

DATA SHEET



Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W22 IEEE 841 NEMA Premium Efficiency Three-Phase Product code : 16684655
 Catalog # : 04018ST3QAP324T-W22

Frame : 324/6T	Cooling method : IC411 - TEFC
Insulation class : F	Mounting : W-8
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 : 579 lb
Protection degree : IP56	Moment of inertia (J) : 9.16 sq.ft.lb
Design : B	

Output [HP]	40	30	30	30	40	40	40	
Poles	4	4	4	4	4	4	4	
Frequency [Hz]	60	50	50	50	50	50	50	
Rated voltage [V]	460	380	400	415	380	400	415	
Rated current [A]	47.1	42.8	41.6	41.1	57.4	54.1	52.8	
L. R. Amperes [A]	287	291	308	316	287	303	317	
LRC [A]	6.1x(Code G)	6.8x(Code H)	7.4x(Code J)	7.7x(Code J)	5.0x(Code E)	5.6x(Code F)	6.0x(Code G)	
No load current [A]	17.0	16.8	17.3	18.6	16.8	17.3	18.6	
Rated speed [RPM]	1775	1477	1480	1481	1460	1465	1470	
Slip [%]	1.39	1.53	1.33	1.27	2.67	2.33	2.00	
Rated torque [ft.lb]	118	107	106	106	144	143	143	
Locked rotor torque [%]	229	240	270	280	170	190	210	
Breakdown torque [%]	240	250	290	310	180	210	229	
Service factor	1.15	1.00	1.00	1.00	1.00	1.00	1.00	
Temperature rise	80 K	80 K	80 K	80 K	105 K	105 K	105 K	
Locked rotor time	36s (cold) 20s (hot)	25s (cold) 14s (hot)	27s (cold) 15s (hot)	27s (cold) 15s (hot)	25s (cold) 14s (hot)	27s (cold) 15s (hot)	27s (cold) 15s (hot)	
Noise level ²	66.0 dB(A)	63.0 dB(A)	63.0 dB(A)	63.0 dB(A)	63.0 dB(A)	63.0 dB(A)	63.0 dB(A)	
Efficiency (%)	25%	93.5	92.9	92.1	91.1	94.0	93.5	92.8
	50%	93.6	92.9	92.4	91.7	93.6	93.6	93.0
	75%	94.1	93.1	93.0	92.6	93.0	93.0	93.0
	100%	94.1	93.0	93.2	93.1	92.4	93.0	93.0
Power Factor	25%	0.46	0.43	0.40	0.38	0.53	0.49	0.47
	50%	0.72	0.68	0.64	0.62	0.78	0.74	0.72
	75%	0.80	0.78	0.75	0.73	0.84	0.82	0.80
	100%	0.85	0.84	0.82	0.80	0.86	0.86	0.85

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

Losses (%)	P1 (0,9;1,0)	6.1	6.1	6.1	6.1	6.1	6.1	6.1
	P2 (0,5;1,0)	5.1	5.1	5.1	5.1	5.1	5.1	5.1
	P3 (0,25;1,0)	4.9	4.9	4.9	4.9	4.9	4.9	4.9
	P4 (0,9;0,5)	2.8	2.8	2.8	2.8	2.8	2.8	2.8
	P5 (0,5;0,5)	1.9	1.9	1.9	1.9	1.9	1.9	1.9
	P6 (0,5;0,25)	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	P7 (0,25;0,25)	0.8	0.8	0.8	0.8	0.8	0.8	0.8

	<u>Drive end</u>	<u>Non drive end</u>	Foundation loads
Bearing type :	NU-312 C3	6212 C3	Max. traction : 972 lb
Sealing :	Inpro/Seal	Inpro/Seal	Max. compression : 1551 lb
Lubrication interval :	10000 h	15000 h	
Lubricant amount :	21 g	13 g	
Lubricant type :	Mobil Polyrex EM		

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Three Phase Induction Motor - Squirrel Cage



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Notes

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TORQUE AND CURRENT VS SPEED CURVE



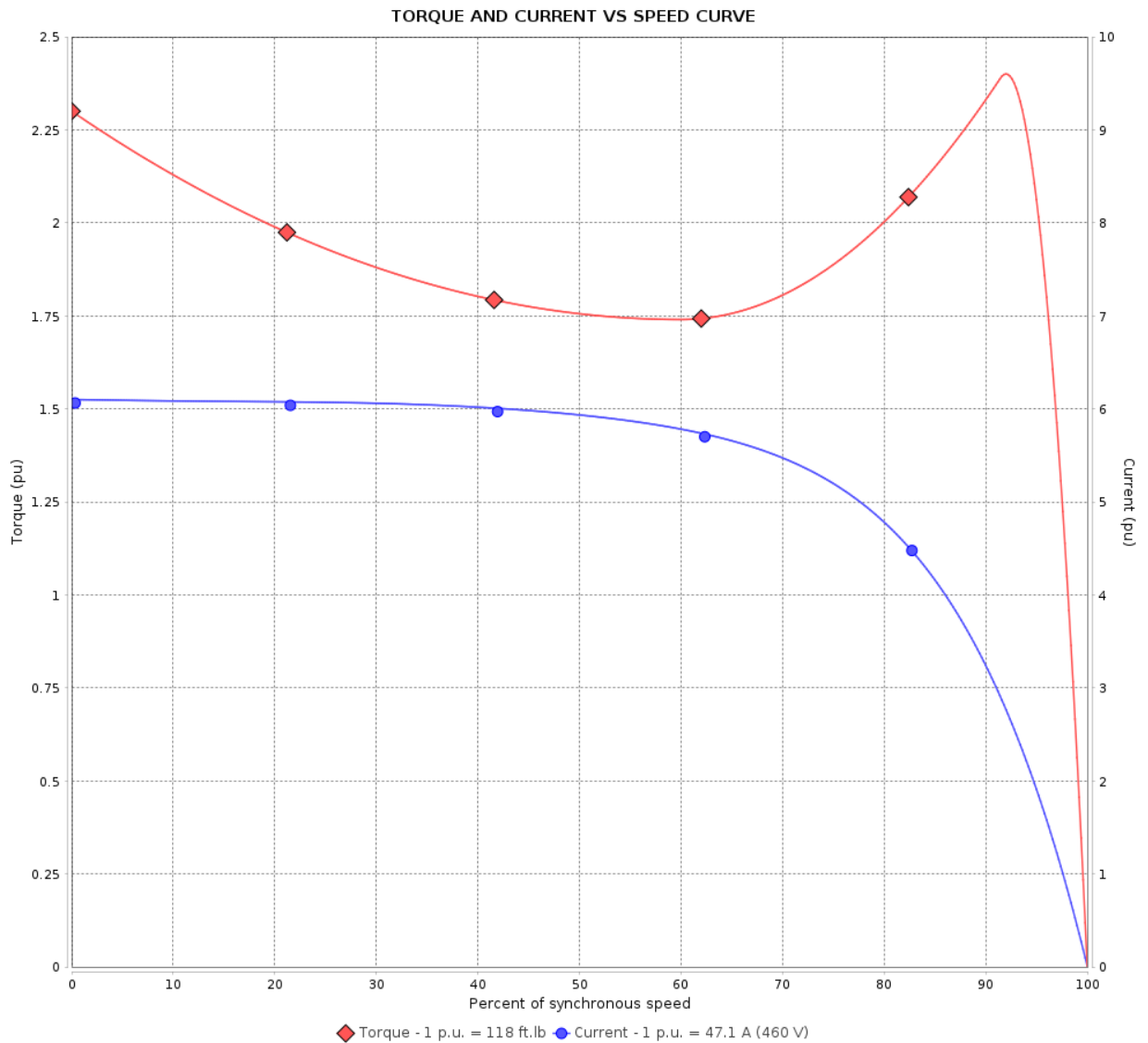
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Performance : 460 V 60 Hz 4P

Rated current	: 47.1 A	Moment of inertia (J)	: 9.16 sq.ft.lb
LRC	: 6.1	Duty cycle	: Cont.(S1)
Rated torque	: 118 ft.lb	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.15
Breakdown torque	: 240 %	Temperature rise	: 80 K
Rated speed	: 1775 rpm	Design	: B

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

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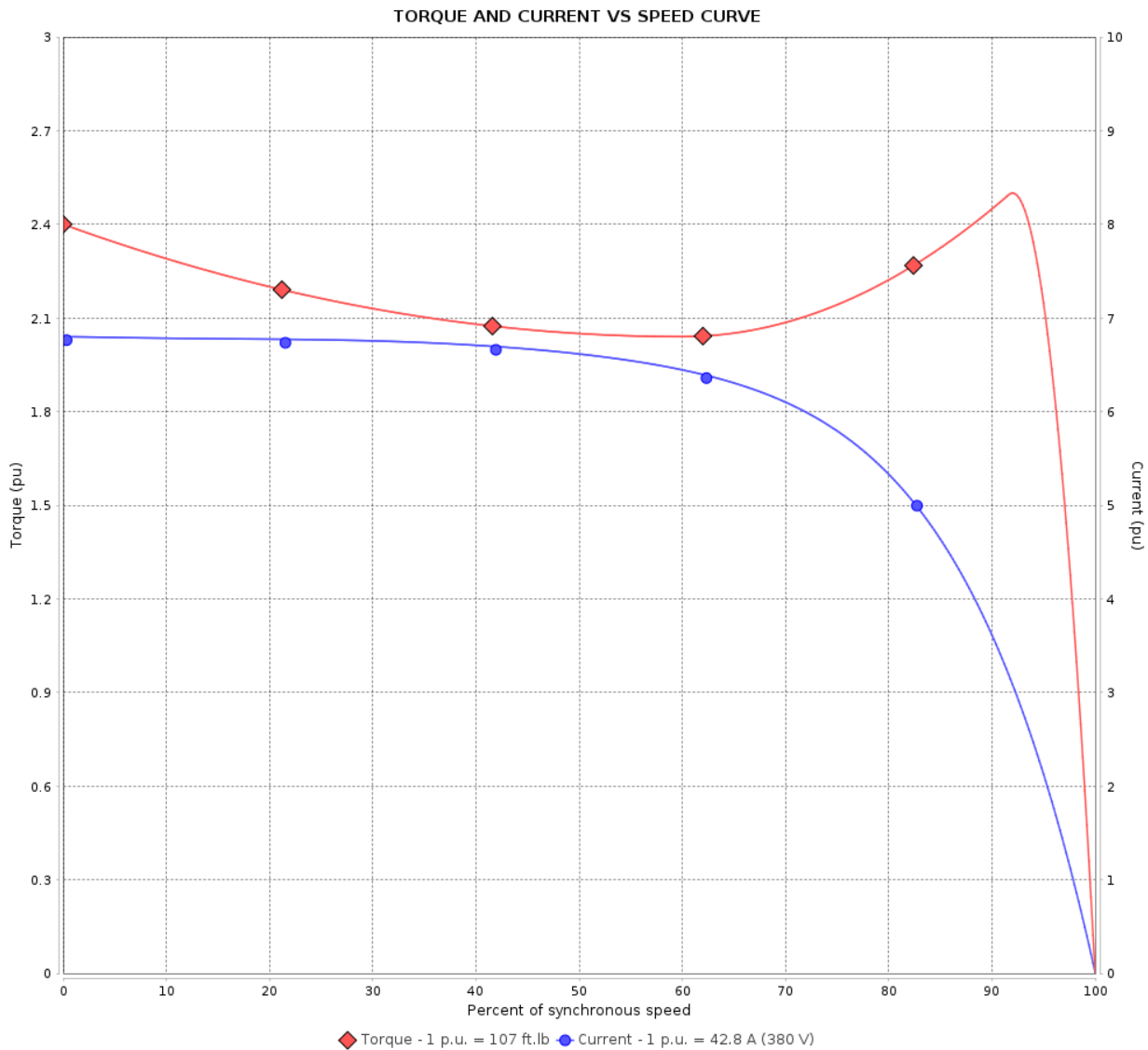


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Performance : 380 V 50 Hz 4P IE3

Rated current	: 42.8 A	Moment of inertia (J)	: 9.16 sq.ft.lb
LRC	: 6.8	Duty cycle	: Cont.(S1)
Rated torque	: 107 ft.lb	Insulation class	: F
Locked rotor torque	: 240 %	Service factor	: 1.00
Breakdown torque	: 250 %	Temperature rise	: 80 K
Rated speed	: 1477 rpm	Design	: B

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

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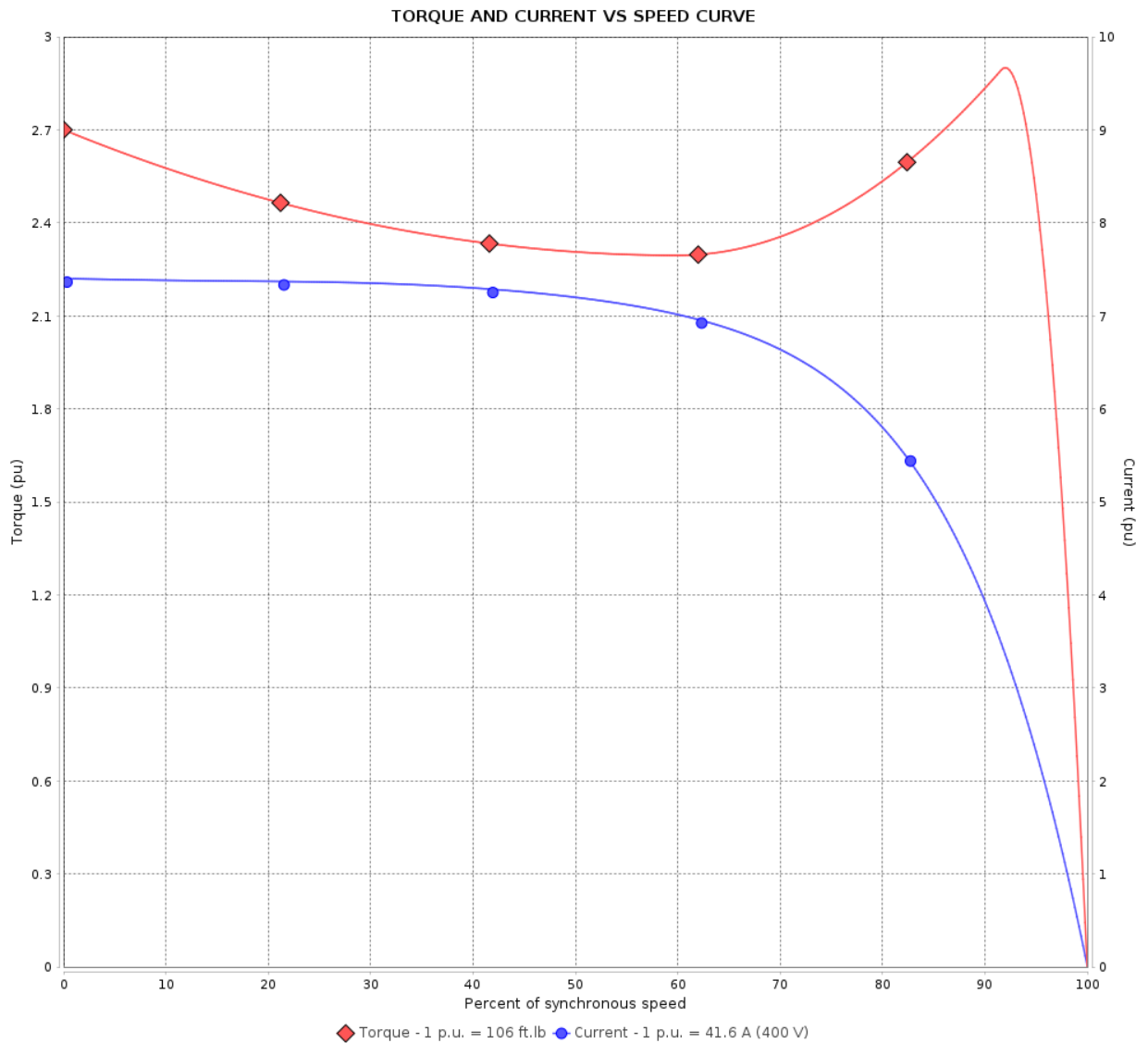
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Performance : 400 V 50 Hz 4P IE3

