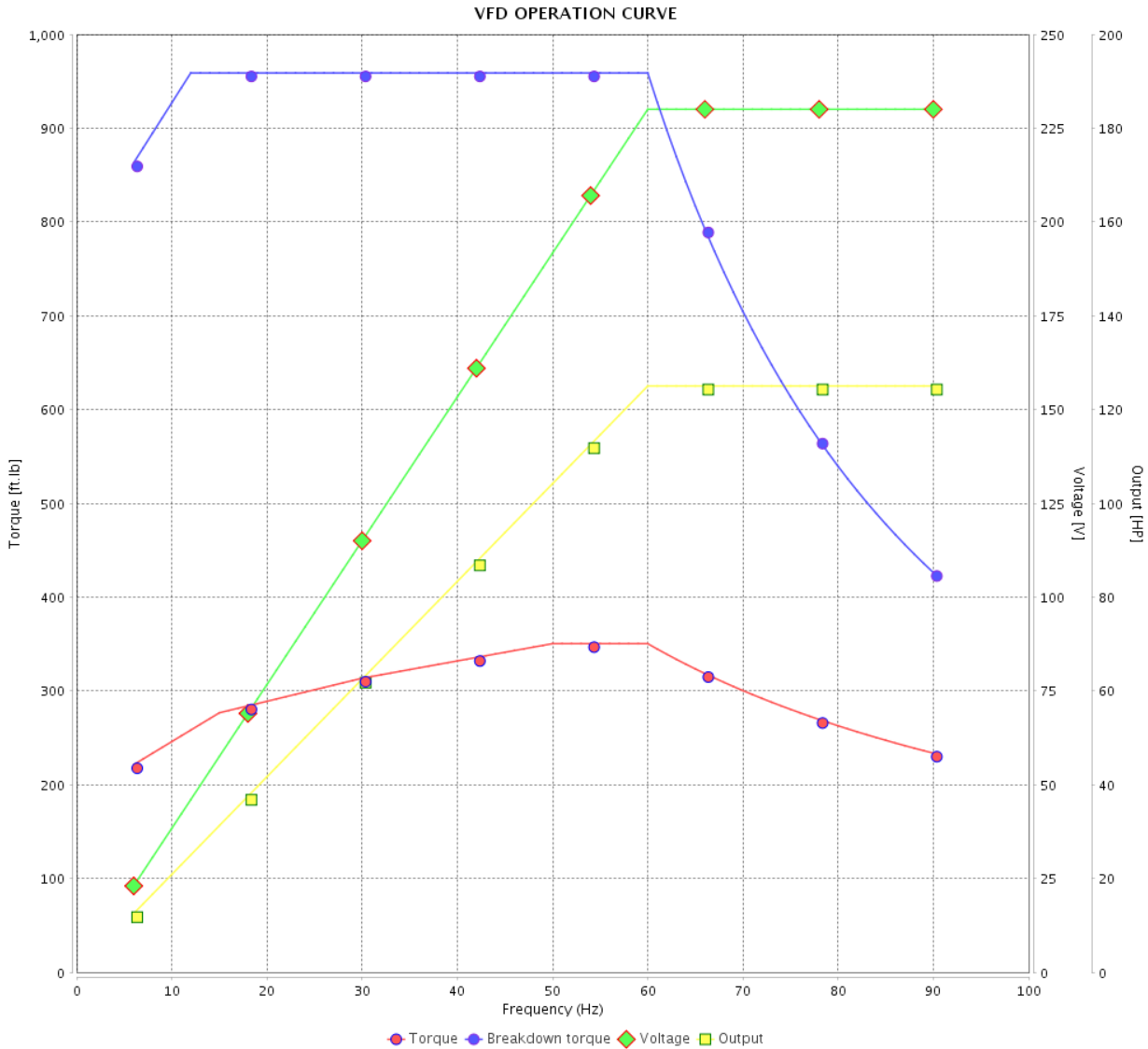


Customer :

