

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



Customer					
Product line		: NEMA Premium Efficiency Three-Phase		Product code : 14407151	
				Catalog # : 01536XT3E254TC	
Frame : 254TC		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 : 324 lb			
Protection degree : IP55		Moment of inertia (J) : 1.19 sq.ft.lb			
Design : B					
Output [HP]	15	15	15	15	15
Poles	2	2	2	2	2
Frequency [Hz]	60	50	50	50	50
Rated voltage [V]	230/460	380	400	415	415
Rated current [A]	34.8/17.4	21.0	20.0	19.5	19.5
L. R. Amperes [A]	237/118	113	124	131	131
LRC [A]	6.8x(Code G)	5.4x(Code E)	6.2x(Code G)	6.7x(Code G)	6.7x(Code G)
No load current [A]	12.0/6.00	5.90	6.30	6.60	6.60
Rated speed [RPM]	3540	2915	2925	2930	2930
Slip [%]	1.67	2.83	2.50	2.33	2.33
Rated torque [ft.lb]	22.3	27.0	26.9	26.9	26.9
Locked rotor torque [%]	200	150	170	190	190
Breakdown torque [%]	270	210	229	250	250
Service factor	1.15	1.00	1.00	1.00	1.00
Temperature rise	80 K	80 K	80 K	80 K	80 K
Locked rotor time	55s (cold) 31s (hot)	55s (cold) 31s (hot)	55s (cold) 31s (hot)	55s (cold) 31s (hot)	55s (cold) 31s (hot)
Noise level ²	75.0 dB(A)	70.0 dB(A)	70.0 dB(A)	70.0 dB(A)	70.0 dB(A)
Efficiency (%)	25%	89.4	91.5	91.5	91.5
	50%	90.0	91.0	91.0	91.0
	75%	90.5	90.2	91.0	91.0
	100%	91.0	89.5	90.2	90.2
Power Factor	25%	0.49	0.55	0.51	0.49
	50%	0.74	0.80	0.76	0.74
	75%	0.83	0.86	0.85	0.83
	100%	0.87	0.89	0.88	0.87
Bearing type		Drive end : 6309 C3	Non drive end : 6209 C3	Foundation loads	
Sealing		: Oil Seal	: Lip Seal	Max. traction : 160 lb	
Lubrication interval		: 15797 h	: 18447 h	Max. compression : 484 lb	
Lubricant amount		: 13 g	: 9 g		
Lubricant type		: Mobil Polyrex EM			
Notes					
USABLE @208V 37.3A SF 1.15 SFA 42.9A					
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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Three Phase Induction Motor - Squirrel Cage



Customer : _____

Thermal protection

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

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TORQUE AND CURRENT VS SPEED CURVE



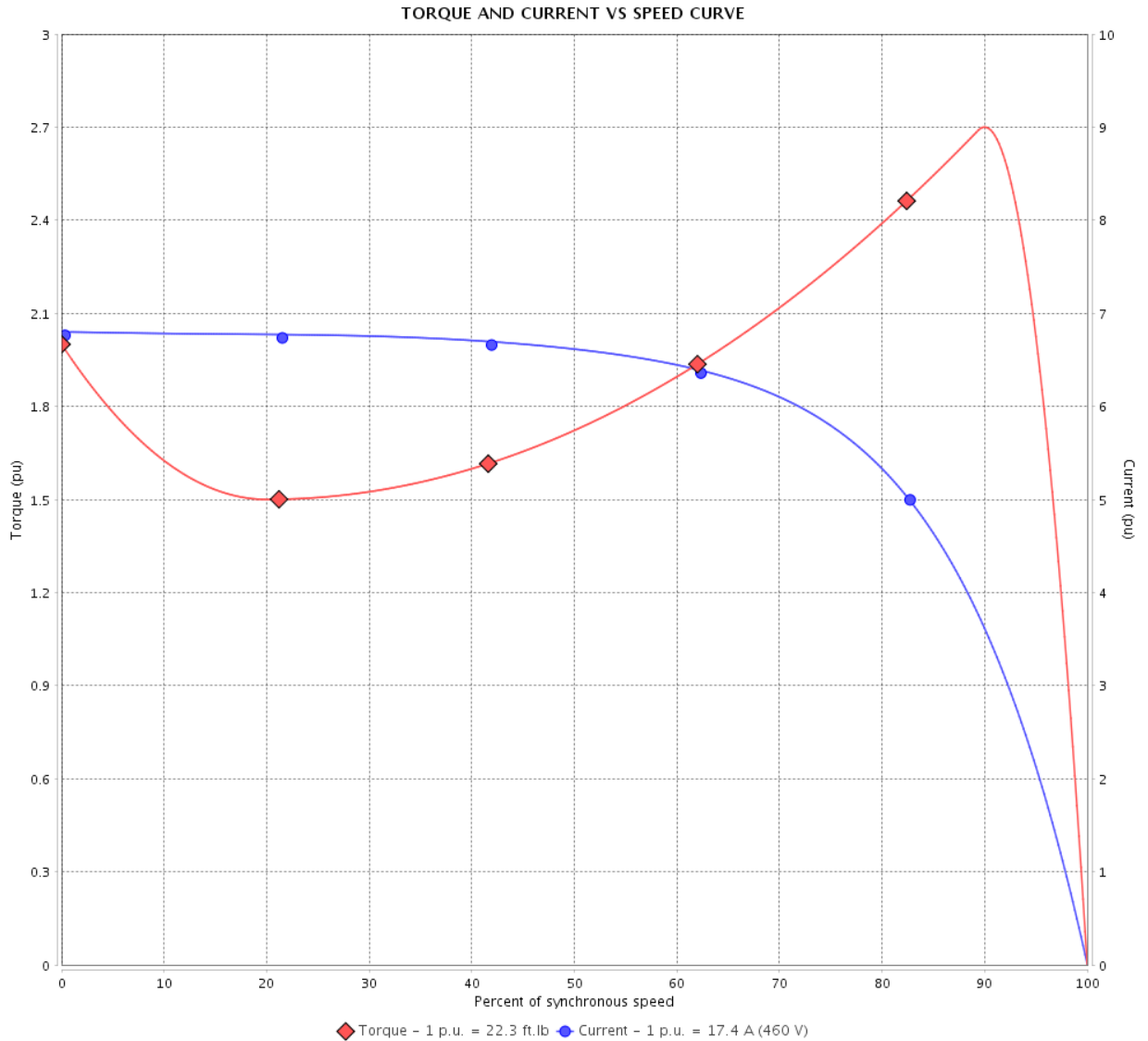
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14407151

Catalog # : 01536XT3E254TC



Performance : 230/460 V 60 Hz 2P

Rated current : 34.8/17.4 A
 LRC : 6.8
 Rated torque : 22.3 ft.lb
 Locked rotor torque : 200 %
 Breakdown torque : 270 %
 Rated speed : 3540 rpm

Moment of inertia (J) : 1.19 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.15
 Temperature rise : 80 K
 Design : B

Locked rotor time : 55s (cold) 31s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



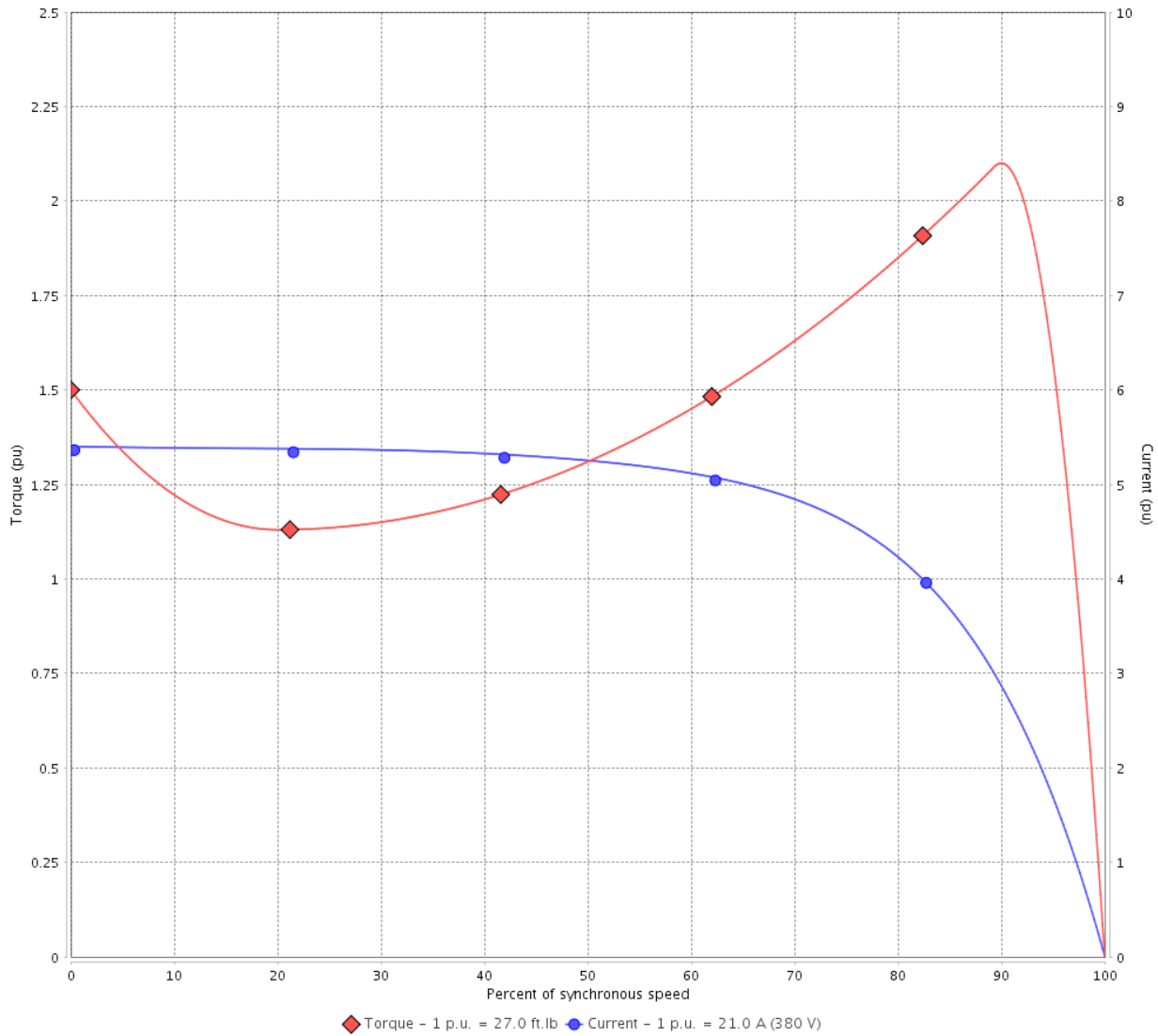
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14407151

