

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :	
Product line	: NEMA Premium Efficiency Three-Phase
Product code :	12636366
Catalog # :	02018OT3E256TC-S
Frame	: 254/6TC
Insulation class	: F
Duty cycle	: Cont.(S1)
Ambient temperature	: -20°C to +40°C
Altitude	: 1000 m.a.s.l.
Design	: B
Cooling method	: IC01 - ODP
Mounting	: F-1
Rotation <sup>1</sup>	: Both (CW and CCW)
Starting method	: Direct On Line
Approx. weight <sup>2</sup>	: 227 lb
Moment of inertia (J)	: 2.23 sq.ft.lb
Output [HP]	20
Poles	4
Frequency [Hz]	60
Rated voltage [V]	230/460
Rated current [A]	50.0/25.0
L. R. Amperes [A]	315/158
LRC [A]	6.3x(Code G)
No load current [A]	22.9/11.4
Rated speed [RPM]	1770
Slip [%]	1.67
Rated torque [ft.lb]	59.3
Locked rotor torque [%]	240
Breakdown torque [%]	290
Service factor	1.15
Temperature rise	80 K
Locked rotor time	27s (cold) 15s (hot)
Noise level <sup>2</sup>	64.0 dB(A)
Efficiency (%)	25%
	50%
	75%
	100%
Power Factor	25%
	50%
	75%
	100%
Bearing type	: <u>Drive end</u> 6309 Z C3 <u>Non drive end</u> 6208 Z C3
Sealing	: Without Without
	: Bearing Seal Bearing Seal
Lubrication interval	: 20000 h 20000 h
Lubricant amount	: 13 g 8 g
Lubricant type	: Mobil Polyrex EM
Foundation loads	
Max. traction	: 815 lb
Max. compression	: 1042 lb
Notes	
USABLE @208V 55.3A SF 1.00 SFA 55.3A	
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



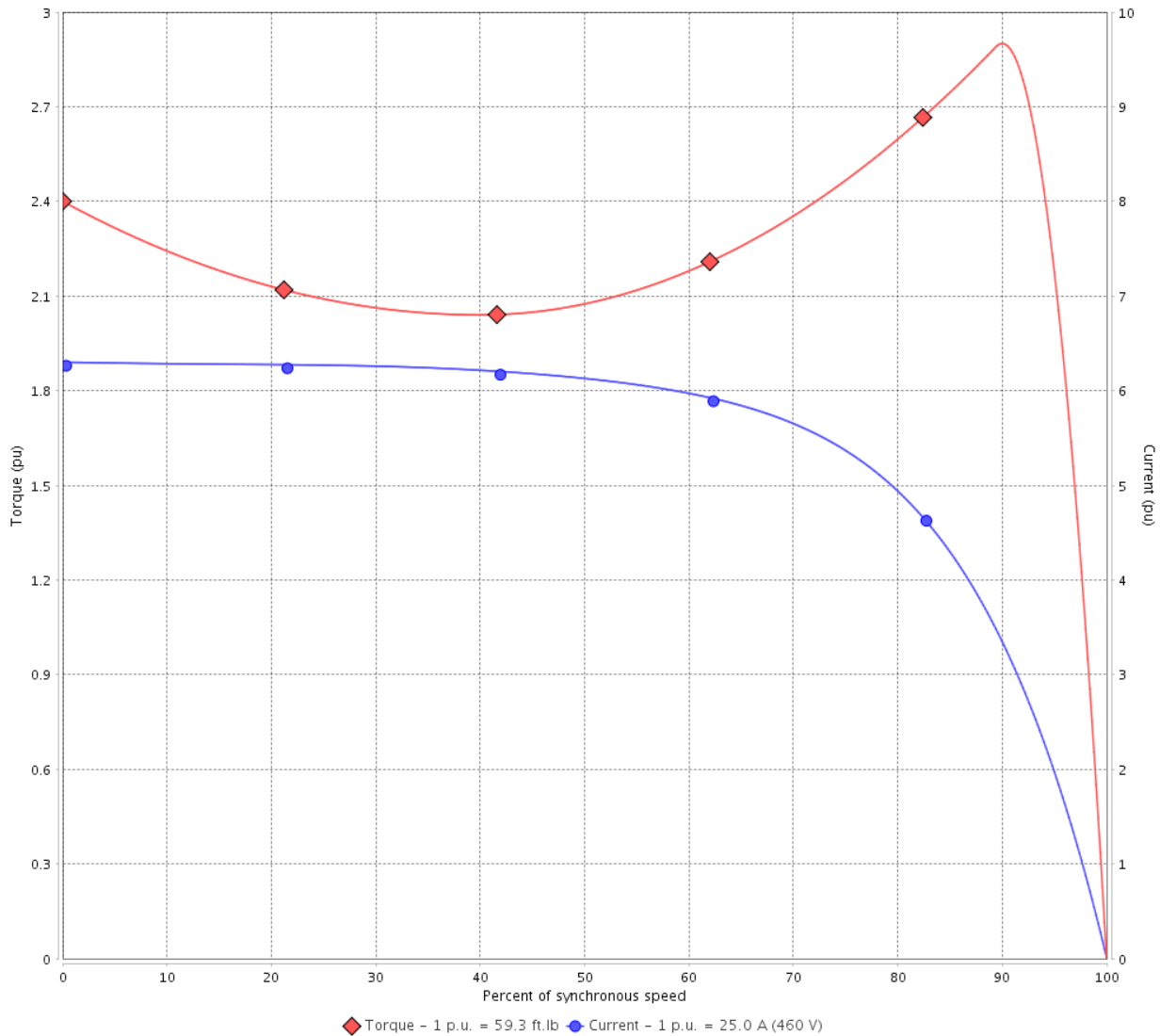
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12636366

Catalog # : 02018OT3E256TC-S

TORQUE AND CURRENT VS SPEED CURVE



Performance : 230/460 V 60 Hz 4P

Rated current	: 50.0/25.0 A	Moment of inertia (J)	: 2.23 sq.ft.lb
LRC	: 6.3	Duty cycle	: Cont.(S1)
Rated torque	: 59.3 ft.lb	Insulation class	: F
Locked rotor torque	: 240 %	Service factor	: 1.15
Breakdown torque	: 290 %	Temperature rise	: 80 K
Rated speed	: 1770 rpm	Design	: B

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

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# TORQUE AND CURRENT VS SPEED CURVE



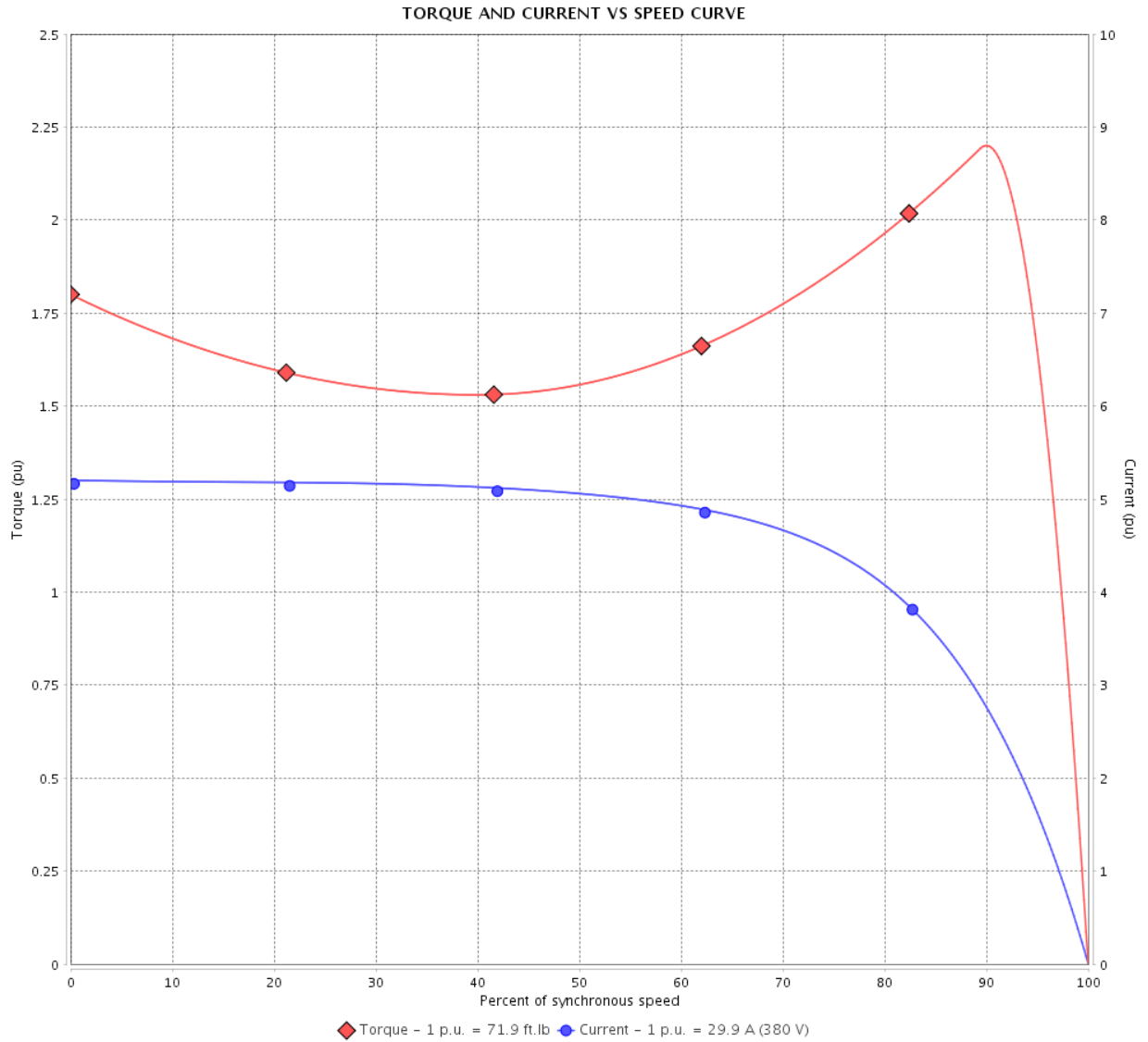
## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12636366

