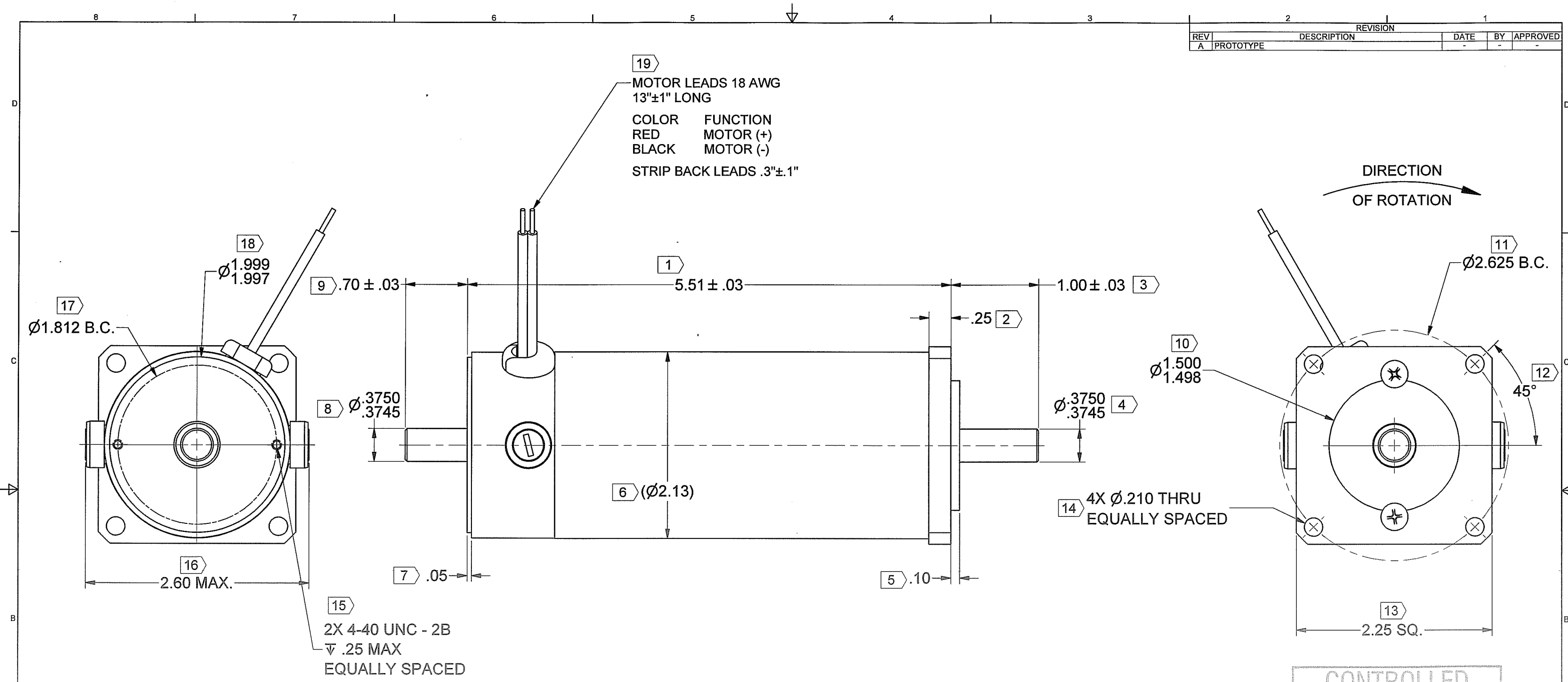


REV	DESCRIPTION	REVISION	DATE	BY	APPROVED
A	PROTOTYPE				

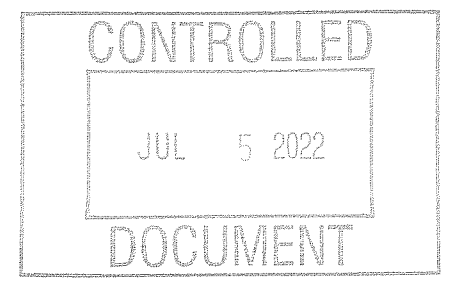


MOTOR SPECIFICATIONS:

TORQUE CONSTANT (Kt) = 17.2 ± 10% OZ-IN/AMP
 VOLTAGE CONSTANT (Ke) = 12.7 ± 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) TOLERANCES ON: ANGLES = ± 1/2° X.XX [X.X] = ± .01 [0.25] X.XXX [X.XX] = ± .005 [0.12]	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™
		SIGNATURES	DATE	
MATERIAL	DRAWN CGW	6/22/2022	MOTOR ASSEMBLY, C21-F-300FX	
SPEC	CHECKED			
FINISH	ENG APPR. <i>MCM</i>	7/5/22		
NONE	MFG APPR. <i>BT</i>	7/5/22		
SPEC	Q.A.		SIZE	NUMBER
	UNLESS OTHERWISE SPECIFIED REMOVE ALL BURRS & SHARP EDGES. COUNTERSINK TAPPED HOLES TO BODY SIZE FILLETS: .03 MAX. / EXTERNAL CORNERS: Ø15 MAX.		D	500210361
			SCALE: -	WEIGHT: - LB.
				SHEET 1 OF 3



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

MOTOR PERFORMANCE / SPECIFICATIONS

Attn.:

Final Product No.: **C21-F-300FX**

Customer:

RFQ 500210361

Phone/Fax:

By: MM

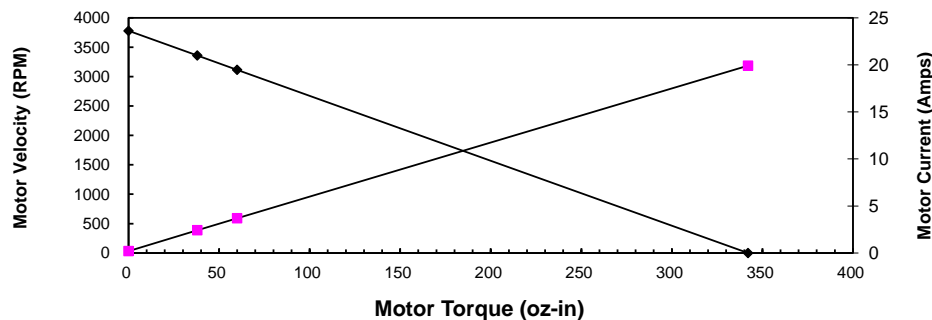
Date: 8/17/2022

This is a calculation data sheet

SPECS	C/S	Frame	PM	-	Winding	-	Stack	Options	Gear Ratio
MODEL #	C	21	-	-	F	-	300	FX	

V in =*	48 Vdc		Input Voltage	Eff = 0.9
Ke =*	12.70 V/krpm		Voltage Constant	
Kt =	17.2 oz-in/A		Torque Constant	
Rt =*	2.41 Ohms(@20° C)		Terminal Resistance+Amplifier	
Io =*	0.20 Amps		No load current	
I as =	19.9 Amps		Stall Current (reference only)	
T gs =	342 oz-in		Stall Torque (reference only @ V in)	
I 1 =	2.4 Amps		Current @ Torque-1	
I 2 =	3.7 Amps		Current @ Torque-2	
T 1 =*	38 oz-in		Torque-1	0.0 oz-in 0.0 in-lb
T 2 =*	60 oz-in		Torque-2	0.0 oz-in 0.0 in-lb
RPM nl =	3780 RPM		No Load Velocity	#DIV/0! rpm
RPM r =	3360 RPM		RPM @ T1	#DIV/0! rpm
RPM p =	3117 RPM		RPM @ T2	#DIV/0! rpm
R ah =	3.15 Ohms(@105° C)		Term. Resistance Hot	
T gsh =	261 oz-in		Stall Torque Hot	
I ash =	15.2 Amps		Stall Current Hot	
R th =*	3.8 °C/W		Thermal Resistance	
Tr =	81 °C	Without cooling air	Temperature Rise @ T1 (above ambient)	
Tr =	148 °C	Without cooling air	Temperature Rise @ T2 (above ambient)	
Nm/A =	0.12		Torque Constant	
Lb in/A =	1.07		Torque Constant	
Km =	11.1	Kt/r	Motor Constant	

Torque Curve



Calculation data

Voltage	Torque	RPM	Amp	Efficiency	Watts out
48	0	3780	0.2	0	0
48	38	3360	2.4	0.815463571	94.428973
48	60	3117	3.7	0.780181914	138.31135
48	342	0	19.9	0	0