Catalog # : 01536XT3E254TC

TORQUE AND CURRENT VS SPEED CURVE



Performance : 380 V 50 Hz 2P IE2

Rated current	: 21.0 A	Moment of inertia (J)	: 1.19 sq.ft.lb
LRC	: 5.4	Duty cycle	: Cont.(S1)
Rated torque	: 27.0 ft.lb	Insulation class	: F
Locked rotor torque	: 150 %	Service factor	: 1.00
Breakdown torque	: 210 %	Temperature rise	: 80 K
Rated speed	: 2915 rpm	Design	: B

Locked rotor time : 55s (cold) 31s (hot)

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TORQUE AND CURRENT VS SPEED CURVE



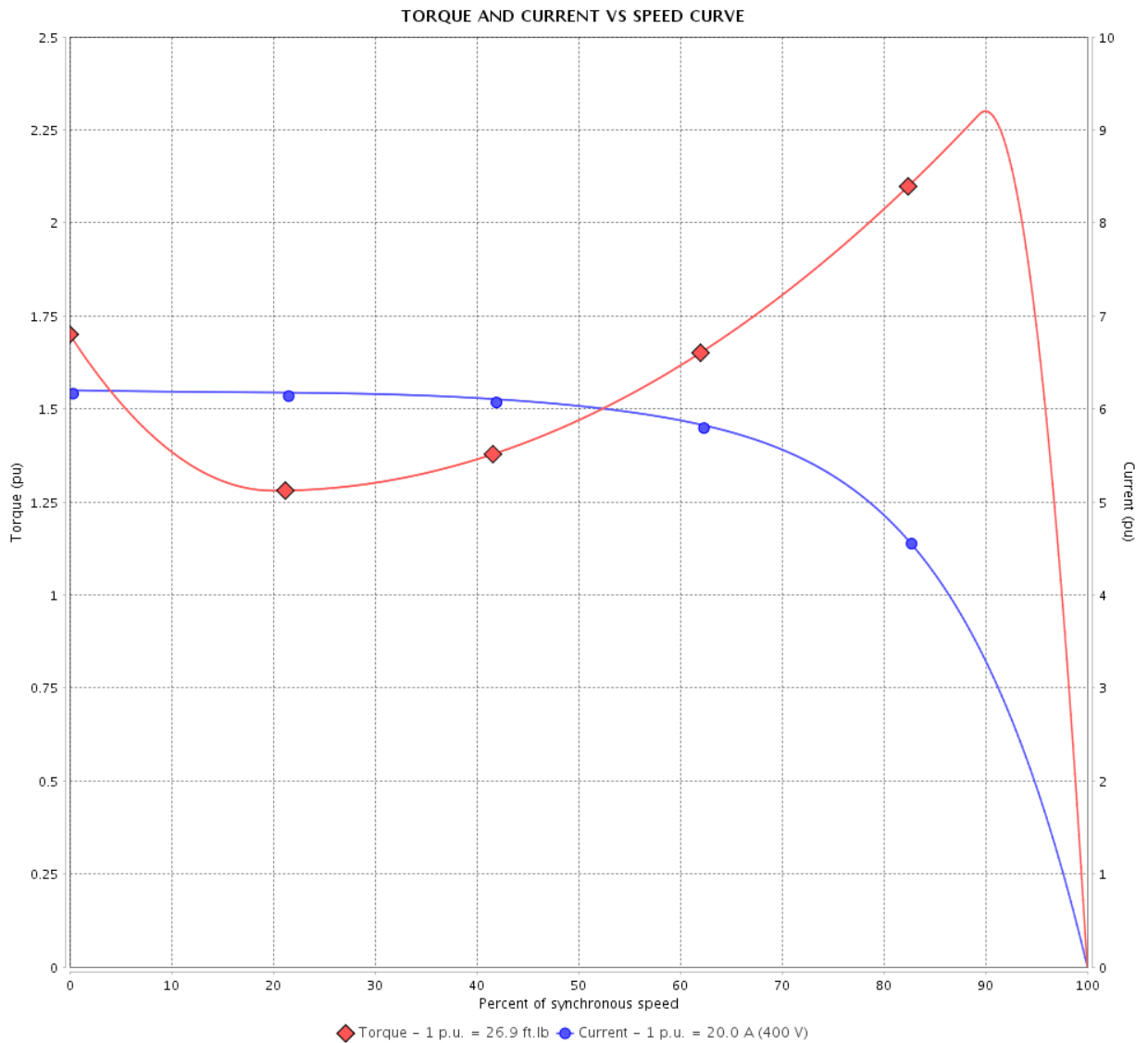
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14407151

Catalog # : 01536XT3E254TC



Performance : 400 V 50 Hz 2P IE2

Rated current : 20.0 A
 LRC : 6.2
 Rated torque : 26.9 ft.lb
 Locked rotor torque : 170 %
 Breakdown torque : 229 %
 Rated speed : 2925 rpm

Moment of inertia (J) : 1.19 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

Locked rotor time : 55s (cold) 31s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



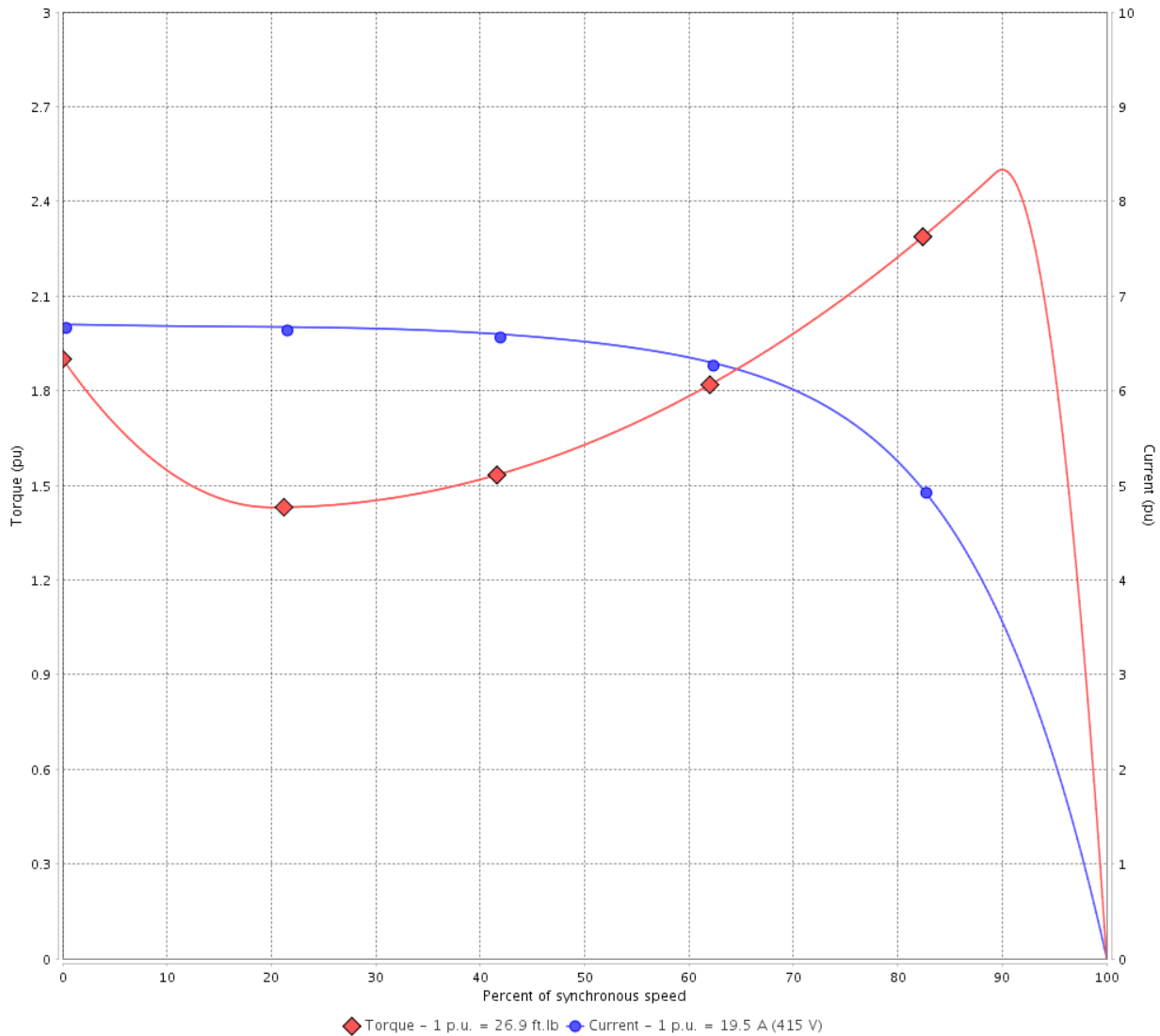
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14407151

