

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



Customer :					
Product line	: NEMA Premium Efficiency Three-Phase	Product code :	12408373		
		Catalog # :	10009XT3E445T		
Frame	: 444/5T	Cooling method	: IC411 - TEFC		
Insulation class	: F	Mounting	: F-1		
Duty cycle	: Cont.(S1)	Rotation ¹	: Both (CW and CCW)		
Ambient temperature	: -20°C to +40°C	Starting method	: Direct On Line		
Altitude	: 1000 m.a.s.l.	Approx. weight ²	: 2088 lb		
Protection degree	: IP55	Moment of inertia (J)	: 87.3 sq.ft.lb		
Design	: B				
Output [HP]	100	75	75	75	
Poles	8	8	8	8	
Frequency [Hz]	60	50	50	50	
Rated voltage [V]	230/460	380	400	415	
Rated current [A]	250/125	112	108	107	
L. R. Amperes [A]	1525/763	717	767	813	
LRC [A]	6.1x(Code G)	6.4x(Code G)	7.1x(Code H)	7.6x(Code J)	
No load current [A]	95.0/47.5	46.5	51.0	54.4	
Rated speed [RPM]	890	740	740	745	
Slip [%]	1.11	1.33	1.33	0.67	
Rated torque [ft.lb]	590	532	532	529	
Locked rotor torque [%]	170	180	210	229	
Breakdown torque [%]	200	220	250	270	
Service factor	1.15	1.00	1.00	1.00	
Temperature rise	80 K	80 K	80 K	80 K	
Locked rotor time	28s (cold) 16s (hot)	36s (cold) 20s (hot)	36s (cold) 20s (hot)	36s (cold) 20s (hot)	
Noise level ²	64.0 dB(A)	62.0 dB(A)	62.0 dB(A)	62.0 dB(A)	
Efficiency (%)	25%	94.3	93.5	93.5	92.5
	50%	94.1	93.6	93.6	93.0
	75%	94.5	94.1	94.1	93.6
	100%	94.1	94.1	94.1	94.1
Power Factor	25%	0.43	0.41	0.37	0.34
	50%	0.68	0.65	0.61	0.58
	75%	0.77	0.75	0.72	0.70
	100%	0.80	0.79	0.78	0.76
Bearing type	: <u>Drive end</u> 6219 C3 <u>Non drive end</u> 6316 C3	Foundation loads			
Sealing	: Viton Oil Seal Viton Seal	Max. traction	: 2761 lb		
		Max. compression	: 4849 lb		
Lubrication interval	: 15247 h 15904 h				
Lubricant amount	: 28 g 34 g				
Lubricant type	: Mobil Polyrex EM				
Notes USABLE @208V 276A SF 1.00 SFA 276A					
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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Three Phase Induction Motor - Squirrel Cage



Customer : _____

Thermal protection

ID	Application	Type	Quantity	Sensing Temperature
1	Winding	Thermostat - 2 wires	1 x Phase	155 °C

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TORQUE AND CURRENT VS SPEED CURVE



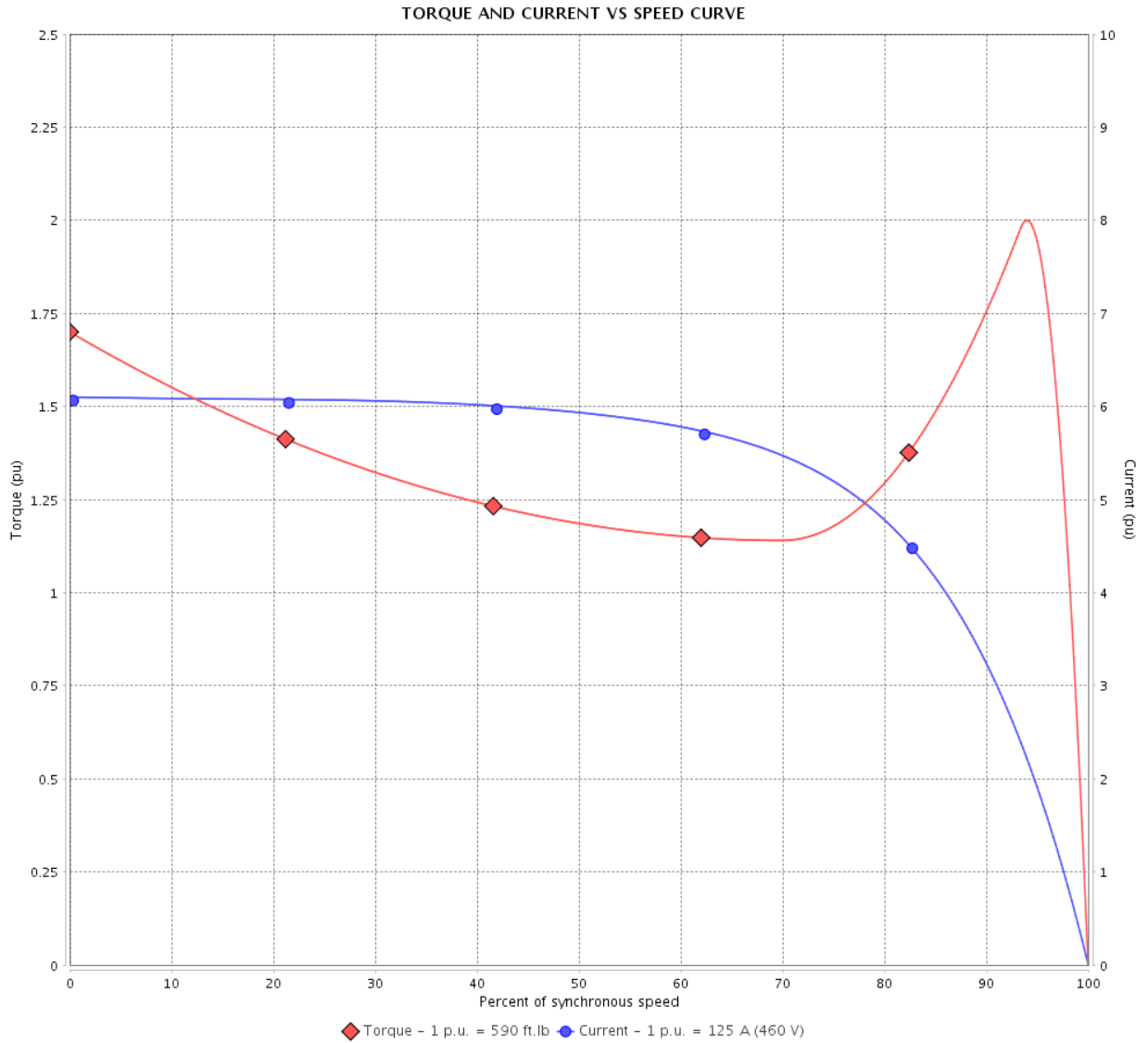
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12408373

Catalog # : 10009XT3E445T



Performance : 230/460 V 60 Hz 8P

Rated current : 250/125 A
 LRC : 6.1
 Rated torque : 590 ft.lb
 Locked rotor torque : 170 %
 Breakdown torque : 200 %
 Rated speed : 890 rpm

Moment of inertia (J) : 87.3 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.15
 Temperature rise : 80 K
 Design : B

Locked rotor time : 28s (cold) 16s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



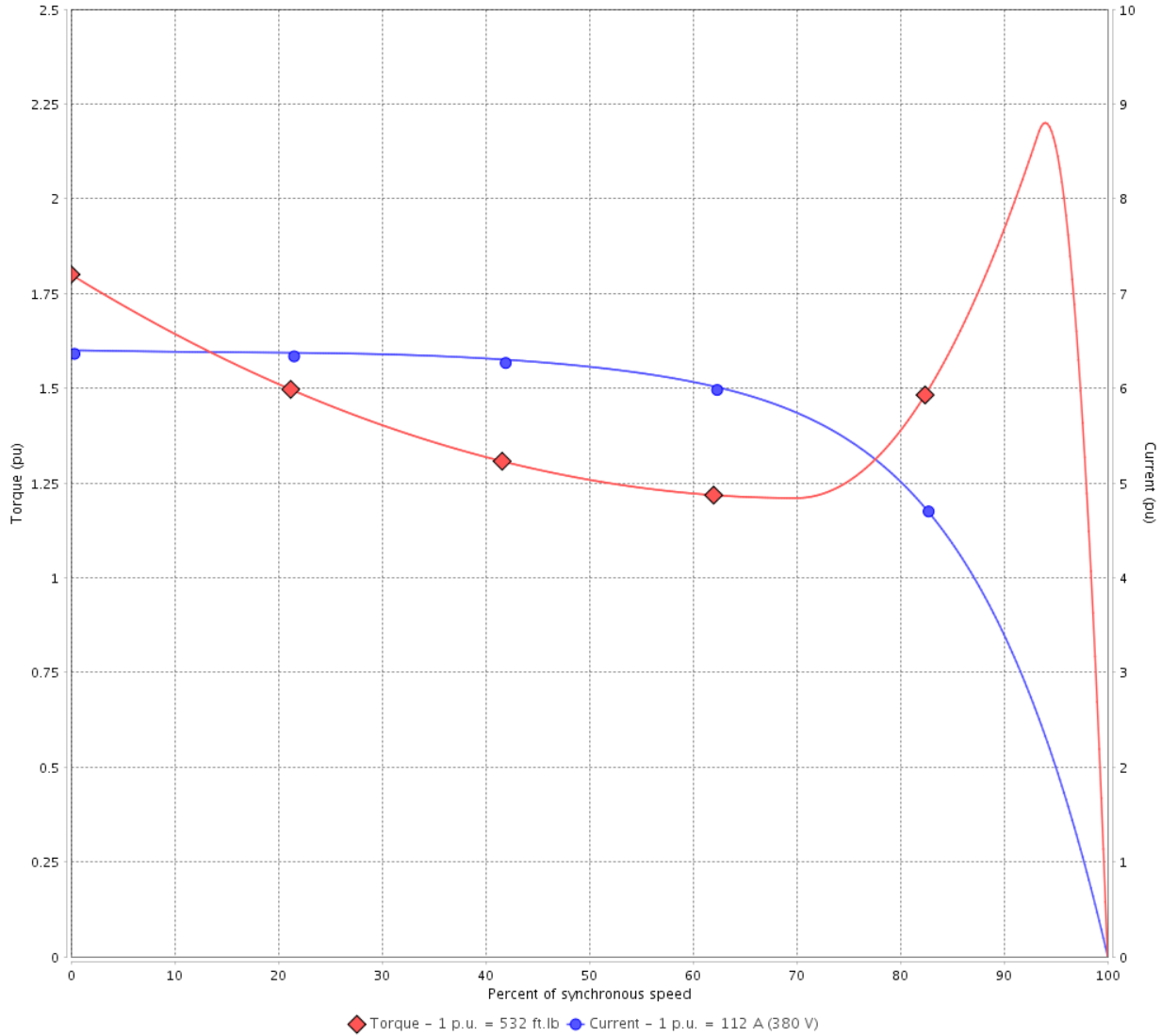
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12408373