Product line : W40 NEMA Premium Efficiency Three-Phase

Product code : 14284929

Catalog # : 12518OT3E405TS-W40



Performance : 230/460 V 60 Hz 4P

Rated current : 276/138 A  
 LRC : 6.9  
 Rated torque : 369 ft.lb  
 Locked rotor torque : 270 %  
 Breakdown torque : 260 %  
 Rated speed : 1780 rpm

Moment of inertia (J) : 25.5 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

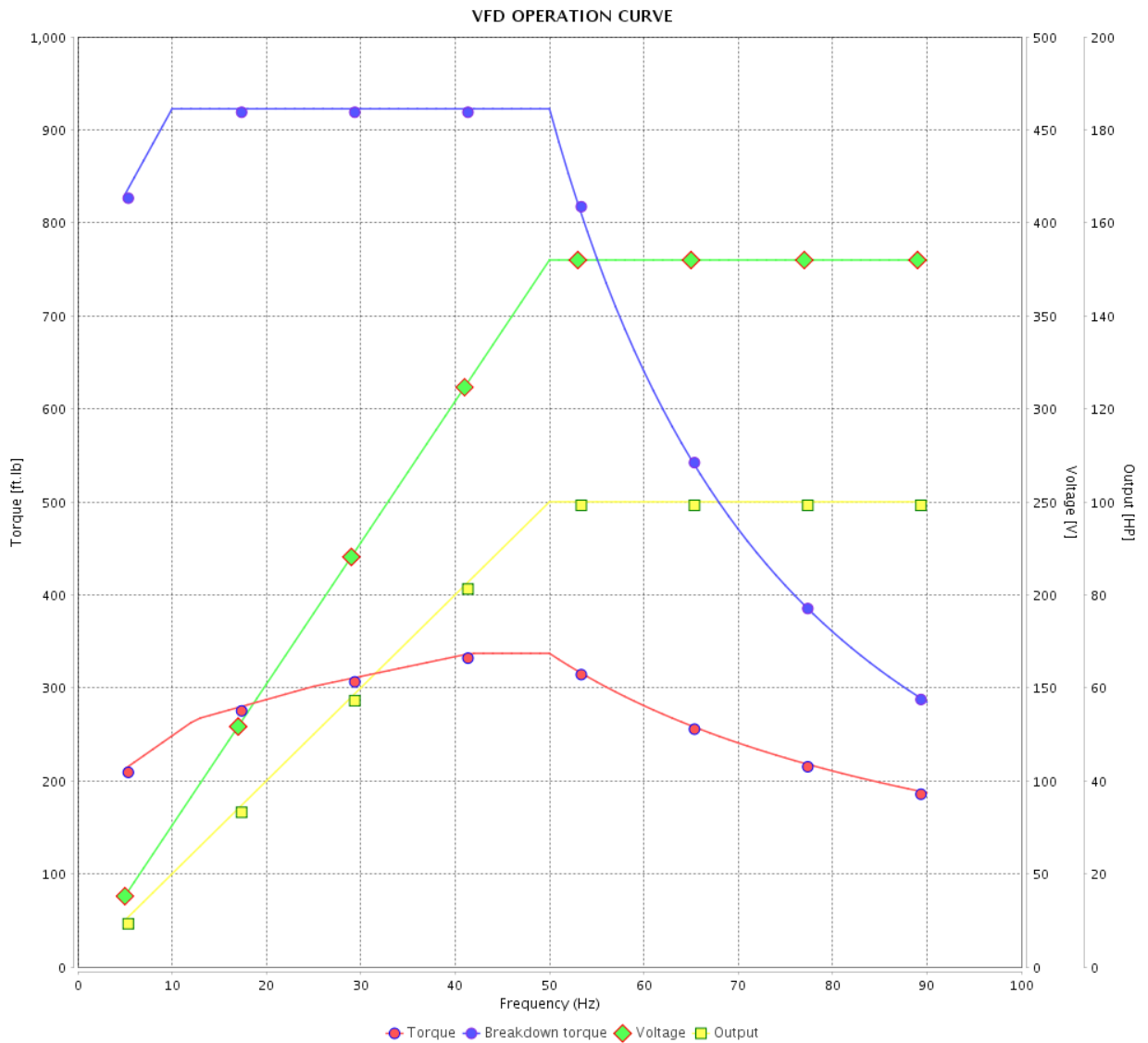


Customer :

