

# PRODUCT INFORMATION PACKET

marathon®  
Motors

Model No: 184TPFRB10214

Catalog No: SY067

SyMAX® Fan & Blower Motor, 5 HP, 3 Ph, 90 Hz, 230/460 V, 1800 RPM, 184TC Frame, TEFC



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RegalRexnord



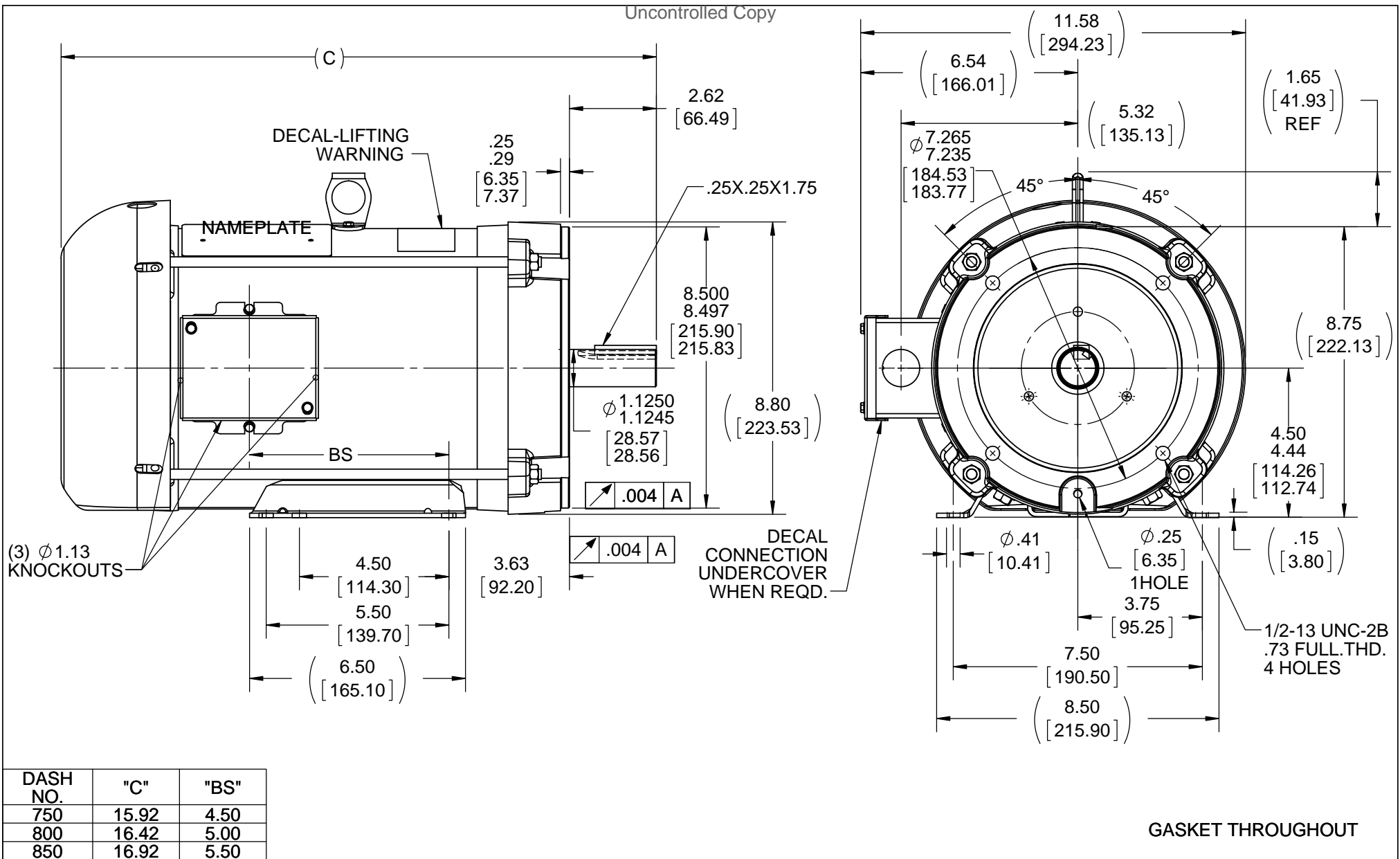
### Nameplate Specifications

Phase	<b>3</b>	Output HP	<b>5 Hp</b>
Output KW	<b>3.7 kW</b>	Voltage	<b>230/460 V</b>
Speed	<b>1800 rpm</b>	Service Factor	<b>1</b>
Frame	<b>184TC</b>	Enclosure	<b>Totally Enclosed Fan Cooled</b>
Thermal Protection	<b>Thermostat</b>	Efficiency	<b>93.9 %</b>
Ambient Temperature	<b>40 °C</b>	Frequency	<b>90 Hz</b>
Current	<b>11.7/5.8 A</b>	Power Factor	<b>85.7</b>
Duty	<b>Continuous</b>	Insulation Class	<b>F</b>
Design Code	<b>No Design Code</b>	KVA Code	<b>N/A</b>
Drive End Bearing Size	<b>6207</b>	Opp Drive End Bearing Size	<b>6205</b>
UL	<b>Recognized</b>	CSA	<b>N</b>
CE	<b>N</b>	IP Code	<b>43</b>
Number of Speeds	<b>1</b>		

### Technical Specifications

Electrical Type	<b>AC Permanent Magnet</b>	Starting Method	<b>Inverter Only</b>