Catalog # : 02018OT3E256TC-S



Performance : 190-220/380 V 50 Hz 4P

Rated current	: 59.8-51.6/29.9 A	Moment of inertia (J)	: 2.23 sq.ft.lb
LRC	: 5.2	Duty cycle	: Cont.(S1)
Rated torque	: 71.9 ft.lb	Insulation class	: F
Locked rotor torque	: 180 %	Service factor	: 1.15
Breakdown torque	: 220 %	Temperature rise	: 80 K
Rated speed	: 1460 rpm	Design	: B

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

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# TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



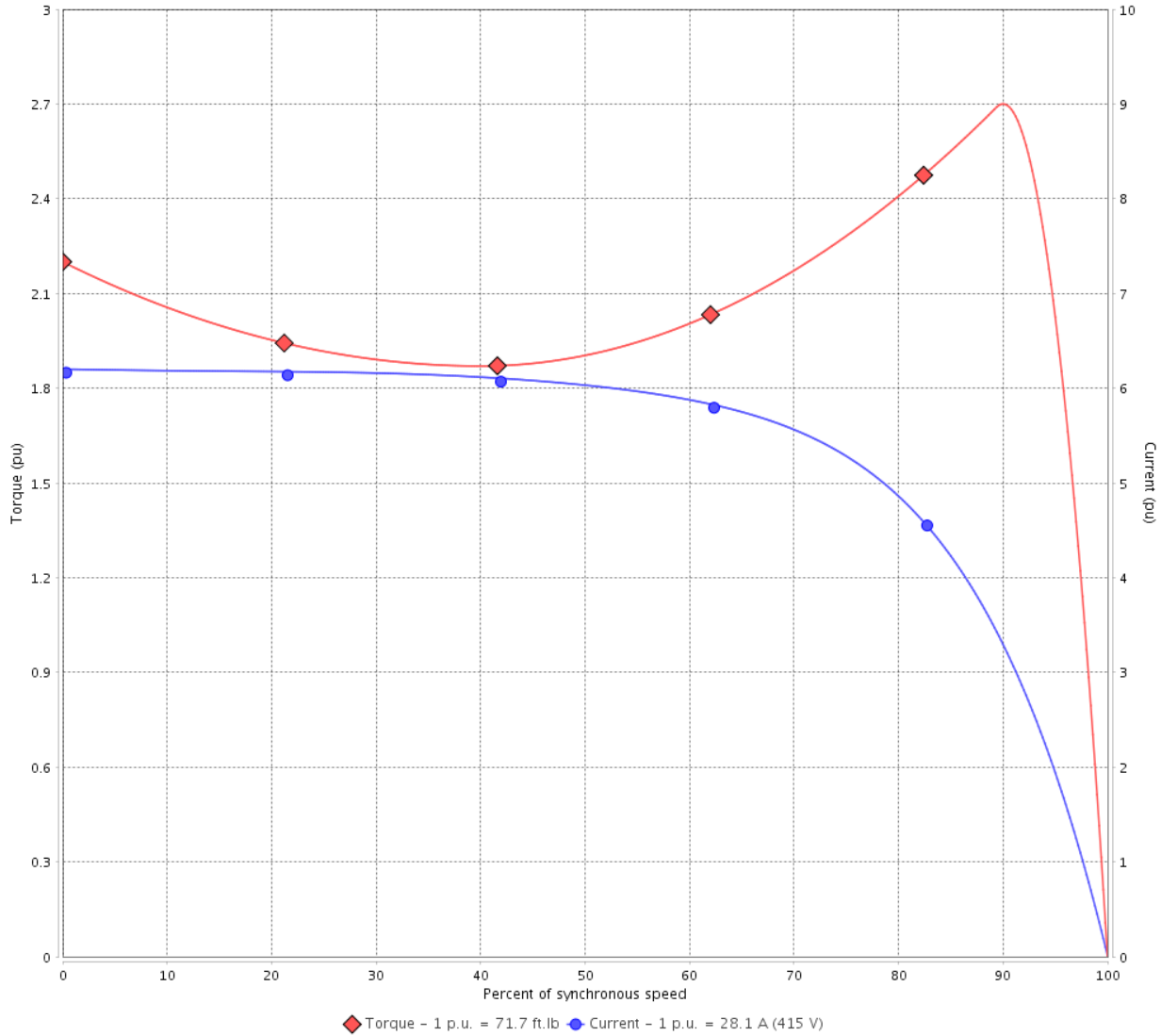
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12636366

Catalog # : 02018OT3E256TC-S

TORQUE AND CURRENT VS SPEED CURVE



Performance : 415 V 50 Hz 4P

Rated current	: 28.1 A	Moment of inertia (J)	: 2.23 sq.ft.lb
LRC	: 6.2	Duty cycle	: Cont.(S1)
Rated torque	: 71.7 ft.lb	Insulation class	: F
Locked rotor torque	: 220 %	Service factor	: 1.15
Breakdown torque	: 270 %	Temperature rise	: 80 K
Rated speed	: 1465 rpm	Design	: B

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

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# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage

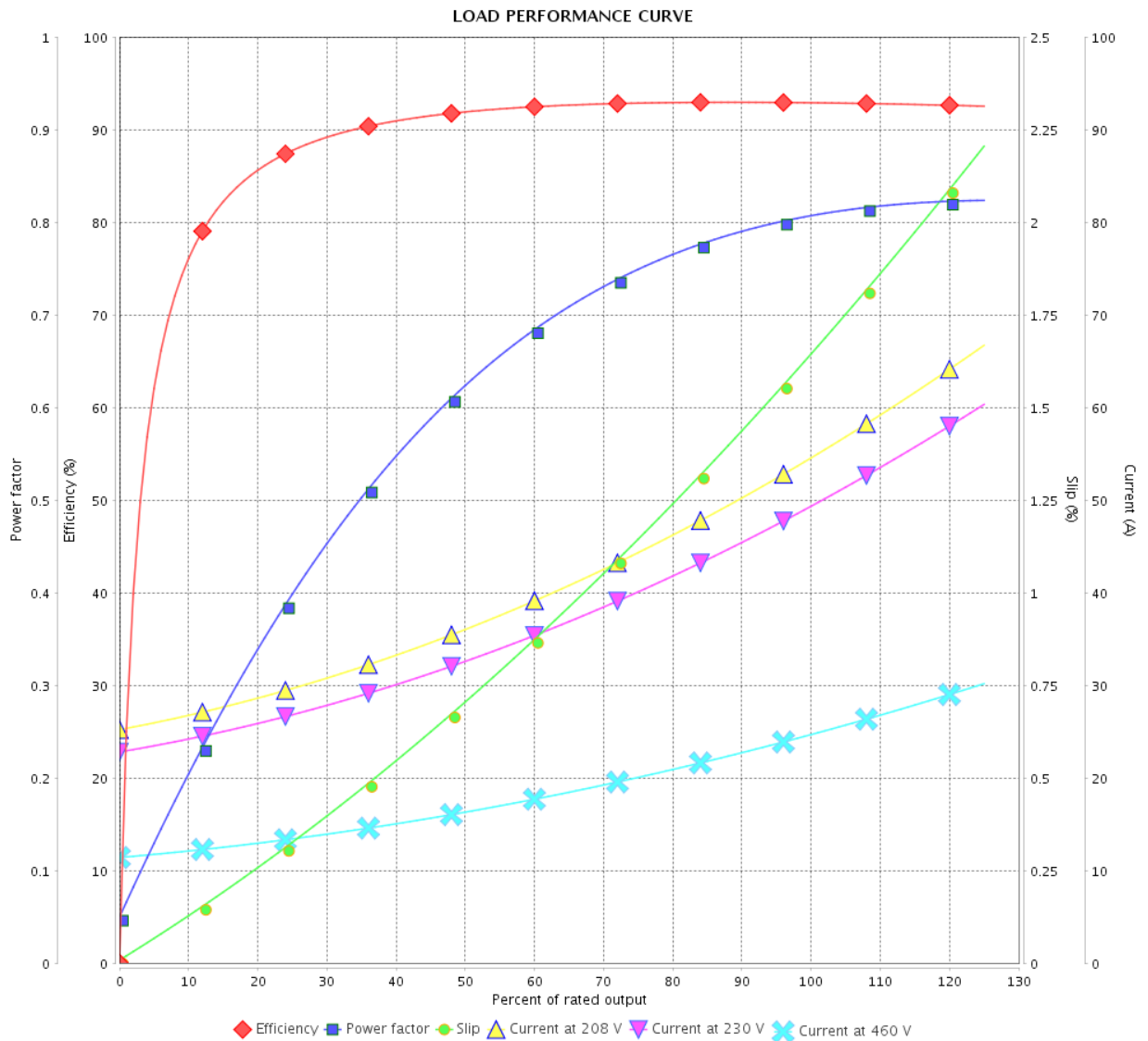


Customer :

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Catalog # : 02018OT3E256TC-S



Performance : 230/460 V 60 Hz 4P

Rated current : 50.0/25.0 A  
 LRC : 6.3  
 Rated torque : 59.3 ft.lb  
 Locked rotor torque : 240 %  
 Breakdown torque : 290 %  
 Rated speed : 1770 rpm

Moment of inertia (J) : 2.23 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

## Three Phase Induction Motor - Squirrel Cage



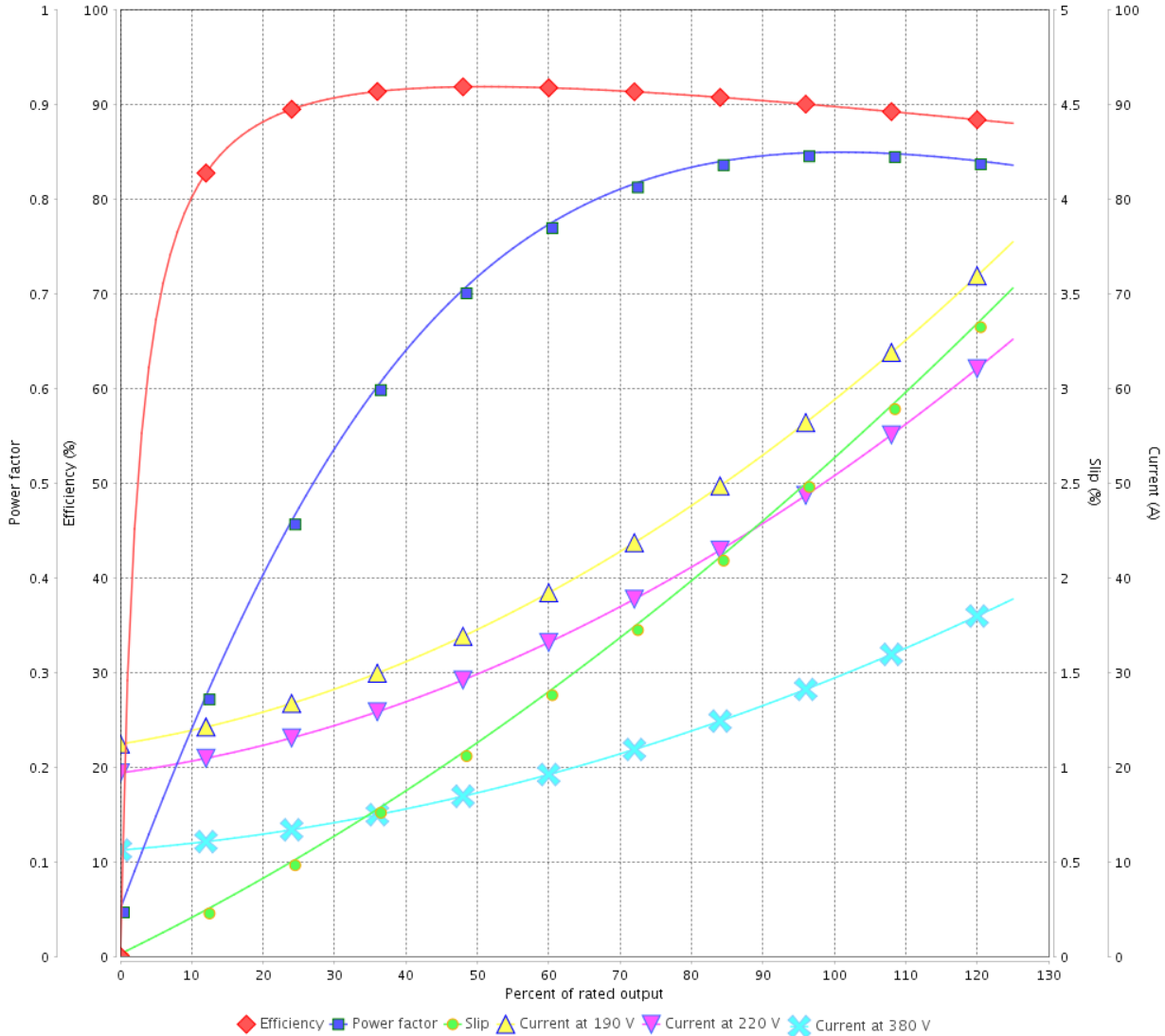
Customer :

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Product code : 12636366

Catalog # : 02018OT3E256TC-S

LOAD PERFORMANCE CURVE



Performance : 190-220/380 V 50 Hz 4P

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 Rated torque : 71.9 ft.lb  
 Locked rotor torque : 180 %  
 Breakdown torque : 220 %  
 Rated speed : 1460 rpm

Moment of inertia (J) : 2.23 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

