

DATA SHEET



Three Phase Induction Motor - Squirrel Cage

Customer							
Product line	: NEMA Premium Efficiency Three-Phase	Product code :	11584358				
		Catalog # :	04009ST3QIE365T-W22				
Frame	: 364/5T	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	: 876 lb				
Protection degree	: IP55	Moment of inertia (J)	: 29.0 sq.ft.lb				
Design	: B						
Output [HP]	40	30	30	30	40	40	40
Poles	8	8	8	8	8	8	8
Frequency [Hz]	60	50	50	50	50	50	50
Rated voltage [V]	460	380	400	415	380	400	415
Rated current [A]	50.9	47.8	46.3	45.7	62.9	60.0	58.1
L. R. Amperes [A]	300	292	310	324	283	300	320
LRC [A]	5.9x(Code G)	6.1x(Code H)	6.7x(Code J)	7.1x(Code J)	4.5x(Code E)	5.0x(Code F)	5.5x(Code G)
No load current [A]	21.5	20.7	22.2	23.4	20.7	22.2	23.4
Rated speed [RPM]	882	735	736	737	725	727	730
Slip [%]	2.00	2.00	1.87	1.73	3.33	3.07	2.67
Rated torque [ft.lb]	238	214	214	214	290	289	288
Locked rotor torque [%]	170	600	210	229	140	160	170
Breakdown torque [%]	210	240	270	300	180	200	210
Service factor	1.25	1.00	1.00	1.00	1.00	1.00	1.00
Temperature rise	80 K	80 K	80 K	80 K	105 K	105 K	105 K
Locked rotor time	46s (cold)	81s (cold)	52s (cold)	52s (cold)	32s (cold)	32s (cold)	32s (cold)
	26s (hot)	45s (hot)	29s (hot)	29s (hot)	18s (hot)	18s (hot)	18s (hot)
Noise level ²	60.0 dB(A)	56.0 dB(A)	56.0 dB(A)	56.0 dB(A)	56.0 dB(A)	56.0 dB(A)	56.0 dB(A)
Efficiency (%)	25%						
	50%	92.4	91.5	91.5	90.9	91.7	91.7
	75%	93.0	91.6	91.9	91.8	91.0	91.7
	100%	92.4	90.9	91.5	91.7	89.5	90.2
Power Factor	25%						
	50%	0.65	0.60	0.55	0.52	0.70	0.66
	75%	0.75	0.71	0.68	0.65	0.78	0.76
	100%	0.80	0.77	0.75	0.73	0.81	0.80
Bearing type		<u>Drive end</u>	<u>Non drive end</u>	Foundation loads			
		: 6314 C3	: 6314 C3	Max. traction	: 1630 lb		
	Sealing	: Inpro/Seal	: Inpro/Seal	Max. compression	: 2507 lb		
	Lubrication interval	: 20000 h	: 20000 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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TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



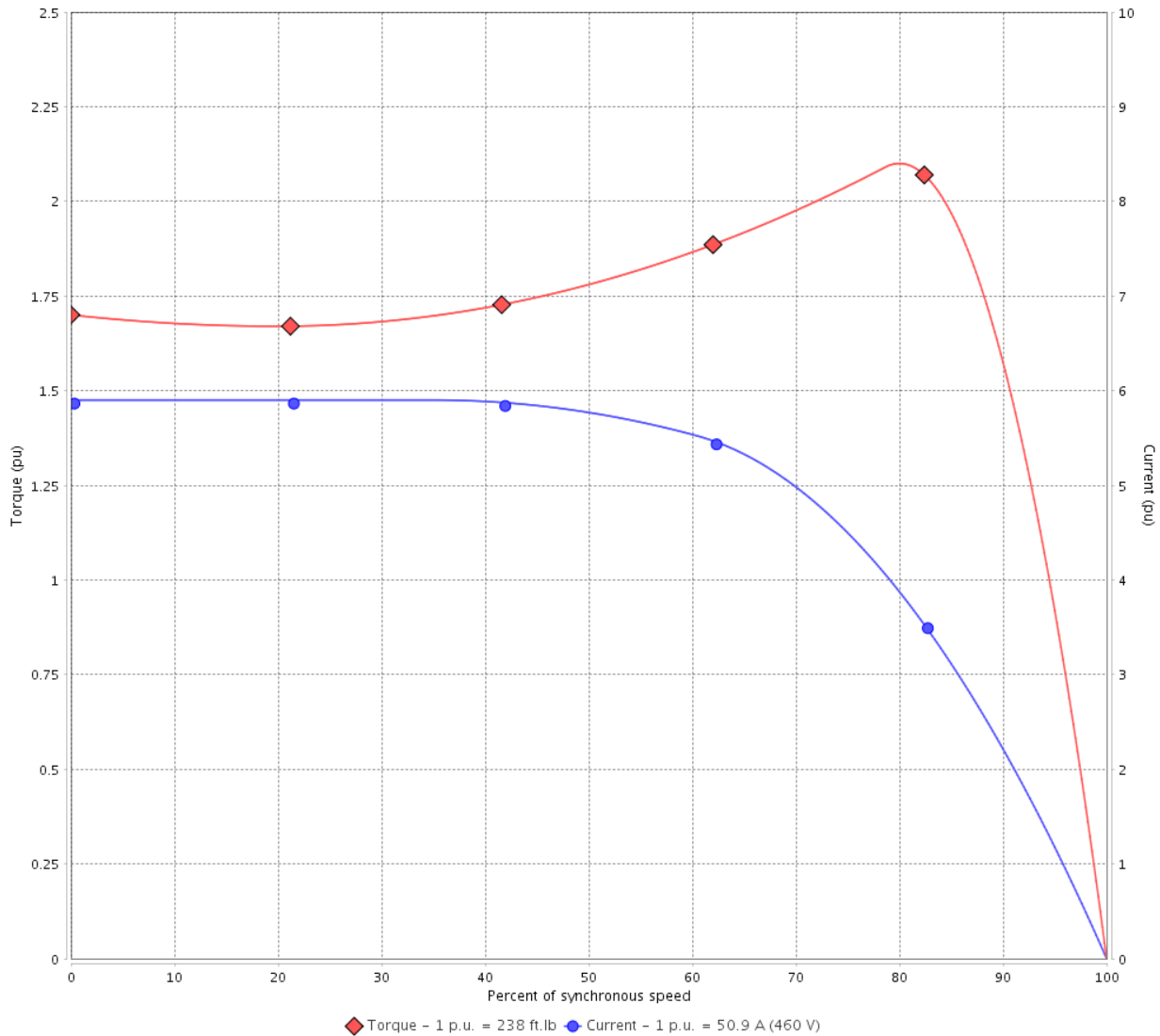
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11584358

Catalog # : 04009ST3QIE365T-W22

TORQUE AND CURRENT VS SPEED CURVE



Performance : 460 V 60 Hz 8P

Rated current	: 50.9 A	Moment of inertia (J)	: 29.0 sq.ft.lb
LRC	: 5.9	Duty cycle	: Cont.(S1)
Rated torque	: 238 ft.lb	Insulation class	: F
Locked rotor torque	: 170 %	Service factor	: 1.25
Breakdown torque	: 210 %	Temperature rise	: 80 K
Rated speed	: 882 rpm	Design	: B

Locked rotor time : 46s (cold) 26s (hot)

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TORQUE AND CURRENT VS SPEED CURVE



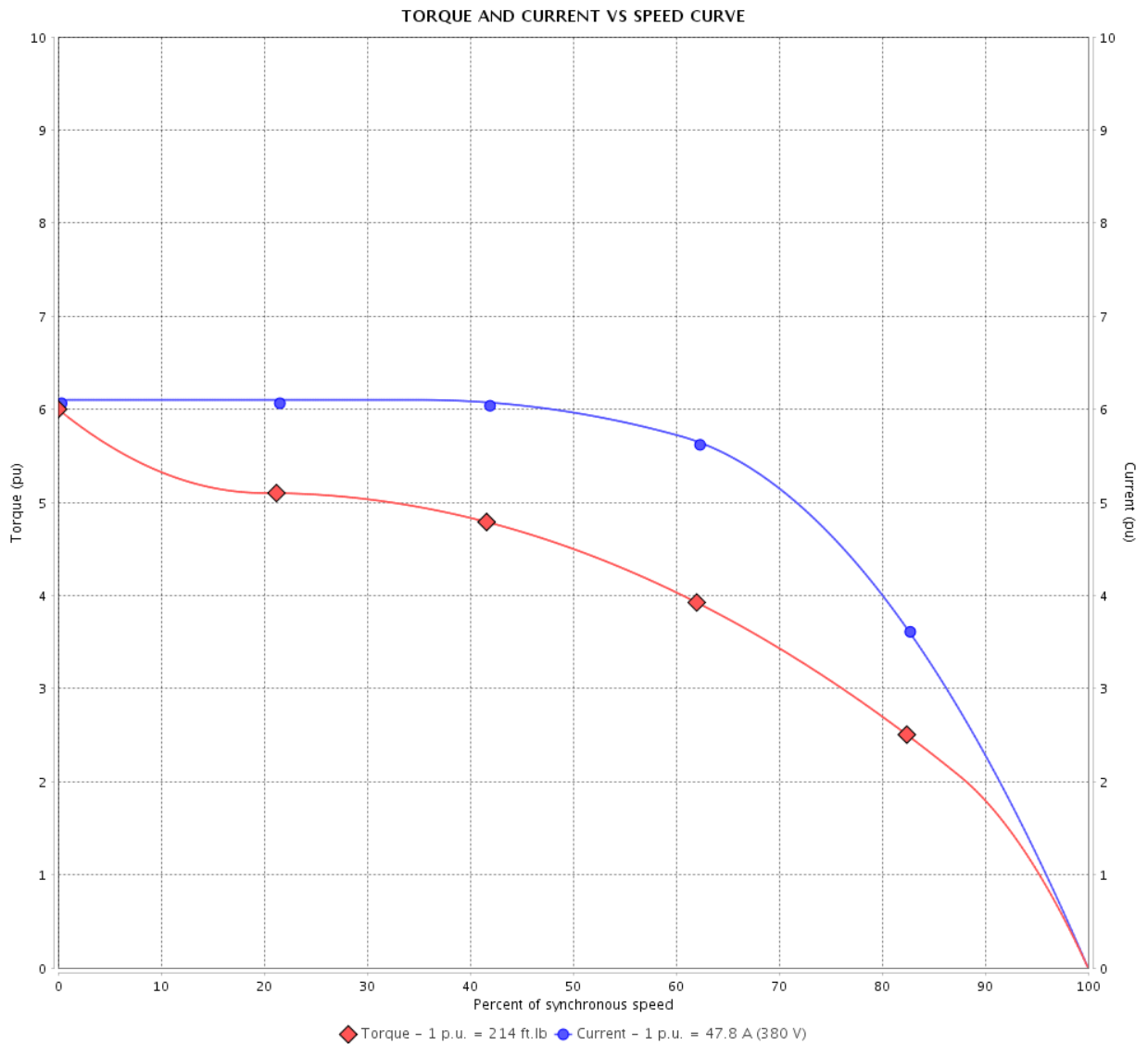
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11584358

Catalog # : 04009ST3QIE365T-W22



Performance : 380 V 50 Hz 8P IE3

Rated current	: 47.8 A	Moment of inertia (J)	: 29.0 sq.ft.lb
LRC	: 6.1	Duty cycle	: Cont.(S1)
Rated torque	: 214 ft.lb	Insulation class	: F
Locked rotor torque	: 600 %	Service factor	: 1.00
Breakdown torque	: 240 %	Temperature rise	: 80 K
Rated speed	: 735 rpm	Design	: B

Locked rotor time : 81s (cold) 45s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



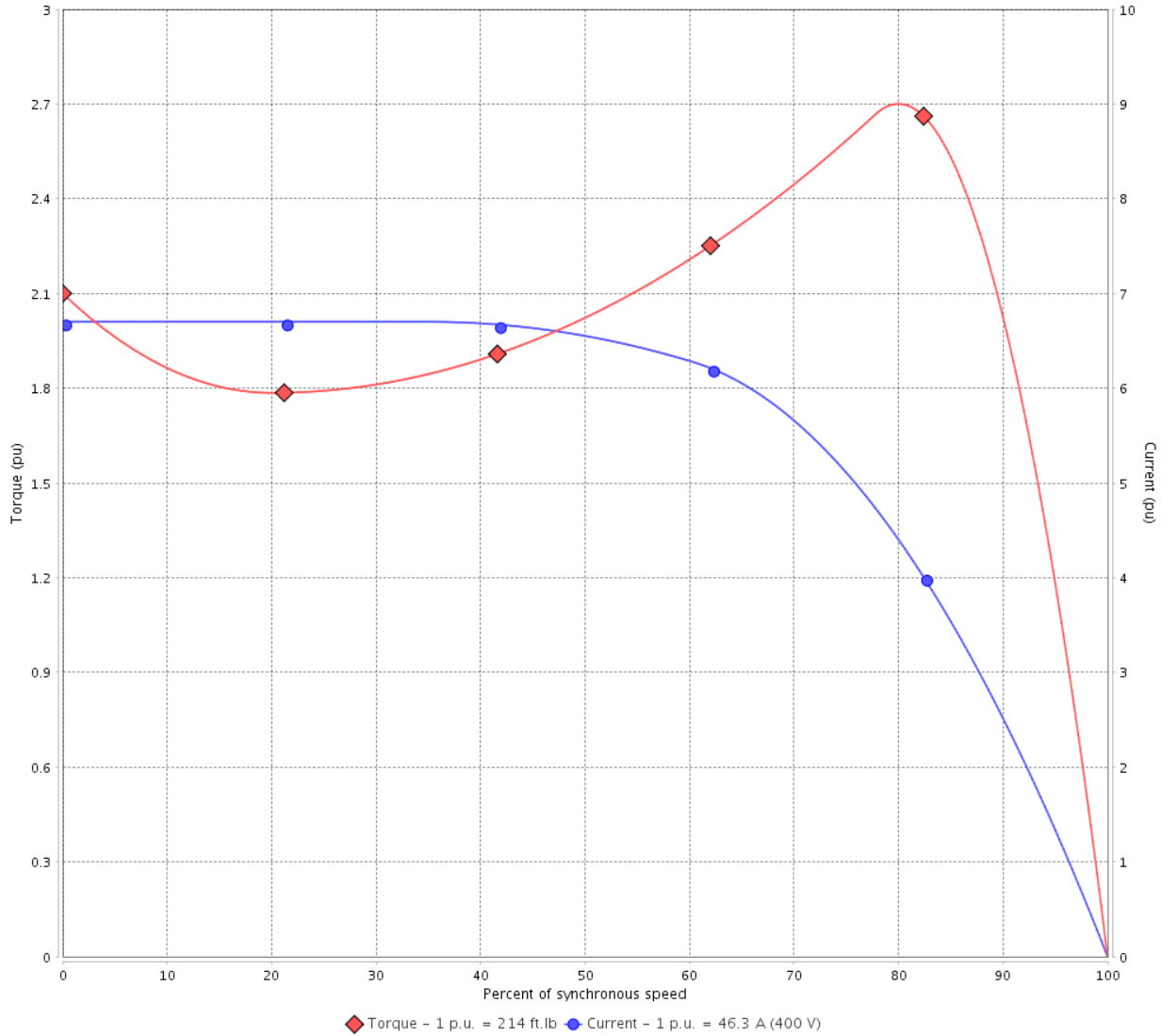
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11584358

Catalog # : 04009ST3QIE365T-W22

TORQUE AND CURRENT VS SPEED CURVE



Performance : 400 V 50 Hz 8P IE3

Rated current	: 46.3 A	Moment of inertia (J)	: 29.0 sq.ft.lb
LRC	: 6.7	Duty cycle	: Cont.(S1)
Rated torque	: 214 ft.lb	Insulation class	: F
Locked rotor torque	: 210 %	Service factor	: 1.00
Breakdown torque	: 270 %	Temperature rise	: 80 K
Rated speed	: 736 rpm	Design	: B

