

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



Customer					
Product line		: W40 NEMA Premium Efficiency Three-Phase		Product code : 14272347	
				Catalog # : 10018OT3GRB404T-W40	
Frame		: 404/5T		Cooling method	
Insulation class		: F		: IC01 - ODP	
Duty cycle		: Cont.(S1)		Mounting	
Ambient temperature		: -20°C to +40°C		: F-1	
Altitude		: 1000 m.a.s.l.		Rotation ¹	
Protection degree		: IP23		: Both (CW and CCW)	
Design		: B		Starting method	
				: Direct On Line	
				Approx. weight ²	
				: 974 lb	
				Moment of inertia (J)	
				: 21.9 sq.ft.lb	
Output [HP]	100	75	75	75	75
Poles	4	4	4	4	4
Frequency [Hz]	60	50	50	50	50
Rated voltage [V]	460	380	400	415	415
Rated current [A]	115	103	97.5	96.2	96.2
L. R. Amperes [A]	782	742	683	750	750
LRC [A]	6.8x(Code G)	7.2x(Code H)	7.0x(Code H)	7.8x(Code J)	7.8x(Code J)
No load current [A]	39.7	33.0	36.5	40.0	40.0
Rated speed [RPM]	1780	1482	1484	1485	1485
Slip [%]	1.11	1.20	1.07	1.00	1.00
Rated torque [ft.lb]	295	266	265	265	265
Locked rotor torque [%]	200	220	240	270	270
Breakdown torque [%]	250	250	280	300	300
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	21s (cold) 12s (hot)	23s (cold) 13s (hot)	21s (cold) 12s (hot)	25s (cold) 14s (hot)	25s (cold) 14s (hot)
Noise level ²	69.0 dB(A)				
Efficiency (%)	25%	94.9	90.2	90.3	90.3
	50%	95.0	91.9	92.0	92.0
	75%	95.4	92.9	92.9	92.9
	100%	95.4	94.7	94.7	94.7
Power Factor	25%	0.49	0.50	0.47	0.44
	50%	0.75	0.73	0.72	0.70
	75%	0.83	0.82	0.80	0.80
	100%	0.86	0.86	0.86	0.84
Bearing type	: Drive end	NU-316 C3	Non drive end	6314 C3	Foundation loads
Sealing	: Without		Without		Max. traction : 1899 lb
Lubrication interval	: Bearing Seal	20000 h	Bearing Seal	20000 h	Max. compression : 2873 lb
Lubricant amount	: 34 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.		
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TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



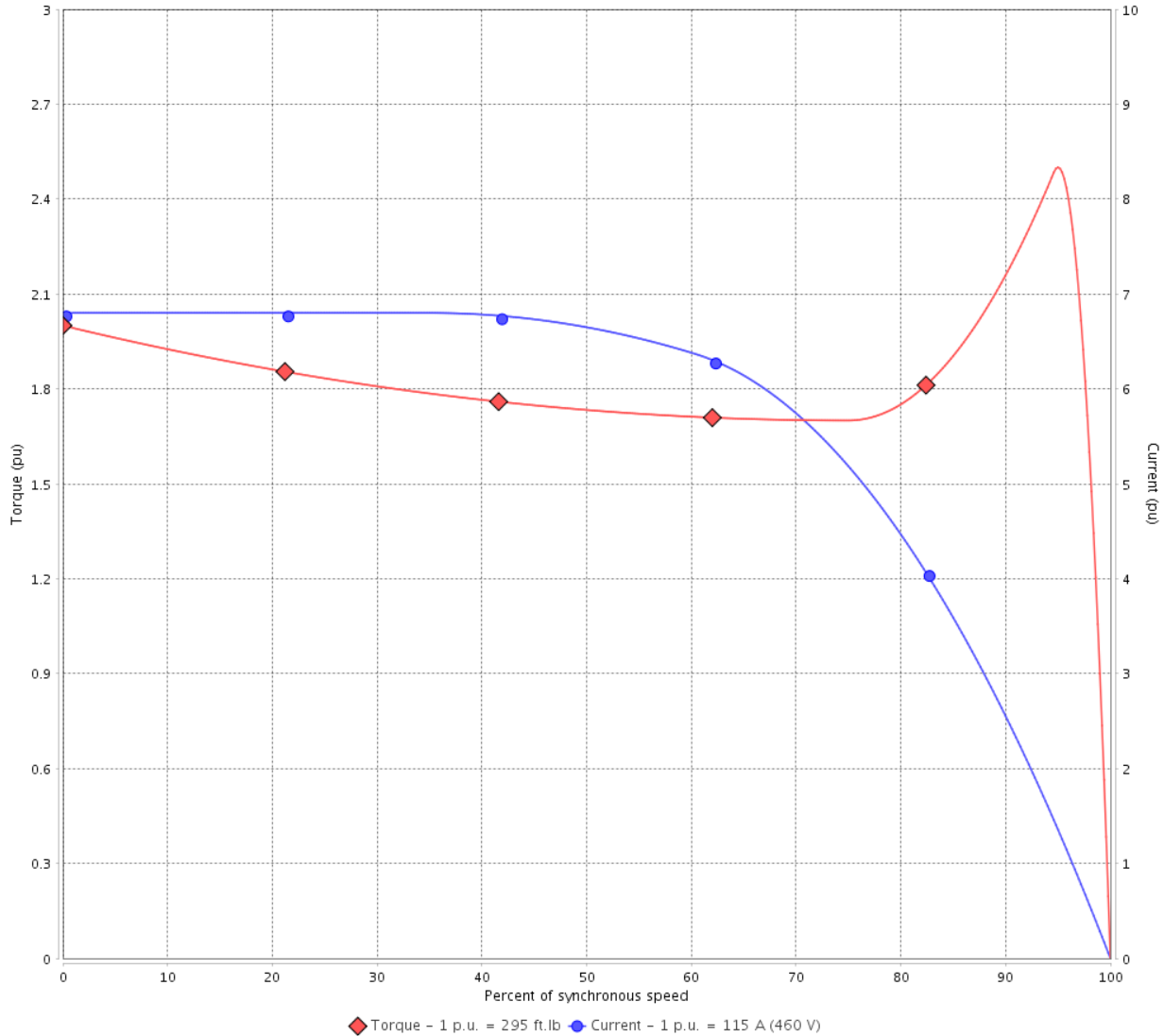
Customer :

Product line : W40 NEMA Premium Efficiency
Three-Phase

Product code : 14272347

Catalog # : 10018OT3GRB404T-W40

TORQUE AND CURRENT VS SPEED CURVE



Performance : 460 V 60 Hz 4P

Rated current	: 115 A	Moment of inertia (J)	: 21.9 sq.ft.lb
LRC	: 6.8	Duty cycle	: Cont.(S1)
Rated torque	: 295 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.25
Breakdown torque	: 250 %	Temperature rise	: 80 K
Rated speed	: 1780 rpm	Design	: B

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

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TORQUE AND CURRENT VS SPEED CURVE



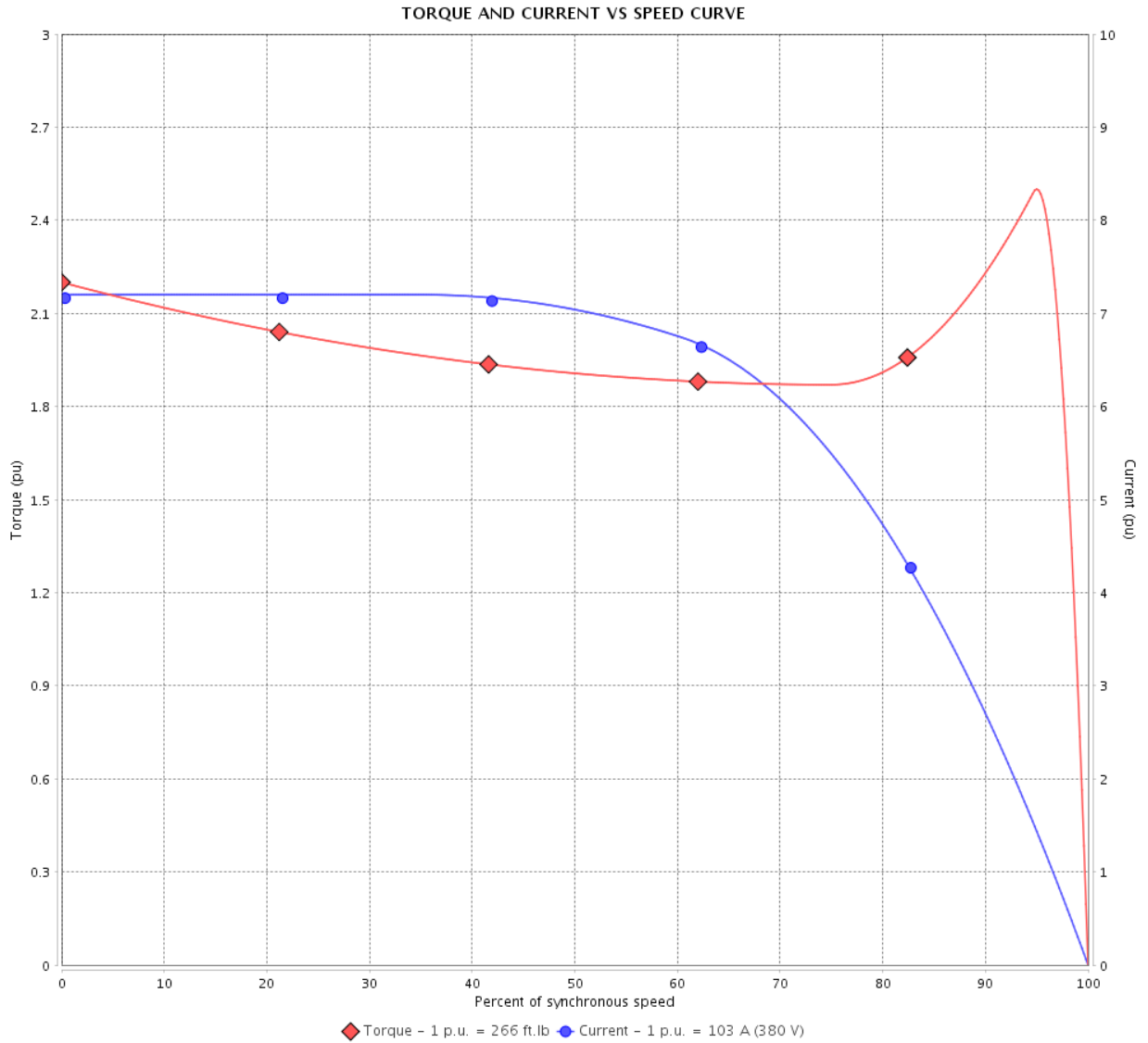
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W40 NEMA Premium Efficiency
Three-Phase

