

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



Customer :					
Product line	: NEMA Premium Efficiency Three-Phase	Product code :	12408368		
		Catalog # :	05009XT3E404T		
Frame	: 404/5T	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	: 1341 lb		
Protection degree	: IP55	Moment of inertia (J)	: 34.6 sq.ft.lb		
Design	: B				
Output [HP]	50	40	40	40	
Poles	8	8	8	8	
Frequency [Hz]	60	50	50	50	
Rated voltage [V]	230/460	380	400	415	
Rated current [A]	136/68.0	67.6	65.6	64.1	
L. R. Amperes [A]	993/496	466	499	519	
LRC [A]	7.3x(Code J)	6.9x(Code J)	7.6x(Code K)	8.1x(Code L)	
No load current [A]	55.0/27.5	27.1	29.4	31.3	
Rated speed [RPM]	885	735	735	740	
Slip [%]	1.67	2.00	2.00	1.33	
Rated torque [ft.lb]	297	286	286	284	
Locked rotor torque [%]	220	200	229	260	
Breakdown torque [%]	210	210	229	260	
Service factor	1.15	1.00	1.00	1.00	
Temperature rise	80 K	80 K	80 K	80 K	
Locked rotor time	21s (cold) 12s (hot)	36s (cold) 20s (hot)	36s (cold) 20s (hot)	36s (cold) 20s (hot)	
Noise level ²	62.0 dB(A)	60.0 dB(A)	60.0 dB(A)	60.0 dB(A)	
Efficiency (%)	25%	91.7	91.5	91.0	91.0
	50%	92.4	91.7	91.7	91.7
	75%	93.0	92.4	92.4	92.4
	100%	93.6	92.4	93.0	93.0
Power Factor	25%	0.42	0.41	0.38	0.35
	50%	0.67	0.67	0.63	0.59
	75%	0.73	0.72	0.70	0.68
	100%	0.73	0.73	0.71	0.70
Bearing type	: <u>Drive end</u> 6217 C3 <u>Non drive end</u> 6314 C3	Foundation loads			
Sealing	: Oil Seal Lip Seal	Max. traction	: 1543 lb		
Lubrication interval	: 16602 h 17353 h	Max. compression	: 2883 lb		
Lubricant amount	: 21 g 27 g				
Lubricant type	: Mobil Polyrex EM				
Notes USABLE @208V 150A SF 1.00 SFA 150A					
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.			
Rev.	Changes Summary	Performed	Checked	Date	
Performed by					
Checked by			Page	Revision	
Date	12/04/2022		1 / 22		

DATA SHEET

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Customer : _____

Thermal protection

ID	Application	Type	Quantity	Sensing Temperature
1	Winding	Thermostat - 2 wires	1 x Phase	155 °C

Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by			Page	Revision
Date	12/04/2022		2 / 22	

TORQUE AND CURRENT VS SPEED CURVE



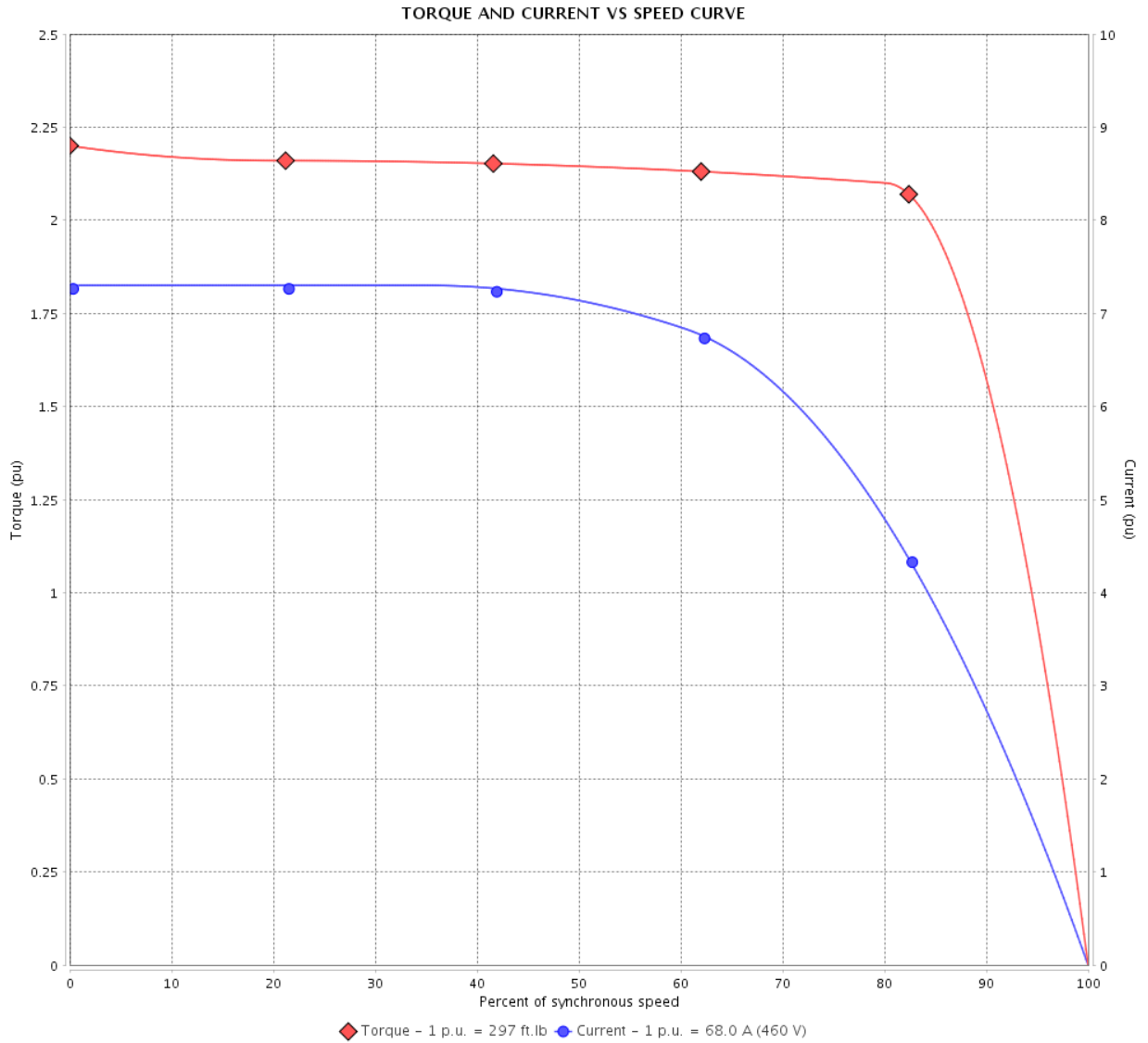
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12408368

Catalog # : 05009XT3E404T



Performance : 230/460 V 60 Hz 8P

Rated current : 136/68.0 A
 LRC : 7.3
 Rated torque : 297 ft.lb
 Locked rotor torque : 220 %
 Breakdown torque : 210 %
 Rated speed : 885 rpm

Moment of inertia (J) : 34.6 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.15
 Temperature rise : 80 K
 Design : B

Locked rotor time : 21s (cold) 12s (hot)

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 3 / 22	Revision
Checked by				
Date	12/04/2022			

TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



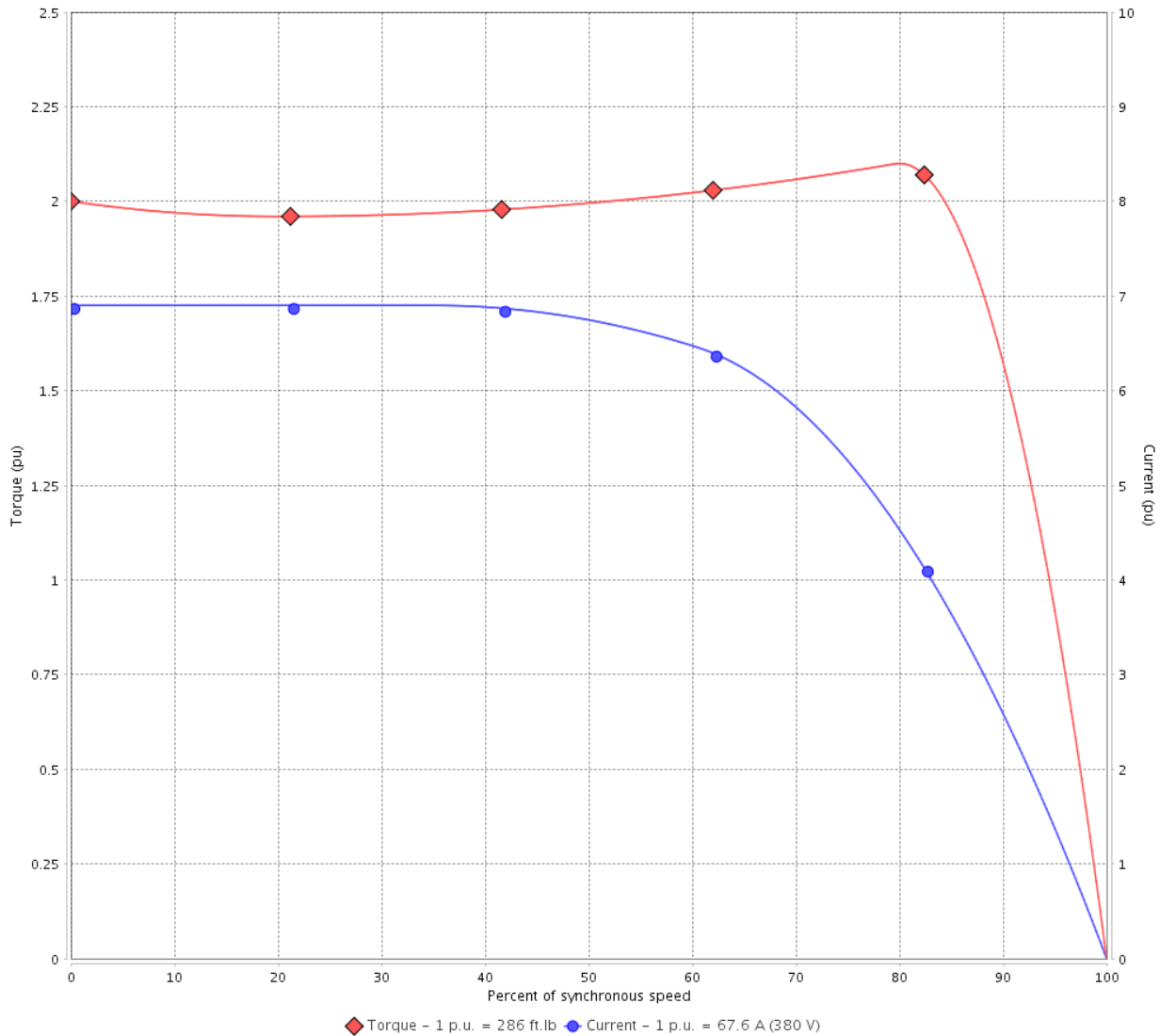
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12408368

