

# PRODUCT INFORMATION PACKET

**marathon**<sup>®</sup>  
Motors

Model No: 160LTFC6513  
Catalog No: R339A  
25,3600,TEFC,160L,3/60/230/460  
TEFC



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**REGAL**<sup>®</sup>



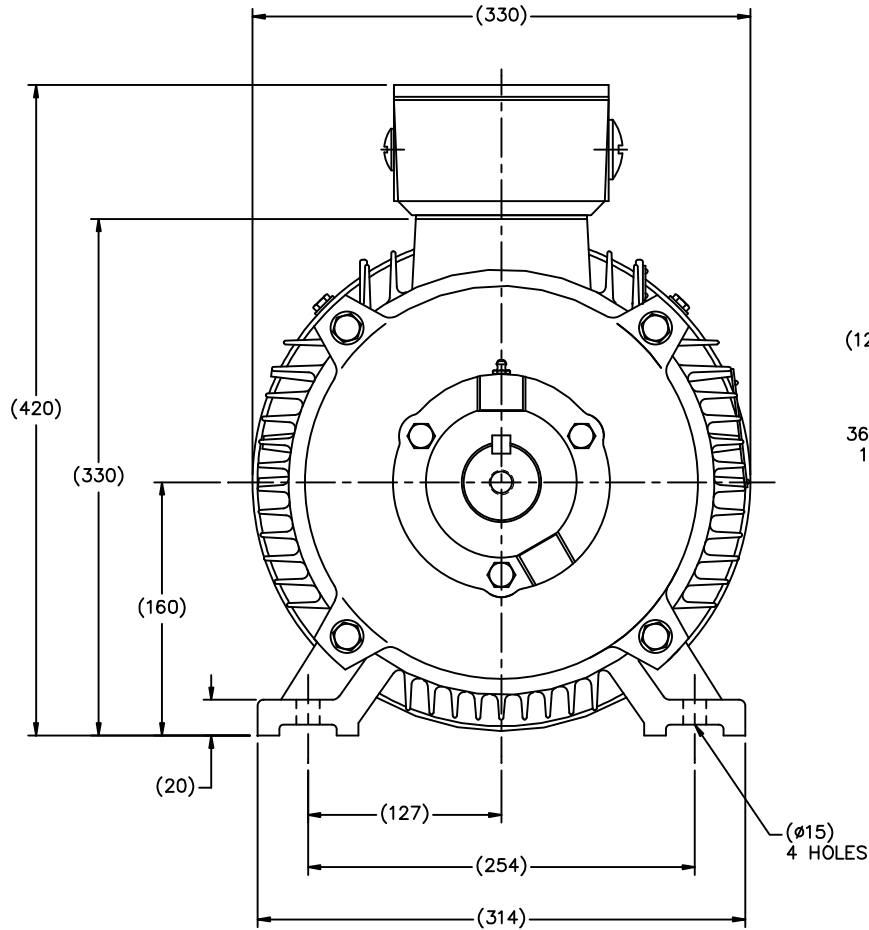
### Nameplate Specifications

Output HP	<b>25 Hp</b>	Output KW	<b>18.7 kW</b>
Frequency	<b>60 Hz</b>	Voltage	<b>230/460 V</b>
Current	<b>58.0/29.0 A</b>	Speed	<b>3530 rpm</b>
Service Factor	<b>1.15</b>	Phase	<b>3</b>
Efficiency	<b>91.7 %</b>	Duty	<b>Continuous</b>
Insulation Class	<b>F</b>	Design Code	<b>B</b>
KVA Code	<b>G</b>	Frame	<b>160L</b>
Enclosure	<b>Totally Enclosed Fan Cooled</b>	Overload Protector	<b>No</b>
Ambient Temperature	<b>40 °C</b>	Drive End Bearing Size	<b>6309</b>
Opp Drive End Bearing Size	<b>6209</b>	UL	<b>No</b>
CSA	<b>Y</b>	CE	<b>Y</b>
IP Code	<b>55</b>		

