

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase  
 Product code : 11355727  
 Catalog # : 04009ET3E365T-W22

Frame : 364/5T	Cooling method : IC411 - TEFC
Insulation class : F	Mounting : F-1
Duty cycle : Cont.(S1)	Rotation <sup>1</sup> : Both (CW and CCW)
Ambient temperature : -20°C to +40°C	Starting method : Direct On Line
Altitude : 1000 m.a.s.l.	Approx. weight <sup>2</sup> : 861 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]	230/460	380	400	415	380	400	415
Rated current [A]	102/50.9	47.8	46.3	45.7	62.9	60.0	58.1
L. R. Amperes [A]	601/300	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]	43.0/21.5	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) 26s (hot)	81s (cold) 45s (hot)	52s (cold) 29s (hot)	52s (cold) 29s (hot)	32s (cold) 18s (hot)	32s (cold) 18s (hot)	32s (cold) 18s (hot)
Noise level <sup>2</sup>	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

Losses at normative operating points (speed;torque), in percentage of rated output power

Losses (%)	P1 (0,9;1,0)	8.1	8.1	8.1	8.1	8.1	8.1
	P2 (0,5;1,0)	7.1	7.1	7.1	7.1	7.1	7.1
	P3 (0,25;1,0)	6.5	6.5	6.5	6.5	6.5	6.5
	P4 (0,9;0,5)	3.6	3.6	3.6	3.6	3.6	3.6
	P5 (0,5;0,5)	2.6	2.6	2.6	2.6	2.6	2.6
	P6 (0,5;0,25)	1.6	1.6	1.6	1.6	1.6	1.6
	P7 (0,25;0,25)	1.2	1.2	1.2	1.2	1.2	1.2

	<u>Drive end</u>	<u>Non drive end</u>	Foundation loads
Bearing type :	6314 C3	6314 C3	Max. traction : 1638 lb
Sealing :	WSeal	WSeal	Max. compression : 2499 lb
Lubrication interval :	20000 h	20000 h	
Lubricant amount :	27 g	27 g	
Lubricant type :	Mobil Polyrex EM		

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## Three Phase Induction Motor - Squirrel Cage



Customer : \_\_\_\_\_

Notes  
USABLE @208V 111A SF 1.10 SFA 122A

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# TORQUE AND CURRENT VS SPEED CURVE



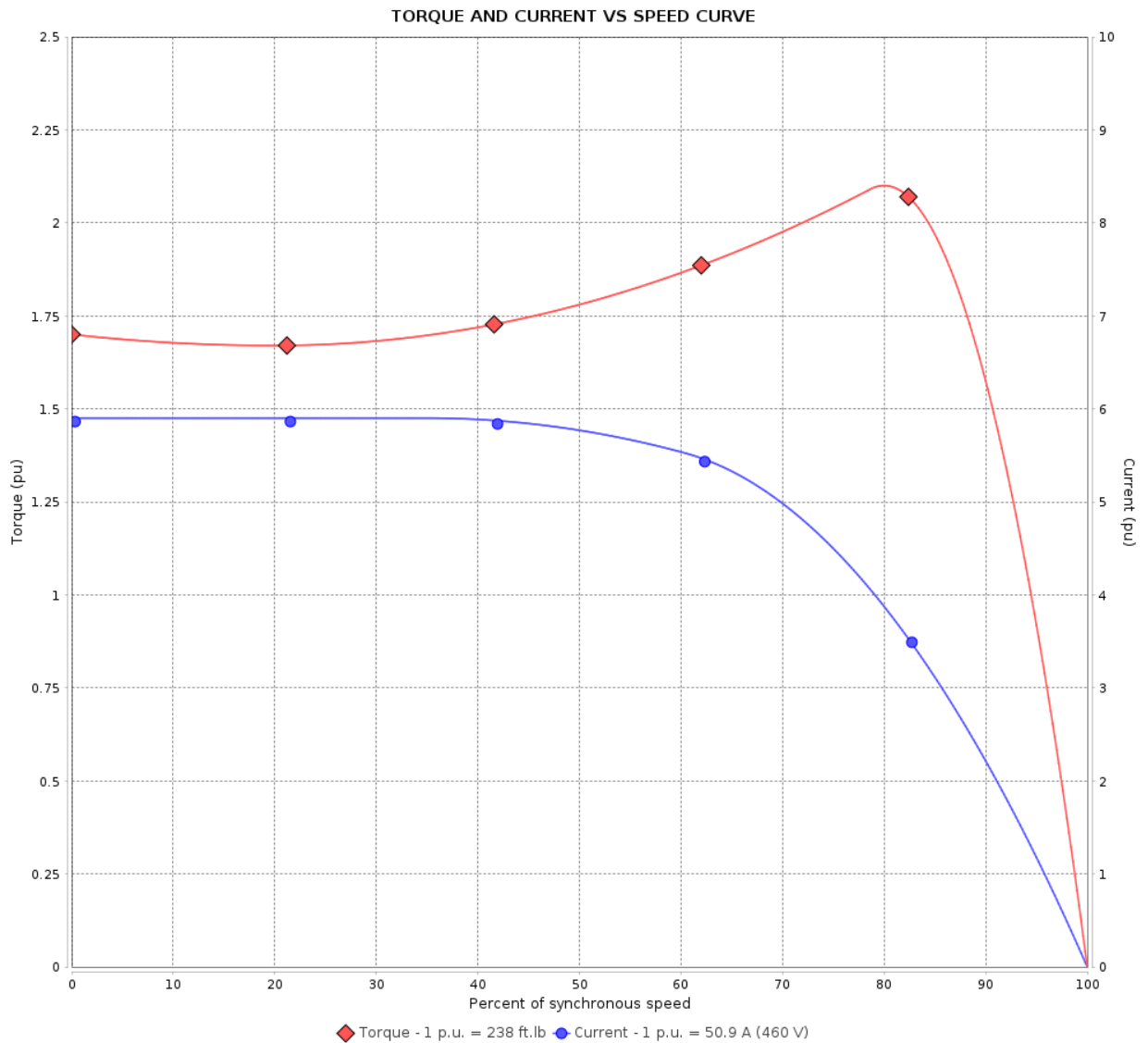
## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase

Product code : 11355727

Catalog # : 04009ET3E365T-W22



Performance : 230/460 V 60 Hz 8P

Rated current : 102/50.9 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

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

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# TORQUE AND CURRENT VS SPEED CURVE

## Three Phase Induction Motor - Squirrel Cage

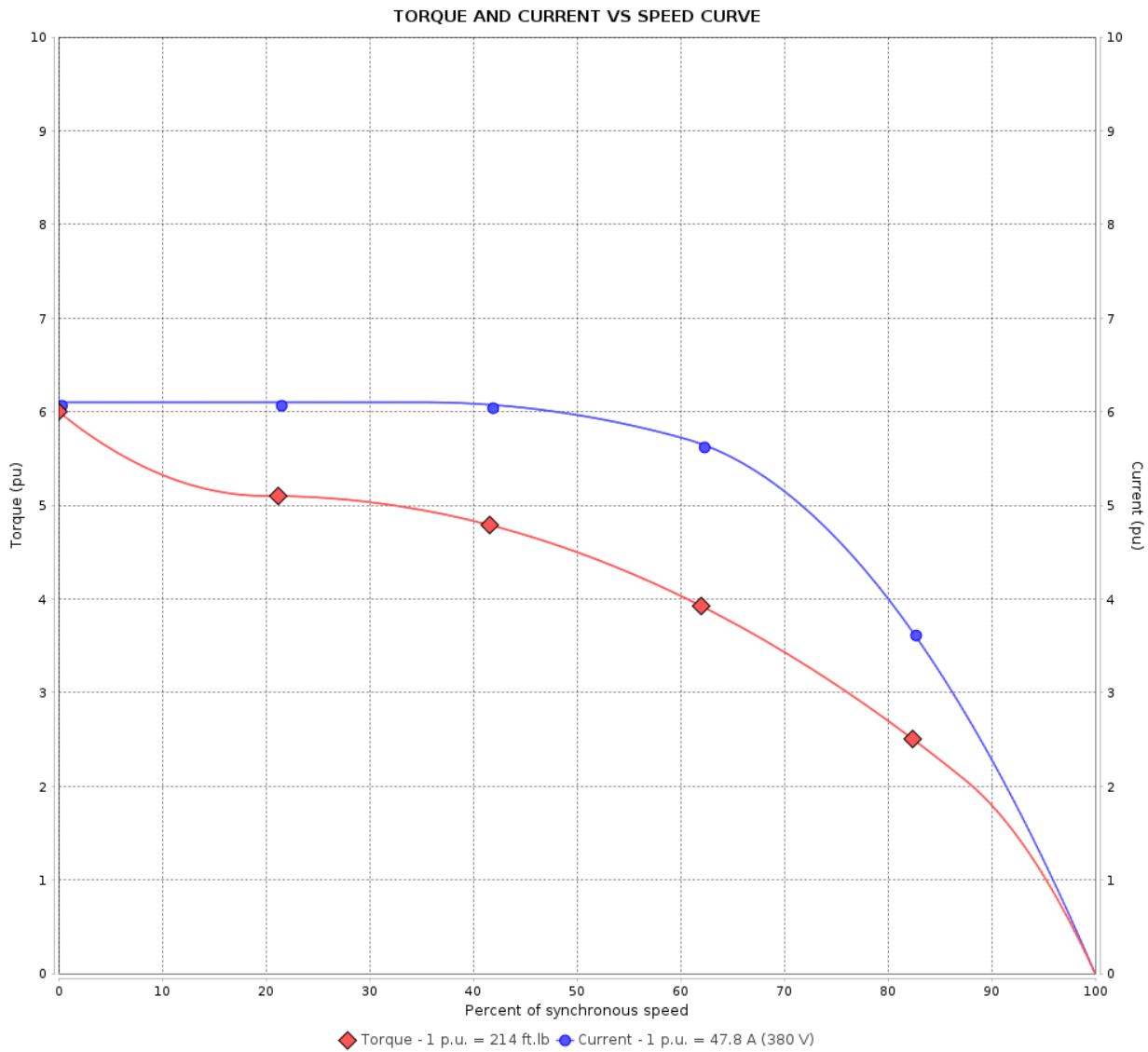


Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase

Product code : 11355727

Catalog # : 04009ET3E365T-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



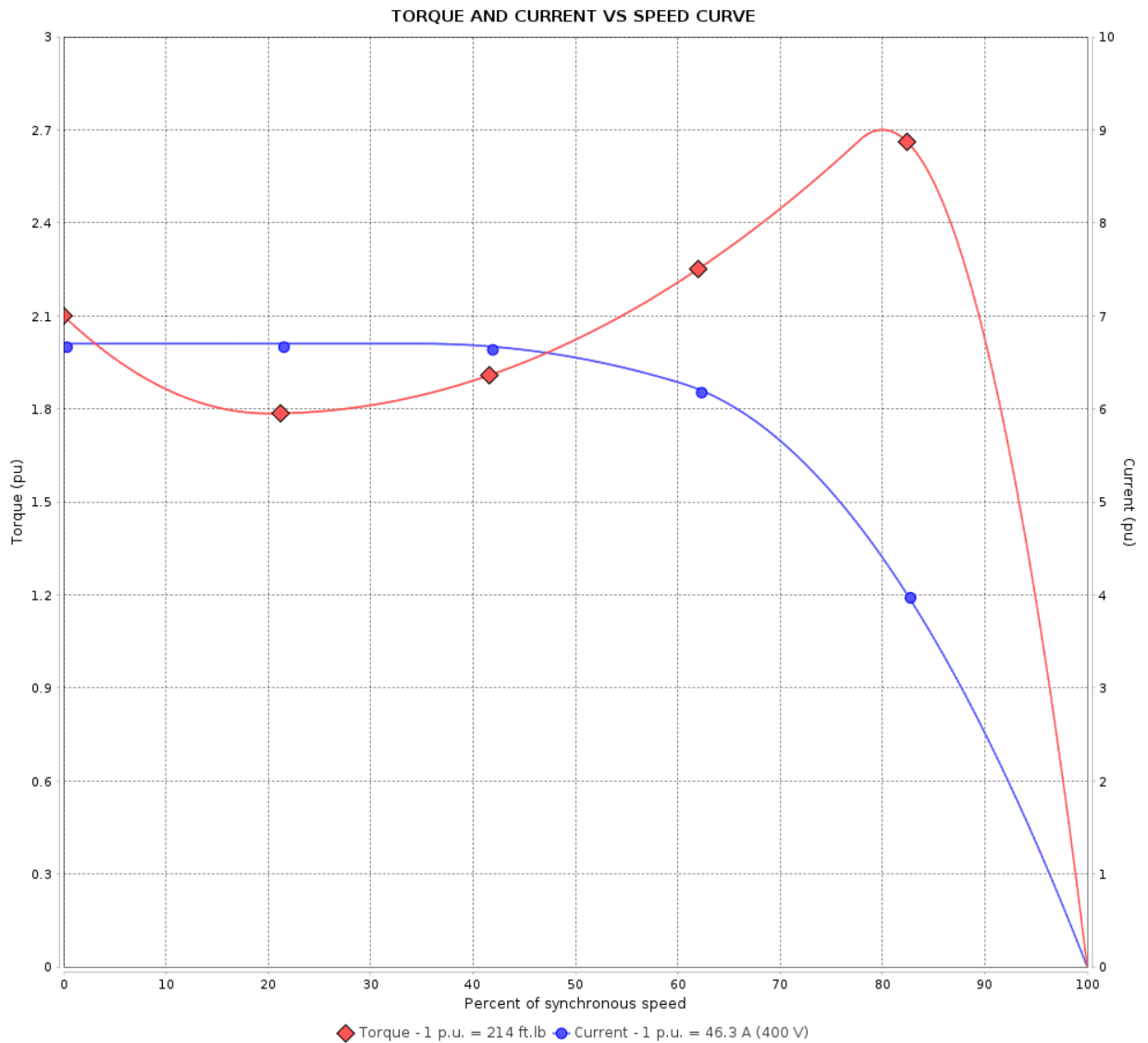
## Three Phase Induction Motor - Squirrel Cage

Customer :

