

DATA SHEET



Three Phase Induction Motor - Squirrel Cage

Customer							
Product line		: NEMA Premium Efficiency Three-Phase		Product code :		13025409	
				Catalog # :		15018ET3E445TC-W22	
Frame		: 444/5TC		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		: 1781 lb	
Protection degree		: IP55		Moment of inertia (J)		: 66.7 sq.ft.lb	
Design		: B					
Output [HP]	150	125	125	125	150	150	150
Poles	4	4	4	4	4	4	4
Frequency [Hz]	60	50	50	50	50	50	50
Rated voltage [V]	230/460	380	400	415	380	400	415
Rated current [A]	340/170	170	163	159	205	194	189
L. R. Amperes [A]	2244/1122	1190	1127	1192	1189	1125	1191
LRC [A]	6.6x(Code G)	7.0x(Code G)	6.9x(Code G)	7.5x(Code H)	5.8x(Code F)	5.8x(Code F)	6.3x(Code G)
No load current [A]	116/58.0	58.0	61.2	64.0	58.0	61.2	64.0
Rated speed [RPM]	1780	1480	1480	1480	1475	1475	1480
Slip [%]	1.11	1.33	1.33	1.33	1.67	1.67	1.33
Rated torque [ft.lb]	443	444	444	444	534	534	532
Locked rotor torque [%]	200	190	220	229	160	180	190
Breakdown torque [%]	250	240	260	290	200	220	240
Service factor	1.15	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	48s (cold)	32s (cold)	32s (cold)	32s (cold)	32s (cold)	32s (cold)	32s (cold)
	27s (hot)	18s (hot)	18s (hot)	18s (hot)	18s (hot)	18s (hot)	18s (hot)
Noise level ²	73.0 dB(A)	69.0 dB(A)	69.0 dB(A)	69.0 dB(A)	69.0 dB(A)	69.0 dB(A)	69.0 dB(A)
Efficiency (%)	25%						
	50%	95.4	95.1	95.1	94.8	95.4	95.4
	75%	95.8	95.5	95.5	95.5	95.4	95.4
	100%	95.8	95.3	95.3	95.5	95.0	95.4
Power Factor	25%						
	50%	0.74	0.73	0.70	0.68	0.79	0.76
	75%	0.82	0.83	0.81	0.79	0.85	0.83
	100%	0.85	0.86	0.85	0.84	0.86	0.85
Bearing type	: Drive end		: Non drive end		Foundation loads		
	: 6319 C3		: 6316 C3		Max. traction : 2514 lb		
	: WSeal		: WSeal		Max. compression : 4296 lb		
	: 8000 h		: 10000 h				
	: 45 g		: 34 g				
Lubricant type		: Mobil Polyrex EM					
Notes							
USABLE @208V 376A SF 1.00 SFA 376A							
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



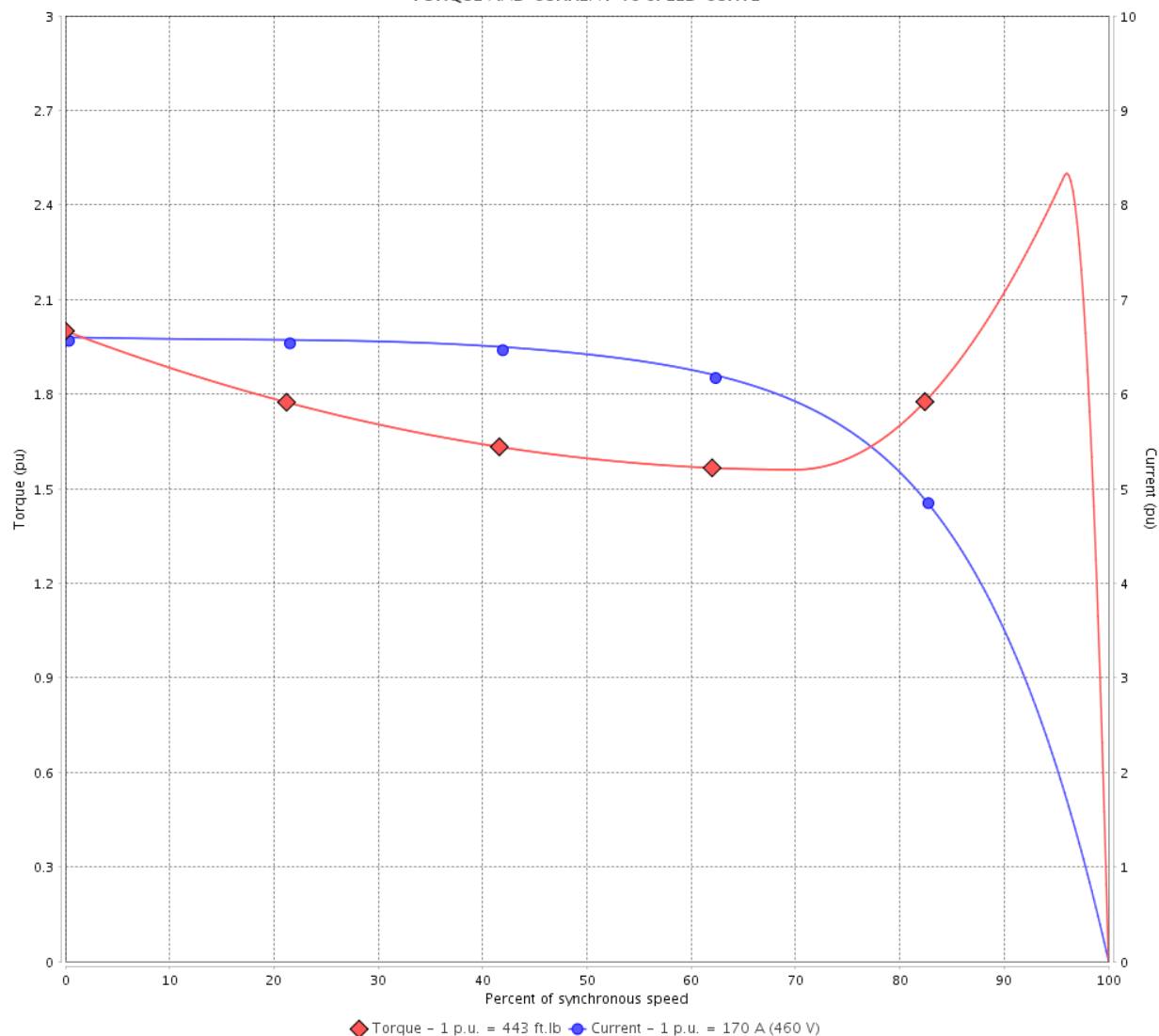
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 13025409

Catalog # : 15018ET3E445TC-W22

TORQUE AND CURRENT VS SPEED CURVE



Performance : 230/460 V 60 Hz 4P

Rated current	: 340/170 A	Moment of inertia (J)	: 66.7 sq.ft.lb
LRC	: 6.6	Duty cycle	: Cont.(S1)
Rated torque	: 443 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.15
Breakdown torque	: 250 %	Temperature rise	: 80 K
Rated speed	: 1780 rpm	Design	: B

Locked rotor time : 48s (cold) 27s (hot)

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TORQUE AND CURRENT VS SPEED CURVE



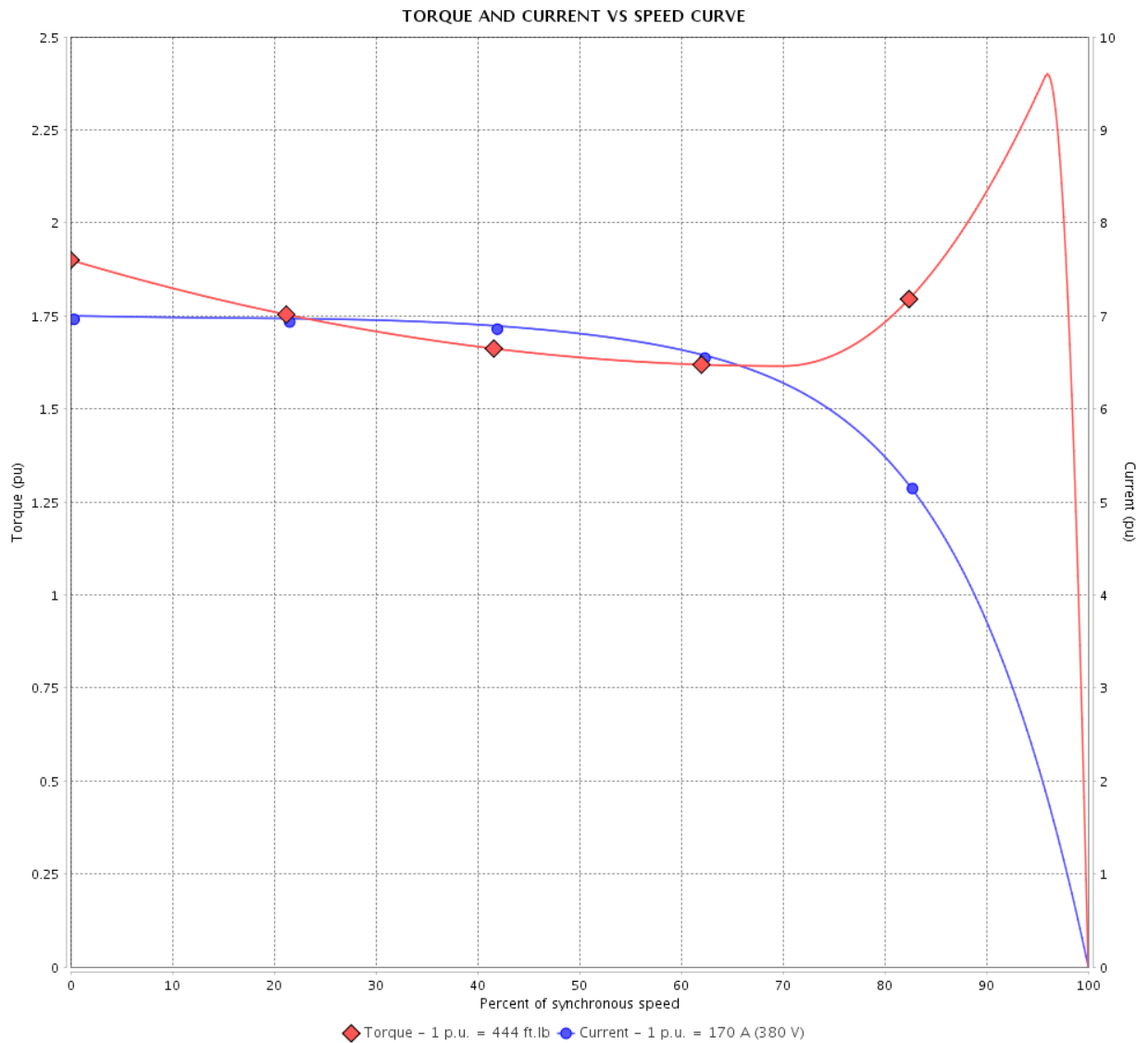
Three Phase Induction Motor - Squirrel Cage

Customer :

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Catalog # : 15018ET3E445TC-W22



Performance : 380 V 50 Hz 4P IE3

Rated current	: 170 A	Moment of inertia (J)	: 66.7 sq.ft.lb
LRC	: 7.0	Duty cycle	: Cont.(S1)
Rated torque	: 444 ft.lb	Insulation class	: F
Locked rotor torque	: 190 %	Service factor	: 1.00
Breakdown torque	: 240 %	Temperature rise	: 80 K
Rated speed	: 1480 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



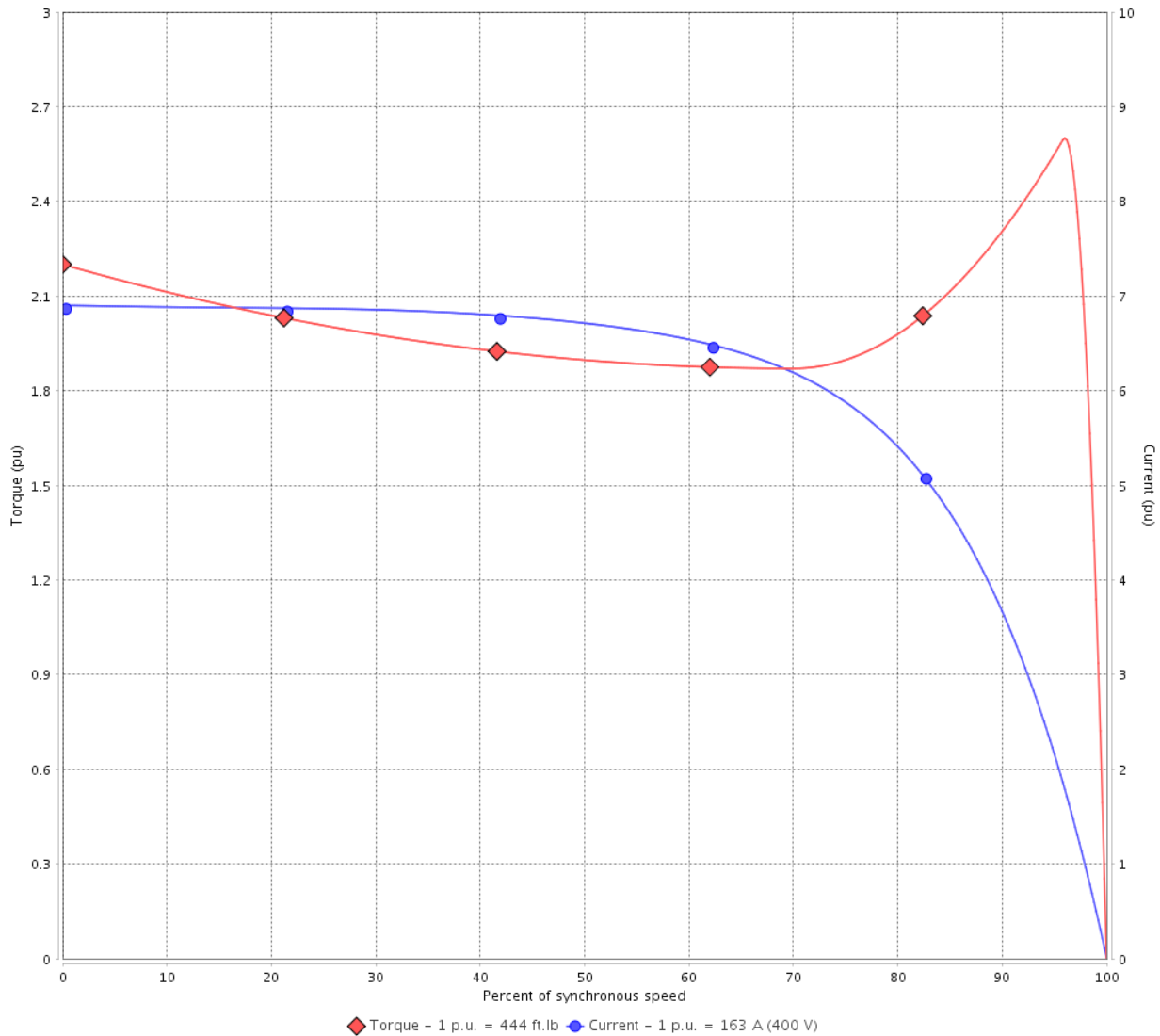
Customer :

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TORQUE AND CURRENT VS SPEED CURVE



Performance : 400 V 50 Hz 4P IE3

Rated current	: 163 A	Moment of inertia (J)	: 66.7 sq.ft.lb
LRC	: 6.9	Duty cycle	: Cont.(S1)
Rated torque	: 444 ft.lb	Insulation class	: F
Locked rotor torque	: 220 %	Service factor	: 1.00
Breakdown torque	: 260 %	Temperature rise	: 80 K
Rated speed	: 1480 rpm	Design	: B

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

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TORQUE AND CURRENT VS SPEED CURVE