Catalog # : 10009XT3E445T

TORQUE AND CURRENT VS SPEED CURVE



Performance : 380 V 50 Hz 8P IE4

Rated current	: 112 A	Moment of inertia (J)	: 87.3 sq.ft.lb
LRC	: 6.4	Duty cycle	: Cont.(S1)
Rated torque	: 532 ft.lb	Insulation class	: F
Locked rotor torque	: 180 %	Service factor	: 1.00
Breakdown torque	: 220 %	Temperature rise	: 80 K
Rated speed	: 740 rpm	Design	: B

Locked rotor time : 36s (cold) 20s (hot)

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TORQUE AND CURRENT VS SPEED CURVE



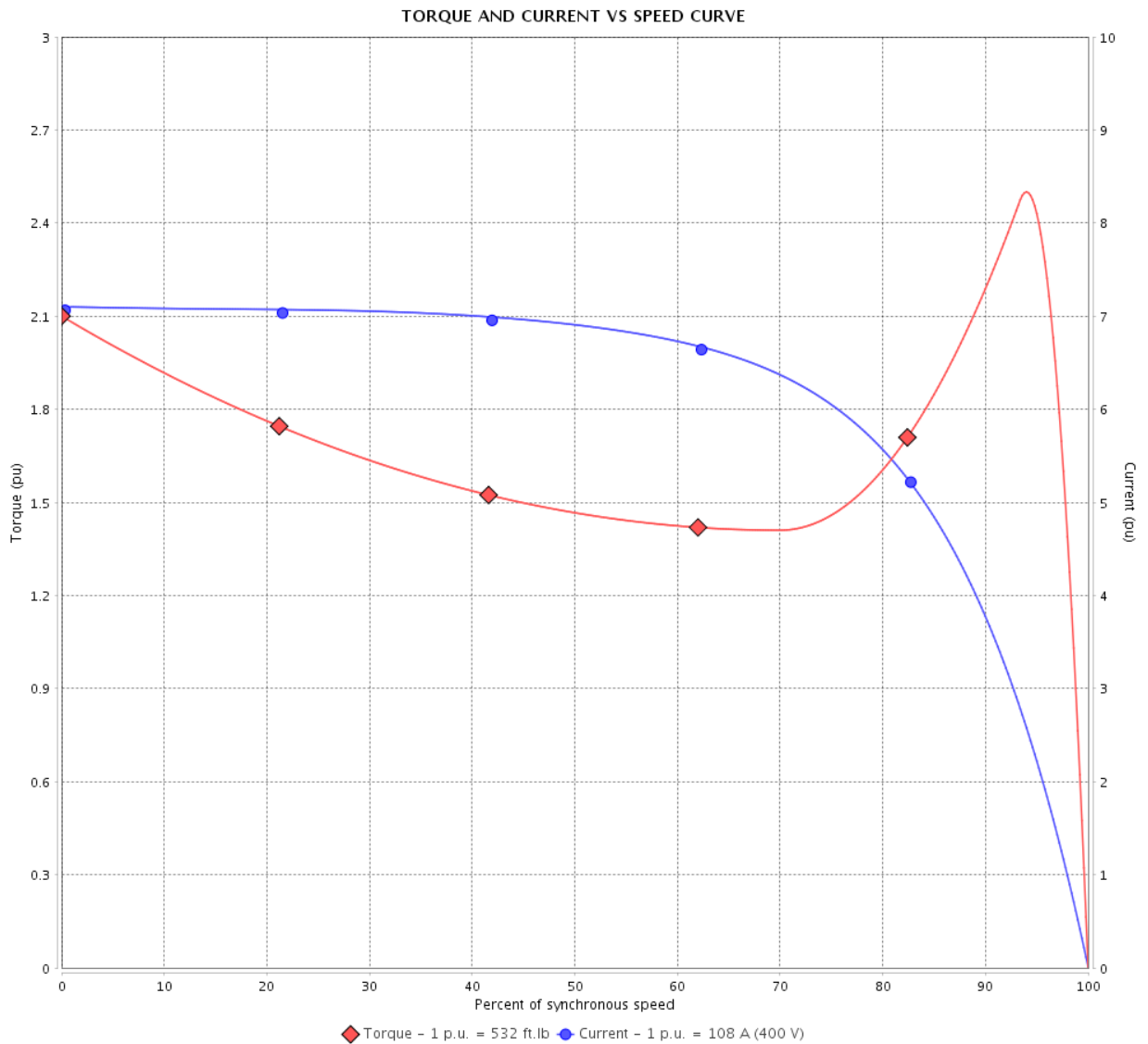
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12408373

Catalog # : 10009XT3E445T



Performance : 400 V 50 Hz 8P IE4

Rated current	: 108 A	Moment of inertia (J)	: 87.3 sq.ft.lb
LRC	: 7.1	Duty cycle	: Cont.(S1)
Rated torque	: 532 ft.lb	Insulation class	: F
Locked rotor torque	: 210 %	Service factor	: 1.00
Breakdown torque	: 250 %	Temperature rise	: 80 K
Rated speed	: 740 rpm	Design	: B

Locked rotor time : 36s (cold) 20s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



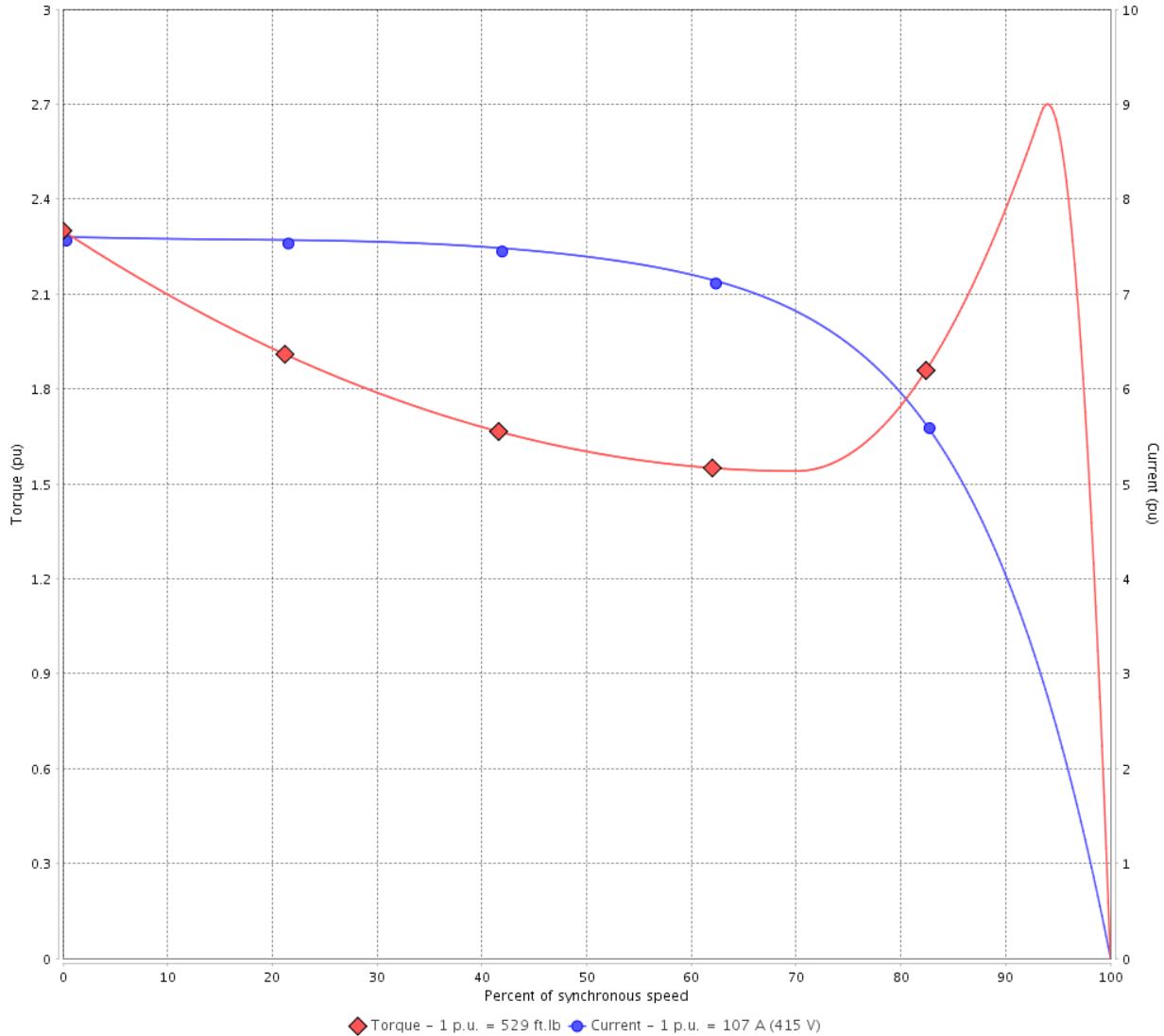
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TORQUE AND CURRENT VS SPEED CURVE



