

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



Customer :					
Product line	: NEMA Premium Efficiency Three-Phase	Product code :	13158663		
		Catalog # :	00312ET3E213JM-W22		
Frame	: 213JM	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	: 153 lb		
Protection degree	: IP55	Moment of inertia (J)	: 1.20 sq.ft.lb		
Design	: B				
Output [HP]	3	3	3	3	3
Poles	6	6	6	6	6
Frequency [Hz]	60	50	50	50	50
Rated voltage [V]	230/460	380	400	415	415
Rated current [A]	8.83/4.41	5.09	4.92	4.87	4.87
L. R. Amperes [A]	61.8/30.9	29.5	31.5	33.1	33.1
LRC [A]	7.0x(Code K)	5.8x(Code H)	6.4x(Code J)	6.8x(Code J)	6.8x(Code J)
No load current [A]	5.50/2.75	2.72	2.91	3.05	3.05
Rated speed [RPM]	1175	965	970	970	970
Slip [%]	2.08	3.50	3.00	3.00	3.00
Rated torque [ft.lb]	13.4	16.3	16.2	16.2	16.2
Locked rotor torque [%]	200	170	200	220	220
Breakdown torque [%]	280	210	240	270	270
Service factor	1.25	1.00	1.00	1.00	1.00
Temperature rise	80 K	80 K	80 K	80 K	80 K
Locked rotor time	104s (cold) 58s (hot)	72s (cold) 40s (hot)	72s (cold) 40s (hot)	72s (cold) 40s (hot)	72s (cold) 40s (hot)
Noise level ²	55.0 dB(A)	53.0 dB(A)	53.0 dB(A)	53.0 dB(A)	53.0 dB(A)
Efficiency (%)	25%	85.4	88.0	86.1	86.1
	50%	86.5	87.5	86.5	86.5
	75%	88.5	88.5	88.5	88.5
	100%	89.5	87.5	88.5	88.5
Power Factor	25%	0.28	0.33	0.30	0.28
	50%	0.50	0.57	0.53	0.50
	75%	0.63	0.70	0.66	0.64
	100%	0.70	0.75	0.73	0.71
Bearing type	: <u>Drive end</u> 6309 Z C3 <u>Non drive end</u> 6207 ZZ	Foundation loads			
Sealing	: V'Ring V'Ring	Max. traction : 170 lb			
Lubrication interval	: 20000 h 40000 h	Max. compression : 324 lb			
Lubricant amount	: 13 g 0 g				
Lubricant type	: Mobil Polyrex EM				
Notes					
USABLE @208V 9.76A SF 1.15 SFA 11.2A					
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



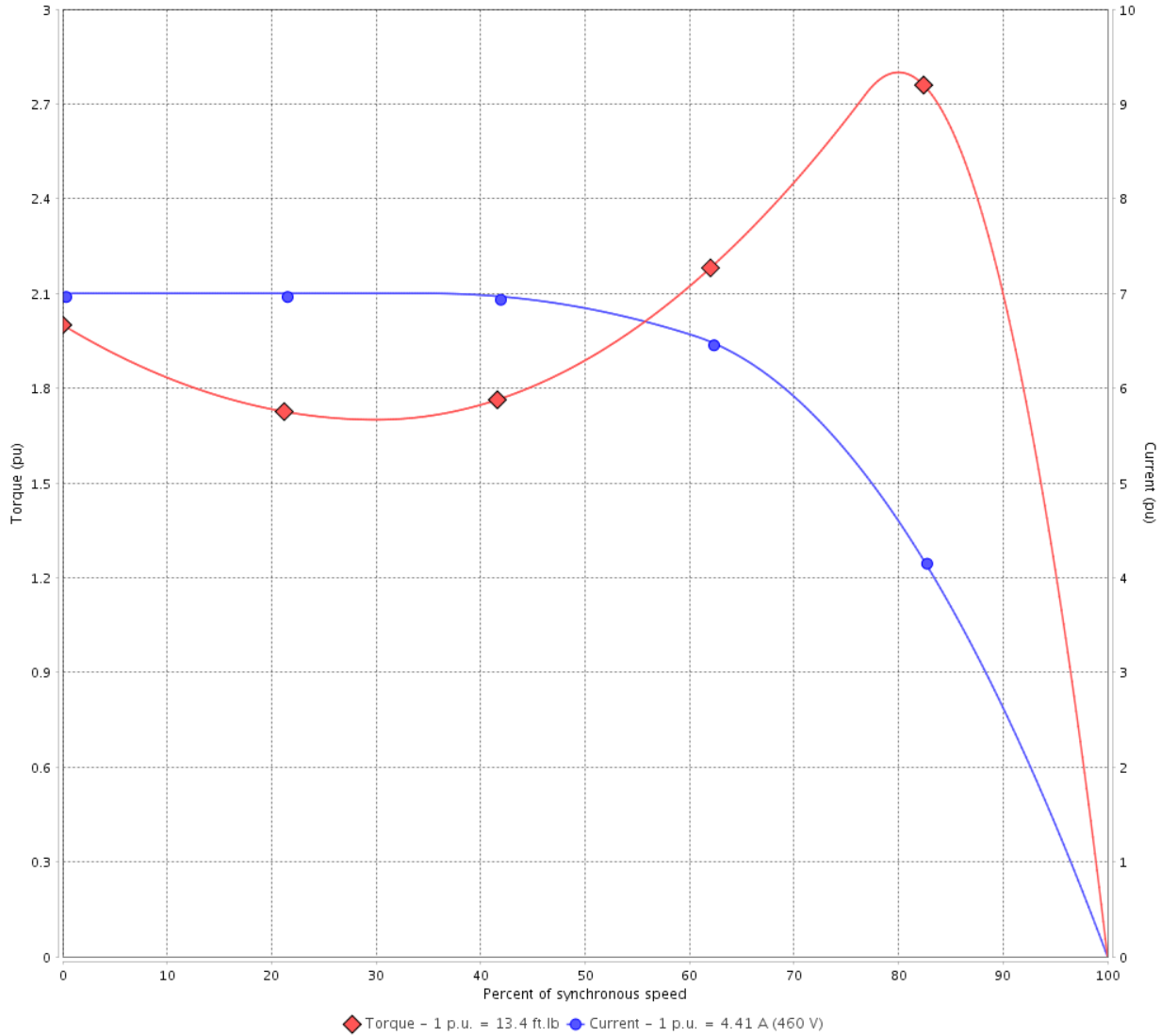
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 13158663

Catalog # : 00312ET3E213JM-W22

TORQUE AND CURRENT VS SPEED CURVE



Performance : 230/460 V 60 Hz 6P

Rated current	: 8.83/4.41 A	Moment of inertia (J)	: 1.20 sq.ft.lb
LRC	: 7.0	Duty cycle	: Cont.(S1)
Rated torque	: 13.4 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.25
Breakdown torque	: 280 %	Temperature rise	: 80 K
Rated speed	: 1175 rpm	Design	: B

Locked rotor time : 104s (cold) 58s (hot)

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TORQUE AND CURRENT VS SPEED CURVE



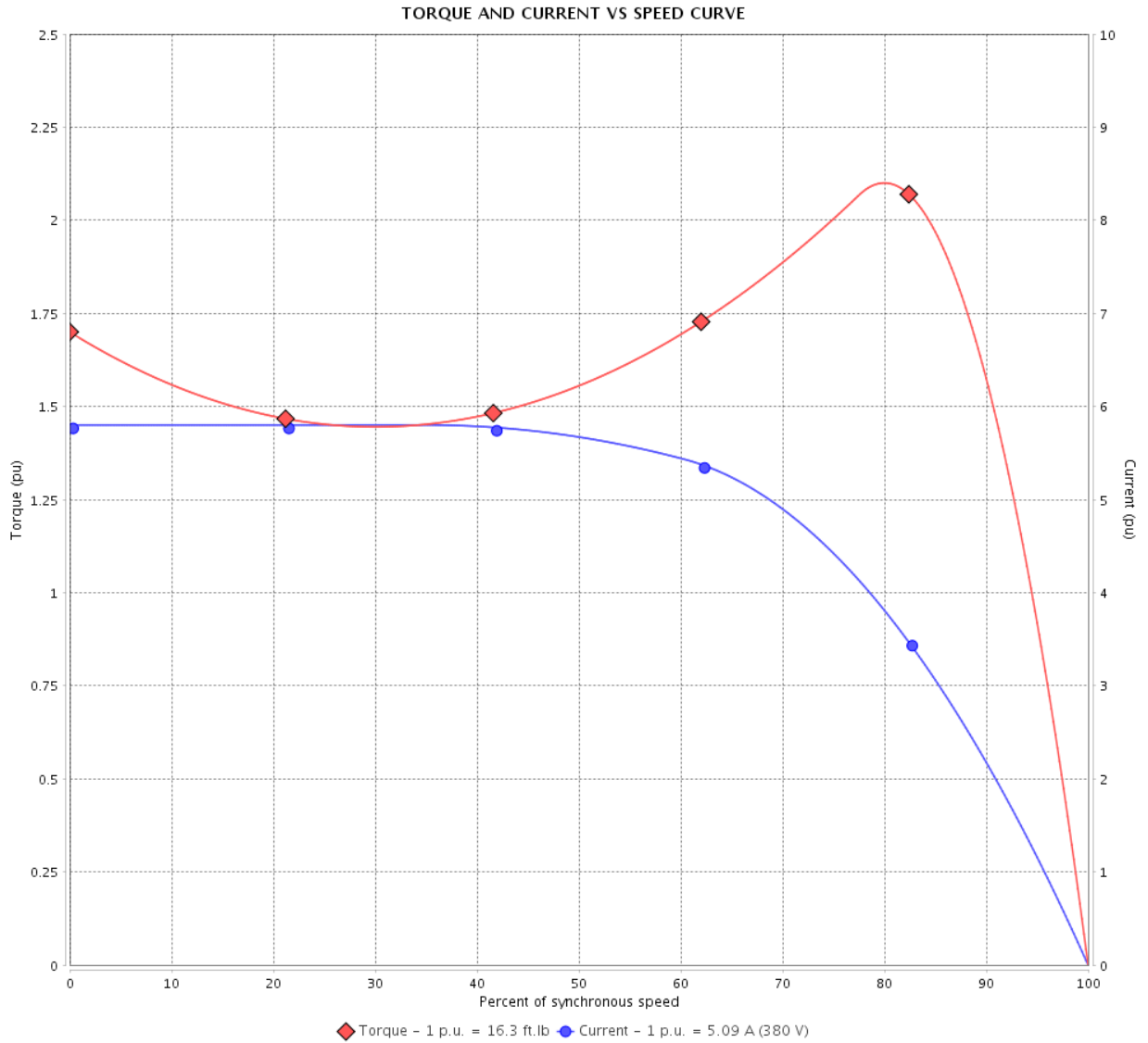
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 13158663

