

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



Customer					
Product line		: NEMA Premium Efficiency Three-Phase		Product code : 12408384	
				Catalog # : 30036XT3G449TS	
Frame		: 449TS		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 : 3014 lb	
Protection degree		: IP55		Moment of inertia (J) : 58.1 sq.ft.lb	
Design		: A			
Output [HP]	300	250	250	250	250
Poles	2	2	2	2	2
Frequency [Hz]	60	50	50	50	50
Rated voltage [V]	460	380	400	415	415
Rated current [A]	320	327	314	302	302
L. R. Amperes [A]	2688	2518	2732	2869	2869
LRC [A]	8.4x(Code J)	7.7x(Code H)	8.7x(Code J)	9.5x(Code K)	9.5x(Code K)
No load current [A]	81.3	80.0	86.0	90.0	90.0
Rated speed [RPM]	3575	2975	2975	2980	2980
Slip [%]	0.69	0.83	0.83	0.67	0.67
Rated torque [ft.lb]	441	441	441	441	441
Locked rotor torque [%]	280	240	260	280	280
Breakdown torque [%]	340	320	350	380	380
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)	25s (cold) 14s (hot)	25s (cold) 14s (hot)	25s (cold) 14s (hot)	25s (cold) 14s (hot)
Noise level ²	84.0 dB(A)	84.0 dB(A)	84.0 dB(A)	84.0 dB(A)	84.0 dB(A)
Efficiency (%)	25%	94.0	94.4	94.4	94.0
	50%	94.5	94.5	94.5	94.5
	75%	95.4	95.4	95.4	95.4
	100%	95.8	95.4	95.4	95.8
Power Factor	25%	0.59	0.59	0.56	0.54
	50%	0.82	0.82	0.80	0.79
	75%	0.88	0.88	0.87	0.86
	100%	0.90	0.90	0.89	0.89
Bearing type		Drive end : 6314 C3	Non drive end : 6314 C3	Foundation loads	
Sealing		: Oil Seal	: Lip Seal	Max. traction : 2956 lb	
Lubrication interval		: 3604 h	: 3604 h	Max. compression : 5970 lb	
Lubricant amount		: 27 g	: 27 g		
Lubricant type		: Mobil Polyrex EM			
Notes					
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



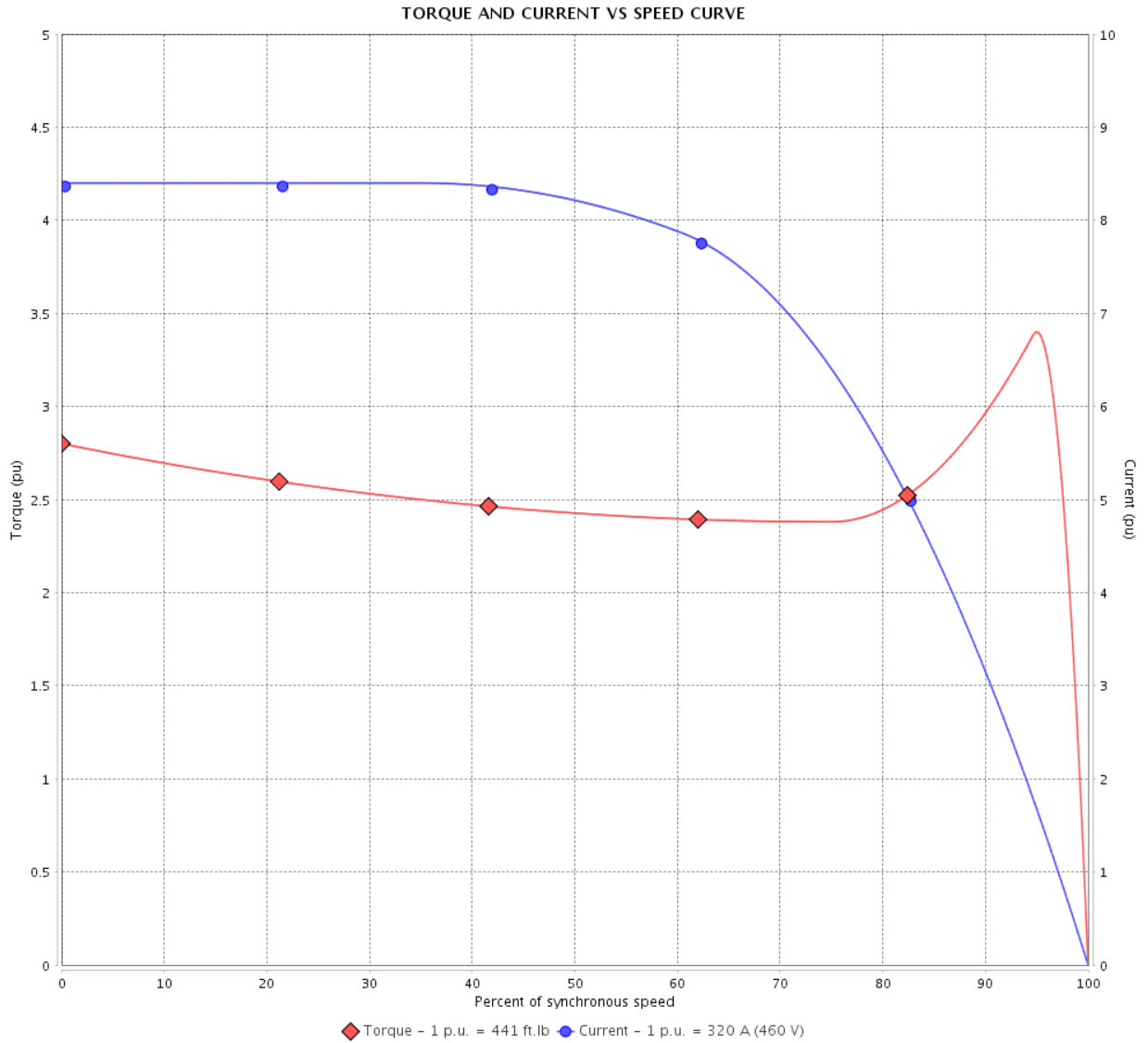
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12408384

Catalog # : 30036XT3G449TS



Performance : 460 V 60 Hz 2P

Rated current	: 320 A	Moment of inertia (J)	: 58.1 sq.ft.lb
LRC	: 8.4	Duty cycle	: Cont.(S1)
Rated torque	: 441 ft.lb	Insulation class	: F
Locked rotor torque	: 280 %	Service factor	: 1.15
Breakdown torque	: 340 %	Temperature rise	: 80 K
Rated speed	: 3575 rpm	Design	: A

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

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TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



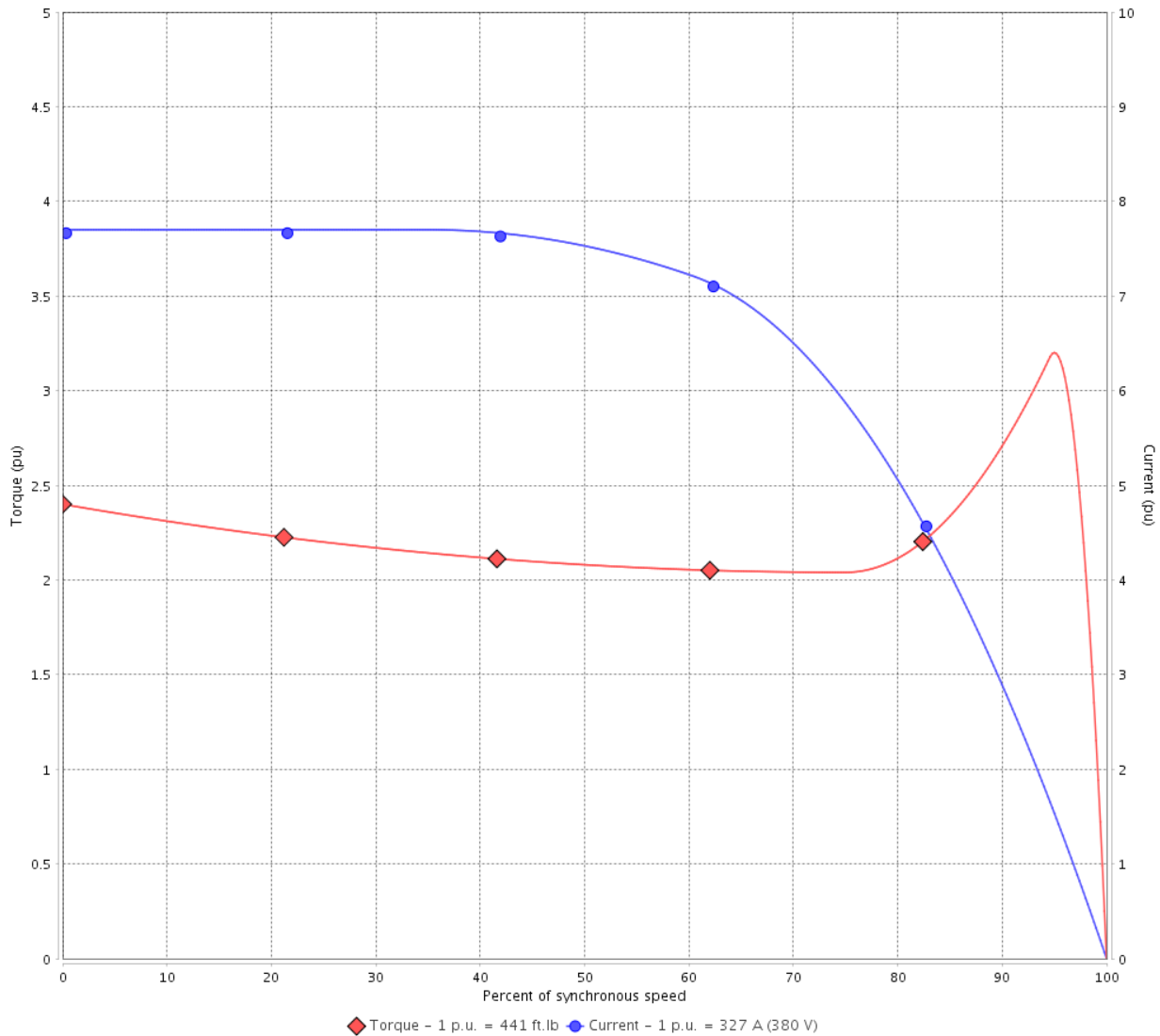
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12408384

