

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



Customer	:		
Product line	: NEMA Premium Efficiency Three-Phase	Product code : 12735315	
		Catalog # : 02036OT3E254T-SG	
Frame	: 254/6T	Cooling method	: IC01 - ODP
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	: 166 lb
Design	: B	Moment of inertia (J)	: 0.7848 sq.ft.lb
Output [HP]	20	20	20
Poles	2	2	2
Frequency [Hz]	60	50	50
Rated voltage [V]	230/460	190/380	220/415
Rated current [A]	47.6/23.8	58.0/29.0	51.7/27.4
L. R. Amperes [A]	286/143	261/131	264/140
LRC [A]	6.0x(Code G)	4.5x(Code D)	5.1x(Code E)
No load current [A]	17.0/8.50	16.2/8.09	17.1/9.04
Rated speed [RPM]	3525	2895	2905
Slip [%]	2.08	3.50	3.17
Rated torque [ft.lb]	29.8	36.3	36.2
Locked rotor torque [%]	180	130	140
Breakdown torque [%]	240	190	210
Service factor	1.15	1.00	1.00
Temperature rise	80 K	105 K	80 K
Locked rotor time	23s (cold) 13s (hot)	0s (cold) 0s (hot)	0s (cold) 0s (hot)
Noise level ²	70.0 dB(A)	68.0 dB(A)	68.0 dB(A)
Efficiency (%)	25%	90.0	91.6
	50%	90.2	90.6
	75%	91.0	89.5
	100%	91.0	87.2
Power Factor	25%	0.49	0.51
	50%	0.76	0.78
	75%	0.83	0.86
	100%	0.87	0.89
Bearing type	: <u>Drive end</u> 6309 Z C3 <u>Non drive end</u> 6208 Z C3	Foundation loads	
Sealing	: Without Without	Max. traction	: 281 lb
	: Bearing Seal Bearing Seal	Max. compression	: 447 lb
Lubrication interval	: 20000 h 20000 h		
Lubricant amount	: 13 g 8 g		
Lubricant type	: Mobil Polyrex EM		
Notes USABLE @208V 52.6A SF 1.00 SFA 52.6A			
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



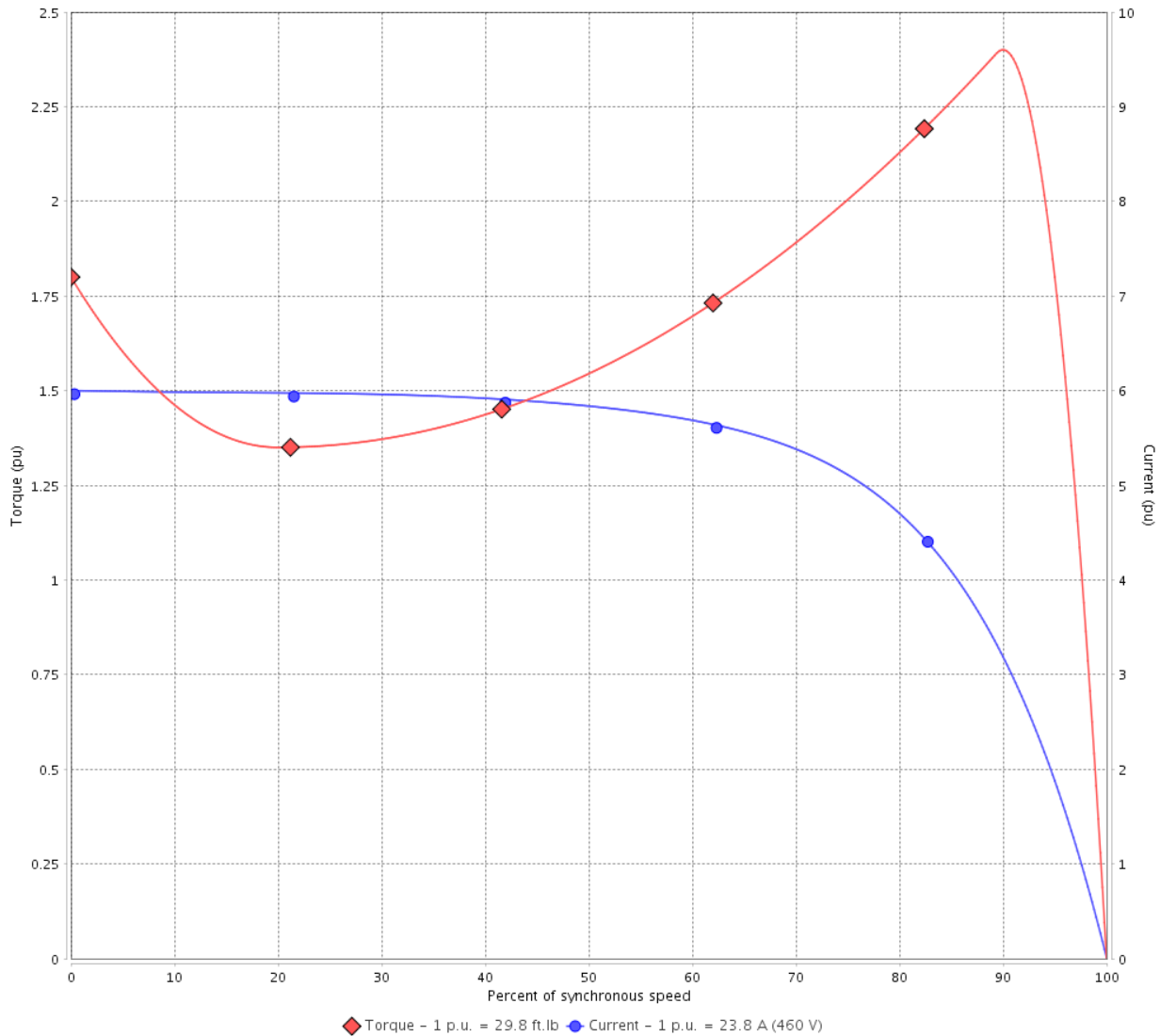
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12735315

Catalog # : 020360T3E254T-SG

TORQUE AND CURRENT VS SPEED CURVE



Performance : 230/460 V 60 Hz 2P

Rated current : 47.6/23.8 A
 LRC : 6.0
 Rated torque : 29.8 ft.lb
 Locked rotor torque : 180 %
 Breakdown torque : 240 %
 Rated speed : 3525 rpm

Moment of inertia (J) : 0.7848 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.15
 Temperature rise : 80 K
 Design : B

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

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TORQUE AND CURRENT VS SPEED CURVE