Poles	<b>6</b>	Rotation	<b>Reversible</b>
Resistance Main	<b>0 Ohms</b>	Mounting	<b>Bolt-on Base</b>
Motor Orientation	<b>Horizontal Or Shaft Down</b>	Drive End Bearing	<b>Ball</b>
Opp Drive End Bearing	<b>Ball</b>	Frame Material	<b>Rolled Steel</b>
Shaft Type	<b>T</b>	Overall Length	<b>16.42 in</b>
Frame Length	<b>8.00 in</b>	Shaft Diameter	<b>1.125 in</b>
Shaft Extension	<b>2.75 in</b>	Assembly/Box Mounting	<b>F1 ONLY</b>
Inverter Load	<b>CONSTANT 20:1</b>		
Outline Drawing	<b>036316-800</b>	Connection Drawing	<b>EE7308T</b>





DASH NO.	"C"	"BS"
750	15.92	4.50
800	16.42	5.00
850	16.92	5.50

DRAWING REVISION A	REVISION BY	DATE
ECO ECO-0121547	APPROVED BY	DATE
ECO DESCRIPTION <b>NEW DRAWING</b>		
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TOLERANCES UNLESS OTHERWISE SPECIFIED:			
DEC.	INCH	mm	ANGLE
.X	±0.1	[±2.5]	±0.5°
.XX	±0.01	[±0.25]	
.XXX	±0.005	[±0.127]	
.XXXX	±0.0005	[±0.0127]	
REMOVE BURRS & BREAK SHARP EDGES: .003/.015 [.076/.381] X 45°			
CORNER FILLETS: R.02 [.51]			
MACHINED SURFACES: 125 INCH 3.2 mm			
mm SHOWN IN [BRACKETS]			

