

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :					
Product line	: NEMA Premium Efficiency Three-Phase	Product code :	12370741		
		Catalog # :	20018ET3G504-W22		
Frame	: 504/5T	Cooling method	: IC411 - TEFC		
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>	: 2442 lb		
Protection degree	: IP55	Moment of inertia (J)	: 76.2 sq.ft.lb		
Design	: B				
Output [HP]	200	200	200	200	
Poles	4	4	4	4	
Frequency [Hz]	60	50	50	50	
Rated voltage [V]	460	380	400	415	
Rated current [A]	228	273	263	253	
L. R. Amperes [A]	1436	1338	1447	1493	
LRC [A]	6.3x(Code G)	4.9x(Code D)	5.5x(Code F)	5.9x(Code F)	
No load current [A]	65.0	64.0	69.0	72.0	
Rated speed [RPM]	1788	1483	1485	1487	
Slip [%]	0.67	1.13	1.00	0.87	
Rated torque [ft.lb]	587	708	707	706	
Locked rotor torque [%]	229	170	190	210	
Breakdown torque [%]	229	180	200	210	
Service factor	1.15	1.00	1.00	1.00	
Temperature rise	80 K	80 K	80 K	80 K	
Locked rotor time	39s (cold) 22s (hot)	27s (cold) 15s (hot)	27s (cold) 15s (hot)	27s (cold) 15s (hot)	
Noise level <sup>2</sup>	75.0 dB(A)	71.0 dB(A)	71.0 dB(A)	71.0 dB(A)	
Efficiency (%)	25%	95.3	95.3	95.3	95.3
	50%	95.4	95.4	95.4	95.4
	75%	96.2	95.8	95.8	95.8
	100%	96.2	95.8	95.8	95.8
Power Factor	25%	0.52	0.58	0.54	0.52
	50%	0.75	0.80	0.77	0.75
	75%	0.83	0.85	0.84	0.83
	100%	0.86	0.87	0.86	0.86
Bearing type	: Drive end : 6319 C3 Non drive end : 6316 C3	Foundation loads			
Sealing	: WSeal WSeal	Max. traction	: 2337 lb		
Lubrication interval	: 8000 h 10000 h	Max. compression	: 4779 lb		
Lubricant amount	: 45 g 34 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



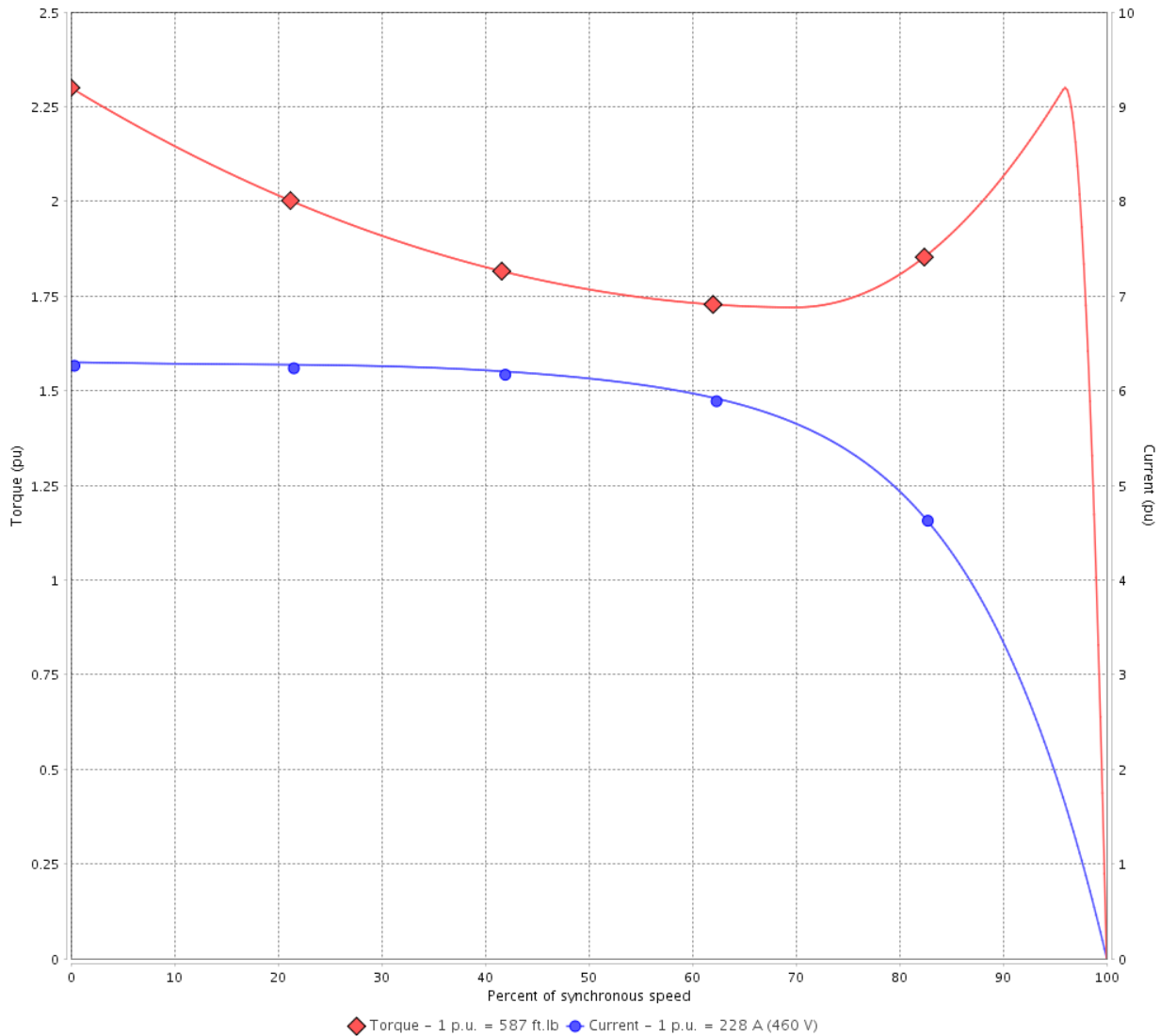
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12370741

Catalog # : 20018ET3G504-W22

TORQUE AND CURRENT VS SPEED CURVE



Performance : 460 V 60 Hz 4P

Rated current	: 228 A	Moment of inertia (J)	: 76.2 sq.ft.lb
LRC	: 6.3	Duty cycle	: Cont.(S1)
Rated torque	: 587 ft.lb	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.15
Breakdown torque	: 229 %	Temperature rise	: 80 K
Rated speed	: 1788 rpm	Design	: B

Locked rotor time : 39s (cold) 22s (hot)

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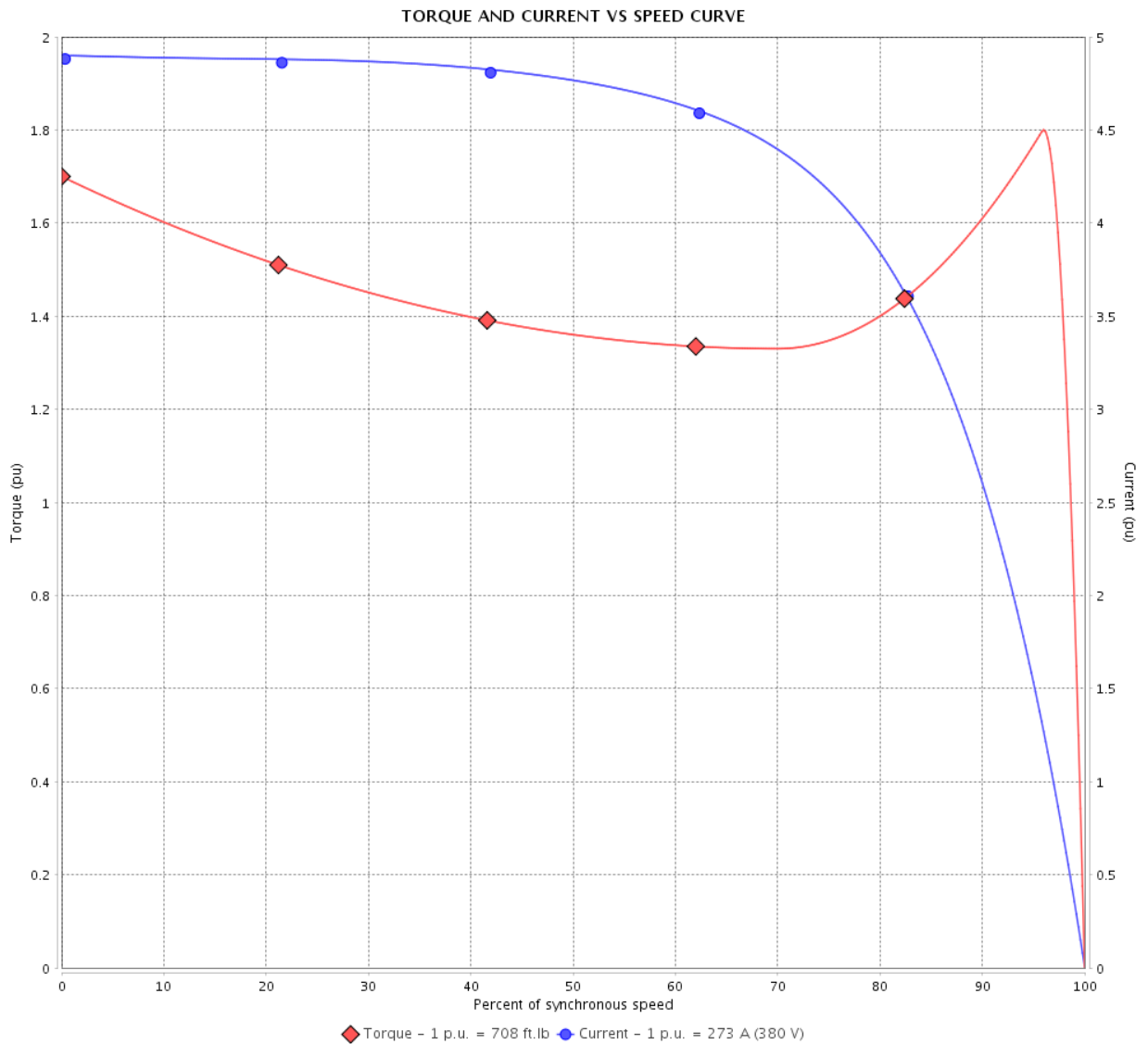
## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12370741