Catalog # : 30036XT3G449TS

TORQUE AND CURRENT VS SPEED CURVE



Performance : 380 V 50 Hz 2P IE2

Rated current	: 327 A	Moment of inertia (J)	: 58.1 sq.ft.lb
LRC	: 7.7	Duty cycle	: Cont.(S1)
Rated torque	: 441 ft.lb	Insulation class	: F
Locked rotor torque	: 240 %	Service factor	: 1.00
Breakdown torque	: 320 %	Temperature rise	: 80 K
Rated speed	: 2975 rpm	Design	: A

Locked rotor time : 25s (cold) 14s (hot)

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TORQUE AND CURRENT VS SPEED CURVE



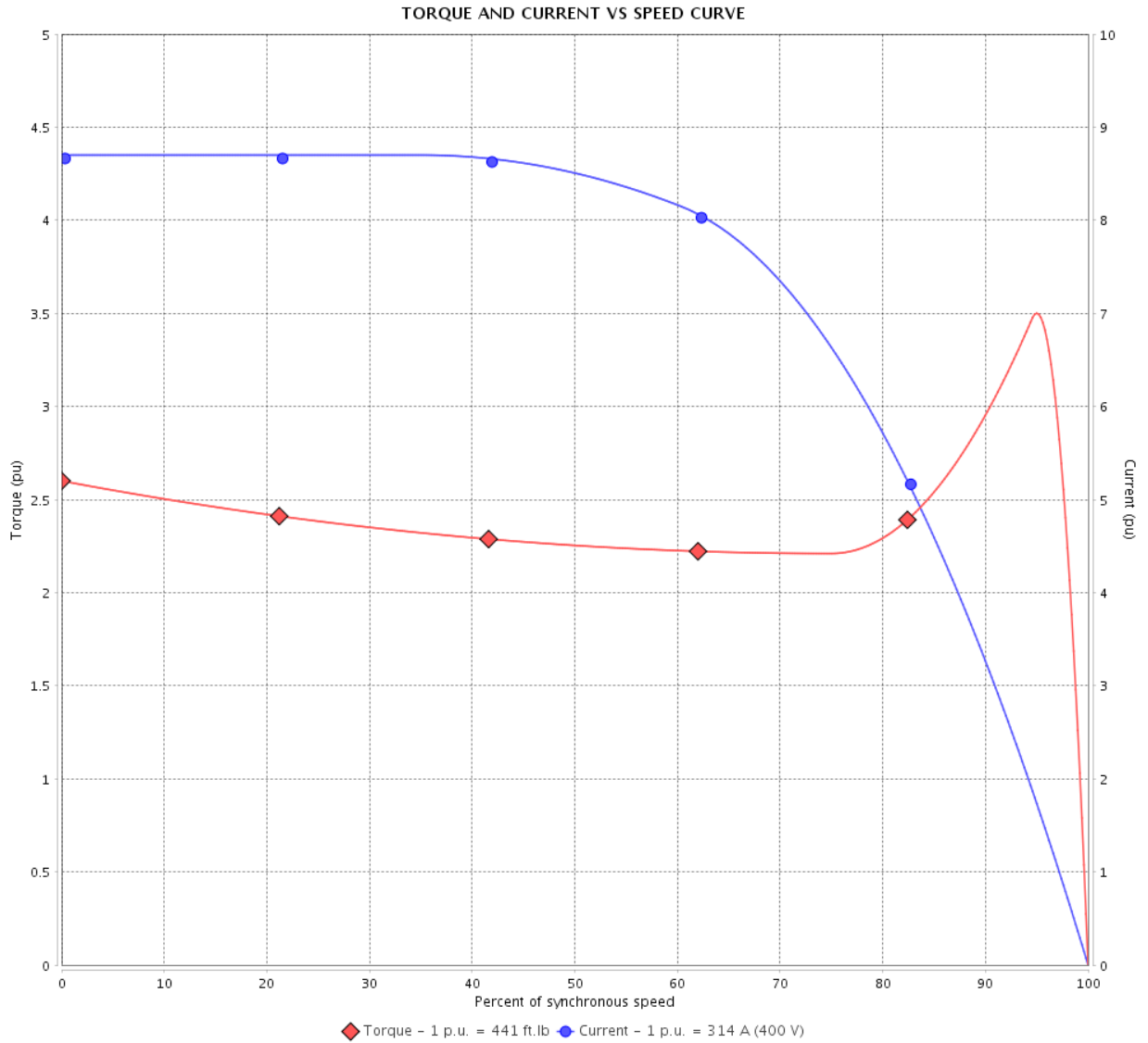
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12408384

Catalog # : 30036XT3G449TS



Performance : 400 V 50 Hz 2P IE2

Rated current	: 314 A	Moment of inertia (J)	: 58.1 sq.ft.lb
LRC	: 8.7	Duty cycle	: Cont.(S1)
Rated torque	: 441 ft.lb	Insulation class	: F
Locked rotor torque	: 260 %	Service factor	: 1.00
Breakdown torque	: 350 %	Temperature rise	: 80 K
Rated speed	: 2975 rpm	Design	: A

Locked rotor time : 25s (cold) 14s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

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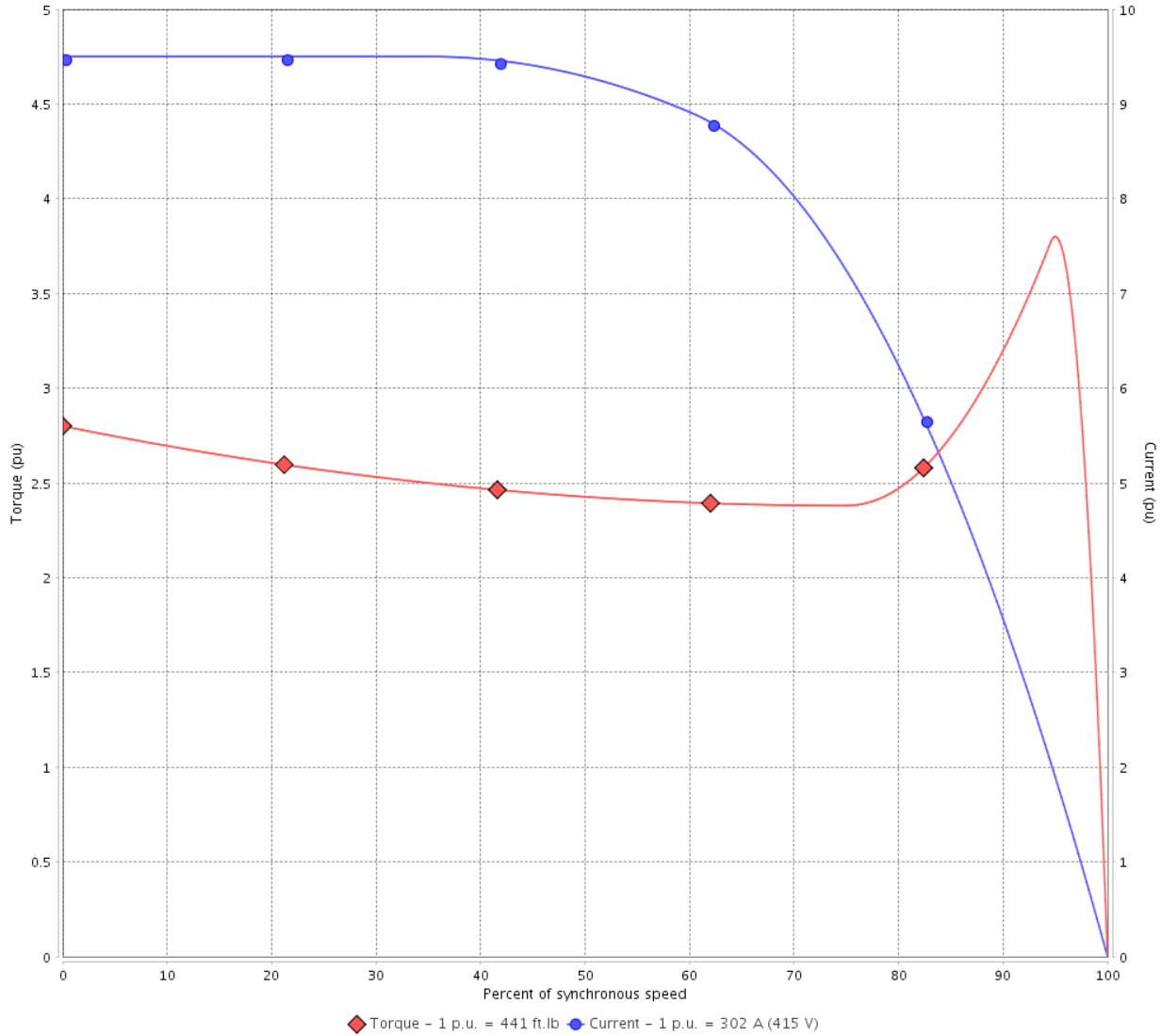
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12408384