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Product code : 11355727

Catalog # : 04009ET3E365T-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
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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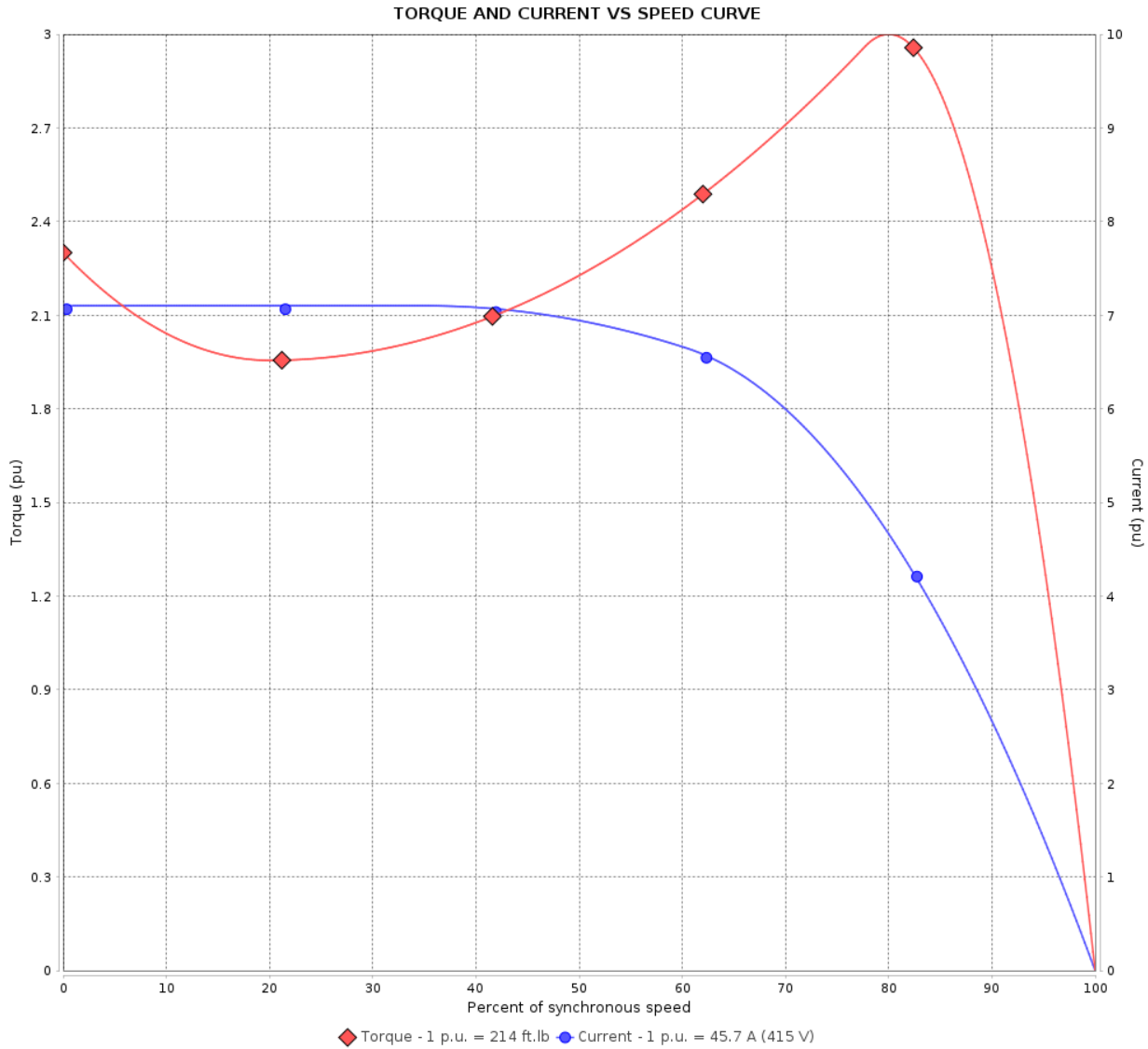


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Performance : 415 V 50 Hz 8P IE3

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

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

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# TORQUE AND CURRENT VS SPEED CURVE



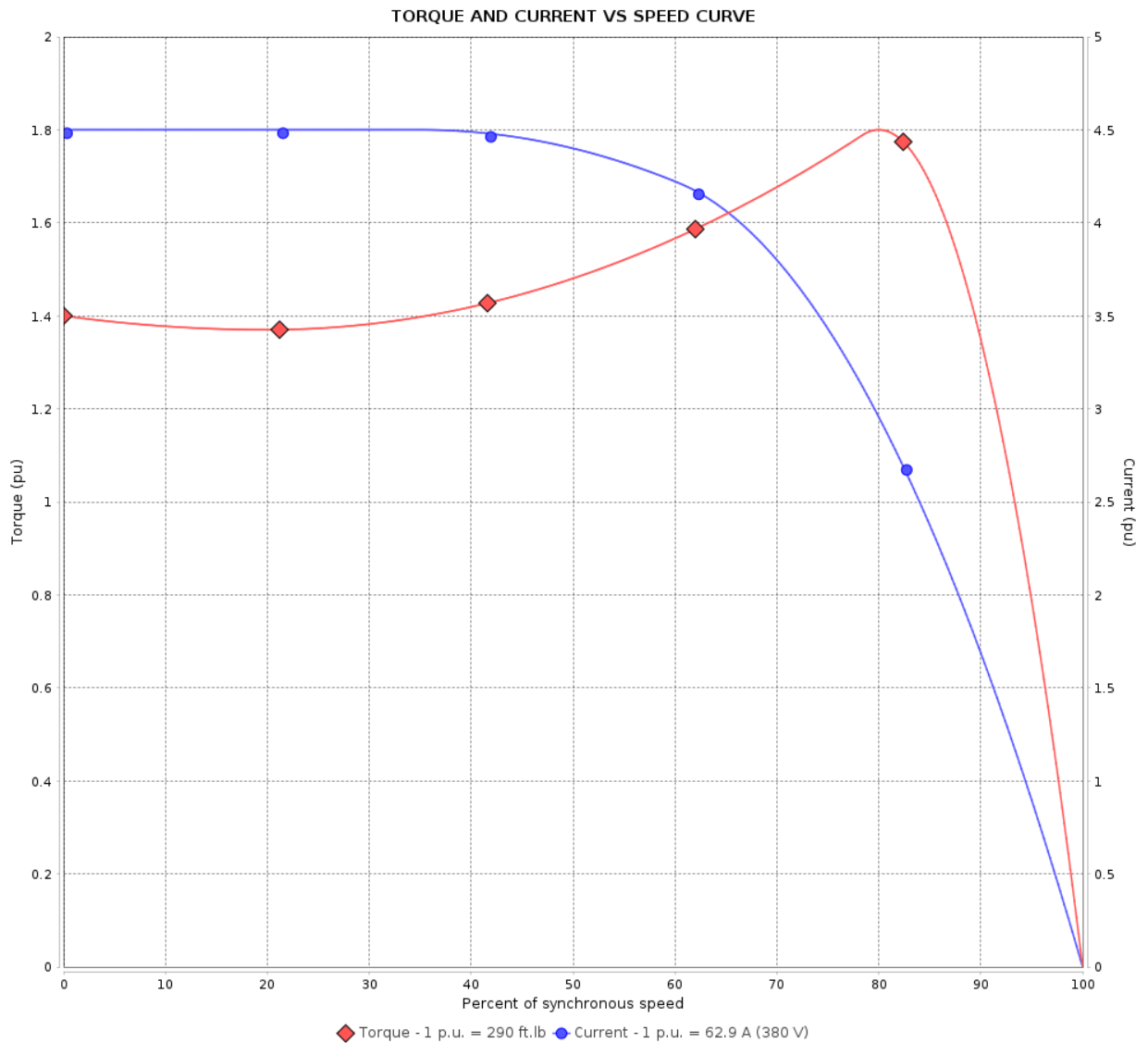
## Three Phase Induction Motor - Squirrel Cage

Customer :

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Product code : 11355727

Catalog # : 04009ET3E365T-W22



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

## Three Phase Induction Motor - Squirrel Cage



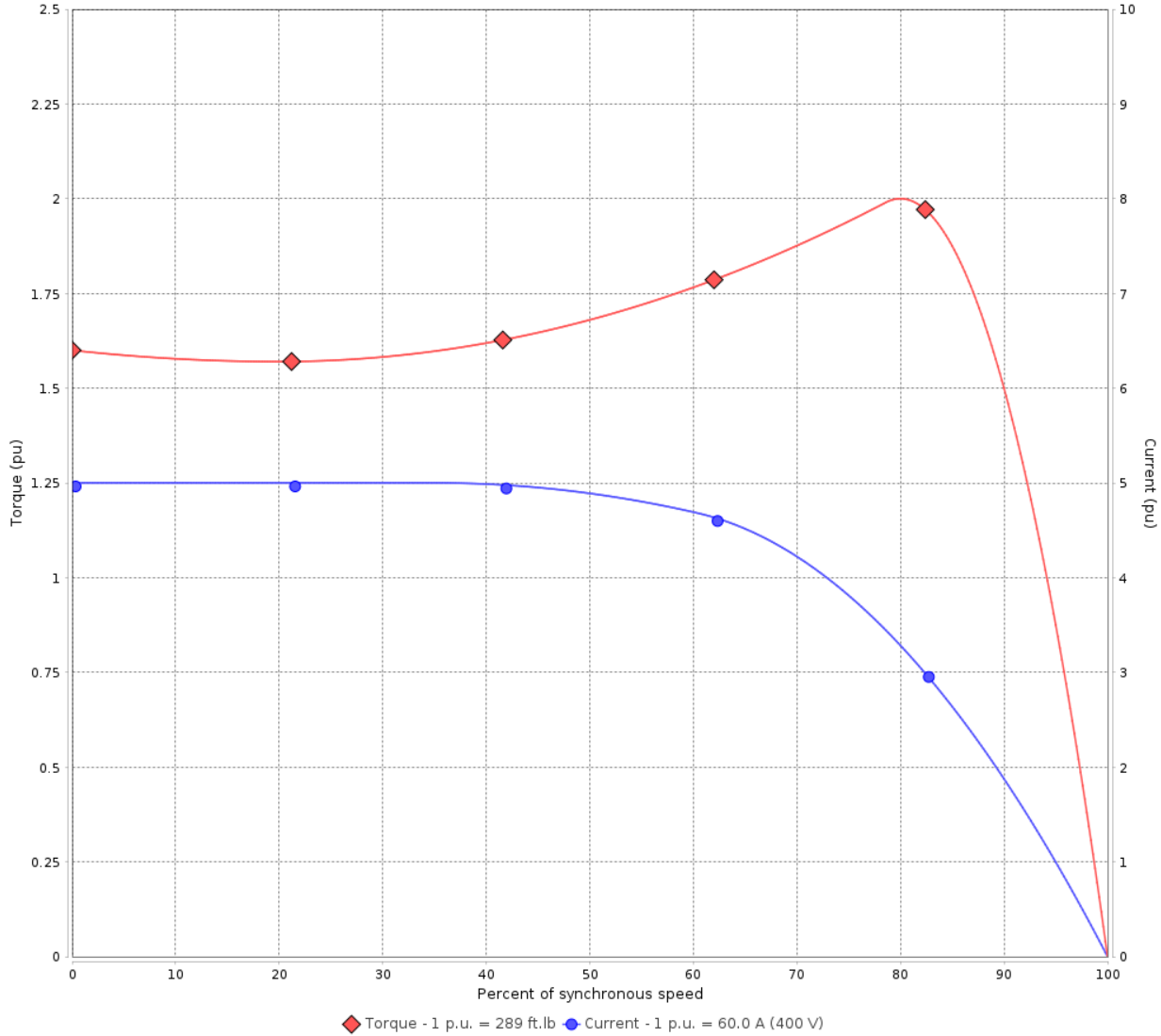
Customer :

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Product code : 11355727

Catalog # : 04009ET3E365T-W22

TORQUE AND CURRENT VS SPEED CURVE



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



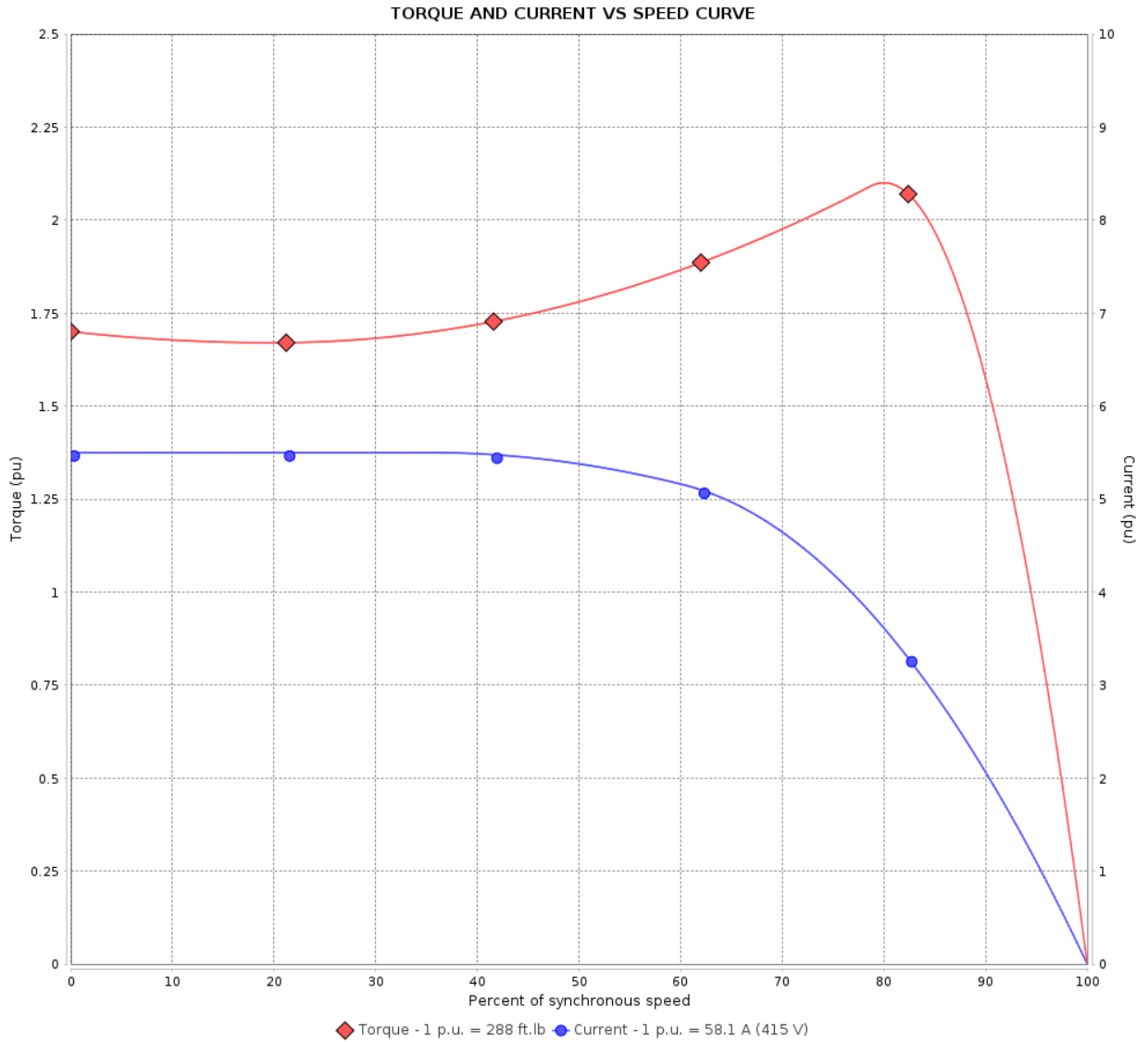
## Three Phase Induction Motor - Squirrel Cage

