

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



Customer :				
Product line	: NEMA Premium Efficiency Three-Phase	Product code :	14443172	
		Catalog # :	03036XT3E286TS	
Frame	: 286TS	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	: 506 lb	
Protection degree	: IP55	Moment of inertia (J)	: 3.08 sq.ft.lb	
Design	: B			
Output [HP]	30	30	30	30
Poles	2	2	2	2
Frequency [Hz]	60	50	50	50
Rated voltage [V]	230/460	380	400	415
Rated current [A]	67.4/33.7	41.3	38.9	37.9
L. R. Amperes [A]	452/226	211	222	250
LRC [A]	6.7x(Code G)	5.1x(Code E)	5.7x(Code F)	6.6x(Code G)
No load current [A]	15.0/7.50	7.00	8.00	8.40
Rated speed [RPM]	3545	2910	2930	2940
Slip [%]	1.53	3.00	2.33	2.00
Rated torque [ft.lb]	44.4	54.1	53.8	53.6
Locked rotor torque [%]	250	190	200	220
Breakdown torque [%]	240	190	200	260
Service factor	1.15	1.00	1.00	1.00
Temperature rise	80 K	80 K	80 K	80 K
Locked rotor time	77s (cold) 43s (hot)	57s (cold) 32s (hot)	27s (cold) 15s (hot)	57s (cold) 32s (hot)
Noise level ²	75.0 dB(A)	70.0 dB(A)	70.0 dB(A)	70.0 dB(A)
Efficiency (%)	25%	92.2	92.9	92.9
	50%	92.4	92.4	92.4
	75%	93.0	91.7	92.4
	100%	93.0	91.0	91.7
Power Factor	25%	0.58	0.65	0.60
	50%	0.78	0.82	0.80
	75%	0.86	0.88	0.87
	100%	0.88	0.89	0.89
Bearing type	: <u>Drive end</u> 6311 C3 <u>Non drive end</u> 6211 C3	Foundation loads		
Sealing	: Oil Seal Lip Seal	Max. traction	: 354 lb	
Lubrication interval	: 11517 h 14226 h	Max. compression	: 860 lb	
Lubricant amount	: 18 g 11 g			
Lubricant type	: Mobil Polyrex EM			
Notes USABLE @208V 74.5A SF 1.00 SFA 74.5A				
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



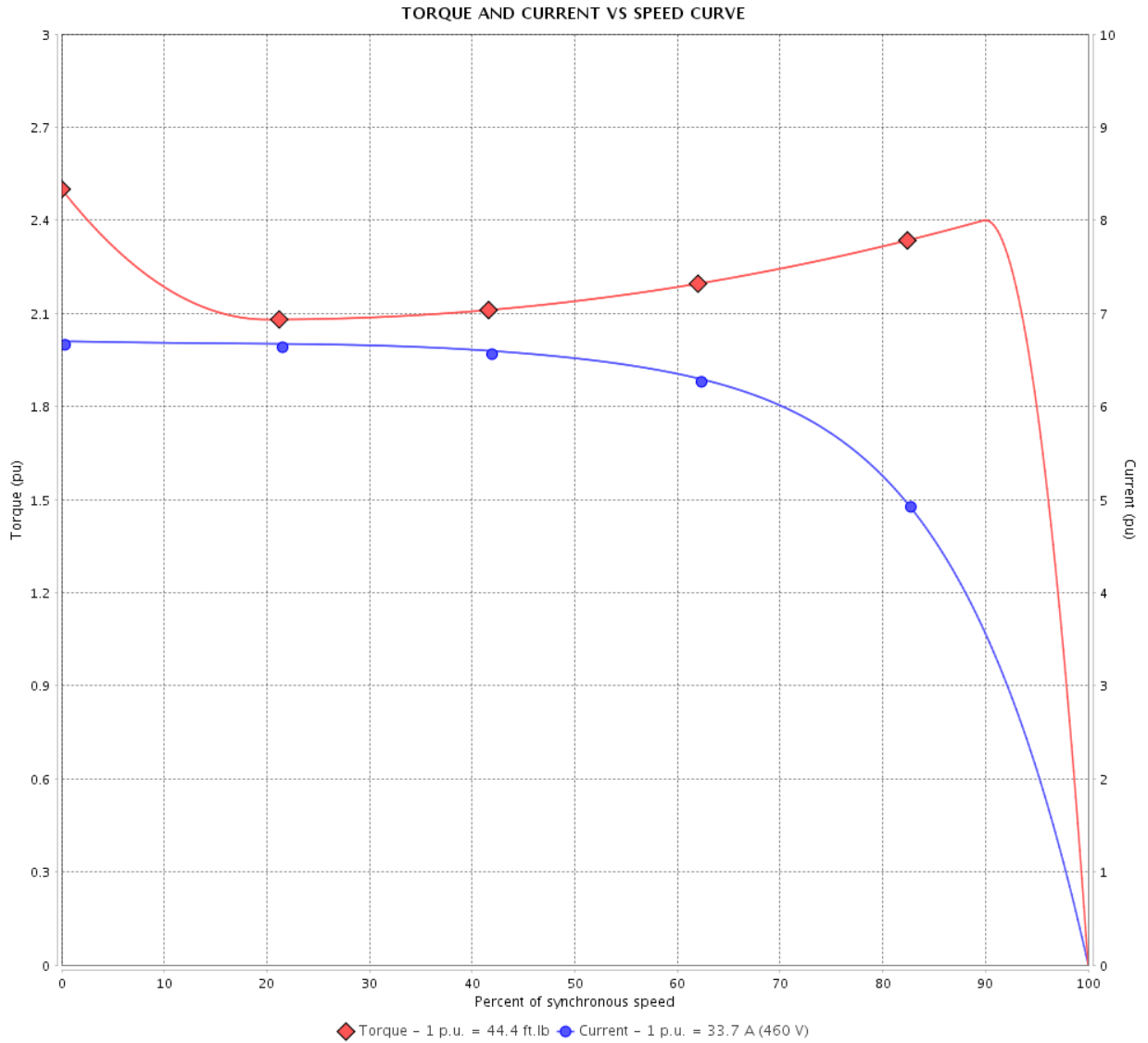
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14443172

Catalog # : 03036XT3E286TS



Performance : 230/460 V 60 Hz 2P

Rated current : 67.4/33.7 A
 LRC : 6.7
 Rated torque : 44.4 ft.lb
 Locked rotor torque : 250 %
 Breakdown torque : 240 %
 Rated speed : 3545 rpm

Moment of inertia (J) : 3.08 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.15
 Temperature rise : 80 K
 Design : B

Locked rotor time : 77s (cold) 43s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



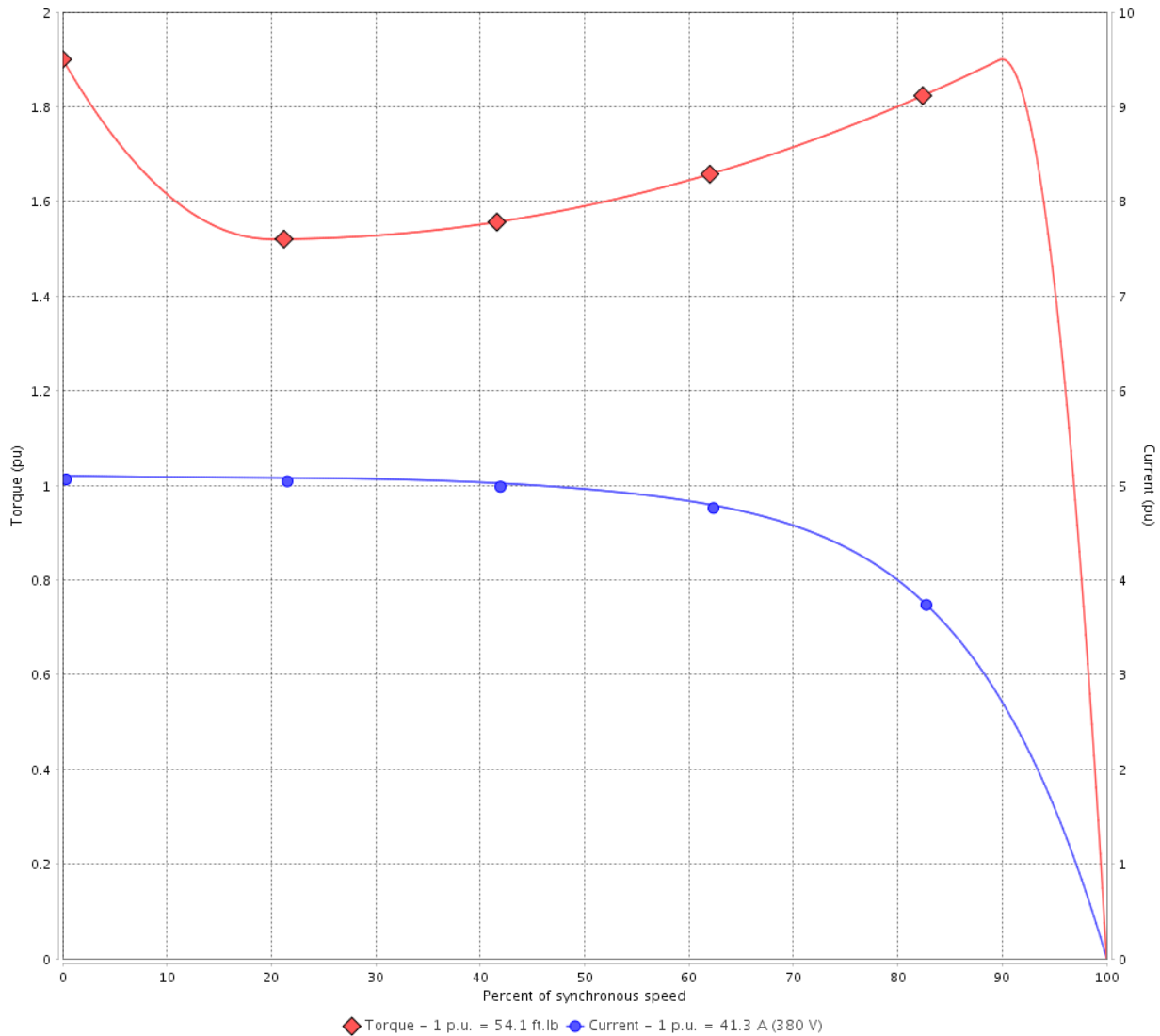
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14443172