Catalog # : 01536XT3E254TC

TORQUE AND CURRENT VS SPEED CURVE



Performance : 415 V 50 Hz 2P IE2

Rated current	: 19.5 A	Moment of inertia (J)	: 1.19 sq.ft.lb
LRC	: 6.7	Duty cycle	: Cont.(S1)
Rated torque	: 26.9 ft.lb	Insulation class	: F
Locked rotor torque	: 190 %	Service factor	: 1.00
Breakdown torque	: 250 %	Temperature rise	: 80 K
Rated speed	: 2930 rpm	Design	: B

Locked rotor time : 55s (cold) 31s (hot)

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LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage

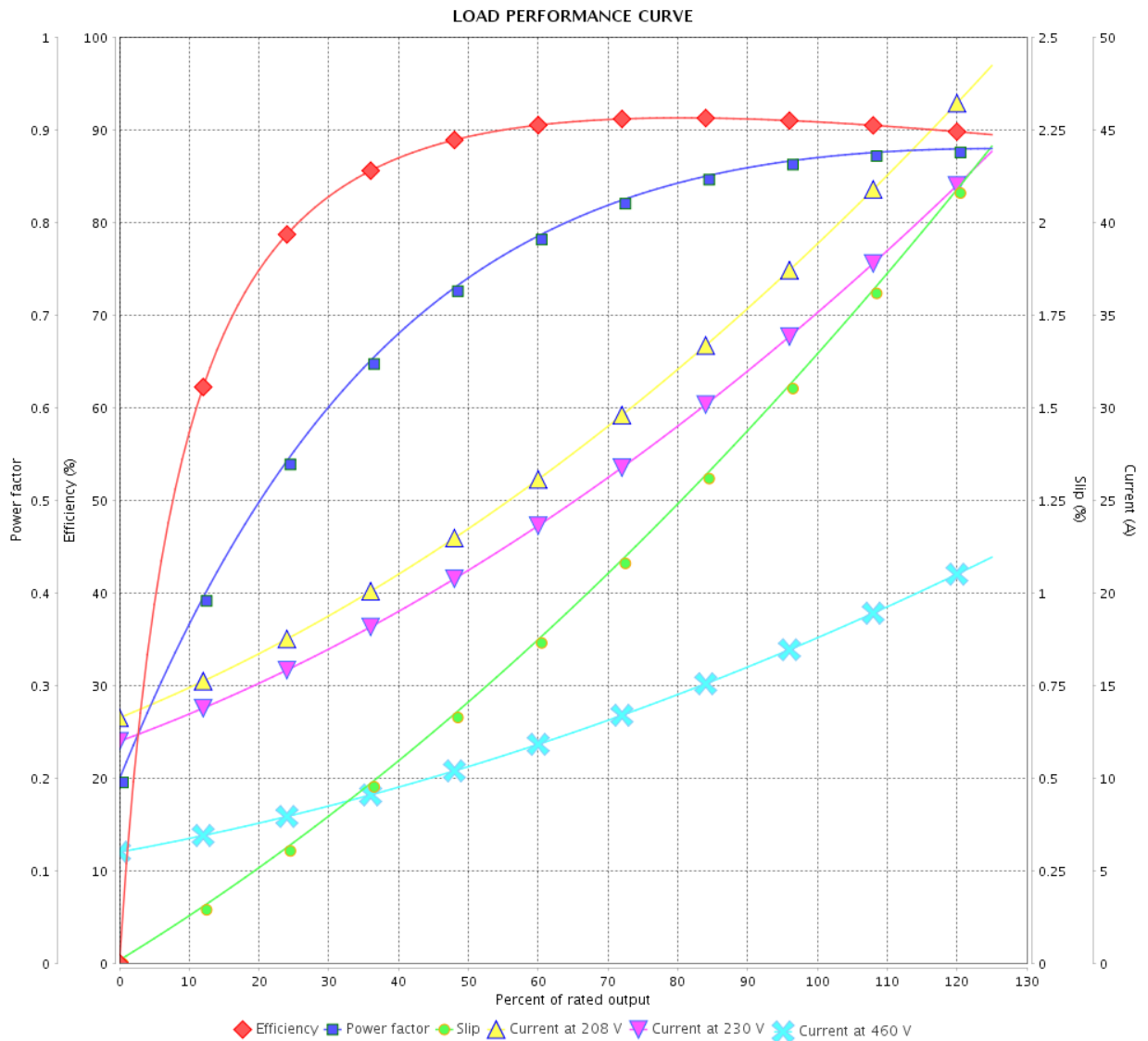


Customer :

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Performance : 230/460 V 60 Hz 2P

Rated current : 34.8/17.4 A
 LRC : 6.8
 Rated torque : 22.3 ft.lb
 Locked rotor torque : 200 %
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 Rated speed : 3540 rpm

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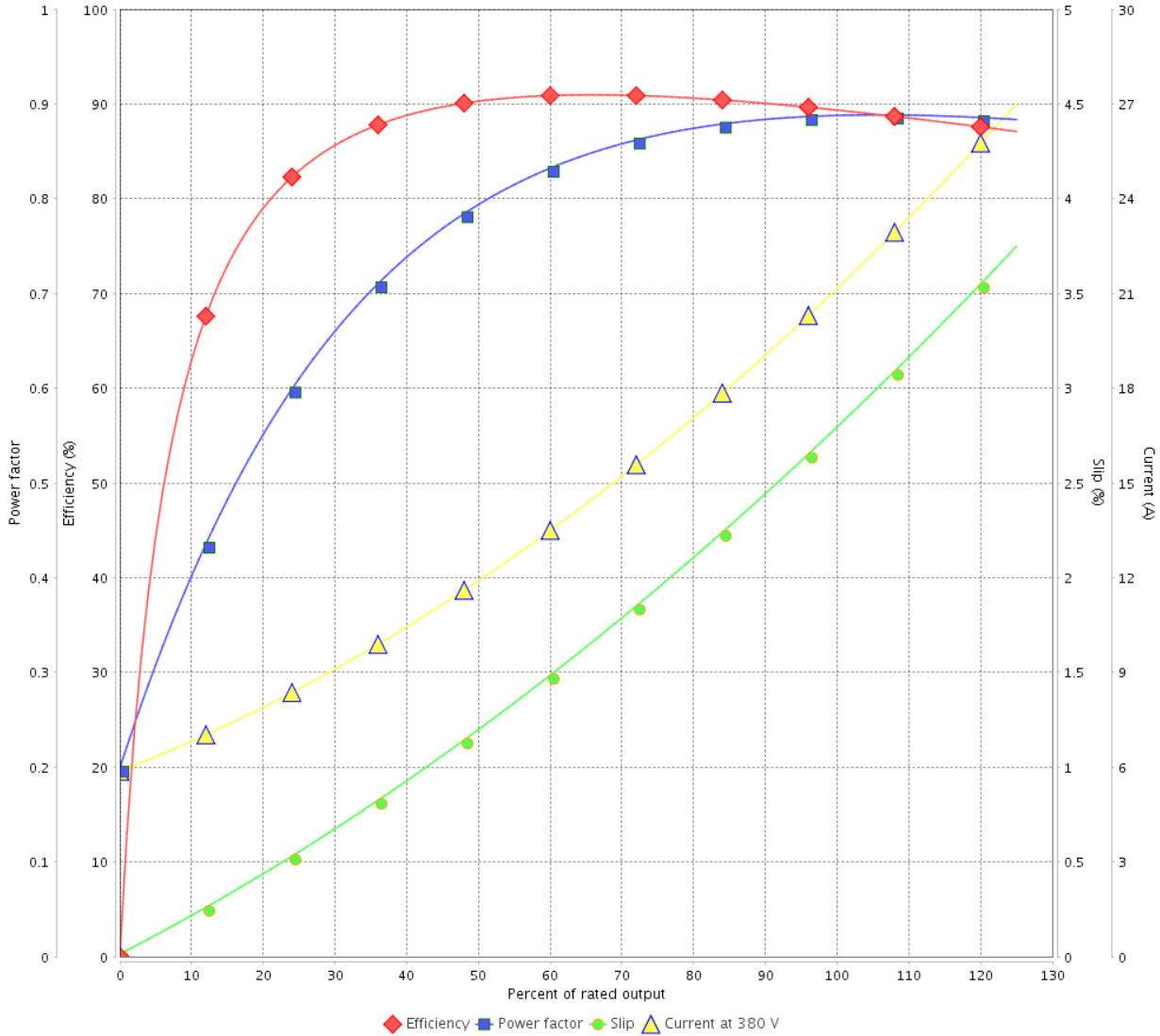
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Performance : 380 V 50 Hz 2P IE2

