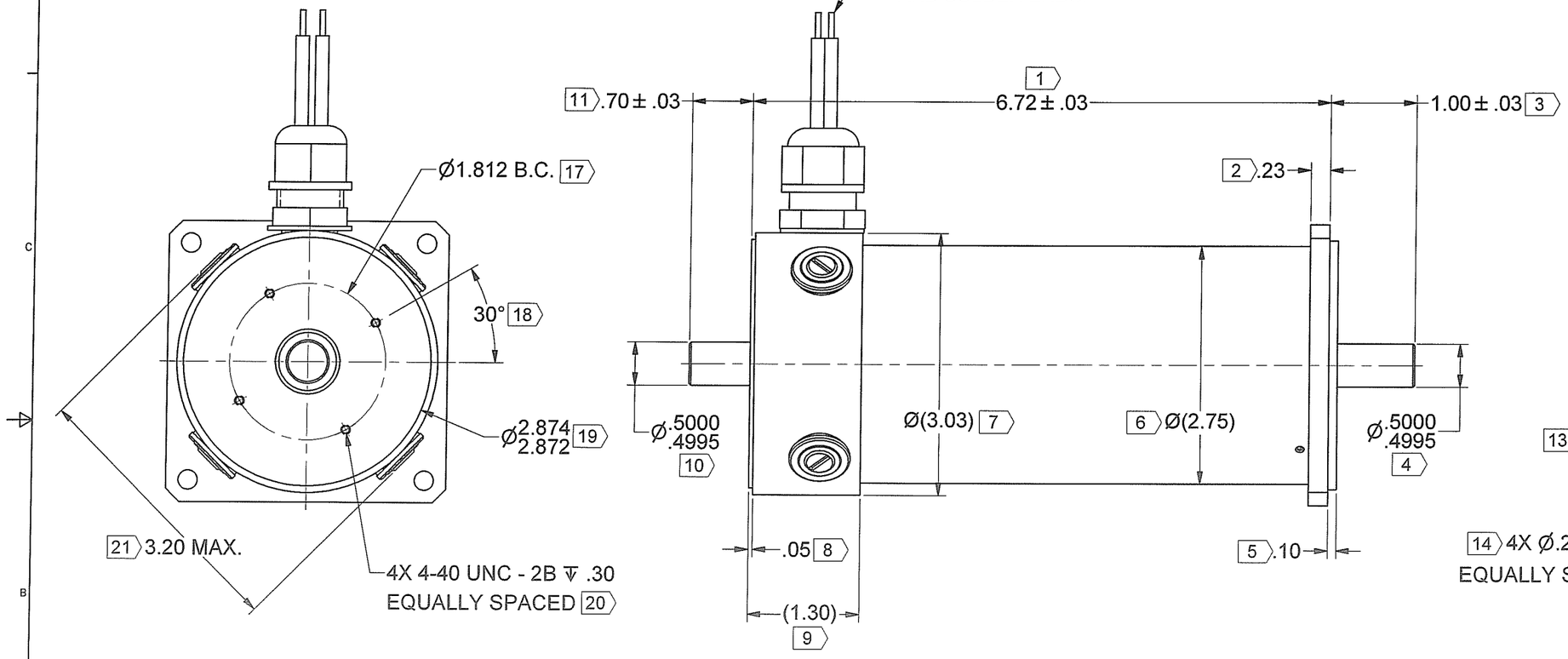
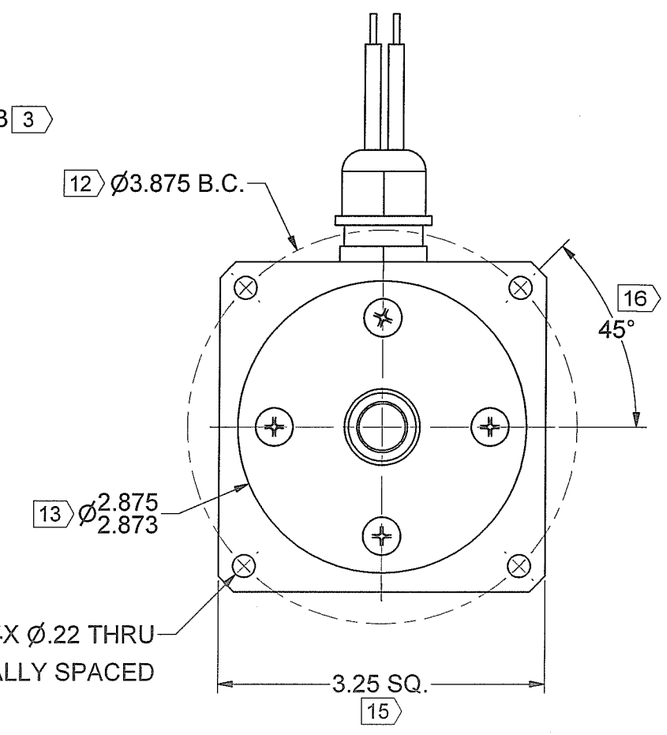
REVISION				
REV	DESCRIPTION	DATE	BY	APPROVED
A	PROTOTYPE	-	-	-

22 MOTOR LEADS 13"±1" LONG
MEASURED FROM TOP OF STRAIN RELIEF
12 AWG TEFLON
(+) POSITIVE: RED
(-) NEGATIVE: BLACK
STRIP BACK LEADS 1"±.5"
TWIST LIKE COLORS TOGETHER
AND SOLDER ENDS.