Locked rotor time : 52s (cold) 29s (hot)

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TORQUE AND CURRENT VS SPEED CURVE



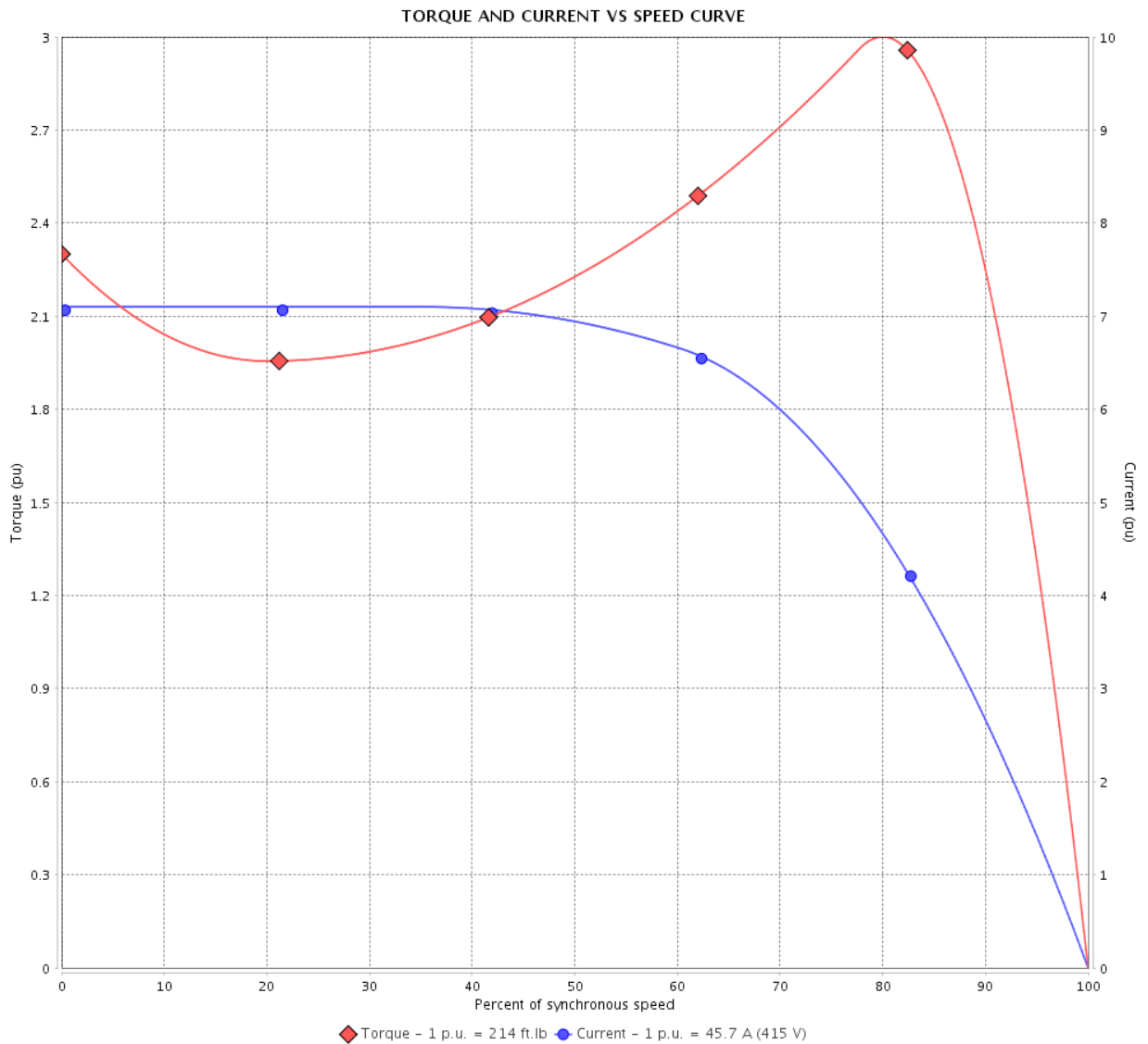
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Catalog # : 04009ST3QIE365T-W22



Performance : 415 V 50 Hz 8P IE3

Rated current	: 45.7 A	Moment of inertia (J)	: 29.0 sq.ft.lb
LRC	: 7.1	Duty cycle	: Cont.(S1)
Rated torque	: 214 ft.lb	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.00
Breakdown torque	: 300 %	Temperature rise	: 80 K
Rated speed	: 737 rpm	Design	: B

Locked rotor time : 52s (cold) 29s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



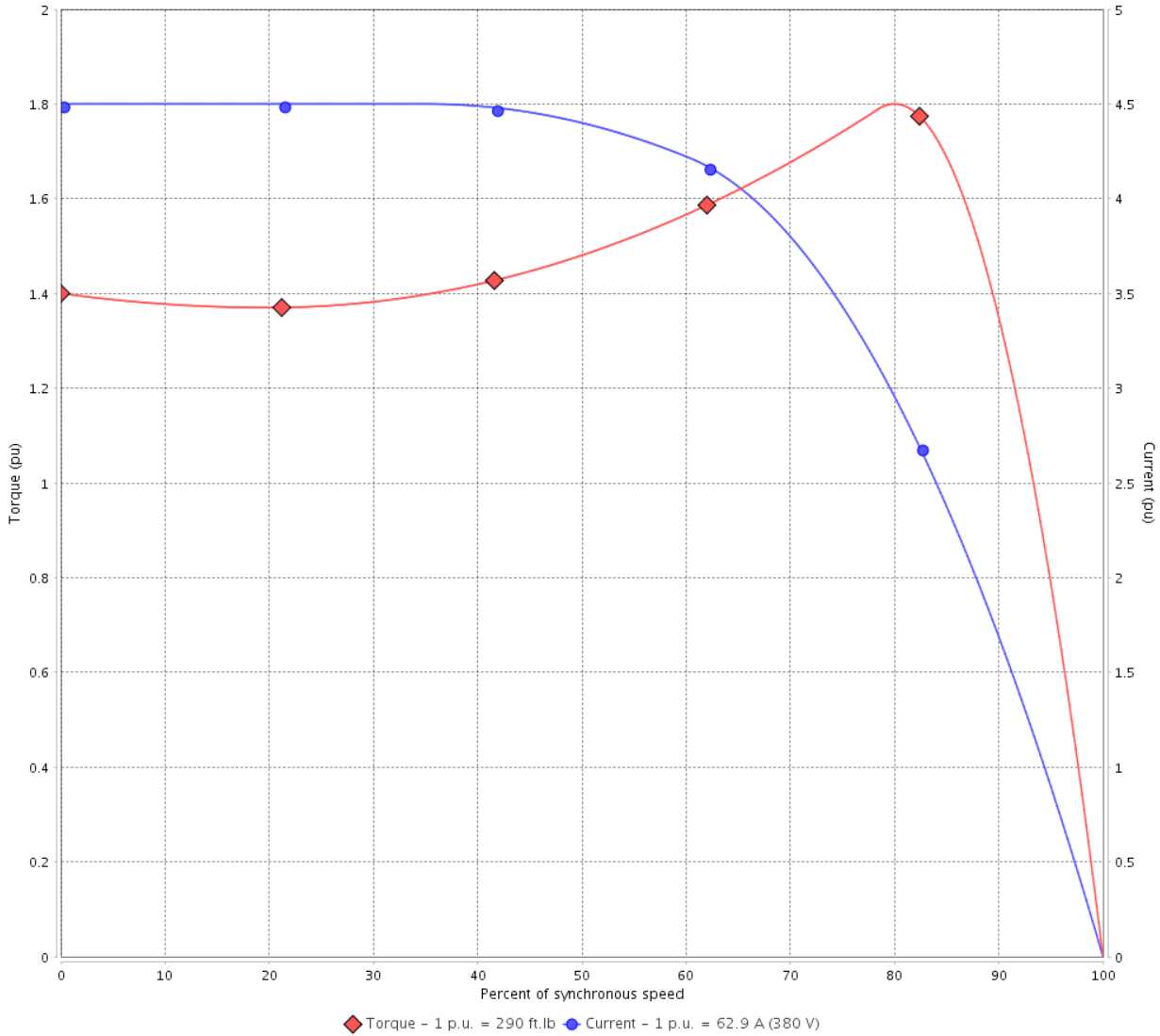
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Catalog # : 04009ST3QIE365T-W22

TORQUE AND CURRENT VS SPEED CURVE



Performance : 380 V 50 Hz 8P IE1

Rated current	: 62.9 A	Moment of inertia (J)	: 29.0 sq.ft.lb
LRC	: 4.5	Duty cycle	: Cont.(S1)
Rated torque	: 290 ft.lb	Insulation class	: F
Locked rotor torque	: 140 %	Service factor	: 1.00
Breakdown torque	: 180 %	Temperature rise	: 105 K
Rated speed	: 725 rpm	Design	: B

Locked rotor time : 32s (cold) 18s (hot)

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TORQUE AND CURRENT VS SPEED CURVE



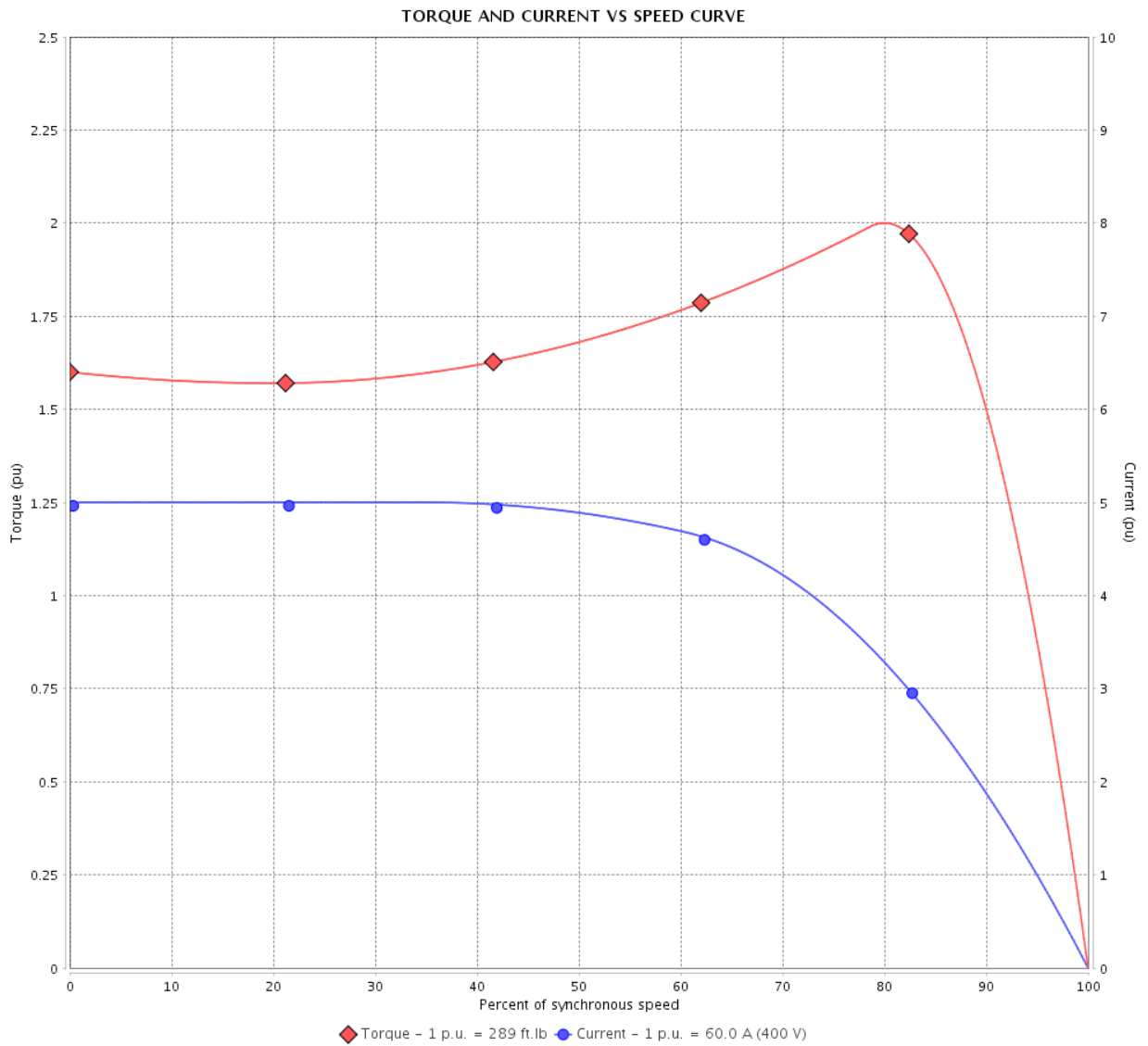
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Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11584358

Catalog # : 04009ST3QIE365T-W22



Performance : 400 V 50 Hz 8P IE2

Rated current	: 60.0 A	Moment of inertia (J)	: 29.0 sq.ft.lb
LRC	: 5.0	Duty cycle	: Cont.(S1)
Rated torque	: 289 ft.lb	Insulation class	: F
Locked rotor torque	: 160 %	Service factor	: 1.00
Breakdown torque	: 200 %	Temperature rise	: 105 K
Rated speed	: 727 rpm	Design	: B

Locked rotor time : 32s (cold) 18s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



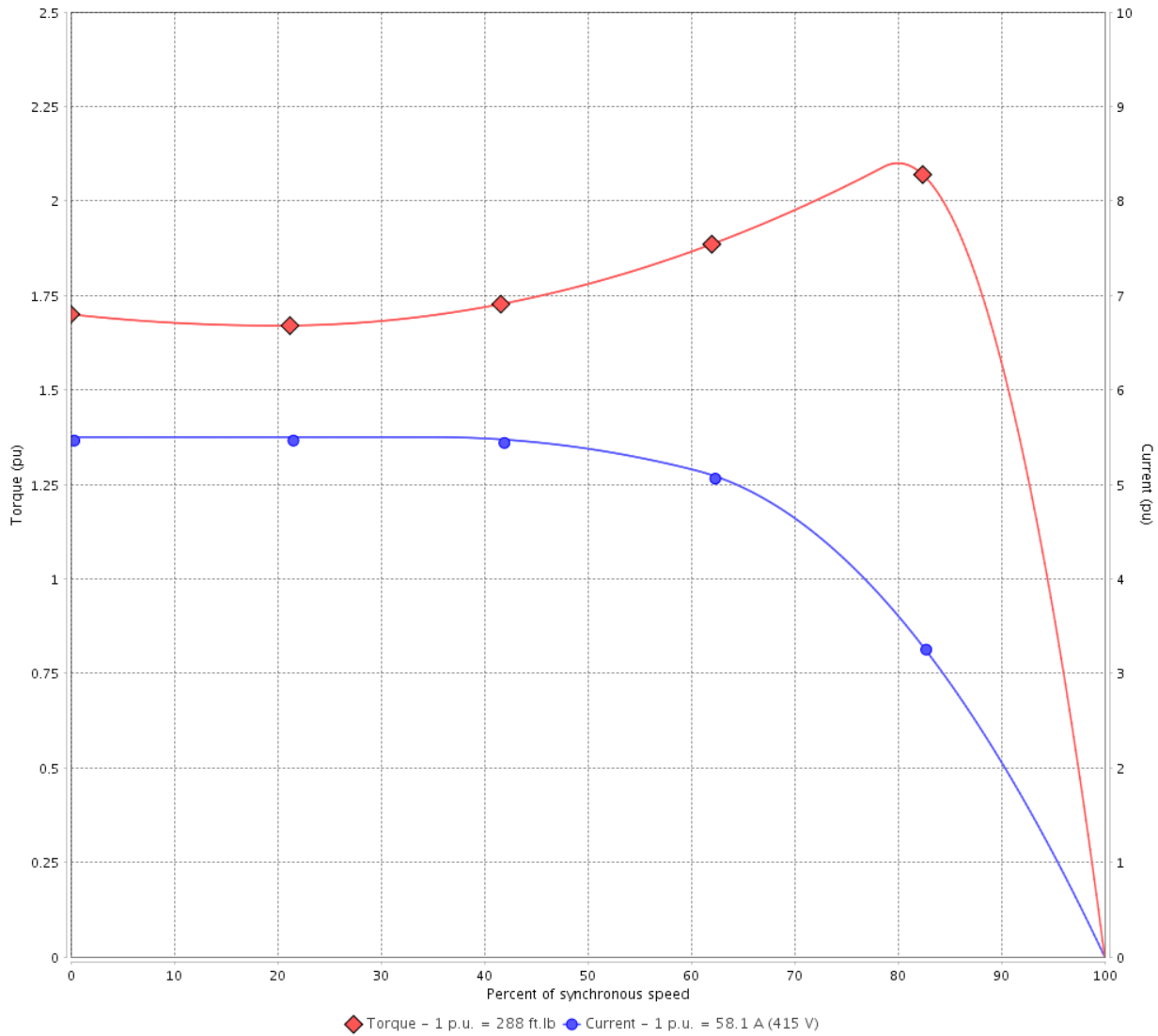
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11584358