Product code : 14272347

Catalog # : 10018OT3GRB404T-W40



Performance : 380 V 50 Hz 4P IE3

Rated current	: 103 A	Moment of inertia (J)	: 21.9 sq.ft.lb
LRC	: 7.2	Duty cycle	: Cont.(S1)
Rated torque	: 266 ft.lb	Insulation class	: F
Locked rotor torque	: 220 %	Service factor	: 1.00
Breakdown torque	: 250 %	Temperature rise	: 80 K
Rated speed	: 1482 rpm	Design	: B

Locked rotor time : 23s (cold) 13s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



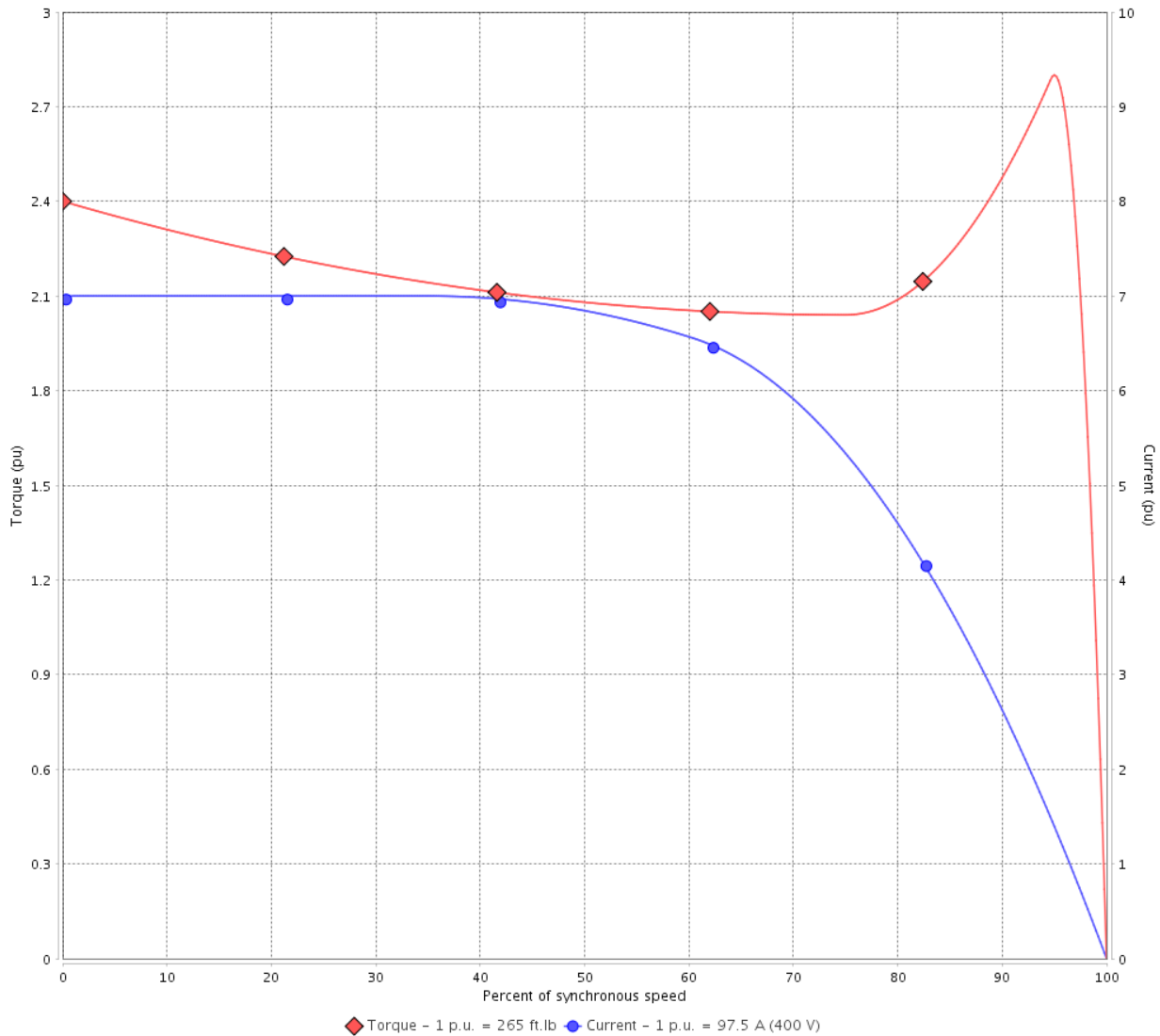
Customer :

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Three-Phase

Product code : 14272347

Catalog # : 10018OT3GRB404T-W40

TORQUE AND CURRENT VS SPEED CURVE



Performance : 400 V 50 Hz 4P IE3

Rated current	: 97.5 A	Moment of inertia (J)	: 21.9 sq.ft.lb
LRC	: 7.0	Duty cycle	: Cont.(S1)
Rated torque	: 265 ft.lb	Insulation class	: F
Locked rotor torque	: 240 %	Service factor	: 1.00
Breakdown torque	: 280 %	Temperature rise	: 80 K
Rated speed	: 1484 rpm	Design	: B

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

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TORQUE AND CURRENT VS SPEED CURVE



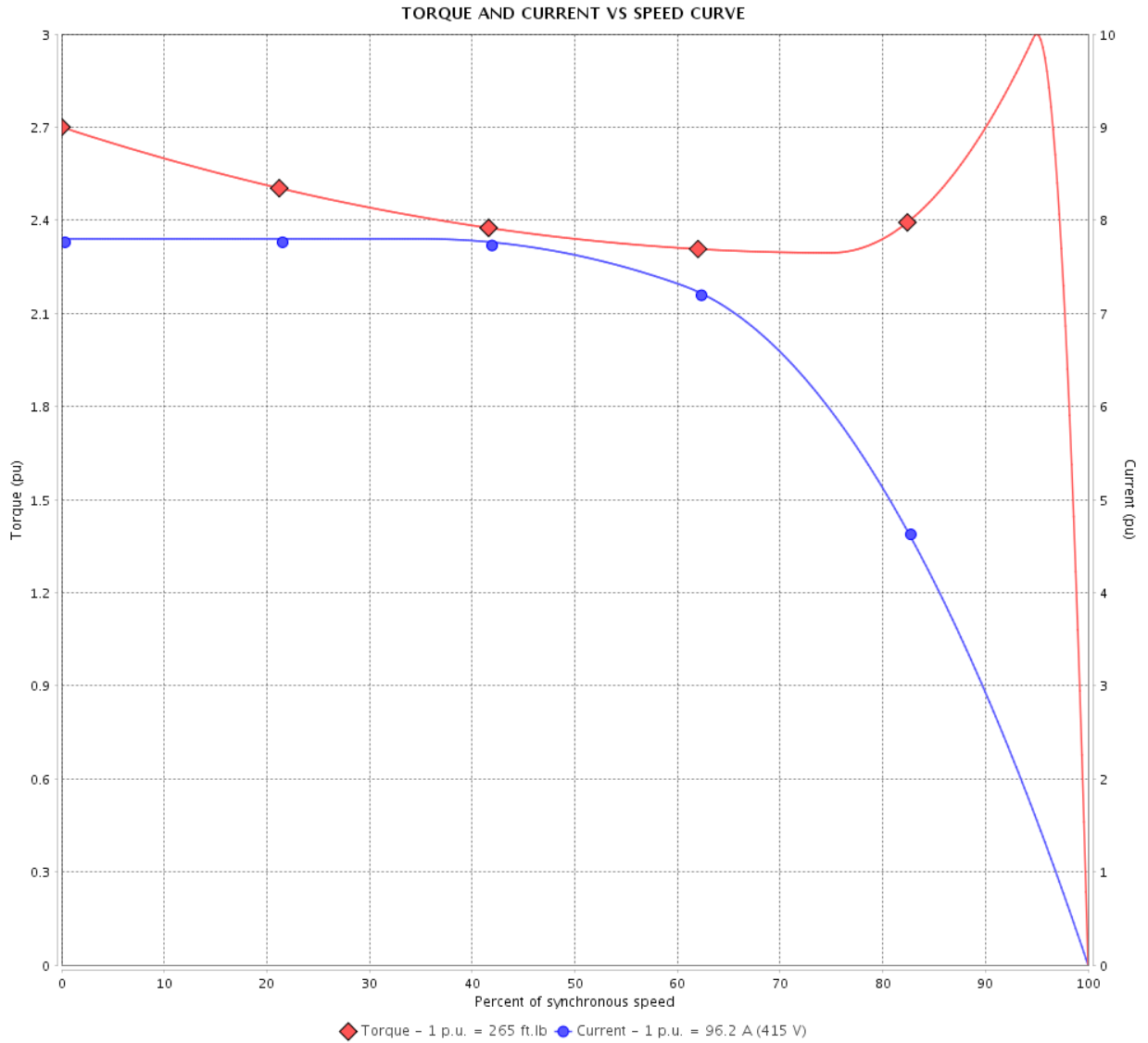
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LRC	: 7.8	Duty cycle	: Cont.(S1)
Rated torque	: 265 ft.lb	Insulation class	: F
Locked rotor torque	: 270 %	Service factor	: 1.00
Breakdown torque	: 300 %	Temperature rise	: 80 K
Rated speed	: 1485 rpm	Design	: B