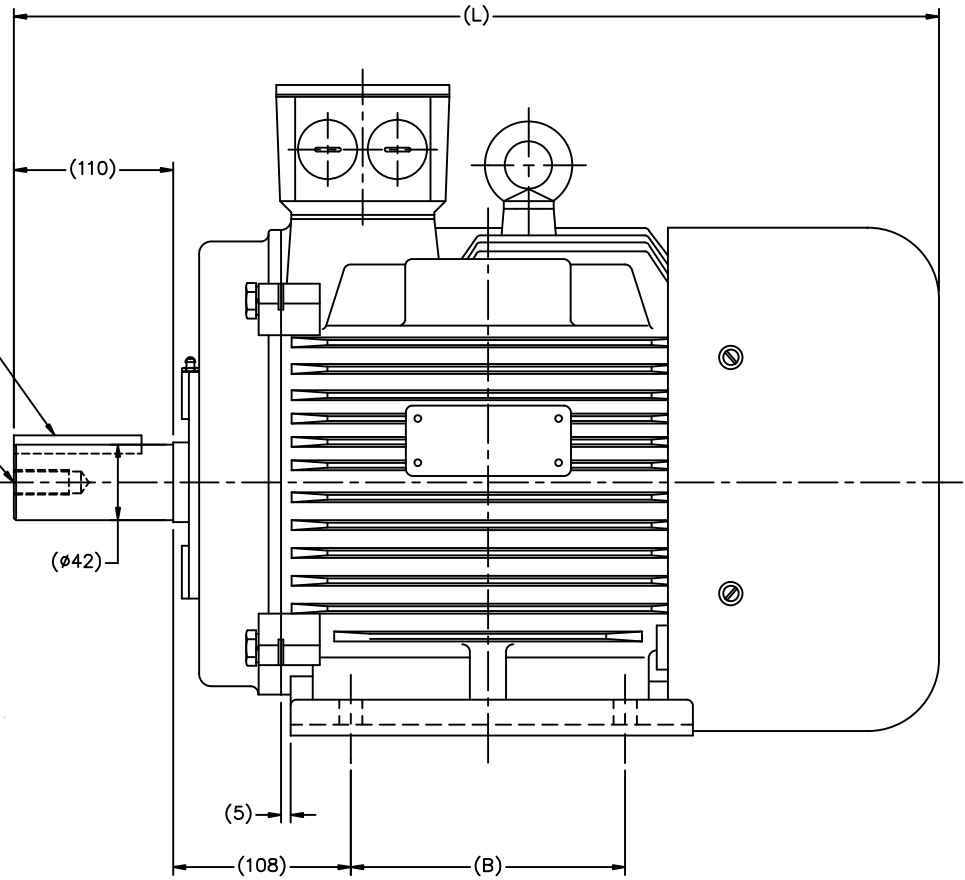
### Technical Specifications

Electrical Type	<b>Squirrel Cage Inverter Rated</b>	Starting Method	<b>Part Wdg Start &amp; Wye Start Delta Run Or Inverter</b>
Poles	<b>2</b>	Rotation	<b>Reversible</b>
Mounting	<b>Rigid base</b>	Motor Orientation	<b>Horizontal</b>
Drive End Bearing	<b>Ball</b>	Opp Drive End Bearing	<b>Ball</b>
Frame Material	<b>Cast Iron</b>	Shaft Type	<b>IEC</b>
Overall Length	<b>25.39 in</b>	Shaft Diameter	<b>1.666 in</b>
Shaft Extension	<b>4.33 in</b>	Assembly/Box Mounting	<b>F3</b>
Outline Drawing	<b>SS622239</b>	Connection Diagram	<b>004172.03</b>

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(12x12x84)  
KEY  
M16  
36 DEEP  
1 HOLE



DF160M1-2R	193315.60	600	210
DF160M2-2R	193318.60	600	210
DF160M-4R	193316.60	600	210
DF160L-2R	193321.60	645	254
DF160L-4R	193319.60	645	254
DF160M-6R	193314.60	600	210
FRAME	PART #	L	B

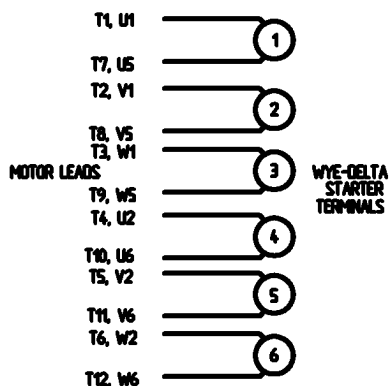
(MAY NOT BE DRAWN TO SCALE)

(DIMENSIONS ARE IN MILLIMETERS)