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 14284929

Catalog # : 12518OT3E405TS-W40



Performance : 380 V 50 Hz 4P IE3

Rated current : 138 A  
LRC : 7.2  
Rated torque : 355 ft.lb  
Locked rotor torque : 240 %  
Breakdown torque : 260 %  
Rated speed : 1480 rpm

Moment of inertia (J) : 25.5 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



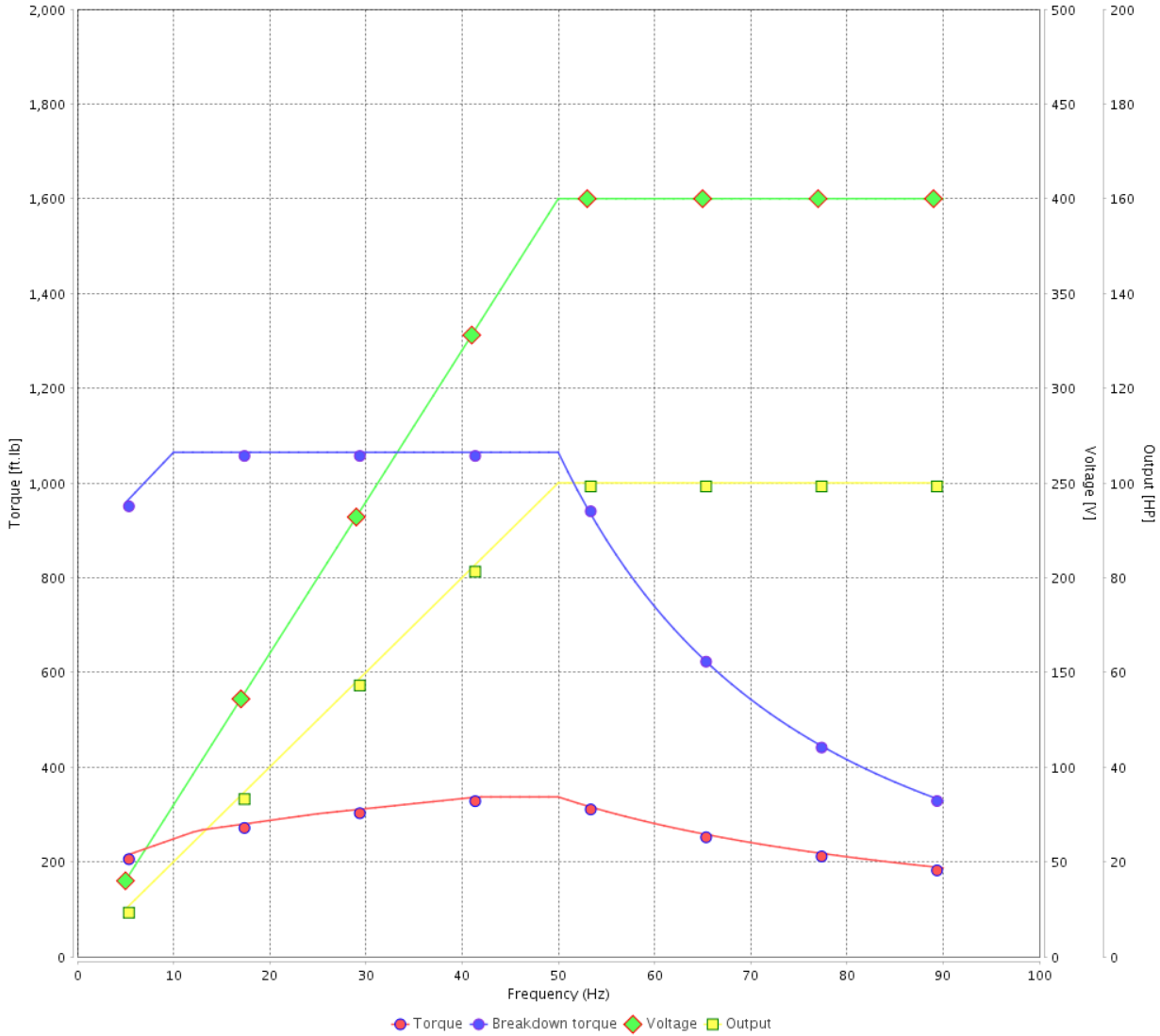
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Product code : 14284929