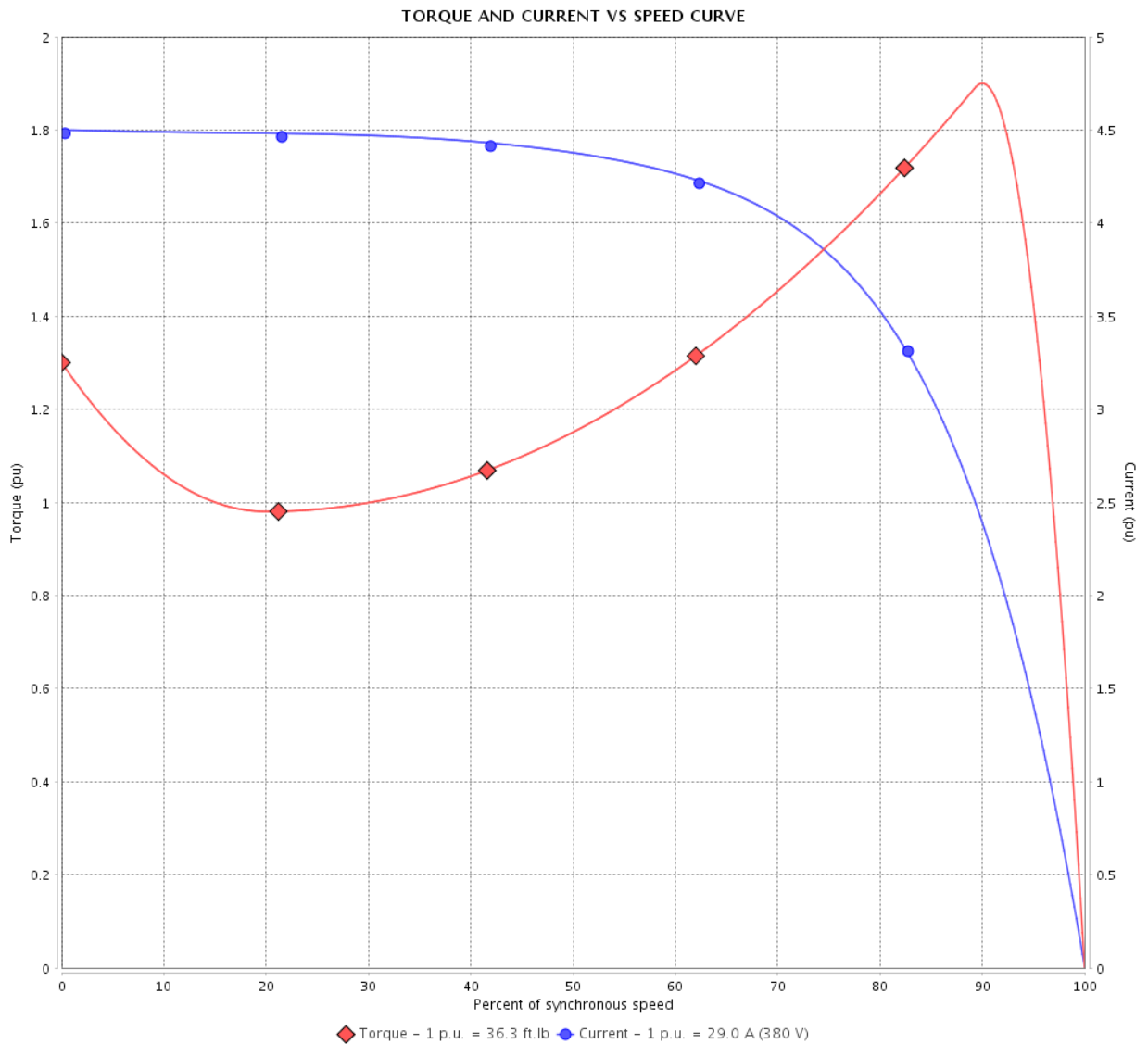
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12735315

Catalog # : 02036OT3E254T-SG



Performance : 190/380 V 50 Hz 2P

Rated current : 58.0/29.0 A
 LRC : 4.5
 Rated torque : 36.3 ft.lb
 Locked rotor torque : 130 %
 Breakdown torque : 190 %
 Rated speed : 2895 rpm

Moment of inertia (J) : 0.7848 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 105 K
 Design : B

Locked rotor time : 0s (cold) 0s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

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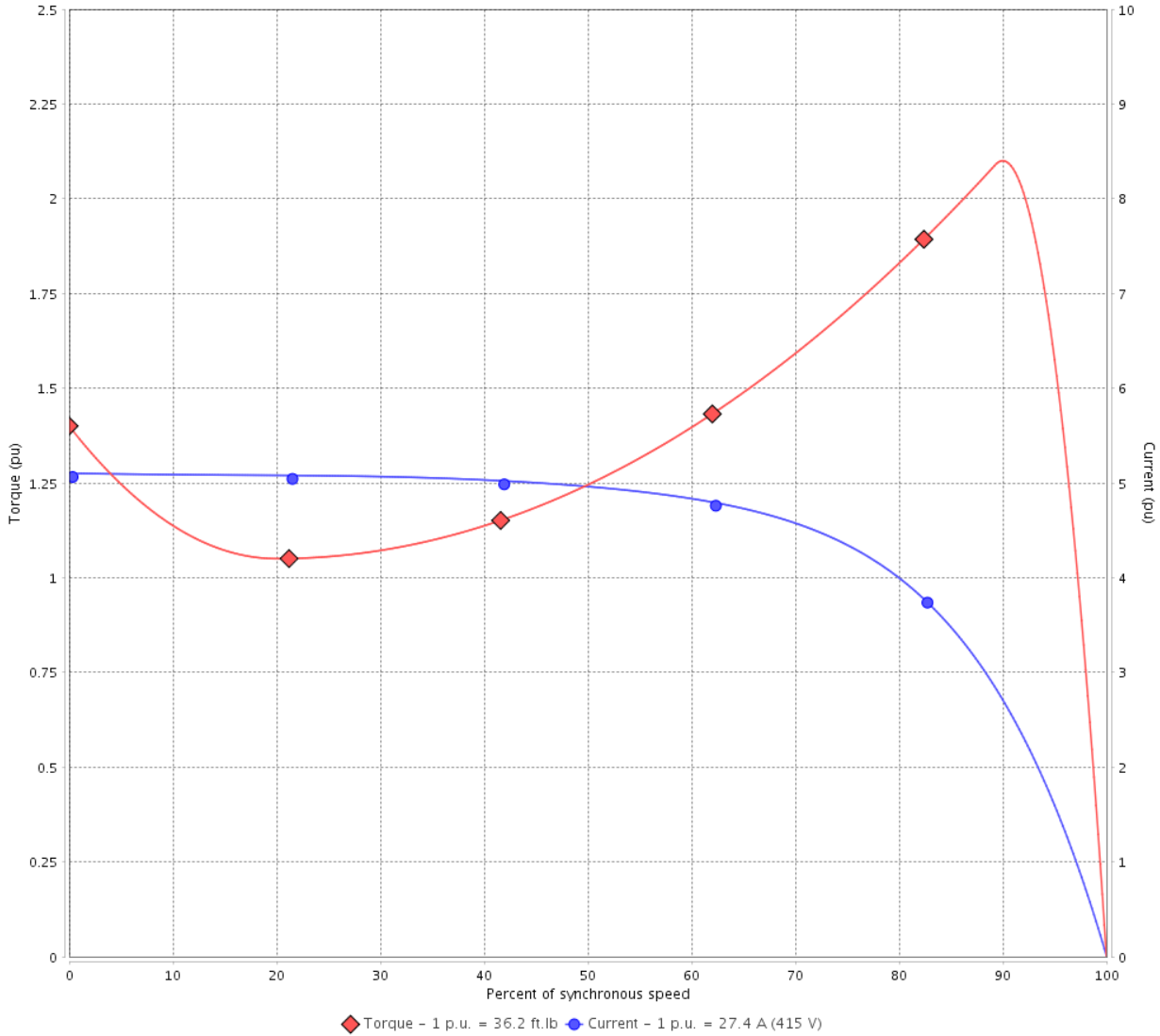
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Catalog # : 020360T3E254T-SG

