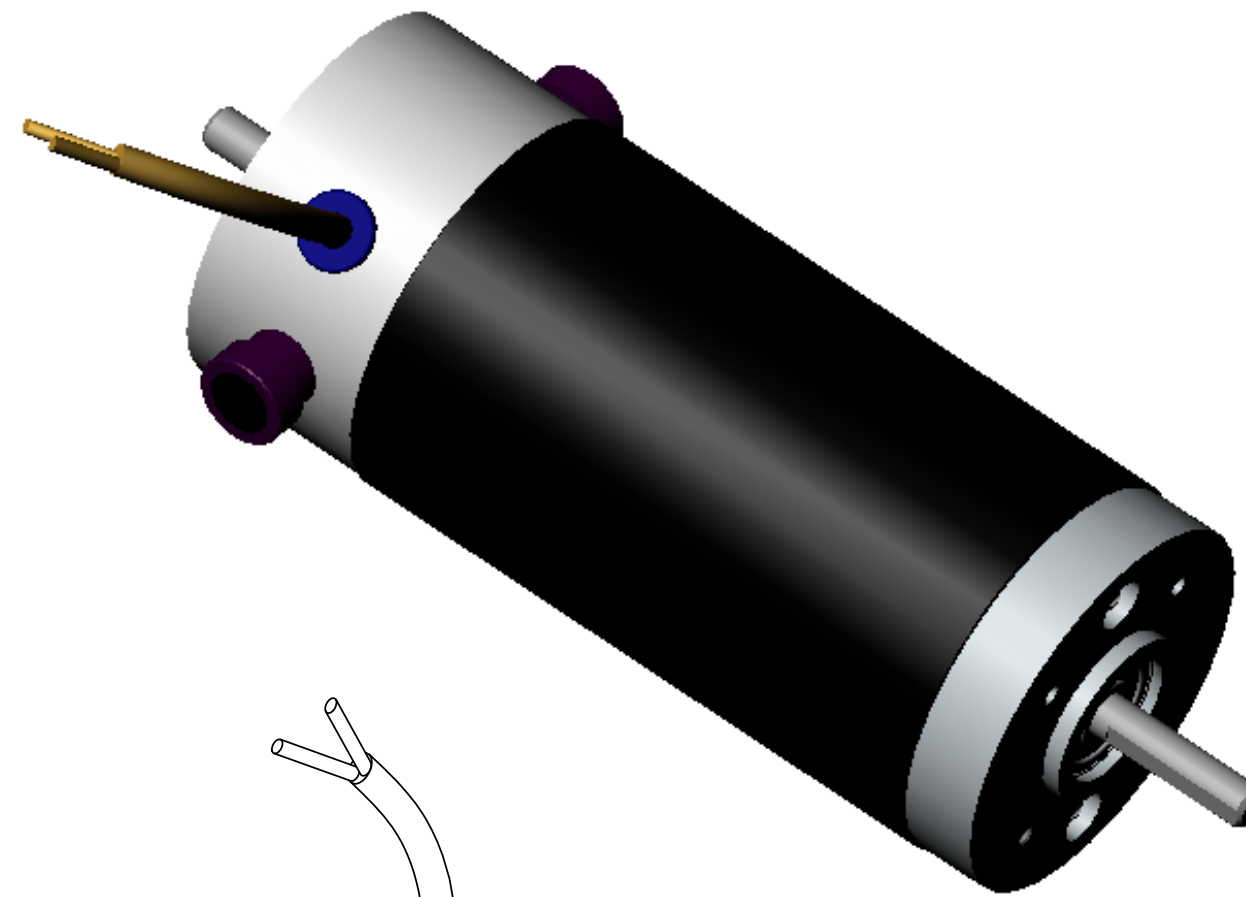
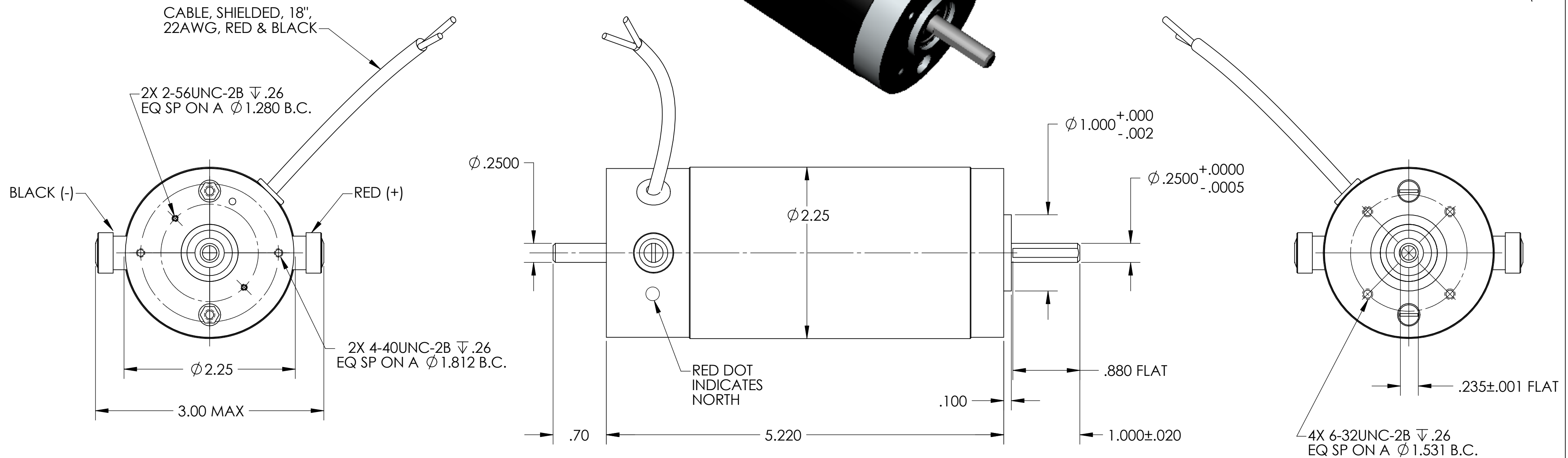


THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF DYNETIC SYSTEMS. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF DYNETIC SYSTEMS IS PROHIBITED.

| REV | ECO # | DESCRIPTION OF CHANGE | BY | DATE | CH'D |
|-----|-------|---------------------------------|-----|-------------|------|
| A | 962 | RELEASE | MLV | 4-Aug-2003 | TJB |
| B | 987 | CHANGE TO INTERNAL WIRE HARNESS | MLV | 8-Oct-2003 | MLV |
| C | 1130 | 3.00 MAX WAS 2.89 BH WIDTH | MLV | 10-Mar-2005 | TJB |



DIRECTION OF MOTOR ROTATION WITH + APPLIED TO RED LEAD WIRE AND VIEWED FROM THIS END CW



| MOTOR CHARACTERISTICS | | | |
|------------------------------------|-------|------------------------|--------|
| RATED VOLTAGE D.C. | 48 | VOLTS | |
| RATED CURRENT | 3.1 | AMPS | |
| RATED TORQUE | 40 | OZ-IN | |
| RATED SPEED | 4900 | RPM | +/-15% |
| RATED POWER OUT | 145 | WATTS | +/-15% |
| NO LOAD SPEED | 5600 | RPM | +/-15% |
| NO LOAD CURRENT | 0.45 | AMPS | MAX |
| BACK EMF CONSTANT | 8.4 | V/KRPM | +/-10% |
| TORQUE CONSTANT | 11 | OZ-IN/AMP | +/-10% |
| DC ARMATURE RESISTANCE AT 1.5 AMPS | 1.5 | OHMS | +/-15% |
| STATIC FRICTION | 3 | OZ-IN | MAX |
| ENDPLAY WITH 5 POUND REVERSING | 0.005 | INCHES | MAX |
| SHAFT TIR | 0.001 | INCHES | MAX |
| ARMATURE INERTIA | 0.007 | OZ-IN/SEC ² | REF |

NOTES:
 1. ABEC 3 MINIMUM BALL BEARINGS.
 2. SHAFT MATERIAL 303 STAINLESS STEEL.

| OPERATING LIMITS | | | |
|----------------------|------|-----------|-----|
| SPEED | 8000 | RPM | MAX |
| ARMATURE TEMPERATURE | 155 | DEGREES C | MAX |

| | | | |
|---------------|---|---------------------------|--|
| MATERIAL | UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES. TOLERANCES ARE AS FOLLOWS: FRACTIONS DECIMALS ANGLES \pm 1/64 .001 .001 | DO NOT SCALE DRAWING | DYNETIC SYSTEMS |
| | FINISH | APPROVALS DATE | ELK RIVER, MINNESOTA |
| NEXT ASSEMBLY | CHECKED | DRAWN M. VORLICEK 6/18/03 | MS2230-03/C |
| | BREAK CORNERS OUTSIDE: .020 MAX/.005 MIN. INSIDE: .016 MAX RADIUS | SCALE 1:1 | MOTOR |
| | | | SIZE DWG. NO. C230168 |
| | | | REV. C |
| | | | THIS IS A SOLIDWORKS FORMAT DRAWING SHEET 1 OF 1 |