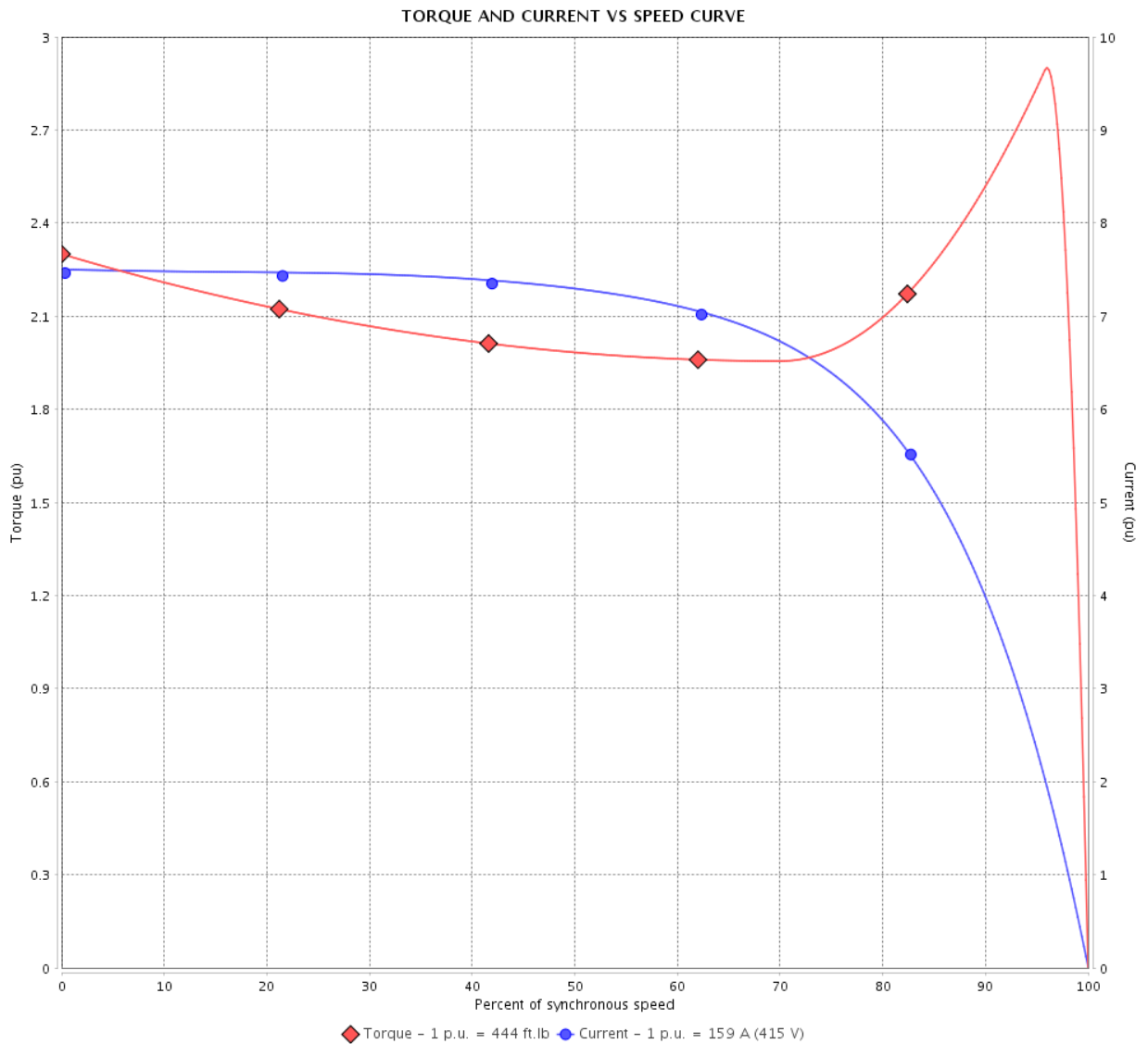
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Catalog # : 15018ET3E445TC-W22



Performance : 415 V 50 Hz 4P IE3

Rated current	: 159 A	Moment of inertia (J)	: 66.7 sq.ft.lb
LRC	: 7.5	Duty cycle	: Cont.(S1)
Rated torque	: 444 ft.lb	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.00
Breakdown torque	: 290 %	Temperature rise	: 80 K
Rated speed	: 1480 rpm	Design	: B

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

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TORQUE AND CURRENT VS SPEED CURVE

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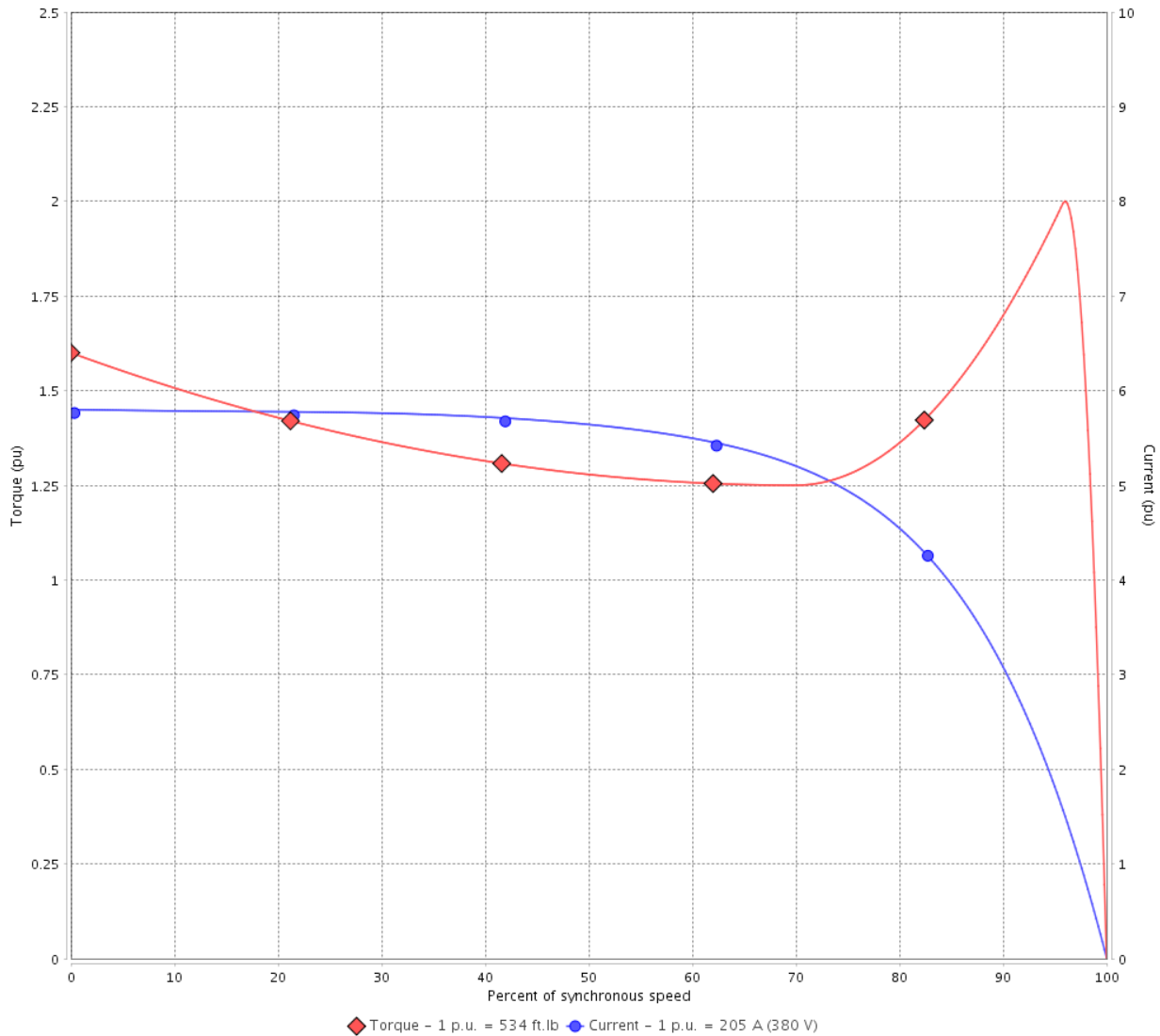
Customer :

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Catalog # : 15018ET3E445TC-W22

TORQUE AND CURRENT VS SPEED CURVE



Performance : 380 V 50 Hz 4P IE2

Rated current	: 205 A	Moment of inertia (J)	: 66.7 sq.ft.lb
LRC	: 5.8	Duty cycle	: Cont.(S1)
Rated torque	: 534 ft.lb	Insulation class	: F
Locked rotor torque	: 160 %	Service factor	: 1.00
Breakdown torque	: 200 %	Temperature rise	: 105 K
Rated speed	: 1475 rpm	Design	: B

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

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TORQUE AND CURRENT VS SPEED CURVE



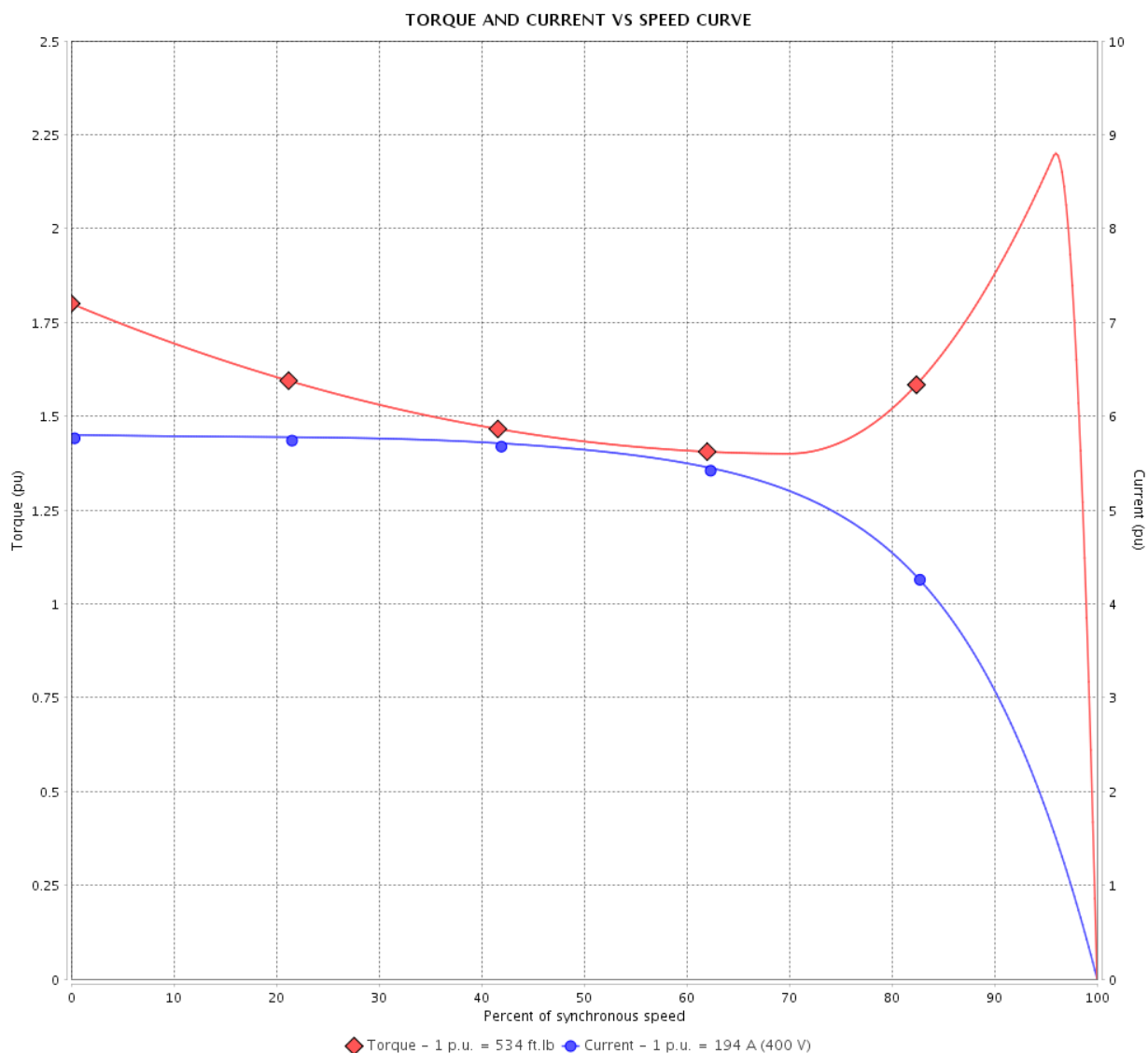
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Catalog # : 15018ET3E445TC-W22



Performance : 400 V 50 Hz 4P IE2

Rated current	: 194 A	Moment of inertia (J)	: 66.7 sq.ft.lb
LRC	: 5.8	Duty cycle	: Cont.(S1)
Rated torque	: 534 ft.lb	Insulation class	: F
Locked rotor torque	: 180 %	Service factor	: 1.00
Breakdown torque	: 220 %	Temperature rise	: 105 K
Rated speed	: 1475 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



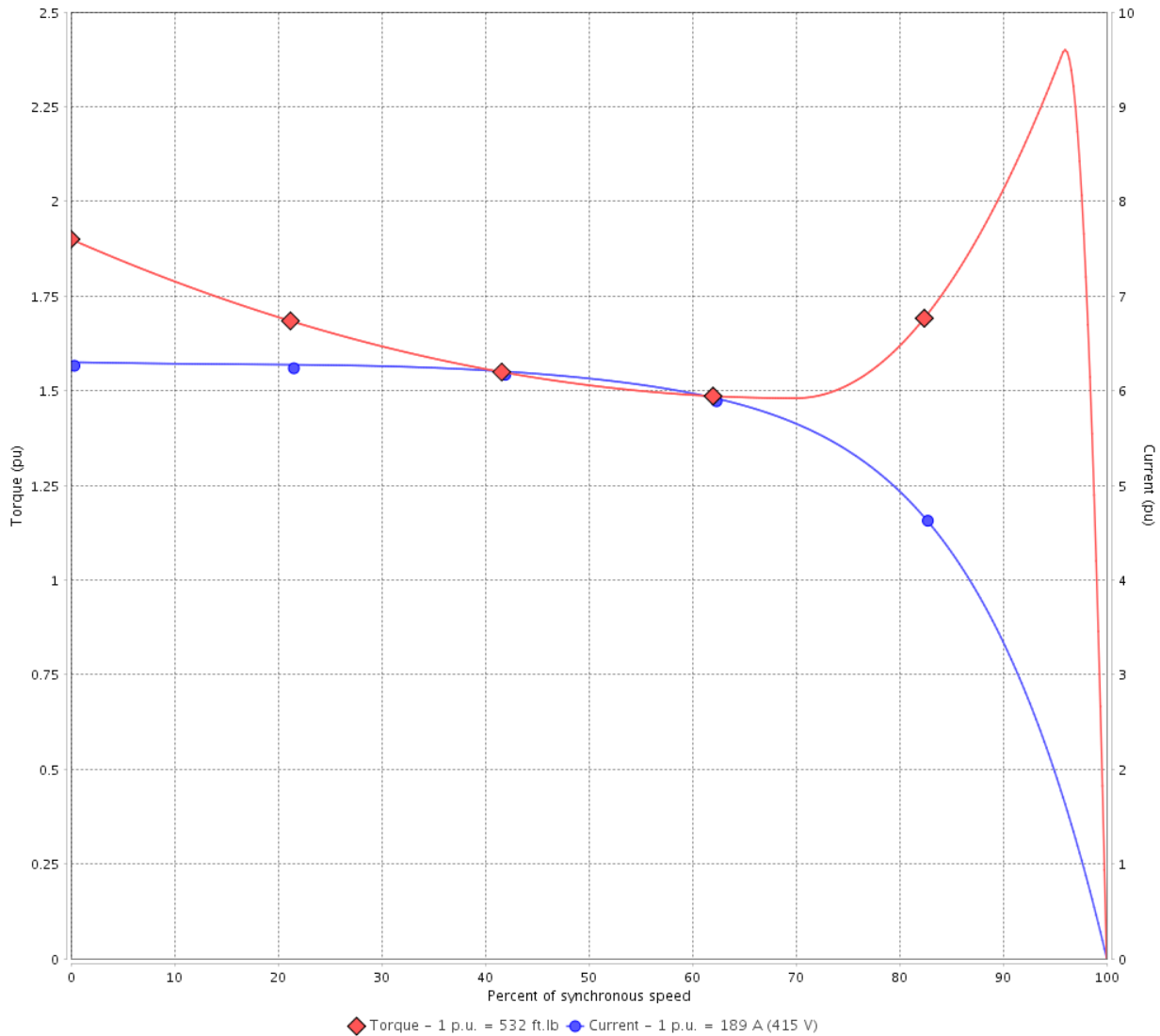
Customer :