Catalog # : 20018ET3G504-W22



Performance : 380 V 50 Hz 4P IE3

Rated current	: 273 A	Moment of inertia (J)	: 76.2 sq.ft.lb
LRC	: 4.9	Duty cycle	: Cont.(S1)
Rated torque	: 708 ft.lb	Insulation class	: F
Locked rotor torque	: 170 %	Service factor	: 1.00
Breakdown torque	: 180 %	Temperature rise	: 80 K
Rated speed	: 1483 rpm	Design	: B

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

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# TORQUE AND CURRENT VS SPEED CURVE

## Three Phase Induction Motor - Squirrel Cage



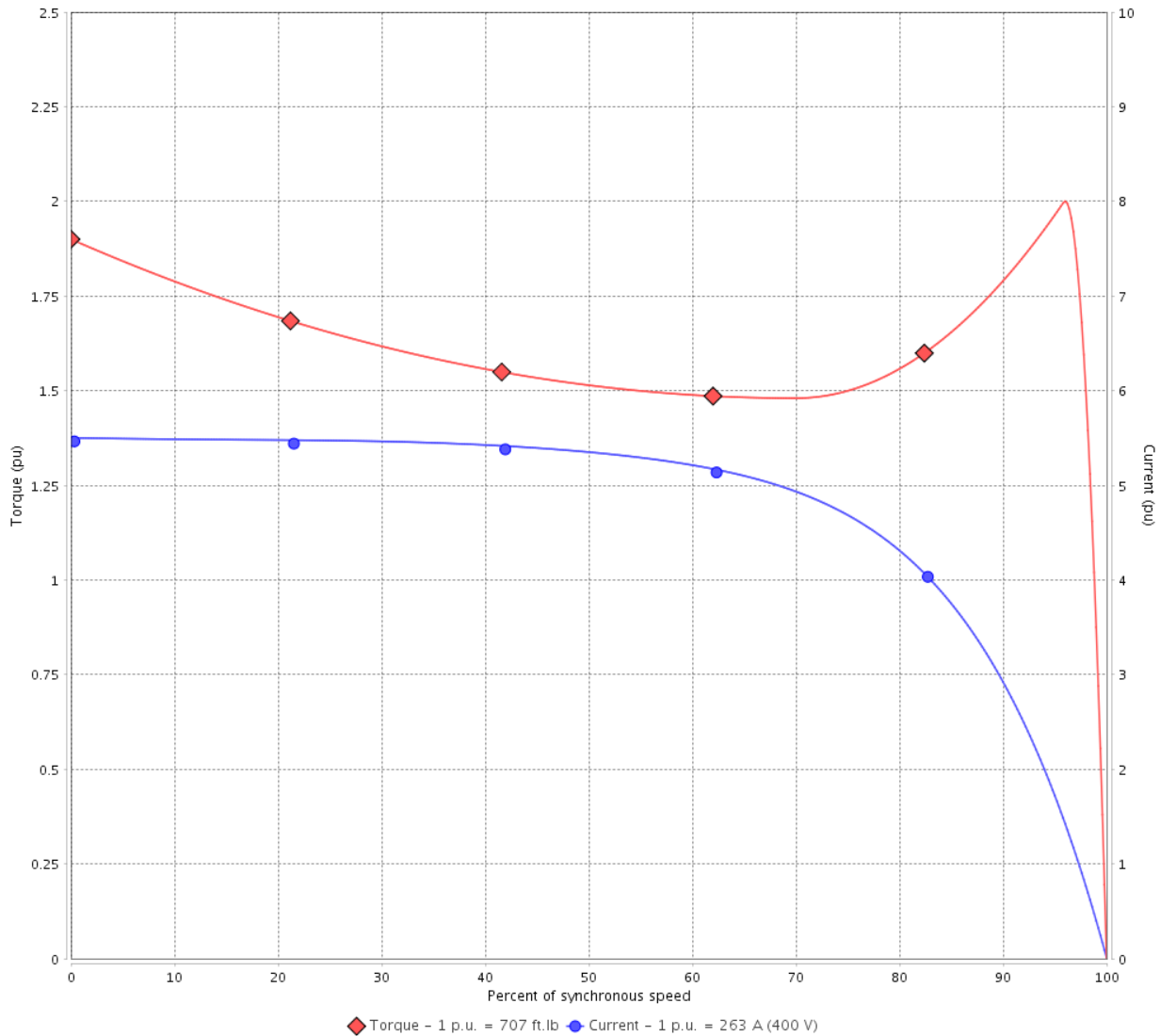
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Product code : 12370741

Catalog # : 20018ET3G504-W22

TORQUE AND CURRENT VS SPEED CURVE



Performance : 400 V 50 Hz 4P IE3

Rated current	: 263 A	Moment of inertia (J)	: 76.2 sq.ft.lb
LRC	: 5.5	Duty cycle	: Cont.(S1)
Rated torque	: 707 ft.lb	Insulation class	: F
Locked rotor torque	: 190 %	Service factor	: 1.00
Breakdown torque	: 200 %	Temperature rise	: 80 K
Rated speed	: 1485 rpm	Design	: B

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

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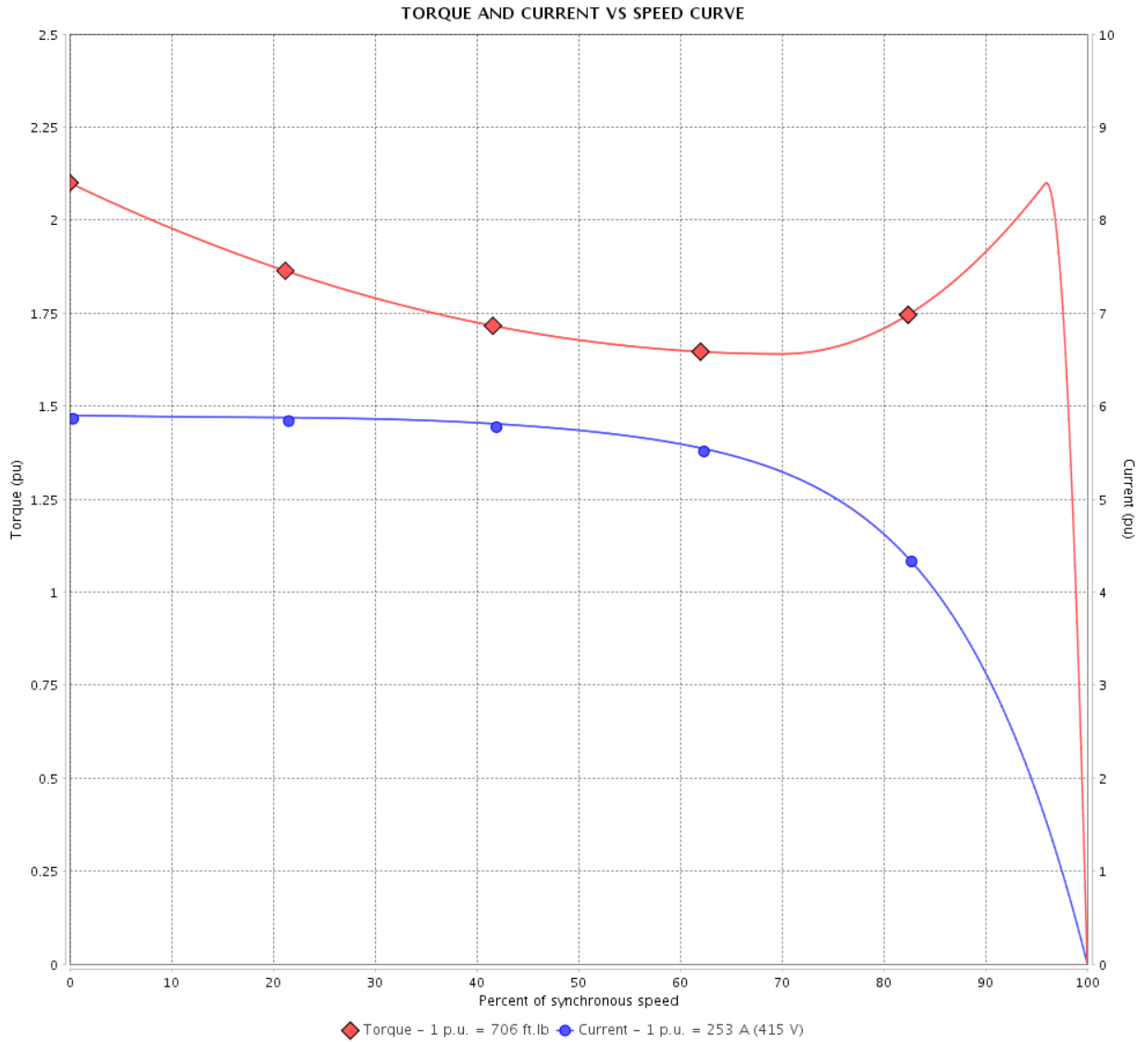
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Rated torque	: 706 ft.lb	Insulation class	: F
Locked rotor torque	: 210 %	Service factor	: 1.00
Breakdown torque	: 210 %	Temperature rise	: 80 K
Rated speed	: 1487 rpm	Design	: B