Catalog # : 05009XT3E404T

TORQUE AND CURRENT VS SPEED CURVE



Performance : 380 V 50 Hz 8P IE3

Rated current	: 67.6 A	Moment of inertia (J)	: 34.6 sq.ft.lb
LRC	: 6.9	Duty cycle	: Cont.(S1)
Rated torque	: 286 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.00
Breakdown torque	: 210 %	Temperature rise	: 80 K
Rated speed	: 735 rpm	Design	: B

Locked rotor time : 36s (cold) 20s (hot)

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 4 / 22	Revision
Checked by				
Date	12/04/2022			

TORQUE AND CURRENT VS SPEED CURVE



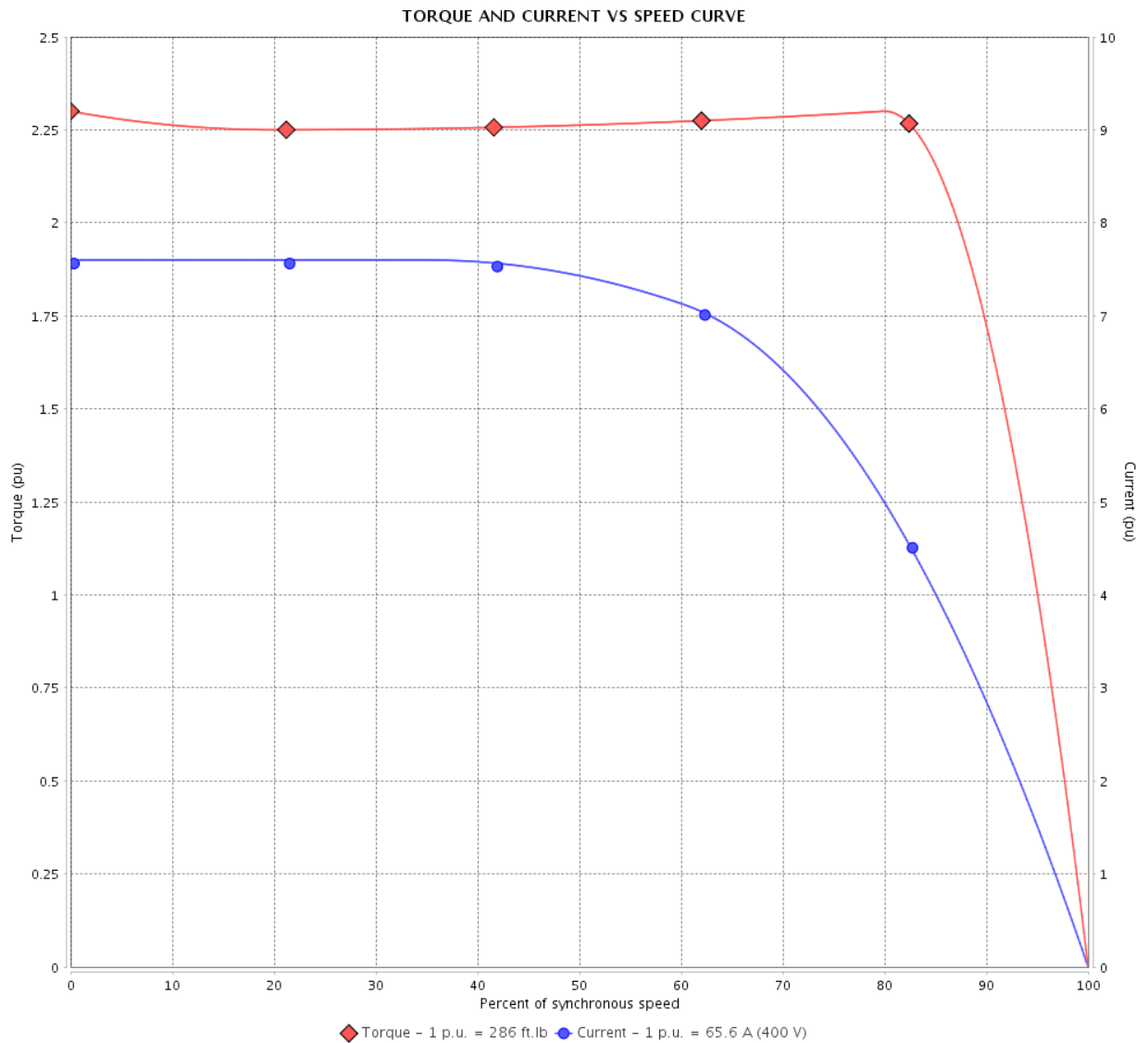
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12408368

Catalog # : 05009XT3E404T



Performance : 400 V 50 Hz 8P IE4

Rated current	: 65.6 A	Moment of inertia (J)	: 34.6 sq.ft.lb
LRC	: 7.6	Duty cycle	: Cont.(S1)
Rated torque	: 286 ft.lb	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.00
Breakdown torque	: 229 %	Temperature rise	: 80 K
Rated speed	: 735 rpm	Design	: B

Locked rotor time : 36s (cold) 20s (hot)

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 5 / 22	Revision
Checked by				
Date	12/04/2022			

TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



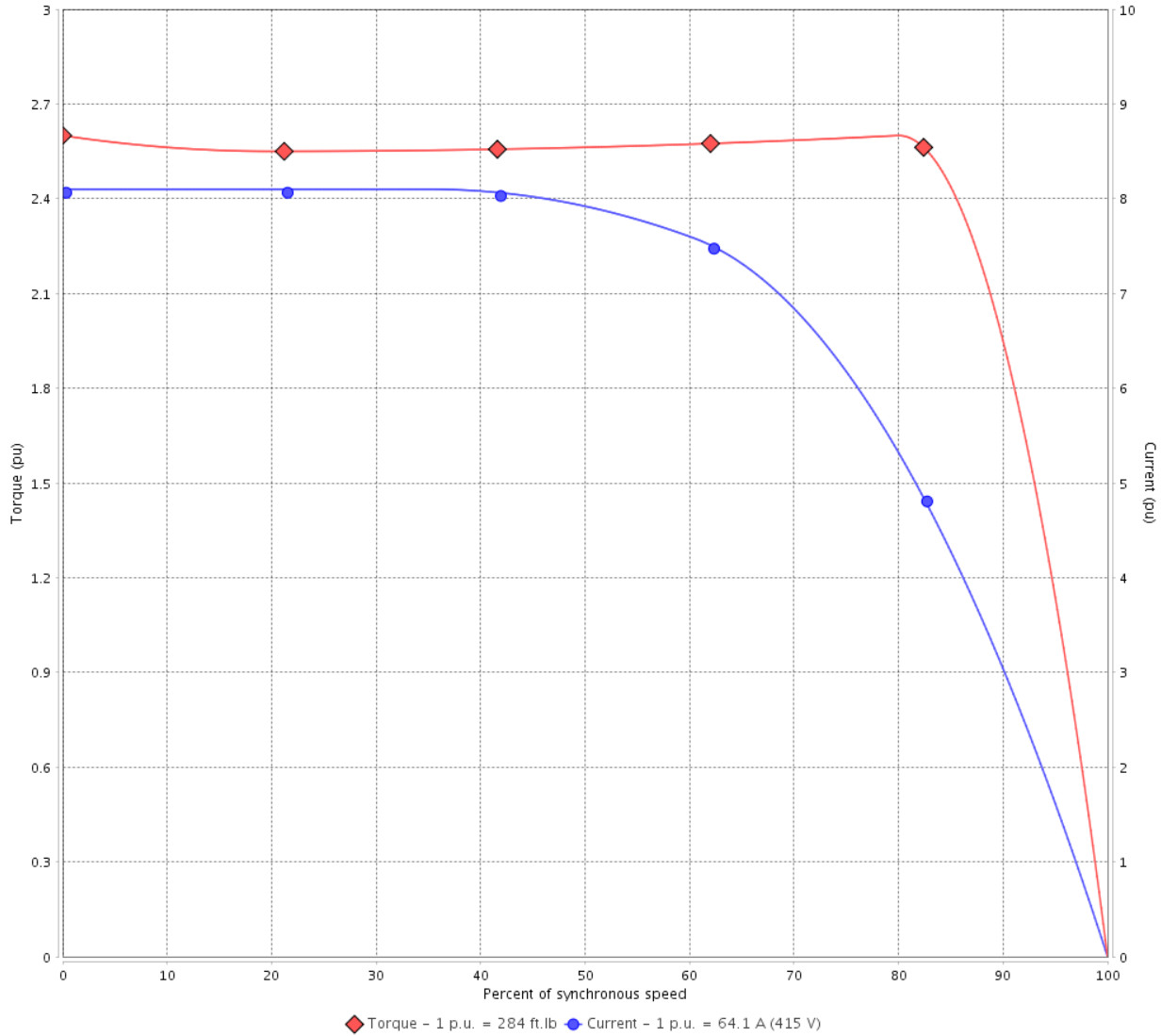
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Catalog # : 05009XT3E404T

