

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



Customer :					
Product line	: NEMA Premium Efficiency Three-Phase	Product code :	11439852		
		Catalog # :	07512XT3E405T		
Frame	: 404/5T	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	: 1224 lb		
Protection degree	: IP55	Moment of inertia (J)	: 40.2 sq.ft.lb		
Design	: B				
Output [HP]	75	60	60	60	60
Poles	6	6	6	6	6
Frequency [Hz]	60	50	50	50	50
Rated voltage [V]	230/460	380	400	415	415
Rated current [A]	174/87.0	86.6	84.3	81.8	81.8
L. R. Amperes [A]	1340/670	624	666	687	687
LRC [A]	7.7x(Code J)	7.2x(Code H)	7.9x(Code J)	8.4x(Code K)	8.4x(Code K)
No load current [A]	62.5/31.3	31.0	33.6	36.0	36.0
Rated speed [RPM]	1185	985	987	988	988
Slip [%]	1.25	1.50	1.30	1.20	1.20
Rated torque [ft.lb]	332	320	319	319	319
Locked rotor torque [%]	250	229	260	280	280
Breakdown torque [%]	260	250	280	300	300
Service factor	1.15	1.00	1.00	1.00	1.00
Temperature rise	80 K	80 K	80 K	80 K	80 K
Locked rotor time	27s (cold) 15s (hot)	27s (cold) 15s (hot)	27s (cold) 15s (hot)	27s (cold) 15s (hot)	27s (cold) 15s (hot)
Noise level ²	65.0 dB(A)	61.0 dB(A)	61.0 dB(A)	61.0 dB(A)	61.0 dB(A)
Efficiency (%)	25%	94.4	93.9	93.9	93.4
	50%	94.1	94.0	93.6	93.6
	75%	95.0	94.0	94.5	94.5
	100%	94.5	94.0	94.0	94.5
Power Factor	25%	0.47	0.47	0.43	0.39
	50%	0.72	0.72	0.68	0.64
	75%	0.81	0.81	0.78	0.76
	100%	0.84	0.84	0.82	0.81
Bearing type	: <u>Drive end</u> 6217 C3 <u>Non drive end</u> 6314 C3	Foundation loads			
Sealing	: Oil Seal Lip Seal	Max. traction : 2257 lb			
Lubrication interval	: 13507 h 14267 h	Max. compression : 3481 lb			
Lubricant amount	: 21 g 27 g				
Lubricant type	: Mobil Polyrex EM				
Notes					
USABLE @208V 192A SF 1.00 SFA 192A					
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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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



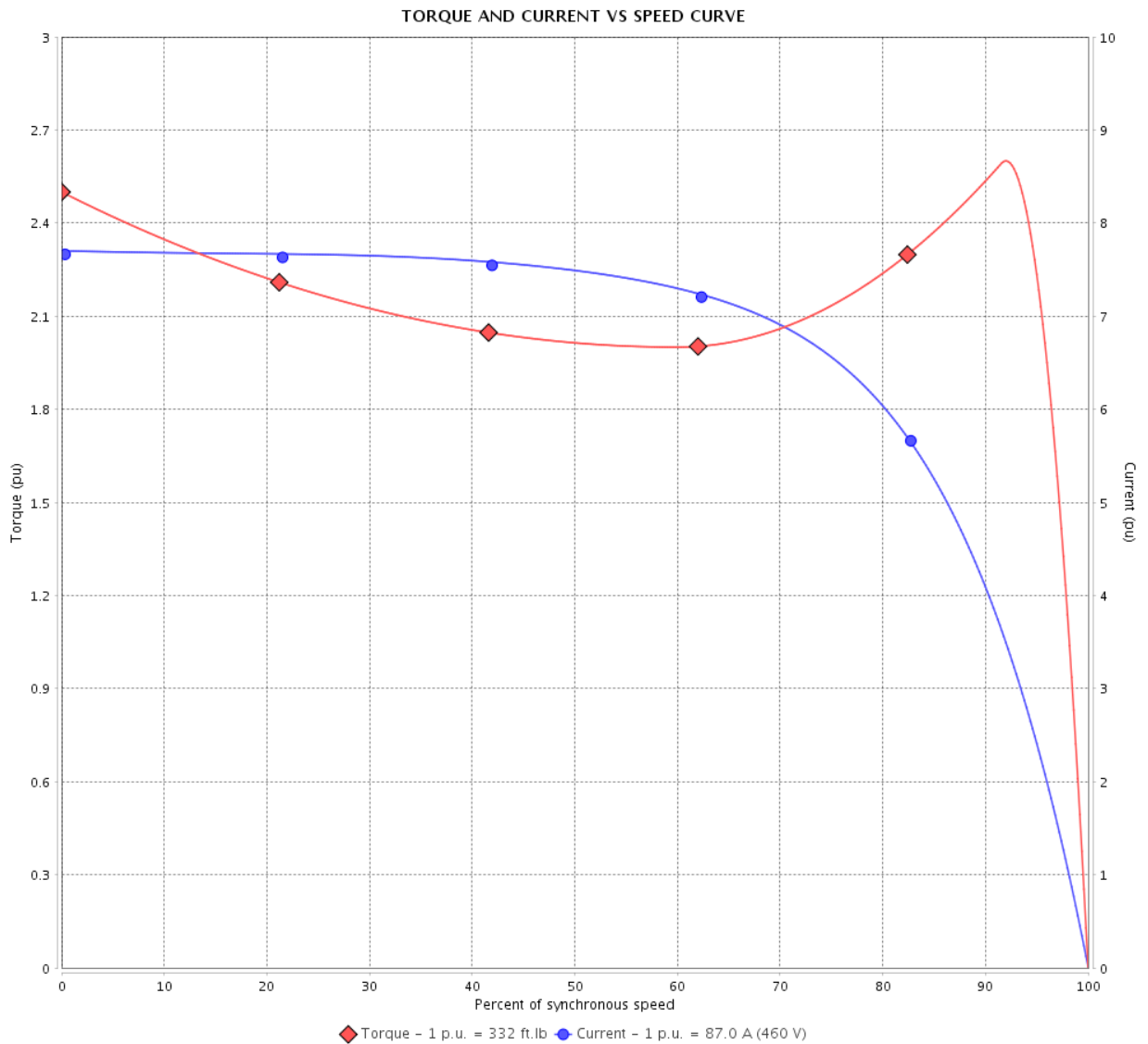
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11439852

Catalog # : 07512XT3E405T



Performance : 230/460 V 60 Hz 6P

Rated current : 174/87.0 A
 LRC : 7.7
 Rated torque : 332 ft.lb
 Locked rotor torque : 250 %
 Breakdown torque : 260 %
 Rated speed : 1185 rpm

Moment of inertia (J) : 40.2 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.15
 Temperature rise : 80 K
 Design : B

Locked rotor time : 27s (cold) 15s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



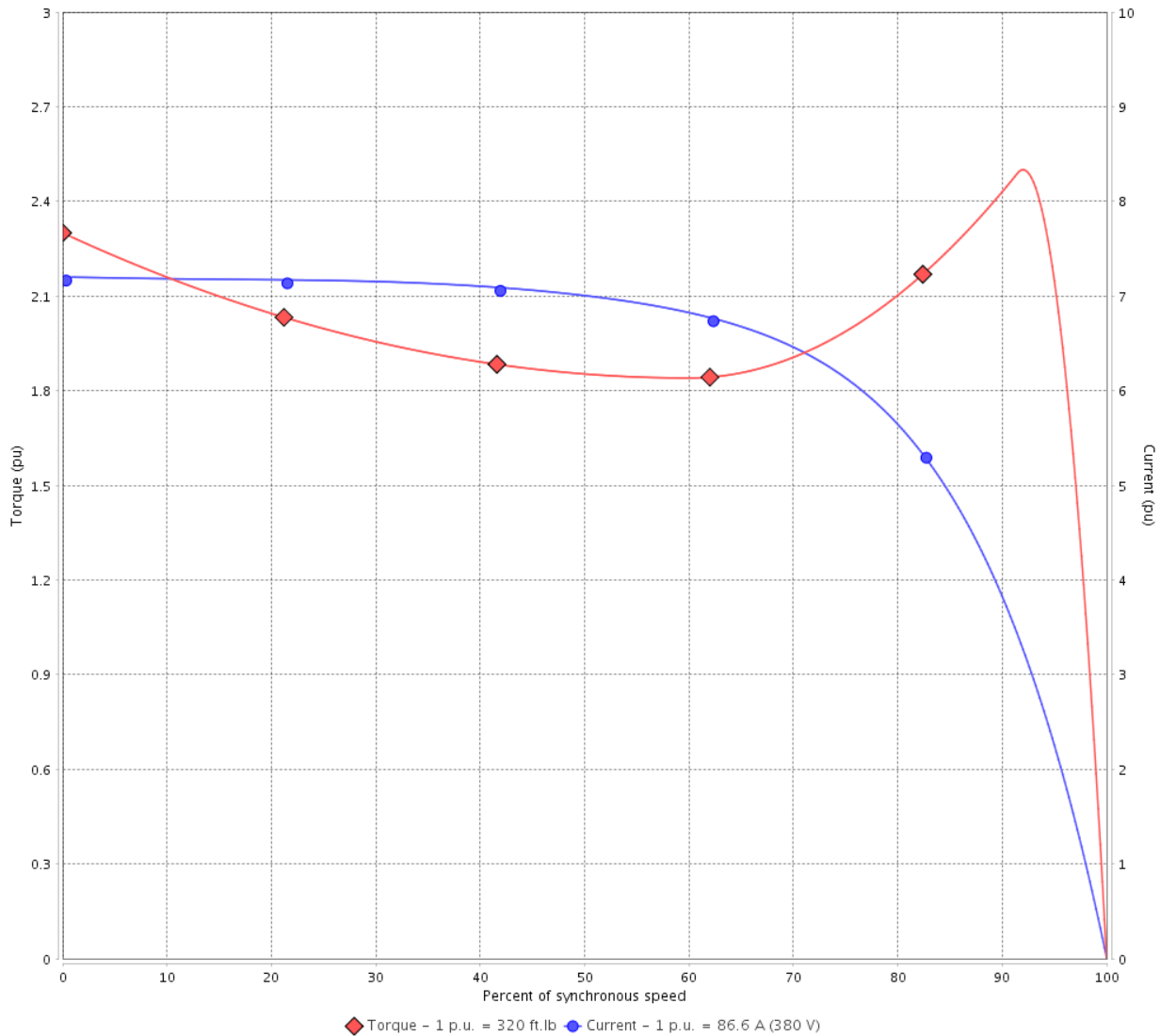
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11439852

