

DATA SHEET



Three Phase Induction Motor - Squirrel Cage

Customer							
Product line	: NEMA Premium Efficiency Three-Phase			Product code :	12546171		
				Catalog # :	02512ET3E324TC-W22		
Frame	: 324/6TC			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	: 561 lb		
Protection degree	: IP55			Moment of inertia (J)	: 11.5 sq.ft.lb		
Design	: B						
Output [HP]	25	20	20	20	25	25	25
Poles	6	6	6	6	6	6	6
Frequency [Hz]	60	50	50	50	50	50	50
Rated voltage [V]	230/460	380	400	415	380	400	415
Rated current [A]	61.6/30.8	30.3	29.4	28.6	36.8	35.1	34.2
L. R. Amperes [A]	382/191	182	191	200	180	190	198
LRC [A]	6.2x(Code G)	6.0x(Code G)	6.5x(Code H)	7.0x(Code J)	4.9x(Code E)	5.4x(Code F)	5.8x(Code G)
No load current [A]	28.0/14.0	13.2	14.2	14.9	13.2	14.2	14.9
Rated speed [RPM]	1180	980	985	985	975	980	980
Slip [%]	1.67	2.00	1.50	1.50	2.50	2.00	2.00
Rated torque [ft.lb]	111	107	107	107	135	134	134
Locked rotor torque [%]	210	200	229	250	160	180	200
Breakdown torque [%]	260	250	290	310	200	229	250
Service factor	1.25	1.00	1.15	1.15	1.00	1.15	1.15
Temperature rise	80 K	80 K	80 K	80 K	80 K	80 K	80 K
Locked rotor time	46s (cold) 26s (hot)	32s (cold) 18s (hot)	32s (cold) 18s (hot)	32s (cold) 18s (hot)	32s (cold) 18s (hot)	32s (cold) 18s (hot)	32s (cold) 18s (hot)
Noise level ²	62.0 dB(A)	60.0 dB(A)	60.0 dB(A)	60.0 dB(A)	60.0 dB(A)	60.0 dB(A)	60.0 dB(A)
Efficiency (%)	25%						
	50%	92.4	91.1	91.1	91.1	91.7	91.7
	75%	93.0	91.8	92.2	92.2	92.4	92.4
	100%	93.0	91.6	92.2	92.2	91.0	91.7
Power Factor	25%						
	50%	0.65	0.63	0.60	0.57	0.71	0.68
	75%	0.77	0.76	0.74	0.71	0.81	0.79
	100%	0.81	0.82	0.80	0.79	0.84	0.83
Bearing type	: 6312 C3	Drive end	: 6212 C3	Non drive end	Foundation loads		
Sealing	: V'Ring		: V'Ring		Max. traction	: 1005 lb	
Lubrication interval	: 20000 h		: 20000 h		Max. compression	: 1566 lb	
Lubricant amount	: 21 g		: 13 g				
Lubricant type	: Mobil Polyrex EM						
Notes							
USABLE @208V 67.2A SF 1.15 SFA 77.3A							
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



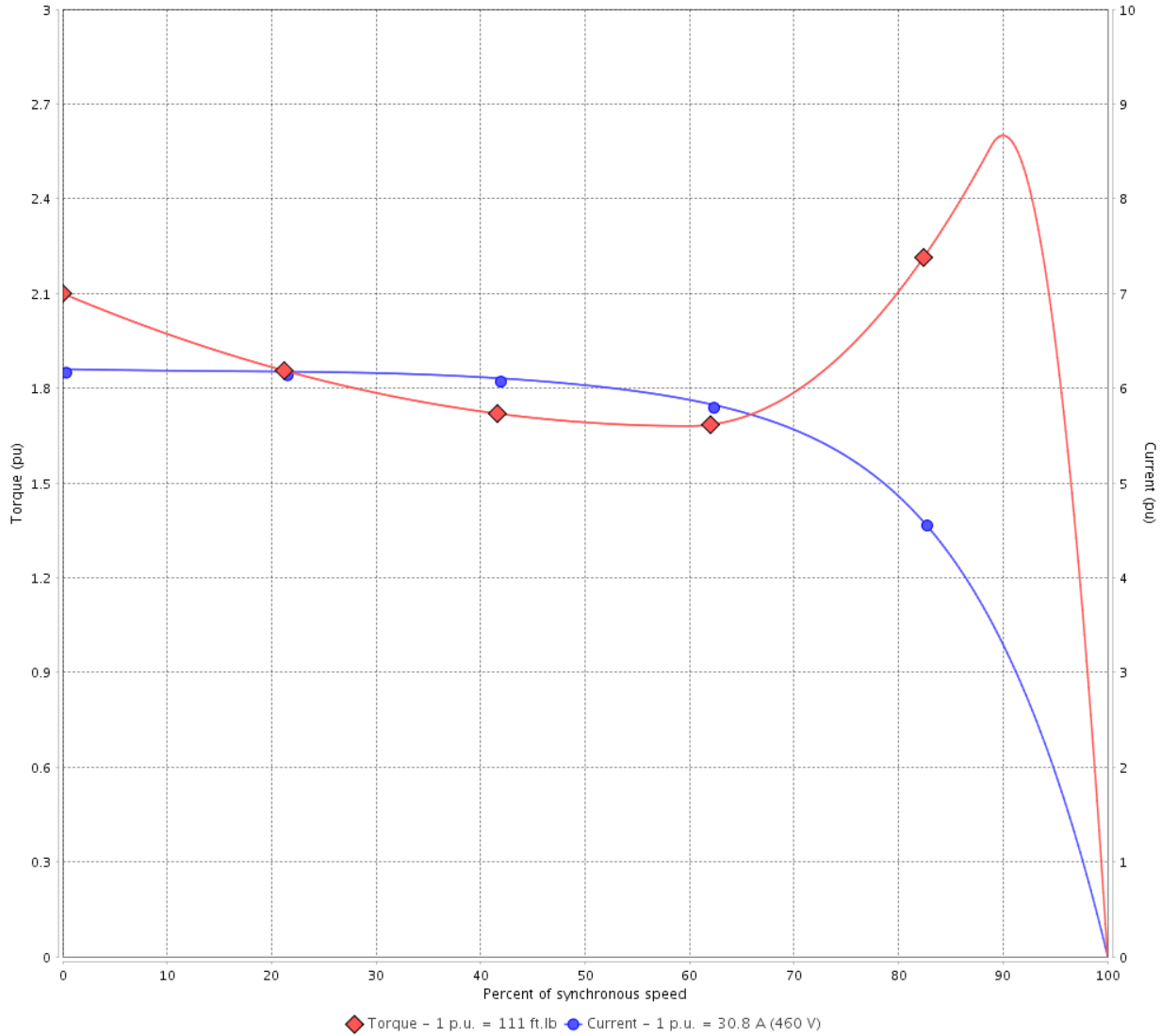
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12546171

Catalog # : 02512ET3E324TC-W22

TORQUE AND CURRENT VS SPEED CURVE



Performance : 230/460 V 60 Hz 6P

Rated current	: 61.6/30.8 A	Moment of inertia (J)	: 11.5 sq.ft.lb
LRC	: 6.2	Duty cycle	: Cont.(S1)
Rated torque	: 111 ft.lb	Insulation class	: F
Locked rotor torque	: 210 %	Service factor	: 1.25
Breakdown torque	: 260 %	Temperature rise	: 80 K
Rated speed	: 1180 rpm	Design	: B

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

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TORQUE AND CURRENT VS SPEED CURVE



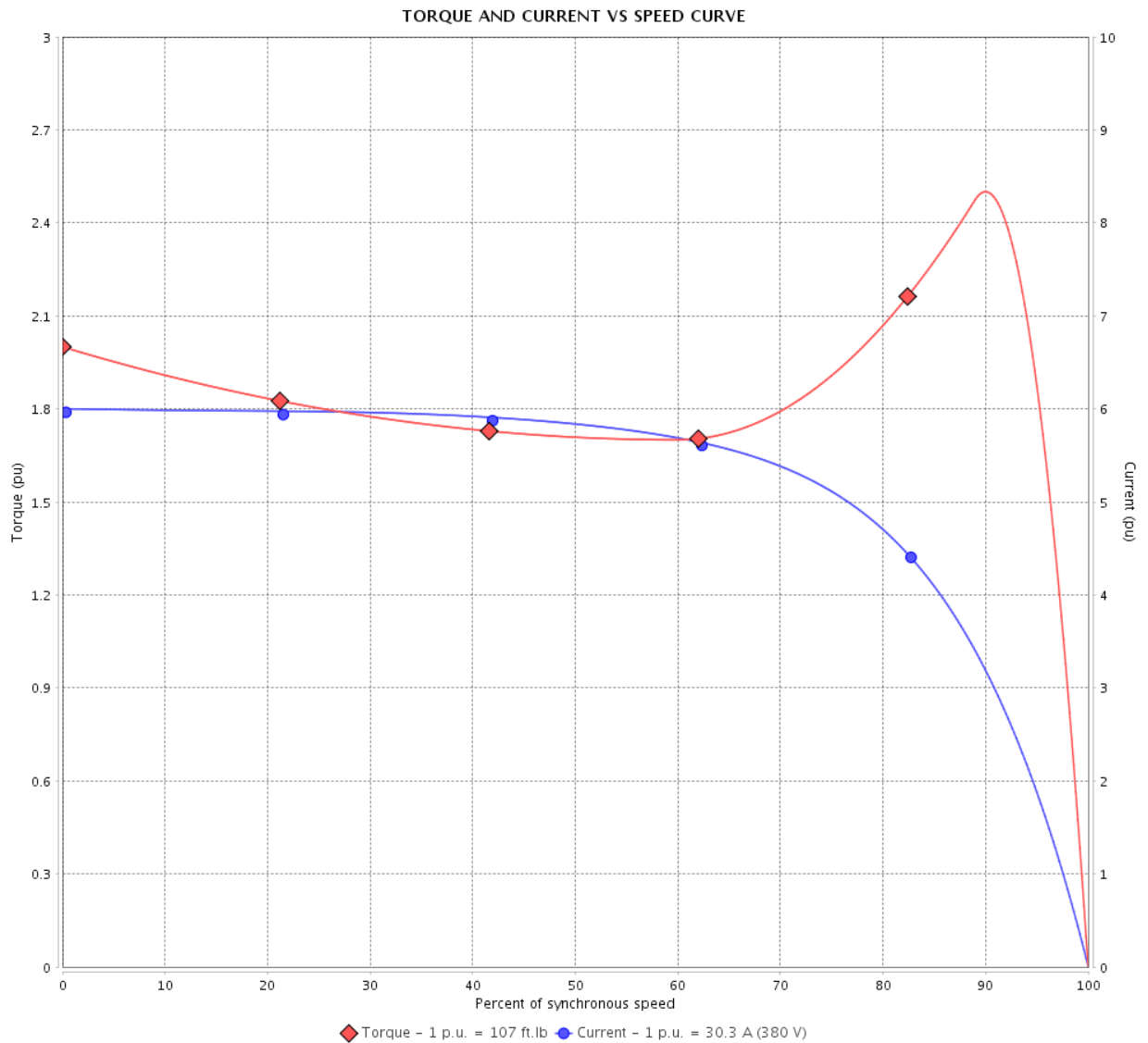
Three Phase Induction Motor - Squirrel Cage

Customer :

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Product code : 12546171

Catalog # : 02512ET3E324TC-W22



Performance : 380 V 50 Hz 6P IE3

Rated current	: 30.3 A	Moment of inertia (J)	: 11.5 sq.ft.lb
LRC	: 6.0	Duty cycle	: Cont.(S1)
Rated torque	: 107 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.00
Breakdown torque	: 250 %	Temperature rise	: 80 K
Rated speed	: 980 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



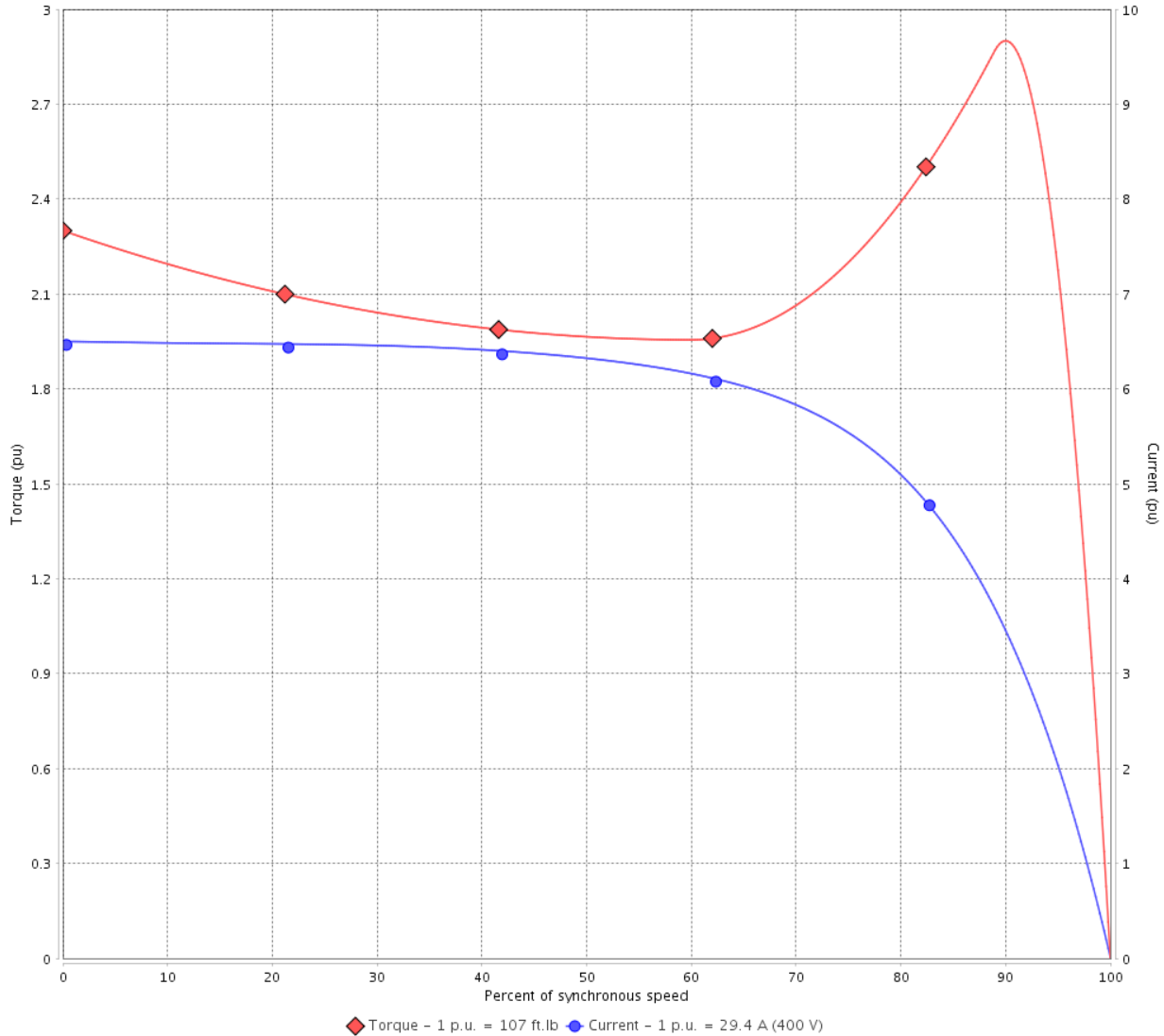
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TORQUE AND CURRENT VS SPEED CURVE



Performance : 400 V 50 Hz 6P IE3

Rated current	: 29.4 A	Moment of inertia (J)	: 11.5 sq.ft.lb
LRC	: 6.5	Duty cycle	: Cont.(S1)
Rated torque	: 107 ft.lb	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.15
Breakdown torque	: 290 %	Temperature rise	: 80 K
Rated speed	: 985 rpm	Design	: B

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

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TORQUE AND CURRENT VS SPEED CURVE