DRAWN BY SR
DATE 04/11/2017
APPROVED BY SR
DATE 04/11/2017
REFERENCE 036225
THIRD ANGLE PROJECTION

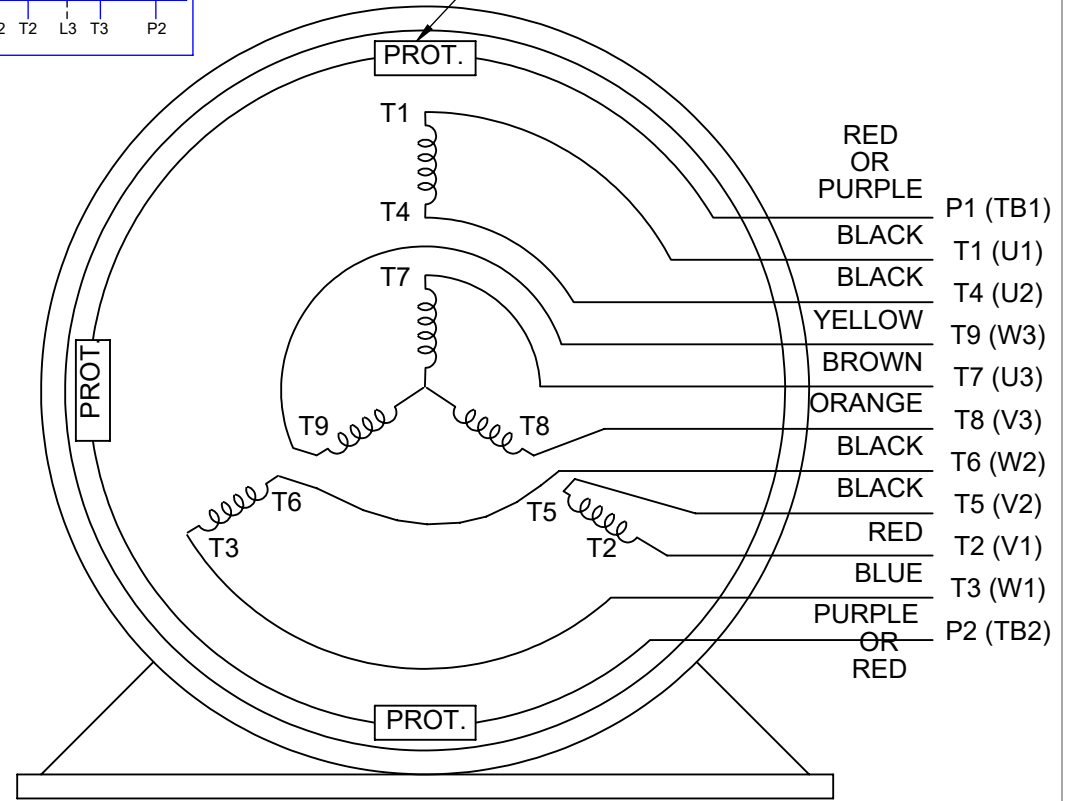
Regal Beloit America, Inc.	
DESCRIPTION <b>OUTLINE</b> 180T-FRAME TEFC BOLT ON-C_FACE-PMAC	
MATERIAL	PROCESS/FINISH
SIZE A	DRAWING NUMBER <b>036316</b>
SHEET 1 OF 1	

**HIGH VOLTAGE**



**THREE PHASE  
DUAL VOLTAGE MOTOR**

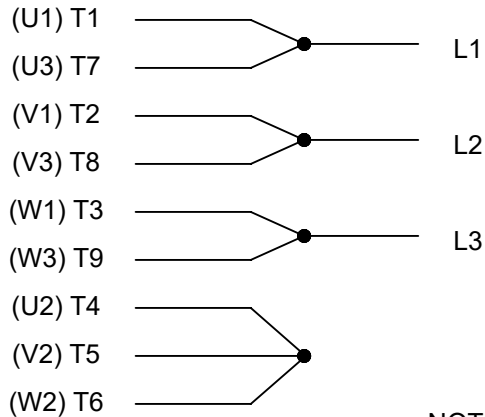
THERMO-PROTECTORS  
CONNECTED IN SERIES



**VIEW OF TERMINAL END**

**NOTE FOR FACTORY USE ONLY:  
TO SURGE TEST FOR COMMON CONNECT:  
HIGH VOLT: CONNECT P1 TO T1  
THEN P2 TO L1  
LOW VOLT: CONNECT P1 TO T1 & T7,  
THEN P2 TO L1**

**LOW VOLTAGE**



**NOTE: LEAD'S COLOR CAN BE YELLOW OR WHITE FOR MT2 PLANT**

DRAWING REVISION <b>T</b>	REVISION BY <b>ZR</b>	DATE <b>01-14-2019</b>		DRAWN BY <b>SMC</b>	Regal Beloit America, Inc.
ECO <b>ECO-0159915</b>	APPROVED BY <b>DR</b>	DATE <b>01-15-2019</b>		DATE <b>05-13-1992</b>	
ECO DESCRIPTION <b>ADDED TERMINAL CONNECTION DIAGRAM</b>				APPROVED BY <b>TB</b>	DESCRIPTION <b>CONN DIAGRAM-INTERNAL</b>
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			REFERENCE <b>EE7308/EE7300</b>	MATERIAL	PROCESS/FINISH
			THIRD ANGLE PROJECTION	SIZE <b>A</b>	DRAWING NUMBER <b>EE7308T</b>