Catalog # : 07512XT3E405T

TORQUE AND CURRENT VS SPEED CURVE



Performance : 380 V 50 Hz 6P IE3

Rated current	: 86.6 A	Moment of inertia (J)	: 40.2 sq.ft.lb
LRC	: 7.2	Duty cycle	: Cont.(S1)
Rated torque	: 320 ft.lb	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.00
Breakdown torque	: 250 %	Temperature rise	: 80 K
Rated speed	: 985 rpm	Design	: B

Locked rotor time : 27s (cold) 15s (hot)

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TORQUE AND CURRENT VS SPEED CURVE



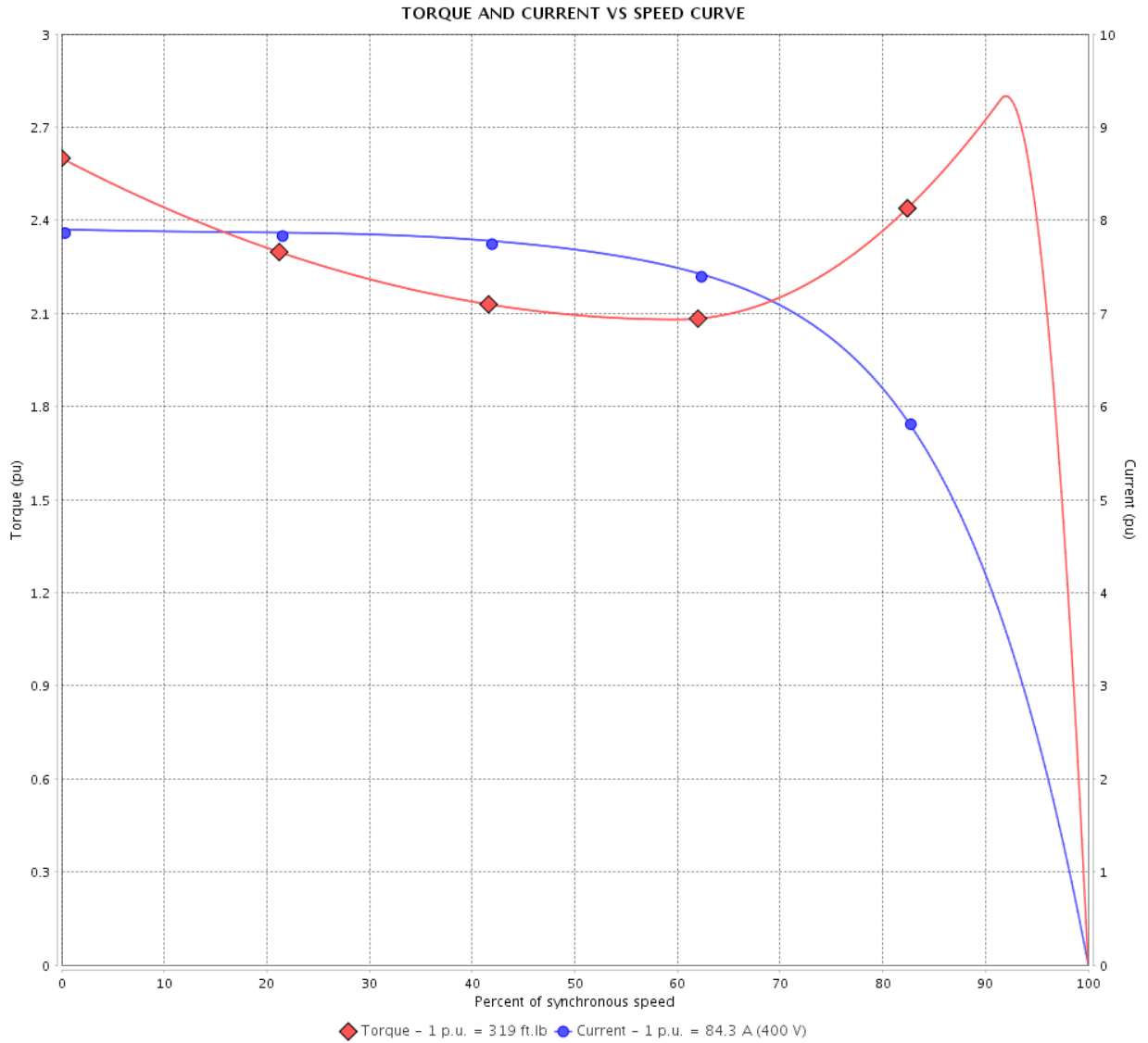
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11439852

Catalog # : 07512XT3E405T



Performance : 400 V 50 Hz 6P IE3

Rated current	: 84.3 A	Moment of inertia (J)	: 40.2 sq.ft.lb
LRC	: 7.9	Duty cycle	: Cont.(S1)
Rated torque	: 319 ft.lb	Insulation class	: F
Locked rotor torque	: 260 %	Service factor	: 1.00
Breakdown torque	: 280 %	Temperature rise	: 80 K
Rated speed	: 987 rpm	Design	: B

Locked rotor time : 27s (cold) 15s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



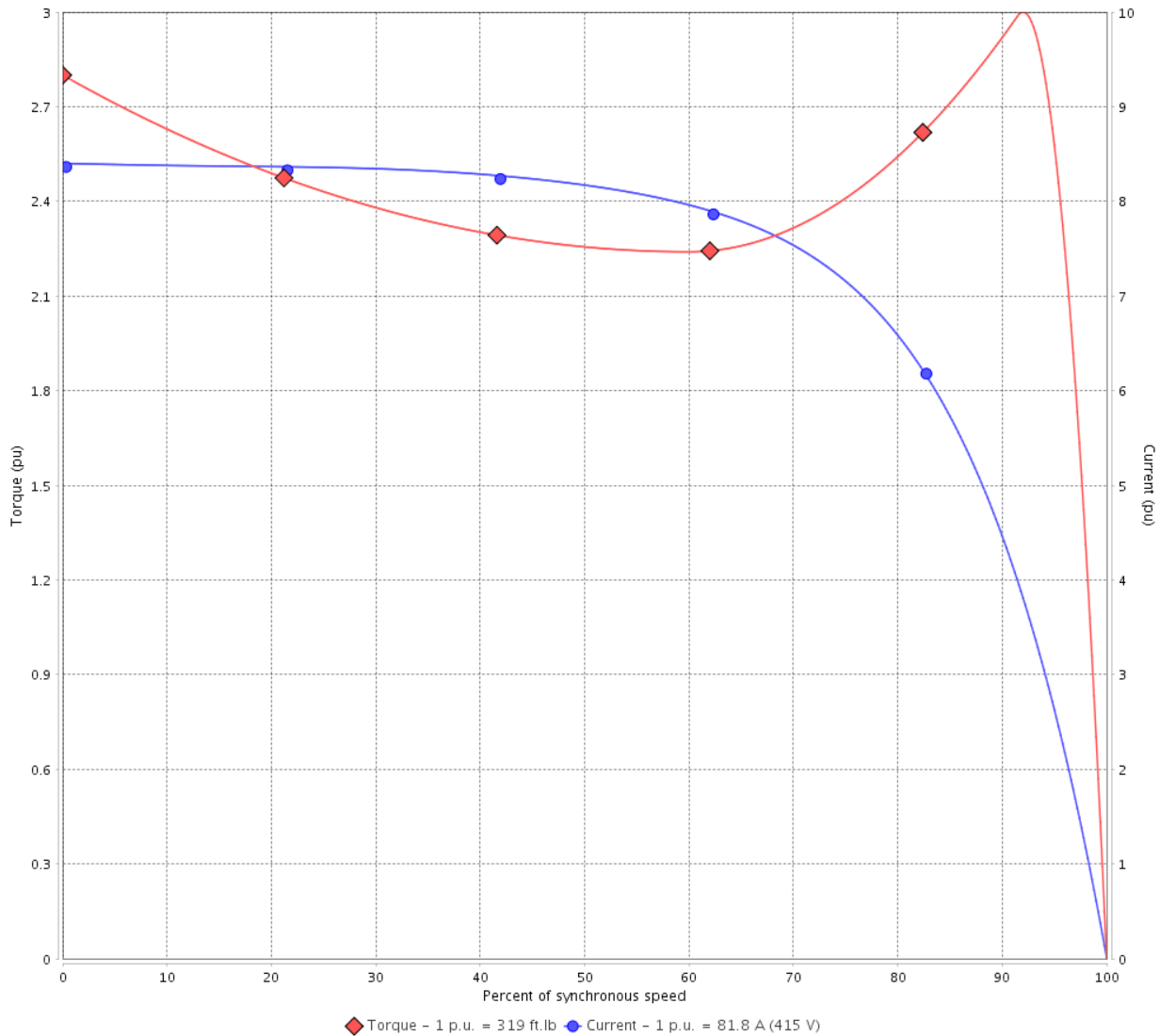
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Product line : NEMA Premium Efficiency Three-Phase

