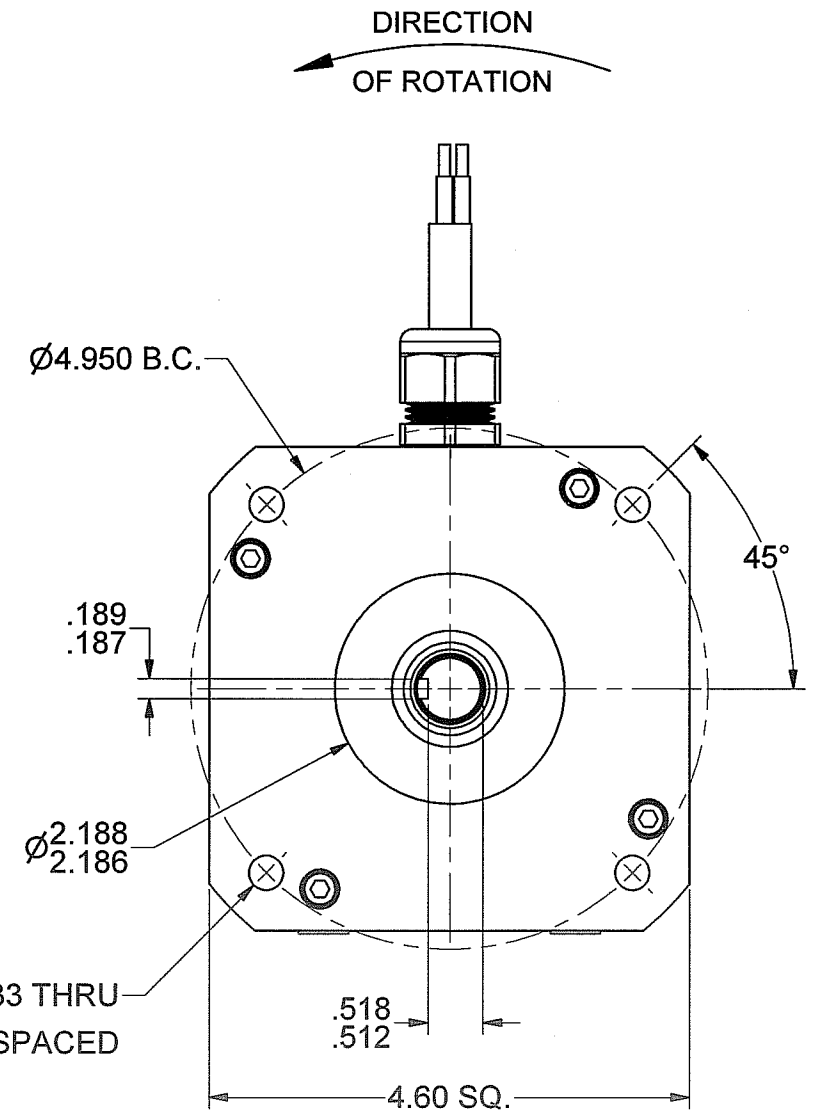
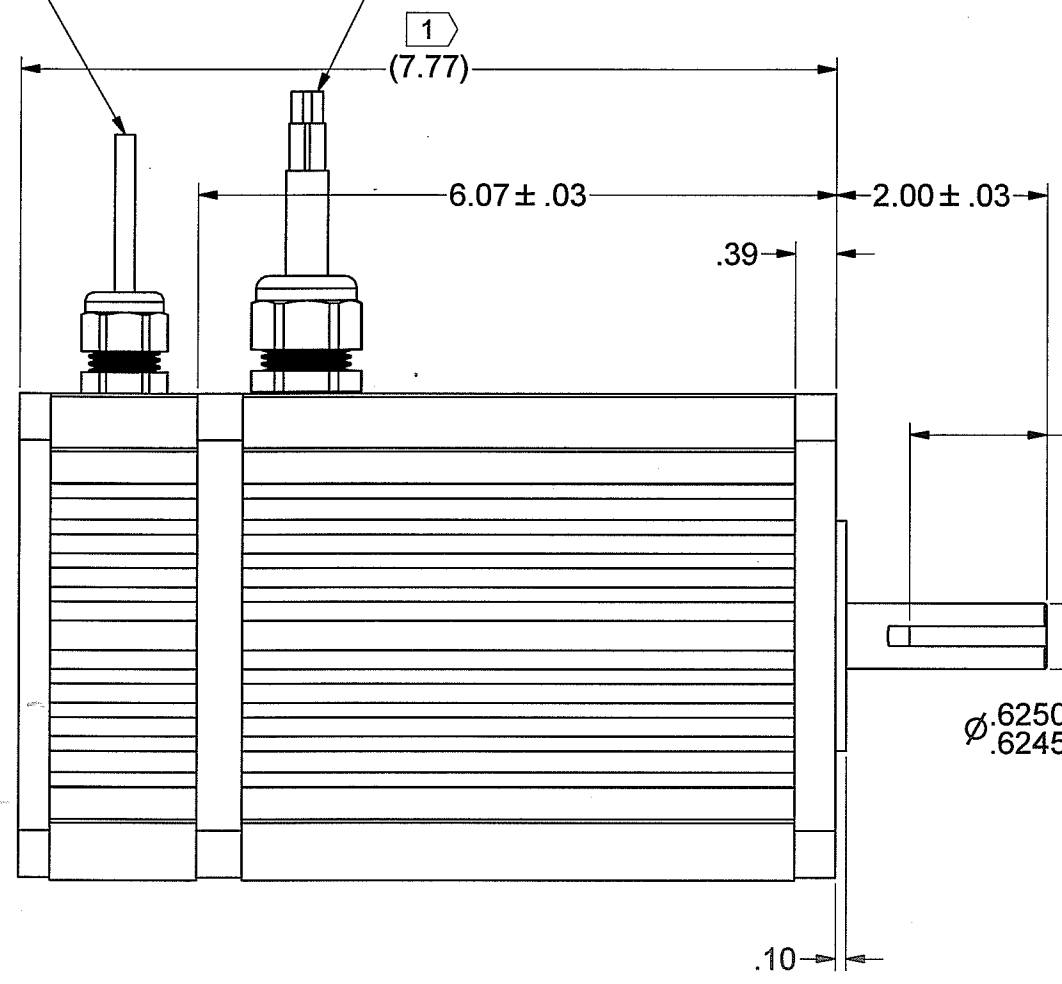