Catalog # : 03036XT3E286TS

TORQUE AND CURRENT VS SPEED CURVE



Performance : 380 V 50 Hz 2P IE1

Rated current	: 41.3 A	Moment of inertia (J)	: 3.08 sq.ft.lb
LRC	: 5.1	Duty cycle	: Cont.(S1)
Rated torque	: 54.1 ft.lb	Insulation class	: F
Locked rotor torque	: 190 %	Service factor	: 1.00
Breakdown torque	: 190 %	Temperature rise	: 80 K
Rated speed	: 2910 rpm	Design	: B

Locked rotor time : 57s (cold) 32s (hot)

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TORQUE AND CURRENT VS SPEED CURVE



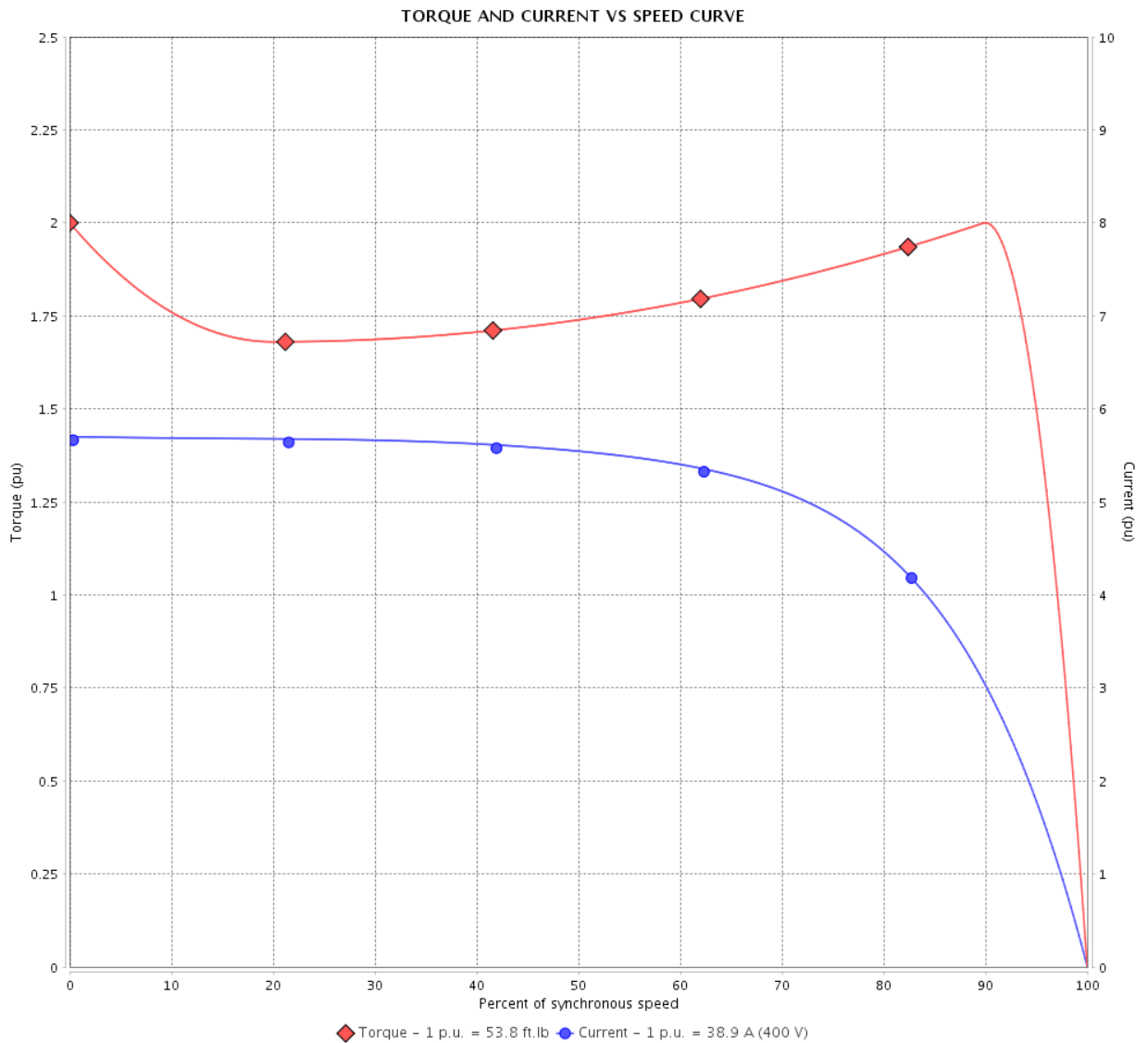
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14443172

Catalog # : 03036XT3E286TS



Performance : 400 V 50 Hz 2P IE2

Rated current : 38.9 A
 LRC : 5.7
 Rated torque : 53.8 ft.lb
 Locked rotor torque : 200 %
 Breakdown torque : 200 %
 Rated speed : 2930 rpm

Moment of inertia (J) : 3.08 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 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



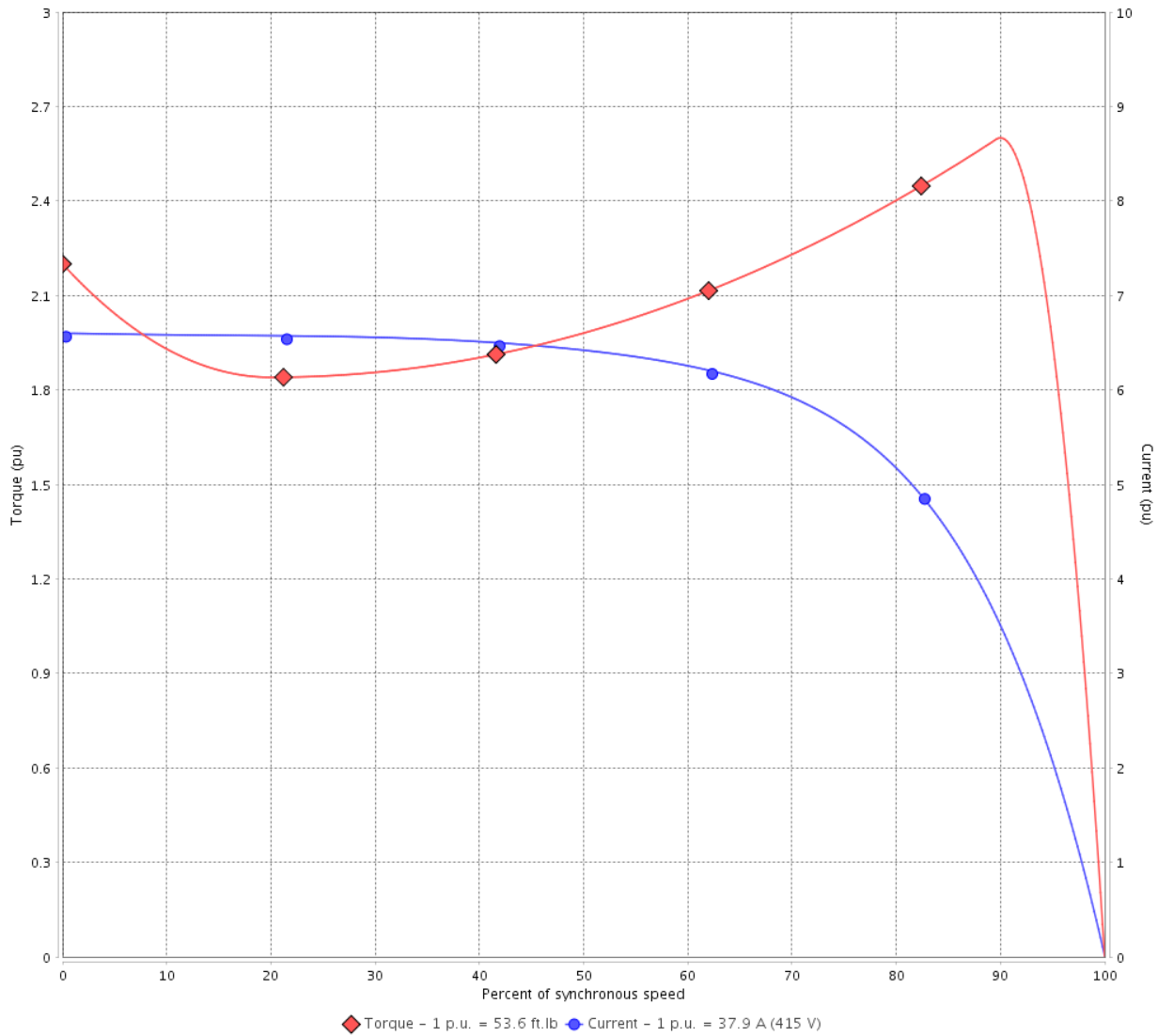
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14443172