Catalog # : 00312ET3E213JM-W22



Performance : 380 V 50 Hz 6P IE4

Rated current	: 5.09 A	Moment of inertia (J)	: 1.20 sq.ft.lb
LRC	: 5.8	Duty cycle	: Cont.(S1)
Rated torque	: 16.3 ft.lb	Insulation class	: F
Locked rotor torque	: 170 %	Service factor	: 1.00
Breakdown torque	: 210 %	Temperature rise	: 80 K
Rated speed	: 965 rpm	Design	: B

Locked rotor time : 72s (cold) 40s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



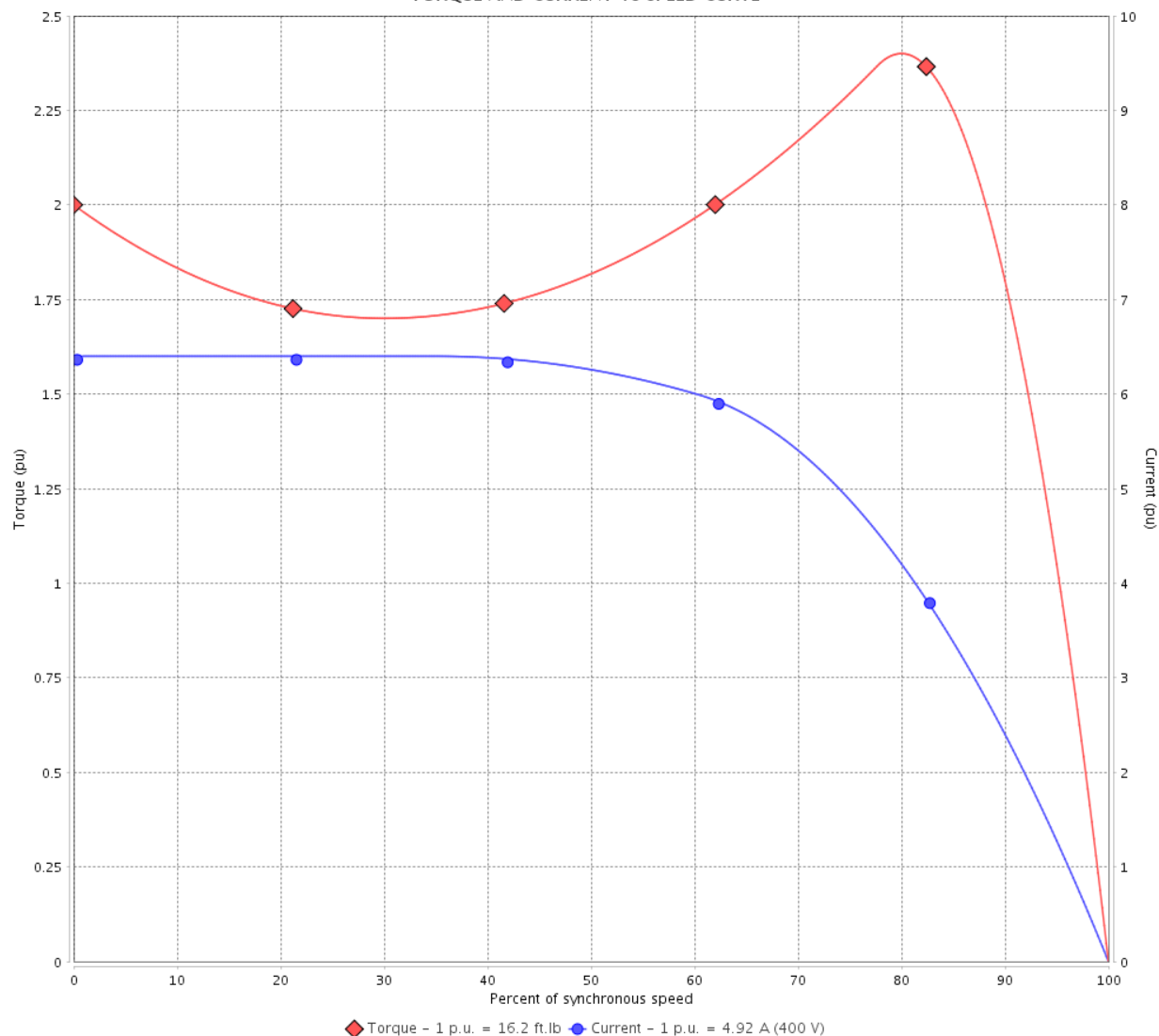
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 13158663

Catalog # : 00312ET3E213JM-W22

TORQUE AND CURRENT VS SPEED CURVE



Performance : 400 V 50 Hz 6P IE4

Rated current	: 4.92 A	Moment of inertia (J)	: 1.20 sq.ft.lb
LRC	: 6.4	Duty cycle	: Cont.(S1)
Rated torque	: 16.2 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.00
Breakdown torque	: 240 %	Temperature rise	: 80 K
Rated speed	: 970 rpm	Design	: B

Locked rotor time : 72s (cold) 40s (hot)

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TORQUE AND CURRENT VS SPEED CURVE



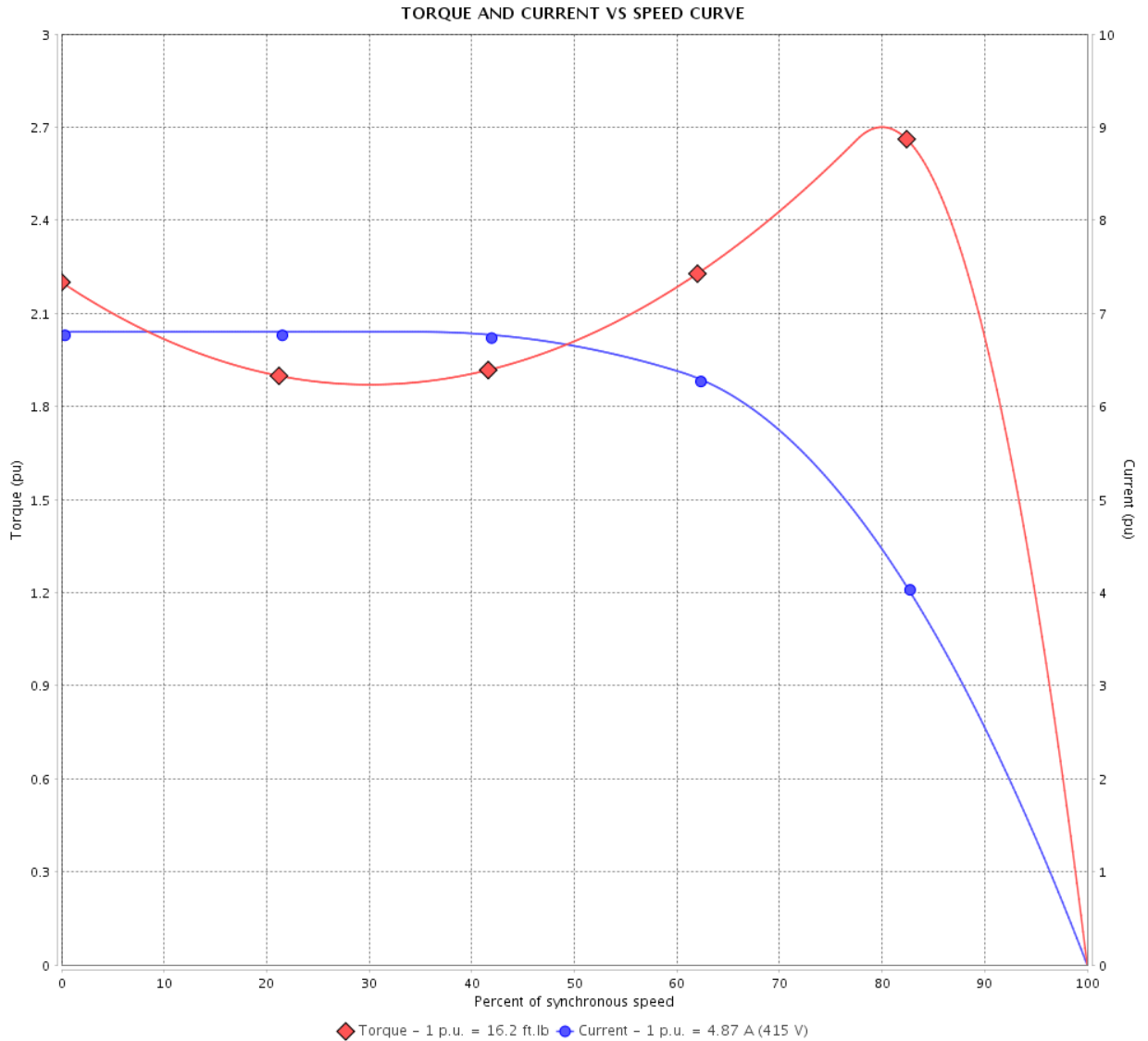
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LRC	: 6.8	Duty cycle	: Cont.(S1)
Rated torque	: 16.2 ft.lb	Insulation class	: F
Locked rotor torque	: 220 %	Service factor	: 1.00
Breakdown torque	: 270 %	Temperature rise	: 80 K
Rated speed	: 970 rpm	Design	: B