TORQUE AND CURRENT VS SPEED CURVE



Performance : 415 V 50 Hz 8P IE4

Rated current	: 64.1 A	Moment of inertia (J)	: 34.6 sq.ft.lb
LRC	: 8.1	Duty cycle	: Cont.(S1)
Rated torque	: 284 ft.lb	Insulation class	: F
Locked rotor torque	: 260 %	Service factor	: 1.00
Breakdown torque	: 260 %	Temperature rise	: 80 K
Rated speed	: 740 rpm	Design	: B

Locked rotor time : 36s (cold) 20s (hot)

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 6 / 22	Revision
Checked by				
Date	12/04/2022			

LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage

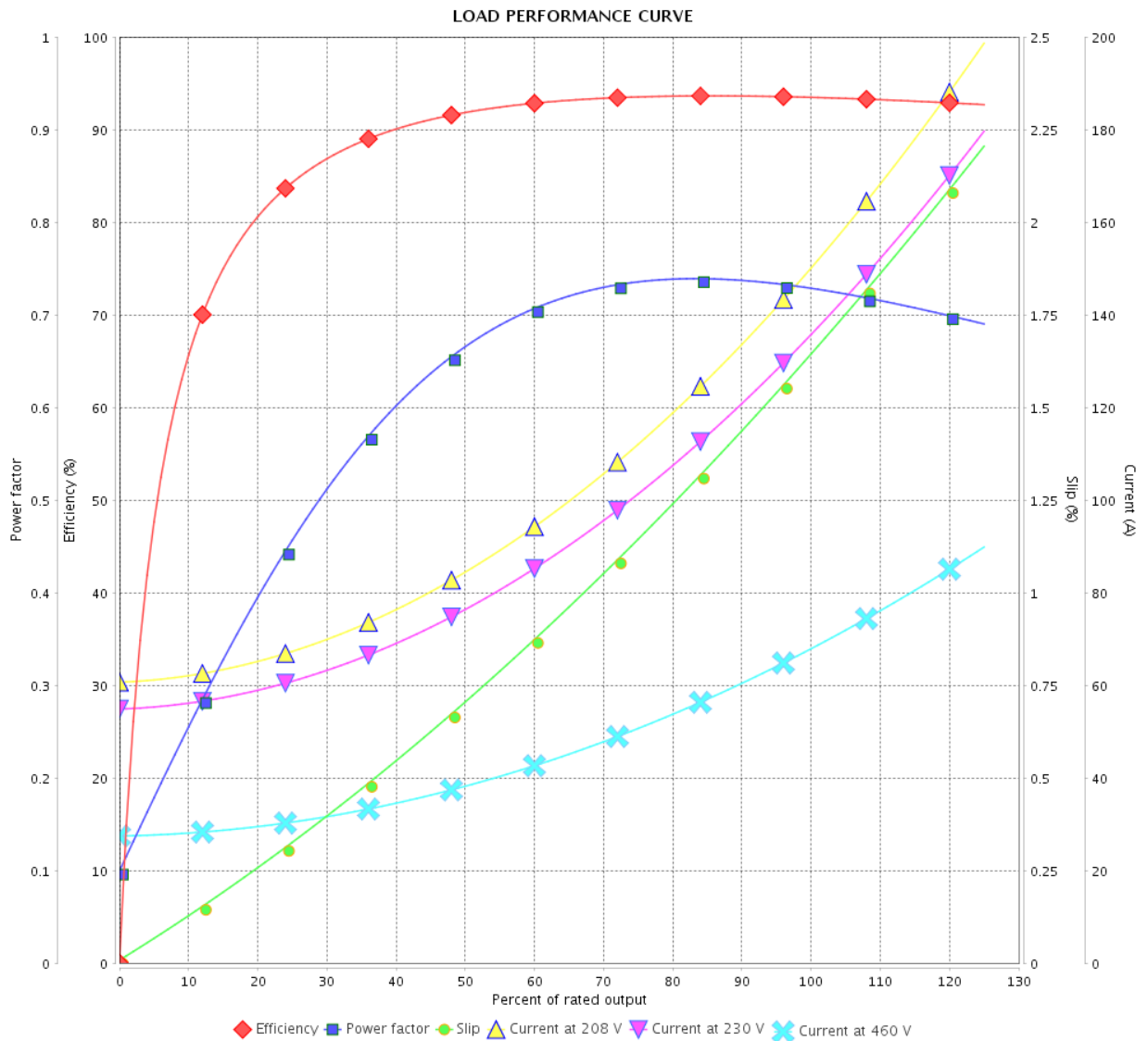


Customer : _____

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12408368

Catalog # : 05009XT3E404T



Performance : 230/460 V 60 Hz 8P

Rated current : 136/68.0 A
 LRC : 7.3
 Rated torque : 297 ft.lb
 Locked rotor torque : 220 %
 Breakdown torque : 210 %
 Rated speed : 885 rpm

Moment of inertia (J) : 34.6 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		7 / 22		
Date		12/04/2022		

LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage

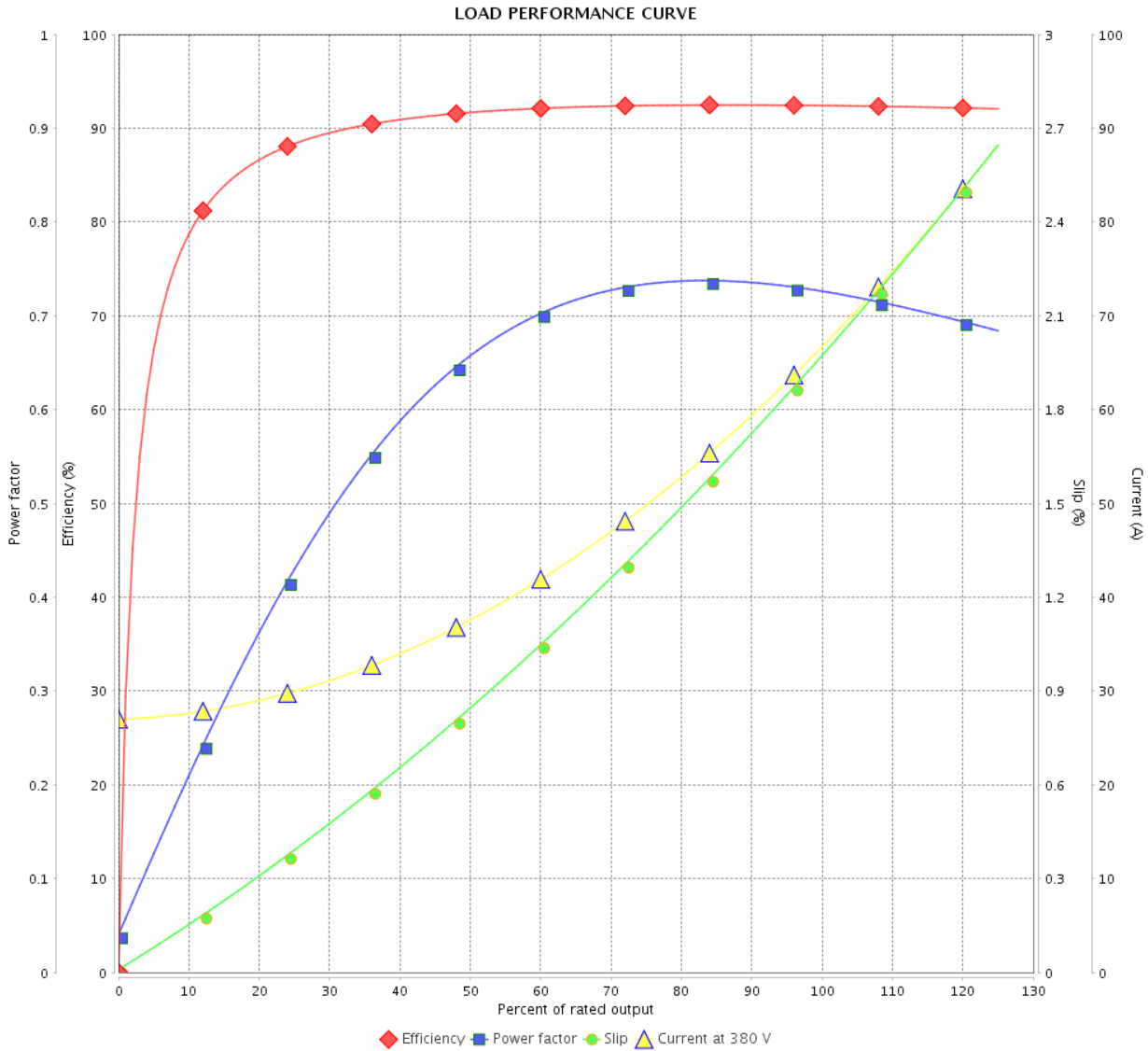


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Performance : 380 V 50 Hz 8P IE3

Rated current : 67.6 A
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 Rated torque : 286 ft.lb
 Locked rotor torque : 200 %
 Breakdown torque : 210 %
 Rated speed : 735 rpm

Moment of inertia (J) : 34.6 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 8 / 22	Revision
Checked by				
Date	12/04/2022			

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Three Phase Induction Motor - Squirrel Cage