Catalog # : 03036XT3E286TS

TORQUE AND CURRENT VS SPEED CURVE



Performance : 415 V 50 Hz 2P IE2

Rated current	: 37.9 A	Moment of inertia (J)	: 3.08 sq.ft.lb
LRC	: 6.6	Duty cycle	: Cont.(S1)
Rated torque	: 53.6 ft.lb	Insulation class	: F
Locked rotor torque	: 220 %	Service factor	: 1.00
Breakdown torque	: 260 %	Temperature rise	: 80 K
Rated speed	: 2940 rpm	Design	: B

Locked rotor time : 57s (cold) 32s (hot)

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LOAD PERFORMANCE CURVE

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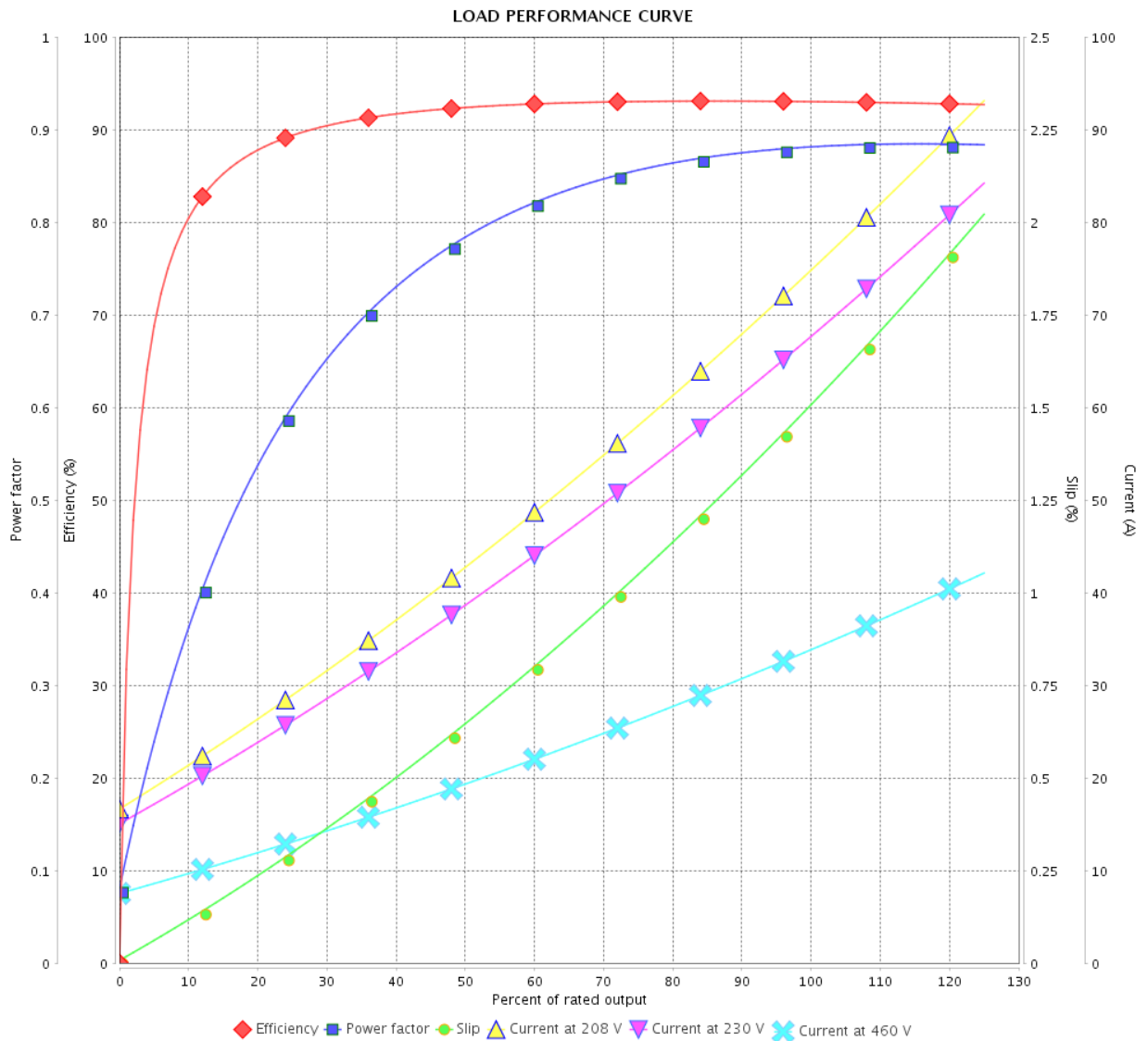


Customer : _____

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14443172

Catalog # : 03036XT3E286TS



Performance : 230/460 V 60 Hz 2P

Rated current : 67.4/33.7 A
 LRC : 6.7
 Rated torque : 44.4 ft.lb
 Locked rotor torque : 250 %
 Breakdown torque : 240 %
 Rated speed : 3545 rpm

Moment of inertia (J) : 3.08 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.15
 Temperature rise : 80 K
 Design : B

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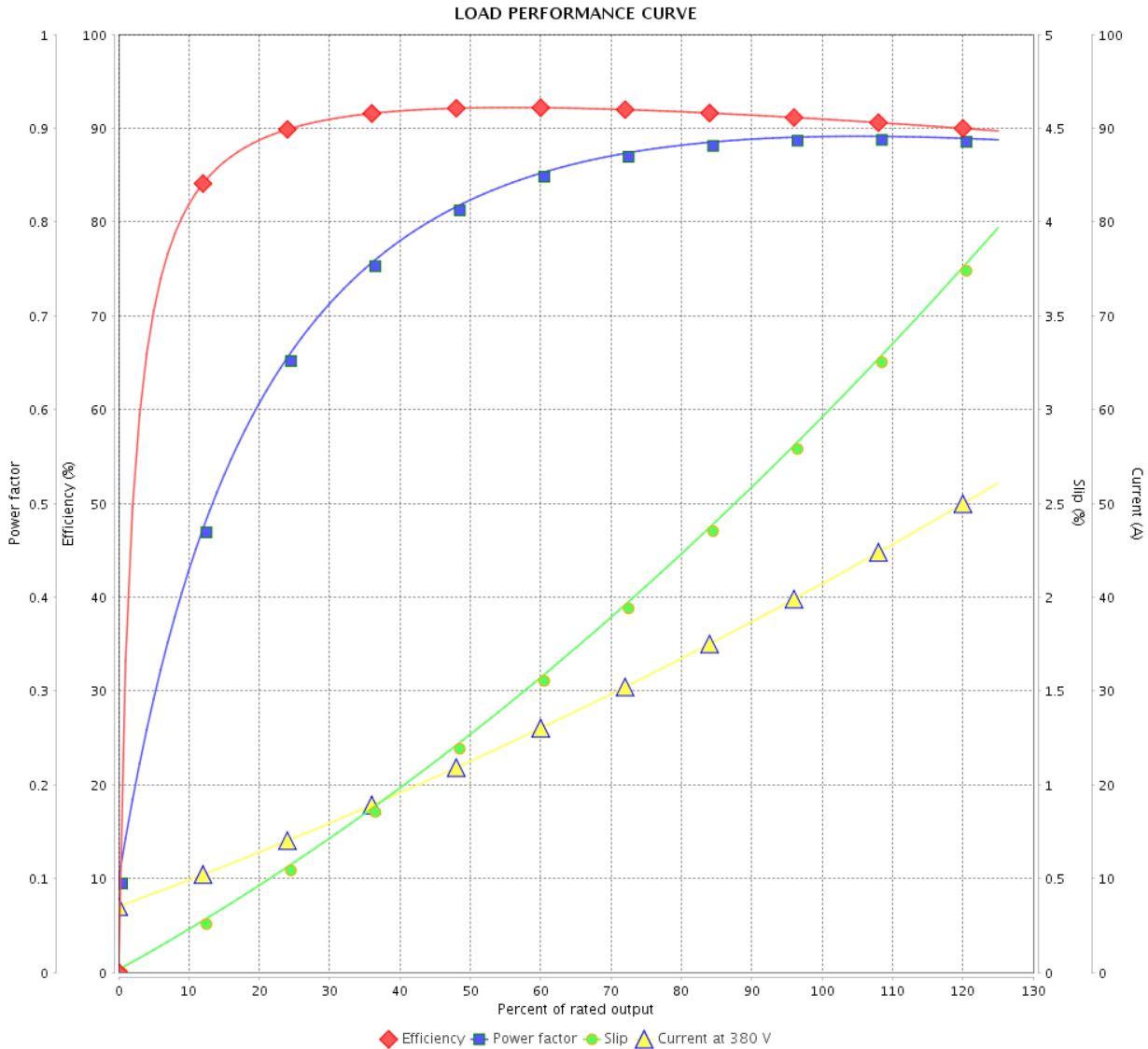


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Performance : 380 V 50 Hz 2P IE1

Rated current	: 41.3 A	Moment of inertia (J)	: 3.08 sq.ft.lb
LRC	: 5.1	Duty cycle	: Cont.(S1)
Rated torque	: 54.1 ft.lb	Insulation class	: F
Locked rotor torque	: 190 %	Service factor	: 1.00
Breakdown torque	: 190 %	Temperature rise	: 80 K
Rated speed	: 2910 rpm	Design	: B

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Three Phase Induction Motor - Squirrel Cage

