

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :								
Product line	: W40 NEMA Premium Efficiency Three-Phase	Product code :	13568154					
		Catalog # :	35036OT3G447/9TS-W40					
Frame	: 447/9TS	Cooling method	: IC01 - ODP					
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>	: 1933 lb					
Protection degree	: IP23	Moment of inertia (J)	: 35.7 sq.ft.lb					
Design	: A							
Output [HP]	350	300	300	300	350	350	350	
Poles	2	2	2	2	2	2	2	
Frequency [Hz]	60	50	50	50	50	50	50	
Rated voltage [V]	460	380	400	415	380	400	415	
Rated current [A]	384	388	372	359	462	444	428	
L. R. Amperes [A]	2496	2367	2492	2585	2402	2531	2654	
LRC [A]	6.5x(Code G)	6.1x(Code F)	6.7x(Code G)	7.2x(Code G)	5.2x(Code E)	5.7x(Code F)	6.2x(Code F)	
No load current [A]	88.0	86.0	92.0	100	86.0	92.0	100	
Rated speed [RPM]	3565	2955	2965	2965	2950	2960	2960	
Slip [%]	0.97	1.50	1.17	1.17	1.67	1.33	1.33	
Rated torque [ft.lb]	516	533	531	531	623	621	621	
Locked rotor torque [%]	170	160	190	210	140	160	180	
Breakdown torque [%]	250	229	260	280	200	220	240	
Service factor	1.15	1.15	1.15	1.15	1.15	1.15	1.15	
Temperature rise	80 K	80 K	80 K	80 K	80 K	80 K	80 K	
Locked rotor time	25s (cold) 14s (hot)	21s (cold) 12s (hot)	21s (cold) 12s (hot)	21s (cold) 12s (hot)	21s (cold) 12s (hot)	21s (cold) 12s (hot)	21s (cold) 12s (hot)	
Noise level <sup>2</sup>	87.0 dB(A)							
Efficiency (%)	25%	94.9	93.4	93.7	93.7	94.5	94.9	94.9
	50%	95.0	94.4	94.5	94.5	95.0	95.0	95.0
	75%	95.4	94.8	95.1	95.1	94.5	95.0	95.0
	100%	95.4	95.8	95.8	95.8	95.0	95.0	95.0
Power Factor	25%	0.61	0.61	0.58	0.55	0.65	0.62	0.60
	50%	0.83	0.81	0.79	0.78	0.84	0.83	0.82
	75%	0.88	0.88	0.87	0.86	0.89	0.88	0.88
	100%	0.89	0.90	0.89	0.89	0.90	0.89	0.89
Bearing type	: 6314 C3	6314 C3	Foundation loads					
Sealing	: Without	Without	Max. traction	: 3006 lb				
	Bearing Seal		Bearing Seal	Max. compression	: 4939 lb			
Lubrication interval	: 14418 h	14418 h						
Lubricant amount	: 27 g	27 g						
Lubricant type	: Mobil Polyrex EM							
Notes								
This revision replaces and cancel the previous one, which must be eliminated. (1) Looking the motor from the shaft end. (2) Measured at 1m and with tolerance of +3dB(A). (3) Approximate weight subject to changes after manufacturing process. (4) At 100% of full load.				These are average values based on tests with sinusoidal power supply, subject to the tolerances stipulated in NEMA MG-1.				
Rev.	Changes Summary			Performed	Checked	Date		
Performed by								
Checked by					Page	Revision		
Date	13/04/2022				1 / 37			

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### Thermal protection

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

Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by			Page	Revision
Date	13/04/2022		2 / 37	

# TORQUE AND CURRENT VS SPEED CURVE



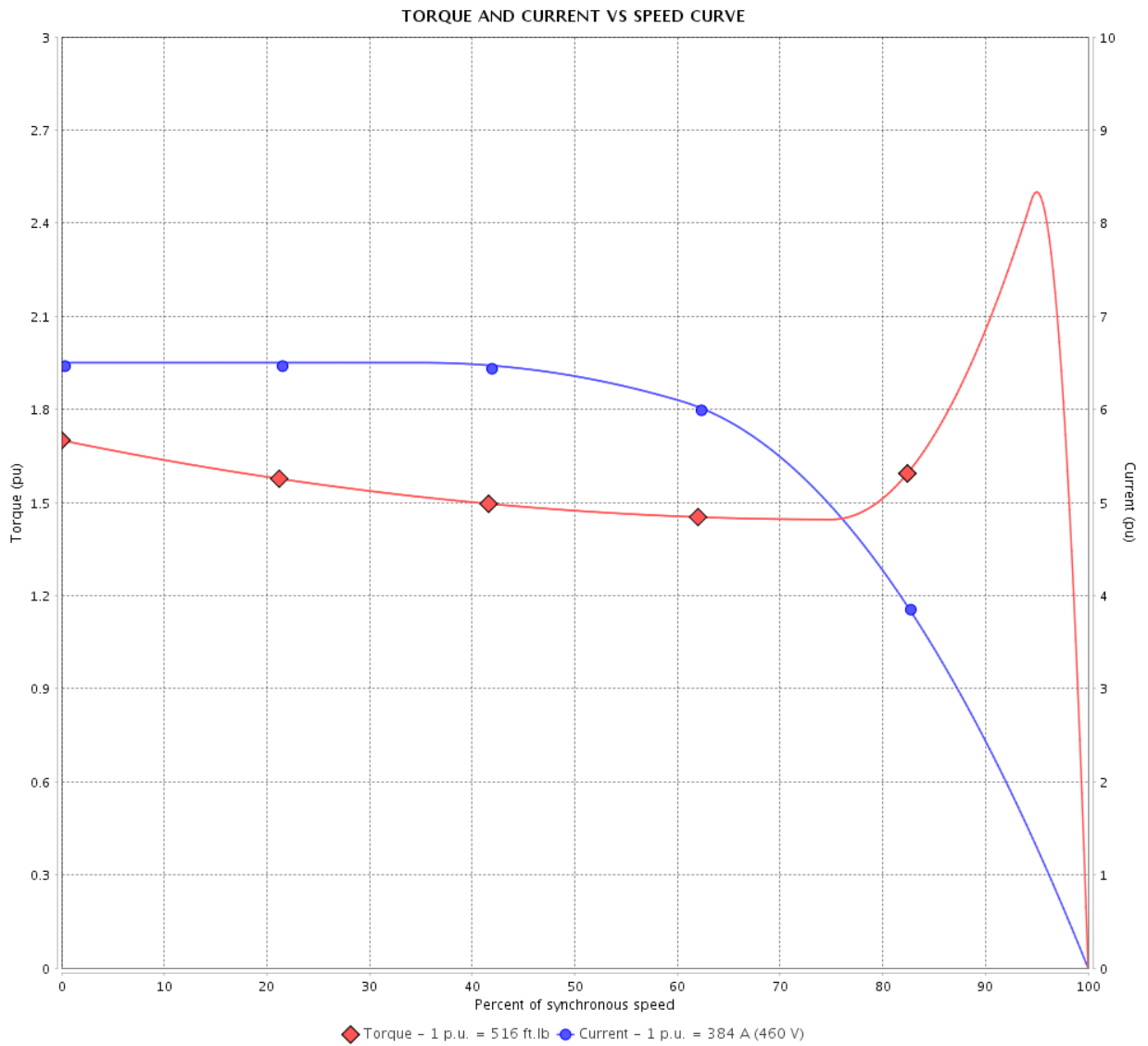
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Three-Phase

Product code : 13568154

Catalog # : 35036OT3G447/9TS-W40



Performance : 460 V 60 Hz 2P

Rated current	: 384 A	Moment of inertia (J)	: 35.7 sq.ft.lb
LRC	: 6.5	Duty cycle	: Cont.(S1)
Rated torque	: 516 ft.lb	Insulation class	: F
Locked rotor torque	: 170 %	Service factor	: 1.15
Breakdown torque	: 250 %	Temperature rise	: 80 K
Rated speed	: 3565 rpm	Design	: A

Locked rotor time : 25s (cold) 14s (hot)

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page	Revision
Checked by			3 / 37	
Date	13/04/2022			

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## Three Phase Induction Motor - Squirrel Cage



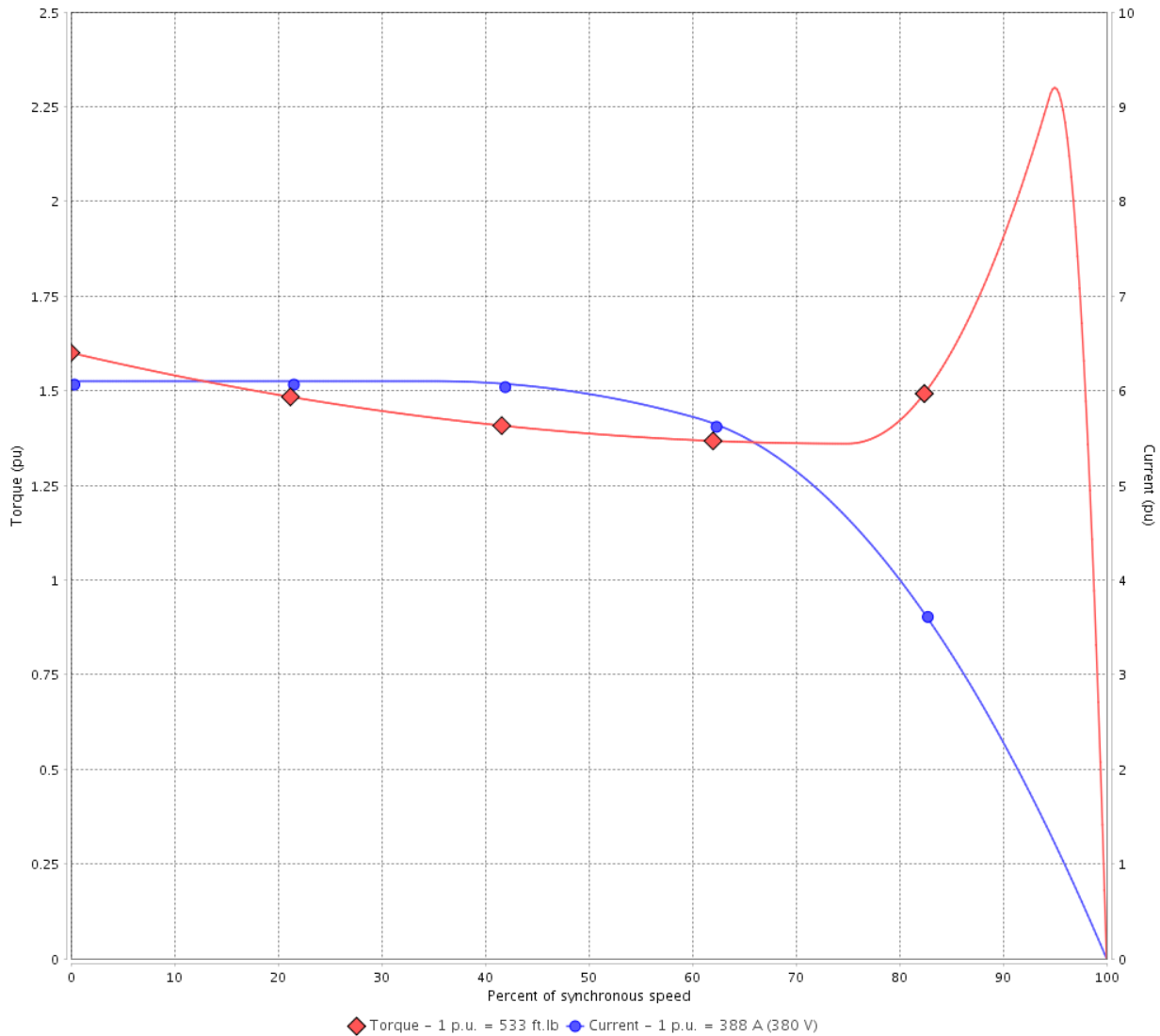
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TORQUE AND CURRENT VS SPEED CURVE



Performance : 380 V 50 Hz 2P IE3

Rated current	: 388 A	Moment of inertia (J)	: 35.7 sq.ft.lb
LRC	: 6.1	Duty cycle	: Cont.(S1)
Rated torque	: 533 ft.lb	Insulation class	: F
Locked rotor torque	: 160 %	Service factor	: 1.15
Breakdown torque	: 229 %	Temperature rise	: 80 K
Rated speed	: 2955 rpm	Design	: A

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

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 4 / 37	Revision
Checked by				
Date	13/04/2022			

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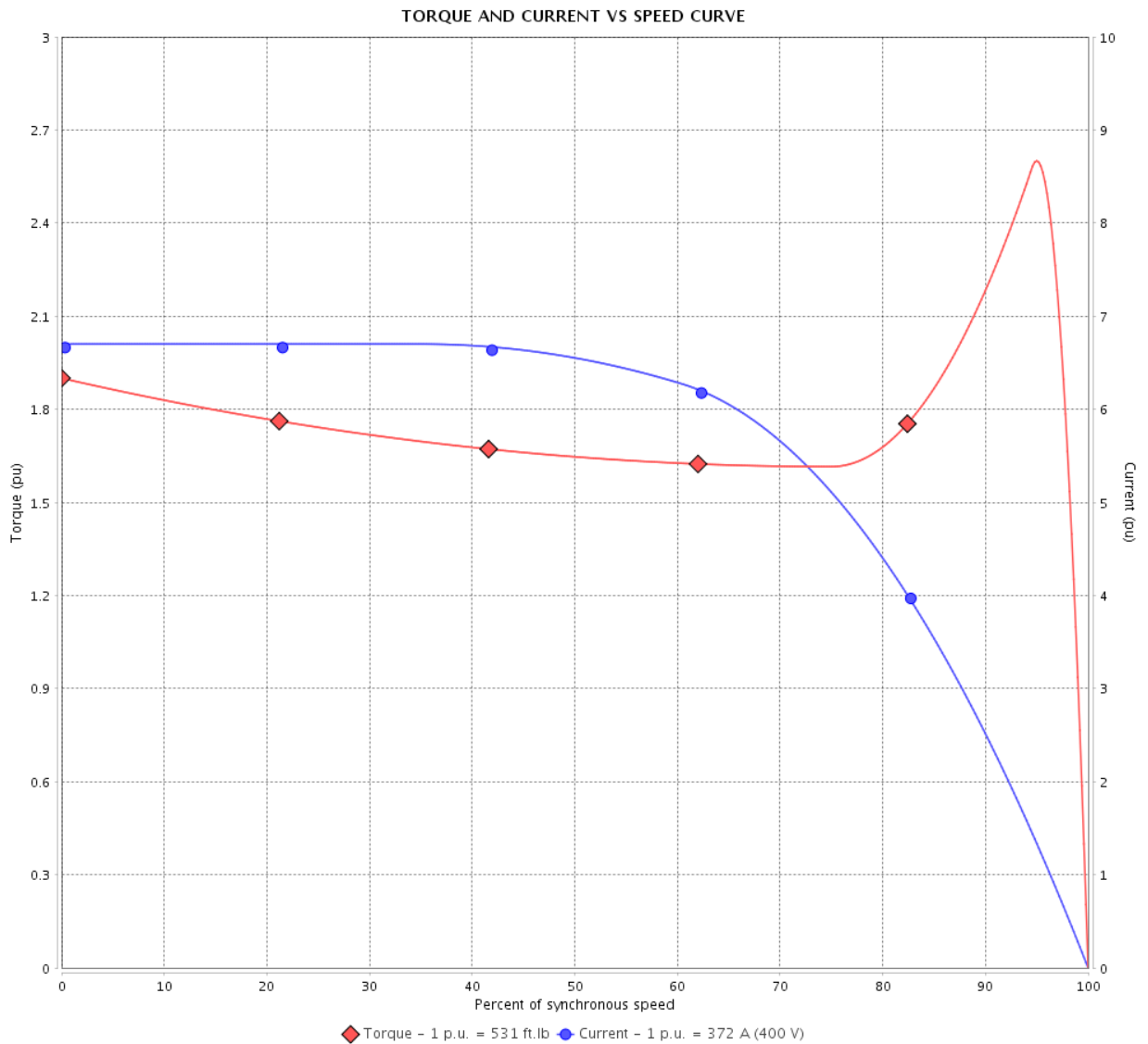
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Performance : 400 V 50 Hz 2P IE3

