

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



Customer :					
Product line	: NEMA Premium Efficiency Three-Phase	Product code :	14356576		
		Catalog # :	35036XT3G449TS		
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	: 3639 lb		
Protection degree	: IP55	Moment of inertia (J)	: 68.1 sq.ft.lb		
Design	: A				
Output [HP]	350	300	300	300	
Poles	2	2	2	2	
Frequency [Hz]	60	50	50	50	
Rated voltage [V]	460	380	400	415	
Rated current [A]	379	389	374	359	
L. R. Amperes [A]	3297	3073	3291	3482	
LRC [A]	8.7x(Code J)	7.9x(Code H)	8.8x(Code J)	9.7x(Code K)	
No load current [A]	97.0	96.0	102	107	
Rated speed [RPM]	3575	2975	2975	2980	
Slip [%]	0.69	0.83	0.83	0.67	
Rated torque [ft.lb]	514	530	530	529	
Locked rotor torque [%]	280	240	260	280	
Breakdown torque [%]	340	320	350	380	
Service factor	1.00	1.00	1.00	1.00	
Temperature rise	80 K	80 K	80 K	80 K	
Locked rotor time	25s (cold) 14s (hot)	21s (cold) 12s (hot)	21s (cold) 12s (hot)	21s (cold) 12s (hot)	
Noise level ²	84.0 dB(A)	83.0 dB(A)	83.0 dB(A)	83.0 dB(A)	
Efficiency (%)	25%	94.9	94.9	95.2	94.9
	50%	95.0	95.0	95.0	95.0
	75%	95.8	95.4	95.8	95.8
	100%	95.8	95.4	95.4	95.8
Power Factor	25%	0.58	0.60	0.56	0.54
	50%	0.82	0.83	0.80	0.79
	75%	0.88	0.88	0.87	0.86
	100%	0.90	0.90	0.89	0.89
Bearing type	: <u>Drive end</u> 6314 C3 <u>Non drive end</u> 6314 C3	Foundation loads			
Sealing	: Viton Oil Seal Viton Seal	Max. traction	: 3536 lb		
		Max. compression	: 7175 lb		
Lubrication interval	: 3604 h 3604 h				
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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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



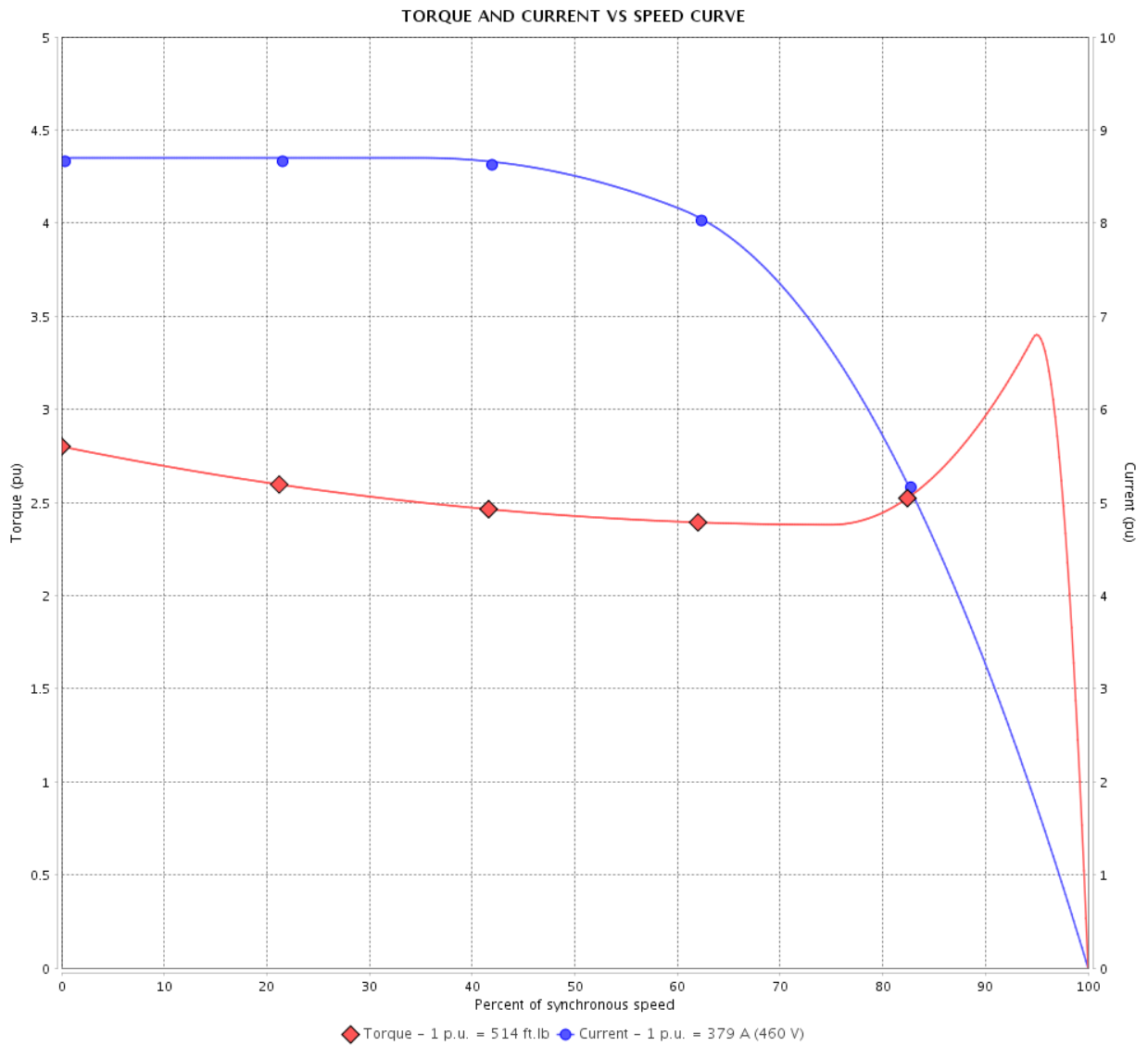
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14356576

Catalog # : 35036XT3G449TS



Performance : 460 V 60 Hz 2P

Rated current	: 379 A	Moment of inertia (J)	: 68.1 sq.ft.lb
LRC	: 8.7	Duty cycle	: Cont.(S1)
Rated torque	: 514 ft.lb	Insulation class	: F
Locked rotor torque	: 280 %	Service factor	: 1.00
Breakdown torque	: 340 %	Temperature rise	: 80 K
Rated speed	: 3575 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



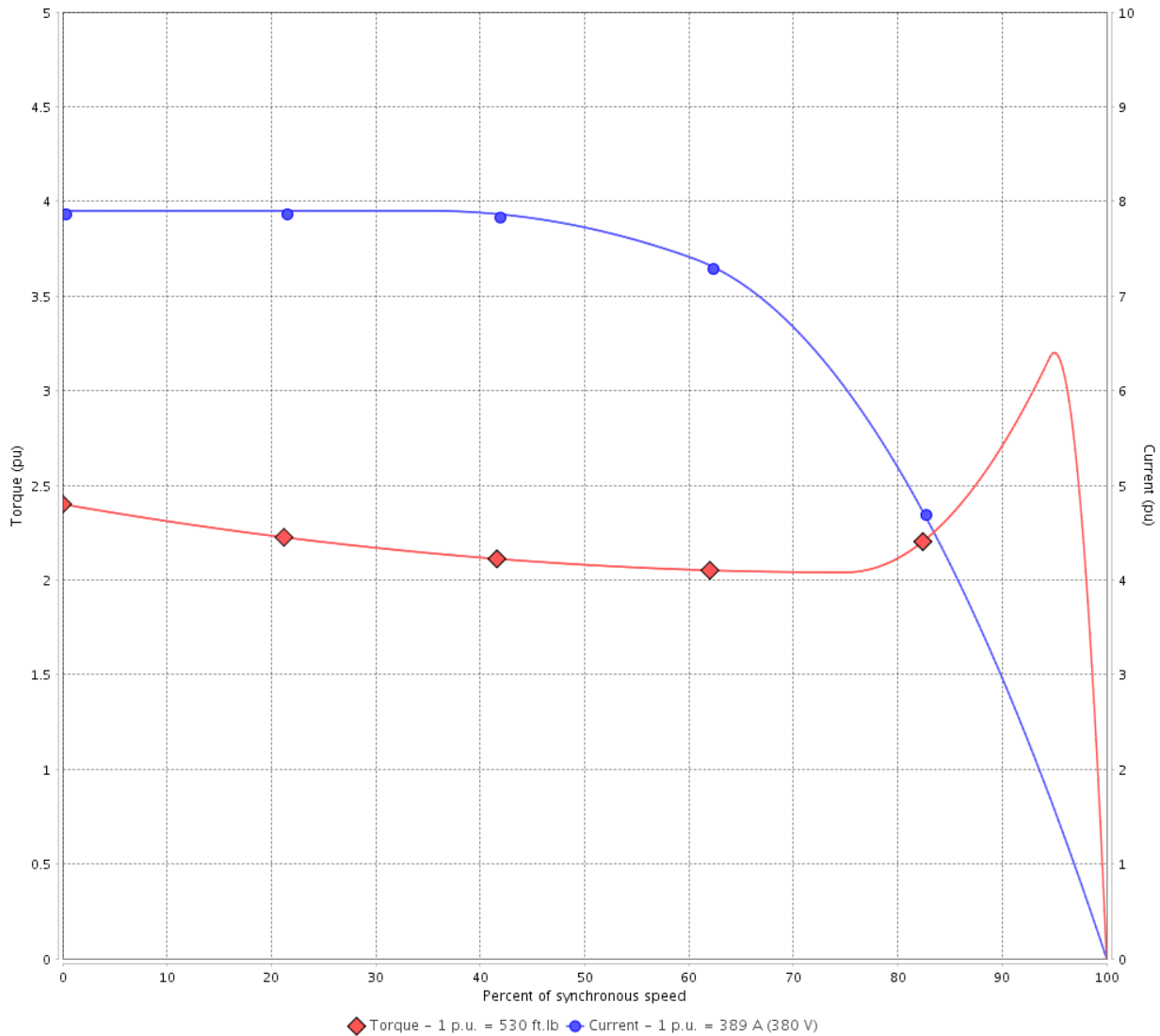
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14356576