Customer :

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Product code : 11355727

Catalog # : 04009ET3E365T-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

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

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# LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage

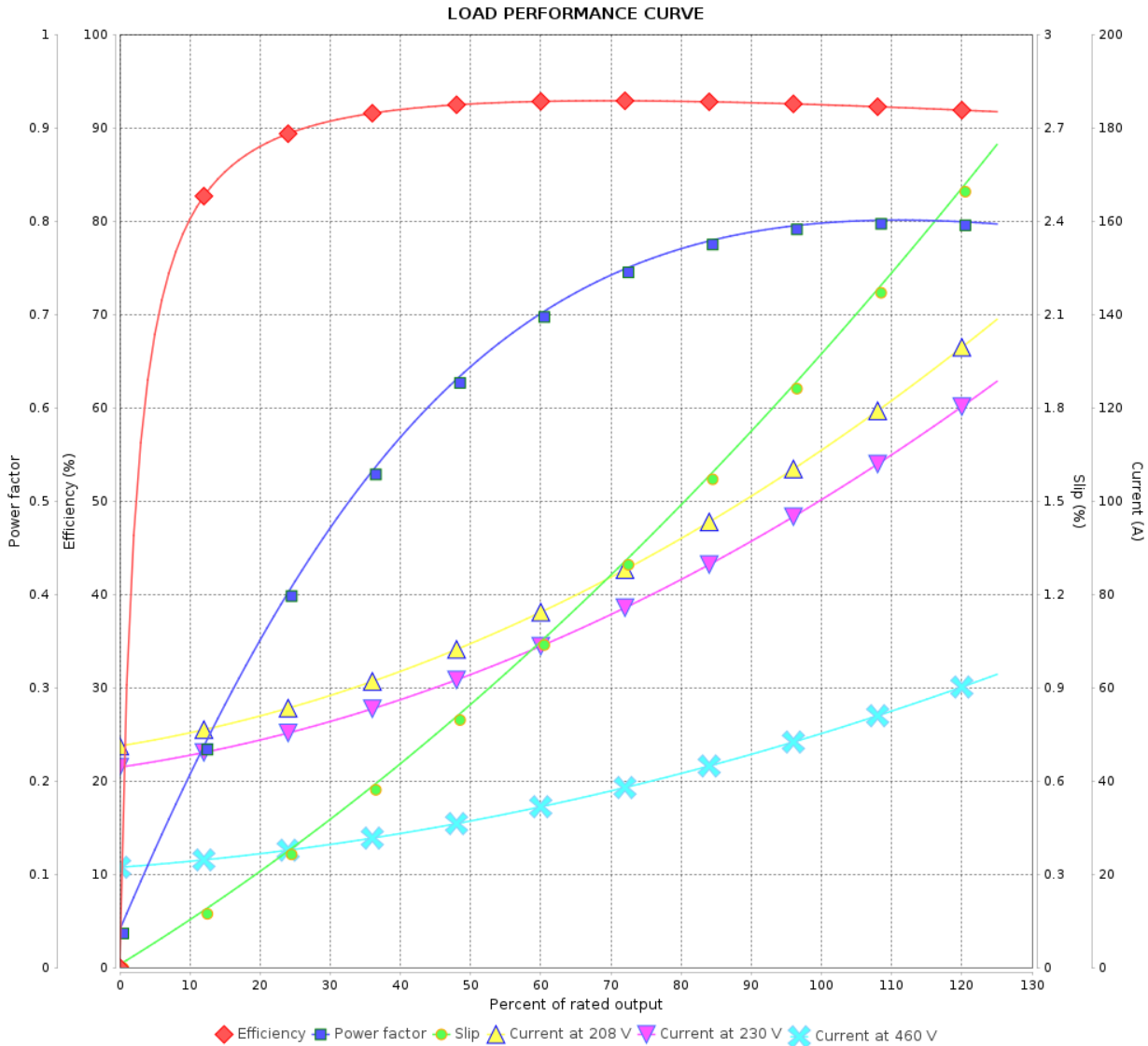


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Product code : 11355727

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Performance : 230/460 V 60 Hz 8P

Rated current : 102/50.9 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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# LOAD PERFORMANCE CURVE

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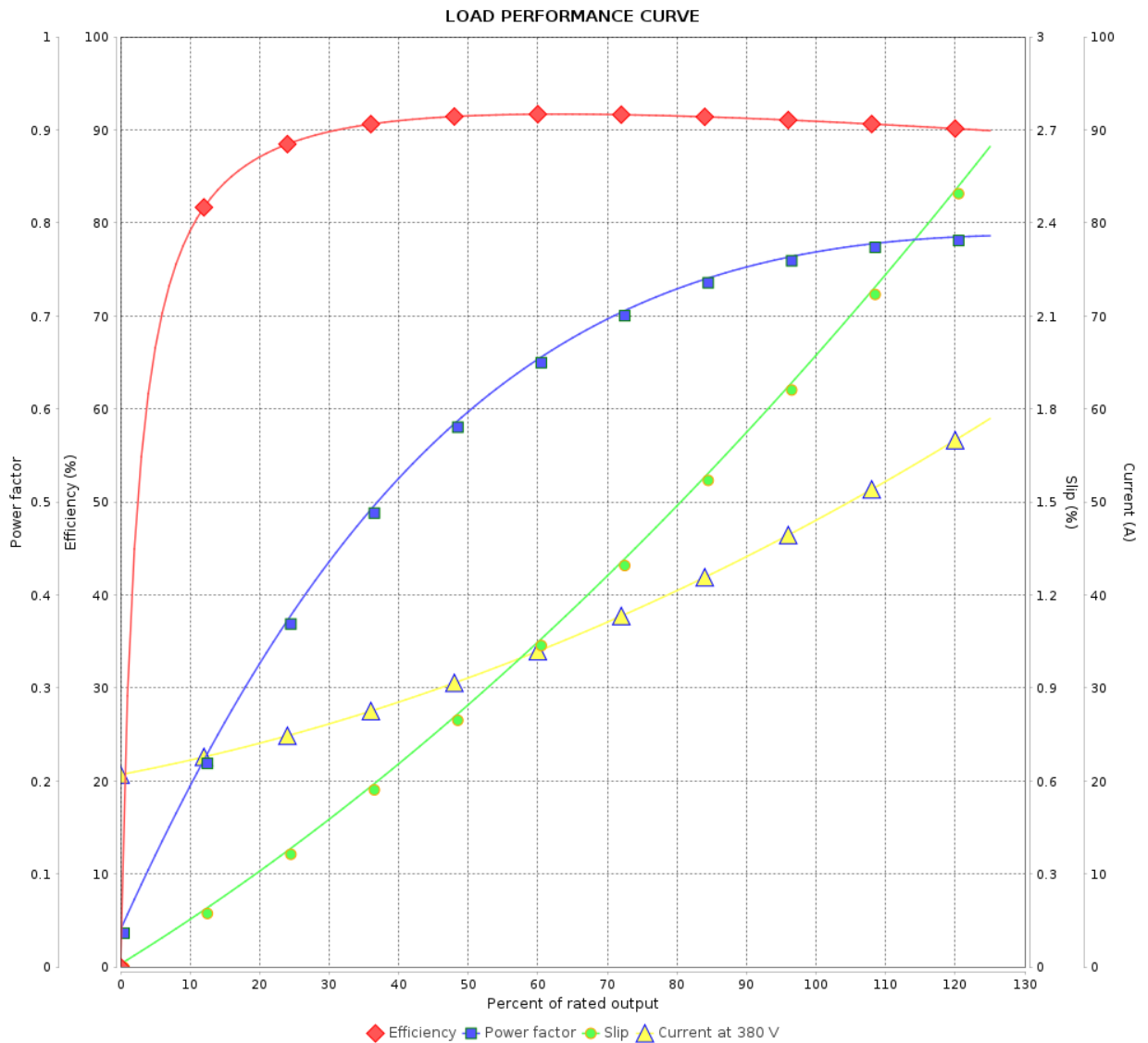


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Performance : 380 V 50 Hz 8P IE3

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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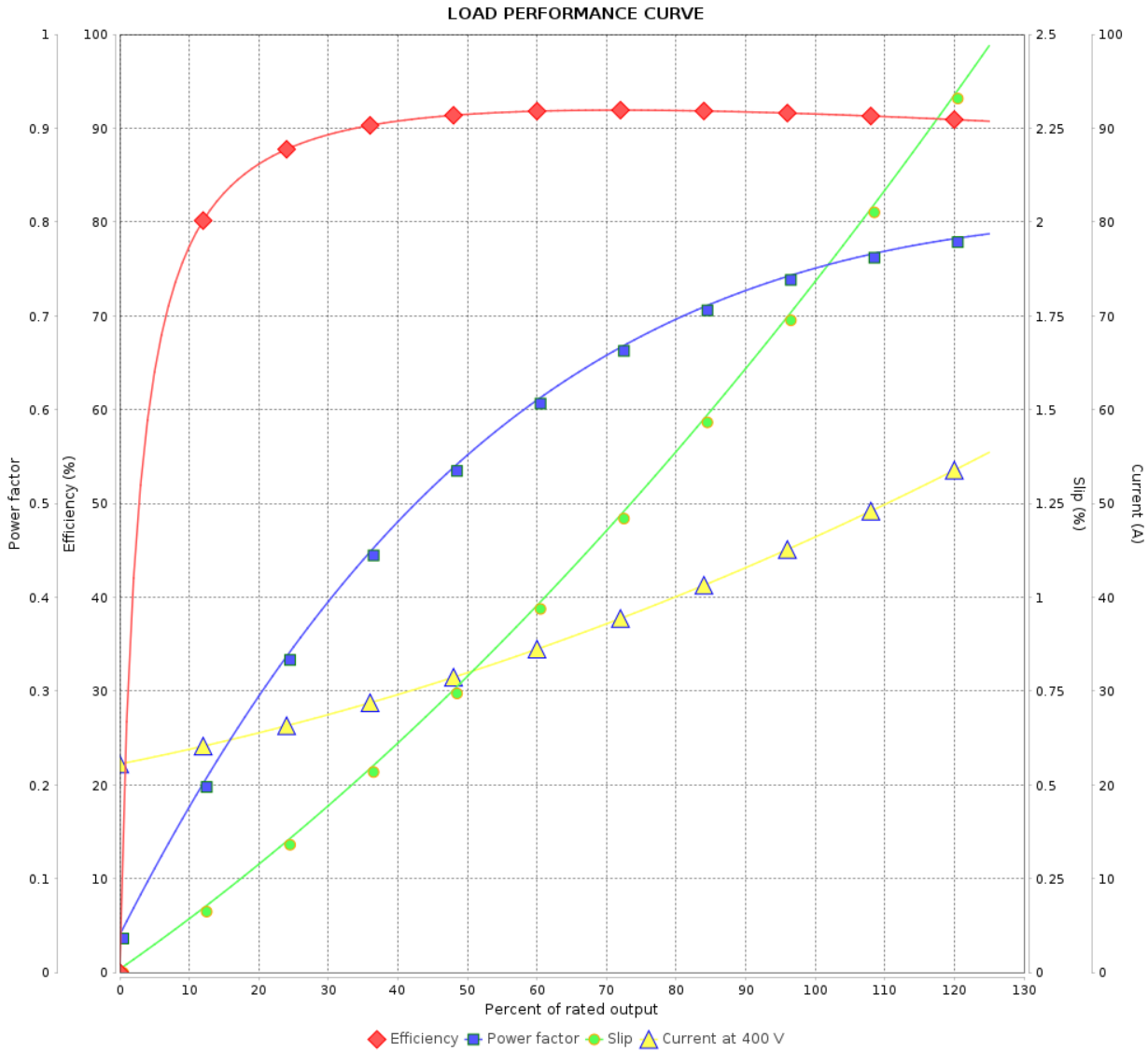


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Performance : 400 V 50 Hz 8P IE3

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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# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage

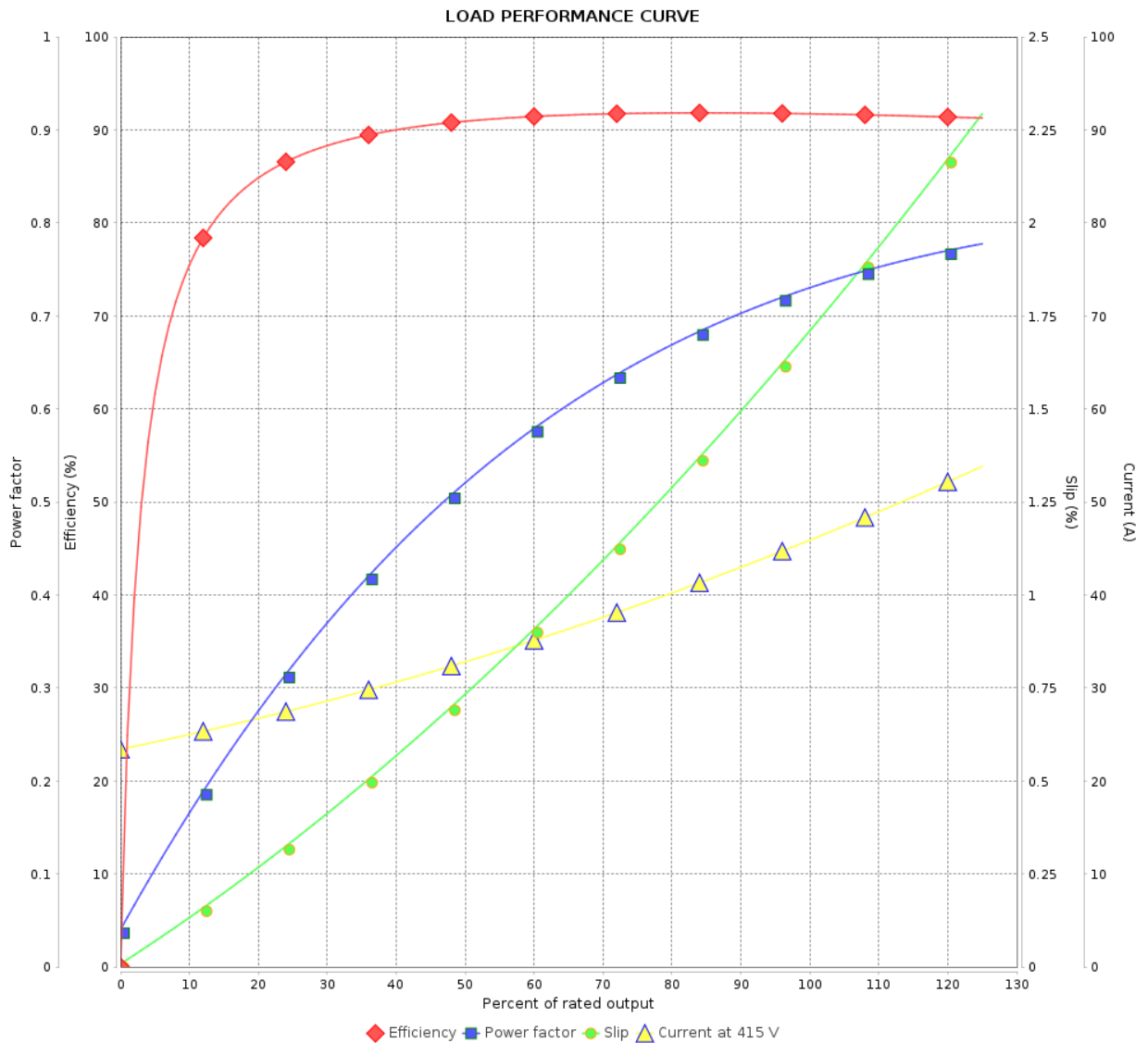


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Performance : 415 V 50 Hz 8P IE3

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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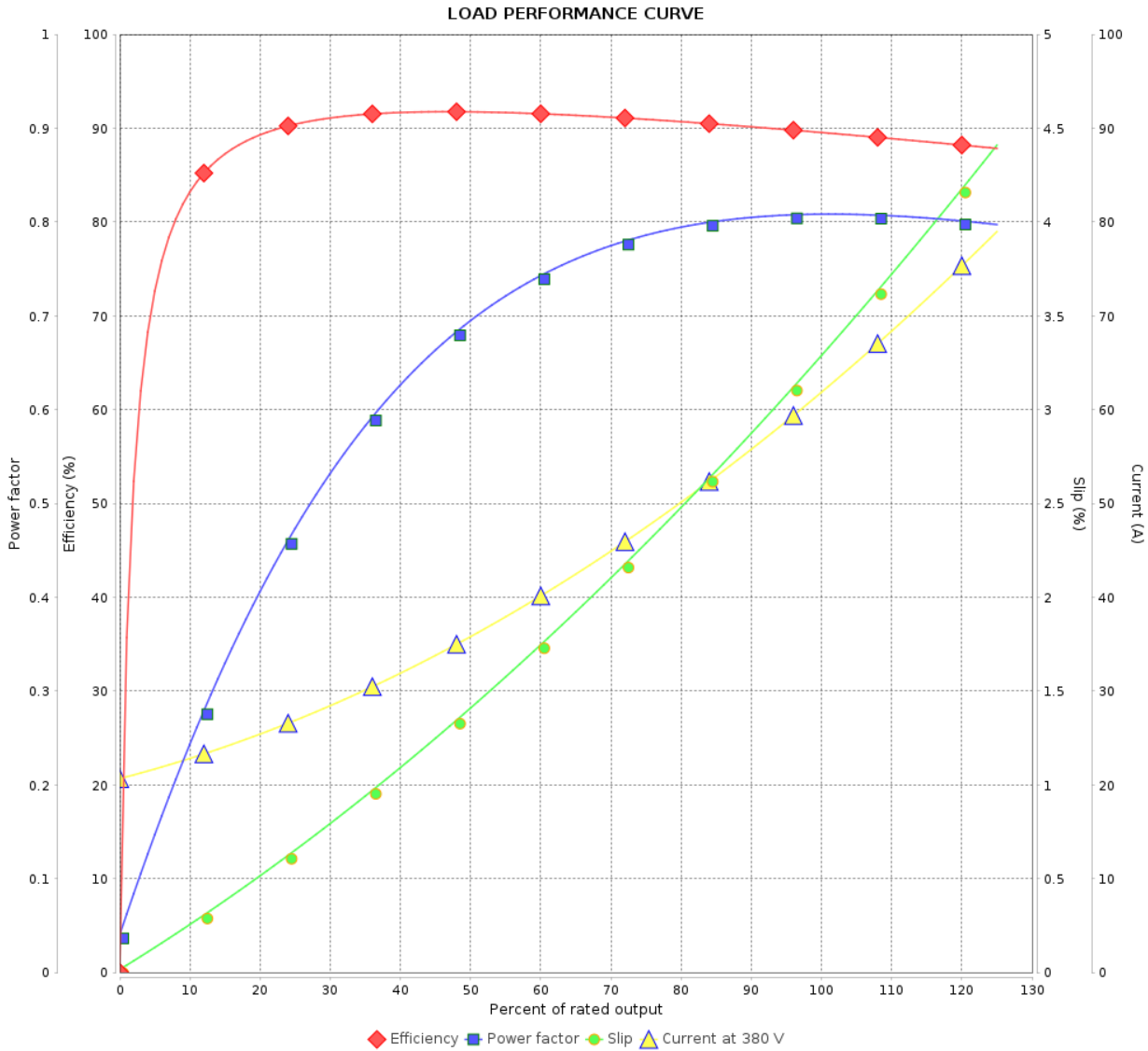


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Product code : 11355727

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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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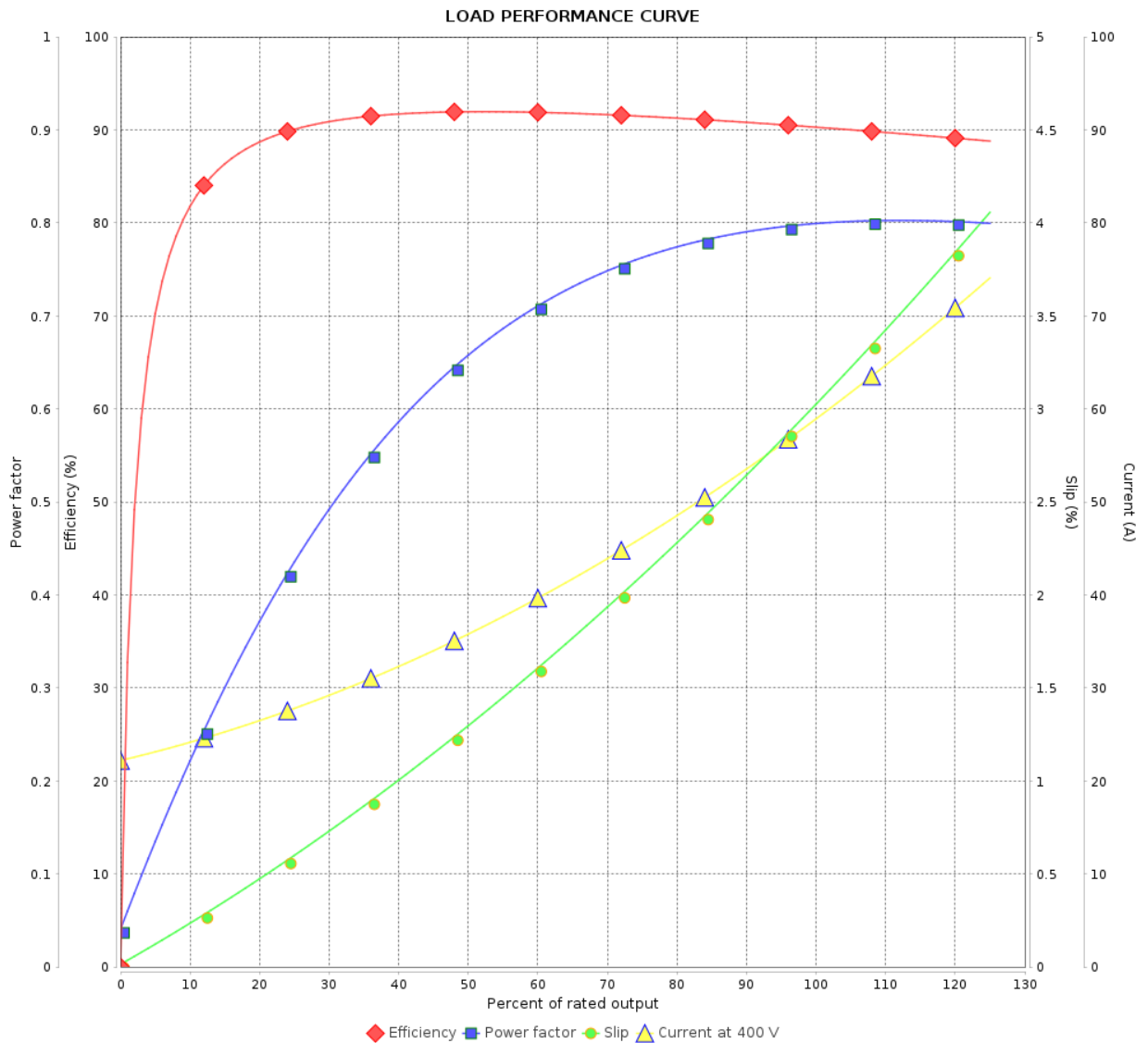


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Performance : 400 V 50 Hz 8P IE2

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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# LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage

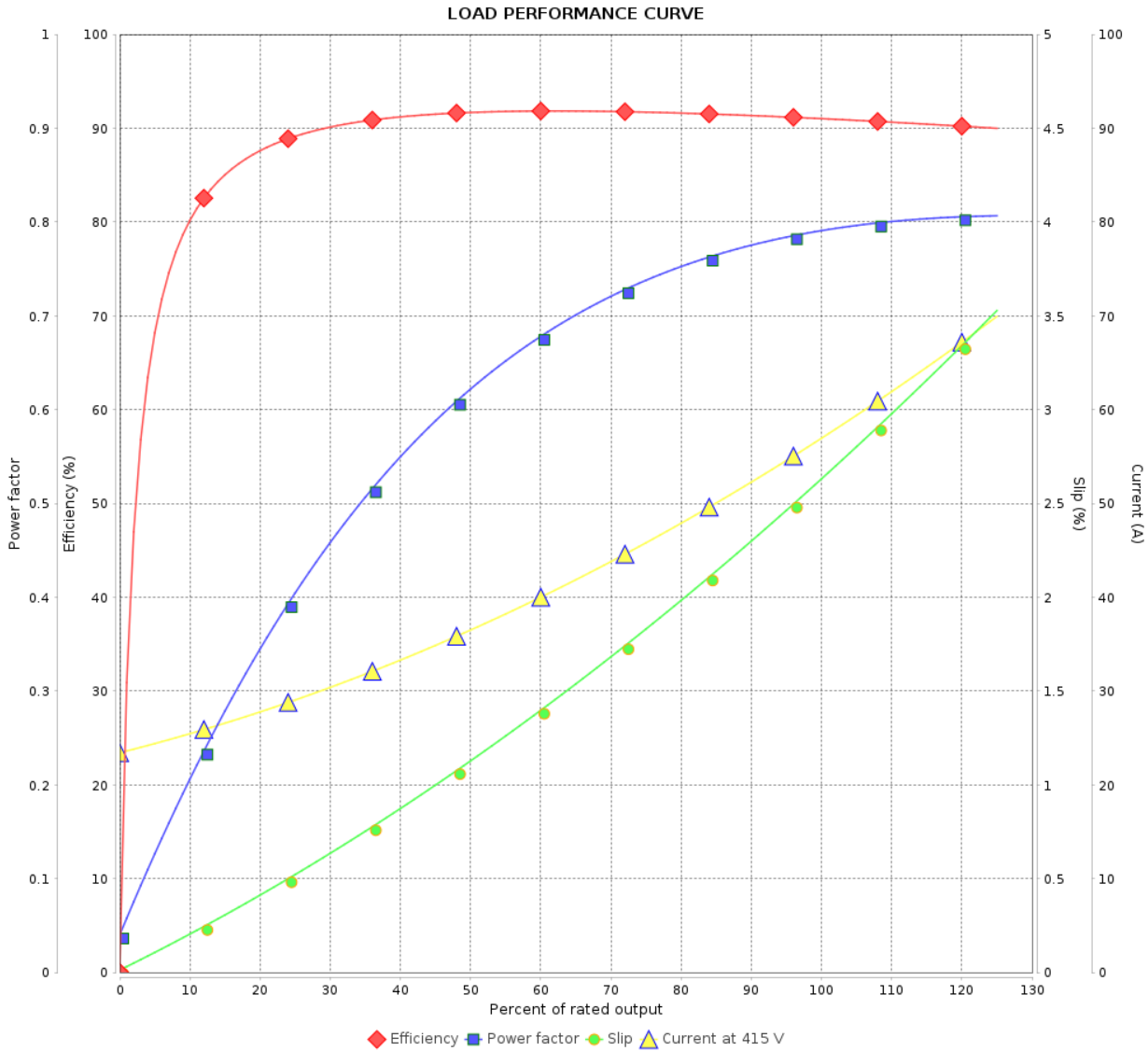


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 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 105 K  
 Design : B