## Three Phase Induction Motor - Squirrel Cage

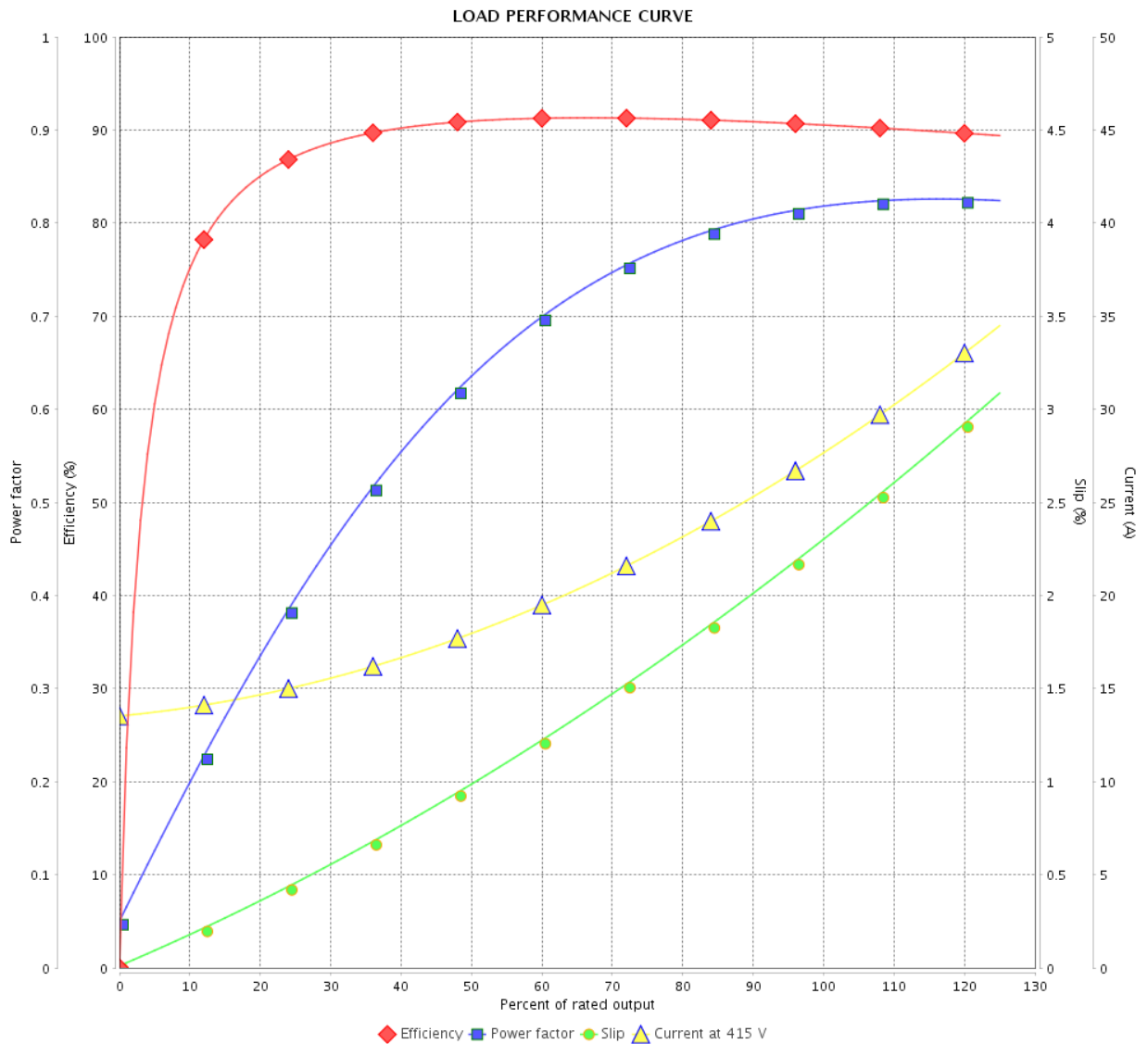


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12636366

Catalog # : 02018OT3E256TC-S



Performance : 415 V 50 Hz 4P

Rated current : 28.1 A  
 LRC : 6.2  
 Rated torque : 71.7 ft.lb  
 Locked rotor torque : 220 %  
 Breakdown torque : 270 %  
 Rated speed : 1465 rpm

Moment of inertia (J) : 2.23 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : B

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# THERMAL LIMIT CURVE

## Three Phase Induction Motor - Squirrel Cage



Customer :

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Locked rotor torque	: 240 %	Service factor	: 1.15
Breakdown torque	: 290 %	Temperature rise	: 80 K
Rated speed	: 1770 rpm	Design	: B

Heating constant

Cooling constant

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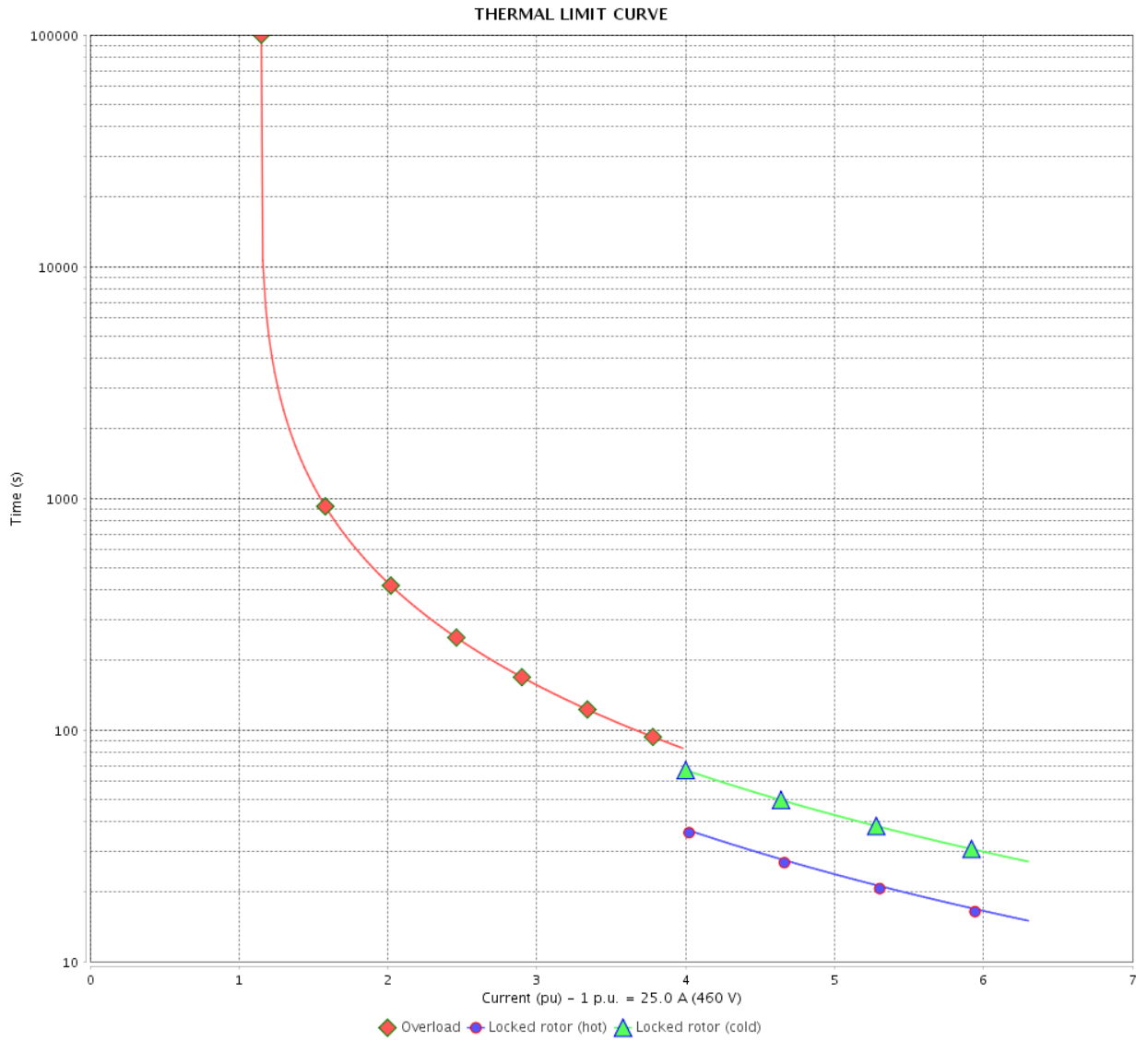


# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : \_\_\_\_\_



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## Three Phase Induction Motor - Squirrel Cage



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Locked rotor torque	: 180 %	Service factor	: 1.15
Breakdown torque	: 220 %	Temperature rise	: 80 K
Rated speed	: 1460 rpm	Design	: B