Catalog # : 35036XT3G449TS

TORQUE AND CURRENT VS SPEED CURVE



Performance : 380 V 50 Hz 2P IE2

Rated current	: 389 A	Moment of inertia (J)	: 68.1 sq.ft.lb
LRC	: 7.9	Duty cycle	: Cont.(S1)
Rated torque	: 530 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 : 21s (cold) 12s (hot)

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TORQUE AND CURRENT VS SPEED CURVE



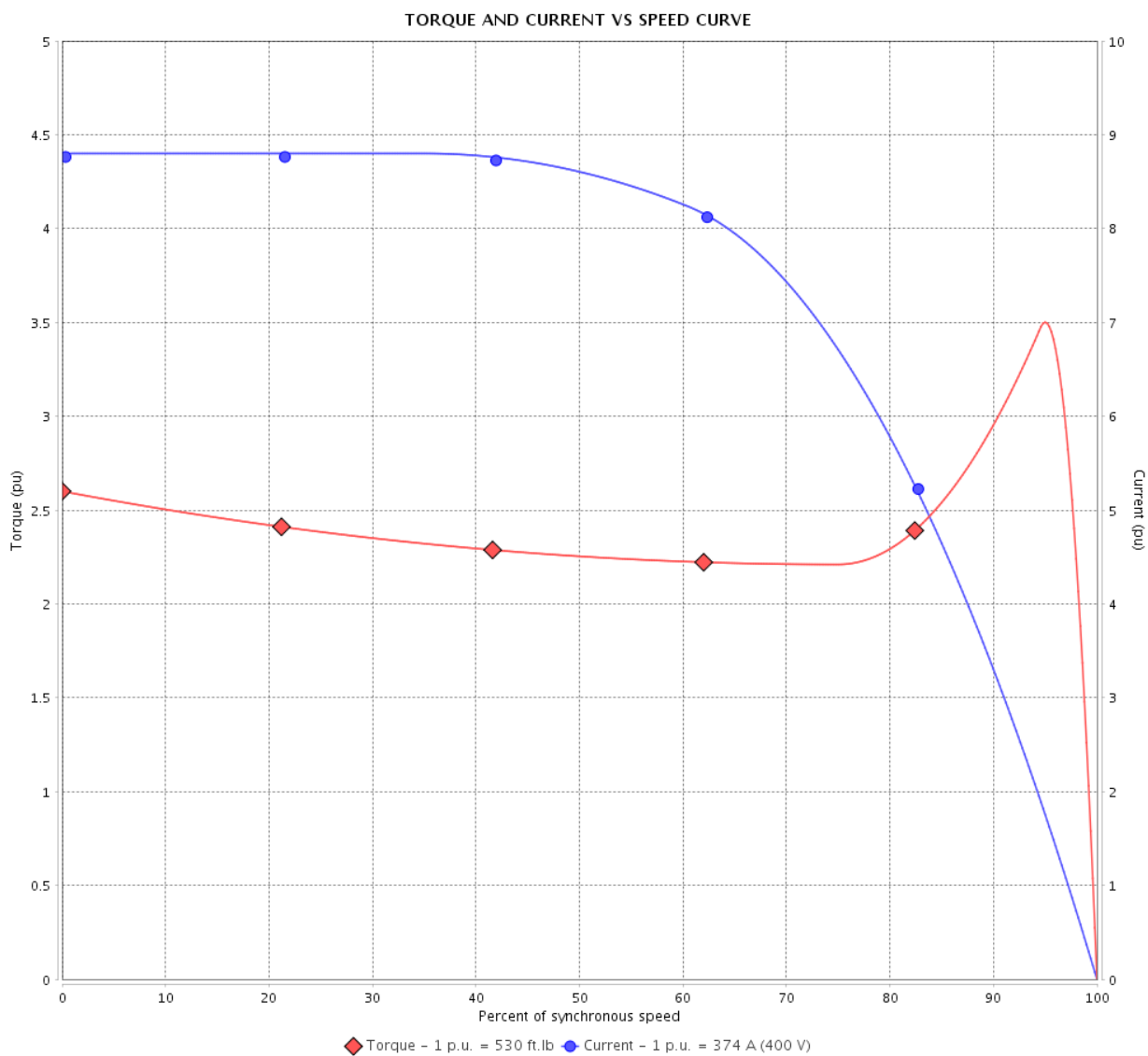
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14356576

Catalog # : 35036XT3G449TS



Performance : 400 V 50 Hz 2P IE2

Rated current	: 374 A	Moment of inertia (J)	: 68.1 sq.ft.lb
LRC	: 8.8	Duty cycle	: Cont.(S1)
Rated torque	: 530 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 : 21s (cold) 12s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



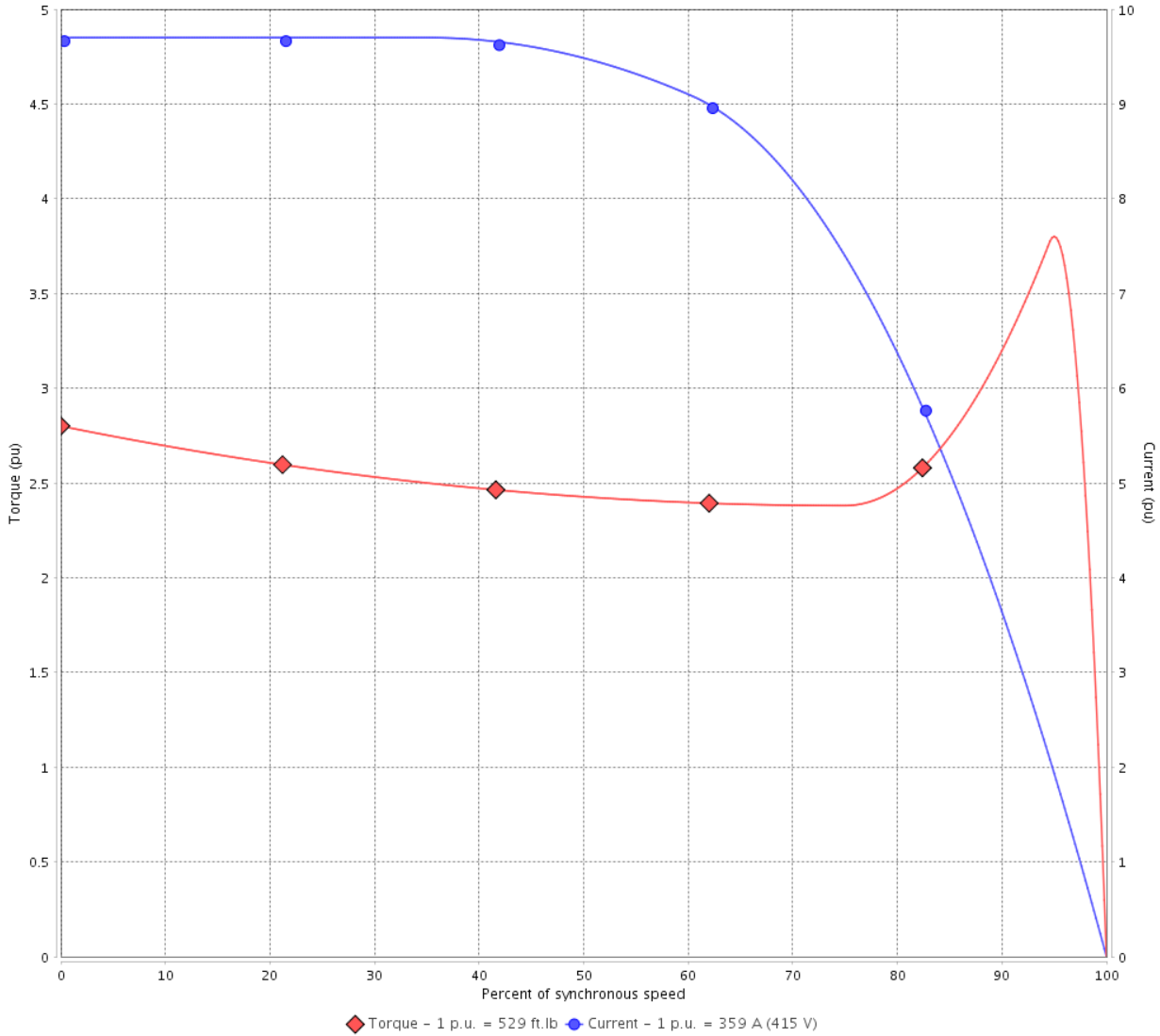
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14356576

Catalog # : 35036XT3G449TS

TORQUE AND CURRENT VS SPEED CURVE



Performance : 415 V 50 Hz 2P IE3

Rated current	: 359 A	Moment of inertia (J)	: 68.1 sq.ft.lb
LRC	: 9.7	Duty cycle	: Cont.(S1)
Rated torque	: 529 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 : 21s (cold) 12s (hot)