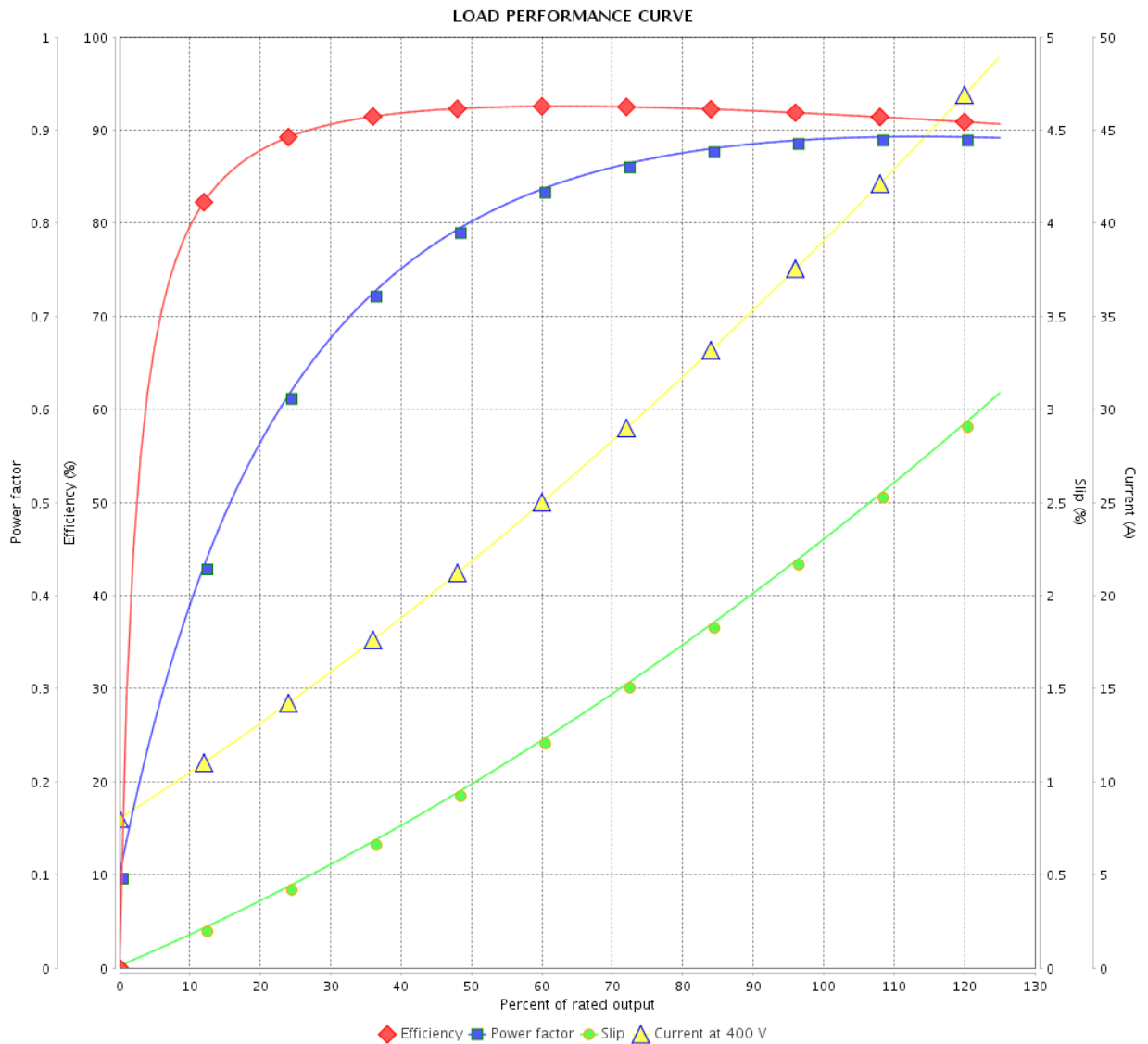


Customer : _____

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14443172

Catalog # : 03036XT3E286TS



Performance : 400 V 50 Hz 2P IE2

Rated current : 38.9 A
 LRC : 5.7
 Rated torque : 53.8 ft.lb
 Locked rotor torque : 200 %
 Breakdown torque : 200 %
 Rated speed : 2930 rpm

Moment of inertia (J) : 3.08 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



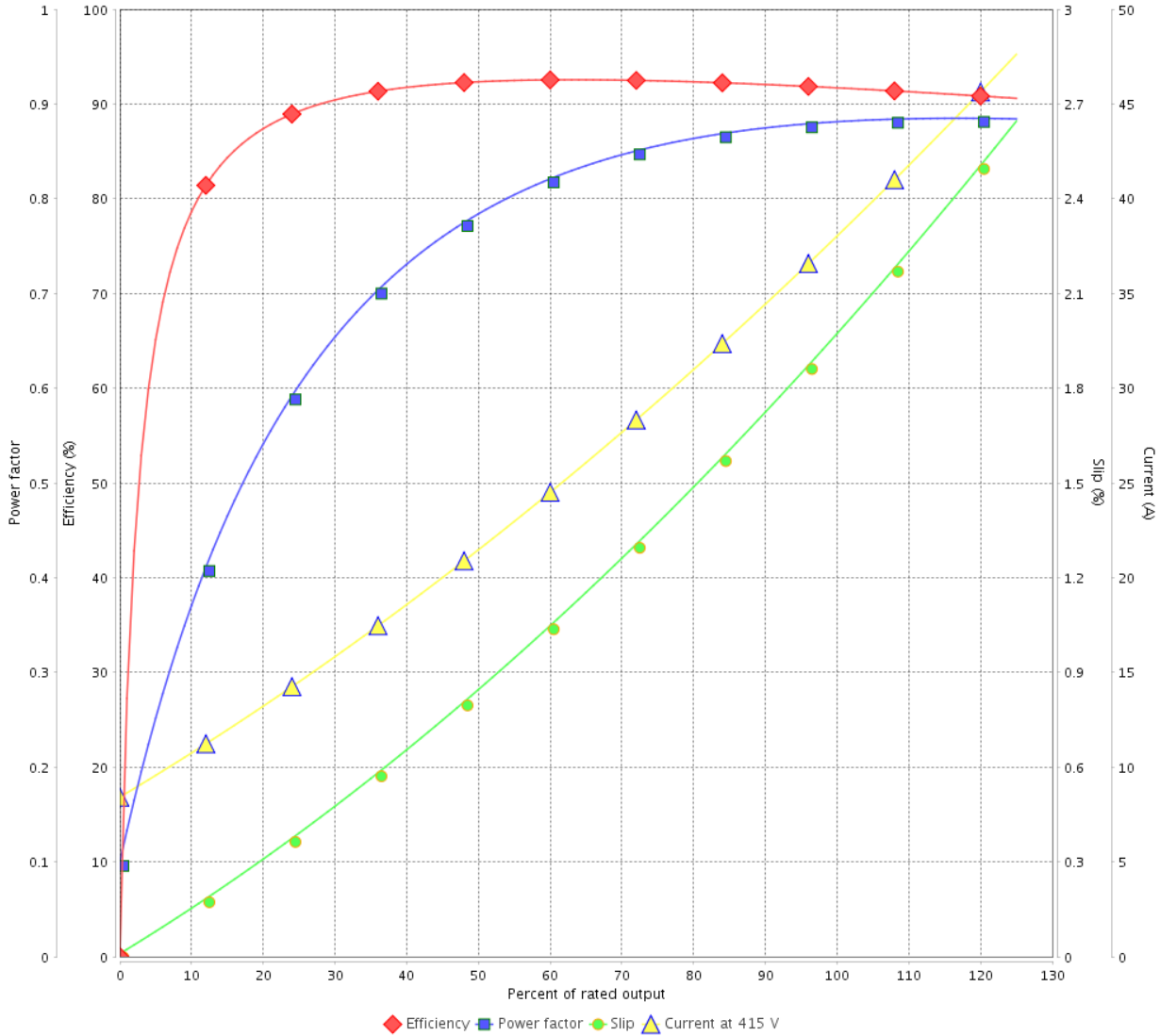
Customer :

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LOAD PERFORMANCE CURVE



Performance : 415 V 50 Hz 2P IE2

Rated current : 37.9 A
 LRC : 6.6
 Rated torque : 53.6 ft.lb
 Locked rotor torque : 220 %
 Breakdown torque : 260 %
 Rated speed : 2940 rpm

Moment of inertia (J) : 3.08 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



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LRC : 6.7	Duty cycle : Cont.(S1)
Rated torque : 44.4 ft.lb	Insulation class : F
Locked rotor torque : 250 %	Service factor : 1.15
Breakdown torque : 240 %	Temperature rise : 80 K
Rated speed : 3545 rpm	Design : B