Rated current	: 372 A	Moment of inertia (J)	: 35.7 sq.ft.lb
LRC	: 6.7	Duty cycle	: Cont.(S1)
Rated torque	: 531 ft.lb	Insulation class	: F
Locked rotor torque	: 190 %	Service factor	: 1.15
Breakdown torque	: 260 %	Temperature rise	: 80 K
Rated speed	: 2965 rpm	Design	: A

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

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 5 / 37	Revision
Checked by				
Date	13/04/2022			

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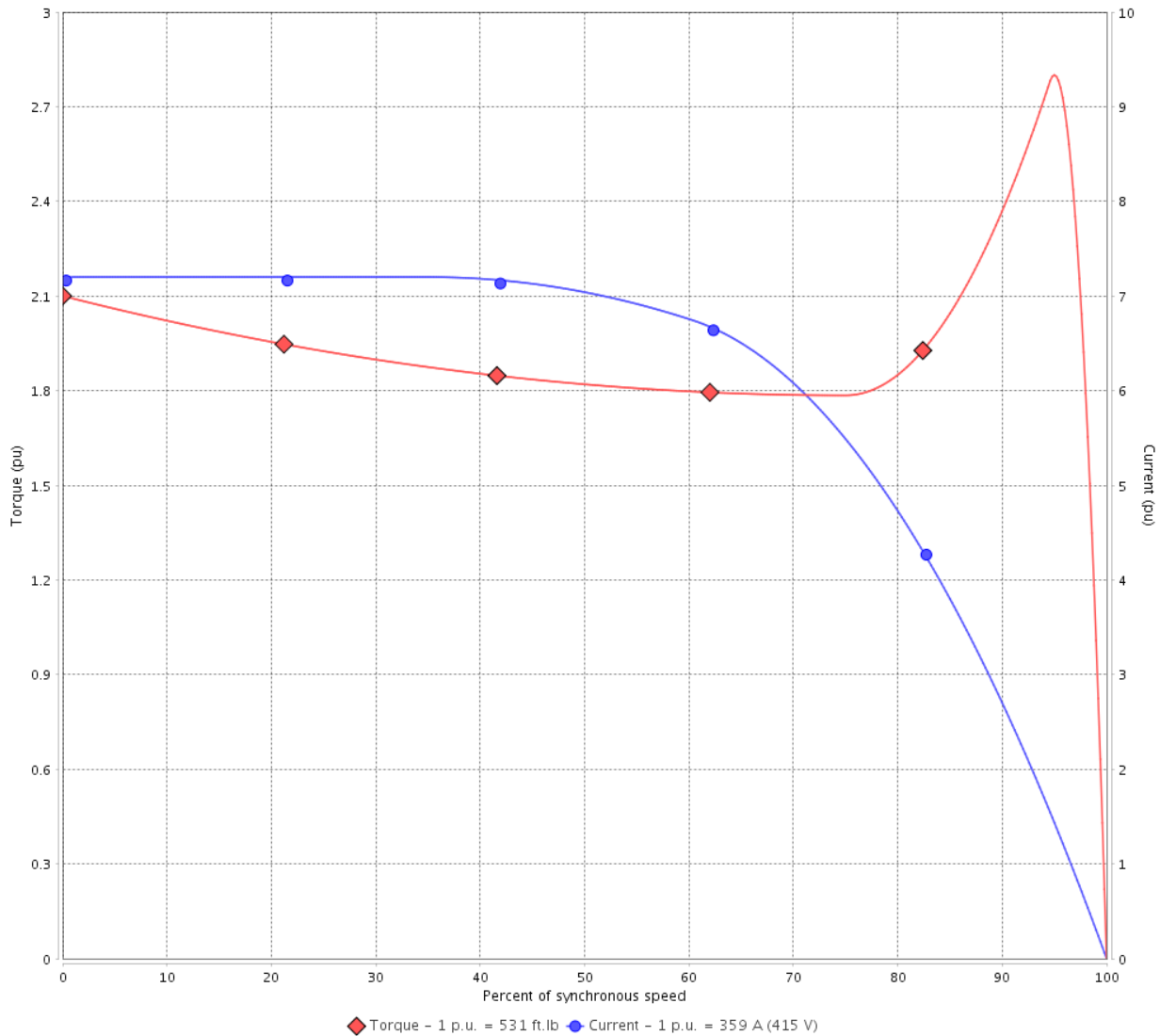
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TORQUE AND CURRENT VS SPEED CURVE



Performance : 415 V 50 Hz 2P IE3

Rated current	: 359 A	Moment of inertia (J)	: 35.7 sq.ft.lb
LRC	: 7.2	Duty cycle	: Cont.(S1)
Rated torque	: 531 ft.lb	Insulation class	: F
Locked rotor torque	: 210 %	Service factor	: 1.15
Breakdown torque	: 280 %	Temperature rise	: 80 K
Rated speed	: 2965 rpm	Design	: A

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

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 6 / 37	Revision
Checked by				
Date	13/04/2022			

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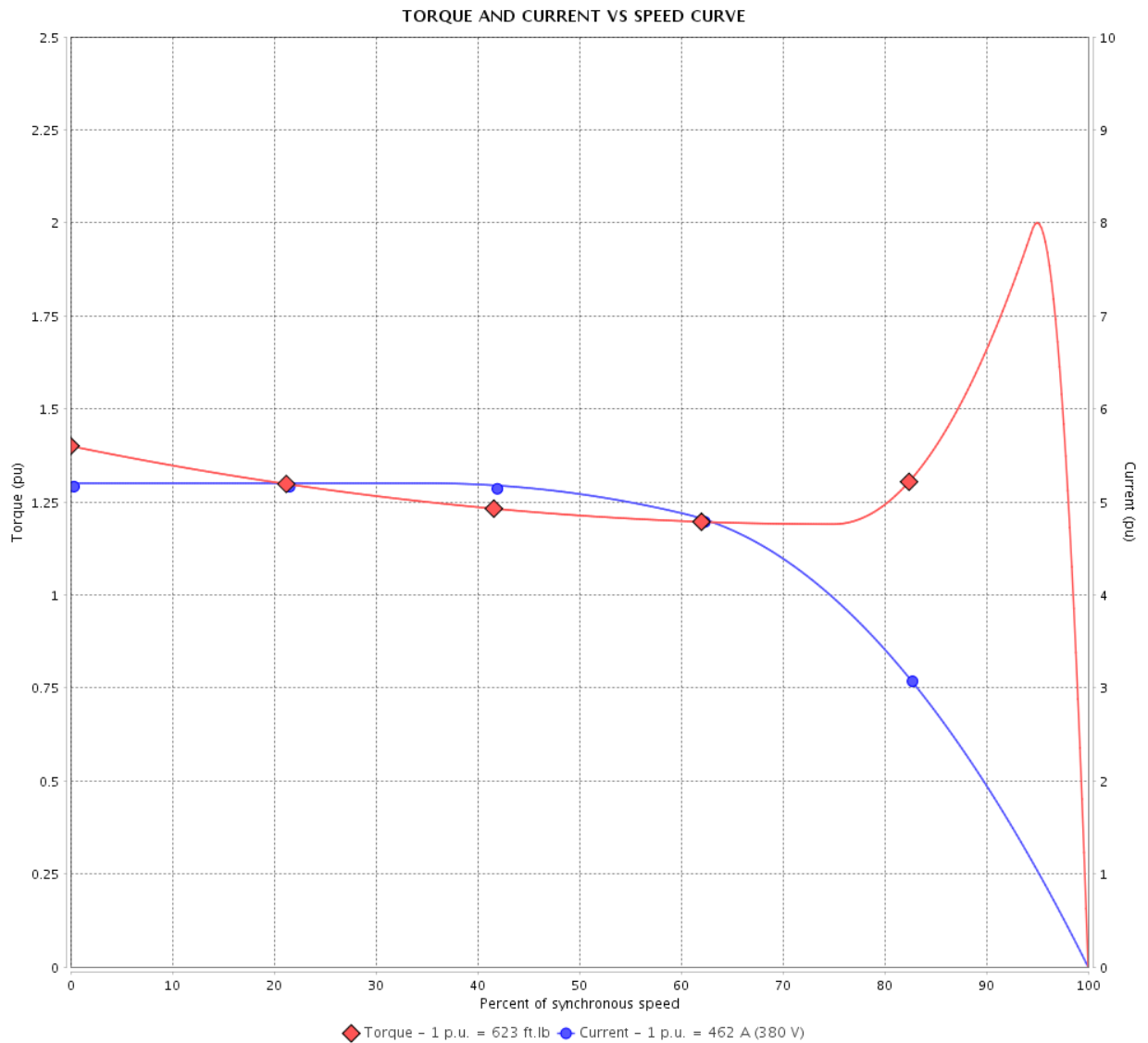
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Product code : 13568154

Catalog # : 35036OT3G447/9TS-W40



Performance : 380 V 50 Hz 2P IE2

Rated current : 462 A  
LRC : 5.2  
Rated torque : 623 ft.lb  
Locked rotor torque : 140 %  
Breakdown torque : 200 %  
Rated speed : 2950 rpm

Moment of inertia (J) : 35.7 sq.ft.lb  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.15  
Temperature rise : 80 K  
Design : A

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

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 7 / 37	Revision
Checked by				
Date	13/04/2022			

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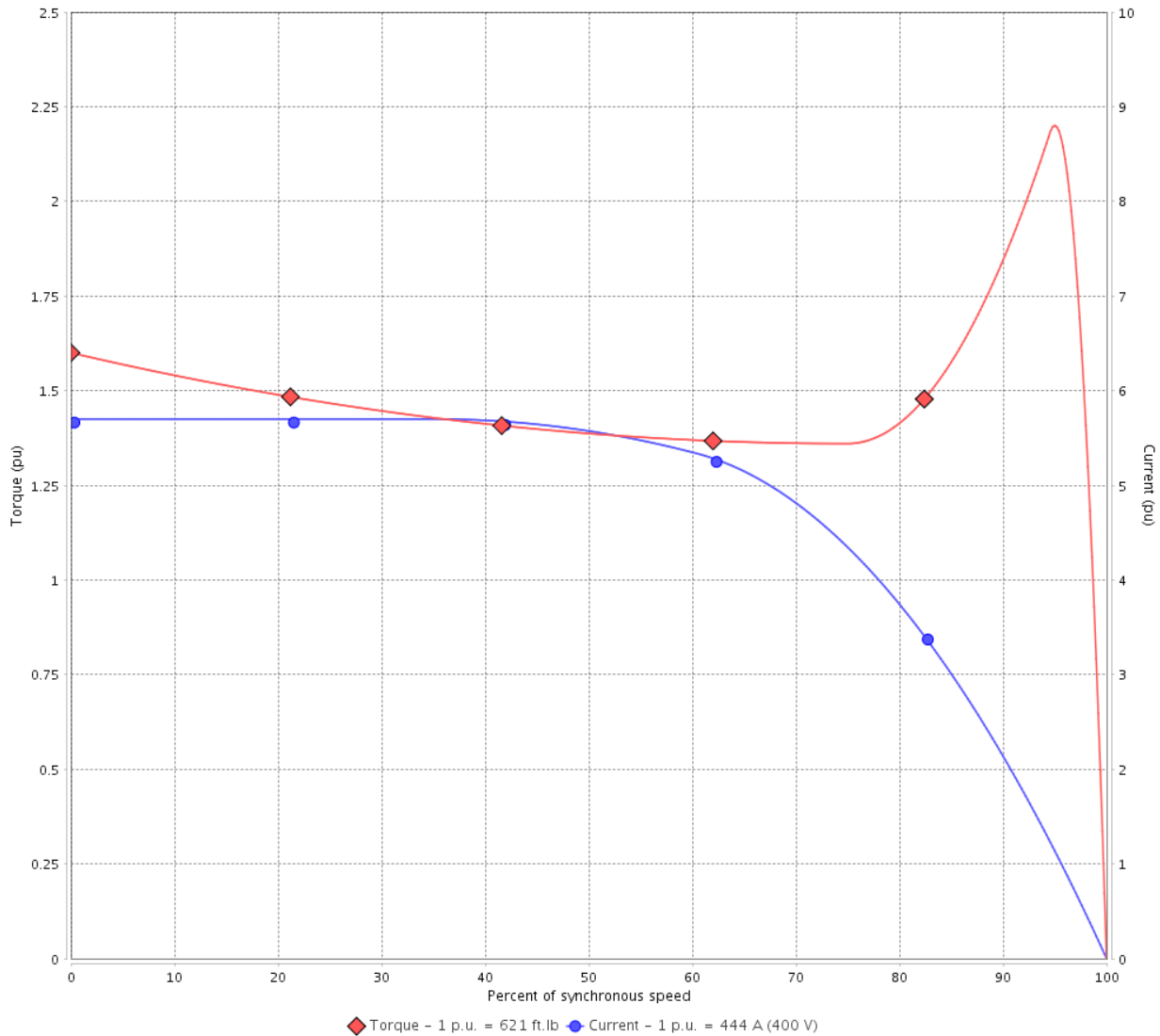
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Product code : 13568154

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TORQUE AND CURRENT VS SPEED CURVE



Performance : 400 V 50 Hz 2P IE2

Rated current	: 444 A	Moment of inertia (J)	: 35.7 sq.ft.lb
LRC	: 5.7	Duty cycle	: Cont.(S1)
Rated torque	: 621 ft.lb	Insulation class	: F
Locked rotor torque	: 160 %	Service factor	: 1.15
Breakdown torque	: 220 %	Temperature rise	: 80 K
Rated speed	: 2960 rpm	Design	: A

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

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 8 / 37	Revision
Checked by				
Date	13/04/2022			



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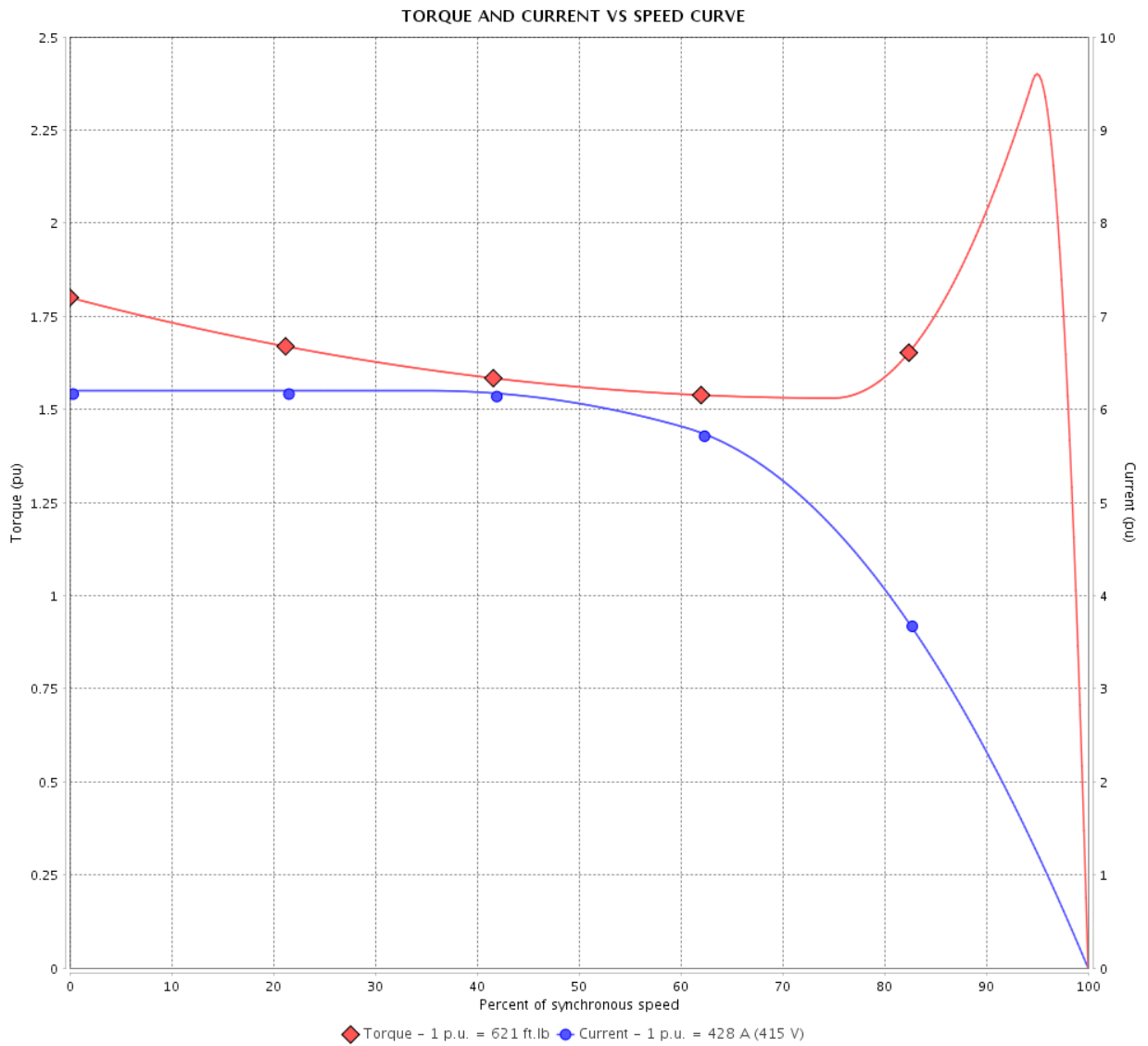
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Performance : 415 V 50 Hz 2P IE2