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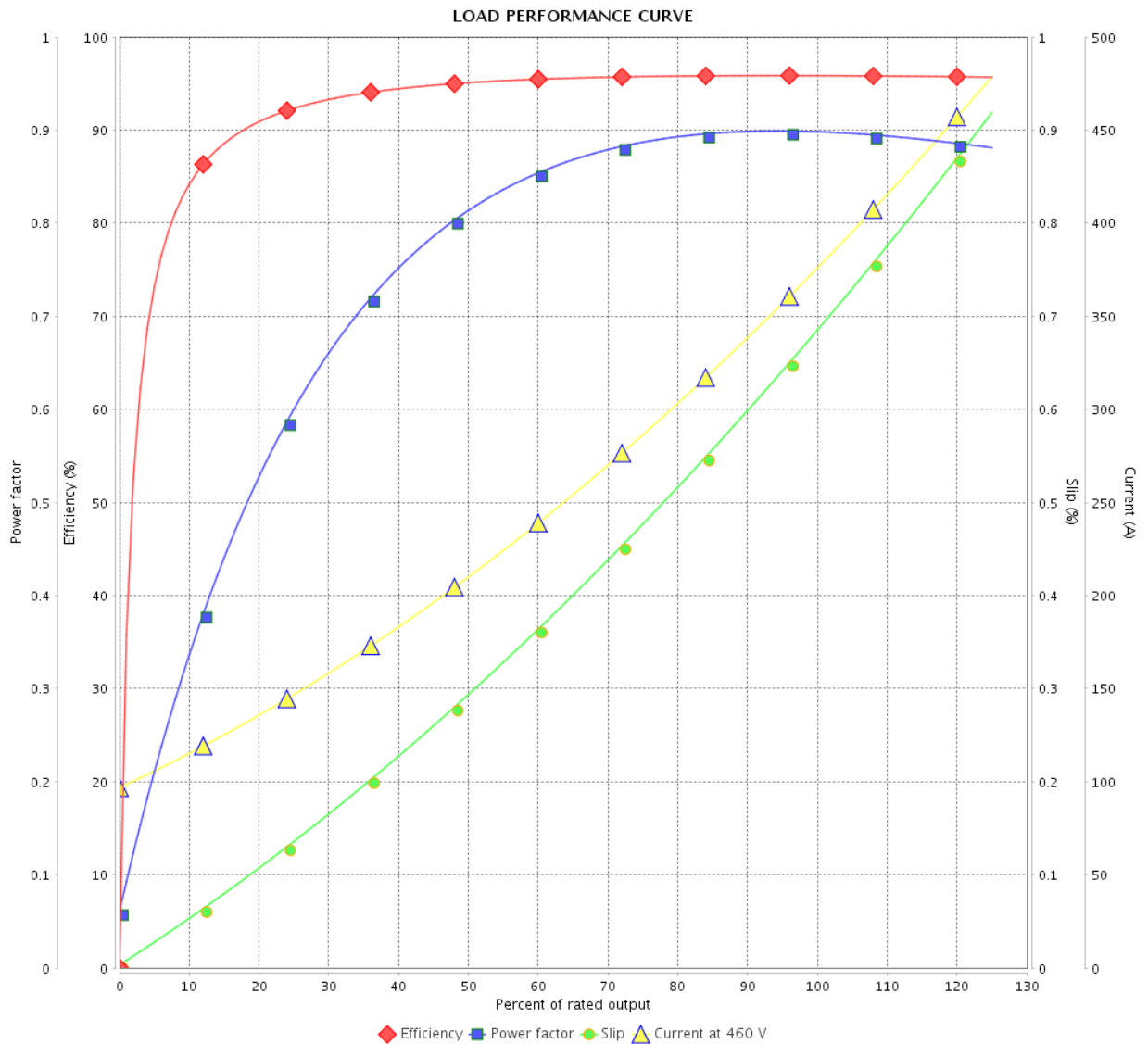


Customer : _____

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14356576

Catalog # : 35036XT3G449TS



Performance : 460 V 60 Hz 2P

Rated current : 379 A
 LRC : 8.7
 Rated torque : 514 ft.lb
 Locked rotor torque : 280 %
 Breakdown torque : 340 %
 Rated speed : 3575 rpm

Moment of inertia (J) : 68.1 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : A

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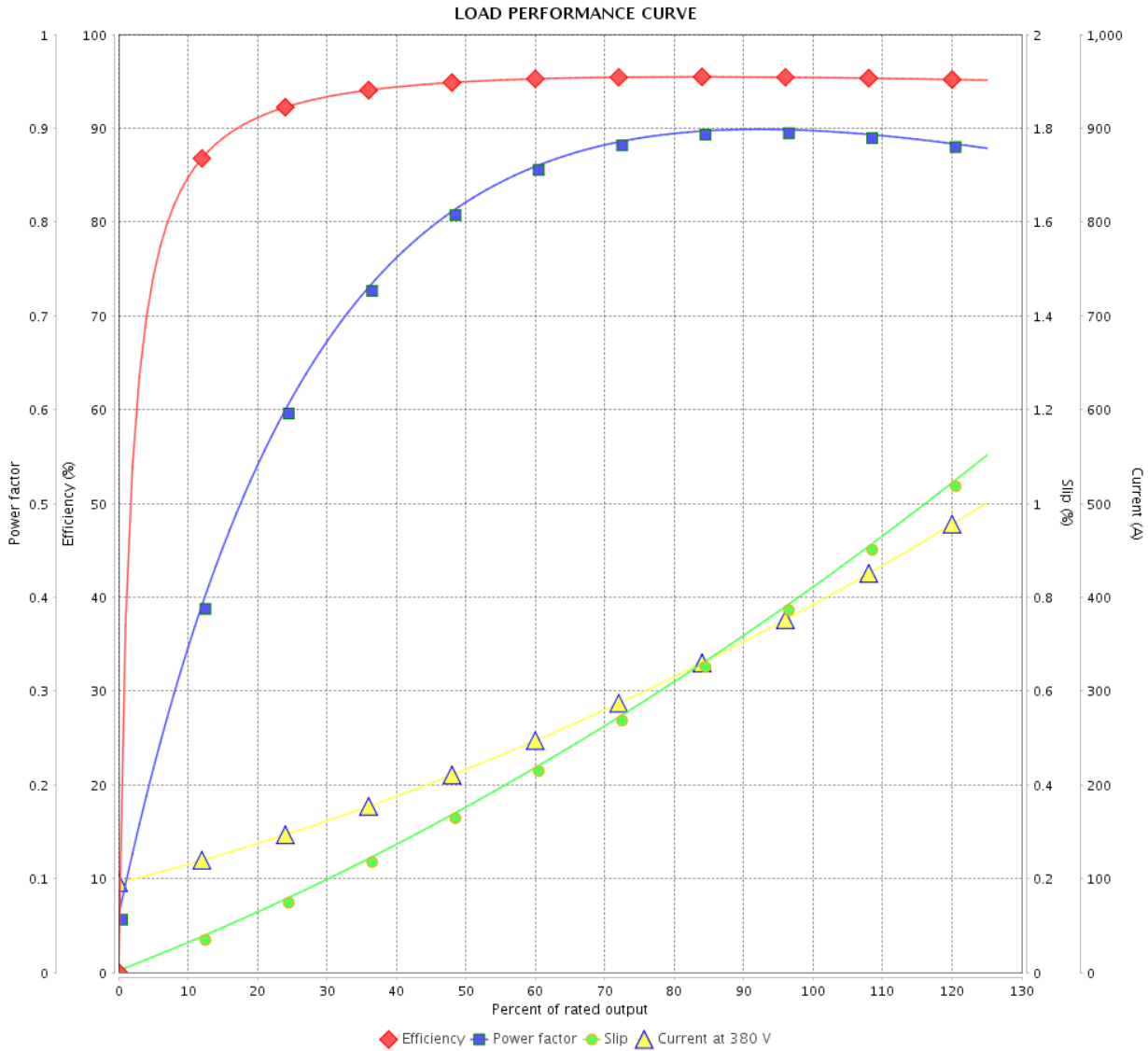


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Product line : NEMA Premium Efficiency Three-Phase

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Performance : 380 V 50 Hz 2P IE2

