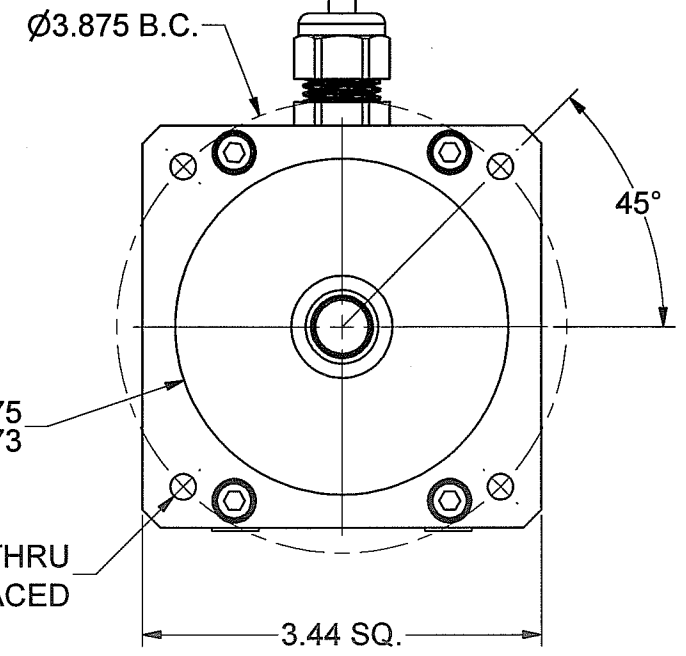
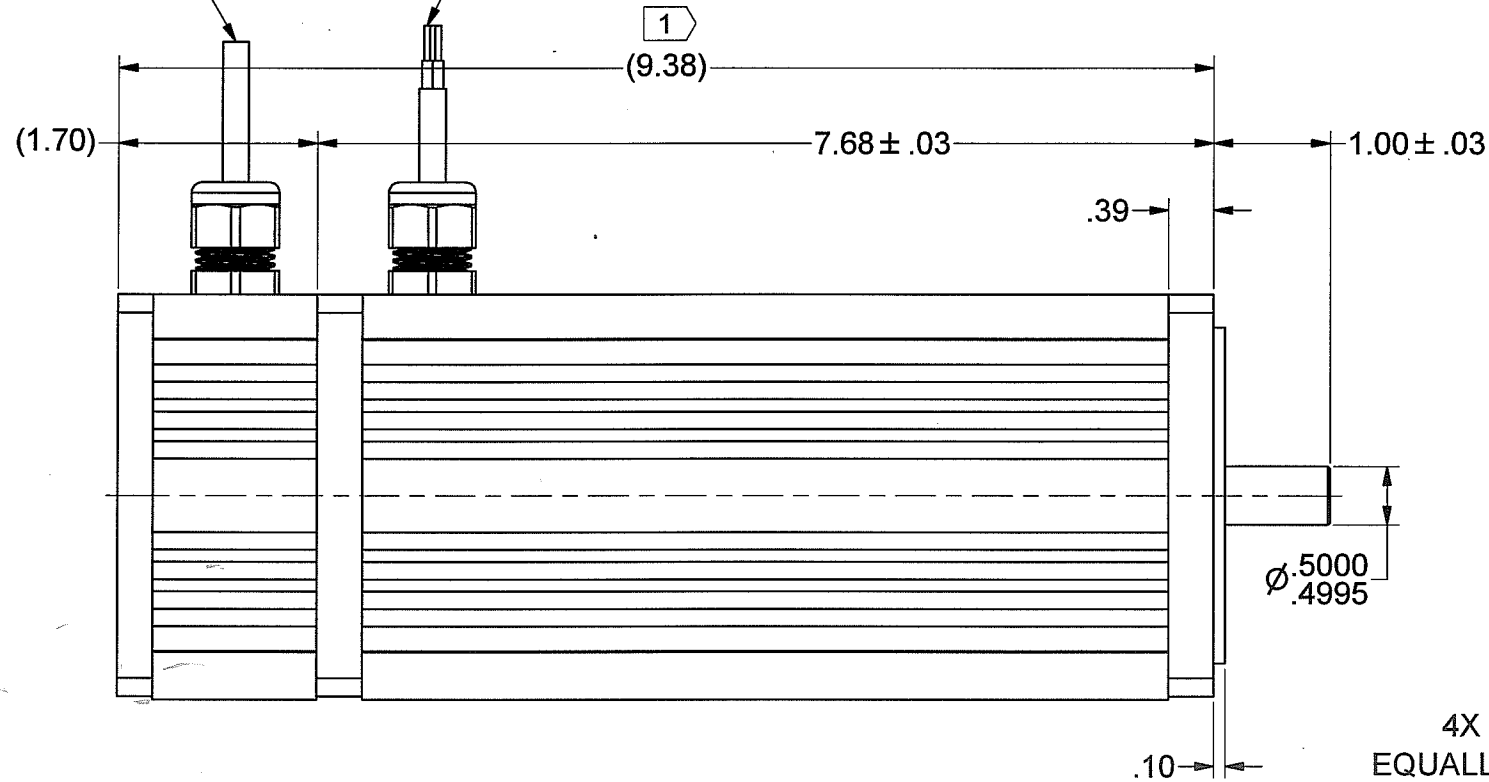
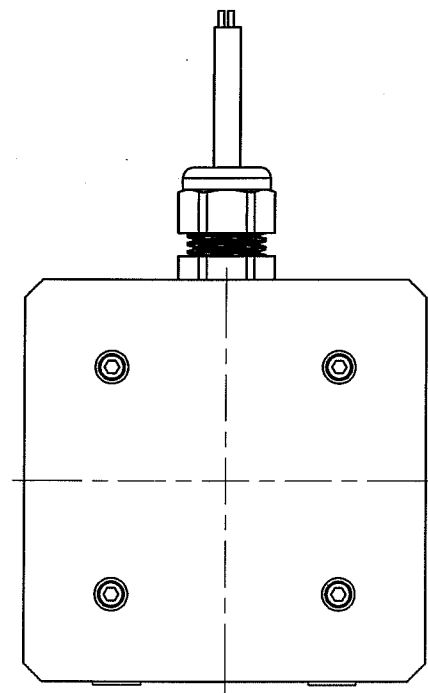