Catalog # : 12518OT3E405TS-W40

VFD OPERATION CURVE



Performance : 400 V 50 Hz 4P IE3

Rated current	: 133 A	Moment of inertia (J)	: 25.5 sq.ft.lb
LRC	: 7.7	Duty cycle	: Cont.(S1)
Rated torque	: 355 ft.lb	Insulation class	: F
Locked rotor torque	: 270 %	Service factor	: 1.00
Breakdown torque	: 300 %	Temperature rise	: 80 K
Rated speed	: 1480 rpm	Design	: B

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# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

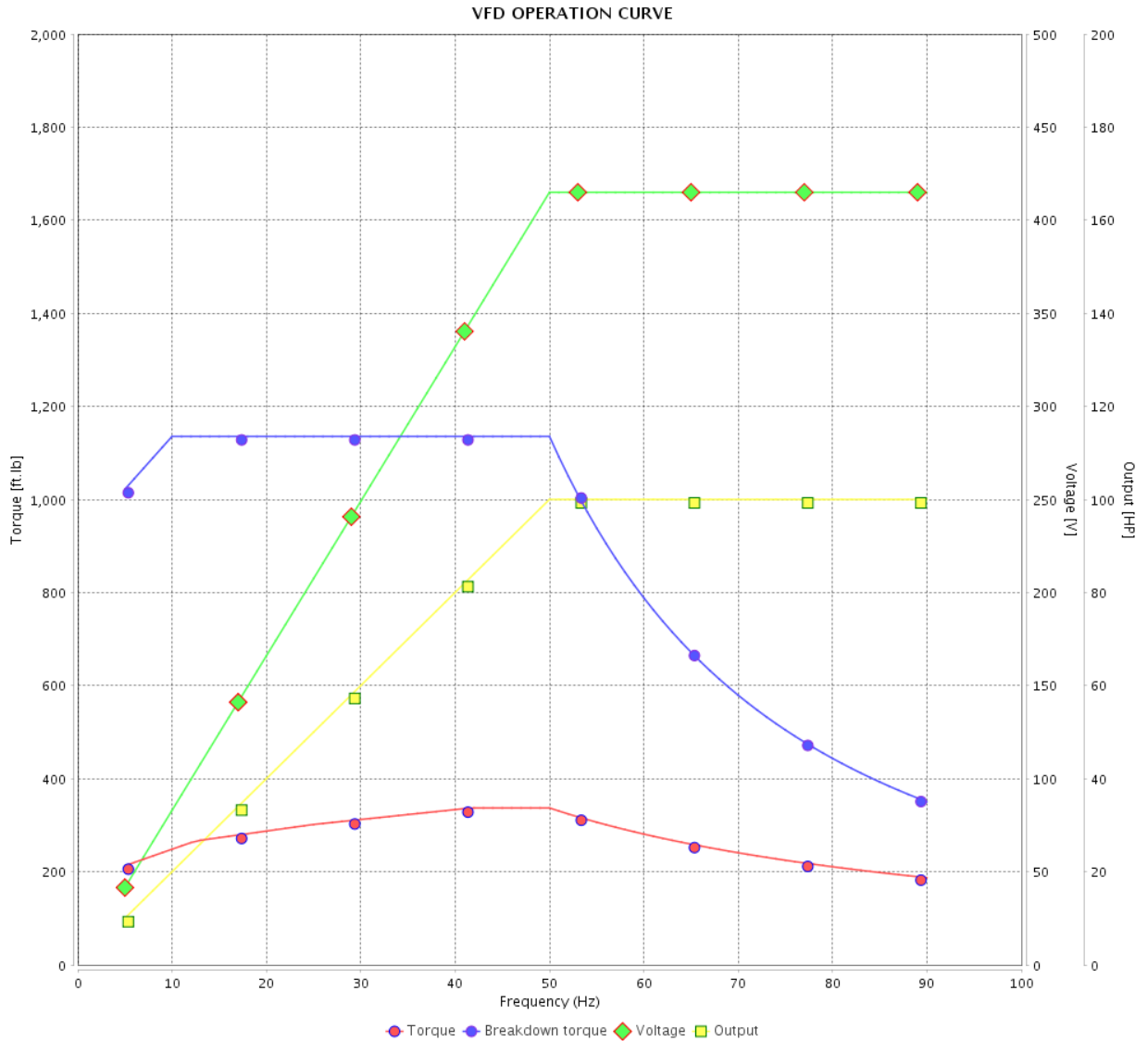


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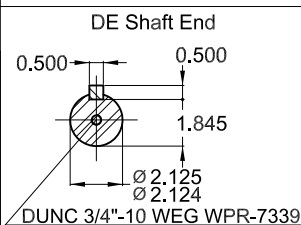
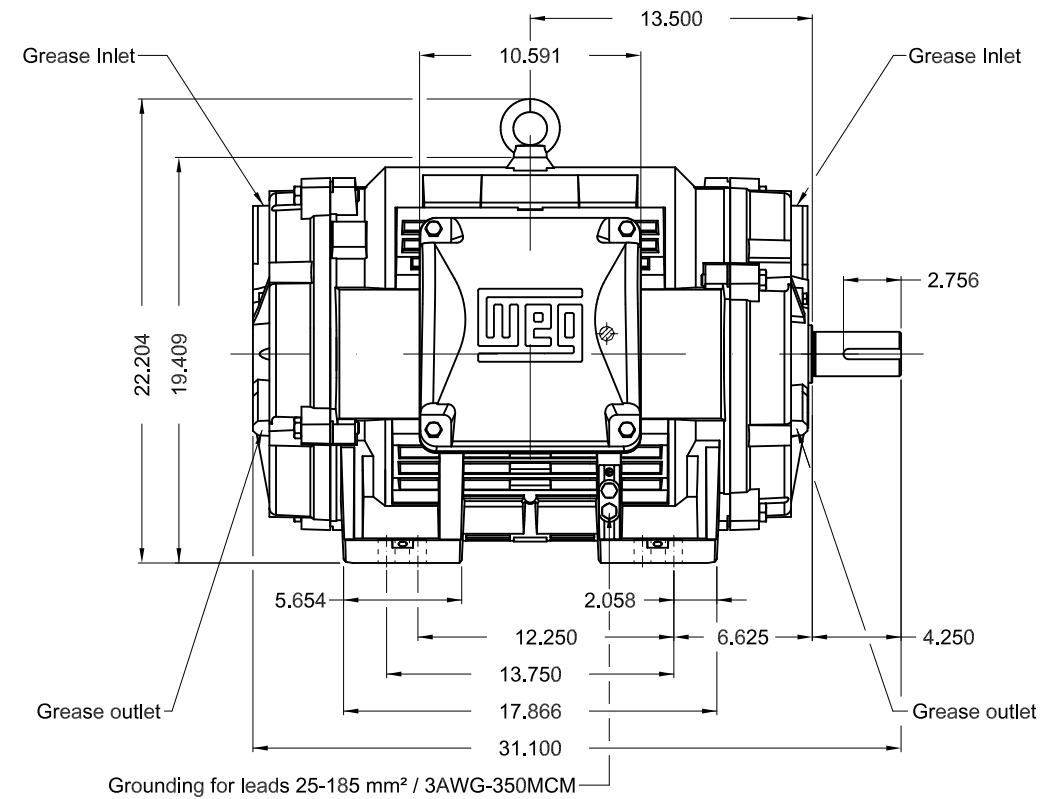
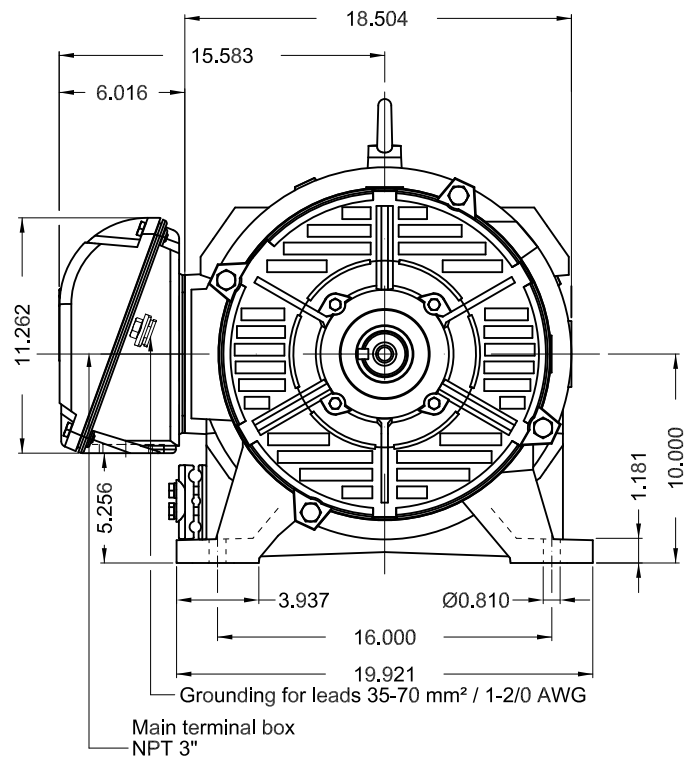