Heating constant

Cooling constant

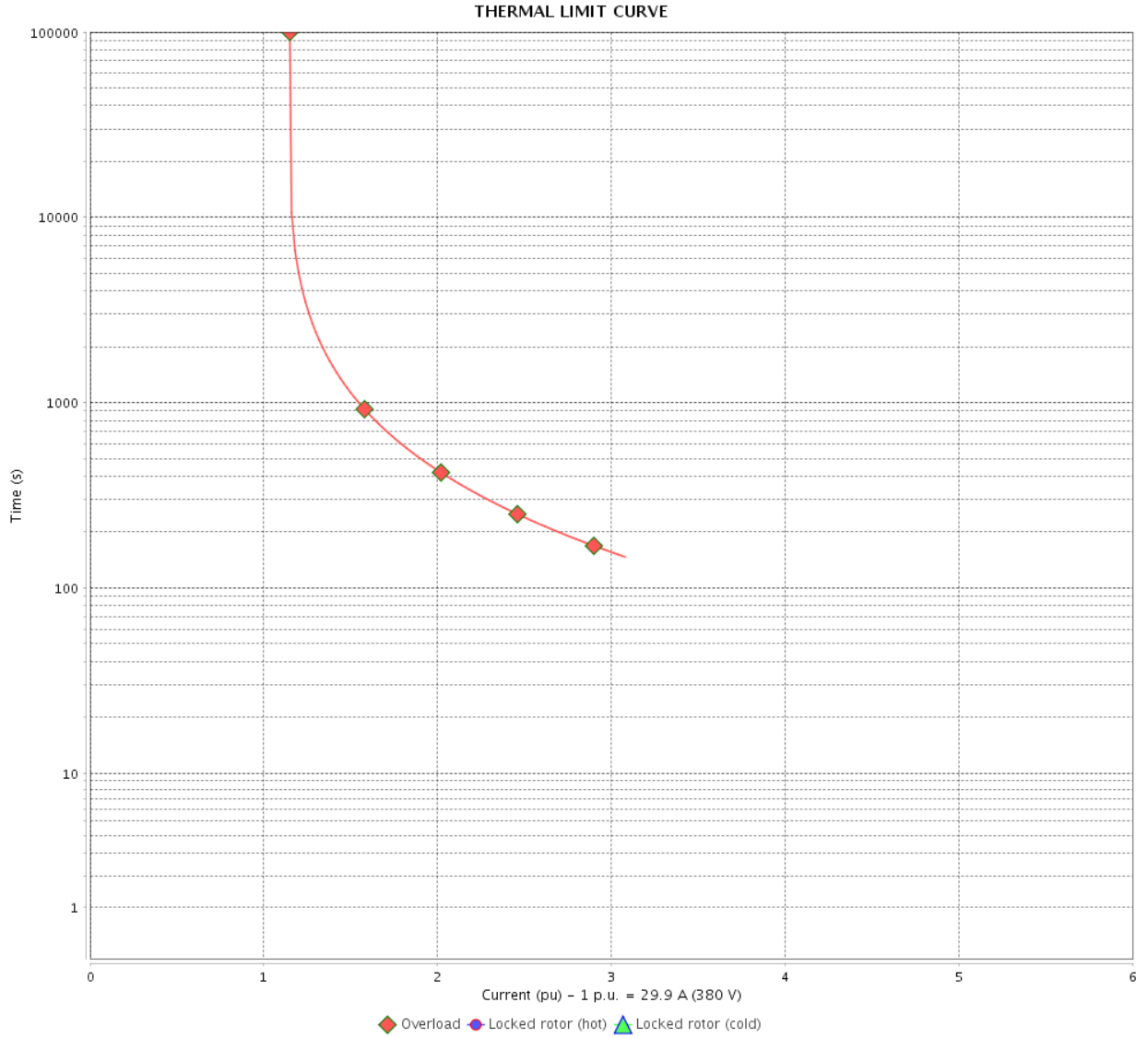
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Three Phase Induction Motor - Squirrel Cage



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Cooling constant

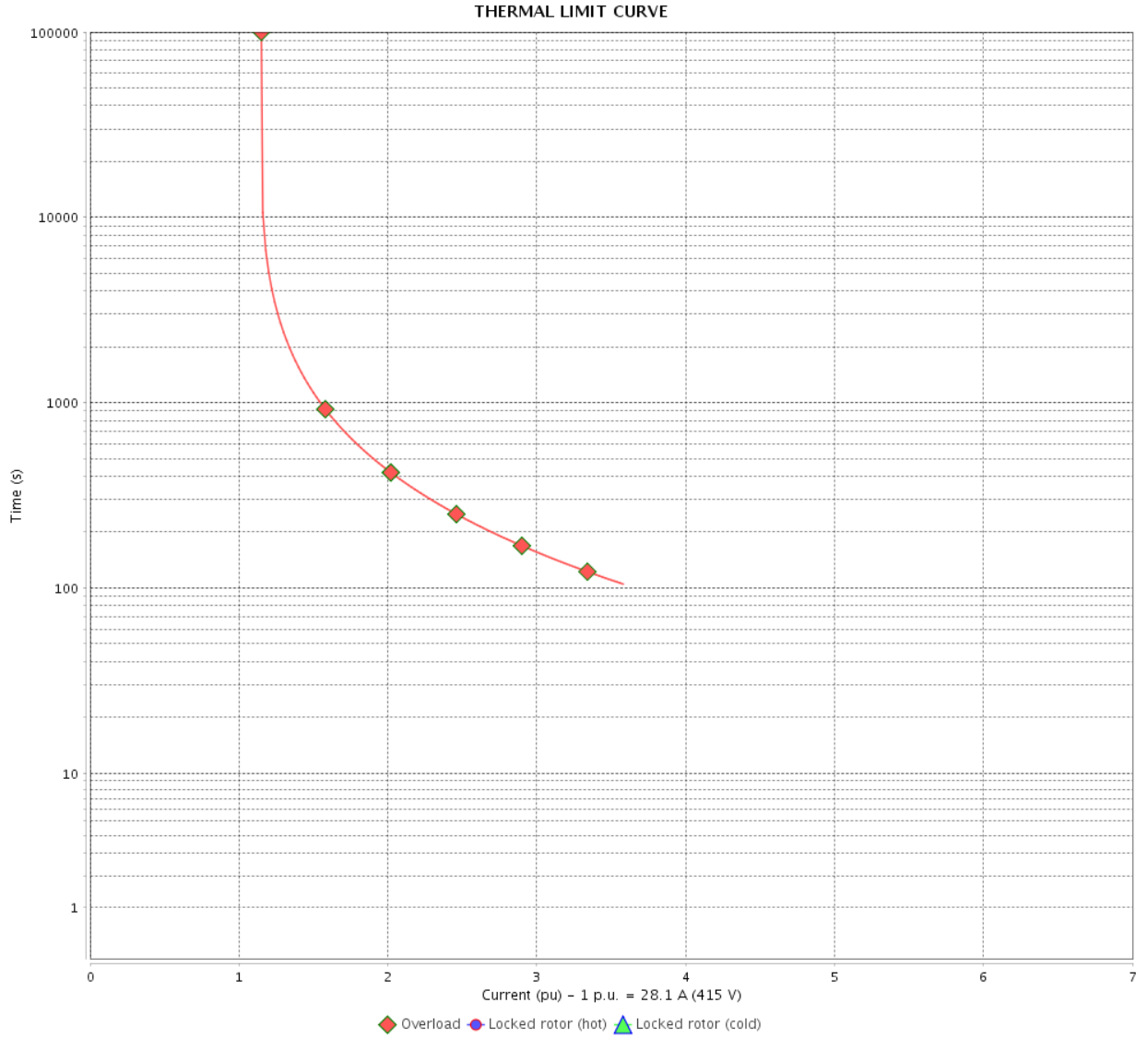
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# VFD OPERATION CURVE

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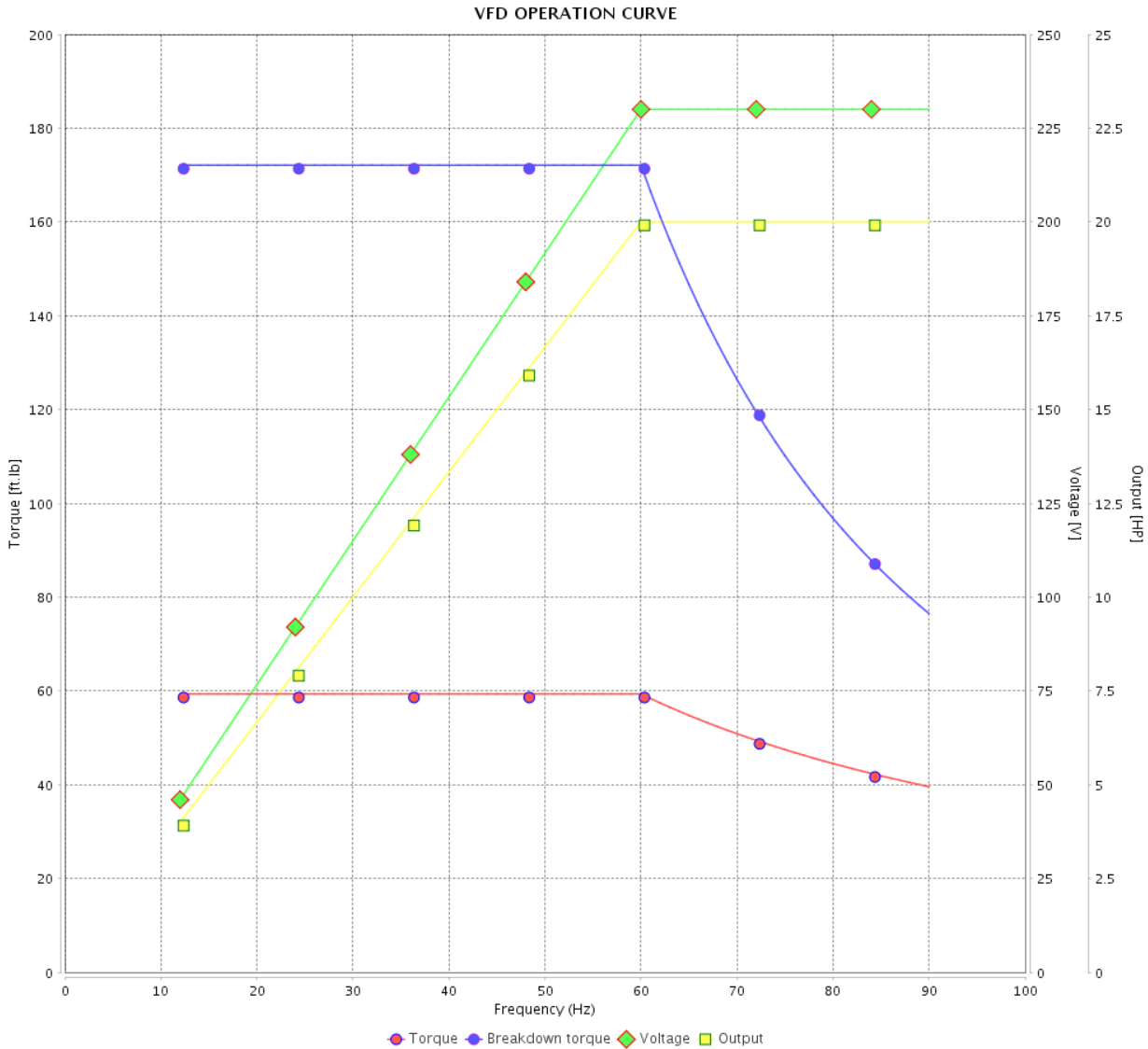