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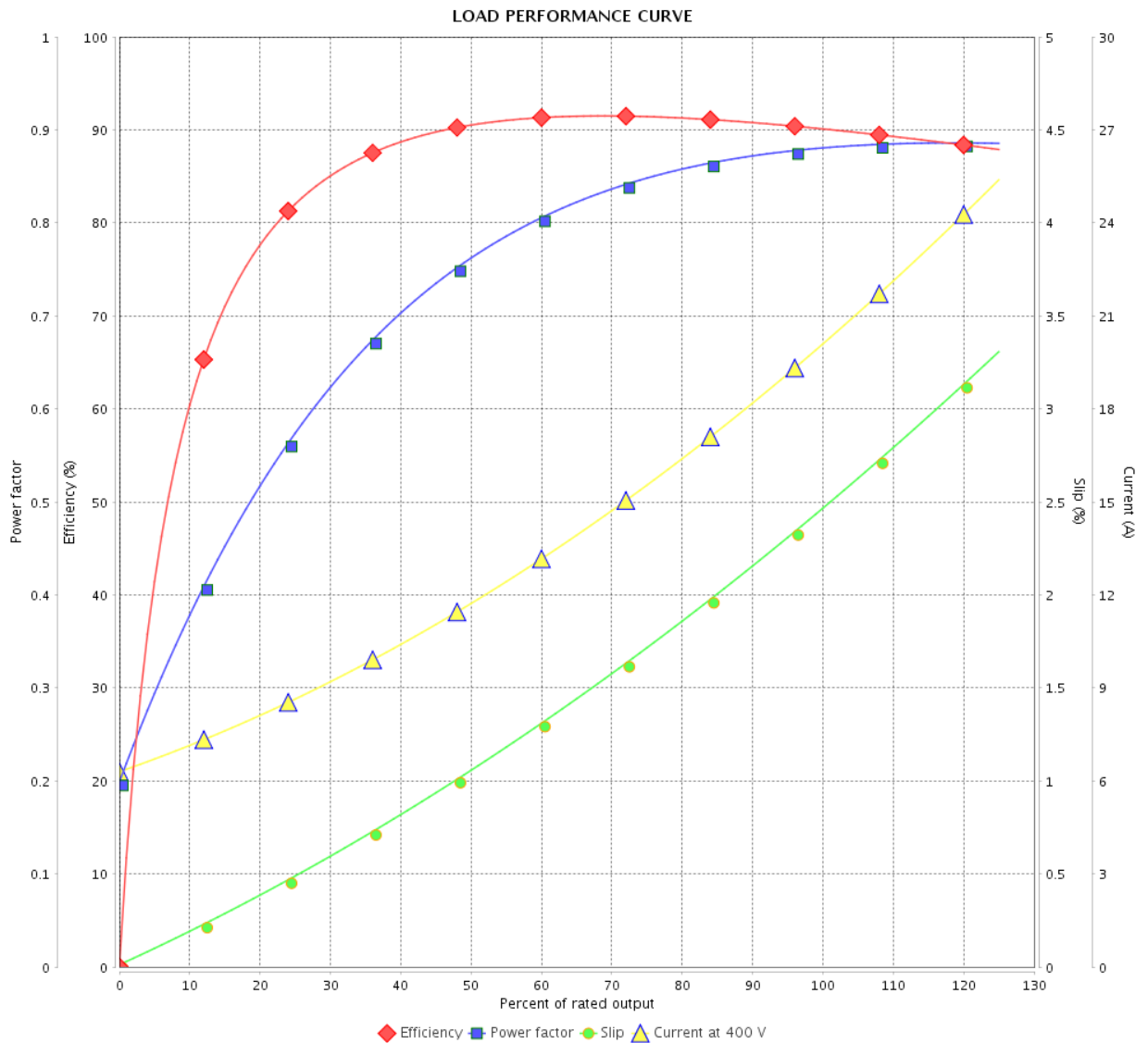


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Performance : 400 V 50 Hz 2P IE2

Rated current : 20.0 A
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 Rated torque : 26.9 ft.lb
 Locked rotor torque : 170 %
 Breakdown torque : 229 %
 Rated speed : 2925 rpm

Moment of inertia (J) : 1.19 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

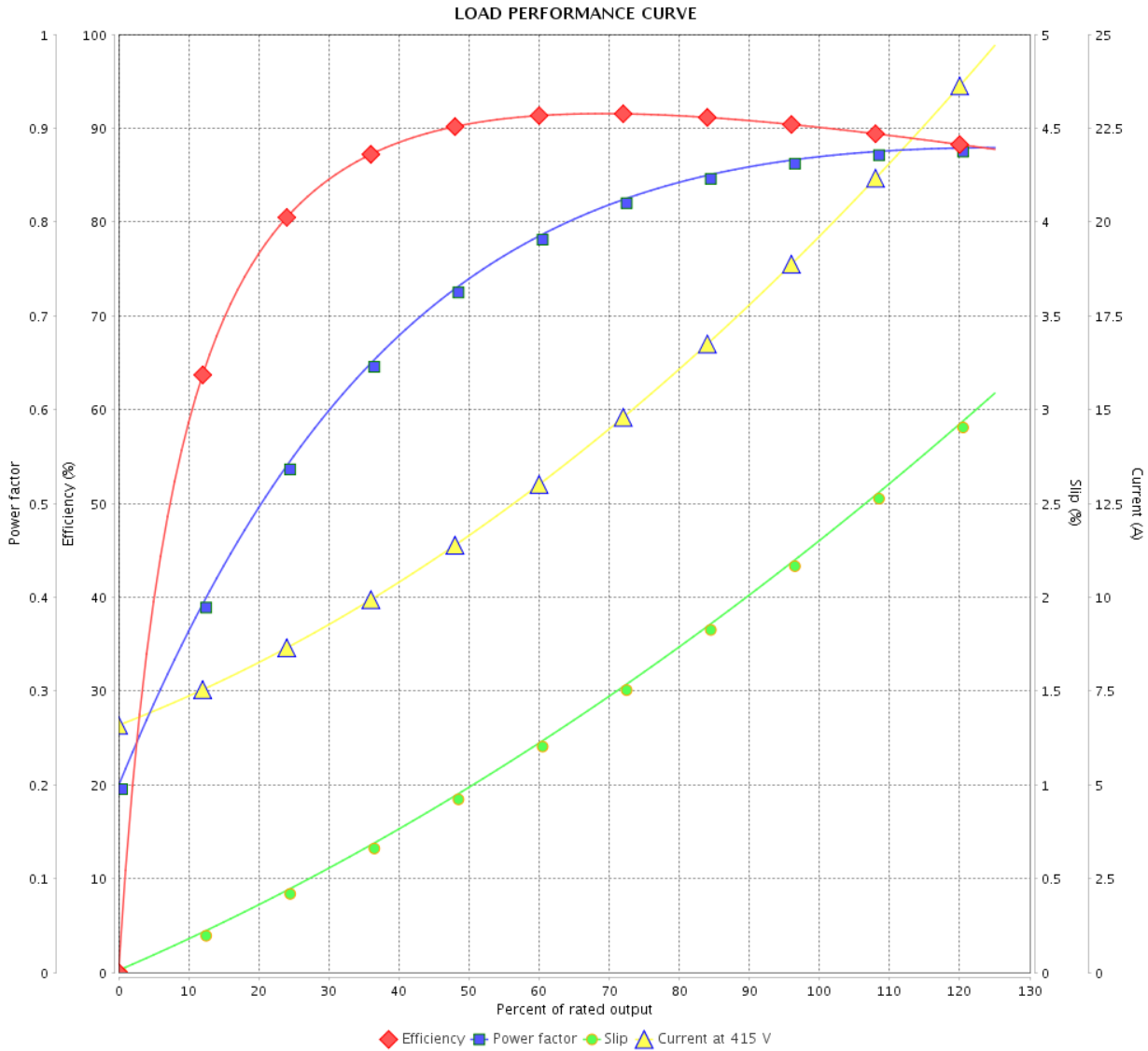


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Locked rotor torque	: 190 %	Service factor	: 1.00
Breakdown torque	: 250 %	Temperature rise	: 80 K
Rated speed	: 2930 rpm	Design	: B

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THERMAL LIMIT CURVE



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Rated speed : 3540 rpm	Design : B

Heating constant

Cooling constant

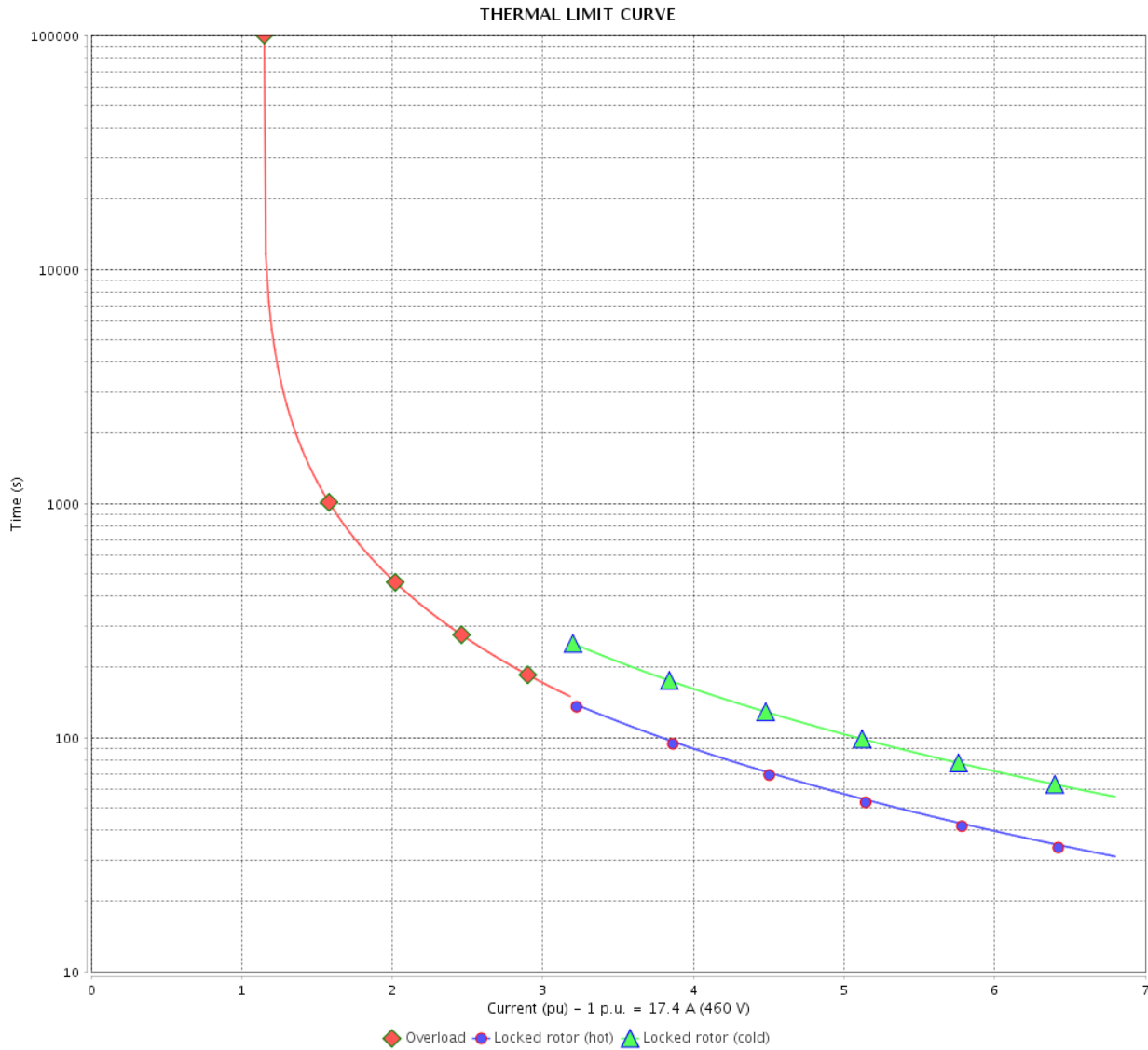
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Three Phase Induction Motor - Squirrel Cage