TORQUE AND CURRENT VS SPEED CURVE



Performance : 220/415 V 50 Hz 2P

Rated current	: 51.7/27.4 A	Moment of inertia (J)	: 0.7848 sq.ft.lb
LRC	: 5.1	Duty cycle	: Cont.(S1)
Rated torque	: 36.2 ft.lb	Insulation class	: F
Locked rotor torque	: 140 %	Service factor	: 1.00
Breakdown torque	: 210 %	Temperature rise	: 80 K
Rated speed	: 2905 rpm	Design	: B

Locked rotor time : 0s (cold) 0s (hot)

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LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage

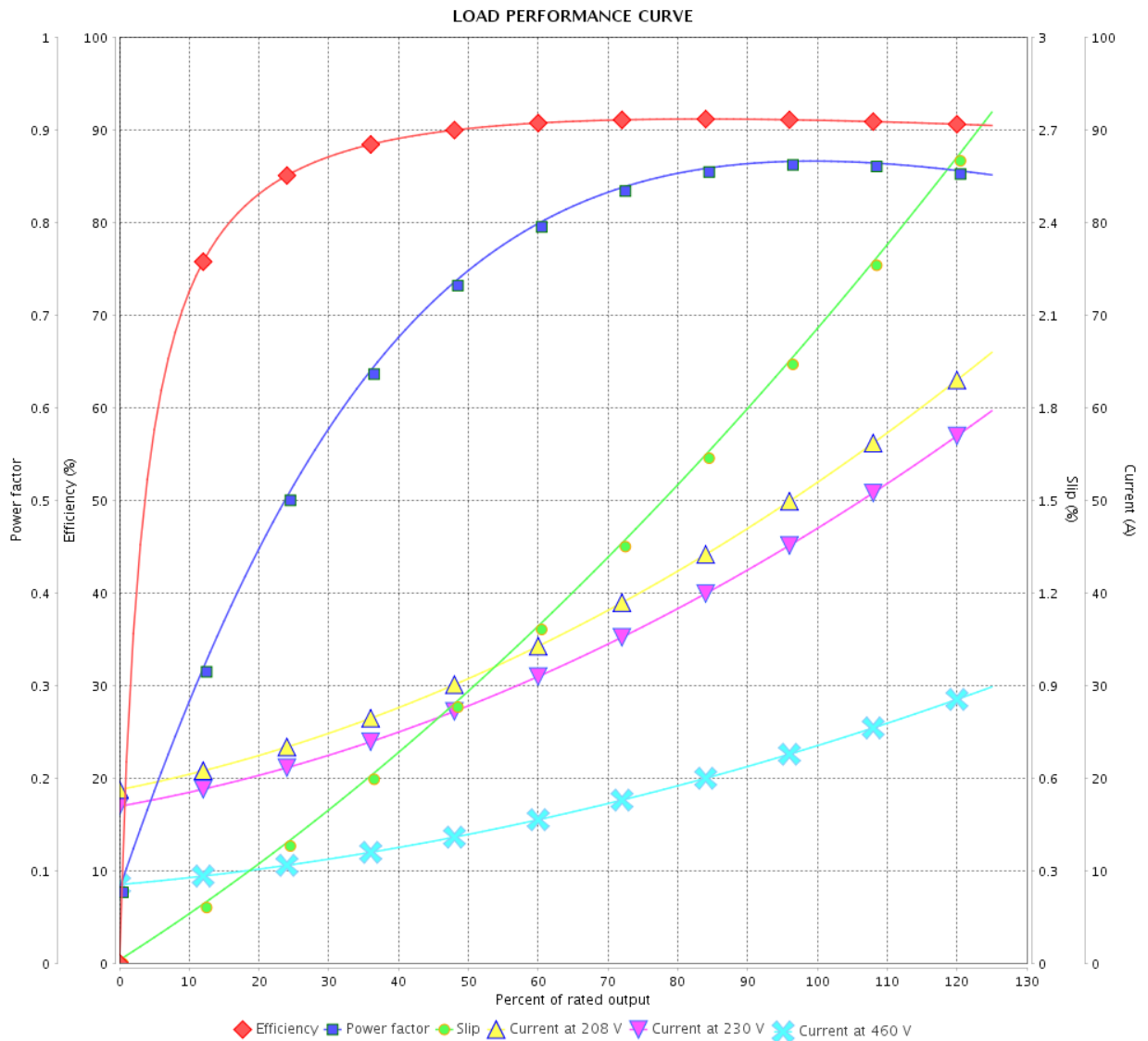


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Performance : 230/460 V 60 Hz 2P