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# THERMAL LIMIT CURVE

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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

Heating constant

Cooling constant

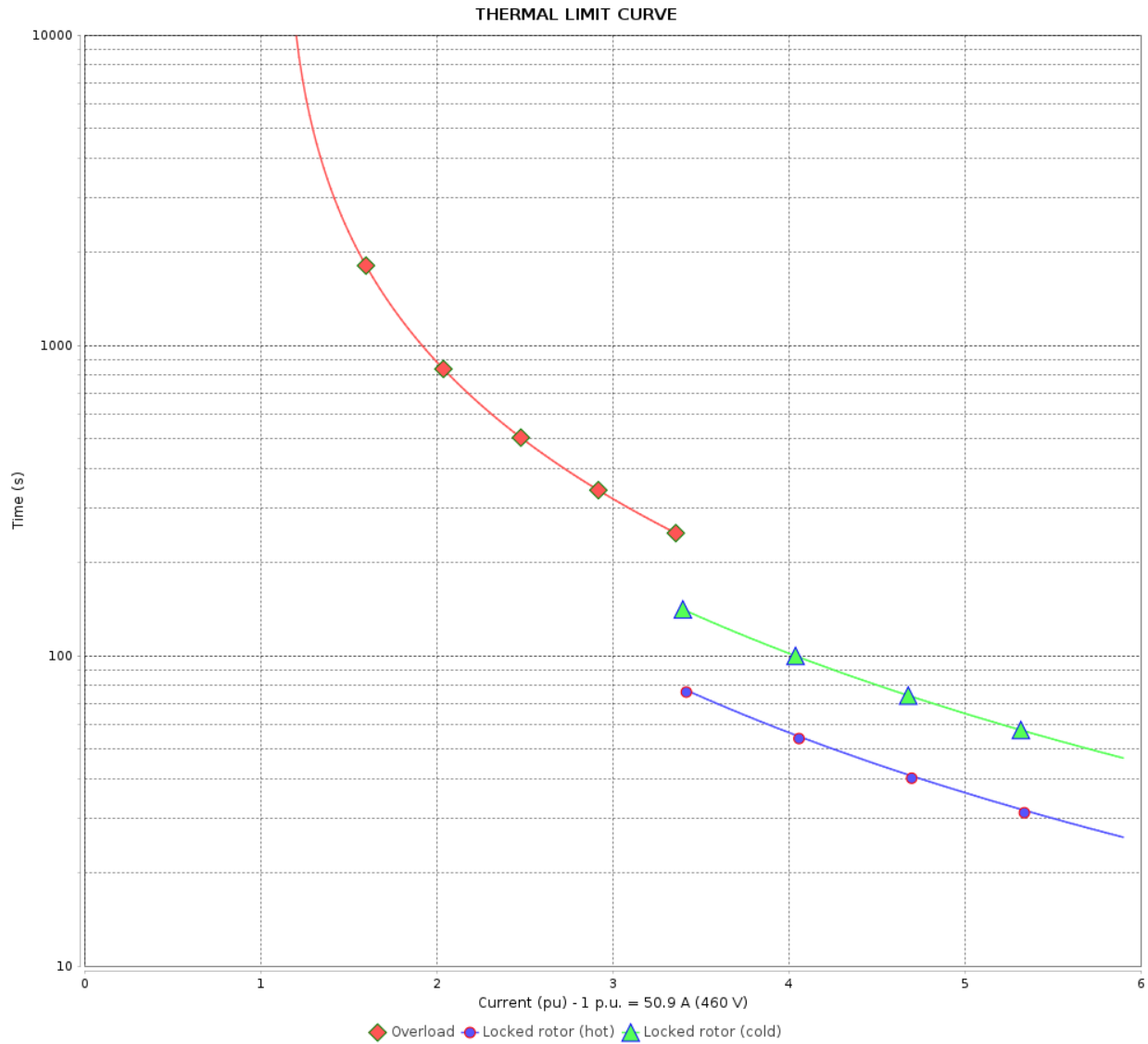
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# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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Heating constant

Cooling constant

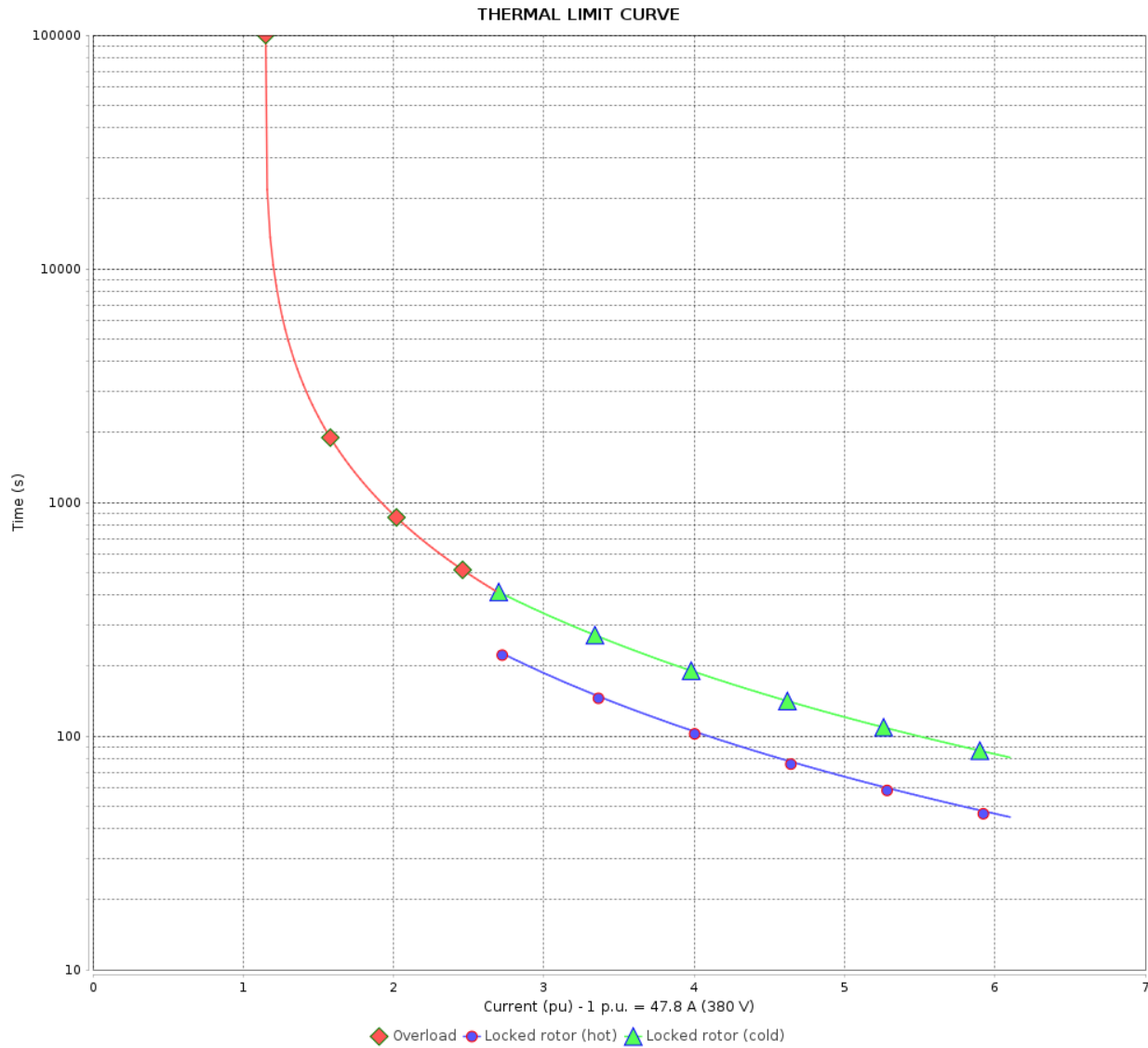
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Heating constant

Cooling constant

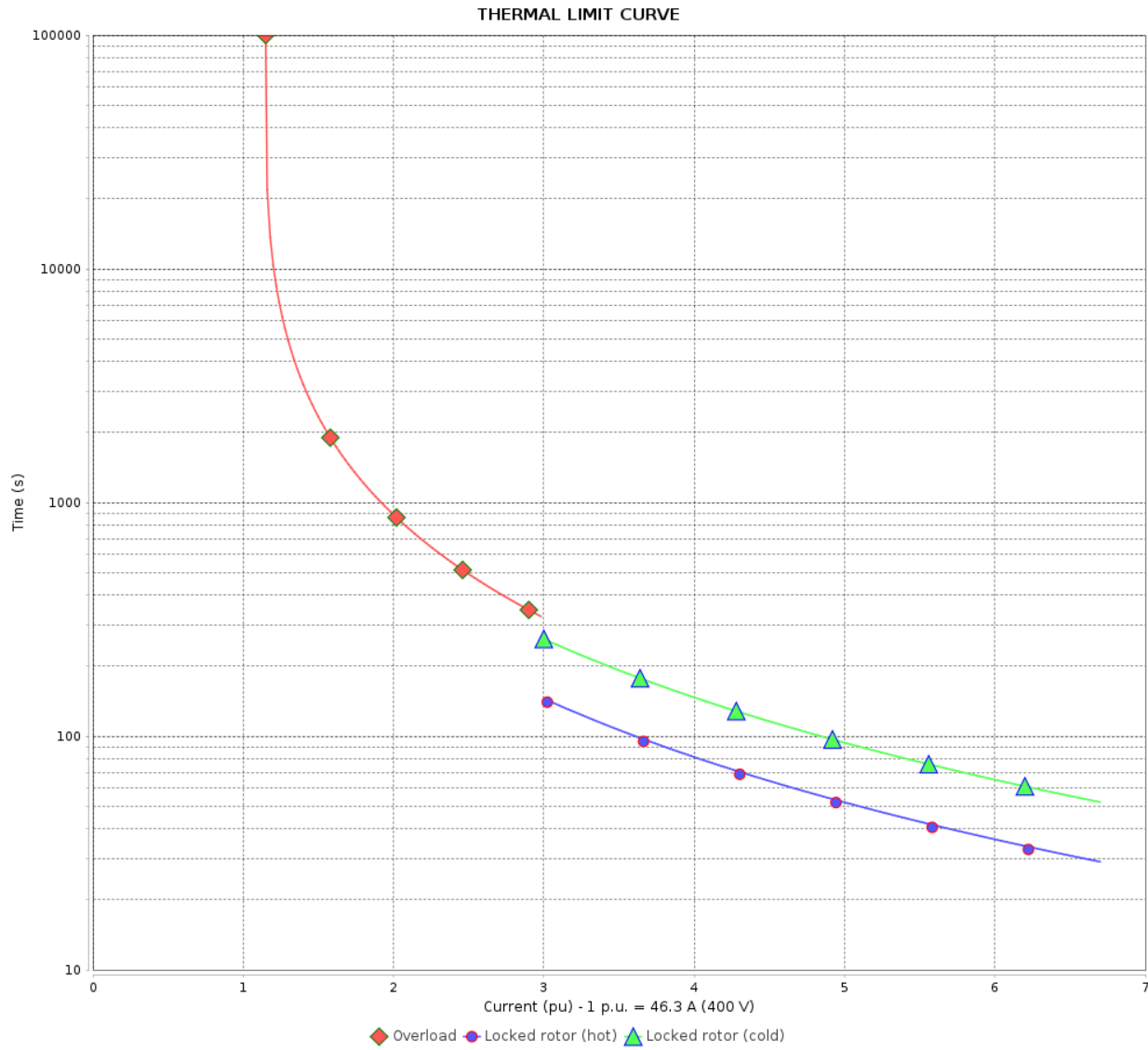
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Customer : \_\_\_\_\_



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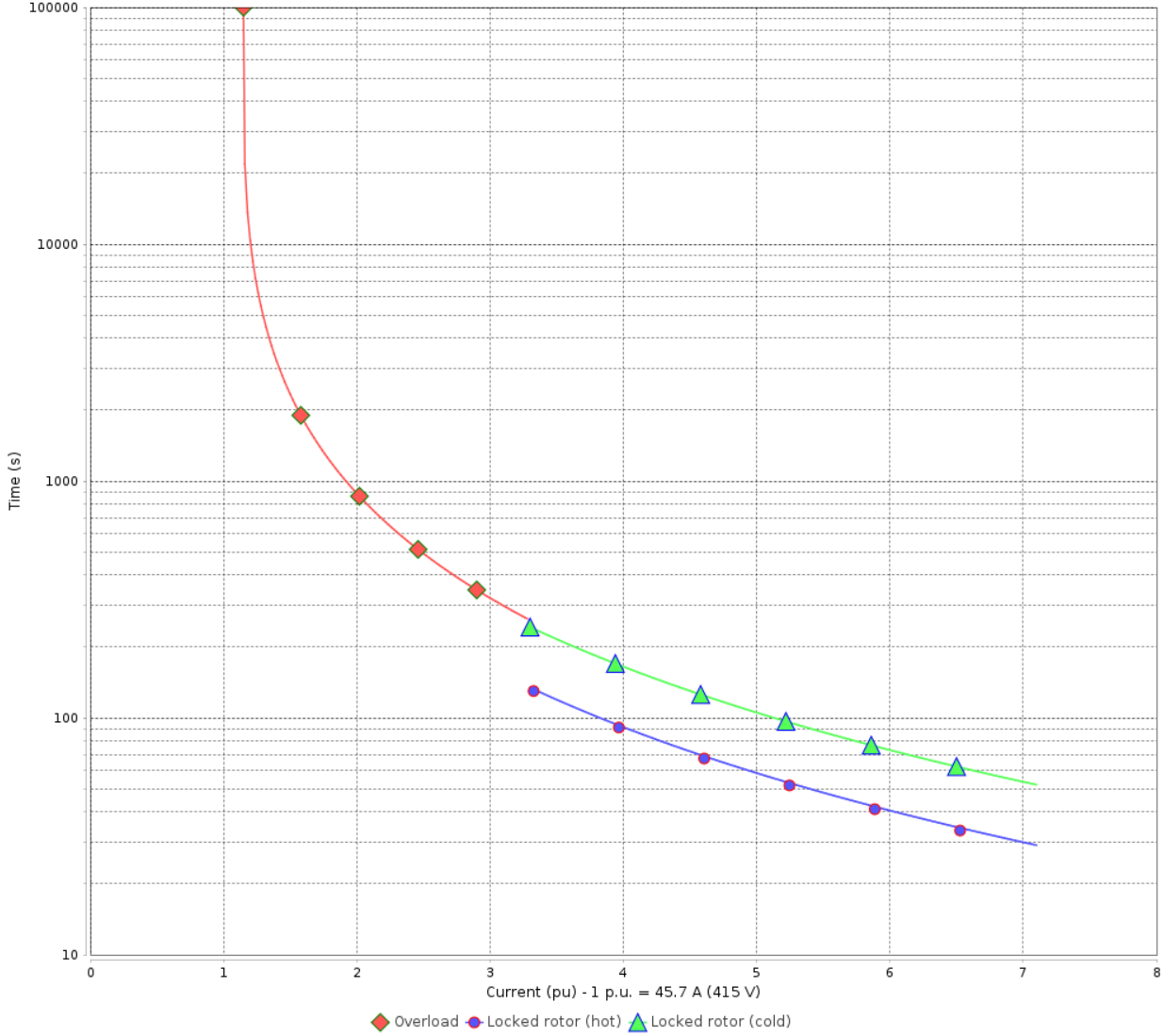
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THERMAL LIMIT CURVE