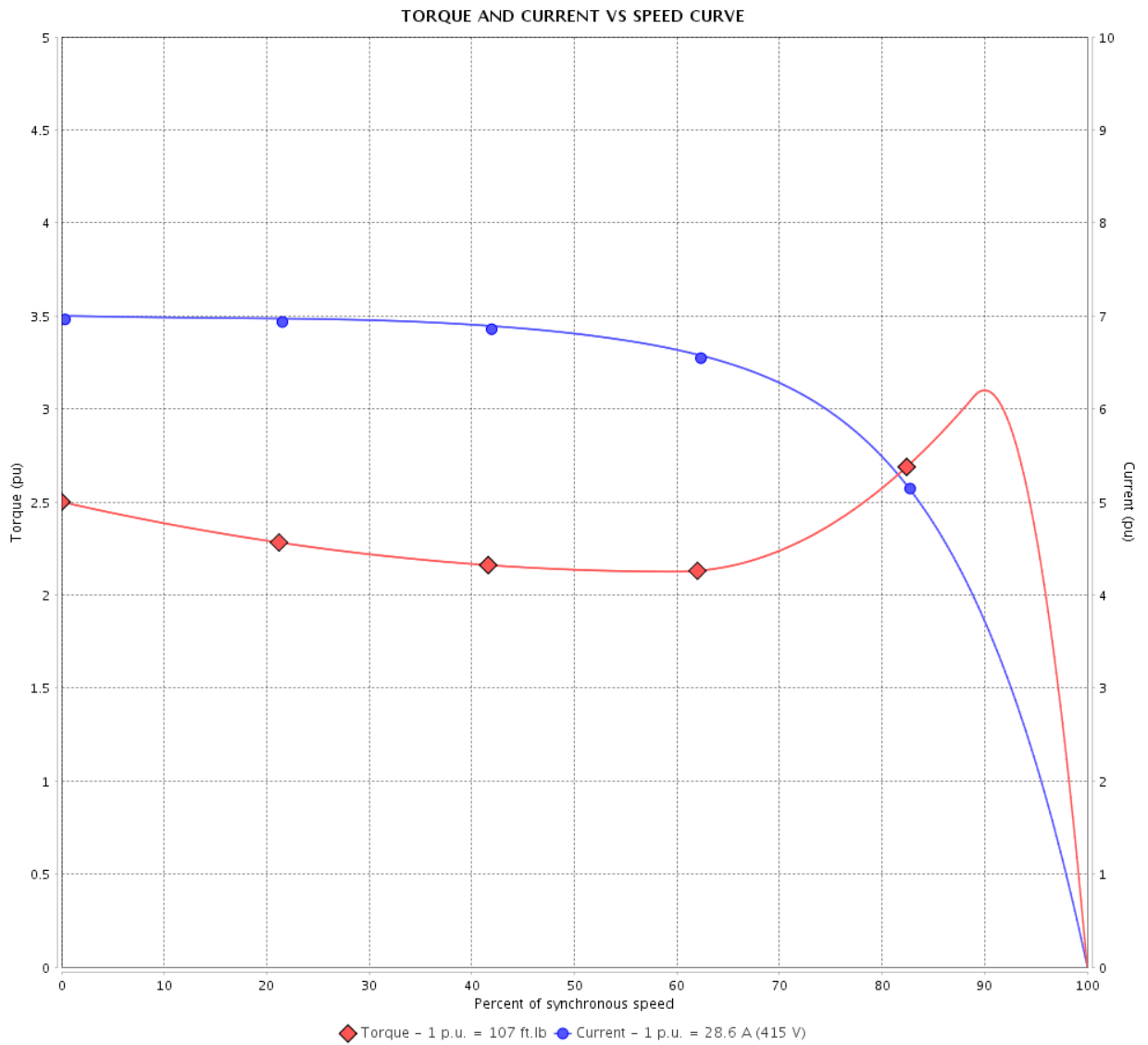
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

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Catalog # : 02512ET3E324TC-W22



Performance : 415 V 50 Hz 6P IE3

Rated current	: 28.6 A	Moment of inertia (J)	: 11.5 sq.ft.lb
LRC	: 7.0	Duty cycle	: Cont.(S1)
Rated torque	: 107 ft.lb	Insulation class	: F
Locked rotor torque	: 250 %	Service factor	: 1.15
Breakdown torque	: 310 %	Temperature rise	: 80 K
Rated speed	: 985 rpm	Design	: B

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

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TORQUE AND CURRENT VS SPEED CURVE

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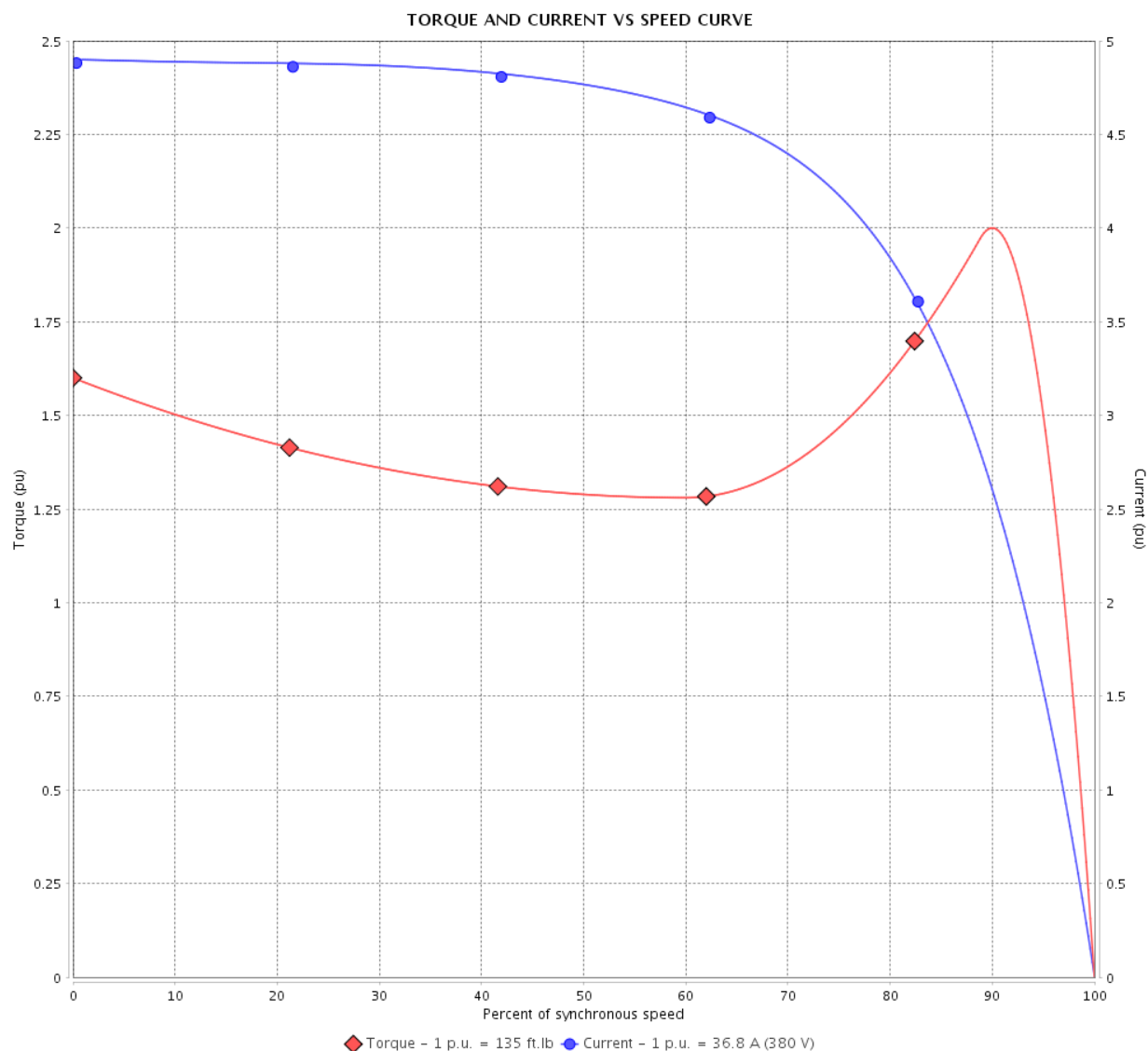


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Performance : 380 V 50 Hz 6P IE2

Rated current	: 36.8 A	Moment of inertia (J)	: 11.5 sq.ft.lb
LRC	: 4.9	Duty cycle	: Cont.(S1)
Rated torque	: 135 ft.lb	Insulation class	: F
Locked rotor torque	: 160 %	Service factor	: 1.00
Breakdown torque	: 200 %	Temperature rise	: 80 K
Rated speed	: 975 rpm	Design	: B

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

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TORQUE AND CURRENT VS SPEED CURVE



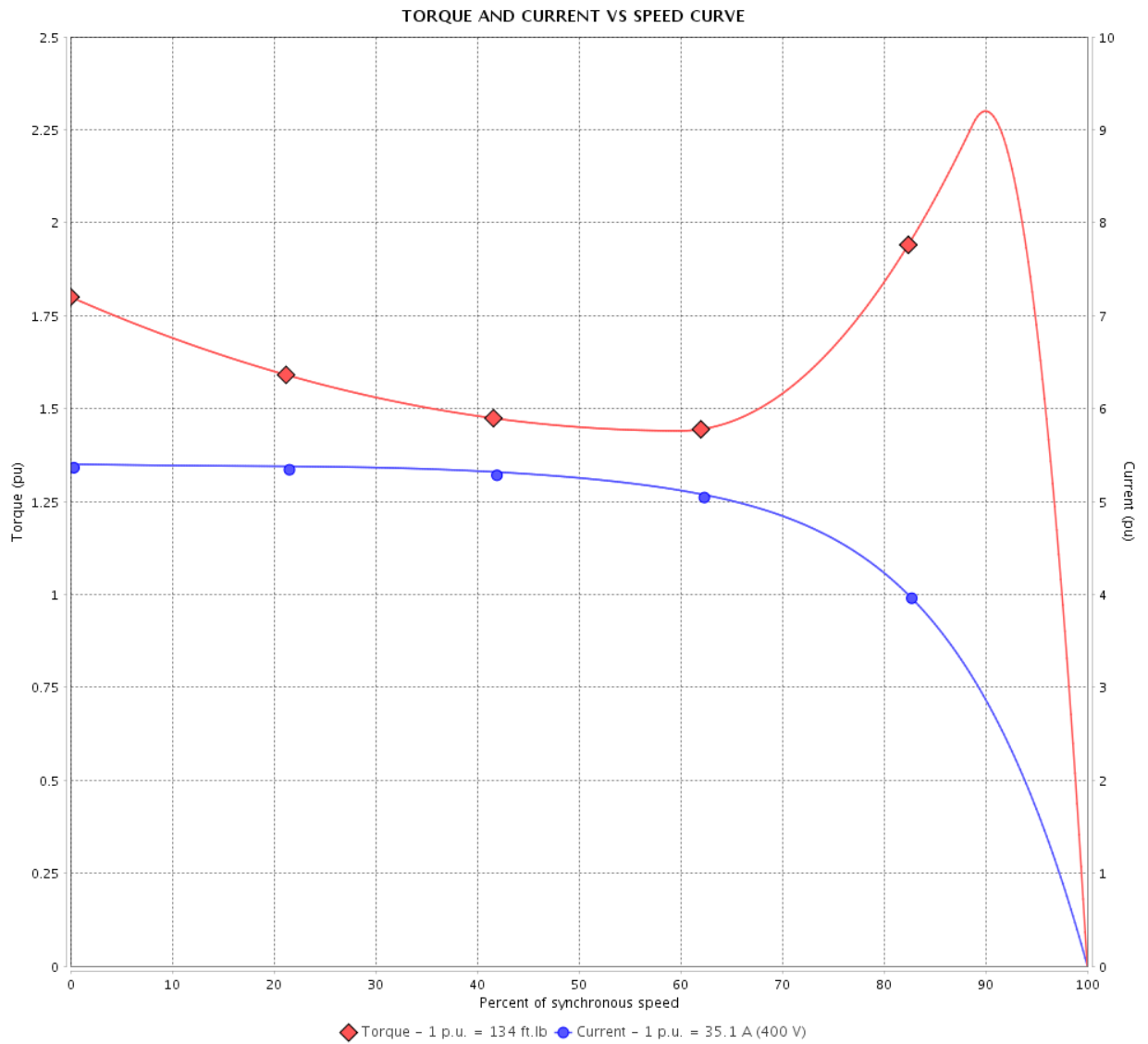
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Performance : 400 V 50 Hz 6P IE3

Rated current	: 35.1 A	Moment of inertia (J)	: 11.5 sq.ft.lb
LRC	: 5.4	Duty cycle	: Cont.(S1)
Rated torque	: 134 ft.lb	Insulation class	: F
Locked rotor torque	: 180 %	Service factor	: 1.15
Breakdown torque	: 229 %	Temperature rise	: 80 K
Rated speed	: 980 rpm	Design	: B

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

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TORQUE AND CURRENT VS SPEED CURVE

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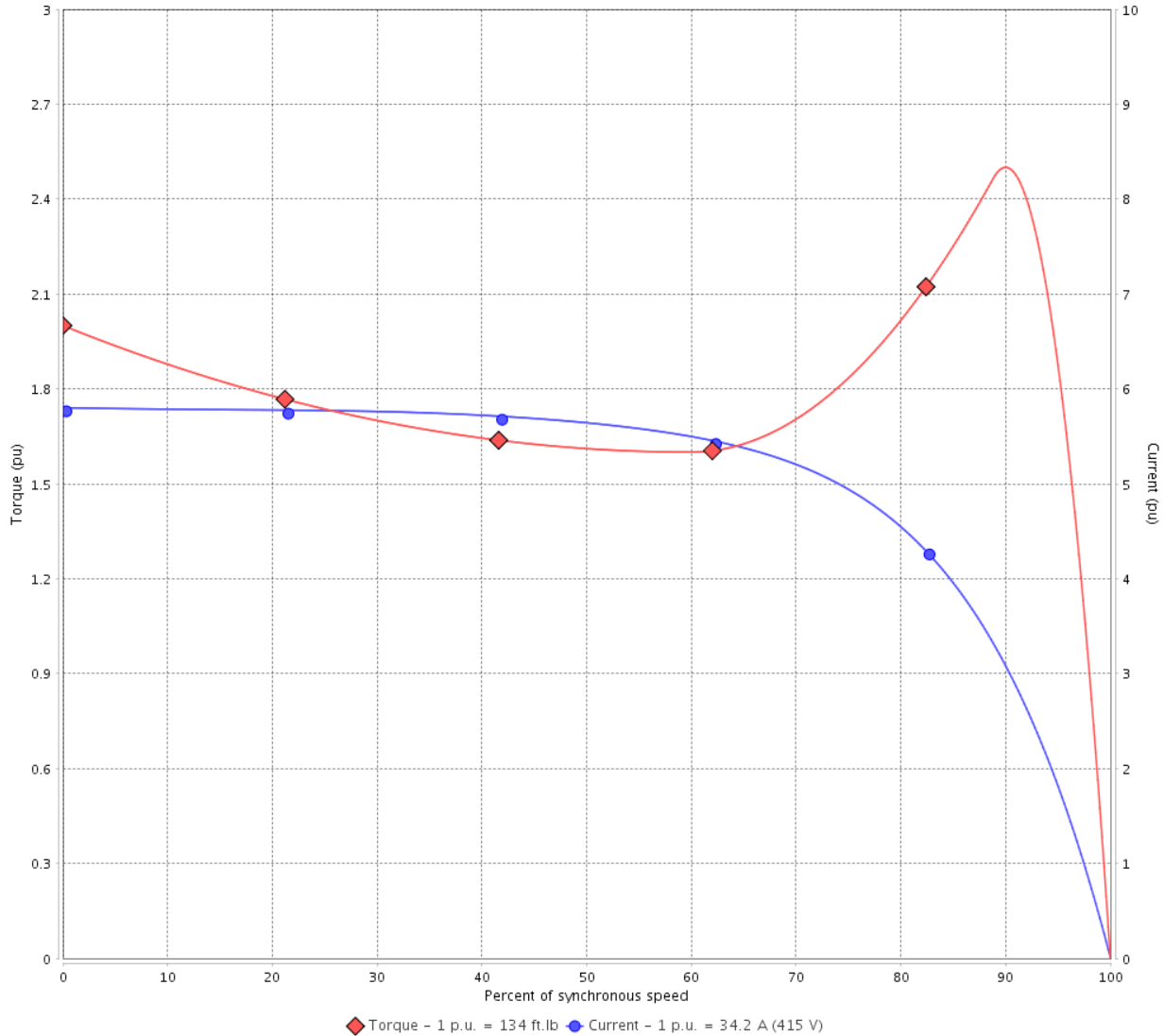
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TORQUE AND CURRENT VS SPEED CURVE