Product code : 11439852

Catalog # : 07512XT3E405T

TORQUE AND CURRENT VS SPEED CURVE



Performance : 415 V 50 Hz 6P IE3

Rated current	: 81.8 A	Moment of inertia (J)	: 40.2 sq.ft.lb
LRC	: 8.4	Duty cycle	: Cont.(S1)
Rated torque	: 319 ft.lb	Insulation class	: F
Locked rotor torque	: 280 %	Service factor	: 1.00
Breakdown torque	: 300 %	Temperature rise	: 80 K
Rated speed	: 988 rpm	Design	: B

Locked rotor time : 27s (cold) 15s (hot)

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LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage

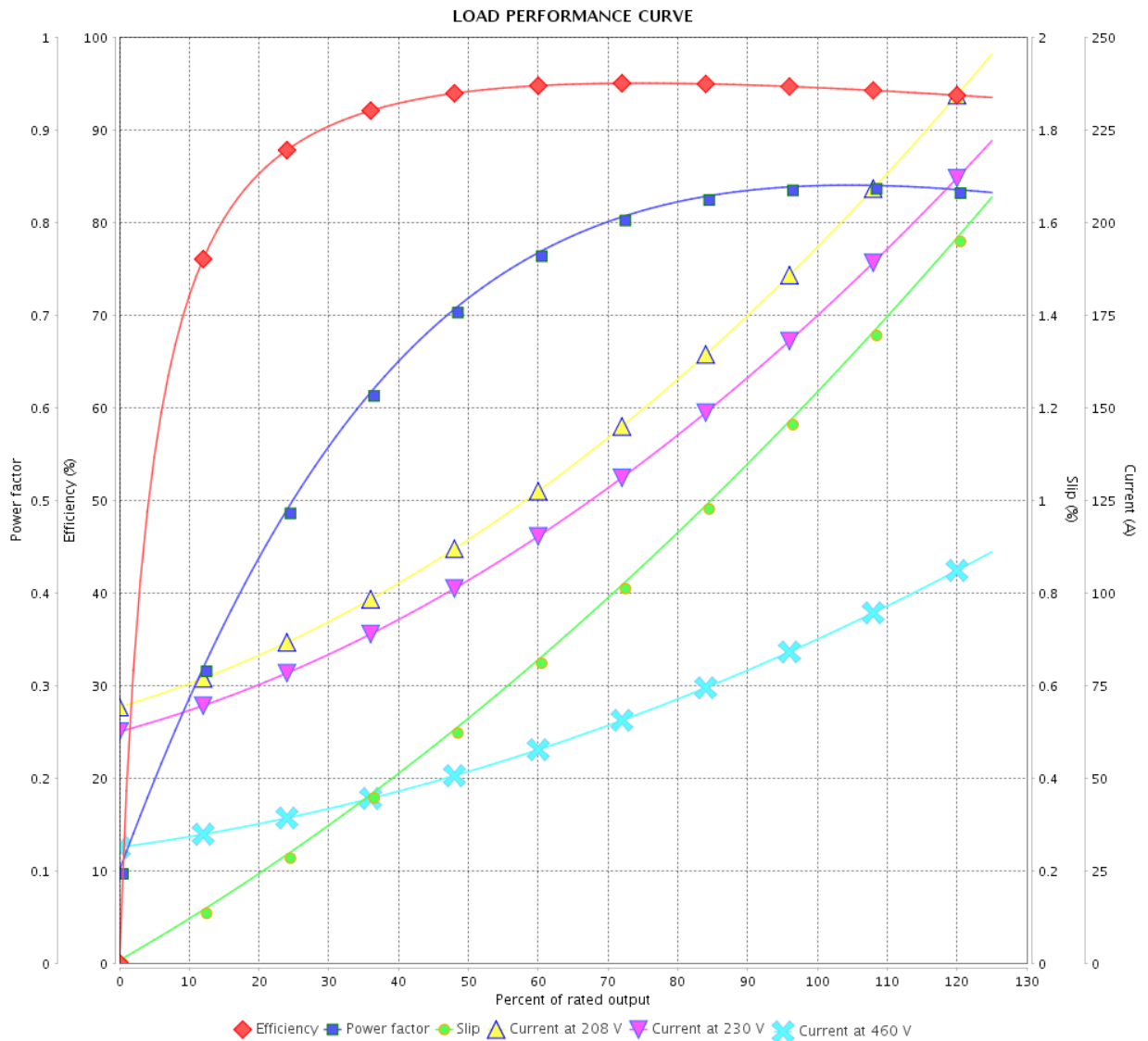


Customer :

Product line : NEMA Premium Efficiency Three-Phase

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Catalog # : 07512XT3E405T



Performance : 230/460 V 60 Hz 6P

Rated current : 174/87.0 A
 LRC : 7.7
 Rated torque : 332 ft.lb
 Locked rotor torque : 250 %
 Breakdown torque : 260 %
 Rated speed : 1185 rpm

Moment of inertia (J) : 40.2 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.15
 Temperature rise : 80 K
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Three Phase Induction Motor - Squirrel Cage



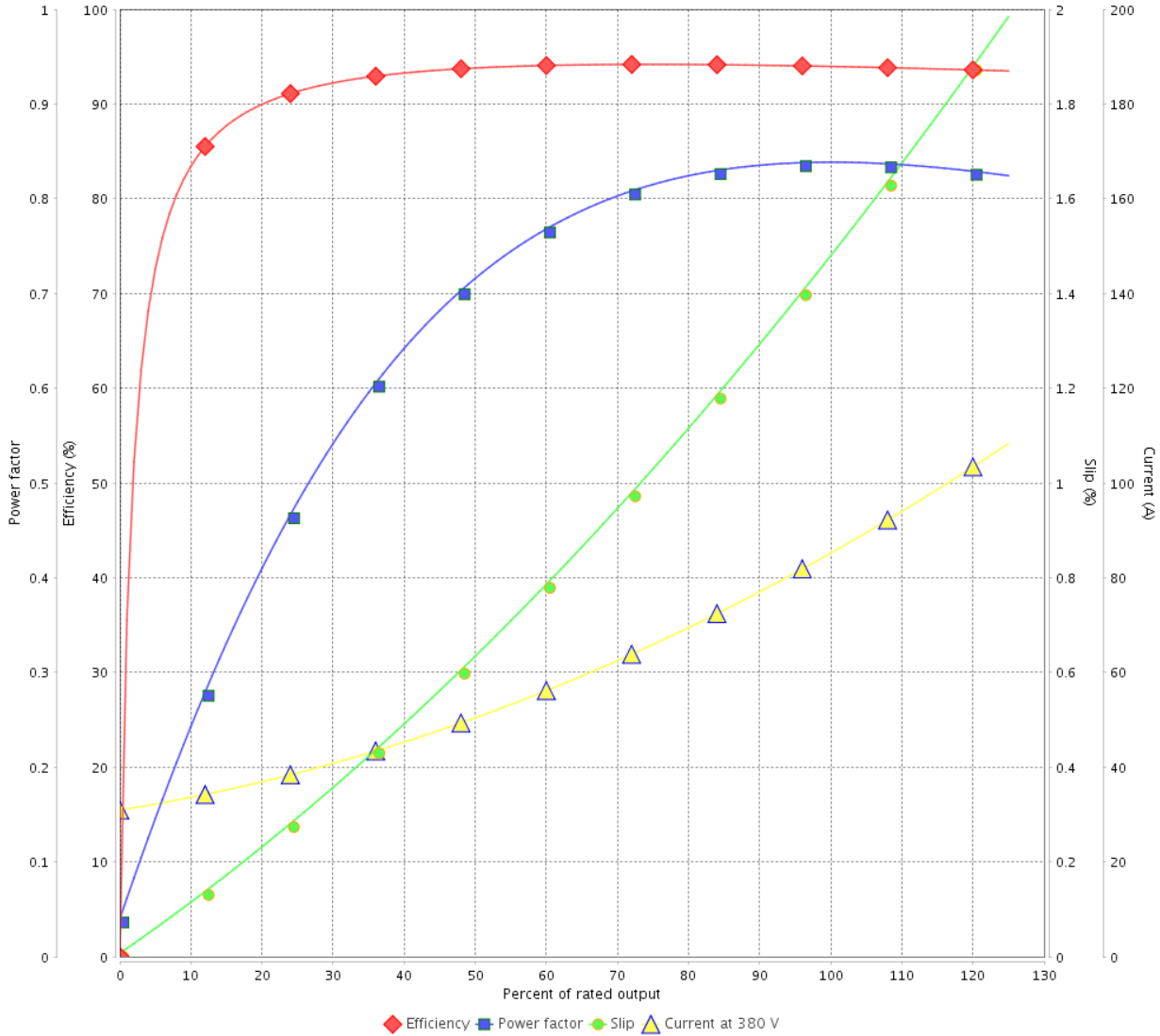
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Performance : 380 V 50 Hz 6P IE3

Rated current	: 86.6 A	Moment of inertia (J)	: 40.2 sq.ft.lb
LRC	: 7.2	Duty cycle	: Cont.(S1)
Rated torque	: 320 ft.lb	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.00
Breakdown torque	: 250 %	Temperature rise	: 80 K
Rated speed	: 985 rpm	Design	: B

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Three Phase Induction Motor - Squirrel Cage