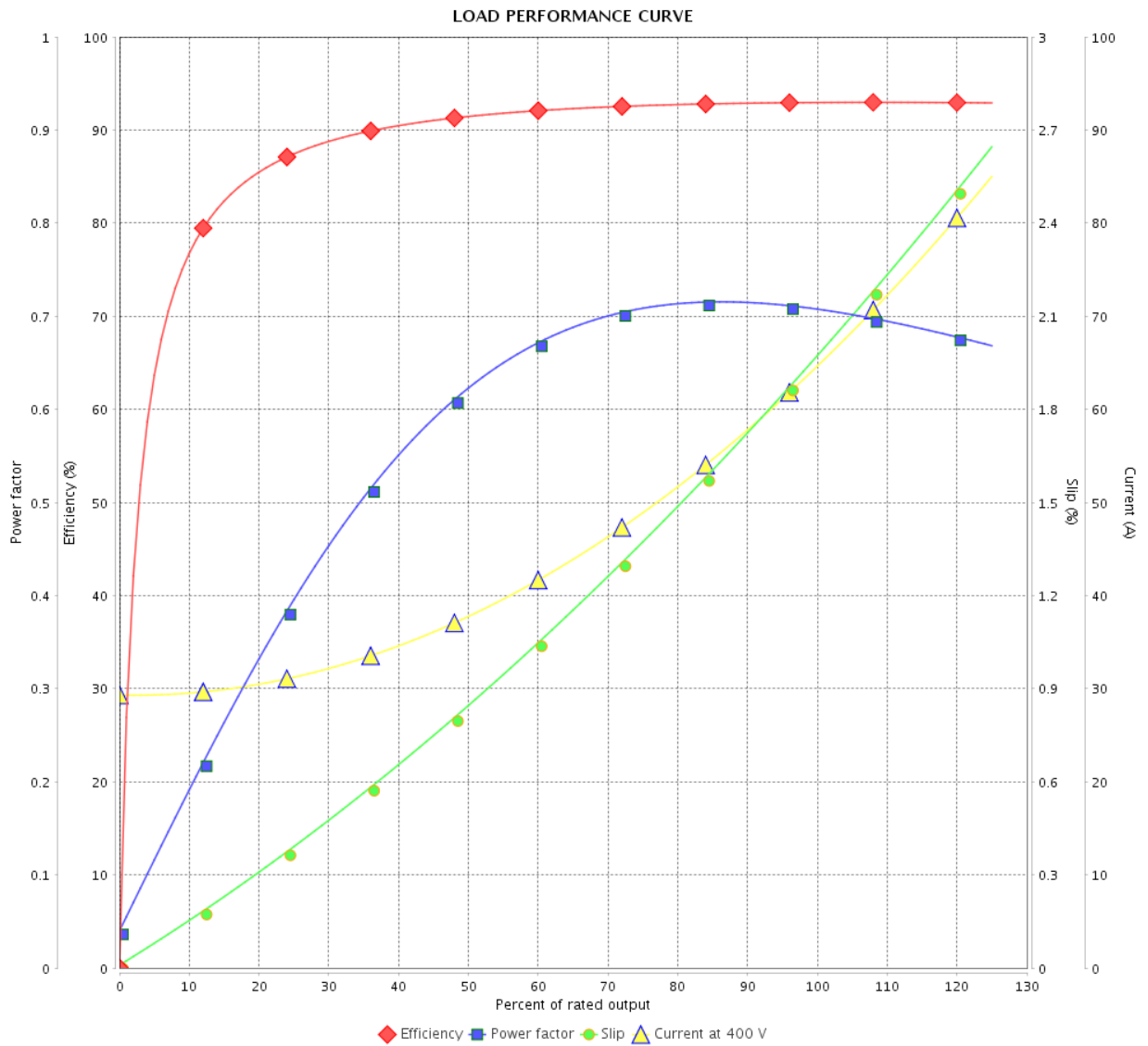


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Performance : 400 V 50 Hz 8P IE4

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 Rated speed : 735 rpm

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 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by				
Date				
		Page	Revision	
		9 / 22		

LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage



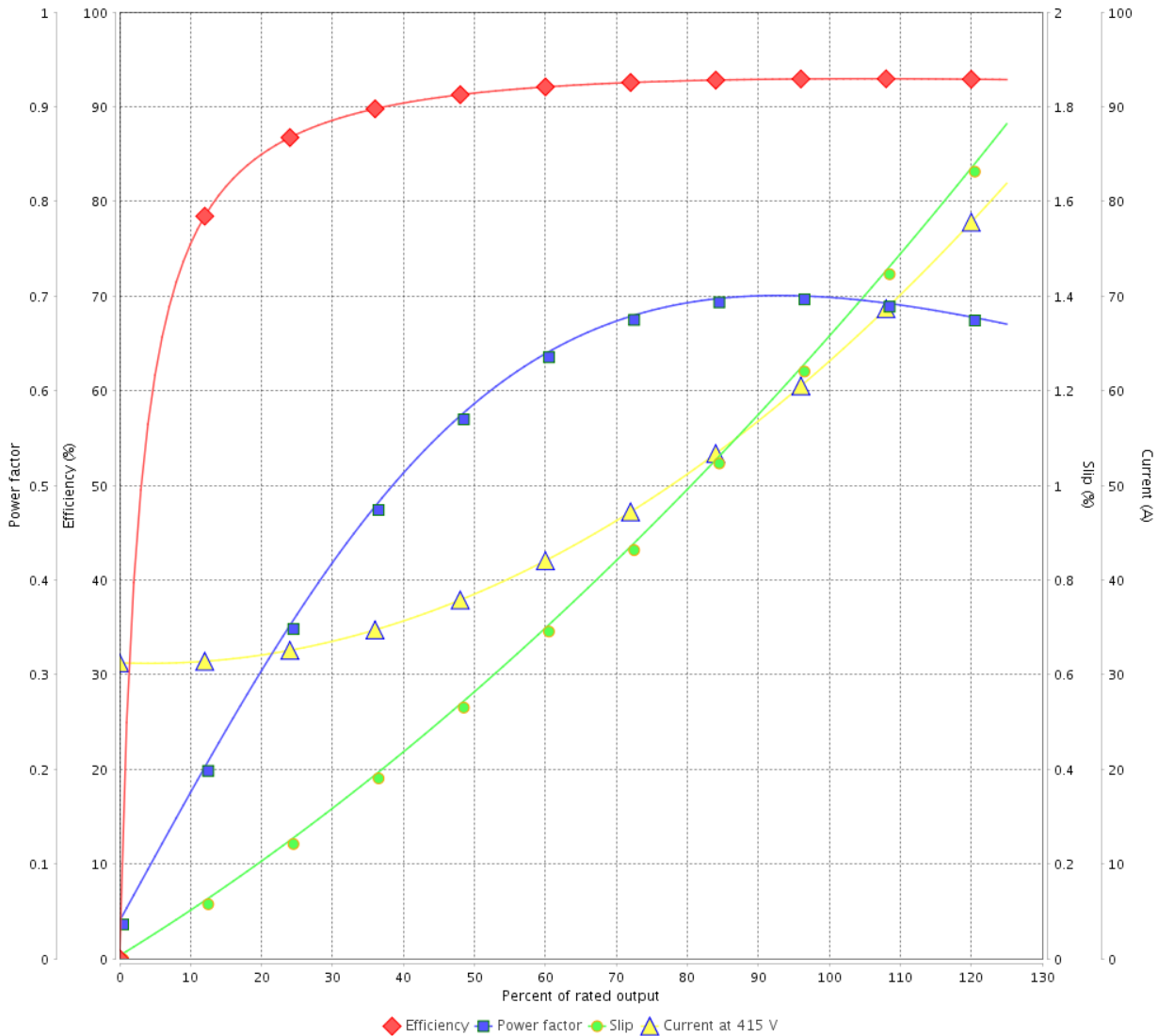
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Rated current	: 64.1 A	Moment of inertia (J)	: 34.6 sq.ft.lb
LRC	: 8.1	Duty cycle	: Cont.(S1)
Rated torque	: 284 ft.lb	Insulation class	: F
Locked rotor torque	: 260 %	Service factor	: 1.00
Breakdown torque	: 260 %	Temperature rise	: 80 K
Rated speed	: 740 rpm	Design	: B

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page	Revision
Checked by			10 / 22	
Date	12/04/2022			

THERMAL LIMIT CURVE



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Rated speed : 885 rpm	Design : B