Rated current	: 41.6 A	Moment of inertia (J)	: 9.16 sq.ft.lb
LRC	: 7.4	Duty cycle	: Cont.(S1)
Rated torque	: 106 ft.lb	Insulation class	: F
Locked rotor torque	: 270 %	Service factor	: 1.00
Breakdown torque	: 290 %	Temperature rise	: 80 K
Rated speed	: 1480 rpm	Design	: B

Locked rotor time : 27s (cold) 15s (hot)

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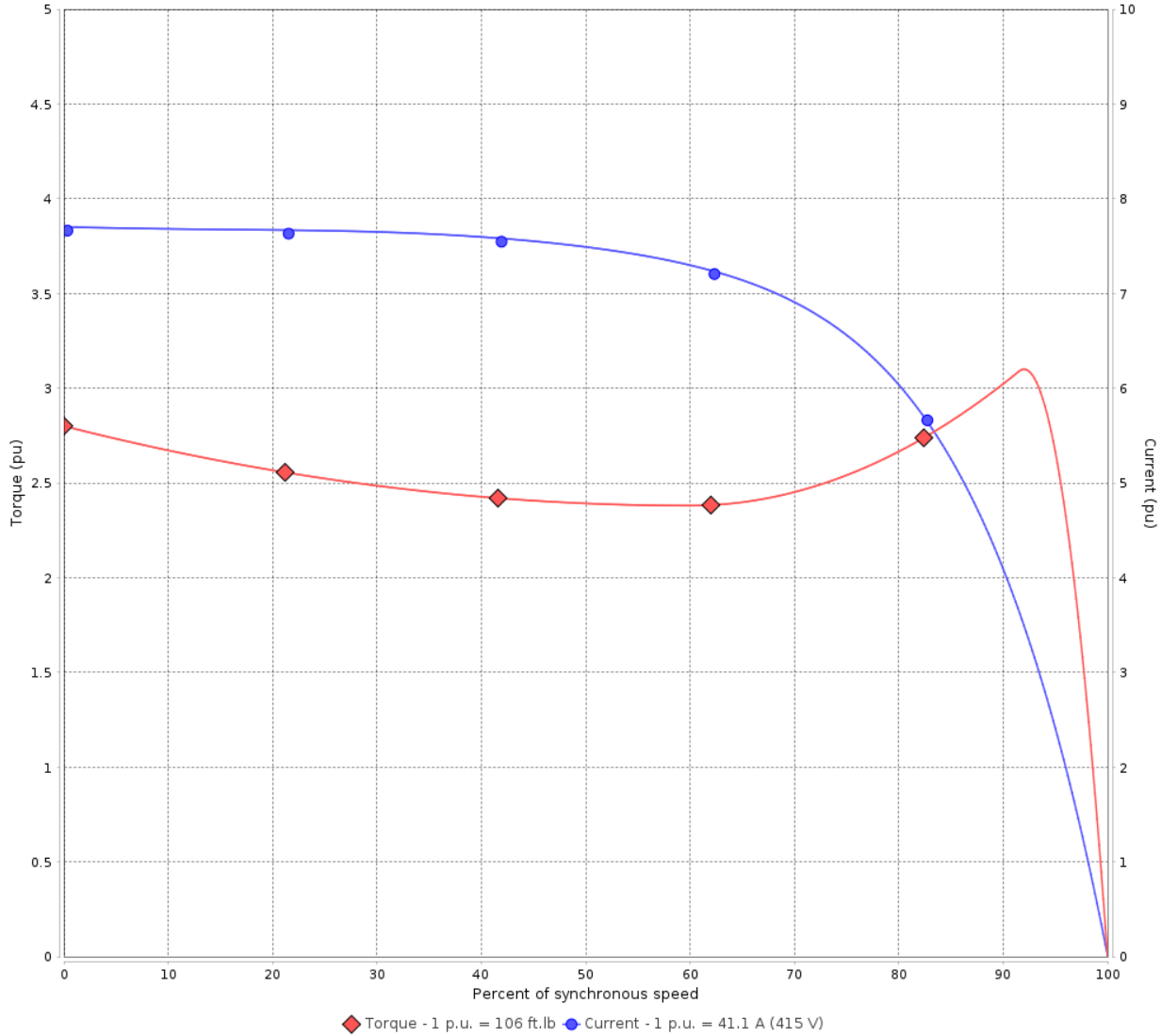
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Rated current	: 41.1 A	Moment of inertia (J)	: 9.16 sq.ft.lb
LRC	: 7.7	Duty cycle	: Cont.(S1)
Rated torque	: 106 ft.lb	Insulation class	: F
Locked rotor torque	: 280 %	Service factor	: 1.00
Breakdown torque	: 310 %	Temperature rise	: 80 K
Rated speed	: 1481 rpm	Design	: B

Locked rotor time : 27s (cold) 15s (hot)

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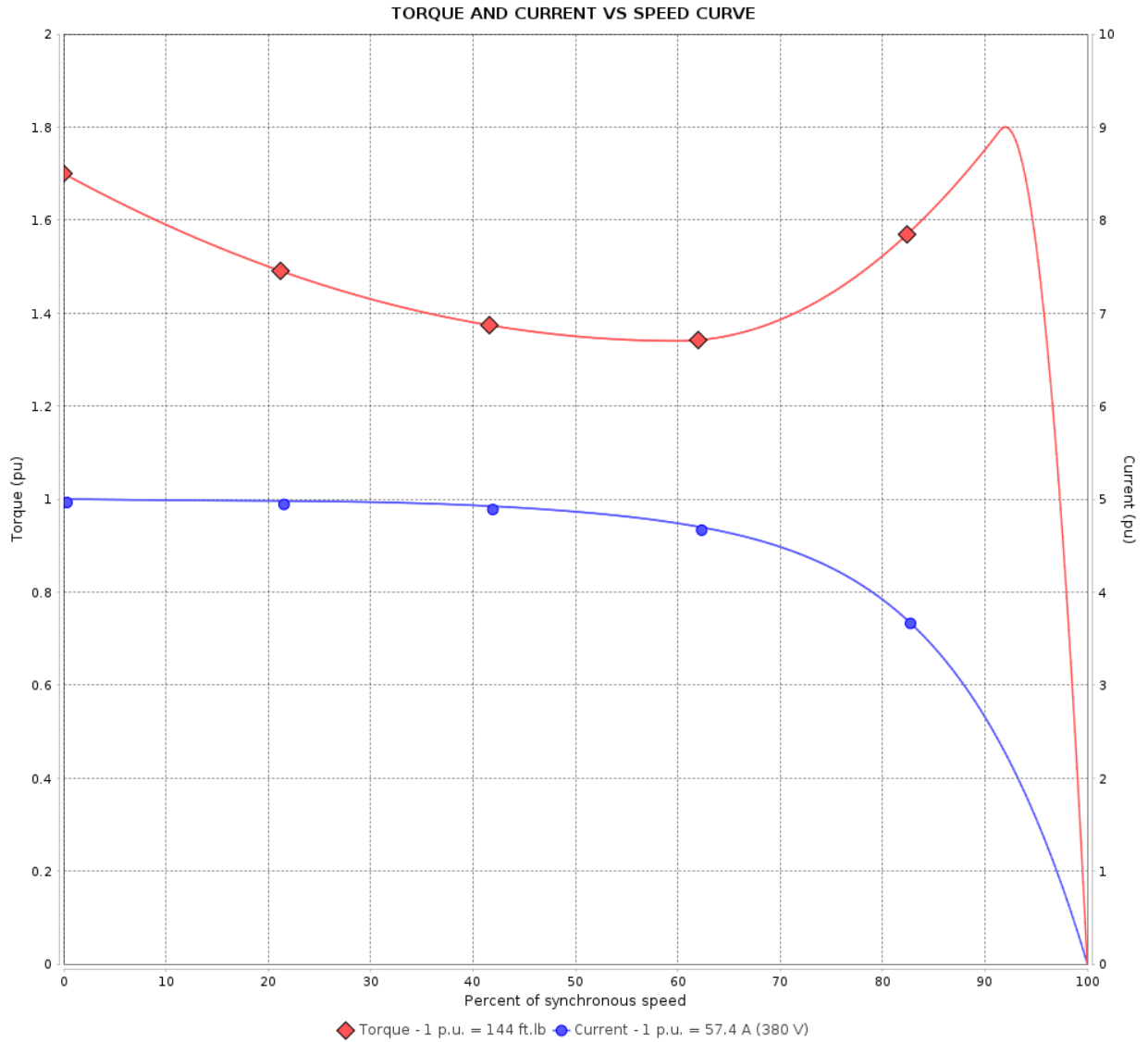
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Performance : 380 V 50 Hz 4P IE2

Rated current : 57.4 A
 LRC : 5.0
 Rated torque : 144 ft.lb
 Locked rotor torque : 170 %
 Breakdown torque : 180 %
 Rated speed : 1460 rpm

Moment of inertia (J) : 9.16 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 105 K
 Design : B

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

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TORQUE AND CURRENT VS SPEED CURVE

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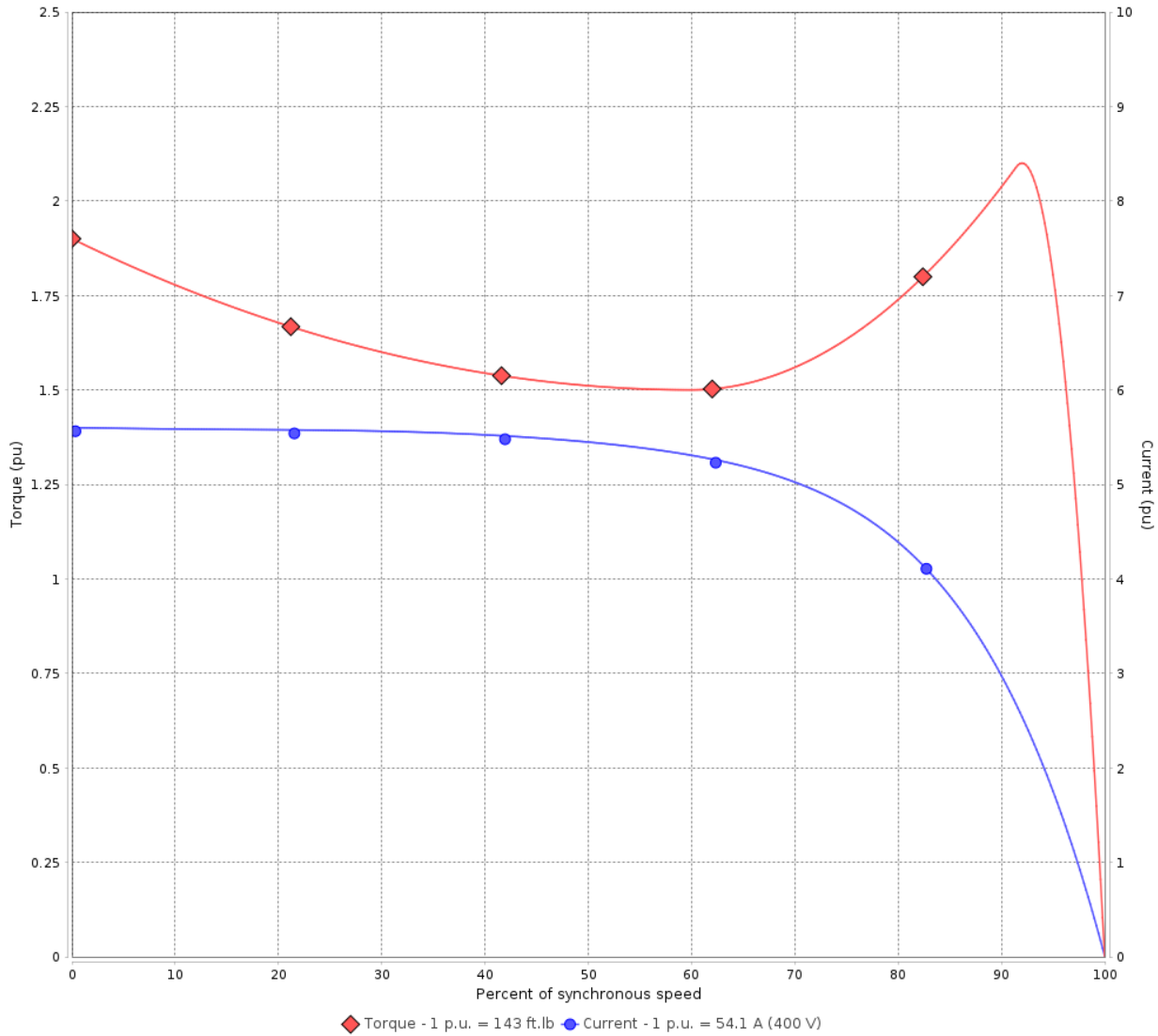
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Performance : 400 V 50 Hz 4P IE2

Rated current	: 54.1 A	Moment of inertia (J)	: 9.16 sq.ft.lb
LRC	: 5.6	Duty cycle	: Cont.(S1)
Rated torque	: 143 ft.lb	Insulation class	: F
Locked rotor torque	: 190 %	Service factor	: 1.00
Breakdown torque	: 210 %	Temperature rise	: 105 K
Rated speed	: 1465 rpm	Design	: B

Locked rotor time : 27s (cold) 15s (hot)

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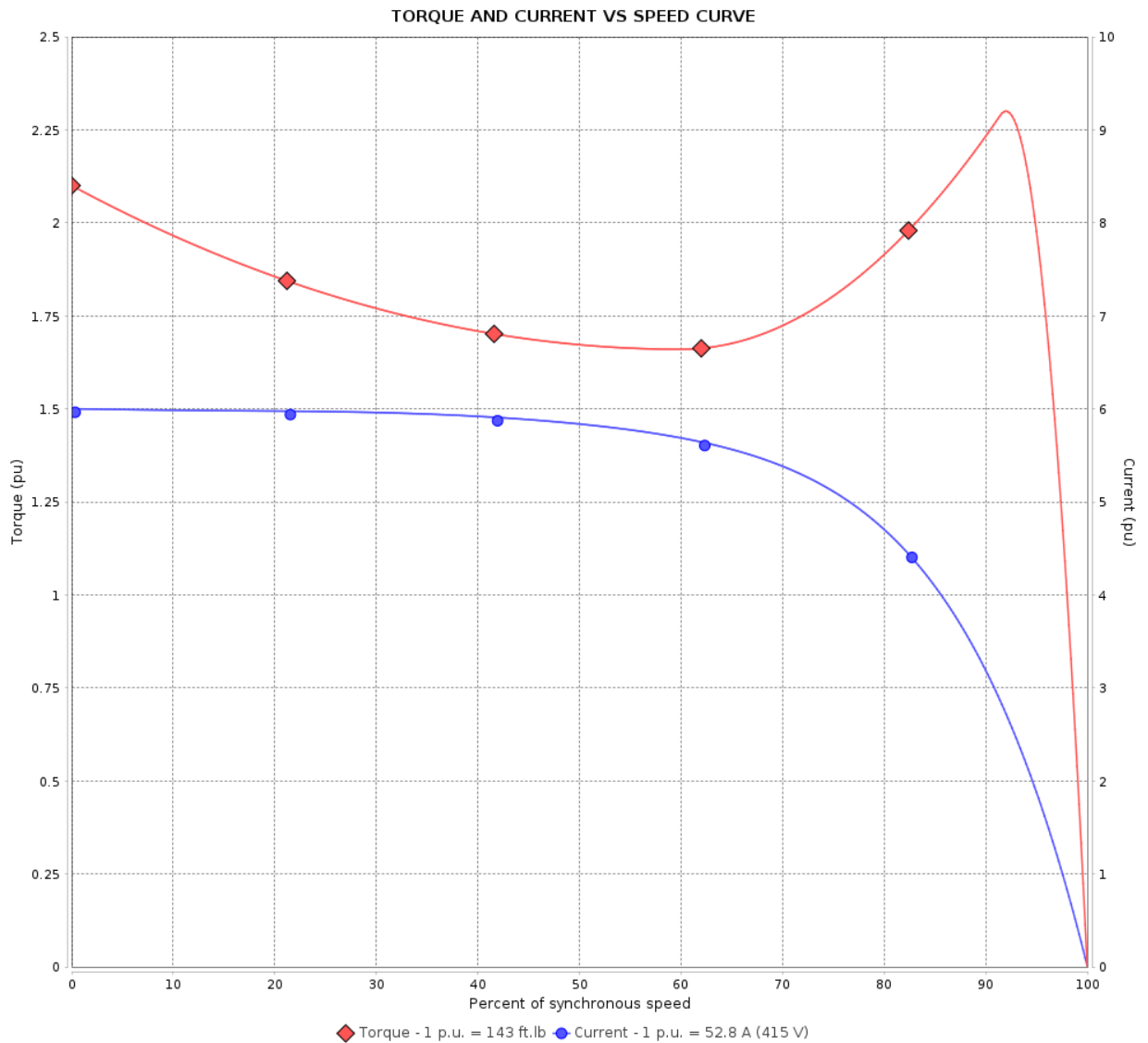
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Performance : 415 V 50 Hz 4P IE2