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Product code : 13025409

Catalog # : 15018ET3E445TC-W22

TORQUE AND CURRENT VS SPEED CURVE



Performance : 415 V 50 Hz 4P IE3

Rated current	: 189 A	Moment of inertia (J)	: 66.7 sq.ft.lb
LRC	: 6.3	Duty cycle	: Cont.(S1)
Rated torque	: 532 ft.lb	Insulation class	: F
Locked rotor torque	: 190 %	Service factor	: 1.00
Breakdown torque	: 240 %	Temperature rise	: 105 K
Rated speed	: 1480 rpm	Design	: B

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

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Three Phase Induction Motor - Squirrel Cage

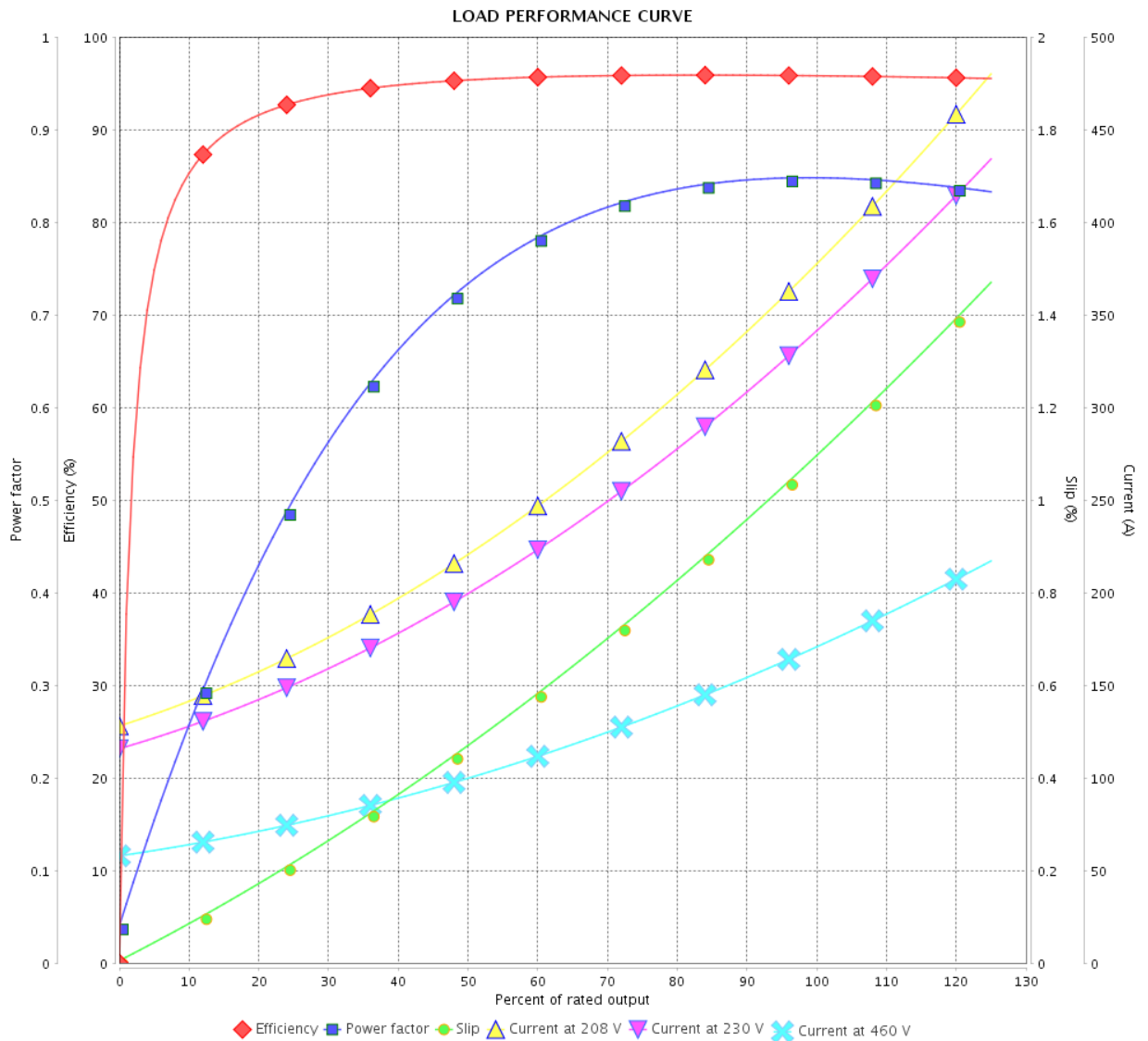


Customer : _____

Product line : NEMA Premium Efficiency Three-Phase

Product code : 13025409

Catalog # : 15018ET3E445TC-W22



Performance : 230/460 V 60 Hz 4P

Rated current : 340/170 A
 LRC : 6.6
 Rated torque : 443 ft.lb
 Locked rotor torque : 200 %
 Breakdown torque : 250 %
 Rated speed : 1780 rpm

Moment of inertia (J) : 66.7 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.15
 Temperature rise : 80 K
 Design : B

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Three Phase Induction Motor - Squirrel Cage



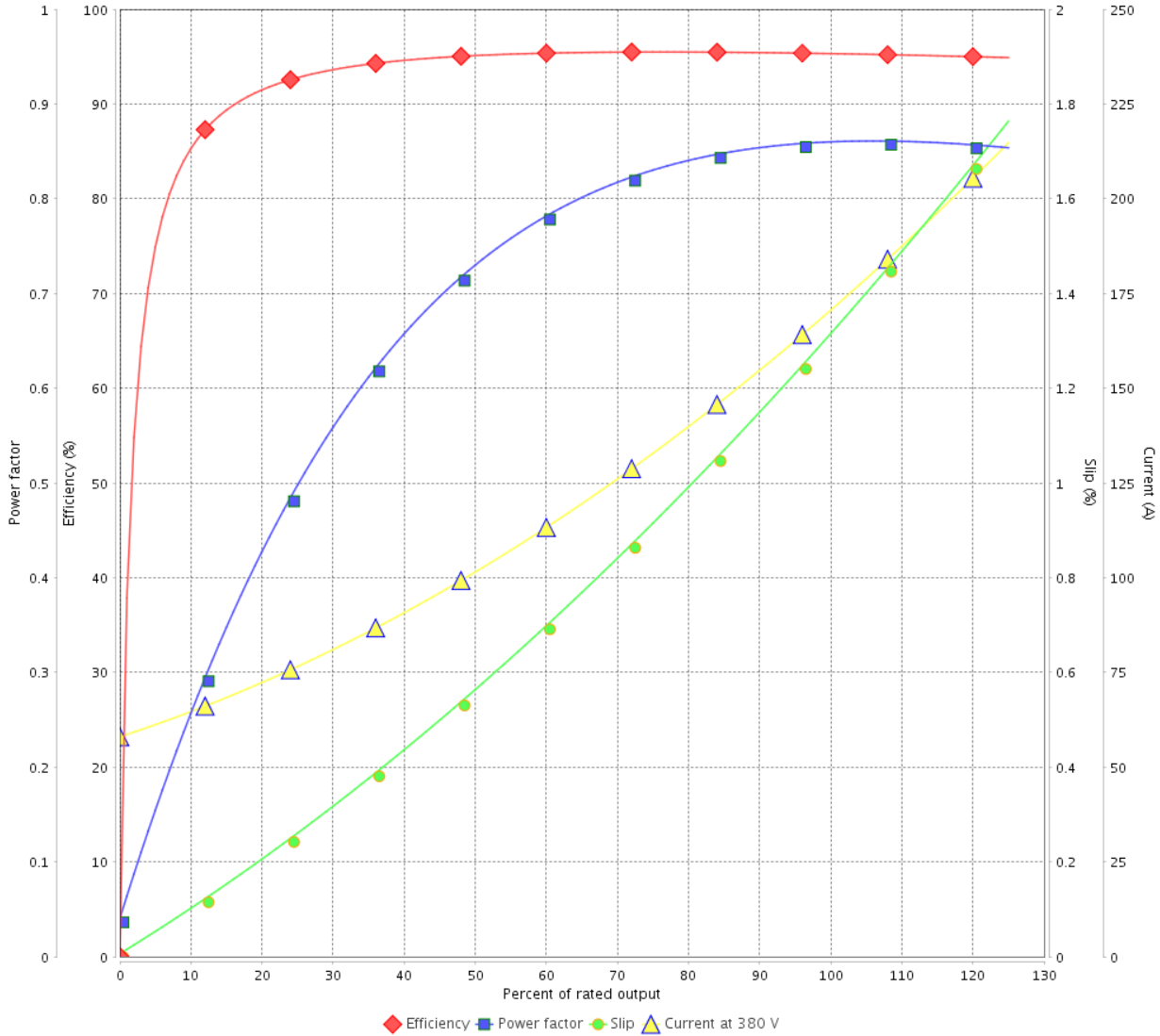
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Performance : 380 V 50 Hz 4P IE3

Rated current : 170 A
 LRC : 7.0
 Rated torque : 444 ft.lb
 Locked rotor torque : 190 %
 Breakdown torque : 240 %
 Rated speed : 1480 rpm

Moment of inertia (J) : 66.7 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

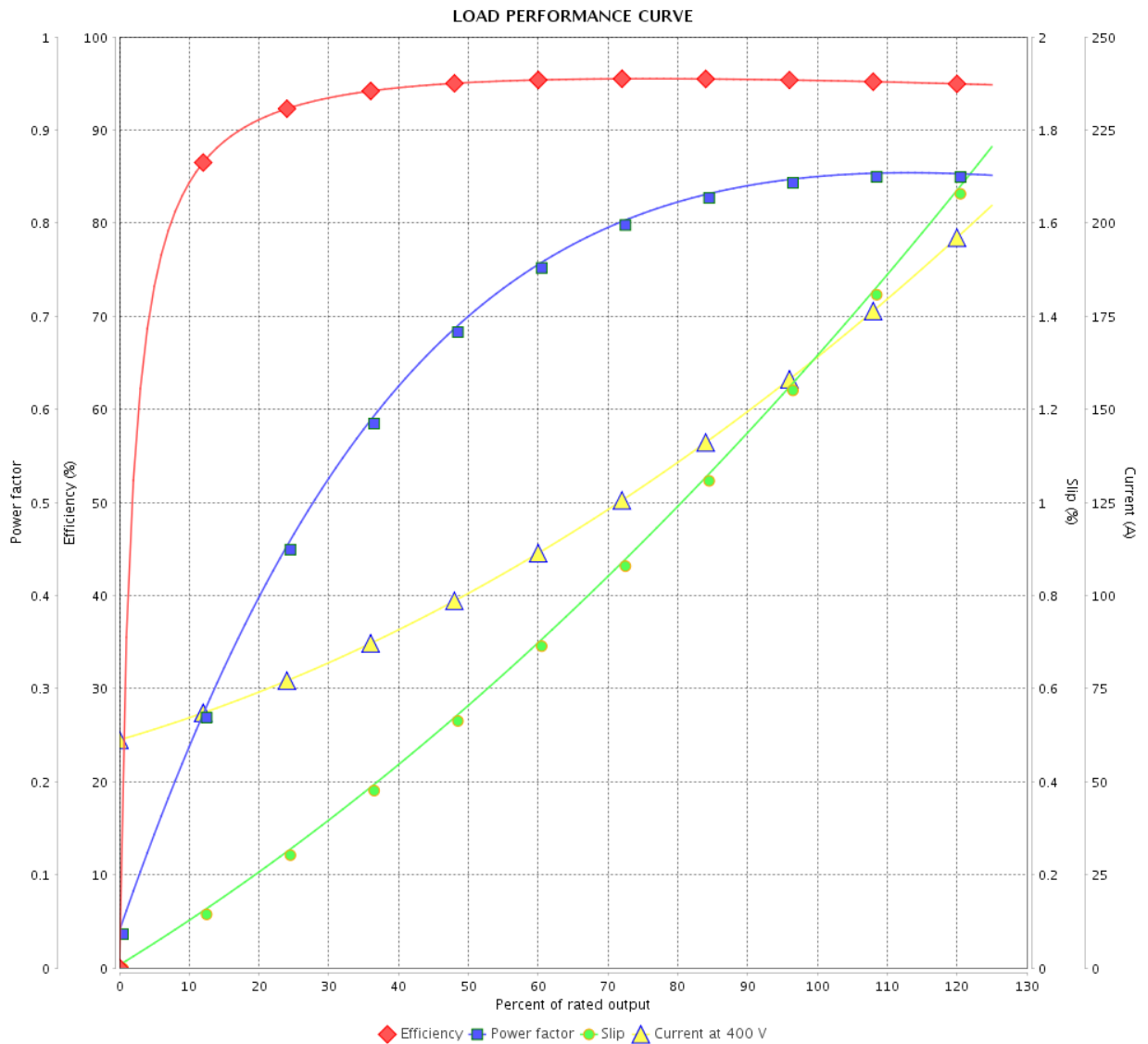


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Performance : 400 V 50 Hz 4P IE3

Rated current : 163 A
 LRC : 6.9
 Rated torque : 444 ft.lb
 Locked rotor torque : 220 %
 Breakdown torque : 260 %
 Rated speed : 1480 rpm

Moment of inertia (J) : 66.7 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

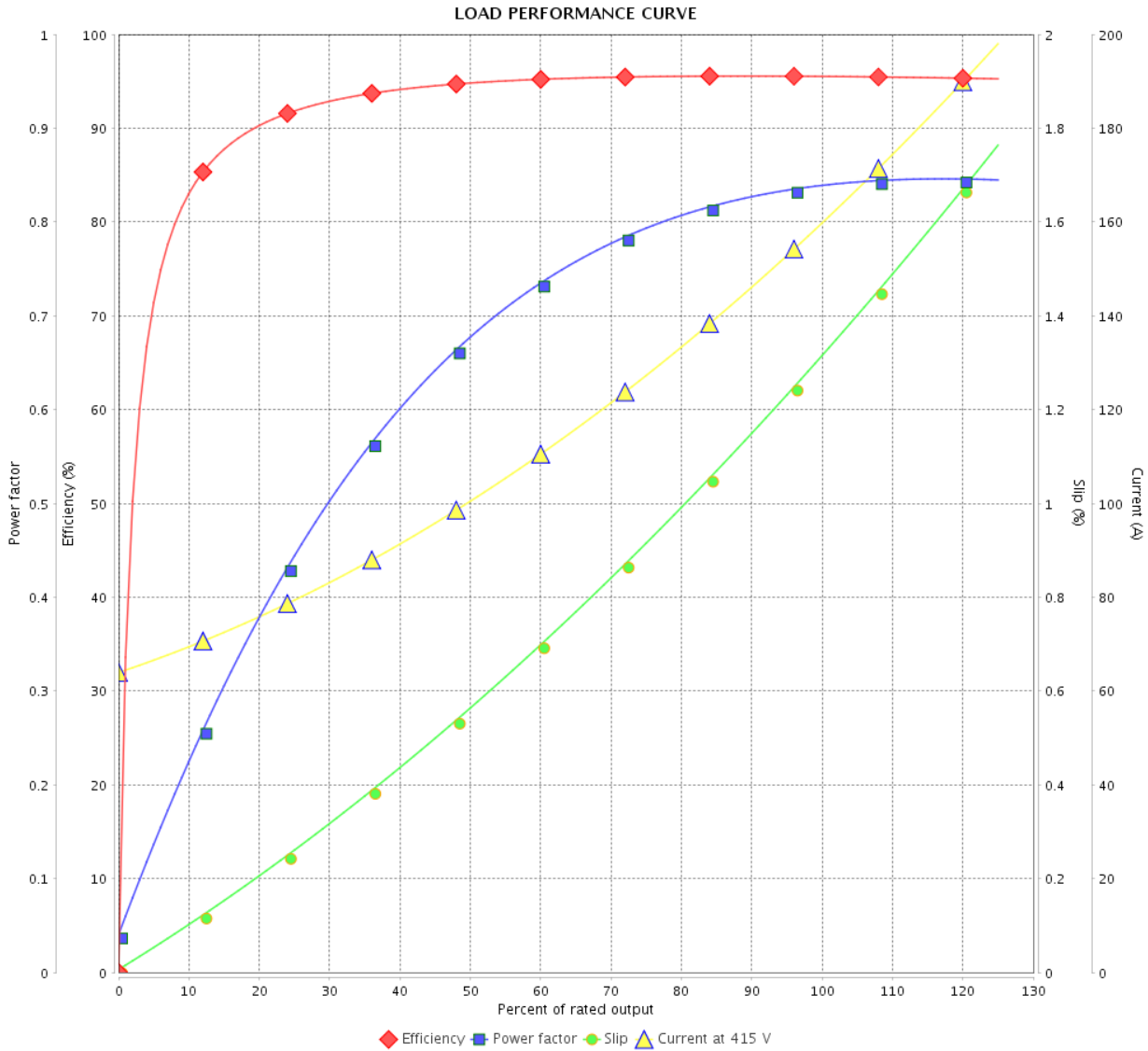


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Catalog # : 15018ET3E445TC-W22