REVISION		DATE	BY	APPROVED
REV	DESCRIPTION			
A	PROTOTYPE			

2) 2000 LINE INCREMENTAL ENCODER
22"±1" LONG SHIELDED CABLE
MEASURED FROM TOP OF STRAIN RELIEF
(SEE CHART FOR FUNCTIONS AND COLORS)

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

DIRECTION
OF ROTATION

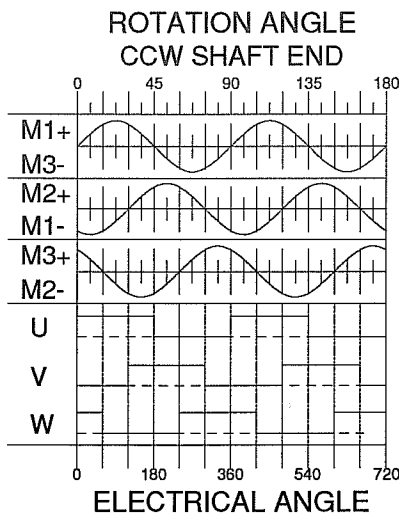


MOTOR SPECIFICATIONS:

TORQUE CONSTANT (Kt) = 26.1 ± 10% OZ-IN/AMP
VOLTAGE CONSTANT (Ke) = 19.3 ± 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 - 16 AWG	
M1	RED
M2	BLACK
M3	WHITE

CONTROLLED
APR 29 2019
DOCUMENT

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES & [mm]

TOLERANCES ON:
ANGLES = ± 1/2°
X.XX [X.X] = ± .01 [0.25]
X.XXX [X.XX] = ± .005 [0.12]

125 ✓

THIRD ANGLE PROJECTION
DO NOT SCALE DRAWING

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Magmotor™

SIGNATURES	DATE	TITLE
DRAWN SLC	4/25/2019	FINAL ASSEMBLY, BFA34-2D-500FE
CHECKED <i>SLC</i>	4/29/19	
ENG APPR.		
MFG APPR. <i>BT</i>	4/29/19	
Q.A.		