Heating constant

Cooling constant

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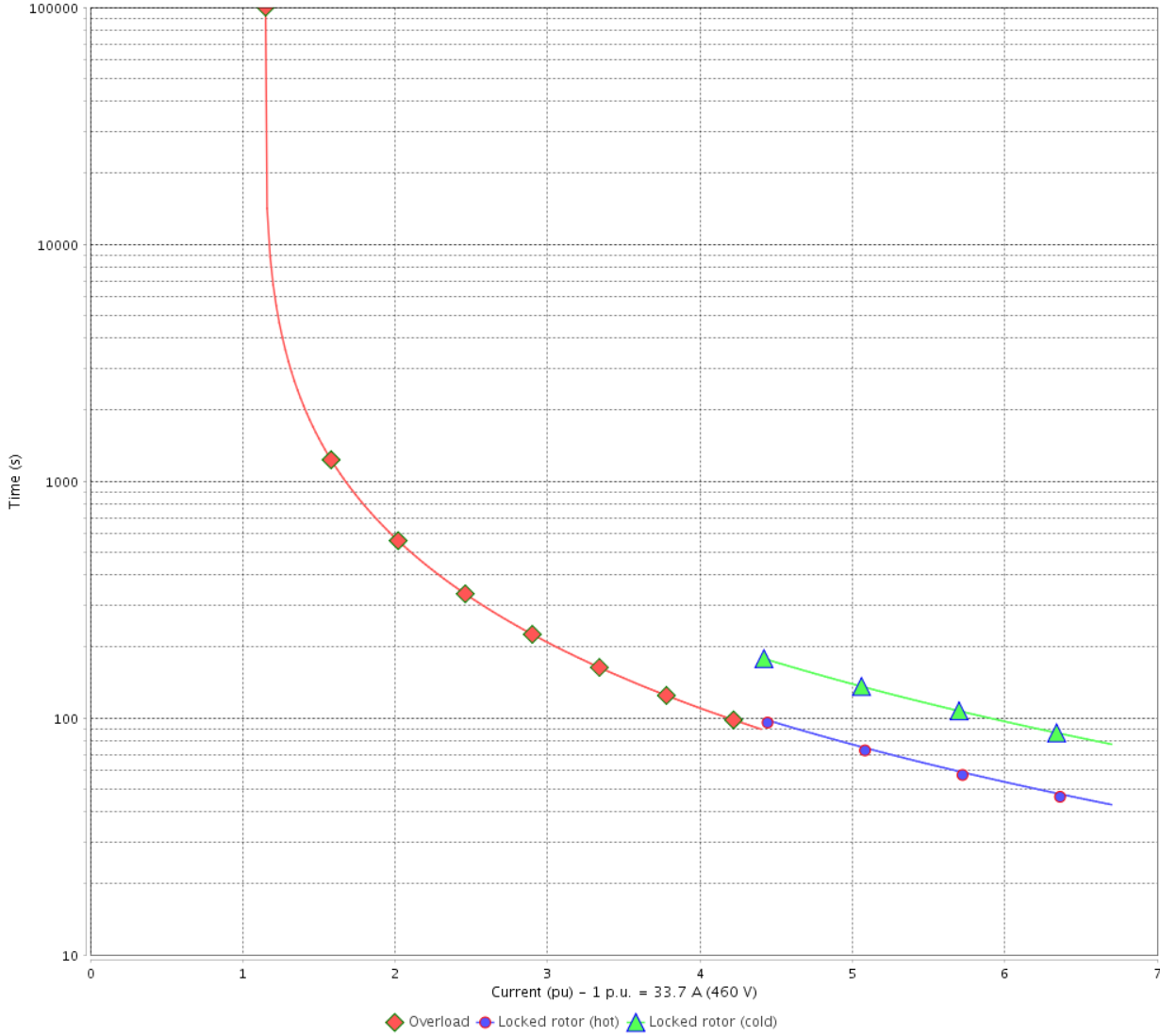
THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : _____

THERMAL LIMIT CURVE



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THERMAL LIMIT CURVE



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LRC : 5.1	Duty cycle : Cont.(S1)
Rated torque : 54.1 ft.lb	Insulation class : F
Locked rotor torque : 190 %	Service factor : 1.00
Breakdown torque : 190 %	Temperature rise : 80 K
Rated speed : 2910 rpm	Design : B

Heating constant

Cooling constant

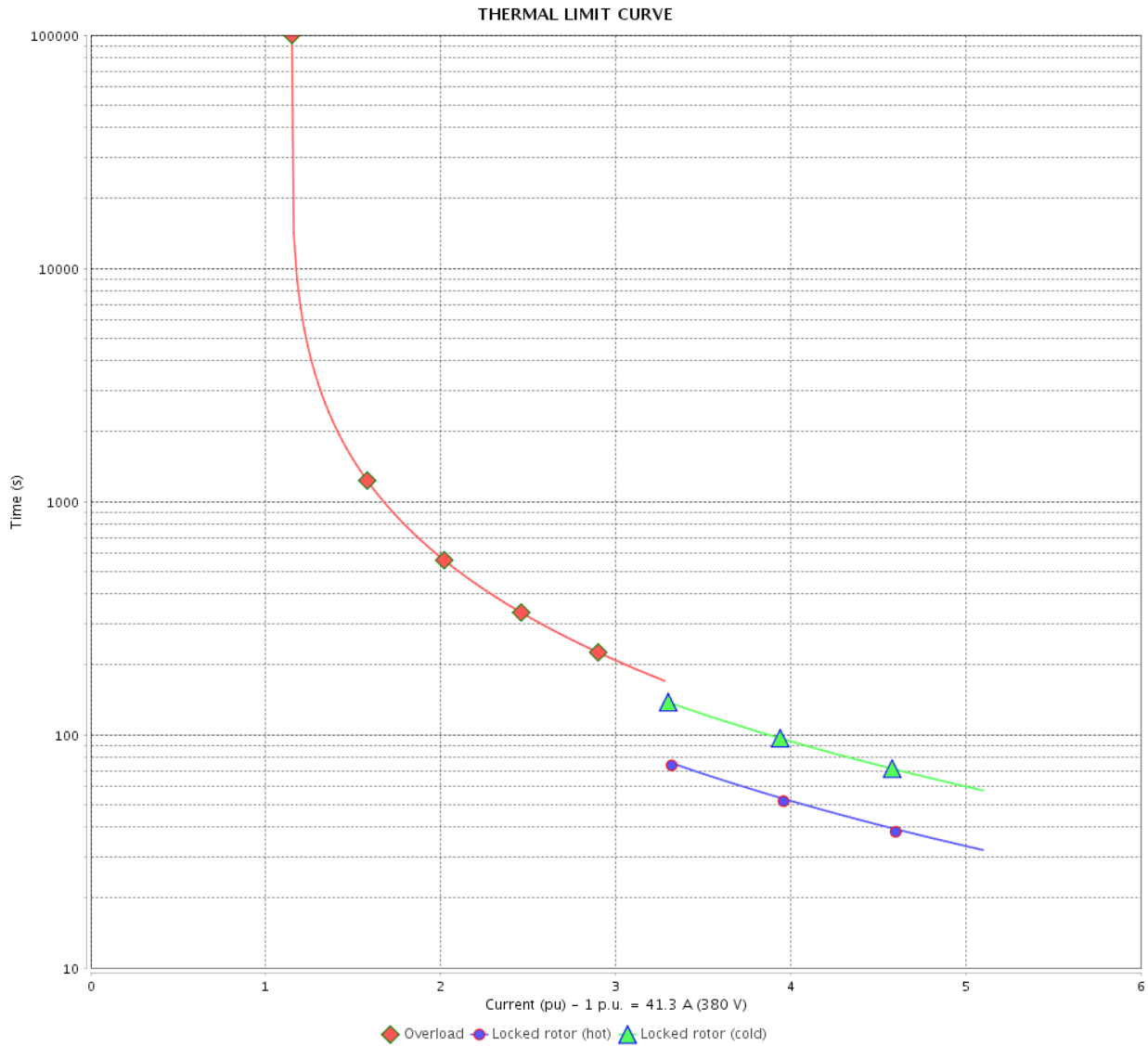
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Performance : 400 V 50 Hz 2P IE2

Rated current : 38.9 A	Moment of inertia (J) : 3.08 sq.ft.lb
LRC : 5.7	Duty cycle : Cont.(S1)
Rated torque : 53.8 ft.lb	Insulation class : F
Locked rotor torque : 200 %	Service factor : 1.00
Breakdown torque : 200 %	Temperature rise : 80 K
Rated speed : 2930 rpm	Design : B

Heating constant

Cooling constant

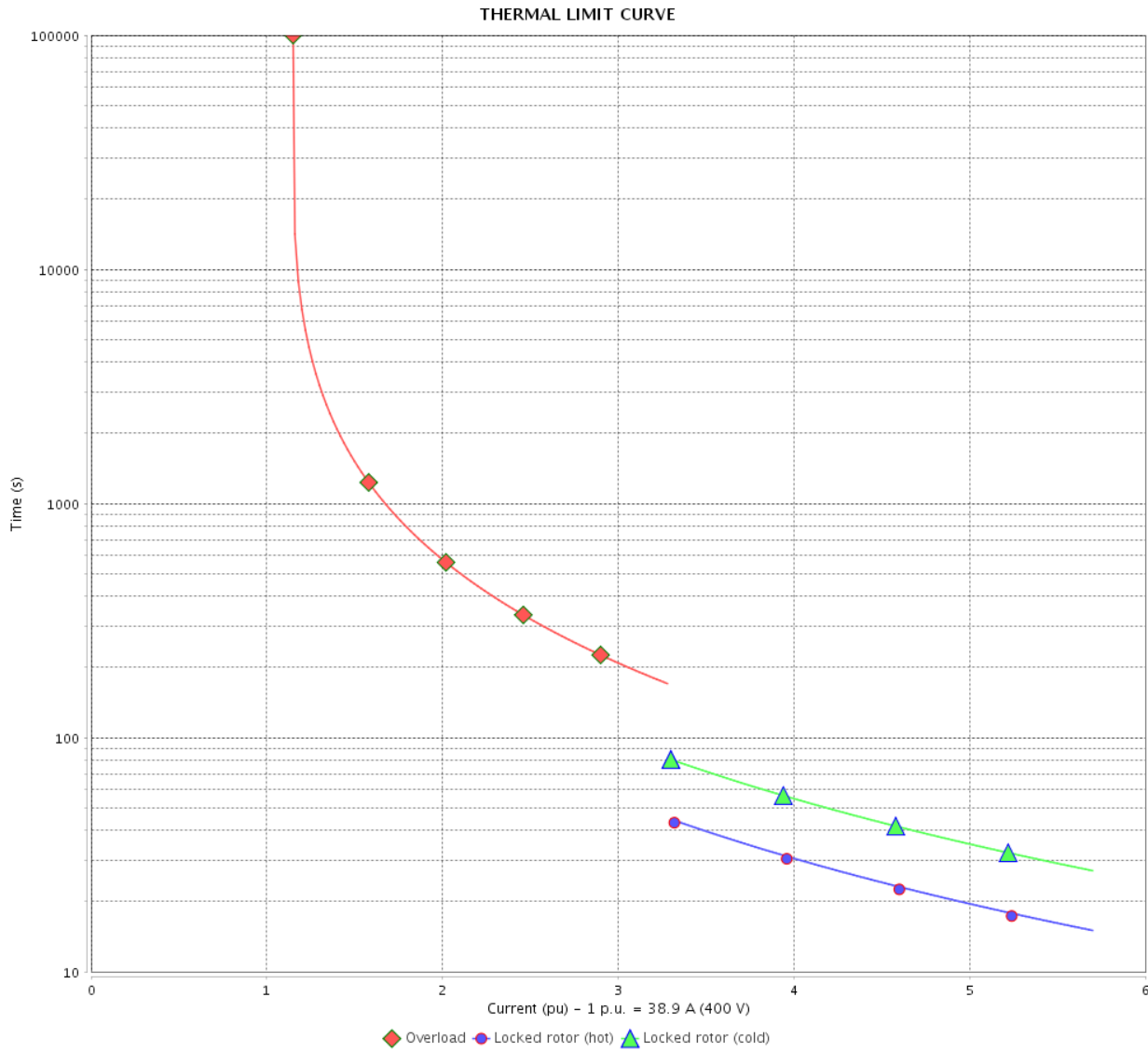
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Three Phase Induction Motor - Squirrel Cage