Performance : 415 V 50 Hz 6P IE3

Rated current	: 34.2 A	Moment of inertia (J)	: 11.5 sq.ft.lb
LRC	: 5.8	Duty cycle	: Cont.(S1)
Rated torque	: 134 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.15
Breakdown torque	: 250 %	Temperature rise	: 80 K
Rated speed	: 980 rpm	Design	: B

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

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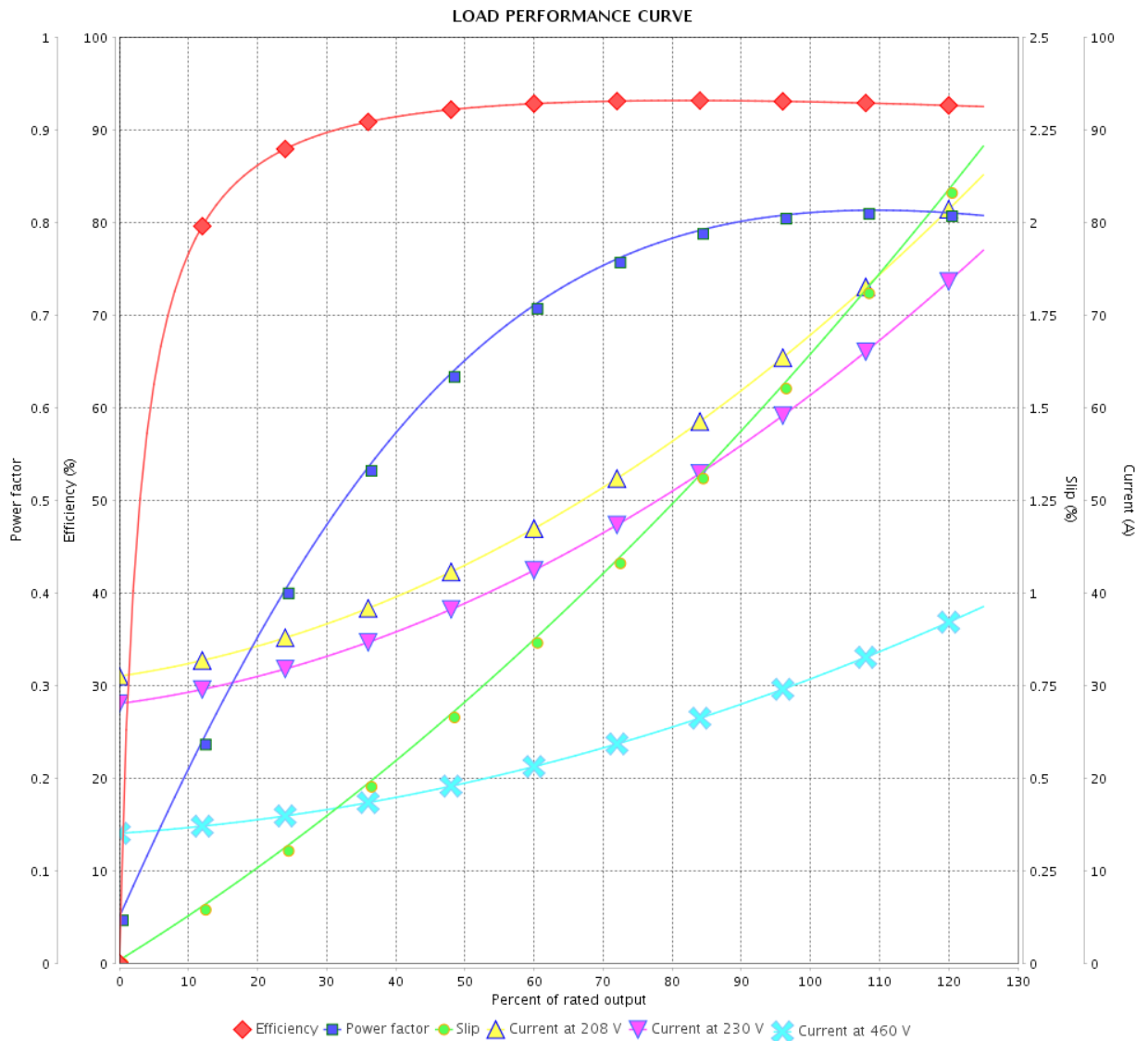


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Product code : 12546171

Catalog # : 02512ET3E324TC-W22



Performance : 230/460 V 60 Hz 6P

Rated current : 61.6/30.8 A
 LRC : 6.2
 Rated torque : 111 ft.lb
 Locked rotor torque : 210 %
 Breakdown torque : 260 %
 Rated speed : 1180 rpm

Moment of inertia (J) : 11.5 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



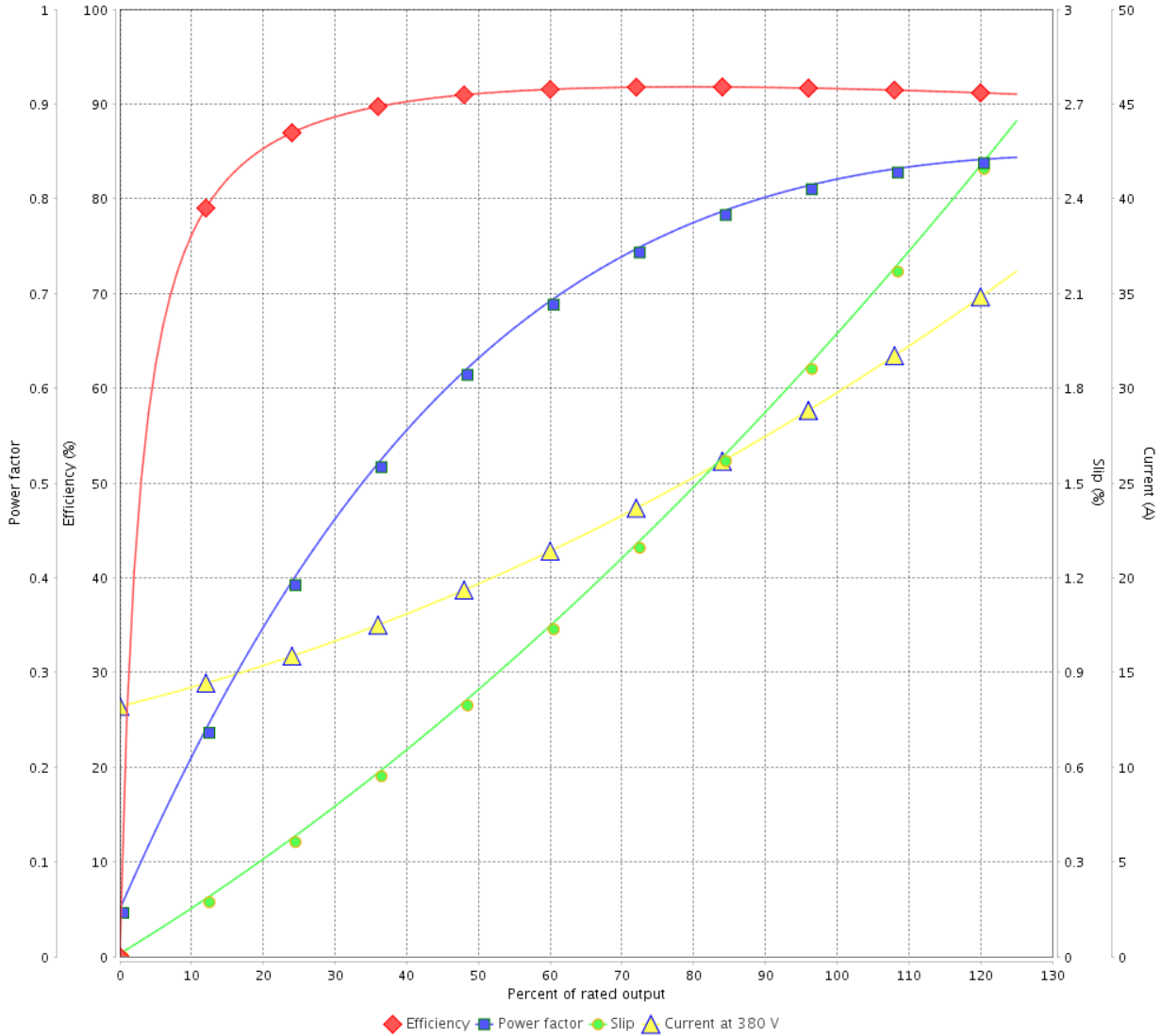
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Performance : 380 V 50 Hz 6P IE3

Rated current : 30.3 A
 LRC : 6.0
 Rated torque : 107 ft.lb
 Locked rotor torque : 200 %
 Breakdown torque : 250 %
 Rated speed : 980 rpm

Moment of inertia (J) : 11.5 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

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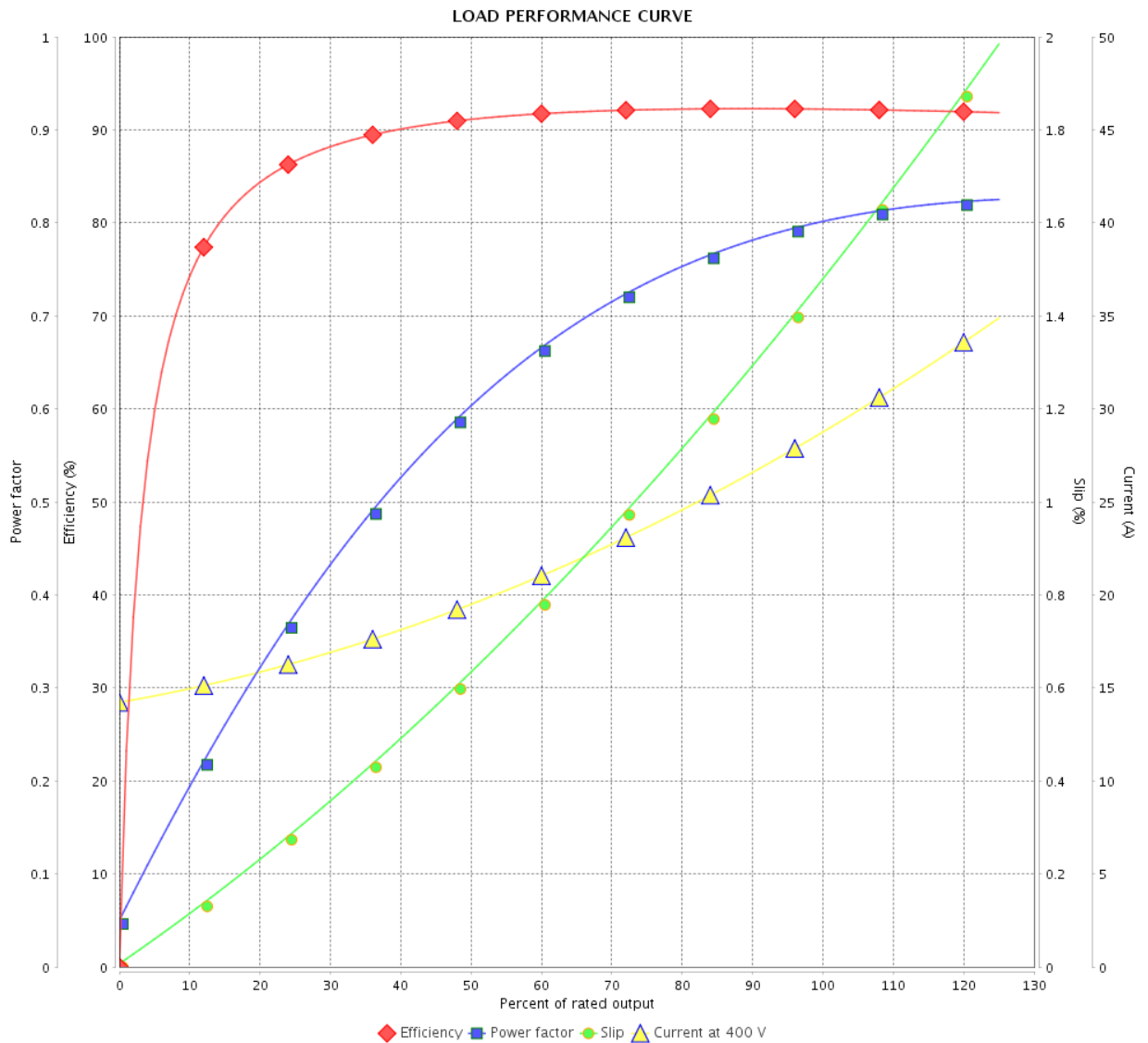


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Performance : 400 V 50 Hz 6P IE3

Rated current : 29.4 A
 LRC : 6.5
 Rated torque : 107 ft.lb
 Locked rotor torque : 229 %
 Breakdown torque : 290 %
 Rated speed : 985 rpm

Moment of inertia (J) : 11.5 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



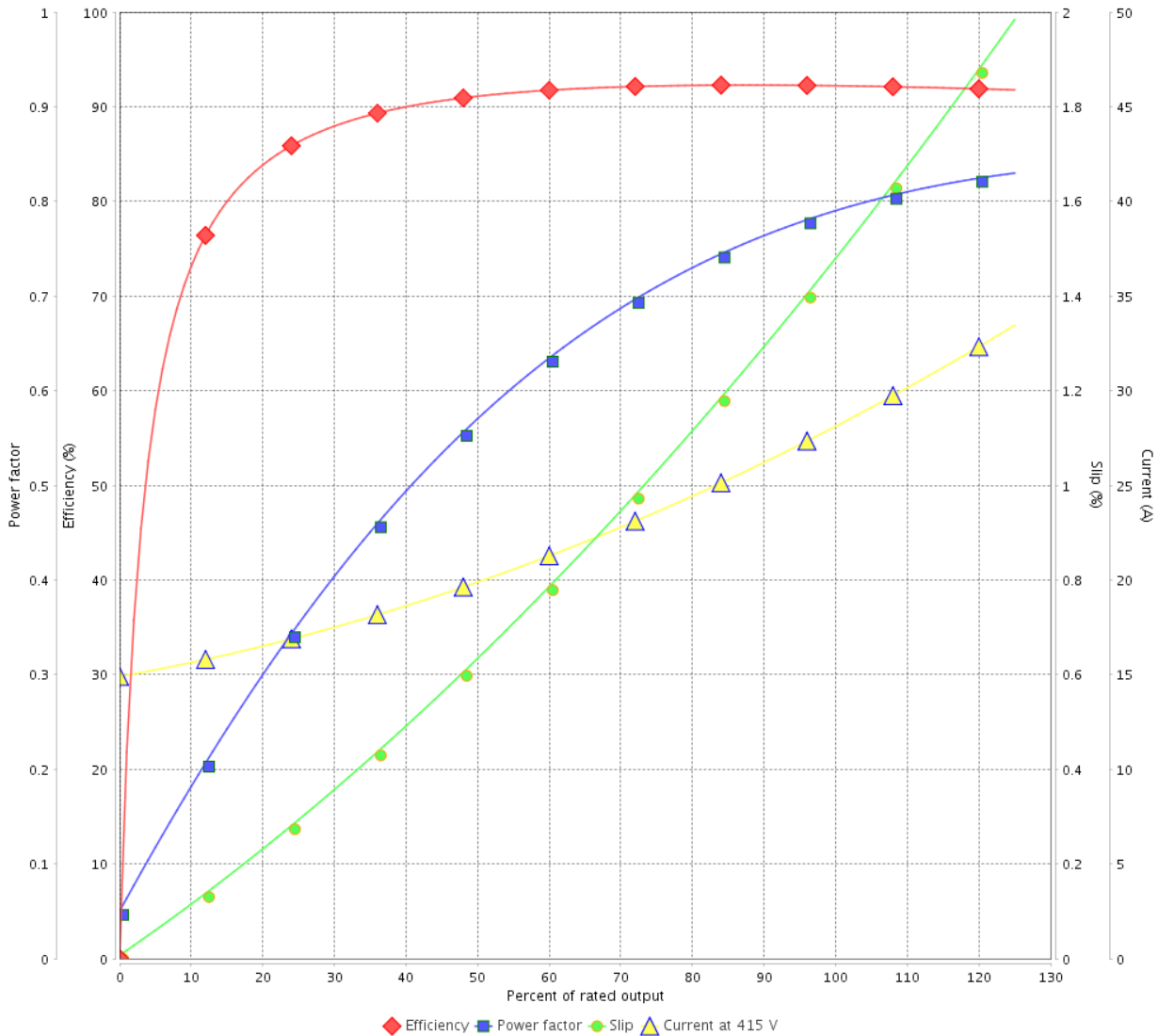
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Performance : 415 V 50 Hz 6P IE3