Rated current	: 389 A	Moment of inertia (J)	: 68.1 sq.ft.lb
LRC	: 7.9	Duty cycle	: Cont.(S1)
Rated torque	: 530 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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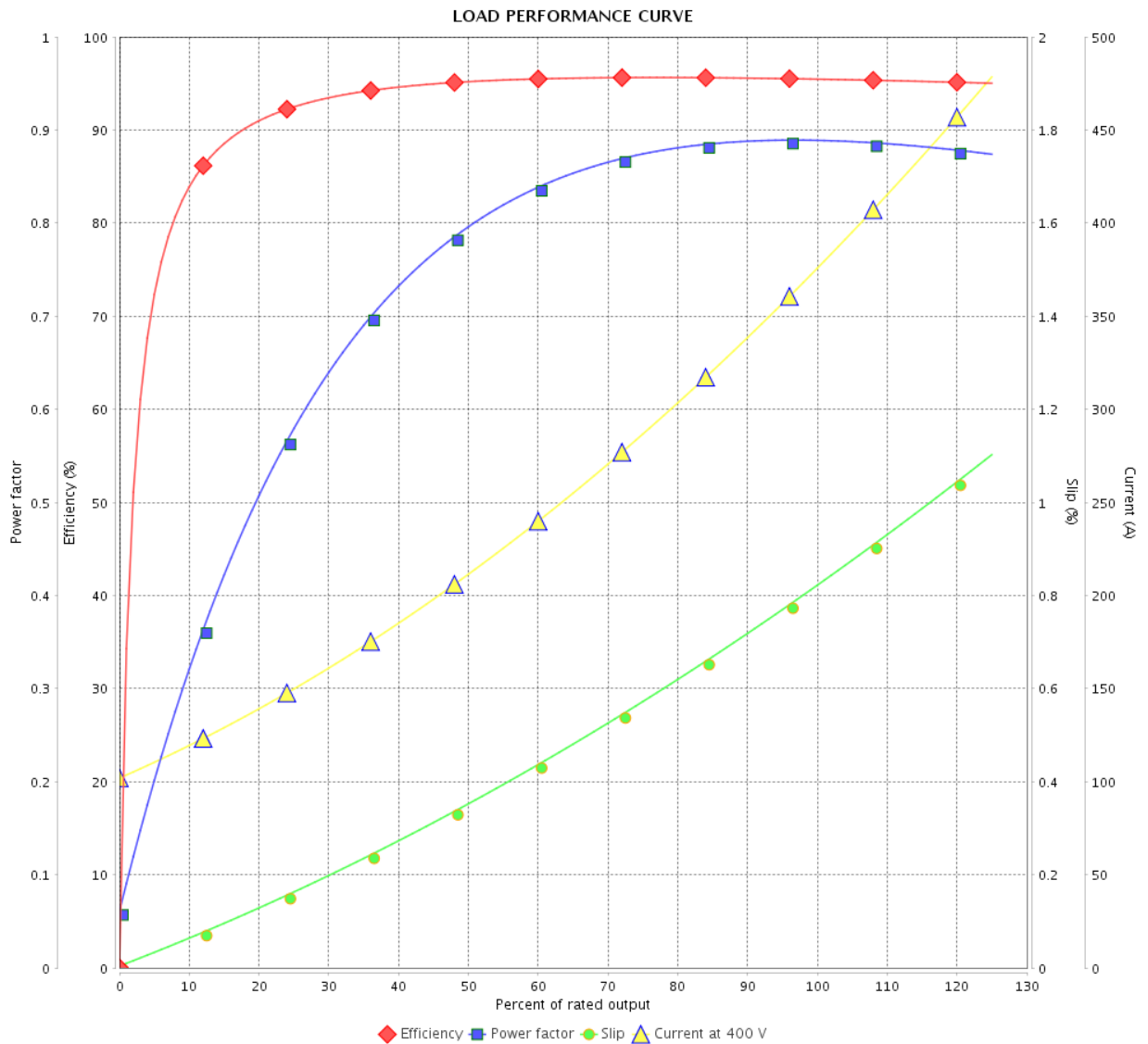


Customer : _____

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14356576

Catalog # : 35036XT3G449TS



Performance : 400 V 50 Hz 2P IE2

Rated current : 374 A
 LRC : 8.8
 Rated torque : 530 ft.lb
 Locked rotor torque : 260 %
 Breakdown torque : 350 %
 Rated speed : 2975 rpm

Moment of inertia (J) : 68.1 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

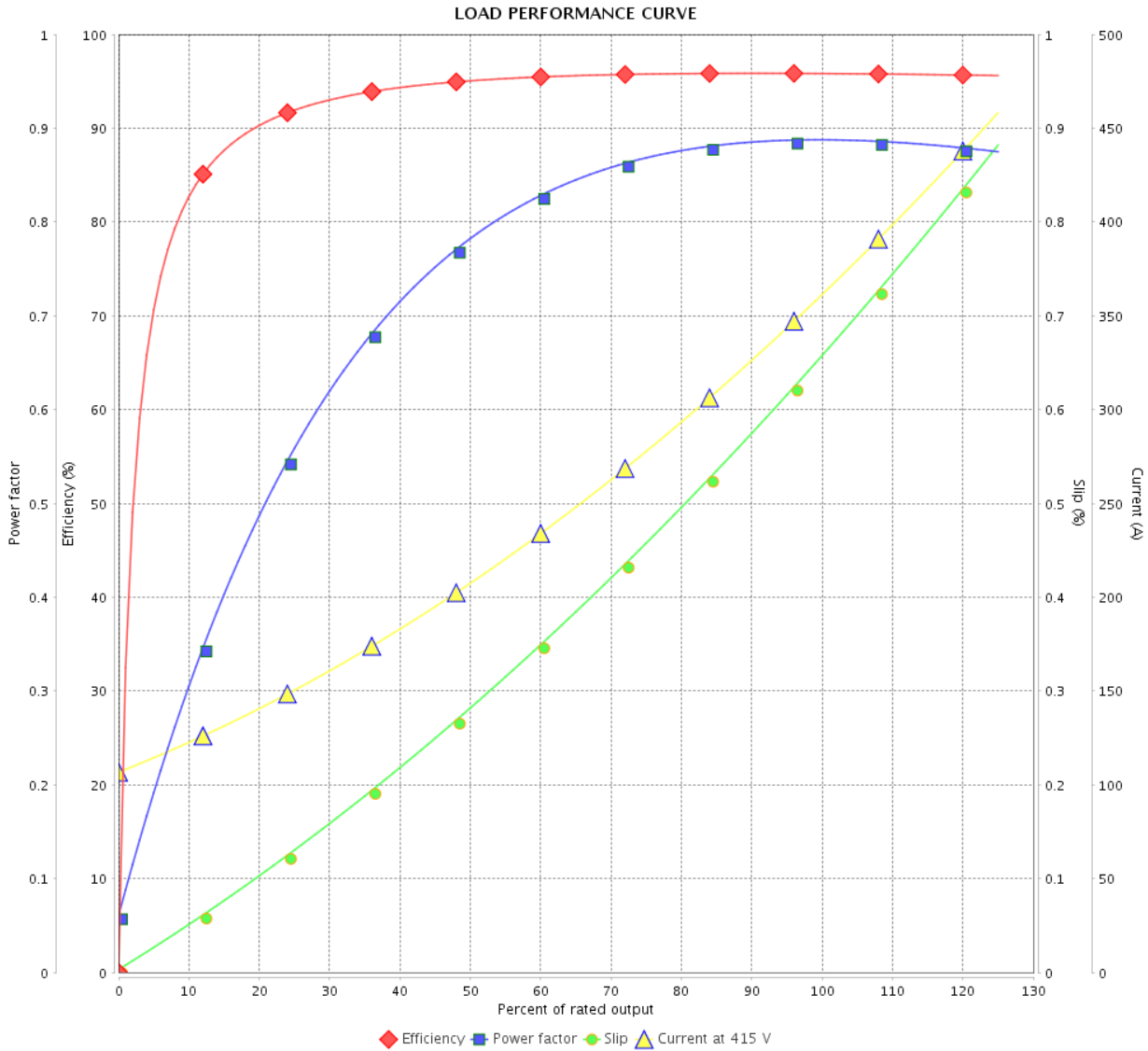


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14356576

Catalog # : 35036XT3G449TS



Performance : 415 V 50 Hz 2P IE3

Rated current : 359 A
 LRC : 9.7
 Rated torque : 529 ft.lb
 Locked rotor torque : 280 %
 Breakdown torque : 380 %
 Rated speed : 2980 rpm

Moment of inertia (J) : 68.1 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : A

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THERMAL LIMIT CURVE



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Locked rotor torque : 280 %	Service factor : 1.00
Breakdown torque : 340 %	Temperature rise : 80 K
Rated speed : 3575 rpm	Design : A