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Product code : 12636366

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Performance : 230/460 V 60 Hz 4P

Rated current : 50.0/25.0 A  
 LRC : 6.3  
 Rated torque : 59.3 ft.lb  
 Locked rotor torque : 240 %  
 Breakdown torque : 290 %  
 Rated speed : 1770 rpm

Moment of inertia (J) : 2.23 sq.ft.lb  
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 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
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# VFD OPERATION CURVE

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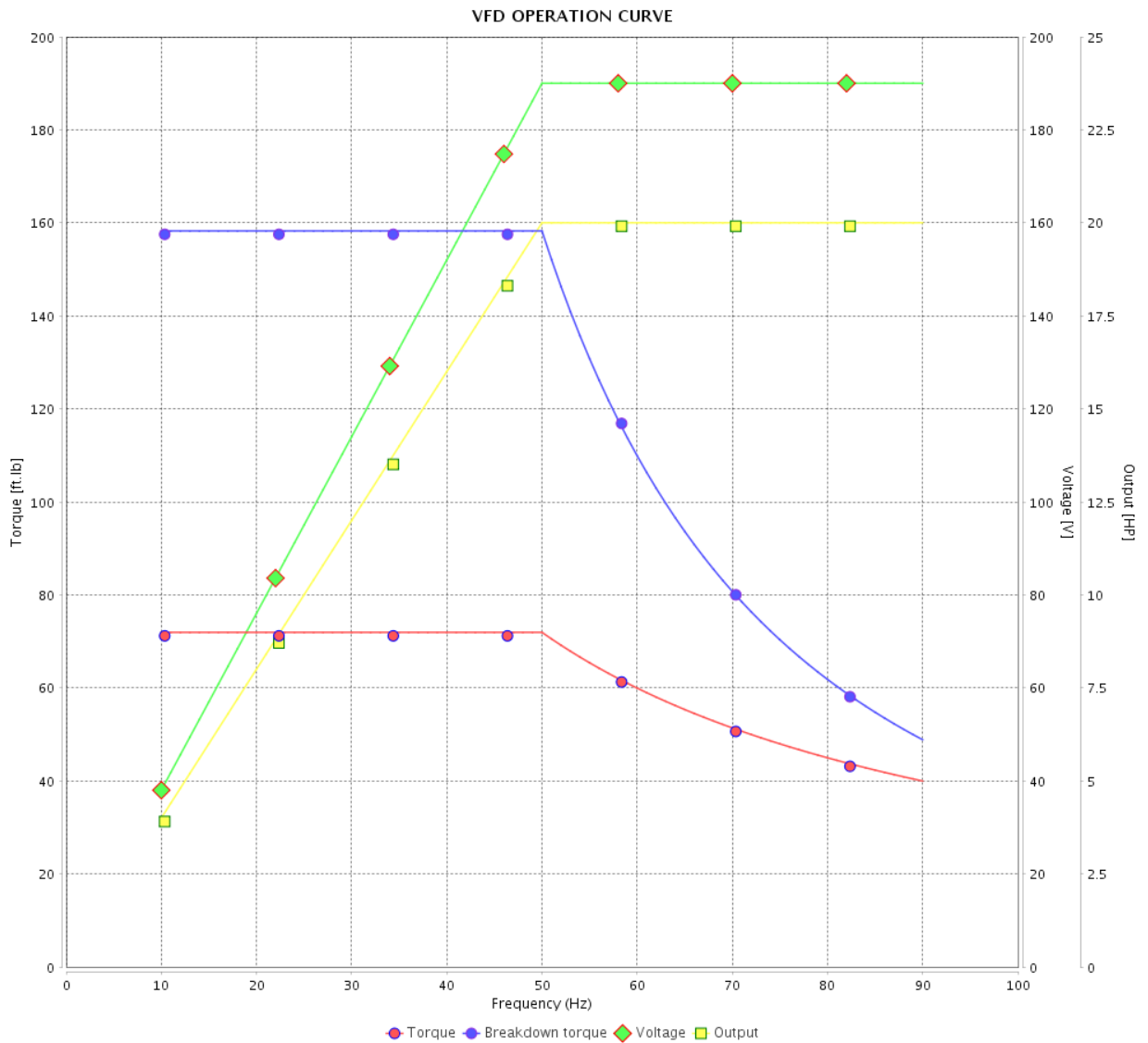


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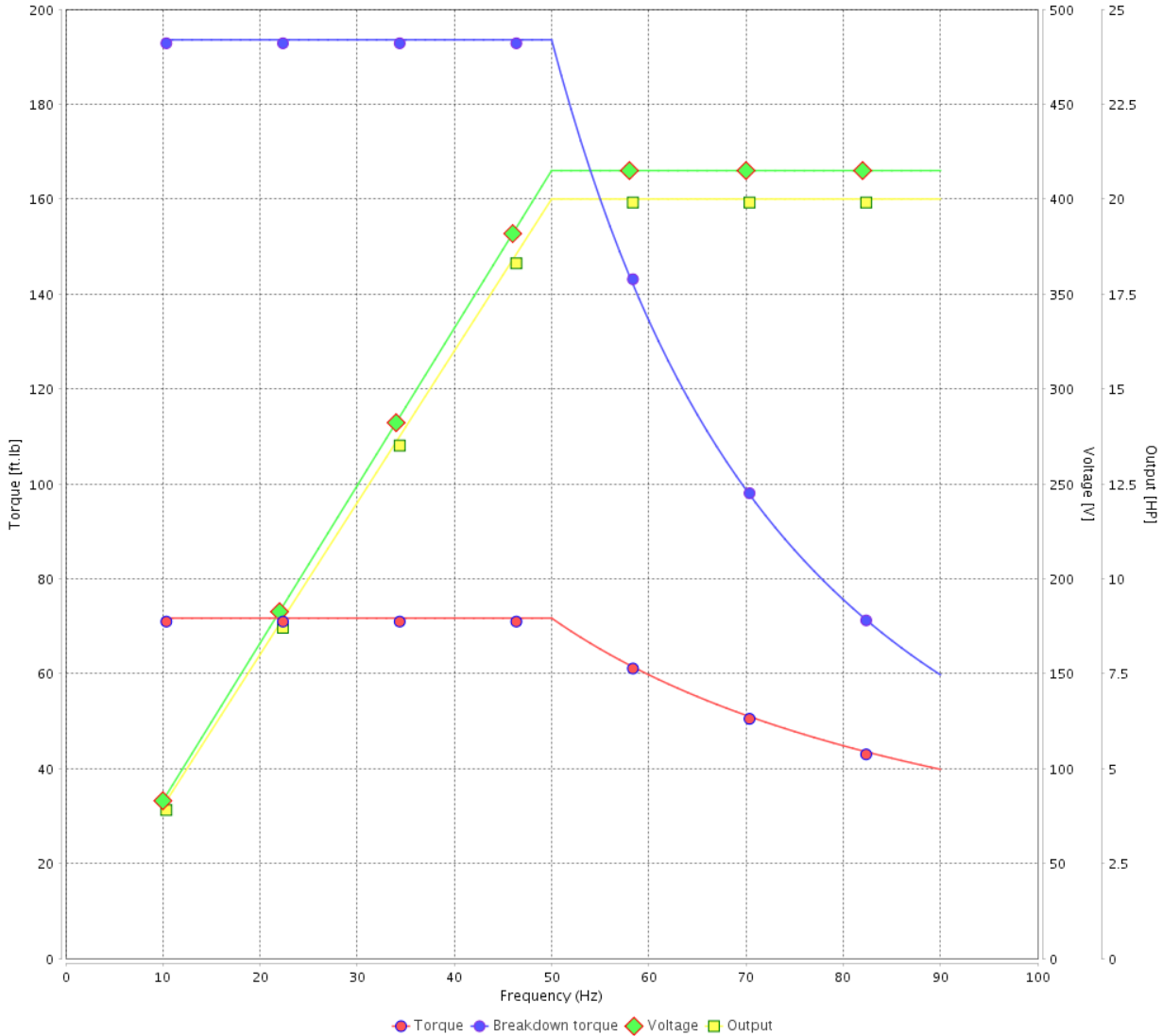
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VFD OPERATION CURVE



