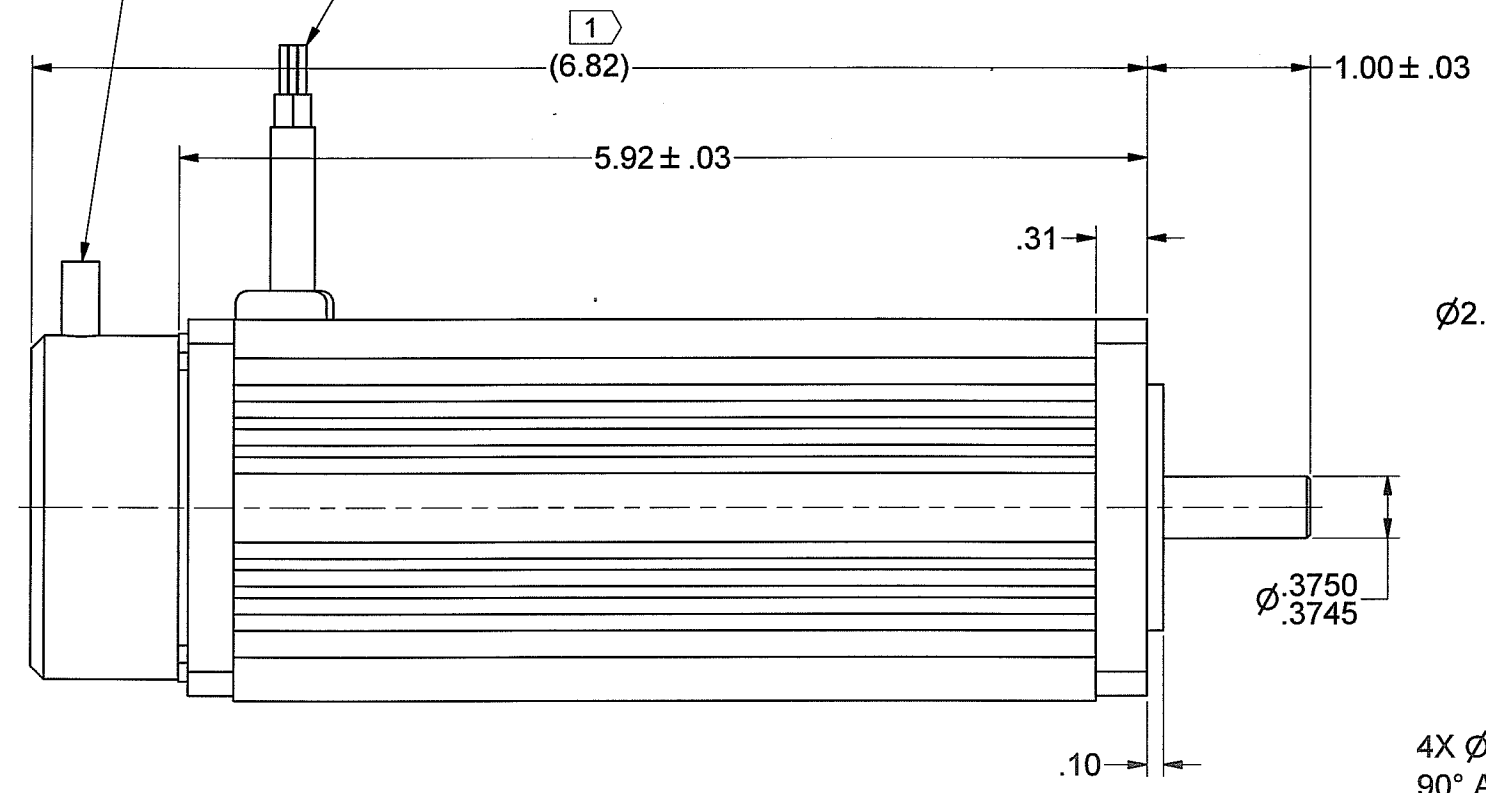
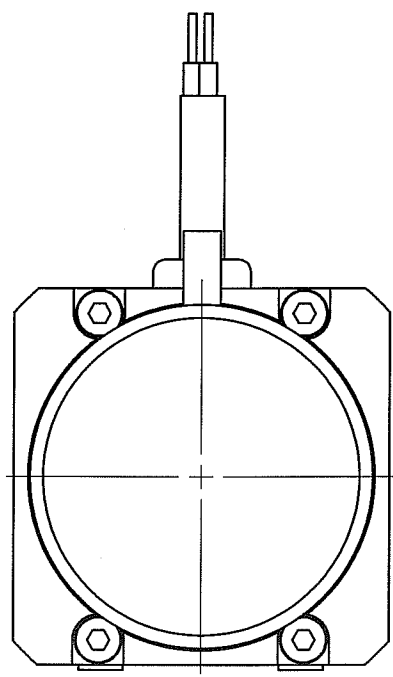