Rated current : 47.6/23.8 A
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 Locked rotor torque : 180 %
 Breakdown torque : 240 %
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 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.15
 Temperature rise : 80 K
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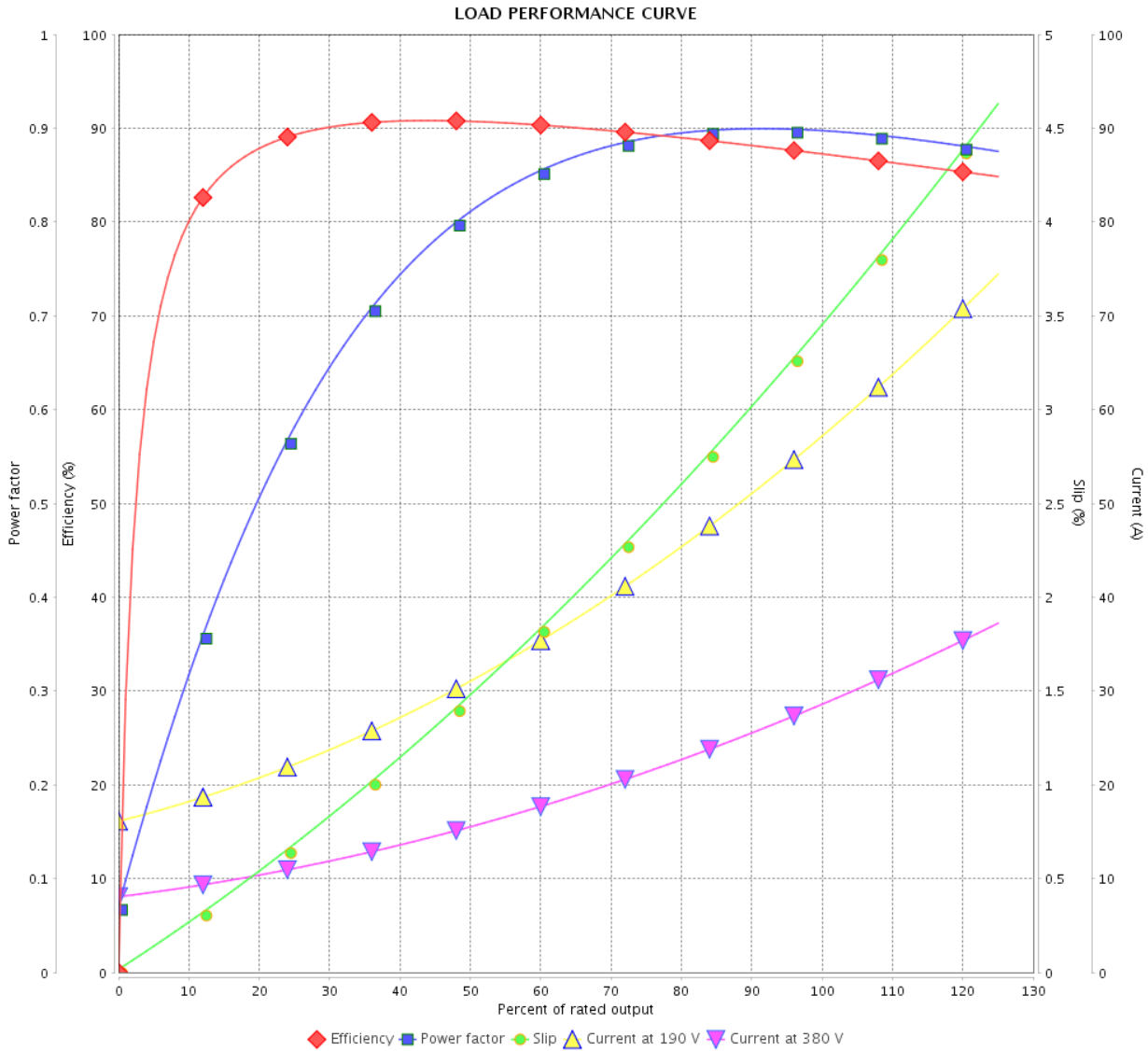


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 Breakdown torque : 190 %
 Rated speed : 2895 rpm

Moment of inertia (J) : 0.7848 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 105 K
 Design : B

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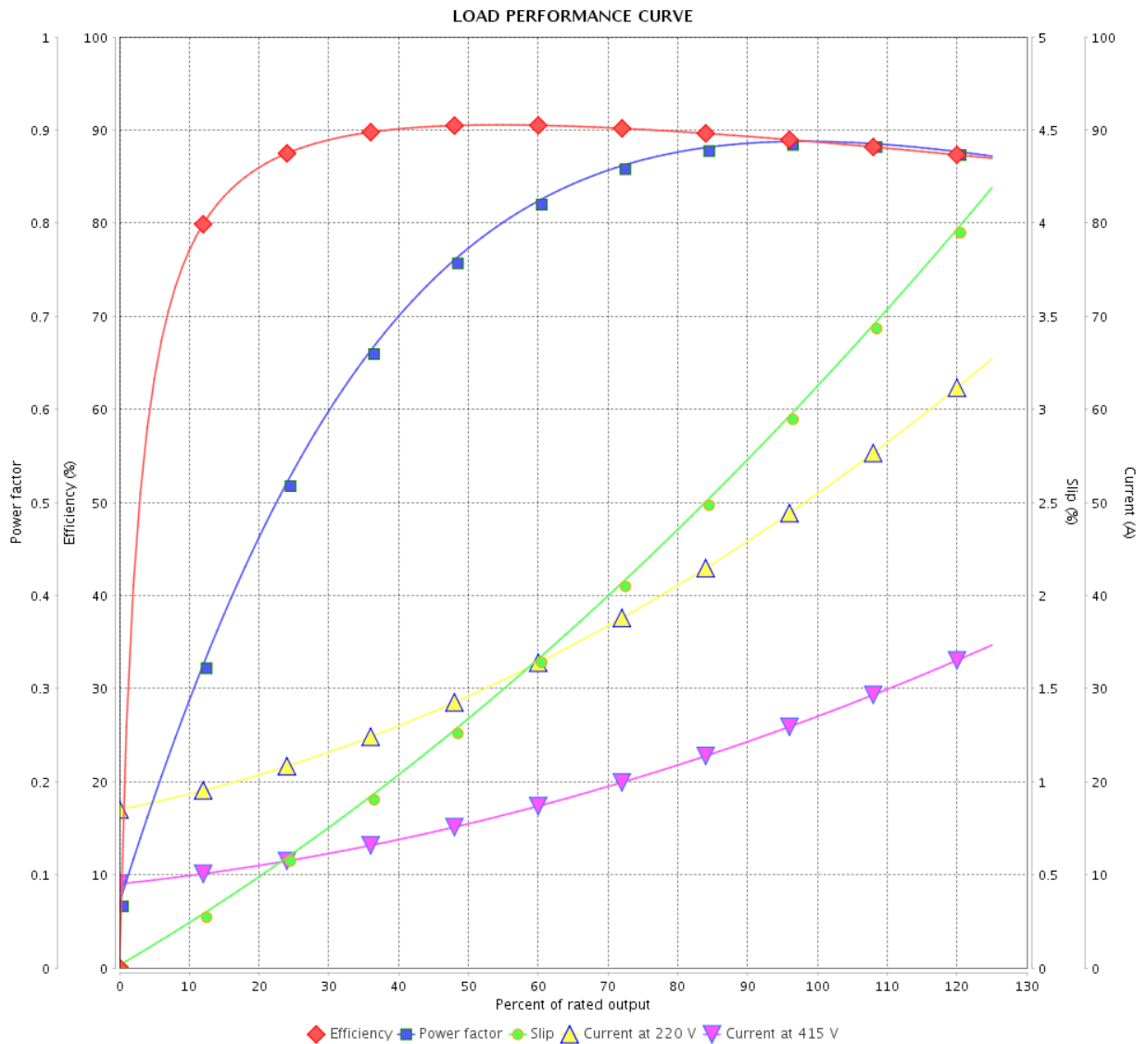