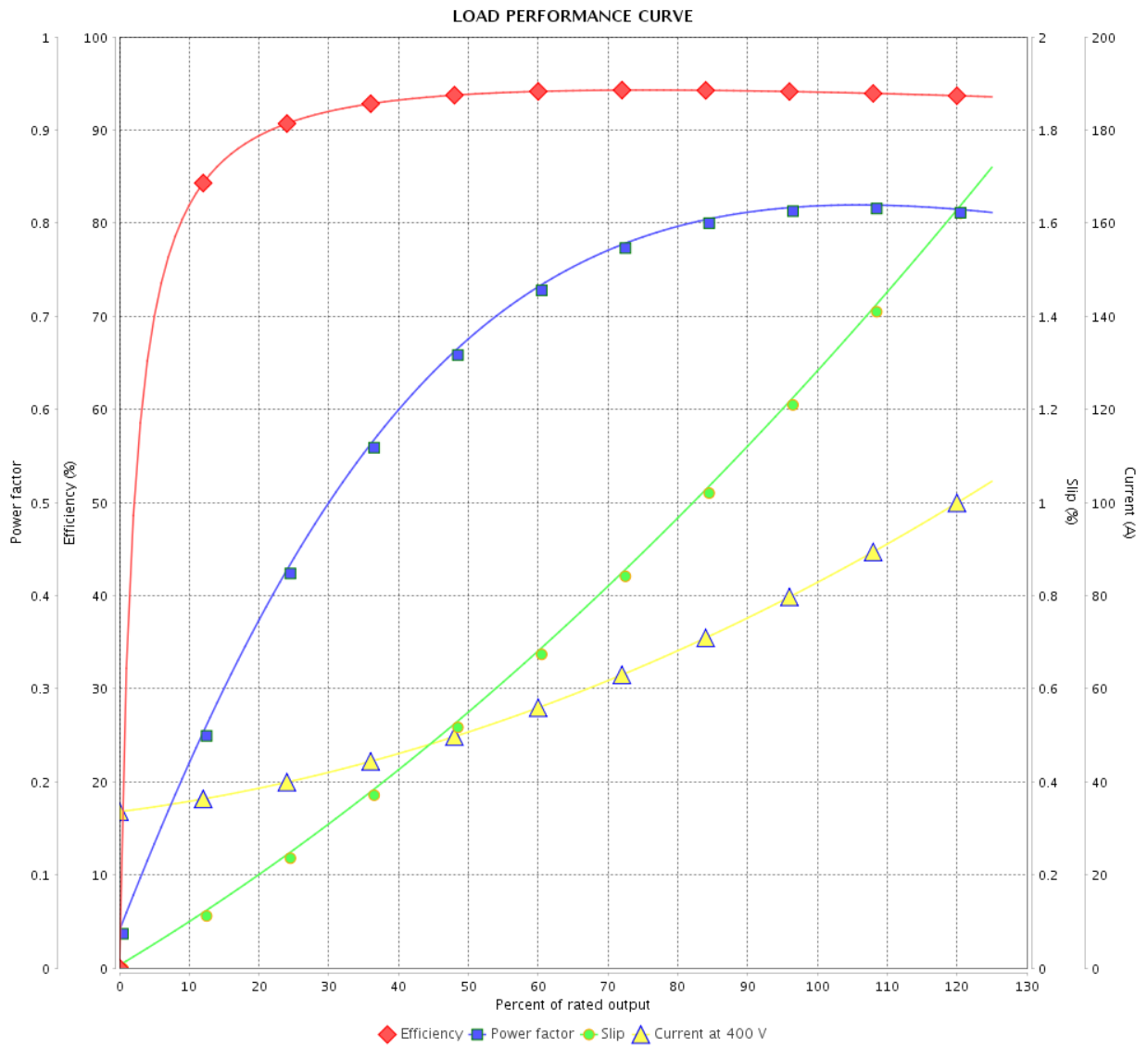


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Performance : 400 V 50 Hz 6P IE3

Rated current : 84.3 A
 LRC : 7.9
 Rated torque : 319 ft.lb
 Locked rotor torque : 260 %
 Breakdown torque : 280 %
 Rated speed : 987 rpm

Moment of inertia (J) : 40.2 sq.ft.lb
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 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
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LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage

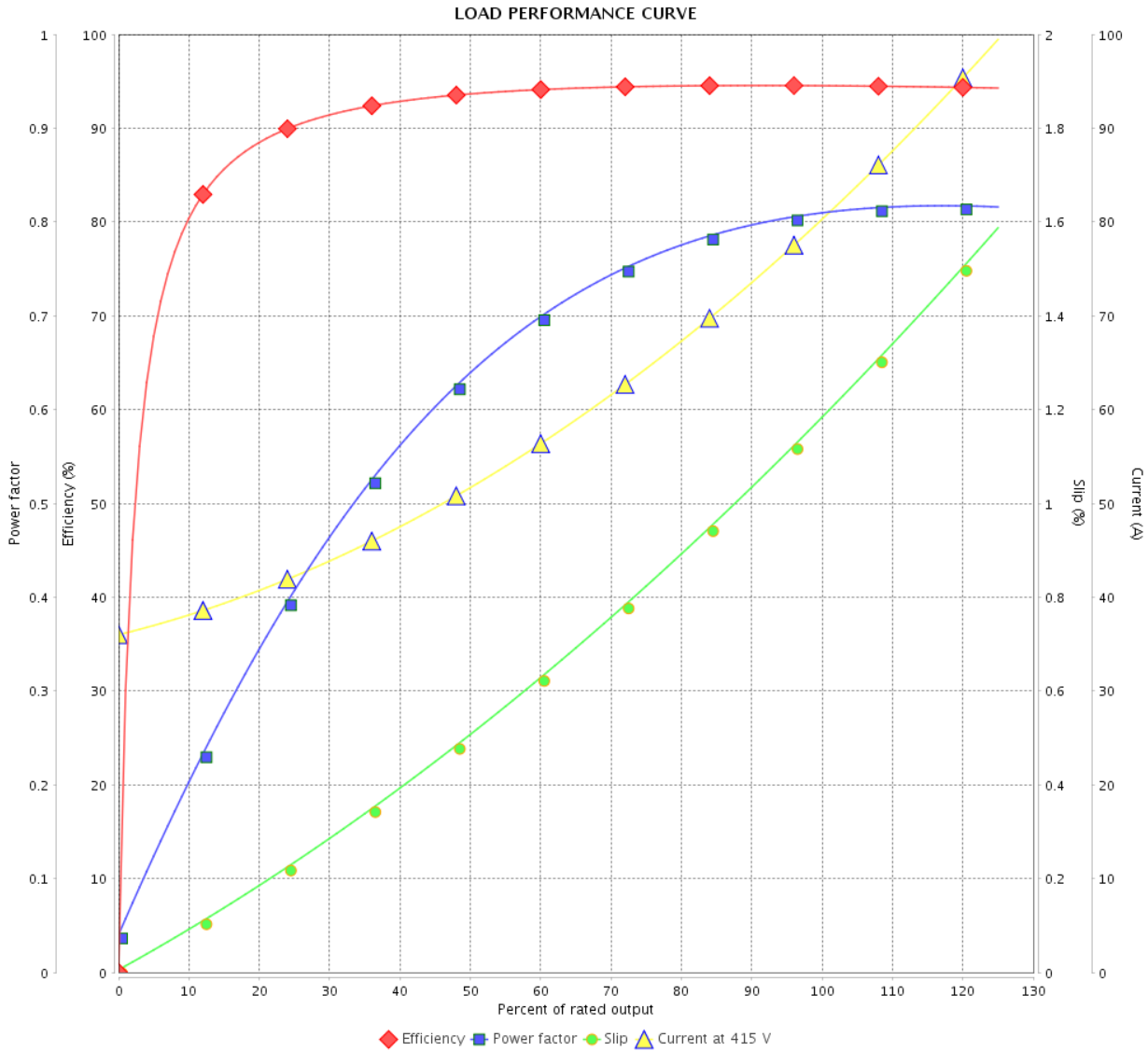


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THERMAL LIMIT CURVE



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Rated speed : 1185 rpm	Design : B

Heating constant

Cooling constant

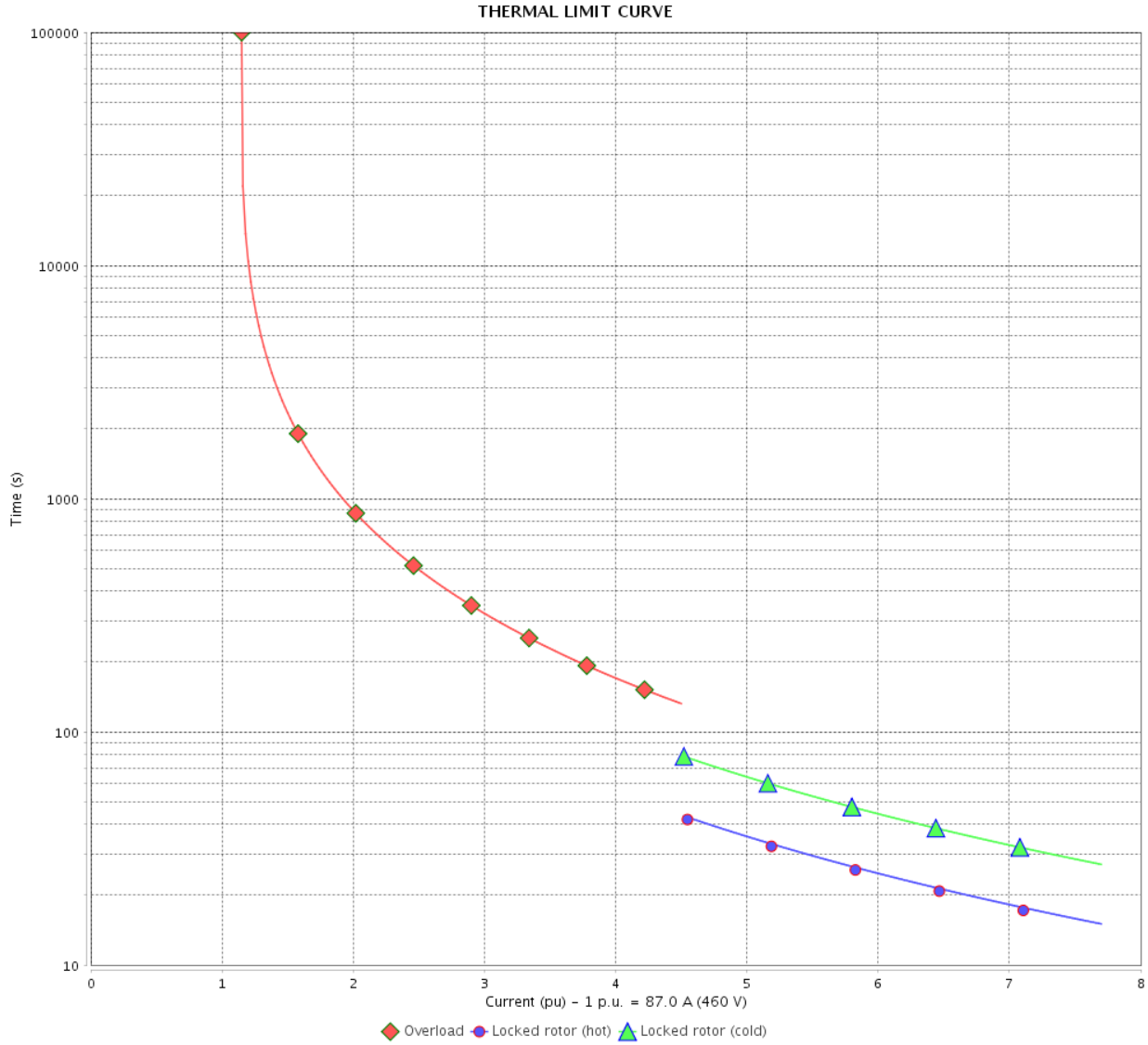
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THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : _____