Customer : _____



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THERMAL LIMIT CURVE



Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase
 Product code : 14443172
 Catalog # : 03036XT3E286TS

Performance : 415 V 50 Hz 2P IE2

Rated current : 37.9 A	Moment of inertia (J) : 3.08 sq.ft.lb
LRC : 6.6	Duty cycle : Cont.(S1)
Rated torque : 53.6 ft.lb	Insulation class : F
Locked rotor torque : 220 %	Service factor : 1.00
Breakdown torque : 260 %	Temperature rise : 80 K
Rated speed : 2940 rpm	Design : B

Heating constant

Cooling constant

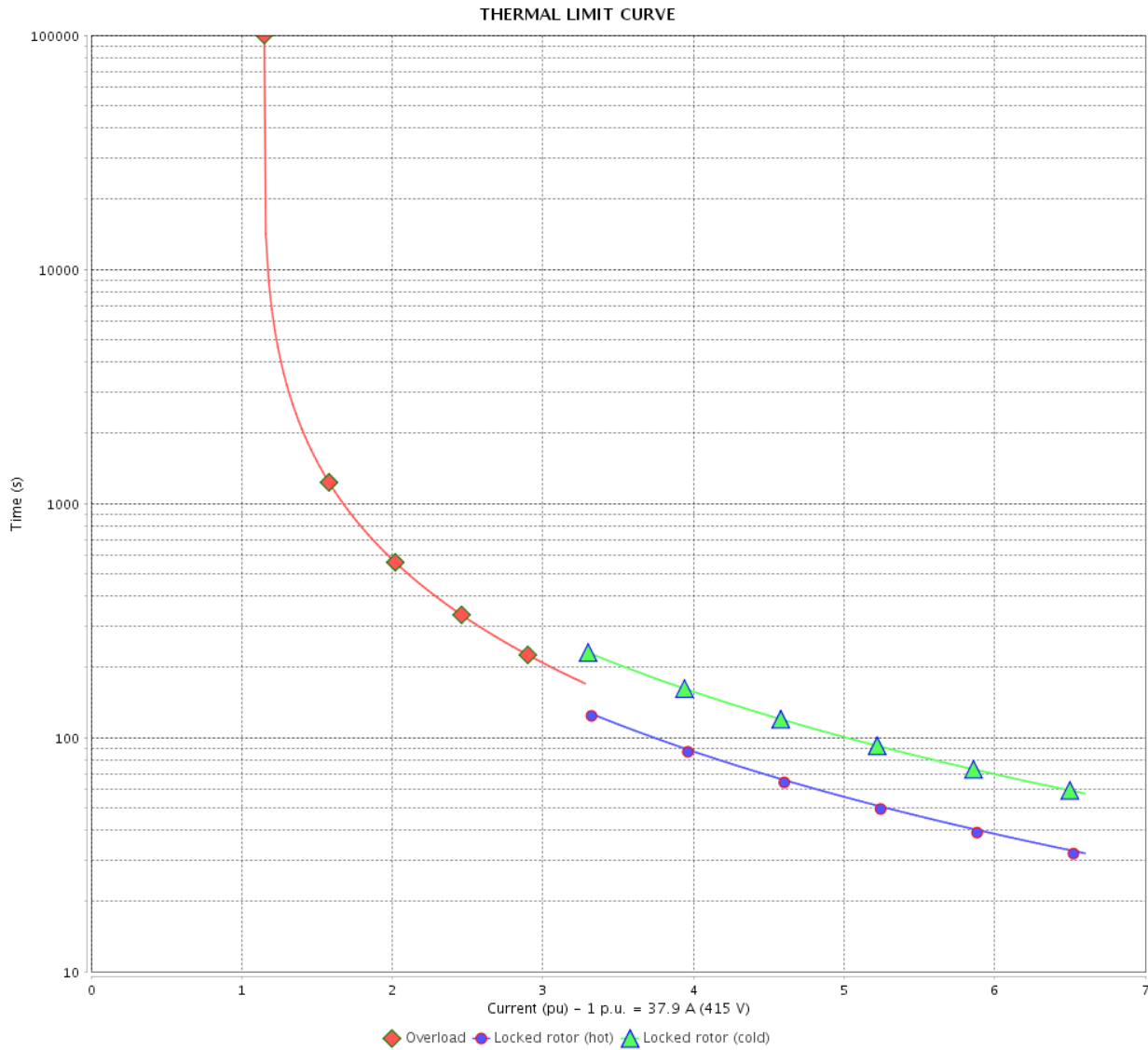
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Three Phase Induction Motor - Squirrel Cage



Customer : _____



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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

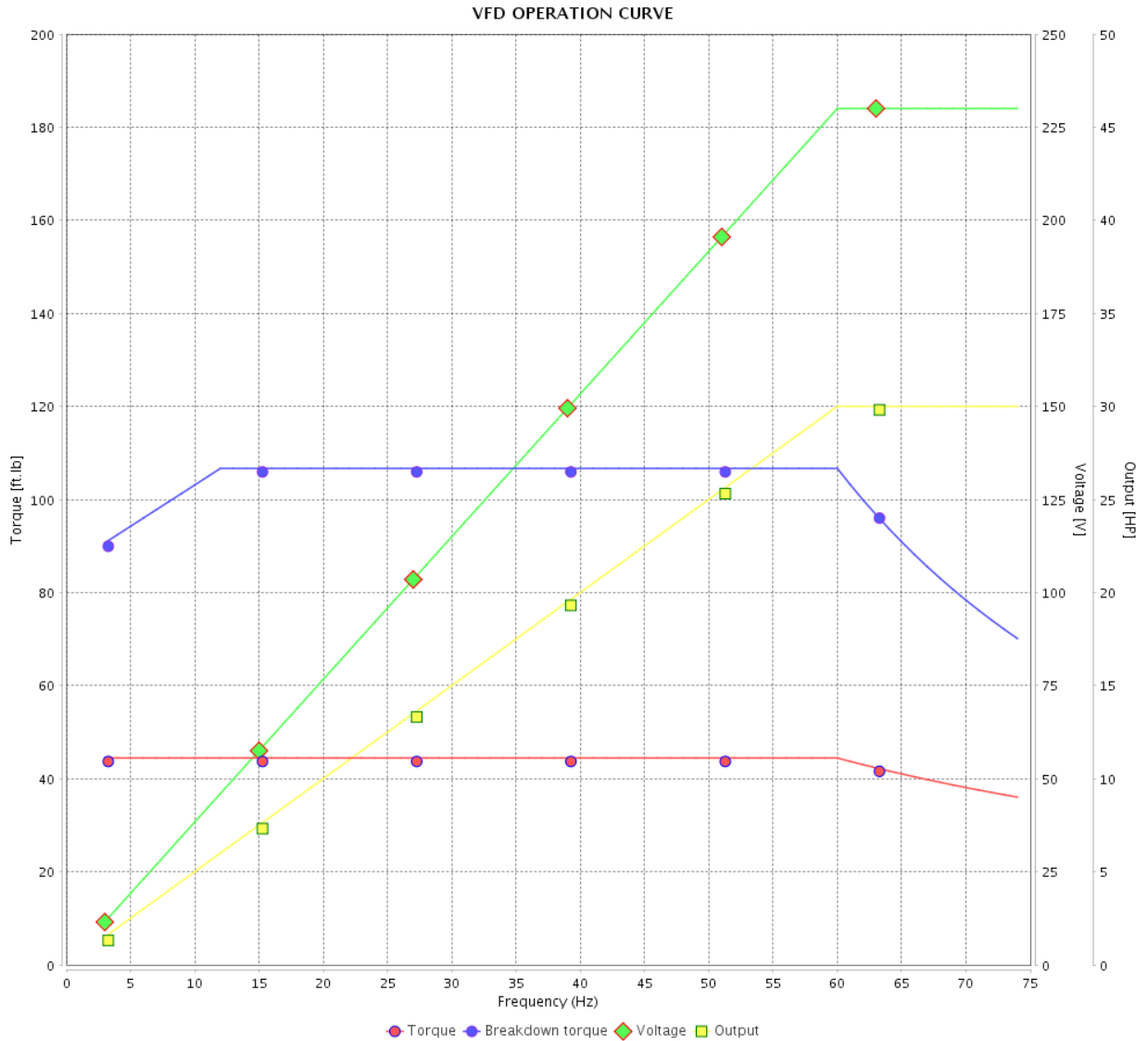


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Product line : NEMA Premium Efficiency Three-Phase