Rated current : 28.6 A
 LRC : 7.0
 Rated torque : 107 ft.lb
 Locked rotor torque : 250 %
 Breakdown torque : 310 %
 Rated speed : 985 rpm

Moment of inertia (J) : 11.5 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

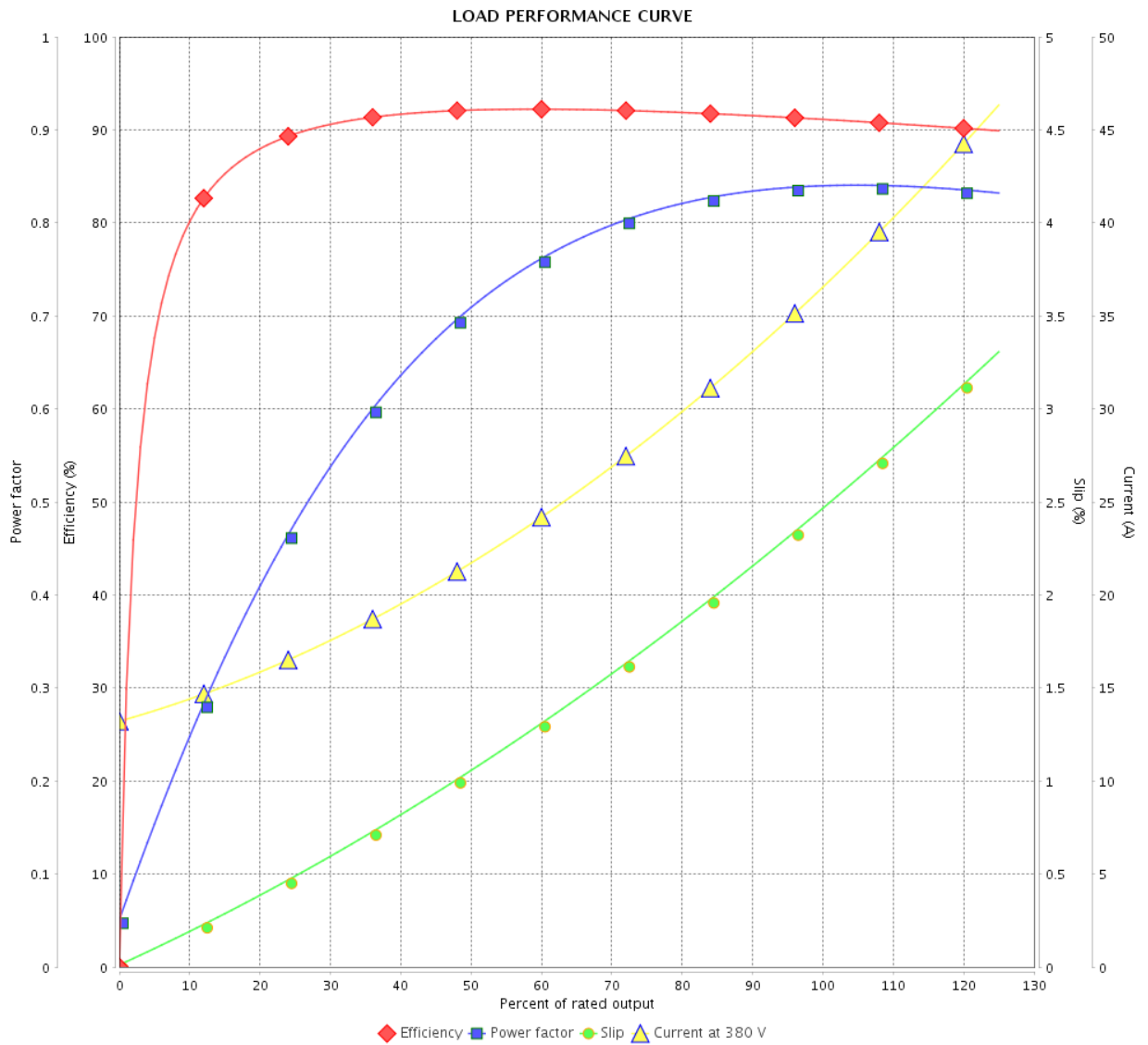


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Catalog # : 02512ET3E324TC-W22



Performance : 380 V 50 Hz 6P IE2

Rated current : 36.8 A
 LRC : 4.9
 Rated torque : 135 ft.lb
 Locked rotor torque : 160 %
 Breakdown torque : 200 %
 Rated speed : 975 rpm

Moment of inertia (J) : 11.5 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

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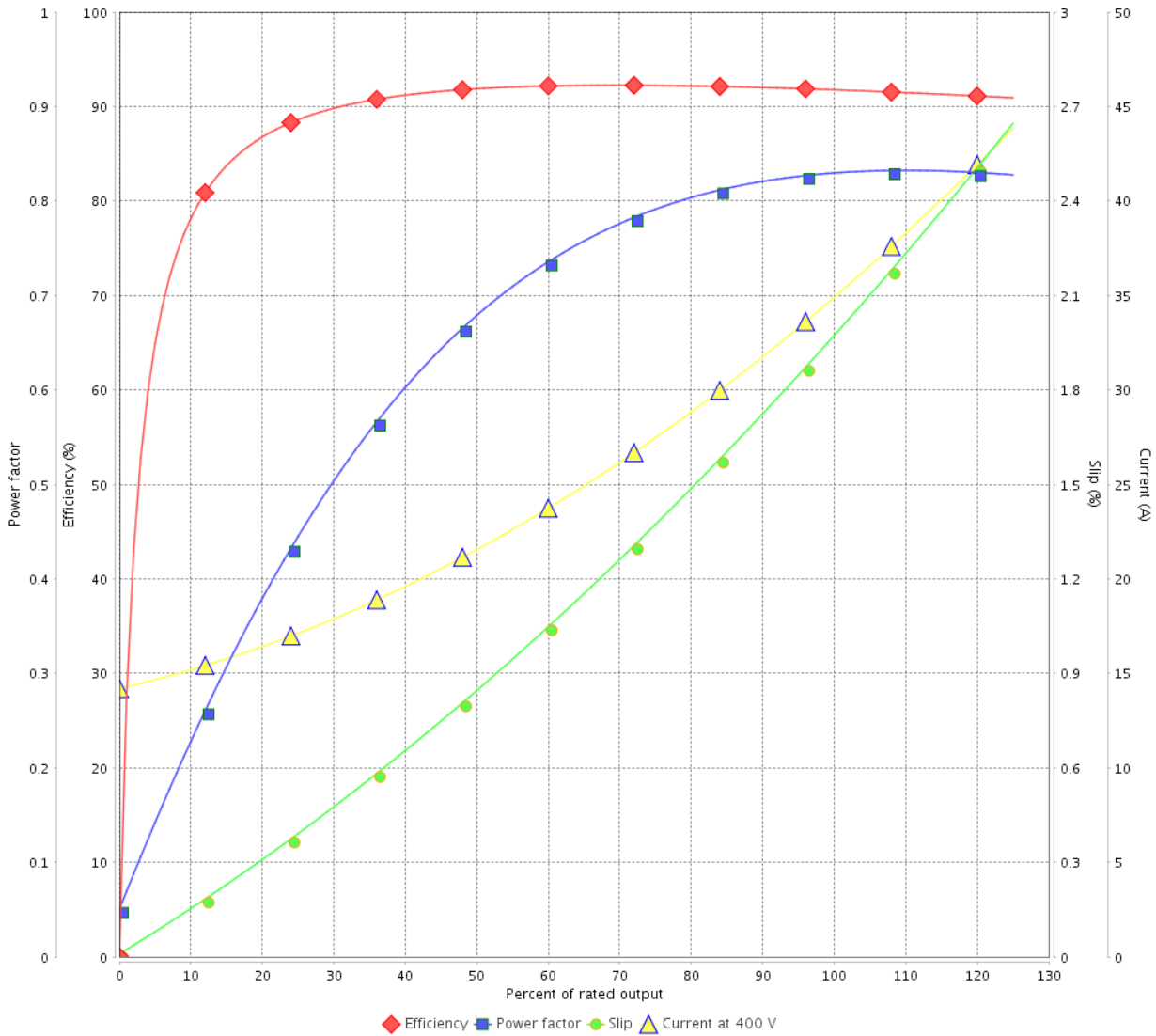
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Performance : 400 V 50 Hz 6P IE3

Rated current : 35.1 A
 LRC : 5.4
 Rated torque : 134 ft.lb
 Locked rotor torque : 180 %
 Breakdown torque : 229 %
 Rated speed : 980 rpm

Moment of inertia (J) : 11.5 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

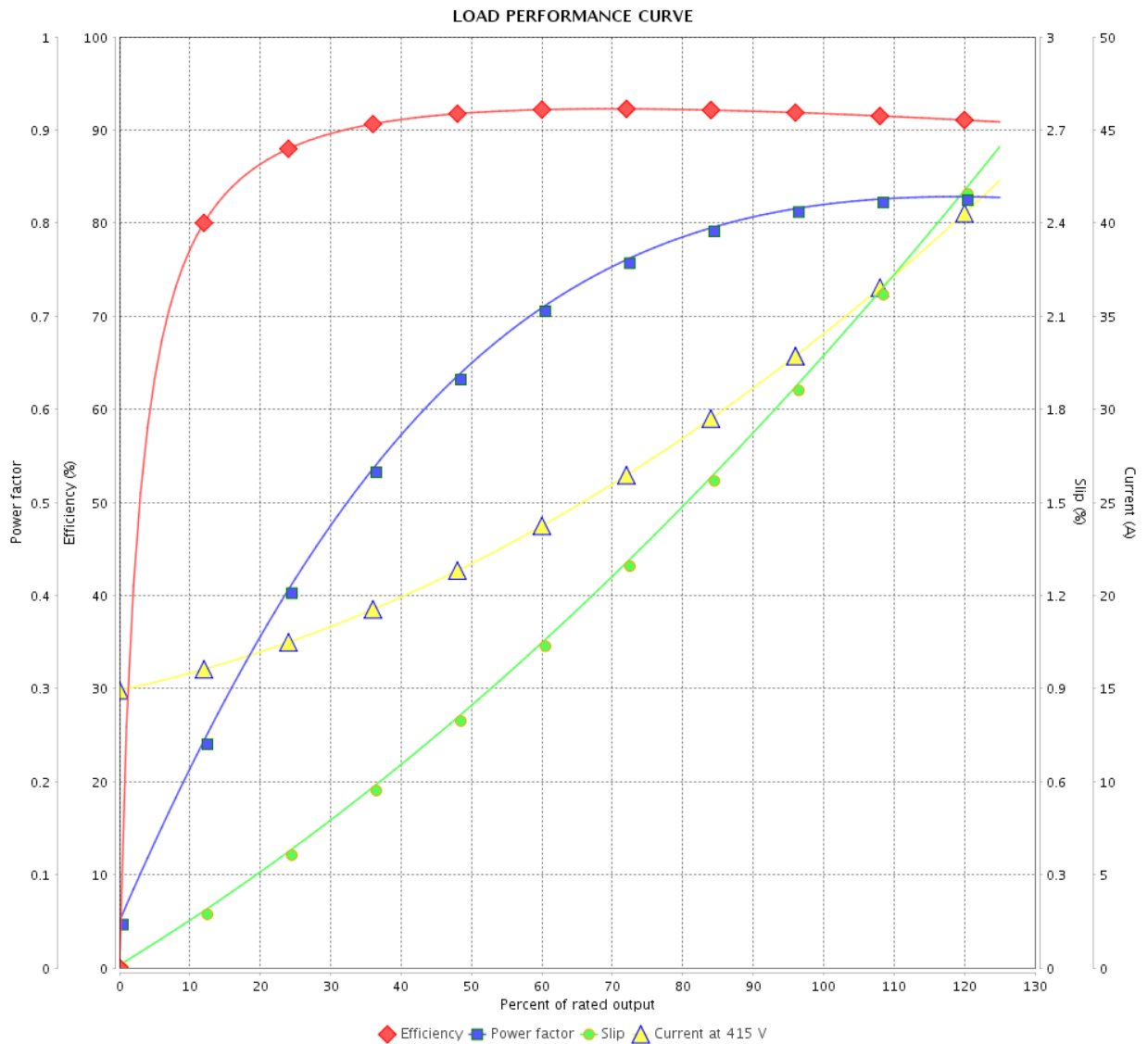


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Product line : NEMA Premium Efficiency Three-Phase

Product code : 12546171

Catalog # : 02512ET3E324TC-W22



Performance : 415 V 50 Hz 6P IE3

Rated current : 34.2 A
 LRC : 5.8
 Rated torque : 134 ft.lb
 Locked rotor torque : 200 %
 Breakdown torque : 250 %
 Rated speed : 980 rpm

Moment of inertia (J) : 11.5 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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Product line : NEMA Premium Efficiency Three-Phase
Product code : 12546171
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Performance : 230/460 V 60 Hz 6P

Rated current	: 61.6/30.8 A	Moment of inertia (J)	: 11.5 sq.ft.lb
LRC	: 6.2	Duty cycle	: Cont.(S1)
Rated torque	: 111 ft.lb	Insulation class	: F
Locked rotor torque	: 210 %	Service factor	: 1.25
Breakdown torque	: 260 %	Temperature rise	: 80 K
Rated speed	: 1180 rpm	Design	: B