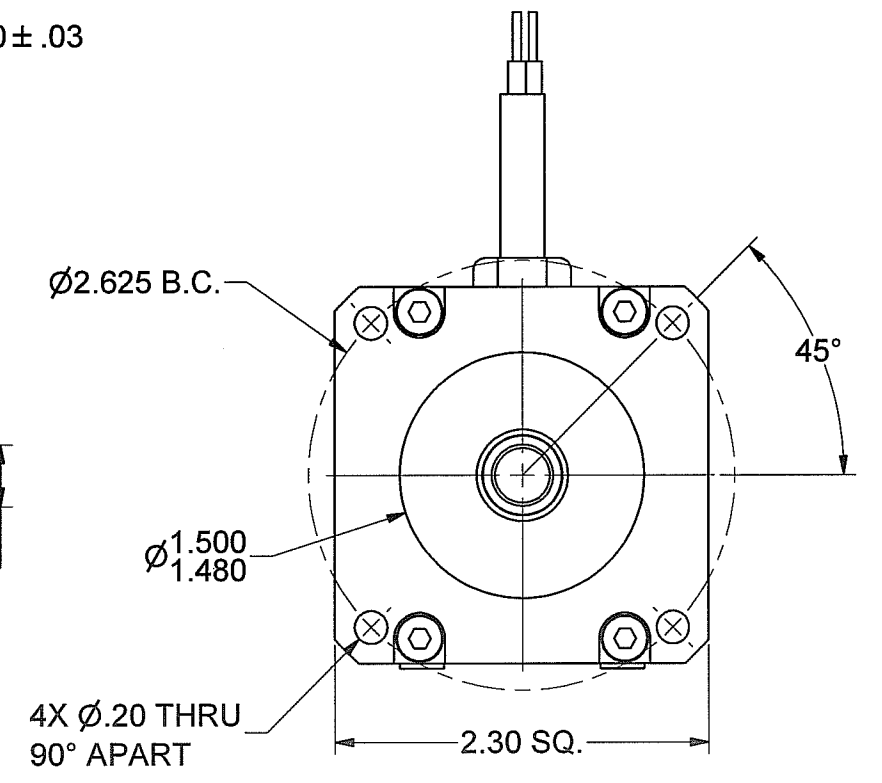
REV	DESCRIPTION	DATE	BY	APPROVED
A	PROTOTYPE			

2) 1000 LINE INCREMENTAL / COMMUTATING ENCODER  
24"±1" LONG SHIELDED CABLE  
(SEE CHART FOR FUNCTIONS AND COLORS)

3) MOTOR LEAD WIRES, 18"±1" LONG (TEFLON)  
MEASURED FROM TOP OF STRAIN RELIEF  
COVERED WITH CLEAR HEAT SHRINK  
(SEE CHART FOR FUNCTIONS AND COLORS)



DIRECTION OF ROTATION



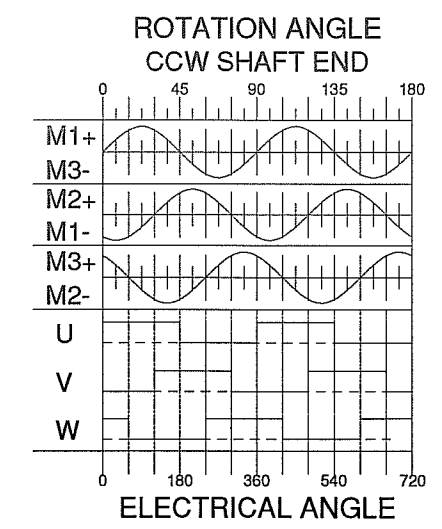
**MOTOR SPECIFICATIONS:**

TORQUE CONSTANT (Kt) = 41.1 ± 10% OZ-IN/AMP - SPECIAL  
VOLTAGE CONSTANT (Ke) = 30.4 ± 10% VOLTS/KRPM - SPECIAL

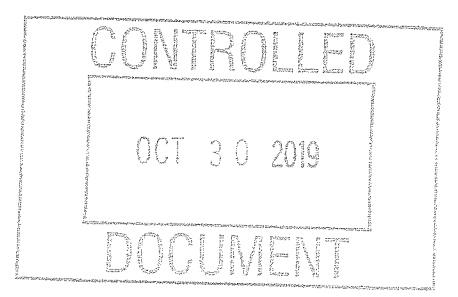
**NOTES:**

1.) X IDENTIFIES INSPECTION DIMENSIONS.

