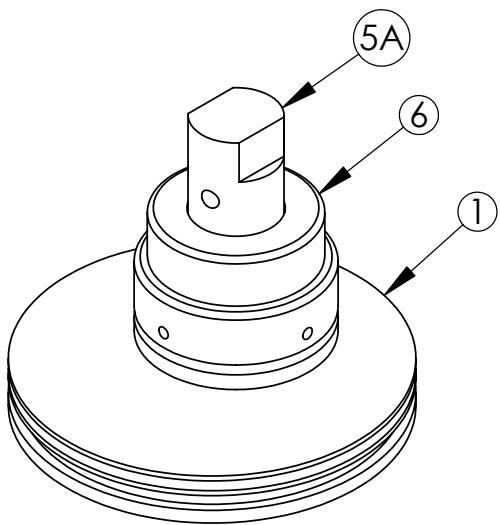
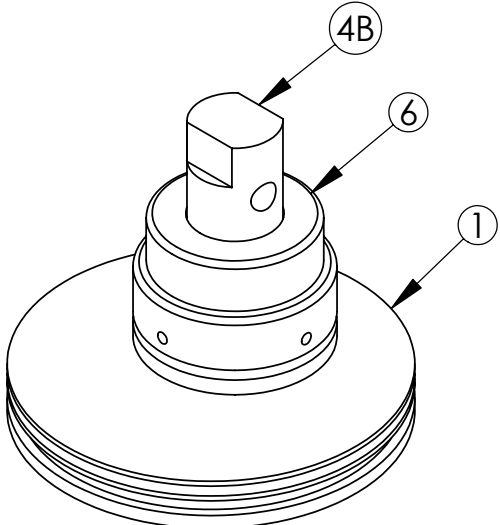


THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF MBARI. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF MBARI IS PROHIBITED.

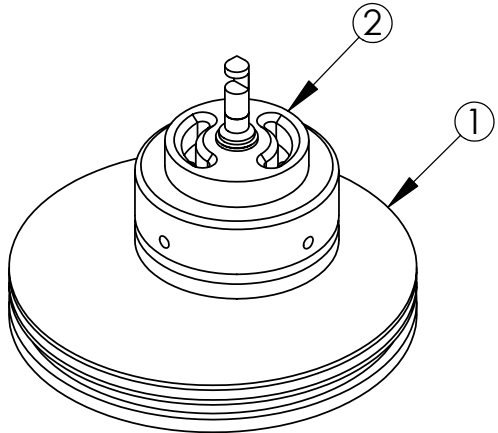
| REVISIONS |                              |               |          |
|-----------|------------------------------|---------------|----------|
| REV.      | DESCRIPTION                  | DATE          | APPROVED |
|           | INITIAL RELEASE              | 128JAH.A.DWG  | 7/8/02   |
| A         | 3 - C TECH PROBE TIP LENGTHS | J. SCHOLFIELD | 4/8/03   |
| B         | C TECH FLOWCELL TIP RELIEF   | J. SCHOLFIELD | 5/23/03  |



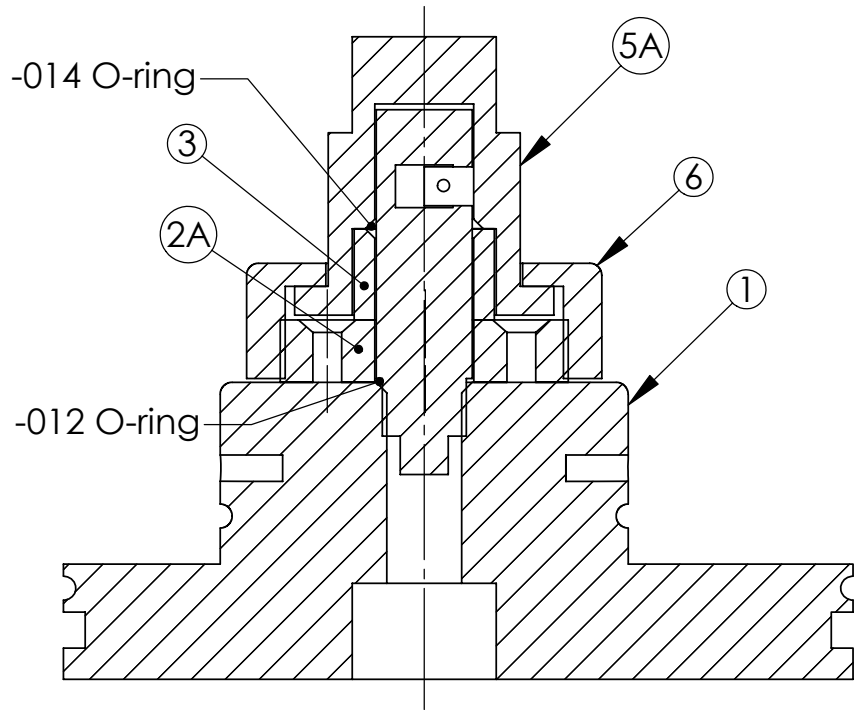
EquiTech Probe  
with 1/4-28 connections