Performance : 415 V 50 Hz 4P IE3

Rated current : 159 A
 LRC : 7.5
 Rated torque : 444 ft.lb
 Locked rotor torque : 229 %
 Breakdown torque : 290 %
 Rated speed : 1480 rpm

Moment of inertia (J) : 66.7 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

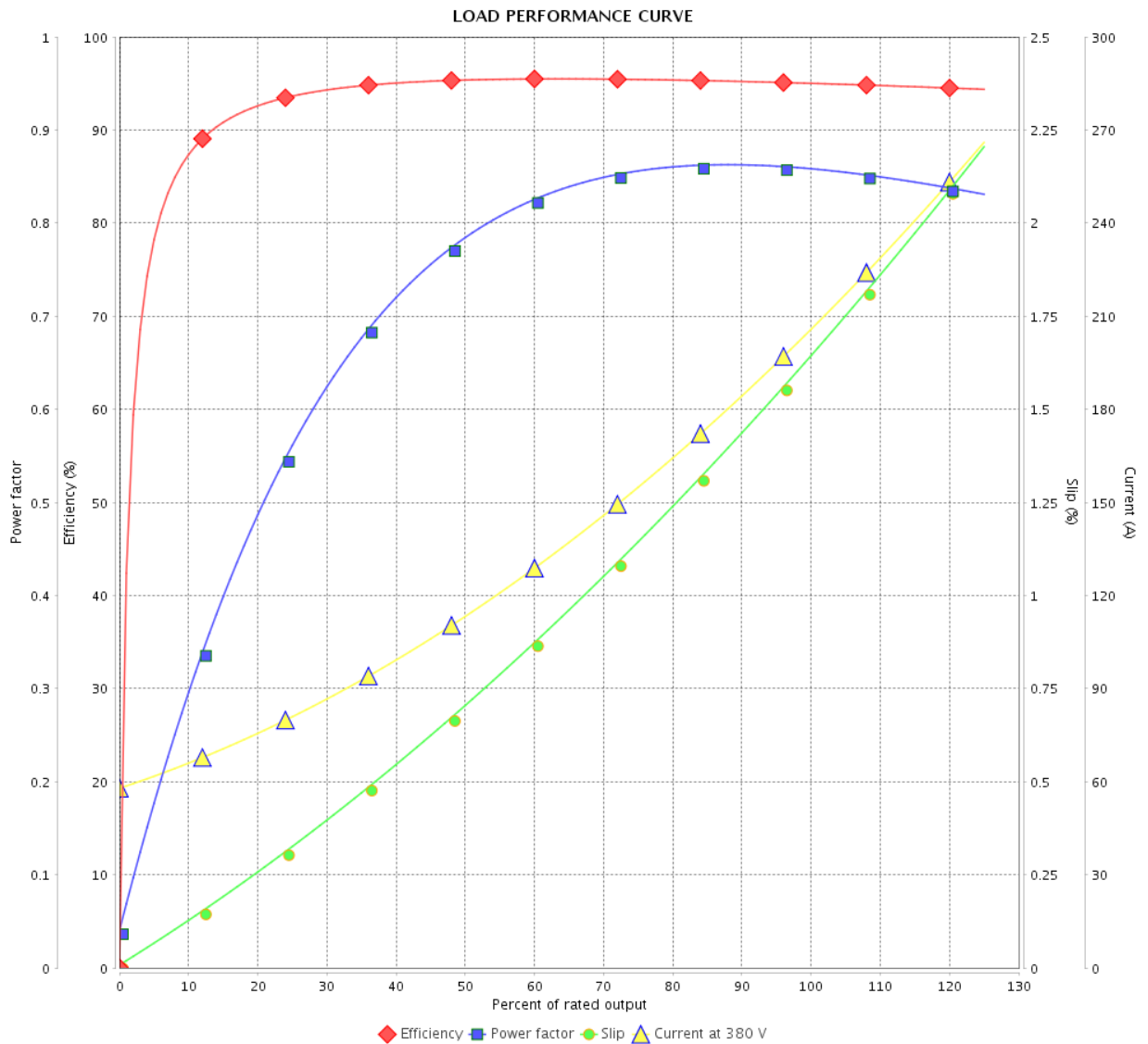


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 13025409

Catalog # : 15018ET3E445TC-W22



Performance : 380 V 50 Hz 4P IE2

Rated current : 205 A
 LRC : 5.8
 Rated torque : 534 ft.lb
 Locked rotor torque : 160 %
 Breakdown torque : 200 %
 Rated speed : 1475 rpm

Moment of inertia (J) : 66.7 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 105 K
 Design : B

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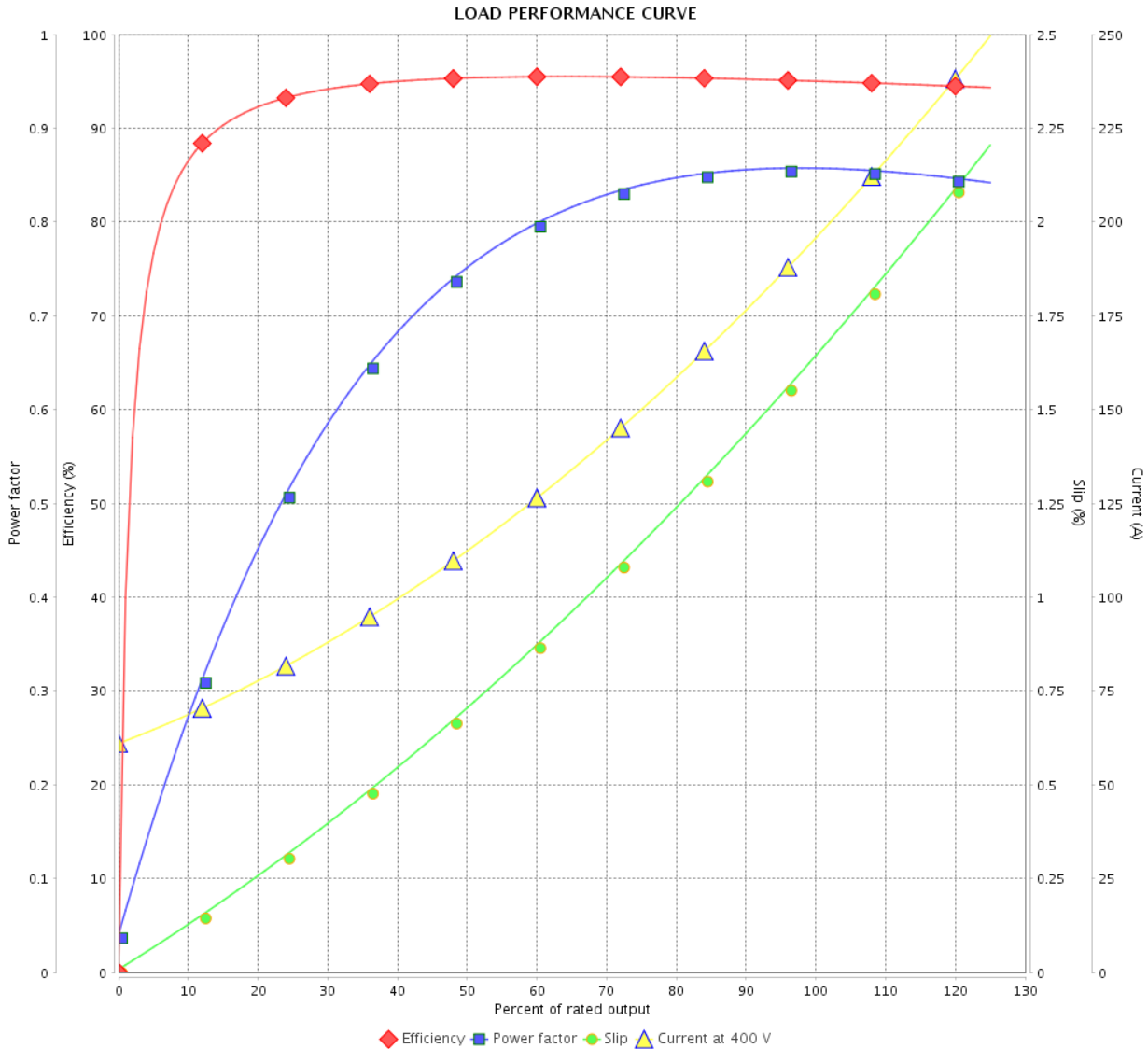


Customer :

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Performance : 400 V 50 Hz 4P IE2

Rated current	: 194 A	Moment of inertia (J)	: 66.7 sq.ft.lb
LRC	: 5.8	Duty cycle	: Cont.(S1)
Rated torque	: 534 ft.lb	Insulation class	: F
Locked rotor torque	: 180 %	Service factor	: 1.00
Breakdown torque	: 220 %	Temperature rise	: 105 K
Rated speed	: 1475 rpm	Design	: B

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Three Phase Induction Motor - Squirrel Cage

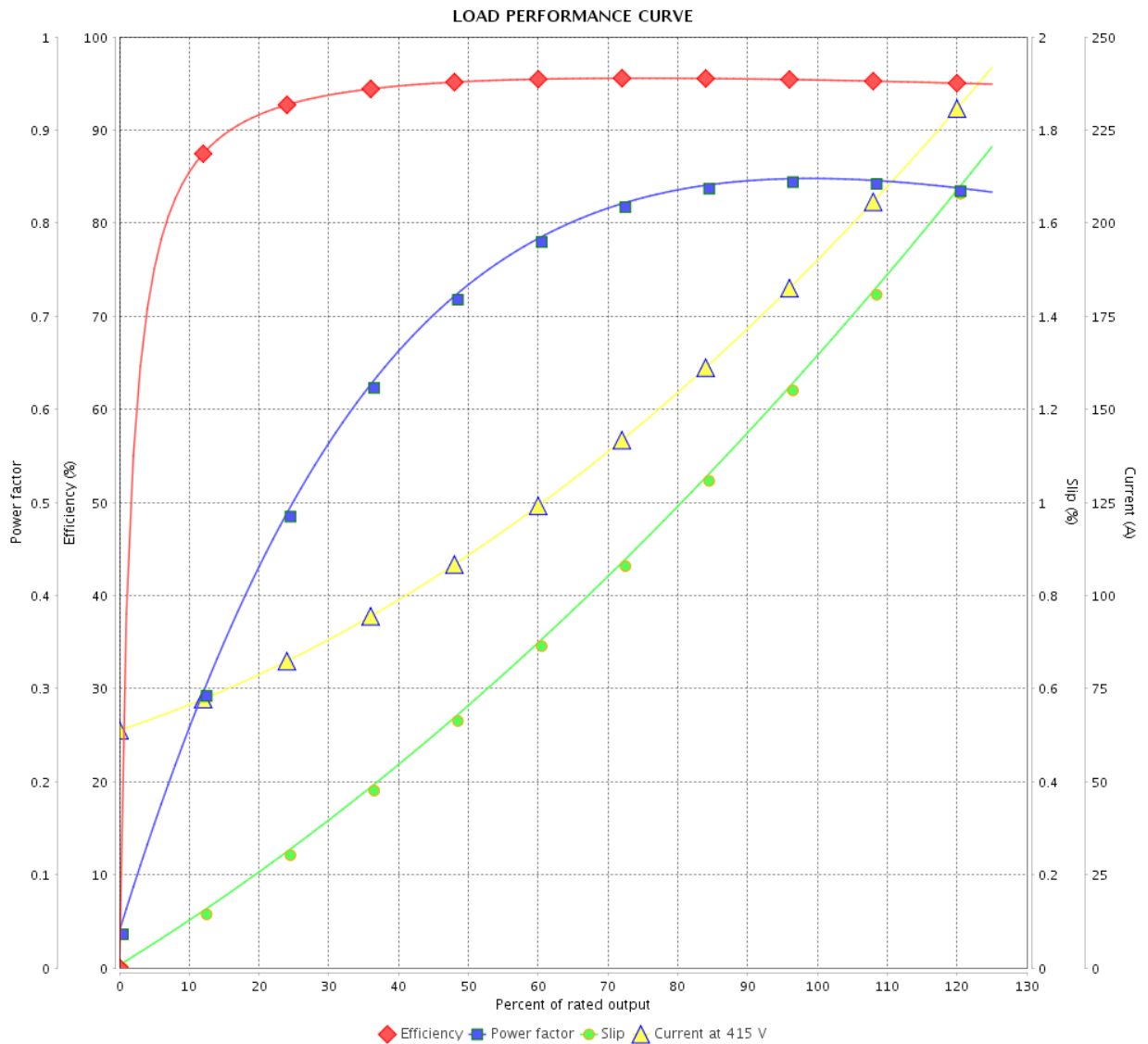


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 13025409

Catalog # : 15018ET3E445TC-W22



Performance : 415 V 50 Hz 4P IE3

Rated current : 189 A
 LRC : 6.3
 Rated torque : 532 ft.lb
 Locked rotor torque : 190 %
 Breakdown torque : 240 %
 Rated speed : 1480 rpm

Moment of inertia (J) : 66.7 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 : 13025409
Catalog # : 15018ET3E445TC-W22

Performance : 230/460 V 60 Hz 4P

Rated current	: 340/170 A	Moment of inertia (J)	: 66.7 sq.ft.lb
LRC	: 6.6	Duty cycle	: Cont.(S1)
Rated torque	: 443 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.15
Breakdown torque	: 250 %	Temperature rise	: 80 K
Rated speed	: 1780 rpm	Design	: B