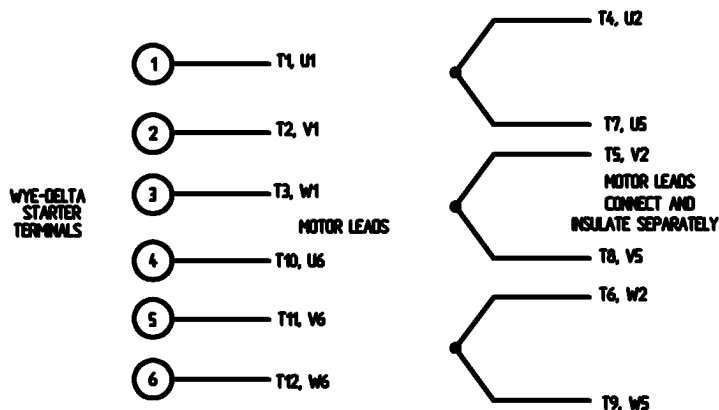
		TOLERANCES UNLESS SPECIFIED		 <b>REGAL-BELOIT CORPORATION</b>		DRAWN MSG 11-17-2010	
		DEC.	METRIC			CHK MJS 11-18-2010	
		.X	±2.5	TITLE OUTLINE - IEC PREMIUM		APPD SB 11-18-2010	
		.XX	±.76	DF160-R (II)		SCALE 5=16	
		.XXX	±.127	MAT'L		REF	
		.XXXX	±.0127	FINISH		FMF HEBEI	
NO.	REVISION	BY & DATE	CHK	ANG	±7'30"	PREV	
THIS DRAWING IN DESIGN AND DETAIL IS OUR PROPERTY AND MUST NOT BE USED EXCEPT IN CONNECTION WITH OUR WORK ALL RIGHTS OF DESIGN AND INVENTION ARE RESERVED THIS IS AN ELECTRONICALLY GENERATED DOCUMENT - DO NOT SCALE THIS PRINT				RFP	11-18-2010	CAD FILE	ss622239
						SIZE	DRAWING NO. PAGE OF REV.
						B	SS622239

WYE - DELTA STARTING USEABLE ON 2,4 AND 6 POLE MOTORS.

LOW VOLTAGE CONNECTION

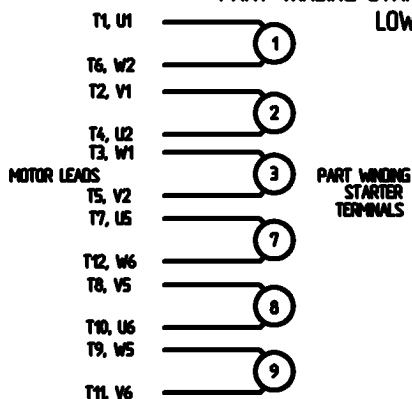


HIGH VOLTAGE CONNECTION



REFER TO THE WYE-DELTA STARTER CONNECTION INSTRUCTIONS FOR PROPER CONNECTION OF POWER LINES TO STARTER.

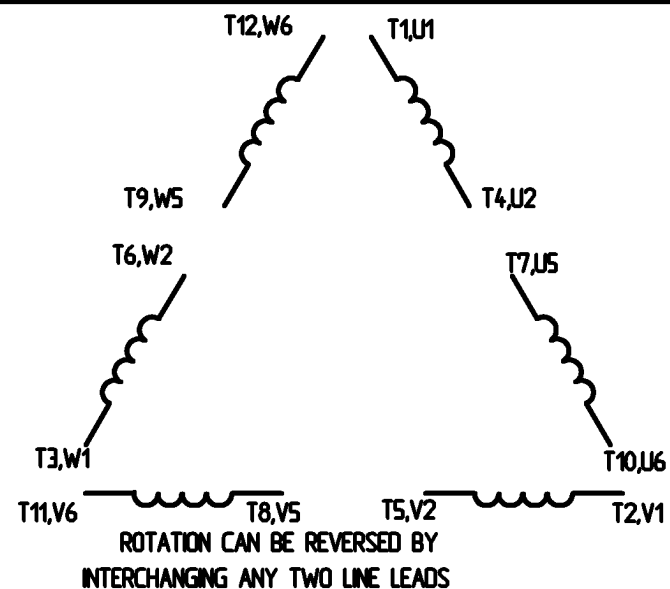
PART WINDING START USABLE ON 4 & 6 POLE MOTORS  
LOW VOLTAGE CONNECTION ONLY



REFER TO THE PART WINDING STARTER INSTRUCTIONS FOR PROPER CONNECTION OF POWER LINES TO STARTER.

REFER TO THE CUTLER - HAMMER OR EQUIV. FOR PROPER SELECTION OF OVERLOAD HEATER COILS.