Heating constant

Cooling constant

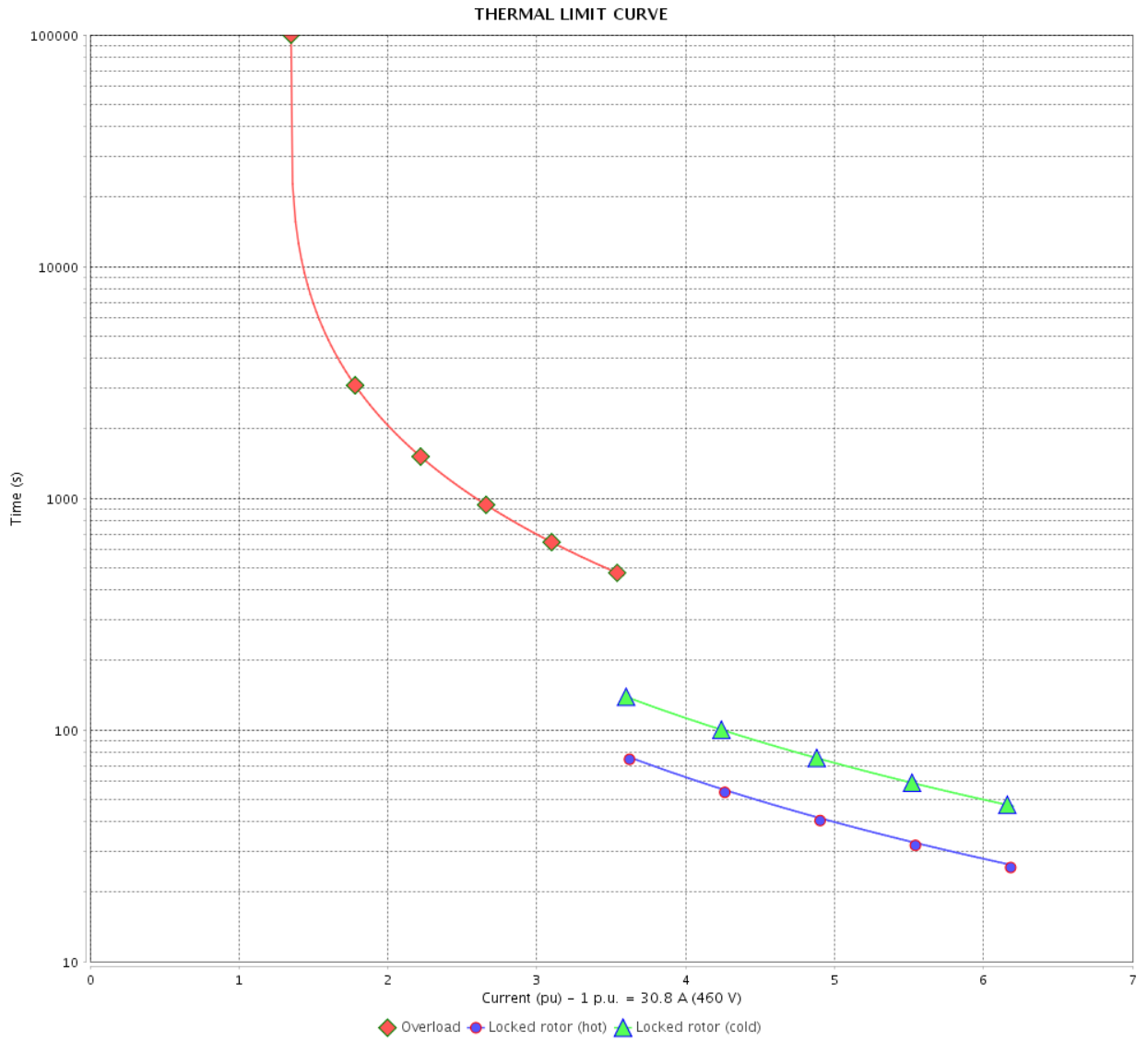
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Performance : 380 V 50 Hz 6P IE3

Rated current	: 30.3 A	Moment of inertia (J)	: 11.5 sq.ft.lb
LRC	: 6.0	Duty cycle	: Cont.(S1)
Rated torque	: 107 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.00
Breakdown torque	: 250 %	Temperature rise	: 80 K
Rated speed	: 980 rpm	Design	: B

Heating constant

Cooling constant

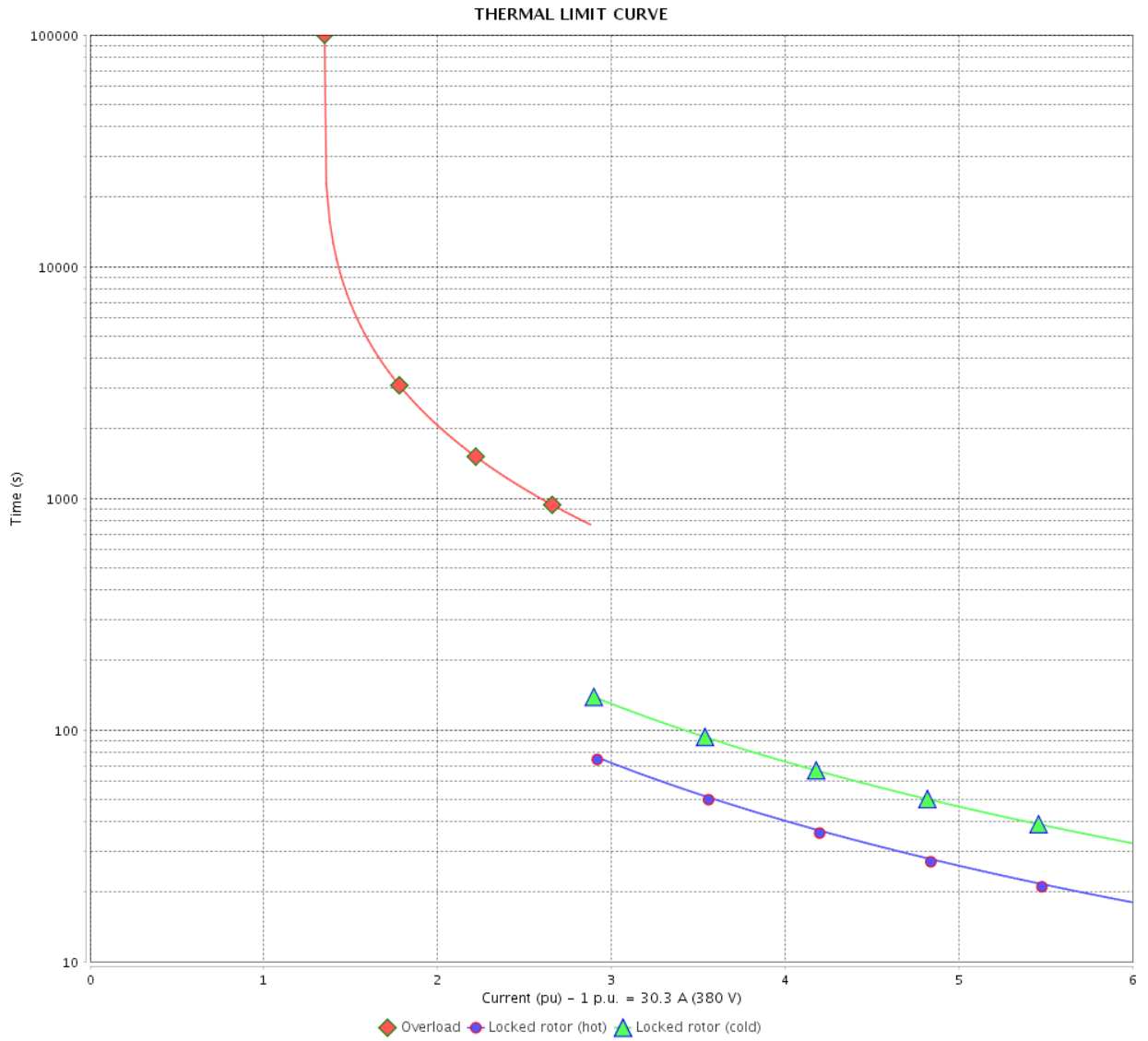
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Performance : 400 V 50 Hz 6P IE3

Rated current	: 29.4 A	Moment of inertia (J)	: 11.5 sq.ft.lb
LRC	: 6.5	Duty cycle	: Cont.(S1)
Rated torque	: 107 ft.lb	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.15
Breakdown torque	: 290 %	Temperature rise	: 80 K
Rated speed	: 985 rpm	Design	: B

Heating constant

Cooling constant

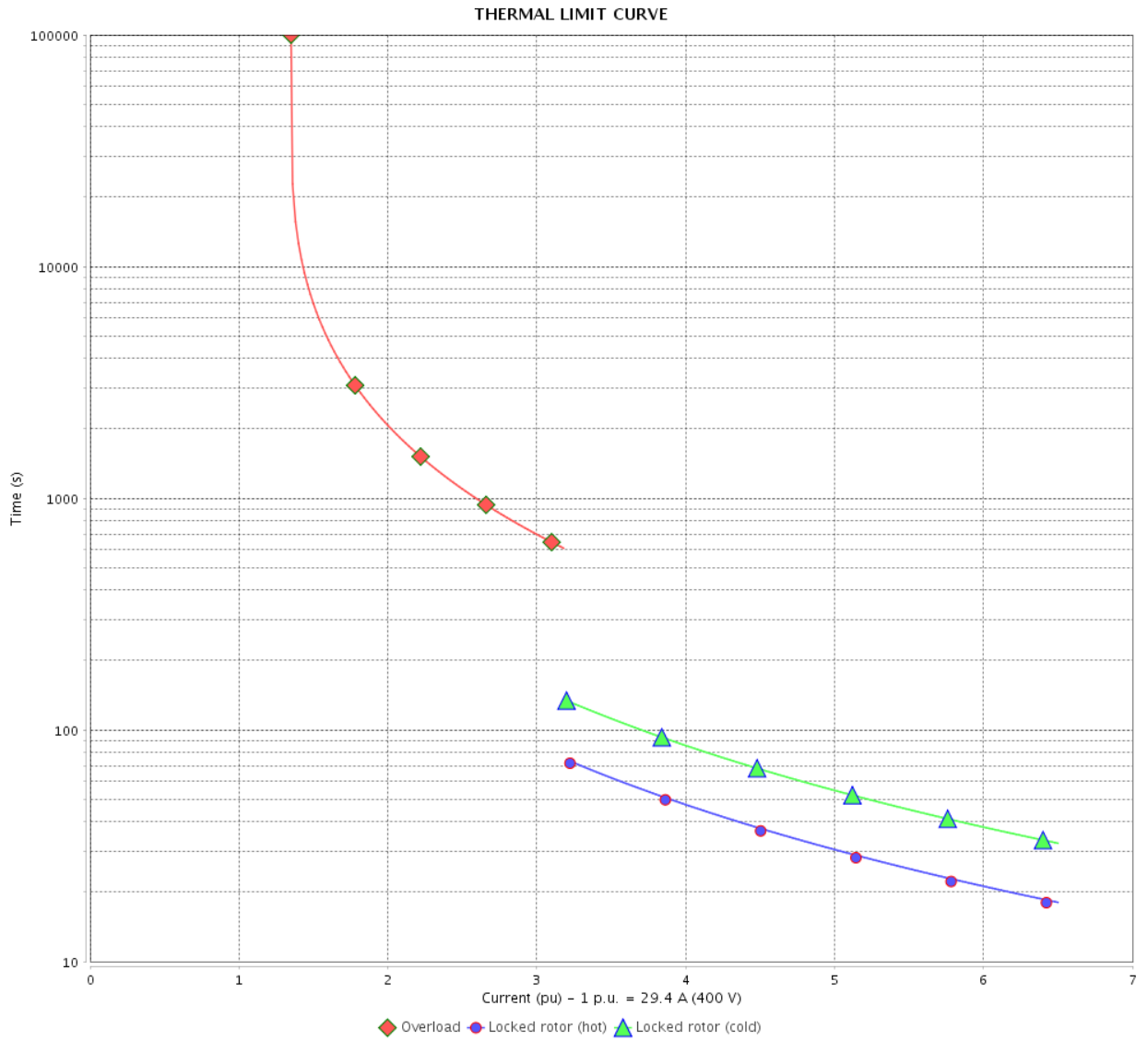
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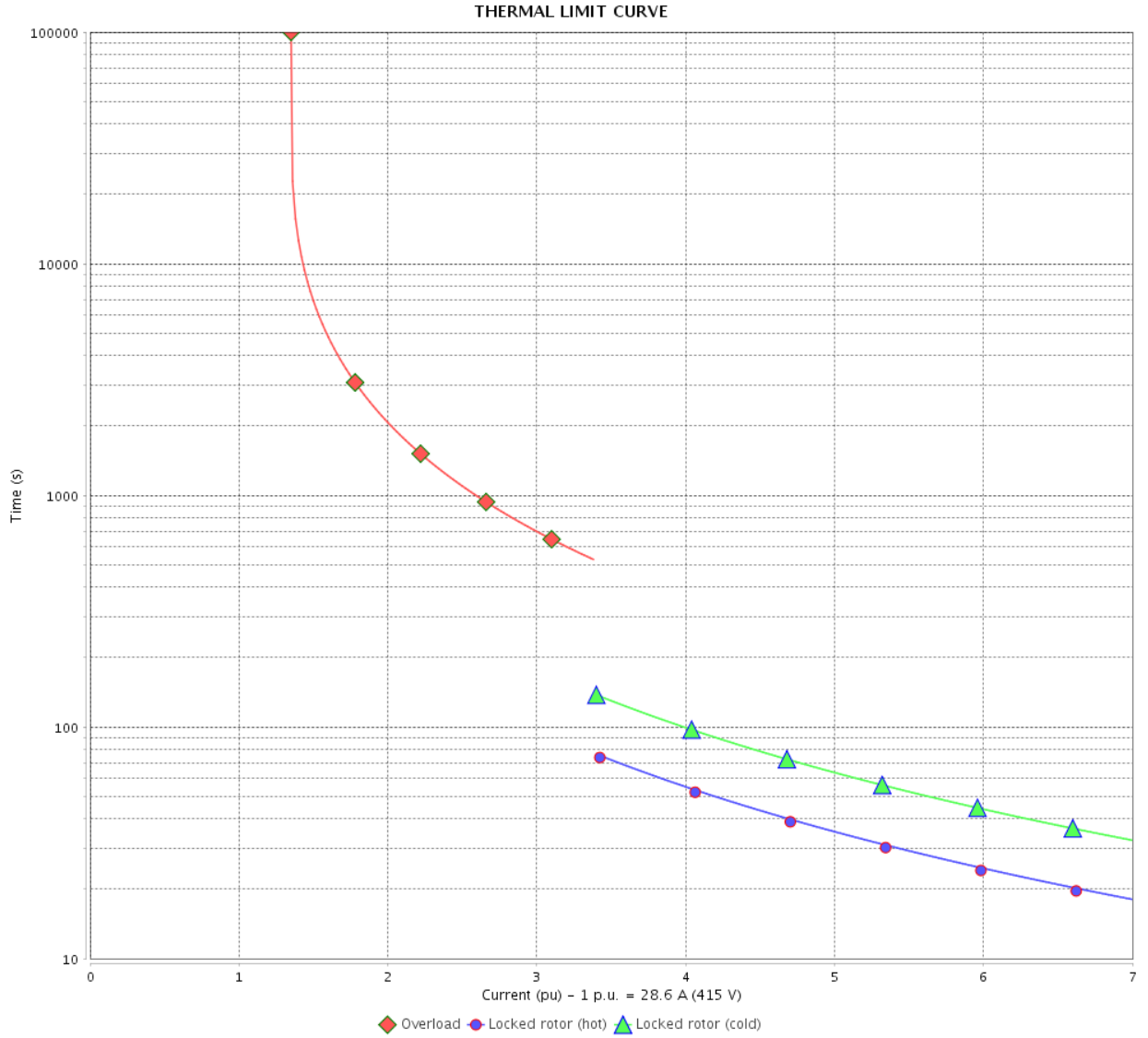
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Rated current	: 36.8 A	Moment of inertia (J)	: 11.5 sq.ft.lb
LRC	: 4.9	Duty cycle	: Cont.(S1)
Rated torque	: 135 ft.lb	Insulation class	: F
Locked rotor torque	: 160 %	Service factor	: 1.00
Breakdown torque	: 200 %	Temperature rise	: 80 K
Rated speed	: 975 rpm	Design	: B

