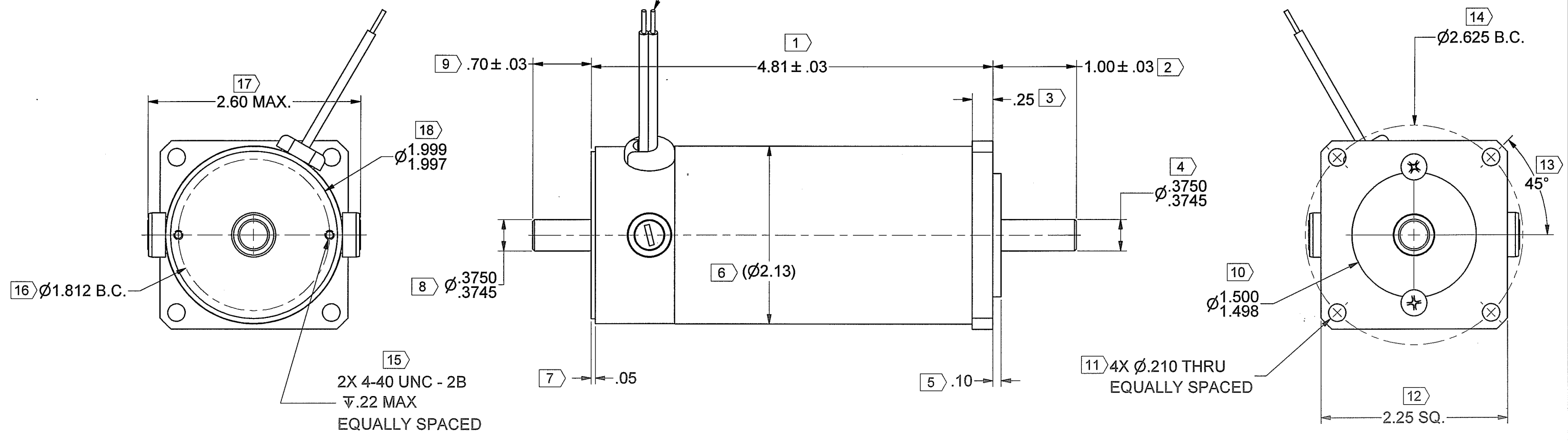


REV	DESCRIPTION	DATE	BY	APPROVED
A	PROTOTYPE			

MOTOR LEADS 18 AWG 19  
 13"±1" LONG  
 COLOR FUNCTION  
 RED MOTOR (+)  
 BLACK MOTOR (-)  
 STRIP BACK LEADS .3"±.1"

DIRECTION  
 OF ROTATION

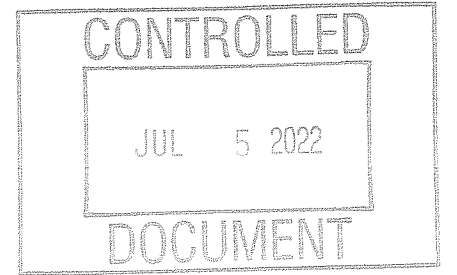


**MOTOR SPECIFICATIONS:**

TORQUE CONSTANT (Kt) = 35.3 ± 10% OZ-IN/AMP  
 VOLTAGE CONSTANT (Ke) = 26.1 ± 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.



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	
-		DRAWN CGW		6/21/2022		MOTOR ASSEMBLY, C21-J-230FX	
SPEC		CHECKED		ENG APPR. MUM		7/5/22	
FINISH NONE		MFG APPR. BT		7/5/22		SIZE NUMBER	
SPEC		Q.A.		UNLESS OTHERWISE SPECIFIED REMOVE ALL BURRS & SHARP EDGES, COUNTERSINK TAPPED HOLES TO BODY SIZE FILLETS: .03 MAX. / EXTERNAL CORNERS: .015 MAX.		D 500210359	
		SCALE: -		WEIGHT: - LB.		REV A	
						SHEET 1 OF 3	



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

**MOTOR PERFORMANCE / SPECIFICATIONS**

**Attn.:**

Final Product No.: **C21-J-230FX**

Customer:

RFQ 500210359

Phone/Fax:

By: MM

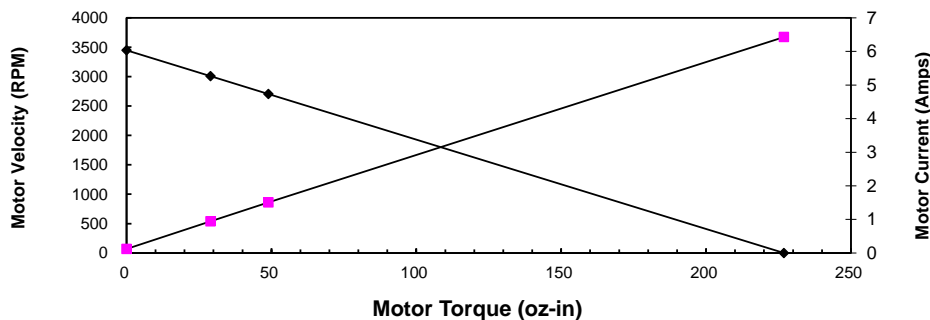
Date: 8/17/2022

This is a calculation data sheet

SPECS	C/S	Frame	PM	-	Winding	-	Stack	Options	Gear Ratio
MODEL #	<b>C</b>	<b>21</b>			<b>M</b>		<b>230</b>	<b>FX</b>	

V in =*	<b>90</b> Vdc						Input Voltage		Eff = 0.9
Ke =*	<b>26.10</b> V/krpm						Voltage Constant		
Kt =	35.3 oz-in/A						Torque Constant		
Rt =*	<b>14.00</b> Ohms(@20° C)						Terminal Resistance+Amplifier		
Io =*	<b>0.12</b> Amps						No load current		
I as =	6.4 Amps						Stall Current (reference only)		
T gs =	227 oz-in						Stall Torque (reference only @ V in)		
I 1 =	0.9 Amps						Current @ Torque-1		
I 2 =	1.5 Amps						Current @ Torque-2		
T 1 =*	<b>29</b> oz-in						Torque-1	0.0 oz-in	0.0 in-lb
T 2 =*	<b>49</b> oz-in						Torque-2	0.0 oz-in	0.0 in-lb
RPM nl =	3448 RPM						No Load Velocity	#DIV/0!	rpm
RPM r =	3008 RPM						RPM @ T1	#DIV/0!	rpm
RPM p =	2704 RPM						RPM @ T2	#DIV/0!	rpm
R ah =	18.32 Ohms(@105° C)						Term. Resistance Hot		
T gsh =	173 oz-in						Stall Torque Hot		
I ash =	4.9 Amps						Stall Current Hot		
R th =*	<b>4.0</b> °C/W						Thermal Resistance		
Tr =	<b>81</b> °C	Without cooling air					Temperature Rise @ T1 (above ambient)		
Tr =	<b>151</b> °C	Without cooling air					Temperature Rise @ T2 (above ambient)		
Nm/A =	0.25						Torque Constant		
Lb in/A =	2.21						Torque Constant		
Km =	9.4	Kt/r					Motor Constant		

**Torque Curve**



**Calculation data**

Voltage	Torque	RPM	Amp	Efficiency	Watts out
90	0	3448	0.1		0
90	29	3008	0.9	0.761266073	64.511682
90	49	2704	1.5	0.721888229	97.987326
90	227	0	6.4		0