Rated current	: 52.8 A	Moment of inertia (J)	: 9.16 sq.ft.lb
LRC	: 6.0	Duty cycle	: Cont.(S1)
Rated torque	: 143 ft.lb	Insulation class	: F
Locked rotor torque	: 210 %	Service factor	: 1.00
Breakdown torque	: 229 %	Temperature rise	: 105 K
Rated speed	: 1470 rpm	Design	: B

Locked rotor time : 27s (cold) 15s (hot)

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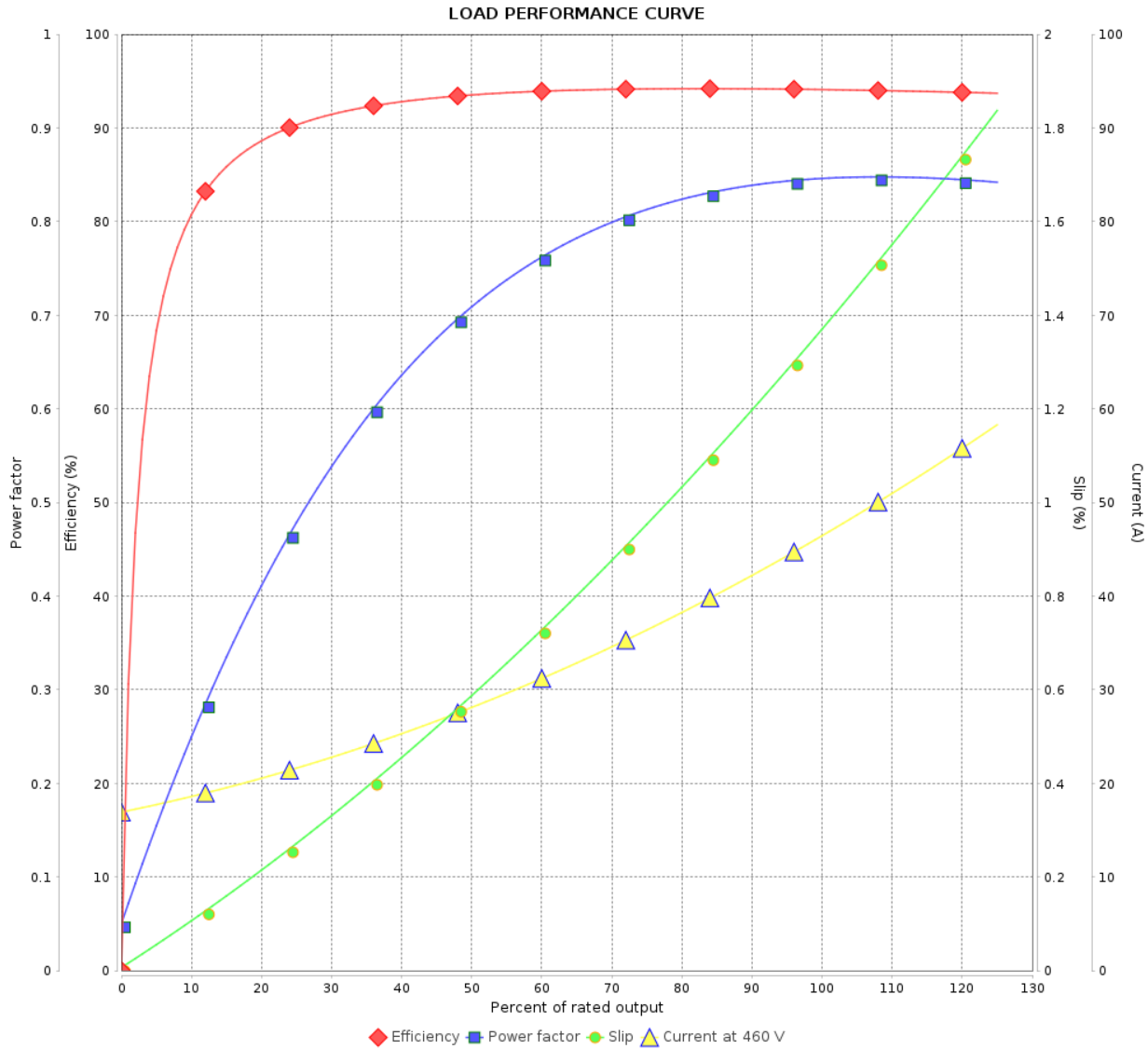


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 Rated torque : 118 ft.lb
 Locked rotor torque : 229 %
 Breakdown torque : 240 %
 Rated speed : 1775 rpm

Moment of inertia (J) : 9.16 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.15
 Temperature rise : 80 K
 Design : B

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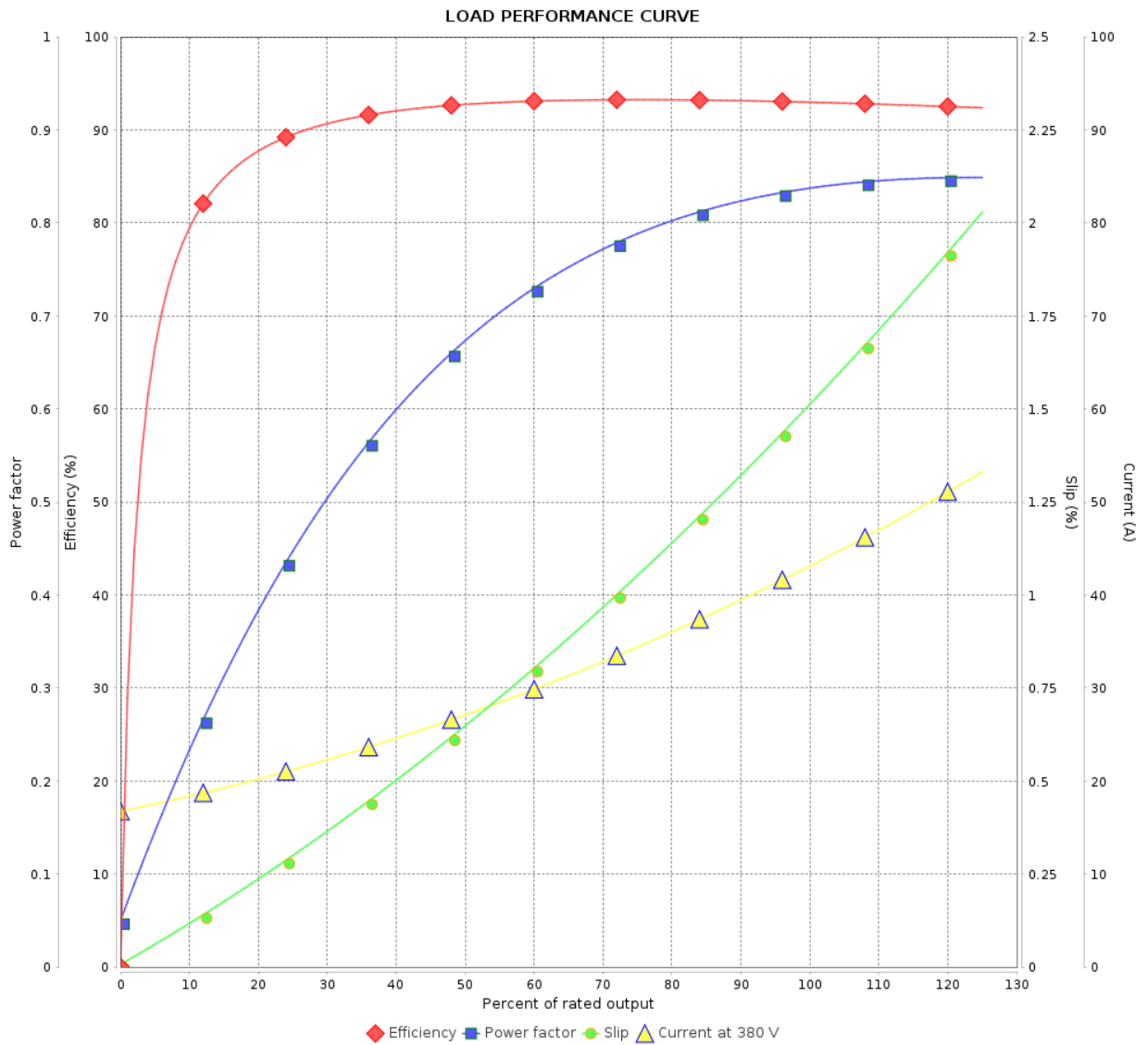


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Performance : 380 V 50 Hz 4P IE3

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 LRC : 6.8
 Rated torque : 107 ft.lb
 Locked rotor torque : 240 %
 Breakdown torque : 250 %
 Rated speed : 1477 rpm

Moment of inertia (J) : 9.16 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

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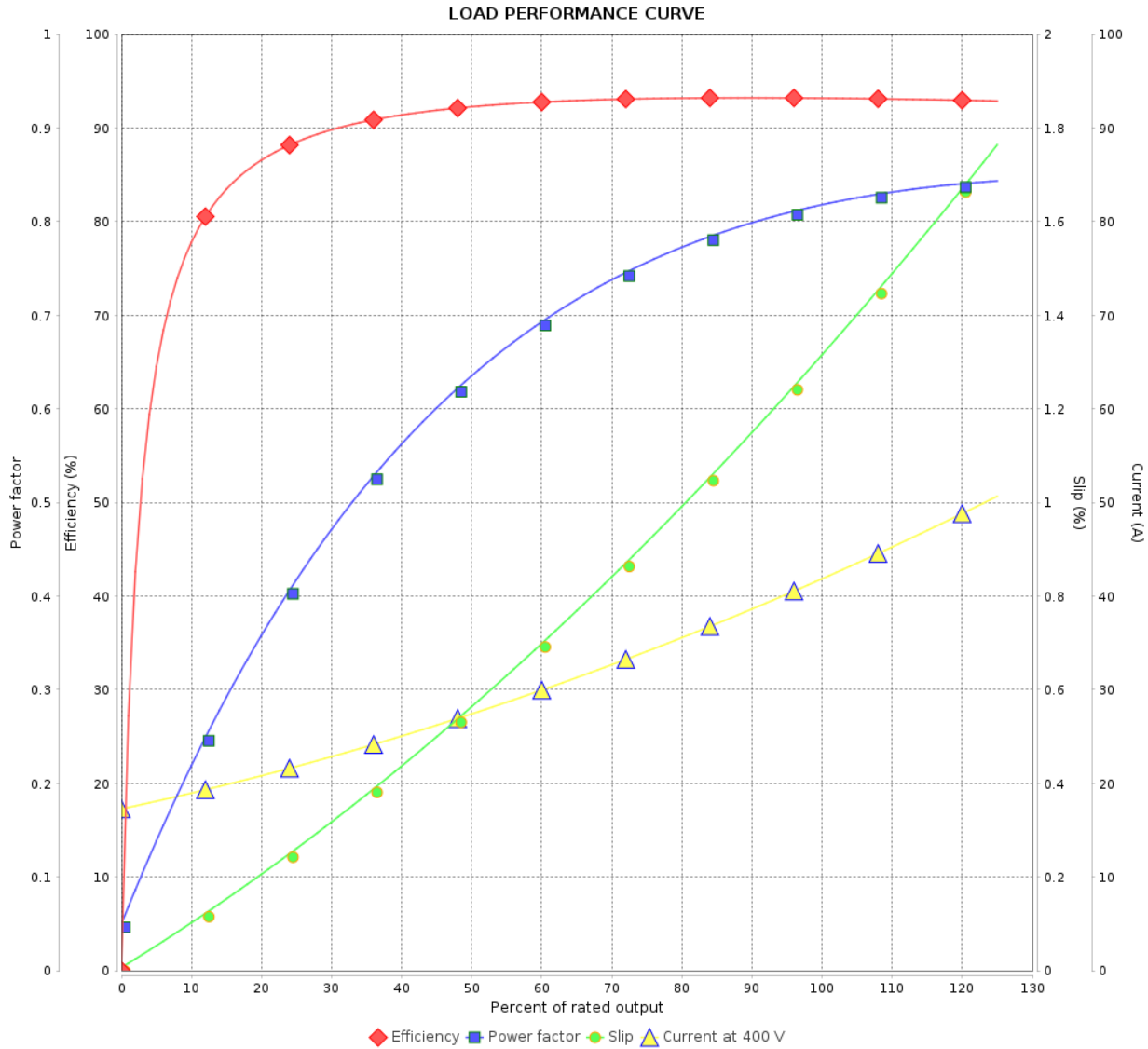


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Performance : 400 V 50 Hz 4P IE3

Rated current : 41.6 A
 LRC : 7.4
 Rated torque : 106 ft.lb
 Locked rotor torque : 270 %
 Breakdown torque : 290 %
 Rated speed : 1480 rpm

Moment of inertia (J) : 9.16 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