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

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# LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage

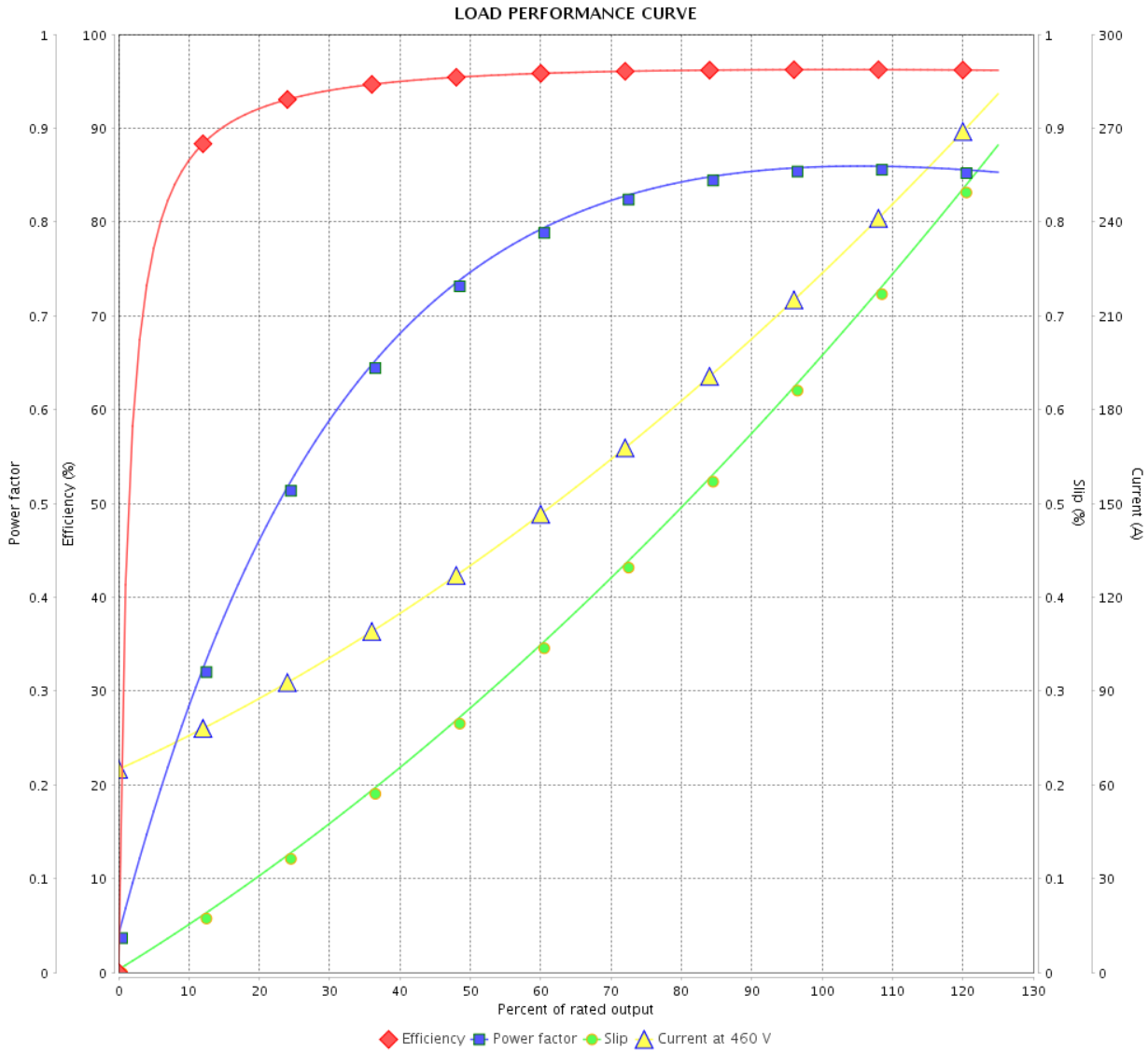


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Product code : 12370741

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Performance : 460 V 60 Hz 4P

Rated current : 228 A  
 LRC : 6.3  
 Rated torque : 587 ft.lb  
 Locked rotor torque : 229 %  
 Breakdown torque : 229 %  
 Rated speed : 1788 rpm

Moment of inertia (J) : 76.2 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : B

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# LOAD PERFORMANCE CURVE

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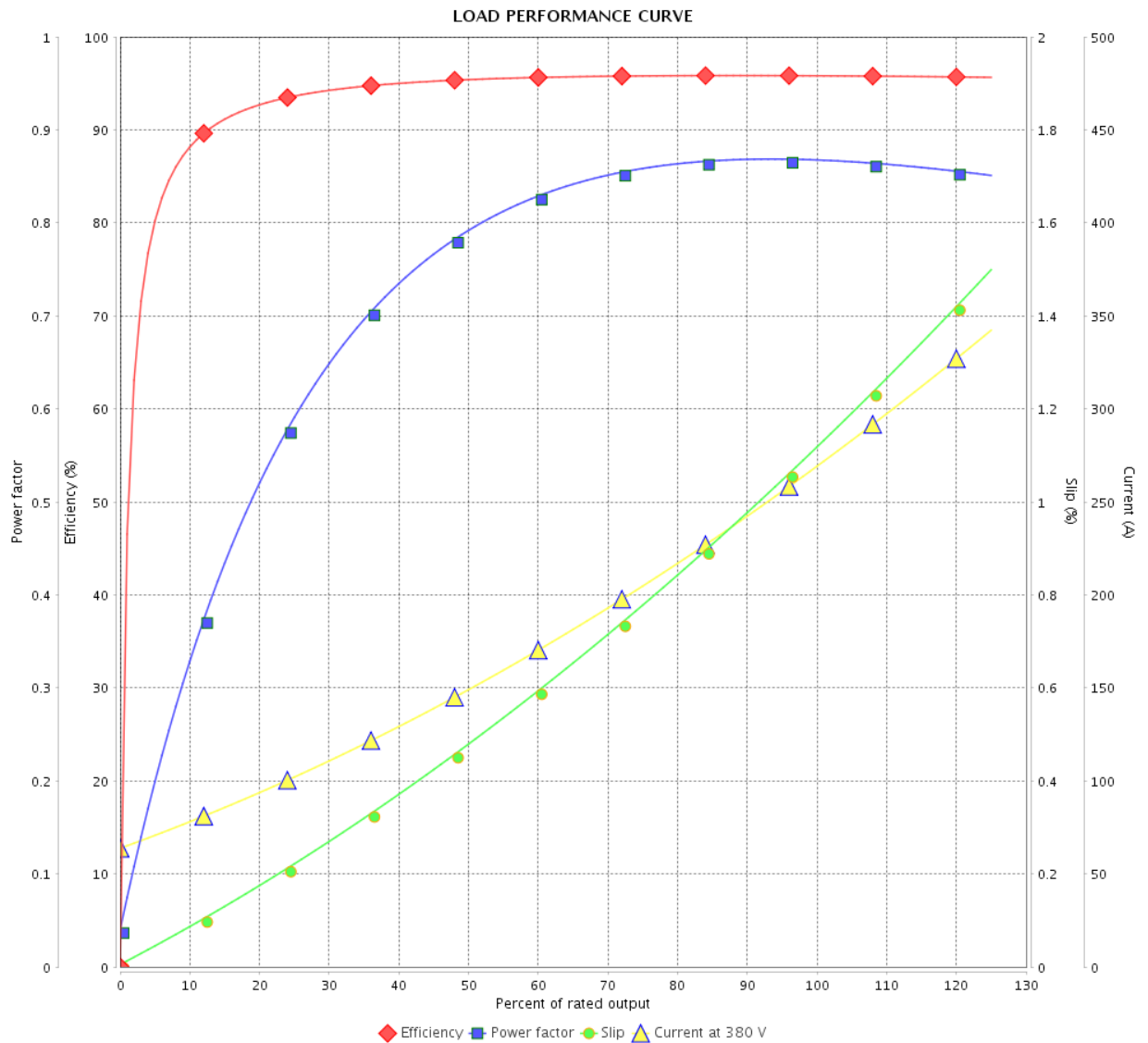