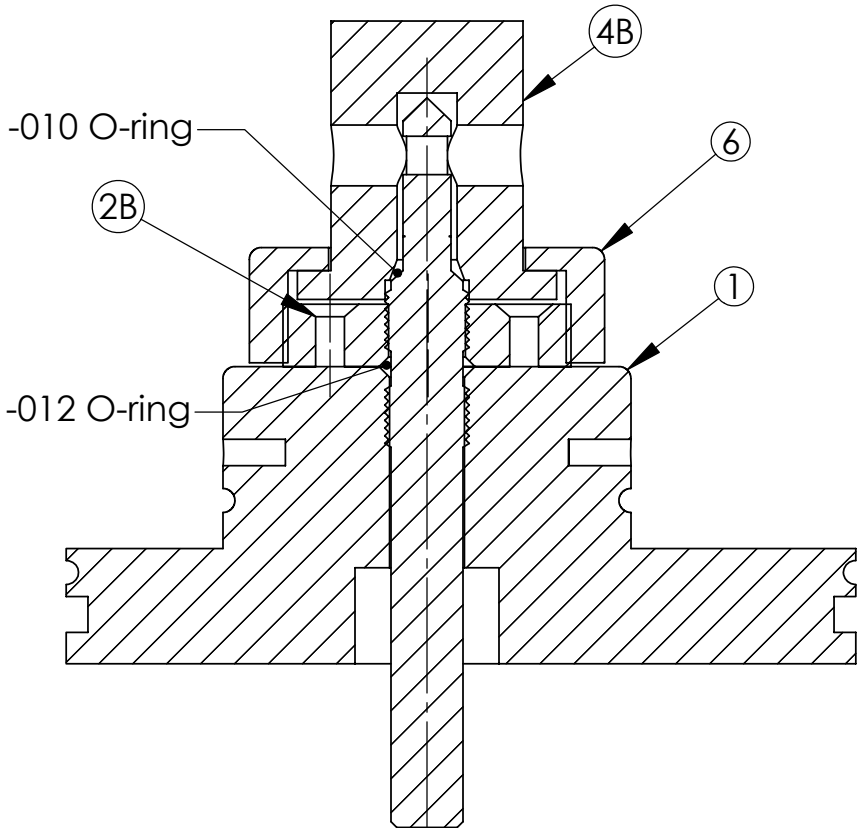
C-Tech Probe  
with 1/8" NPT connection



C-Tech Probe  
Exposed probe



SECTION  
EquiTech Probe  
with 1/4-28 connections



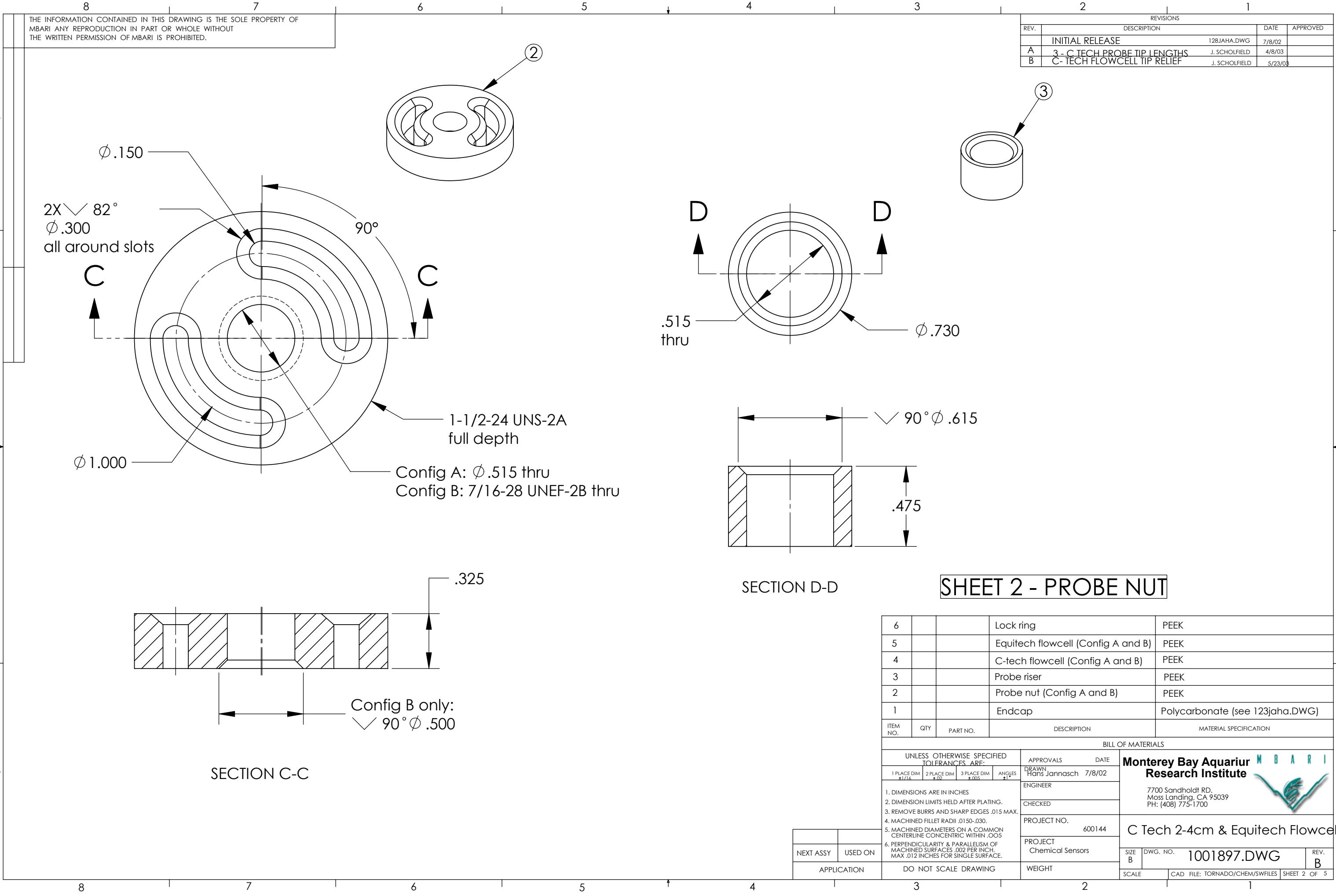
SECTION  
C-Tech Probe  
with 1/8" NPT connection