Locked rotor time : 72s (cold) 40s (hot)

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LOAD PERFORMANCE CURVE

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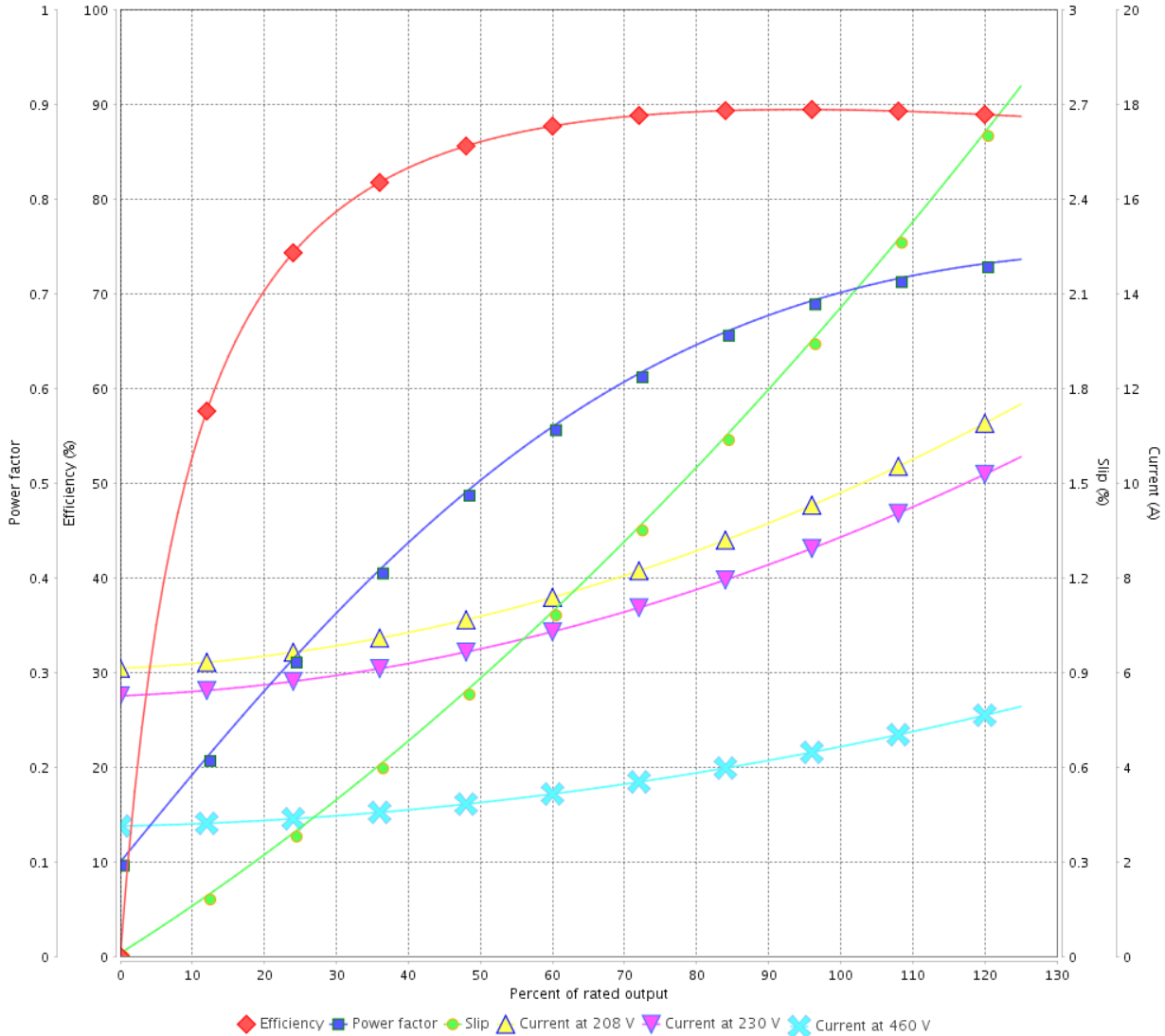
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LOAD PERFORMANCE CURVE



Performance : 230/460 V 60 Hz 6P

Rated current : 8.83/4.41 A
 LRC : 7.0
 Rated torque : 13.4 ft.lb
 Locked rotor torque : 200 %
 Breakdown torque : 280 %
 Rated speed : 1175 rpm

Moment of inertia (J) : 1.20 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.25
 Temperature rise : 80 K
 Design : B

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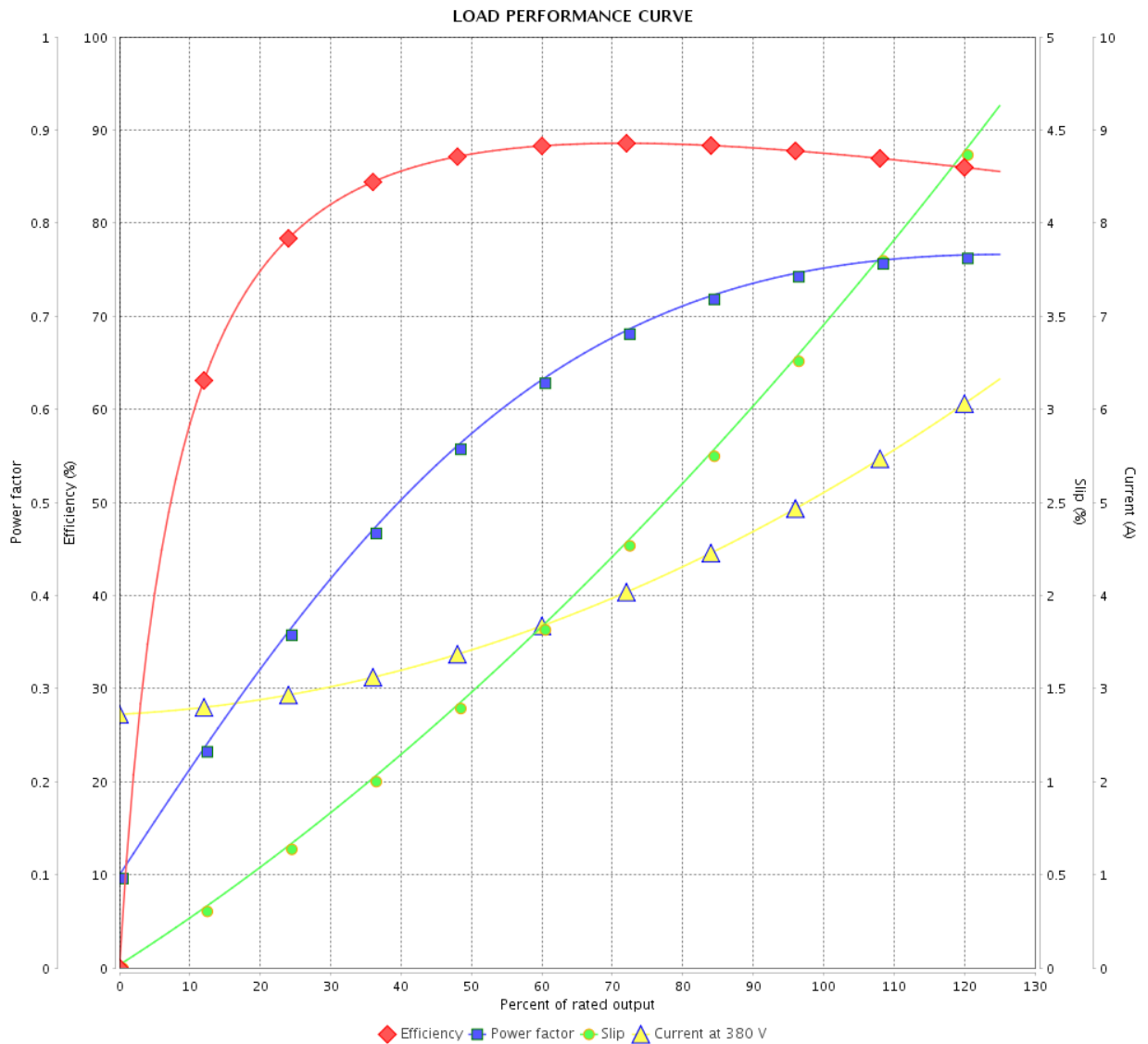


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Performance : 380 V 50 Hz 6P IE4