Rated current	: 428 A	Moment of inertia (J)	: 35.7 sq.ft.lb
LRC	: 6.2	Duty cycle	: Cont.(S1)
Rated torque	: 621 ft.lb	Insulation class	: F
Locked rotor torque	: 180 %	Service factor	: 1.15
Breakdown torque	: 240 %	Temperature rise	: 80 K
Rated speed	: 2960 rpm	Design	: A

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

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 9 / 37	Revision
Checked by				
Date	13/04/2022			

# LOAD PERFORMANCE CURVE

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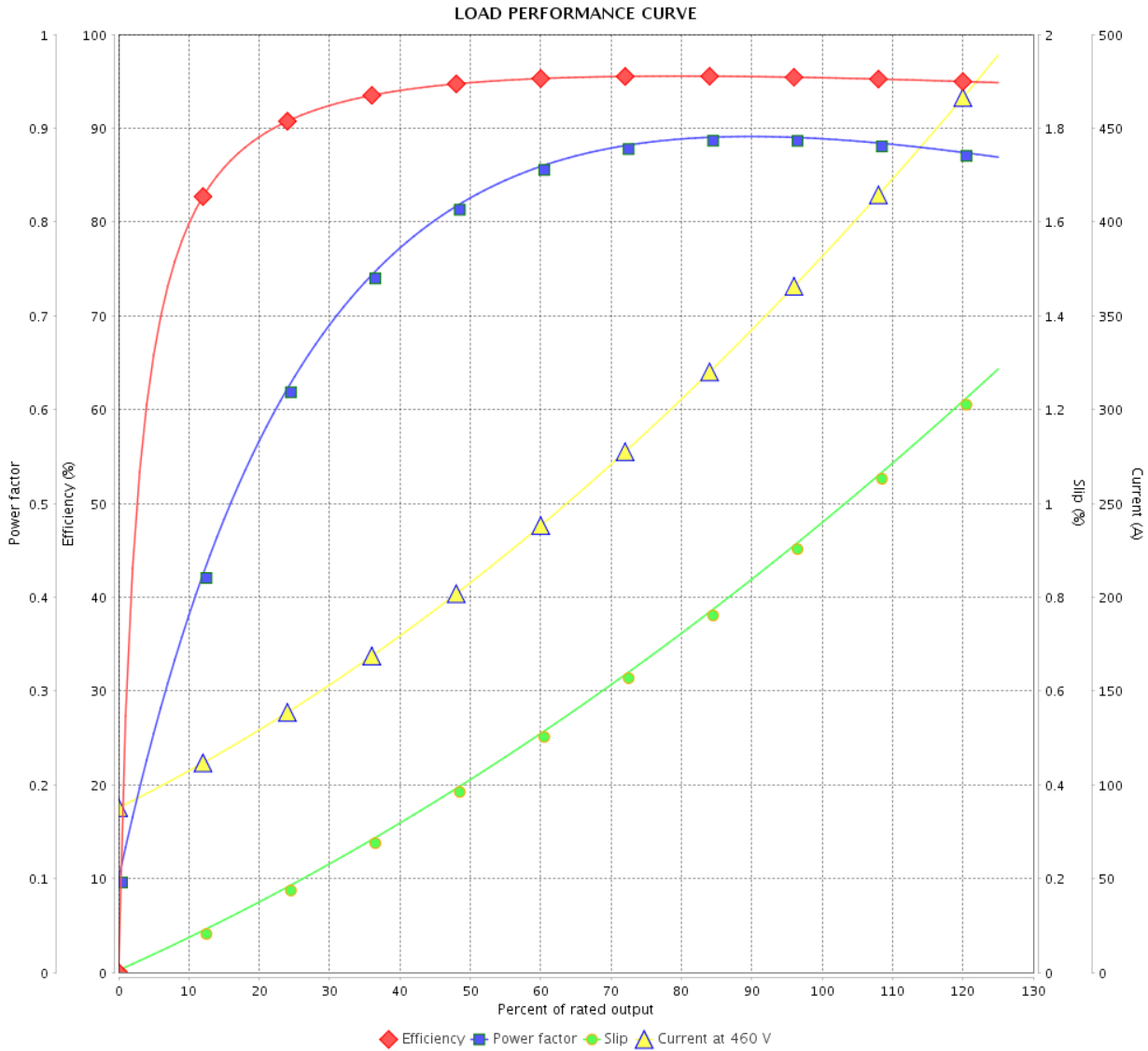


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Performance : 460 V 60 Hz 2P

Rated current : 384 A  
 LRC : 6.5  
 Rated torque : 516 ft.lb  
 Locked rotor torque : 170 %  
 Breakdown torque : 250 %  
 Rated speed : 3565 rpm

Moment of inertia (J) : 35.7 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : A

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page	Revision
Checked by				
Date				
			10 / 37	

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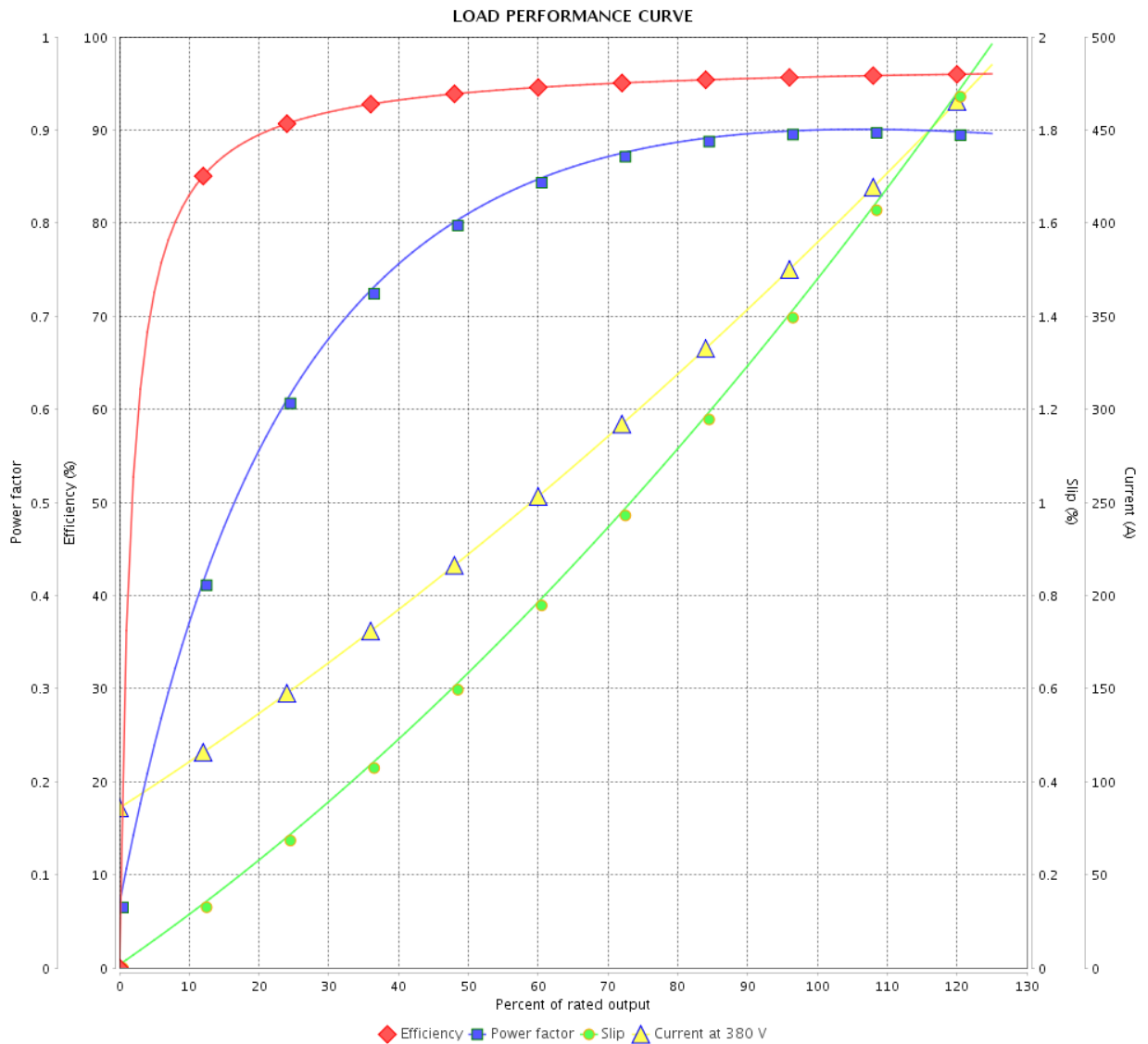


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Performance : 380 V 50 Hz 2P IE3

Rated current : 388 A  
 LRC : 6.1  
 Rated torque : 533 ft.lb  
 Locked rotor torque : 160 %  
 Breakdown torque : 229 %  
 Rated speed : 2955 rpm

Moment of inertia (J) : 35.7 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
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Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		11 / 37		
Date		13/04/2022		

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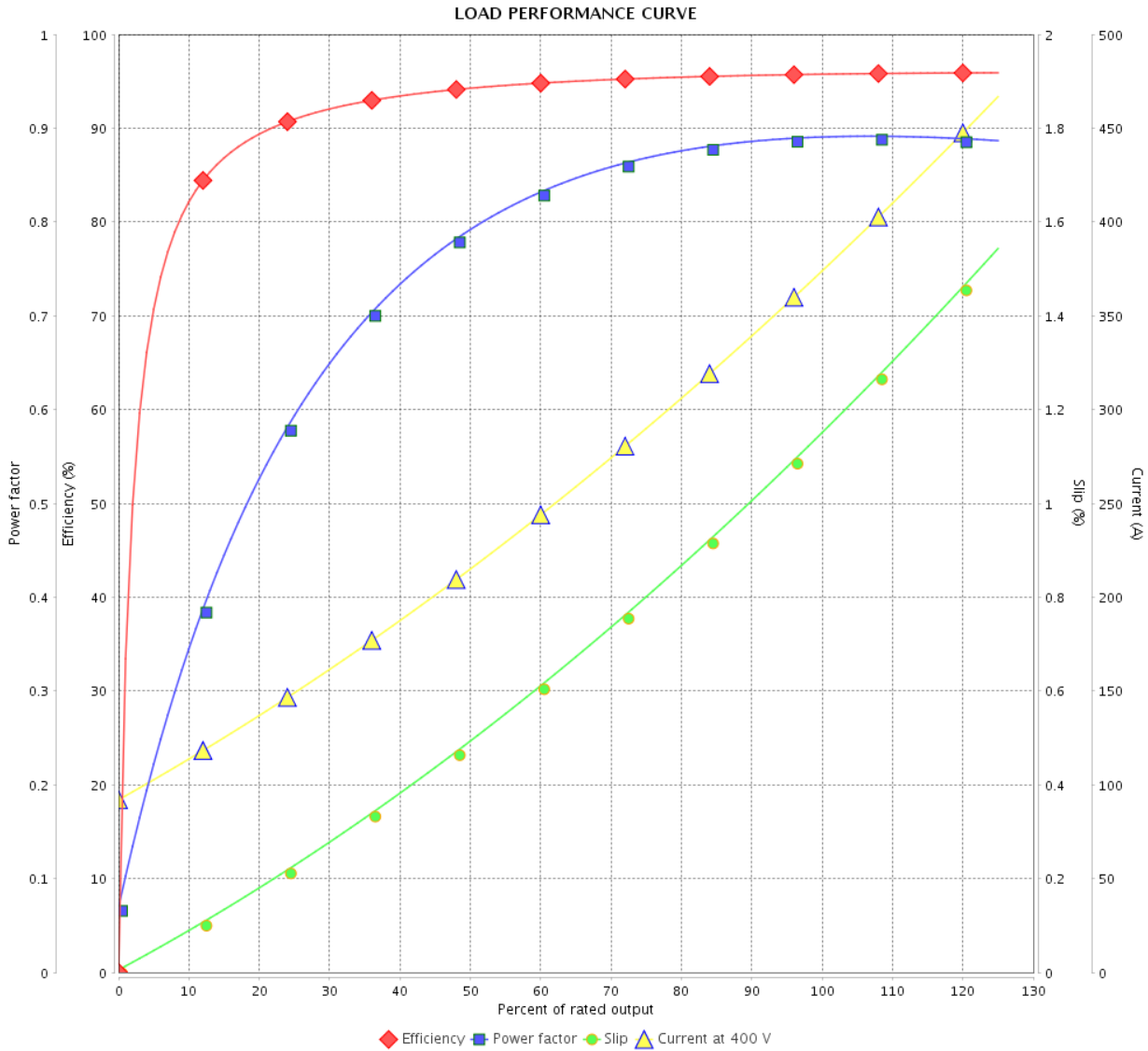


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Performance : 400 V 50 Hz 2P IE3

Rated current : 372 A  
 LRC : 6.7  
 Rated torque : 531 ft.lb  
 Locked rotor torque : 190 %  
 Breakdown torque : 260 %  
 Rated speed : 2965 rpm

Moment of inertia (J) : 35.7 sq.ft.lb  
 Duty cycle : Cont.(S1)  
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Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page	Revision
Checked by				
Date				