CERTIFICATION DATA SHEET

Model#: 184TPFRB10214 A WINDING#: PM18406008 NONE 1  
 CONN. DIAGRAM: EE7308T ASSEMBLY: F1 ONLY  
 OUTLINE: 036316-800

TYPICAL MOTOR PERFORMANCE DATA

HP	KW	SYNC. RPM	F.L. RPM	FRAME	ENCLOSURE	KVA CODE	DESIGN
5	3.7	1800	1800	184TC	TEFC	NO KVA CODE	PM

PH	Hz	VOLTS	FL AMPS	START TYPE	DUTY	INSL	S.F	AMB°C	ELEVATION
3	90	230/460	11.7/5.8	INVERTER ONLY	CONTINUOUS	F1	1.0	40	3300

FULL LOAD EFF: 93.9	3/4 LOAD EFF: 93.3	1/2 LOAD EFF: 91.7	GTD. EFF	ELEC. TYPE	NO LOAD AMPS
FULL LOAD PF: 85.7	3/4 LOAD PF: 85.1	1/2 LOAD PF: 84.4	93.6	AC PERMANENT MAGNET	.9 / .5

F.L. TORQUE	LOCKED ROTOR AMPS	L.R. TORQUE	B.D. TORQUE	F.L. RISE°C
14.6 LB-FT	/	- LB-FT -	- LB-FT -	34

SOUND PRESSURE @ 3 FT.	SOUND POWER	ROTOR WK^2	MAX. WK^2	SAFE STALL TIME	STARTS /HOUR	APPROX. MOTOR WGT
0 dBA	10 dBA	0.46 LB-FT^2	0 LB-FT^2	0 SEC.	0	95 LBS.

EQUIVALENT WYE CKT.PARAMETERS (OHMS PER PHASE)

R1	R2	X1	X2	XM
0	0.8	17.2	34.6	226

RM	ZREF	XR	TD	TD0
0	1	0	0	0

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

DE BRACKET TYPE	ODE BRACKET TYPE	MOUNT TYPE	ORIENTATION	SEVERE DUTY	HAZARDOUS LOCATION	DRIP COVER	SCREENS	PAINT
C-FACE	STANDARD	BOLT-ON	HORIZONTAL OR SHAFT DOWN	FALSE	NONE	PROVISIONS ONLY	NONE	BLACK (EPOXY)

BEARINGS		GREASE	SHAFT TYPE	SPECIAL DE	SPECIAL ODE	SHAFT MATERIAL	FRAME MATERIAL
DE	OPE						
BALL	BALL	POLYREX EM	T	NONE	NONE	1045 HOT ROLLED (C-204)	ROLLED STEEL
6207	6205						

THERMO-PROTECTORS				THERMISTORS	CONTROL	SPACE /n HEATERS
THERMOSTATS	PROTECTORS	WDG RTDs	BRG RTDs			
TSTATS 140(N/C)	NOT	NONE	NONE	NONE	FALSE	NONE VOLTS

If Inverter equals NONE, contact factory for further information

INVERTER TORQUE: CONSTANT 20:1 INV. HP SPEED RANGE: 1.2 X BASE SPEED
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\*  
N  
O  
T  
E  
S

\*

ENCODER: NONE			
NONE	NONE		
NONE	NONE	PPR	
BRAKE: NONE NONE			
NONE	P/N	NONE	
NONE	NONE		
NONE FT-LB	NONE V	NONE Hz	

DATE: 06/28/2017 06:25:06 AM  
FORM 3531 REV.3 02/07/99  
\*\* Subject to change without notice.

**Data Sheet**



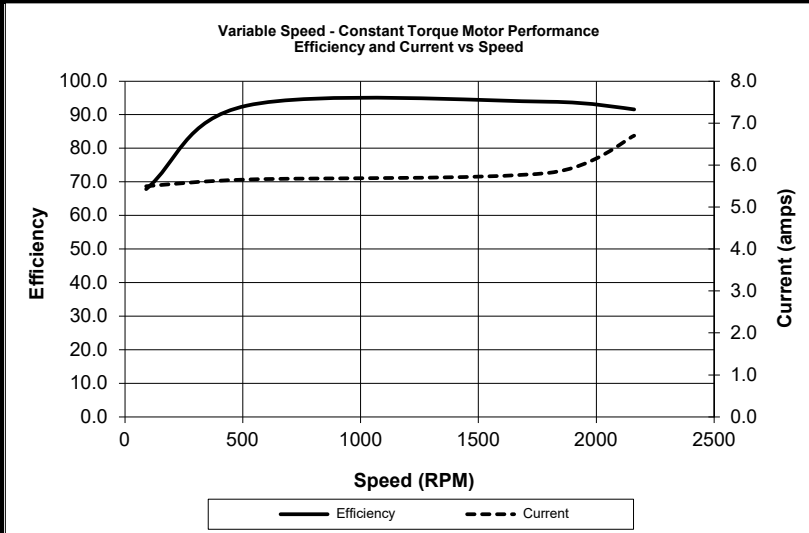
Date: 2/13/2023  
 Customer: \_\_\_\_\_  
 Attention: \_\_\_\_\_  
 Submitted by: \_\_\_\_\_