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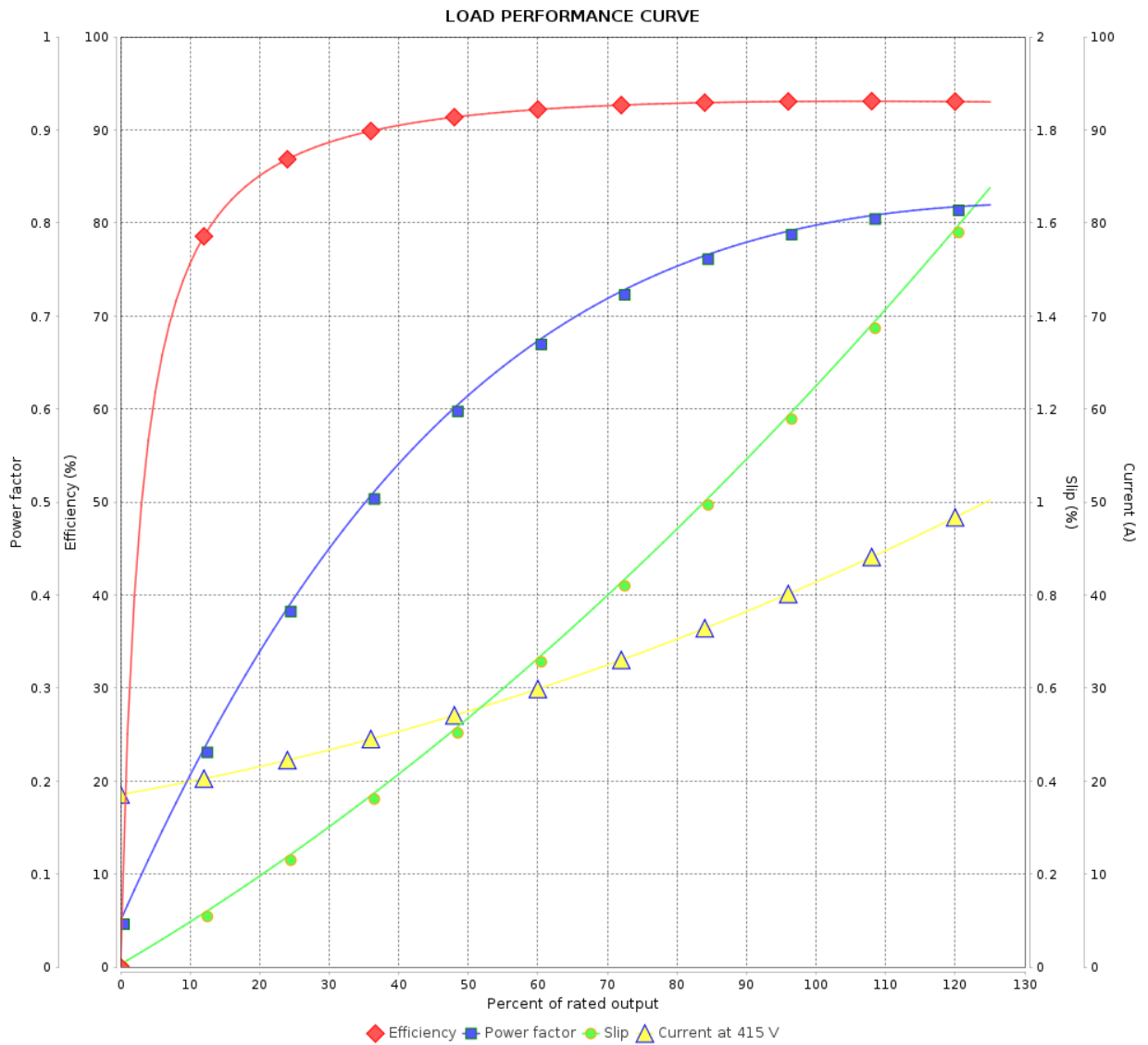


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 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
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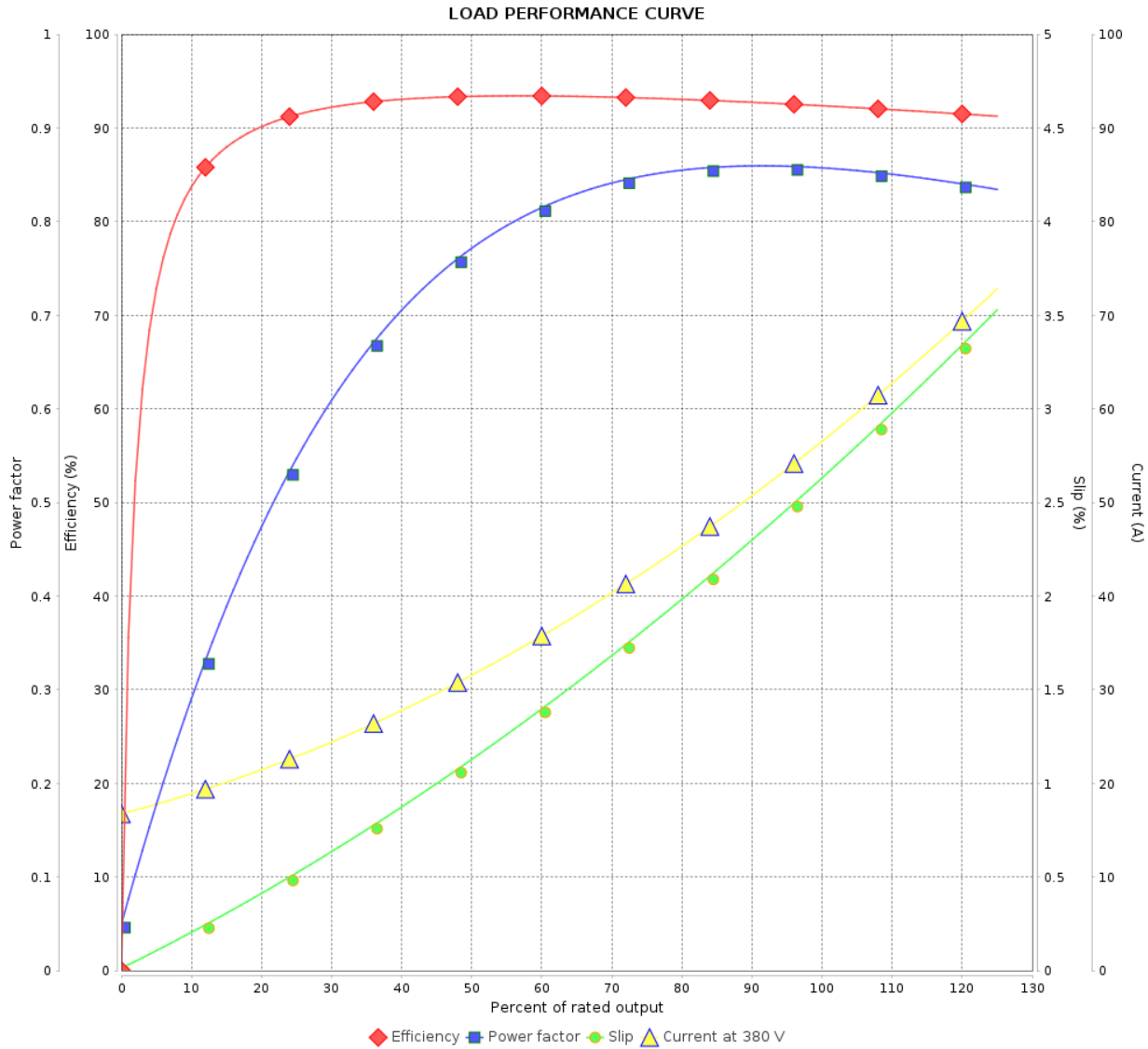


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Performance : 380 V 50 Hz 4P IE2

Rated current : 57.4 A
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 Rated torque : 144 ft.lb
 Locked rotor torque : 170 %
 Breakdown torque : 180 %
 Rated speed : 1460 rpm

Moment of inertia (J) : 9.16 sq.ft.lb
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 Insulation class : F
 Service factor : 1.00
 Temperature rise : 105 K
 Design : B

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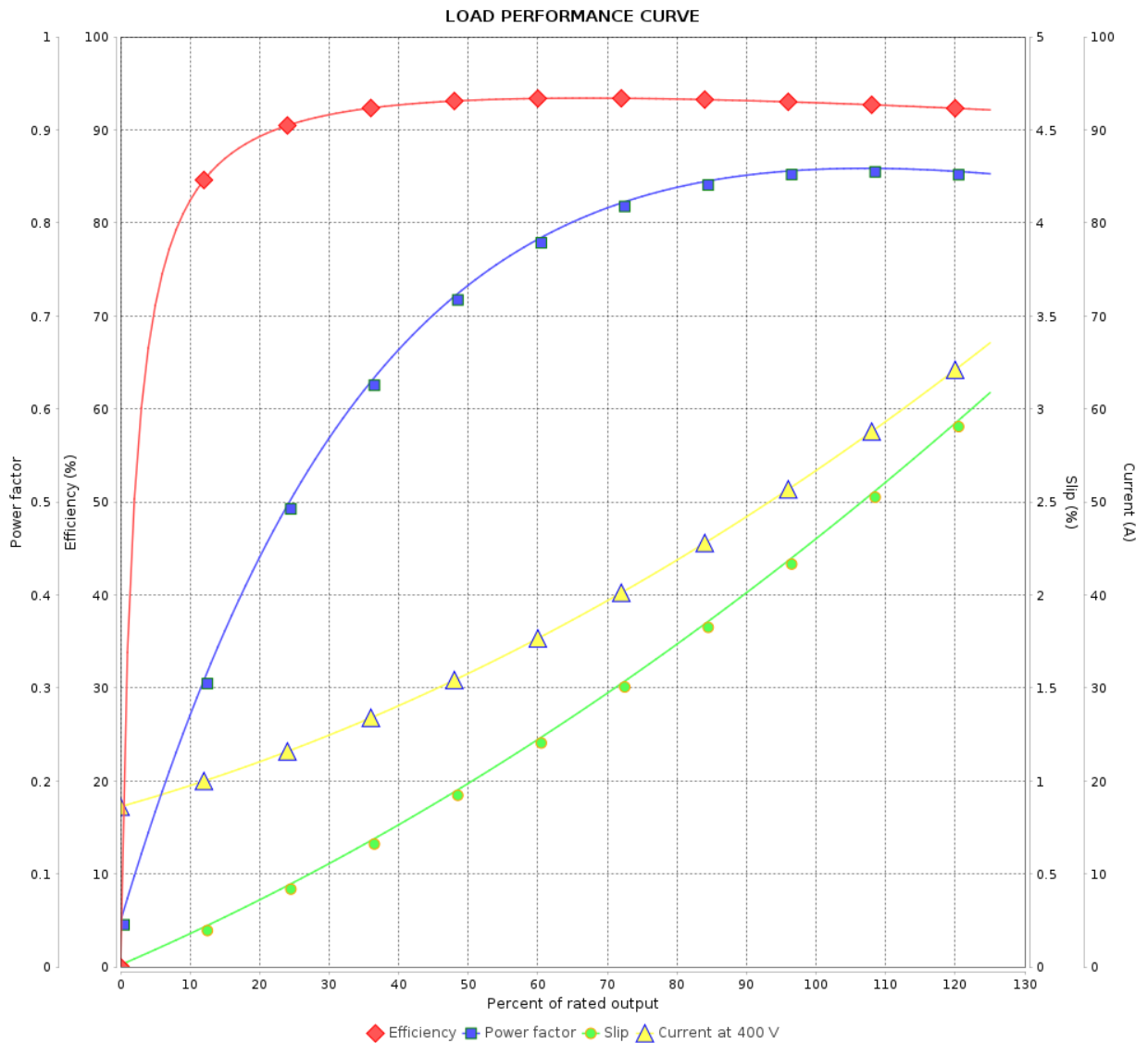


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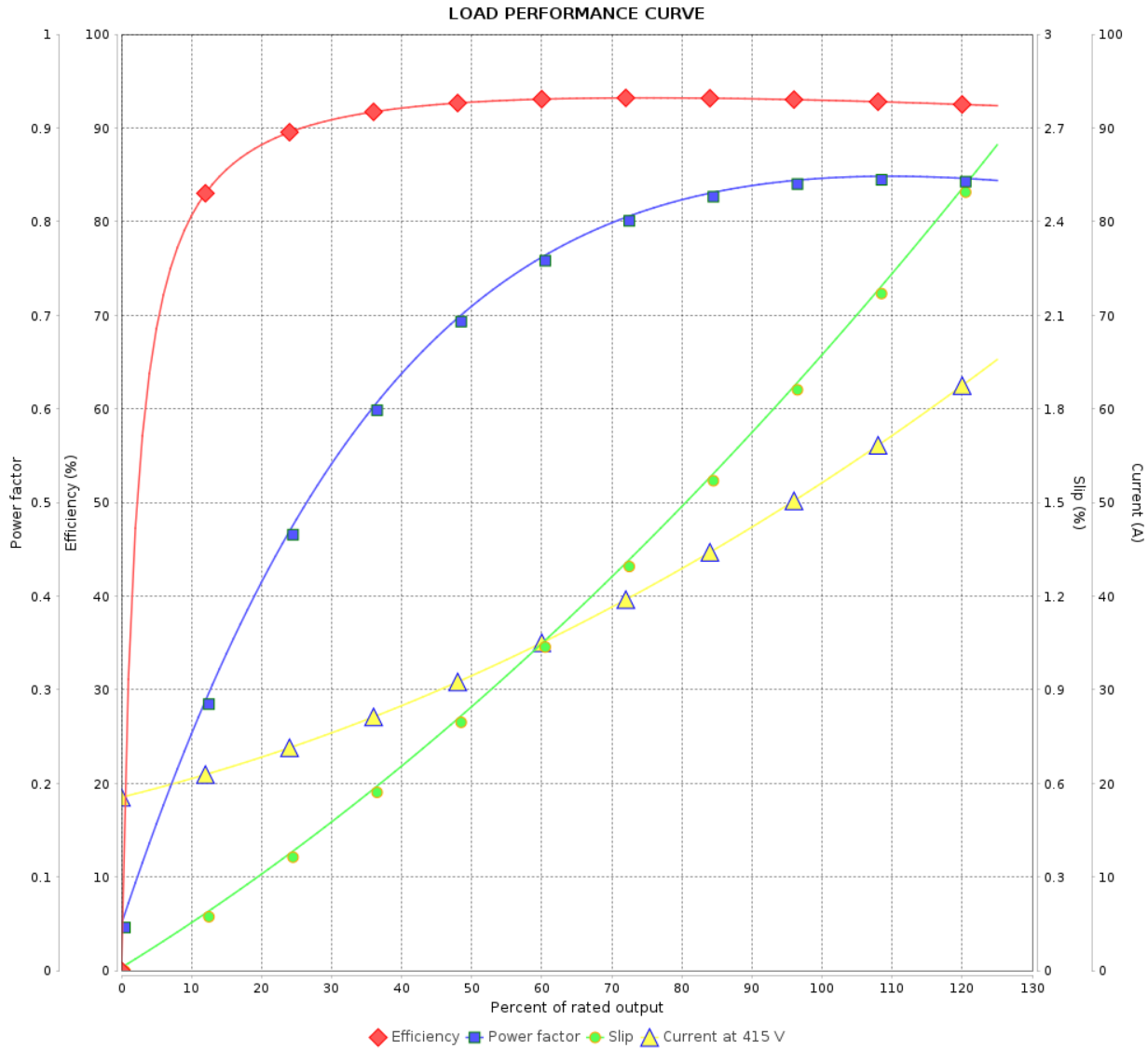