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THERMAL LIMIT CURVE



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Rated torque	: 29.8 ft.lb	Insulation class	: F
Locked rotor torque	: 180 %	Service factor	: 1.15
Breakdown torque	: 240 %	Temperature rise	: 80 K
Rated speed	: 3525 rpm	Design	: B

Heating constant

Cooling constant

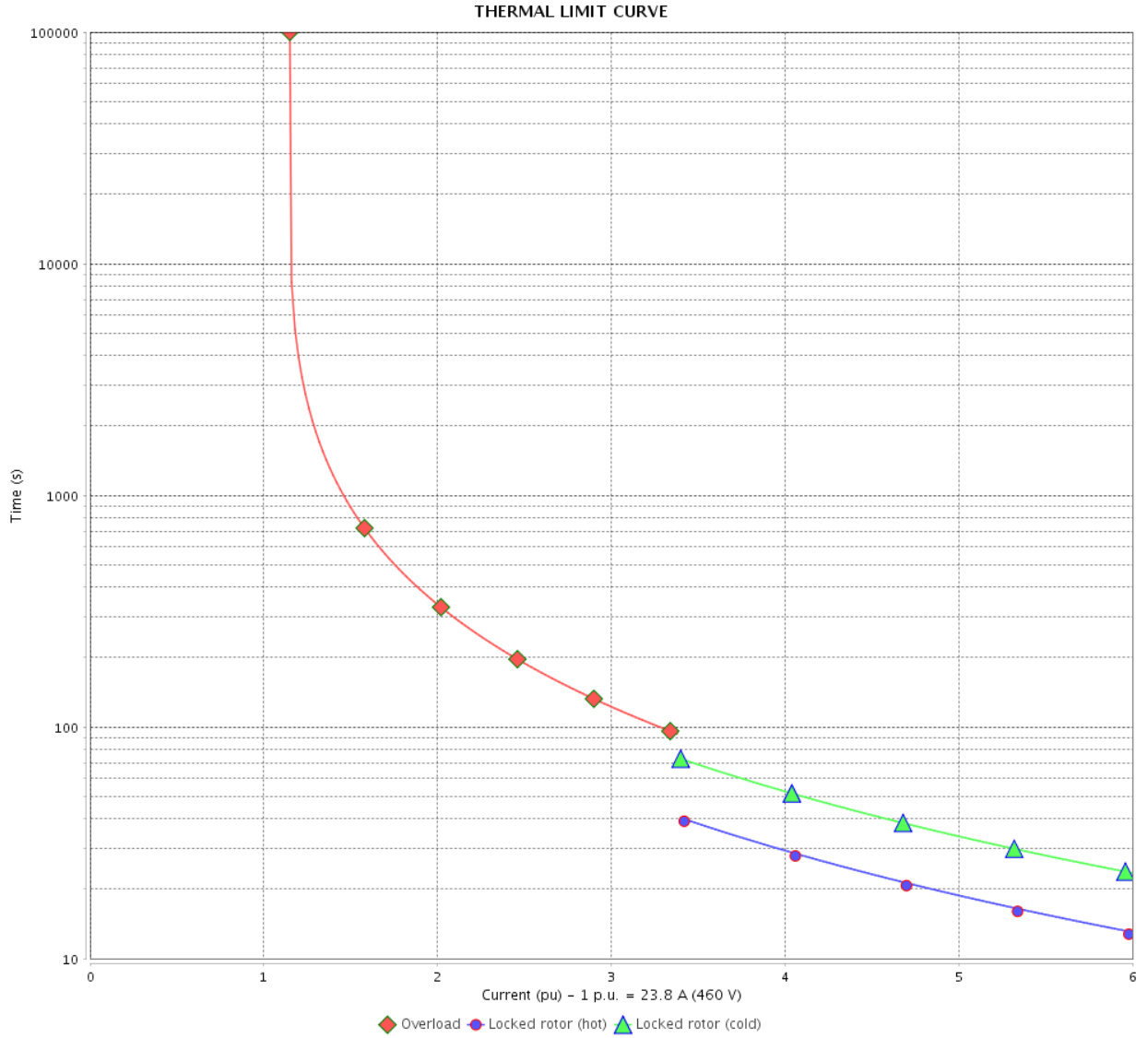
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Rated torque : 36.3 ft.lb	Insulation class : F
Locked rotor torque : 130 %	Service factor : 1.00
Breakdown torque : 190 %	Temperature rise : 105 K
Rated speed : 2895 rpm	Design : B