Heating constant

Cooling constant

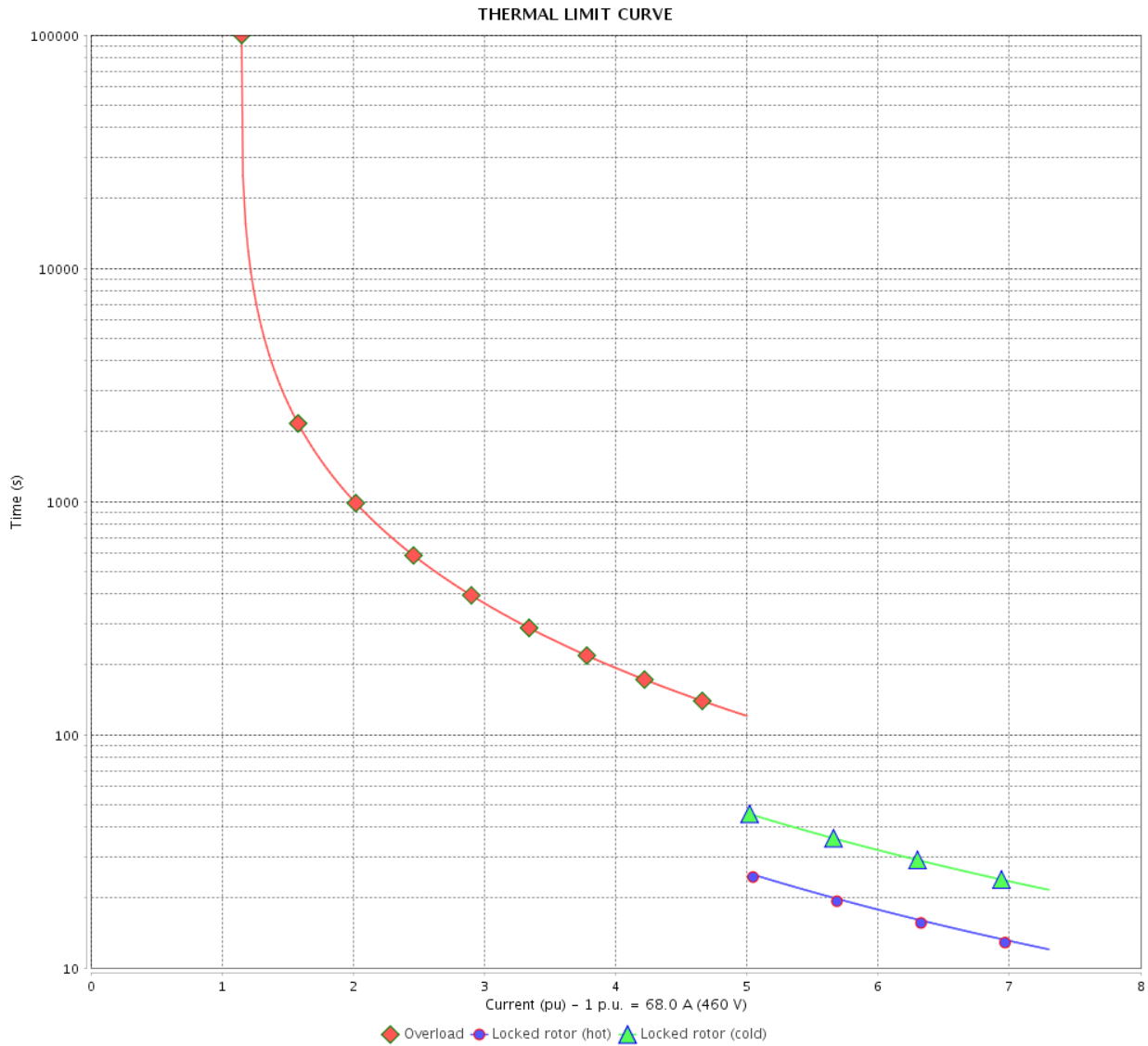
Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 11 / 22	Revision
Checked by				
Date	12/04/2022			

THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : _____



Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		12 / 22		
Date		12/04/2022		

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Rated current : 67.6 A	Moment of inertia (J) : 34.6 sq.ft.lb
LRC : 6.9	Duty cycle : Cont.(S1)
Rated torque : 286 ft.lb	Insulation class : F
Locked rotor torque : 200 %	Service factor : 1.00
Breakdown torque : 210 %	Temperature rise : 80 K
Rated speed : 735 rpm	Design : B

Heating constant

Cooling constant

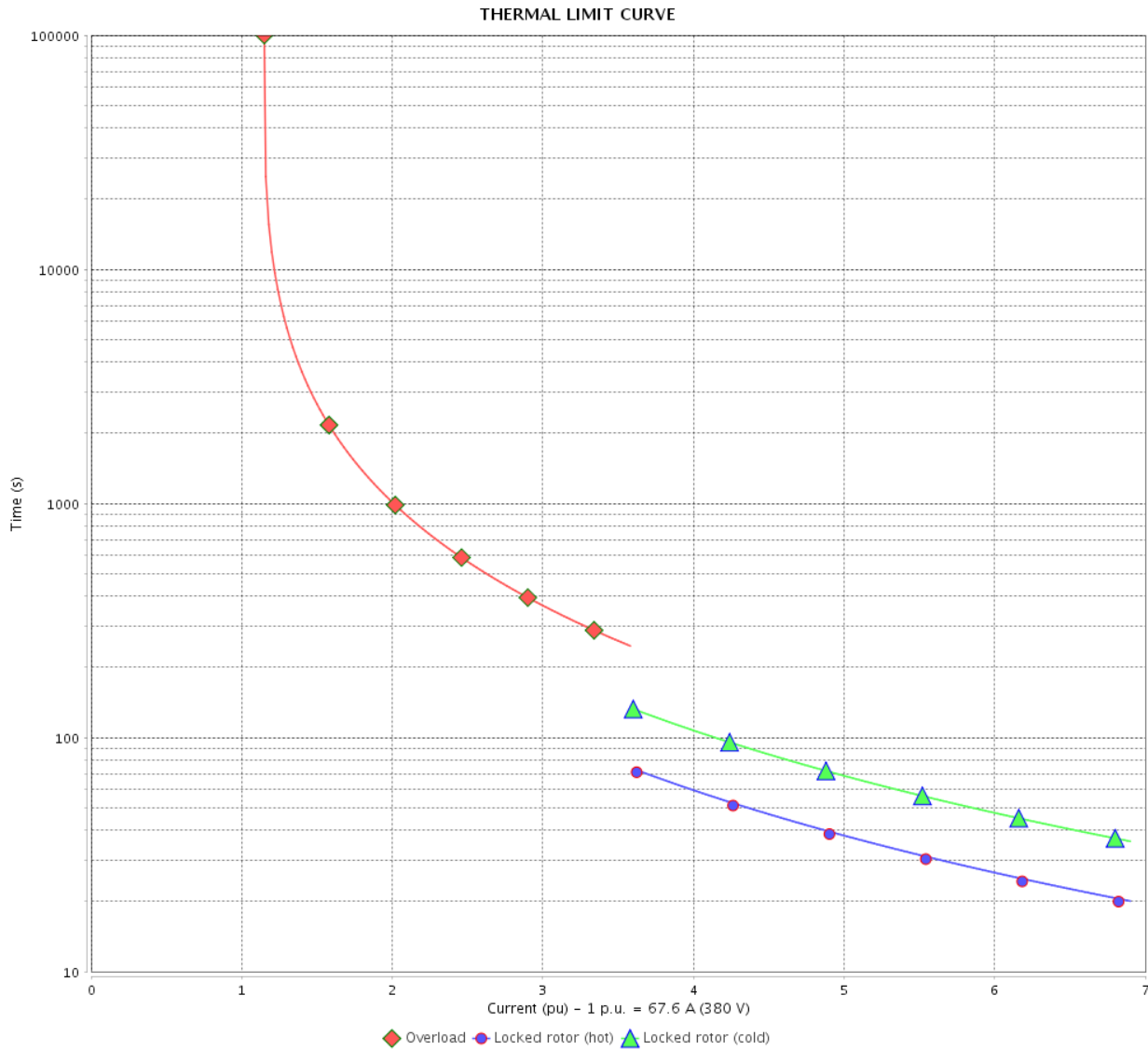
Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 13 / 22	Revision
Checked by				
Date	12/04/2022			

THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		14 / 22		
Date		12/04/2022		

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Rated torque : 286 ft.lb	Insulation class : F
Locked rotor torque : 229 %	Service factor : 1.00
Breakdown torque : 229 %	Temperature rise : 80 K
Rated speed : 735 rpm	Design : B

Heating constant

Cooling constant

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 15 / 22	Revision
Checked by				
Date	12/04/2022			

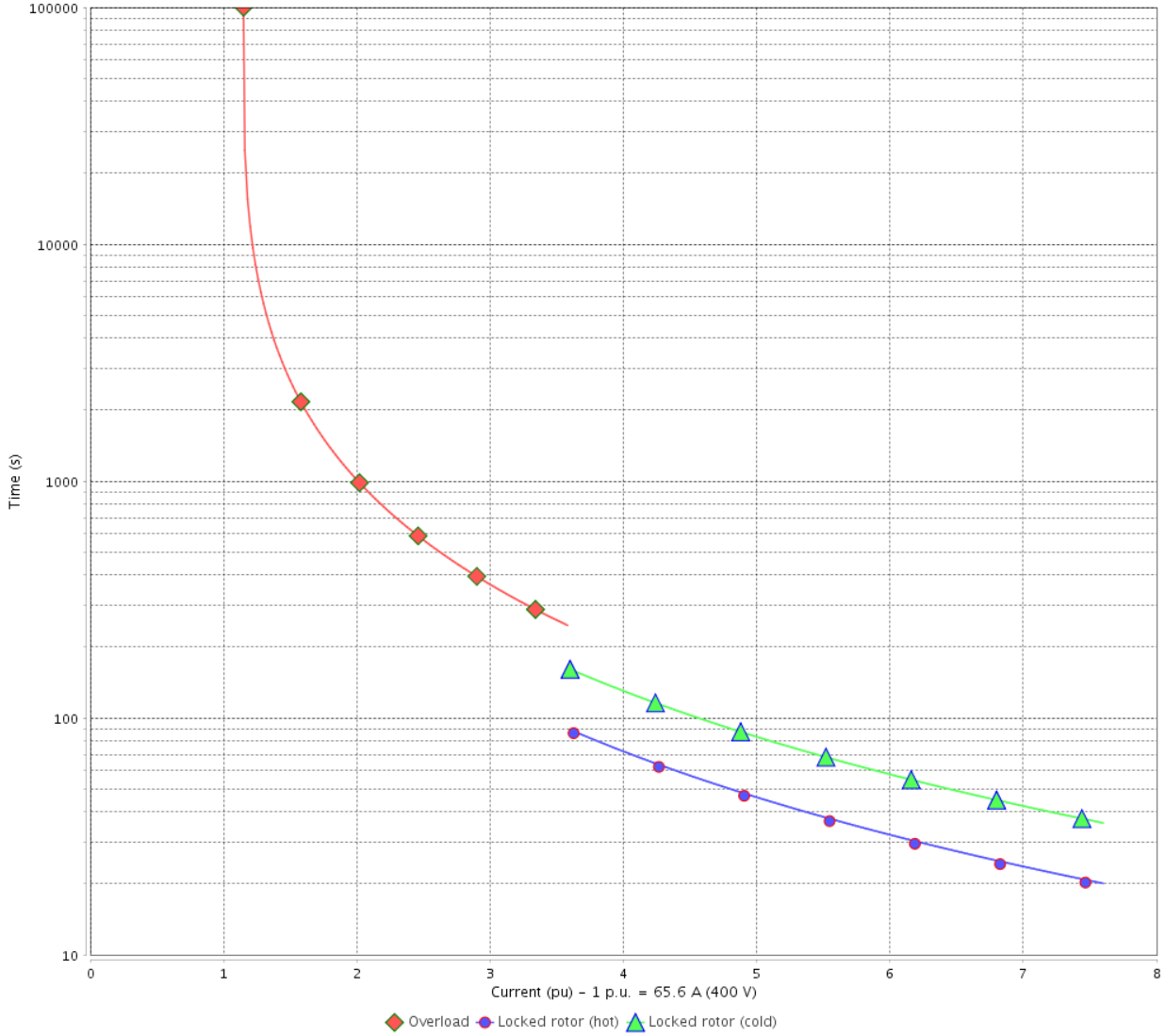
THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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THERMAL LIMIT CURVE