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

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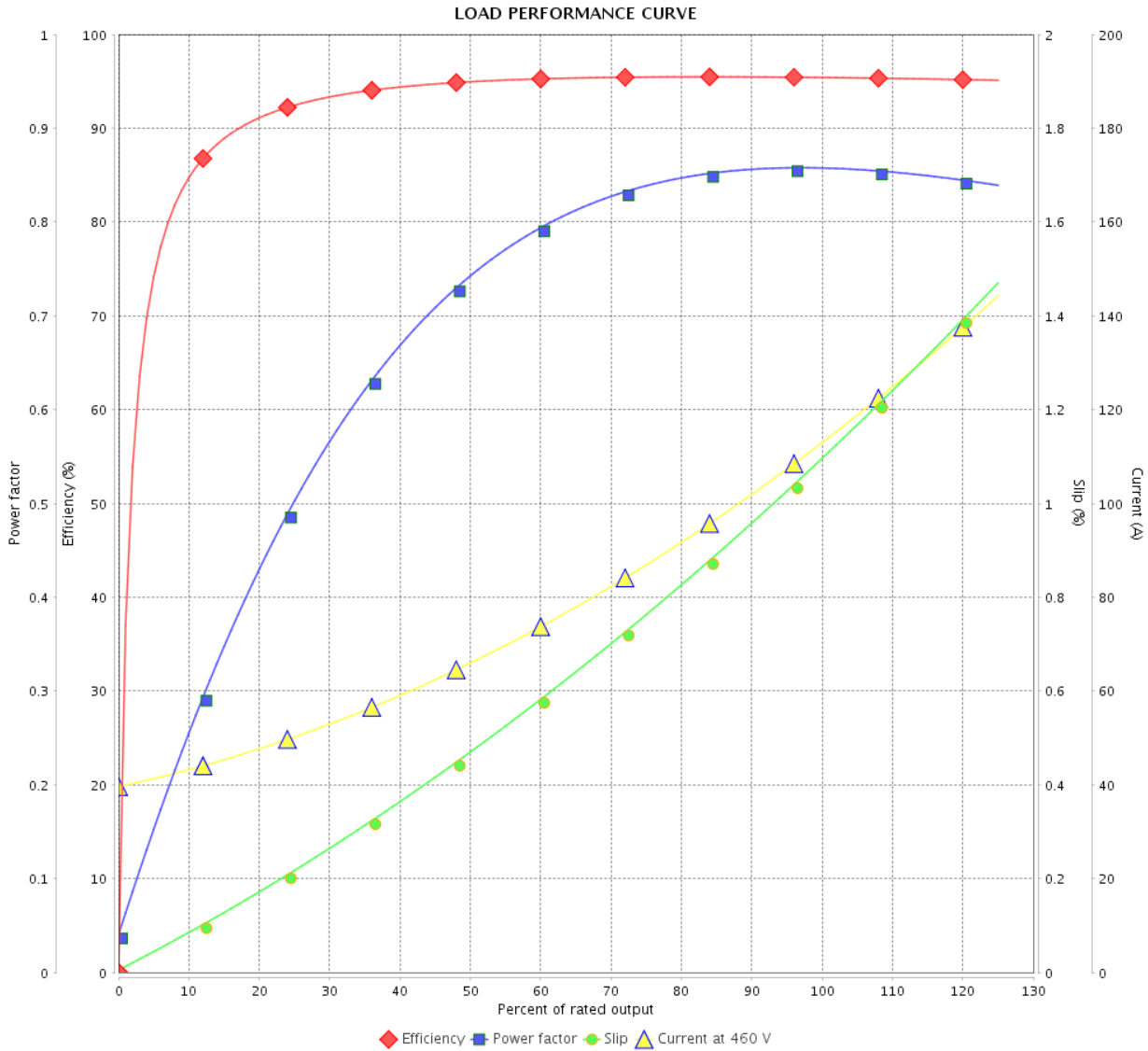


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Product code : 14272347

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Performance : 460 V 60 Hz 4P

Rated current	: 115 A	Moment of inertia (J)	: 21.9 sq.ft.lb
LRC	: 6.8	Duty cycle	: Cont.(S1)
Rated torque	: 295 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.25
Breakdown torque	: 250 %	Temperature rise	: 80 K
Rated speed	: 1780 rpm	Design	: B

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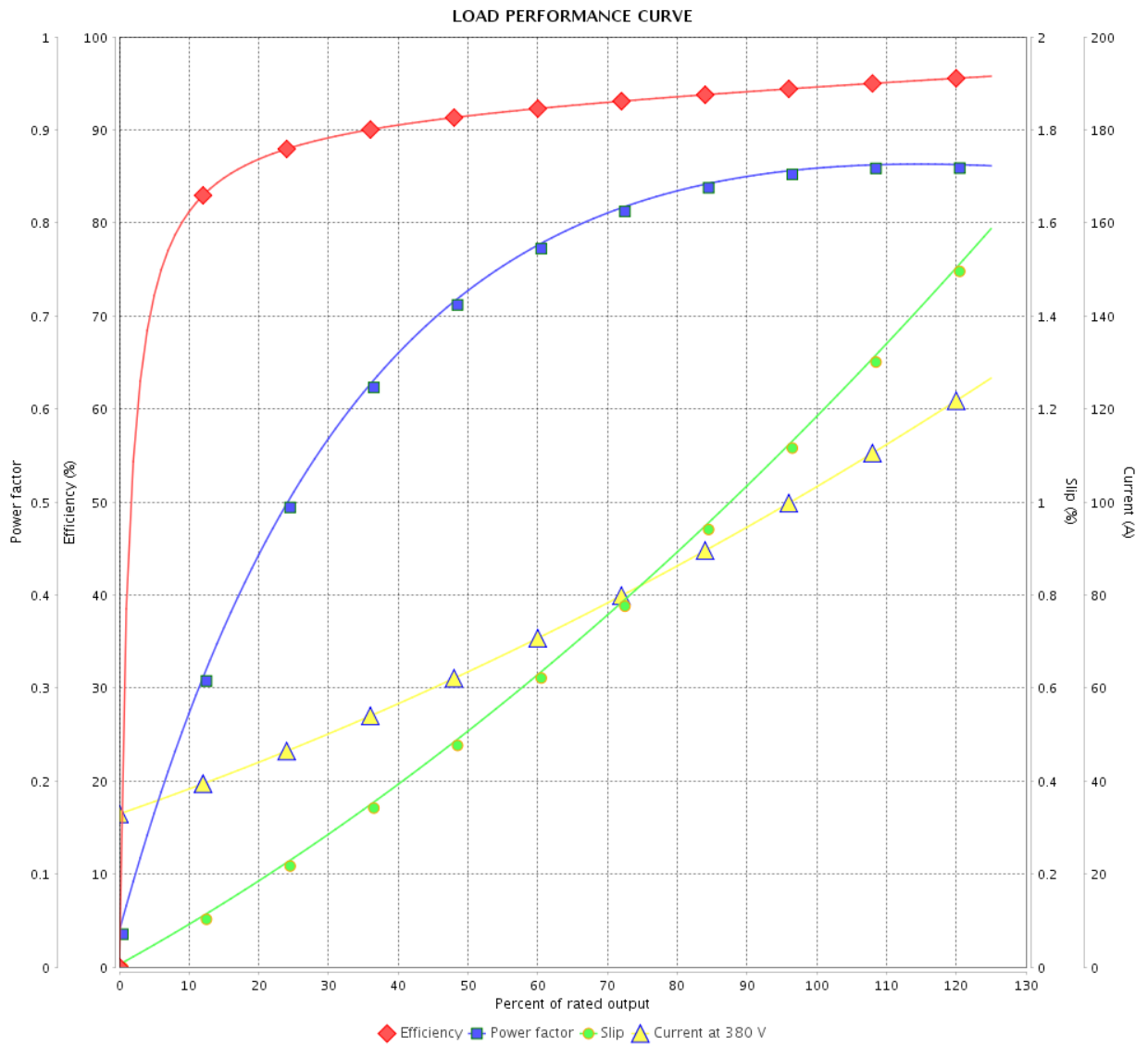


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Performance : 380 V 50 Hz 4P IE3

Rated current : 103 A
 LRC : 7.2
 Rated torque : 266 ft.lb
 Locked rotor torque : 220 %
 Breakdown torque : 250 %
 Rated speed : 1482 rpm

Moment of inertia (J) : 21.9 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