Catalog # : 30036XT3G449TS

TORQUE AND CURRENT VS SPEED CURVE



Performance : 415 V 50 Hz 2P IE3

Rated current	: 302 A	Moment of inertia (J)	: 58.1 sq.ft.lb
LRC	: 9.5	Duty cycle	: Cont.(S1)
Rated torque	: 441 ft.lb	Insulation class	: F
Locked rotor torque	: 280 %	Service factor	: 1.00
Breakdown torque	: 380 %	Temperature rise	: 80 K
Rated speed	: 2980 rpm	Design	: A

Locked rotor time : 25s (cold) 14s (hot)

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LOAD PERFORMANCE CURVE

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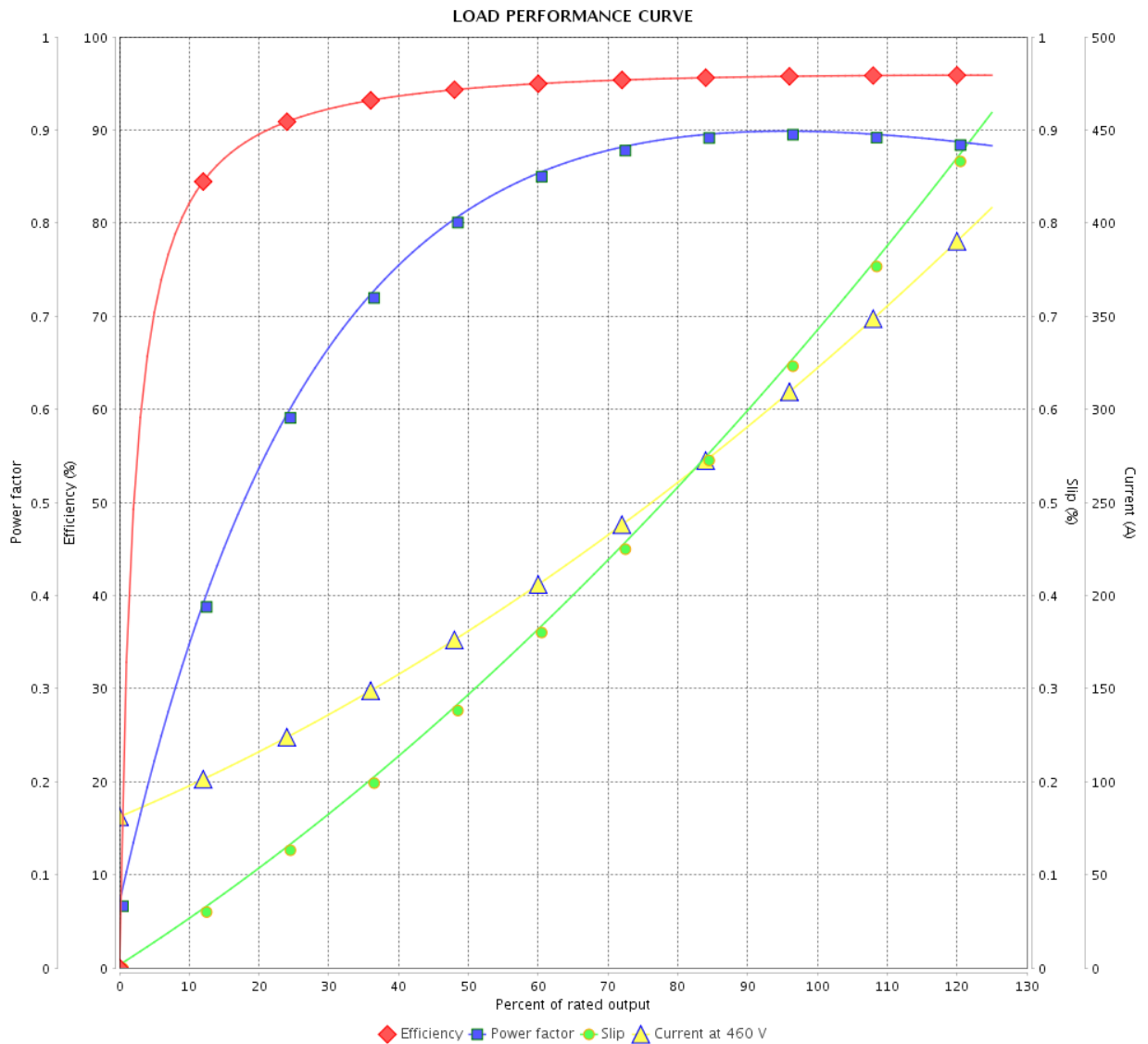


Customer : _____

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12408384

Catalog # : 30036XT3G449TS



Performance : 460 V 60 Hz 2P

Rated current : 320 A
 LRC : 8.4
 Rated torque : 441 ft.lb
 Locked rotor torque : 280 %
 Breakdown torque : 340 %
 Rated speed : 3575 rpm

Moment of inertia (J) : 58.1 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.15
 Temperature rise : 80 K
 Design : A

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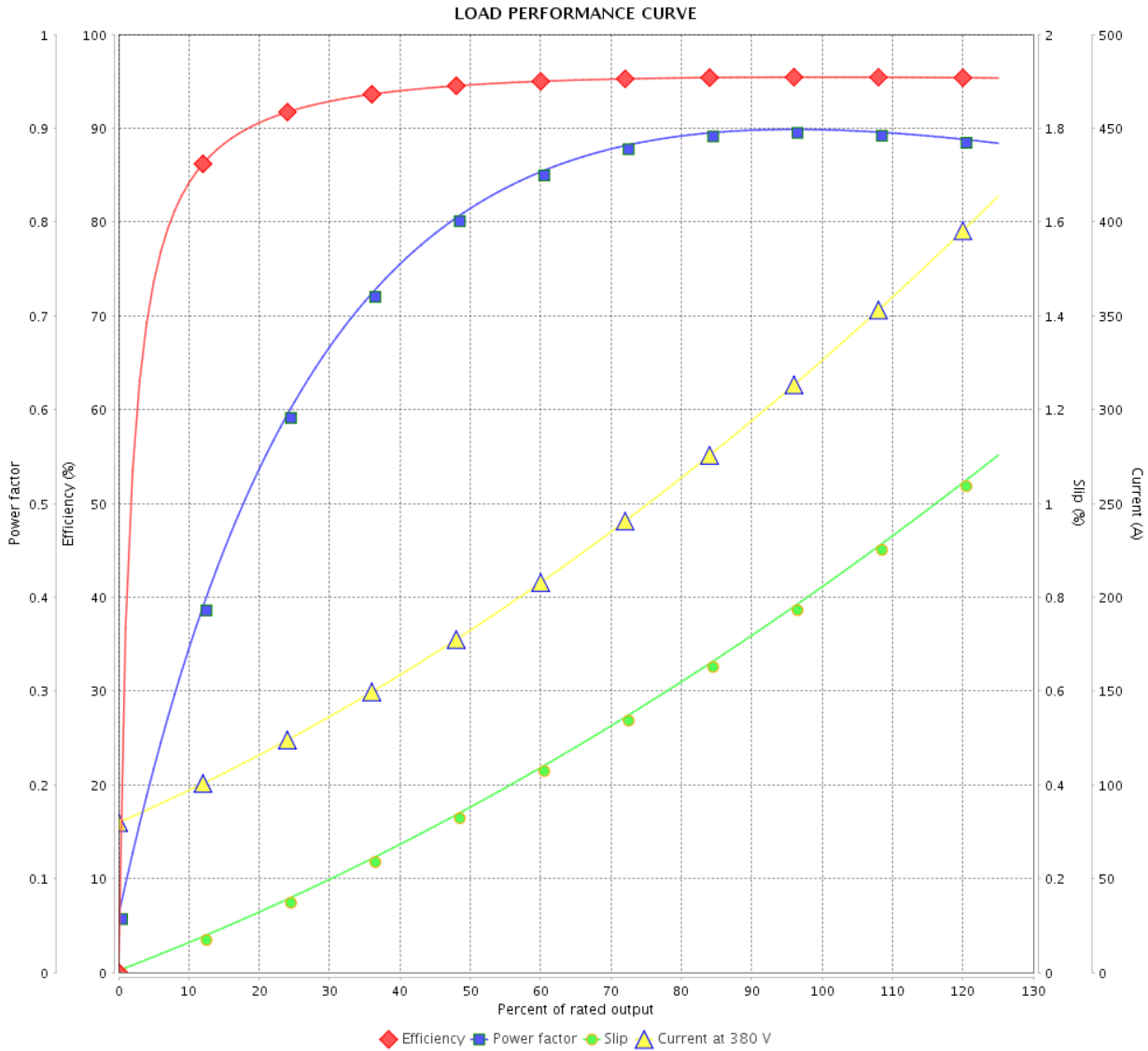