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Heating constant

Cooling constant

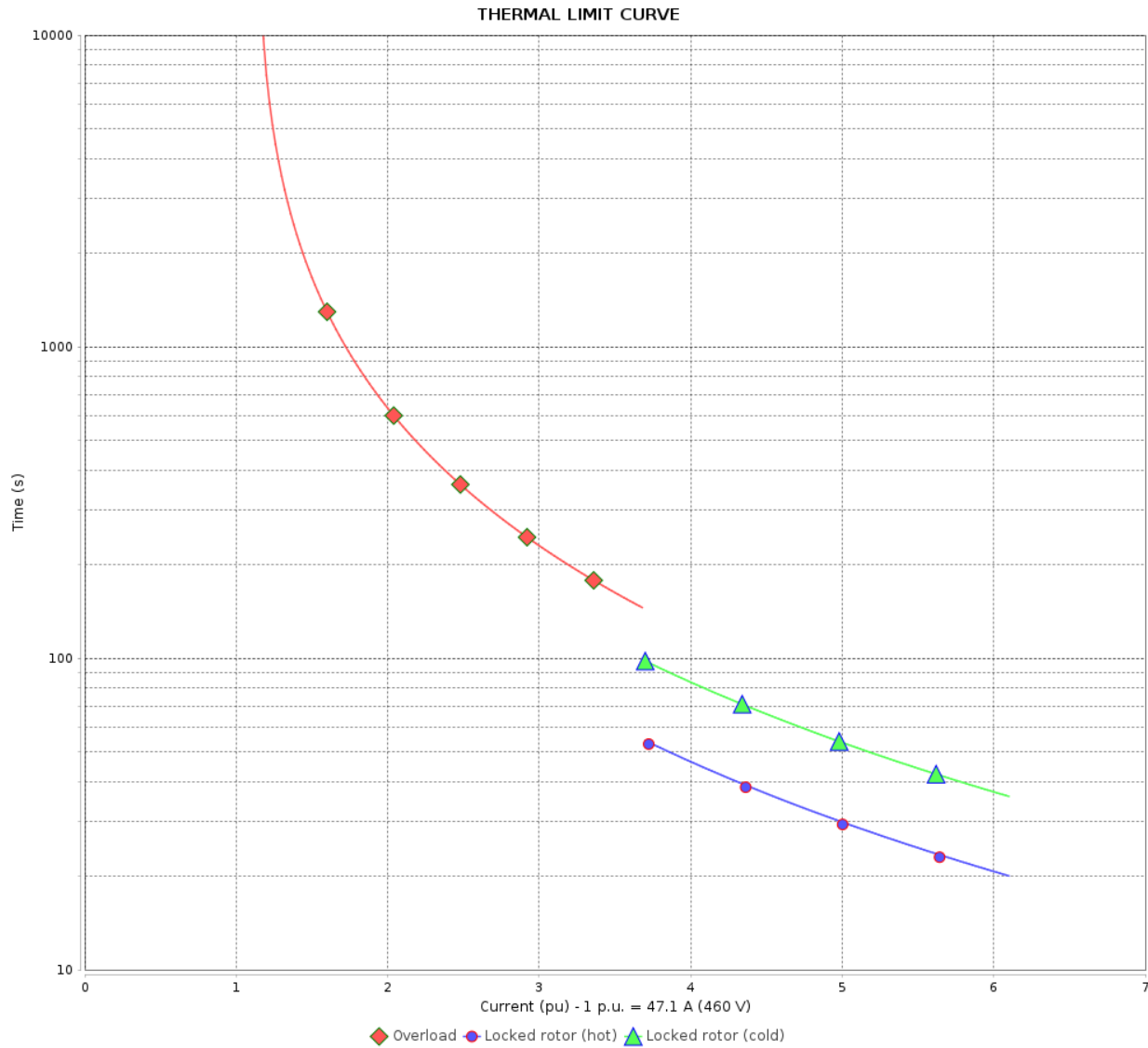
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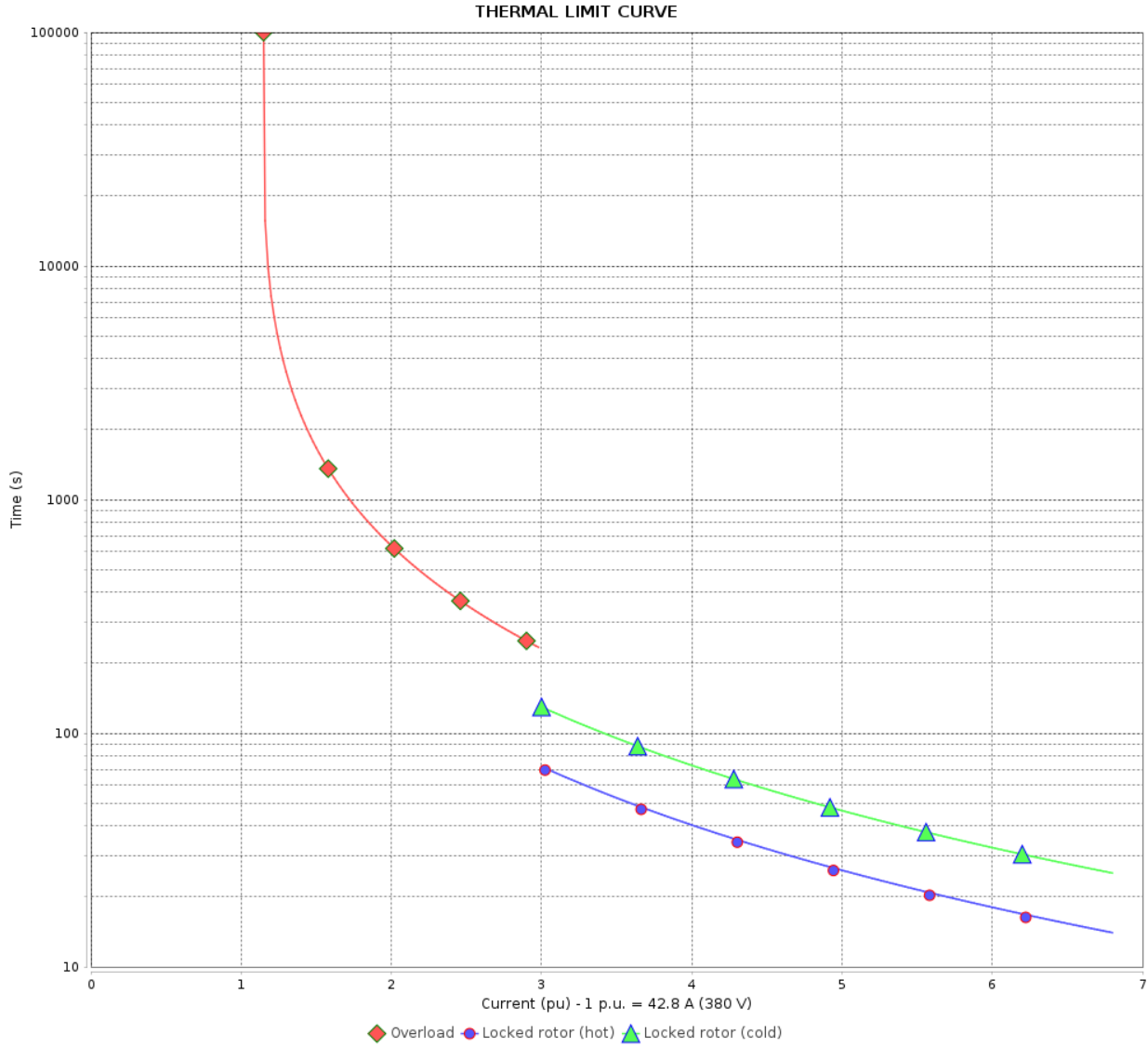
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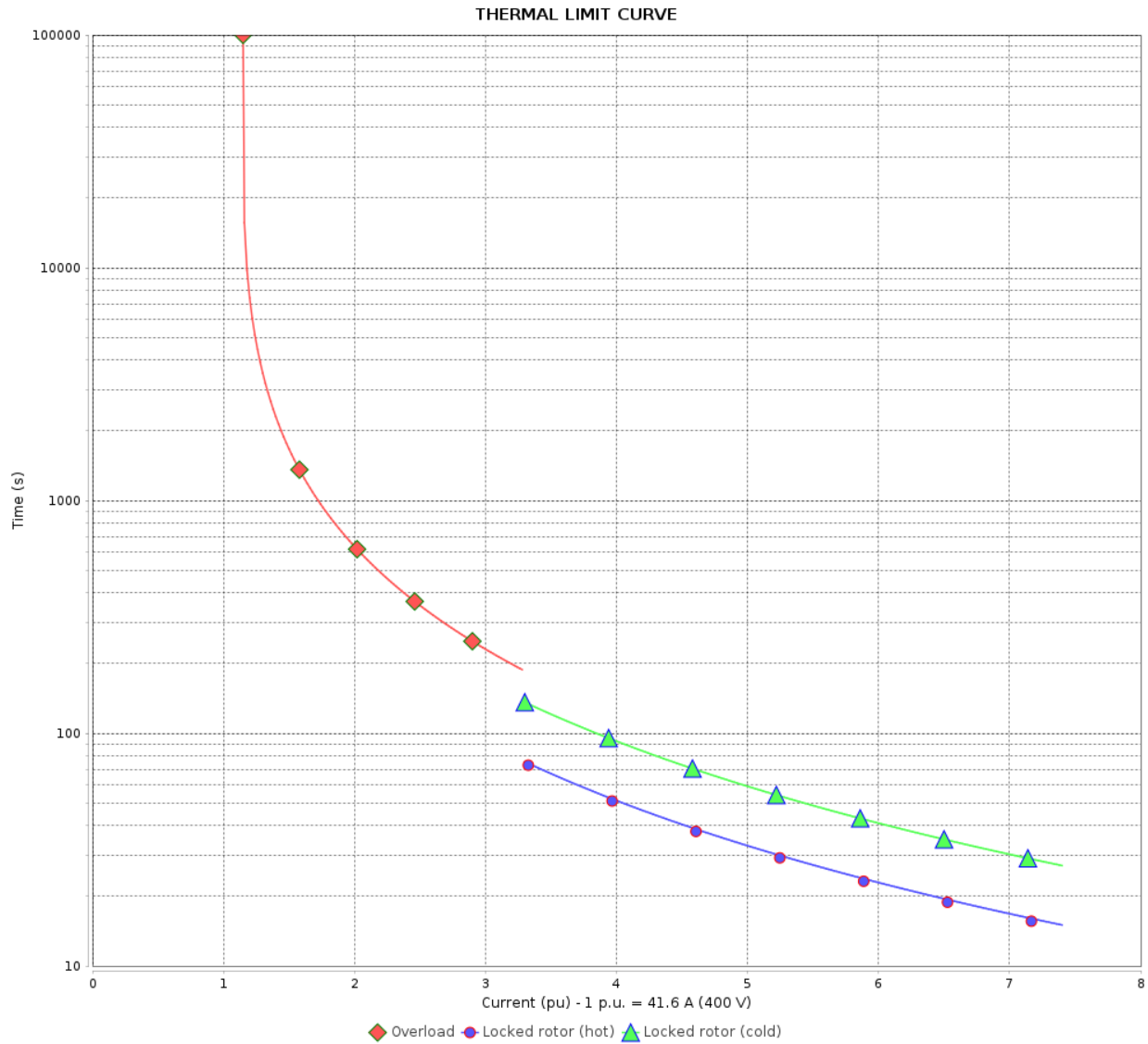
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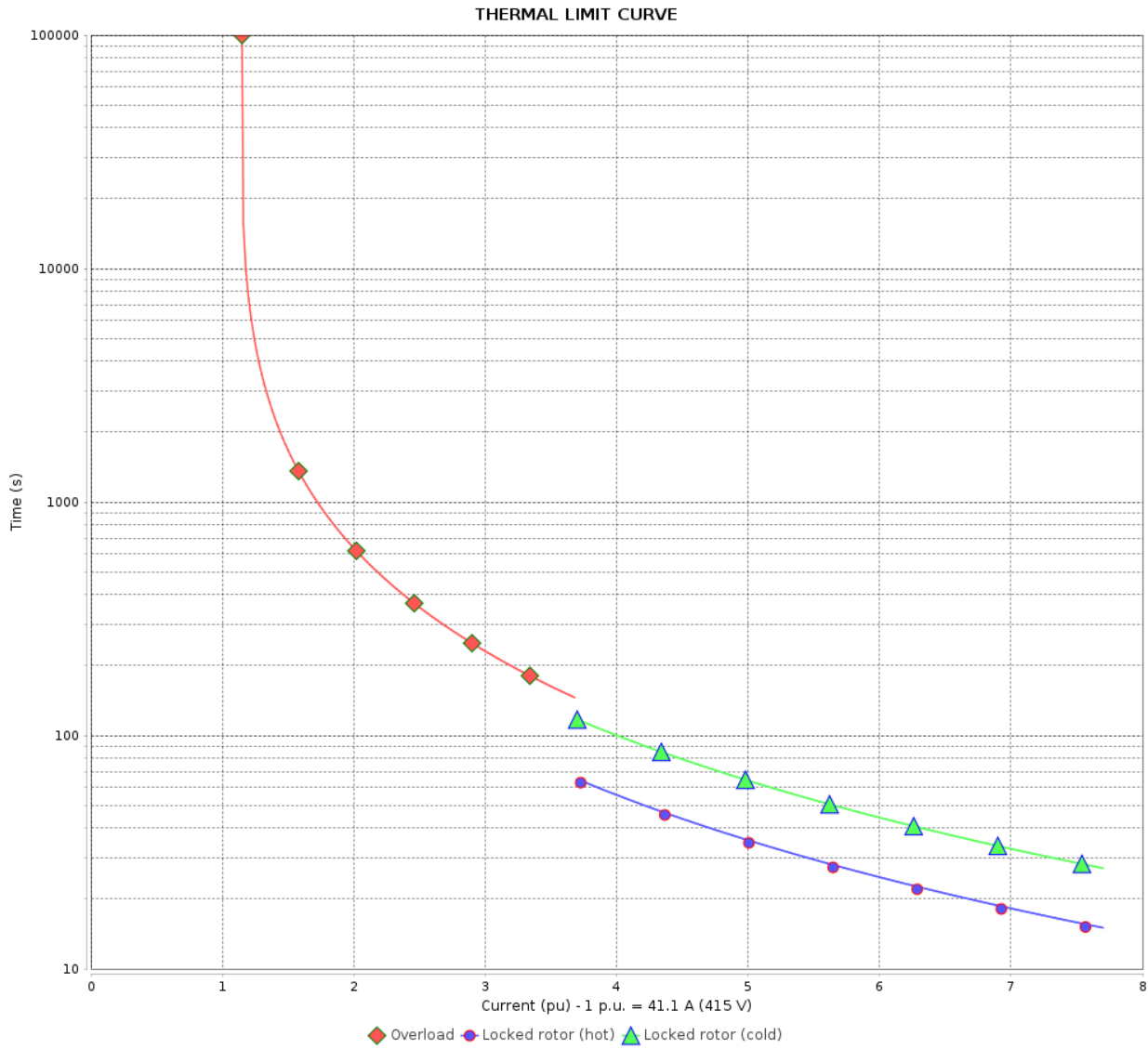
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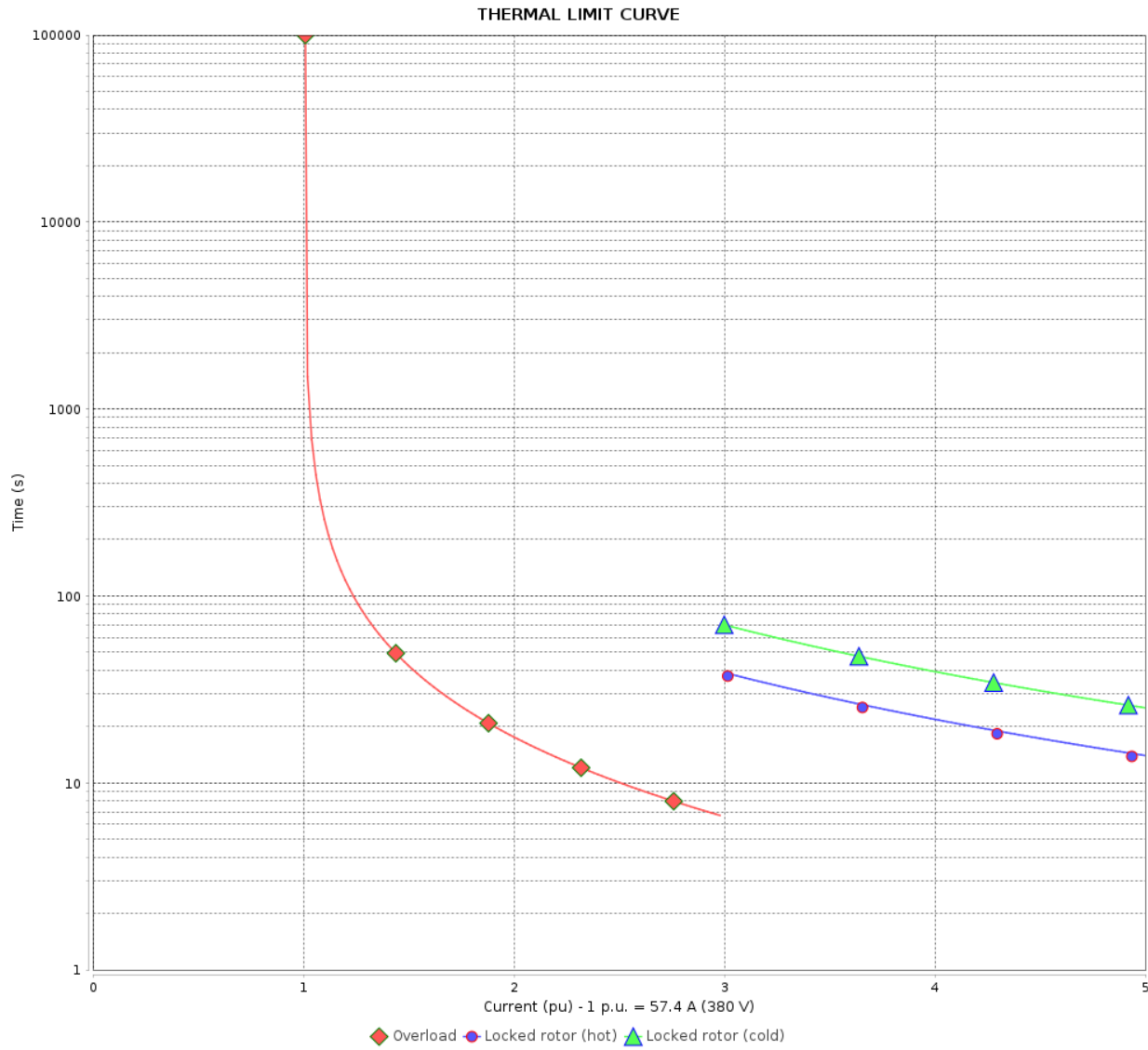
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Checked by			Page	Revision
Date	04/10/2023		25 / 37	

THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : _____



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Date				

THERMAL LIMIT CURVE



Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W22 IEEE 841 NEMA Premium Efficiency
Three-Phase

Product code : 16684655

Catalog # : 04018ST3QAP324T-W22

Performance : 400 V 50 Hz 4P IE2

Rated current : 54.1 A
LRC : 5.6
Rated torque : 143 ft.lb
Locked rotor torque : 190 %
Breakdown torque : 210 %
Rated speed : 1465 rpm

Moment of inertia (J) : 9.16 sq.ft.lb
Duty cycle : Cont.(S1)
Insulation class : F
Service factor : 1.00
Temperature rise : 105 K
Design : B

Heating constant

Cooling constant

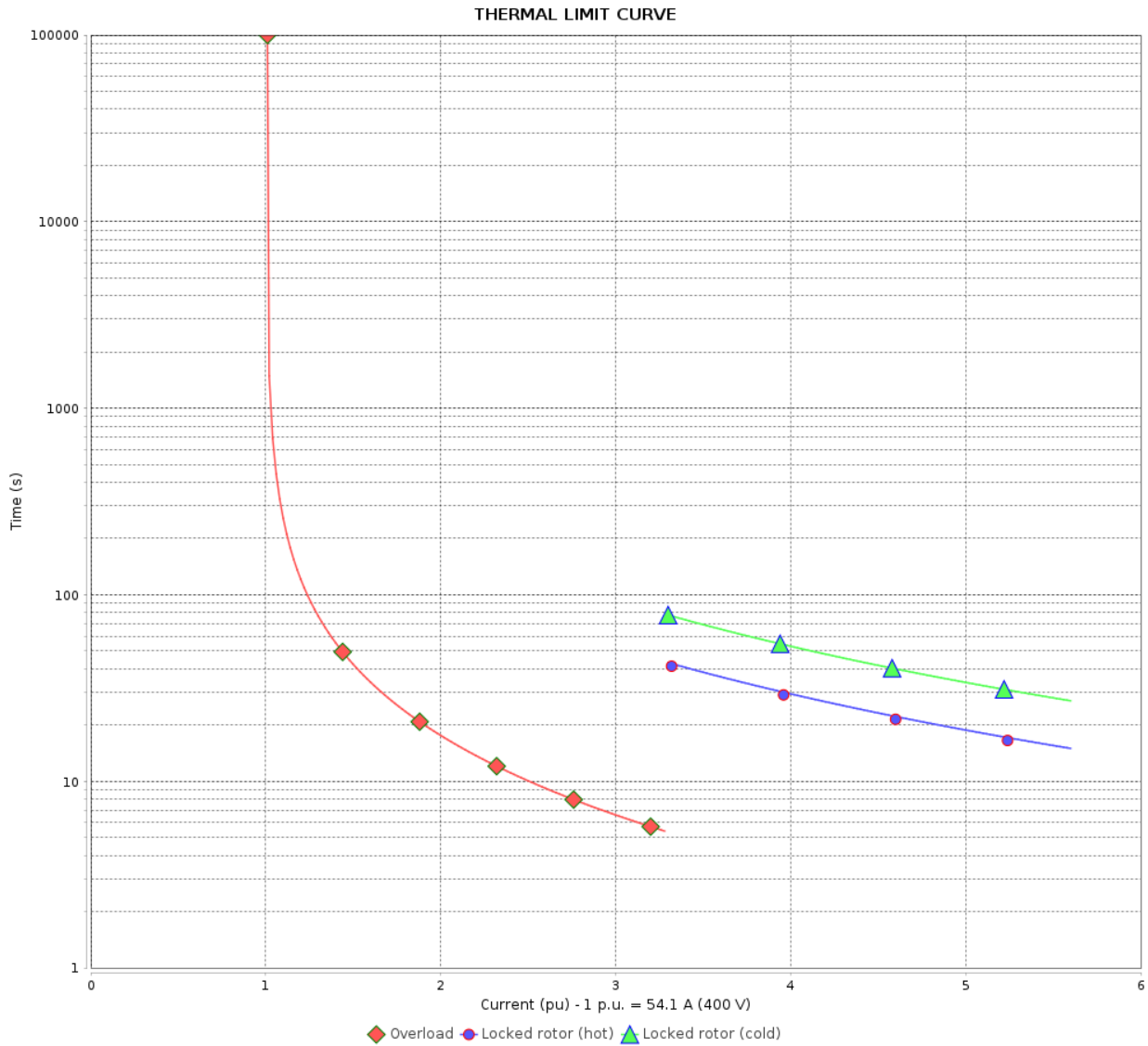
Rev.	Changes Summary	Performed	Checked	Date
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Checked by			Page	Revision
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THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : _____



Rev.	Changes Summary	Performed	Checked	Date
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Date				

THERMAL LIMIT CURVE



Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W22 IEEE 841 NEMA Premium Efficiency
Three-Phase

Product code : 16684655

Catalog # : 04018ST3QAP324T-W22

Performance : 415 V 50 Hz 4P IE2

Rated current : 52.8 A
LRC : 6.0
Rated torque : 143 ft.lb
Locked rotor torque : 210 %
Breakdown torque : 229 %
Rated speed : 1470 rpm

Moment of inertia (J) : 9.16 sq.ft.lb
Duty cycle : Cont.(S1)
Insulation class : F
Service factor : 1.00
Temperature rise : 105 K
Design : B

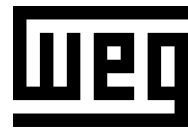
Heating constant

Cooling constant

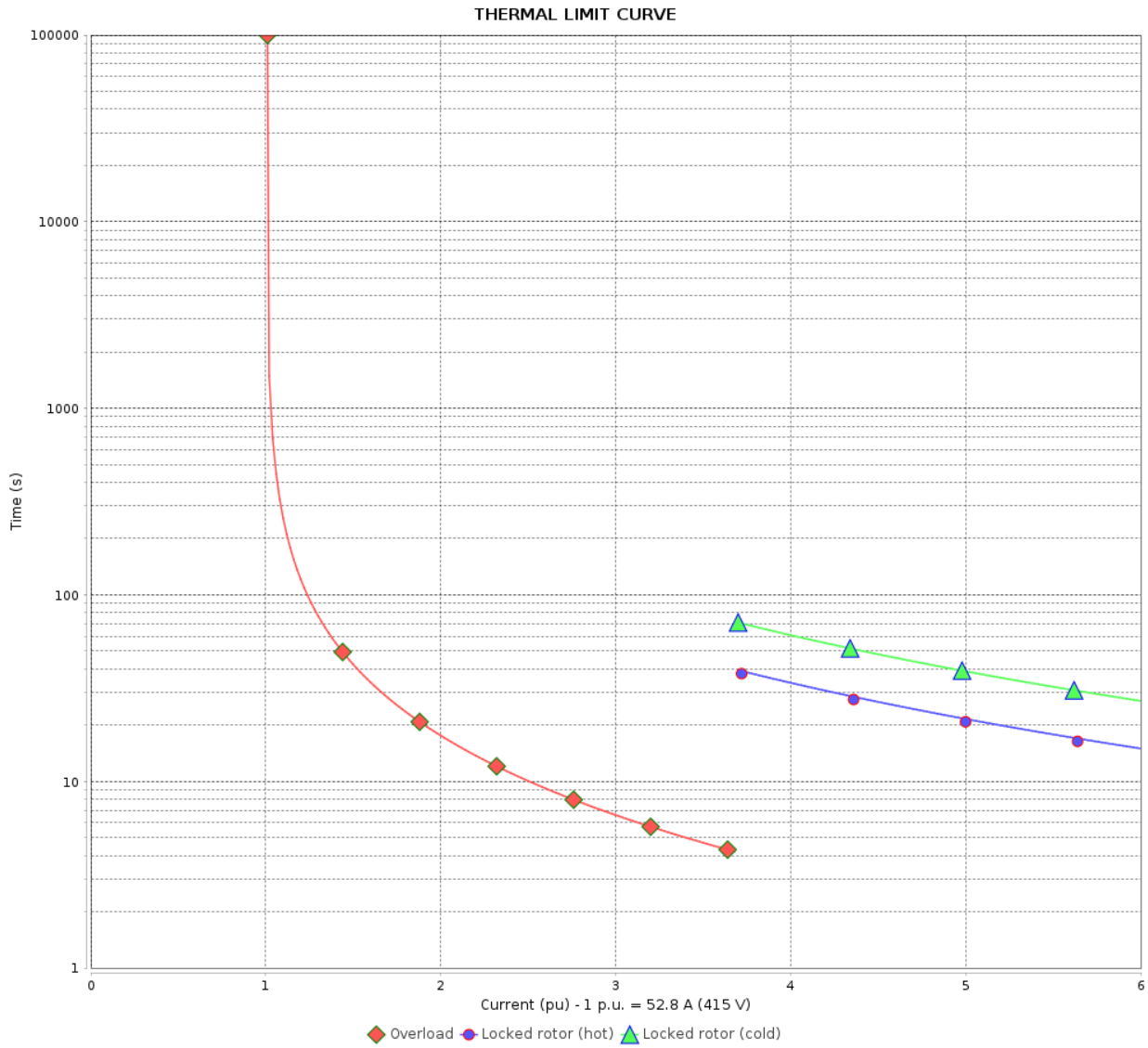
Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by			Page	Revision
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THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : _____



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Checked by		30 / 37		
Date		04/10/2023		

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

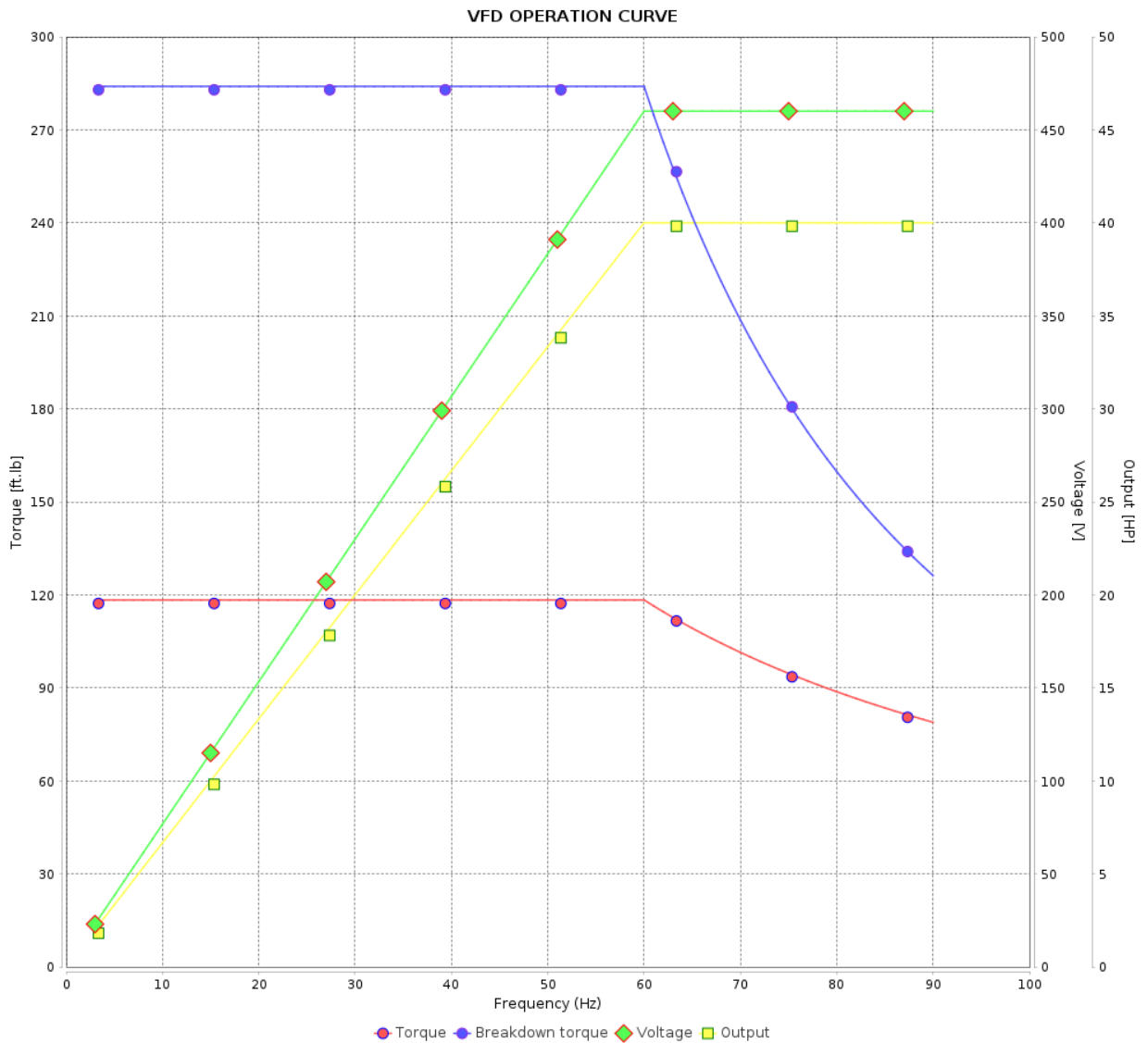


Customer :

Product line : W22 IEEE 841 NEMA Premium Efficiency Three-Phase

Product code : 16684655

Catalog # : 04018ST3QAP324T-W22



Performance : 460 V 60 Hz 4P

Rated current : 47.1 A
 LRC : 6.1
 Rated torque : 118 ft.lb
 Locked rotor torque : 229 %
 Breakdown torque : 240 %
 Rated speed : 1775 rpm

Moment of inertia (J) : 9.16 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.15
 Temperature rise : 80 K
 Design : B

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Date				
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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