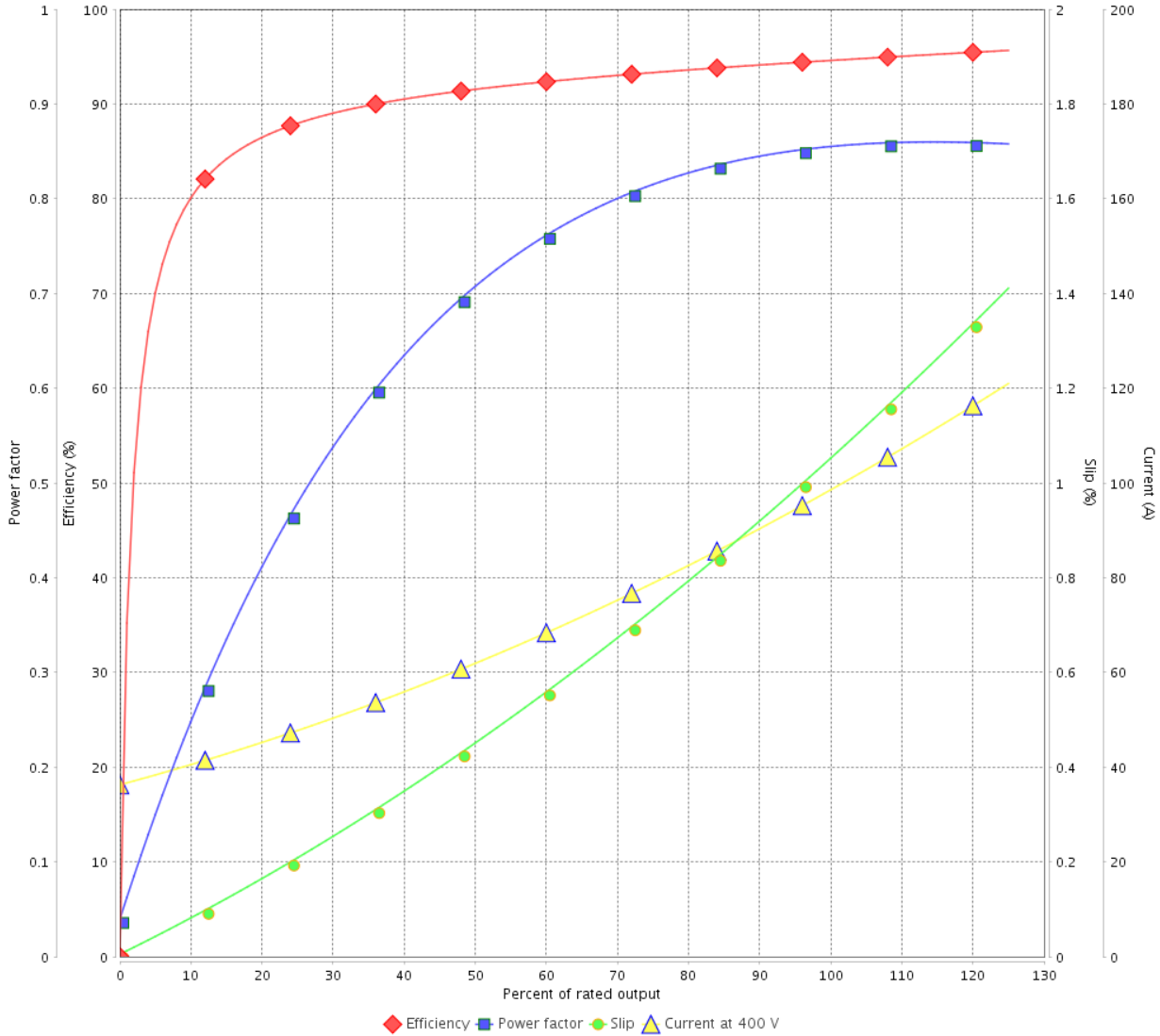
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LOAD PERFORMANCE CURVE



Performance : 400 V 50 Hz 4P IE3

Rated current : 97.5 A
 LRC : 7.0
 Rated torque : 265 ft.lb
 Locked rotor torque : 240 %
 Breakdown torque : 280 %
 Rated speed : 1484 rpm

Moment of inertia (J) : 21.9 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

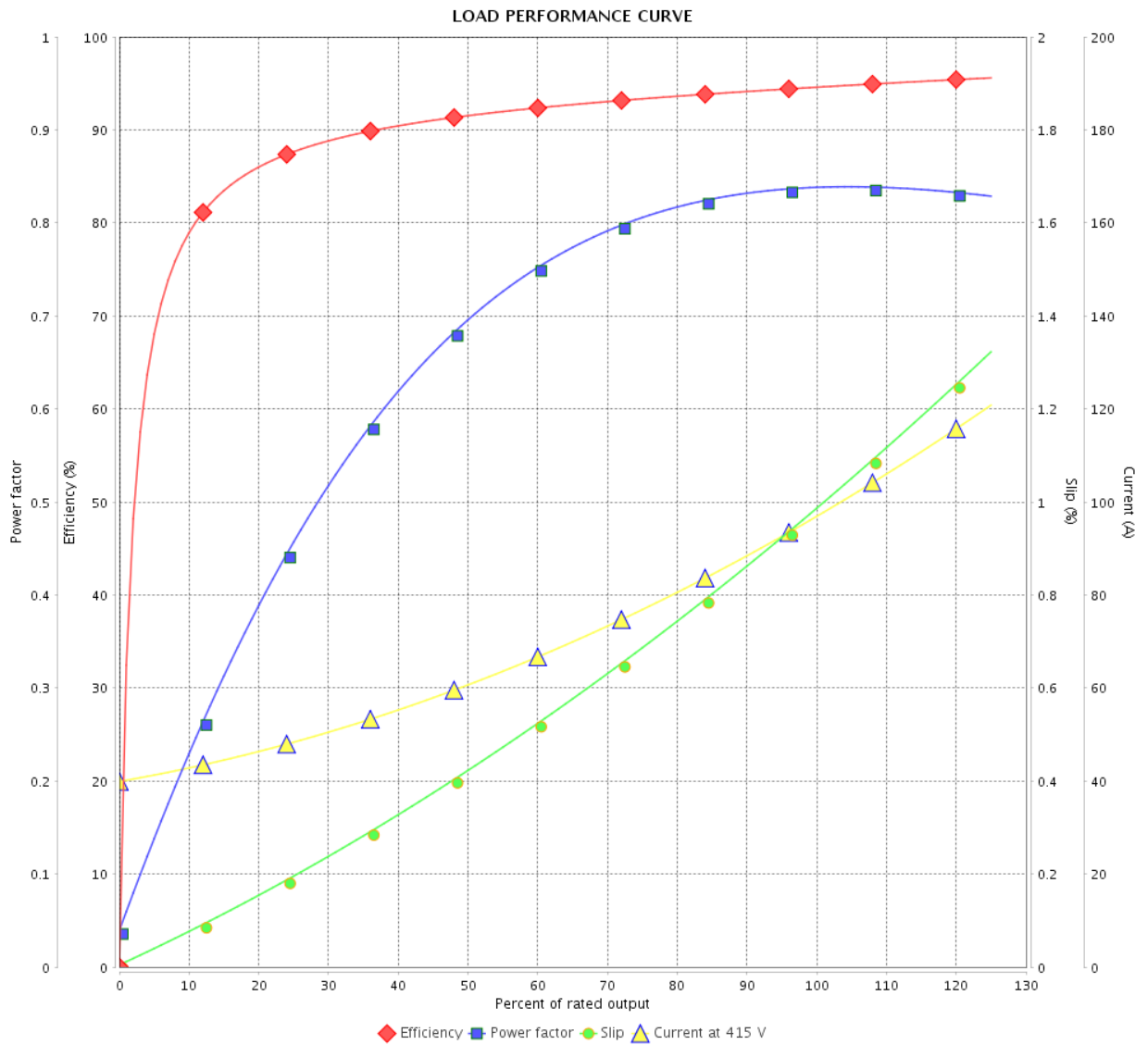


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Product code : 14272347

Catalog # : 10018OT3GRB404T-W40



Performance : 415 V 50 Hz 4P IE3

Rated current : 96.2 A
 LRC : 7.8
 Rated torque : 265 ft.lb
 Locked rotor torque : 270 %
 Breakdown torque : 300 %
 Rated speed : 1485 rpm

Moment of inertia (J) : 21.9 sq.ft.lb
 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	: 250 %	Temperature rise	: 80 K
Rated speed	: 1780 rpm	Design	: B