ENCODER WIRING - 28 AWG	
COLOR CODE	FUNCTION
RED	Vcc Inc +5V
BLACK	GND Inc
BLUE	A
BLUE / BLACK	A'
GREEN	B
GREEN / BLACK	B'
VIOLET	Z
VIOLET / BLACK	Z'
BROWN	U
BROWN / BLACK	U'
GRAY	V
GRAY / BLACK	V'
WHITE	W
WHITE / BLACK	W'



MOTOR LEADS - 18 AWG	
M1	RED
M2	BLACK
M3	WHITE



UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES & [mm]		 THIRD ANGLE PROJECTION DO NOT SCALE DRAWING		THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF MAGMOTOR TECHNOLOGIES. ANY REPRODUCTION OR DISCLOSURE OF THE INFORMATION CONTAINED THEREIN IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION FROM MAGMOTOR TECHNOLOGIES IS PROHIBITED.			
TOLERANCES ON: ANGLES = ± 12° X.XX [X.X] = ± .01 [0.25] X.XXX [X.XX] = ± .005 [0.12]		125 ✓		SIGNATURES		DATE	
MATERIAL		DRAWN SLC		10/23/2019		TITLE	
SPEC		CHECKED		10/30/19		FINAL ASSEMBLY, BFA23-F-400FE	
FINISH		ENG APPR.				SIZE	
NONE		MFG APPR. BT		12/30/19		NUMBER	
SPEC		Q.A.				D 730240061	
		UNLESS OTHERWISE SPECIFIED REMOVE ALL BURRS & SHARP EDGES. COUNTERSINK TAPPED HOLES TO BODY SIZE. FILLETS: .03 MAX. / EXTERNAL CORNERS: .015 MAX.		SCALE: -		WEIGHT: -LB.	
						SHEET 1 OF 3	



10 Coppage Drive  
Worcester, MA 01603  
11/5/2019

**MOTOR PERFORMANCE / SPECIFICATIONS**

**Attn.:**

Final Product No.: **BFA 23 F 400 FE**

Customer:

RFQ 730240061

Phone/Fax:

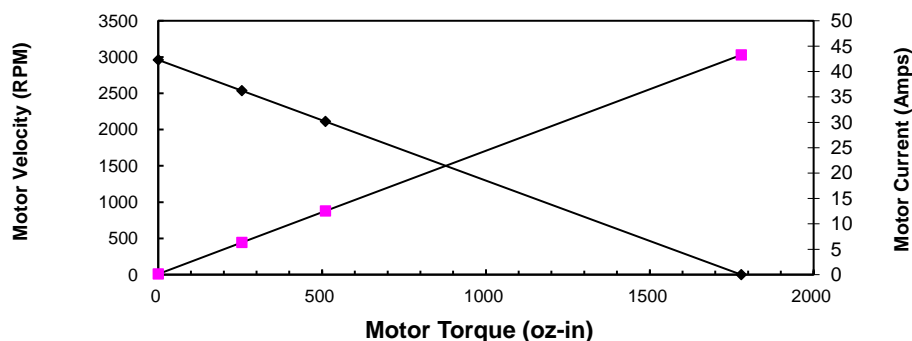
By: JC

Date: 10/10/2019

This is a calculation data sheet

SPECS	C/S	Frame	PM	- Winding -	Stack	Options	Gear Ratio
MODEL #	<b>BFA</b>	<b>23</b>		<b>F</b>	<b>400</b>	<b>FE</b>	<b>1</b>
V in =*	<b>90</b>	Vdc					<b>eff = 0.9</b>
Ke =*	<b>30.4</b>	V/krpm					
Kt =	41.1	oz-in/A					
Rt =*	<b>2.08</b>	Ohms(@20° C)					
Io=*	<b>0.12</b>	Amps					
I as =	43.3	Amps					
T gs =	1779	oz-in					
<b>I 1 =</b>	<b>6.3</b>	<b>Amps</b>					
<b>T 1 =*</b>	<b>255</b>	<b>oz-in</b>					
<b>T 2 =*</b>	<b>510</b>	<b>oz-in</b>					
I 2 =	12.5	Amps					
RPM nl =	2961	RPM					2960.5 rpm
<b>RPM r =</b>	<b>2536</b>	<b>RPM</b>					<b>2536.1 rpm</b>
RPM p=	2112	RPM					2111.8 rpm
R ah =	2.72	Ohms(@105° C)					
T gsh =	1360	oz-in					
I ash =	33.1	Amps					
<b>R th =*</b>	<b>1.1</b>	<b>°C/W</b>					
<b>Tr =</b>	<b>100</b>	<b>°C</b>	<b>Without cooling air</b>				<b>Temperature Rise (above ambient)</b>
Nm/A=	0.29						Torque Constant
Lb in/A=	2.57						Torque Constant
Km=	28.5	Kt/r					Motor Constant

**Torque Curve**



**Calculation data**

Voltage	Torque	RPM	Amp	Efficiency	Watts out
90	0	2961	0.1	0	0
<b>90</b>	<b>255</b>	<b>2536</b>	<b>6.3</b>	<b>0.84064</b>	<b>478.34189</b>
90	510	2112	12.5	0.70669	796.60098
90	1779	0	43.3	0	0