Catalog # : 04009ST3QIE365T-W22

TORQUE AND CURRENT VS SPEED CURVE



Performance : 415 V 50 Hz 8P IE2

Rated current	: 58.1 A	Moment of inertia (J)	: 29.0 sq.ft.lb
LRC	: 5.5	Duty cycle	: Cont.(S1)
Rated torque	: 288 ft.lb	Insulation class	: F
Locked rotor torque	: 170 %	Service factor	: 1.00
Breakdown torque	: 210 %	Temperature rise	: 105 K
Rated speed	: 730 rpm	Design	: B

Locked rotor time : 32s (cold) 18s (hot)

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Three Phase Induction Motor - Squirrel Cage

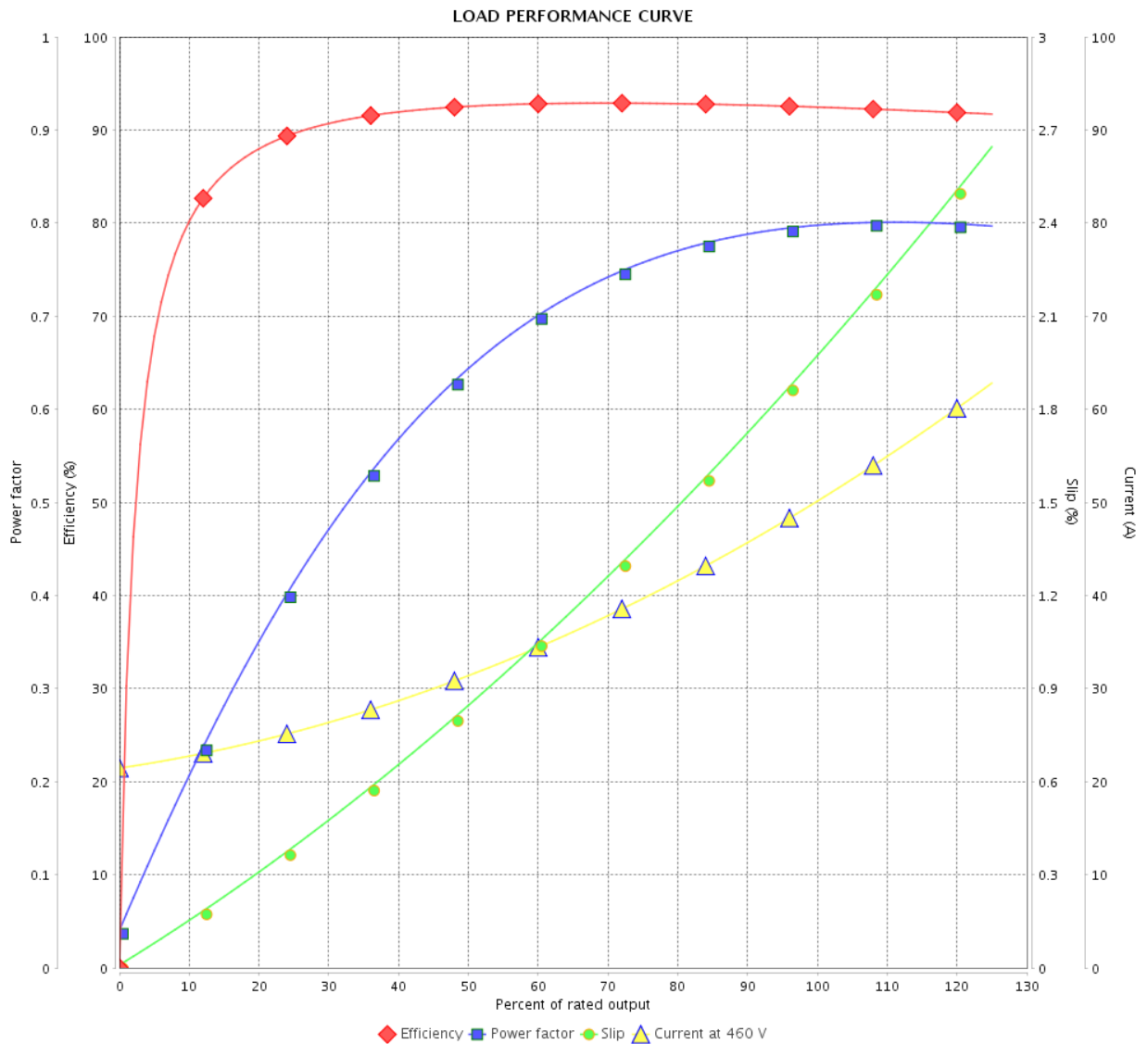


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Product code : 11584358

Catalog # : 04009ST3QIE365T-W22



Performance : 460 V 60 Hz 8P

Rated current : 50.9 A
 LRC : 5.9
 Rated torque : 238 ft.lb
 Locked rotor torque : 170 %
 Breakdown torque : 210 %
 Rated speed : 882 rpm

Moment of inertia (J) : 29.0 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.25
 Temperature rise : 80 K
 Design : B

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Three Phase Induction Motor - Squirrel Cage

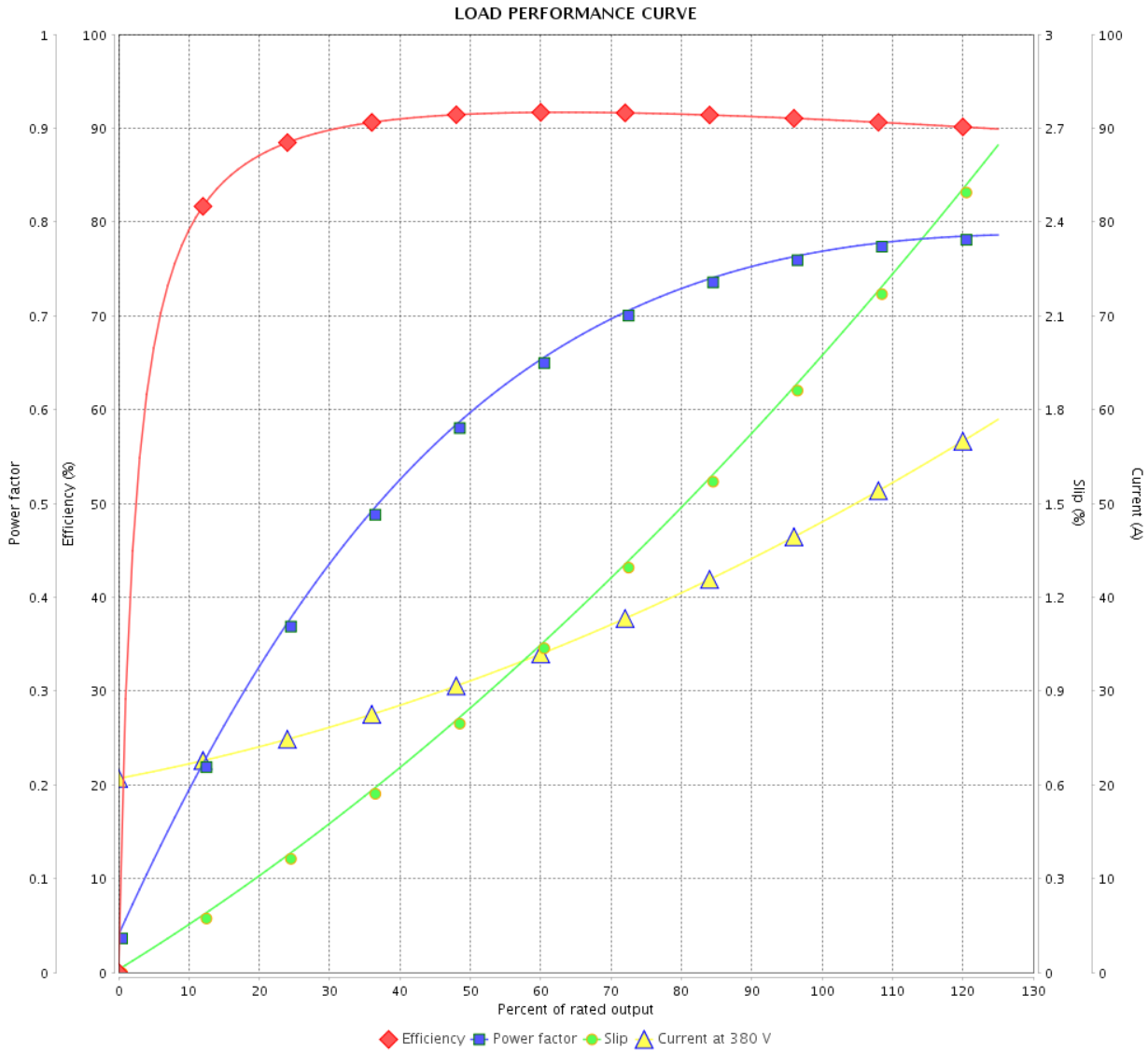


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11584358

Catalog # : 04009ST3QIE365T-W22



Performance : 380 V 50 Hz 8P IE3

Rated current : 47.8 A
 LRC : 6.1
 Rated torque : 214 ft.lb
 Locked rotor torque : 600 %
 Breakdown torque : 240 %
 Rated speed : 735 rpm

Moment of inertia (J) : 29.0 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

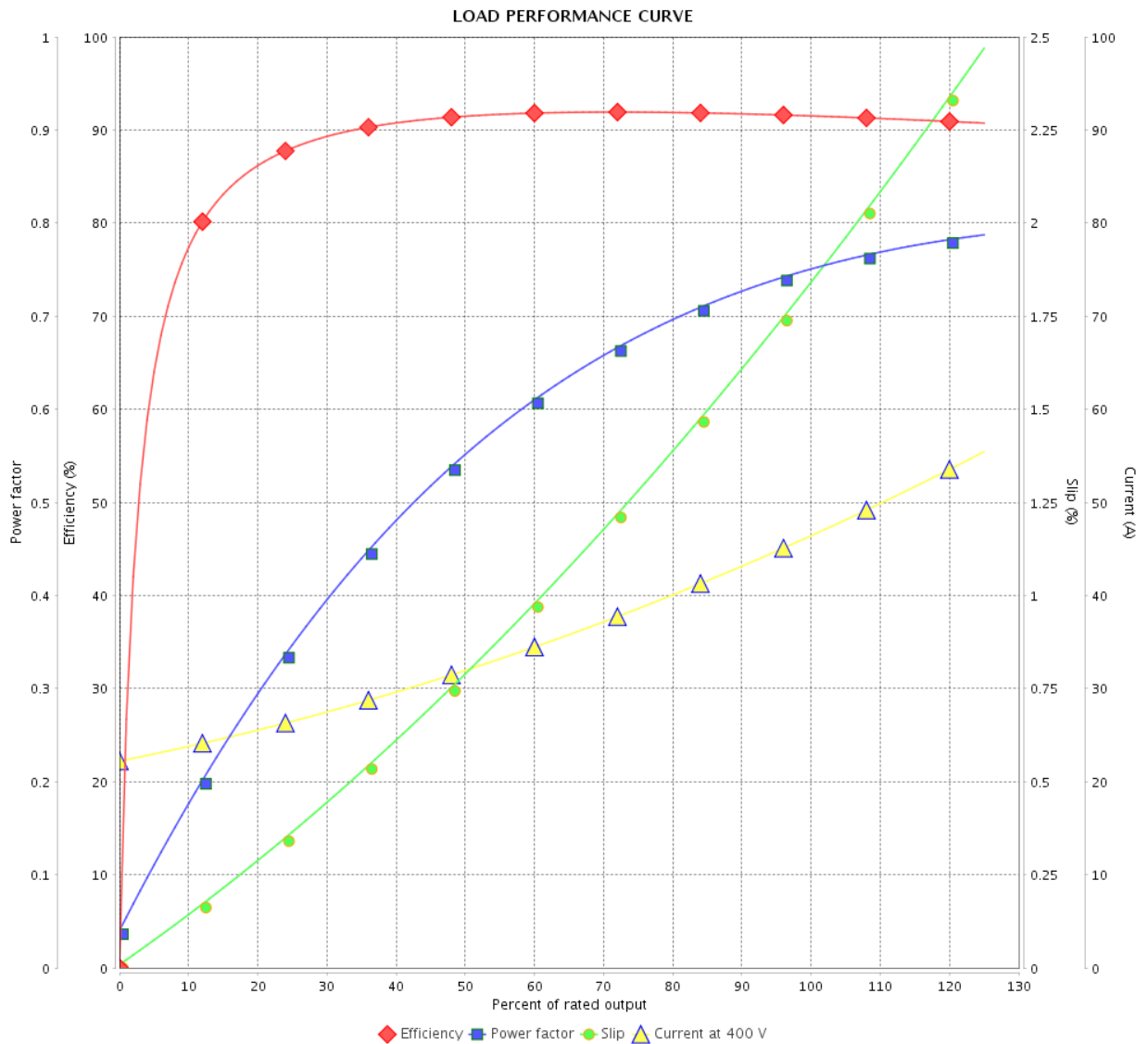


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Performance : 400 V 50 Hz 8P IE3

Rated current : 46.3 A
 LRC : 6.7
 Rated torque : 214 ft.lb
 Locked rotor torque : 210 %
 Breakdown torque : 270 %
 Rated speed : 736 rpm

Moment of inertia (J) : 29.0 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