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Performance : 380 V 50 Hz 4P IE3

Rated current : 273 A  
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 Rated torque : 708 ft.lb  
 Locked rotor torque : 170 %  
 Breakdown torque : 180 %  
 Rated speed : 1483 rpm

Moment of inertia (J) : 76.2 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 80 K  
 Design : B

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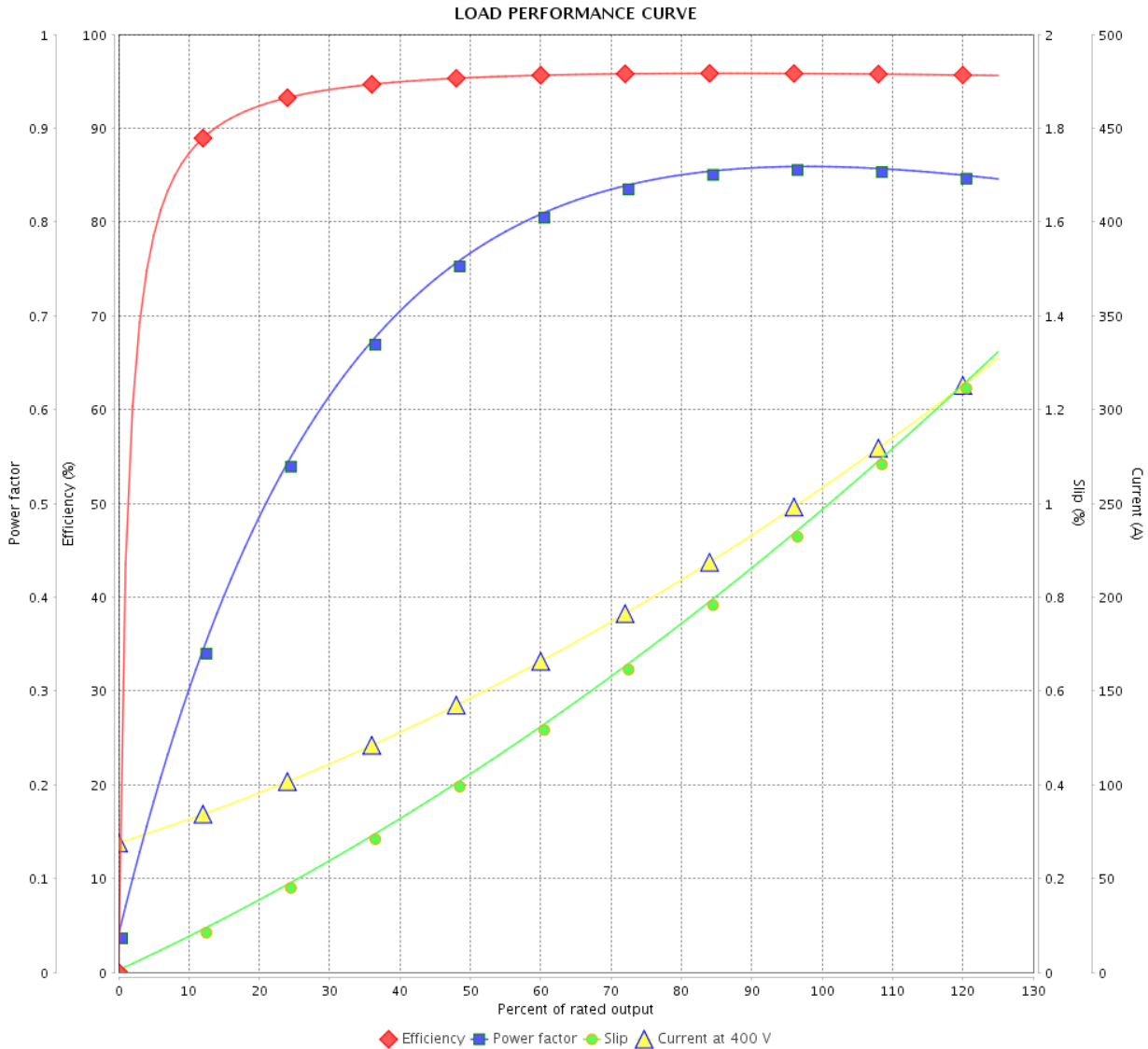


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Breakdown torque	: 200 %	Temperature rise	: 80 K
Rated speed	: 1485 rpm	Design	: B

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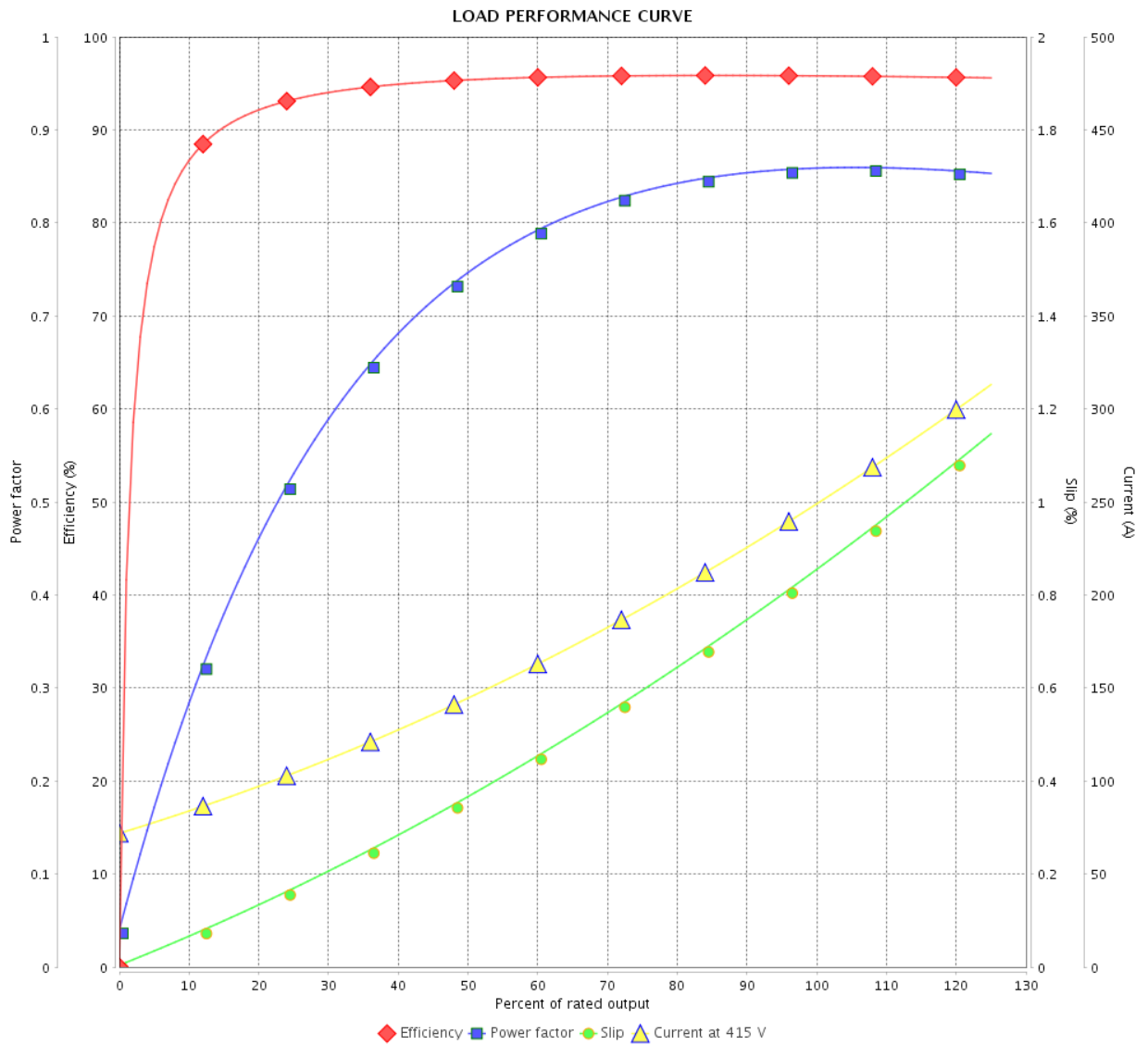


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 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 80 K  
 Design : B