Heating constant

Cooling constant

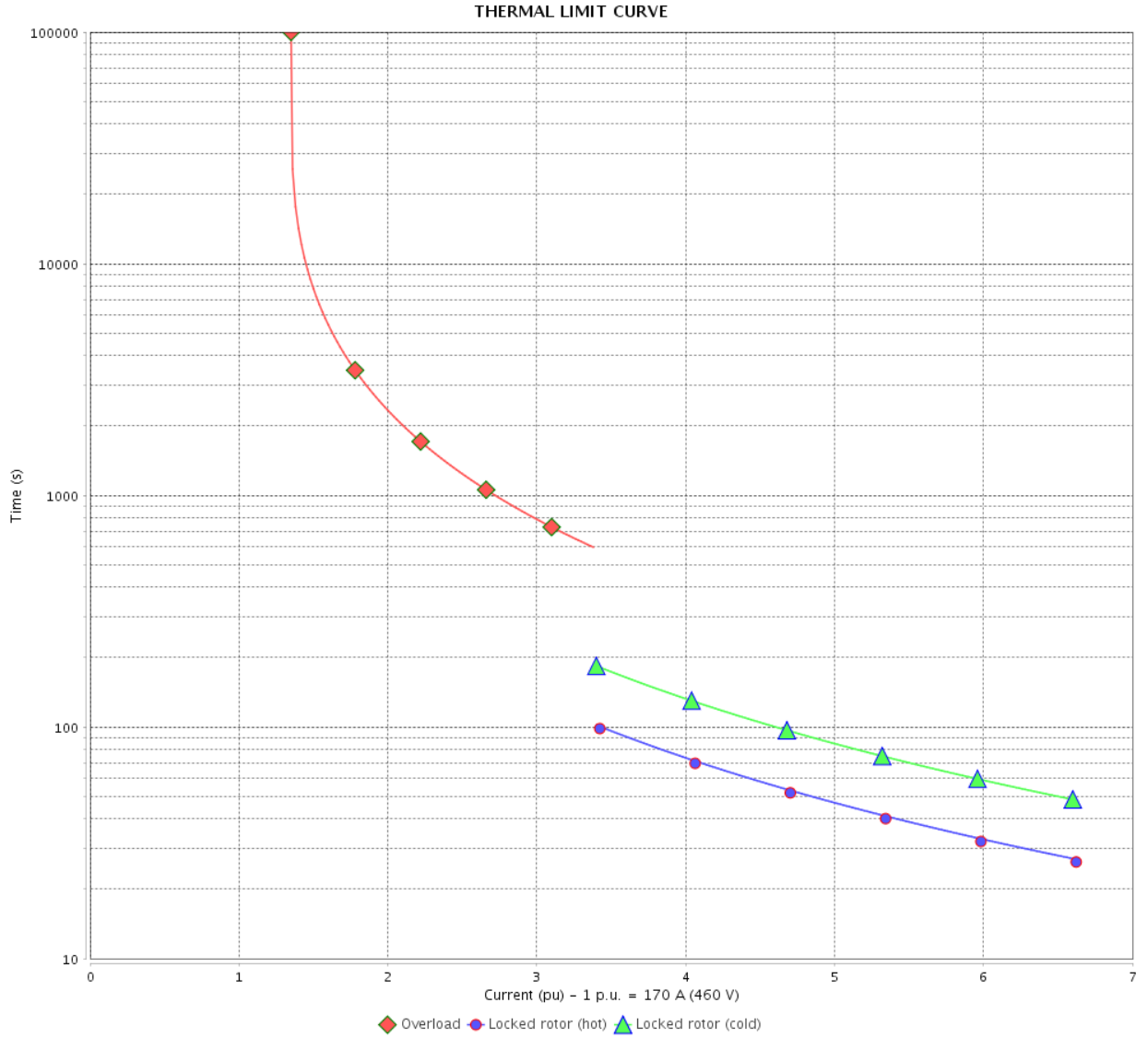
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Three Phase Induction Motor - Squirrel Cage



Customer : _____



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Three Phase Induction Motor - Squirrel Cage

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Performance : 380 V 50 Hz 4P IE3

Rated current	: 170 A	Moment of inertia (J)	: 66.7 sq.ft.lb
LRC	: 7.0	Duty cycle	: Cont.(S1)
Rated torque	: 444 ft.lb	Insulation class	: F
Locked rotor torque	: 190 %	Service factor	: 1.00
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Rated speed	: 1480 rpm	Design	: B

Heating constant

Cooling constant

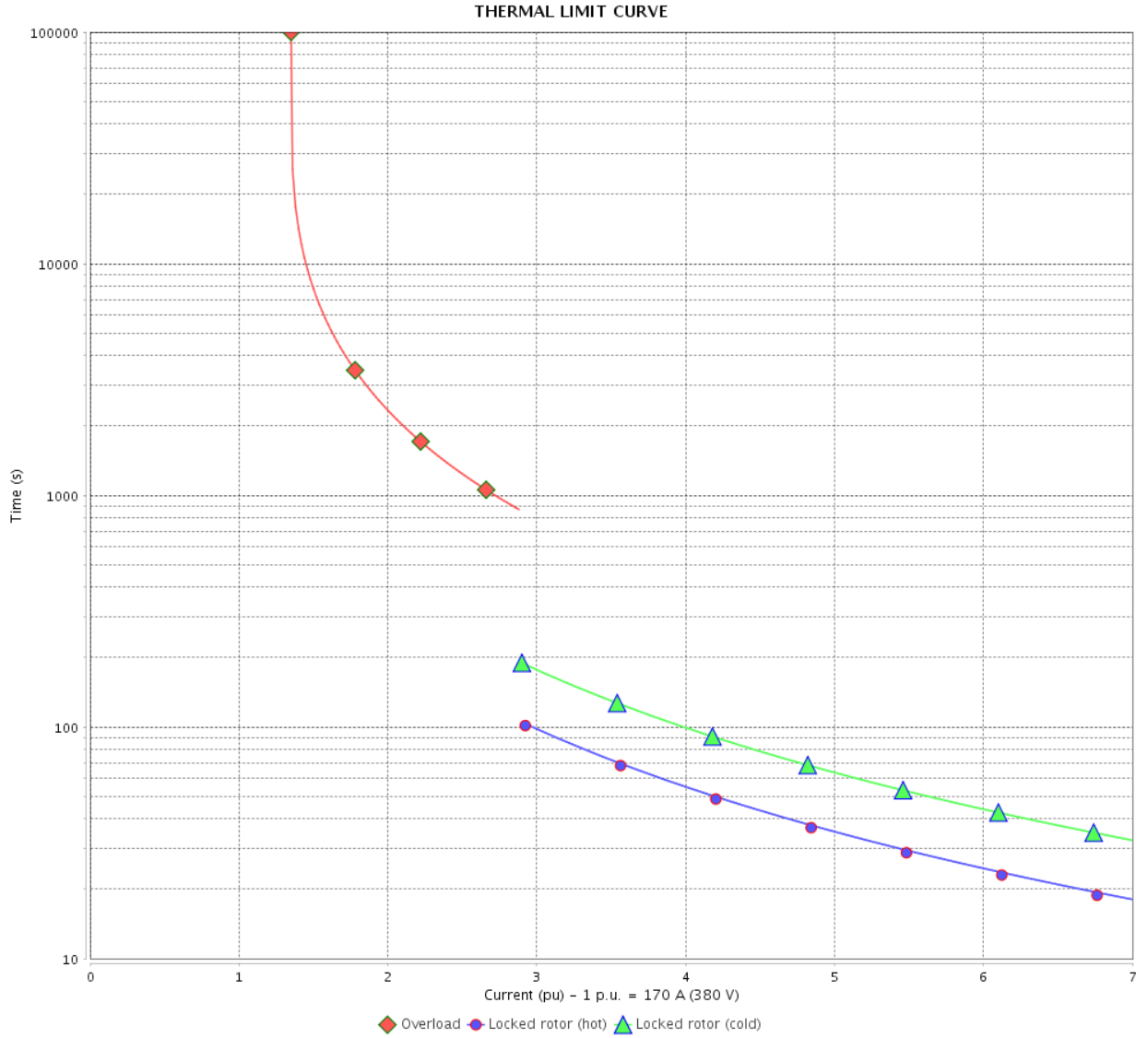
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Three Phase Induction Motor - Squirrel Cage



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Performance : 400 V 50 Hz 4P IE3

Rated current	: 163 A	Moment of inertia (J)	: 66.7 sq.ft.lb
LRC	: 6.9	Duty cycle	: Cont.(S1)
Rated torque	: 444 ft.lb	Insulation class	: F
Locked rotor torque	: 220 %	Service factor	: 1.00
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Heating constant

Cooling constant

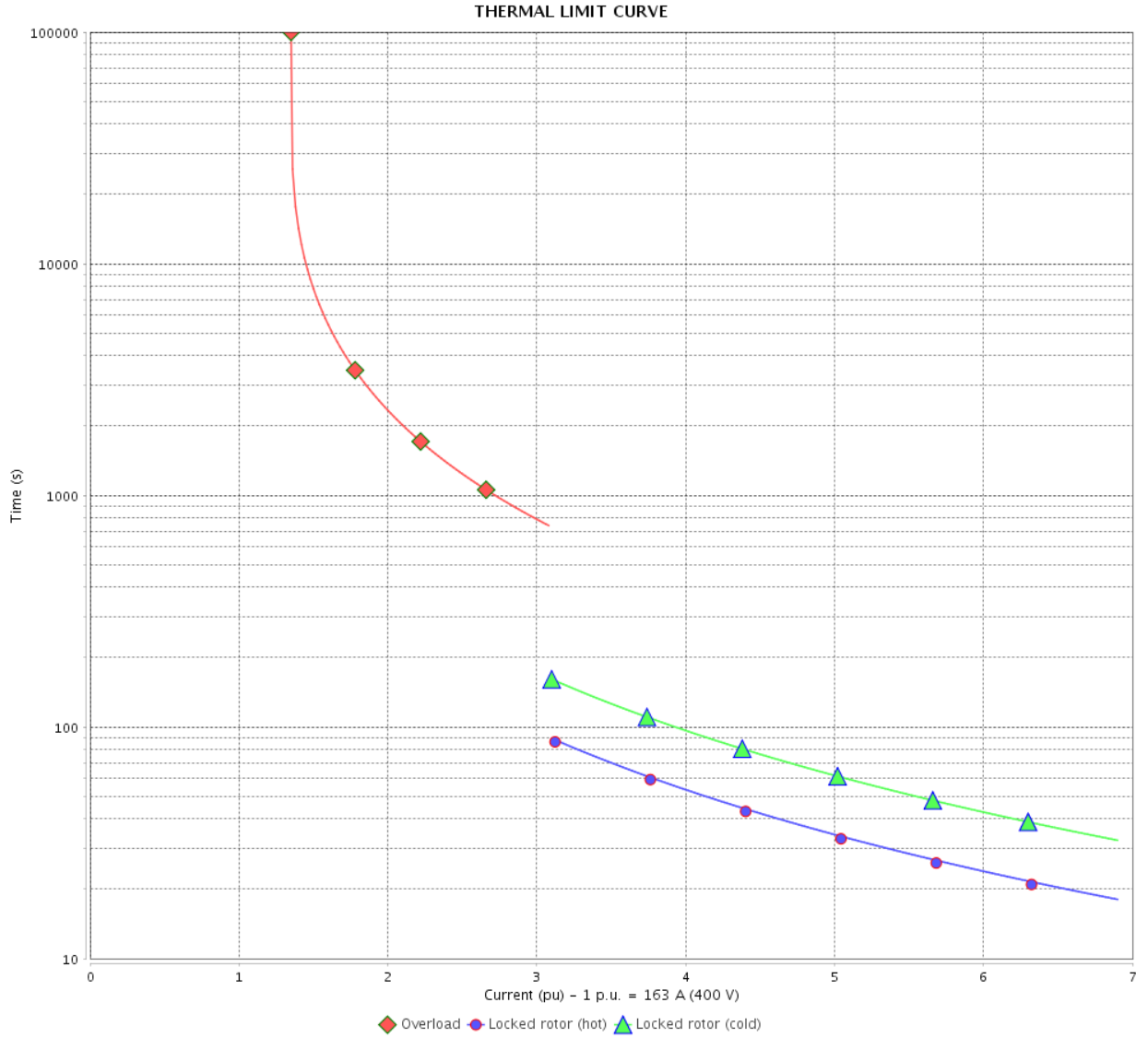
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LRC	: 7.5	Duty cycle	: Cont.(S1)
Rated torque	: 444 ft.lb	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.00
Breakdown torque	: 290 %	Temperature rise	: 80 K
Rated speed	: 1480 rpm	Design	: B

Heating constant

Cooling constant

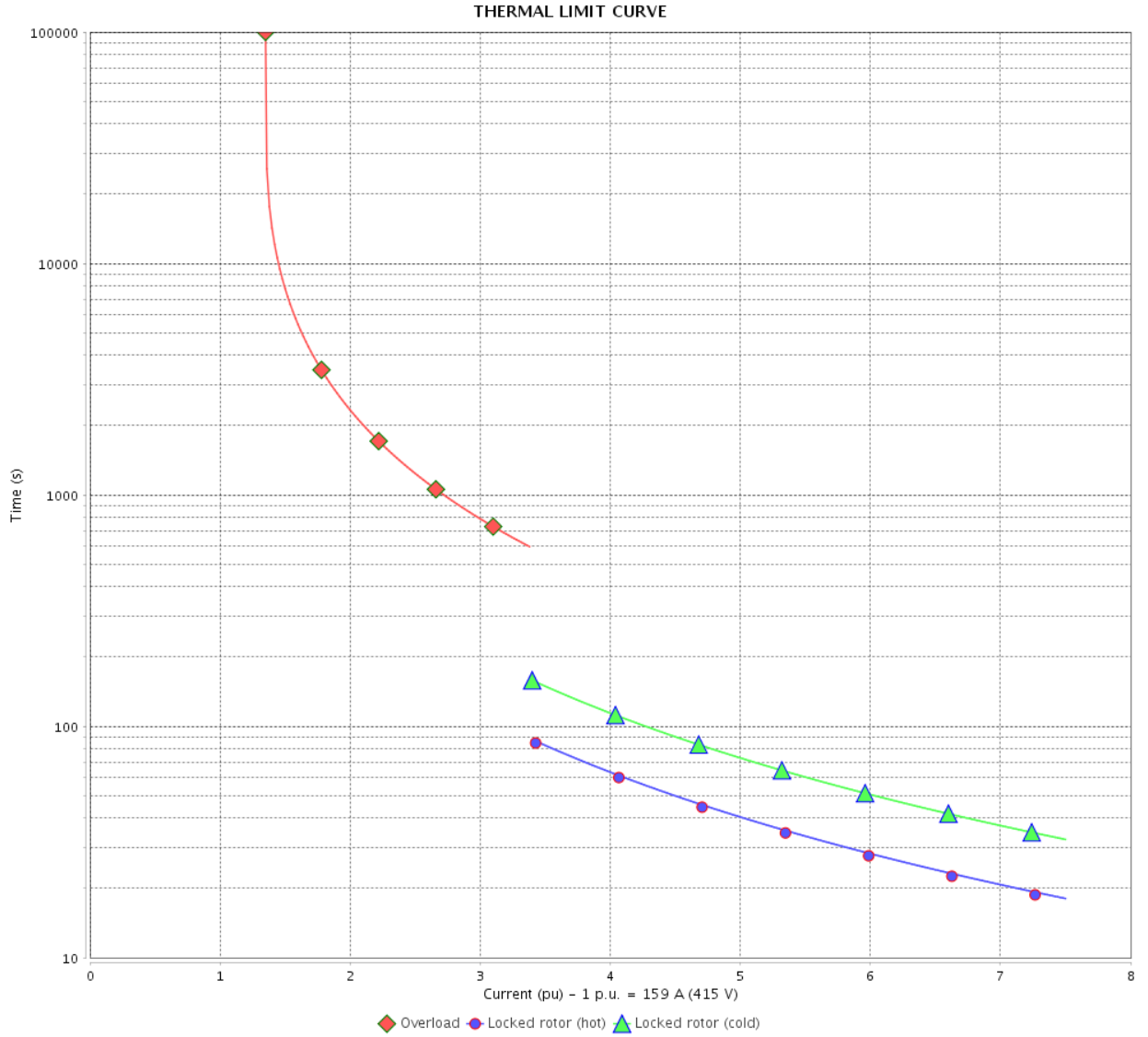
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Locked rotor torque	: 160 %	Service factor	: 1.00
Breakdown torque	: 200 %	Temperature rise	: 105 K
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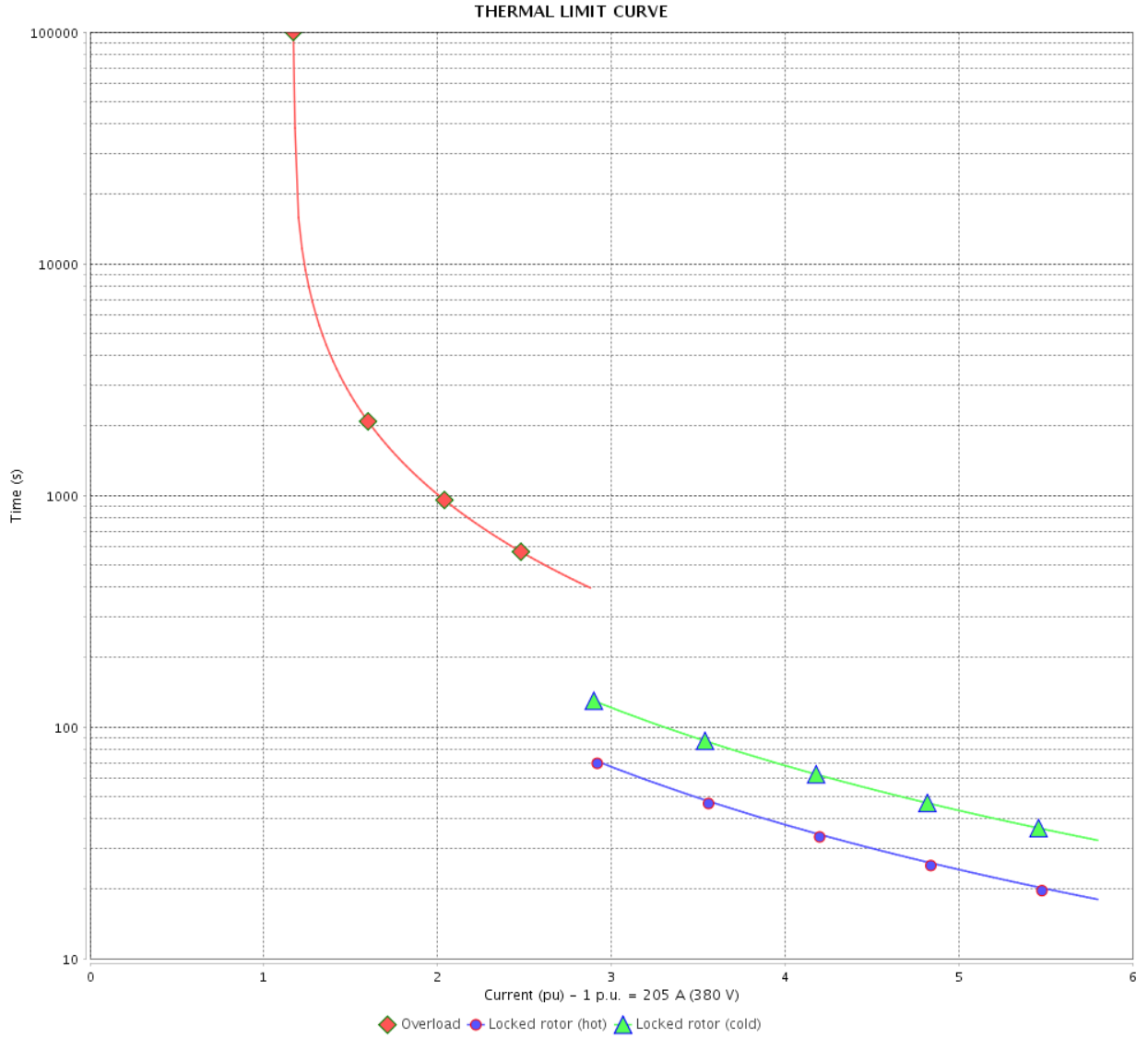
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Cooling constant