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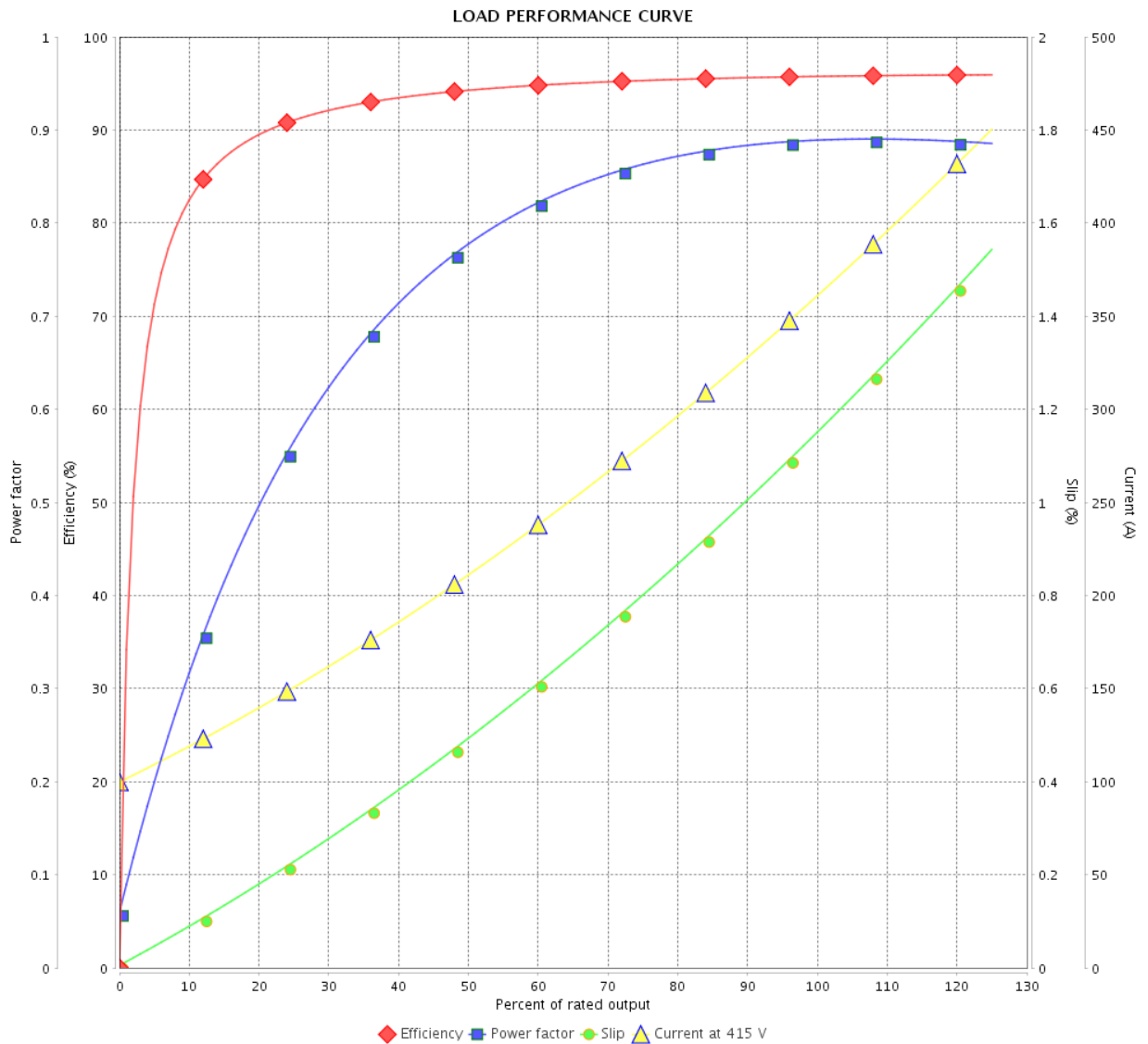


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Performance : 415 V 50 Hz 2P IE3

Rated current : 359 A  
 LRC : 7.2  
 Rated torque : 531 ft.lb  
 Locked rotor torque : 210 %  
 Breakdown torque : 280 %  
 Rated speed : 2965 rpm

Moment of inertia (J) : 35.7 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : A

Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		13 / 37		
Date		13 / 04 / 2022		

# LOAD PERFORMANCE CURVE

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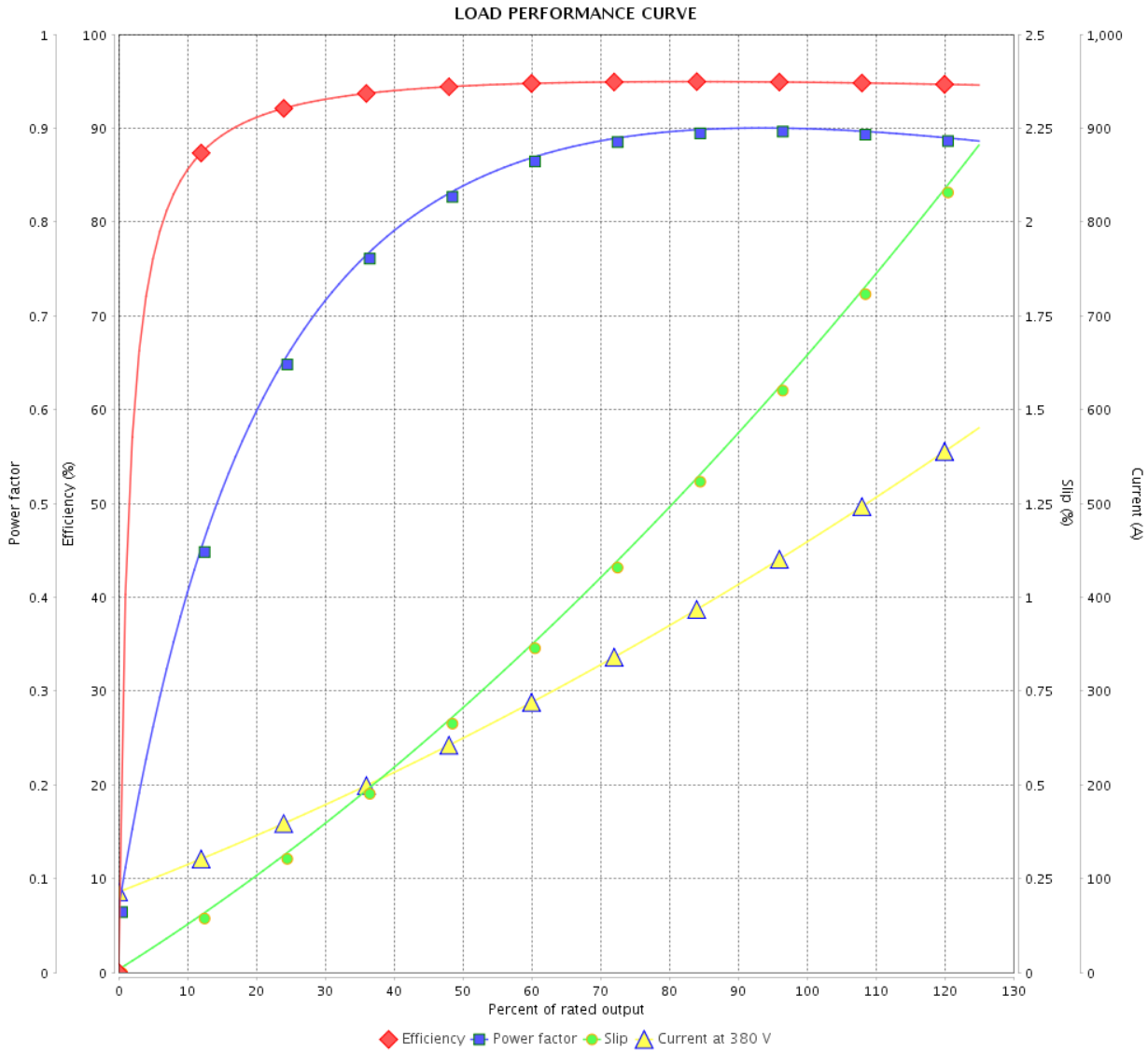


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Performance : 380 V 50 Hz 2P IE2

Rated current : 462 A  
 LRC : 5.2  
 Rated torque : 623 ft.lb  
 Locked rotor torque : 140 %  
 Breakdown torque : 200 %  
 Rated speed : 2950 rpm

Moment of inertia (J) : 35.7 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : A

Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by				
Date				
			Page	Revision
			14 / 37	

# LOAD PERFORMANCE CURVE

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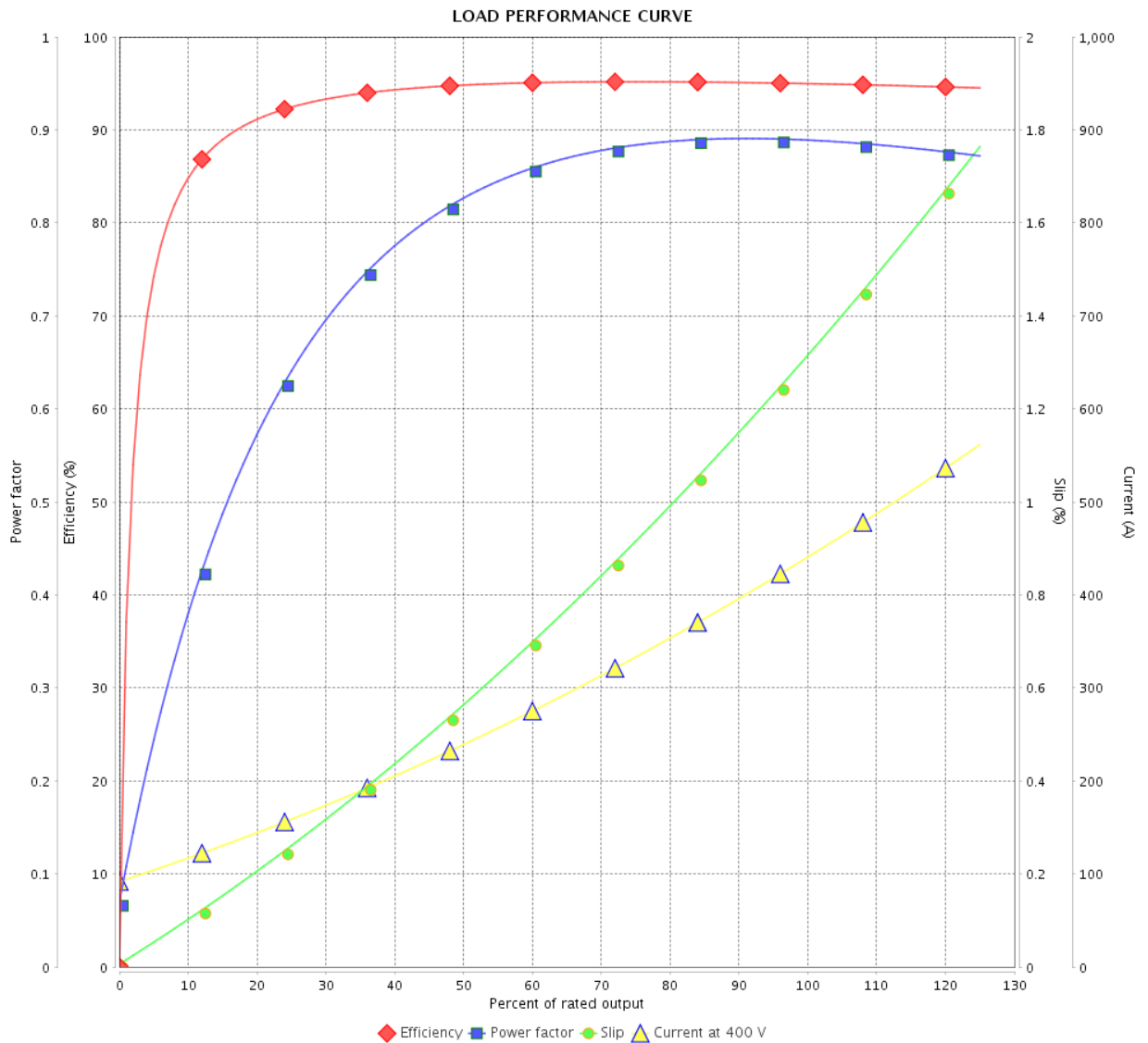


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 Locked rotor torque : 160 %  
 Breakdown torque : 220 %  
 Rated speed : 2960 rpm

Moment of inertia (J) : 35.7 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : A

Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		15 / 37		
Date	13/04/2022			

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Three Phase Induction Motor - Squirrel Cage



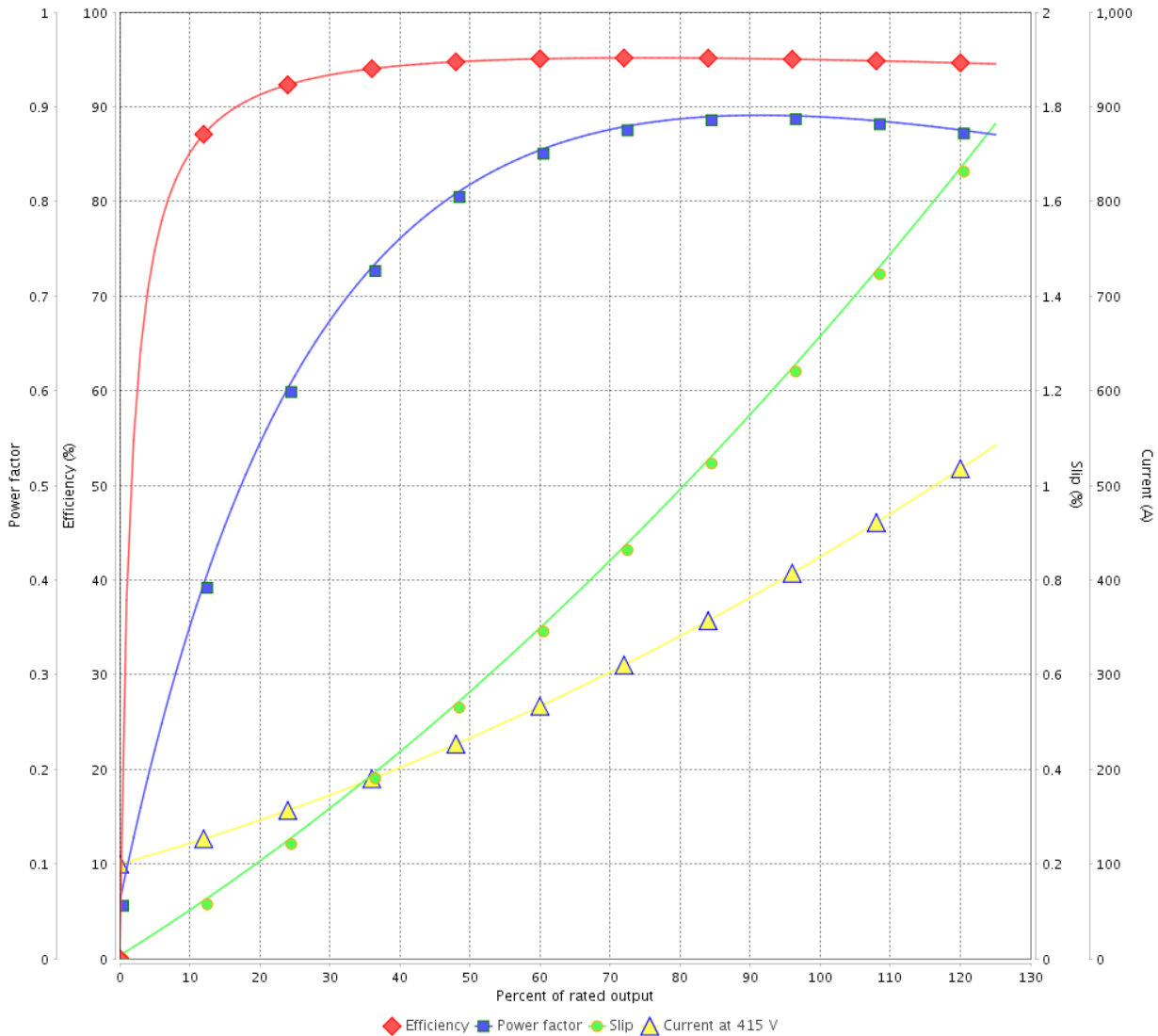
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Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 16 / 37	Revision
Checked by				
Date	13/04/2022			



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Rated speed	: 3565 rpm	Design	: A