Customer : _____

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12408384

Catalog # : 30036XT3G449TS



Performance : 380 V 50 Hz 2P IE2

Rated current : 327 A
 LRC : 7.7
 Rated torque : 441 ft.lb
 Locked rotor torque : 240 %
 Breakdown torque : 320 %
 Rated speed : 2975 rpm

Moment of inertia (J) : 58.1 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : A

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Three Phase Induction Motor - Squirrel Cage

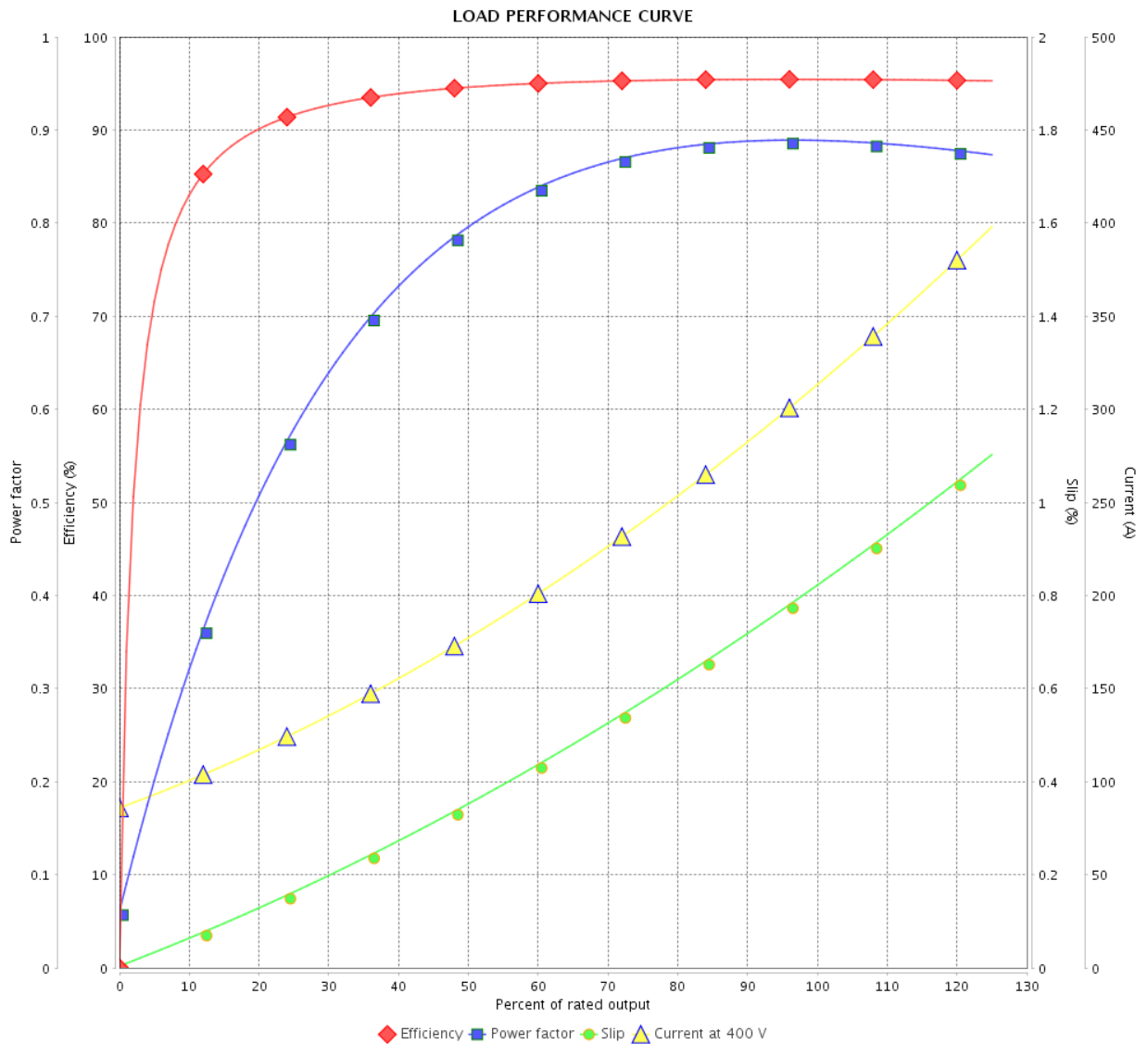


Customer : _____

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Catalog # : 30036XT3G449TS



Performance : 400 V 50 Hz 2P IE2

Rated current : 314 A
 LRC : 8.7
 Rated torque : 441 ft.lb
 Locked rotor torque : 260 %
 Breakdown torque : 350 %
 Rated speed : 2975 rpm

Moment of inertia (J) : 58.1 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : A

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Three Phase Induction Motor - Squirrel Cage

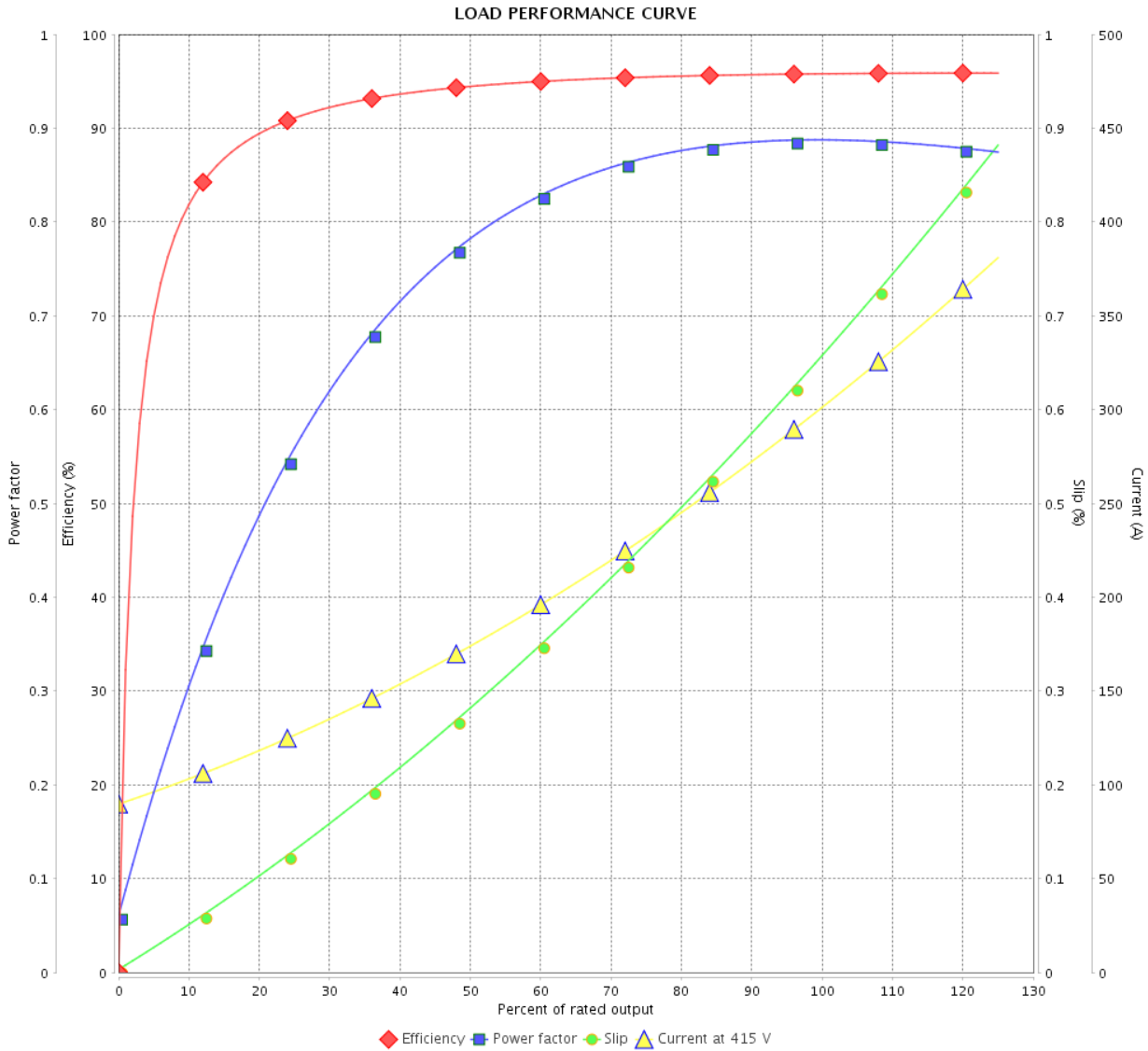


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 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
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THERMAL LIMIT CURVE



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Locked rotor torque : 280 %	Service factor : 1.15
Breakdown torque : 340 %	Temperature rise : 80 K
Rated speed : 3575 rpm	Design : A