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 Service factor : 1.00
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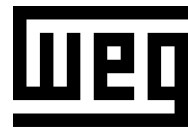
Heating constant

Cooling constant

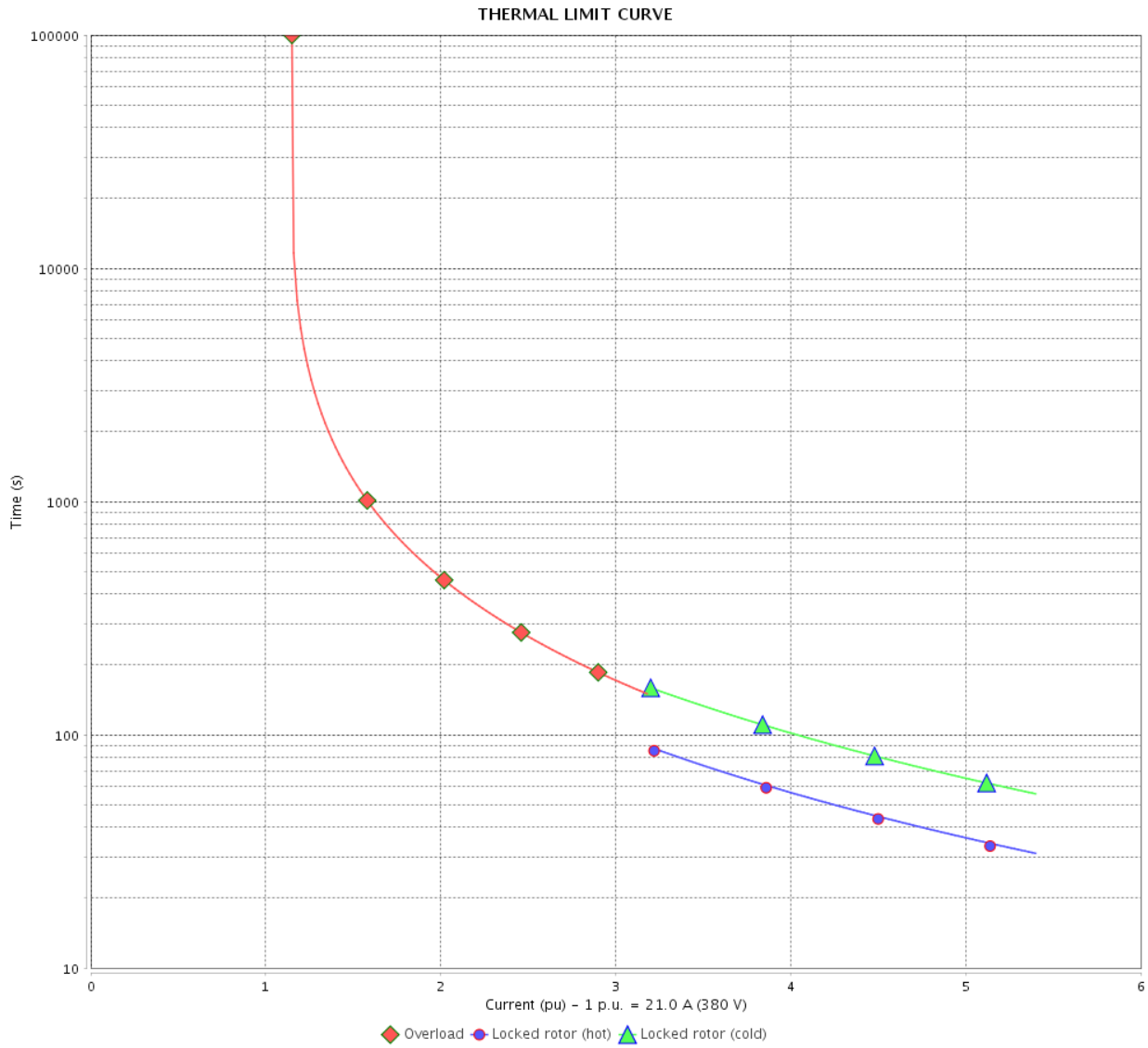
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 Locked rotor torque : 170 %
 Breakdown torque : 229 %
 Rated speed : 2925 rpm

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

Heating constant

Cooling constant

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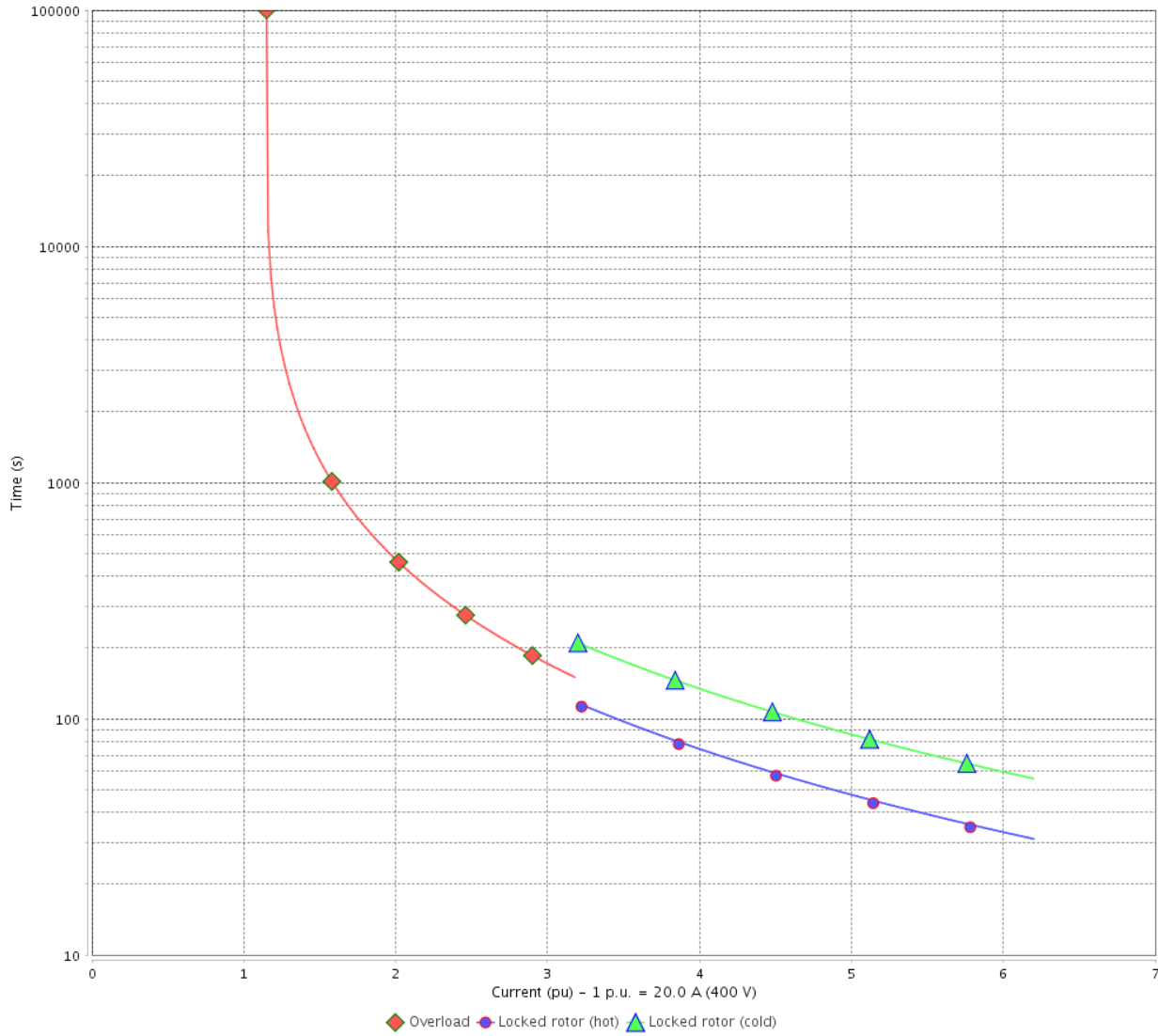
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Three Phase Induction Motor - Squirrel Cage



Customer : _____

THERMAL LIMIT CURVE



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Rated torque : 26.9 ft.lb	Insulation class : F
Locked rotor torque : 190 %	Service factor : 1.00
Breakdown torque : 250 %	Temperature rise : 80 K
Rated speed : 2930 rpm	Design : B