Performance : 415 V 50 Hz 4P IE3

Rated current : 129 A  
LRC : 8.0  
Rated torque : 355 ft.lb  
Locked rotor torque : 290 %  
Breakdown torque : 320 %  
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Moment of inertia (J) : 25.5 sq.ft.lb  
Duty cycle : Cont.(S1)  
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Service factor : 1.00  
Temperature rise : 80 K  
Design : B

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TS shaft end  
Color RAL 5009  
Painting plan 203A  
Mounting NEMA F-1  
Mounting B3R(D)

125 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 404/5TS IP23 ODP					
RELEASED							
REL DT.	WMO	Jaragua do Sul	Product Engineering	SHEET	1 / 1		

PREVIEW  
WDD



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



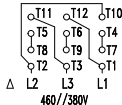
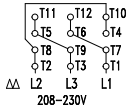
IEC 60034-1  
 MOD.T01#FOXON





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

MODEL 125180T3E405TS-W40  
 MADE IN BRAZIL  
 14284929

PH 3	FR 404/5TS	HP(kW) 125.0(90.0)	Hz 60
V 230/460	A 276/138	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 345/173
USABLE @208V 305 A	SF 1.15	SFA 351	
100HP 75kW 50Hz 380V 138A 1480RPM SF1.00 EFF 95.0% (IE3)	ALT 1000 m.a.s.l.	1016 Lbs	



-  → 6314-C3(27g)
-  → 6212-Z-C3(13g)

MOBIL POLYREX EM  
 20000 h