Performance : 415 V 50 Hz 8P IE4

Rated current	: 107 A	Moment of inertia (J)	: 87.3 sq.ft.lb
LRC	: 7.6	Duty cycle	: Cont.(S1)
Rated torque	: 529 ft.lb	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.00
Breakdown torque	: 270 %	Temperature rise	: 80 K
Rated speed	: 745 rpm	Design	: B

Locked rotor time : 36s (cold) 20s (hot)

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LOAD PERFORMANCE CURVE

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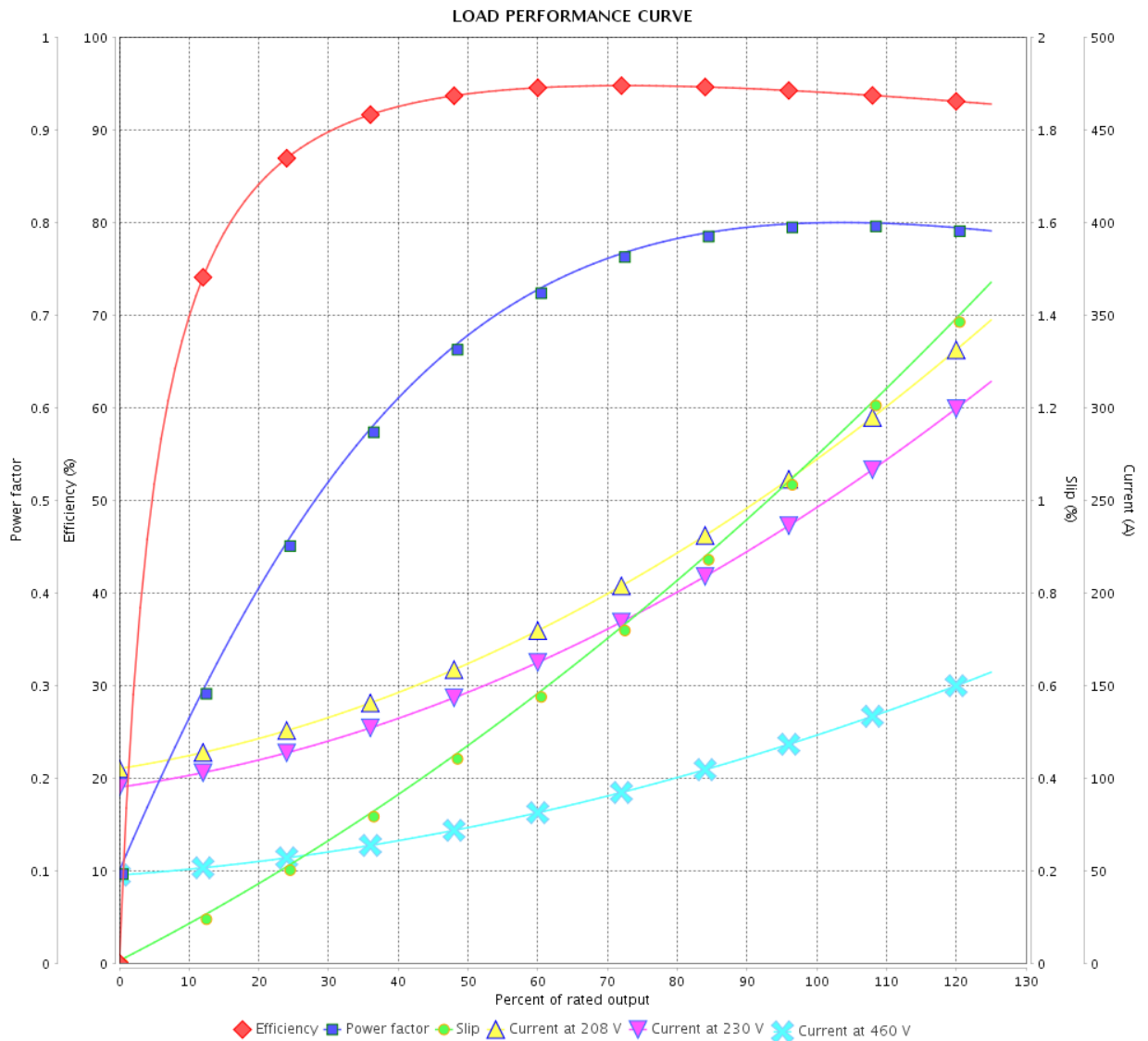


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Performance : 230/460 V 60 Hz 8P

Rated current : 250/125 A
 LRC : 6.1
 Rated torque : 590 ft.lb
 Locked rotor torque : 170 %
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 Rated speed : 890 rpm

Moment of inertia (J) : 87.3 sq.ft.lb
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 Insulation class : F
 Service factor : 1.15
 Temperature rise : 80 K
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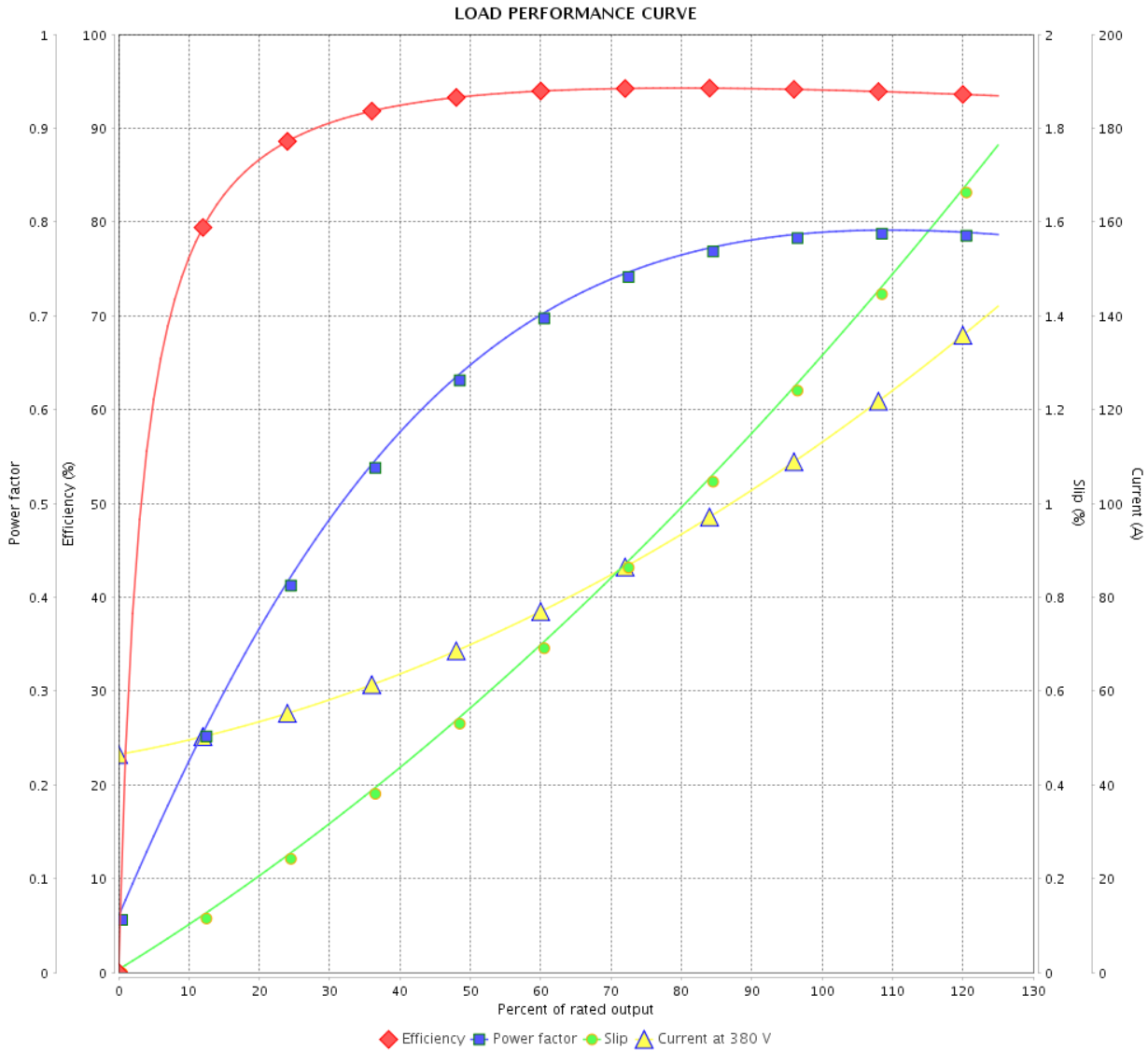


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Performance : 380 V 50 Hz 8P IE4

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 Locked rotor torque : 180 %
 Breakdown torque : 220 %
 Rated speed : 740 rpm

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 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