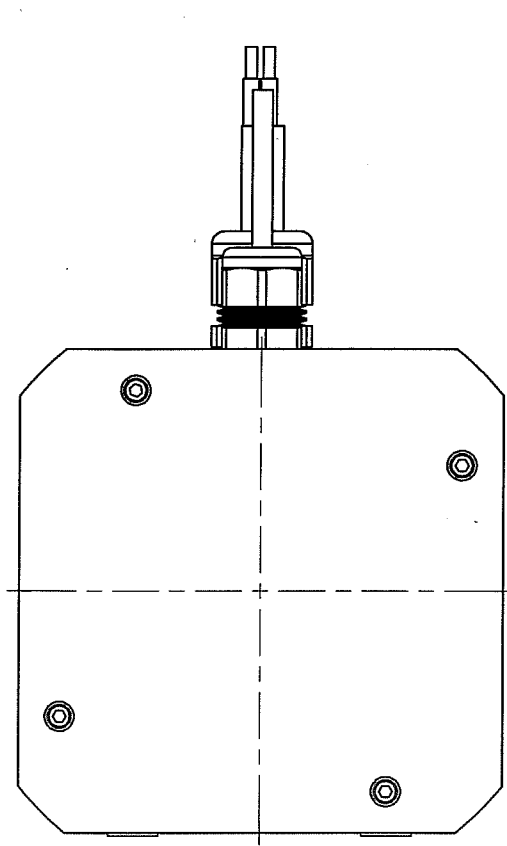