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# THERMAL LIMIT CURVE

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Heating constant

Cooling constant

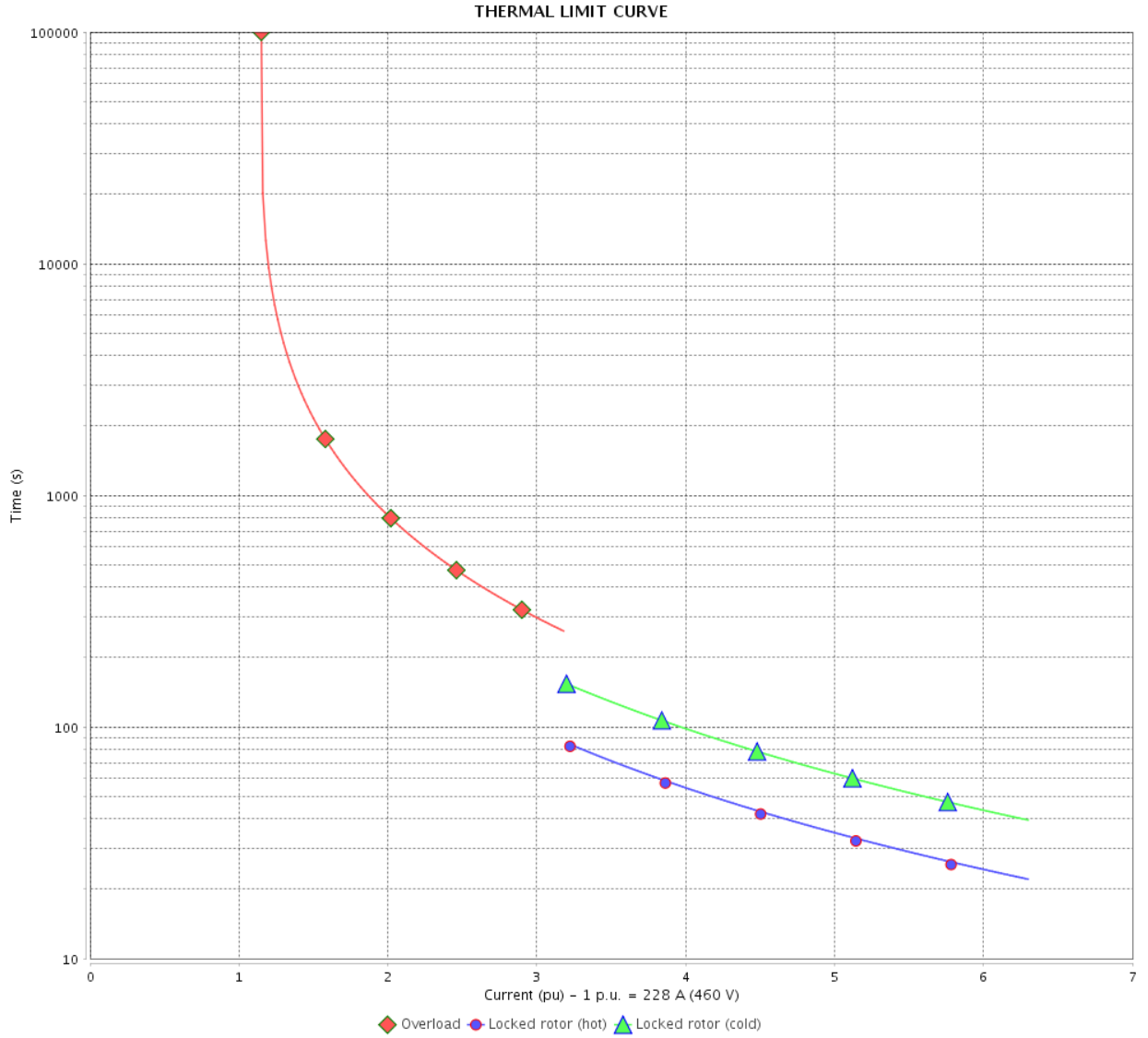
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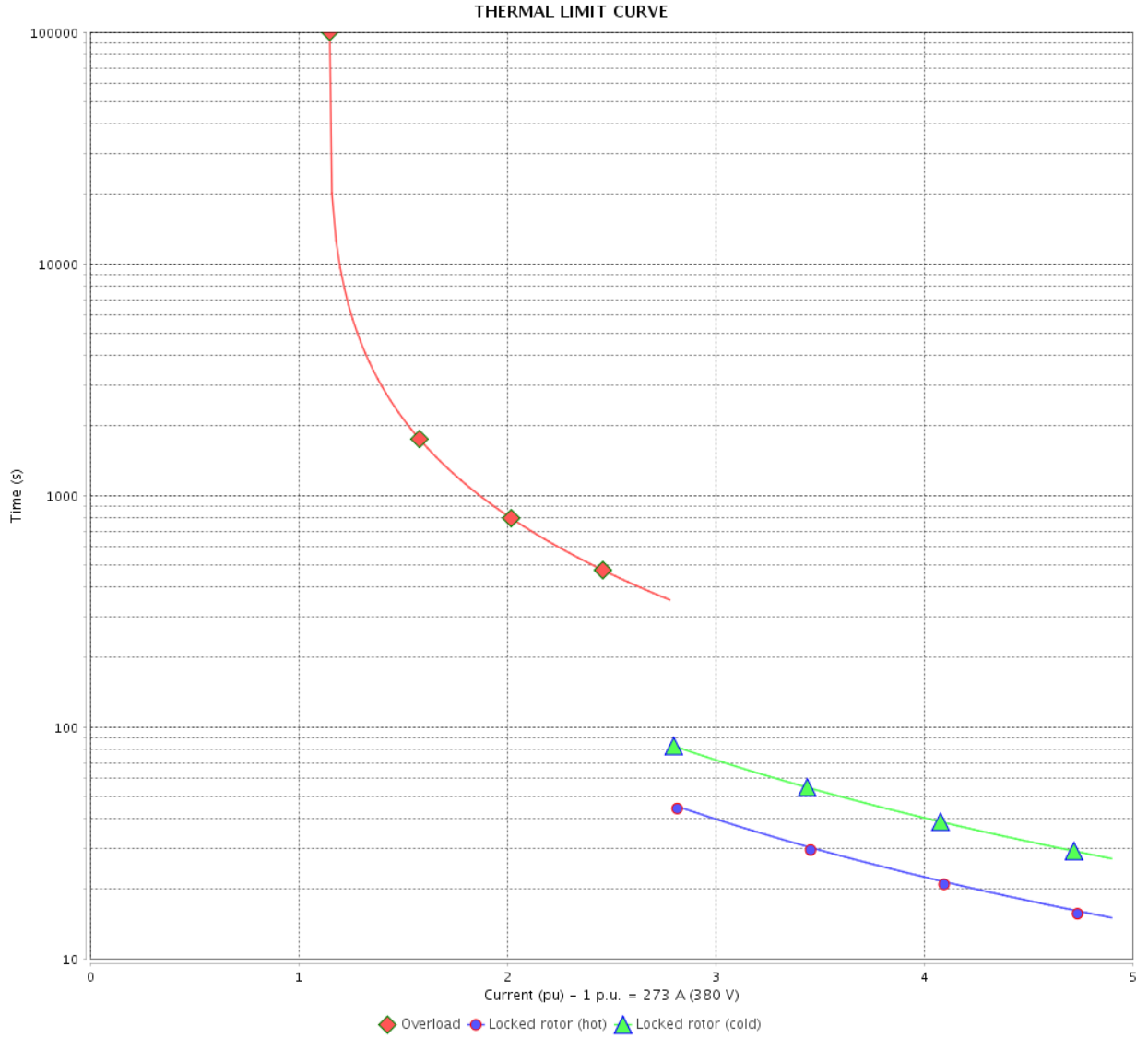
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Locked rotor torque	: 190 %	Service factor	: 1.00
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Rated speed	: 1485 rpm	Design	: B