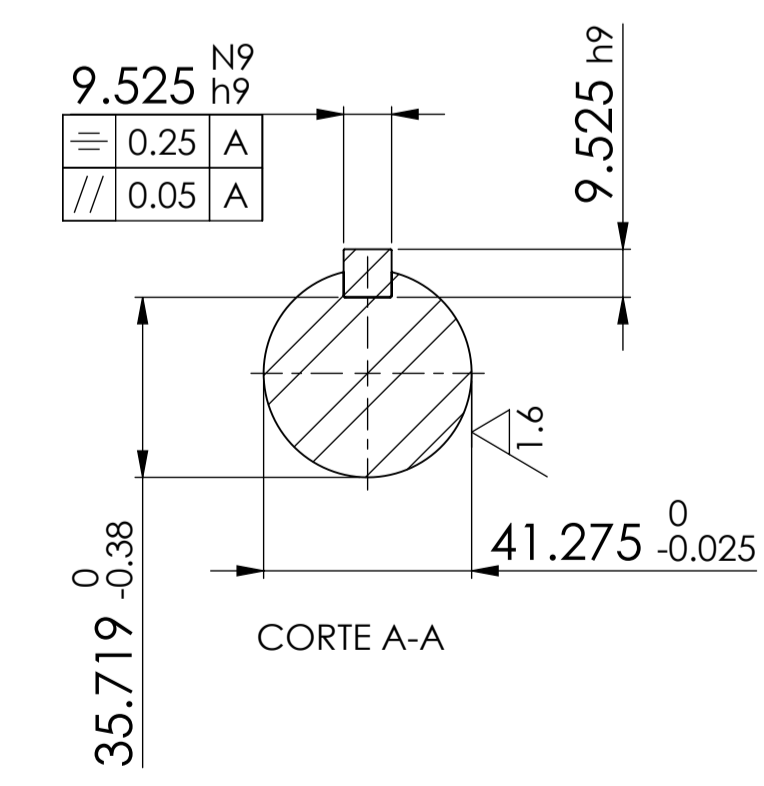
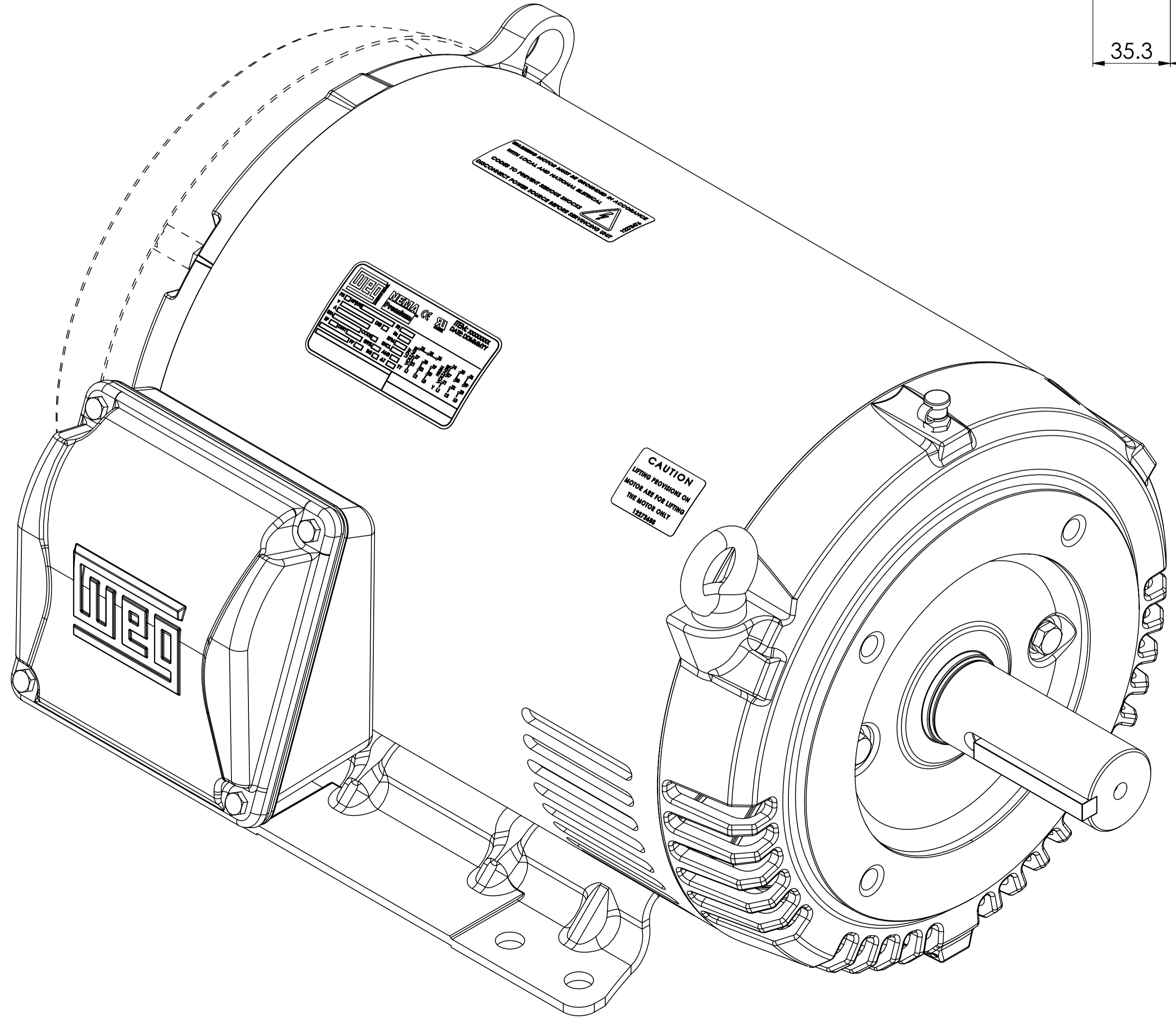
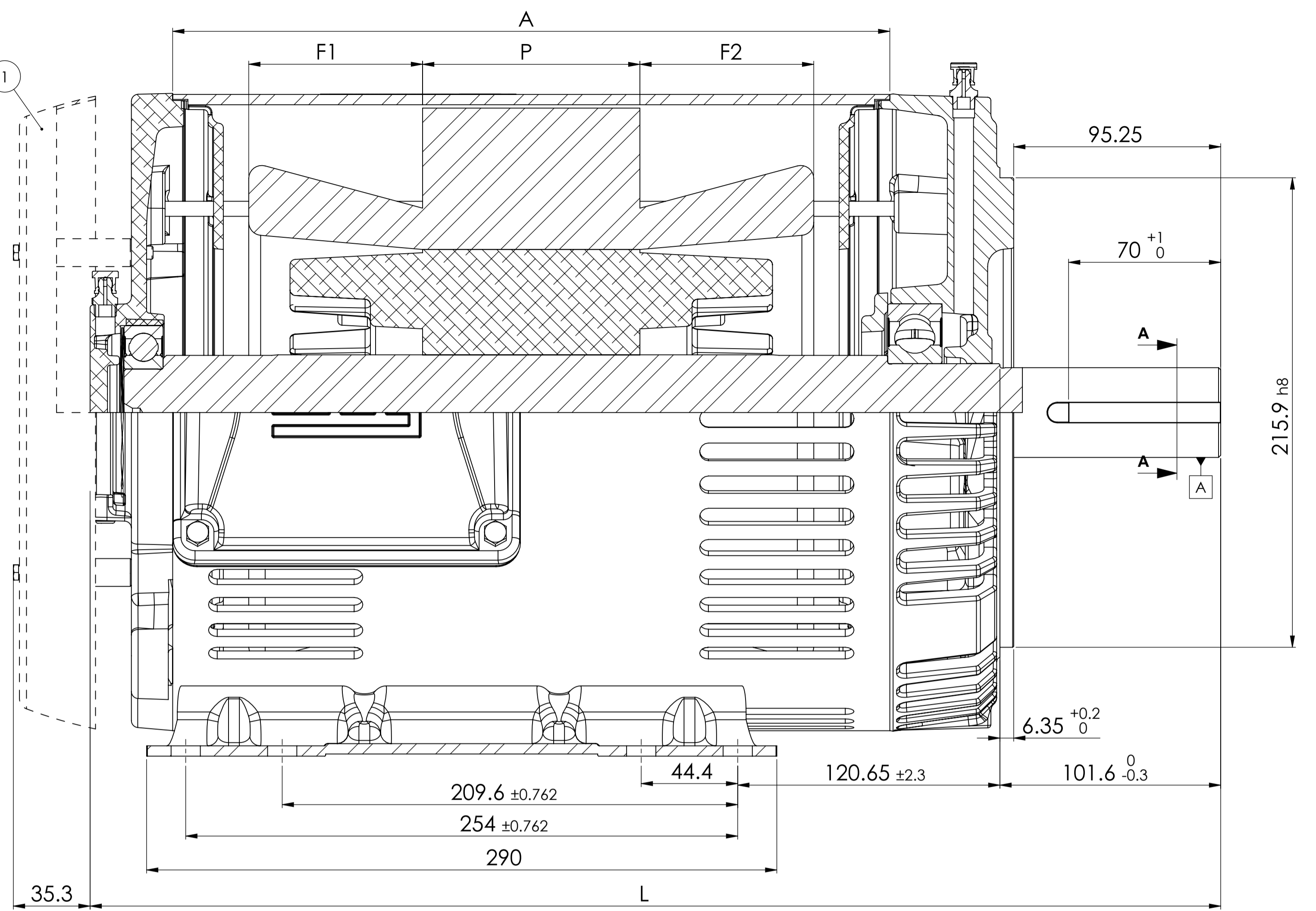
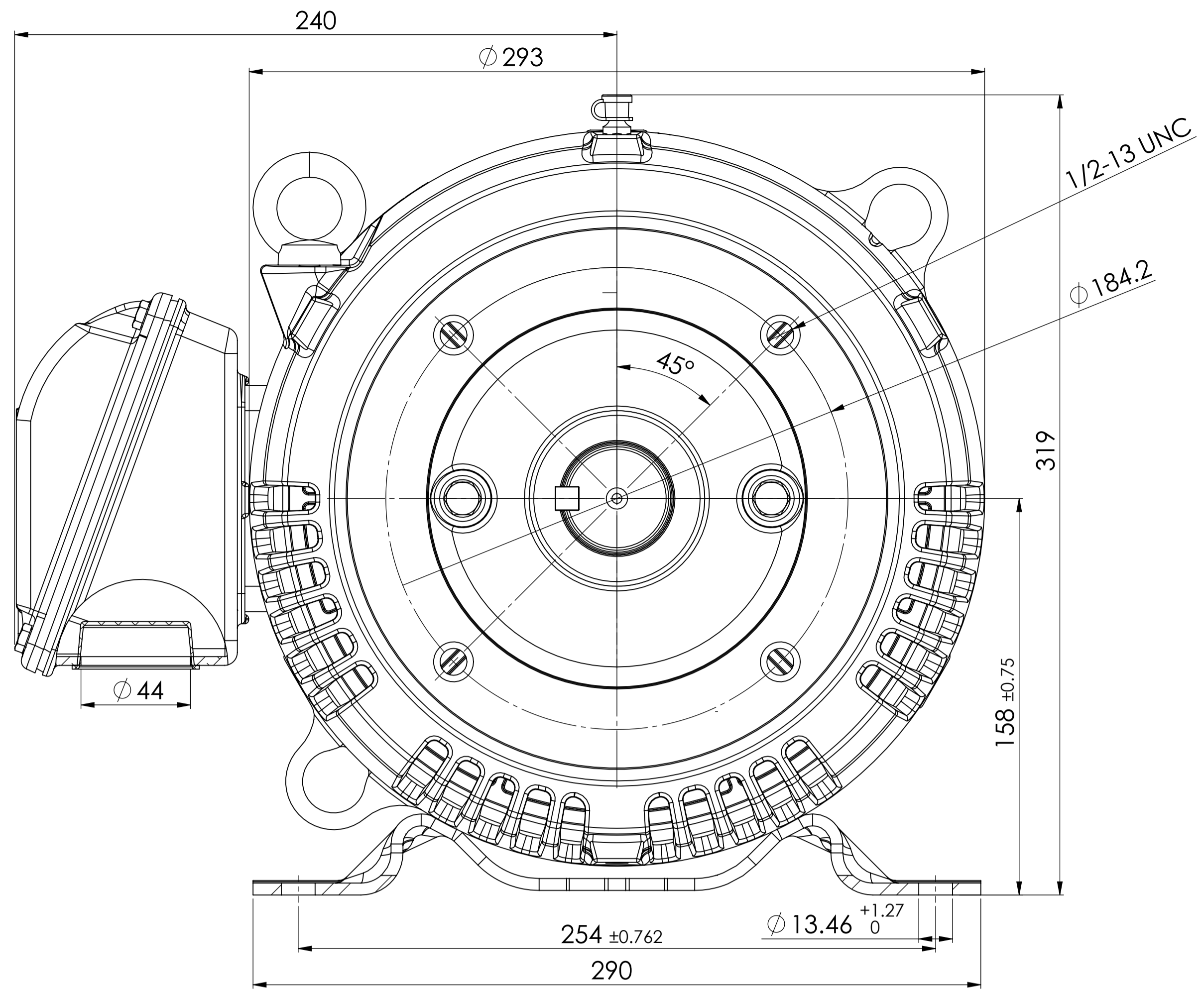
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 Breakdown torque : 270 %  
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Cabeça de Bobina	F1	F2
II	80	80
IV - VI	65	65