Product code : 14443172

Catalog # : 03036XT3E286TS



Performance : 230/460 V 60 Hz 2P

Rated current : 67.4/33.7 A
 LRC : 6.7
 Rated torque : 44.4 ft.lb
 Locked rotor torque : 250 %
 Breakdown torque : 240 %
 Rated speed : 3545 rpm

Moment of inertia (J) : 3.08 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



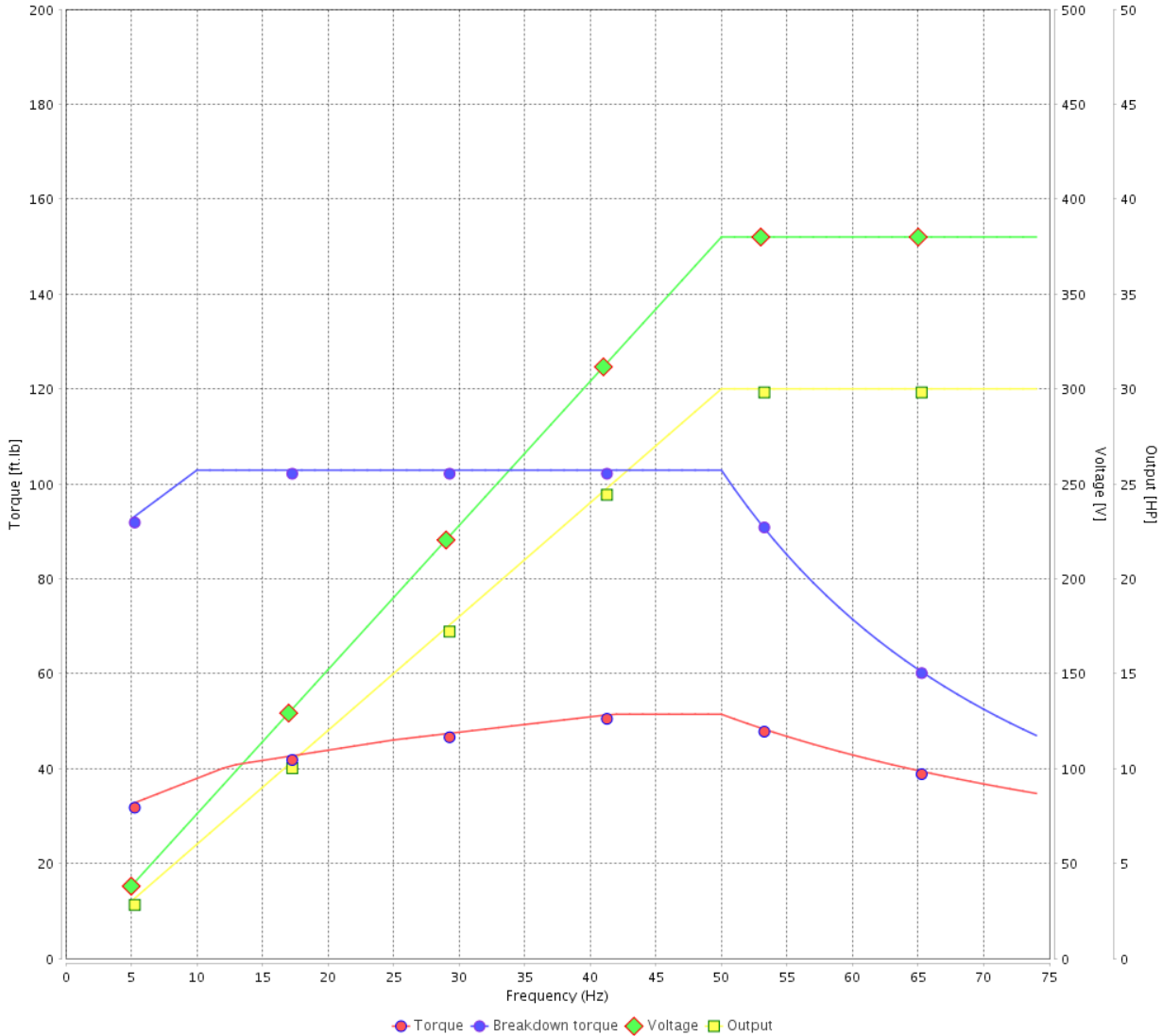
Customer : _____

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14443172

Catalog # : 03036XT3E286TS

VFD OPERATION CURVE



Performance : 380 V 50 Hz 2P IE1

Rated current : 41.3 A
 LRC : 5.1
 Rated torque : 54.1 ft.lb
 Locked rotor torque : 190 %
 Breakdown torque : 190 %
 Rated speed : 2910 rpm

Moment of inertia (J) : 3.08 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

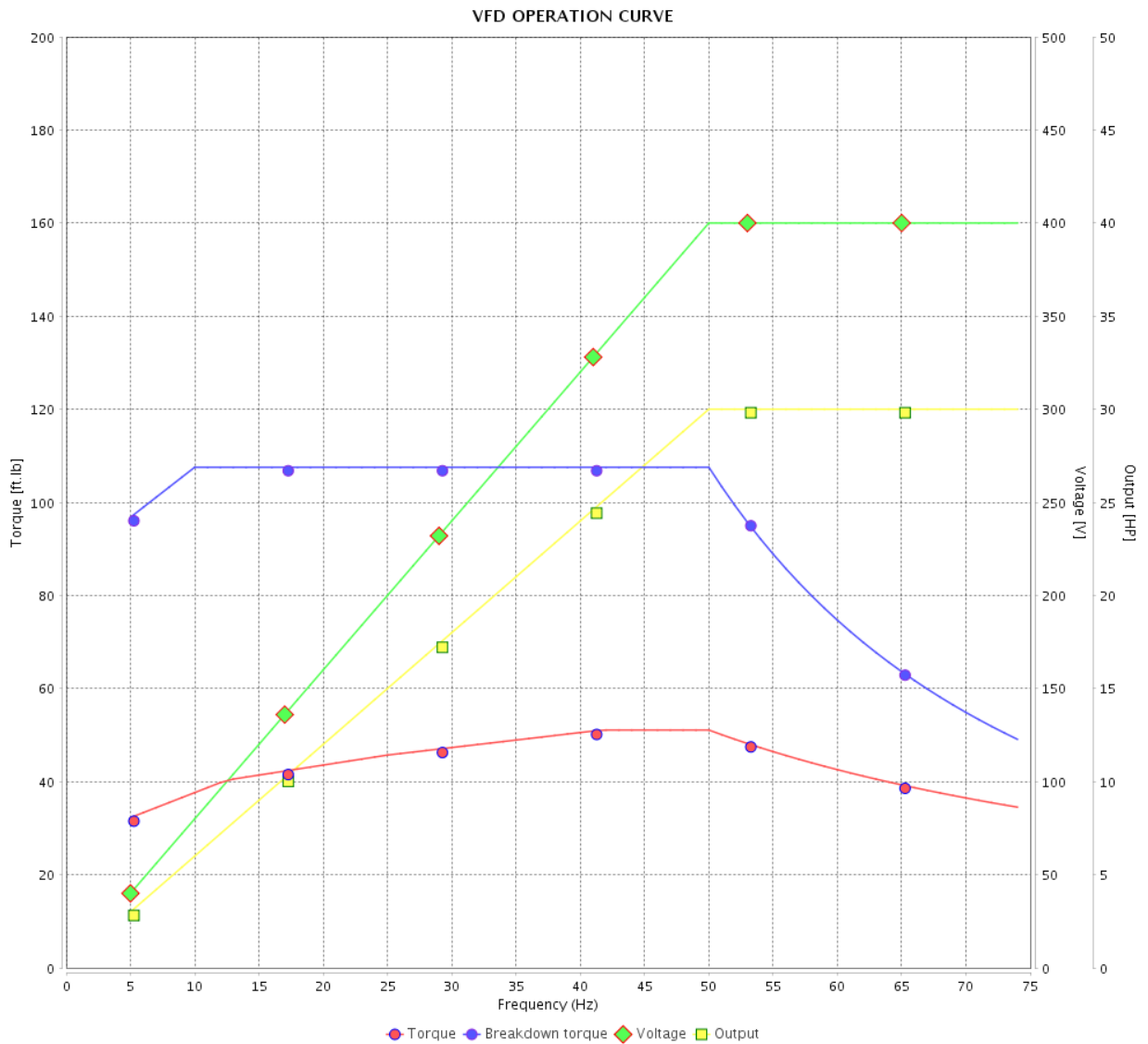


Customer :

Product line : NEMA Premium Efficiency Three-Phase

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Performance : 400 V 50 Hz 2P IE2

Rated current : 38.9 A
 LRC : 5.7
 Rated torque : 53.8 ft.lb
 Locked rotor torque : 200 %
 Breakdown torque : 200 %
 Rated speed : 2930 rpm

Moment of inertia (J) : 3.08 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