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

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Performance : 415 V 50 Hz 8P IE4

Rated current : 64.1 A	Moment of inertia (J) : 34.6 sq.ft.lb
LRC : 8.1	Duty cycle : Cont.(S1)
Rated torque : 284 ft.lb	Insulation class : F
Locked rotor torque : 260 %	Service factor : 1.00
Breakdown torque : 260 %	Temperature rise : 80 K
Rated speed : 740 rpm	Design : B

Heating constant

Cooling constant

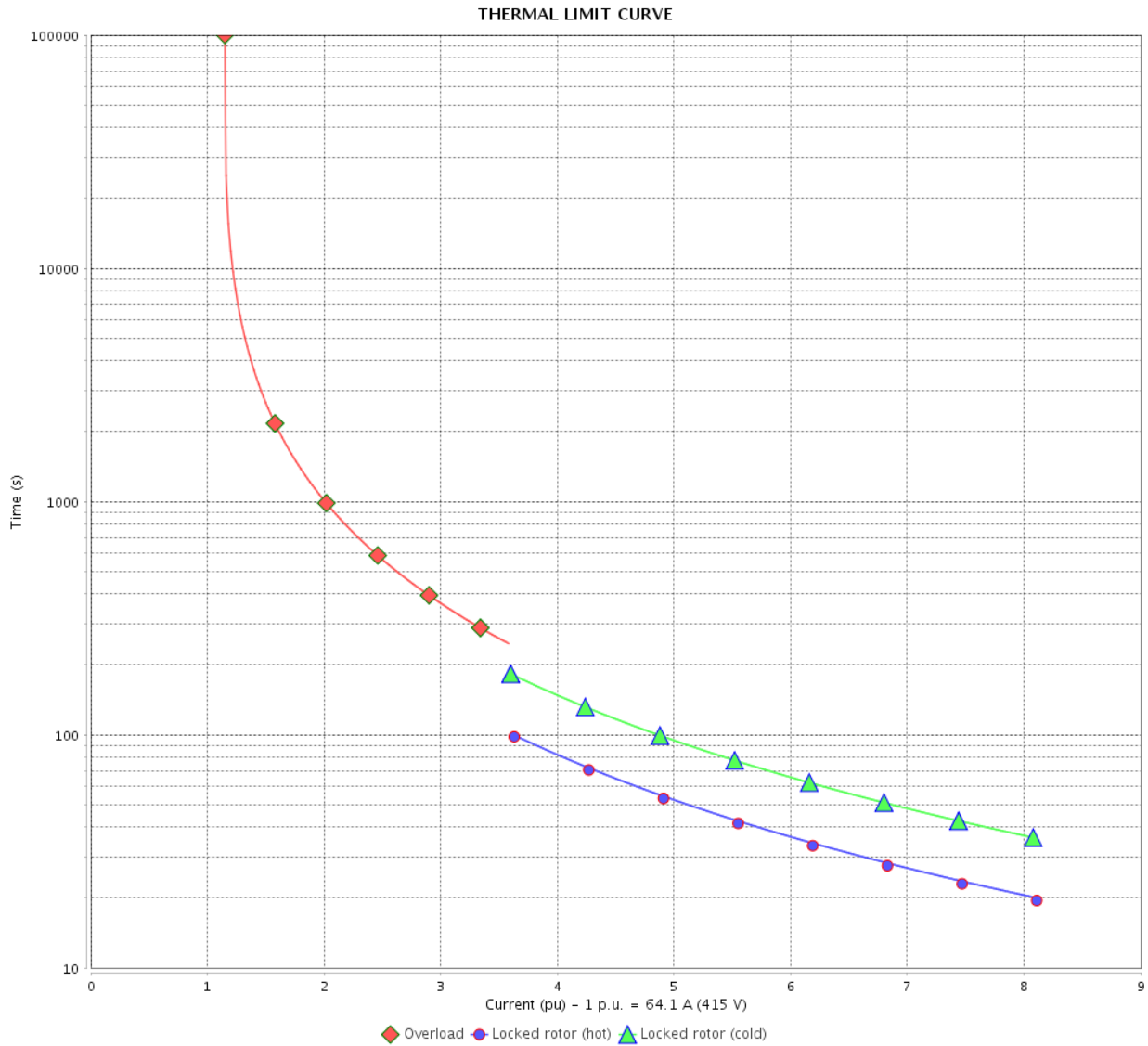
Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 17 / 22	Revision
Checked by				
Date	12/04/2022			

THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		18 / 22		
Date		12/04/2022		

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

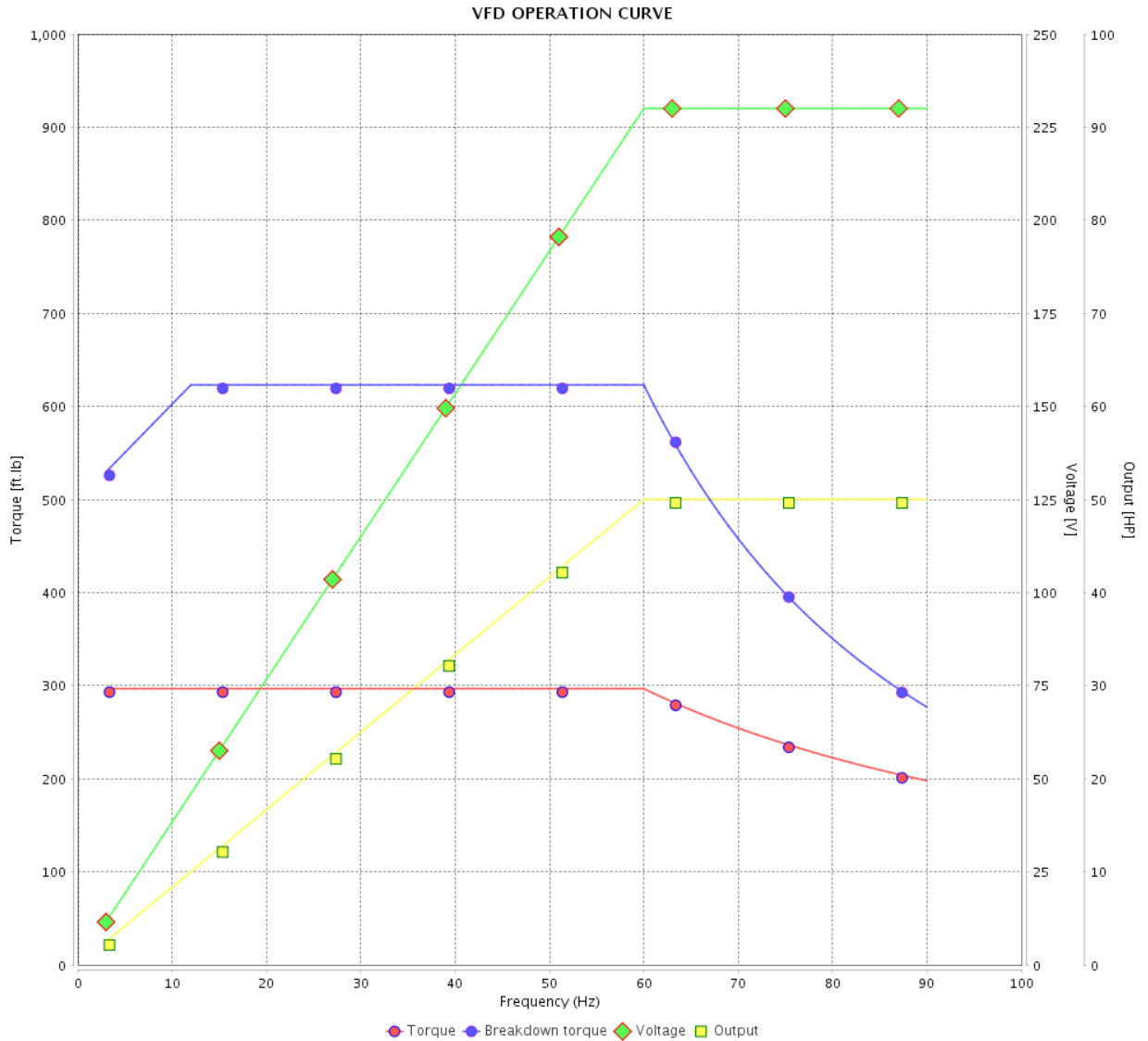


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Performance : 230/460 V 60 Hz 8P

Rated current : 136/68.0 A
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 Rated torque : 297 ft.lb
 Locked rotor torque : 220 %
 Breakdown torque : 210 %
 Rated speed : 885 rpm

Moment of inertia (J) : 34.6 sq.ft.lb
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 Insulation class : F
 Service factor : 1.15
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 Design : B