Cotas / Carcaça	330
A	330
P	80-150
L	520

1. SOMENTE QUANDO INDICADO NA LISTA TÉCNICA DO MOTOR

- BATIMENTO DO FLANGE CONFORME TBG-387  
- BATIMENTO DO EIXO CONFORME TBG-178

MASSA BRUTA/GROSS WEIGHT	500001081712	REVISAO NORMA CABEÇA BOBINA	JROPELATO	ESCALA/SCALE	1:5
LOC	500000886238	ALT. CONF. CLAIM 413416105	PMAUERBERG	JHONATANP	02.09.2015 05
EXEC	RAFAELLOPES	RESUMO DE MODIFICAÇÕES	EXECUTADO	ALISSON	16.05.2014 04
LIBER/RELEASED	JTOGNERI	SUMMARY OF MODIFICATIONS	LIBERADO	DATE	VER
DT LIBER/REL DT	24.04.2013	WMO	JARAGUÁ DO SUL	DESENVOLVIMENTO DE PRODUTO	FOLHSHEET 1 / 1
DIMENSIONAL 254 ODP FLANGE				10002036006	
				000	05

LIBERADO  
CÓPIA SEM CONTROLE  
SVD - A1

**NEMA  
Premium**

3PT9



Energy Verified

MADE IN MEXICO

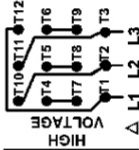
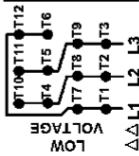
**MAT: 12636366 CC029A****W01.T00IC0X0N****CP020404NPW01****19APR2022 S/N:**

<b>PH 3</b>	<b>Hz 60</b>	<b>HP 20</b>
<b>FR 254/6TC</b>		<b>KW 15</b>
<b>DUTY CONT.</b>		<b>V 230/460</b>
<b>ALT 1000 m.a.s.l.</b>		<b>A 50.0/25.0</b>
<b>INS CL F AT 80K</b>		<b>SFA 57.5/28.7</b>
<b>AMB 40°C</b>	<b>DES B</b>	<b>SF 1.15</b>
<b>ENCL ODP</b>	<b>CODE G</b>	<b>PF 0.81</b>
<b>USABLE @ 208V 55.3A</b>		<b>RPM 1770</b>
<b>SF1.00</b>		<b>NEMA NOM. EFF 93.0%</b>

**ALTERNATE RATING: 20HP 50Hz 190-220/380-415V SF1.15**  
**59.8-53.0/29.9-28.1A 1460RPM EFF 89.7% (IE1) IEC 60034-1**

Inverter duty motor For 80Hz use on VPWM 1000:1 VT, 5:1 CT

**DE 6309-Z-C3 ODE 6208-Z-C3 MOBIL POLYREX EM 20000h**



**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.