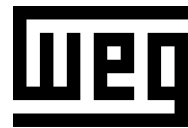
Heating constant

Cooling constant

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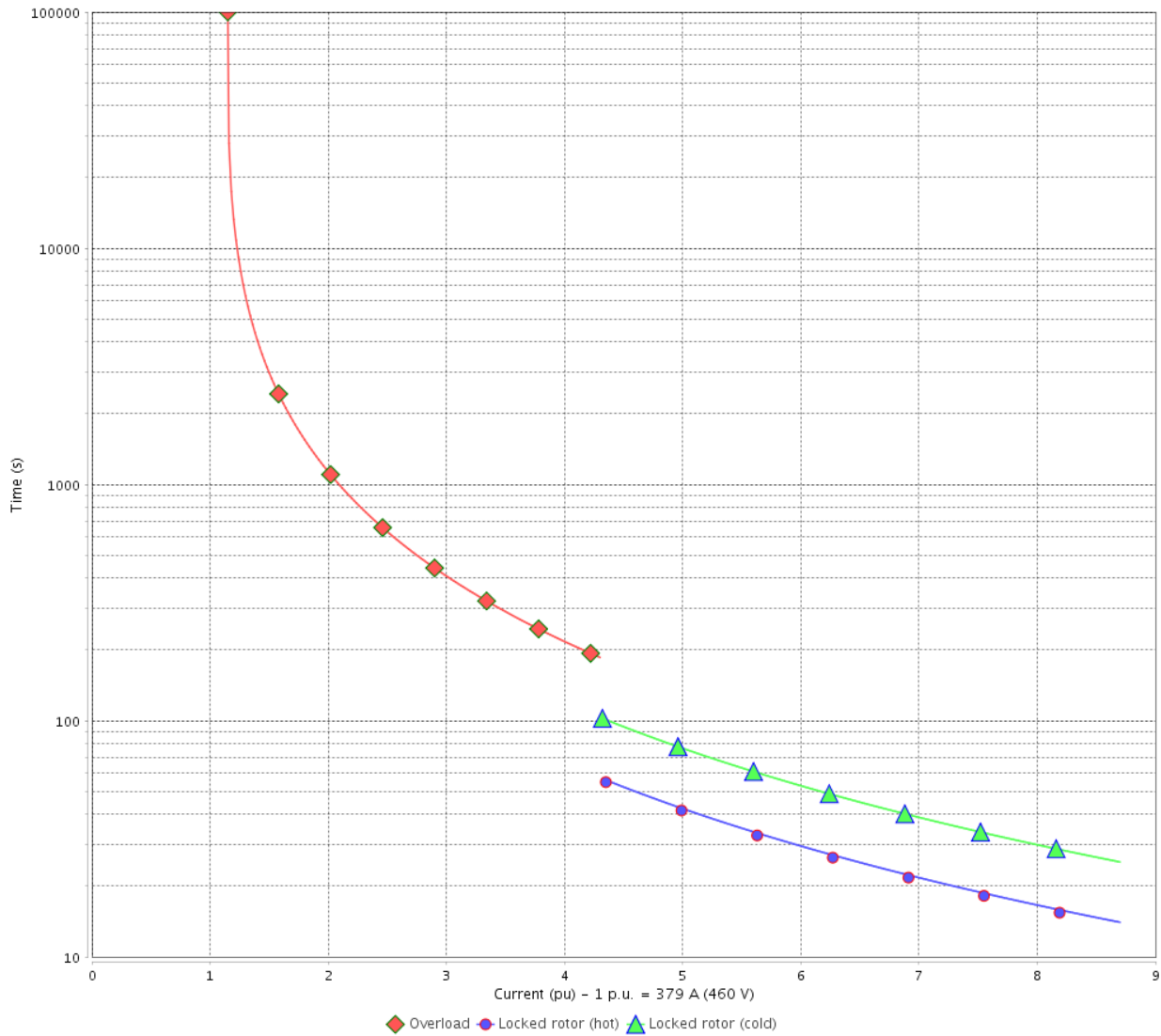
THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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THERMAL LIMIT CURVE



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THERMAL LIMIT CURVE



Three Phase Induction Motor - Squirrel Cage

Customer :

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Product code : 14356576

Catalog # : 35036XT3G449TS

Performance : 380 V 50 Hz 2P IE2

Rated current : 389 A
 LRC : 7.9
 Rated torque : 530 ft.lb
 Locked rotor torque : 240 %
 Breakdown torque : 320 %
 Rated speed : 2975 rpm

Moment of inertia (J) : 68.1 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : A

Heating constant

Cooling constant

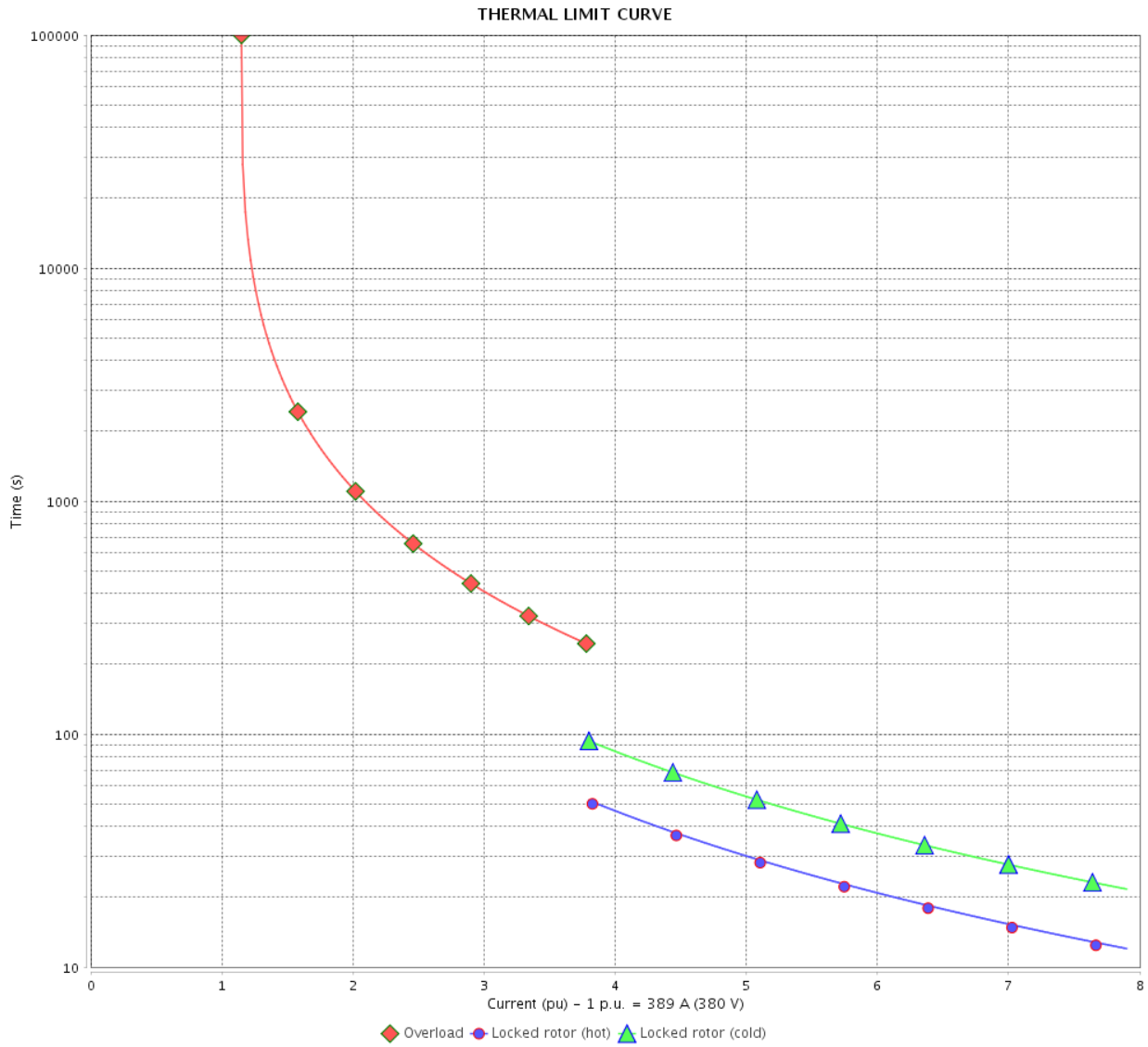
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Customer :

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Performance : 400 V 50 Hz 2P IE2

Rated current : 374 A	Moment of inertia (J) : 68.1 sq.ft.lb
LRC : 8.8	Duty cycle : Cont.(S1)
Rated torque : 530 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

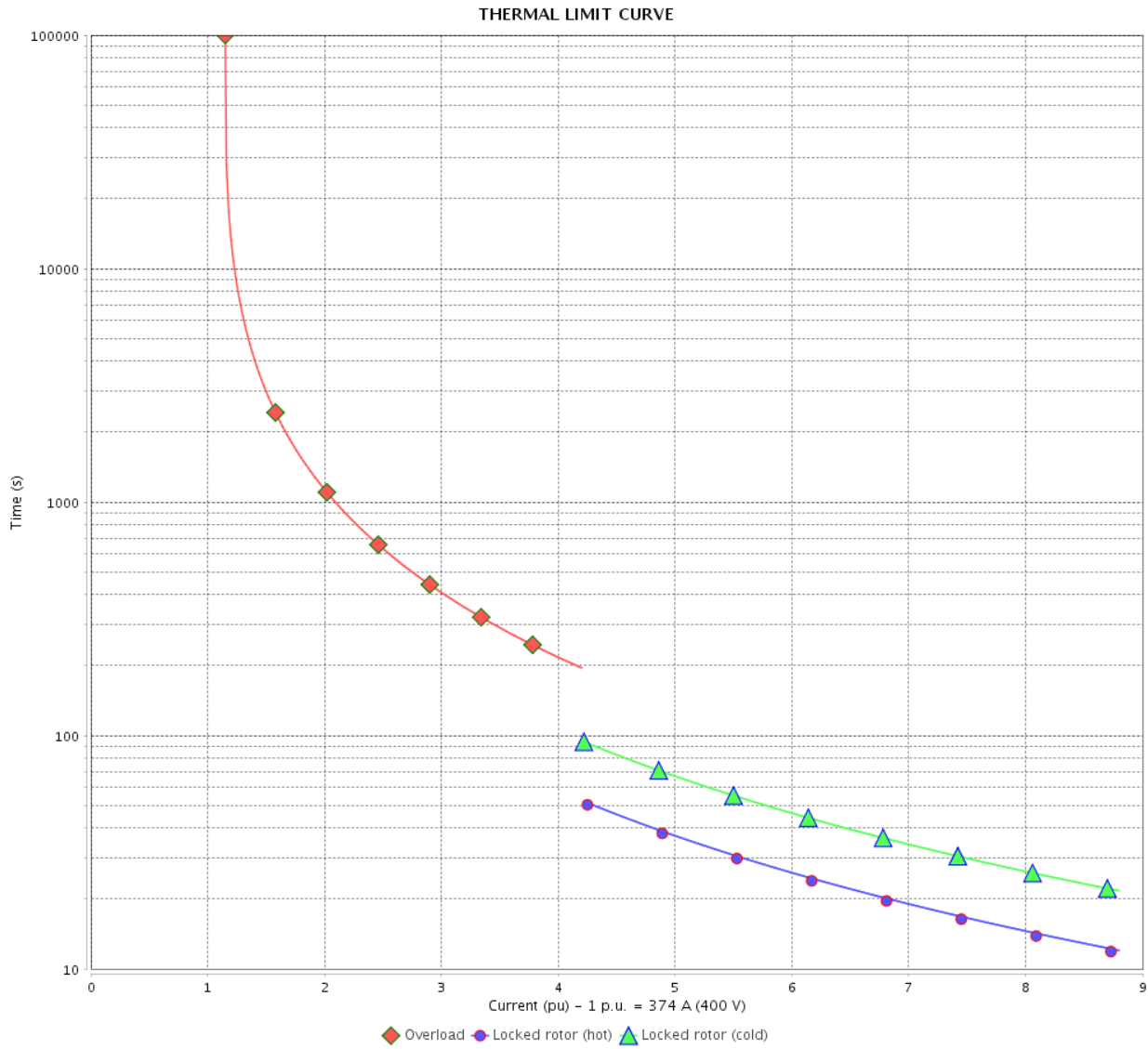
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Three Phase Induction Motor - Squirrel Cage