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Locked rotor torque : 229 %	Service factor : 1.00
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Cooling constant

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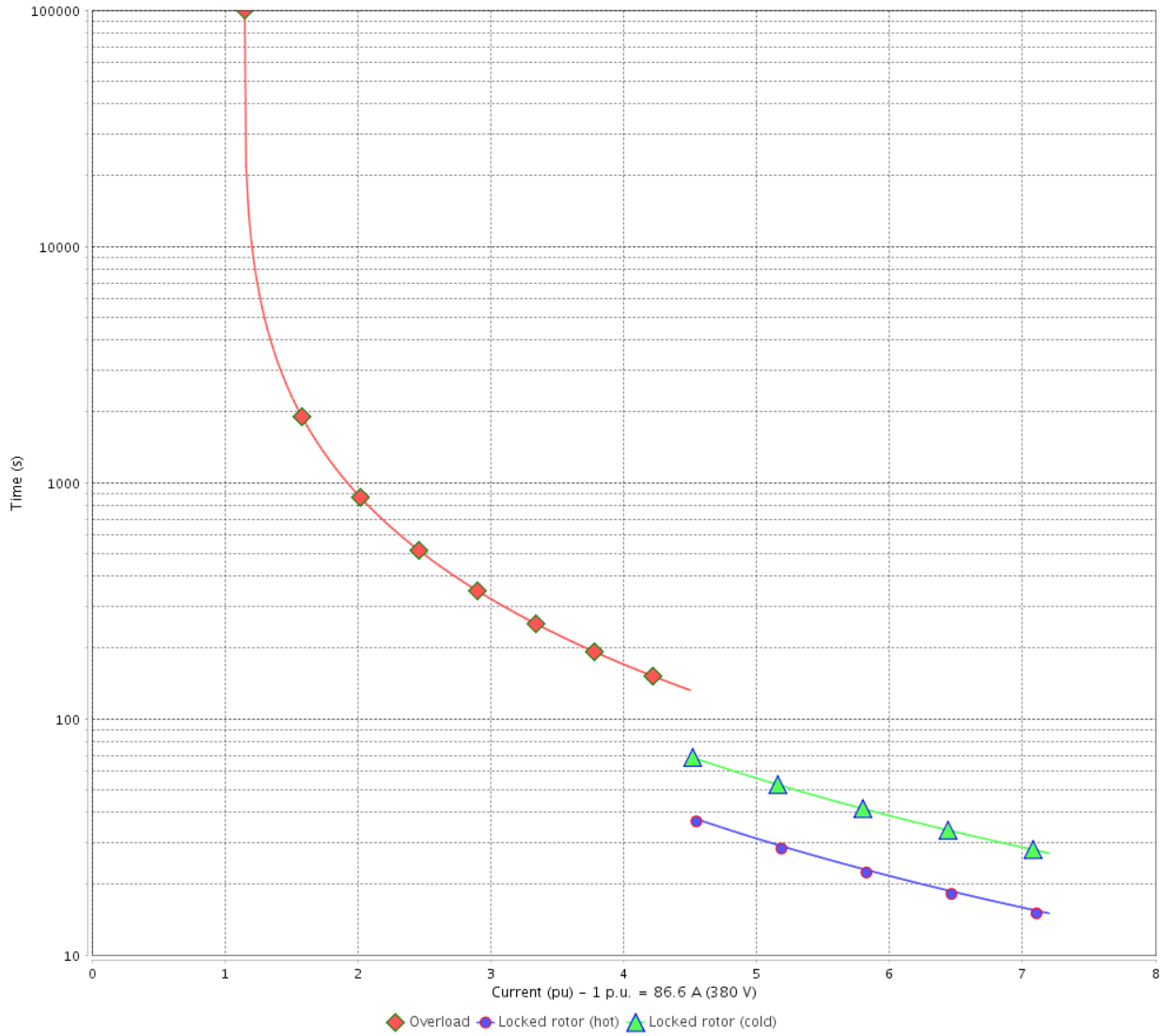
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Three Phase Induction Motor - Squirrel Cage



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THERMAL LIMIT CURVE



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LRC : 7.9	Duty cycle : Cont.(S1)
Rated torque : 319 ft.lb	Insulation class : F
Locked rotor torque : 260 %	Service factor : 1.00
Breakdown torque : 280 %	Temperature rise : 80 K
Rated speed : 987 rpm	Design : B

Heating constant

Cooling constant

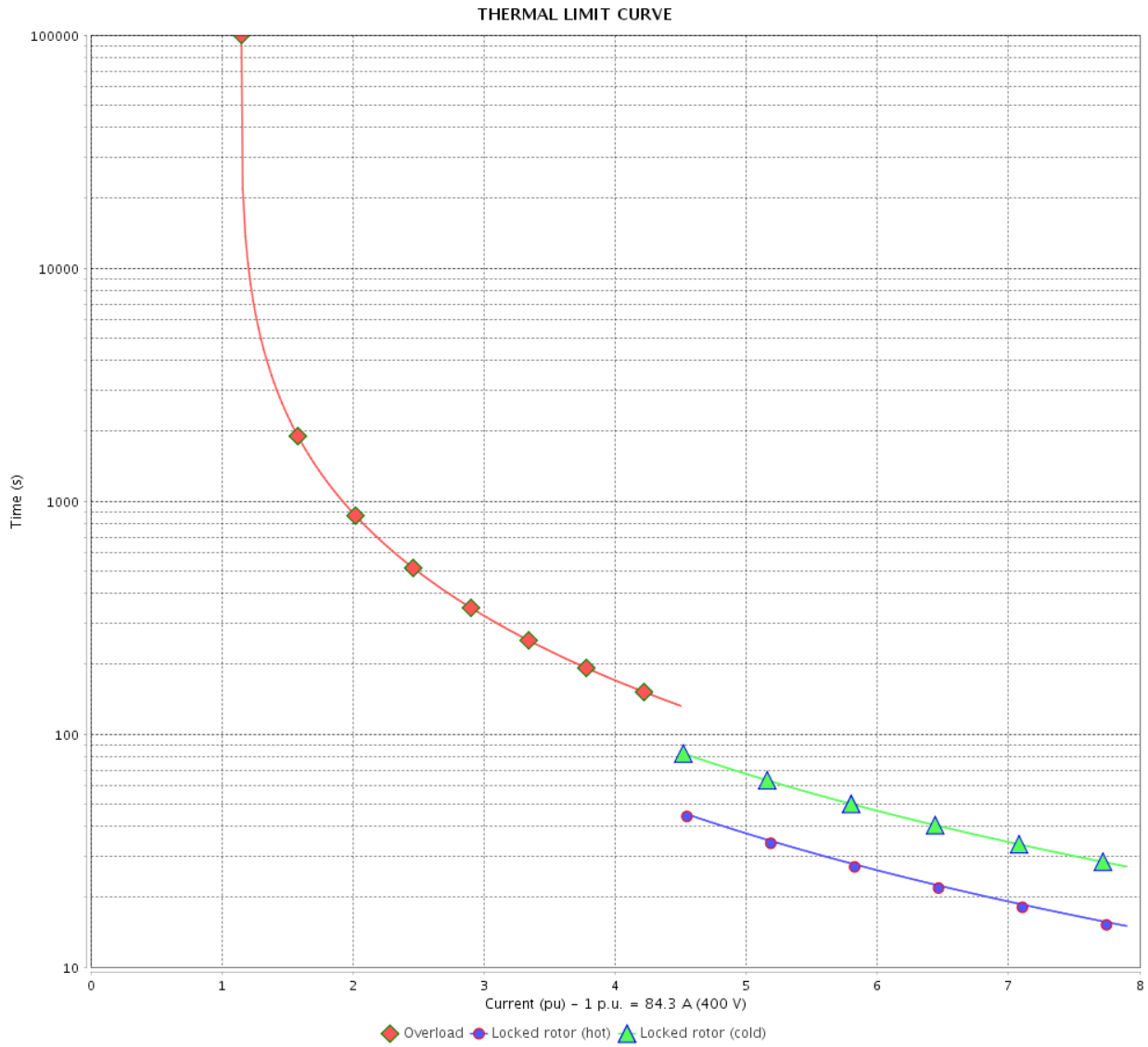
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Three Phase Induction Motor - Squirrel Cage



Customer : _____



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Date				

THERMAL LIMIT CURVE



Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase
 Product code : 11439852
 Catalog # : 07512XT3E405T