Heating constant

Cooling constant

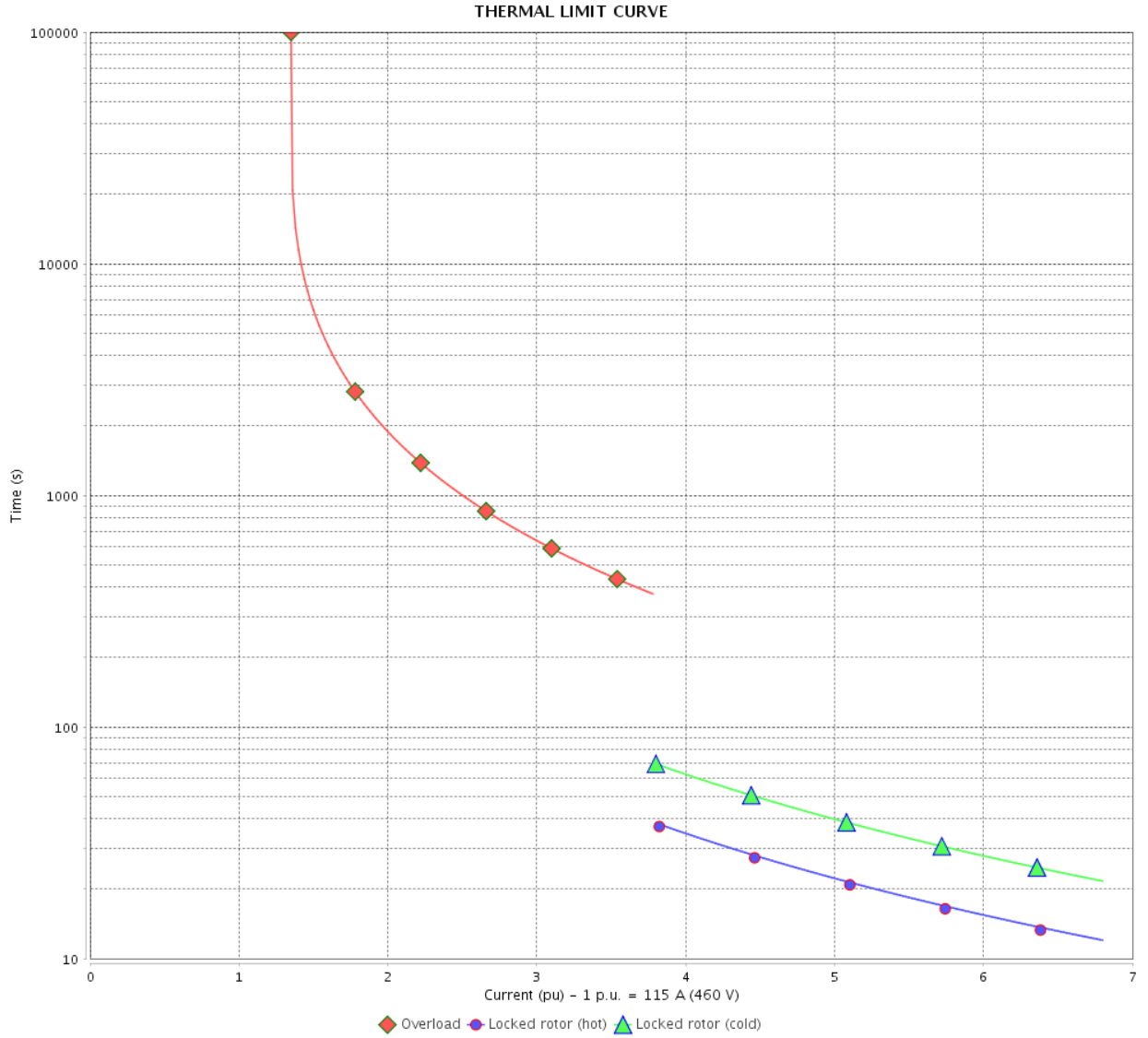
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LRC	: 7.2	Duty cycle	: Cont.(S1)
Rated torque	: 266 ft.lb	Insulation class	: F
Locked rotor torque	: 220 %	Service factor	: 1.00
Breakdown torque	: 250 %	Temperature rise	: 80 K
Rated speed	: 1482 rpm	Design	: B

Heating constant

Cooling constant

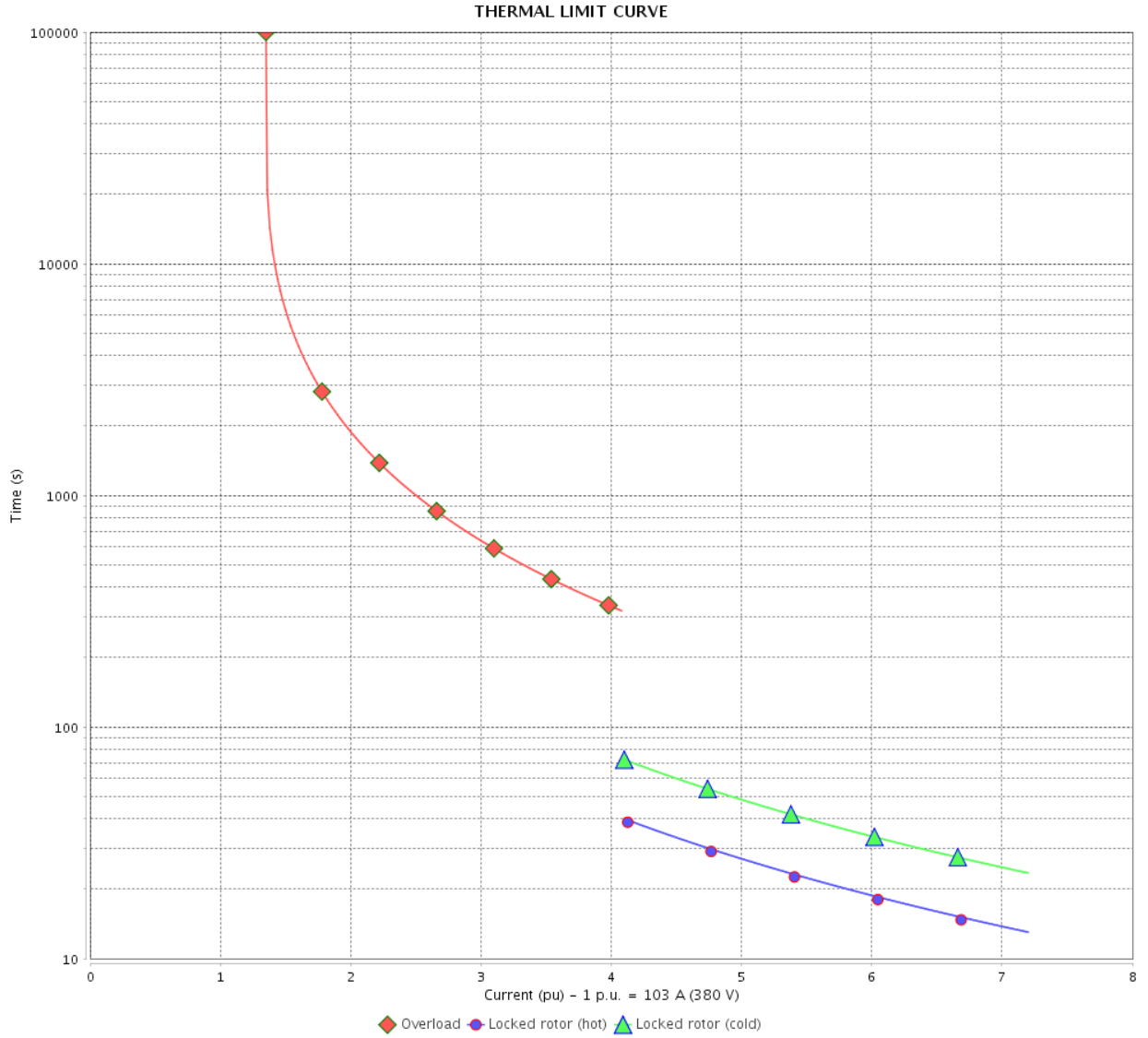
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Performance : 400 V 50 Hz 4P IE3

Rated current	: 97.5 A	Moment of inertia (J)	: 21.9 sq.ft.lb
LRC	: 7.0	Duty cycle	: Cont.(S1)
Rated torque	: 265 ft.lb	Insulation class	: F
Locked rotor torque	: 240 %	Service factor	: 1.00
Breakdown torque	: 280 %	Temperature rise	: 80 K
Rated speed	: 1484 rpm	Design	: B