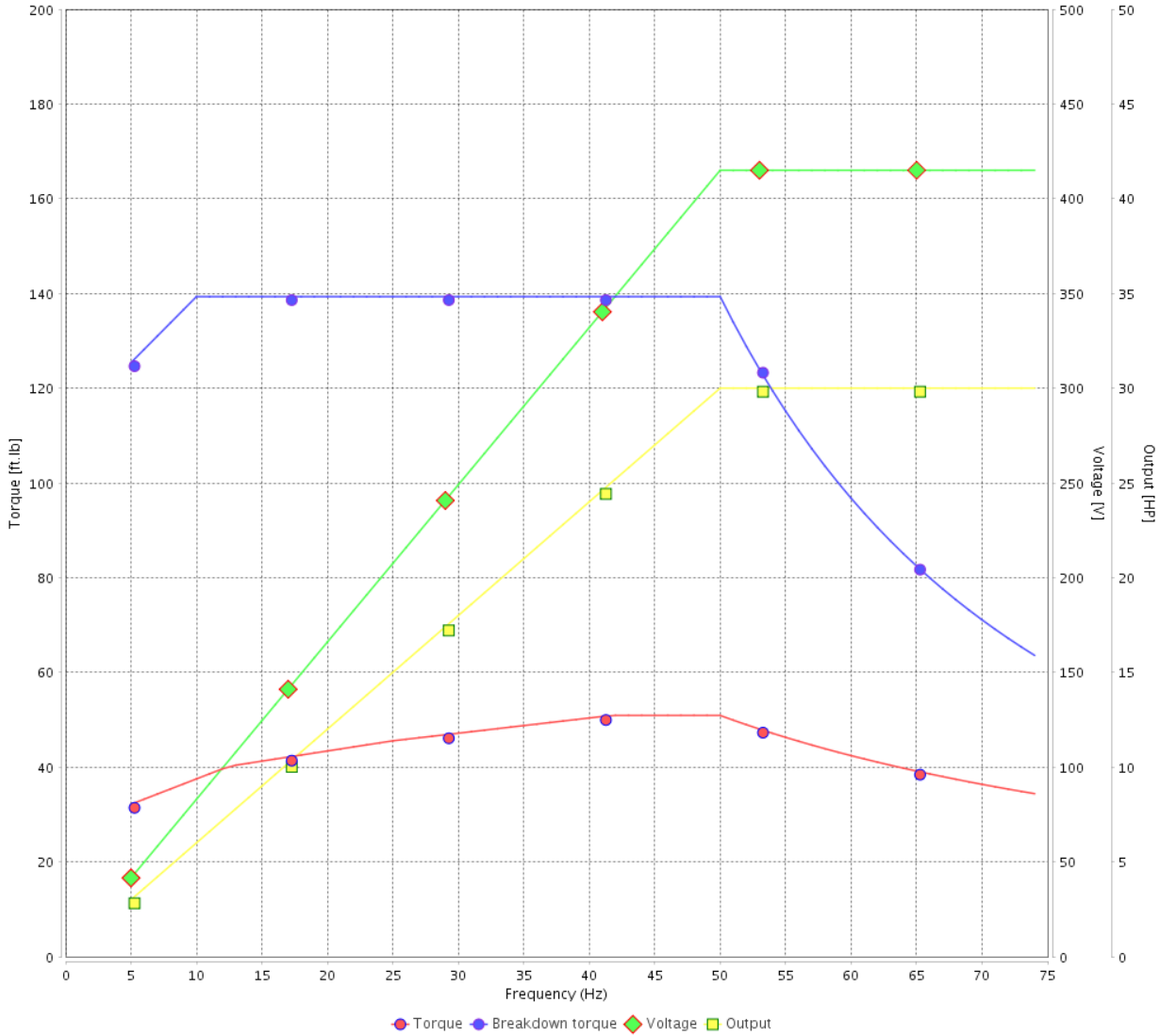
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VFD OPERATION CURVE

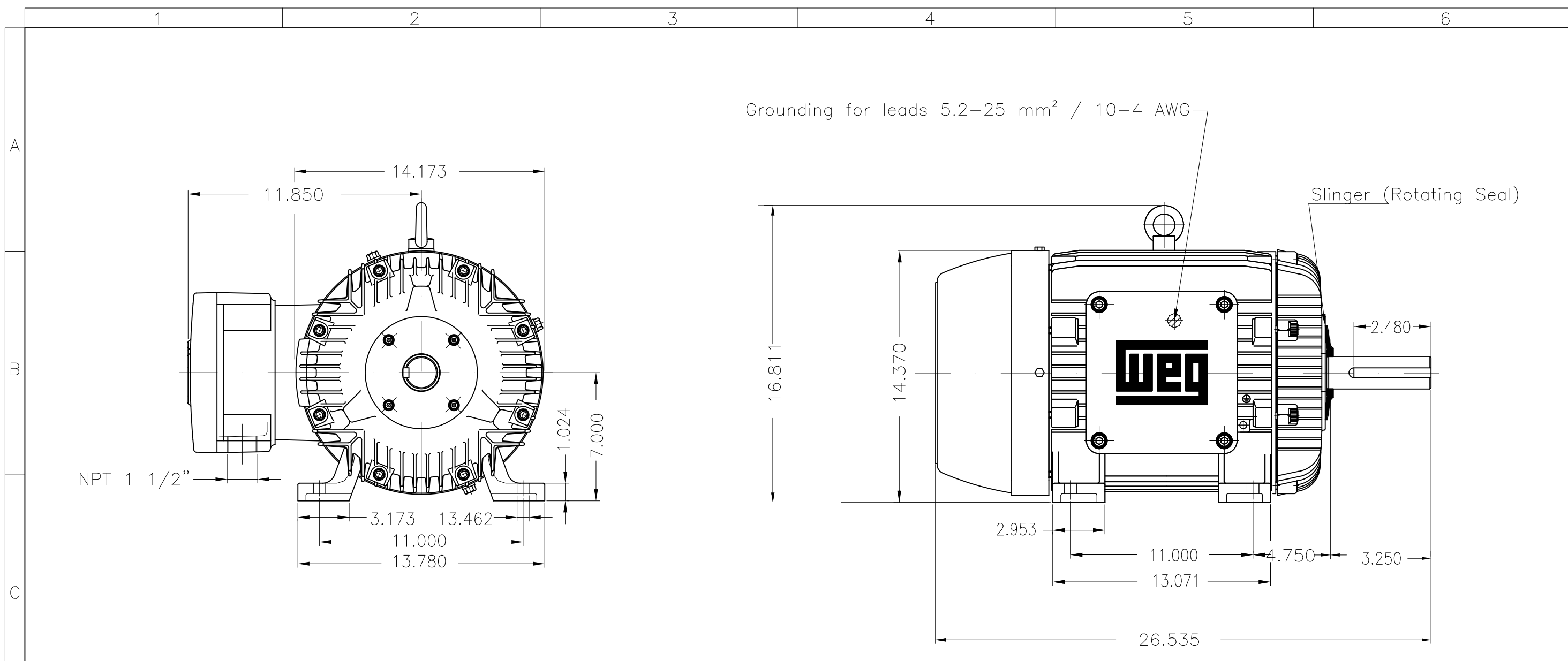


Performance : 415 V 50 Hz 2P IE2

Rated current : 37.9 A
 LRC : 6.6
 Rated torque : 53.6 ft.lb
 Locked rotor torque : 220 %
 Breakdown torque : 260 %
 Rated speed : 2940 rpm

Moment of inertia (J) : 3.08 sq.ft.lb
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Date				



Grounding for leads 5.2–25 mm² / 10–4 AWG

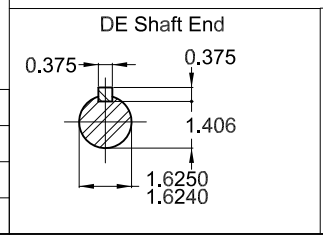
Slinger (Rotating Seal)

C

D

E

Color RAL 5009
 Painting plan 202P
 Mounting NEMA F-1
 Mounting B3R(D)



30 HP 02 Poles 60 Hz A

ECM	LOC	SUMMARY OF MODIFICATIONS	EXECUTED	CHECKED	RELEASED	DATE	VER
EXECUTED	PIRWBUSER	THREE PH. MOTOR EXPLOSION PROOF PREM. EFF.					
CHECKED		FRAME 286TS IP55 TEFC					
RELEASED							
REL DT.	WMO	Jaragua do Sul	Product Engineering	SHEET	1 / 1		

PREVIEW
WDD

MADE IN BRAZIL

**W21X NEMA**
Premium

14443172



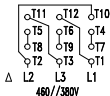
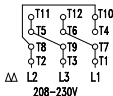
LISTED

CC029A

Inverter Duty Motor
Severe Duty

MODEL 03036XT3E286TS

PH 3	FR 286TS		
HP(kW) 30.0(22.0)		HZ 60	IP55
V 230/460		A 67.4/33.7	
RPM 3545		NEMA NOM EFF 93.0%	
PF 0.88		SFA 77.5/38.8	DES B
INS CL F Δ T 80 K		SF 1.15	ENCL TEFC
DUTY CONT.		CODE G	ALT 1000 m.a.s.l.
AMB 40°C	USABLE @208V	74.5 A	SF 1.00
AMB 55°C SF1.0 -bearings lub interval reduced by a factor of 50%			
30HP 22kW 50Hz 380V 41.3A 2910RPM SF1.00 EFF 91.0% (IE1)			



→ 6311-C3 MOBIL POLYREX EM
→ 6211-C3 18 g 11517 h

507 Lbs



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, 6:1CT, 1.0SF, T3C, AMB 40°C.