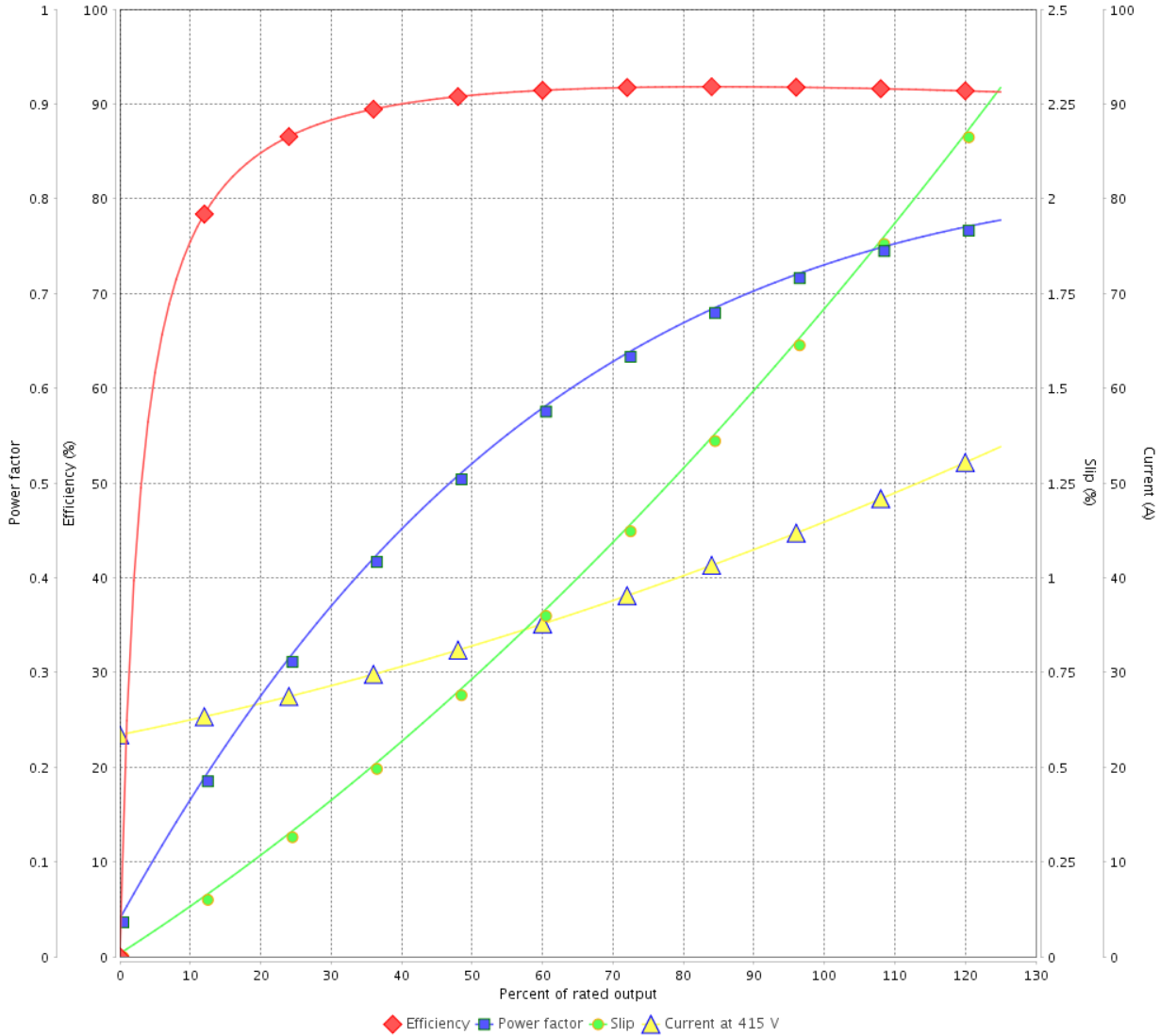
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Performance : 415 V 50 Hz 8P IE3

Rated current	: 45.7 A	Moment of inertia (J)	: 29.0 sq.ft.lb
LRC	: 7.1	Duty cycle	: Cont.(S1)
Rated torque	: 214 ft.lb	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.00
Breakdown torque	: 300 %	Temperature rise	: 80 K
Rated speed	: 737 rpm	Design	: B

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Three Phase Induction Motor - Squirrel Cage

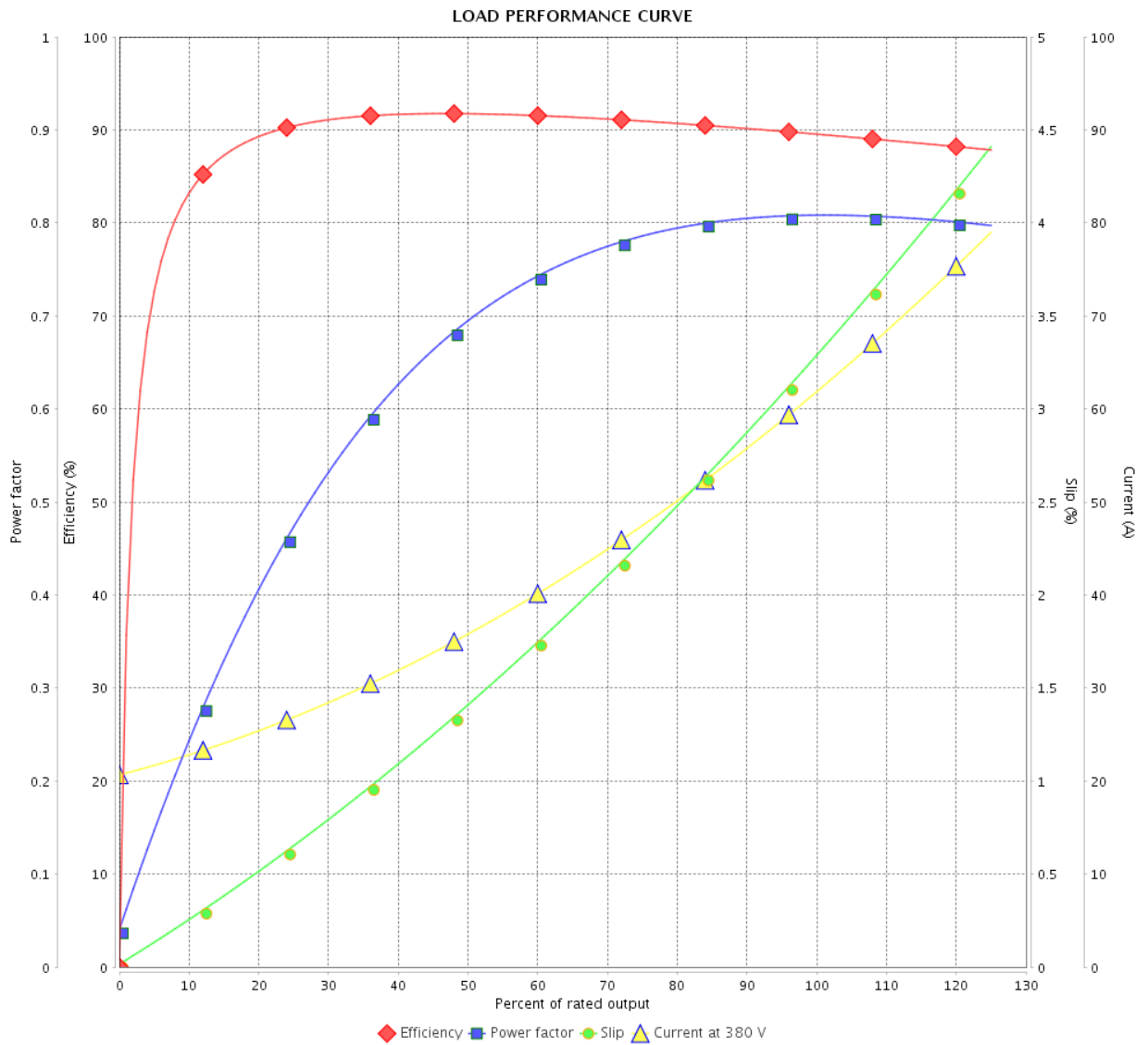


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11584358

Catalog # : 04009ST3QIE365T-W22



Performance : 380 V 50 Hz 8P IE1

Rated current : 62.9 A
 LRC : 4.5
 Rated torque : 290 ft.lb
 Locked rotor torque : 140 %
 Breakdown torque : 180 %
 Rated speed : 725 rpm

Moment of inertia (J) : 29.0 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 105 K
 Design : B

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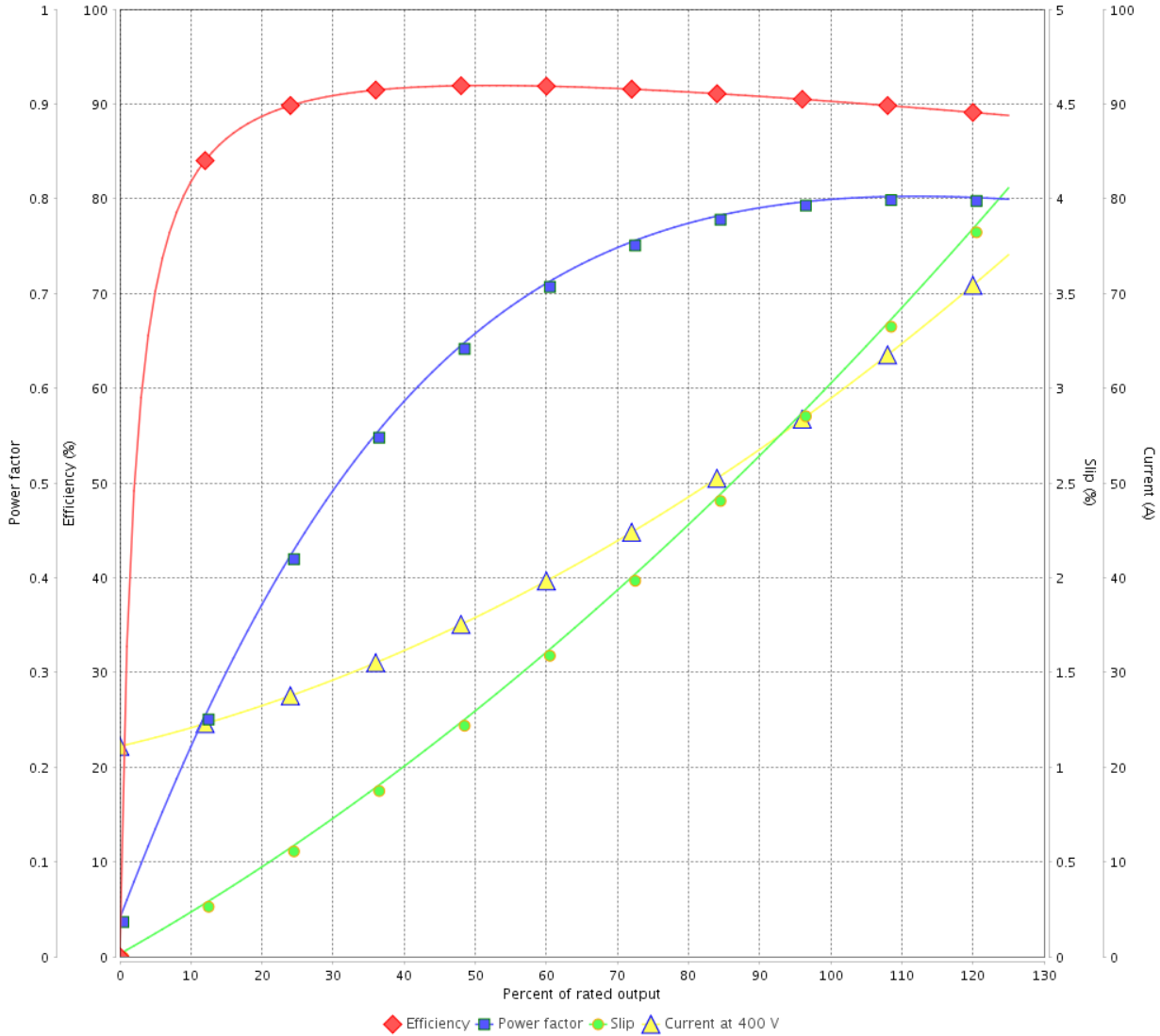
Customer :

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LOAD PERFORMANCE CURVE



Performance : 400 V 50 Hz 8P IE2

Rated current : 60.0 A
 LRC : 5.0
 Rated torque : 289 ft.lb
 Locked rotor torque : 160 %
 Breakdown torque : 200 %
 Rated speed : 727 rpm

Moment of inertia (J) : 29.0 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 105 K
 Design : B

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Three Phase Induction Motor - Squirrel Cage

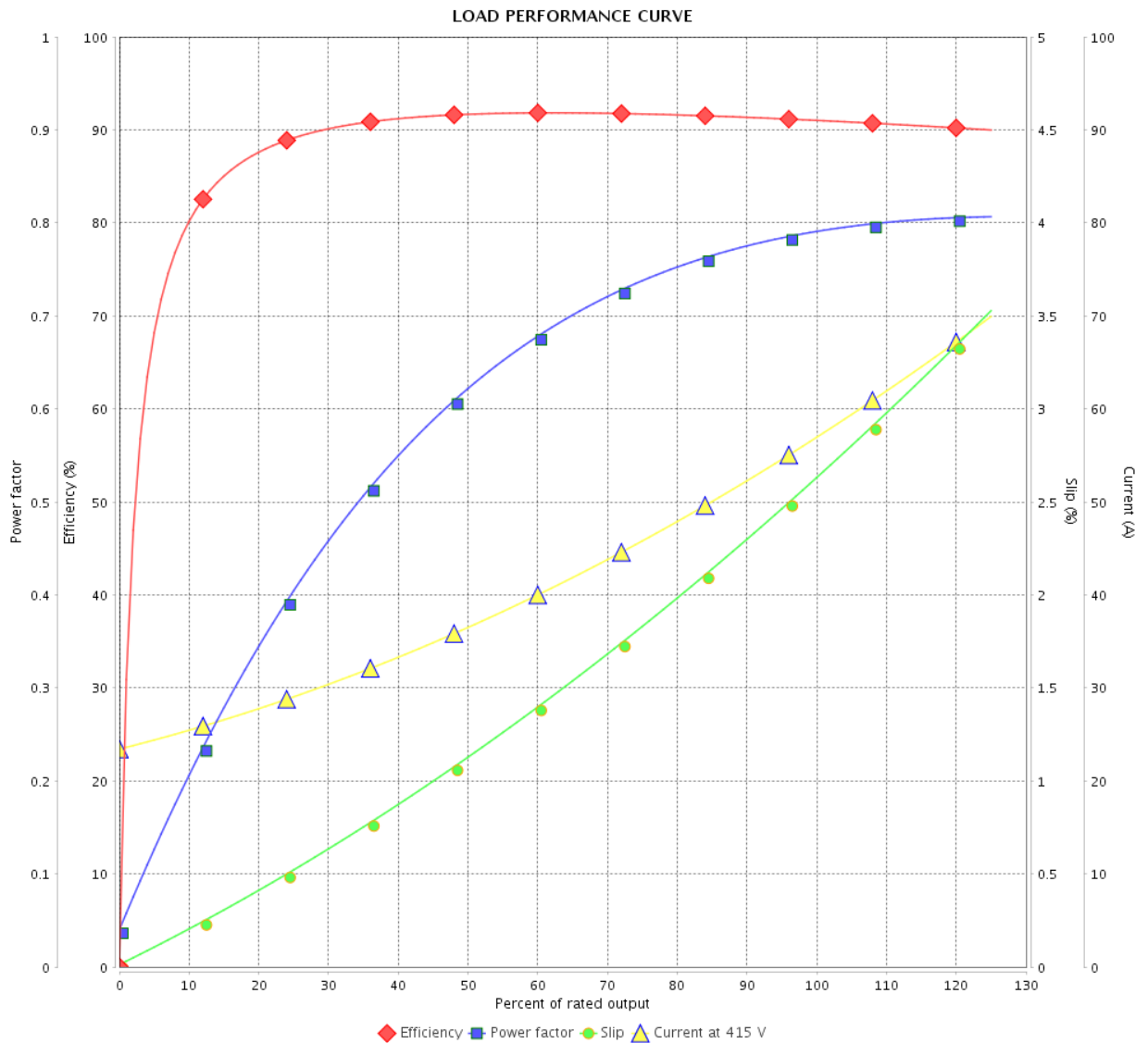


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Performance : 415 V 50 Hz 8P IE2

Rated current : 58.1 A
 LRC : 5.5
 Rated torque : 288 ft.lb
 Locked rotor torque : 170 %
 Breakdown torque : 210 %
 Rated speed : 730 rpm

Moment of inertia (J) : 29.0 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 105 K
 Design : B

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THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : NEMA Premium Efficiency Three-Phase
Product code : 11584358
Catalog # : 04009ST3QIE365T-W22

Performance : 460 V 60 Hz 8P

Rated current	: 50.9 A	Moment of inertia (J)	: 29.0 sq.ft.lb
LRC	: 5.9	Duty cycle	: Cont.(S1)
Rated torque	: 238 ft.lb	Insulation class	: F
Locked rotor torque	: 170 %	Service factor	: 1.25
Breakdown torque	: 210 %	Temperature rise	: 80 K
Rated speed	: 882 rpm	Design	: B