Heating constant

Cooling constant

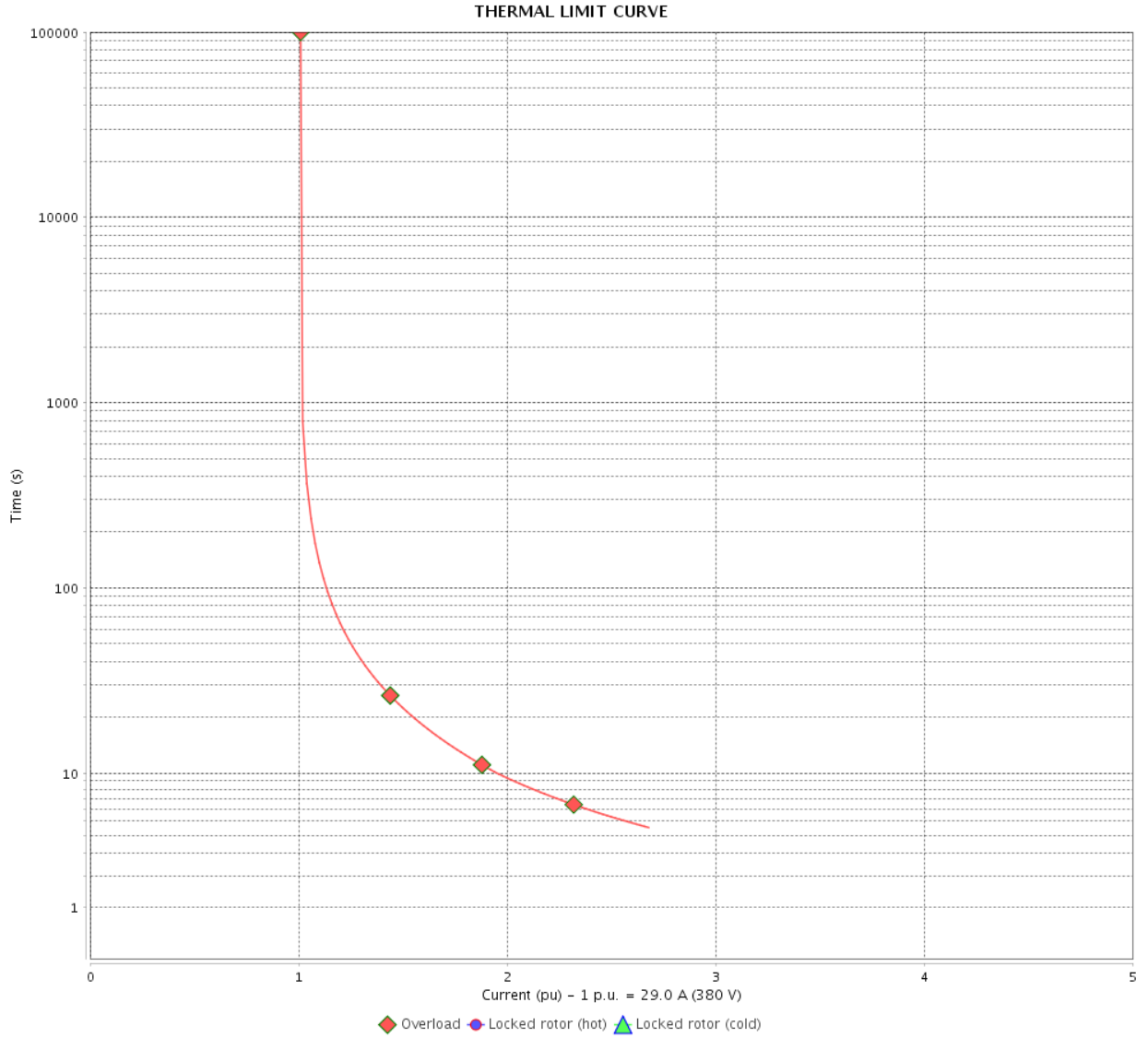
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Heating constant

Cooling constant

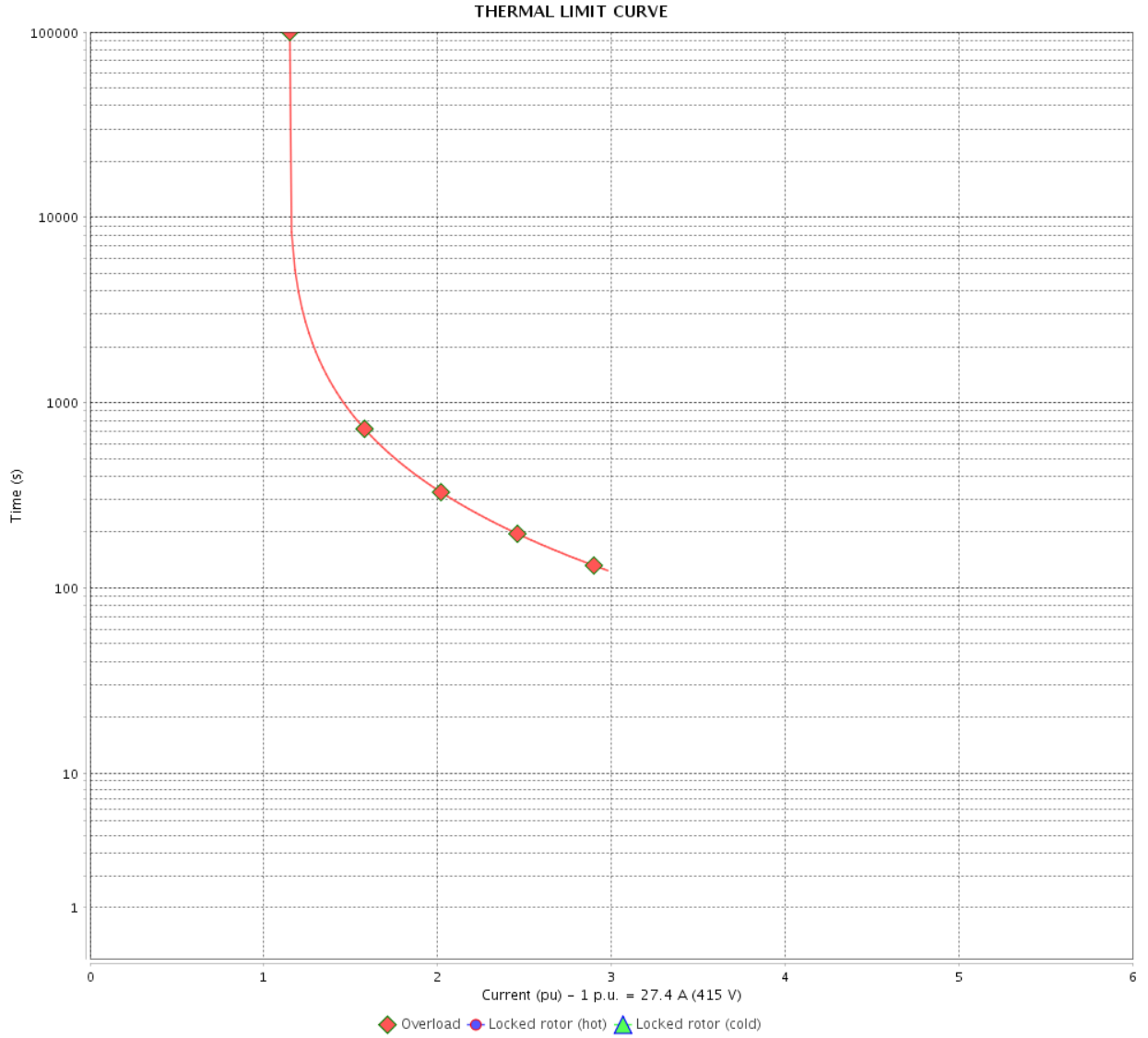
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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