Heating constant

Cooling constant

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Date	13/04/2022			

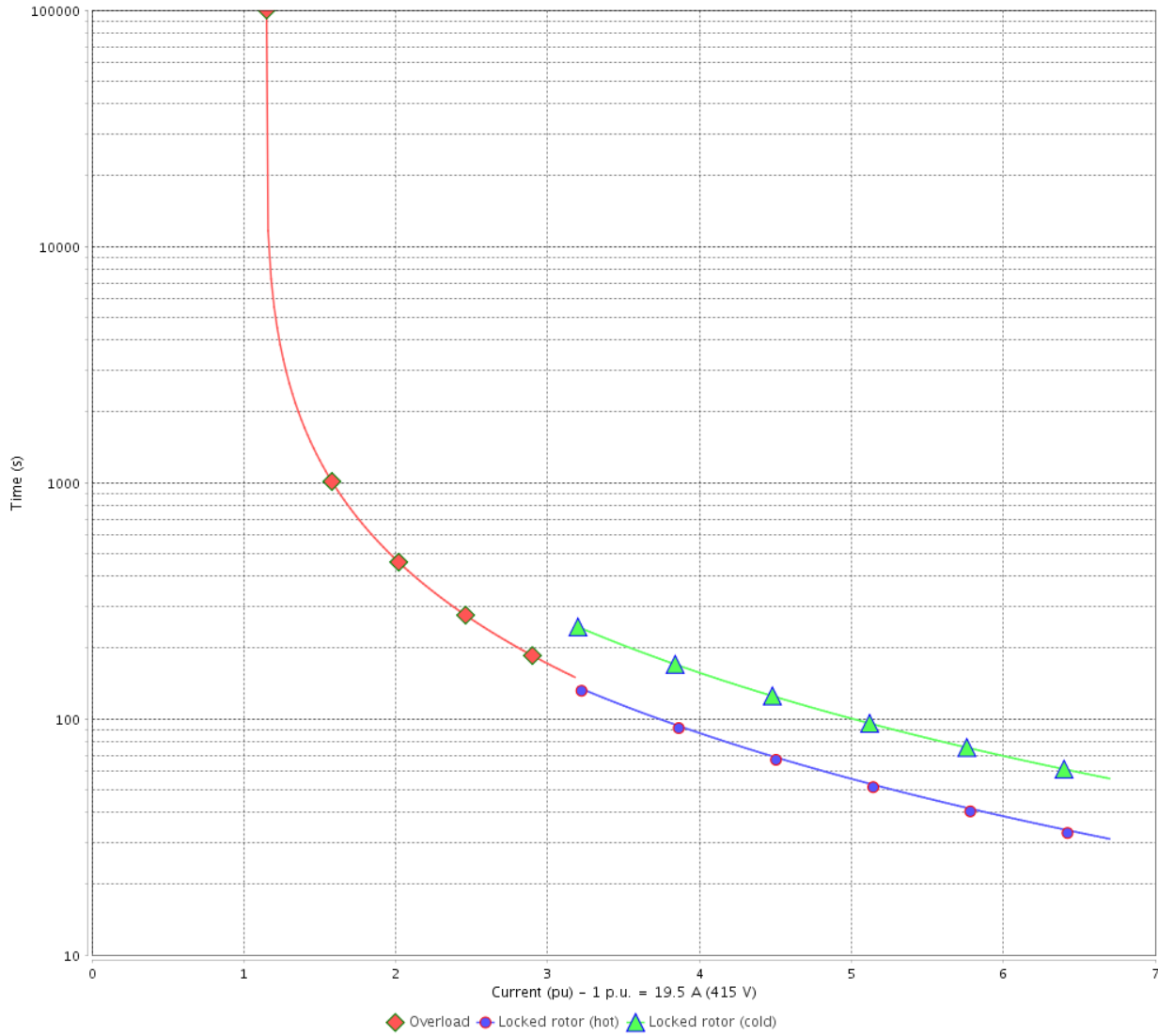
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THERMAL LIMIT CURVE



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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

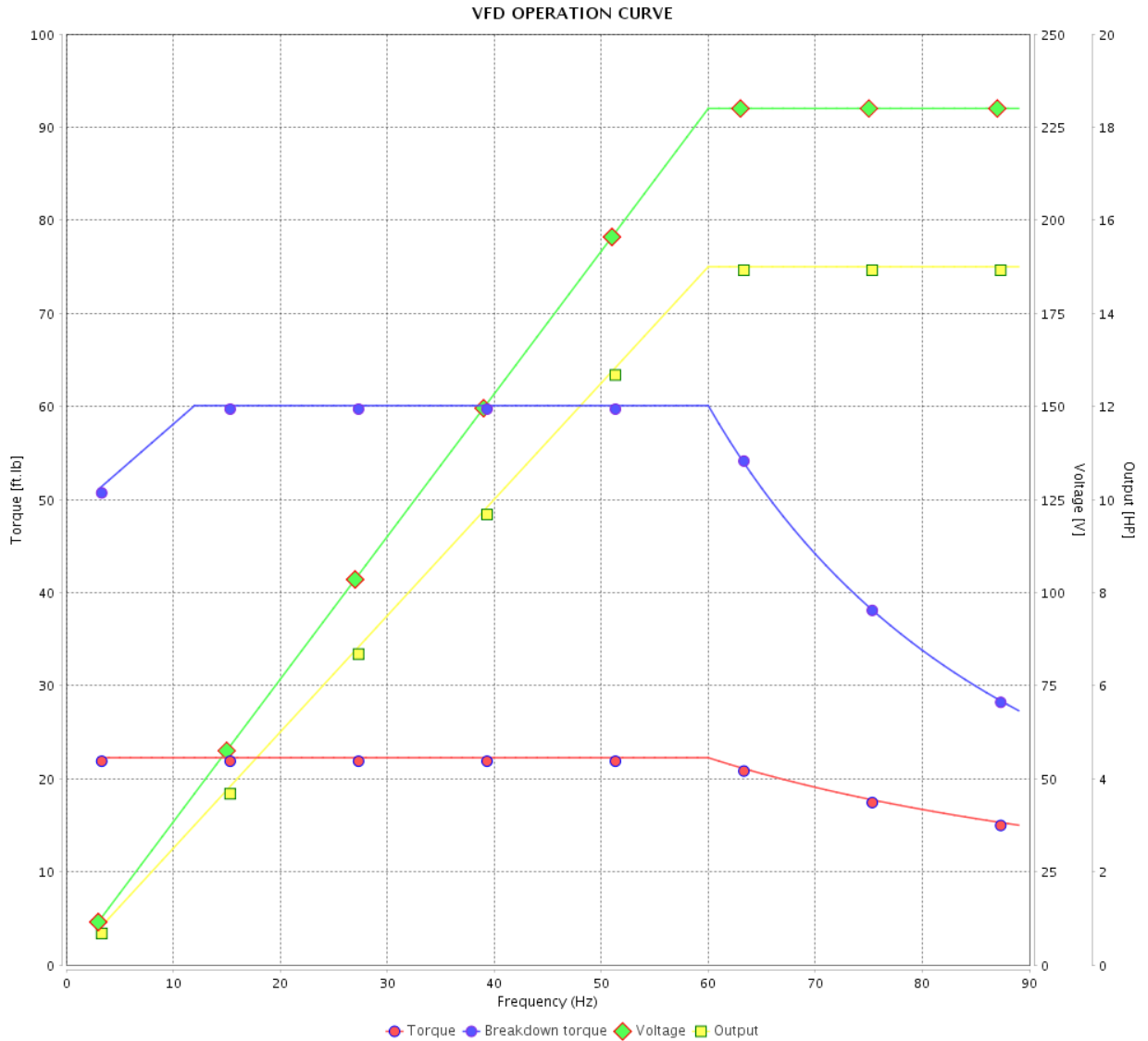


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Performance : 230/460 V 60 Hz 2P

Rated current : 34.8/17.4 A
 LRC : 6.8
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 Breakdown torque : 270 %
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Moment of inertia (J) : 1.19 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.15
 Temperature rise : 80 K
 Design : B

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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