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 Service factor : 1.00
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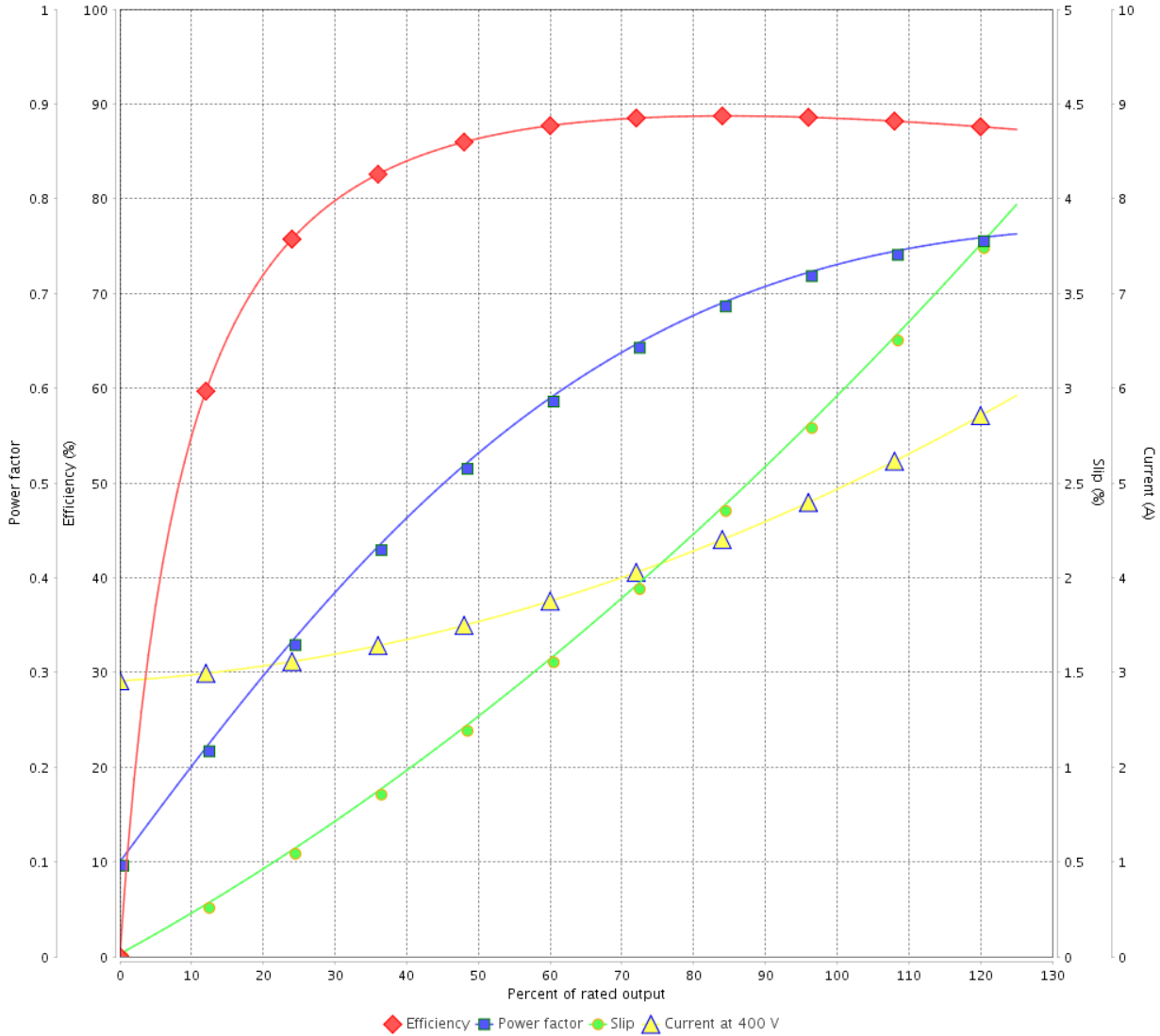
Customer :

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LOAD PERFORMANCE CURVE



Performance : 400 V 50 Hz 6P IE4

Rated current : 4.92 A
 LRC : 6.4
 Rated torque : 16.2 ft.lb
 Locked rotor torque : 200 %
 Breakdown torque : 240 %
 Rated speed : 970 rpm

Moment of inertia (J) : 1.20 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

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Three Phase Induction Motor - Squirrel Cage

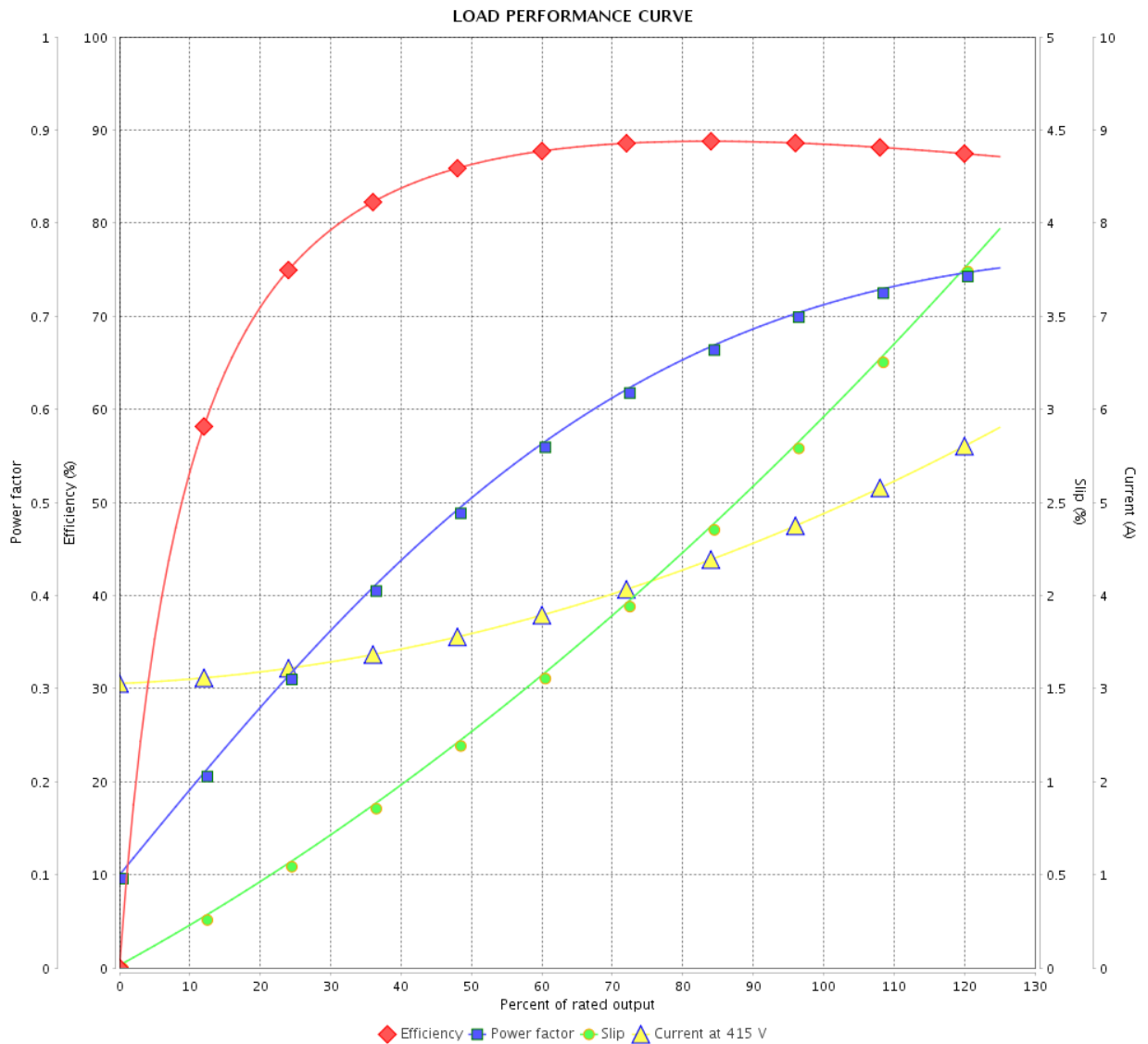


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 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

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THERMAL LIMIT CURVE



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Breakdown torque	: 280 %	Temperature rise	: 80 K
Rated speed	: 1175 rpm	Design	: B