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 19 / 22	Revision
Checked by				
Date	12/04/2022			

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



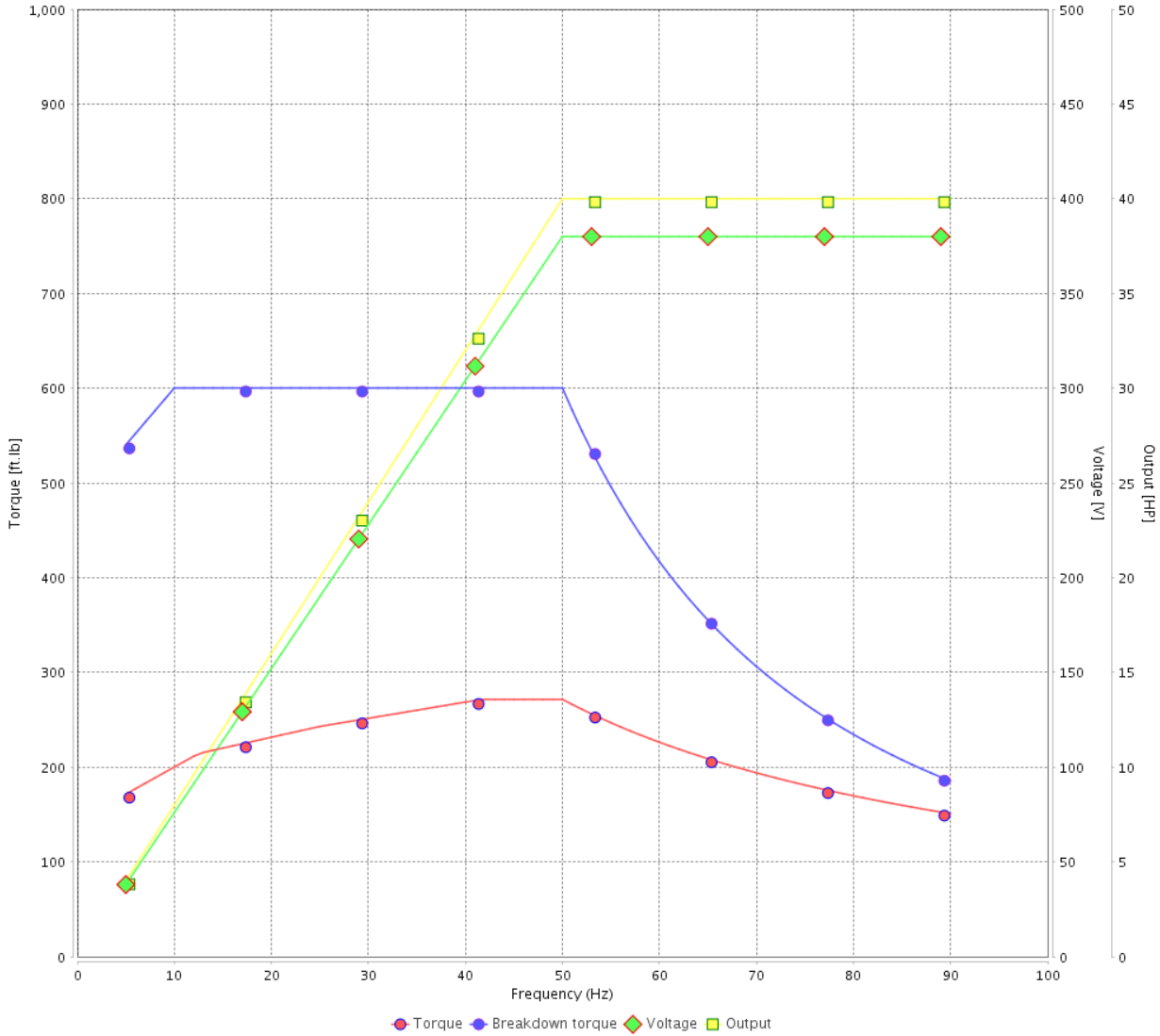
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VFD OPERATION CURVE



Performance : 380 V 50 Hz 8P IE3

Rated current : 67.6 A
 LRC : 6.9
 Rated torque : 286 ft.lb
 Locked rotor torque : 200 %
 Breakdown torque : 210 %
 Rated speed : 735 rpm

Moment of inertia (J) : 34.6 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 20 / 22	Revision
Checked by				
Date	12/04/2022			

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

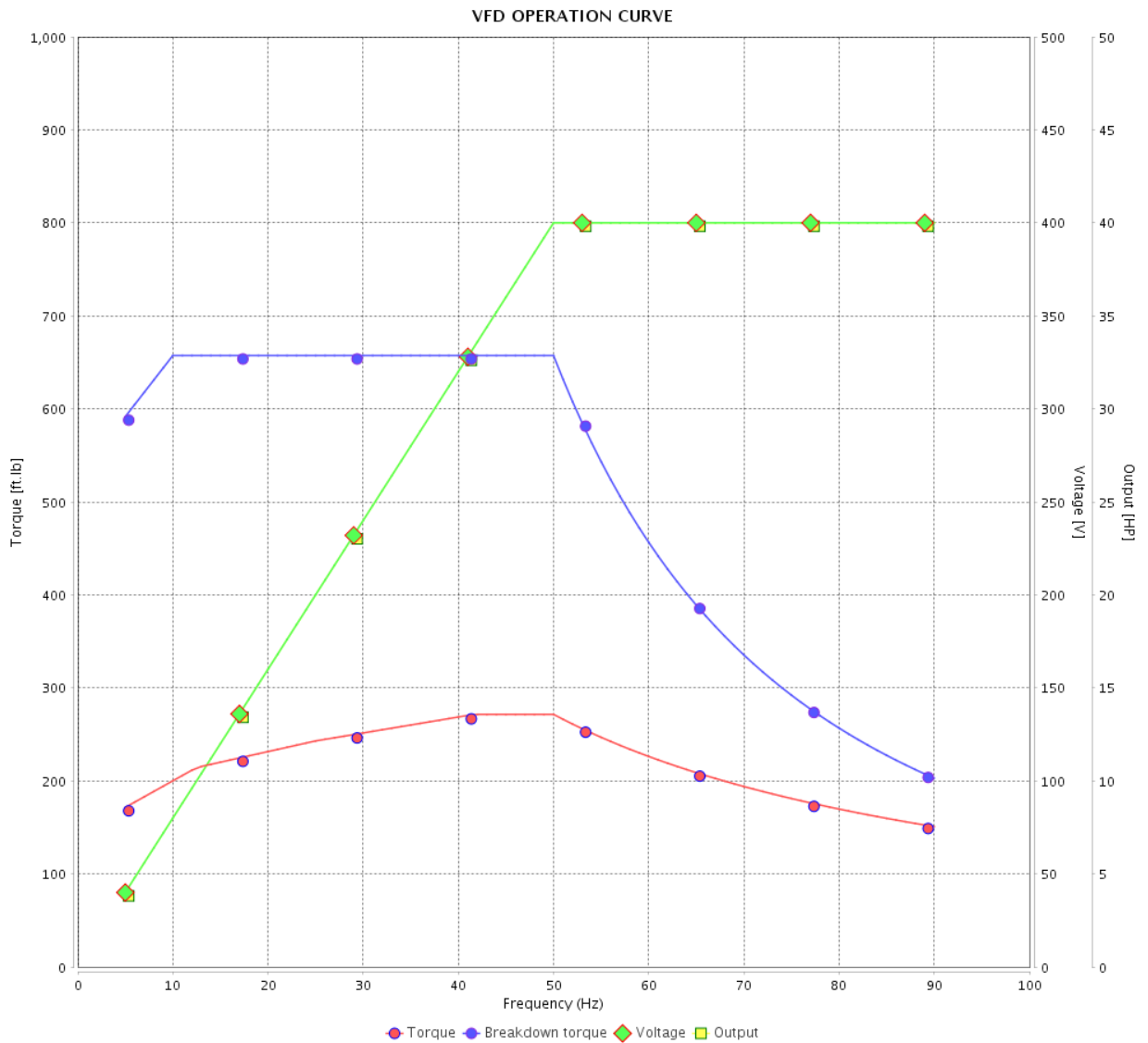


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Rev.	Changes Summary	Performed	Checked	Date
Performed by				Page 21 / 22
Checked by				
Date	12/04/2022			
				Revision