Heating constant

Cooling constant

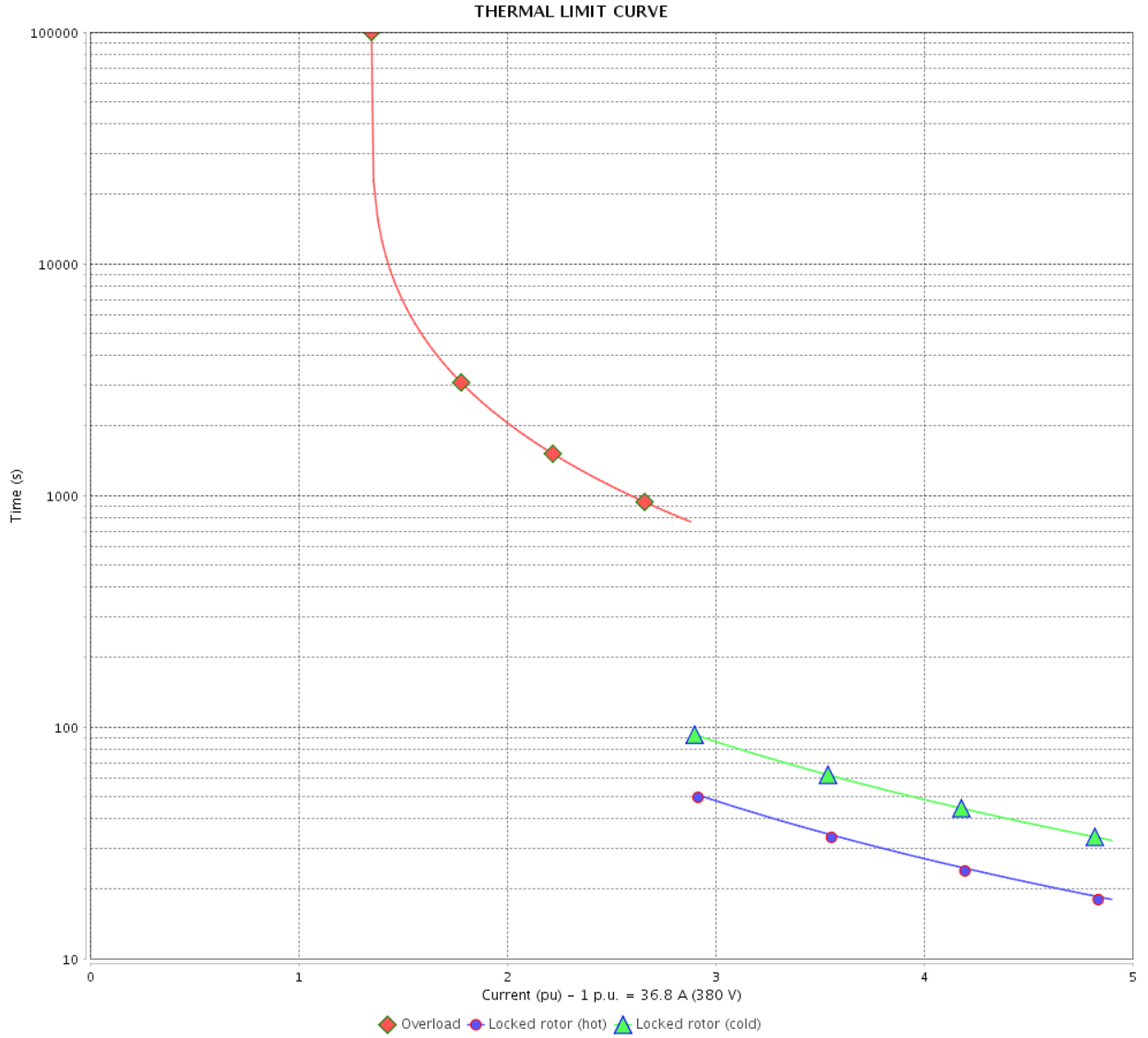
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LRC	: 5.4	Duty cycle	: Cont.(S1)
Rated torque	: 134 ft.lb	Insulation class	: F
Locked rotor torque	: 180 %	Service factor	: 1.15
Breakdown torque	: 229 %	Temperature rise	: 80 K
Rated speed	: 980 rpm	Design	: B

Heating constant

Cooling constant

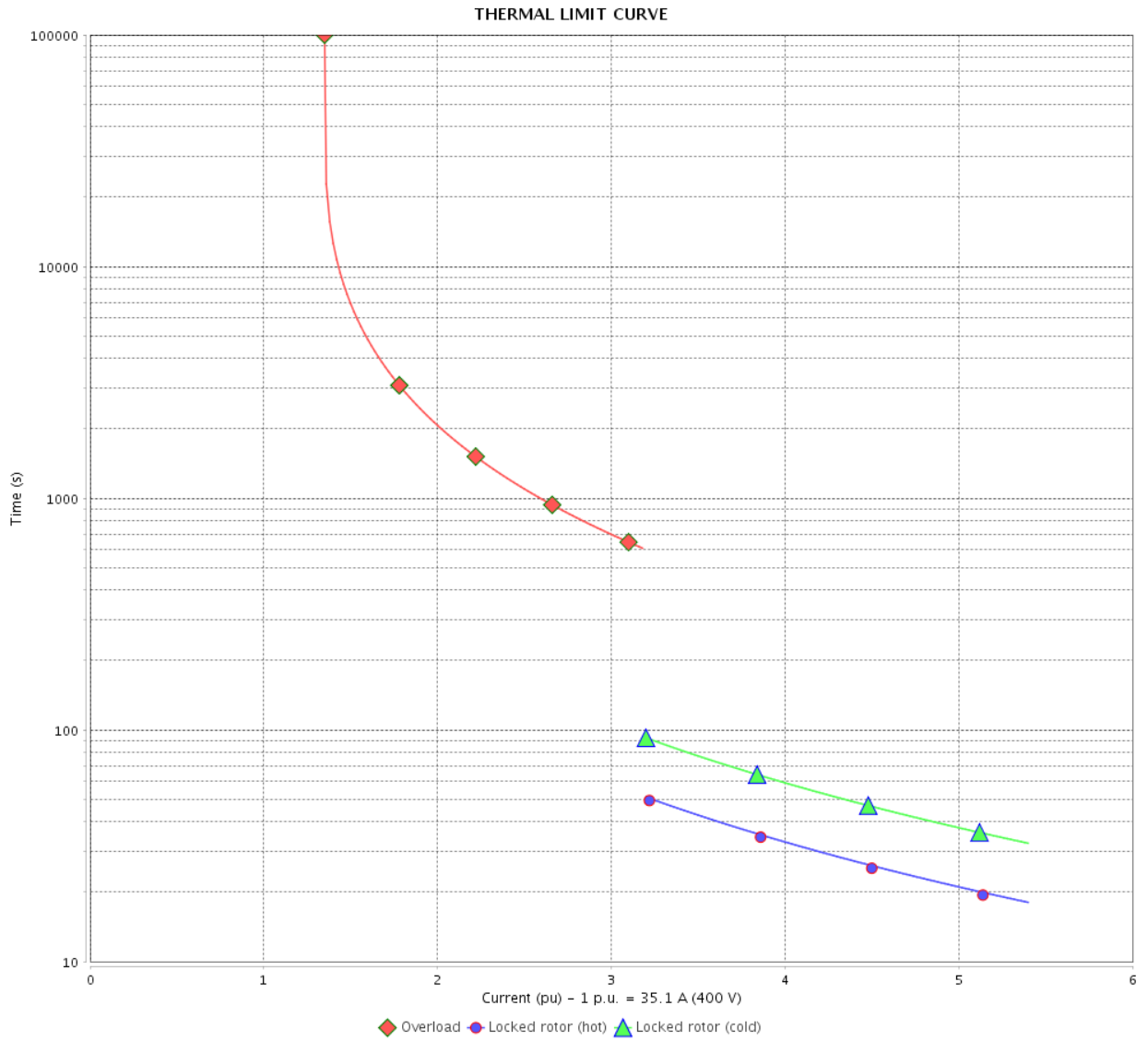
Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by			Page	Revision
Date	13/04/2022		26 / 36	

THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : _____



Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		27 / 36		
Date		13/04/2022		

THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : NEMA Premium Efficiency Three-Phase
Product code : 12546171
Catalog # : 02512ET3E324TC-W22

Performance : 415 V 50 Hz 6P IE3

Rated current	: 34.2 A	Moment of inertia (J)	: 11.5 sq.ft.lb
LRC	: 5.8	Duty cycle	: Cont.(S1)
Rated torque	: 134 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.15
Breakdown torque	: 250 %	Temperature rise	: 80 K
Rated speed	: 980 rpm	Design	: B

Heating constant

Cooling constant

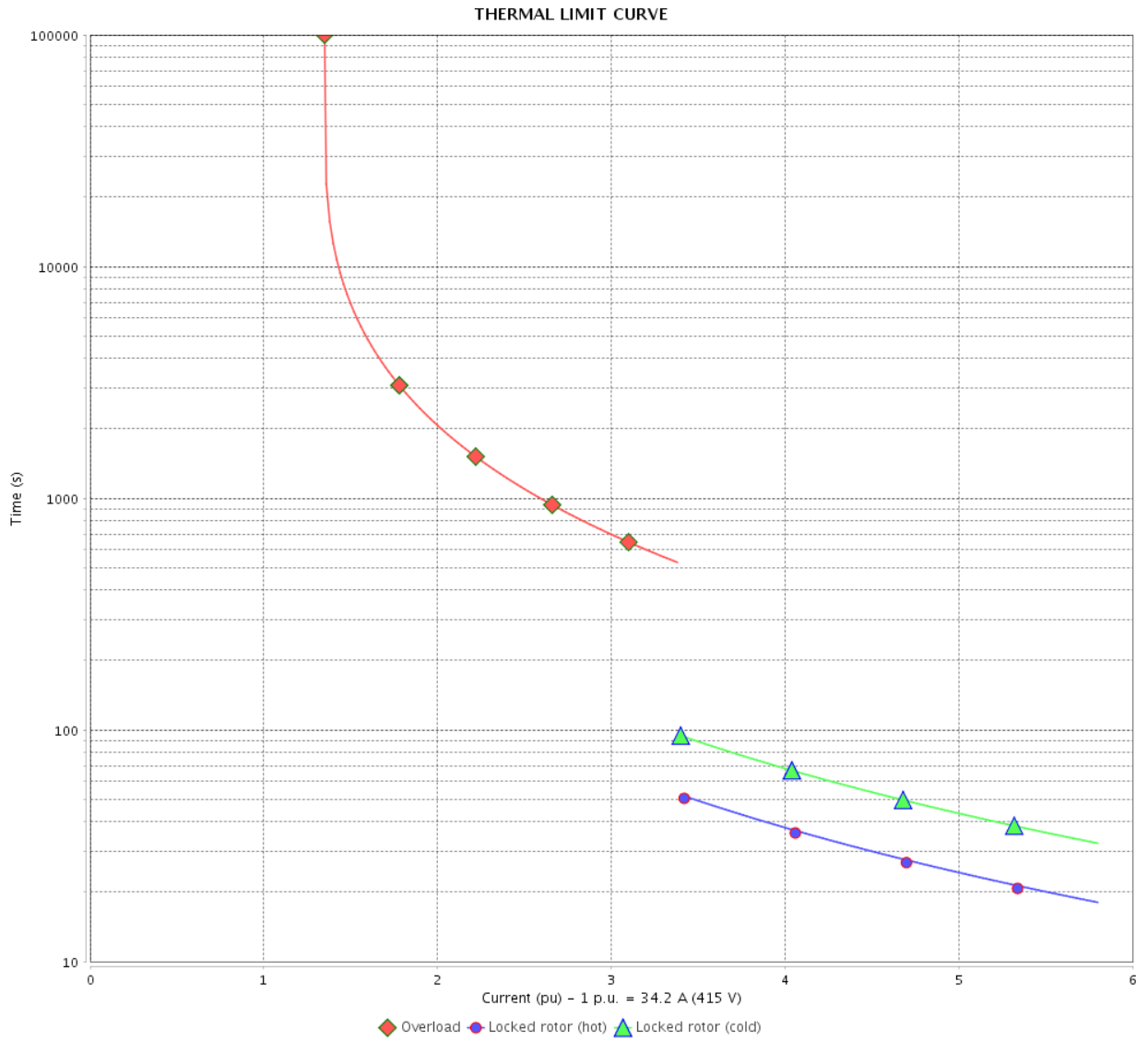
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Checked by			Page	Revision
Date	13/04/2022		28 / 36	

THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : _____



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Date				

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

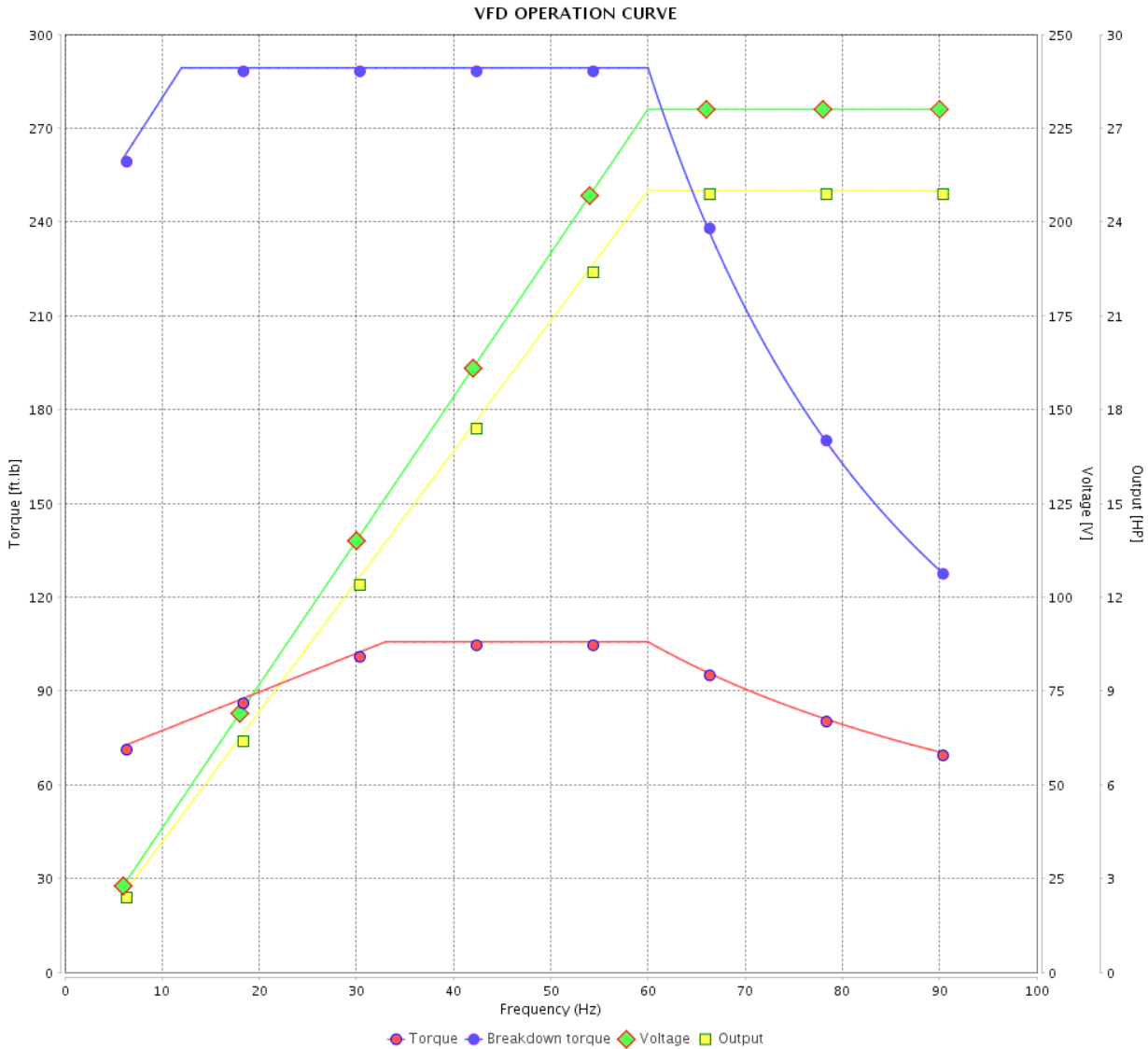


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12546171

Catalog # : 02512ET3E324TC-W22



Performance : 230/460 V 60 Hz 6P

Rated current : 61.6/30.8 A
 LRC : 6.2
 Rated torque : 111 ft.lb
 Locked rotor torque : 210 %
 Breakdown torque : 260 %
 Rated speed : 1180 rpm