Heating constant

Cooling constant

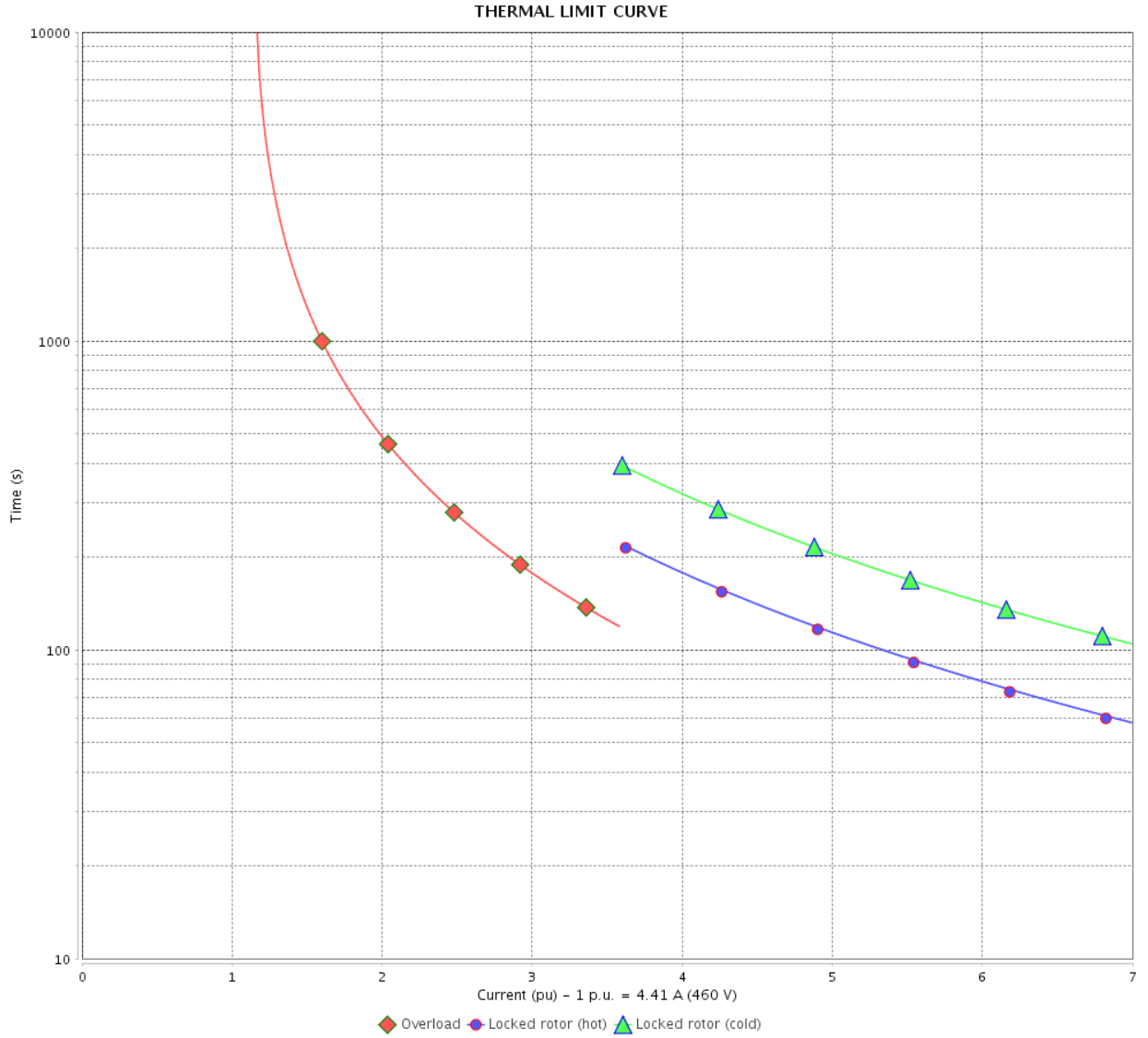
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Locked rotor torque	: 170 %	Service factor	: 1.00
Breakdown torque	: 210 %	Temperature rise	: 80 K
Rated speed	: 965 rpm	Design	: B

Heating constant

Cooling constant

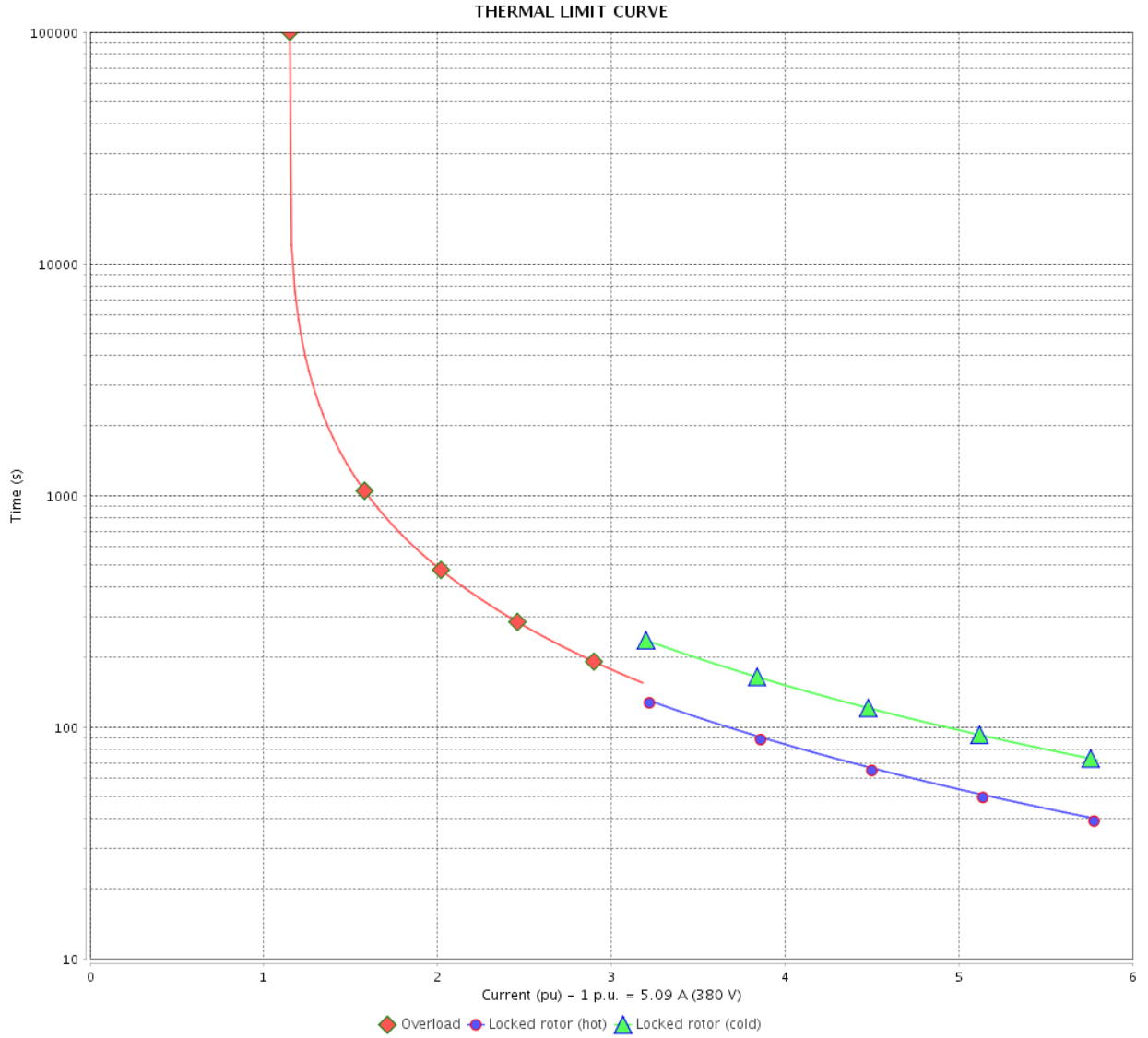
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LRC	: 6.4	Duty cycle	: Cont.(S1)
Rated torque	: 16.2 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.00
Breakdown torque	: 240 %	Temperature rise	: 80 K
Rated speed	: 970 rpm	Design	: B

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Cooling constant

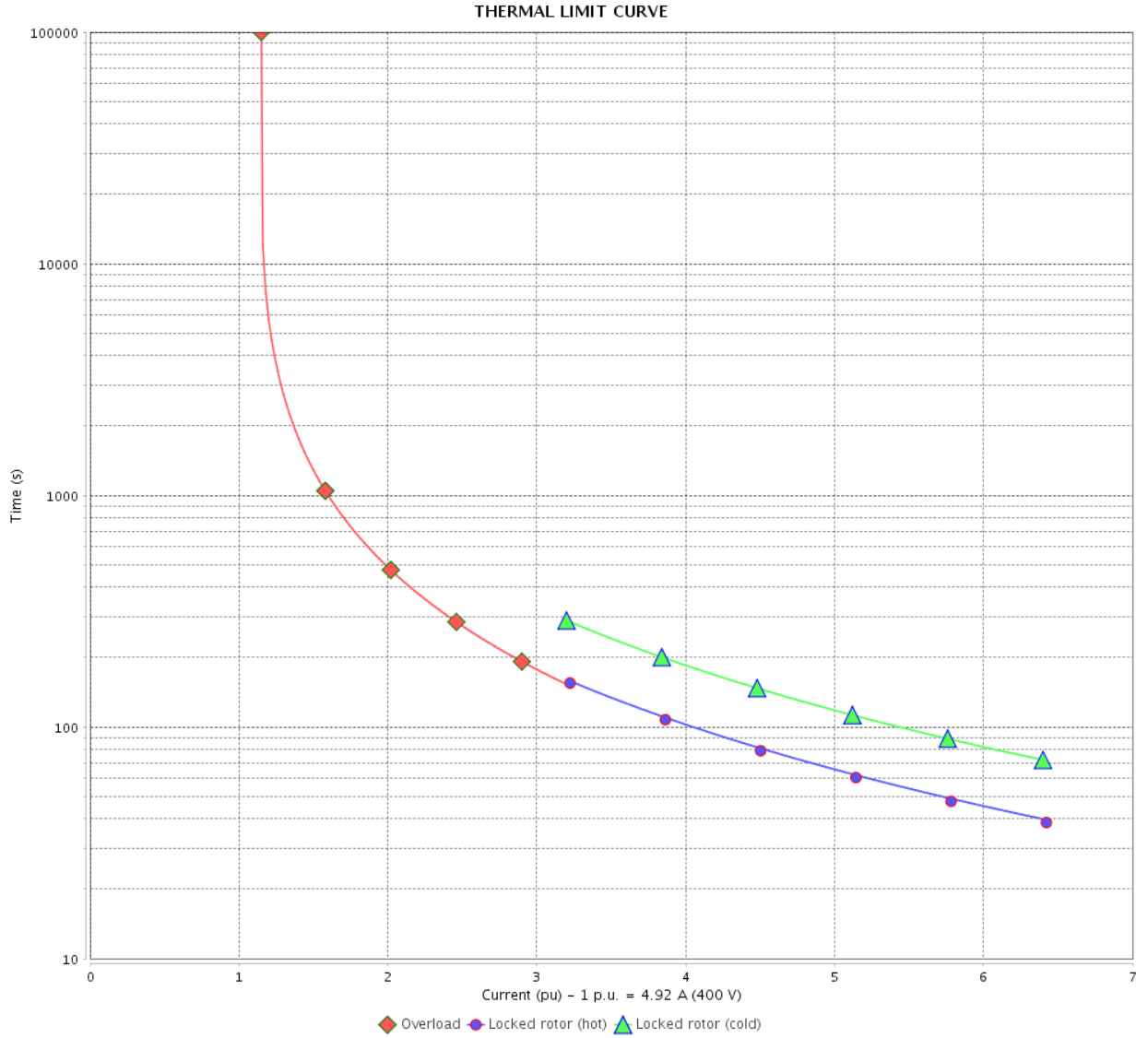
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THERMAL LIMIT CURVE