Customer : _____



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Three Phase Induction Motor - Squirrel Cage

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 Product code : 14356576
 Catalog # : 35036XT3G449TS

Performance : 415 V 50 Hz 2P IE3

Rated current : 359 A	Moment of inertia (J) : 68.1 sq.ft.lb
LRC : 9.7	Duty cycle : Cont.(S1)
Rated torque : 529 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

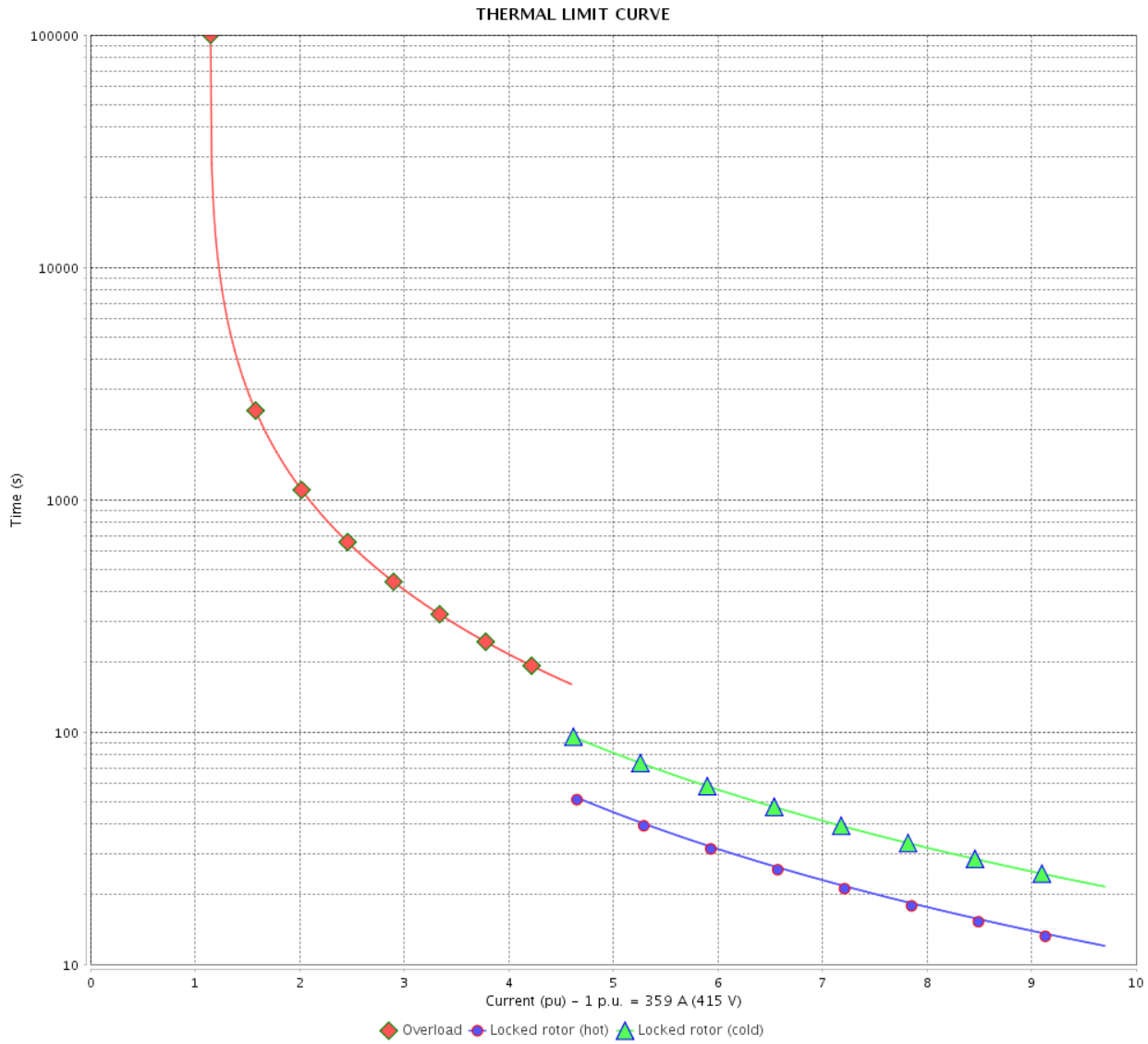
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Customer : _____



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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

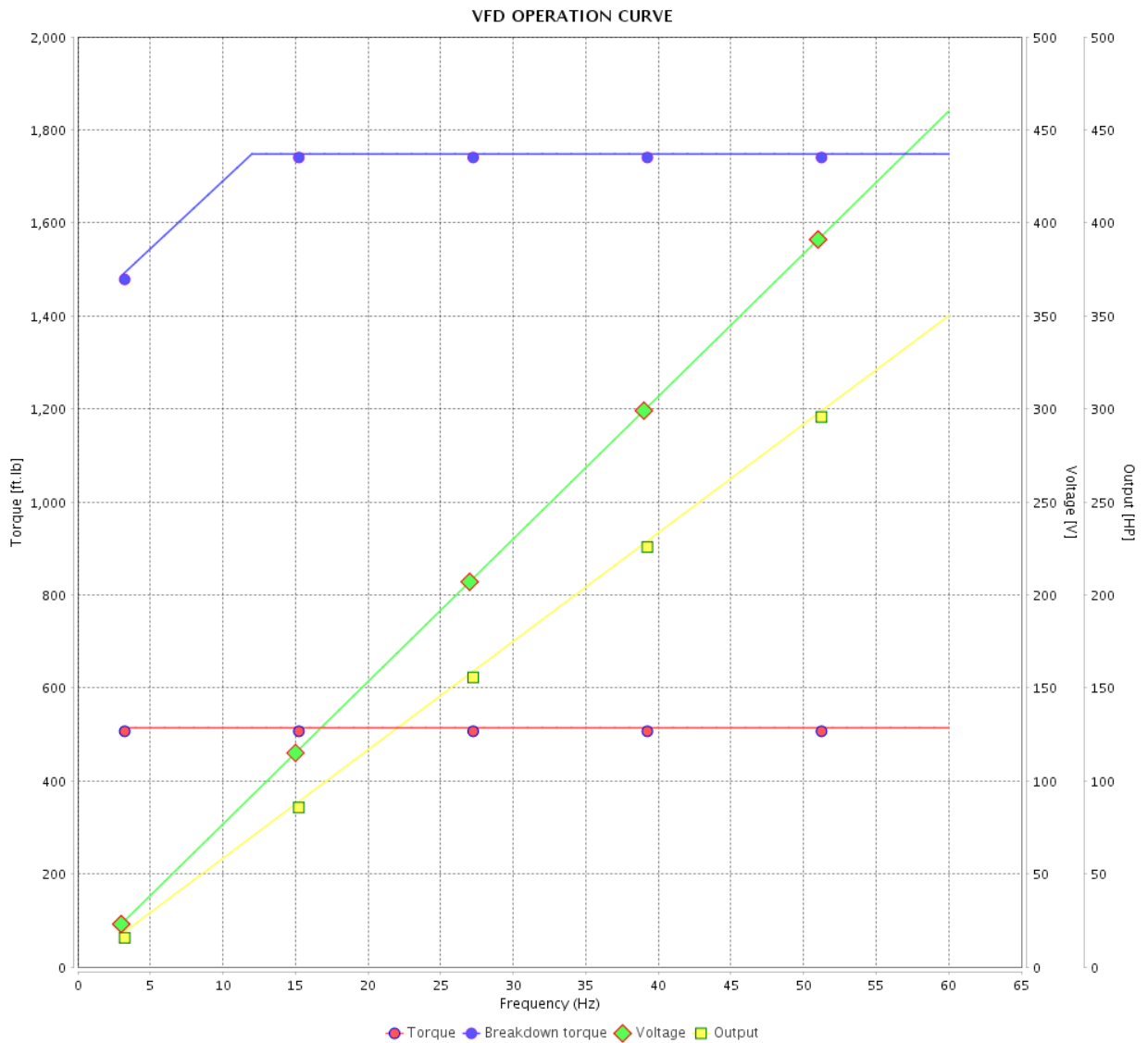


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 Rated speed : 3575 rpm

Moment of inertia (J) : 68.1 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