Heating constant

Cooling constant

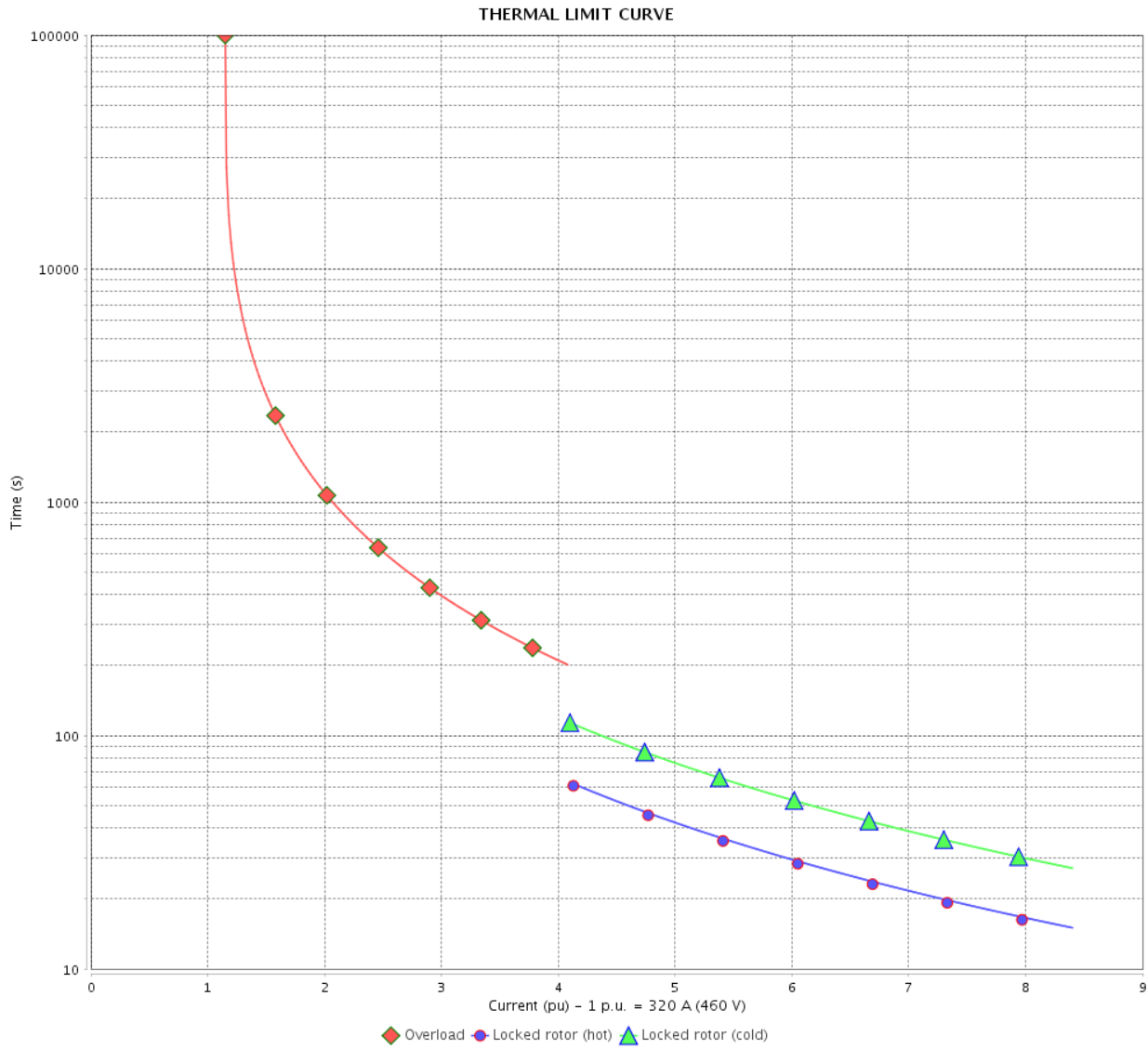
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Performance : 380 V 50 Hz 2P IE2

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 LRC : 7.7
 Rated torque : 441 ft.lb
 Locked rotor torque : 240 %
 Breakdown torque : 320 %
 Rated speed : 2975 rpm

Moment of inertia (J) : 58.1 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : A

Heating constant

Cooling constant

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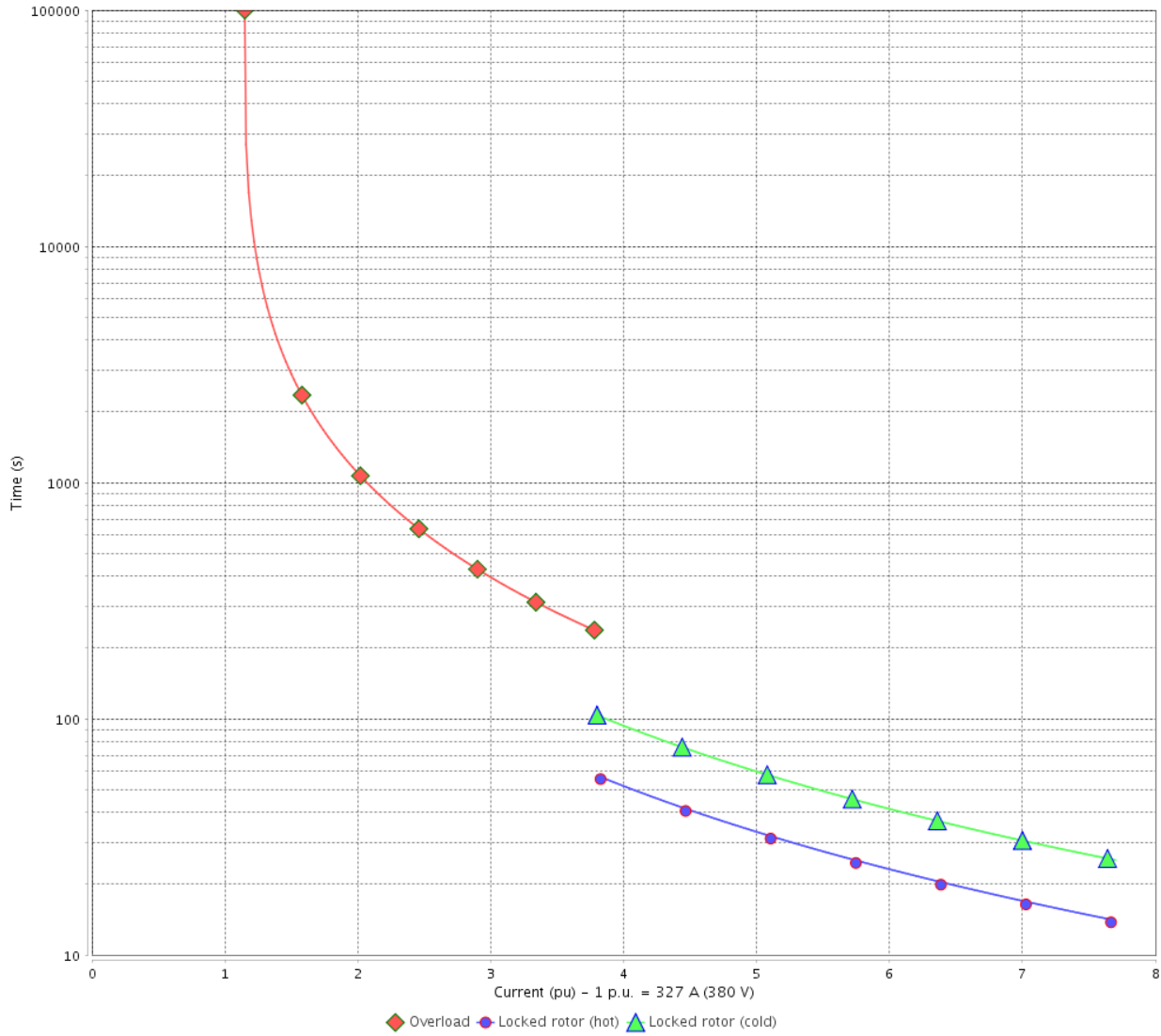
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Rated current : 314 A	Moment of inertia (J) : 58.1 sq.ft.lb
LRC : 8.7	Duty cycle : Cont.(S1)
Rated torque : 441 ft.lb	Insulation class : F
Locked rotor torque : 260 %	Service factor : 1.00
Breakdown torque : 350 %	Temperature rise : 80 K
Rated speed : 2975 rpm	Design : A