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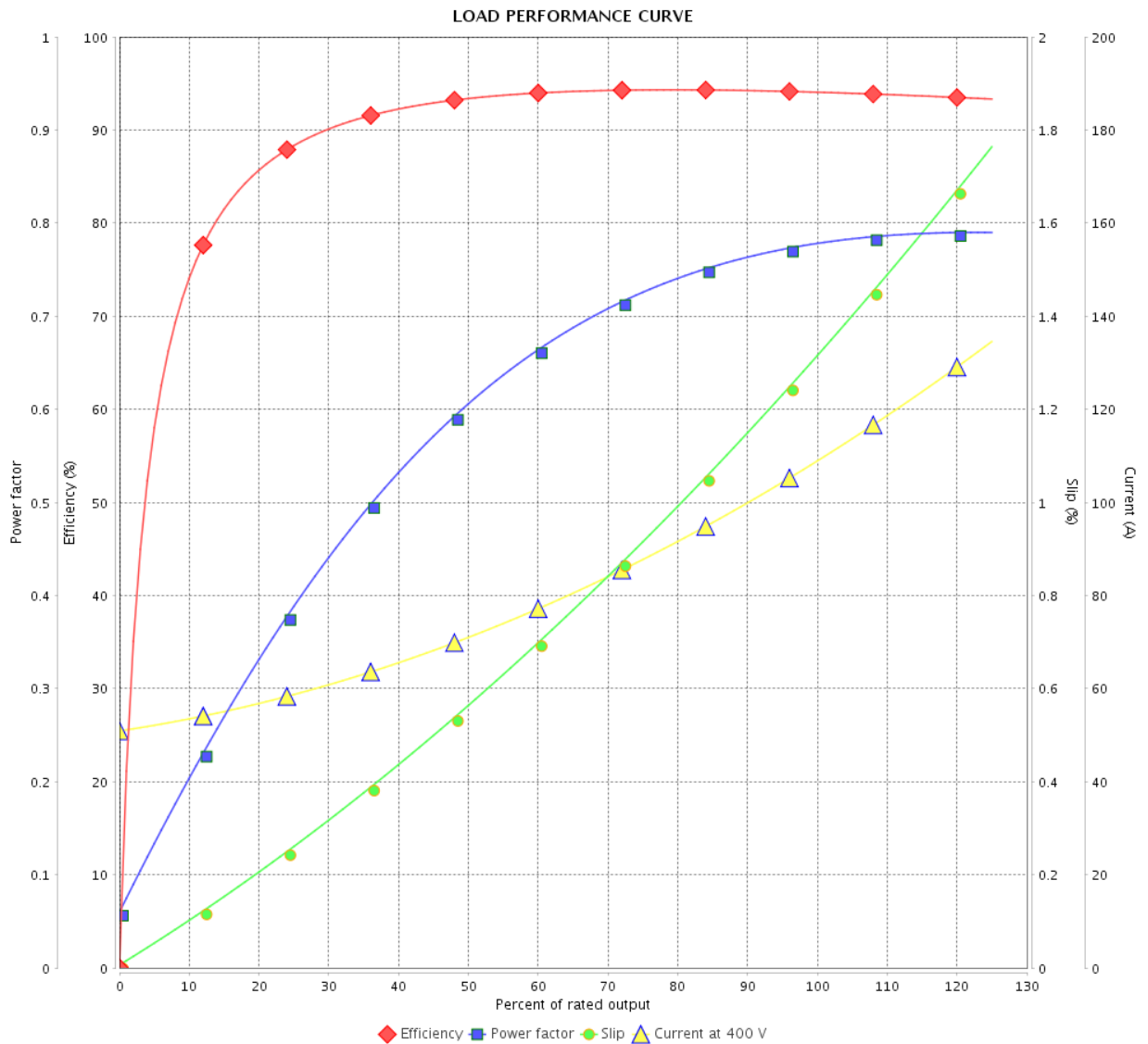


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Performance : 400 V 50 Hz 8P IE4

Rated current : 108 A
 LRC : 7.1
 Rated torque : 532 ft.lb
 Locked rotor torque : 210 %
 Breakdown torque : 250 %
 Rated speed : 740 rpm

Moment of inertia (J) : 87.3 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

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Three Phase Induction Motor - Squirrel Cage



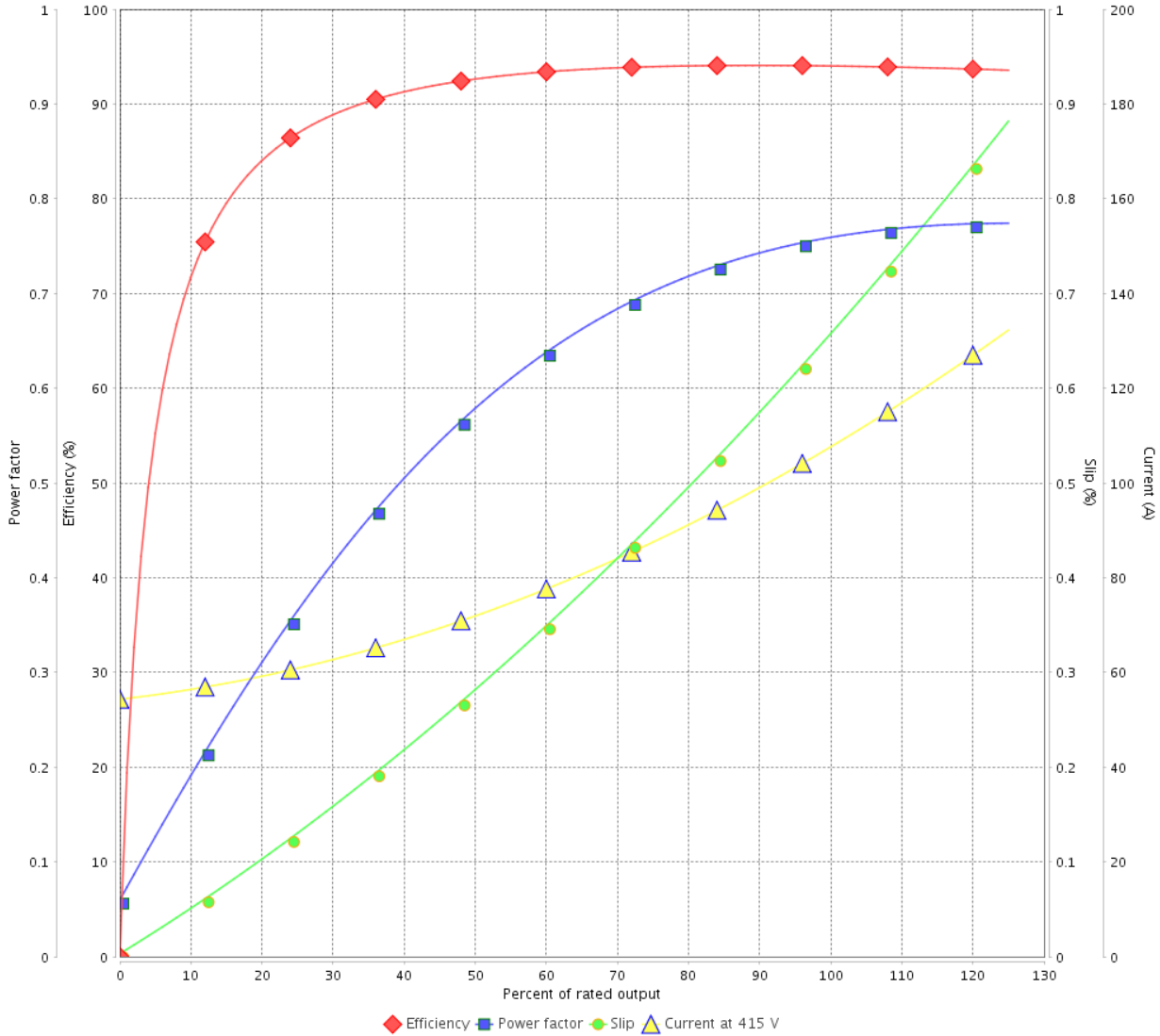
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Locked rotor torque : 229 %	Service factor : 1.00
Breakdown torque : 270 %	Temperature rise : 80 K
Rated speed : 745 rpm	Design : B

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THERMAL LIMIT CURVE



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Rated speed : 890 rpm	Design : B

Heating constant

Cooling constant

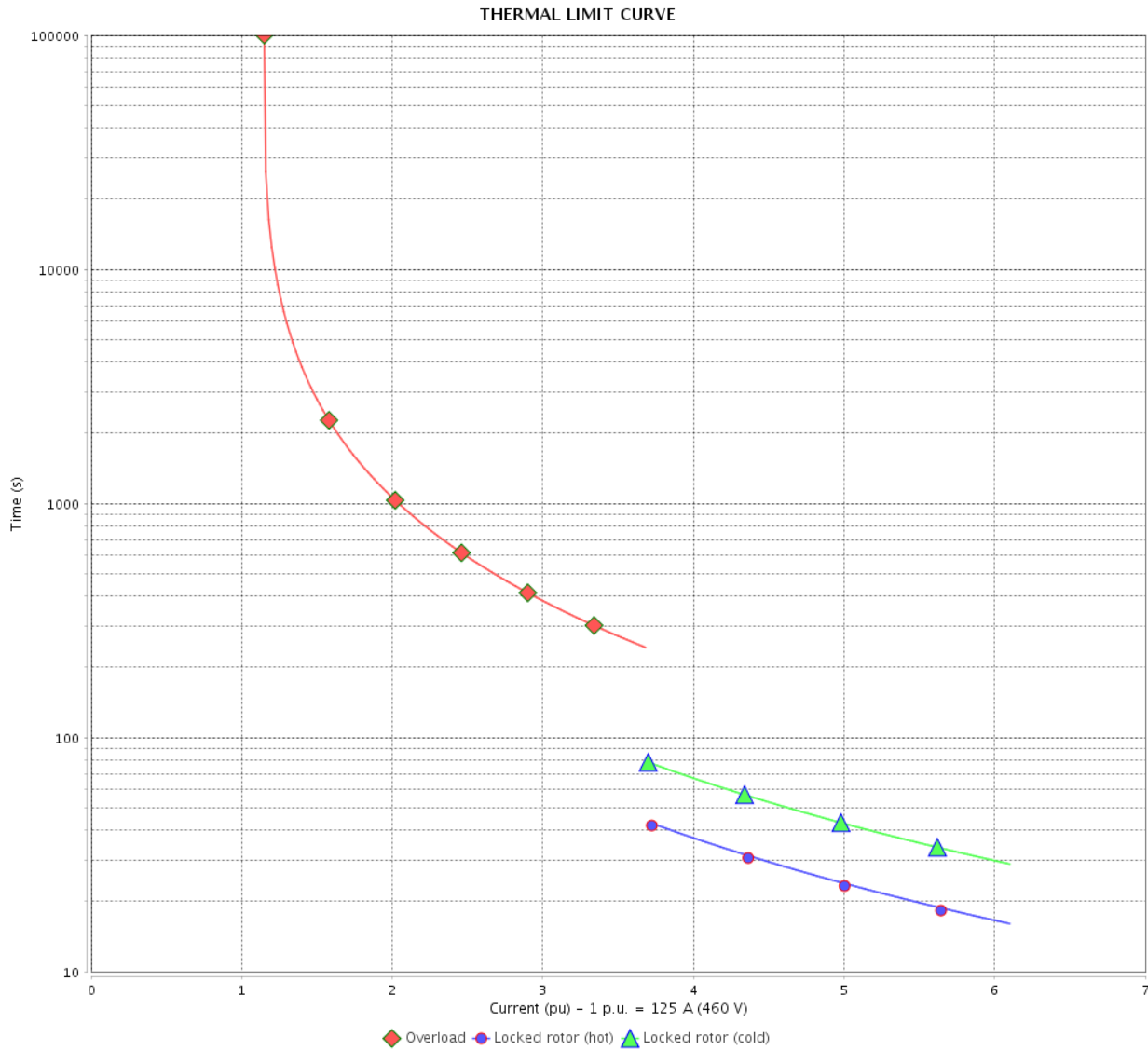
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Locked rotor torque : 180 %	Service factor : 1.00
Breakdown torque : 220 %	Temperature rise : 80 K
Rated speed : 740 rpm	Design : B