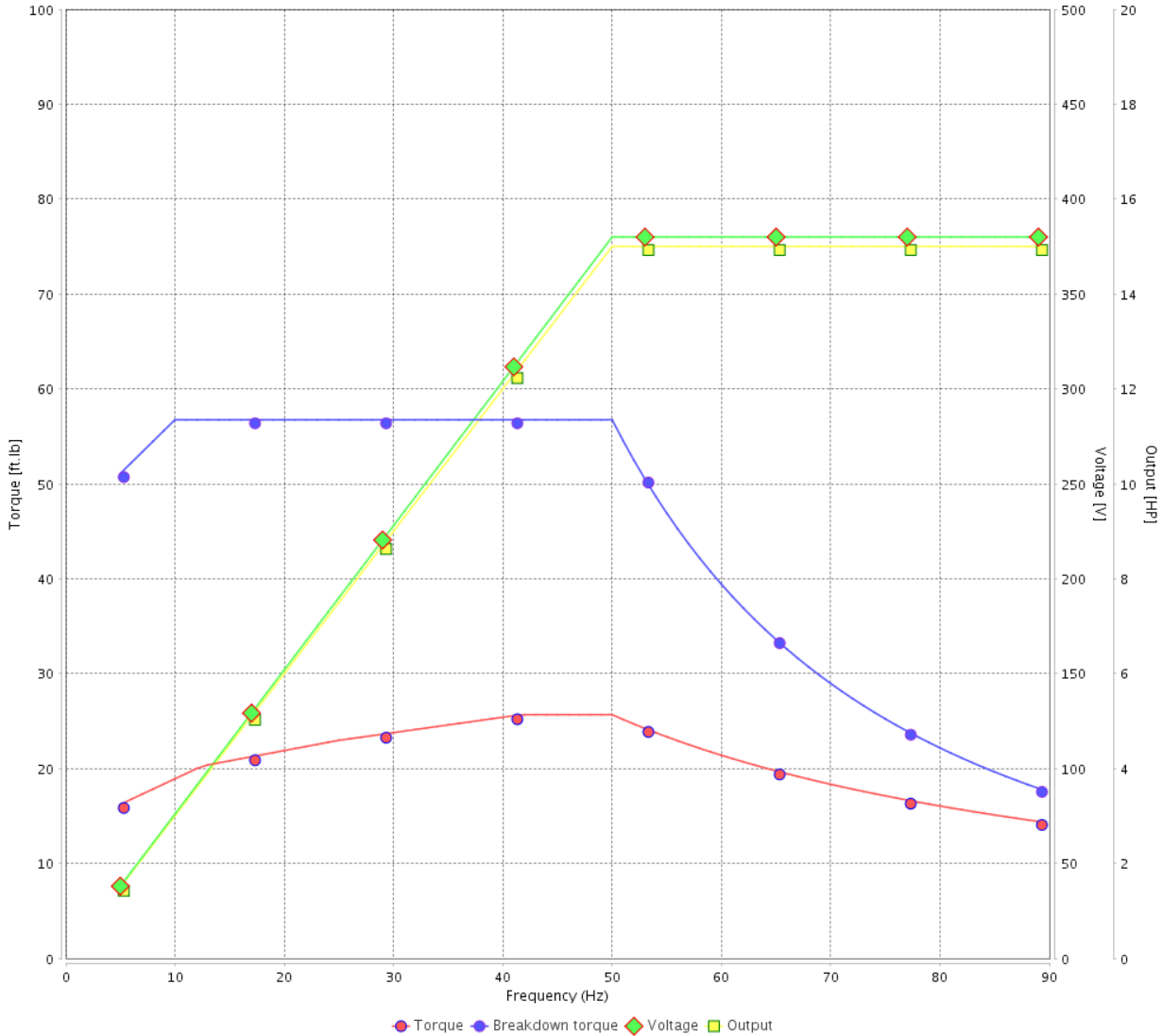
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VFD OPERATION CURVE



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 Locked rotor torque : 150 %
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Moment of inertia (J) : 1.19 sq.ft.lb
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 Service factor : 1.00
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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

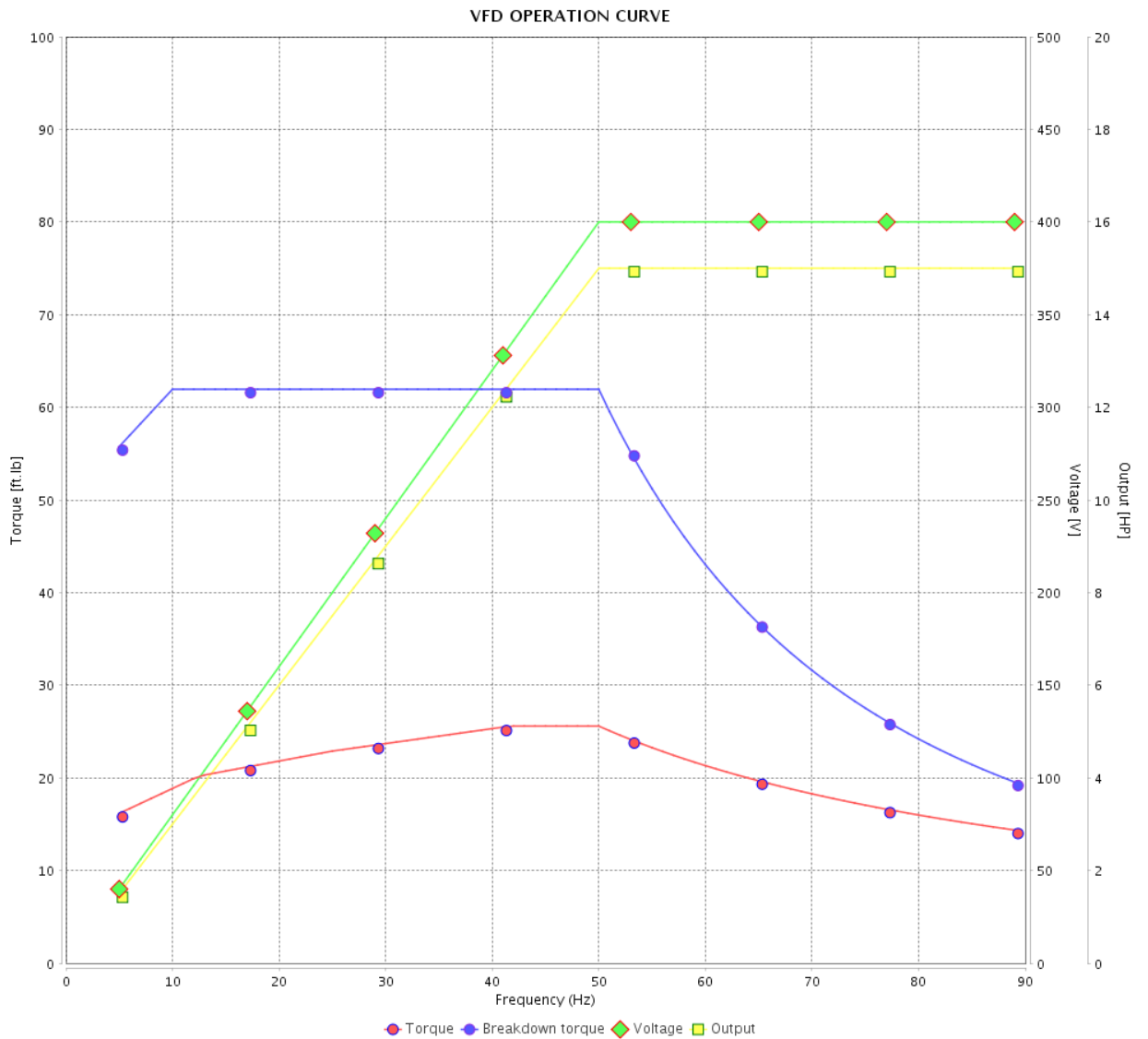


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Performance : 400 V 50 Hz 2P IE2

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 Breakdown torque : 229 %
 Rated speed : 2925 rpm

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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



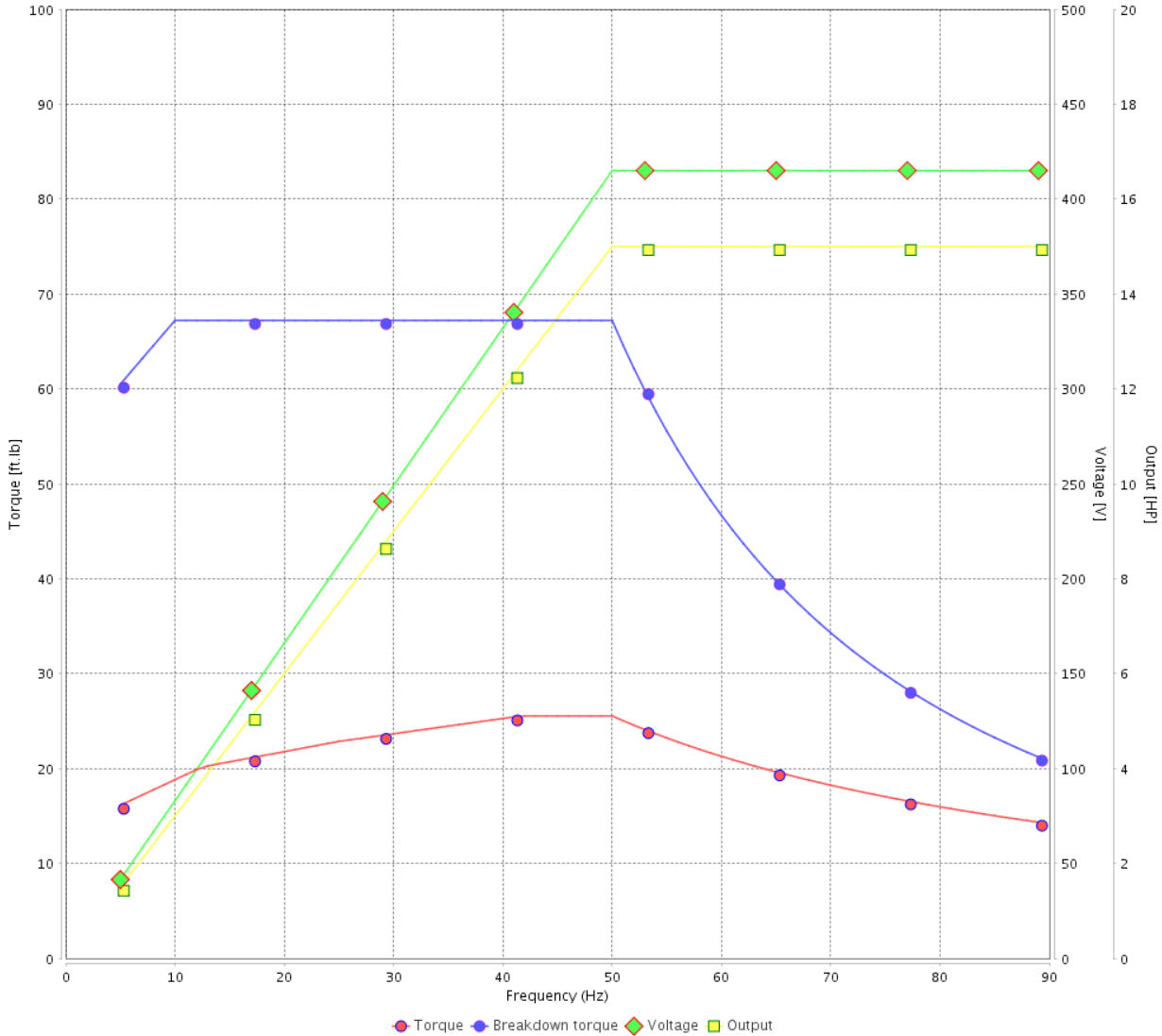
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1 2 3 4 5 6