Heating constant

Cooling constant

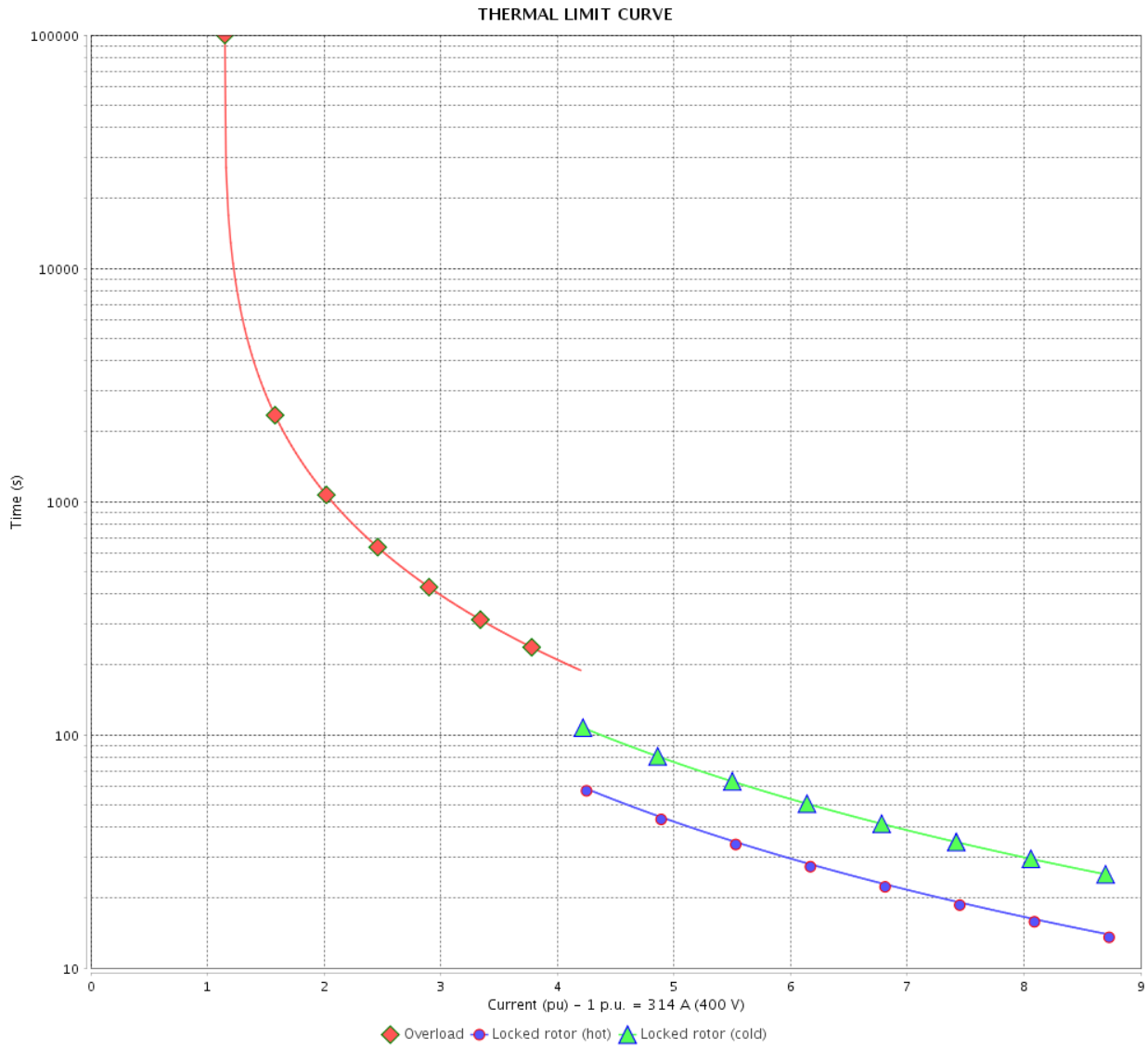
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Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase
 Product code : 12408384
 Catalog # : 30036XT3G449TS

Performance : 415 V 50 Hz 2P IE3

Rated current : 302 A	Moment of inertia (J) : 58.1 sq.ft.lb
LRC : 9.5	Duty cycle : Cont.(S1)
Rated torque : 441 ft.lb	Insulation class : F
Locked rotor torque : 280 %	Service factor : 1.00
Breakdown torque : 380 %	Temperature rise : 80 K
Rated speed : 2980 rpm	Design : A

Heating constant

Cooling constant

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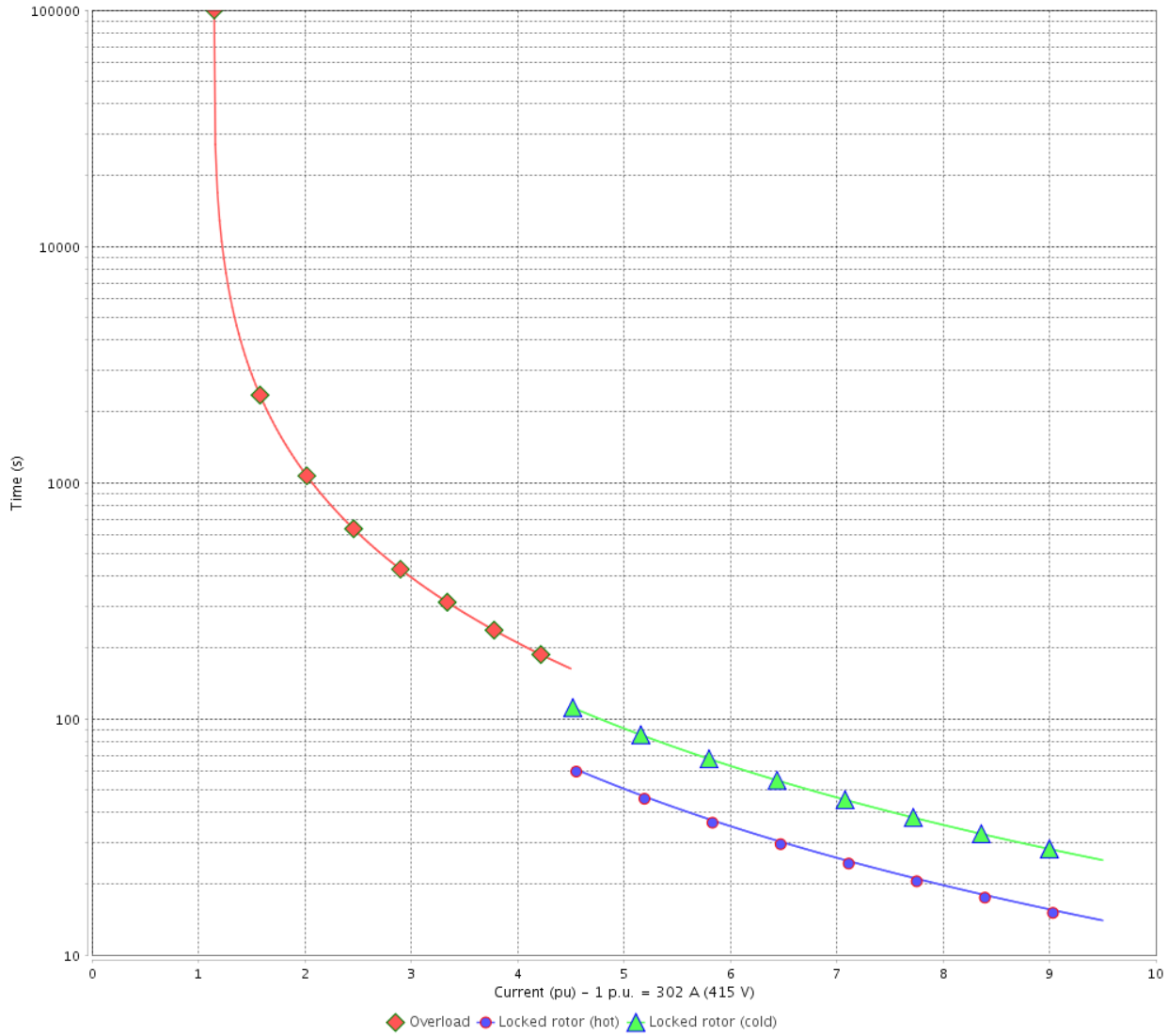
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Three Phase Induction Motor - Squirrel Cage



Customer : _____

THERMAL LIMIT CURVE



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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