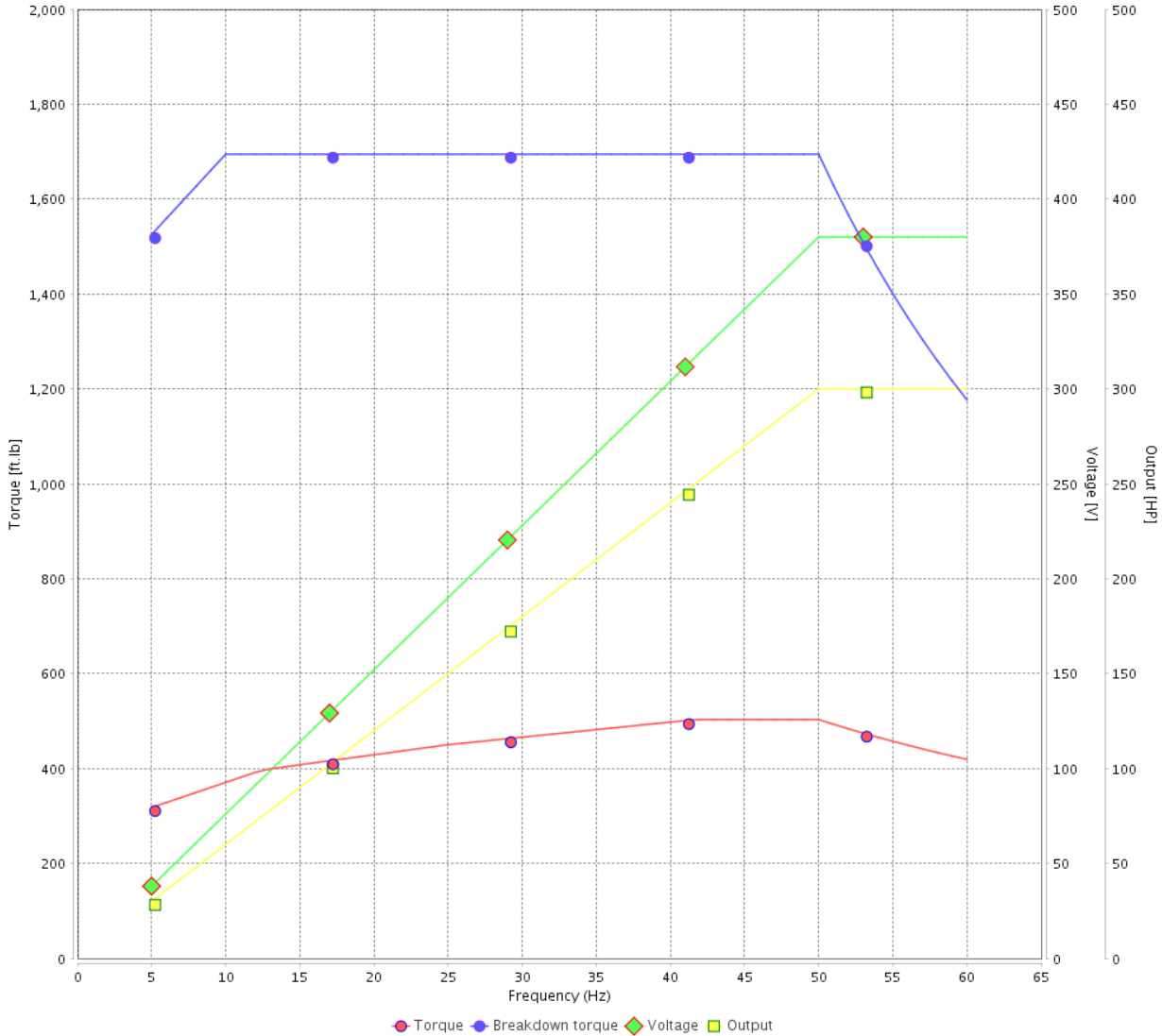
Customer :

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VFD OPERATION CURVE



Performance : 380 V 50 Hz 2P IE2

Rated current	: 389 A	Moment of inertia (J)	: 68.1 sq.ft.lb
LRC	: 7.9	Duty cycle	: Cont.(S1)
Rated torque	: 530 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

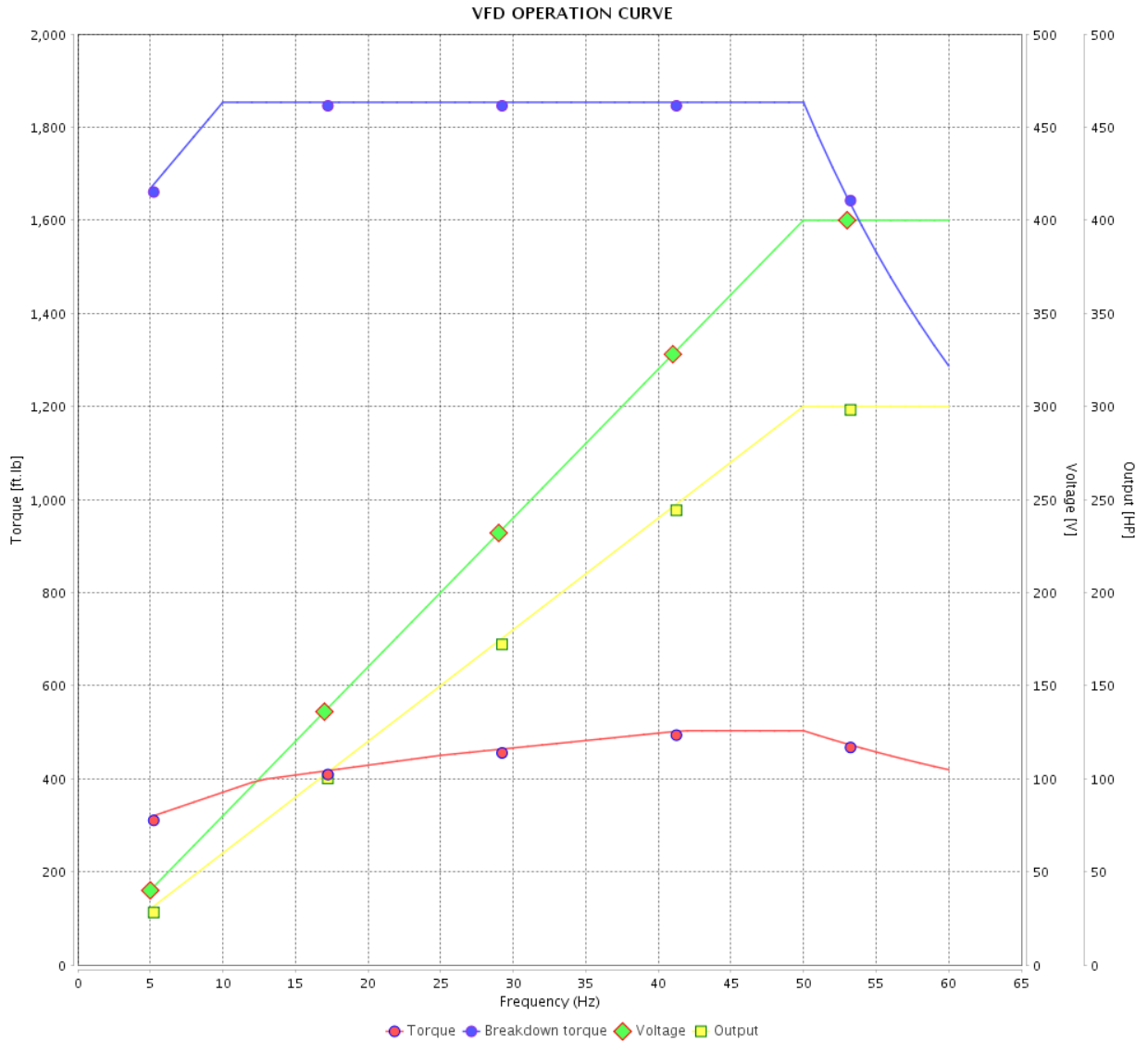


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Performance : 400 V 50 Hz 2P IE2

Rated current : 374 A
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 Locked rotor torque : 260 %
 Breakdown torque : 350 %
 Rated speed : 2975 rpm

Moment of inertia (J) : 68.1 sq.ft.lb
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 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