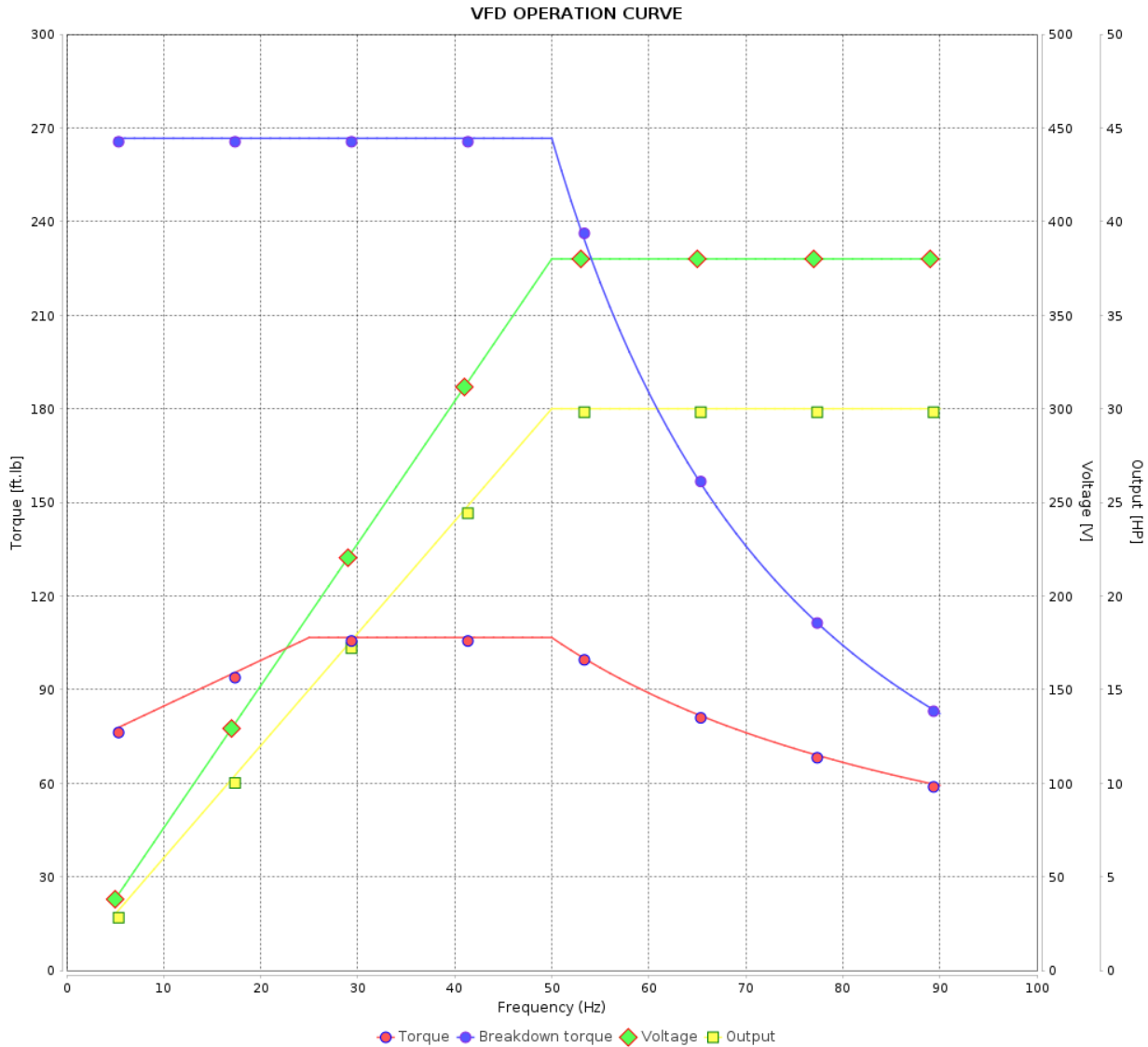


Customer :

Product line : W22 IEEE 841 NEMA Premium Efficiency Three-Phase

Product code : 16684655

Catalog # : 04018ST3QAP324T-W22



Performance : 380 V 50 Hz 4P IE3

Rated current : 42.8 A
 LRC : 6.8
 Rated torque : 107 ft.lb
 Locked rotor torque : 240 %
 Breakdown torque : 250 %
 Rated speed : 1477 rpm

Moment of inertia (J) : 9.16 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	Revision
Checked by				
Date				

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

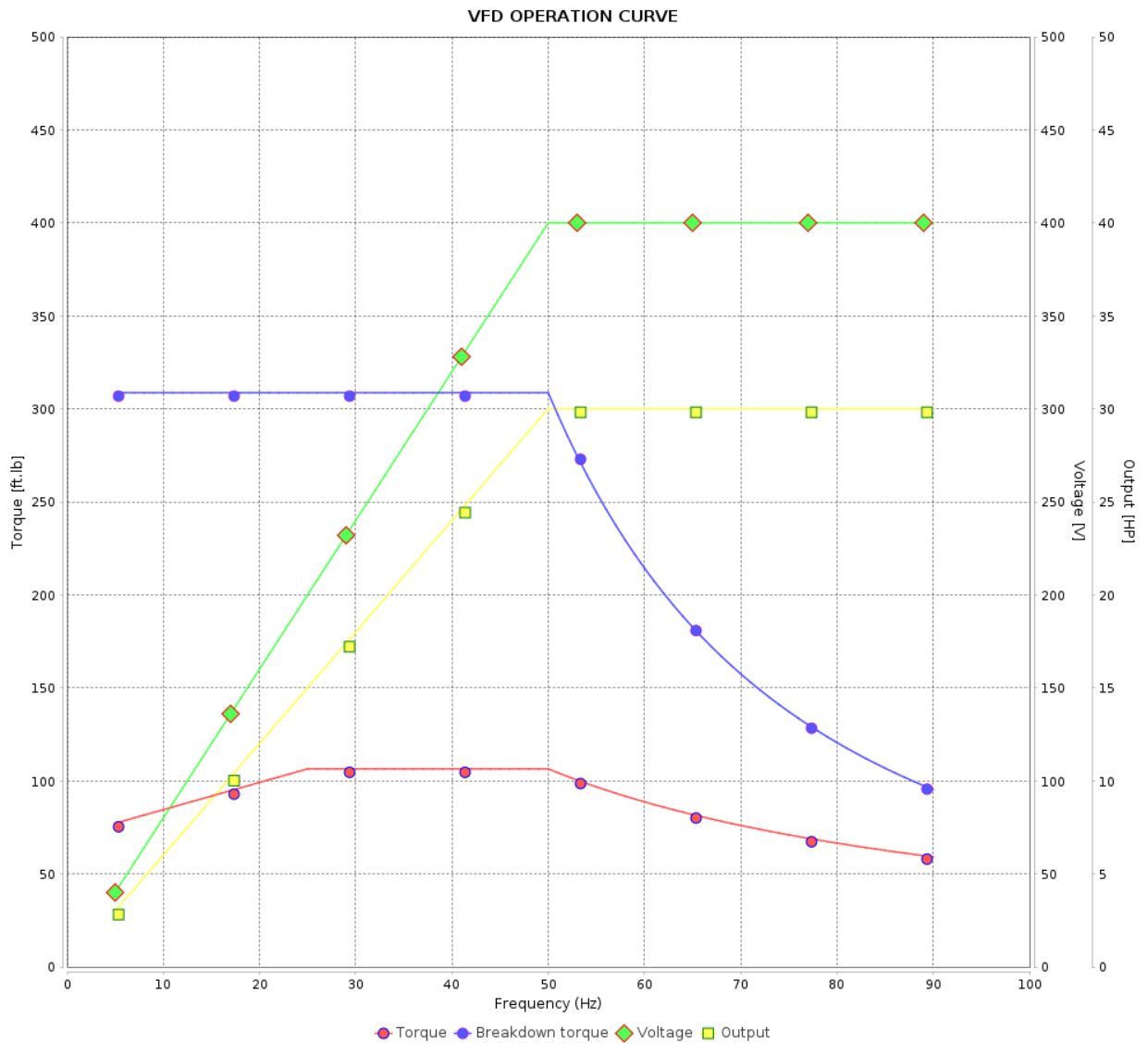


Customer :

Product line : W22 IEEE 841 NEMA Premium Efficiency Three-Phase

Product code : 16684655

Catalog # : 04018ST3QAP324T-W22



Performance : 400 V 50 Hz 4P IE3

Rated current : 41.6 A
 LRC : 7.4
 Rated torque : 106 ft.lb
 Locked rotor torque : 270 %
 Breakdown torque : 290 %
 Rated speed : 1480 rpm

Moment of inertia (J) : 9.16 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

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Performed by		Page		Revision
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Date	04/10/2023			

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



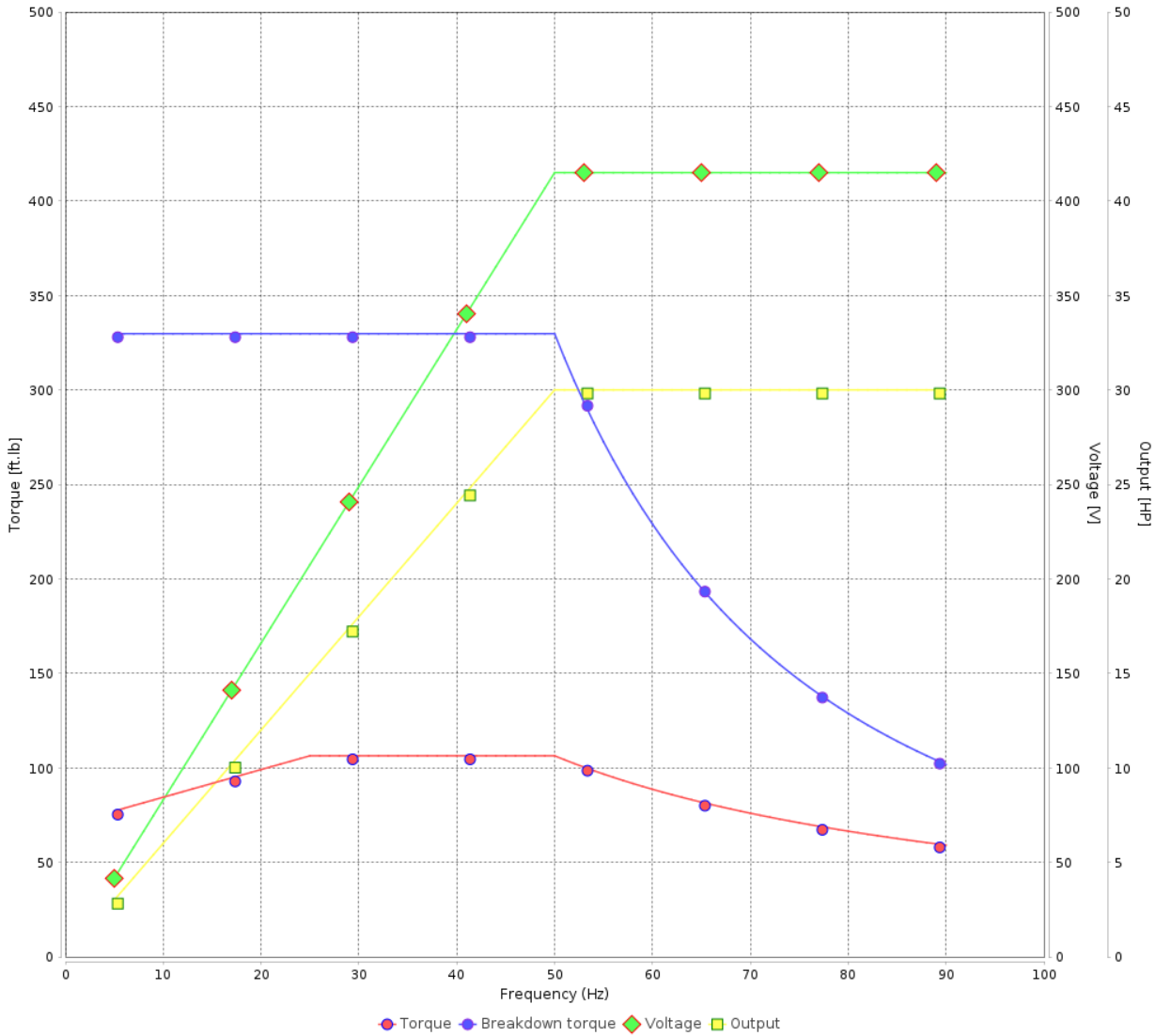
Customer :

Product line : W22 IEEE 841 NEMA Premium Efficiency
Three-Phase

Product code : 16684655

Catalog # : 04018ST3QAP324T-W22

VFD OPERATION CURVE



Performance : 415 V 50 Hz 4P IE3

Rated current : 41.1 A
LRC : 7.7
Rated torque : 106 ft.lb
Locked rotor torque : 280 %
Breakdown torque : 310 %
Rated speed : 1481 rpm

Moment of inertia (J) : 9.16 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

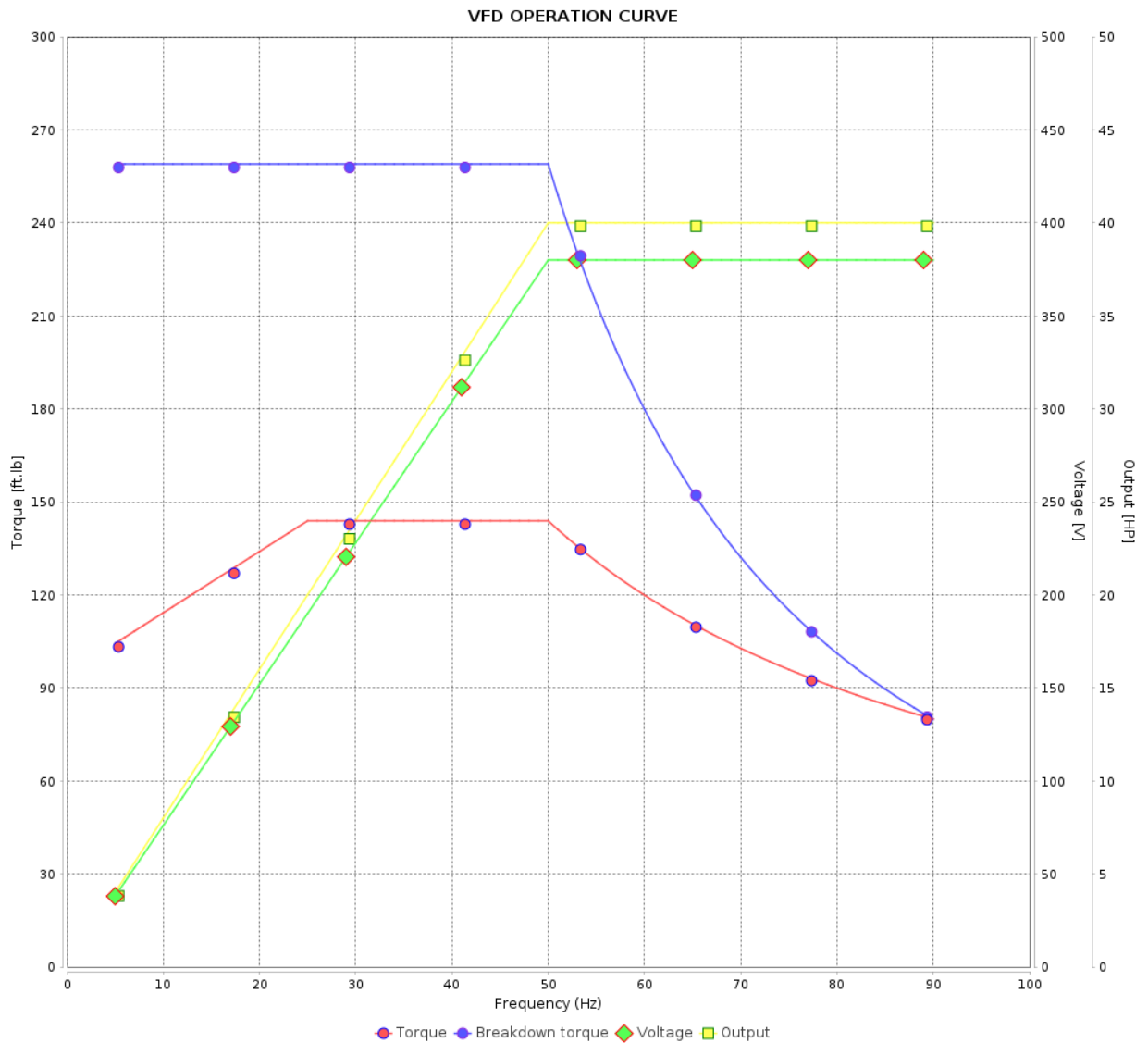


Customer :

Product line : W22 IEEE 841 NEMA Premium Efficiency Three-Phase

Product code : 16684655

Catalog # : 04018ST3QAP324T-W22



Performance : 380 V 50 Hz 4P IE2

Rated current : 57.4 A
 LRC : 5.0
 Rated torque : 144 ft.lb
 Locked rotor torque : 170 %
 Breakdown torque : 180 %
 Rated speed : 1460 rpm

Moment of inertia (J) : 9.16 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 105 K
 Design : B

Rev.	Changes Summary	Performed	Checked	Date
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Checked by				
Date				