Heating constant

Cooling constant

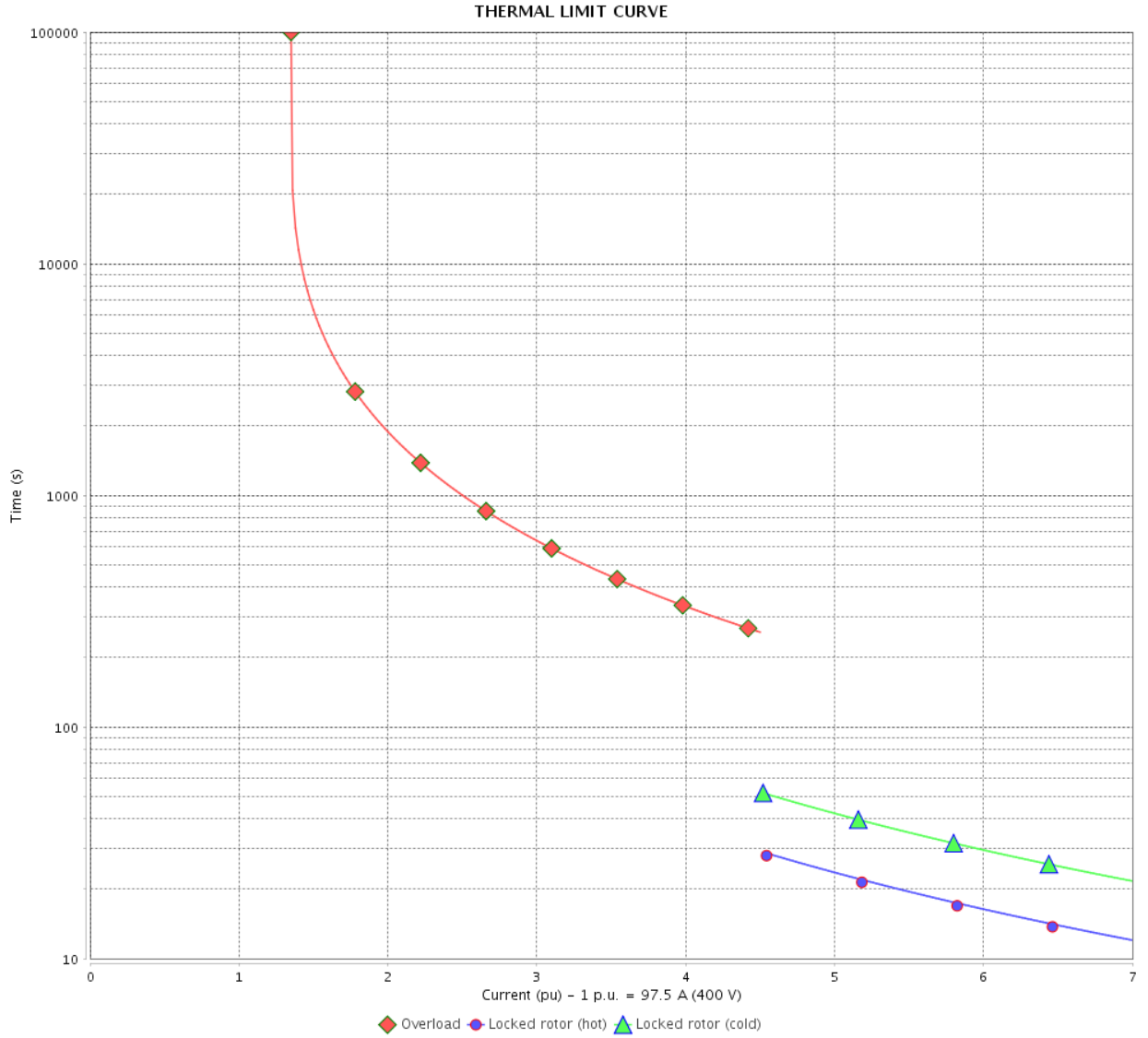
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LRC	: 7.8	Duty cycle	: Cont.(S1)
Rated torque	: 265 ft.lb	Insulation class	: F
Locked rotor torque	: 270 %	Service factor	: 1.00
Breakdown torque	: 300 %	Temperature rise	: 80 K
Rated speed	: 1485 rpm	Design	: B

Heating constant

Cooling constant

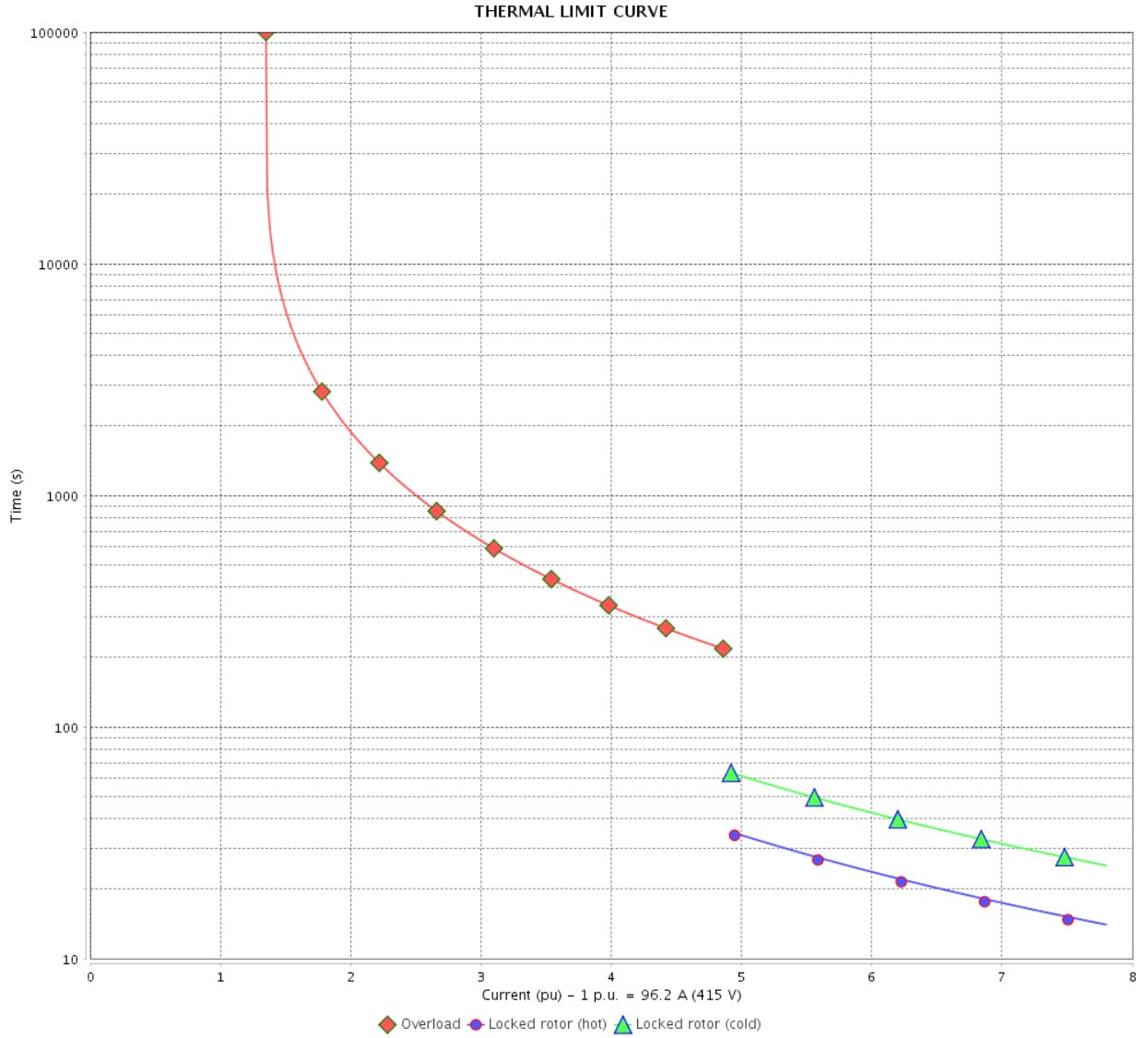
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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



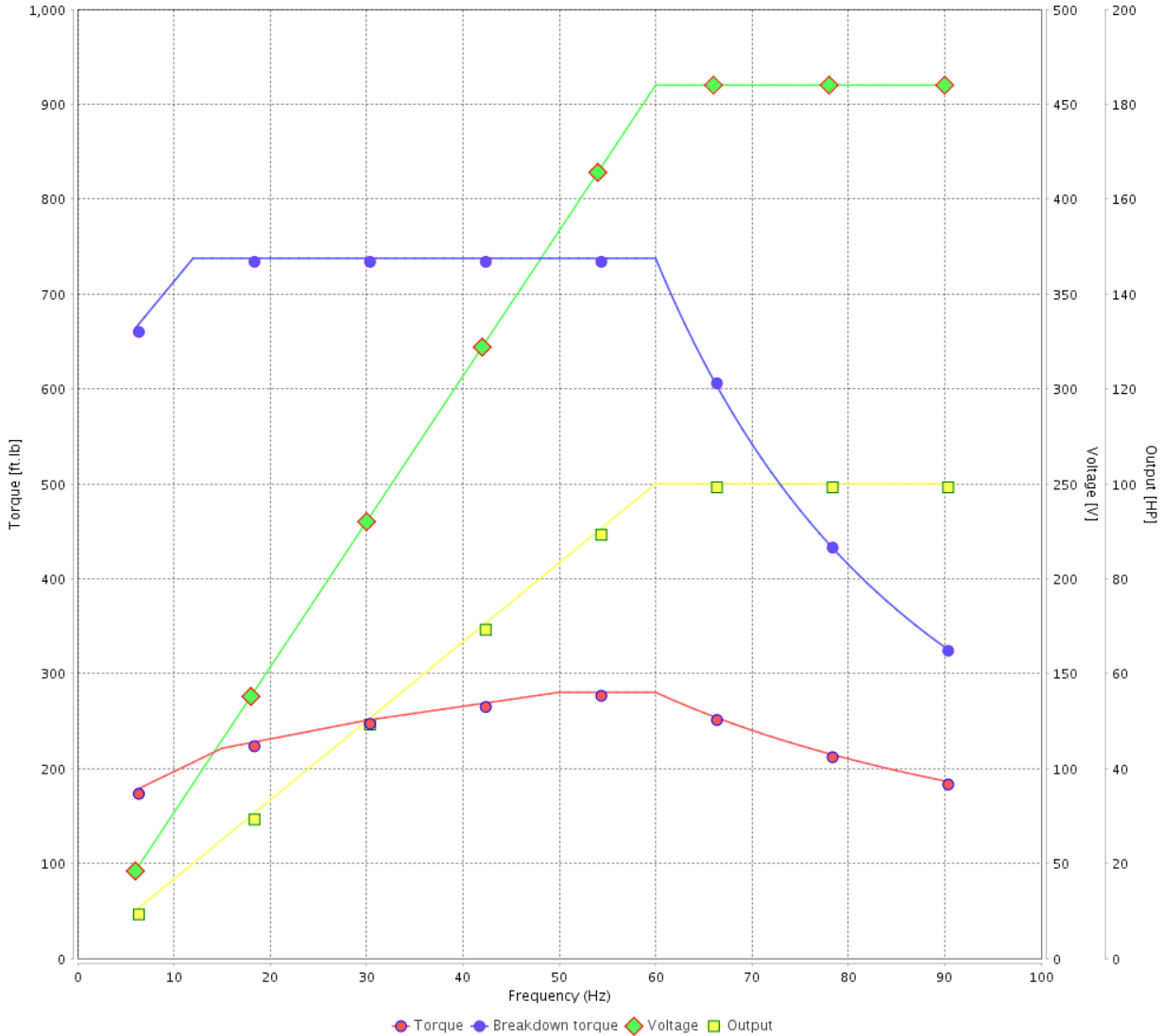
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VFD OPERATION CURVE