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Rated torque	: 16.2 ft.lb	Insulation class	: F
Locked rotor torque	: 220 %	Service factor	: 1.00
Breakdown torque	: 270 %	Temperature rise	: 80 K
Rated speed	: 970 rpm	Design	: B

Heating constant

Cooling constant

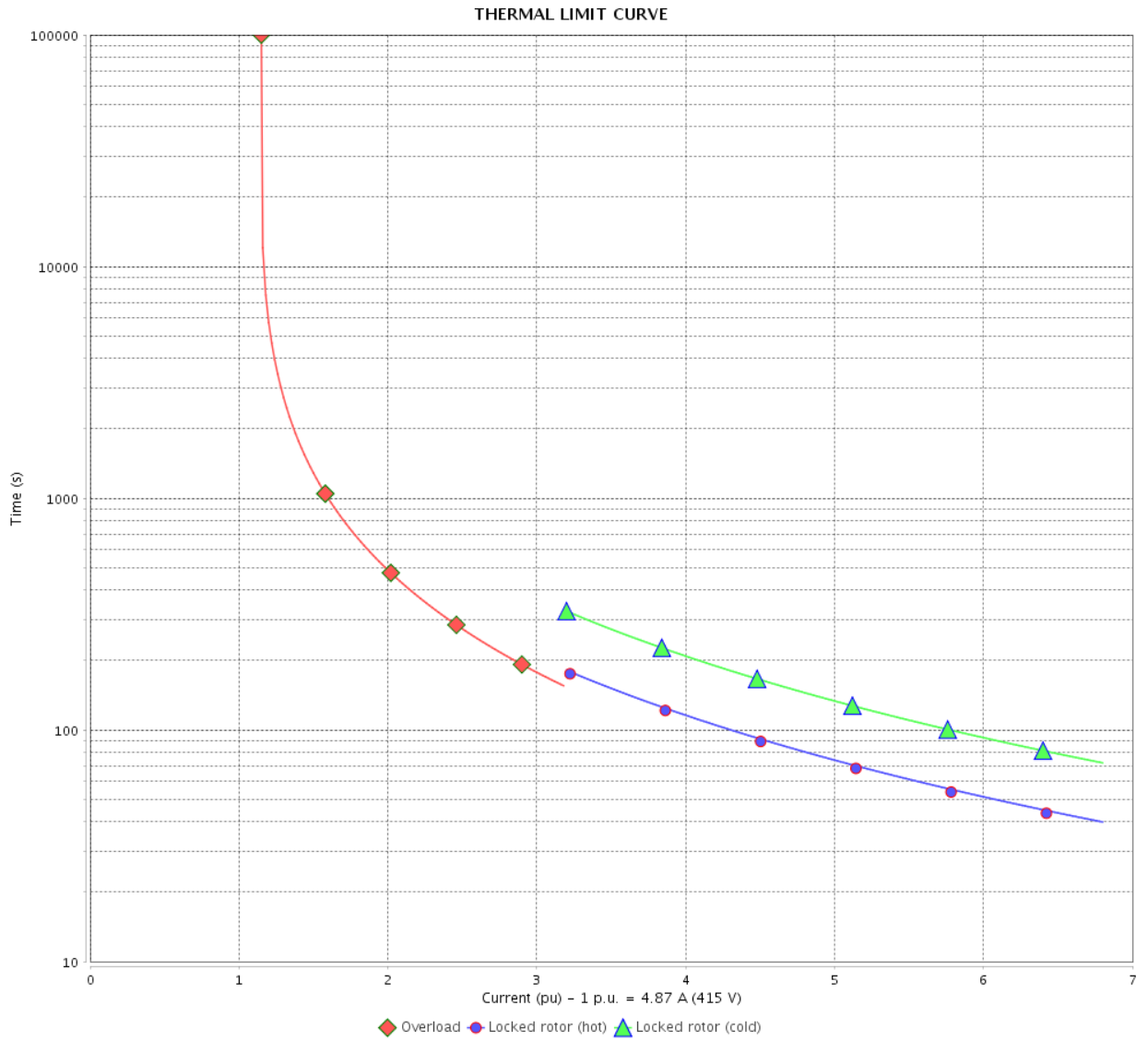
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Three Phase Induction Motor - Squirrel Cage



Customer : _____



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Date				

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

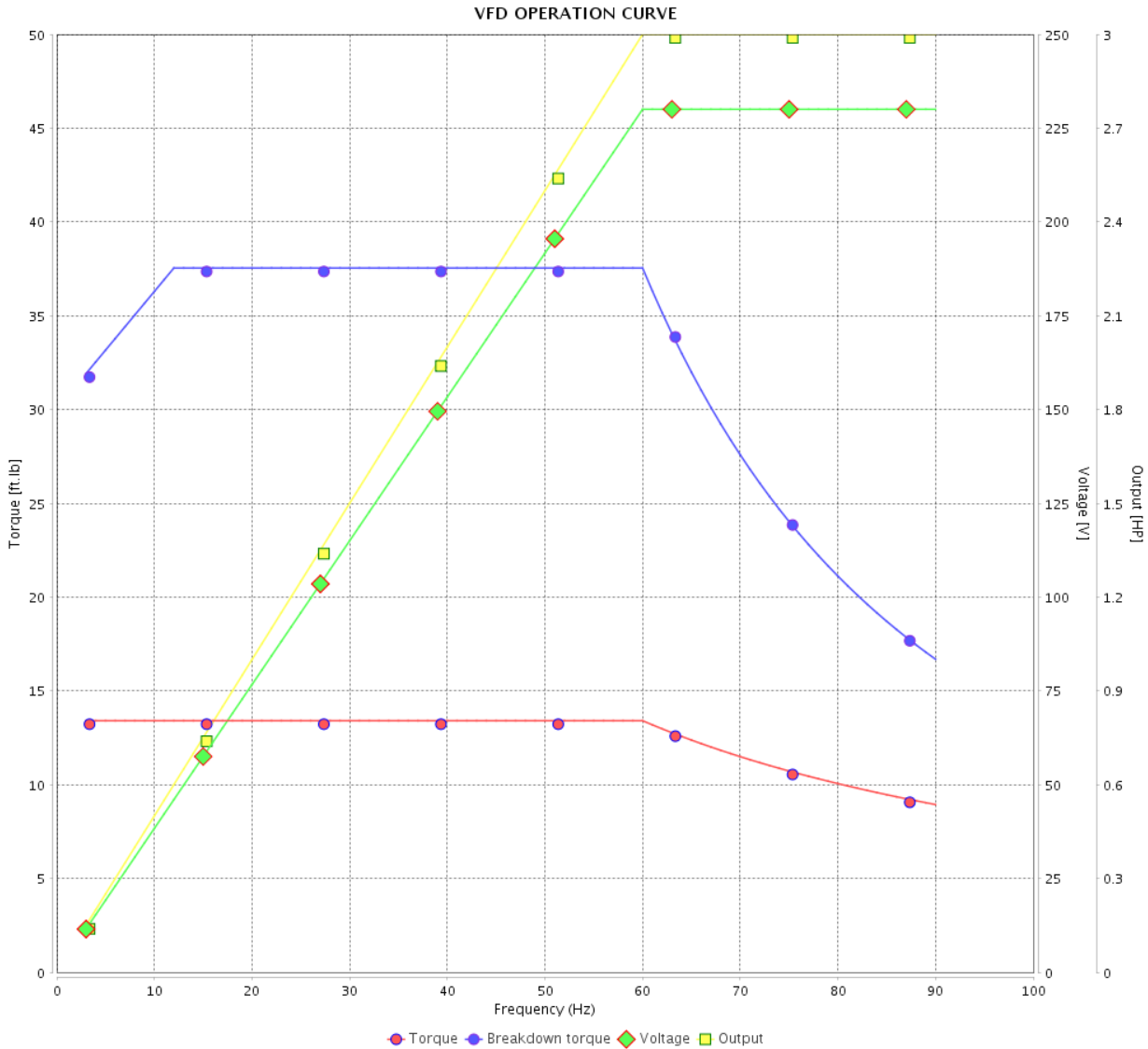


Customer :

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Performance : 230/460 V 60 Hz 6P

Rated current : 8.83/4.41 A
 LRC : 7.0
 Rated torque : 13.4 ft.lb
 Locked rotor torque : 200 %
 Breakdown torque : 280 %
 Rated speed : 1175 rpm