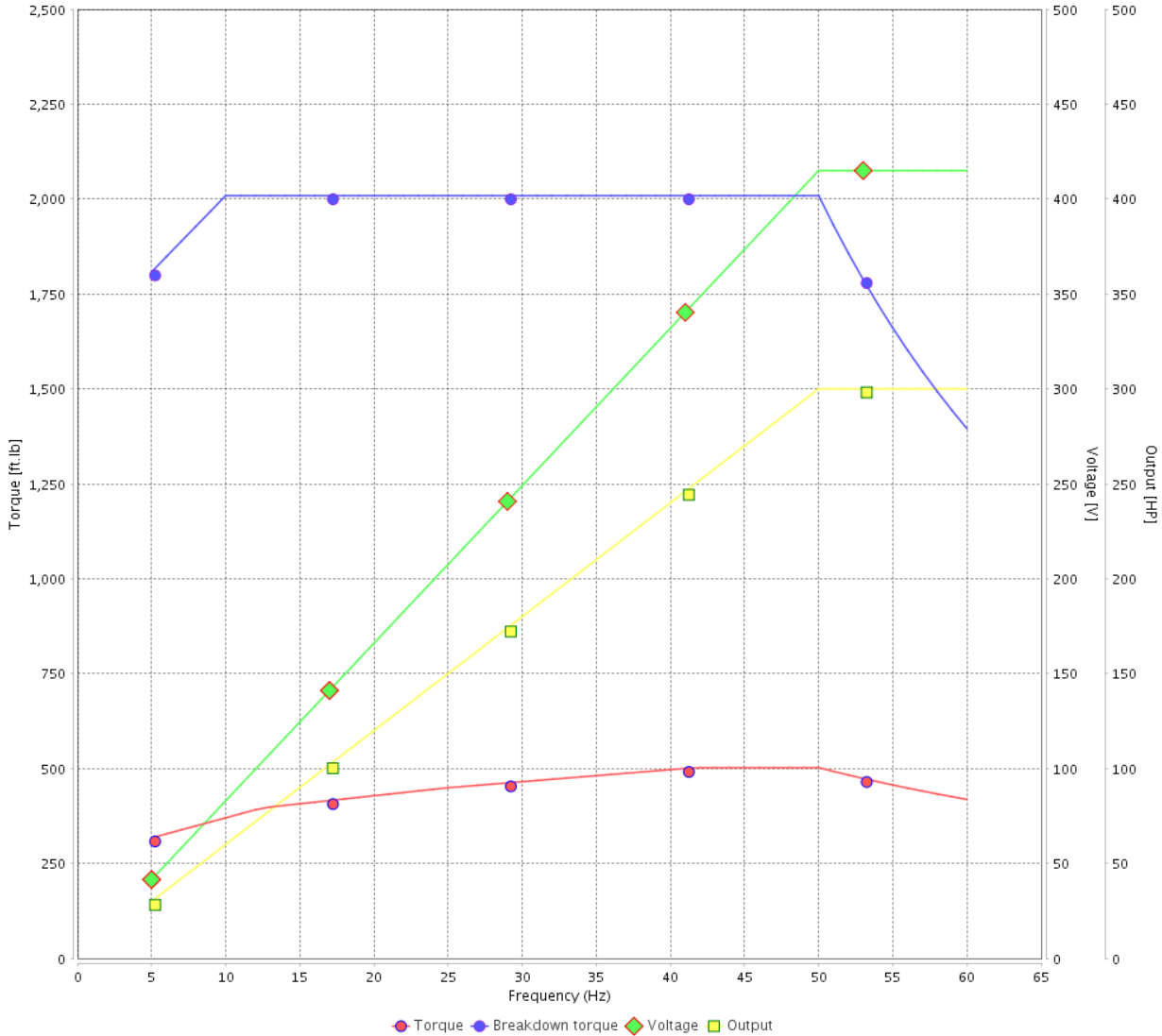
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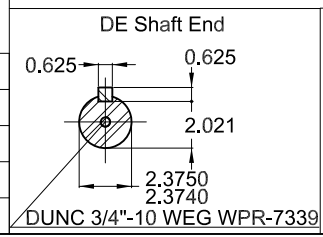
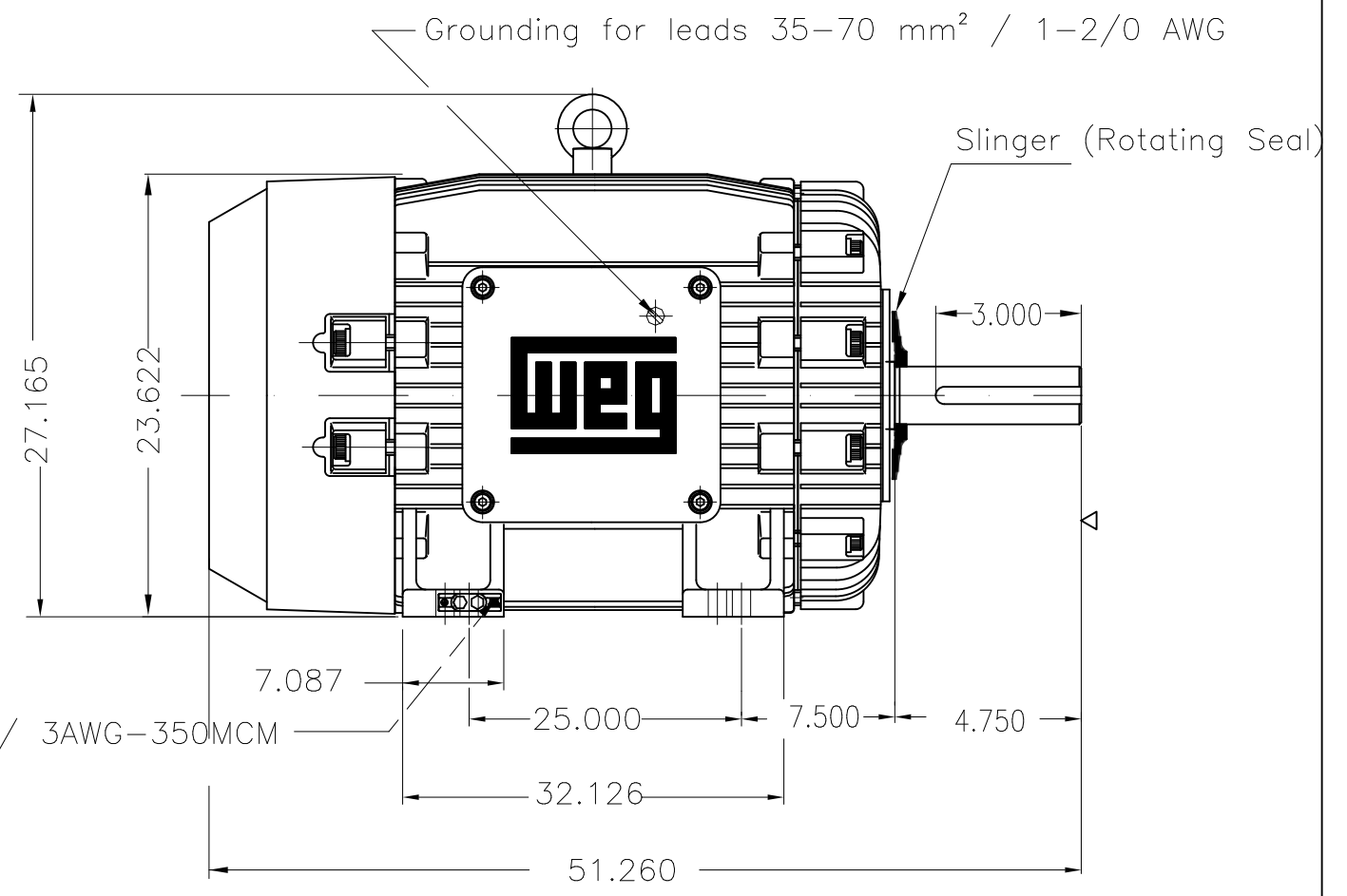
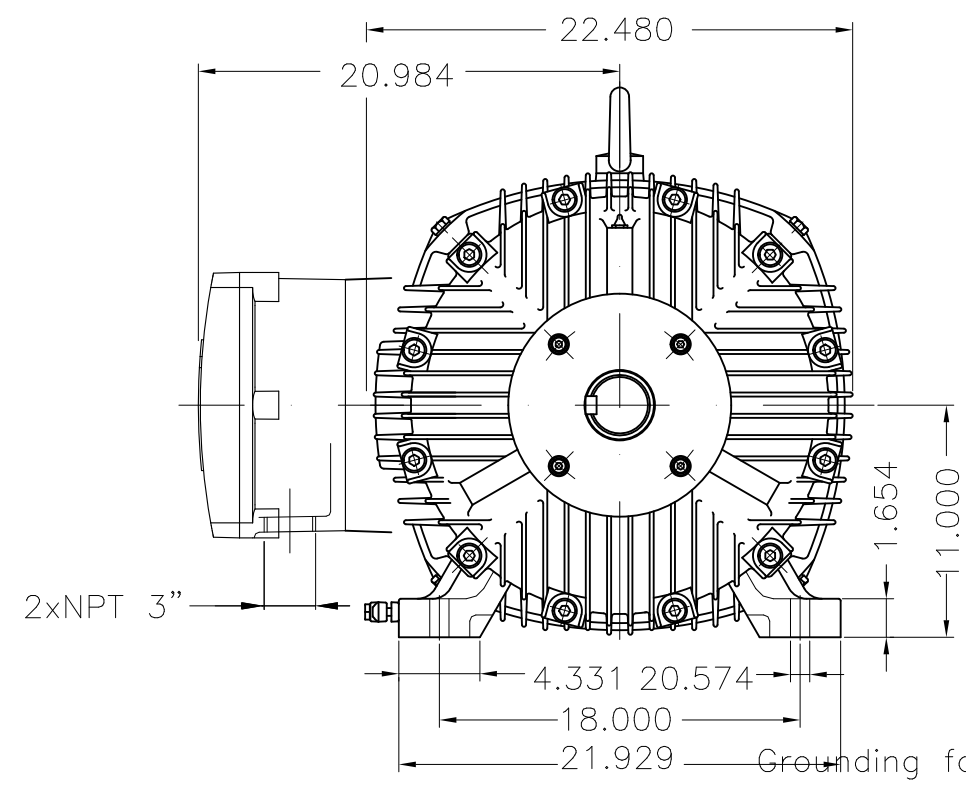
VFD OPERATION CURVE



Performance : 415 V 50 Hz 2P IE3

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Rated torque	: 529 ft.lb	Insulation class	: F
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Breakdown torque	: 380 %	Temperature rise	: 80 K
Rated speed	: 2980 rpm	Design	: A

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Color RAL 5009
Painting plan 202P
Service factor 1.0
Mounting NEMA F-1
Mounting B3R(D)

350 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