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

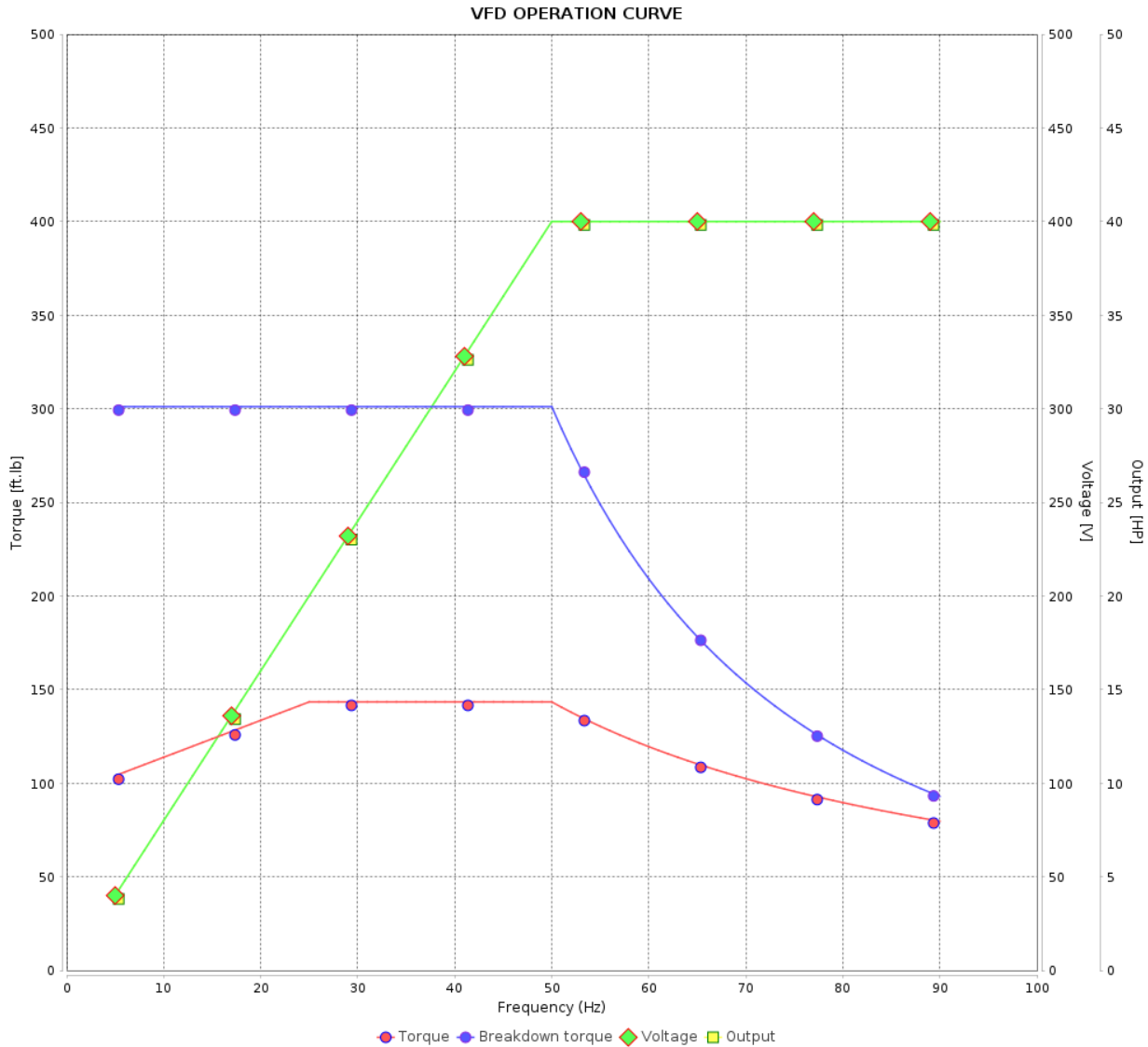


Customer :

Product line : W22 IEEE 841 NEMA Premium Efficiency Three-Phase

Product code : 16684655

Catalog # : 04018ST3QAP324T-W22



Performance : 400 V 50 Hz 4P IE2

Rated current : 54.1 A
 LRC : 5.6
 Rated torque : 143 ft.lb
 Locked rotor torque : 190 %
 Breakdown torque : 210 %
 Rated speed : 1465 rpm

Moment of inertia (J) : 9.16 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 105 K
 Design : B

Rev.	Changes Summary	Performed	Checked	Date
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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

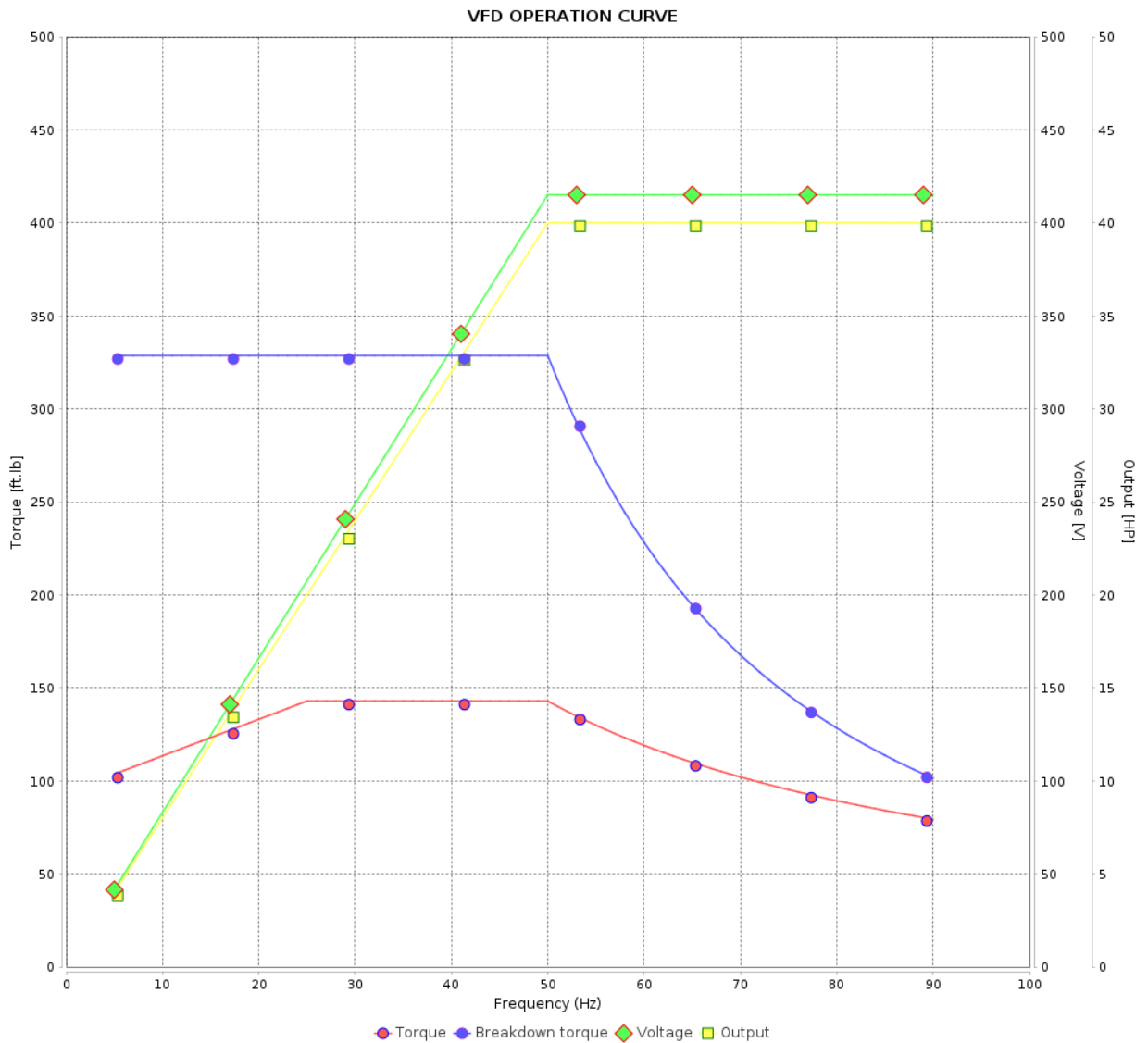


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Product code : 16684655

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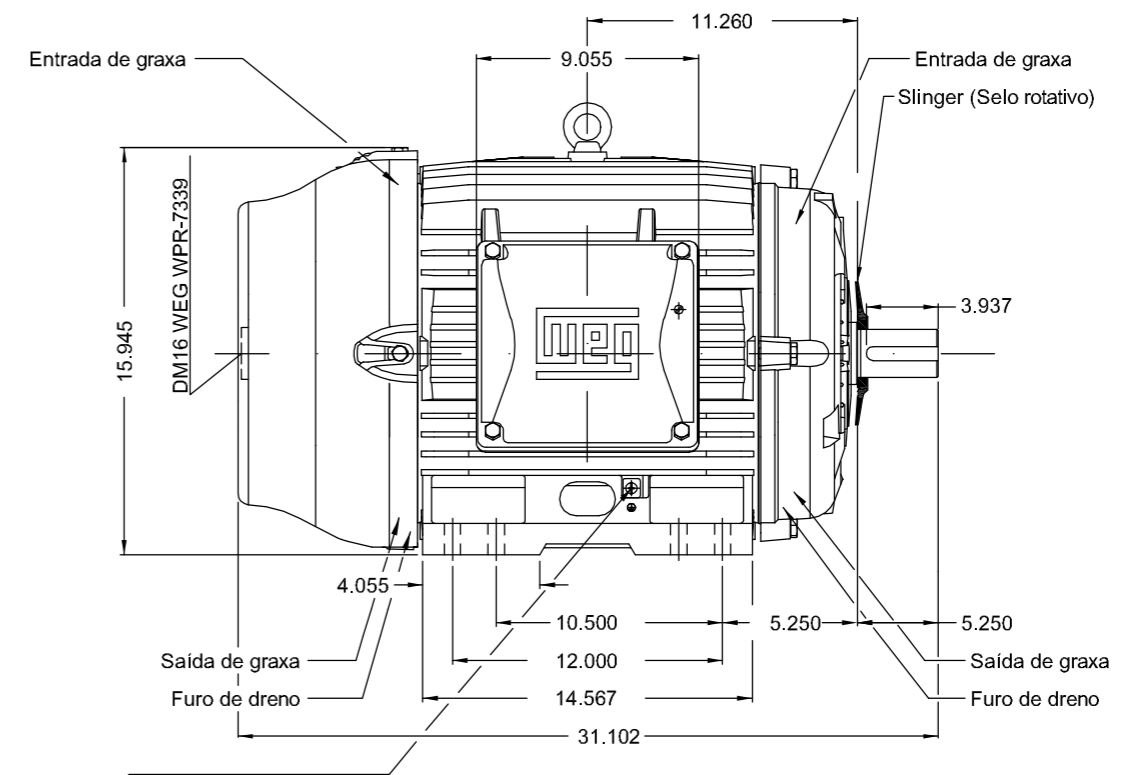
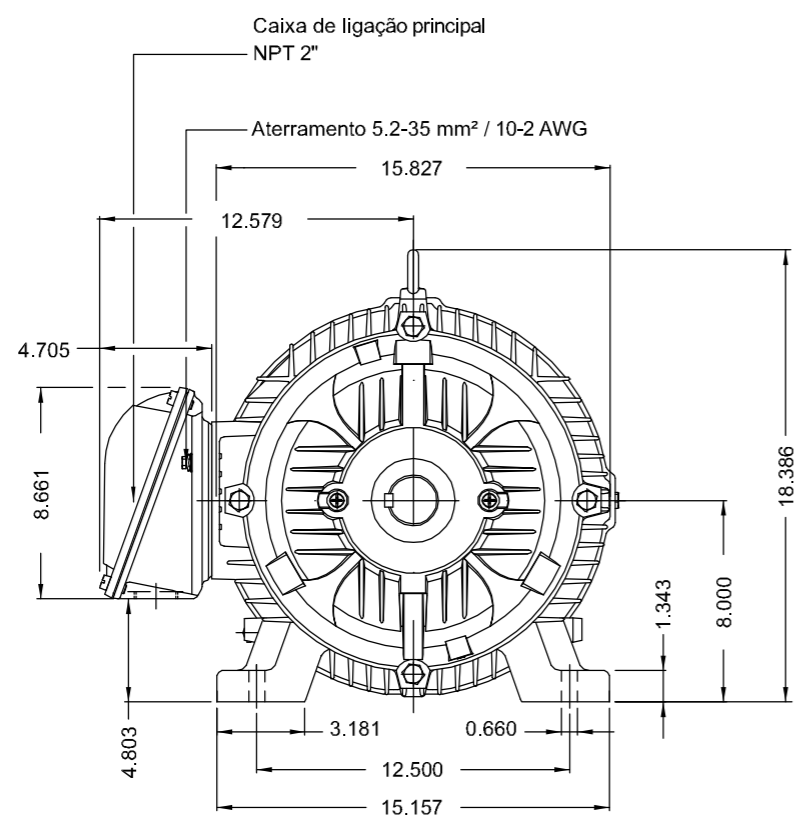


Performance : 415 V 50 Hz 4P IE2

Rated current : 52.8 A
 LRC : 6.0
 Rated torque : 143 ft.lb
 Locked rotor torque : 210 %
 Breakdown torque : 229 %
 Rated speed : 1470 rpm

Moment of inertia (J) : 9.16 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 105 K
 Design : B

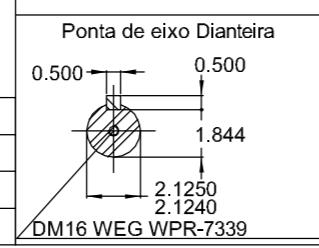
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Checked by		37 / 37		
Date		04/10/2023		



Aterramento 5.2-35 mm² / 10-2 AWG

420104067									
40 HP 04 Polos 60 Hz									
WEG HOUSE ACCOUNT MOTORS									
500002215990		ZZ 420270286	JACKSONHM	FRANCINES	FRANCINES	15.09.2022	02		
500002208737		PCR 100000146151	RBOECK	FRANCINES	FRANCINES	06.09.2022	01		
ECM	LOC	RESUMO MODIFICAÇÃO			EXECUTADO	VERIFICADO	LIBERADO	DATA	VER

EXECUTOR	DANIELAW		MOTOR TRIF. W22 NEMA P. EFF. IEEEE841	10009780882	
VERIFICADOR	DANIELAW		CARCAÇA 324/6T IP56 TEFC	000	02
LIBERADOR	MARLONB				
DATA LB.	07.06.2022	WMO	JARAGUA DO SUL	Engenharia de Produto	FOLHA 1 / 1



- Placa de identificação com marcação especial
- Saída de graxa conforme IEEE841
- Forma construtiva NEMA W-8
- Forma construtiva V6D

CÓPIA SEM CONTROLE
Dimensões em polegada
LIBERADO
ZME A3



NEMA
Premium
W22



FOR SAFE AREA
Mod.TE1BFOXON
CC029A



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 - T4A
For use on PWM: Gr. A, B, C, D and F,
VT 1000:1, CT 20:1, 1.00SF - T3A

MODEL 04018ST3QAP324T-W22

API 661
Inverter Duty Motor
Severe Duty

IEEE
841-2021

PH3 60Hz Fr. 324/6T 1000m.a.s.l. IP56 TEFC 574lb

V 460

A 47.1

HP 40

kW 30

SF 1.15

SFA 54.2

RPM 1775

PF 0.85

AMB 40°C

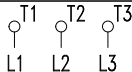
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NEMA NOM EFF 94.1%

DUTY CONT.

DES B Code G

GUARANT. EFF 93.0%



460V

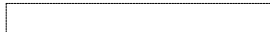


→ NU-312-C3 (21g) 60RU03X30

→ 6212-C3 (13g) 60BC02X30



MOBIL POLYREX EM (10000h)



MADE IN BRAZIL
16684655