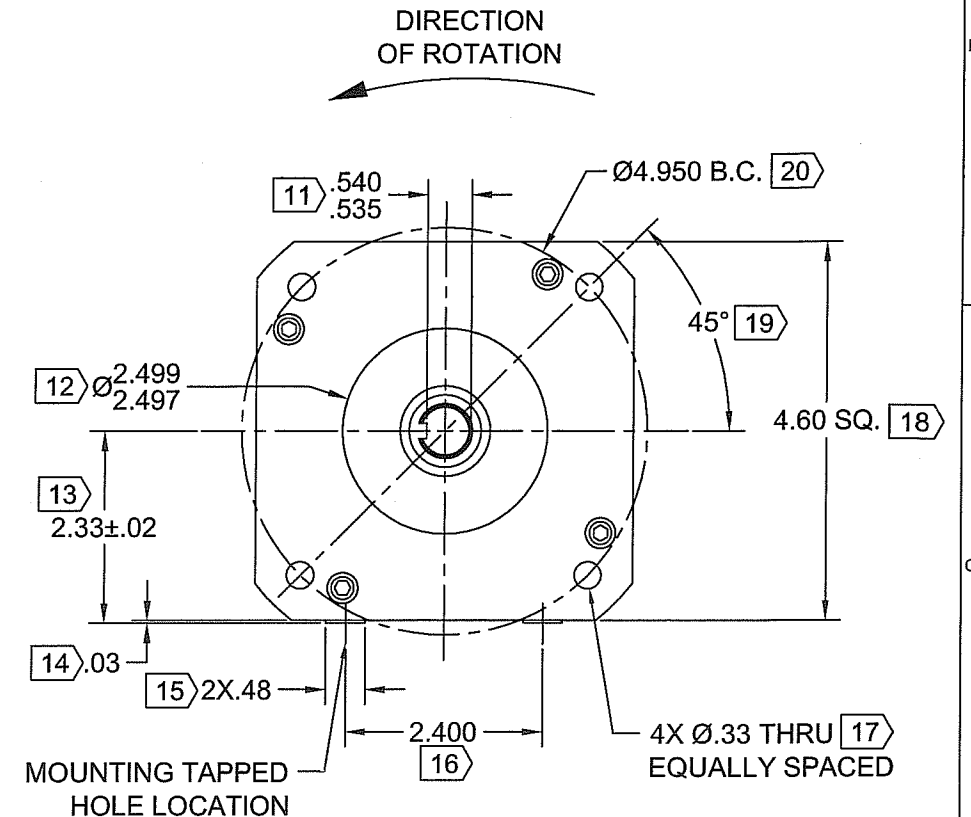
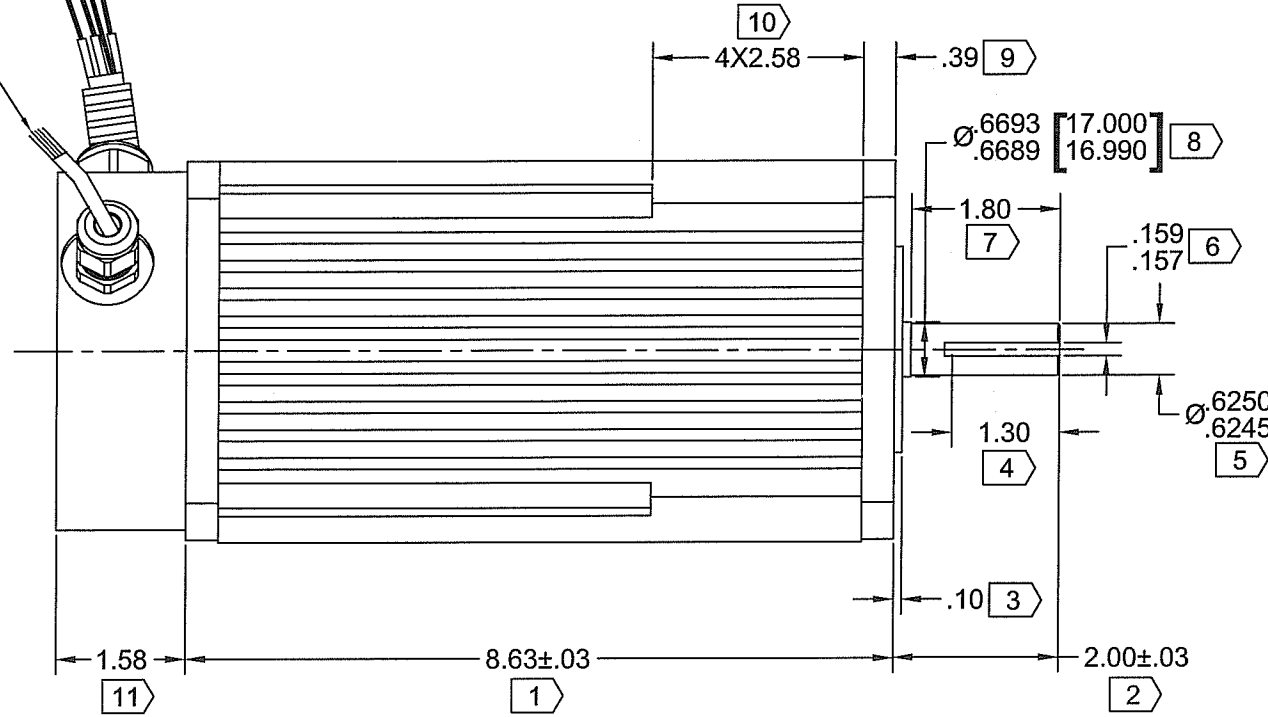
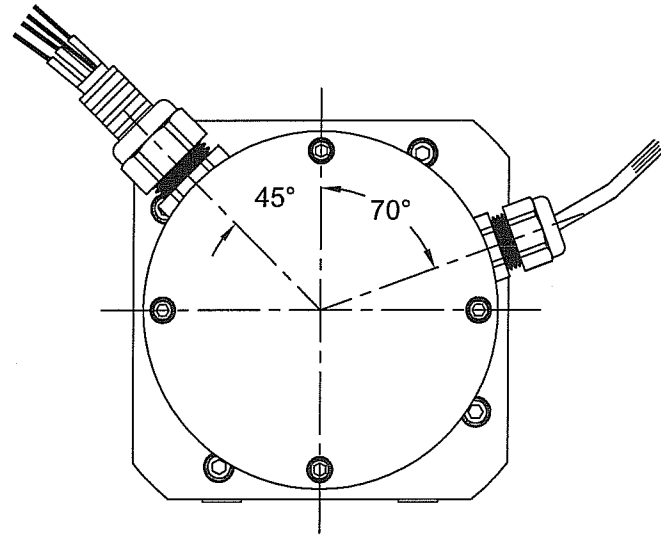