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Cooling constant

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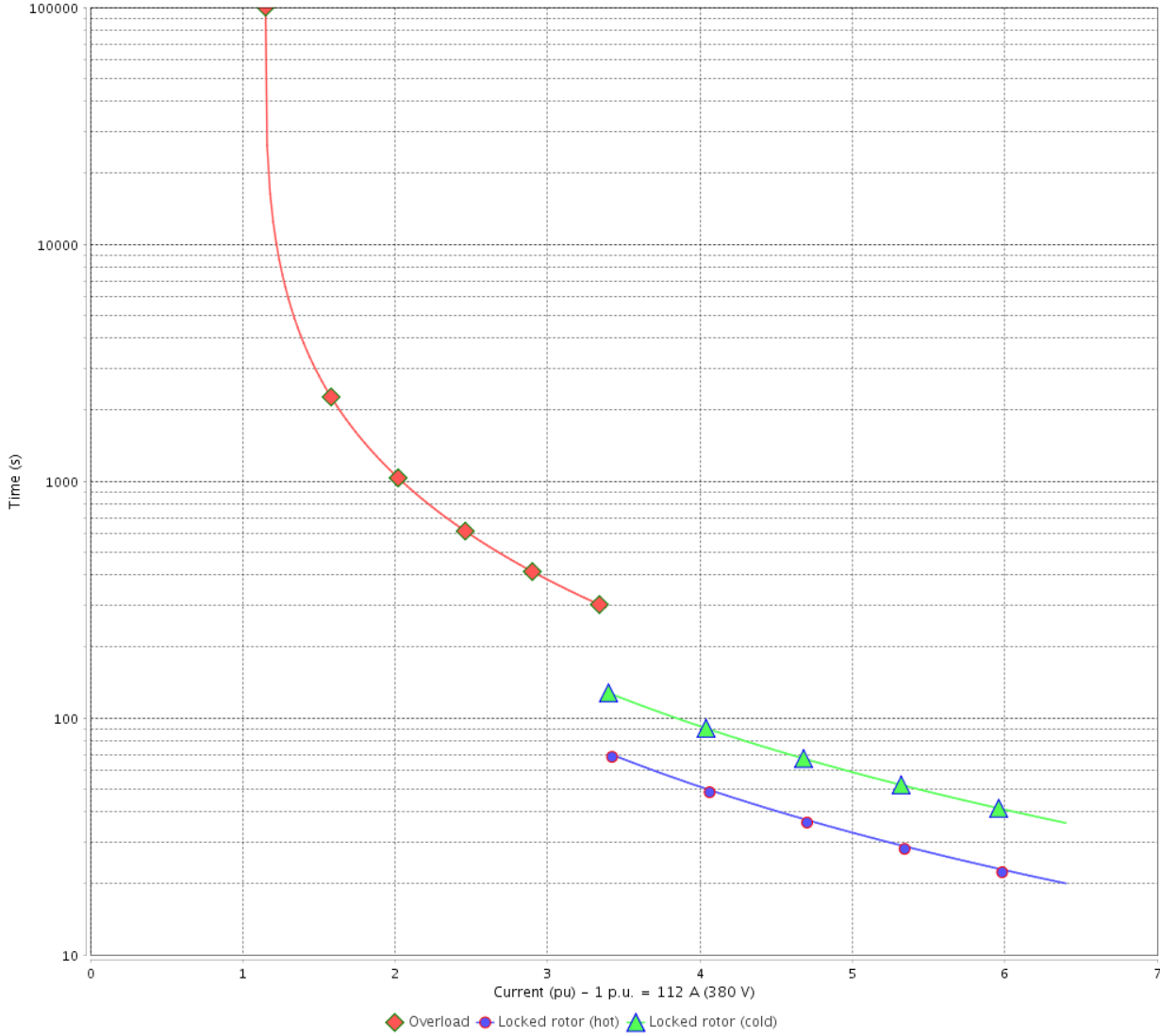
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LRC : 7.1	Duty cycle : Cont.(S1)
Rated torque : 532 ft.lb	Insulation class : F
Locked rotor torque : 210 %	Service factor : 1.00
Breakdown torque : 250 %	Temperature rise : 80 K
Rated speed : 740 rpm	Design : B

Heating constant

Cooling constant

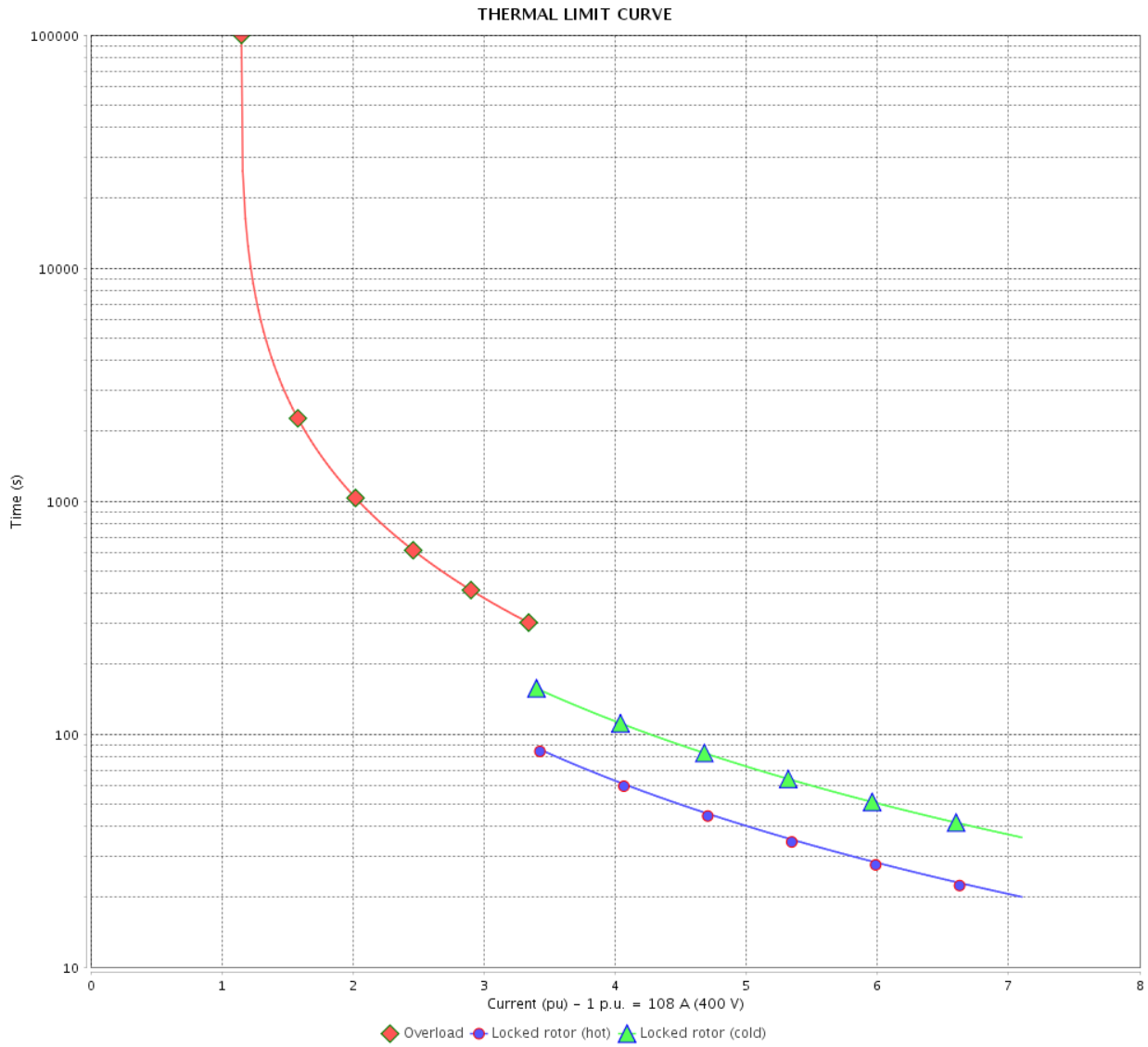
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Customer : _____