Moment of inertia (J) : 1.20 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.25
 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

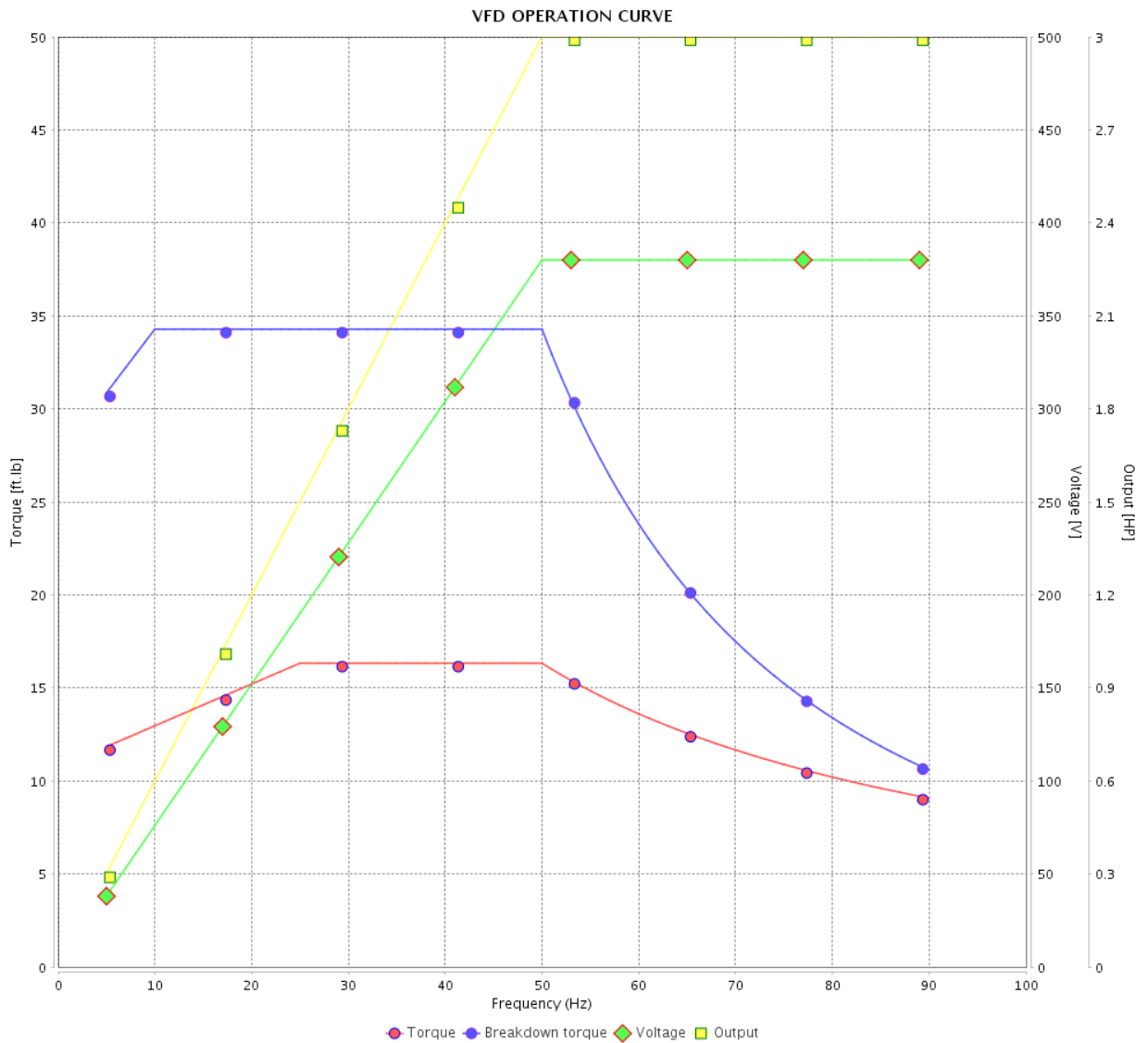


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Performance : 380 V 50 Hz 6P IE4

Rated current : 5.09 A
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 Rated torque : 16.3 ft.lb
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 Breakdown torque : 210 %
 Rated speed : 965 rpm

Moment of inertia (J) : 1.20 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

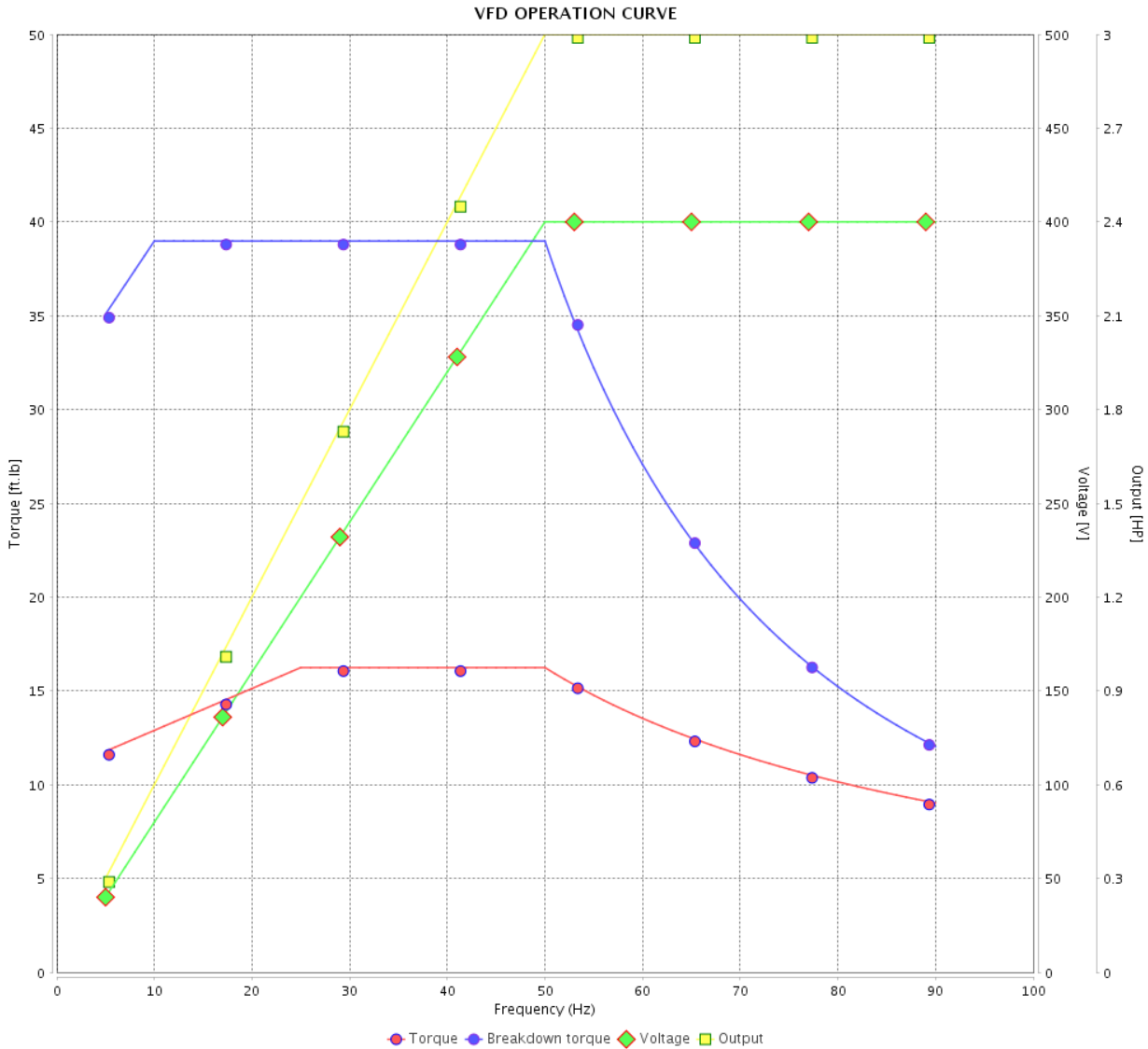


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Performance : 400 V 50 Hz 6P IE4

Rated current : 4.92 A
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 Breakdown torque : 240 %
 Rated speed : 970 rpm