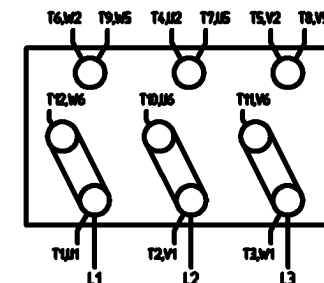
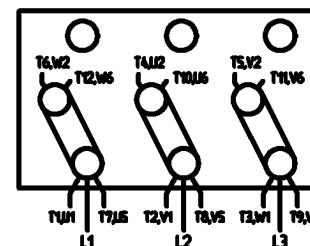
LINE LEADS



12 LEAD DELTA CONNECTION ACROSS THE LINE START  
(FOR Y START DELTA RUN, REMOVE THE JUMPERS)

LOW VOLTAGE  
MUST BE REWIRED  
AS SHOWN

HIGH VOLTAGE  
FACTORY WIRED FOR HIGH  
VOLTAGE AS SHOWN



				TOLERANCES UNLESS SPECIFIED			DRAWN <b>CW 08/28/02</b>		
				DEC.	INCHES		CHK		
				X	+ .1		APPO		
				XX	+ .01		SCALE <b>1:1</b>		
				XXX	+ .005		REF		
				XXXX	+ .0005	FMF			
NO.	REVISION	BY & DATE	CHK	ANG	+ 1/2°	FINISH	PREV		
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				DST					

```
ERROR: syntaxerror  
OFFENDING COMMAND: --nostringval--
```

```
STACK:
```

```
/CB  
-dictionary-  
/Pscript_WinNT_Compact  
-dictionary-
```



P.O. BOX 9003  
WAUSAU, WI 54401-9003  
PH. 715-675-3311

DATA VOLTS: 460

CERTIFICATION DATA SHEET

CUSTOMER: \_\_\_\_\_  
ORDER #: 004172.03  
CONN. DIAGRAM: SS622239  
OUTLINE: T12902028  
WINDING: NONE  
SPEED: 3

CUSTOMER P.O. #: \_\_\_\_\_  
REFERENCE MODEL #: 160L TFC6513  
CAT #: R339A  
CUSTOMER PART #: \_\_\_\_\_  
MOUNTING: F3

TYPICAL MOTOR PERFORMANCE DATA

HP	KW	SYNC RPM	FL RPM	FRAME	ENCLOSURE	TYPE	KVA CODE	DESIGN	
25	18.7	3600	3530	160L	TEFC	TEFC	G	N	
PH	HZ	VOLTS	AMPS	START TYPE	DUTY	INSL	S.F.	AMB	ELEV.
3	60/50	230/460#200/400	58/29&85/27.5	PWS & YDRUN OR INV	CONT	F	1.15	40	3300

F.L. EFF	91.7	3/4 LD EFF	92.4	1/2 LD EFF	91.7	GTD EFF	81.5	ELECT. TYPE	SO CAGE INV RATED
F.L. PF	87.5	3/4 LD PF	86.5	1/2 LD PF	81.5	90.2			

F.L. TORQUE	LR AMPS @ 460 V	L.R. TORQUE		B.D. TORQUE		F.L. RISE (°C)	
37.0 LB-FT	163	73.0 LB-FT	197%	90.0 LB-FT	243%	65	

@ 3 FT.	POWER	ROTOR WK <sup>3</sup>	MAX. LOAD WK <sup>2</sup>	SAFE STALL TIME	STARTS/HOUR	MOTOR WGT
69	78 DBA	0.00 LB-FT <sup>2</sup>	0 LB-FT <sup>2</sup>	15 SEC.	2	305 LB.

\*\*\* SUPPLEMENTAL INFORMATION \*\*\*

DE BRACKET TYPE	ODE BRACKET TYPE	MOUNT TYPE	MOTOR ORIENTATION	SEVERE DUTY	HAZARDOUS LOCATION	DRIP COVER	SCREENS	PAINT
STANDARD	STANDARD	RIGID	HORIZONTAL	UM SEVERE	NONE	NO	NONE	BLUE (ENAMEL)
BEARINGS	GREASE	SHAFT TYPE	SPECIAL DE	SPECIAL ODE	SHAFT	MATERIAL	FRAME MATERIAL	
DE BALL 6309	POLYREX EM	STANDARD IEC	NONE	NONE	1045 HOT ROLLED (C-204		CAST IRON	