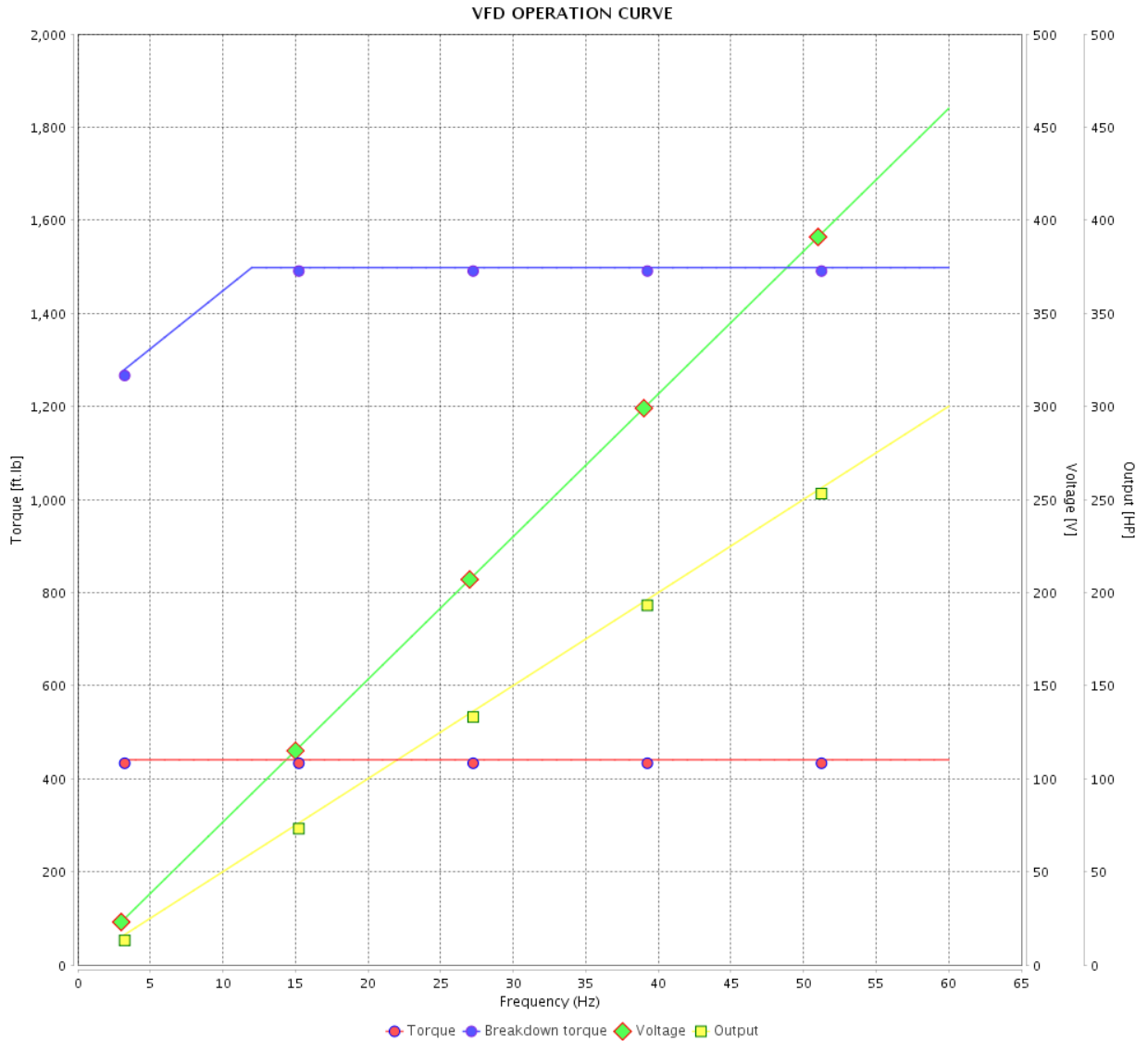


Customer :

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Catalog # : 30036XT3G449TS



Performance : 460 V 60 Hz 2P

Rated current : 320 A
 LRC : 8.4
 Rated torque : 441 ft.lb
 Locked rotor torque : 280 %
 Breakdown torque : 340 %
 Rated speed : 3575 rpm

Moment of inertia (J) : 58.1 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.15
 Temperature rise : 80 K
 Design : A

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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



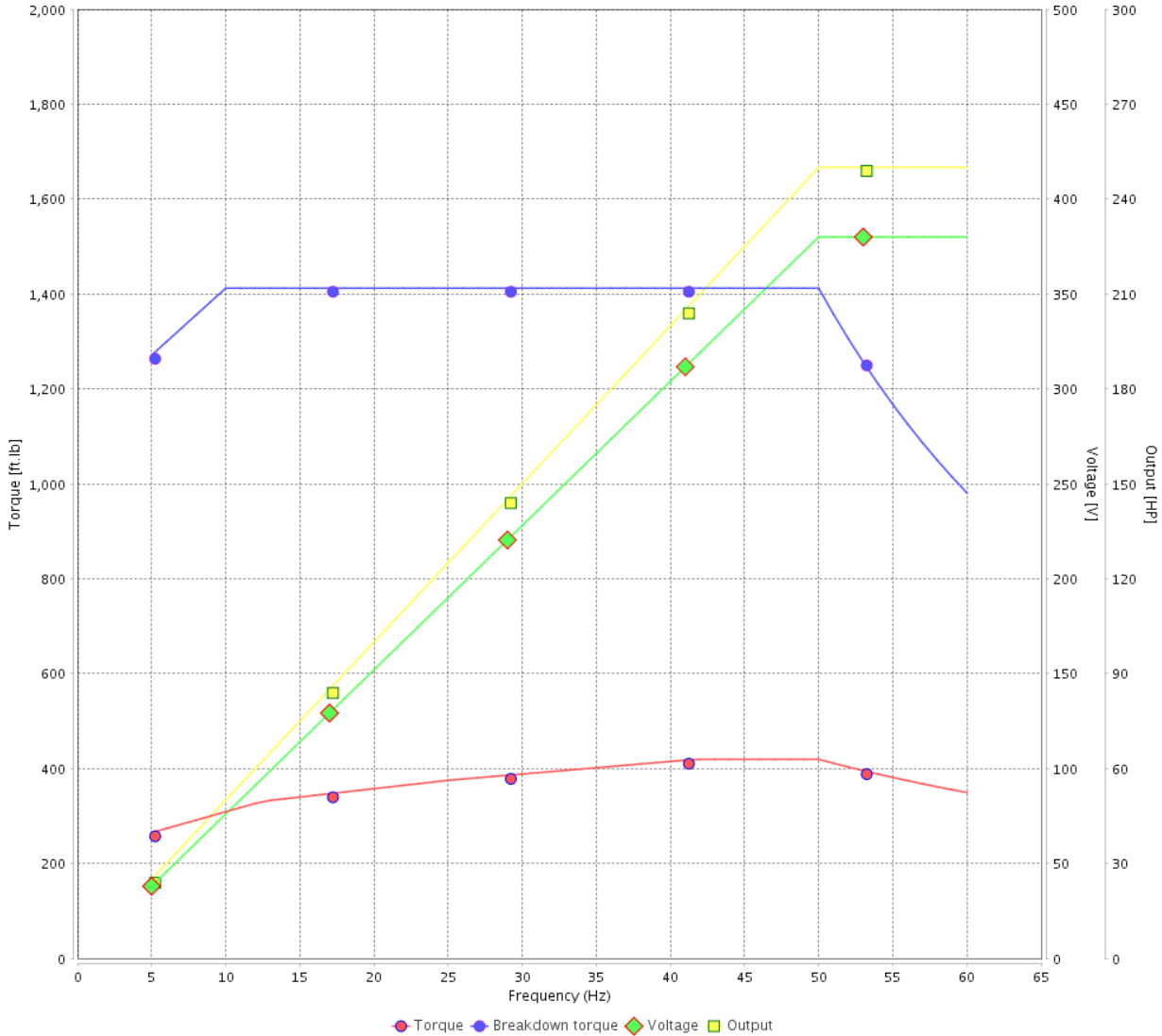
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Product line : NEMA Premium Efficiency Three-Phase

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Catalog # : 30036XT3G449TS

VFD OPERATION CURVE



Performance : 380 V 50 Hz 2P IE2

Rated current	: 327 A	Moment of inertia (J)	: 58.1 sq.ft.lb
LRC	: 7.7	Duty cycle	: Cont.(S1)
Rated torque	: 441 ft.lb	Insulation class	: F
Locked rotor torque	: 240 %	Service factor	: 1.00
Breakdown torque	: 320 %	Temperature rise	: 80 K
Rated speed	: 2975 rpm	Design	: A

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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

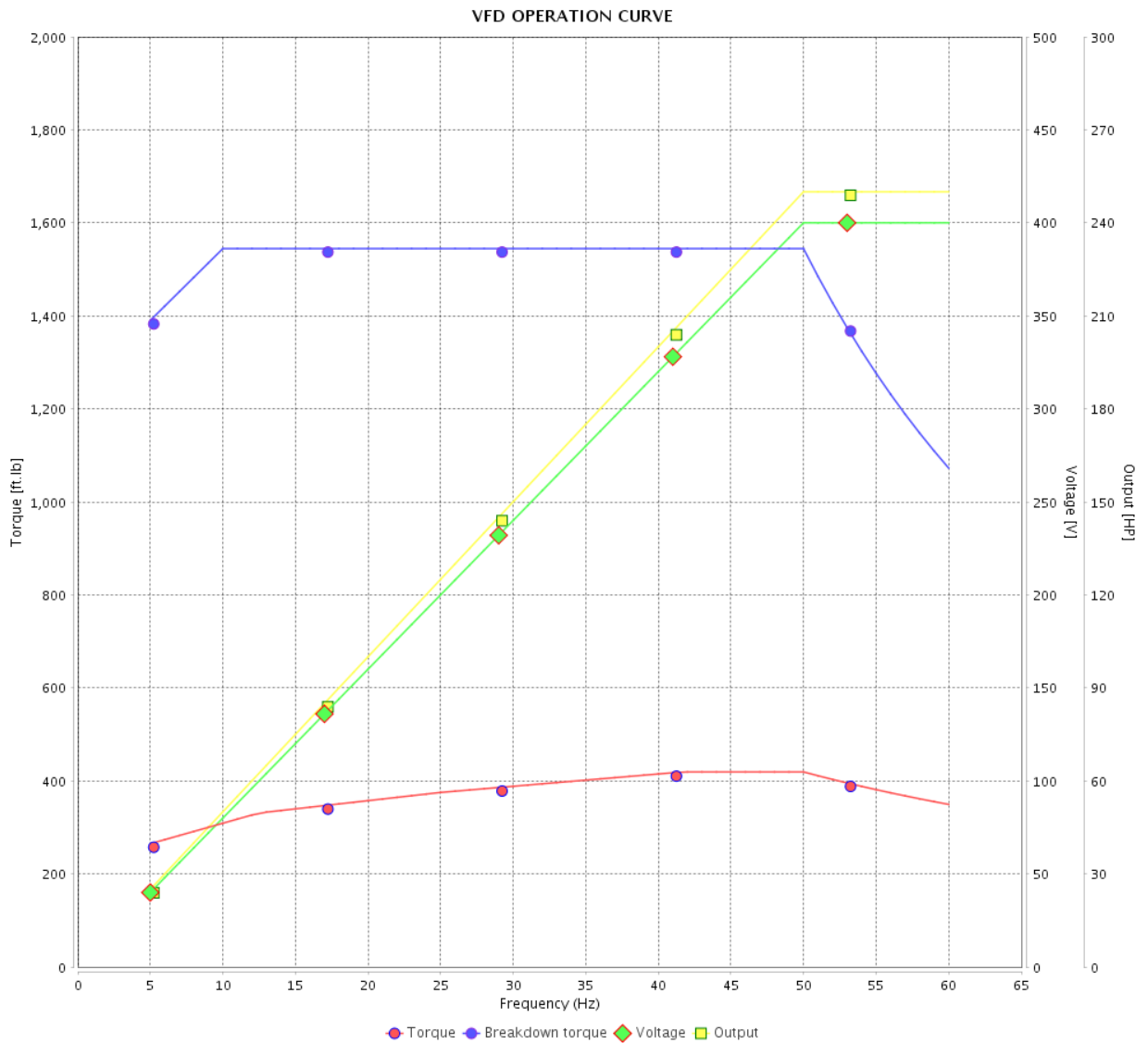


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Performance : 400 V 50 Hz 2P IE2