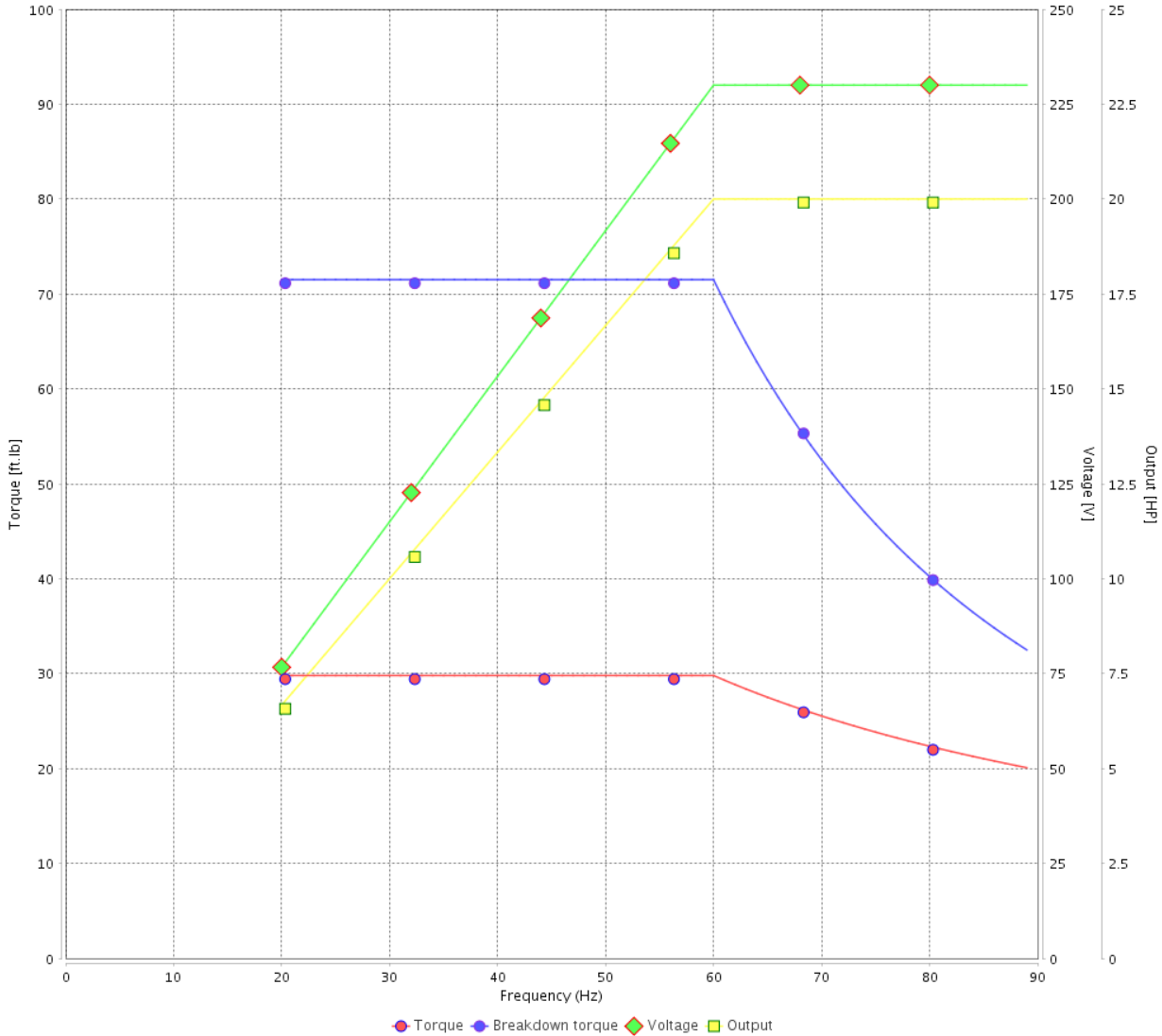
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VFD OPERATION CURVE



