

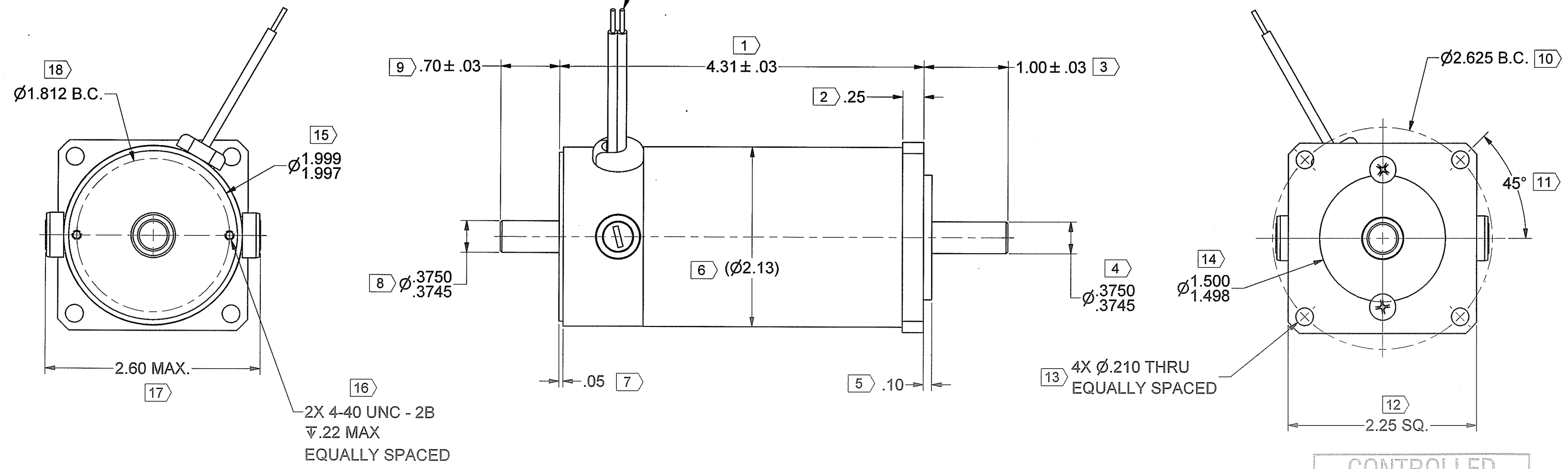
REV	DESCRIPTION	REVISION	DATE	BY	APPROVED
A	PROTOTYPE				

19 MOTOR LEADS 18 AWG  
13"±1" LONG

COLOR FUNCTION  
RED MOTOR (+)  
BLACK MOTOR (-)

STRIP BACK LEADS .3"±.1"

DIRECTION  
OF ROTATION



**MOTOR SPECIFICATIONS:**

TORQUE CONSTANT (Kt) =  $36.5 \pm 10\%$  OZ-IN/AMP  
VOLTAGE CONSTANT (Ke) =  $27.0 \pm 10\%$  VOLTS/KRPM

**NOTES:**

- 1.) MOTOR ROTATION IS CLOCKWISE WHEN VIEWED FROM OUTPUT SHAFT WITH POSITIVE VOLTAGE APPLIED TO RED LEAD.
- 2.) SCREW PENETRATION NOT TO EXCEED SPECIFIED THREAD DEPTH.
- 3.) X IDENTIFIES INSPECTION DIMENSIONS.