Performance : 460 V 60 Hz 4P

Rated current : 115 A
LRC : 6.8
Rated torque : 295 ft.lb
Locked rotor torque : 200 %
Breakdown torque : 250 %
Rated speed : 1780 rpm

Moment of inertia (J) : 21.9 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

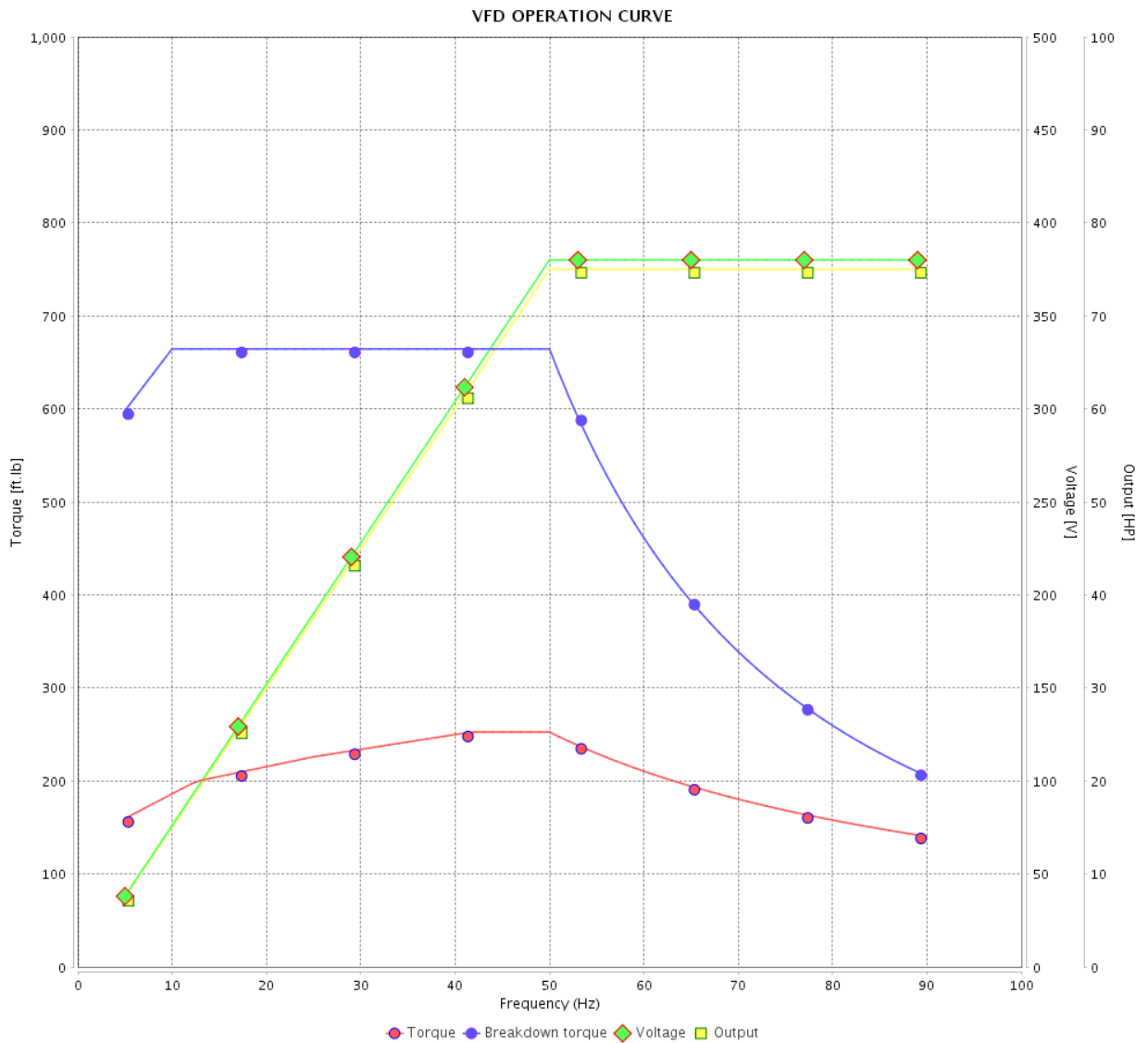


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Moment of inertia (J) : 21.9 sq.ft.lb
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Insulation class : F
Service factor : 1.00
Temperature rise : 80 K
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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