REV	DESCRIPTION	REVISION	DATE	BY	APPROVED
A	PROTOTYPE				

2) 2000 LINE INCREMENTAL / COMMUTATING ENCODER 21"±1" LONG SHIELDED CABLE MEASURED FROM TOP OF STRAIN RELIEF (SEE CHART FOR FUNCTIONS AND COLORS)

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



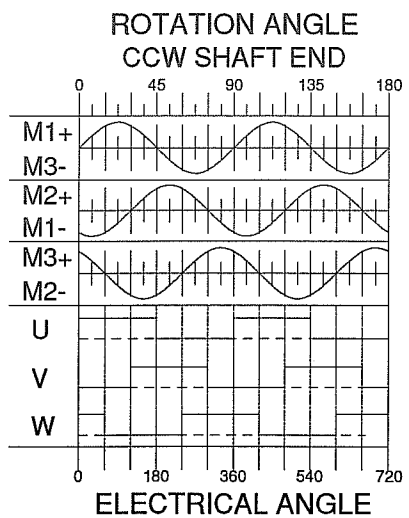
CONTROLLED
 AUG 13 2019
DOCUMENT

MOTOR SPECIFICATIONS:

TORQUE CONSTANT (Kt) = 9.1 ± 10% OZ-IN/AMP
 VOLTAGE CONSTANT (Ke) = 6.7 ± 10% VOLTS/KRPM

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'
DRAIN	BARE

MOTOR LEADS - 10 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.		Magmotor™	
TOLERANCES ON: ANGLES = ± 1/2° X.XX [X.X] = ± .01 [0.25] X.XXX [X.XX] = ± .005 [0.12]		SIGNATURES		DATE		TITLE	
MATERIAL		DRAWN SLC		8/6/2019		FINAL ASSEMBLY, BFA42-6D-300FE	
SPEC		CHECKED <i>SLC</i>		8/13/19			
FINISH		ENG APPR.					
NONE		MFG APPR. <i>BT</i>		8/13/19			
SPEC		Q.A.					
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	
		SIZE D		NUMBER 730420094		REV A	



10 Coppage Drive
Worcester, MA 01603
10/29/2019

MOTOR PERFORMANCE / SPECIFICATIONS

Attn.:

Final Product No.: **BFA42 6D 300 FE**

Customer:

RFQ 730420094

Phone/Fax:

By: JC

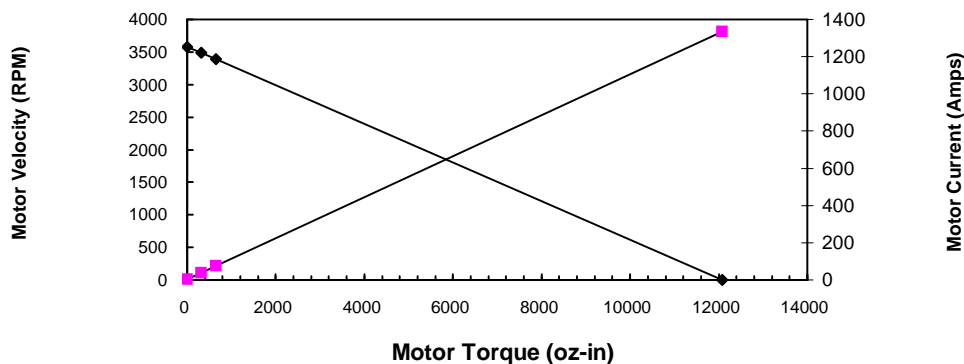
Date: 8/6/2019

This is a calculation data sheet

SPECS	C/S	Frame	PM	- Winding -	Stack	Options	Gear Ratio
MODEL #	BFA	42		6D	300	FE	1

V in =*	24 Vdc		Input Voltage	eff = 0.9
Ke =*	6.7 V/krpm		Voltage Constant	
Kt =	9.1 oz-in/A		Torque Constant	
Rt =*	0.018 Ohms(@20°C)		Terminal Resistance+Amplifier	
Io =*	2.5 Amps		No load current	
I as =	1333.3 Amps		Stall Current (reference only)	
T gs =	12081 oz-in		Stall Torque (reference only @ V in)	
I 1 =	38.4 Amps		Current @ Torque-1	
T 1 =*	325 oz-in		Torque-1	292.5 oz-in 18.3 in-lb
T 2 =*	650 oz-in		Torque-2	585.0 oz-in 36.6 in-lb
I 2 =	74.2 Amps		Current @ Torque-2	
RPM nl =	3582 RPM		No Load Velocity	3582.1 rpm
RPM r =	3486 RPM		RPM @ T1	3485.7 rpm
RPM p =	3389 RPM		RPM @ T2	3389.4 rpm
R ah =	0.02 Ohms(@105°C)		Term. Resistance Hot	
T gsh =	9235 oz-in		Stall Torque Hot	
I ash =	1019.1 Amps		Stall Current Hot	
R th =*	0.31 °C/W		Thermal Resistance	
Tr =	26 °C	Without cooling air	Temperature Rise (above ambient)	
Nm/A=	0.06		Torque Constant	
Lb in/A=	0.57		Torque Constant	
Km=	67.5 Kt/r		Motor Constant	

Torque Curve



Calculation data

Voltage	Torque	RPM	Amp	Efficiency	Watts out
24	0	3582	2.5	0	0
24	325	3486	38.4	0.90996	837.91553
24	650	3389	74.2	0.9146	1629.5037
24	12081	0	1333.3	0	0