UNLESS OTHERWISE SPECIFIED REMOVE ALL BURRS & SHARP EDGES, COUNTERSINK TAPPED HOLES TO BODY SIZE, FILLETS: .03 MAX. / EXTERNAL CORNERS: .015 MAX.

SIZE	NUMBER	REV
D	730340091	A

SCALE: - WEIGHT: - LB. SHEET 1 OF 3



10 Coppage Drive
Worcester, MA 01603
6/11/2019

MOTOR PERFORMANCE / SPECIFICATIONS

Attn.:

Final Product No.: **BFA34 2D 500 FE**

Customer:

RFQ **730340091**

Phone/Fax:

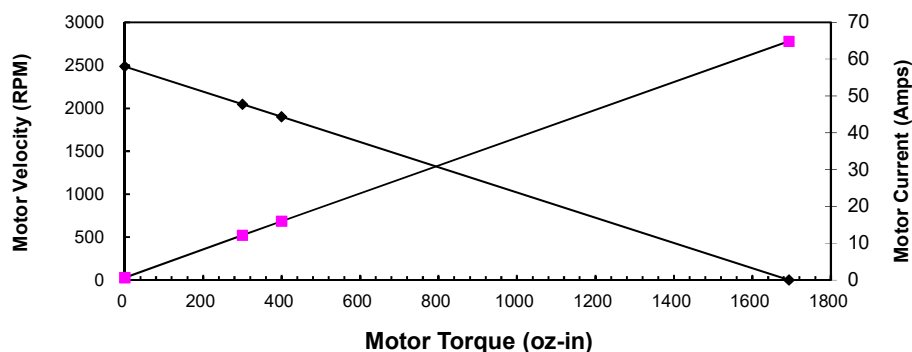
By: PR

Date: 4/24/2019

This is a calculation data sheet

SPECS	C/S	Frame	PM	- Winding -	Stack	Options	Gear Ratio
MODEL #		BFA34		2D	500	FE	1.0
$V_{in} = *$	48	Vdc			Input Voltage		eff = 0.9
$K_e = *$	19.3	V/krpm			Voltage Constant		
$K_t =$	26.1	oz-in/A			Torque Constant		
$R_t = *$	0.74	Ohms(@20° C)			Terminal Resistance+Amplifier		
$I_o = *$	0.66	Amps			No load current		
$I_{as} =$	64.9	Amps			Stall Current (reference only)		
$T_{gs} =$	1693	oz-in			Stall Torque (reference only @ V_{in})		
$I_1 =$	12.2	Amps			Current @ Torque-1		
$T_1 = *$	300	oz-in			Torque-1	270.0 oz-in	16.9 in-lb
$T_2 = *$	400	oz-in			Torque-2	360.0 oz-in	22.5 in-lb
$I_2 =$	16.0	Amps			Current @ Torque-2		
RPM $n_l =$	2487	RPM			No Load Velocity		2487.0 rpm
RPM $r =$	2046	RPM			RPM @ T1		2046.4 rpm
RPM $p =$	1899	RPM			RPM @ T2		1899.5 rpm
$R_{ah} =$	0.97	Ohms(@105° C)			Term. Resistance Hot		
$T_{gsh} =$	1294	oz-in			Stall Torque Hot		
$I_{ash} =$	49.6	Amps			Stall Current Hot		
$R_{th} = *$	0.48	°C/W			Thermal Resistance		
$T_r =$	62	°C	Without cooling air		Temperature Rise (above ambient)		
Nm/A=	0.18				Torque Constant		
Lb in/A=	1.63				Torque Constant		
Km=	30.3	Kt/r			Motor Constant		
HP $n_l =$	4.18	HP			Motor Horsepower		

Torque Curve



Calculation data

Voltage	Torque	RPM	Amp	Efficiency	Watts out
48	0	2487	0.7	0	0
48	300	2046	12.2	0.77835	454.07322
48	400	1899	16.0	0.73242	561.9704
48	1693	0	64.9	0	0