Moment of inertia (J) : 11.5 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.25
 Temperature rise : 80 K
 Design : B

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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

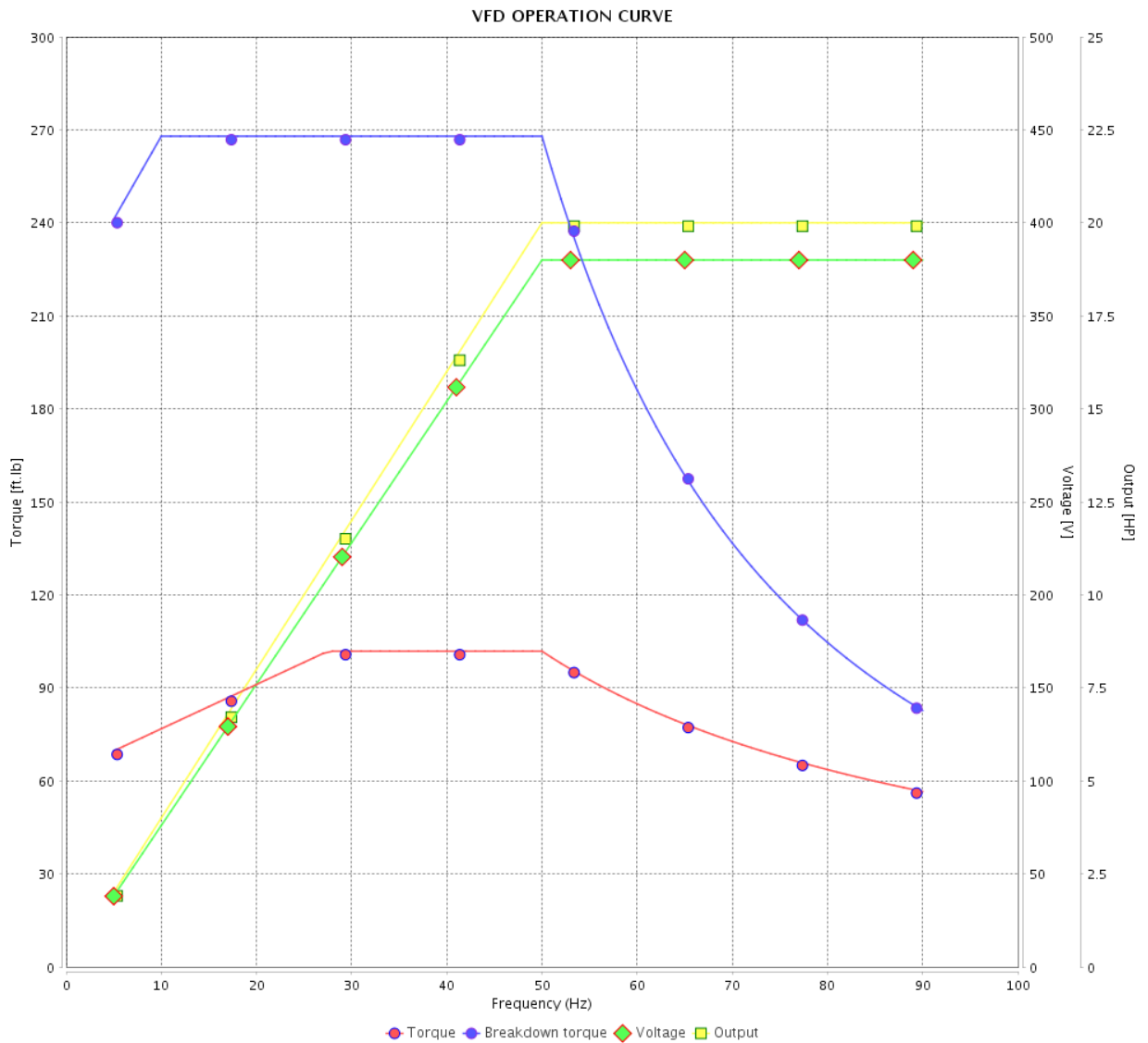


Customer : _____

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12546171

Catalog # : 02512ET3E324TC-W22



Performance : 380 V 50 Hz 6P IE3

Rated current : 30.3 A
 LRC : 6.0
 Rated torque : 107 ft.lb
 Locked rotor torque : 200 %
 Breakdown torque : 250 %
 Rated speed : 980 rpm

Moment of inertia (J) : 11.5 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

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Date	13/04/2022			
				Revision

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

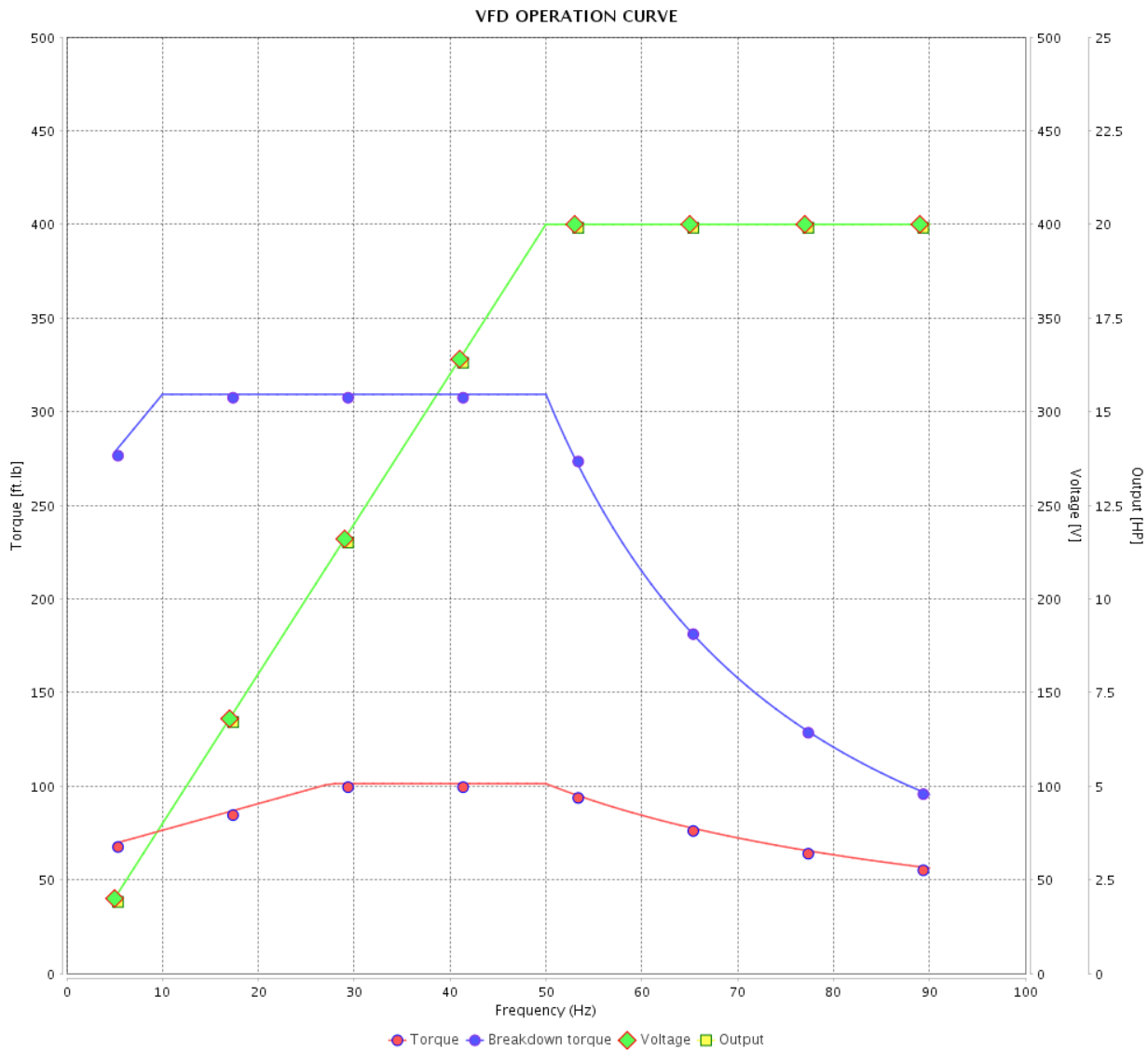


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12546171

Catalog # : 02512ET3E324TC-W22



Performance : 400 V 50 Hz 6P IE3

Rated current	: 29.4 A	Moment of inertia (J)	: 11.5 sq.ft.lb
LRC	: 6.5	Duty cycle	: Cont.(S1)
Rated torque	: 107 ft.lb	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.15
Breakdown torque	: 290 %	Temperature rise	: 80 K
Rated speed	: 985 rpm	Design	: B

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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

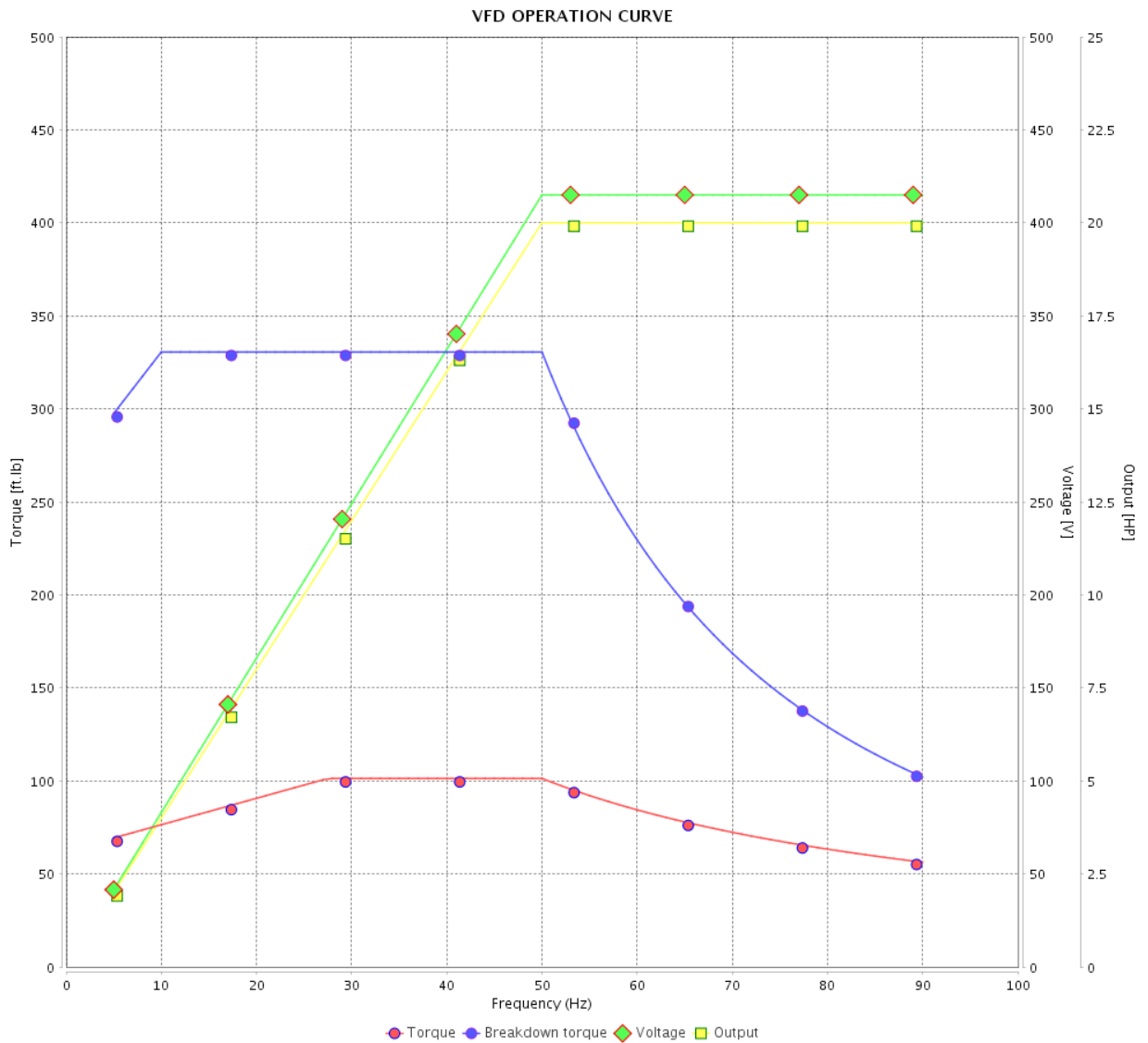


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12546171

Catalog # : 02512ET3E324TC-W22



Performance : 415 V 50 Hz 6P IE3

Rated current : 28.6 A
 LRC : 7.0
 Rated torque : 107 ft.lb
 Locked rotor torque : 250 %
 Breakdown torque : 310 %
 Rated speed : 985 rpm

Moment of inertia (J) : 11.5 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.15
 Temperature rise : 80 K
 Design : B

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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



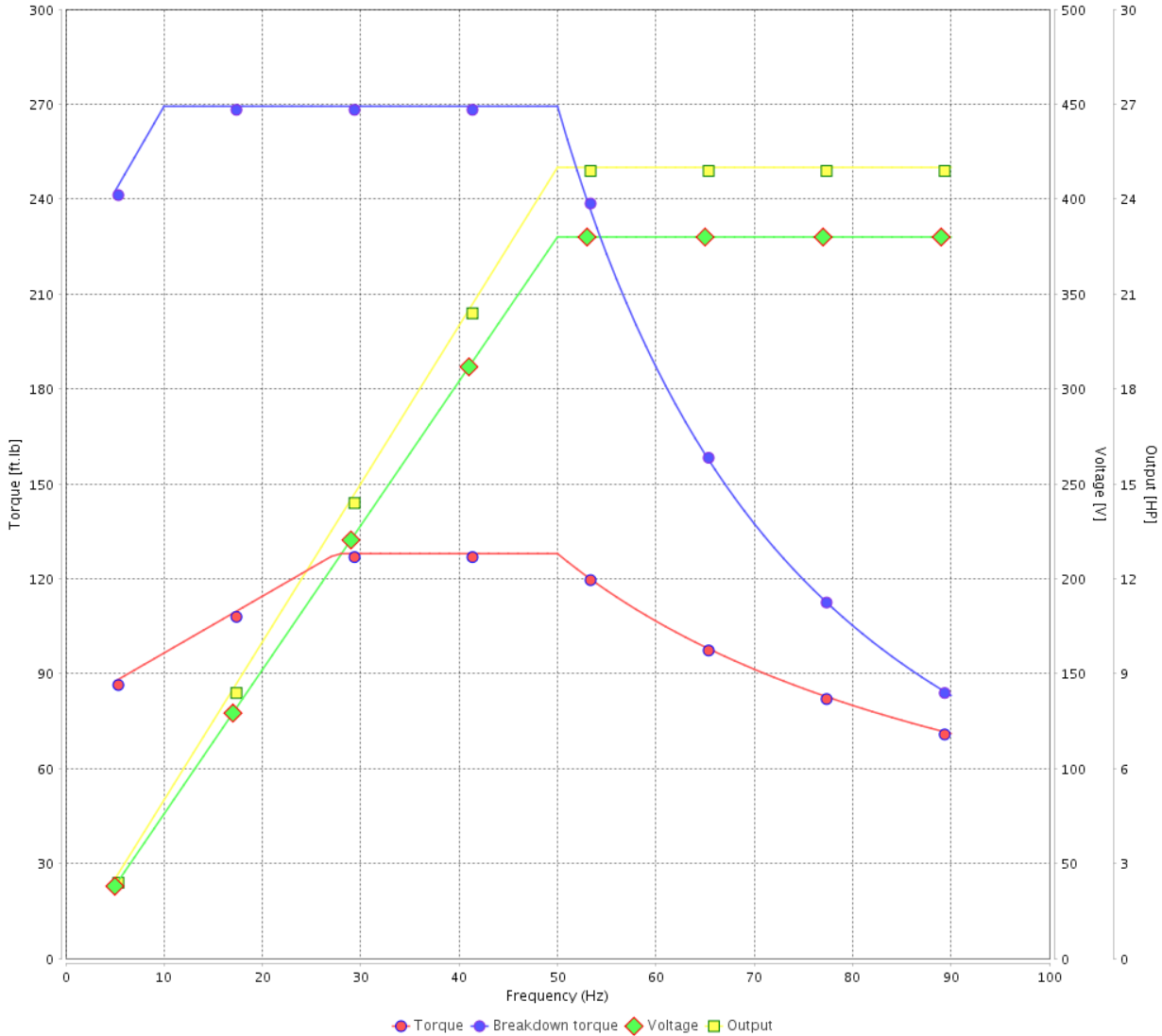
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12546171