Heating constant

Cooling constant

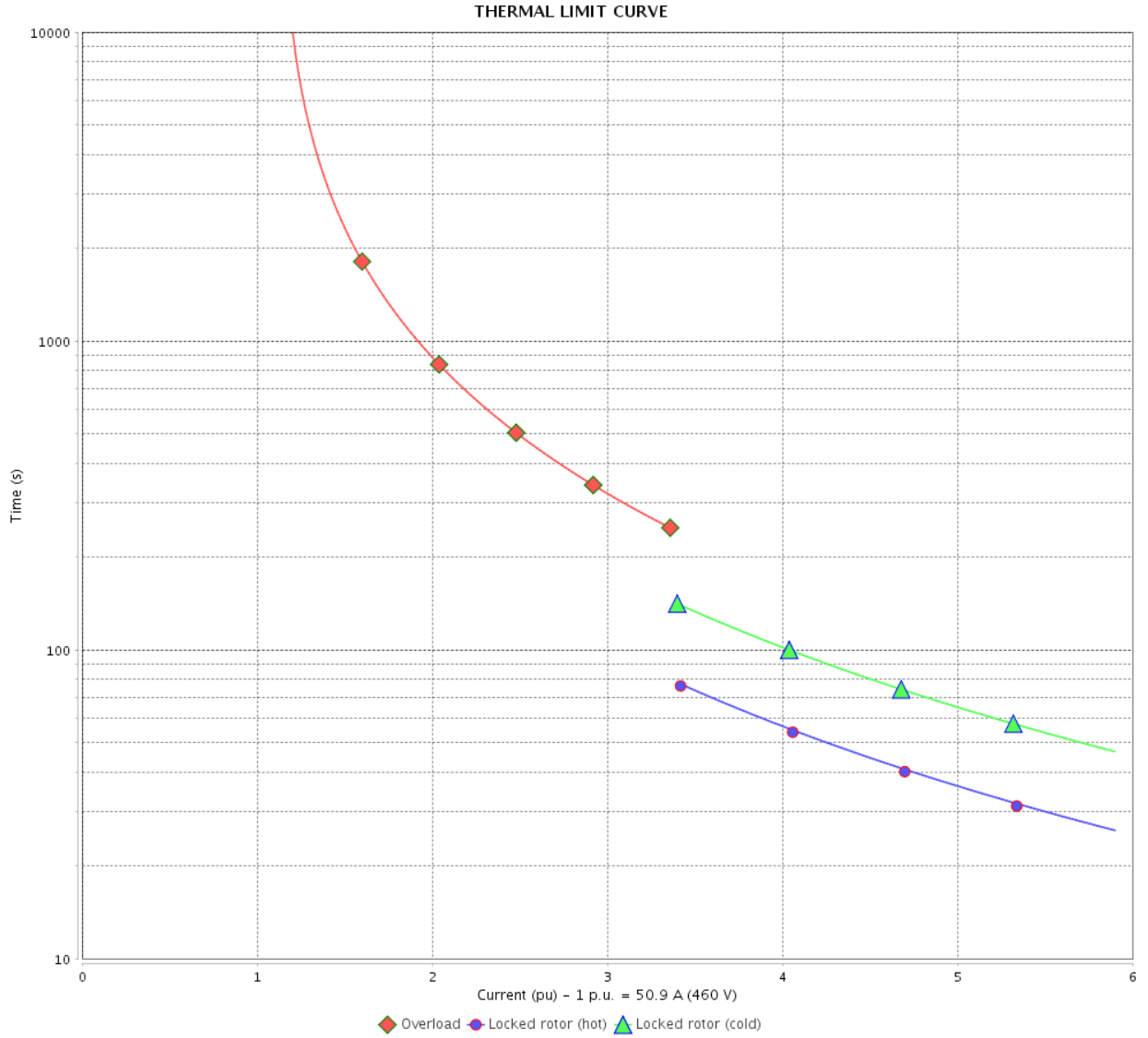
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Three Phase Induction Motor - Squirrel Cage



Customer : _____



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THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer :

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Performance : 380 V 50 Hz 8P IE3

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Locked rotor torque	: 600 %	Service factor	: 1.00
Breakdown torque	: 240 %	Temperature rise	: 80 K
Rated speed	: 735 rpm	Design	: B

Heating constant

Cooling constant

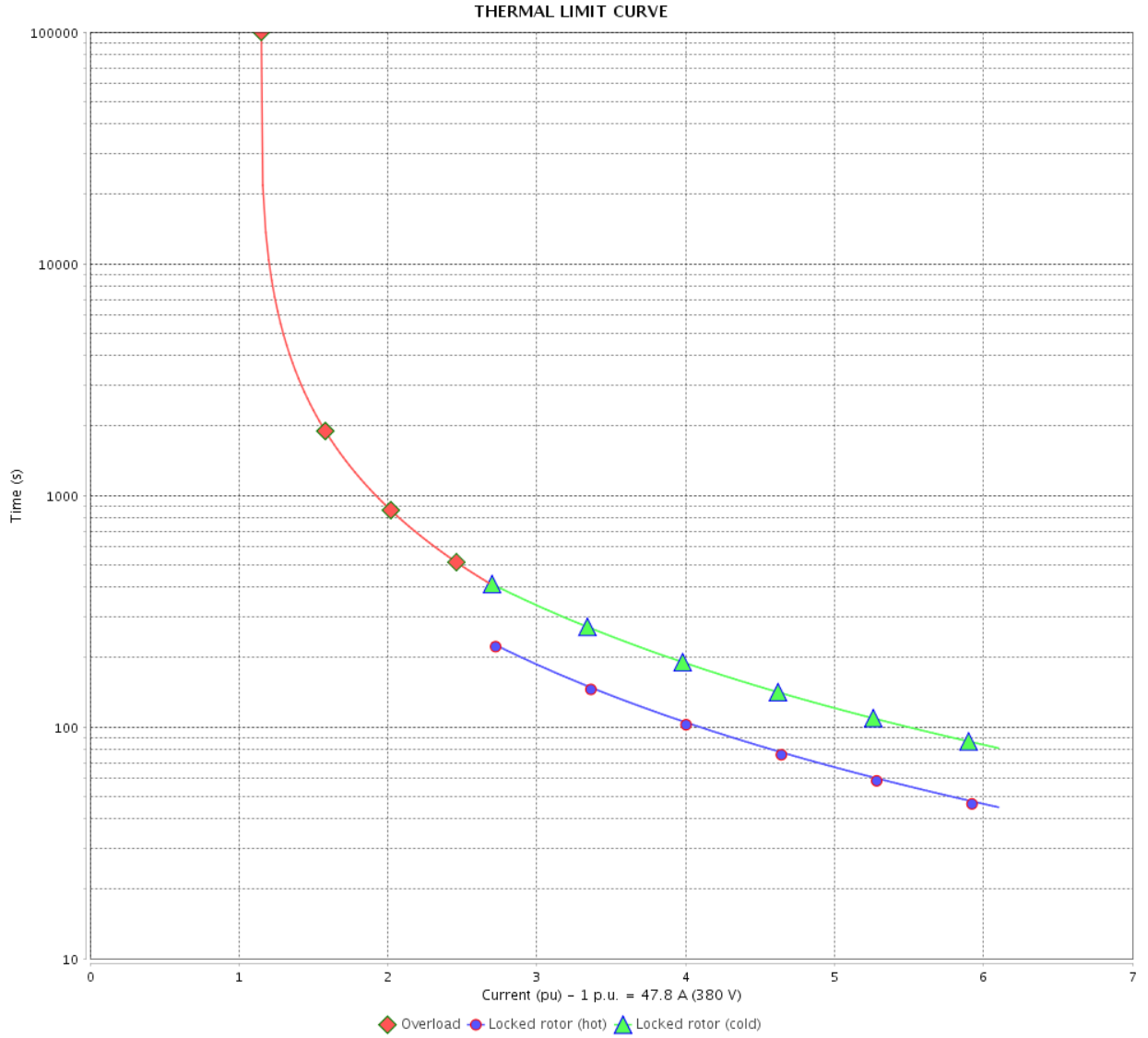
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Three Phase Induction Motor - Squirrel Cage



Customer : _____



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THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : NEMA Premium Efficiency Three-Phase
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Catalog # : 04009ST3QIE365T-W22

Performance : 400 V 50 Hz 8P IE3

Rated current	: 46.3 A	Moment of inertia (J)	: 29.0 sq.ft.lb
LRC	: 6.7	Duty cycle	: Cont.(S1)
Rated torque	: 214 ft.lb	Insulation class	: F
Locked rotor torque	: 210 %	Service factor	: 1.00
Breakdown torque	: 270 %	Temperature rise	: 80 K
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Heating constant

Cooling constant

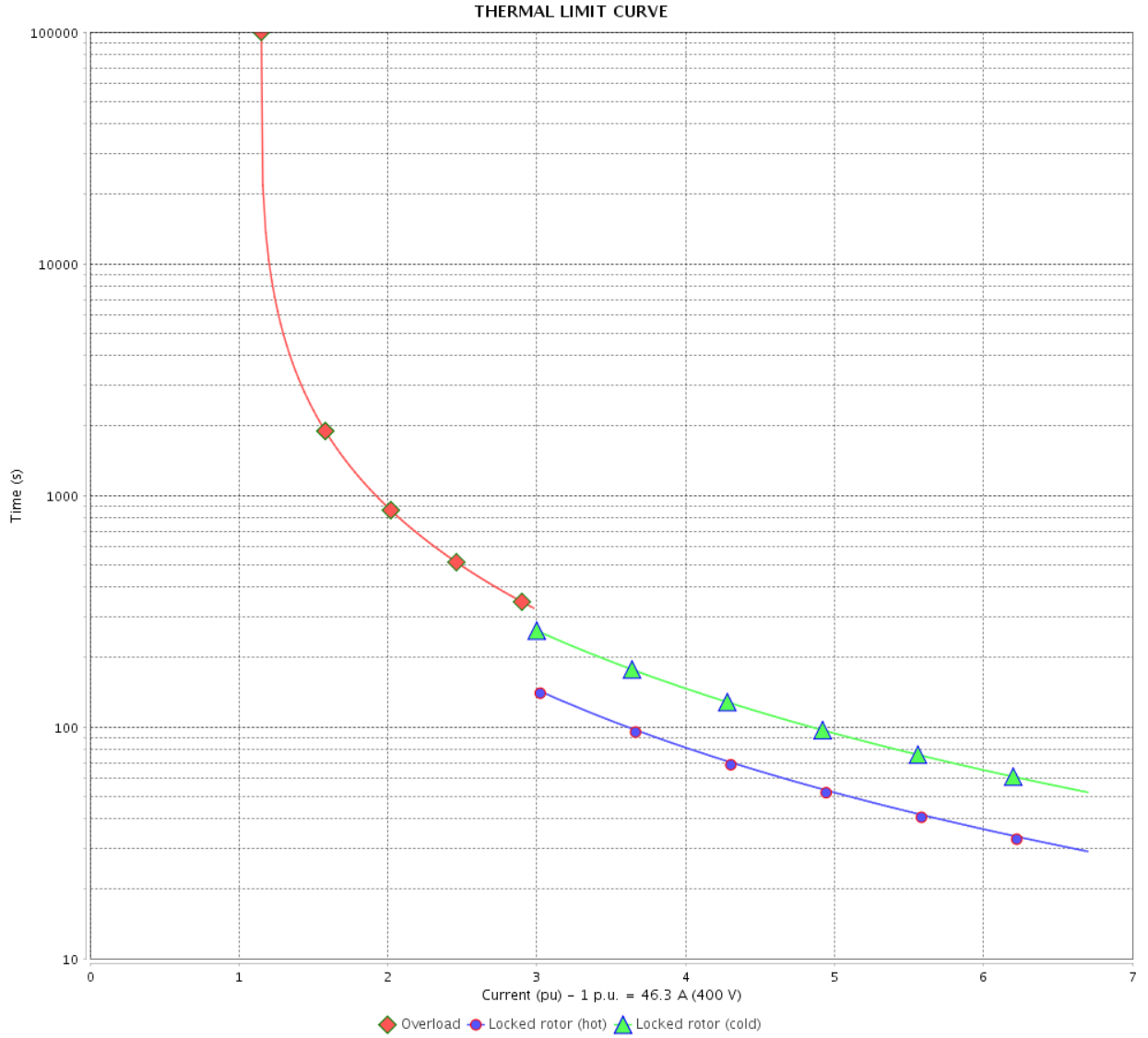
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THERMAL LIMIT CURVE

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Breakdown torque : 300 %	Temperature rise : 80 K
Rated speed : 737 rpm	Design : B

Heating constant

Cooling constant

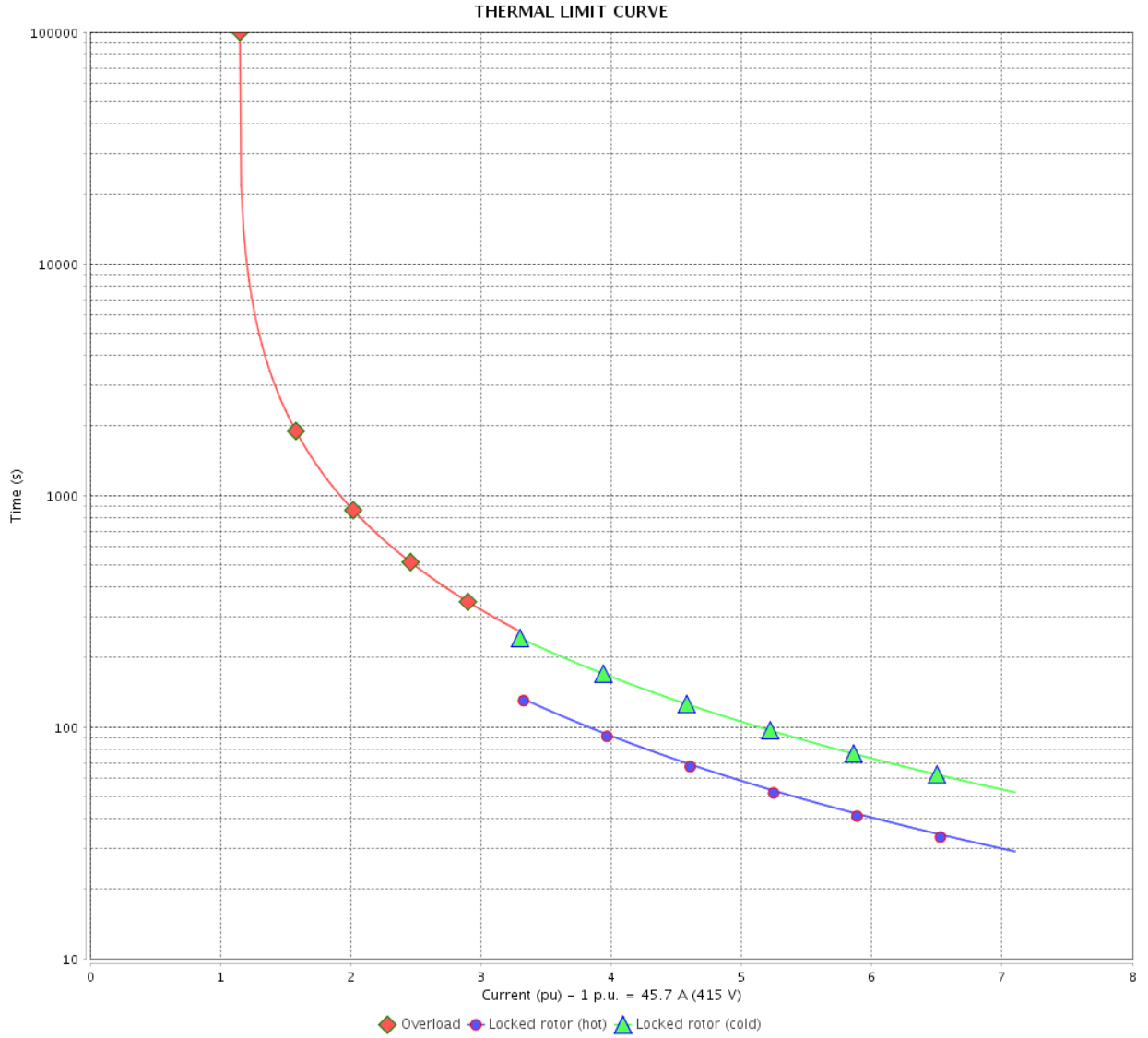
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THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : _____