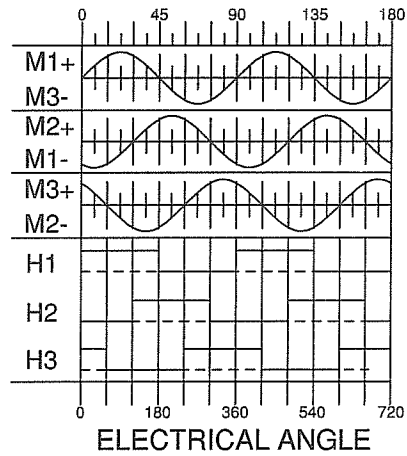
REV	DESCRIPTION	DATE	BY	APPROVED
A	PROTOTYPE			

HALL & TEMP WIRES, 40.6" [1031.24]±1" LONG  
(SEE CHART FOR FUNCTIONS & COLORS) [27]

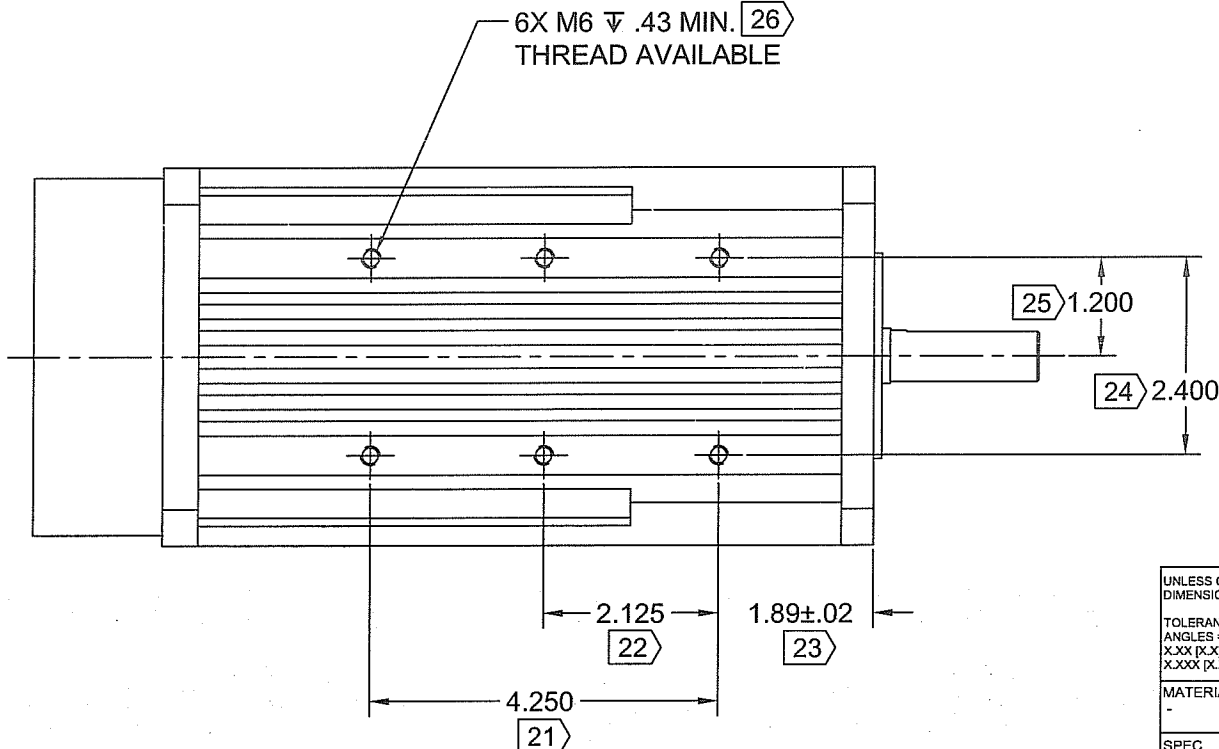
MOTOR WIRE, 29.1" [739.1]±1" LONG [28]  
COVERED WITH BLACK LOOM  
DRAIN / SHIELD COVERED WITH CLEAR HEAT SHRINK  
(SEE CHART FOR FUNCTIONS & COLORS)



ROTATION ANGLE  
CCW SHAFT END



6X M6 ∇ .43 MIN. [26]  
THREAD AVAILABLE

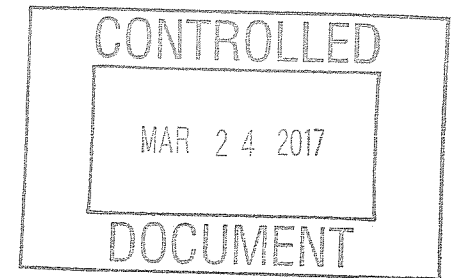


MOTOR LEADS - 14 AWG

M1	RED
M2	BLACK
M3	WHITE
DRAIN / SHIELD	BARE

ITEM	FUNCTION	COLOR

TEMPER SENSOR	SHIELD	BARE
	+5VDC	YELLOW
115°	WHITE	
145°	GREEN	
HALL	COMMON	BLACK
	H3	BROWN
	H2	GRAY
	H1	BLUE
+5VDC	RED	



MOTOR SPECIFICATIONS:

TORQUE CONSTANT (Kt) = 137.9 ± 10% OZ-IN/AMP  
VOLTAGE CONSTANT (Ke) = 102.0 ± 10% V/KRPM

NOTES:

1.) [X] IDENTIFIES INSPECTION DIMENSIONS.