Heating constant

Cooling constant

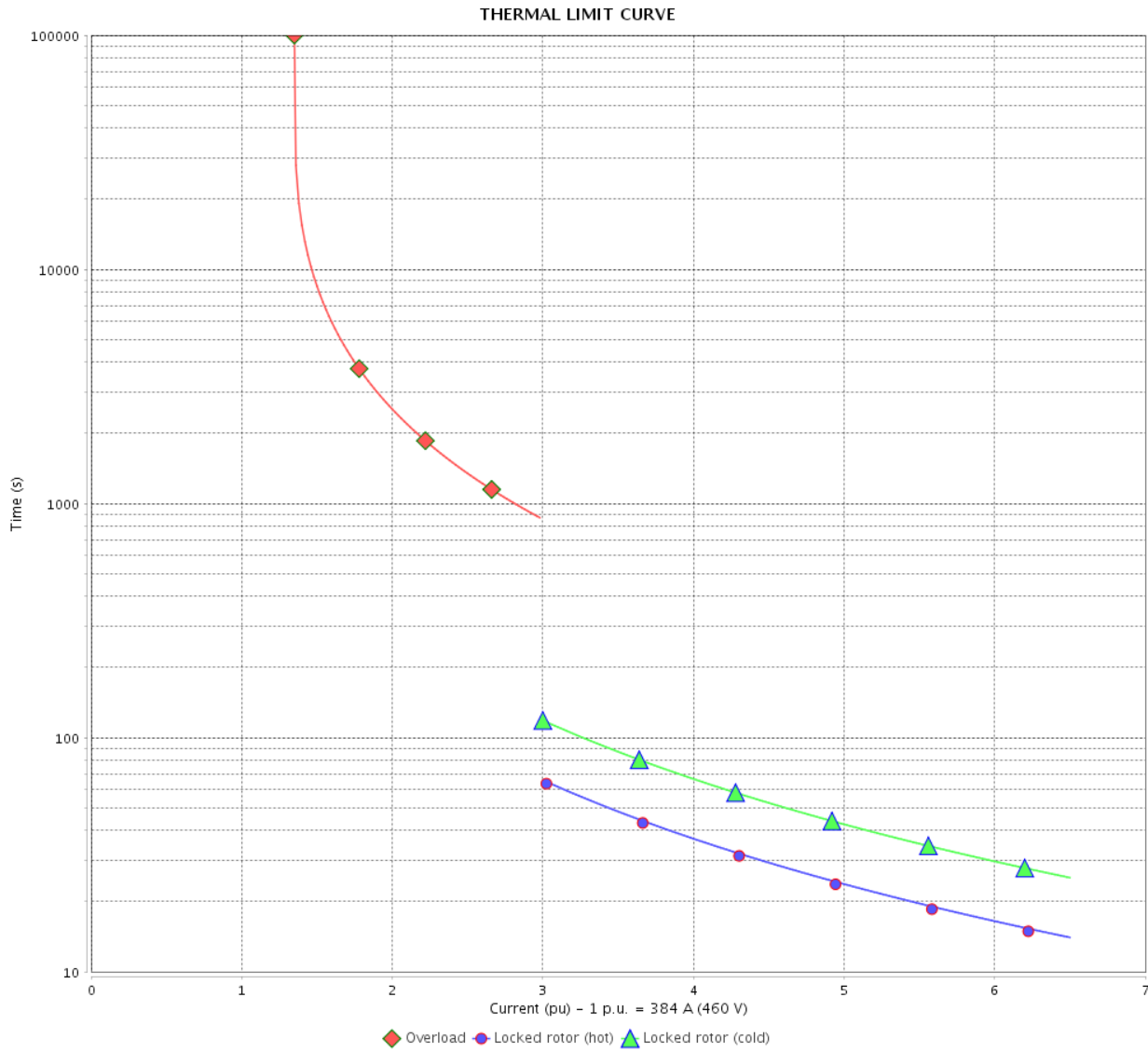
Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by			Page	Revision
Date	13/04/2022		17 / 37	

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Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		18 / 37		
Date		13/04/2022		

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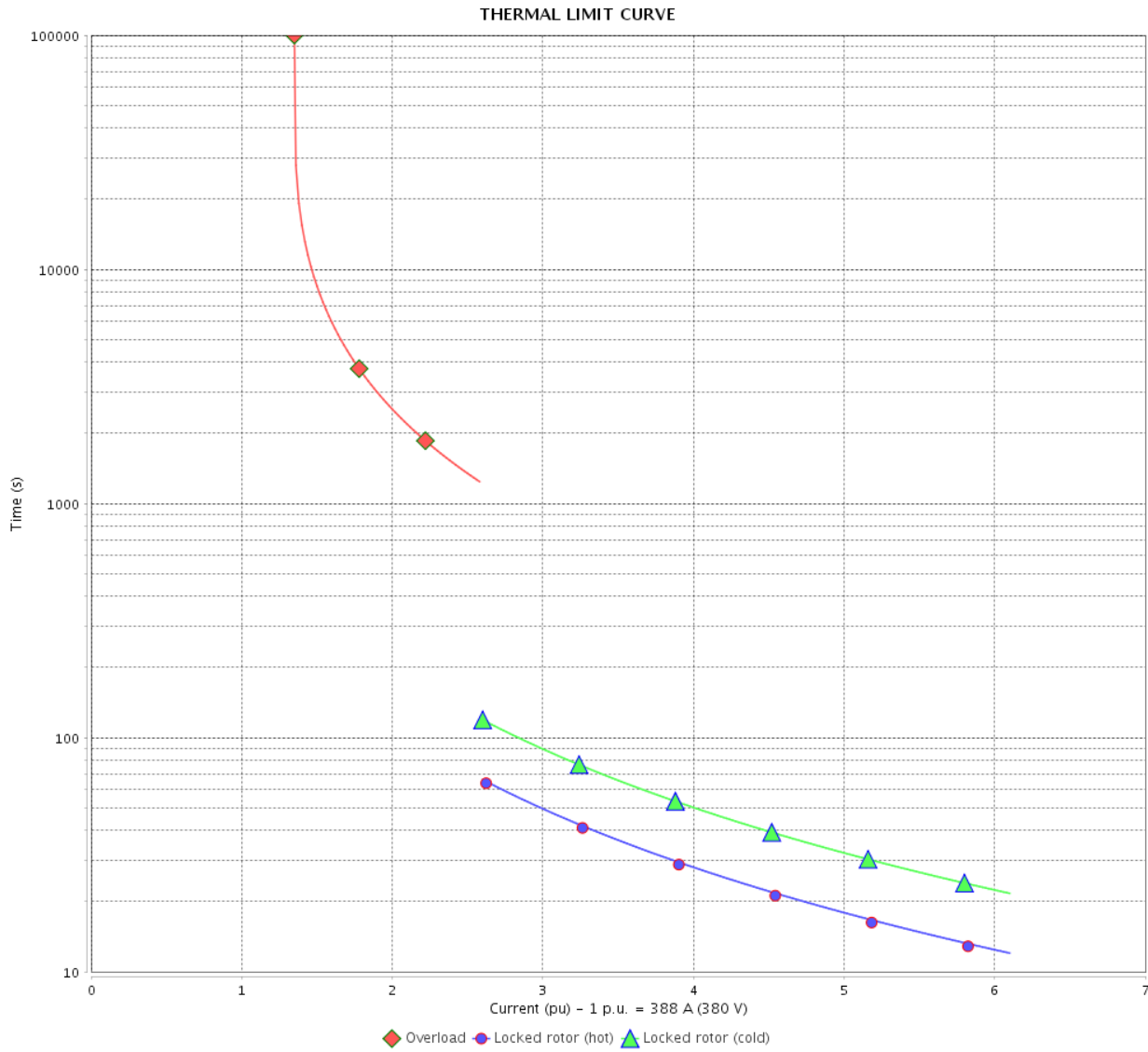
Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 19 / 37	Revision
Checked by				
Date	13/04/2022			

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Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		20 / 37		
Date		13/04/2022		

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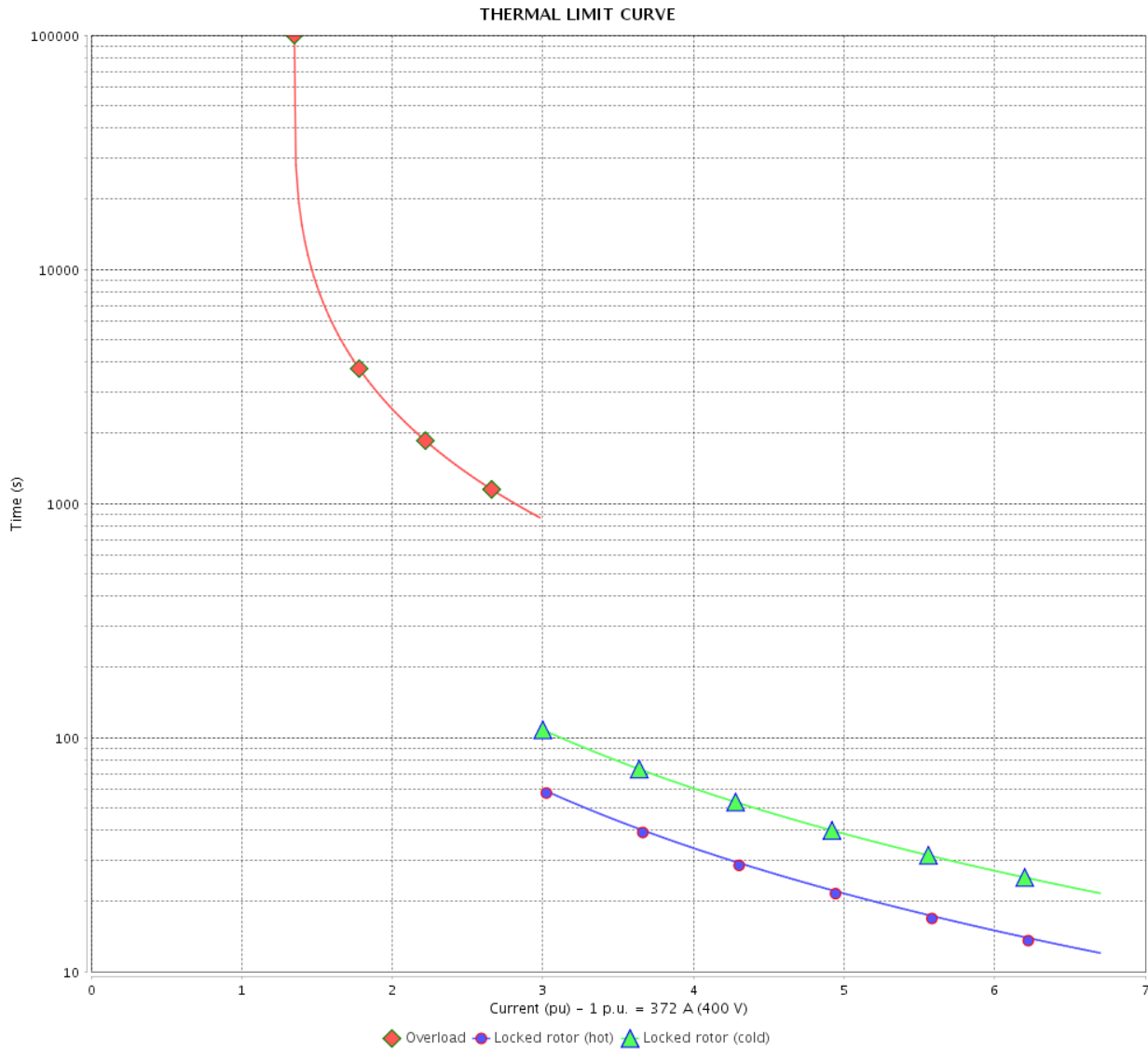
Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by			Page	Revision
Date	13/04/2022		21 / 37	

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Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		22 / 37		
Date		13/04/2022		

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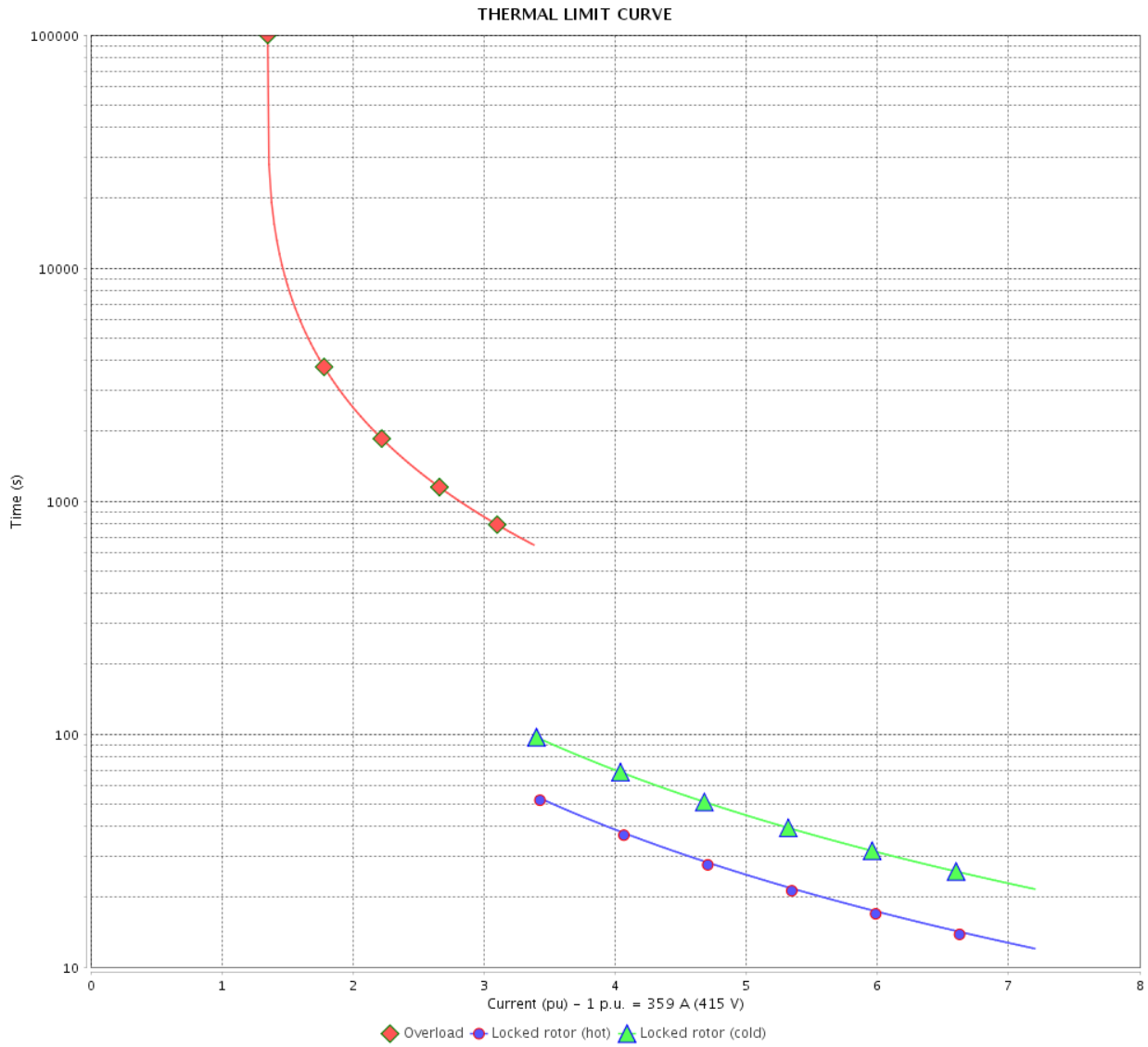
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Performed by		Page		Revision
Checked by		23 / 37		
Date	13/04/2022			

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Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		24 / 37		
Date		13/04/2022		



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Breakdown torque : 200 %	Temperature rise : 80 K
Rated speed : 2950 rpm	Design : A