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LRC	: 4.5	Duty cycle	: Cont.(S1)
Rated torque	: 290 ft.lb	Insulation class	: F
Locked rotor torque	: 140 %	Service factor	: 1.00
Breakdown torque	: 180 %	Temperature rise	: 105 K
Rated speed	: 725 rpm	Design	: B

Heating constant

Cooling constant

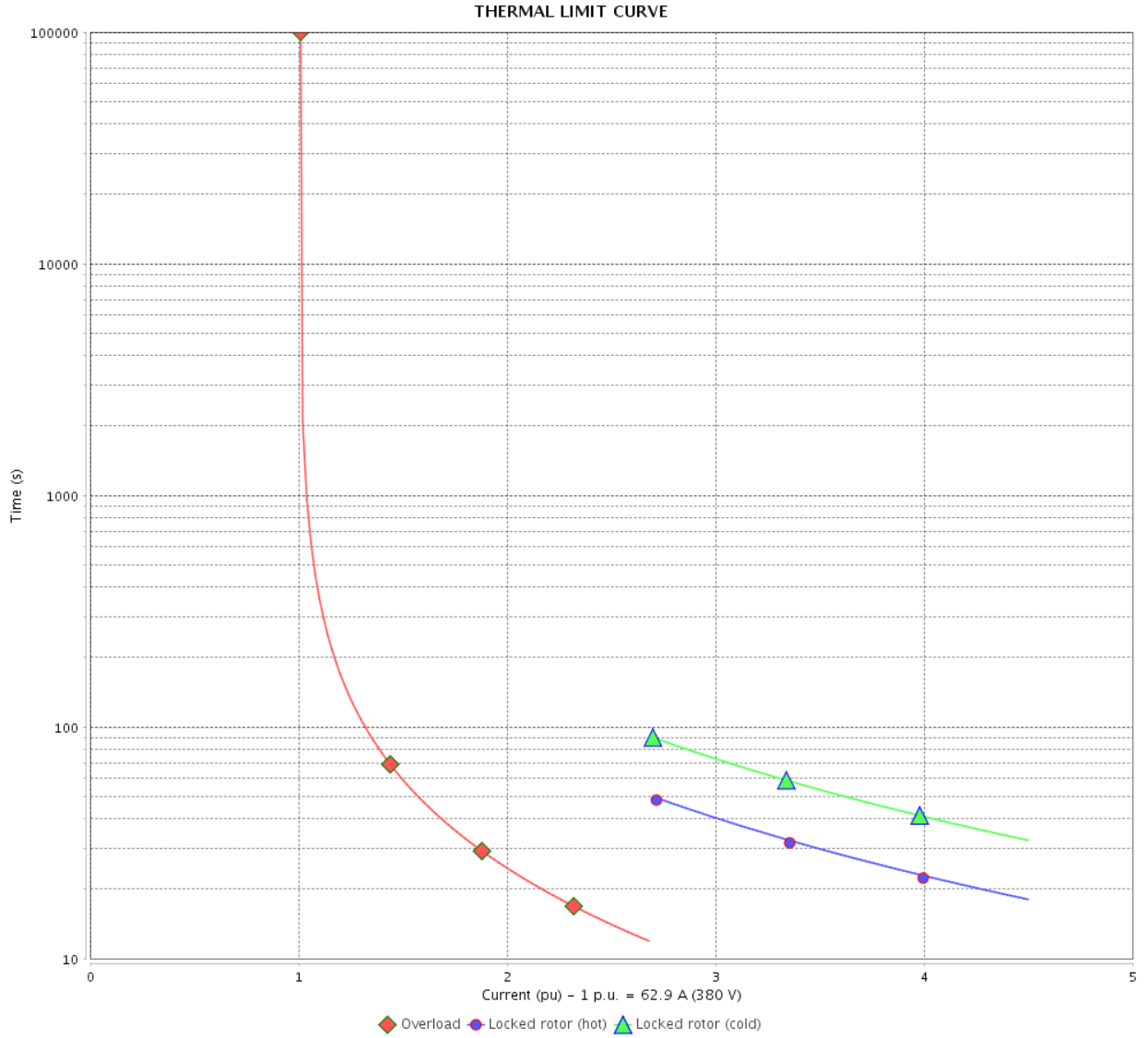
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THERMAL LIMIT CURVE

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Heating constant

Cooling constant

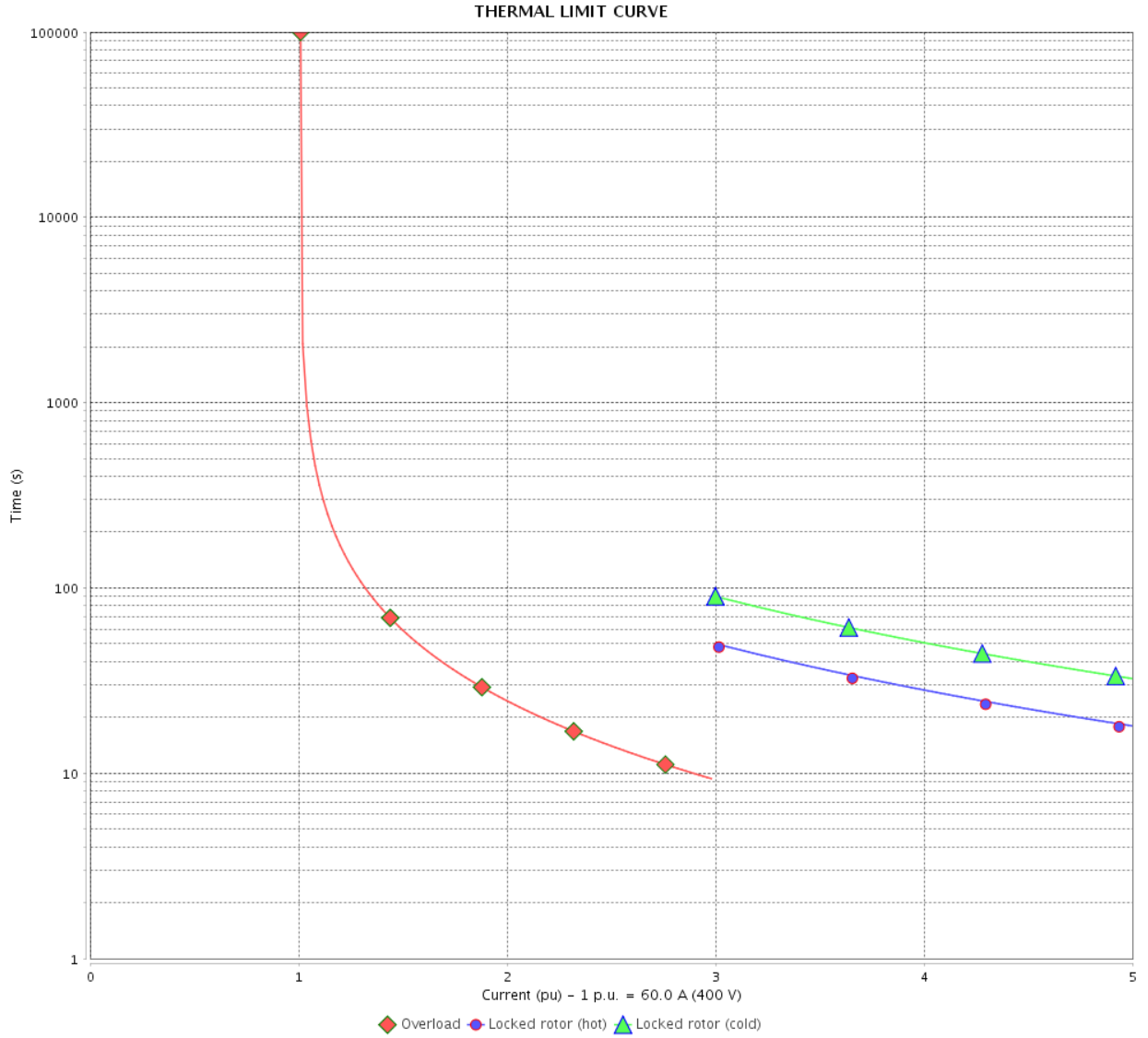
Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by			Page	Revision
Date	13/04/2022		26 / 36	

THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : _____



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Performed by				
Checked by				
Date				
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THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : NEMA Premium Efficiency Three-Phase
Product code : 11584358
Catalog # : 04009ST3QIE365T-W22

Performance : 415 V 50 Hz 8P IE2

Rated current	: 58.1 A	Moment of inertia (J)	: 29.0 sq.ft.lb
LRC	: 5.5	Duty cycle	: Cont.(S1)
Rated torque	: 288 ft.lb	Insulation class	: F
Locked rotor torque	: 170 %	Service factor	: 1.00
Breakdown torque	: 210 %	Temperature rise	: 105 K
Rated speed	: 730 rpm	Design	: B

Heating constant

Cooling constant

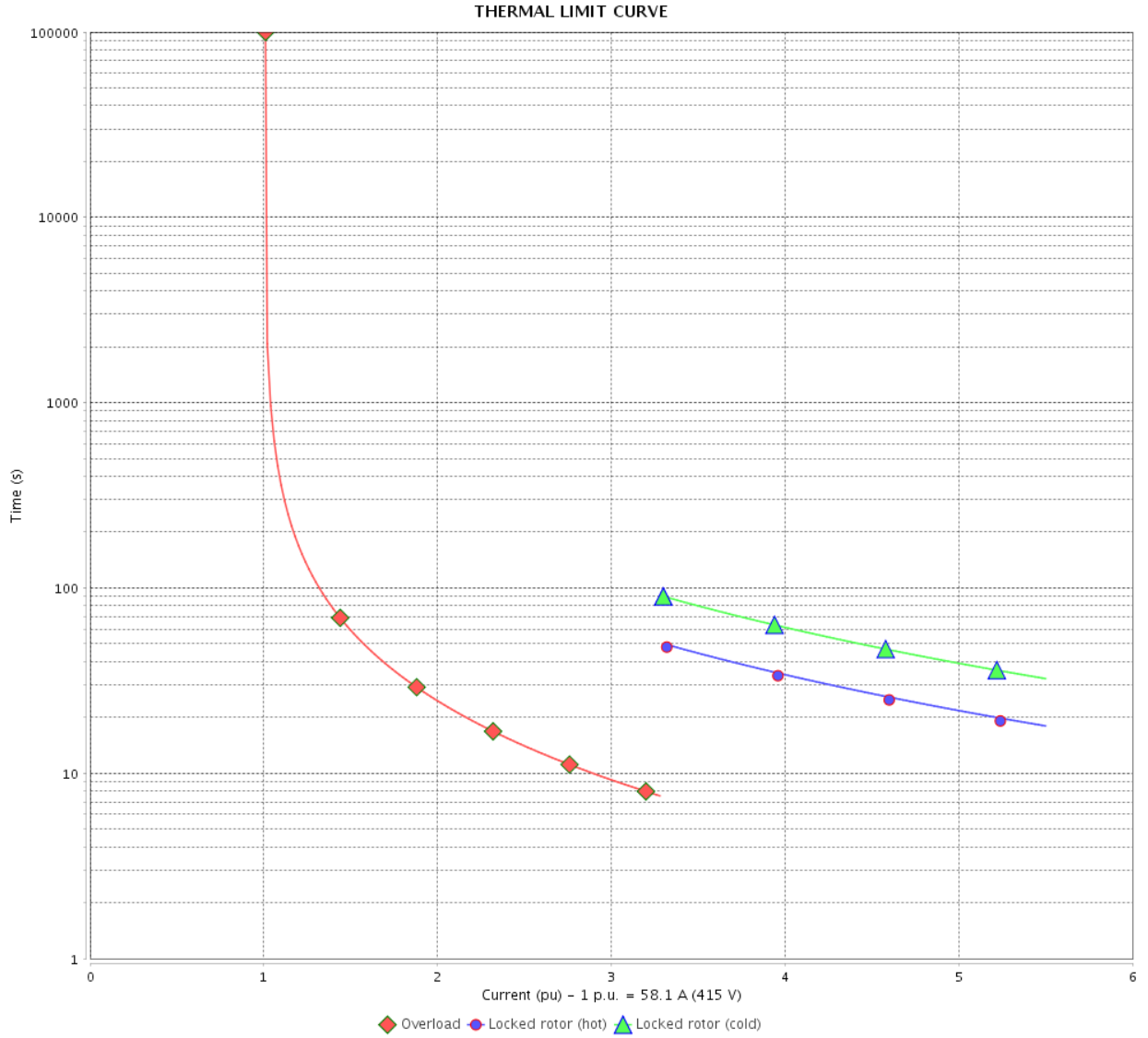
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Date	13/04/2022		Page 28 / 36	Revision

THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : _____



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Performed by		Page		Revision
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Date	13/04/2022			

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

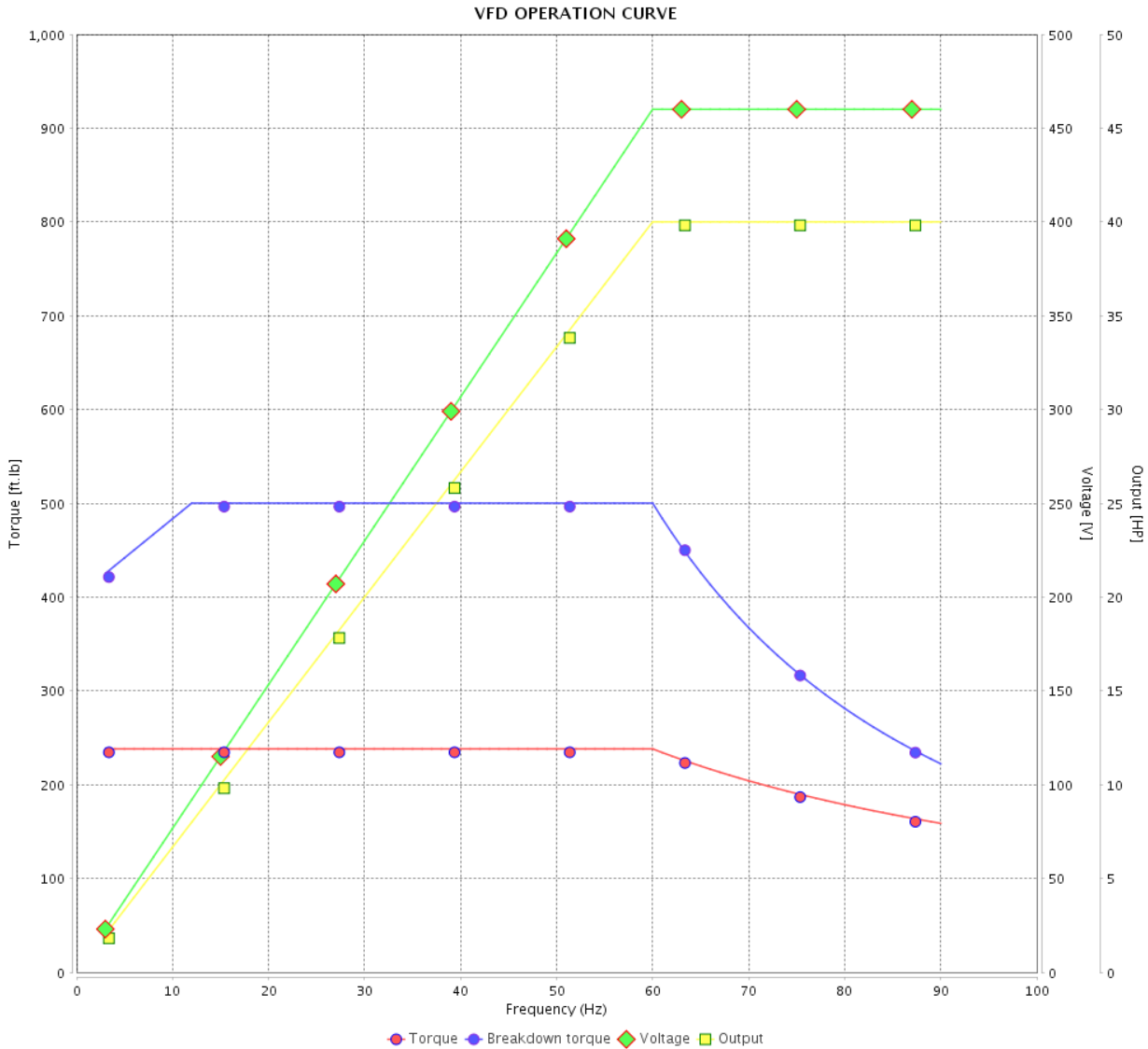


Customer : _____

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11584358

Catalog # : 04009ST3QIE365T-W22



Performance : 460 V 60 Hz 8P

Rated current	: 50.9 A	Moment of inertia (J)	: 29.0 sq.ft.lb
LRC	: 5.9	Duty cycle	: Cont.(S1)
Rated torque	: 238 ft.lb	Insulation class	: F
Locked rotor torque	: 170 %	Service factor	: 1.25
Breakdown torque	: 210 %	Temperature rise	: 80 K
Rated speed	: 882 rpm	Design	: B