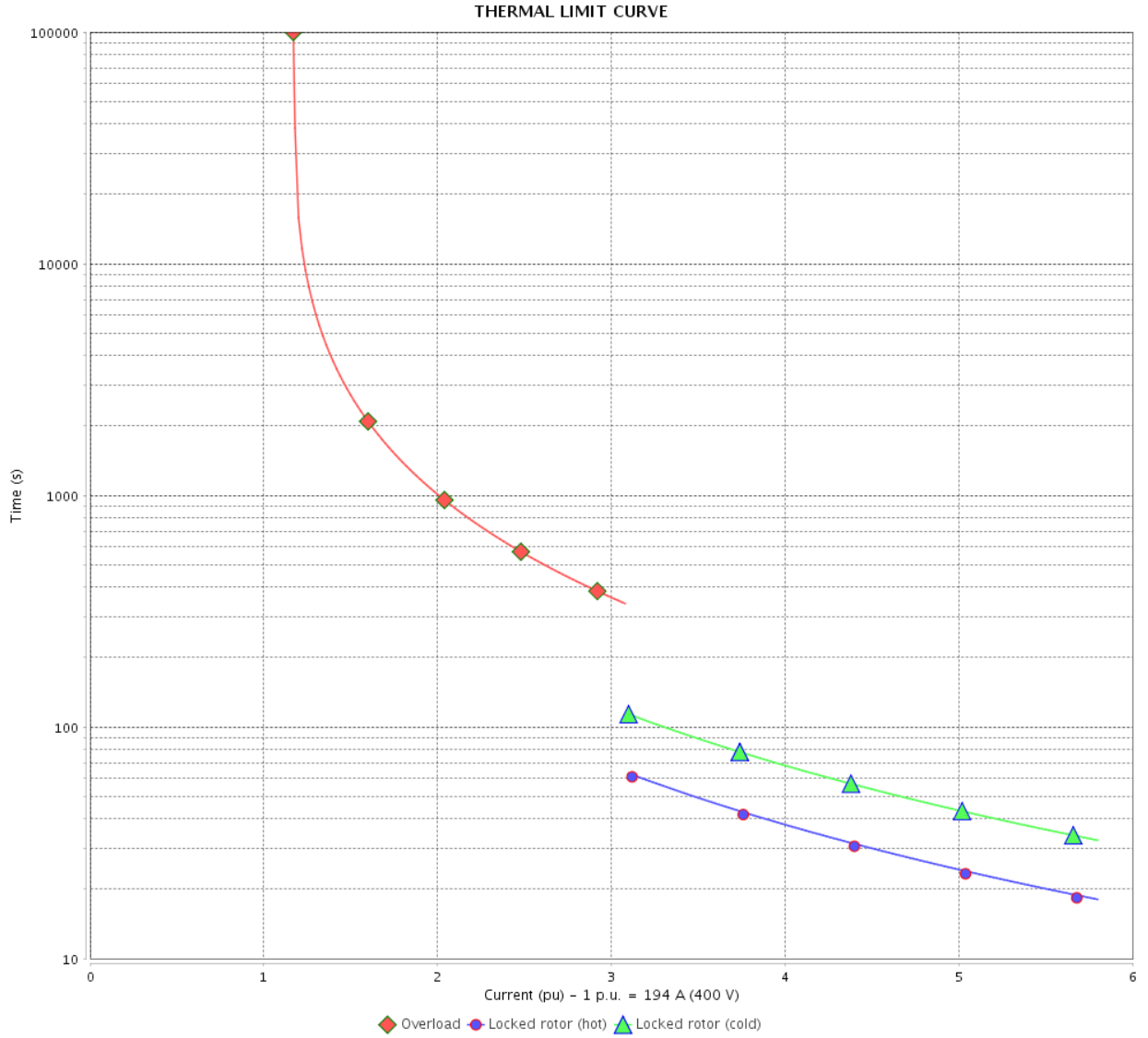
Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by			Page	Revision
Date	13/04/2022		26 / 36	

THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : _____



Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page 27 / 36		Revision
Checked by				
Date				

THERMAL LIMIT CURVE



Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase
Product code : 13025409
Catalog # : 15018ET3E445TC-W22

Performance : 415 V 50 Hz 4P IE3

Rated current	: 189 A	Moment of inertia (J)	: 66.7 sq.ft.lb
LRC	: 6.3	Duty cycle	: Cont.(S1)
Rated torque	: 532 ft.lb	Insulation class	: F
Locked rotor torque	: 190 %	Service factor	: 1.00
Breakdown torque	: 240 %	Temperature rise	: 105 K
Rated speed	: 1480 rpm	Design	: B

Heating constant

Cooling constant

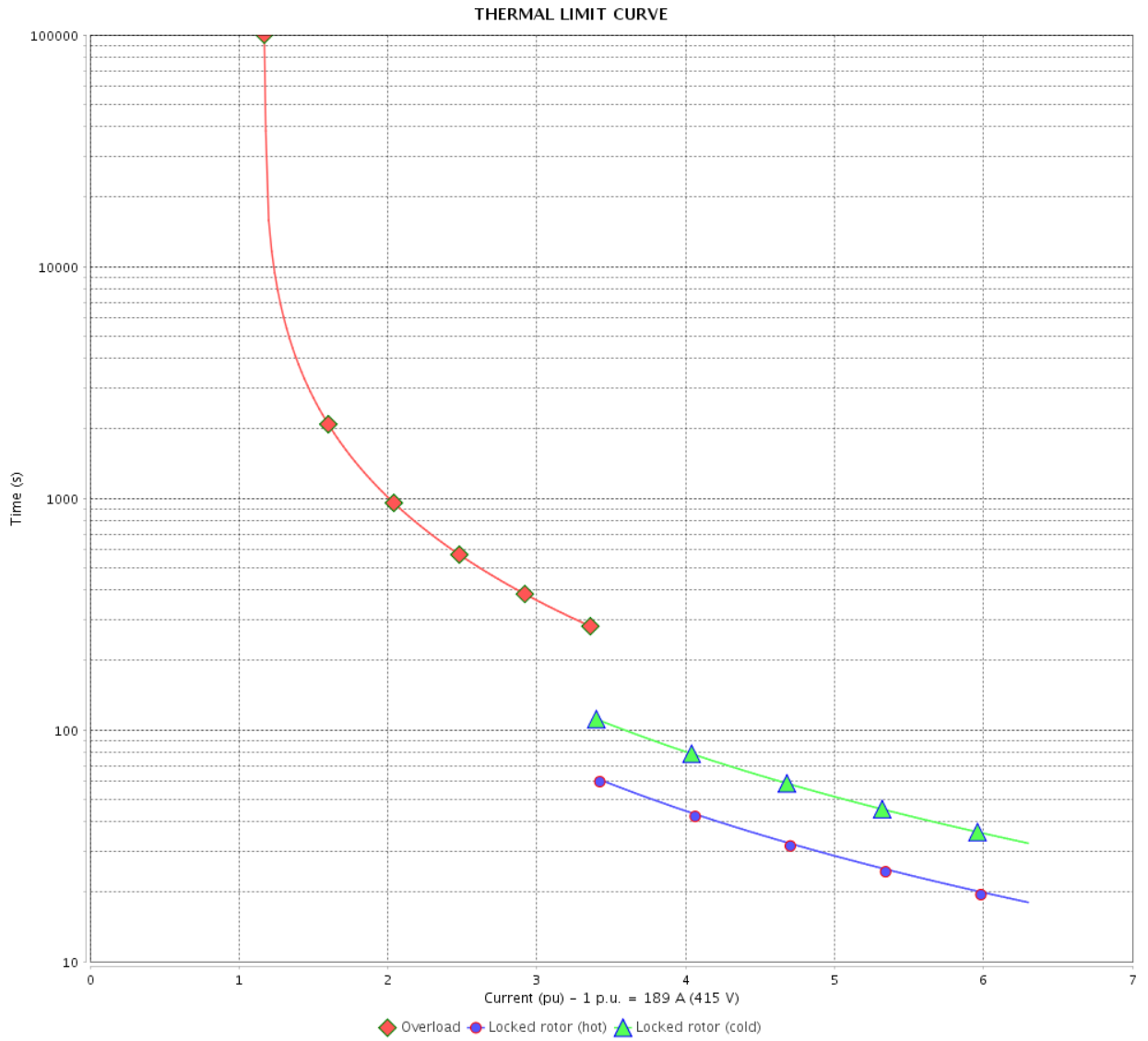
Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by			Page	Revision
Date	13/04/2022		28 / 36	

THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : _____



Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page 29 / 36		Revision
Checked by				
Date				

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



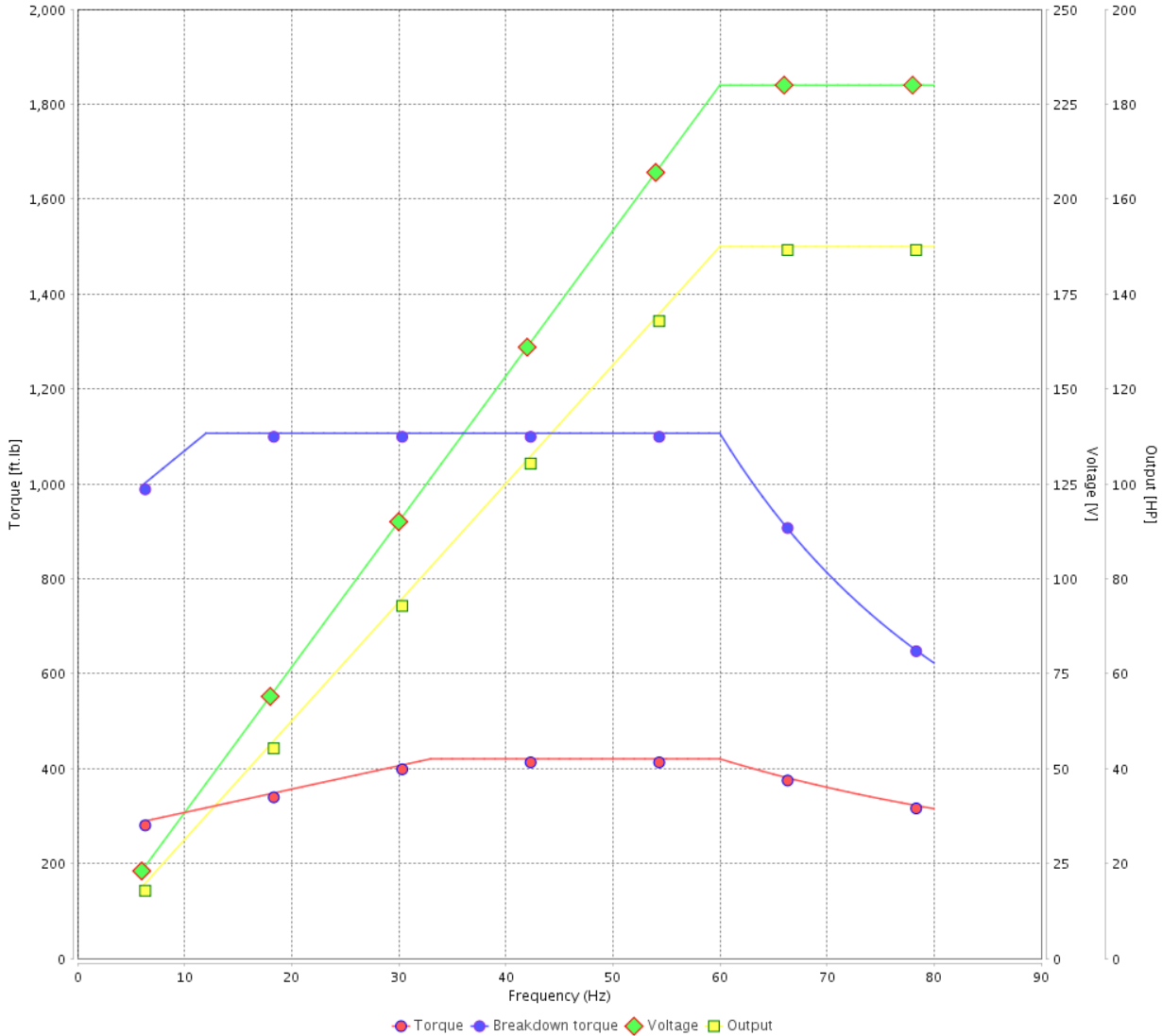
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 13025409

Catalog # : 15018ET3E445TC-W22

VFD OPERATION CURVE



Performance : 230/460 V 60 Hz 4P

Rated current : 340/170 A
 LRC : 6.6
 Rated torque : 443 ft.lb
 Locked rotor torque : 200 %
 Breakdown torque : 250 %
 Rated speed : 1780 rpm

Moment of inertia (J) : 66.7 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.15
 Temperature rise : 80 K
 Design : B