THERMOSTATS	PROTECTORS	WDG RTD's	BRG RTD's	THERMISTORS	CONTROL	SPACE HEATERS
NONE	NOT	NONE	NONE	NONE	FALSE	NA
R1 (ohms/ph)	R2 (ohms/ph)	X1 (ohms/ph)	X2 (ohms/ph)	Xm (ohms/ph)	VIBRATION (in/sec)	FLOAT
0	0	0	0	0	0.080	ODE

INVERTER TORQUE: CONSTANT 2:1  
INV. HP SPEED RANGE: 1.5 X BASE SPEED

ENCODER: NONE	NONE	NONE	NONE	BRAKE: NONE	NONE	NONE	NONE	PPR
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PREPARED BY: EARL BABBITTS  
DATE: 5/5/2017  
FORM: 3531 REV\_4 2/27/06  
UL: NONE  
HZ:

Data Sheet



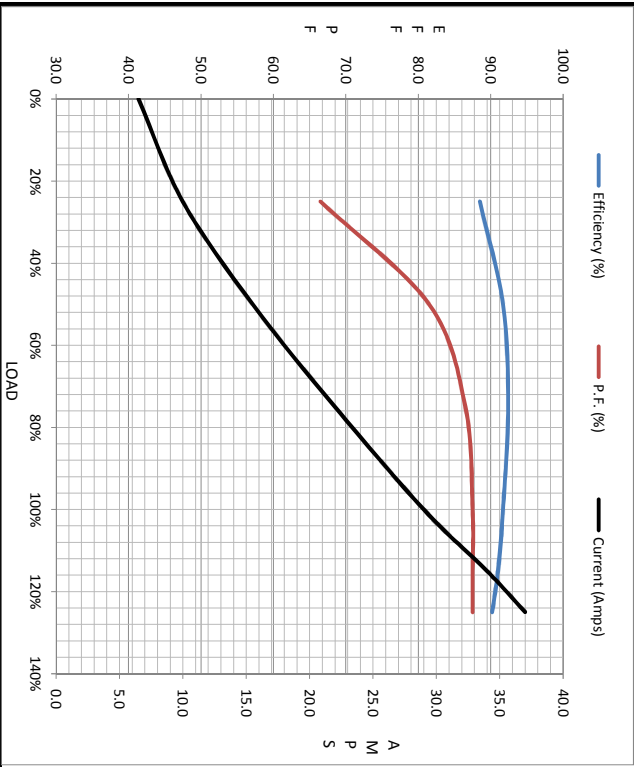
160L TFC6513

Submital  
Data @ 460 V

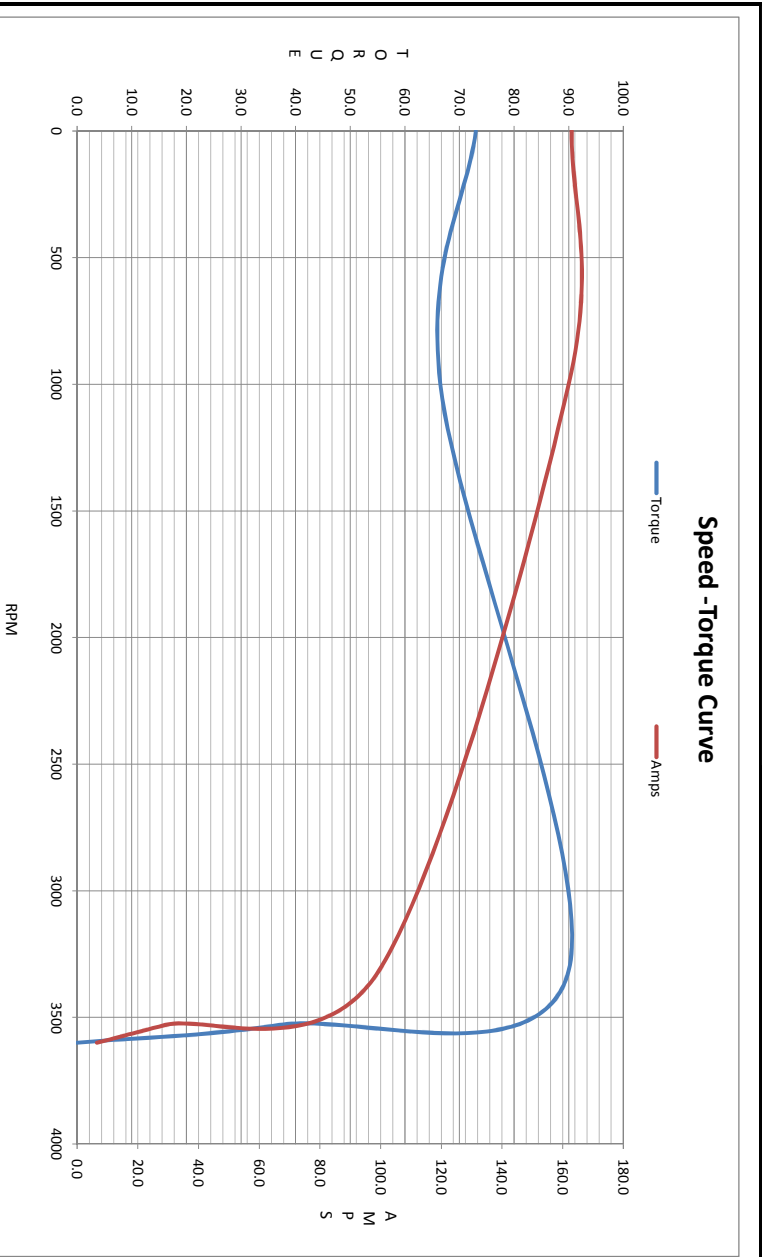
Date: 5/5/2017  
 Customer: EARL BABBITTS  
 Attention: EARL BABBITTS  
 Submitted by:

		Motor Load Data									
Load	0%	25%	50%	75%	100%	115%	125%	LR			
Current (Amps)	6.5	10.0	15.5	22.0	29.0	34.0	37.0	163			
Torque (ft-lb)	0.00	9.2	18.5	27.8	37.0	43.0	47.0	73.0			
RPM	3600	3585	3570	3550	3530	3,520	3510	0			
Efficiency (%)		88.5	91.7	92.4	91.7	91.0	90.2				
P.F. (%)	9.5	66.5	81.5	86.5	87.5	87.5	87.5	41.5			

		Motor Speed Data					Information Block																		
	LR	Pull-Up	BD	Rated	Idle	HP	Frame	Enclosure	Construction	Voltage	Frequency	Design	LR Code letter	Service Factor	Temp Rise @ FL	Duty	Ambient Elevation	Rotor/Shaft wk <sup>2</sup>	Ret Wdg	Sound Pressure @ 1M	VFD Rating	Outline Dwg	Conn. Diag	Additional Specifications:	
Speed (RPM)	0	1000	3315	3530	3600	25.0	160	TEFC	TFC	30/460#200/40 V	60	B	G	1.15	65	CONT	40 °C	1,000	lb-ft	0.00	dbA	CONSTANT 2:1	SS622299	004172.03	
Current (Amps)	163	162	99.5	29.0	6.5		3600																		
Torque (ft-lb)	73.0	66.5	90.0	37.0	0.00																				



		EQUIV CKT (OHMS / PHASE)			
	R1	R2	X1	X2	Xm
	0.0000	0.0000	0.0000	0.0000	0.0000



Date: 5/5/2017  
 Customer: EARL BABBITTS  
 Attention: EARL BABBITTS  
 Submitted by: EARL BABBITTS



**Torque Capability Curve**

REF: 160LTF06513  
 Data @ 460 Volts

HP	0.00	0.0	25	25	25	125
Min CT RPM						
Base RPM						
CHP RPM						
Max CHP RPM						
Voltage (volts)	-	38	460	460	460	460
Frequency (HZ)	0	5	60	66	67	44
RPM	0	290	3,530	4,000	4,000	2,582
Current (Amps)	17.8	29.0	29.0	29.0	29.0	146
Rated Tq (ft-lb)	18.5	37.0	37.0	32.7	32.7	245
Peak Tq (ft-lb)	82.8	82.8	82.8	63.7	63.7	147

**Motor Speed Data**

	Locked Rotor	Pull-Up	Breakdown	Rated Load	Idle
Speed (RPM)	0	750	1375	1475	1500
Current (Amps)	295	261	176	55.1	21.4
Torque (ft-lbs)	235	200	325	142	0.00

**Information Block**

HP	25.0
Sync. RPM	3,600
Frame	160
Enclosure	TEFC
Construction	TEFC
Voltage	230/460#200/400
Frequency	60 Hz
Duty	CONT
Design	B
LR Code letter	G
Poles	2
Temp Rise @ FL	65 °C
Ambient	40 °C
Elevation	1,000 feet
Ref Wdg	T12902028
R #	NONE
dBa @ 1M	69
VFD rating	CONSTANT 2:1
OUTLINE:	SS622239
CONN DIAG:	004172.03