Performance : 415 V 50 Hz 6P IE3

Rated current : 81.8 A	Moment of inertia (J) : 40.2 sq.ft.lb
LRC : 8.4	Duty cycle : Cont.(S1)
Rated torque : 319 ft.lb	Insulation class : F
Locked rotor torque : 280 %	Service factor : 1.00
Breakdown torque : 300 %	Temperature rise : 80 K
Rated speed : 988 rpm	Design : B

Heating constant

Cooling constant

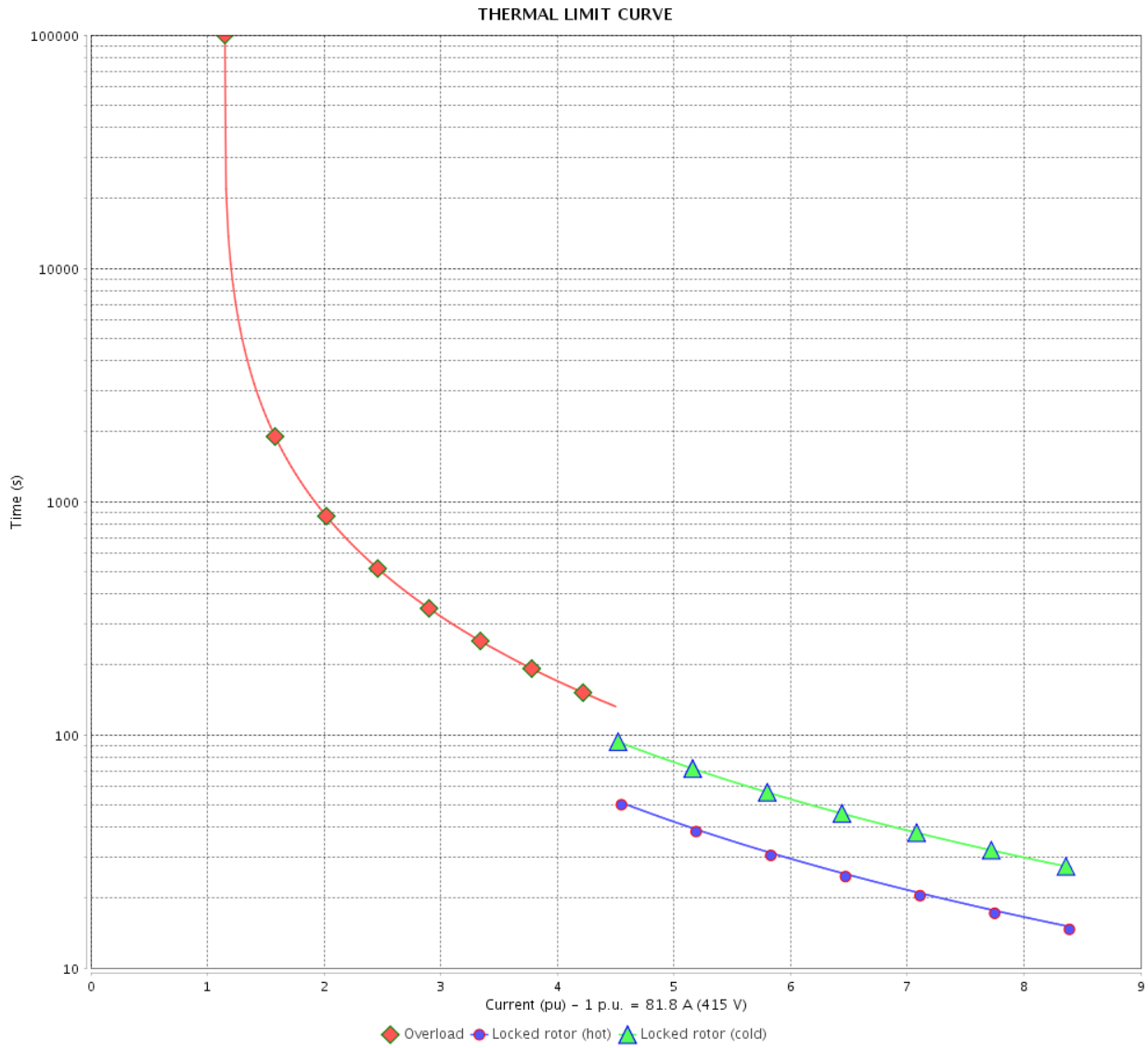
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Three Phase Induction Motor - Squirrel Cage



Customer : _____



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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

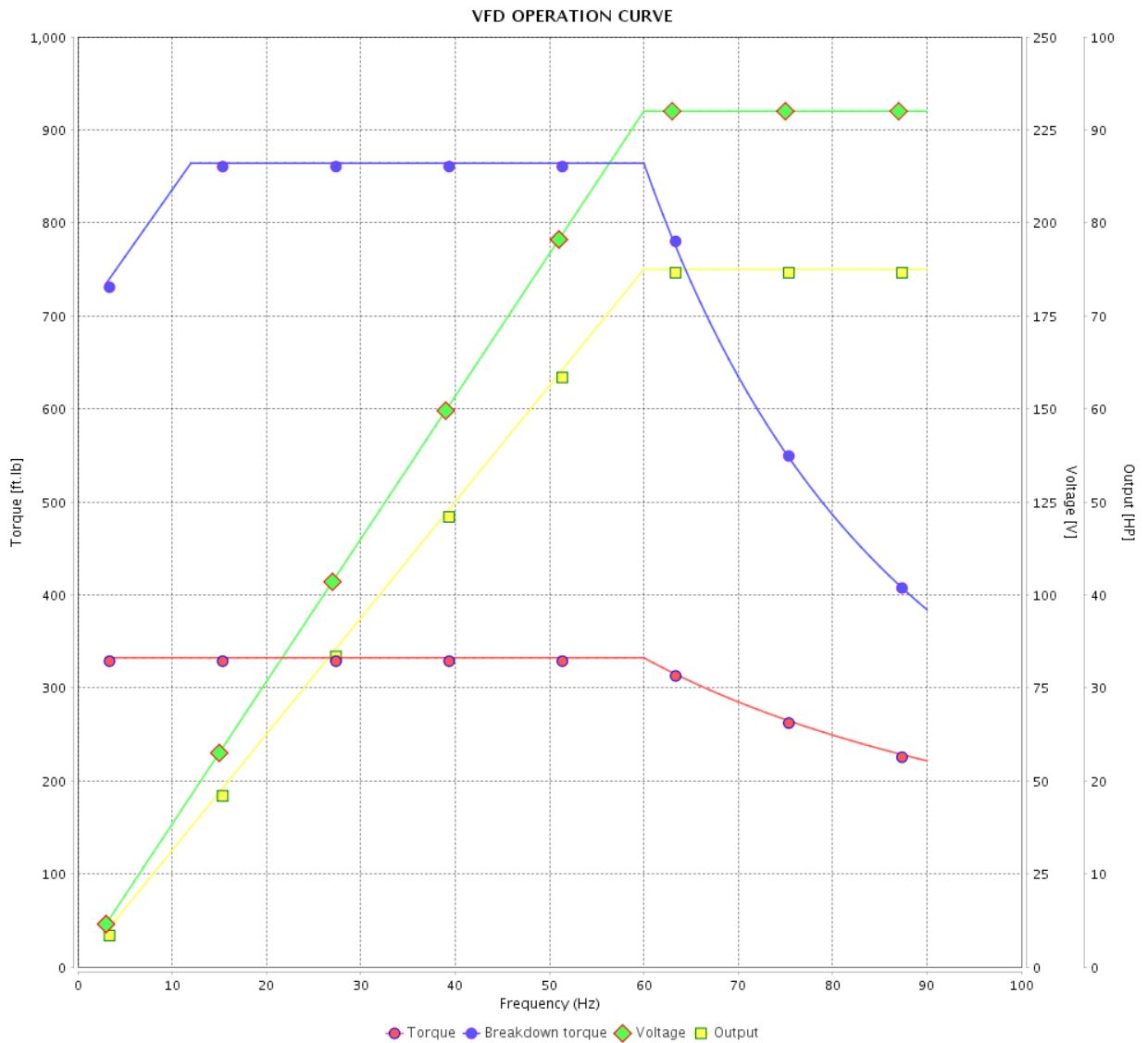


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11439852

Catalog # : 07512XT3E405T



Performance : 230/460 V 60 Hz 6P

Rated current : 174/87.0 A
 LRC : 7.7
 Rated torque : 332 ft.lb
 Locked rotor torque : 250 %
 Breakdown torque : 260 %
 Rated speed : 1185 rpm

Moment of inertia (J) : 40.2 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