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 Insulation class : F
 Service factor : 1.15
 Temperature rise : 80 K
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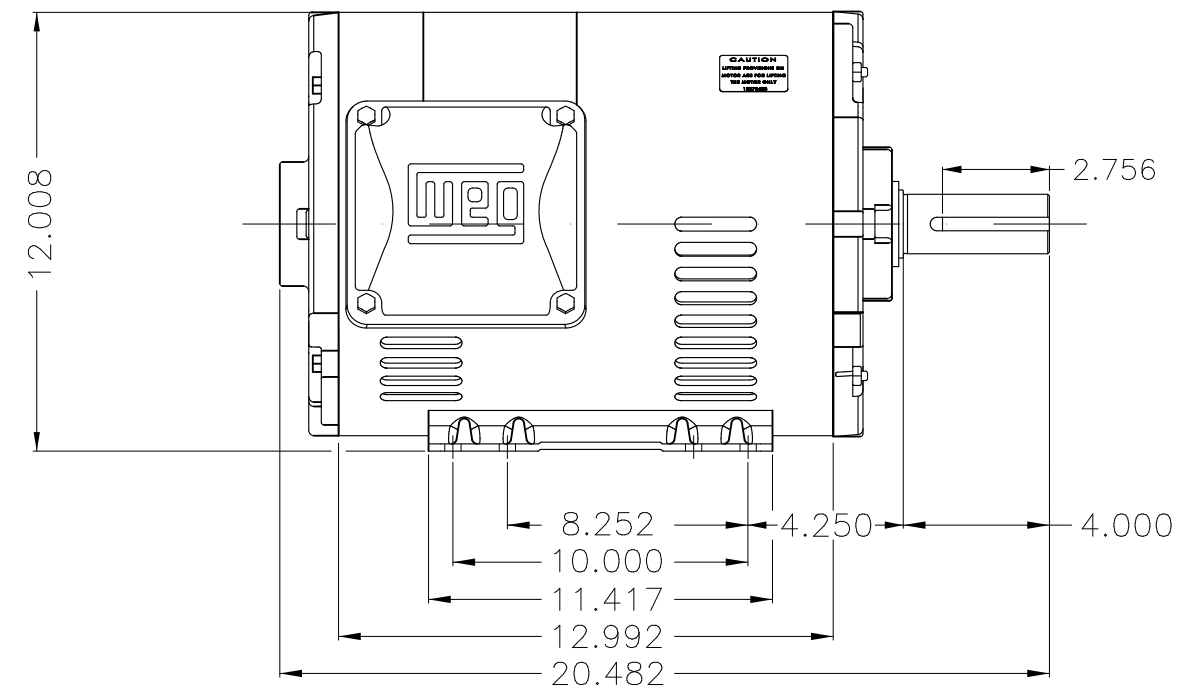
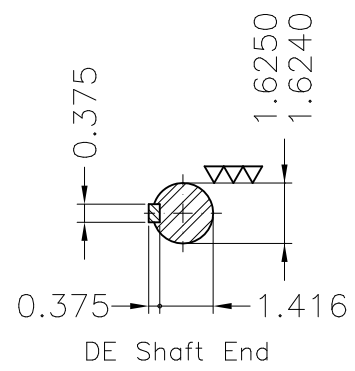
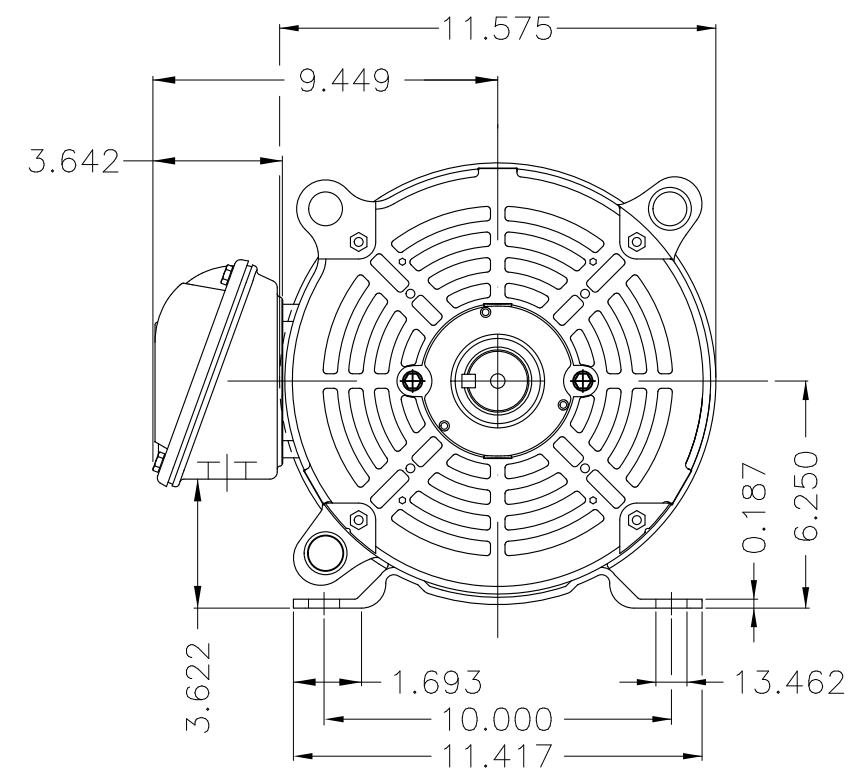
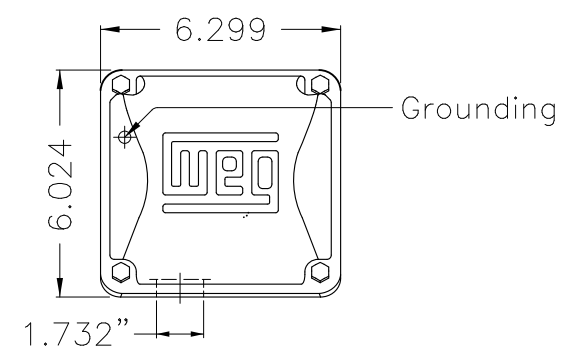
A

B

C

D

E



- Bearing cap
- Internal AEGIS ground ring on the DE
- Color Munsell N 1 matte black
- Painting plan 207N
- Mounting F-1/B3R(D)

ECM	LOC	SUMMARY OF MODIFICATIONS	EXECUTED	CHECKED	RELEASED	DATE	VER
EXECUTED	PIRWBUSER	THREE PH. MOTOR ROLLED STEEL PREM. EFF. FRAME 254/6T IP21 ODP					
CHECKED							
RELEASED							
REL DT.	WMO	Jaragua do Sul	Product Engineering	SHEET	1 / 1		

20 HP 02 Poles 60 Hz

A

PREVIEW
WDD



Dimensions in inches XME A3

**NEMA**
Premium

MADE IN MEXICO

MAT: 12735315 CC029A

W01.T00IC0X0N

MODEL 020360T3E254T-SG

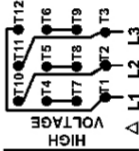
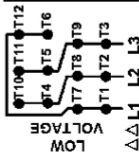
14FEB2022 S/N:

PH 3	Hz 60	HP 20
FR 254/6T		KW 15
DUTY CONT.		V 230/460
ALT 1000 m.a.s.l.		A 47.6/23.8
INS CL F AT 80K		SFA 54.7/27.4
AMB 40°C	DES B	SF 1.15
ENCL ODP	CODE G	PF 0.87
USABLE @ 208V 52.8A		RPM 3525
SF1.00		NEMA NOM. EFF 91.0%

ALTERNATE RATING: 20HP 50Hz 190-220/380-415V SF1.00
 58.0-50.4/29.0-26.7A 2895RPM EFF 87.2% IEC 60034-1

Inverter duty motor For 80Hz use on VPWM 1000:1 VT, 3:1 CT

DE 6309-Z-C3	ODE 6208-Z-C3	MOBIL POLYREX EM	20000h
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T1-BLU T2-WHT
 T3-ORG T4-YEL
 T5-BLK T6-GRY
 T7-PNK T8-RED
 T9-BRK RED
 T10-CURRY
 T11-GRN T12-VLT

INTERCHANGE ANY TWO LINE WIRES TO REVERSE THE ROTATION



WARNING: Motor must be grounded in accordance with local and national electrical codes to prevent serious electrical shocks. Disconnect power source before servicing unit.

AVERTISSEMENT: Le moteur doit être mis à la terre

conformément aux codes électriques locaux et nationaux afin d'éviter tout choc électrique grave. Déconnectez l'alimentation avant l'entretien de la machine.