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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

Heating constant

Cooling constant

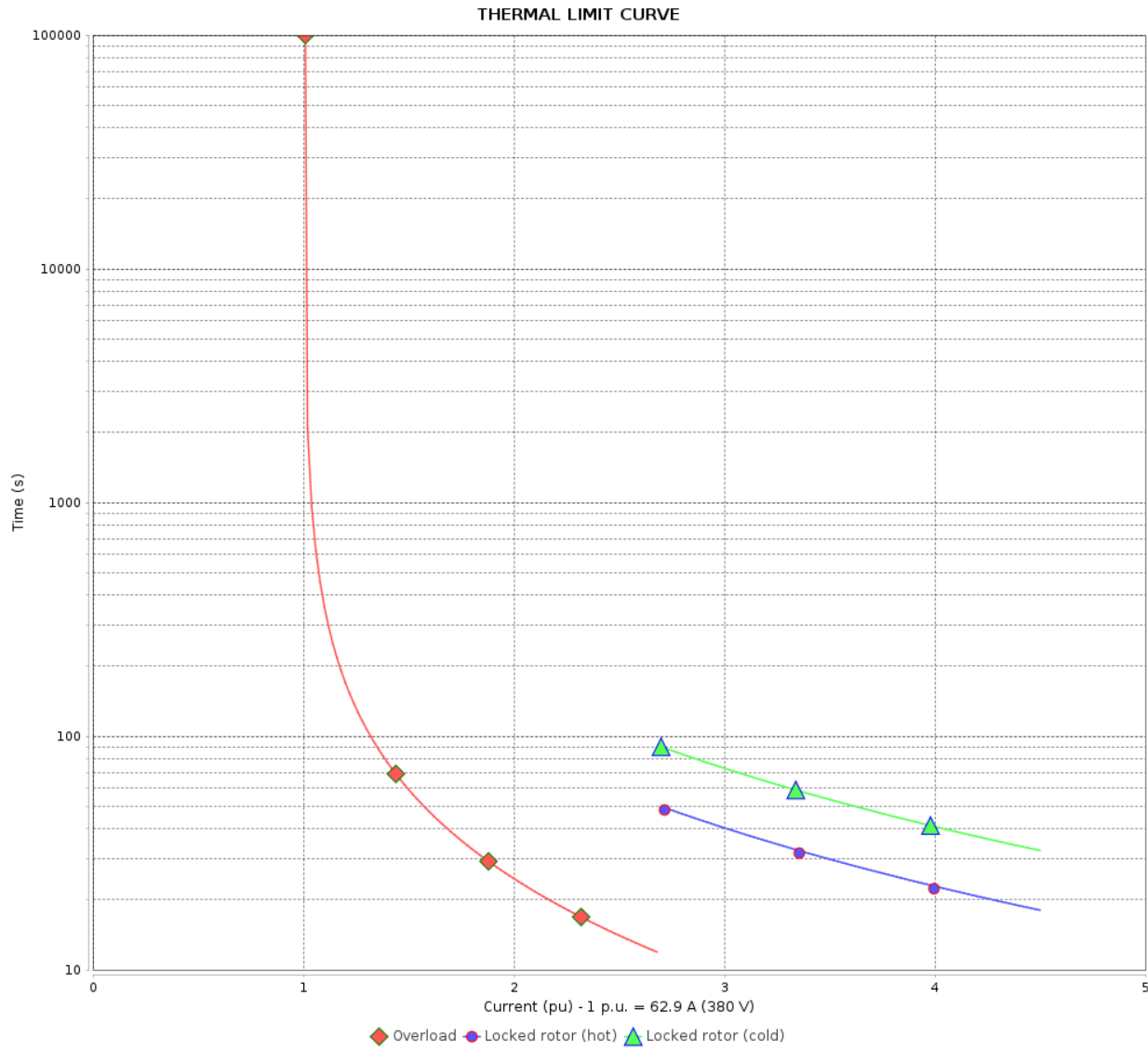
Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by			Page	Revision
Date	21/06/2023		25 / 37	

# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : \_\_\_\_\_



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Date		21/06/2023		

# THERMAL LIMIT CURVE

## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase

Product code : 11355727

Catalog # : 04009ET3E365T-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

Heating constant

Cooling constant

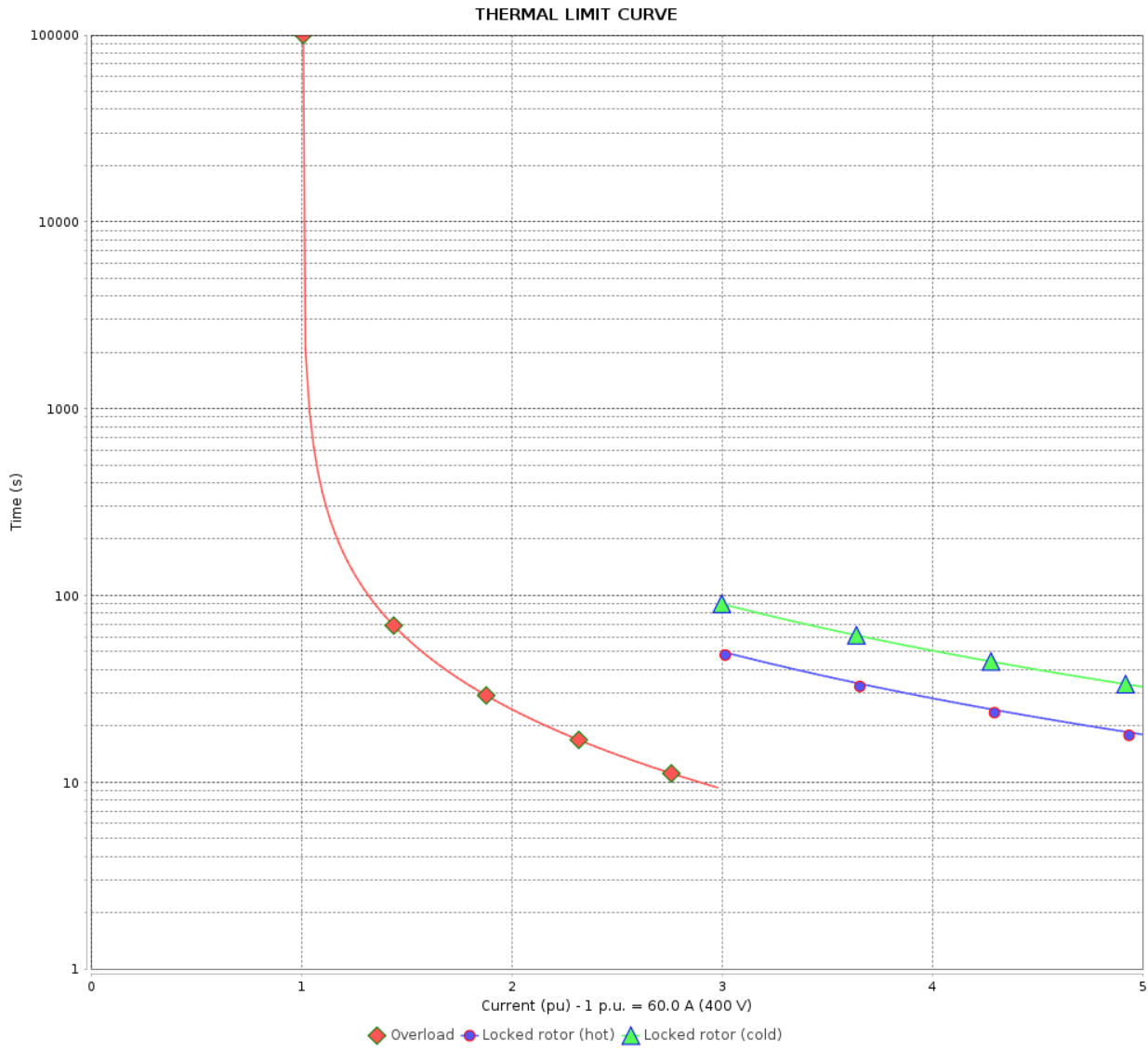
Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by			Page	Revision
Date	21/06/2023		27 / 37	

# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : \_\_\_\_\_



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Performed by		Page 28 / 37		Revision
Checked by				
Date				

# THERMAL LIMIT CURVE

## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase

Product code : 11355727

Catalog # : 04009ET3E365T-W22

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

Heating constant

Cooling constant

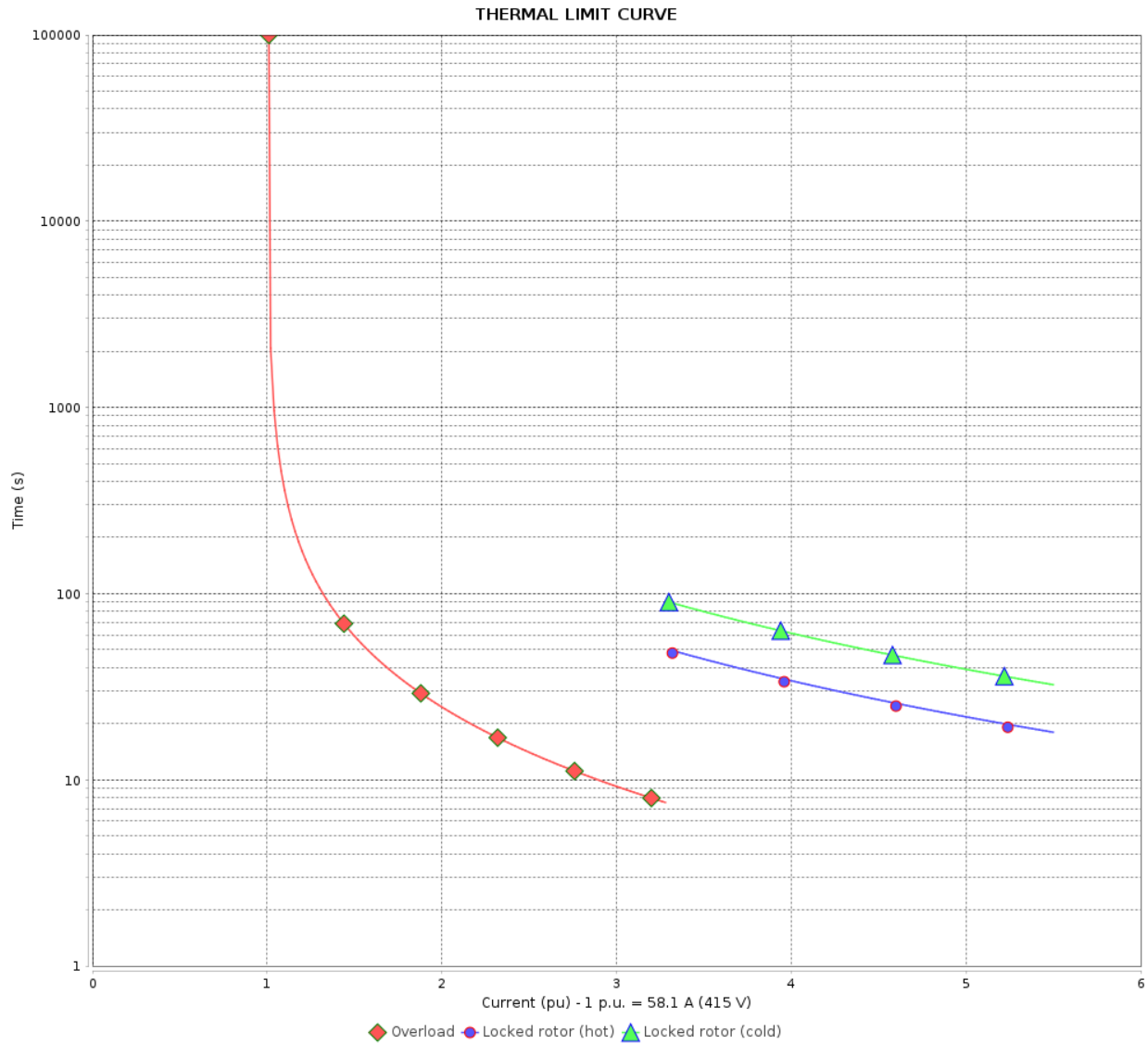
Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by			Page	Revision
Date	21/06/2023		29 / 37	

# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : \_\_\_\_\_



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Checked by				
Date				

# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

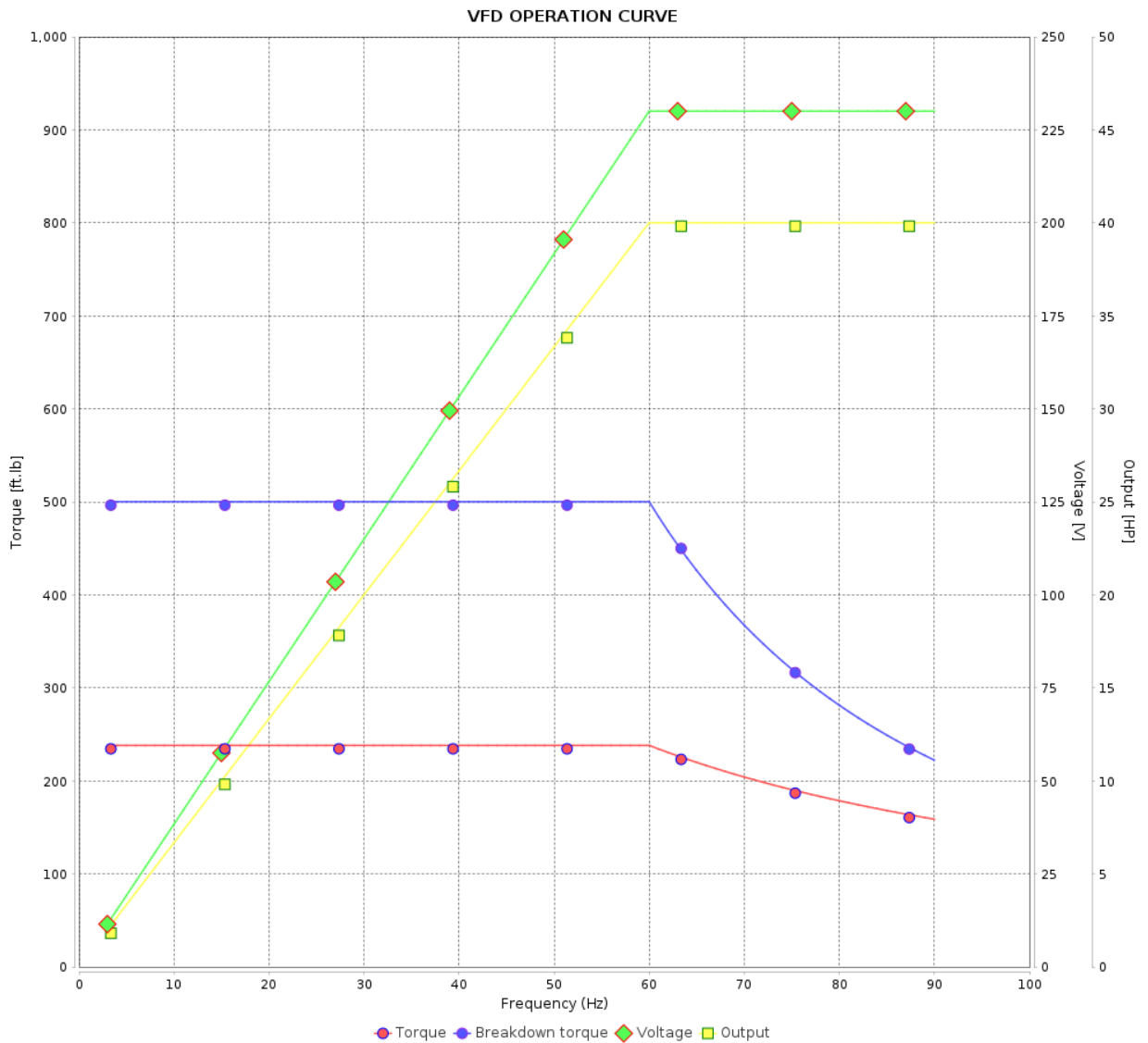


Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase

Product code : 11355727

Catalog # : 04009ET3E365T-W22



Performance : 230/460 V 60 Hz 8P

Rated current : 102/50.9 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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Date	21/06/2023			
				Revision

# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



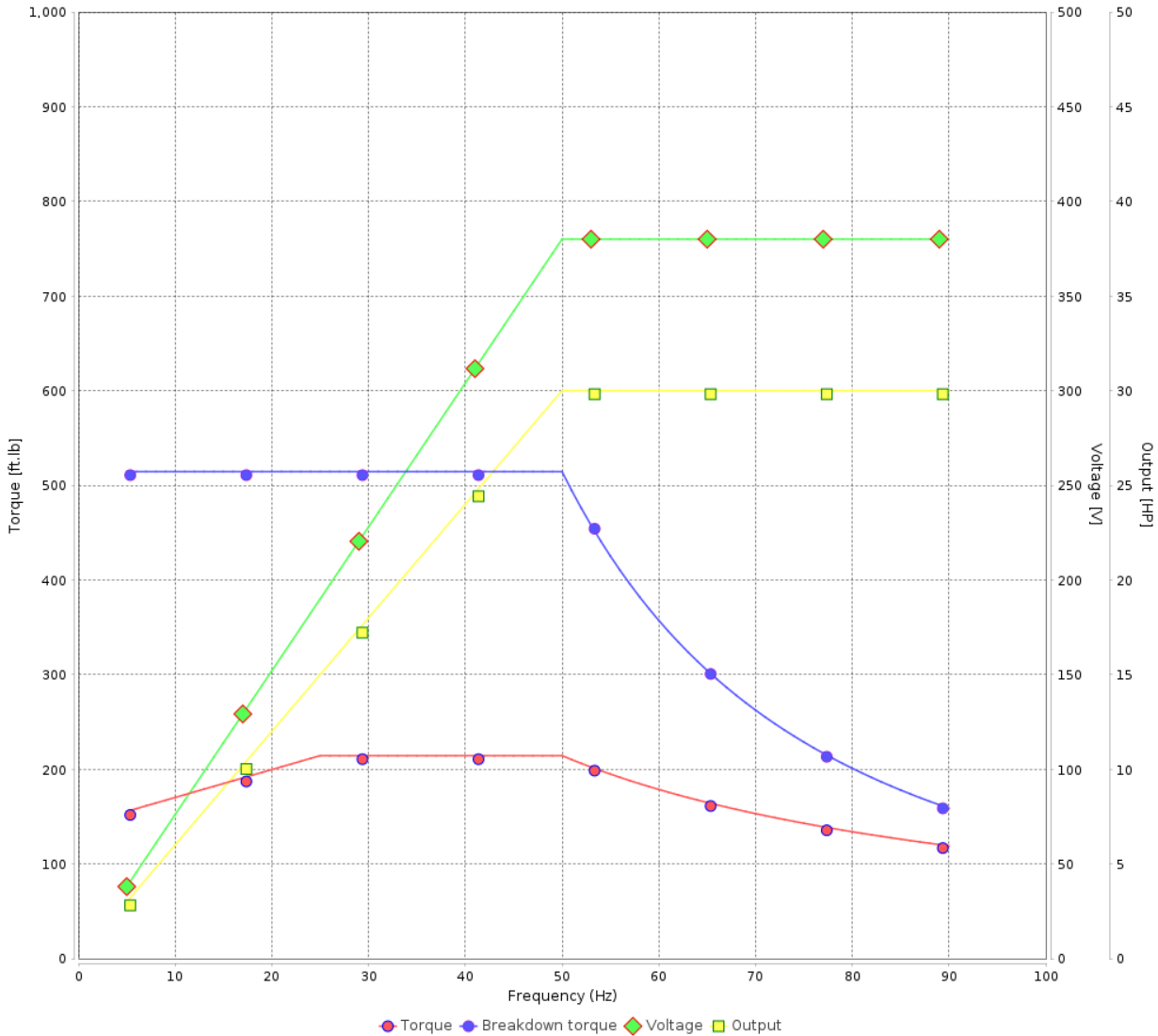
Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase

Product code : 11355727

Catalog # : 04009ET3E365T-W22

VFD OPERATION CURVE



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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# VFD OPERATION CURVE

## Three Phase Induction Motor - Squirrel Cage

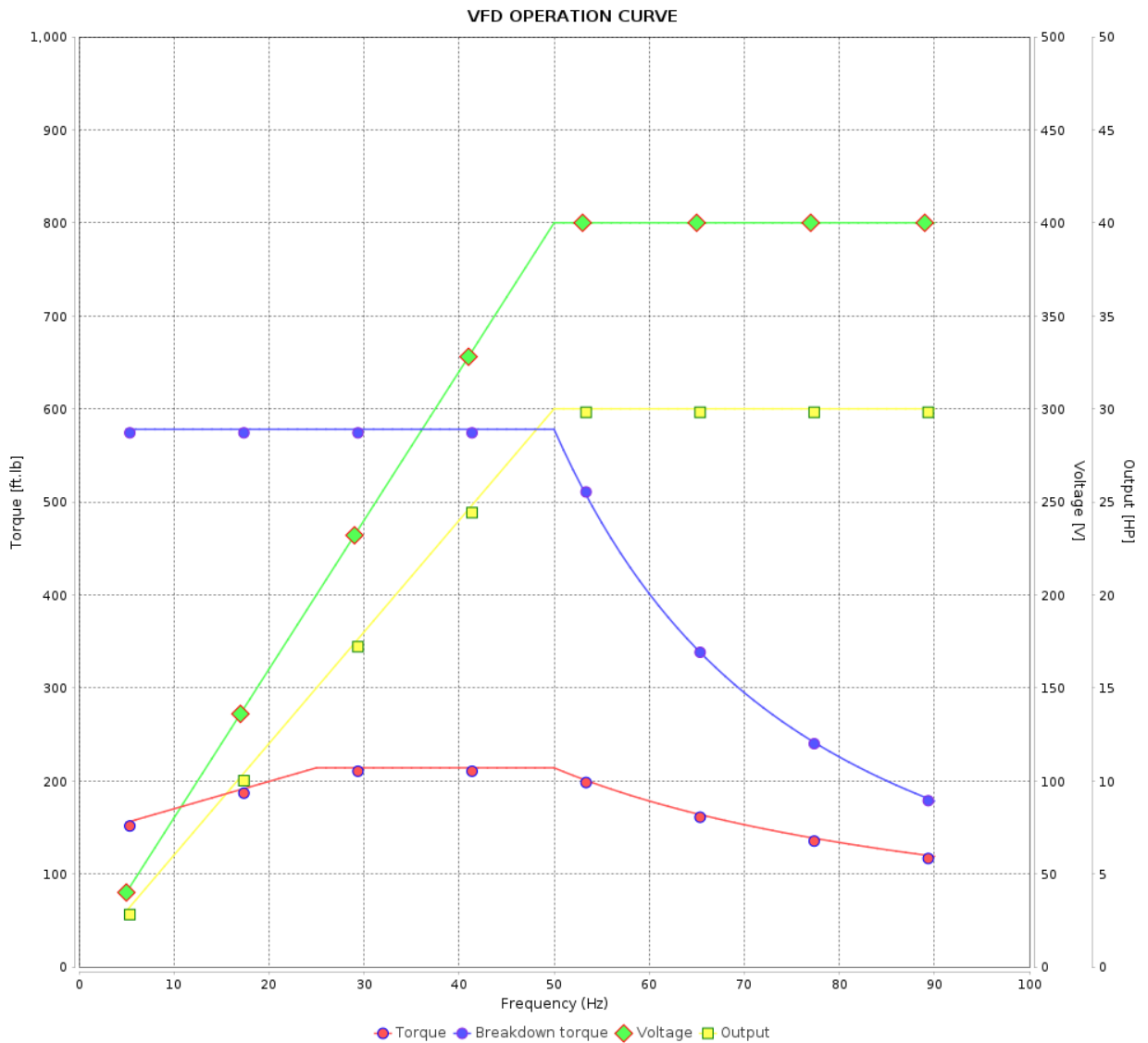


Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase

Product code : 11355727

Catalog # : 04009ET3E365T-W22



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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# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



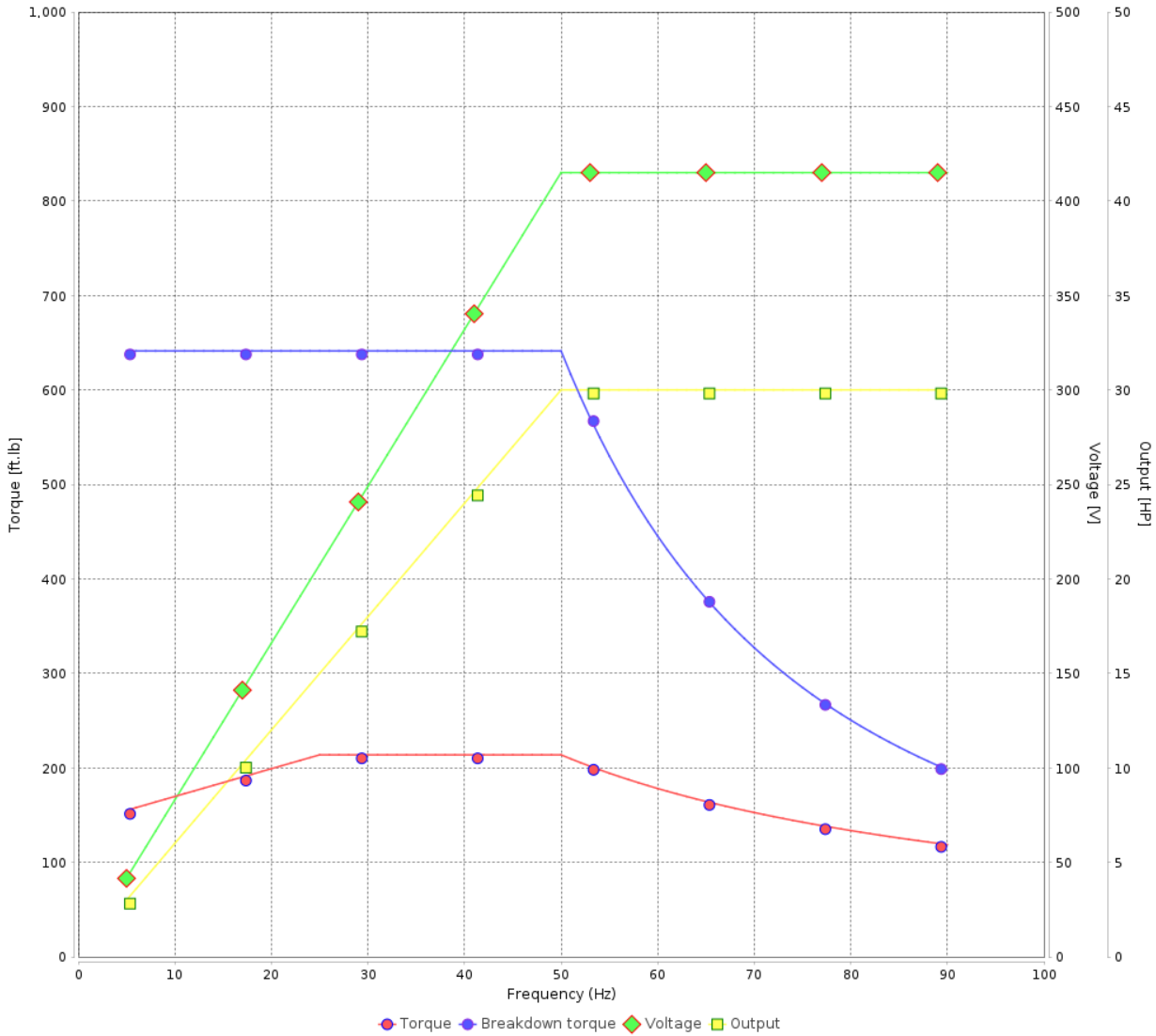
Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase

Product code : 11355727

Catalog # : 04009ET3E365T-W22

VFD OPERATION CURVE



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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Checked by				
Date				

# VFD OPERATION CURVE

## Three Phase Induction Motor - Squirrel Cage

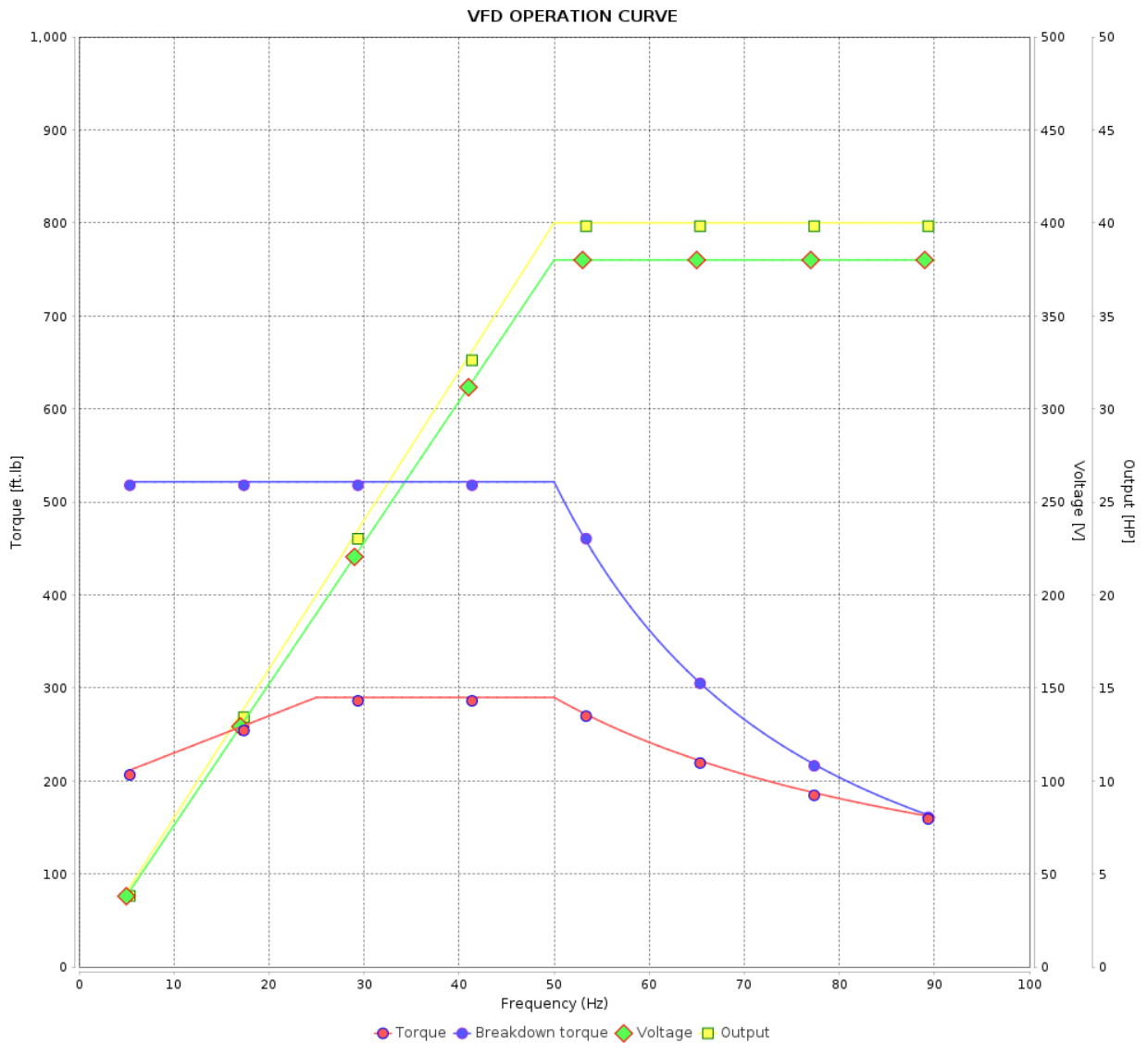


Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase

Product code : 11355727

Catalog # : 04009ET3E365T-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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# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

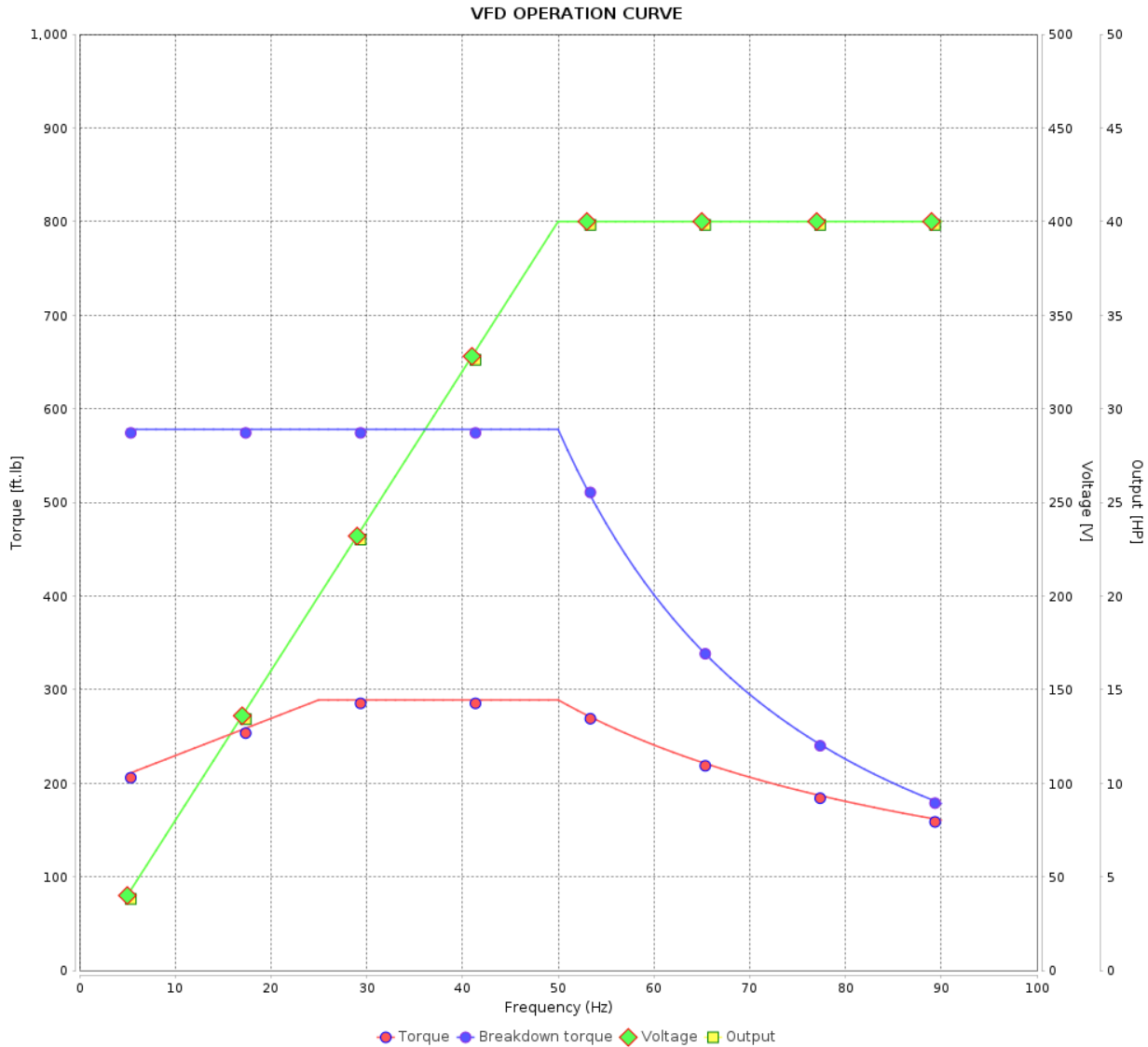


Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase

Product code : 11355727

Catalog # : 04009ET3E365T-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

Rev.	Changes Summary	Performed	Checked	Date
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# VFD OPERATION CURVE

## Three Phase Induction Motor - Squirrel Cage

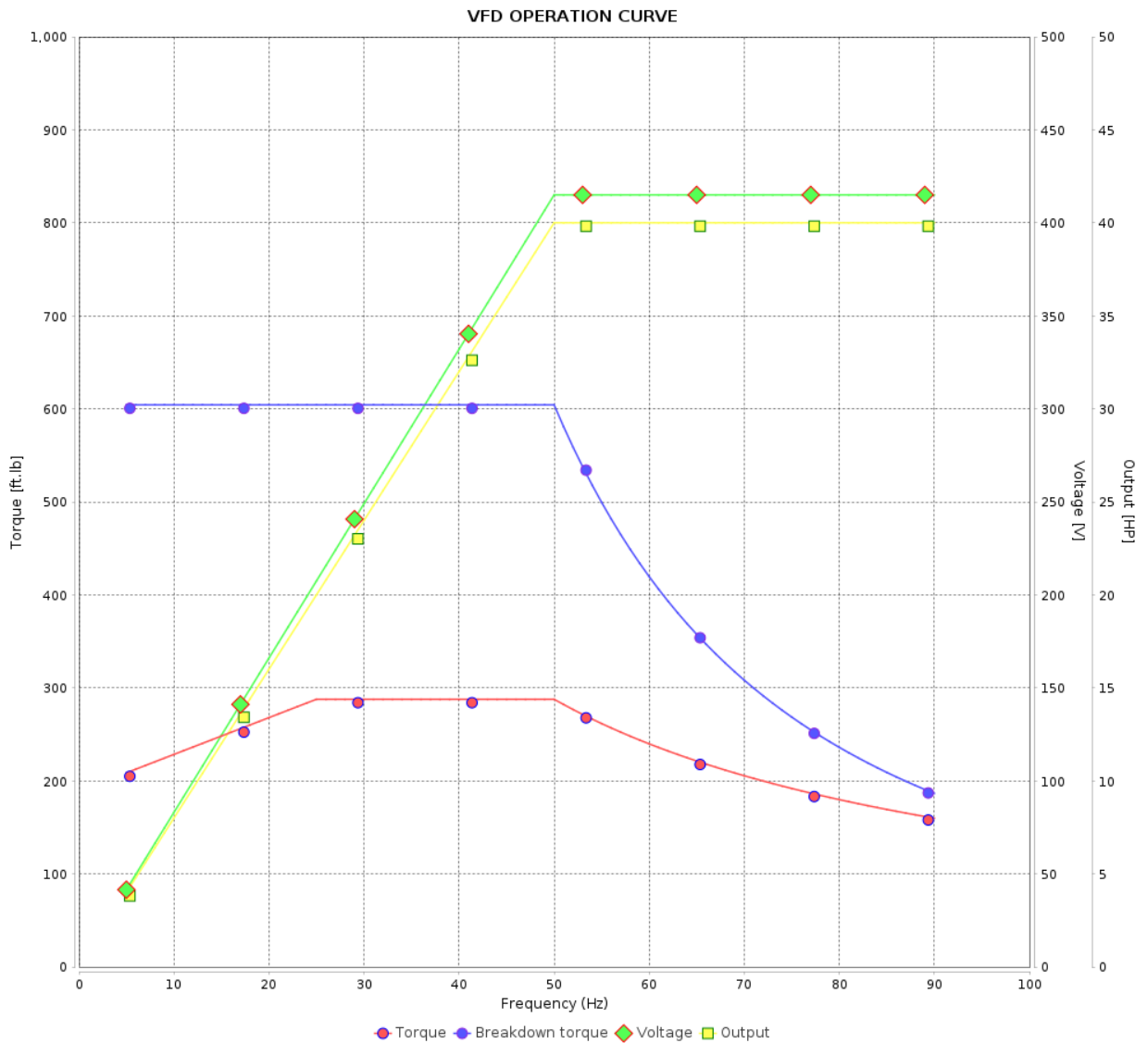


Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase

Product code : 11355727

Catalog # : 04009ET3E365T-W22



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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MADE IN BRAZIL  
11355727

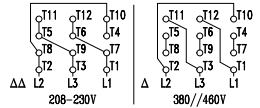




 For use on 60Hz  
 Class I, Div 2, Gr A, B, C and D - T3  
 Class I, Zone 2, IIC - T3  
 Class II, Div 2, Gr F and G - T4  
 For use on PWM: Gr. A, B, C, D and F,  
 VT 1000:1, CT 20:1, 1.00SF - T3A


MODEL 04009ET3E365T-W22

Inverter Duty Motor  
Severe Duty

PH3	60Hz	Fr. 364/5T	1000m.a.s.l.	IP55	TEFC	861lb
V	230/460			A	102/50.9	
HP	40			kW	30	
SF	1.25			SFA	128/63.6	
RPM	882			PF	0.80	
AMB	40°C			INS cl.	F DT80K	NEMA NOM EFF 92.4%
DUTY CONT.				DES B	Code G	
USABLE @208V	111A	SF 1.10	SFA 122			
40HP	30kW	50Hz	380V	62.9A	725RPM	SF 1.00 EFF 89.5% (IE1)



-  → 6314-C3 (27g)
-  → 6314-C3 (27g)

 MOBIL POLYREX EM (20000h)