Rated current : 314 A
 LRC : 8.7
 Rated torque : 441 ft.lb
 Locked rotor torque : 260 %
 Breakdown torque : 350 %
 Rated speed : 2975 rpm

Moment of inertia (J) : 58.1 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : A

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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



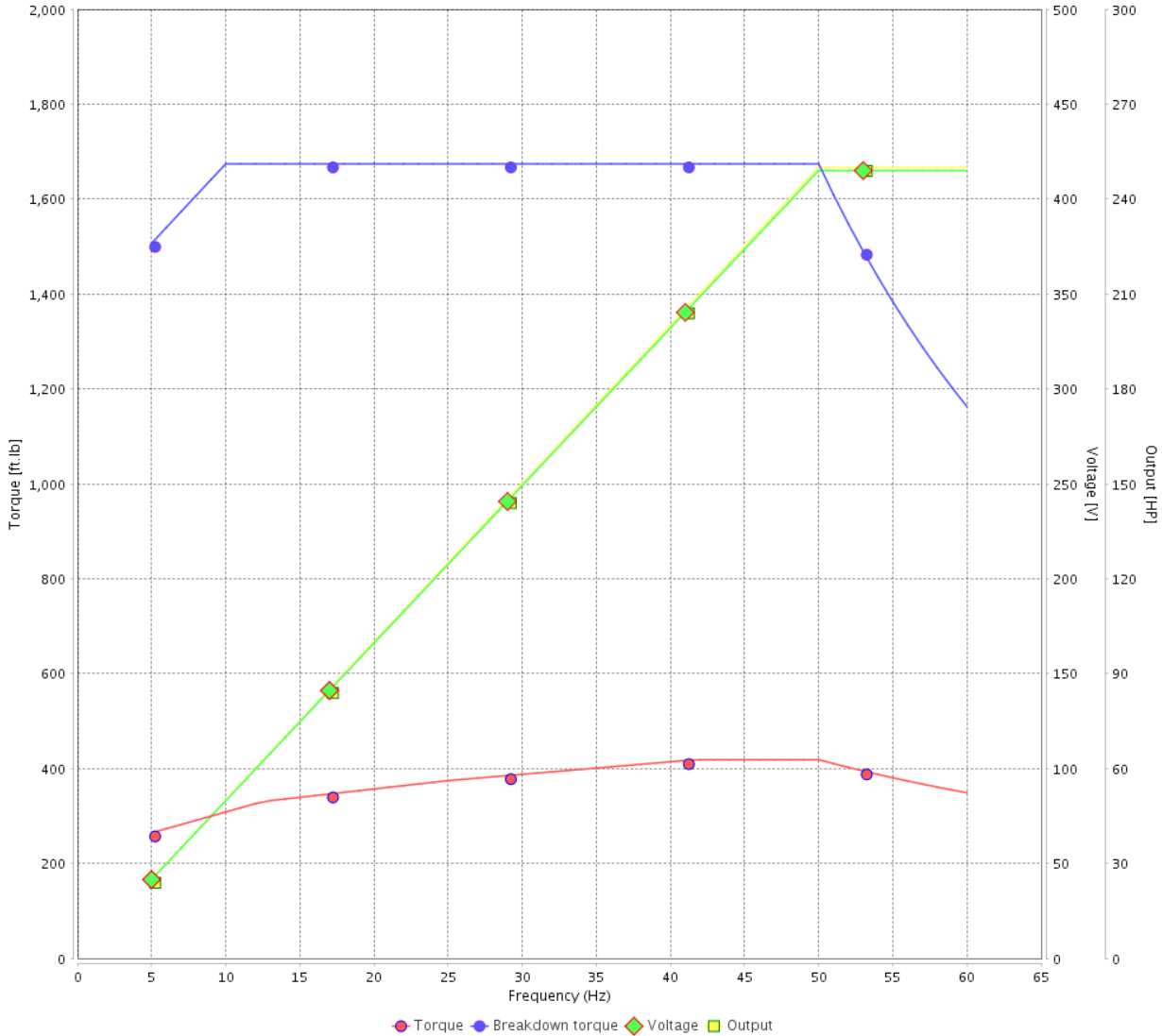
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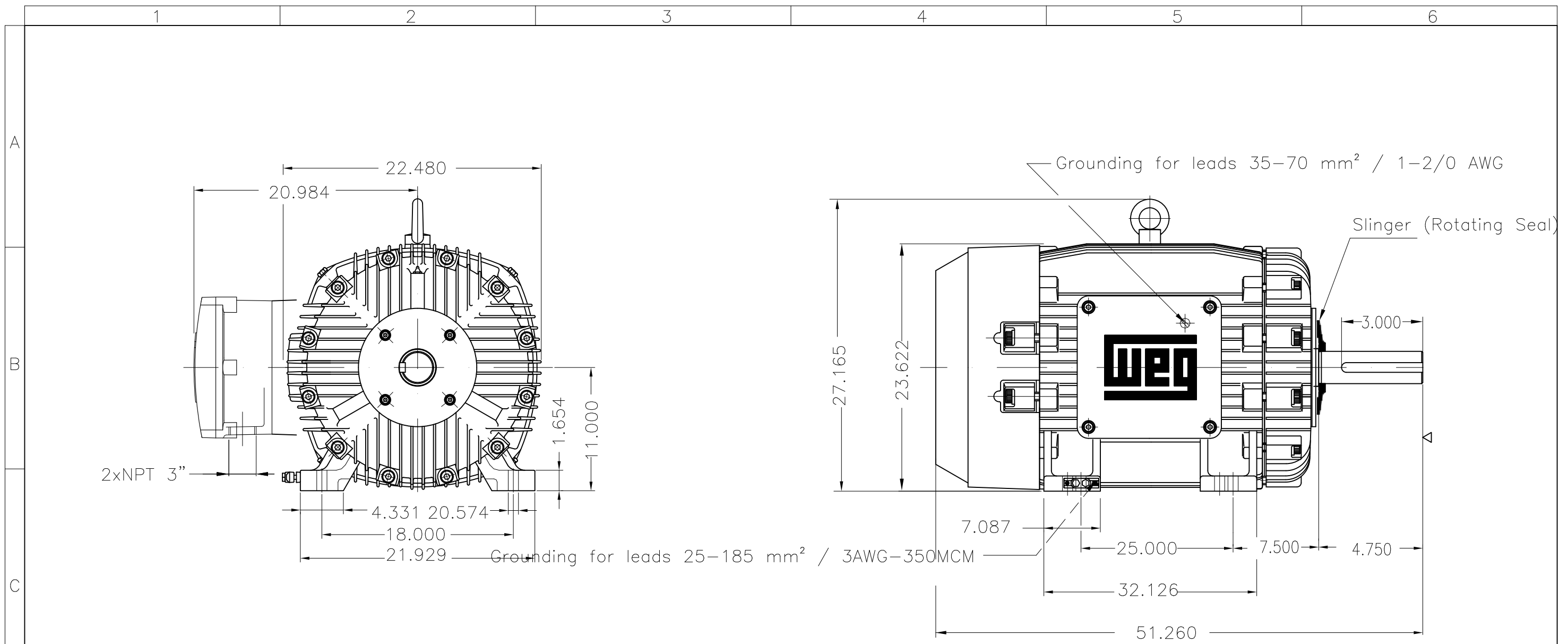
VFD OPERATION CURVE



Performance : 415 V 50 Hz 2P IE3

Rated current	: 302 A	Moment of inertia (J)	: 58.1 sq.ft.lb
LRC	: 9.5	Duty cycle	: Cont.(S1)
Rated torque	: 441 ft.lb	Insulation class	: F
Locked rotor torque	: 280 %	Service factor	: 1.00
Breakdown torque	: 380 %	Temperature rise	: 80 K
Rated speed	: 2980 rpm	Design	: A

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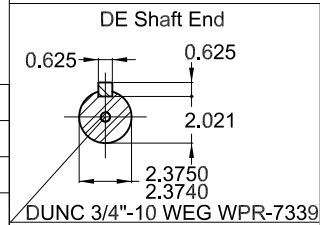


C

D

E

Shaft material - AISI/SAE 4140
 Color RAL 5009
 Painting plan 202P
 Mounting B3R(D)



300 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 449TS IP55 TEFC					
RELEASED							
REL DT.	WMO	Jaragua do Sul	Product Engineering	SHEET	1 / 1		

PREVIEW
WDD