DIRECTION
OF ROTATION



MOTOR SPECIFICATIONS:

TORQUE CONSTANT (Kt) = 6.8 ± 10% OZ-IN/AMP
VOLTAGE CONSTANT (Ke) = 5.0 ± 10% VOLTS/KRPM

NOTES:

1.) MOTOR ROTATION IS CLOCKWISE WHEN VIEWED FROM OUTPUT SHAFT WITH POSITIVE VOLTAGE APPLIED TO RED LEAD.

2.) RUNNING MOTOR WITH ONLY ONE BLACK AND ONE RED LEAD WILL DAMAGE MOTOR.

3.) SCREW PENETRATION NOT TO EXCEED SPECIFIED THREAD DEPTH.

4.) 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]
125

THIRD ANGLE PROJECTION
DO NOT SCALE DRAWING

Magmotor™

SIGNATURES		DATE
DRAWN	SLC	8/7/2017
CHECKED		10/26/17
ENG APPR.		
MFG APPR.		10/30/17
Q.A.		

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

MATERIAL	SPEC	FINISH	SPEC
-		NONE	

TITLE: MOTOR ASSEMBLY, S28-D4-400FX

SIZE	NUMBER	REV
D	500280451	A

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

10 Coppage Drive
Worcester, MA 01603
10/26/2017

MOTOR PERFORMANCE / SPECIFICATIONS

Attn.:

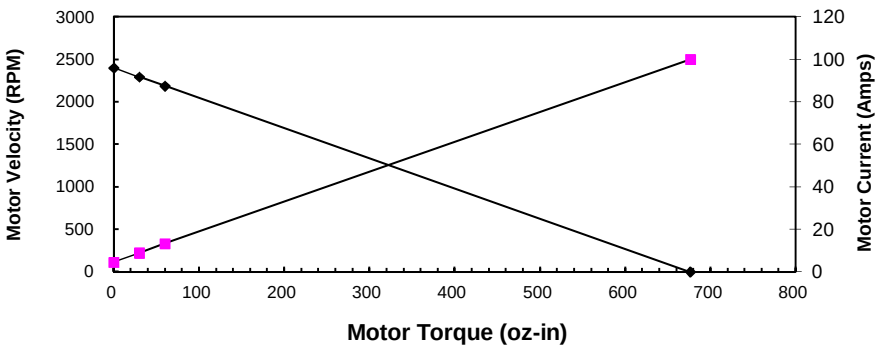
Final Product No.: **S28 D4 400 FX**
Customer:
RFQ **500280451**
Phone/Fax:
By: **JC**
Date: **8/4/2017**

This is a calculation data sheet X

SPECS	C/S	Frame	PM	- Winding -	Stack	Options	Gear Ratio
MODEL #	**S**	**28**		**D4**	**400**	**FX**	**1.0**

V in =*	**12**	Vdc		Input Voltage		**eff = 0.9**
Ke =*	**5.0**	V/krpm		Voltage Constant		
Kt =	6.8	oz-in/A		Torque Constant		
Rt =*	**0.12**	Ohms(@20°C)		Terminal Resistance+Amplifier		
Io=*	**4.5**	Amps		No load current		
I as =	100.0	Amps		Stall Current (reference only)		
T gs =	676	oz-in		Stall Torque (reference only @ V in)		
I 1 =	**8.9**	**Amps**		**Current @ Torque-1**		
T 1 =*	**30**	oz-in		Torque-1	27.0 oz-in	**149.5 Nm**
T 2 =*	**60**	oz-in		Torque-2	54.0 oz-in	**299 Nm**
I 2 =	13.4	Amps		Current @ Torque-2		
RPM nl =	**2400**	**RPM**		No Load Velocity		**2400.0 rpm**
RPM r =	**2294**	**RPM**		**RPM @ T1**		**2293.5 rpm**
RPM p=	**2187**	**RPM**		RPM @ T2		**2187.0 rpm**
R ah =	0.16	Ohms(@105°C)		Term. Resistance Hot		
T gsh =	517	oz-in		Stall Torque Hot		
I ash =	76.4	Amps		Stall Current Hot		
R th =*	**1.8**	℃/W		Thermal Resistance		
Tr =	**101**	**℃**	**Without cooling air**	**Temperature Rise (above ambient)**		
Nm/A=	0.05			Torque Constant		
Lb in/A=	0.42			Torque Constant		
Km=	19.5	Kt//r		Motor Constant		

Torque Curve



Calculation data

Voltage	Torque	RPM	Amp	Efficiency	Watts out
12	0	2400	4.5	0	0
12	**30**	**2294**	**8.9**	**0.47457**	**50.891774**
12	60	2187	13.4	0.60481	97.058221
12	676	0	100.0	0	0