A

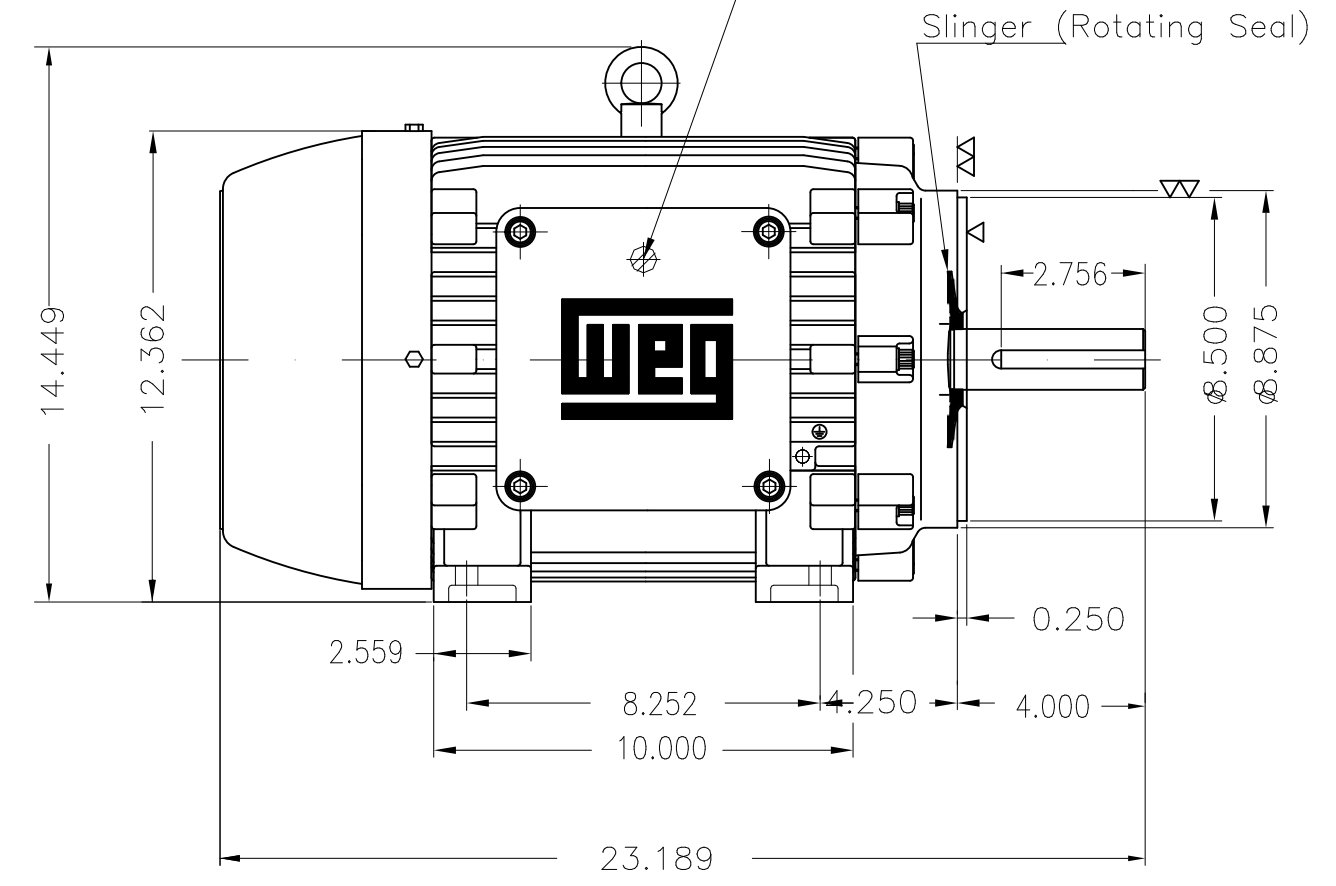
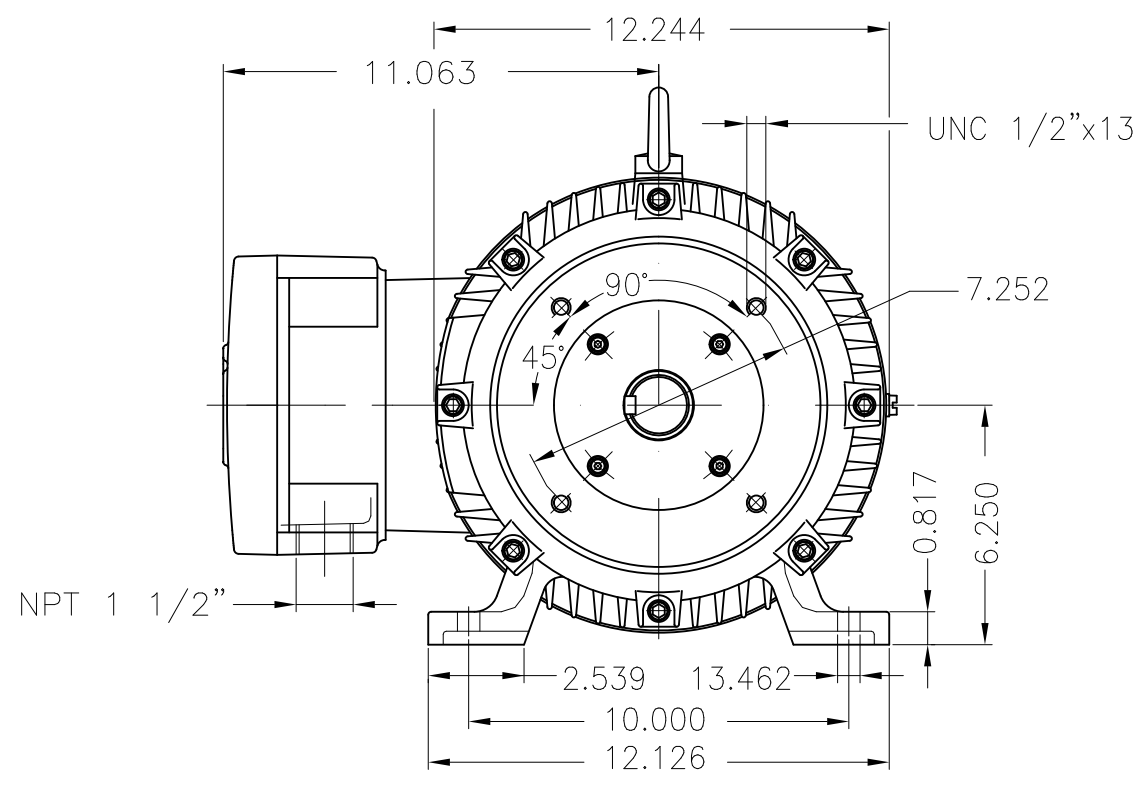
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C

D

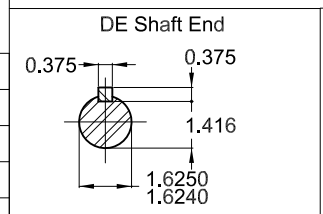
E

Grounding for leads 5.2–25 mm² / 10–4 AWG



15 HP 02 Poles 60 Hz A

- With grease fitting
- Color RAL 5009
- Painting plan 202P
- Mounting NEMA F-1
- Mounting B34R(D)



ECM	LOC	SUMMARY OF MODIFICATIONS	EXECUTED	CHECKED	RELEASED	DATE	VER
EXECUTED	PIRWBUSER	THREE PH. MOTOR EXPLOSION PROOF PREM. EFF.					
CHECKED		FRAME 254TC IP55 TEFC					
RELEASED							
REL DT.	WMO	Jaragua do Sul	Product Engineering	PREVIEW	WDD		

PREVIEW
WDD

SHEET 1 / 1

MADE IN BRAZIL

**W21X NEMA**
Premium

14407151



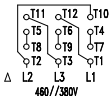
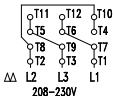
LISTED

CC029A

Inverter Duty Motor
Severe Duty

MODEL 01536XT3E254TC

PH 3	FR 254TC		
HP(kW) 15.0(11.0)		HZ 60	IP55
V 230/460		A 34.8/17.4	
RPM 3540		NEMA NOM EFF 91.0%	
PF 0.87		SFA 40.0/20.0	DES B
INS CL F	ΔT 80 K	SF 1.15	ENCL TEFC
DUTY CONT.		CODE G	ALT 1000 m.a.s.l.
AMB 40°C	USABLE @208V	37.3 A	SF 1.15 SFA 42.9
AMB 55°C	SF1.0	-bearings lub interval reduced by a factor of 50%	
15HP 11kW 50Hz 380V 21.0A 2915RPM SF1.00 EFF 89.5% (IE2)			



→ 6309-C3 MOBIL POLYREX EM
→ 6209-C3 13 g 15797 h

326 Lbs



TEMP CODE T3C
CSA/UL: Class I - Div. 1 - Groups C and D
CSA: Class II - Div. 1 - Groups F and G
CSA: Class I - Zone 1 - IIB

EXPLOSION PROOF MOTOR

FOR USE ON VPWM VFD 1000:1VT, 6:1CT, 1.0SF, T3C, AMB 40°C.