CONTROLLED  
JUN 15 2022  
DOCUMENT

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 = $\pm 1/2^\circ$ X.XX [X.X] = $\pm .01$ [0.25] X.XXX [X.XX] = $\pm .005$ [0.12]		DO NOT SCALE DRAWING		SIGNATURES		DATE	
				DRAWN CGW		6/15/2022	
				CHECKED MCM		6/15/22	
				ENG APPR. MCM		6/15/22	
				MFG APPR. JF		6/15/22	
FINISH NONE		Q.A.		TITLE		MOTOR ASSEMBLY, C21-K-175FX	
SPEC		UNLESS OTHERWISE SPECIFIED REMOVE ALL BURRS & SHARP EDGES. COUNTERSINK TAPPED HOLES TO BODY SIZE FILLETS: .03 MAX. / EXTERNAL CORNERS: .015 MAX.		SIZE		NUMBER	
				D		500210356	
				SCALE: -		WEIGHT: - LB.	
				SHEET 1		OF 3	



10 Coppage Drive  
Worcester, MA 01603  
8/17/2022

**MOTOR PERFORMANCE / SPECIFICATIONS**

**Attn.:**

Final Product No.: **C21-K-175FX**

Customer:

RFQ 500210356

Phone/Fax:

By: MM

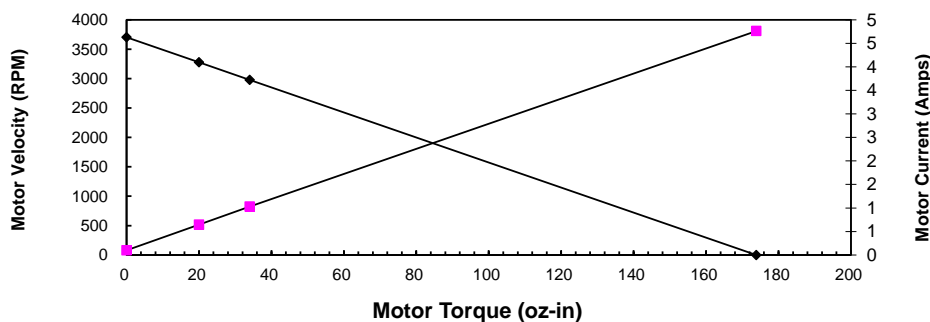
Date: 8/17/2022

This is a calculation data sheet

SPECS	C/S	Frame	PM	-	Winding	-	Stack	Options	Gear Ratio
MODEL #	<b>C</b>	<b>21</b>			<b>K</b>		<b>175</b>	<b>FX</b>	

V in =*	<b>100</b> Vdc								Input Voltage	Eff = 0.9
Ke =*	<b>27.00</b> V/krpm								Voltage Constant	
Kt =	36.5 oz-in/A								Torque Constant	
Rt =*	<b>21.00</b> Ohms(@20° C)								Terminal Resistance+Amplifier	
Io =*	<b>0.10</b> Amps								No load current	
I as =	4.8 Amps								Stall Current (reference only)	
T gs =	174 oz-in								Stall Torque (reference only @ V in)	
I 1 =	0.6 Amps								Current @ Torque-1	
I 2 =	1.0 Amps								Current @ Torque-2	
T 1 =*	<b>20</b> oz-in								Torque-1	
T 2 =*	<b>34</b> oz-in								Torque-2	
RPM nl =	3704 RPM								No Load Velocity	
RPM r =	3278 RPM								RPM @ T1	
RPM p =	2979 RPM								RPM @ T2	
R ah =	27.47 Ohms(@105° C)								Term. Resistance Hot	
T gsh =	133 oz-in								Stall Torque Hot	
I ash =	3.6 Amps								Stall Current Hot	
R th =*	<b>4.9</b> °C/W								Thermal Resistance	
Tr =	<b>80</b> °C	Without cooling air							Temperature Rise @ T1 (above ambient)	
Tr =	<b>138</b> °C	Without cooling air							Temperature Rise @ T2 (above ambient)	
Nm/A =	0.26								Torque Constant	
Lb in/A =	2.28								Torque Constant	
Km =	8.0	Kt/r							Motor Constant	

**Torque Curve**



**Calculation data**

Voltage	Torque	RPM	Amp	Efficiency	Watts out
100	0	3704	0.1		0
100	20	3278	0.6	0.748570469	48.48664
100	34	2979	1.0	0.726660122	74.928054
100	174	0	4.8		0