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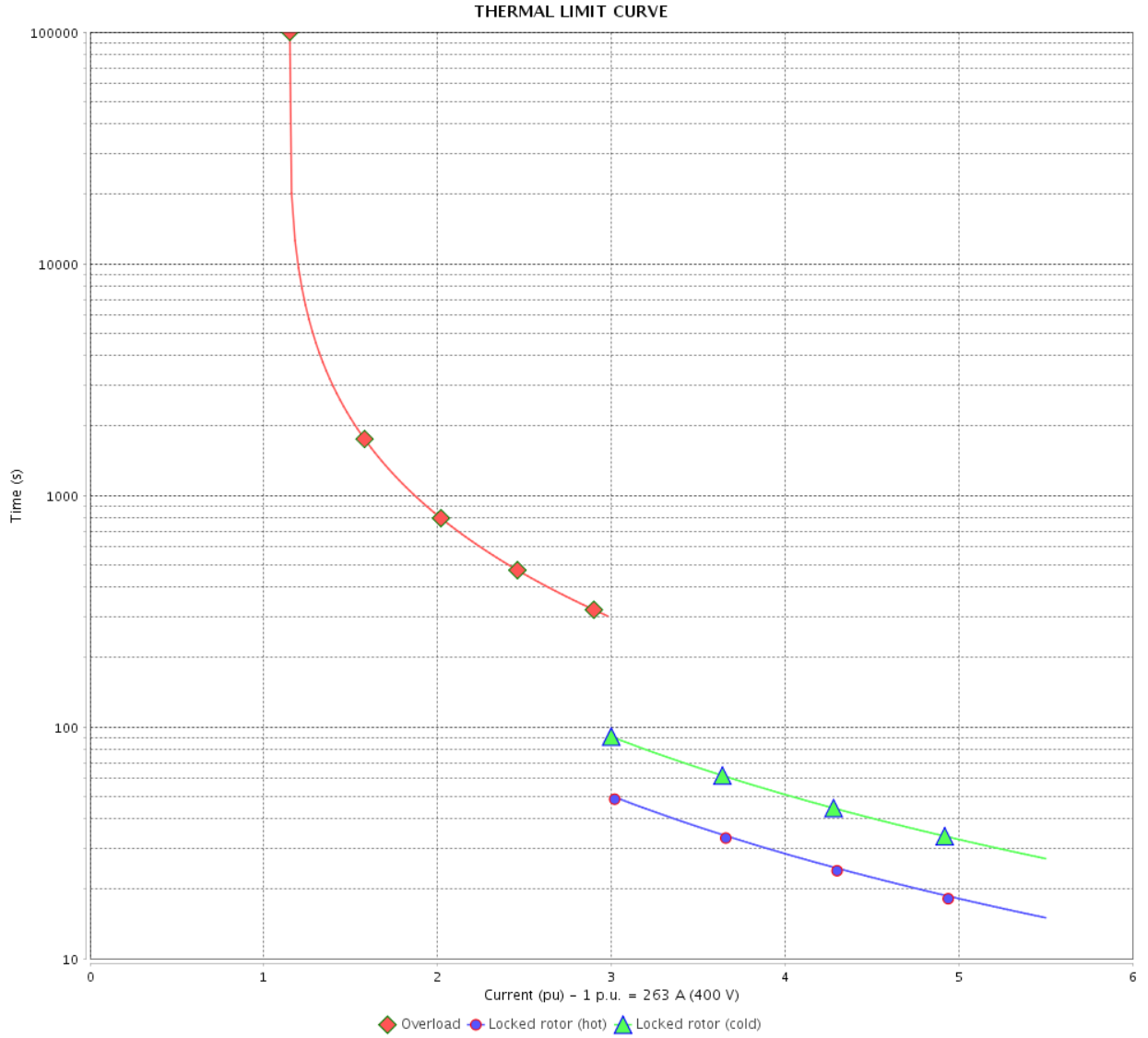
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Locked rotor torque	: 210 %	Service factor	: 1.00
Breakdown torque	: 210 %	Temperature rise	: 80 K
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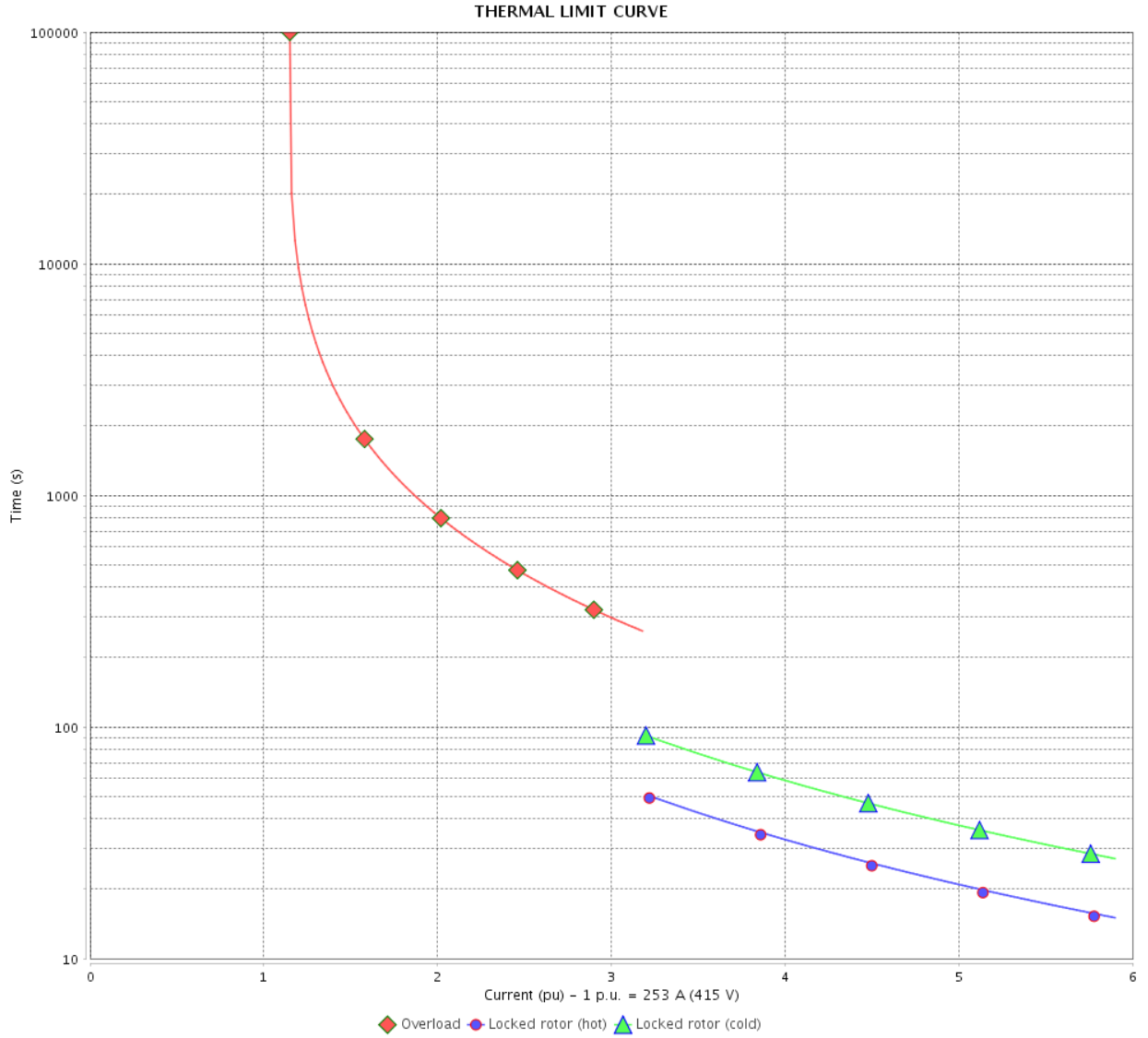


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# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