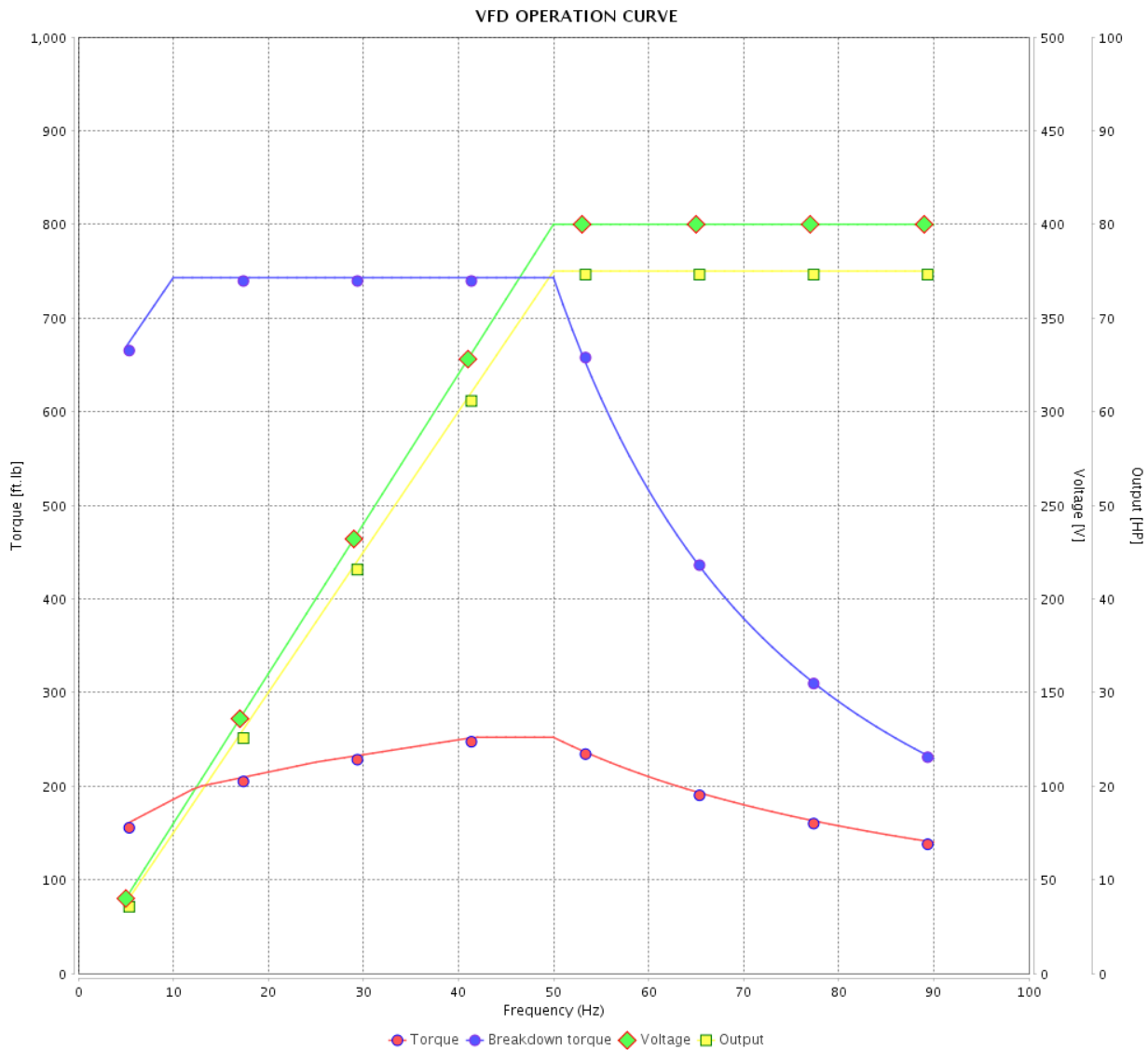


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VFD OPERATION CURVE

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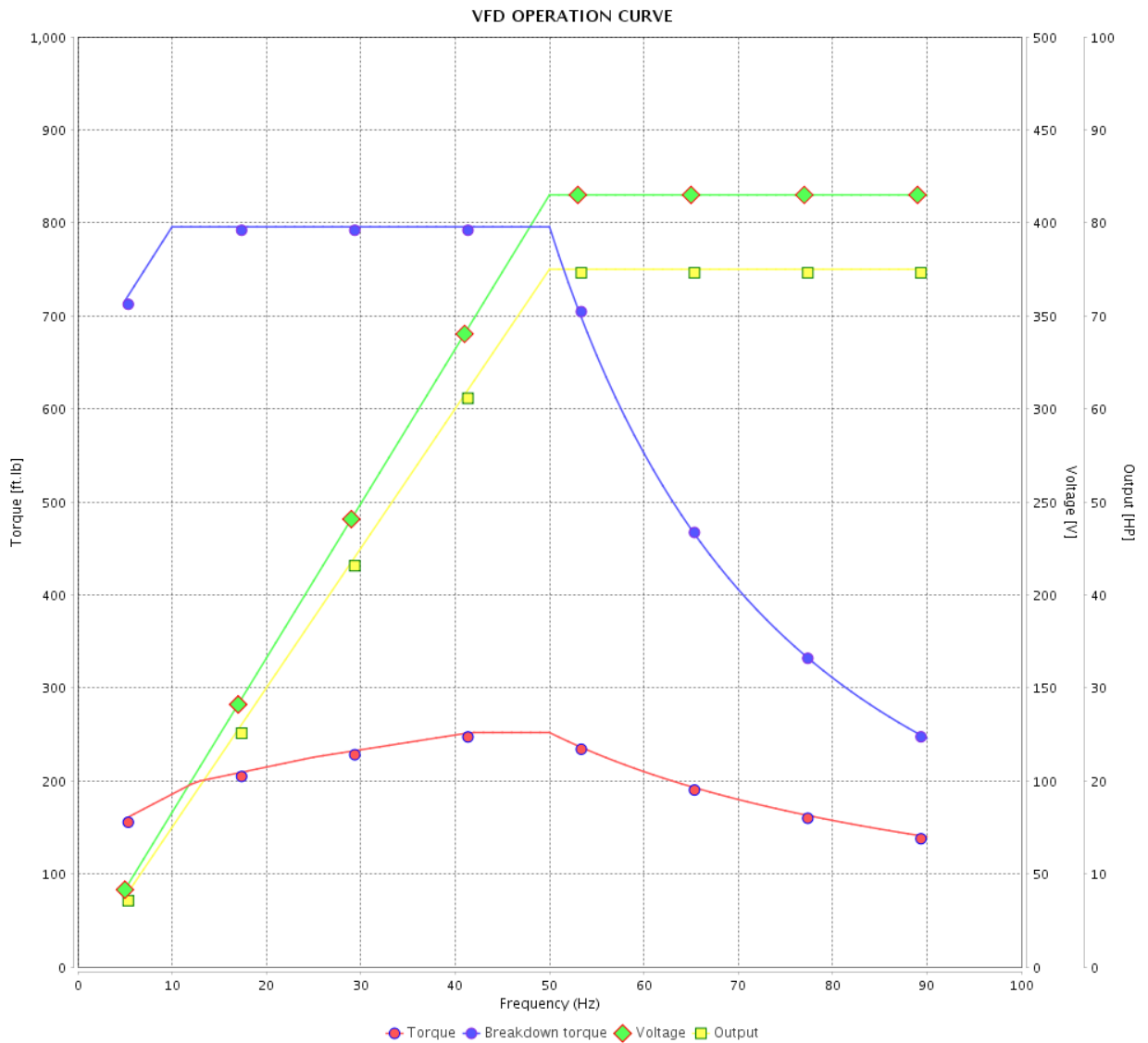


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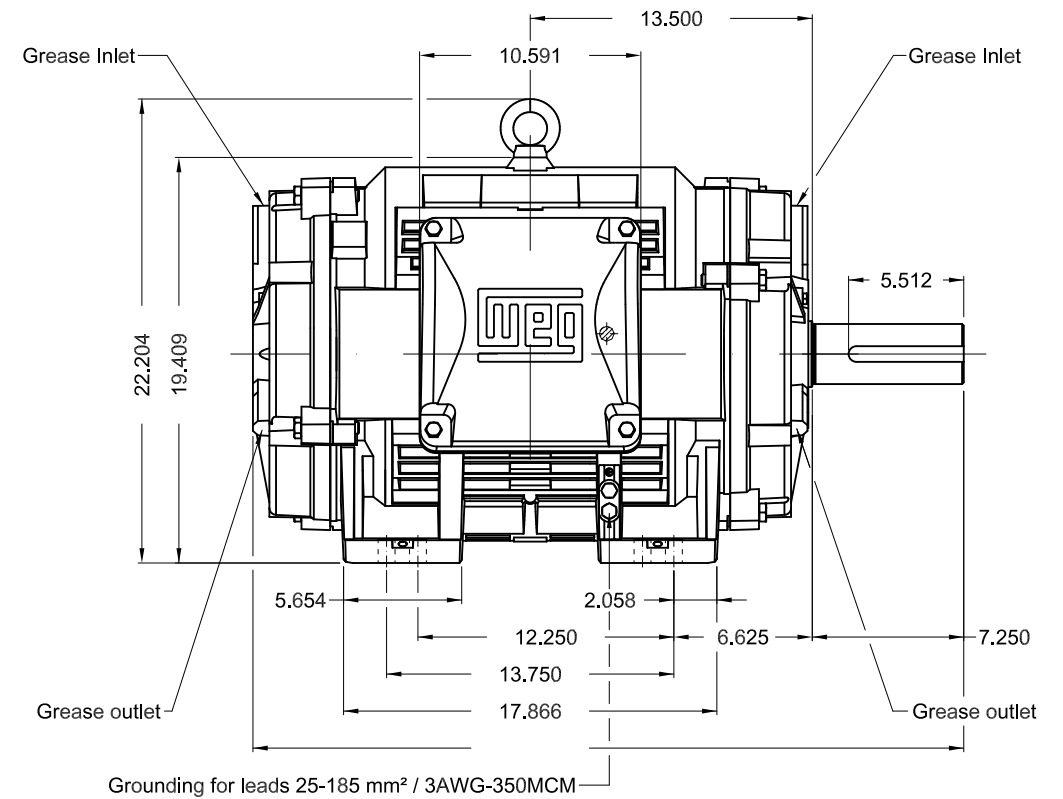
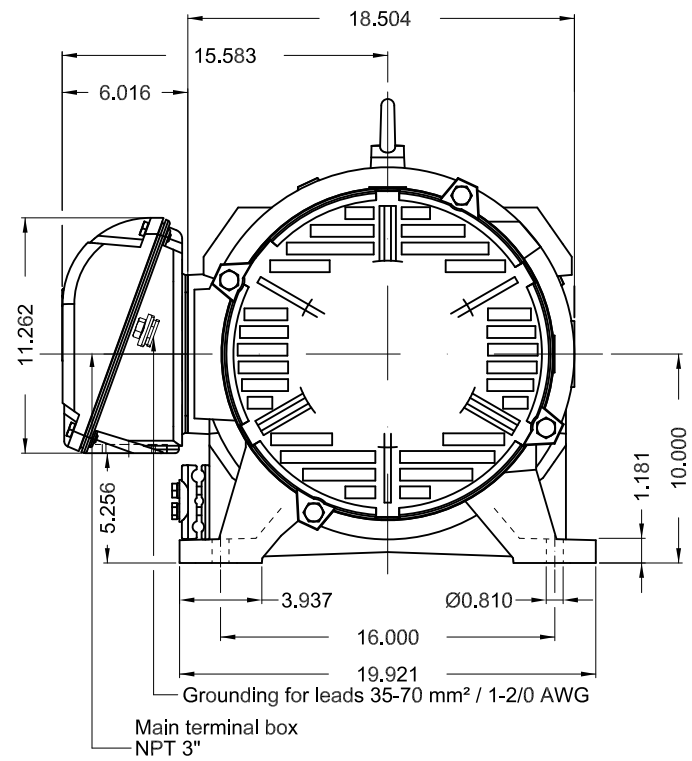


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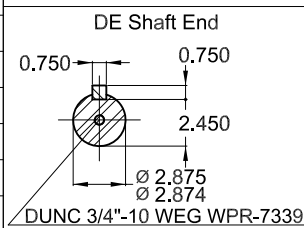
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- DE roller bearing
- C3 NDE bearing
- Shaft locking device
- Shaft material - AISI/SAE 4140
- Color RAL 5009
- Painting plan 203A
- Mounting NEMA F-1
- Mounting B3R(D)



100 HP 04 Poles 60 Hz

A

1:9

ECM	LOC	SUMMARY OF MODIFICATIONS	EXECUTED	CHECKED	RELEASED	DATE	VER
EXECUTED	PIRWBUSER	THREE PH. MOTOR W40 PREM. EFF.					
CHECKED		FRAME 404/5T IP23 ODP					
RELEASED							
REL DT.		WMO Jaragua do Sul	Product Engineering				

PREVIEW
WDD



SHEET 1 / 1

MODEL 100180T3GRB404T-W40
MADE IN BRAZIL
14272347

WEG **W40 NEMA**
CC029A Premium
Inverter Duty Motor

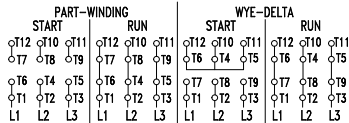



IEC 60034-1
MOD.T01#FOXON



For 60Hz use on PWM, VT 1000:1, CT 2:1, 1.0SF

PH 3	FR 404/5T	HP(kW) 100(75)	Hz 60
V 460	A 115	IP23	
NEMA NOM EFF	95.4 %	RPM 1780	
ENCL ODP	DUTY CONT.	INS. CL. F ΔT 80 K	
PF 0.86	DES B	CODE G	AMB. 40°C
SF 1.25	SFA 144	ALT 1000 m.a.s.l.	
75HP 55kW 50Hz 380V 103A 1482RPM SF1.25 EFF 94.7% (IE3)			



 → NU-316-C3(34g) MOBIL POLYREX EM
→ 6314-C3(27g) 20000 h

974 Lbs