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES & [mm]		THIRD ANGLE PROJECTION		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]		DO NOT SCALE DRAWING		SIGNATURES		DATE	
MATERIAL		DRAWN SLC		3/23/2017		TITLE	
SPEC		CHECKED [Signature]		3/24/17		FINAL ASSEMBLY, BFA46-F-500H	
FINISH		ENG APPR.		3/24/17		SIZE	
SPEC		MFG APPR. [Signature]		3/24/17		NUMBER	
		Q.A.				D 730460038	
		UNLESS OTHERWISE SPECIFIED REMOVE ALL BURRS & SHARP EDGES. COUNTERSINK TAPPED HOLES TO BODY SIZE FILLETS: .03 MAX. / EXTERNAL CORNERS: .015 MAX.				REV	
						A	
				SCALE: NONE		WEIGHT: -	
						SHEET 1 OF 3	



10 Coppage Drive  
Worcester, MA 01603  
3/29/2022

**MOTOR PERFORMANCE / SPECIFICATIONS**

**Attn.:**

Final Product No.: **BFA46-F-500H**

Customer:

RFQ 730460038

Phone/Fax:

By: MM

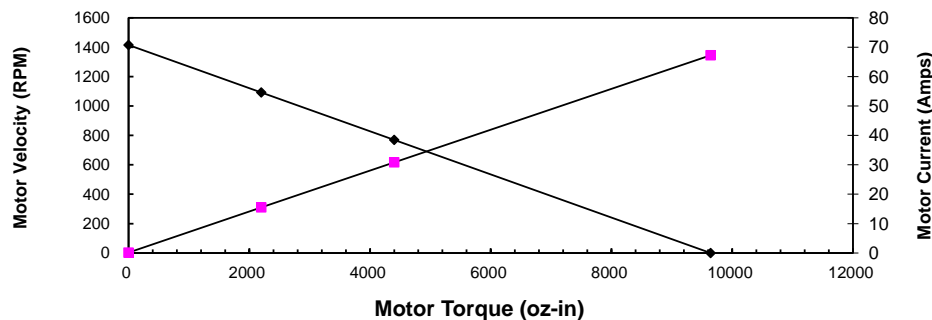
Date: 3/29/2022

This is a calculation data sheet

SPECS	C/S	Frame	PM	-	Winding	-	Stack	Options	Gear Ratio
MODEL #	<b>BFA</b>	<b>46</b>			<b>F</b>		<b>500</b>	<b>H</b>	

V in =*	<b>150</b> Vdc		Input Voltage	Eff = 0.9
Ke =*	<b>106</b> V/krpm		Voltage Constant	
Kt =	143.4 oz-in/A		Torque Constant	
Rt =*	<b>2.23</b> Ohms(@20° C)		Terminal Resistance+Amplifier	
Io =*	<b>0.15</b> Amps		No load current	
I as =	67.3 Amps		Stall Current (reference only)	
T gs =	9643 oz-in		Stall Torque (reference only @ V in)	
I 1 =	15.5 Amps		Current @ Torque-1	
I 2 =	30.8 Amps		Current @ Torque-2	
T 1 =*	<b>2200</b> oz-in		Torque-1	0.0 oz-in 0.0 in-lb
T 2 =*	<b>4400</b> oz-in		Torque-2	0.0 oz-in 0.0 in-lb
RPM nl =	1415 RPM		No Load Velocity	#DIV/0! rpm
RPM r =	1092 RPM		RPM @ T1	#DIV/0! rpm
RPM p =	769 RPM		RPM @ T2	#DIV/0! rpm
R ah =	2.92 Ohms(@105° C)		Term. Resistance Hot	
T gsh =	7370 oz-in		Stall Torque Hot	
I ash =	51.4 Amps		Stall Current Hot	
R th =*	<b>0.38</b> °C/W		Thermal Resistance	
Tr =	<b>208</b> °C	Without cooling air	Temperature Rise @ T1 (above ambient)	
Tr =	<b>807</b> °C	Without cooling air	Temperature Rise @ T2 (above ambient)	
Nm/A =	1.01		Torque Constant	
Lb in/A =	8.96		Torque Constant	
Km =	96.0 Kt/r		Motor Constant	

**Torque Curve**



**Calculation data**

Voltage	Torque	RPM	Amp	Efficiency	Watts out
150	0	1415	0.2	0	0
150	2200	1092	15.5	0.764602494	1777.3087
150	4400	769	30.8	0.541210888	2503.8984
150	9643	0	67.3	0	0