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Date				

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LRC : 7.6	Duty cycle : Cont.(S1)
Rated torque : 529 ft.lb	Insulation class : F
Locked rotor torque : 229 %	Service factor : 1.00
Breakdown torque : 270 %	Temperature rise : 80 K
Rated speed : 745 rpm	Design : B

Heating constant

Cooling constant

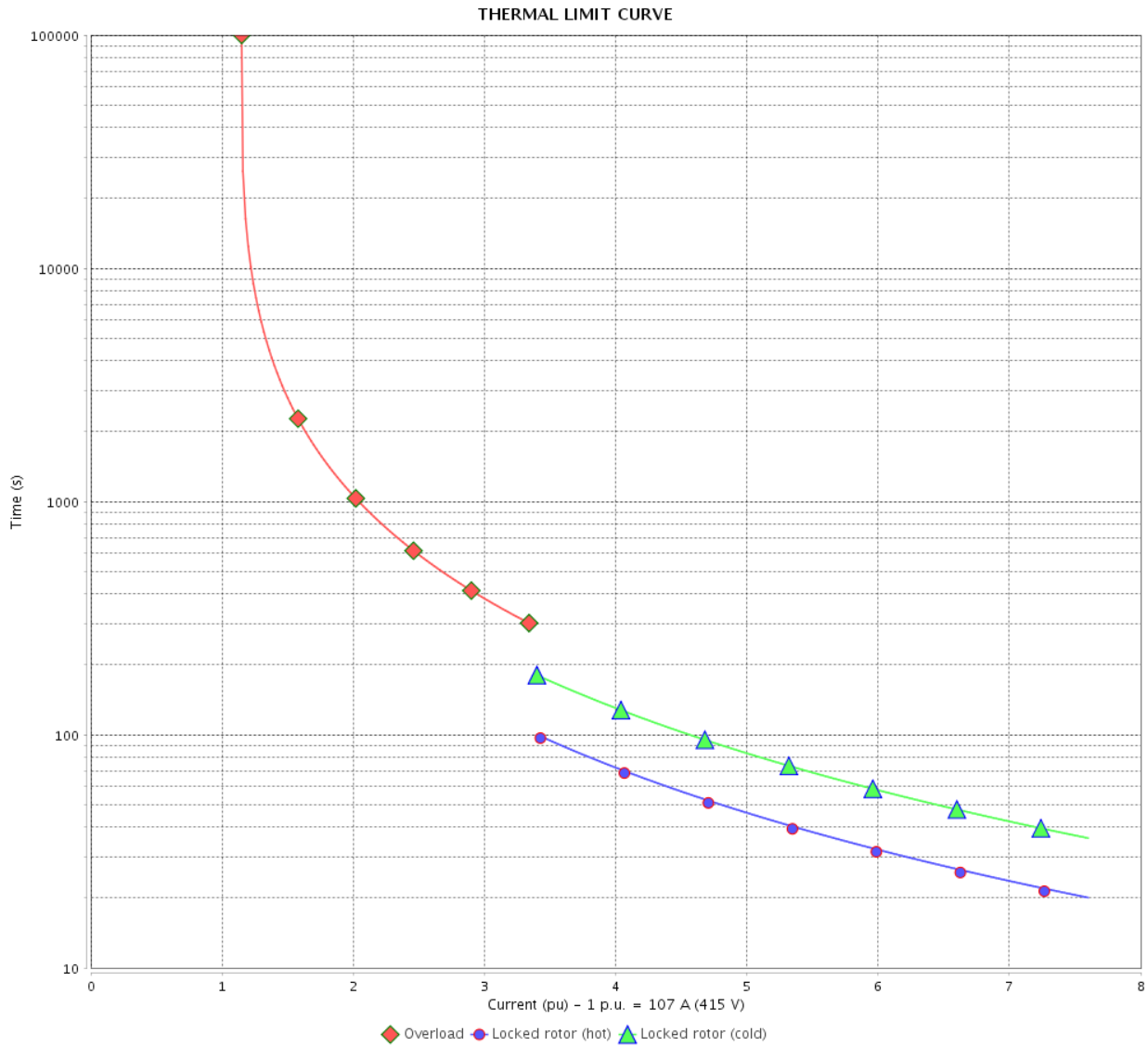
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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

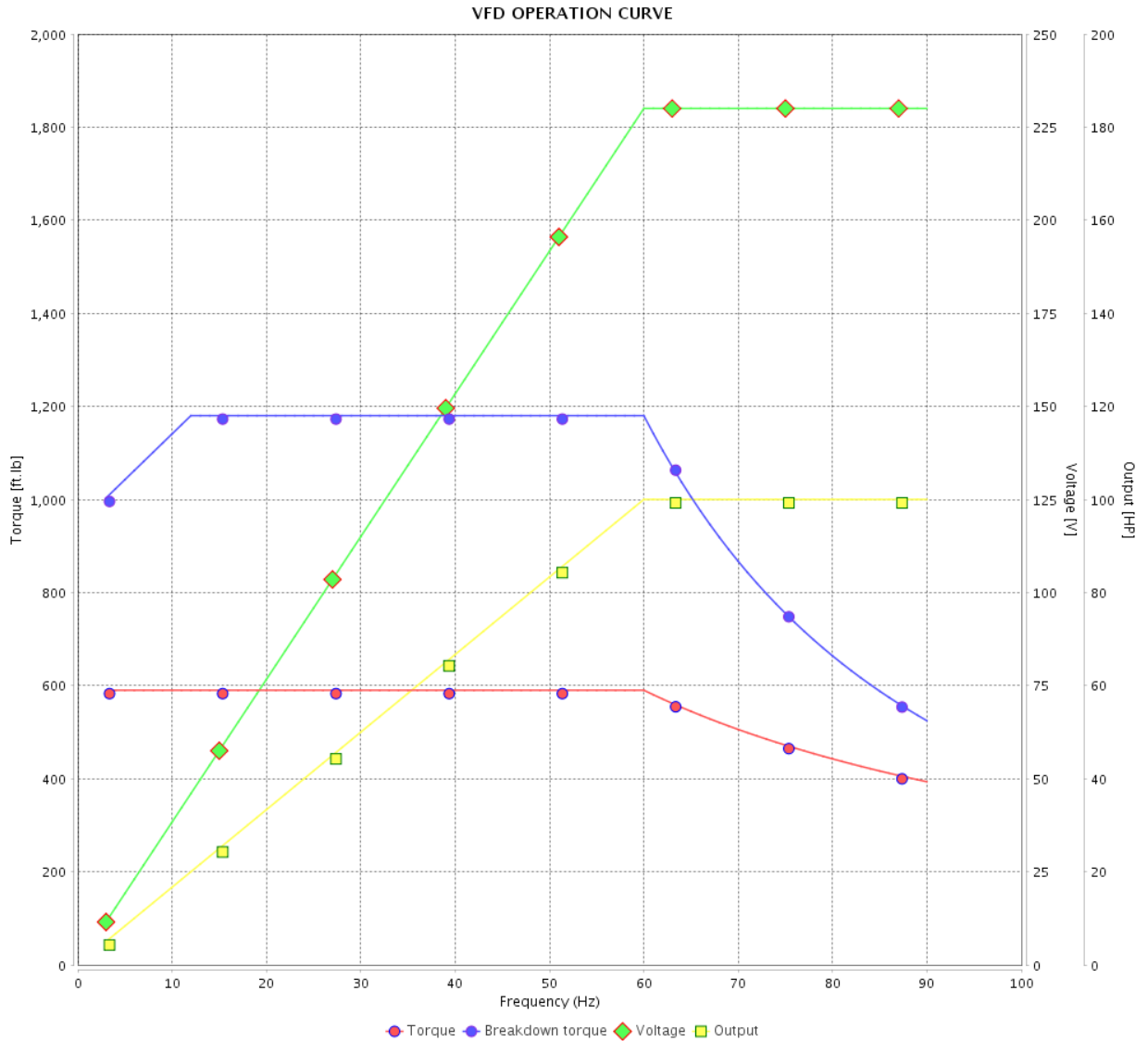


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Product code : 12408373

Catalog # : 10009XT3E445T



Performance : 230/460 V 60 Hz 8P

Rated current : 250/125 A
 LRC : 6.1
 Rated torque : 590 ft.lb
 Locked rotor torque : 170 %
 Breakdown torque : 200 %
 Rated speed : 890 rpm

Moment of inertia (J) : 87.3 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.15
 Temperature rise : 80 K
 Design : B

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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