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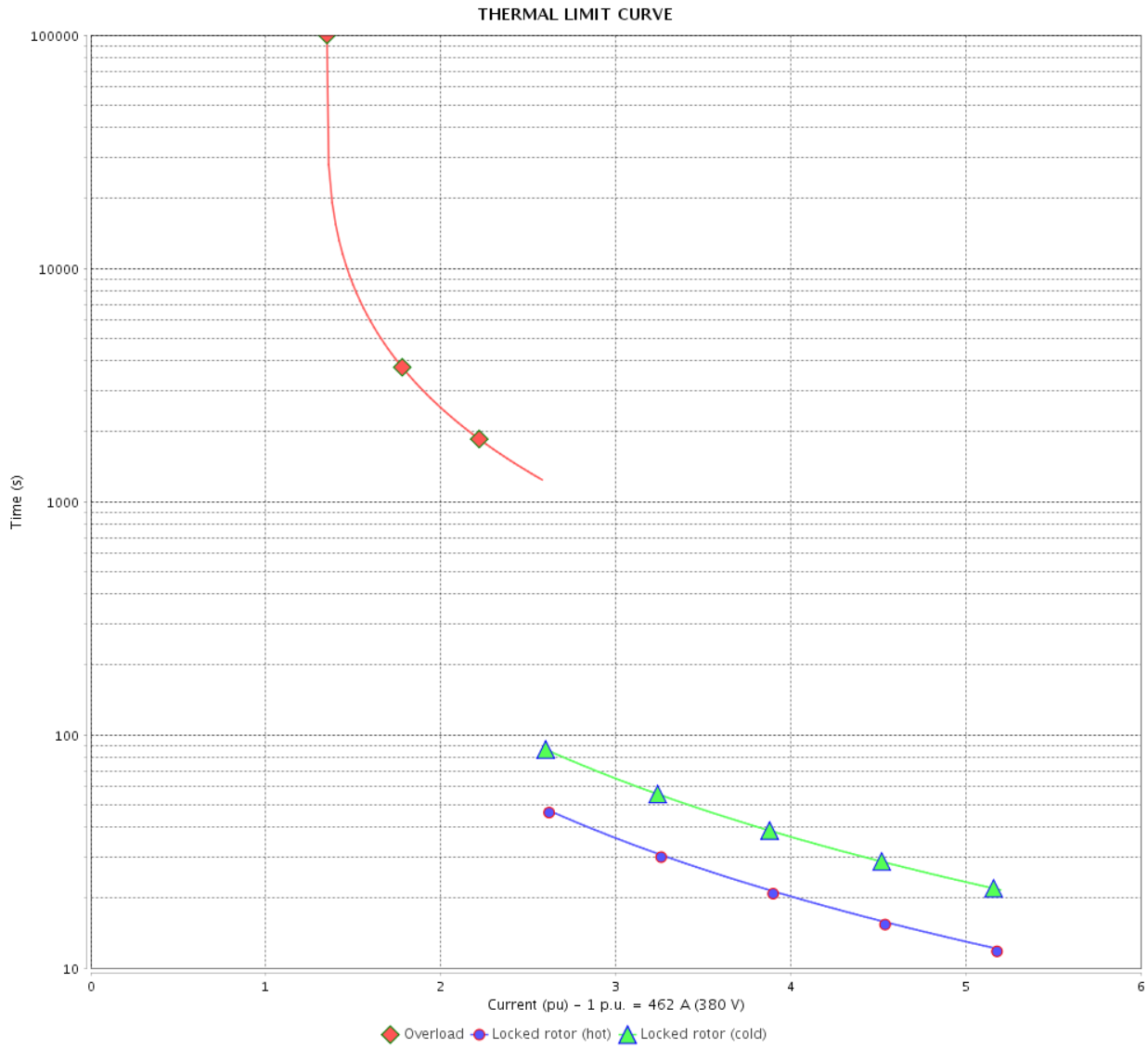
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Performed by			Page	Revision
Checked by				
Date	13/04/2022			

# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		26 / 37		
Date		13/04/2022		

# THERMAL LIMIT CURVE

## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W40 NEMA Premium Efficiency Three-Phase  
 Product code : 13568154  
 Catalog # : 35036OT3G447/9TS-W40

Performance : 400 V 50 Hz 2P IE2

Rated current : 444 A	Moment of inertia (J) : 35.7 sq.ft.lb
LRC : 5.7	Duty cycle : Cont.(S1)
Rated torque : 621 ft.lb	Insulation class : F
Locked rotor torque : 160 %	Service factor : 1.15
Breakdown torque : 220 %	Temperature rise : 80 K
Rated speed : 2960 rpm	Design : A

Heating constant

Cooling constant

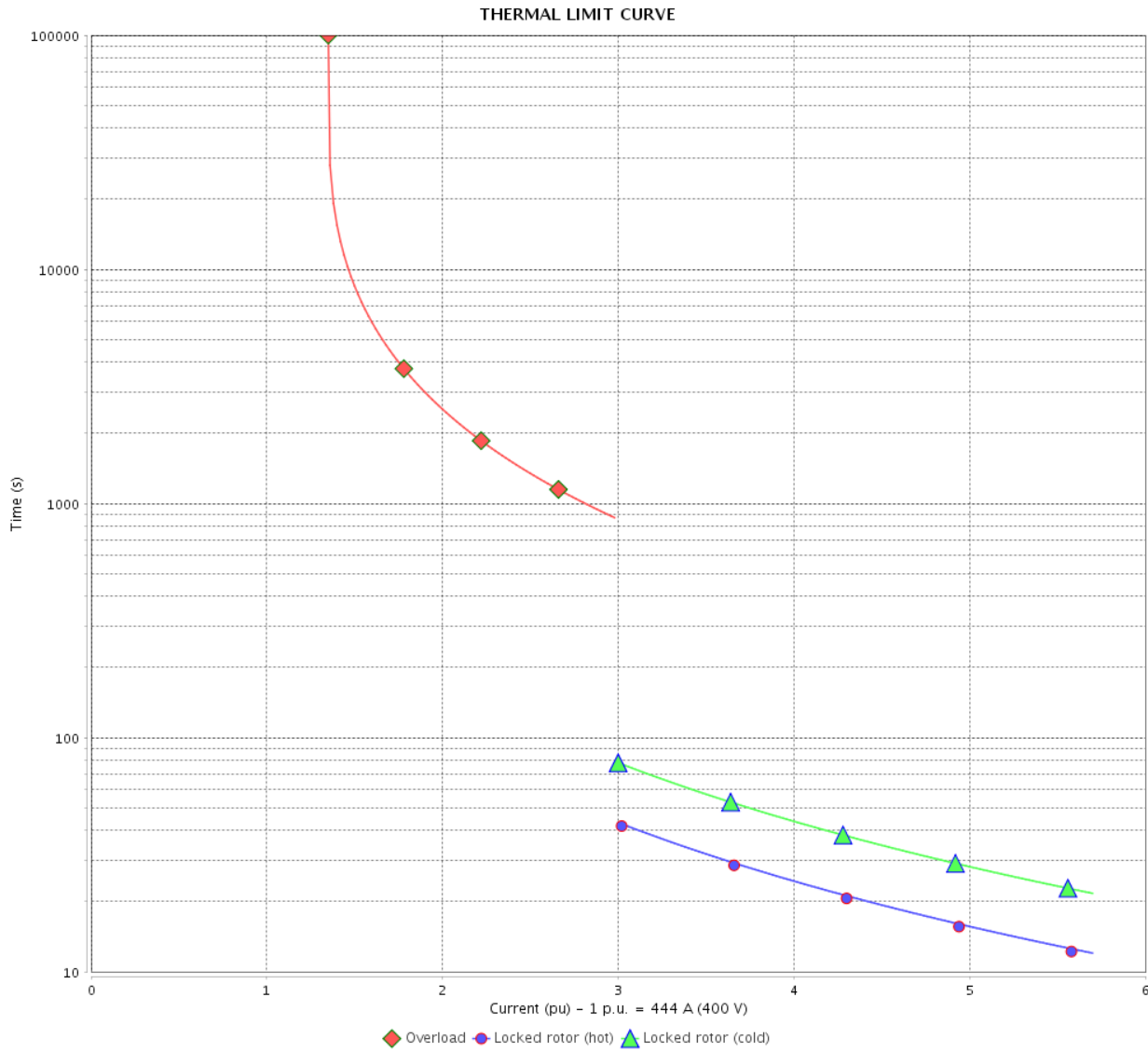
Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 27 / 37	Revision
Checked by				
Date	13/04/2022			

# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		28 / 37		
Date		13/04/2022		

# THERMAL LIMIT CURVE

## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W40 NEMA Premium Efficiency Three-Phase  
Product code : 13568154  
Catalog # : 35036OT3G447/9TS-W40

Performance : 415 V 50 Hz 2P IE2

Rated current	: 428 A	Moment of inertia (J)	: 35.7 sq.ft.lb
LRC	: 6.2	Duty cycle	: Cont.(S1)
Rated torque	: 621 ft.lb	Insulation class	: F
Locked rotor torque	: 180 %	Service factor	: 1.15
Breakdown torque	: 240 %	Temperature rise	: 80 K
Rated speed	: 2960 rpm	Design	: A

Heating constant

Cooling constant

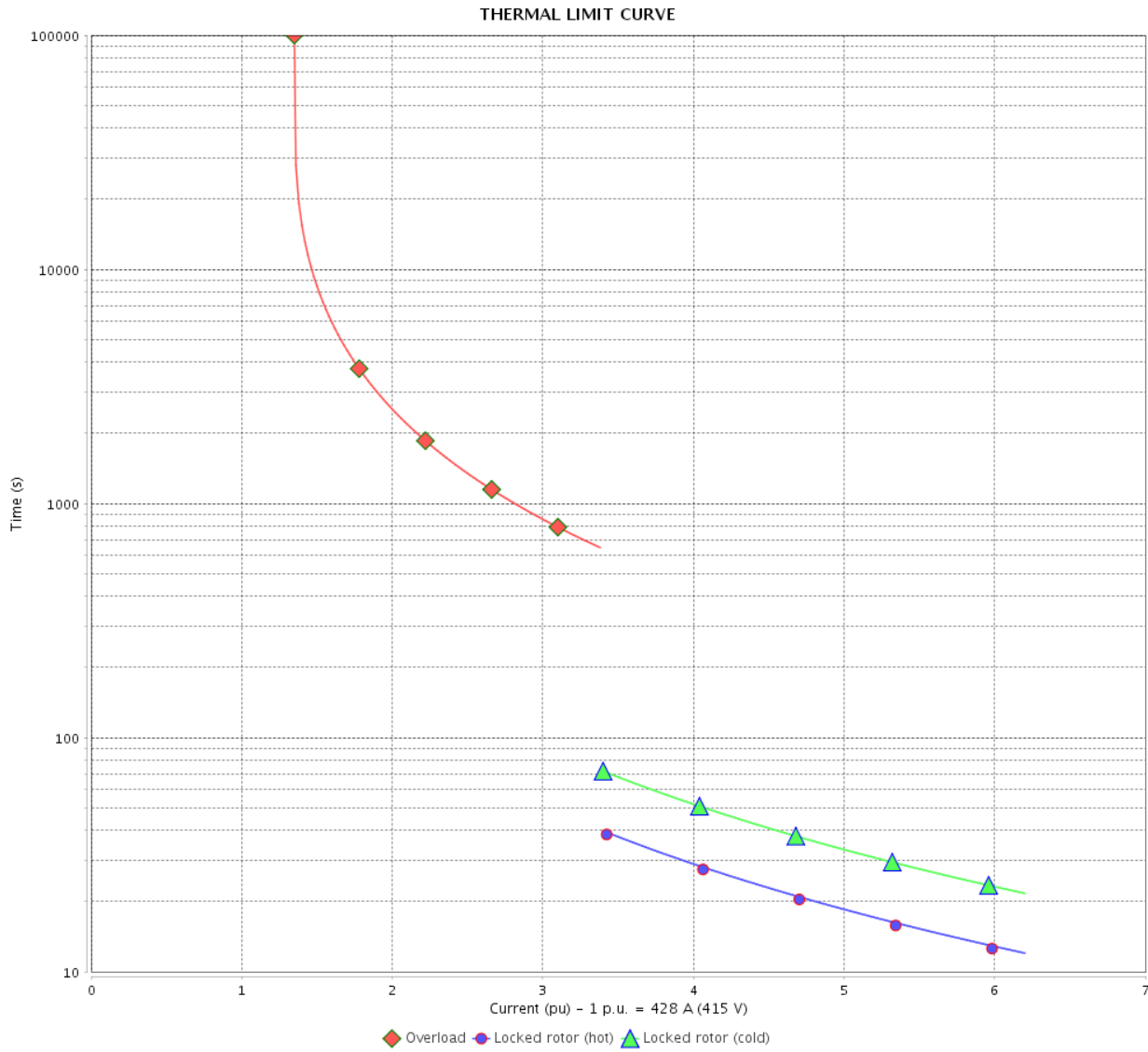
Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by			Page	Revision
Date	13/04/2022		29 / 37	

# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		30 / 37		
Date		13/04/2022		

# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

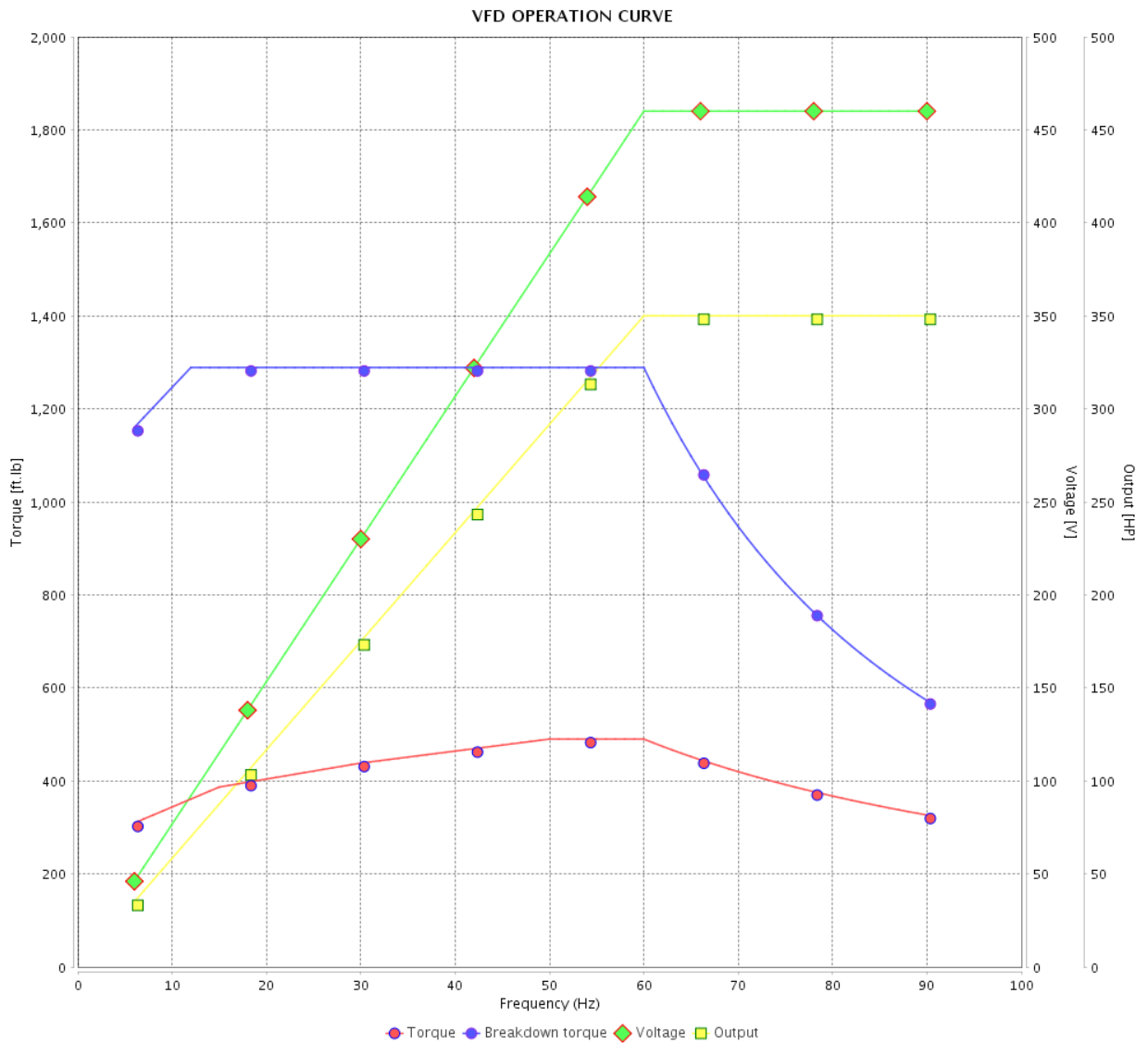


Customer :

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 13568154

Catalog # : 35036OT3G447/9TS-W40



Performance : 460 V 60 Hz 2P

Rated current : 384 A  
LRC : 6.5  
Rated torque : 516 ft.lb  
Locked rotor torque : 170 %  
Breakdown torque : 250 %  
Rated speed : 3565 rpm

Moment of inertia (J) : 35.7 sq.ft.lb  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.15  
Temperature rise : 80 K  
Design : A

Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		31 / 37		
Date		13/04/2022		

# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



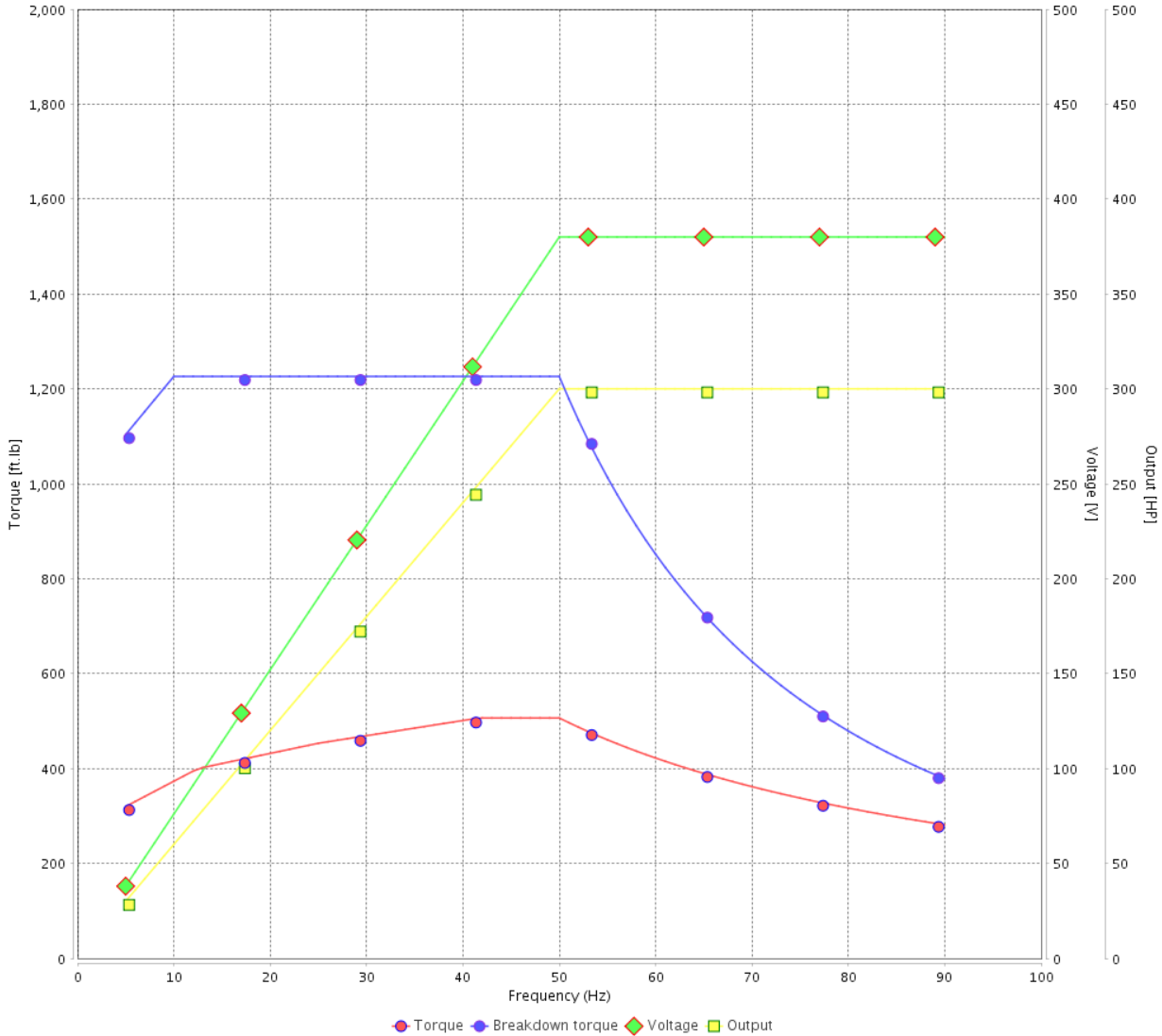
Customer :

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 13568154

Catalog # : 35036OT3G447/9TS-W40

VFD OPERATION CURVE



Performance : 380 V 50 Hz 2P IE3

Rated current : 388 A  
LRC : 6.1  
Rated torque : 533 ft.lb  
Locked rotor torque : 160 %  
Breakdown torque : 229 %  
Rated speed : 2955 rpm

Moment of inertia (J) : 35.7 sq.ft.lb  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.15  
Temperature rise : 80 K  
Design : A

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



# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

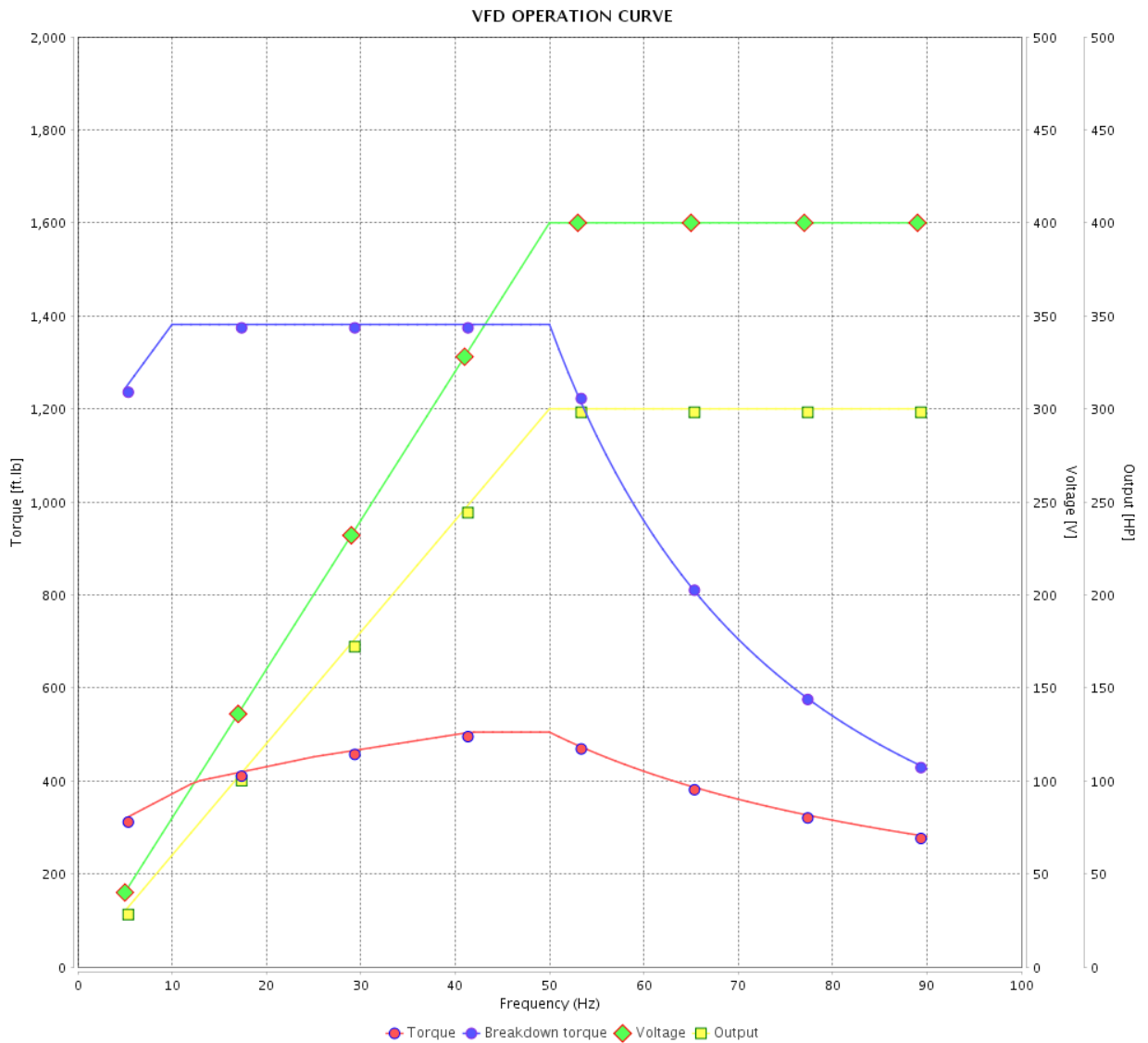


Customer :

Product line : W40 NEMA Premium Efficiency Three-Phase

Product code : 13568154

Catalog # : 35036OT3G447/9TS-W40



Performance : 400 V 50 Hz 2P IE3

Rated current : 372 A  
 LRC : 6.7  
 Rated torque : 531 ft.lb  
 Locked rotor torque : 190 %  
 Breakdown torque : 260 %  
 Rated speed : 2965 rpm

Moment of inertia (J) : 35.7 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : A

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 33 / 37	Revision
Checked by				
Date	13/04/2022			

# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



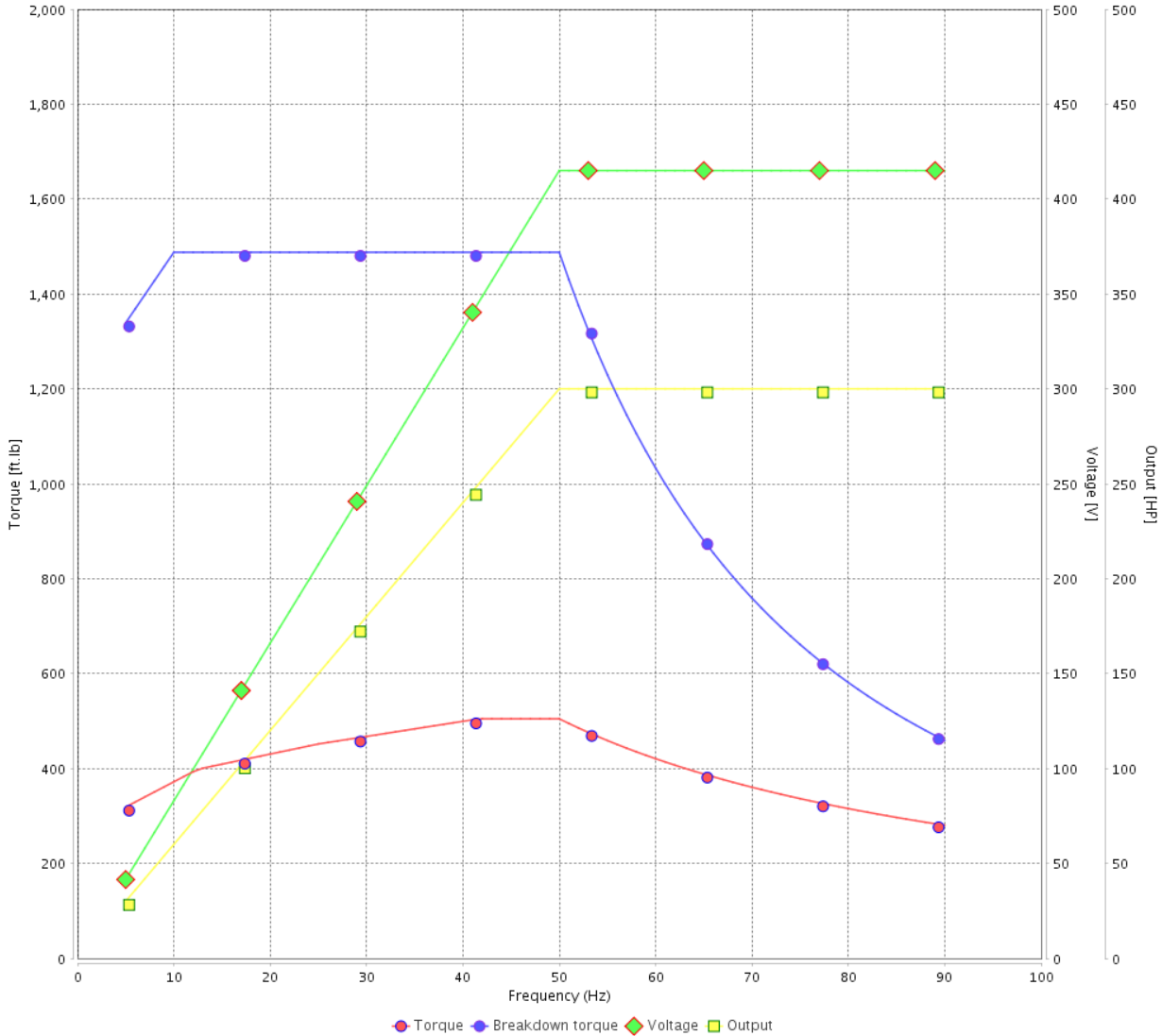
Customer :

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 13568154

Catalog # : 35036OT3G447/9TS-W40

VFD OPERATION CURVE



Performance : 415 V 50 Hz 2P IE3

Rated current	: 359 A	Moment of inertia (J)	: 35.7 sq.ft.lb
LRC	: 7.2	Duty cycle	: Cont.(S1)
Rated torque	: 531 ft.lb	Insulation class	: F
Locked rotor torque	: 210 %	Service factor	: 1.15
Breakdown torque	: 280 %	Temperature rise	: 80 K
Rated speed	: 2965 rpm	Design	: A

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 34 / 37	Revision
Checked by				
Date	13/04/2022			

# VFD OPERATION CURVE

## Three Phase Induction Motor - Squirrel Cage

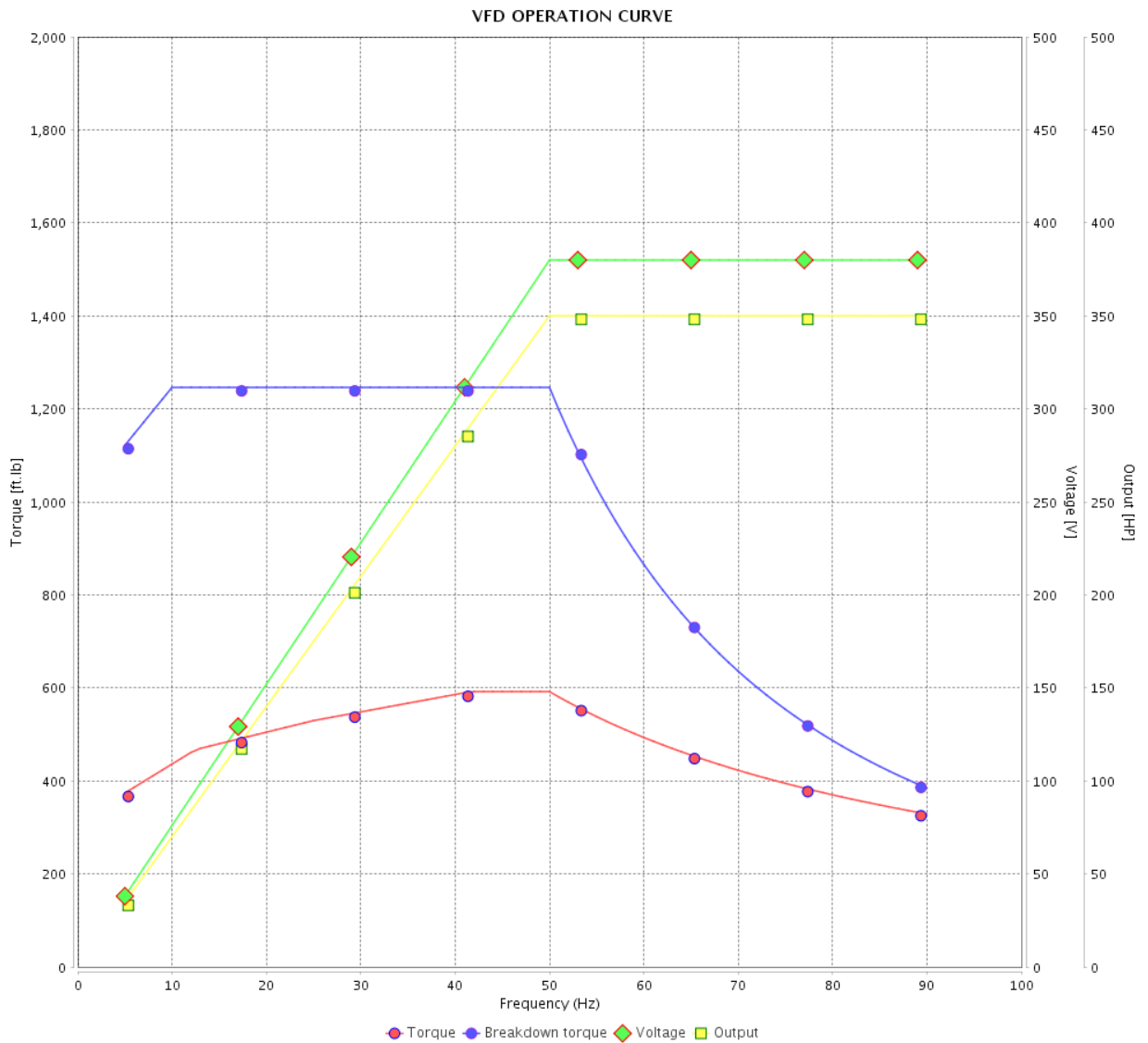


Customer :