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



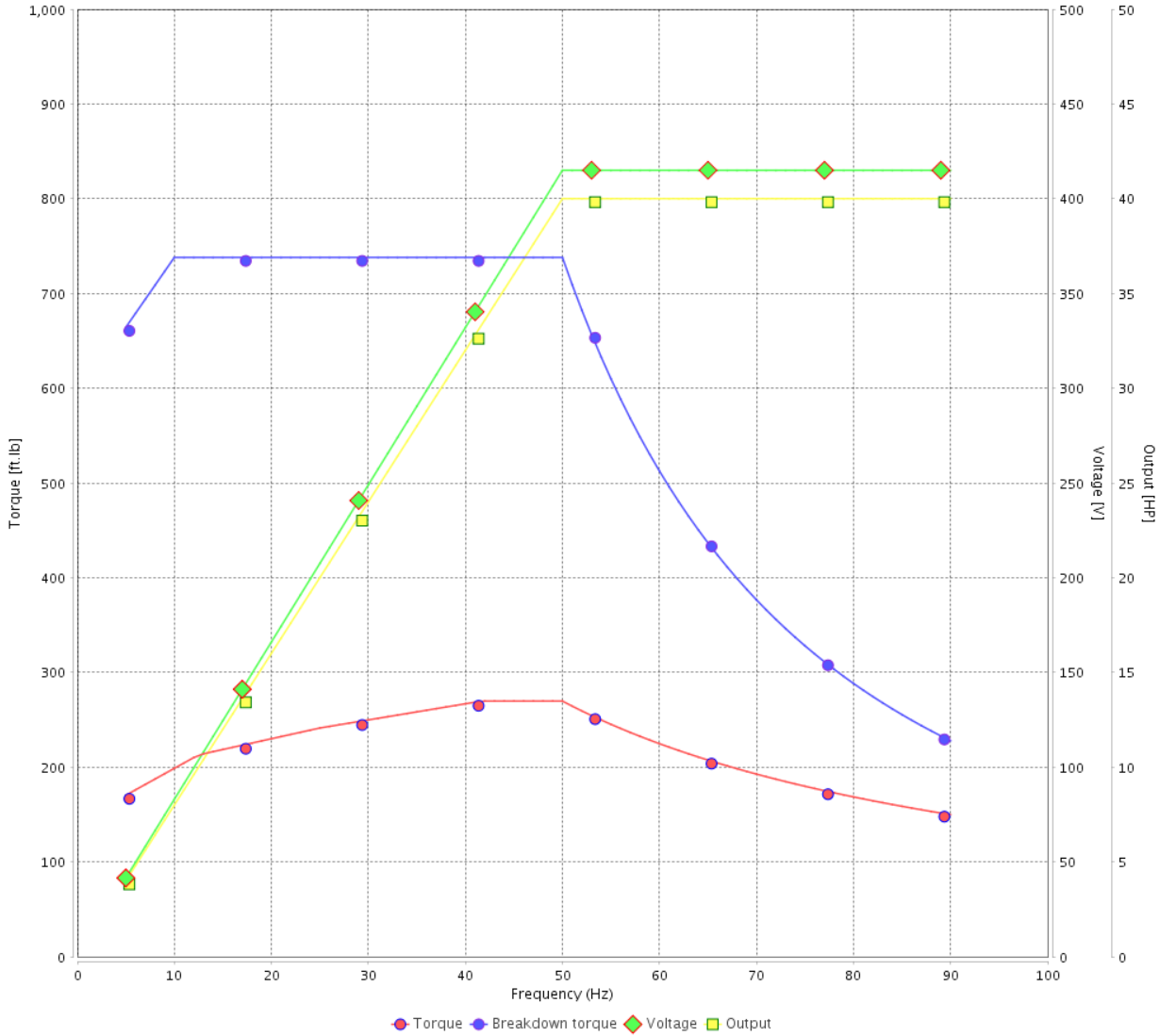
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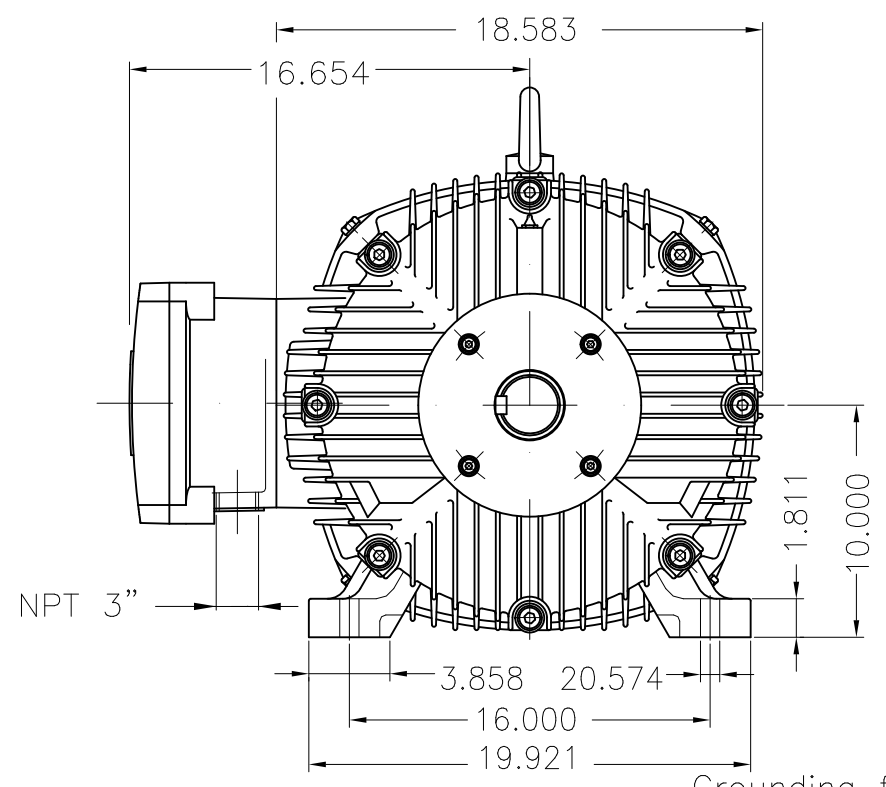


Performance : 415 V 50 Hz 8P IE4

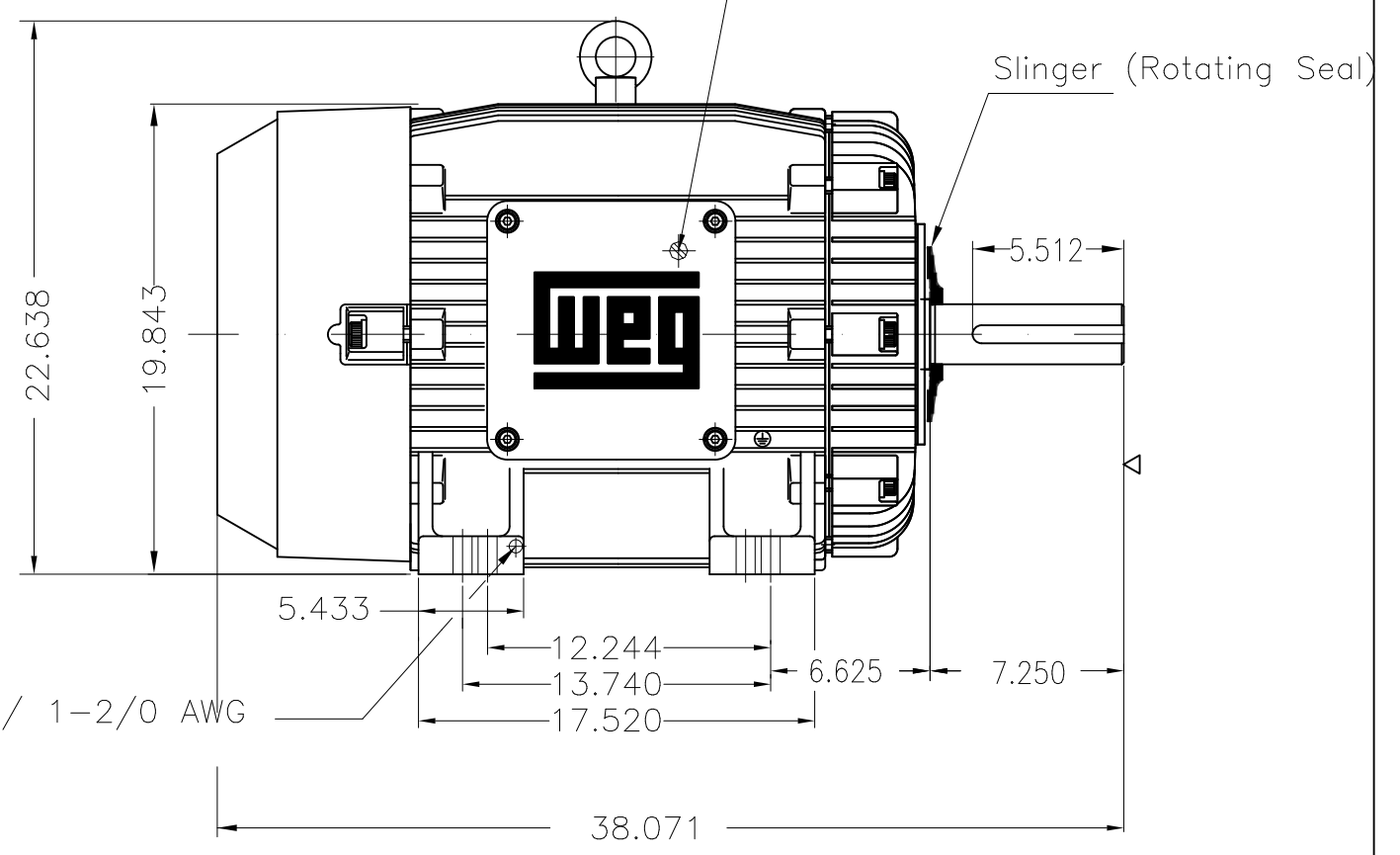
Rated current : 64.1 A
 LRC : 8.1
 Rated torque : 284 ft.lb
 Locked rotor torque : 260 %
 Breakdown torque : 260 %
 Rated speed : 740 rpm

Moment of inertia (J) : 34.6 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 22 / 22	Revision
Checked by				
Date	12/04/2022			



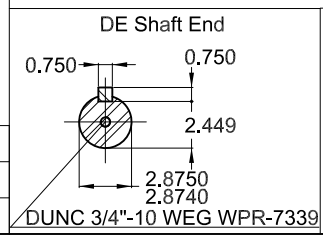
Grounding for leads 25-50 mm² / 3-1 AWG



Grounding for leads 35-70 mm² / 1-2/0 AWG

50 HP 08 Poles 60 Hz A

Color RAL 5009
 Painting plan 202P
 Mounting B3R(D)



ECM	LOC	SUMMARY OF MODIFICATIONS	EXECUTED	CHECKED	RELEASED	DATE	VER
EXECUTED	PIRWBUSER	THREE PH. MOTOR EXPLOSION PROOF PREM. EFF.					
CHECKED		FRAME 404/5T IP55 TEFC					
RELEASED							
REL DT.	WMO	Jaragua do Sul	Product Engineering	SHEET	1 / 1		

PREVIEW
 WDD