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

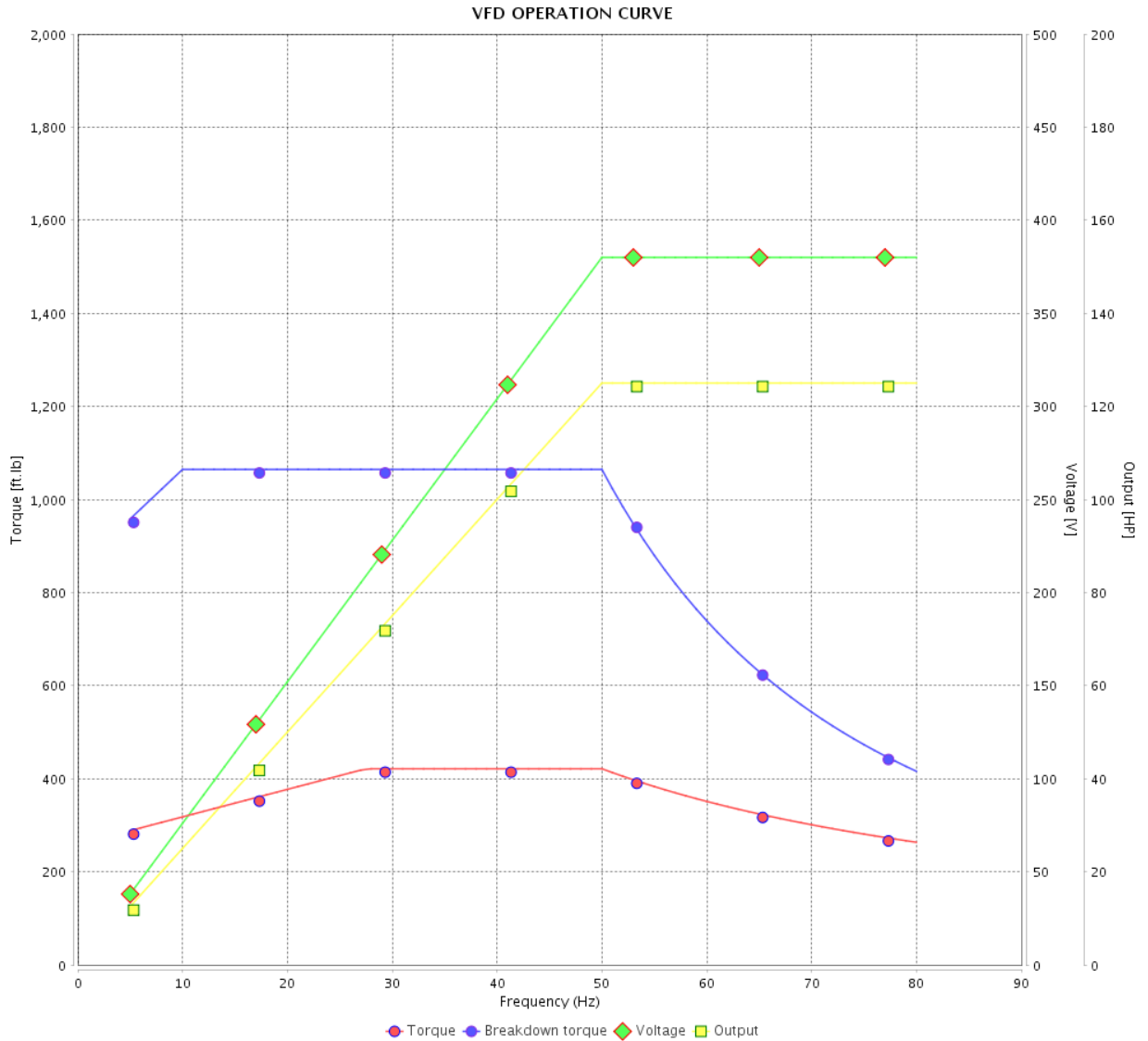
VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : NEMA Premium Efficiency Three-Phase
 Product code : 13025409
 Catalog # : 15018ET3E445TC-W22



Performance : 380 V 50 Hz 4P IE3

Rated current	: 170 A	Moment of inertia (J)	: 66.7 sq.ft.lb
LRC	: 7.0	Duty cycle	: Cont.(S1)
Rated torque	: 444 ft.lb	Insulation class	: F
Locked rotor torque	: 190 %	Service factor	: 1.00
Breakdown torque	: 240 %	Temperature rise	: 80 K
Rated speed	: 1480 rpm	Design	: B

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

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



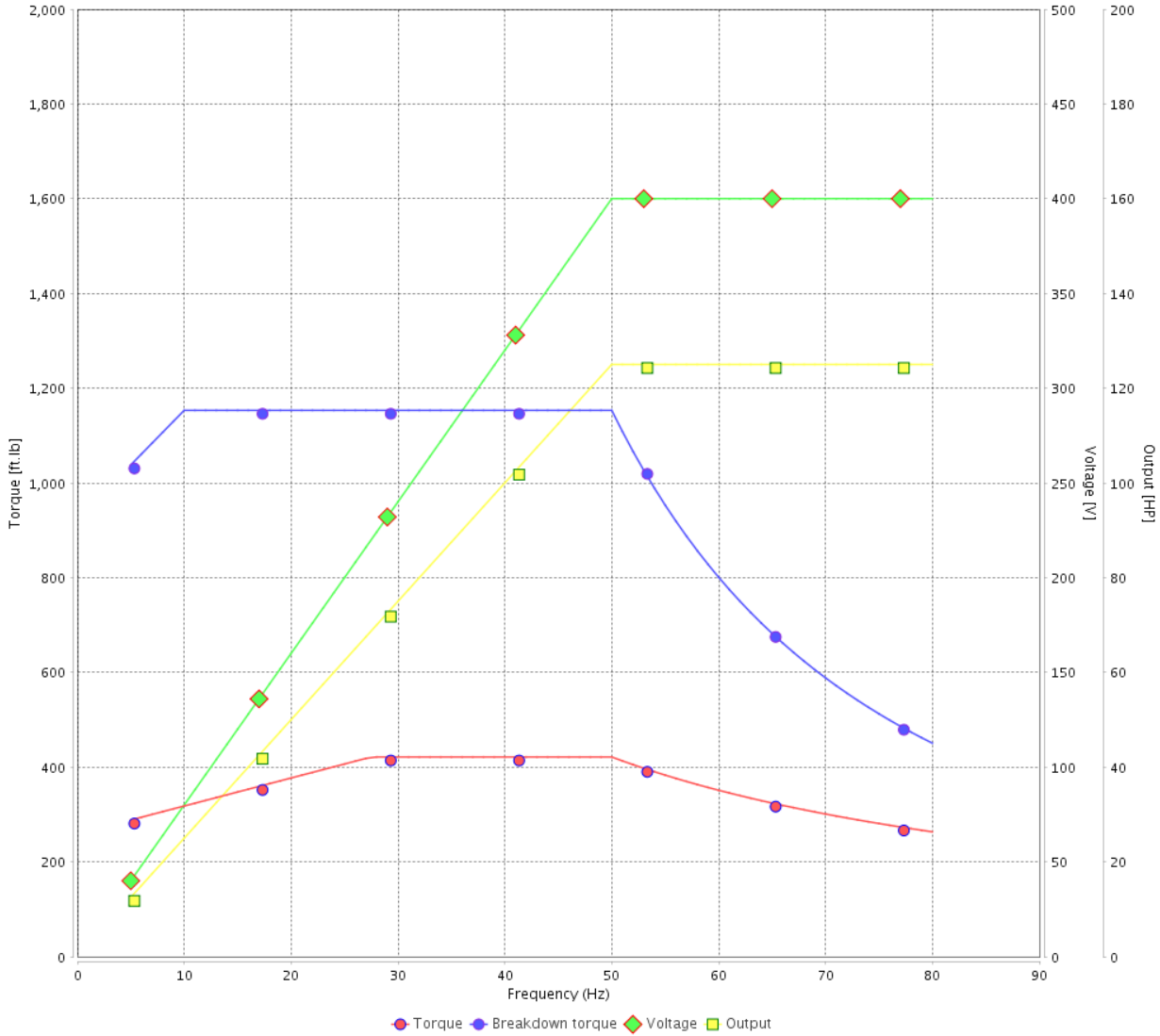
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 13025409

Catalog # : 15018ET3E445TC-W22

VFD OPERATION CURVE



Performance : 400 V 50 Hz 4P IE3

Rated current	: 163 A	Moment of inertia (J)	: 66.7 sq.ft.lb
LRC	: 6.9	Duty cycle	: Cont.(S1)
Rated torque	: 444 ft.lb	Insulation class	: F
Locked rotor torque	: 220 %	Service factor	: 1.00
Breakdown torque	: 260 %	Temperature rise	: 80 K
Rated speed	: 1480 rpm	Design	: B

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 32 / 36	Revision
Checked by				
Date	13/04/2022			

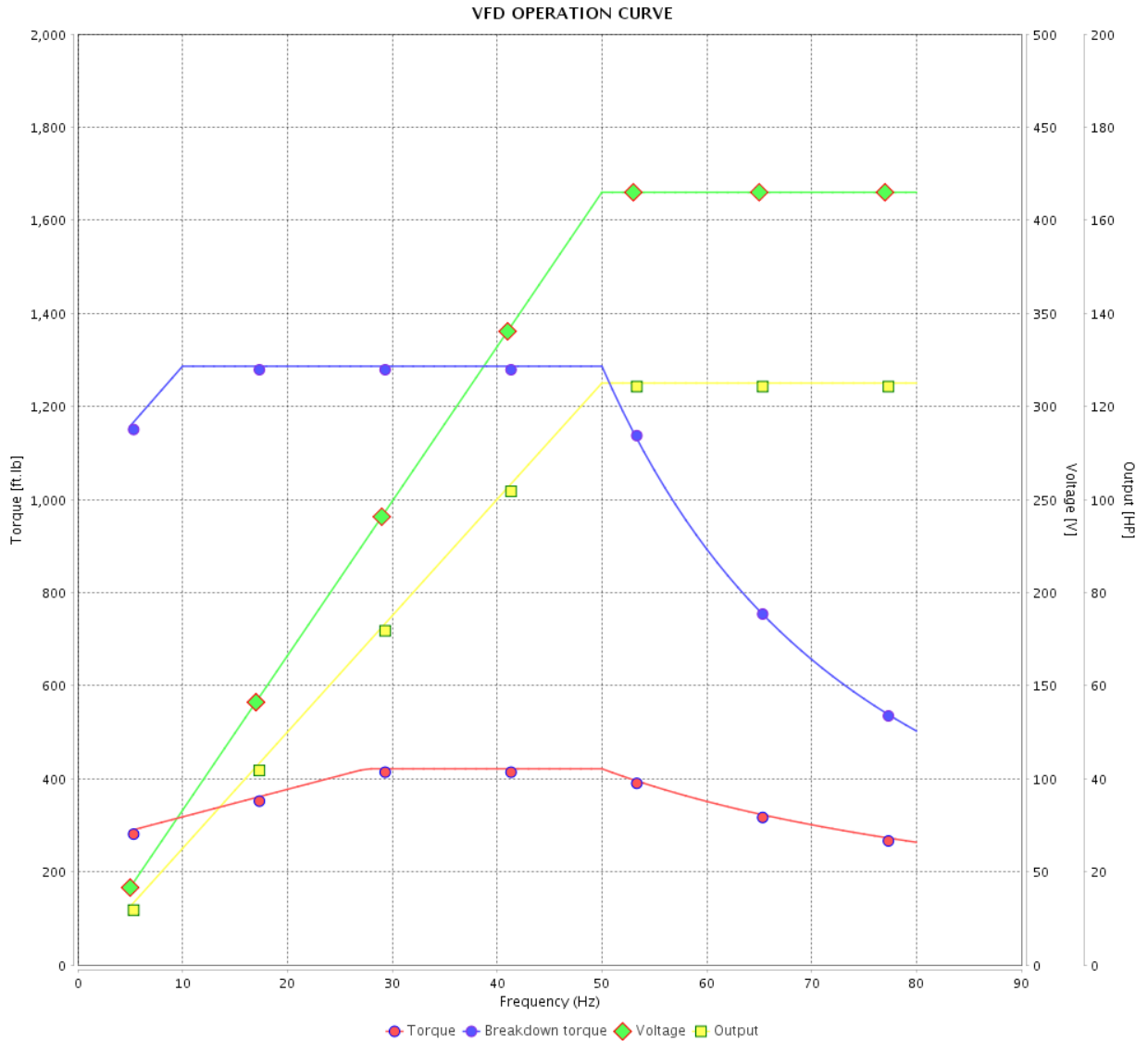
VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : _____

Product line : NEMA Premium Efficiency Three-Phase
 Product code : 13025409
 Catalog # : 15018ET3E445TC-W22



Performance : 415 V 50 Hz 4P IE3

Rated current	: 159 A	Moment of inertia (J)	: 66.7 sq.ft.lb
LRC	: 7.5	Duty cycle	: Cont.(S1)
Rated torque	: 444 ft.lb	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.00
Breakdown torque	: 290 %	Temperature rise	: 80 K
Rated speed	: 1480 rpm	Design	: B

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 33 / 36	Revision
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Date	13/04/2022			

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



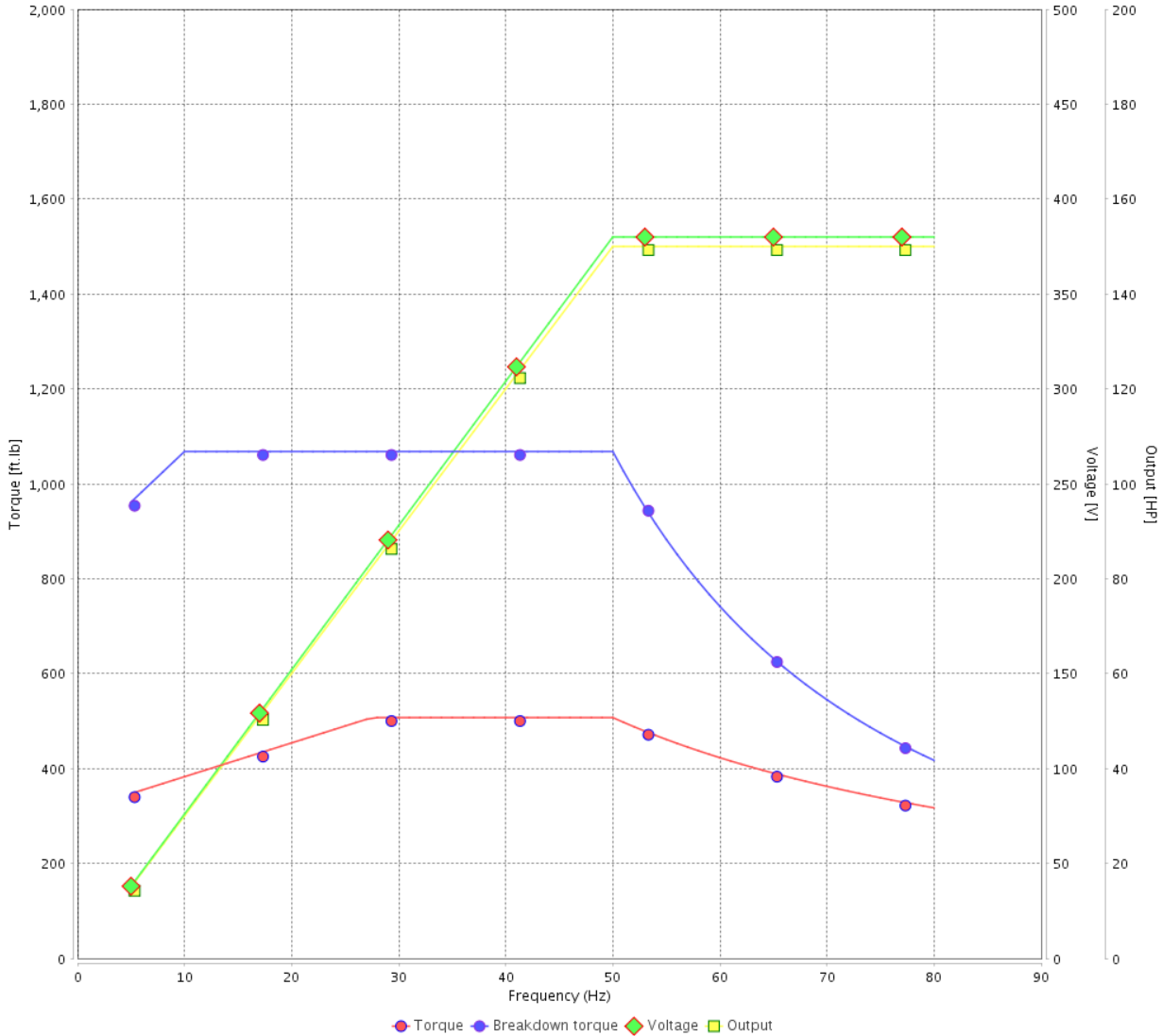
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 13025409