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 13568154

Catalog # : 35036OT3G447/9TS-W40



Performance : 380 V 50 Hz 2P IE2

Rated current : 462 A  
 LRC : 5.2  
 Rated torque : 623 ft.lb  
 Locked rotor torque : 140 %  
 Breakdown torque : 200 %  
 Rated speed : 2950 rpm

Moment of inertia (J) : 35.7 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : A

Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		35 / 37		
Date		13/04/2022		

# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



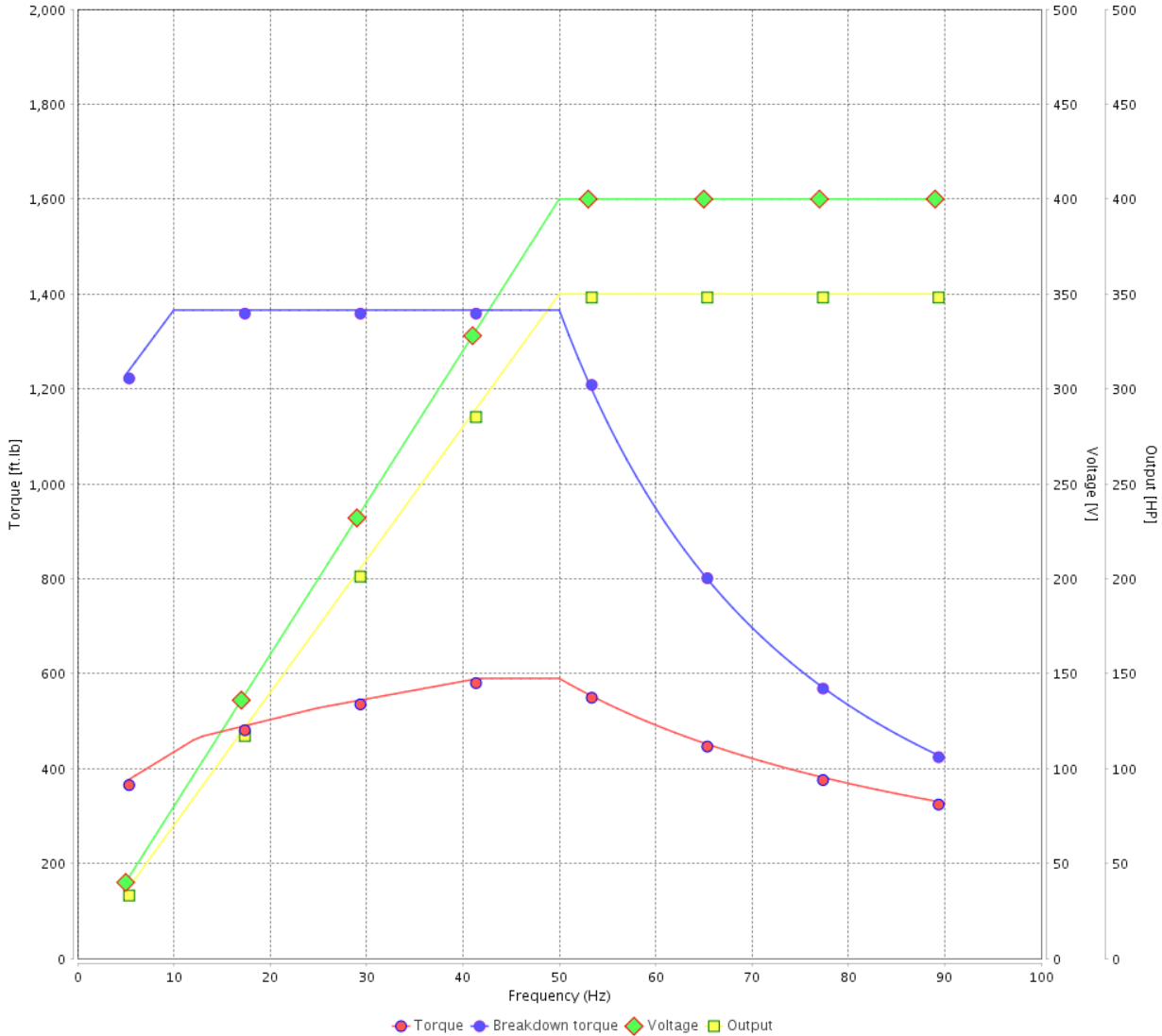
Customer :

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 13568154

Catalog # : 35036OT3G447/9TS-W40

VFD OPERATION CURVE



Performance : 400 V 50 Hz 2P IE2

Rated current : 444 A  
LRC : 5.7  
Rated torque : 621 ft.lb  
Locked rotor torque : 160 %  
Breakdown torque : 220 %  
Rated speed : 2960 rpm

Moment of inertia (J) : 35.7 sq.ft.lb  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.15  
Temperature rise : 80 K  
Design : A

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 36 / 37	Revision
Checked by				
Date	13/04/2022			

# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

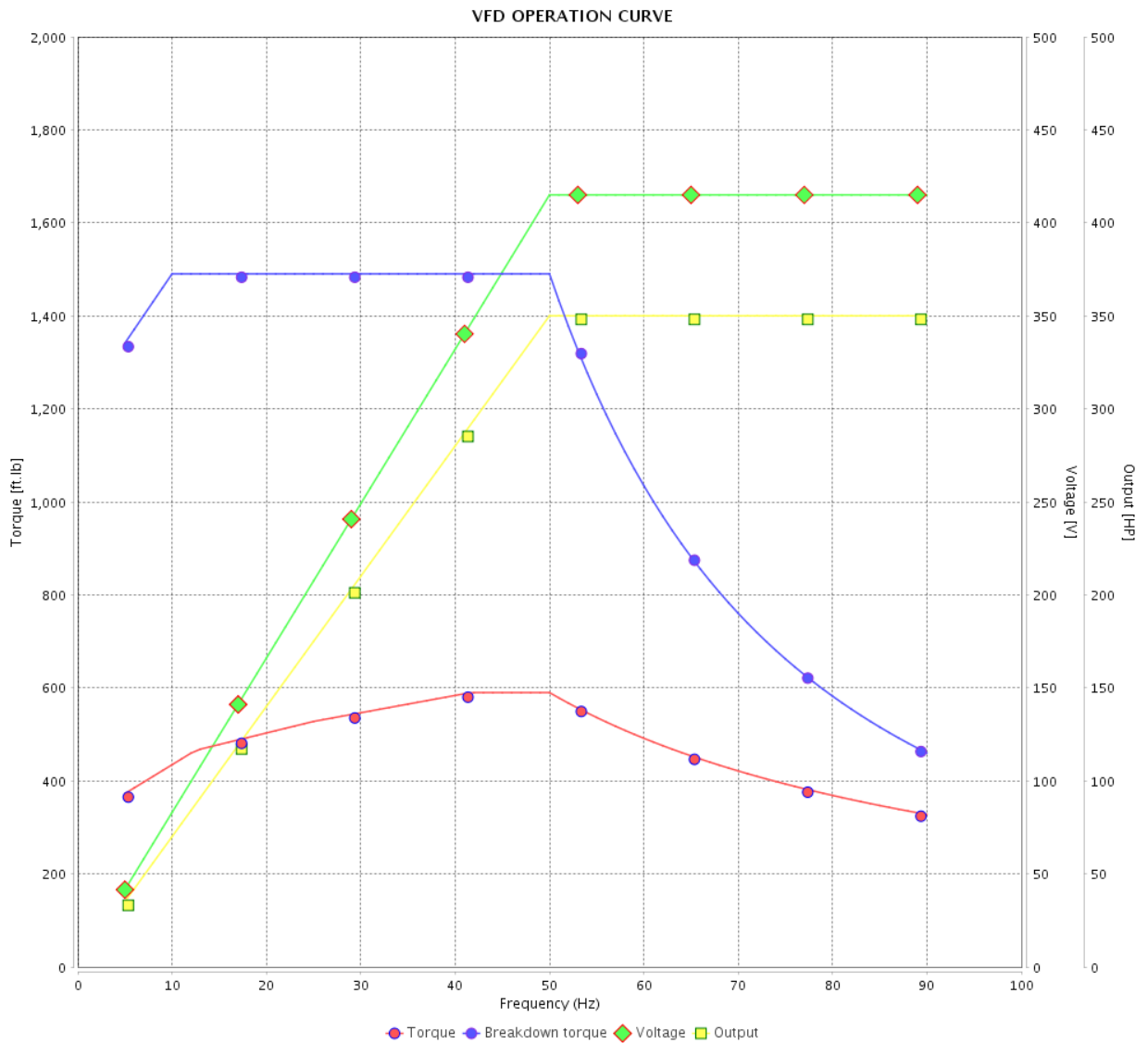


Customer :

Product line : W40 NEMA Premium Efficiency Three-Phase

Product code : 13568154

Catalog # : 35036OT3G447/9TS-W40

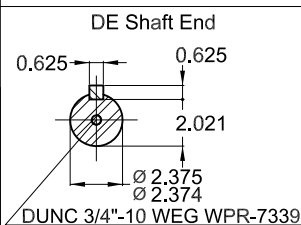
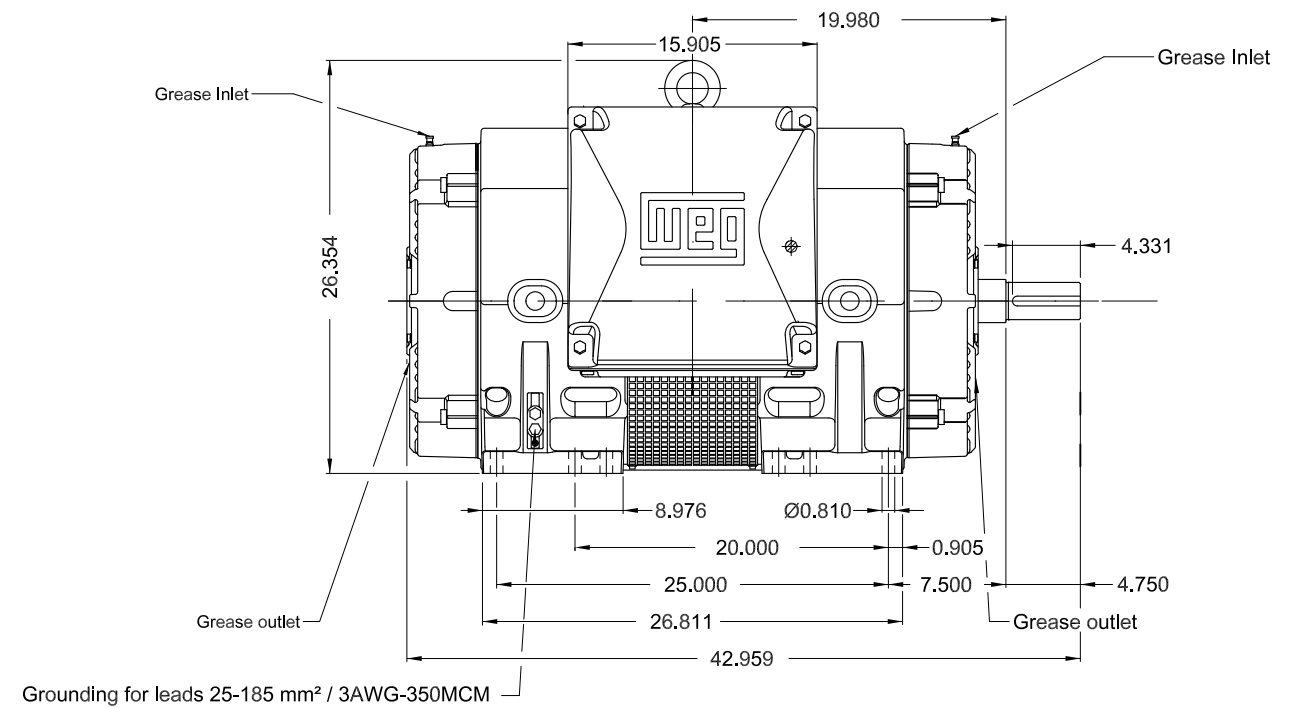
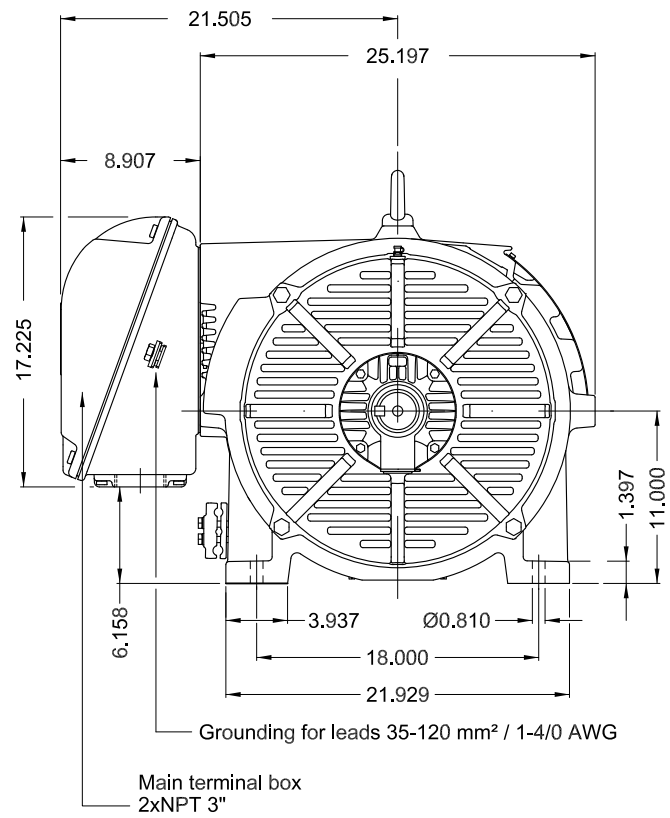


Performance : 415 V 50 Hz 2P IE2

Rated current : 428 A  
 LRC : 6.2  
 Rated torque : 621 ft.lb  
 Locked rotor torque : 180 %  
 Breakdown torque : 240 %  
 Rated speed : 2960 rpm

Moment of inertia (J) : 35.7 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : A

Rev.	Changes Summary	Performed	Checked	Date
Performed by				Page 37 / 37
Checked by				
Date	13/04/2022			



Color RAL 5009  
 Painting plan 203A  
 Mounting NEMA F-1  
 Mounting B3R(D)

350 HP 02 Poles 60 Hz

Dimensions in inches

1:12

ECM	LOC	SUMMARY OF MODIFICATIONS	EXECUTED	CHECKED	RELEASED	DATE	VER
EXECUTED	PIRWBUSER	THREE PH. MOTOR W40 PREM. EFF.					
CHECKED		FRAME 447/9TS IP23 ODP					
RELEASED							
REL DT.	WMO	Jaragua do Sul	Product Engineering				

**PREVIEW**  
 WDD



SHEET 1 / 1

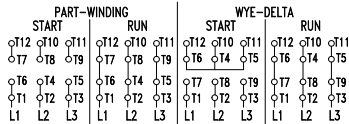
MODEL 350360T3G447/9TS-W40  
MADE IN BRAZIL  
13568154




MOD.T01#FOXON



PH 3	FR 447/9TS	HP(kW) 350(260)	Hz 60
V 460	A 384	IP23	
NEMA NOM EFF	95.4 %	RPM 3565	
ENCL ODP	DUTY CONT.	INS. CL. F $\Delta T$ 80 K	
PF 0.89	DES A	CODE G	AMB. 40°C
SF 1.15	SFA 442	ALT 1000 m.a.s.l.	



 → 6314-C3(27g)  
→ 6314-C3(27g)

MOBIL POLYREX EM  
14418 h

1933 Lbs