Model: 184TPFRB10214  
 Catalog: SY067  
 Winding: PM18406008  
 Submittal Data @ 460 V

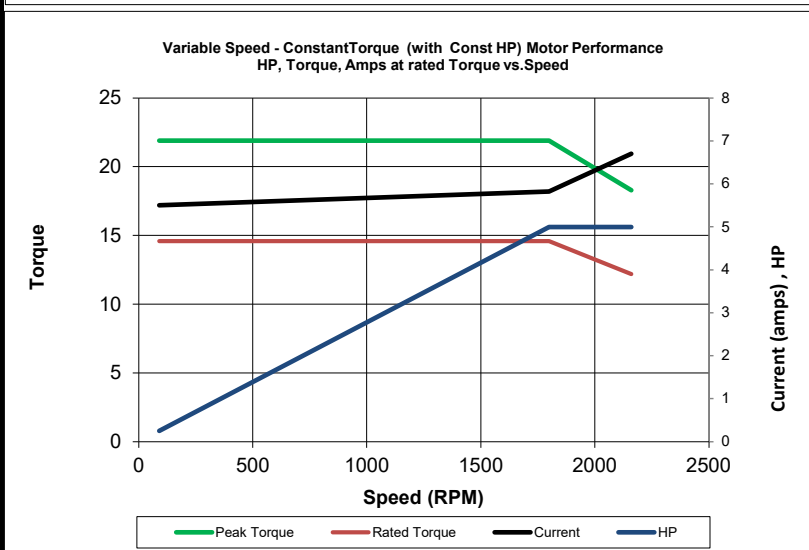
**Motor Load Data**

Load	0%	25%	50%	75%	100%	115%	125%	150%
Current (Amps)	0	1.6	3.0	4.4	5.82	6.68	7.3	8.7
Torque (ft-lb)	0.0	3.7	7.3	11.0	14.6	16.8	18.3	21.9
Efficiency (%)		86.5	91.7	93.3	93.9	93.9	93.9	93.8

**Motor Speed Data**



Motor Characteristics			
HP	5.00		
Sync. RPM	1800		
Frame	184TC		
Enclosure	TEFC		
Construction Type	PFR		
Voltage	460 V		
Frequency	90 Hz		
Motor P.F. (%)	85.7		
Reserve Tq Capability	150 %		
Temp Rise @ FL	34 °C		
Insulation Class	F		
Duty	CONT		
Ambient	40 °C		
Elevation	3300 feet		
Ref Wdg	PM18406008		
Sound Pressure @ 1m	0 dBA		
Motor Wgt	130 Lb		
Rotor/Shaft wk <sup>2</sup>	0.46 Lb-Ft <sup>2</sup>		
CT Speed Range	20 :1		
VT Speed Range	2000 :1		
Outline Dwg	036316-800		
Conn. Diag	EE7308T		
DE Bearing	6207		
ODE Bearing	6205		
Additional Specifications:			
PWM variable frequency electronic drive that is permanent magnet motor capable required for operation. Motor efficiency reflects operation on a VFD			
R / phase (ohms)	Ld (mH)	Lq (mH)	BEMF (V/krpm)
0.8	17.2	34.6	217



**Constant Torque (Constant Power) Load Points**

Hz	RPM	HP	ft-lb	Amps	Eff	Pk Tq
5	90	0.25	14.6	5.5	67.9	21.90
90	1800	5.0	14.6	5.82	93.9	21.90
108	2160	5.0	12.2	6.7	91.6	18.30