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page	Revision
Checked by				
Date				

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

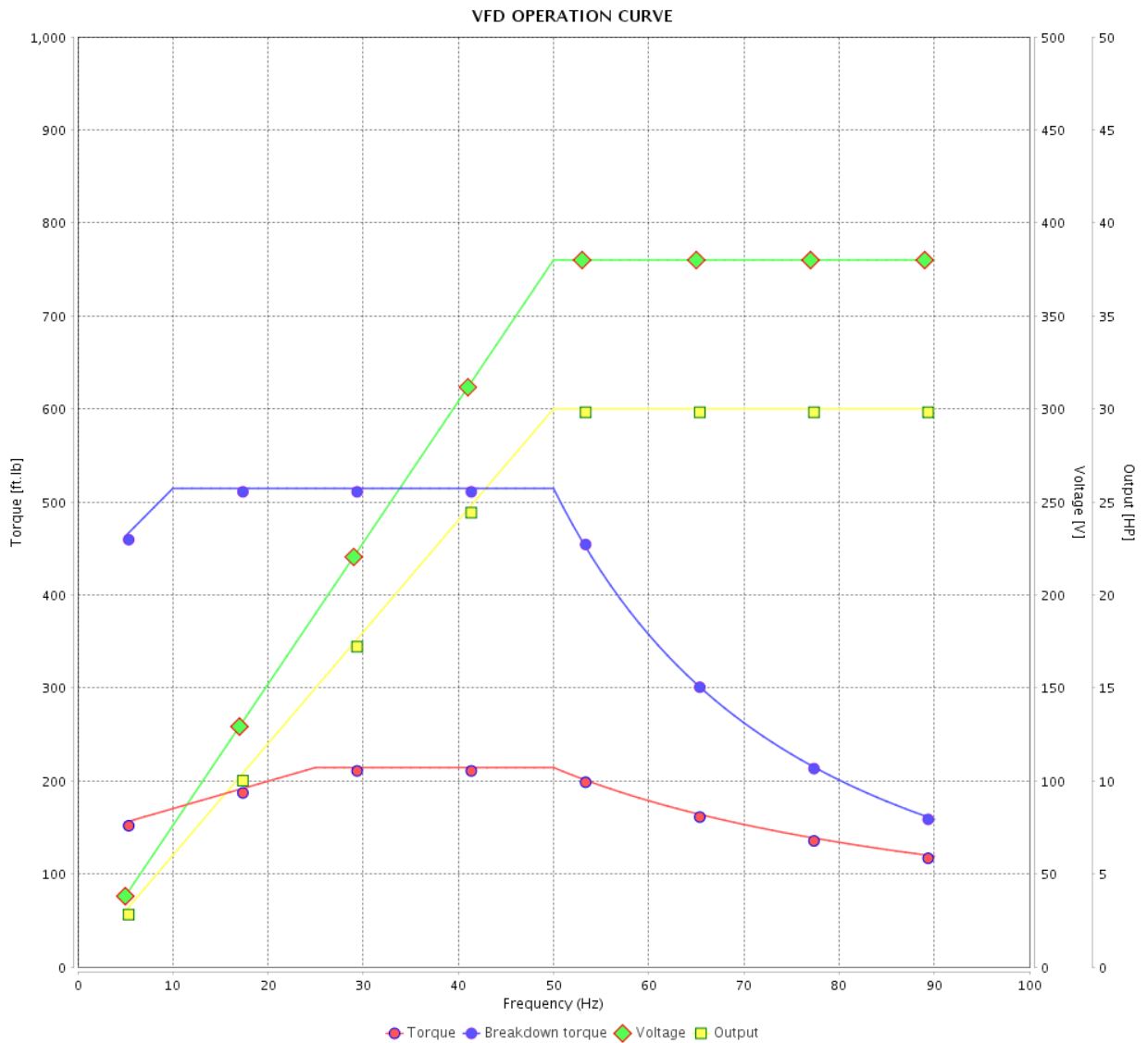


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11584358

Catalog # : 04009ST3QIE365T-W22



Performance : 380 V 50 Hz 8P IE3

Rated current : 47.8 A
 LRC : 6.1
 Rated torque : 214 ft.lb
 Locked rotor torque : 600 %
 Breakdown torque : 240 %
 Rated speed : 735 rpm

Moment of inertia (J) : 29.0 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

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Performed by			Page 31 / 36	Revision
Checked by				
Date	13/04/2022			

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



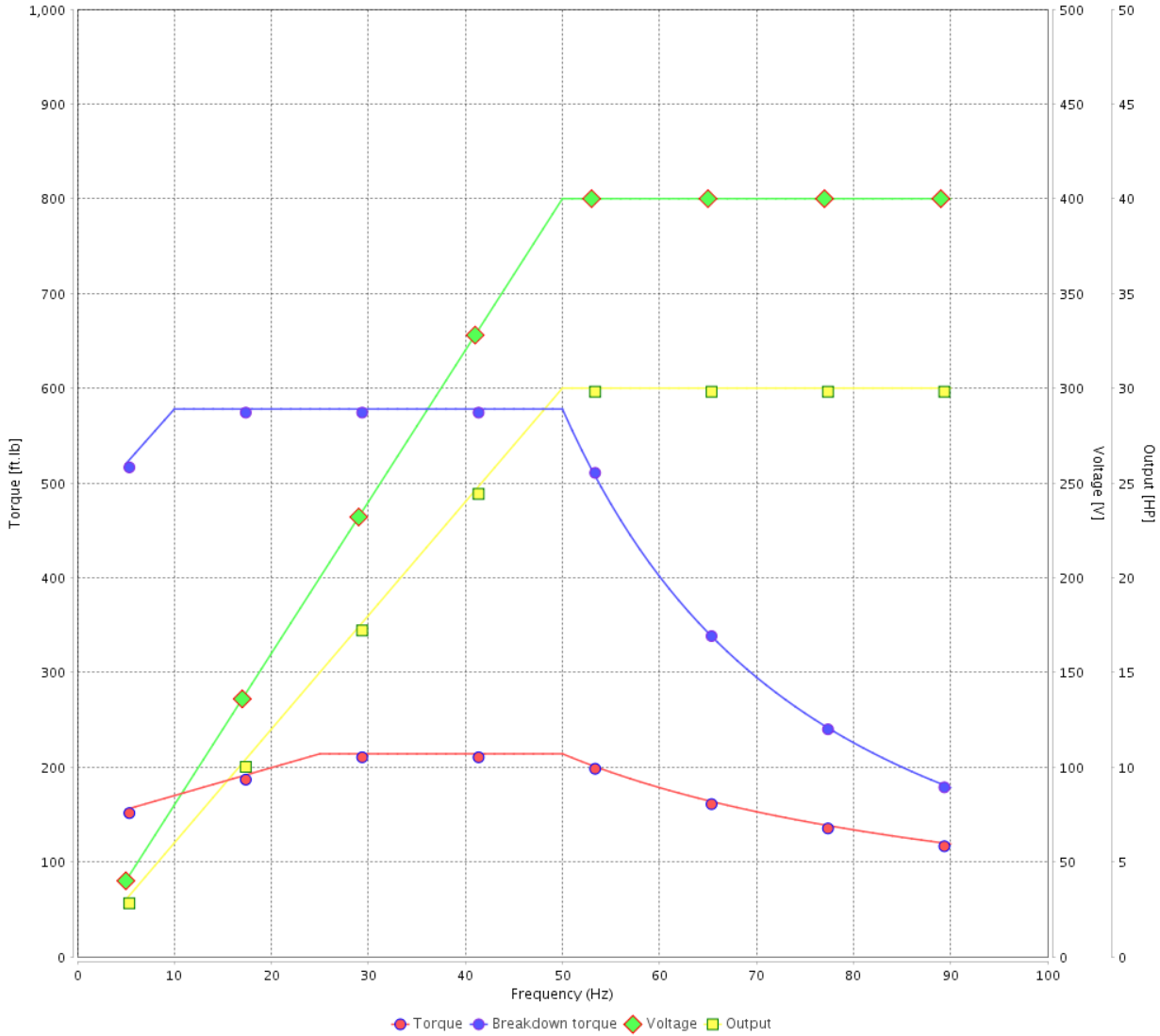
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11584358

Catalog # : 04009ST3QIE365T-W22

VFD OPERATION CURVE



Performance : 400 V 50 Hz 8P IE3

Rated current	: 46.3 A	Moment of inertia (J)	: 29.0 sq.ft.lb
LRC	: 6.7	Duty cycle	: Cont.(S1)
Rated torque	: 214 ft.lb	Insulation class	: F
Locked rotor torque	: 210 %	Service factor	: 1.00
Breakdown torque	: 270 %	Temperature rise	: 80 K
Rated speed	: 736 rpm	Design	: B

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Date				
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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

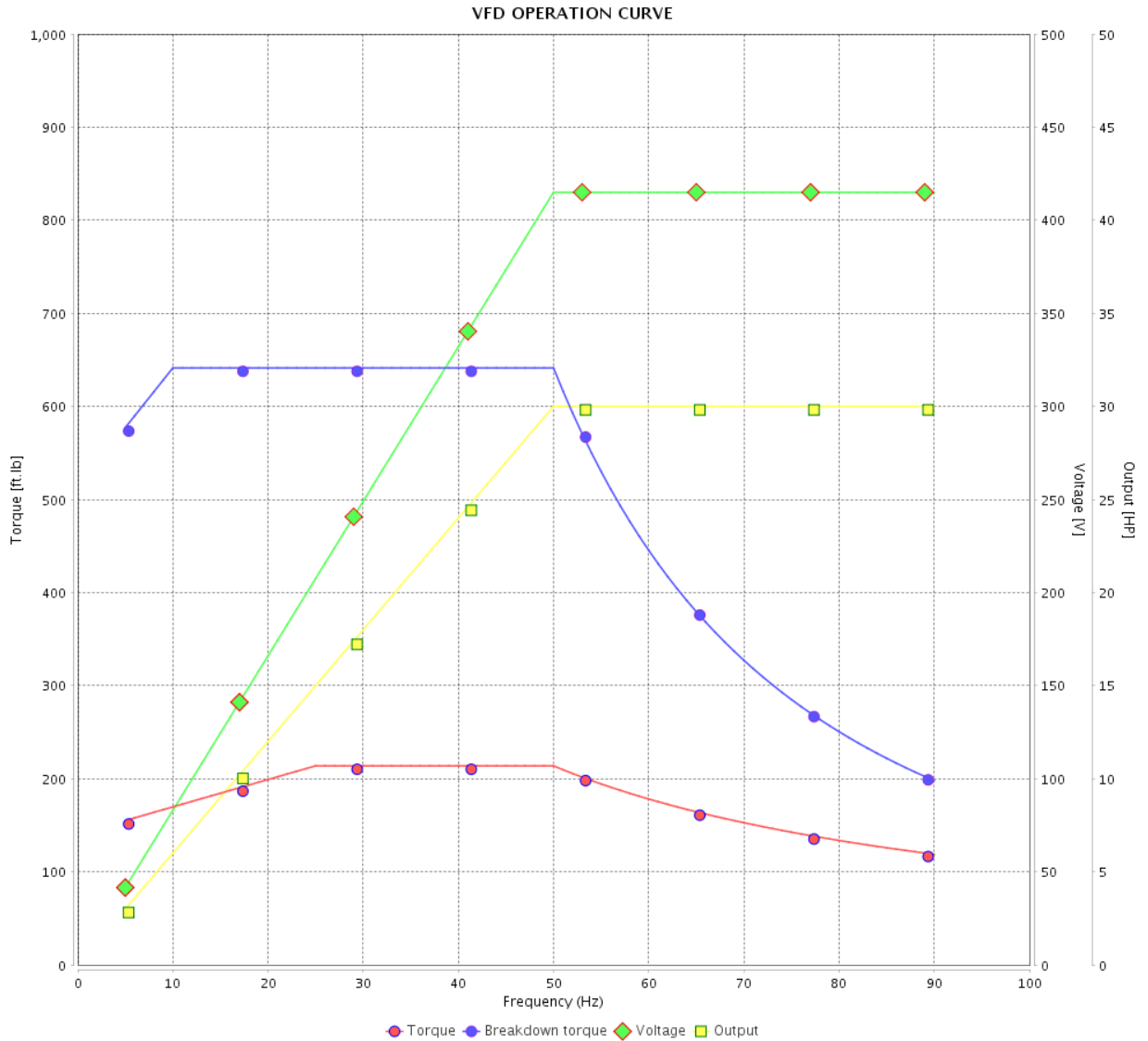


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11584358

Catalog # : 04009ST3QIE365T-W22



Performance : 415 V 50 Hz 8P IE3

Rated current : 45.7 A
 LRC : 7.1
 Rated torque : 214 ft.lb
 Locked rotor torque : 229 %
 Breakdown torque : 300 %
 Rated speed : 737 rpm

Moment of inertia (J) : 29.0 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