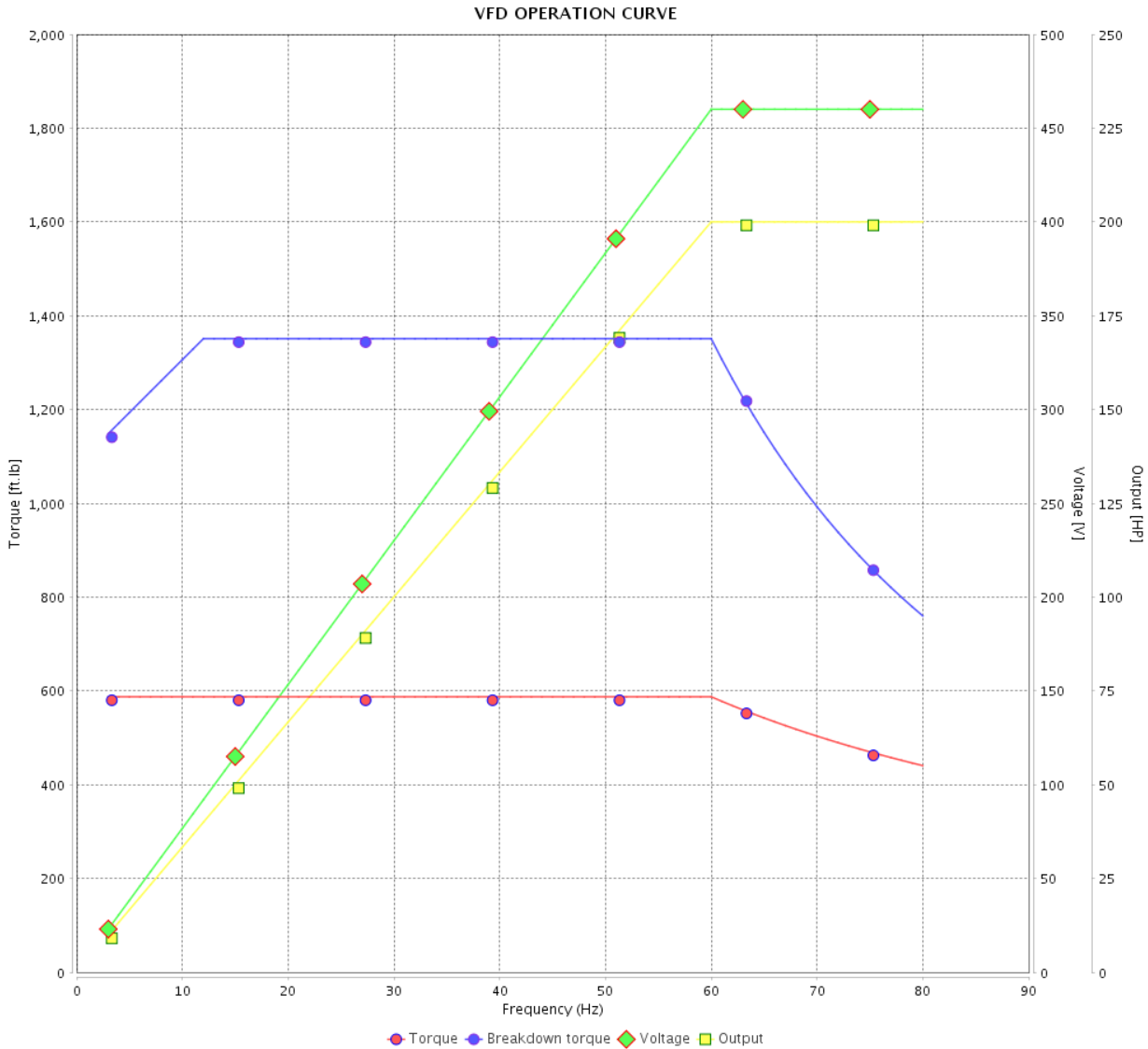


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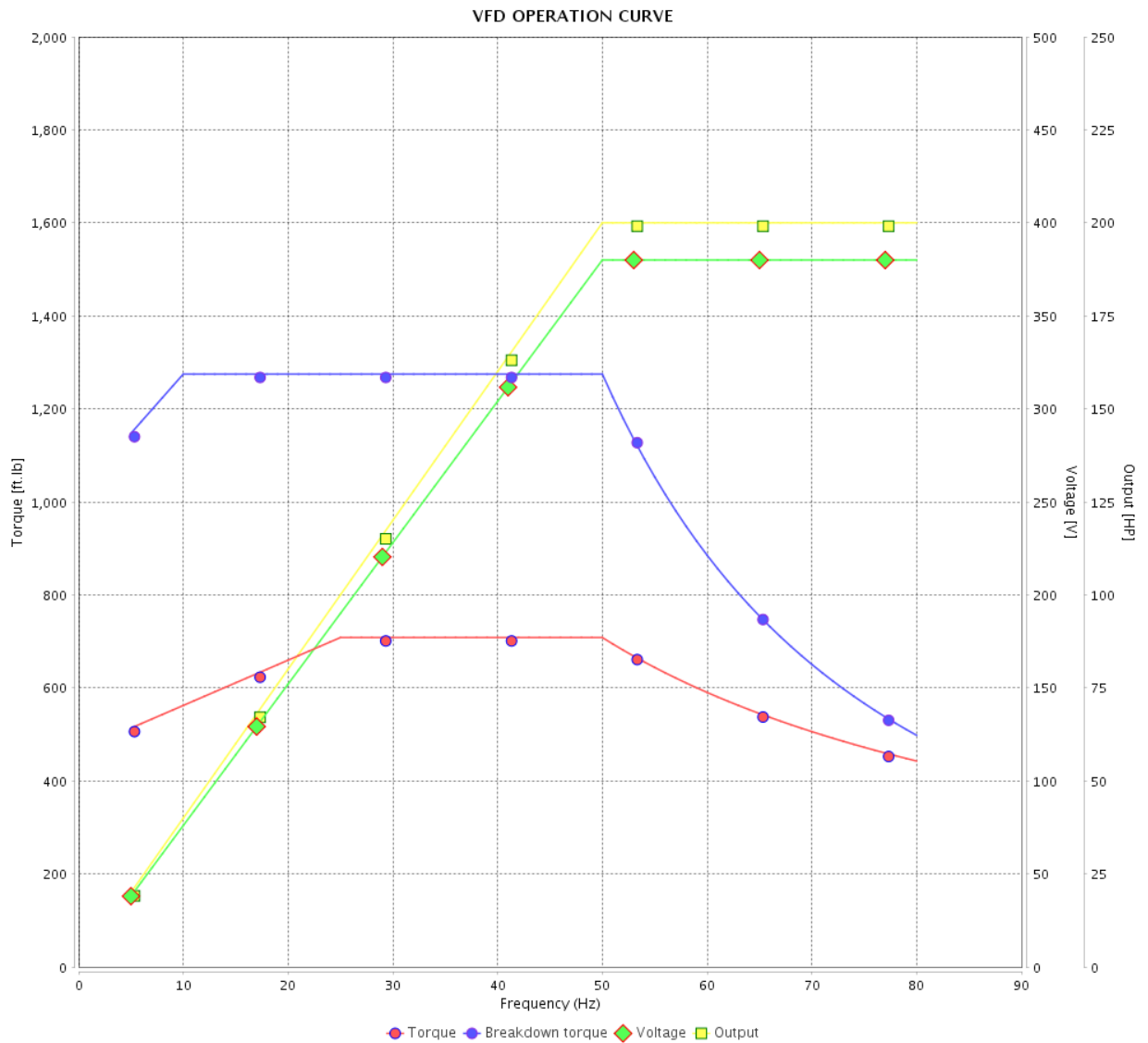


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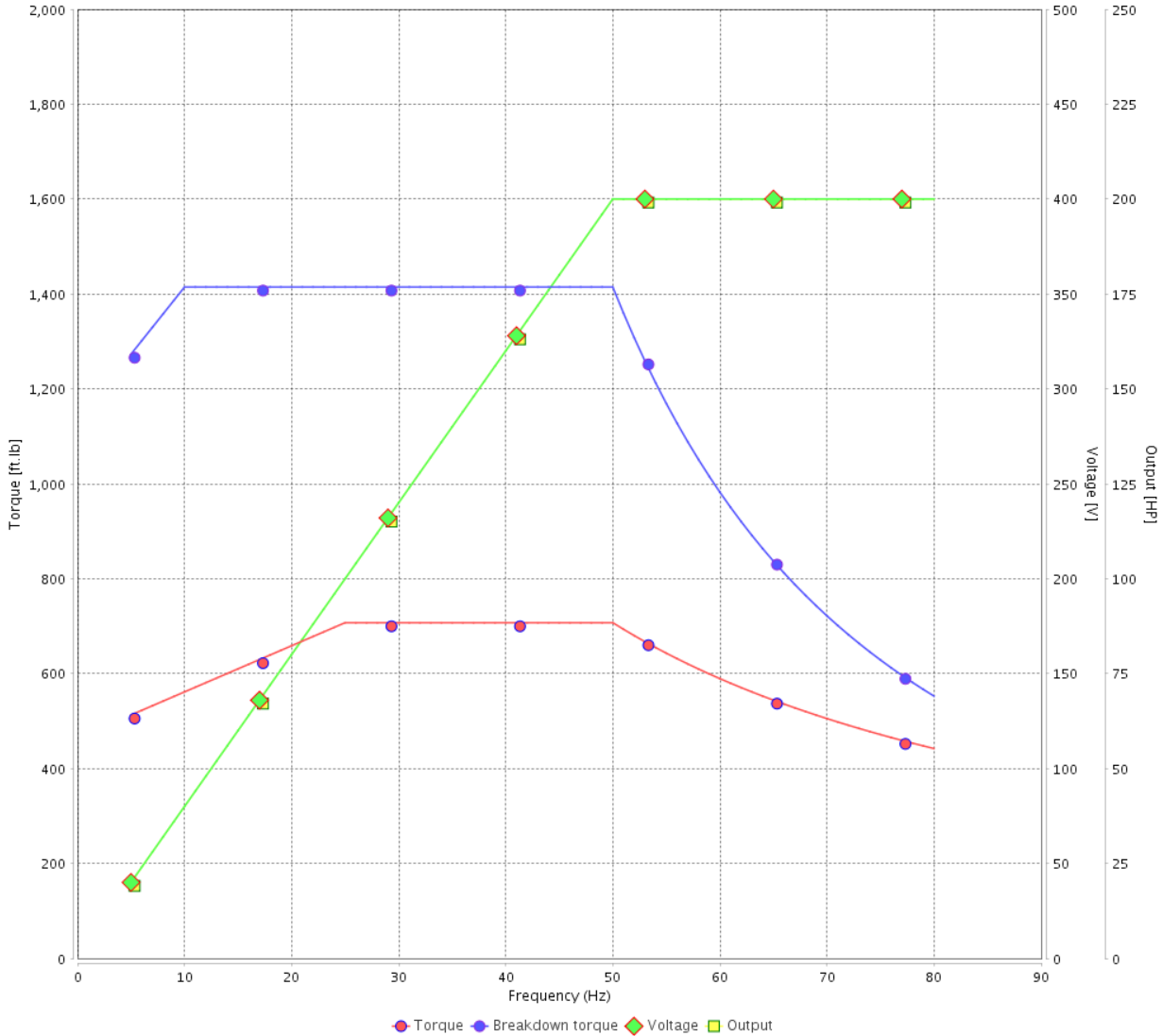
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VFD OPERATION CURVE



Performance : 400 V 50 Hz 4P IE3

Rated current : 263 A  
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 Breakdown torque : 200 %  
 Rated speed : 1485 rpm

Moment of inertia (J) : 76.2 sq.ft.lb  
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# VFD OPERATION CURVE