Catalog # : 15018ET3E445TC-W22

VFD OPERATION CURVE



Performance : 380 V 50 Hz 4P IE2

Rated current	: 205 A	Moment of inertia (J)	: 66.7 sq.ft.lb
LRC	: 5.8	Duty cycle	: Cont.(S1)
Rated torque	: 534 ft.lb	Insulation class	: F
Locked rotor torque	: 160 %	Service factor	: 1.00
Breakdown torque	: 200 %	Temperature rise	: 105 K
Rated speed	: 1475 rpm	Design	: B

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

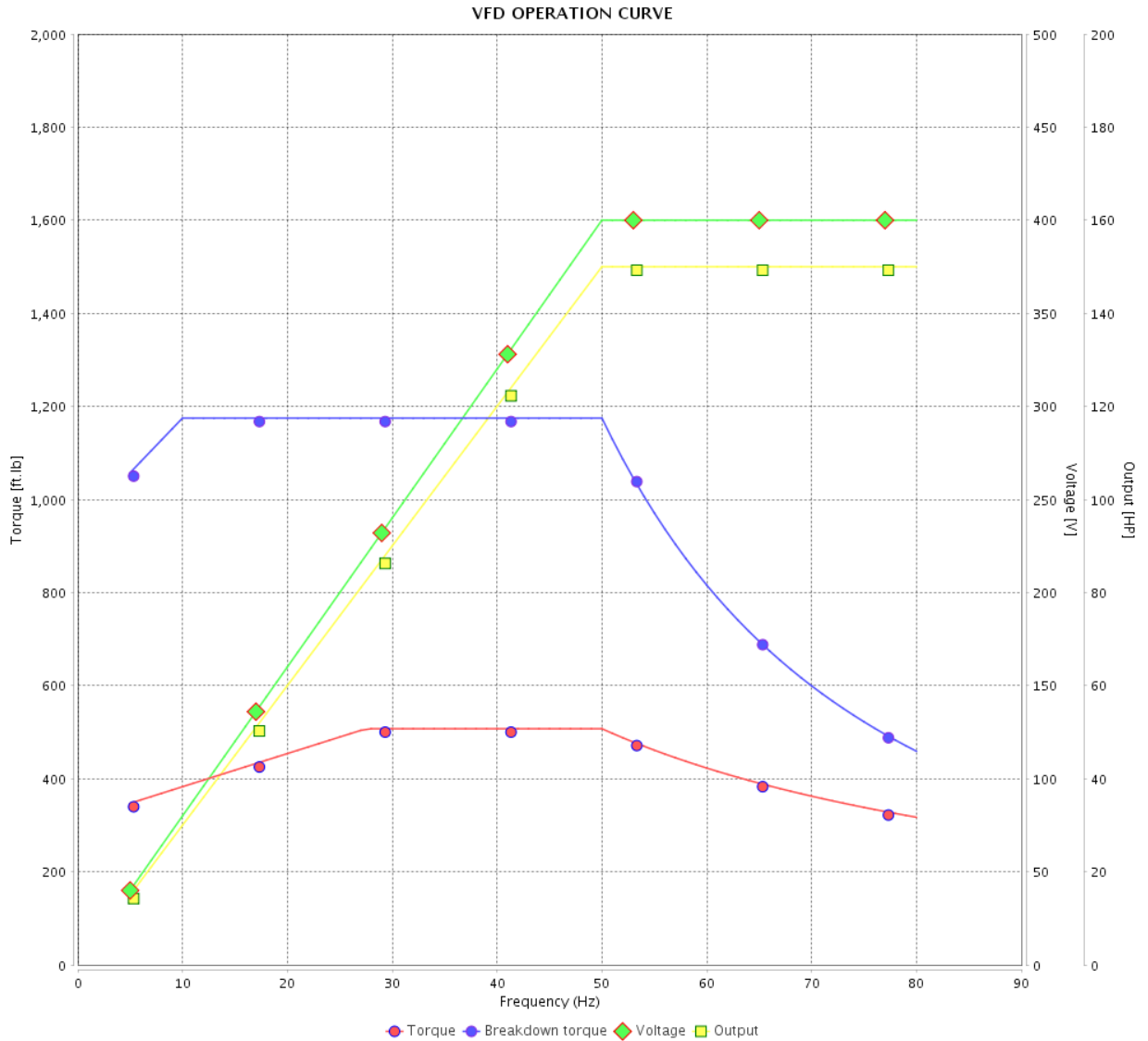
VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : NEMA Premium Efficiency Three-Phase
 Product code : 13025409
 Catalog # : 15018ET3E445TC-W22



Performance : 400 V 50 Hz 4P IE2

Rated current	: 194 A	Moment of inertia (J)	: 66.7 sq.ft.lb
LRC	: 5.8	Duty cycle	: Cont.(S1)
Rated torque	: 534 ft.lb	Insulation class	: F
Locked rotor torque	: 180 %	Service factor	: 1.00
Breakdown torque	: 220 %	Temperature rise	: 105 K
Rated speed	: 1475 rpm	Design	: B

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 35 / 36	Revision
Checked by				
Date	13/04/2022			

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

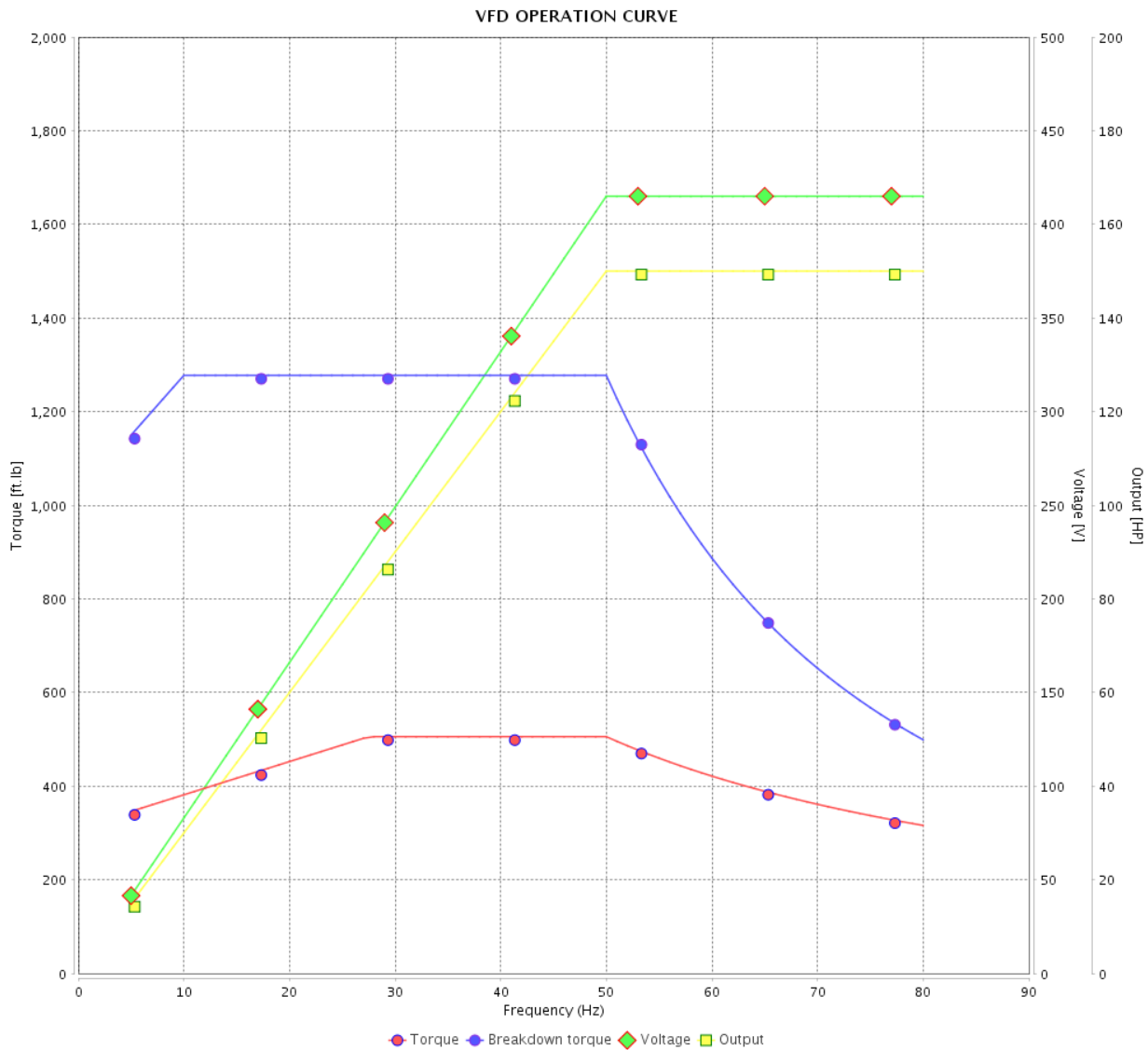


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 13025409

Catalog # : 15018ET3E445TC-W22



Performance : 415 V 50 Hz 4P IE3

Rated current	: 189 A	Moment of inertia (J)	: 66.7 sq.ft.lb
LRC	: 6.3	Duty cycle	: Cont.(S1)
Rated torque	: 532 ft.lb	Insulation class	: F
Locked rotor torque	: 190 %	Service factor	: 1.00
Breakdown torque	: 240 %	Temperature rise	: 105 K
Rated speed	: 1480 rpm	Design	: B

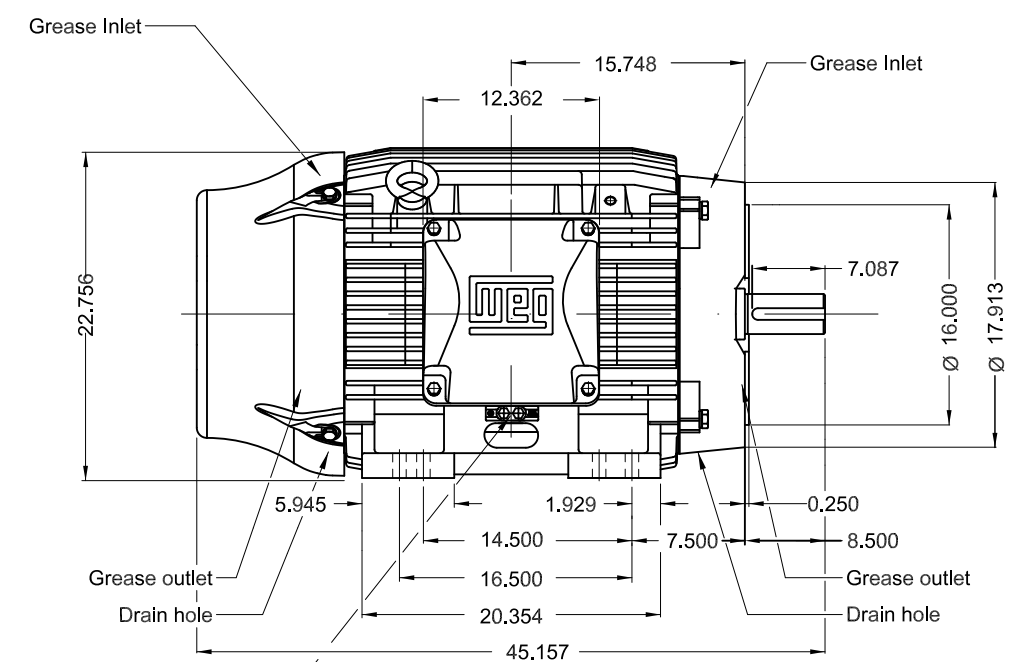
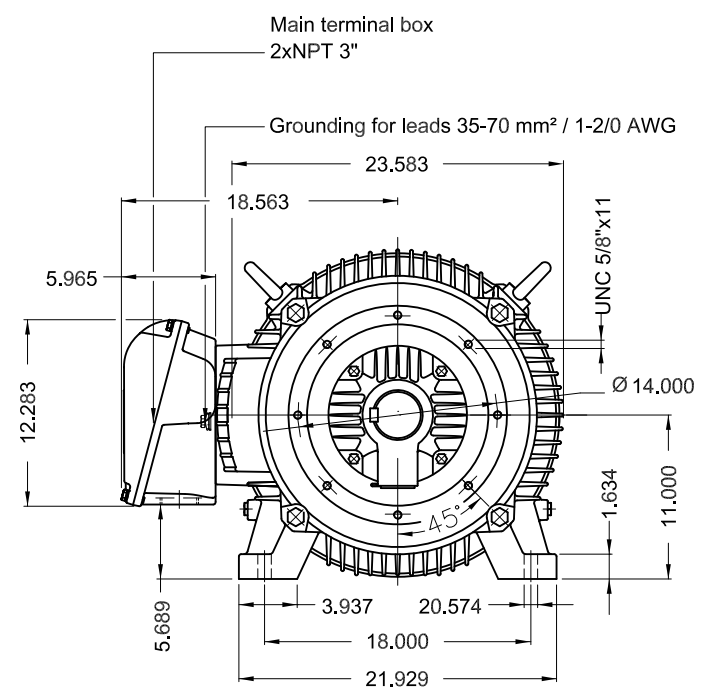
Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 36 / 36	Revision
Checked by				
Date	13/04/2022			

1 2 3 4 5 6

A

B

C

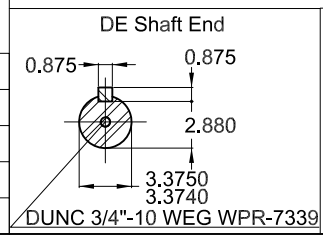


Grounding for leads 25-185 mm² / 3AWG-350MCM

D

E

Without vertical jackscrews
 Color RAL 5009
 Painting plan 203A
 Mounting NEMA F-1
 Mounting B34R(D)



150 HP 04 Poles 60 Hz A

ECM	LOC	SUMMARY OF MODIFICATIONS	EXECUTED	CHECKED	RELEASED	DATE	VER
EXECUTED	PIRWBUSER	THREE PH. MOTOR W22 PREM. EFF.					
CHECKED		FRAME 444/5TC IP55 TEFC					
RELEASED							
REL DT.	WMO	Jaragua do Sul	Product Engineering	SHEET	1 / 1		

PREVIEW
WDD



MADE IN BRAZIL
13025409



NEMA
Premium
W22



FOR SAFE AREA
Mod.TE1BFOXON
CC029A



For use on 60Hz
Class I, Div 2, Gr A, B, C and D - T3
Class I, Zone 2, IIC - T3
Class II, Div 2, Gr F and G - T3C
For use on PWM: Gr. A, B, C, D and F,
VT 1000:1, CT 20:1, 1.00SF - T3A

MODEL 15018ET3E445TC-W22

Inverter Duty Motor
Severe Duty

PH3 60Hz Fr. 444/5TC 1000m.a.s.l. IP55 TEFC 1897lb

V 230/460

A 340/170

HP 150

kW 110

SF 1.15

SFA 391/195

RPM 1780

PF 0.85

AMB 40°C

INS cl. F DT80K

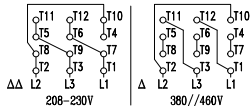
NEMA NOM EFF 95.8%



DUTY CONT.

DES B Code G

USABLE @208V 376A SF 1.00

150HP 110kW 50Hz 380V 205A 1475RPM SF 1.00 EFF 95.0% (IE2)



 → 6319-C3 (45g)
 → 6316-C3 (34g)



MOBIL POLYREX EM (8000h)