Catalog # : 02512ET3E324TC-W22

VFD OPERATION CURVE



Performance : 380 V 50 Hz 6P IE2

Rated current : 36.8 A
 LRC : 4.9
 Rated torque : 135 ft.lb
 Locked rotor torque : 160 %
 Breakdown torque : 200 %
 Rated speed : 975 rpm

Moment of inertia (J) : 11.5 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

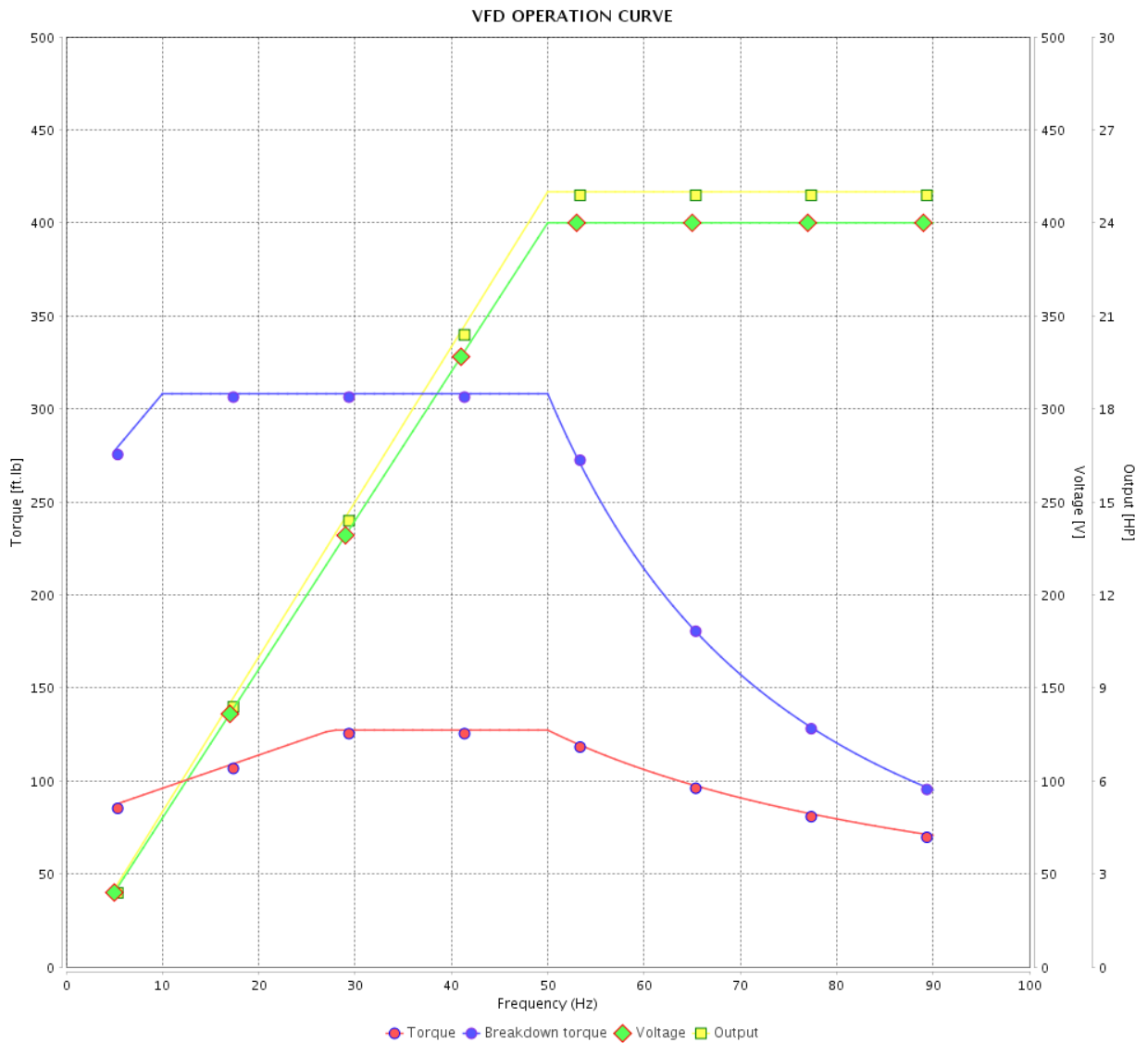


Customer : _____

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12546171

Catalog # : 02512ET3E324TC-W22



Performance : 400 V 50 Hz 6P IE3

Rated current : 35.1 A
 LRC : 5.4
 Rated torque : 134 ft.lb
 Locked rotor torque : 180 %
 Breakdown torque : 229 %
 Rated speed : 980 rpm

Moment of inertia (J) : 11.5 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
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Date				

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



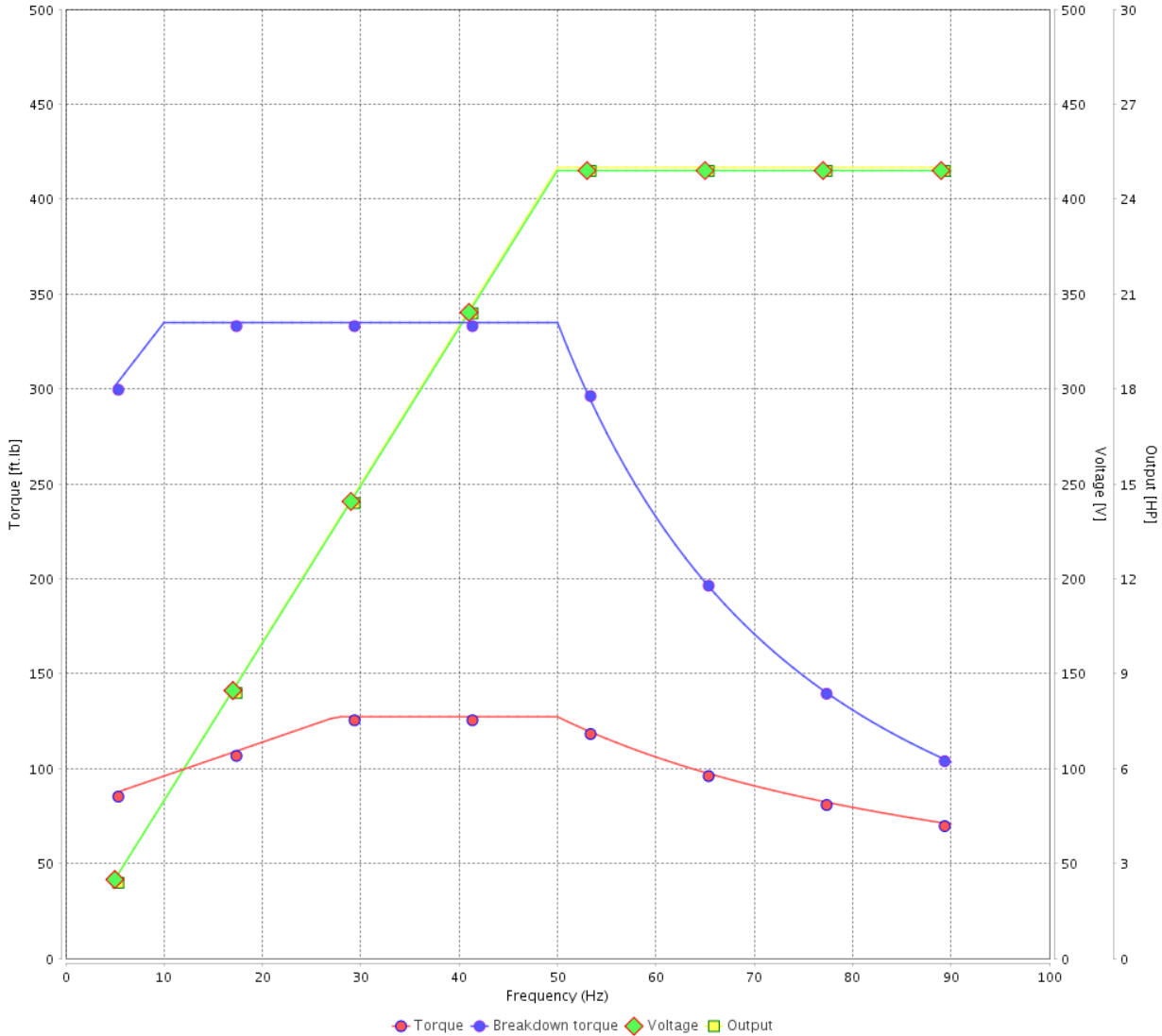
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12546171

Catalog # : 02512ET3E324TC-W22

VFD OPERATION CURVE



Performance : 415 V 50 Hz 6P IE3

Rated current : 34.2 A
 LRC : 5.8
 Rated torque : 134 ft.lb
 Locked rotor torque : 200 %
 Breakdown torque : 250 %
 Rated speed : 980 rpm

Moment of inertia (J) : 11.5 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.15
 Temperature rise : 80 K
 Design : B

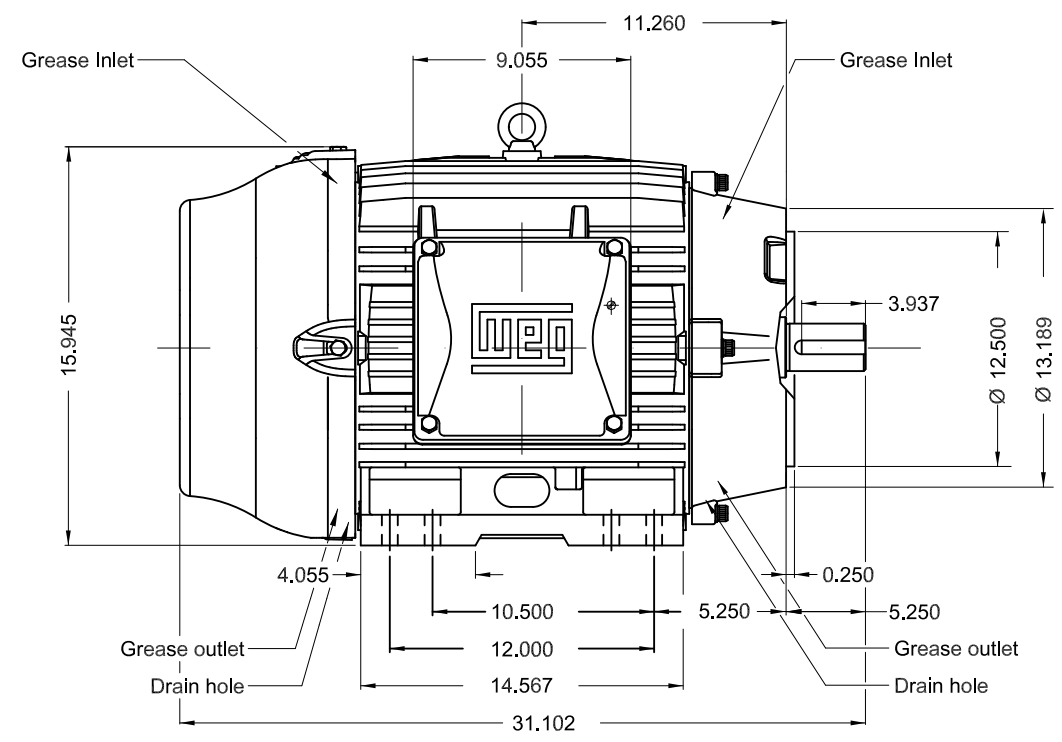
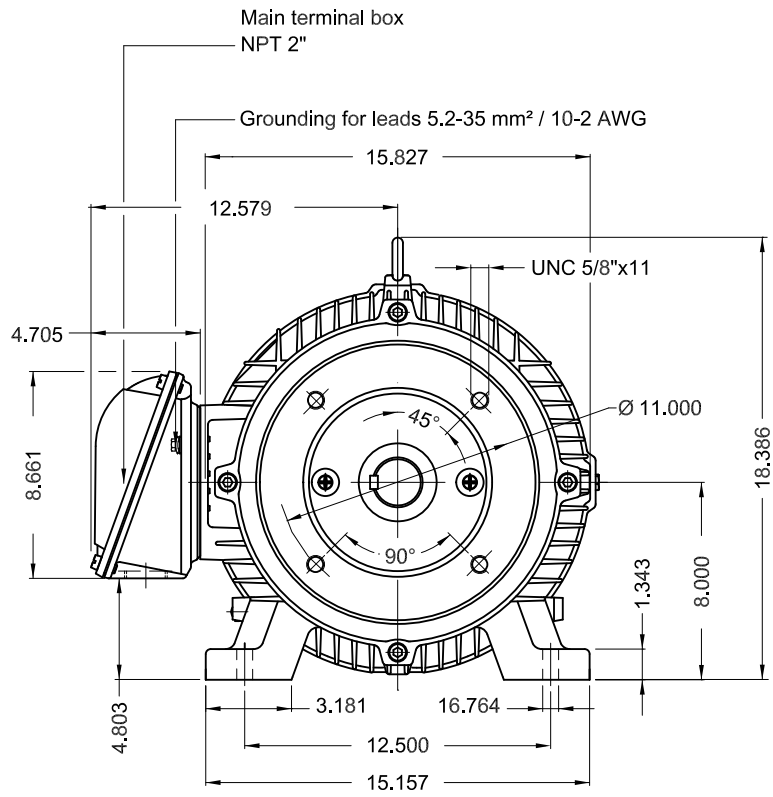
Rev.	Changes Summary	Performed	Checked	Date
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Date	13/04/2022			

1 2 3 4 5 6

A

B

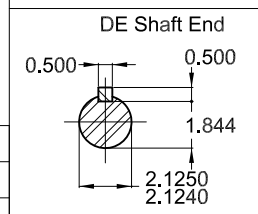
C



D

E

Color RAL 5009
 Painting plan 203A
 Mounting B34R(D)



25 HP 06 Poles 60 Hz A

ECM	LOC	SUMMARY OF MODIFICATIONS	EXECUTED	CHECKED	RELEASED	DATE	VER
EXECUTED	PIRWBUSER	THREE PH. MOTOR W22 PREM. EFF.					
CHECKED		FRAME 324/6TC IP55 TEFC					
RELEASED							
REL DT.	WMO	Jaragua do Sul	Product Engineering	SHEET	1 / 1		

PREVIEW
 WDD





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 - T4
For use on PWM: Gr. A, B, C, D and F,
VT 1000:1, CT 20:1, 1.00SF - T3A

MODEL 02512ET3E324TC-W22

Inverter Duty Motor
Severe Duty

PH3 60Hz Fr. 324/6TC 1000m.a.s.l. IP55 TEFC 562lb

V 230/460 A 61.6/30.8

HP 25 kW 18.5

SF 1.25 SFA 77.0/38.5

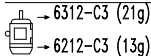
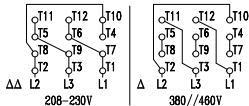
RPM 1180 PF 0.81

AMB 40°C INS cl. F DT80K NEMA NOM EFF 93.0%

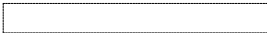
DUTY CONT. DES B Code G

USABLE @208V 67.2A SF 1.15 SFA 77.3

25HP 18.5kW 50Hz 380V 36.8A 975RPM SF 1.00 EFF 91.0% (IE2)



MOBIL POLYREX EM (20000h)



MADE IN MEXICO
12546171