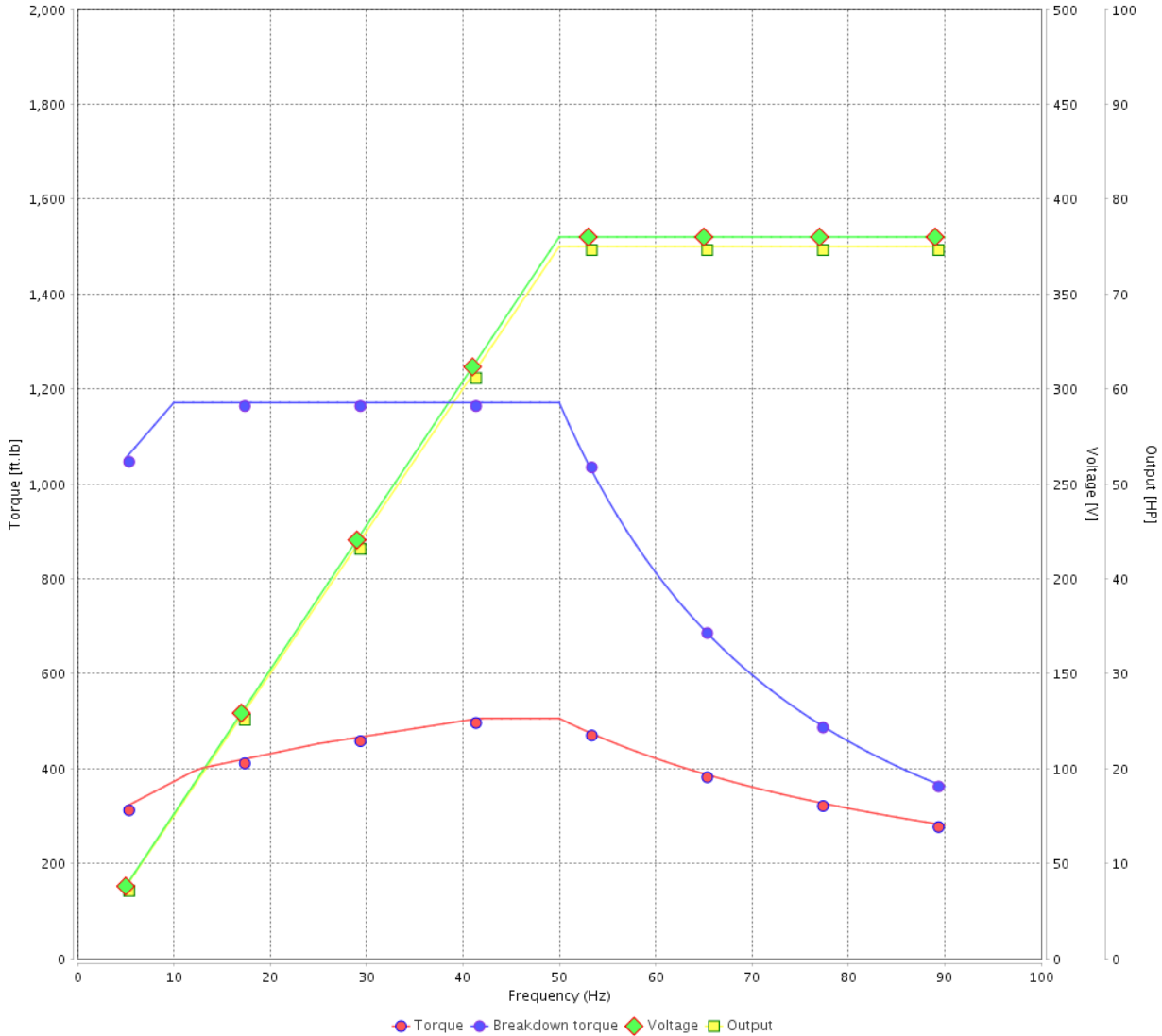
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VFD OPERATION CURVE



Performance : 380 V 50 Hz 8P IE4

Rated current	: 112 A	Moment of inertia (J)	: 87.3 sq.ft.lb
LRC	: 6.4	Duty cycle	: Cont.(S1)
Rated torque	: 532 ft.lb	Insulation class	: F
Locked rotor torque	: 180 %	Service factor	: 1.00
Breakdown torque	: 220 %	Temperature rise	: 80 K
Rated speed	: 740 rpm	Design	: B

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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

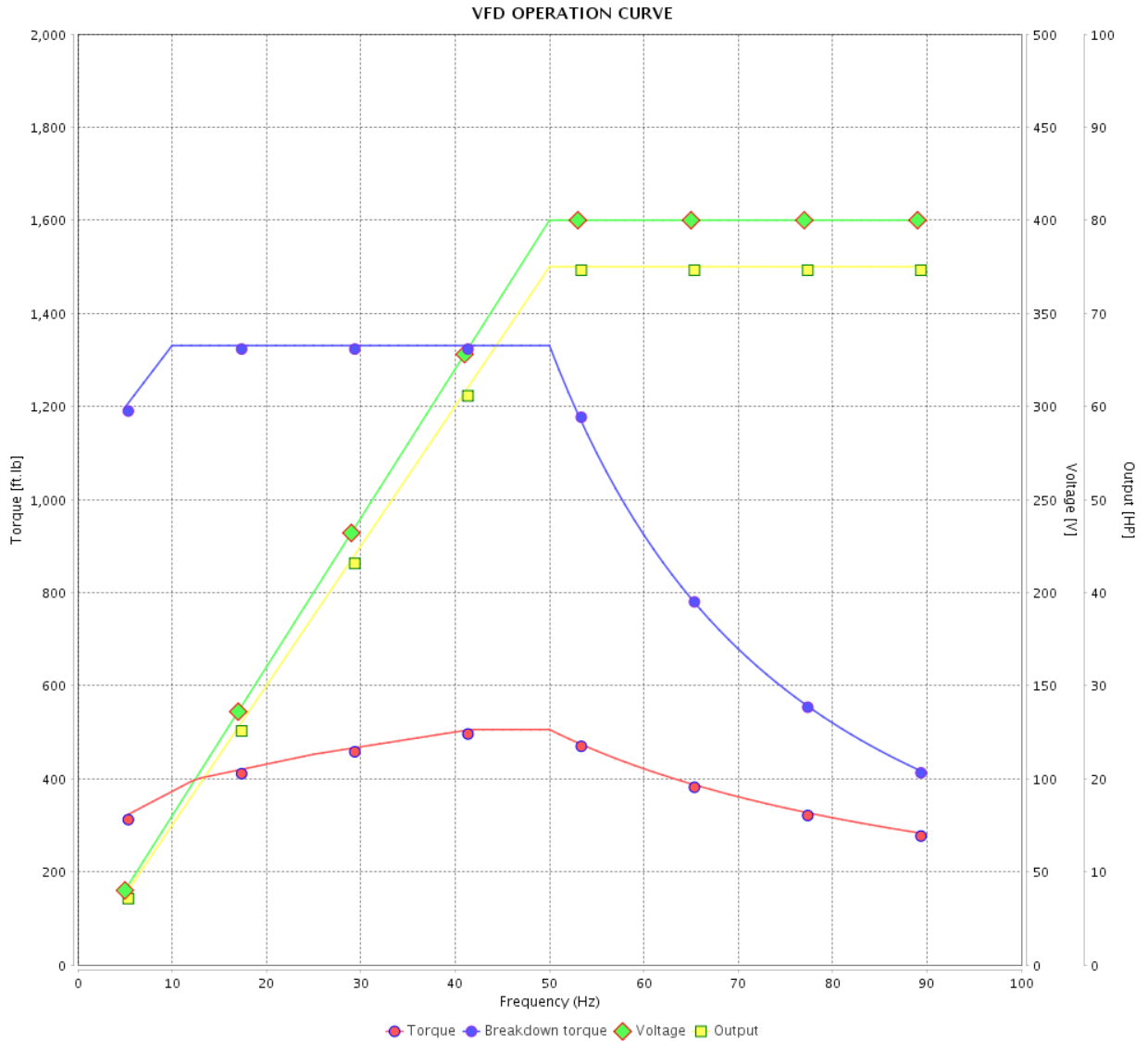


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Performance : 400 V 50 Hz 8P IE4

Rated current : 108 A
 LRC : 7.1
 Rated torque : 532 ft.lb
 Locked rotor torque : 210 %
 Breakdown torque : 250 %
 Rated speed : 740 rpm

Moment of inertia (J) : 87.3 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