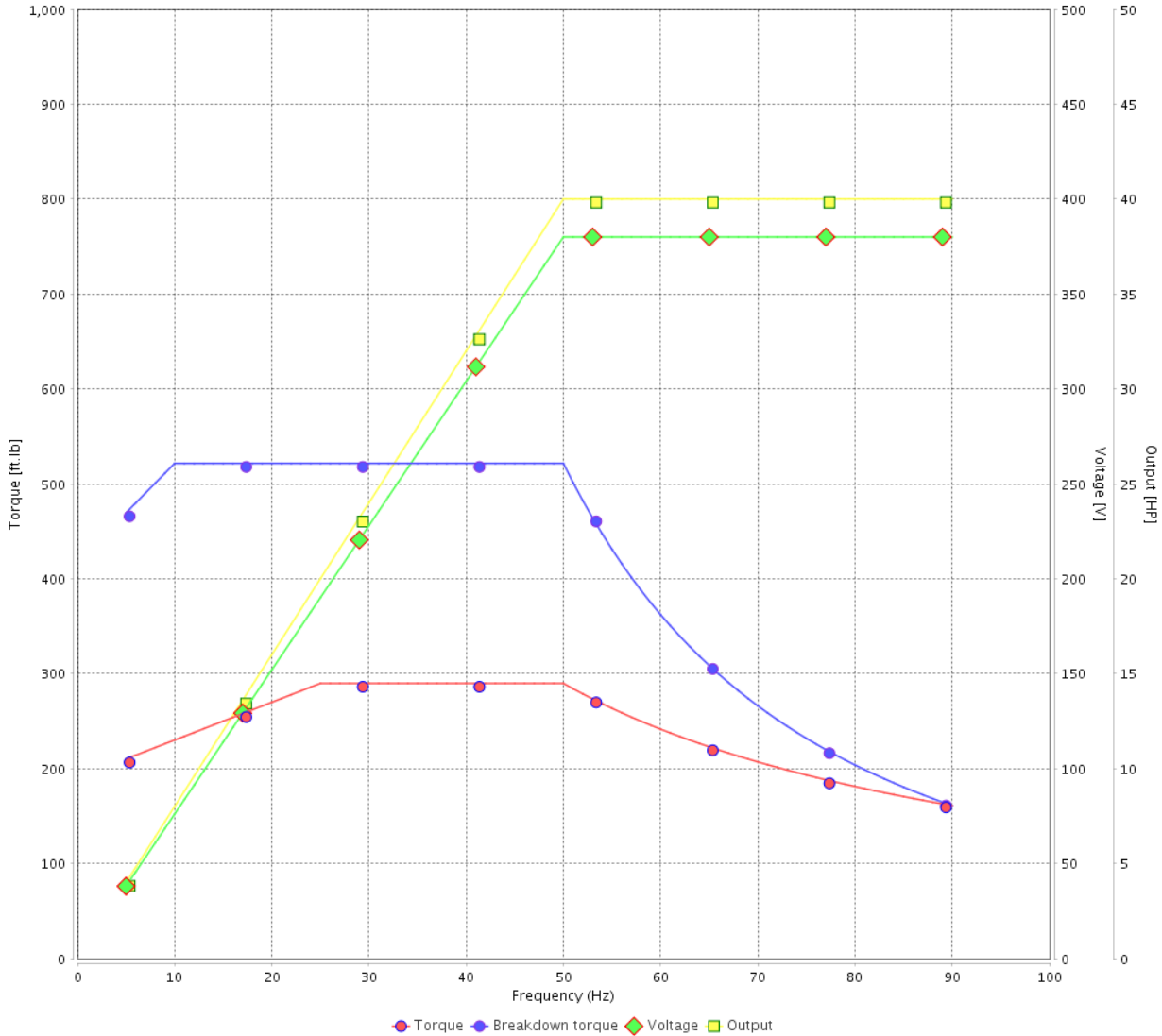
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11584358

Catalog # : 04009ST3QIE365T-W22

VFD OPERATION CURVE



Performance : 380 V 50 Hz 8P IE1

Rated current	: 62.9 A	Moment of inertia (J)	: 29.0 sq.ft.lb
LRC	: 4.5	Duty cycle	: Cont.(S1)
Rated torque	: 290 ft.lb	Insulation class	: F
Locked rotor torque	: 140 %	Service factor	: 1.00
Breakdown torque	: 180 %	Temperature rise	: 105 K
Rated speed	: 725 rpm	Design	: B

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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

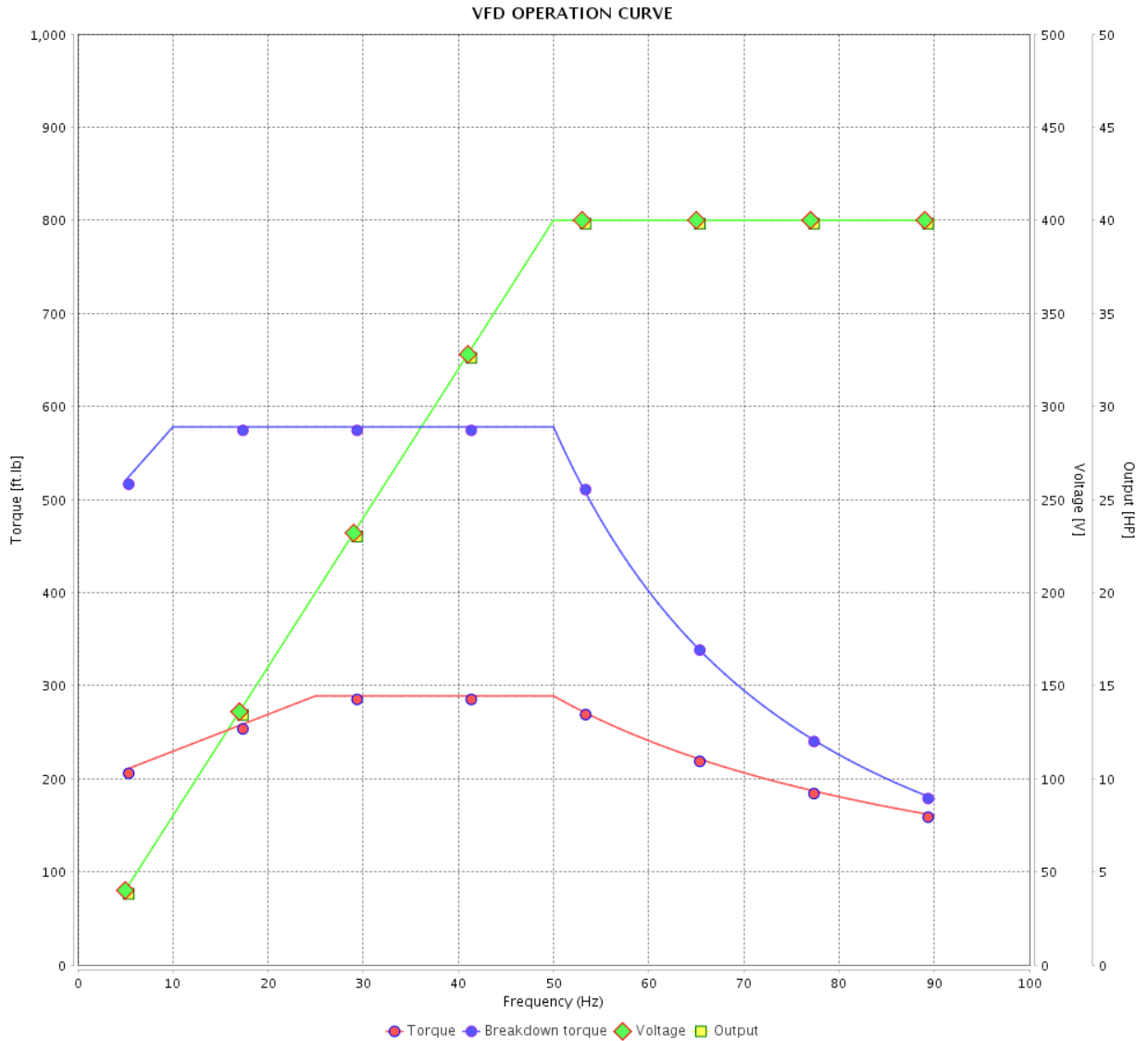


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11584358

Catalog # : 04009ST3QIE365T-W22



Performance : 400 V 50 Hz 8P IE2

Rated current : 60.0 A
 LRC : 5.0
 Rated torque : 289 ft.lb
 Locked rotor torque : 160 %
 Breakdown torque : 200 %
 Rated speed : 727 rpm

Moment of inertia (J) : 29.0 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 105 K
 Design : B

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Date	13/04/2022			

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



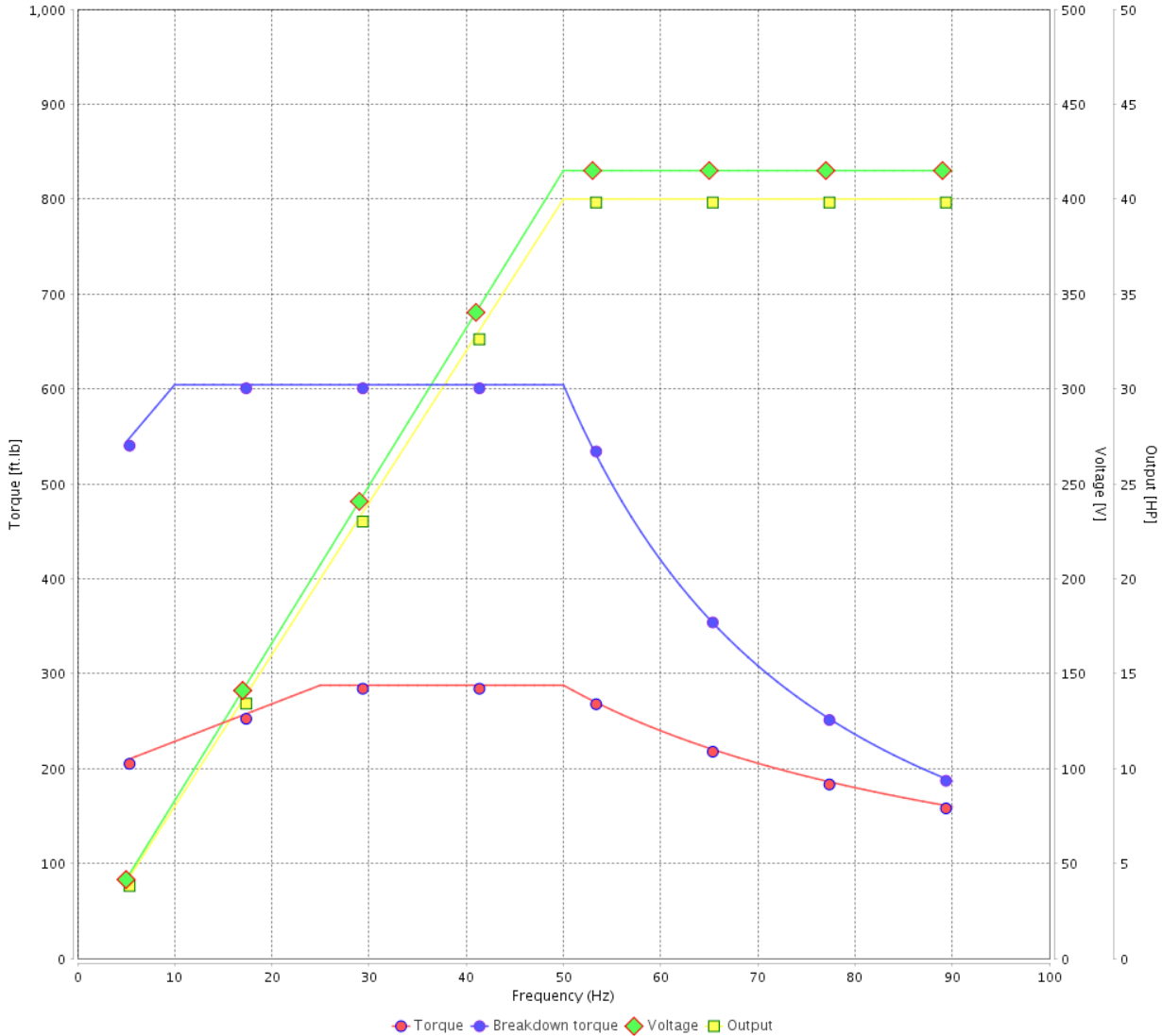
Customer : _____

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11584358

Catalog # : 04009ST3QIE365T-W22

VFD OPERATION CURVE



Performance : 415 V 50 Hz 8P IE2

Rated current	: 58.1 A	Moment of inertia (J)	: 29.0 sq.ft.lb
LRC	: 5.5	Duty cycle	: Cont.(S1)
Rated torque	: 288 ft.lb	Insulation class	: F
Locked rotor torque	: 170 %	Service factor	: 1.00
Breakdown torque	: 210 %	Temperature rise	: 105 K
Rated speed	: 730 rpm	Design	: B

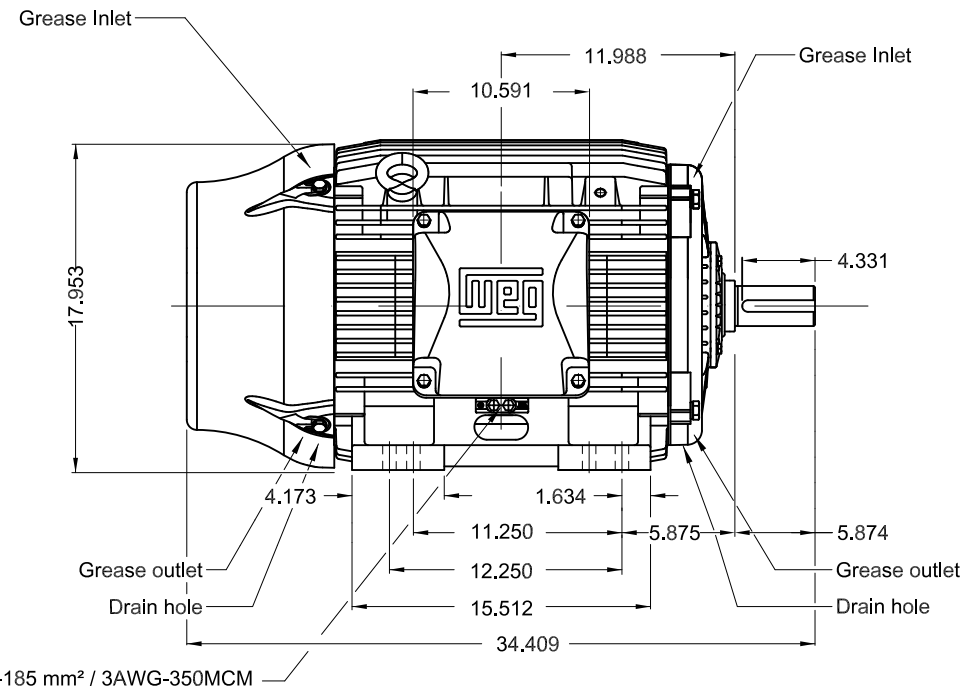
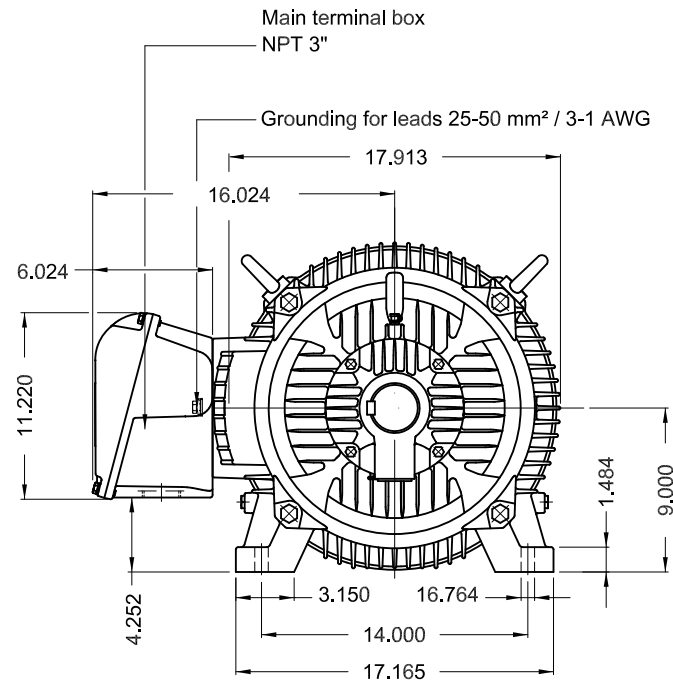
Rev.	Changes Summary	Performed	Checked	Date
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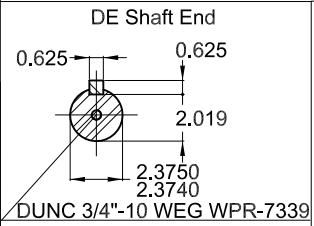
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D

E

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



40 HP 08 Poles 60 Hz A

ECM	LOC	SUMMARY OF MODIFICATIONS	EXECUTED	CHECKED	RELEASED	DATE	VER
EXECUTED	PIRWBUSER	THREE PH. MOTOR IEEE 841 W22 PREM. EFF. FRAME 364/5T IP55 TEFC					
CHECKED							
RELEASED							
REL DT.			WMO Jaragua do Sul	Product Engineering	SHEET	1 / 1	

PREVIEW
WDD