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Date	14/04/2022			

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

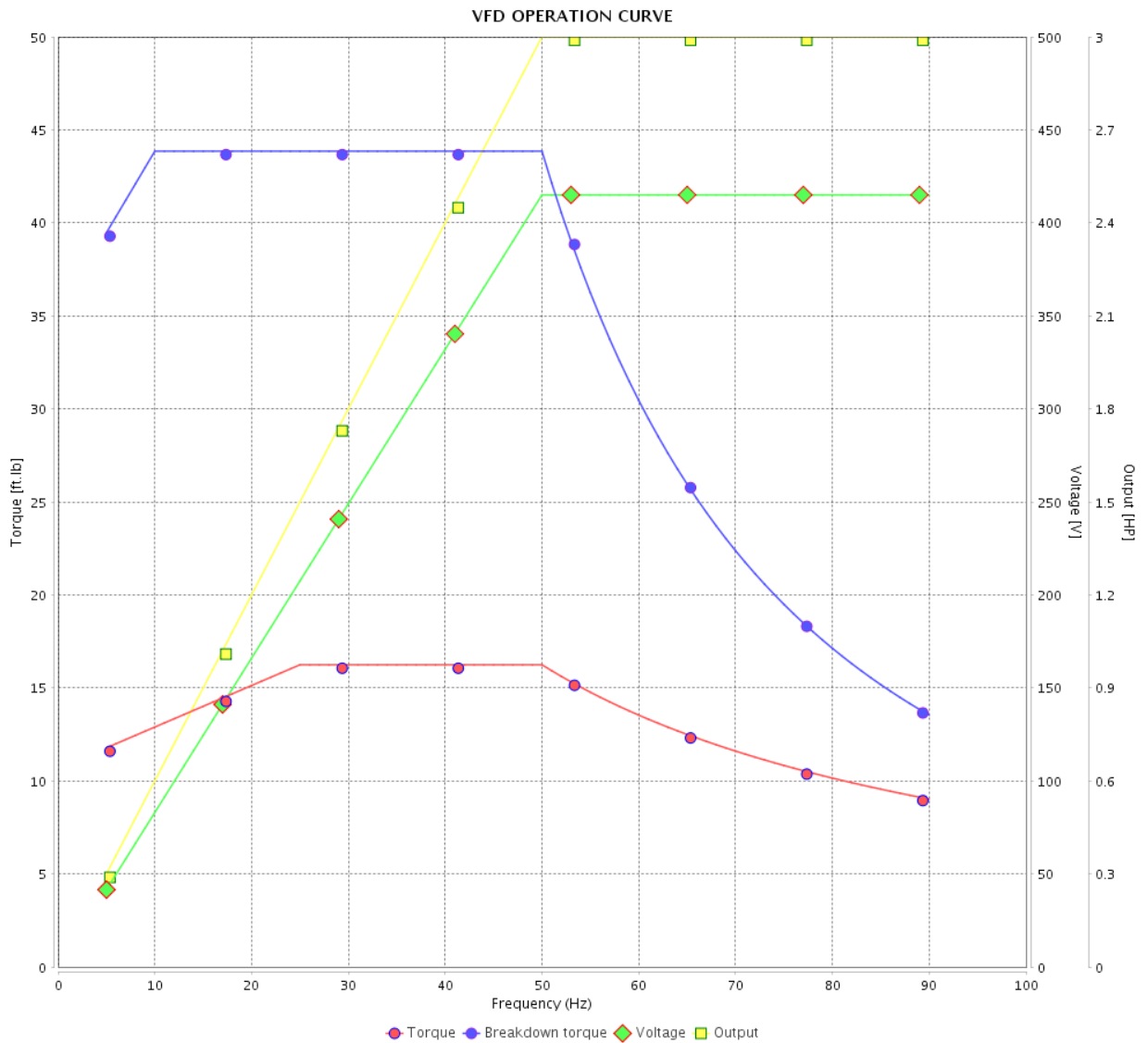


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 Breakdown torque : 270 %
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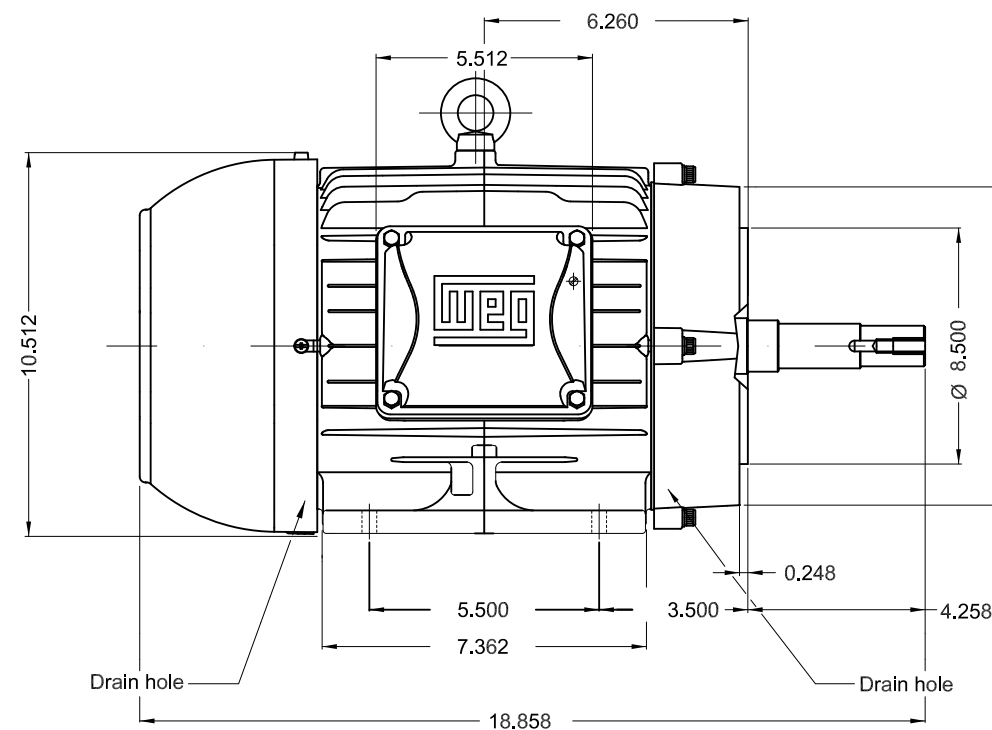
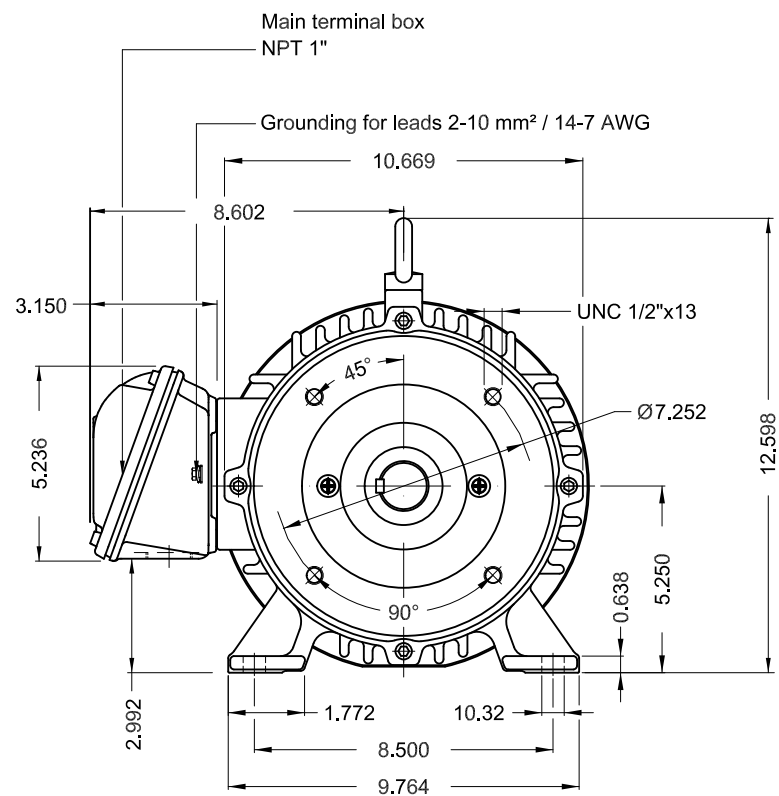
Rev.	Changes Summary	Performed	Checked	Date
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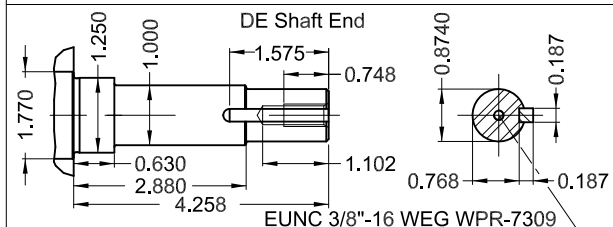
A

B

C



D



E

Color RAL 5009
 Painting plan 207A
 Mounting NEMA F-1
 Mounting B34R(D)

3 HP 06 Poles 60 Hz A

ECM	LOC	SUMMARY OF MODIFICATIONS	EXECUTED	CHECKED	RELEASED	DATE	VER
EXECUTED	PIRWBUSER	THREE PH. MOTOR JM/JP/JET PUMP W22 PREM. EFF. FRAME 213JM IP55 TEFC					
CHECKED							
RELEASED							
REL DT.	WMO		Jaragua do Sul	Product Engineering	SHEET	1 / 1	

PREVIEW
WDD



Dimensions in inches

XME A3

**W22**

CC029A

® Inverter Duty Motor
Severe Duty

13158663

MADE IN BRAZIL MODEL 00312ET3E213JM-W22

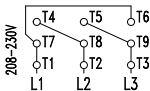
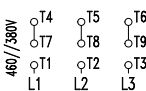
PH 3 | FR 213JM | HP(kw) 3.0(2.2) | Hz 60 | SF 1.25 | PF 0.70

V 230/460 | A 8.83/4.41 | RPM 1175 | INS. CL. F Δ T 80 K | IP55

NEMA NOM EFF 89.5 % | DES B | DUTY CONT. | AMB 40°C

ENCL TEFC | SFA 11.0/5.5 | USABLE @208V 9.76 A | SF 1.15 SFA 11.2

3.0HP 2.2kW 50Hz 380V 5.09A 965RPM SF1.00 EFF 87.5% (IE4) | CODE K

 Δ  Δ 

→ 6309-Z-C3

→ 6207-ZZ

MOBIL POLYREX EM

13 g 20000 h

ALT 1000 m.a.s.l. | 154 Lbs

For 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, 1.0SF, T3A

C US
Energy Verified3PT9
US LISTEDFOR SAFE AREA
MOD.TE1BFOXON