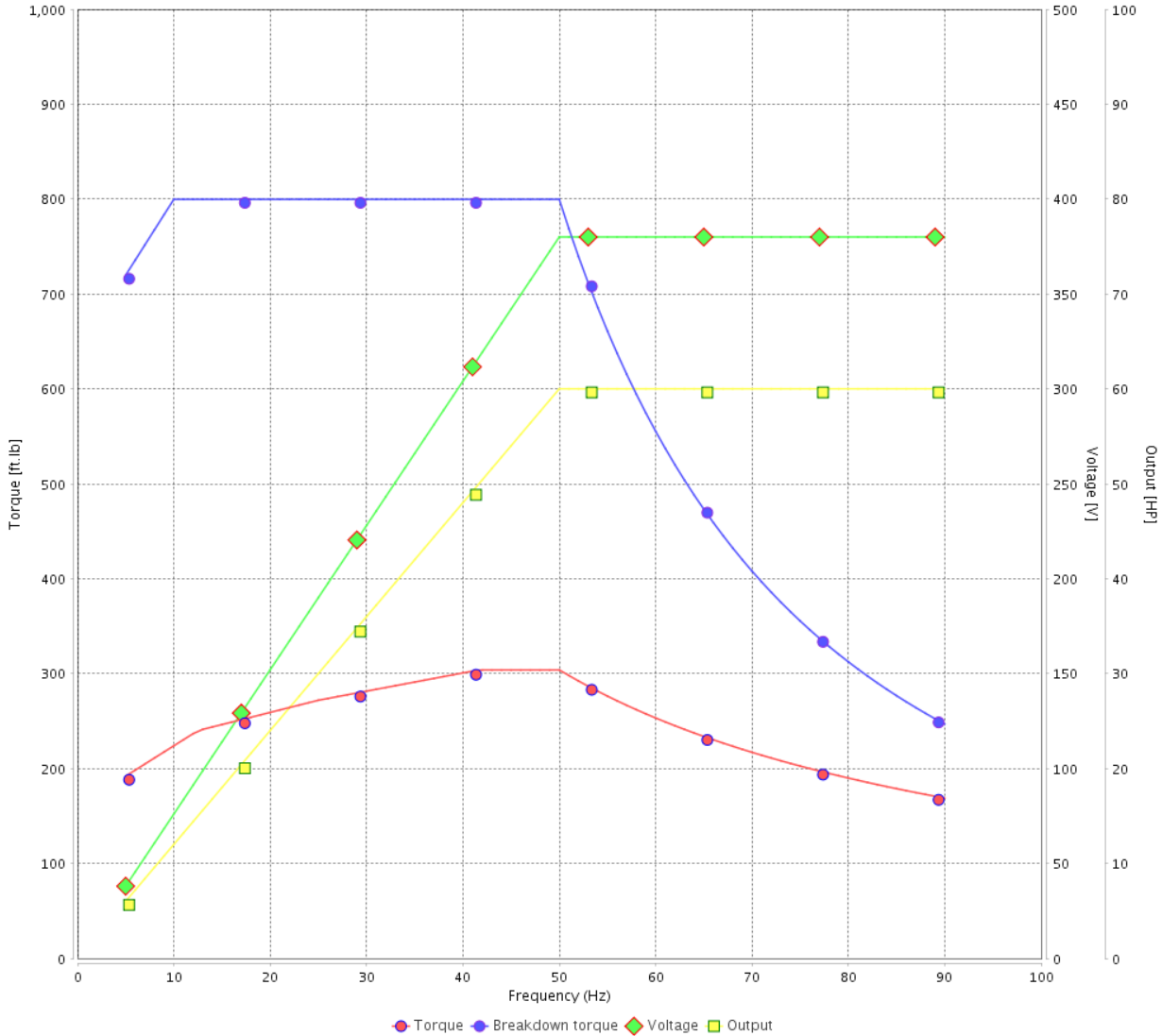
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11439852

Catalog # : 07512XT3E405T

VFD OPERATION CURVE



Performance : 380 V 50 Hz 6P IE3

Rated current : 86.6 A
 LRC : 7.2
 Rated torque : 320 ft.lb
 Locked rotor torque : 229 %
 Breakdown torque : 250 %
 Rated speed : 985 rpm

Moment of inertia (J) : 40.2 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

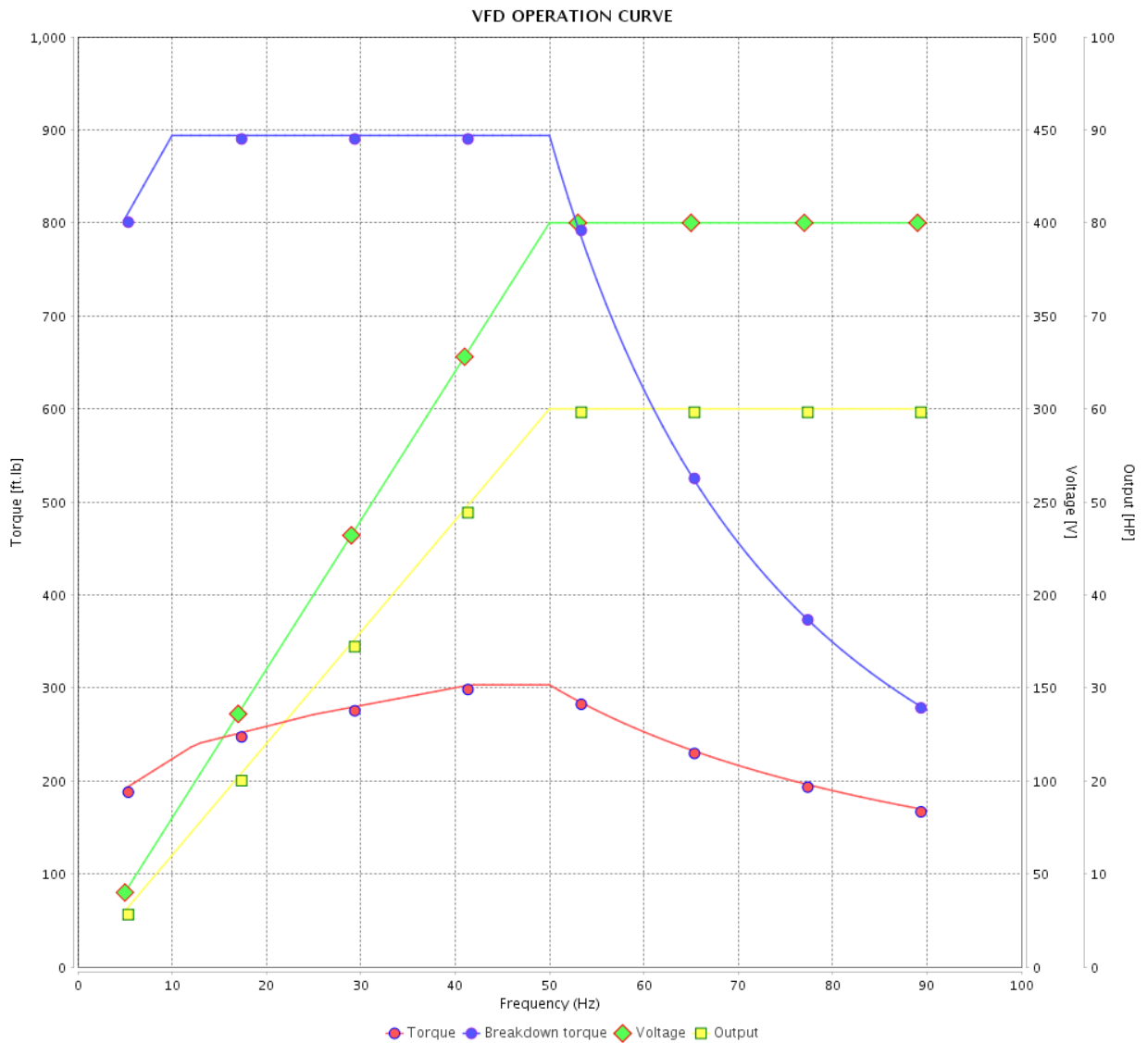


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11439852

Catalog # : 07512XT3E405T



Performance : 400 V 50 Hz 6P IE3

Rated current : 84.3 A
 LRC : 7.9
 Rated torque : 319 ft.lb
 Locked rotor torque : 260 %
 Breakdown torque : 280 %
 Rated speed : 987 rpm

Moment of inertia (J) : 40.2 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



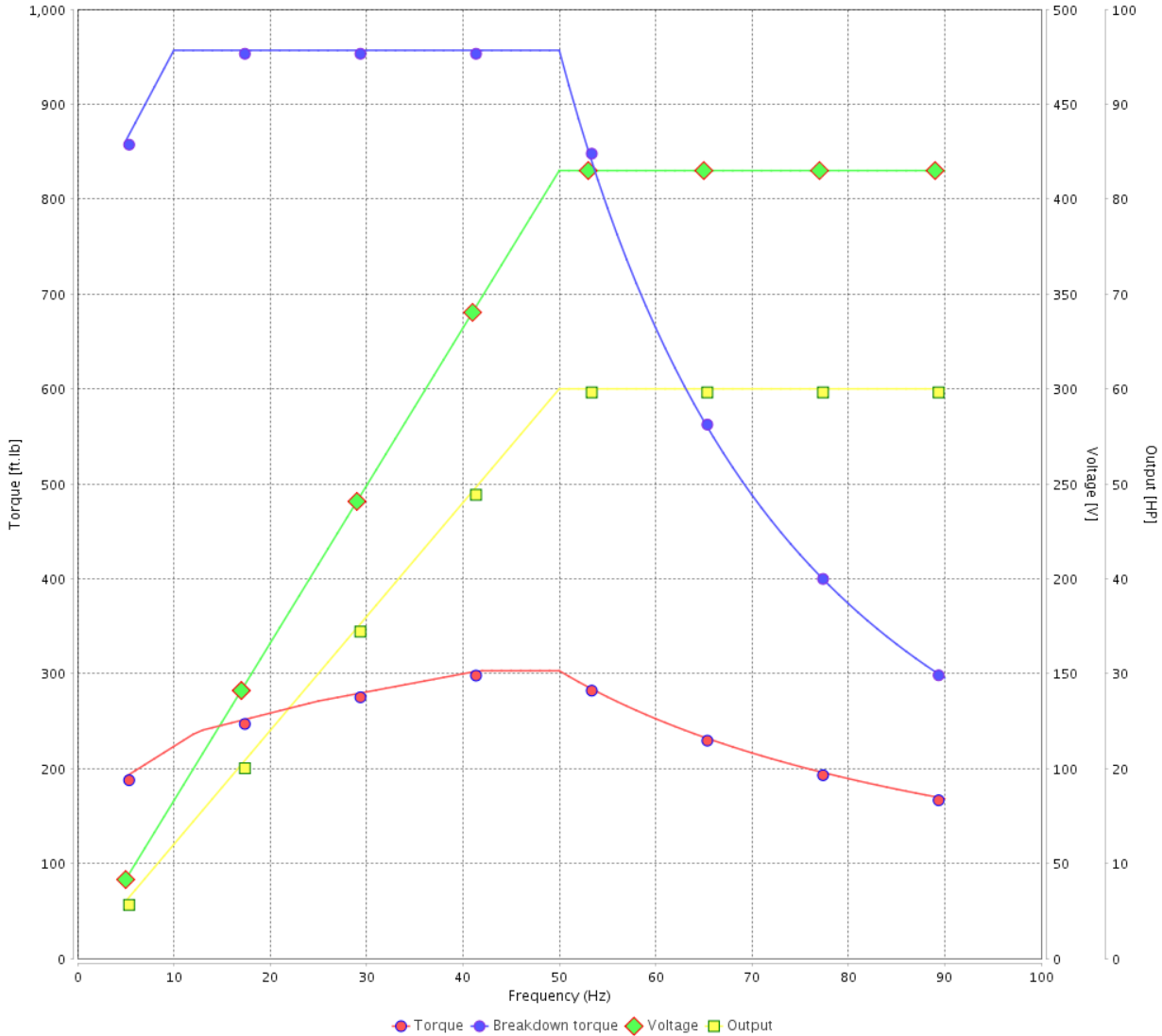
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VFD OPERATION CURVE