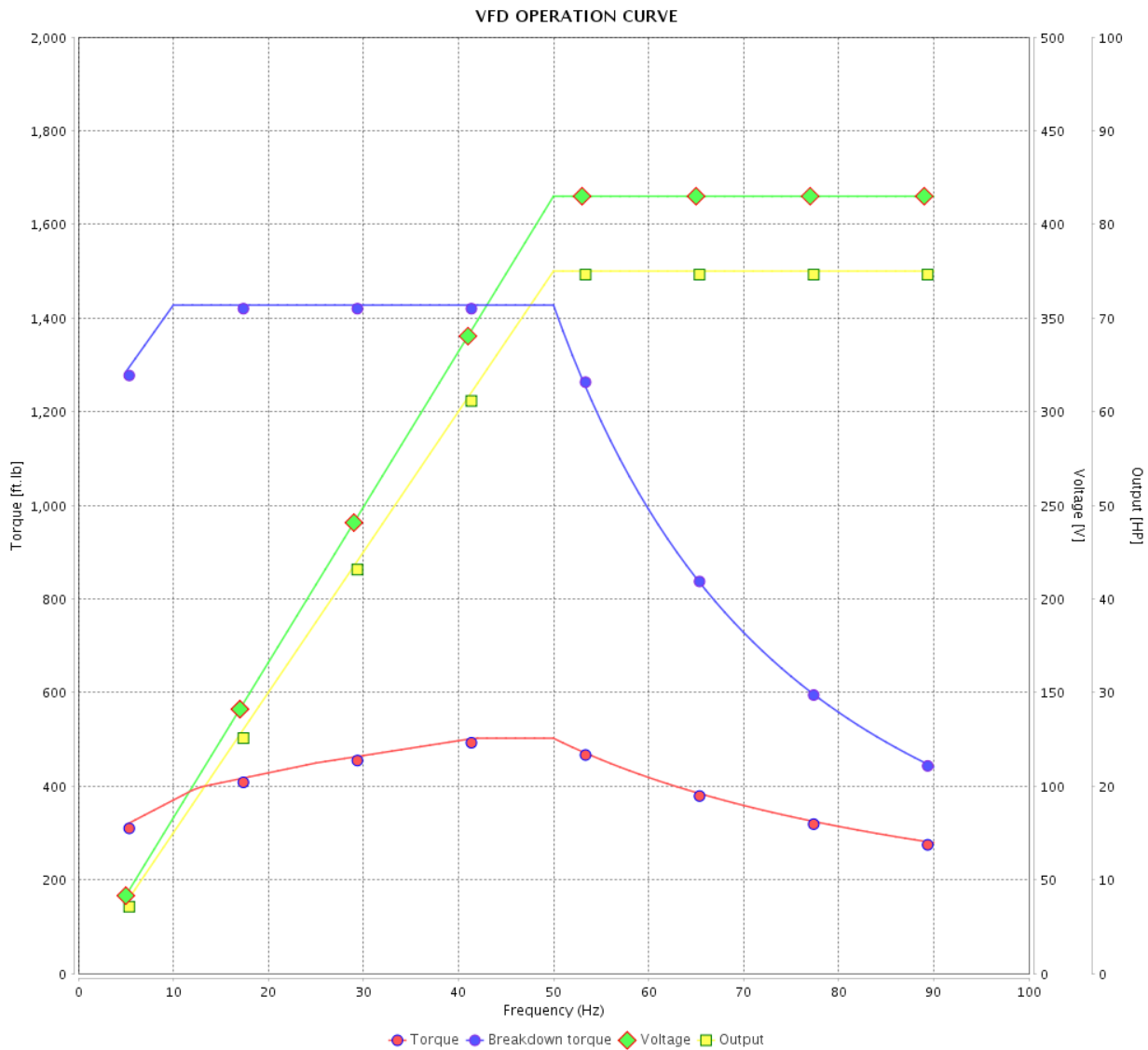


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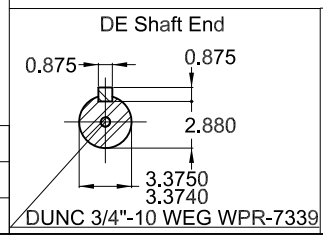
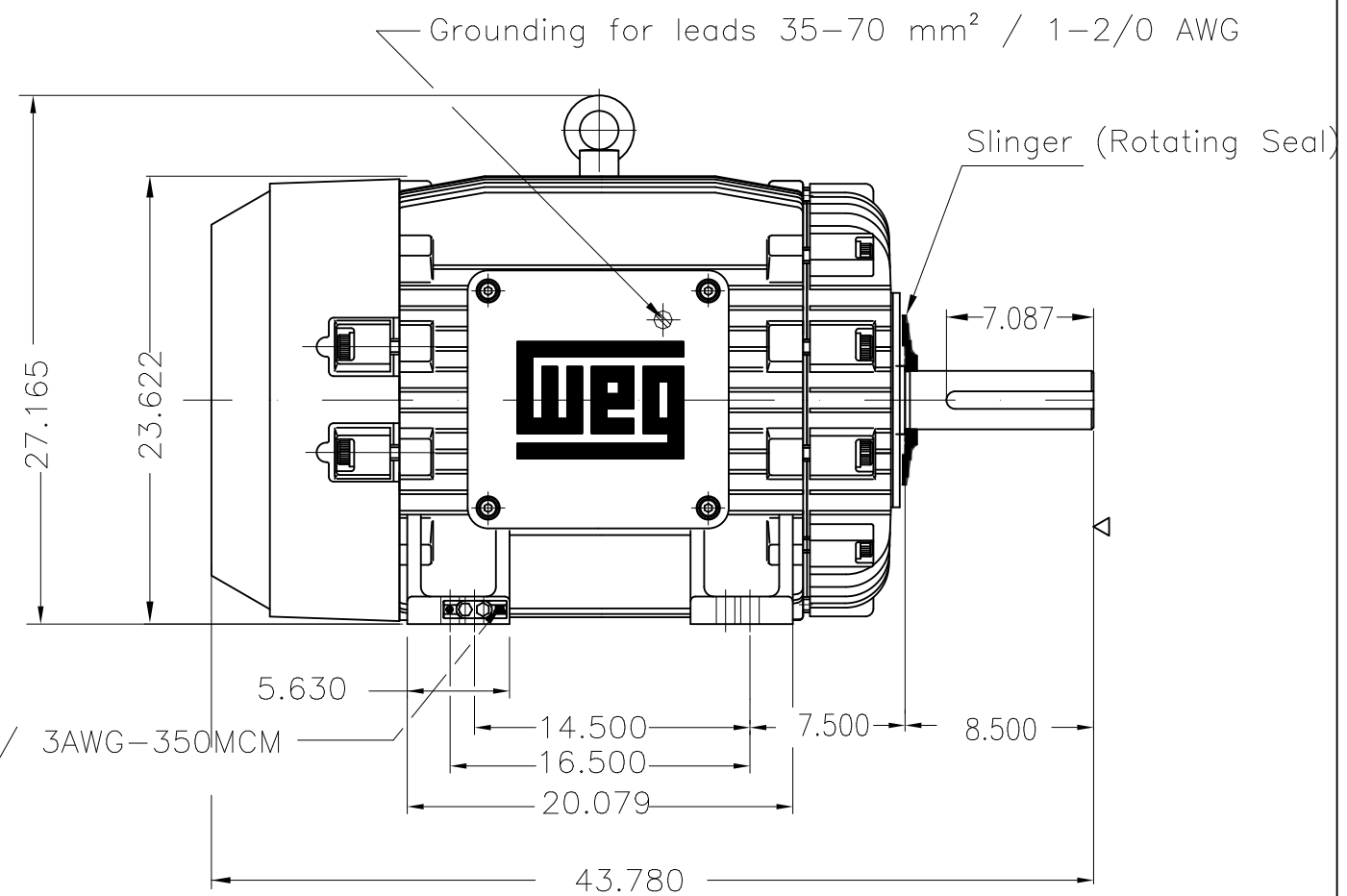
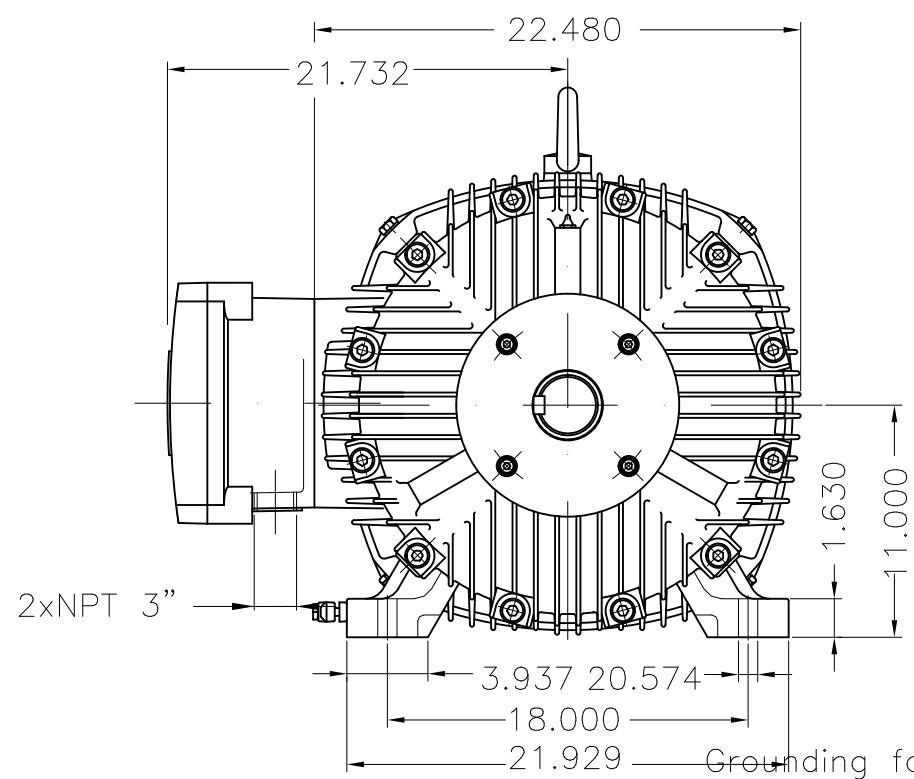
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Rated speed	: 745 rpm	Design	: B

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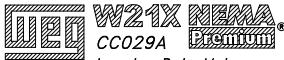


Color RAL 5009
 Painting plan 202P
 Mounting B3R(D)

100 HP 08 Poles 60 Hz A

ECM	LOC	SUMMARY OF MODIFICATIONS	EXECUTED	CHECKED	RELEASED	DATE	VER
EXECUTED	PIRWUSER	THREE PH. MOTOR EXPLOSION PROOF PREM. EFF.					
CHECKED		FRAME 444/5T IP55 TEFC					
RELEASED							
REL DT.	WMO	Jaragua do Sul	Product Engineering				

PREVIEW
WDD
 SHEET 1 / 1



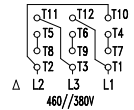
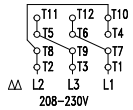
W21X NEMA
CC029A Premium
Inverter Duty Motor
Severe Duty



TEMP CODE T3C
 CSA/UL: Class I - Div. 1 - Groups C and D
 CSA: Class II - Div. 1 - Groups F and G
 CSA: Class I - Zone 1 - IIB
EXPLOSION PROOF MOTOR
 FOR USE ON VPWM VFD 1000:1VT, 2:1CT, 1.0SF, T3C, AMB 40°C.

MODEL 10009XT3E445T
 MADE IN BRAZIL
 12408373

PH 3	FR 444/5T	HP(kW) 100.0(75.0)	Hz 60
V 230/460		A 250/125	RPM 890
NEMA NOM. EFF. 94.1%		INS CL F Δ T 80 K	IP55
PF 0.80	DUTY CONT.		CODE G
ENCL. TEFC	SF 1.15	SFA 288/144	
AMB 40°C	DES B	USABLE @208V 276 A SF 1.00	
ALT 1000 m.a.s.l			2088 Lbs



→ 6219-C3(28g)
 → 6316-C3(34g)

MOBIL POLYREX EM
 15247 h

75HP 55kW 50Hz 380V 112A 740RPM SF1.00 EFF 94.1% (IE4)