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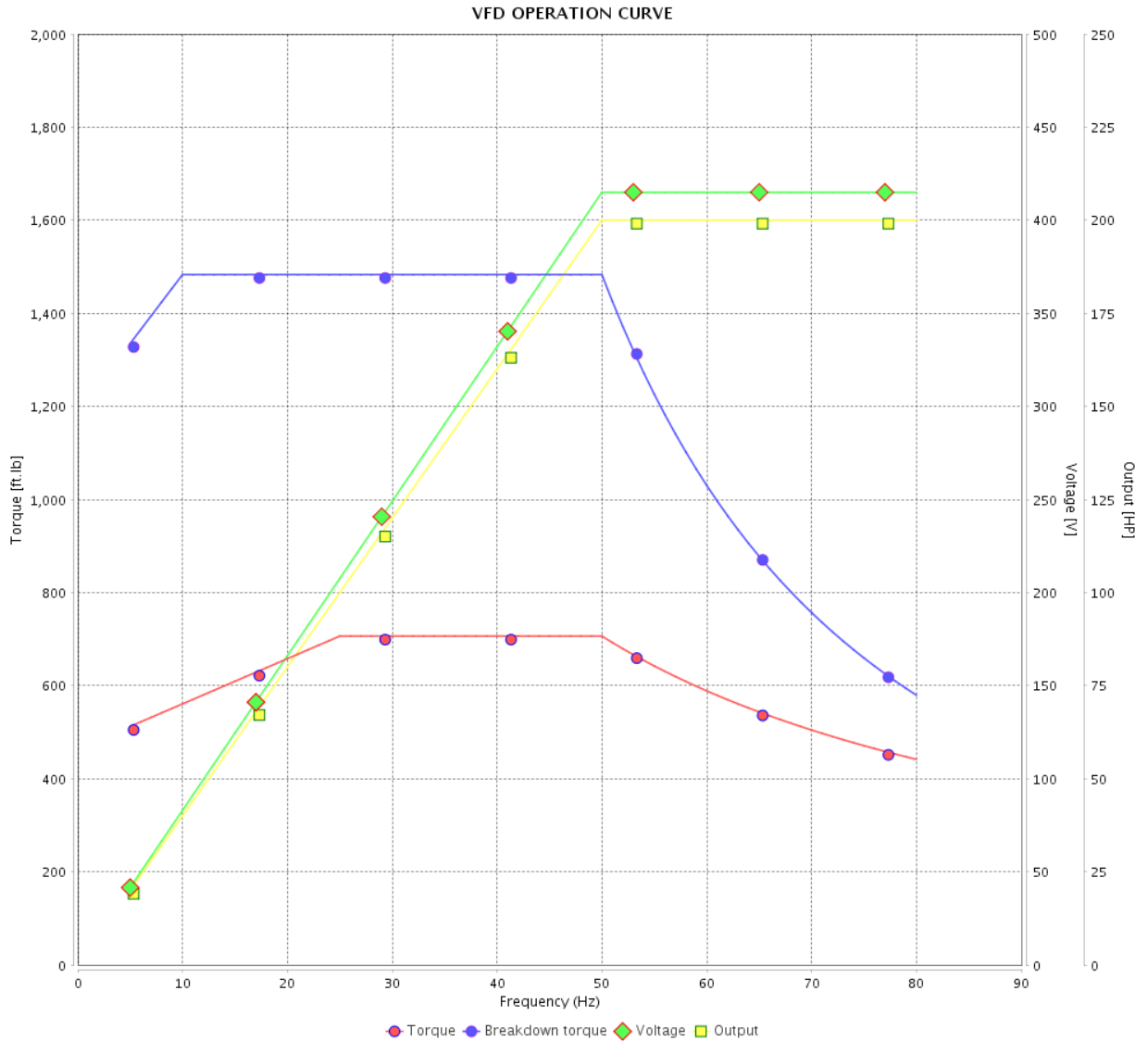


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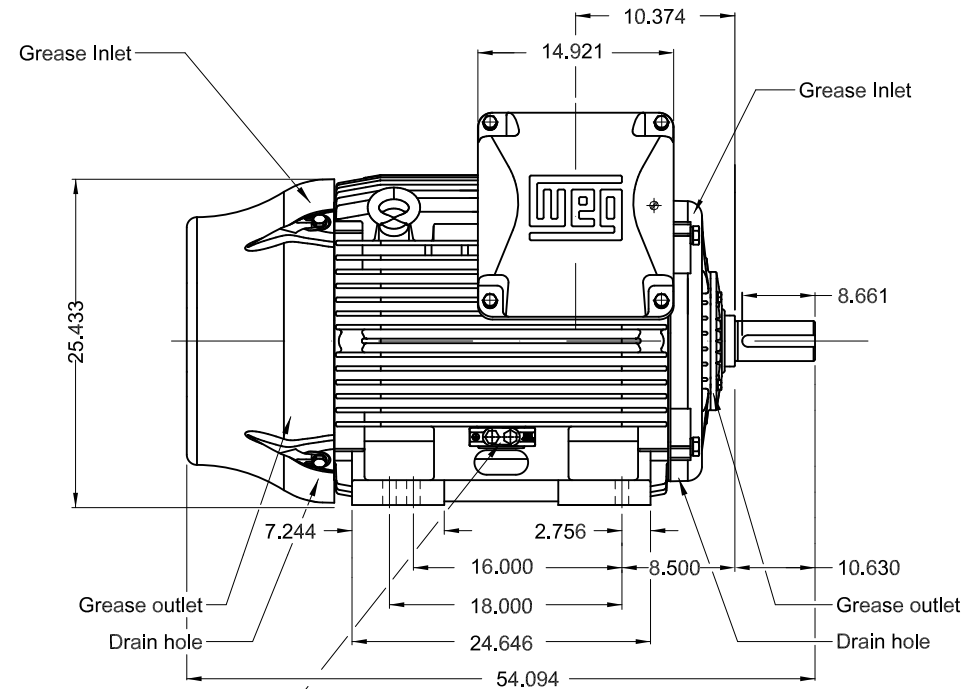
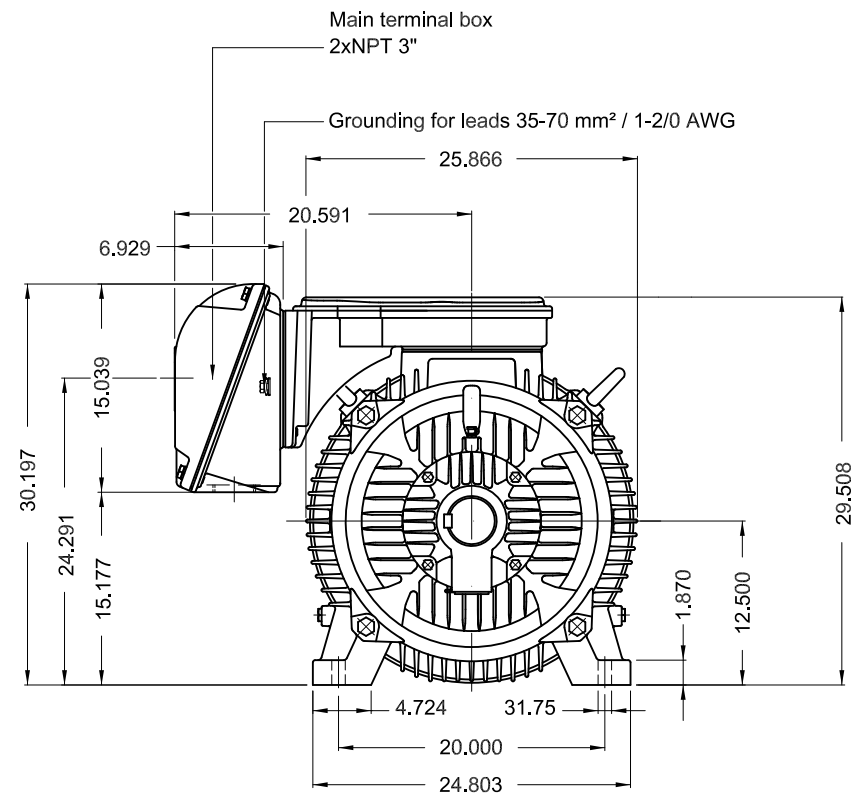


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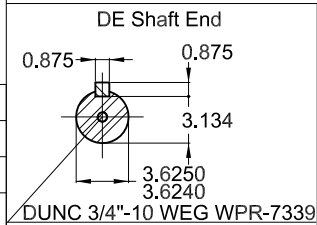
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Grounding for leads 25-185 mm² / 3AWG-350MCM

NDE endshield with electrically insulated bearing hub  
 Color RAL 5009  
 Painting plan 203A  
 Mounting B3R(D)



200 HP 04 Poles 60 Hz

ECM	LOC	SUMMARY OF MODIFICATIONS	EXECUTED	CHECKED	RELEASED	DATE	VER
EXECUTED	PIRWUSER	THREE PH. MOTOR W22 PREM. EFF.					
CHECKED		FRAME 504/5T IP55 TEFC					
RELEASED							
REL DT.	WMO	Jaragua do Sul	Product Engineering				

PREVIEW  
 WDD



SHEET 1 / 1

Dimensions in inches

XME A3

MADE IN BRAZIL  
12370741



**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 - T3C  
For use on PWM: Gr. A, B, C, D and F,  
VT 1000:1, CT 20:1, 1.00SF - T3

MODEL 20018ET3G504-W22

Inverter Duty Motor  
Severe Duty

PH3 60Hz Fr. 504/5T 1000m.a.s.l. IP55 TEFC 2447lb

V 460

A 228

HP 200

kW 150

SF 1.15

SFA 262

RPM 1788

PF 0.86

AMB 40°C

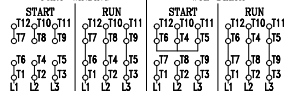
INS cl. F DT80K

NEMA NOM EFF 96.2%

DUTY CONT.

DES B Code G

PART-WINDING



→ 6319-C3 (45g)

→ 6316-C3 (34g)

MOBIL POLYREX EM (8000h)