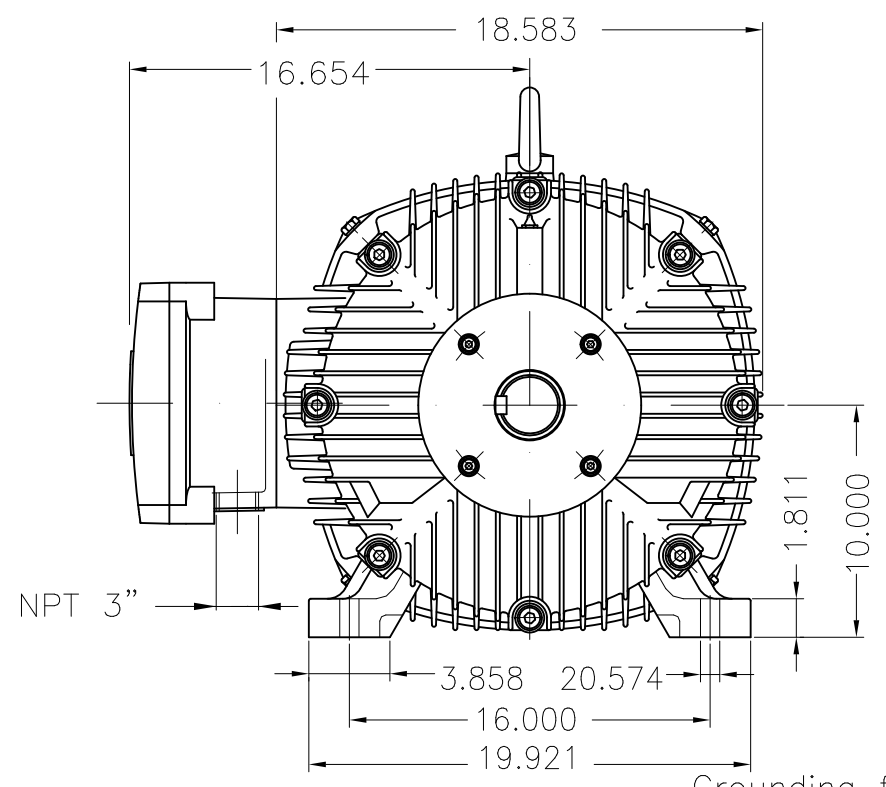


Performance : 415 V 50 Hz 6P IE3

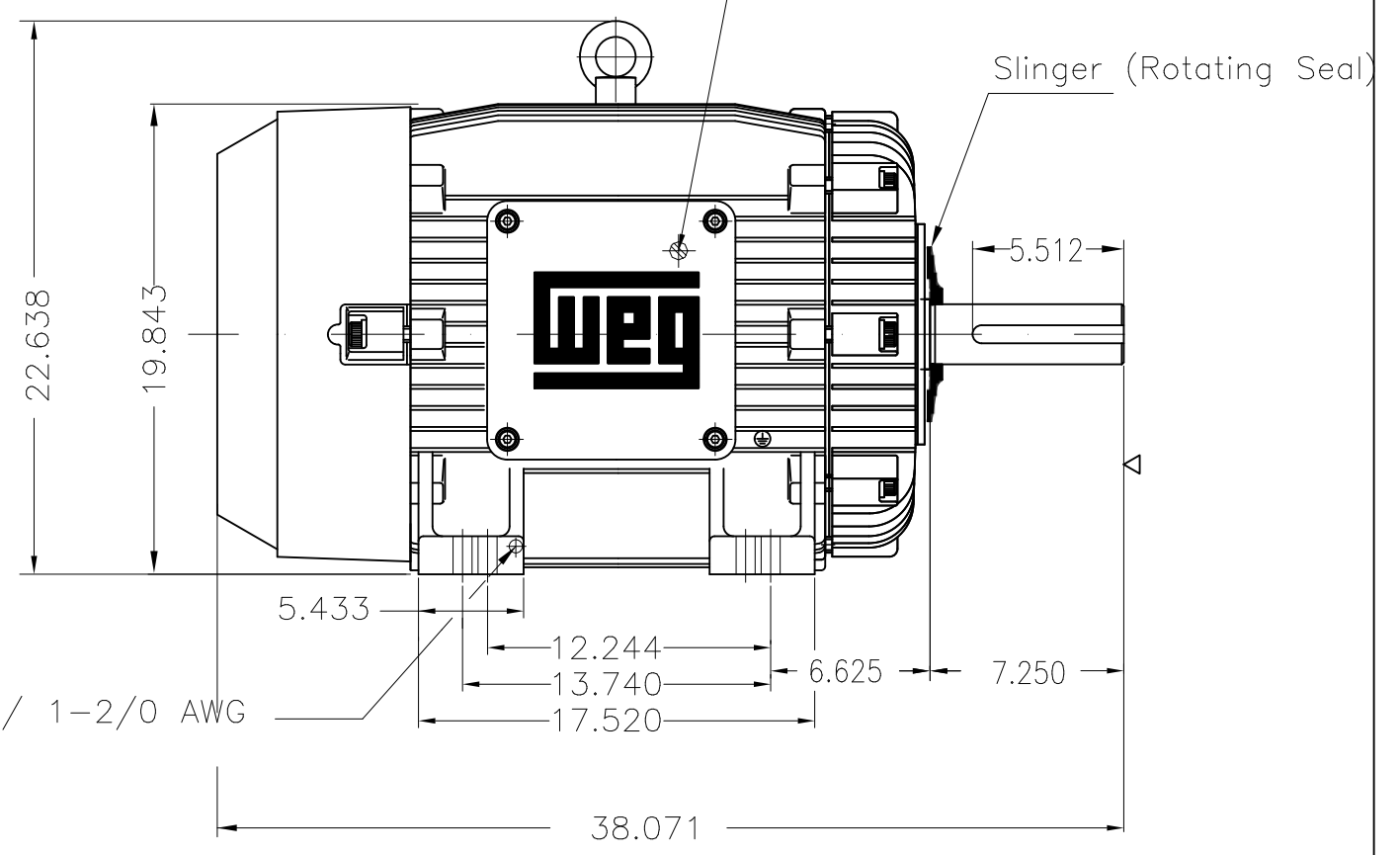
Rated current : 81.8 A
 LRC : 8.4
 Rated torque : 319 ft.lb
 Locked rotor torque : 280 %
 Breakdown torque : 300 %
 Rated speed : 988 rpm

Moment of inertia (J) : 40.2 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

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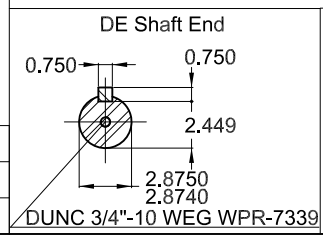
Grounding for leads 25-50 mm² / 3-1 AWG



Grounding for leads 35-70 mm² / 1-2/0 AWG

75 HP 06 Poles 60 Hz A

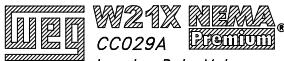
Color RAL 5009
 Painting plan 202P
 Mounting B3R(D)



ECM	LOC	SUMMARY OF MODIFICATIONS	EXECUTED	CHECKED	RELEASED	DATE	VER
EXECUTED	PIRWBUSER	THREE PH. MOTOR EXPLOSION PROOF PREM. EFF.					
CHECKED		FRAME 404/5T IP55 TEFC					
RELEASED							
REL DT.	WMO	Jaragua do Sul	Product Engineering				

PREVIEW
WDD
 SHEET 1 / 1

VJP PART # HX075406NPBB
 MADE IN BRAZIL
 11439852

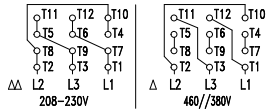


W21X NEMA
CC029A Premium
 Inverter Duty Motor
 Severe Duty



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.

PH 3	FR 404/5T	HP(kW) 75.0(55.0)	Hz 60
V 230/460		A 174/87.0	RPM 1185
NEMA NOM. EFF. 94.5%		INS CL F Δ T 80 K	IP55
PF 0.84	DUTY CONT.		CODE J
ENCL. TEFC	SF 1.15	SFA 200/100	
AMB 40°C	DES B	USABLE @208V 192 A SF 1.00	
AMB 55°C SF1.0	-bearings lub interval reduced by a factor of 50%		



→ 6217-C3(21g)	MOBIL POLYREX EM
→ 6314-C3(27g)	13507 h
ALT 1000 m.a.s.l	1224 Lbs

60HP 45kW 50Hz 380V 86.6A 985RPM SF1.00 EFF 94.0% (IE3)