Note 7  
O-rings:  
EquiTech Probe: -012 and -014  
C-Tech Probe: -010 and -012

## SHEET 1 - CROSS SECTIONS

| 6        |     |          | Lock ring                          | PEEK                            |
|----------|-----|----------|------------------------------------|---------------------------------|
| 5        |     |          | Equitech flowcell (Config A and B) | PEEK                            |
| 4        |     |          | C-tech flowcell (Config A and B)   | PEEK                            |
| 3        |     |          | Probe riser                        | PEEK                            |
| 2        |     |          | Probe nut (Config A and B)         | PEEK                            |
| 1        |     |          | Endcap                             | Polycarbonate (see 123jaha.DWG) |
| ITEM NO. | QTY | PART NO. | DESCRIPTION                        | MATERIAL SPECIFICATION          |

| UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:                                                                |                  |                   |            | APPROVALS   |               | DATE                 | BILL OF MATERIALS                                                                                                     |                      |
|-----------------------------------------------------------------------------------------------------------|------------------|-------------------|------------|-------------|---------------|----------------------|-----------------------------------------------------------------------------------------------------------------------|----------------------|
| 1 PLACE DIM ±.016                                                                                         | 2 PLACE DIM ±.02 | 3 PLACE DIM ±.005 | ANGLES ±.1 | DRAWN       | Hans Jannasch | 7/8/02               | <b>Monterey Bay Aquarium Research Institute</b><br>7700 Sandholdt RD.<br>Moss Landing, CA 95039<br>PH: (408) 775-1700 |                      |
| 1. DIMENSIONS ARE IN INCHES                                                                               |                  |                   |            | ENGINEER    |               |                      |                                                                                                                       |                      |
| 2. DIMENSION LIMITS HELD AFTER PLATING.                                                                   |                  |                   |            | CHECKED     |               |                      |                                                                                                                       |                      |
| 3. REMOVE BURRS AND SHARP EDGES .015 MAX.                                                                 |                  |                   |            | PROJECT NO. |               | 600144               | <b>C Tech 2-4cm &amp; Equitech Flowcell</b>                                                                           |                      |
| 4. MACHINED FILLET RADII .0150-.030.                                                                      |                  |                   |            | PROJECT     |               | Chemical Sensors     |                                                                                                                       |                      |
| 5. MACHINED DIAMETERS ON A COMMON CENTERLINE CONCENTRIC WITHIN .005                                       |                  |                   |            | WEIGHT      |               |                      | SIZE B                                                                                                                | DWG. NO. 1001897.DWG |
| 6. PERPENDICULARITY & PARALLELISM OF MACHINED SURFACES .002 PER INCH. MAX .012 INCHES FOR SINGLE SURFACE. |                  |                   |            | SCALE       |               |                      | CAD FILE: TORNADO/CHEM/SWFILES                                                                                        | REV. B               |
| NEXT ASSY                                                                                                 |                  | USED ON           |            | APPLICATION |               | DO NOT SCALE DRAWING |                                                                                                                       | SHEET 1 OF 5         |



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

| REVISIONS |                              |               |          |
|-----------|------------------------------|---------------|----------|
| REV.      | DESCRIPTION                  | DATE          | APPROVED |
|           | INITIAL RELEASE              | 128JAH.A.DWG  | 7/8/02   |
| A         | 3 - C TECH PROBE TIP LENGTHS | J. SCHOLFIELD | 4/8/03   |
| B         | C- TECH FLOWCELL TIP RELIEF  | J. SCHOLFIELD | 5/23/03  |

SHEET 2 - PROBE NUT

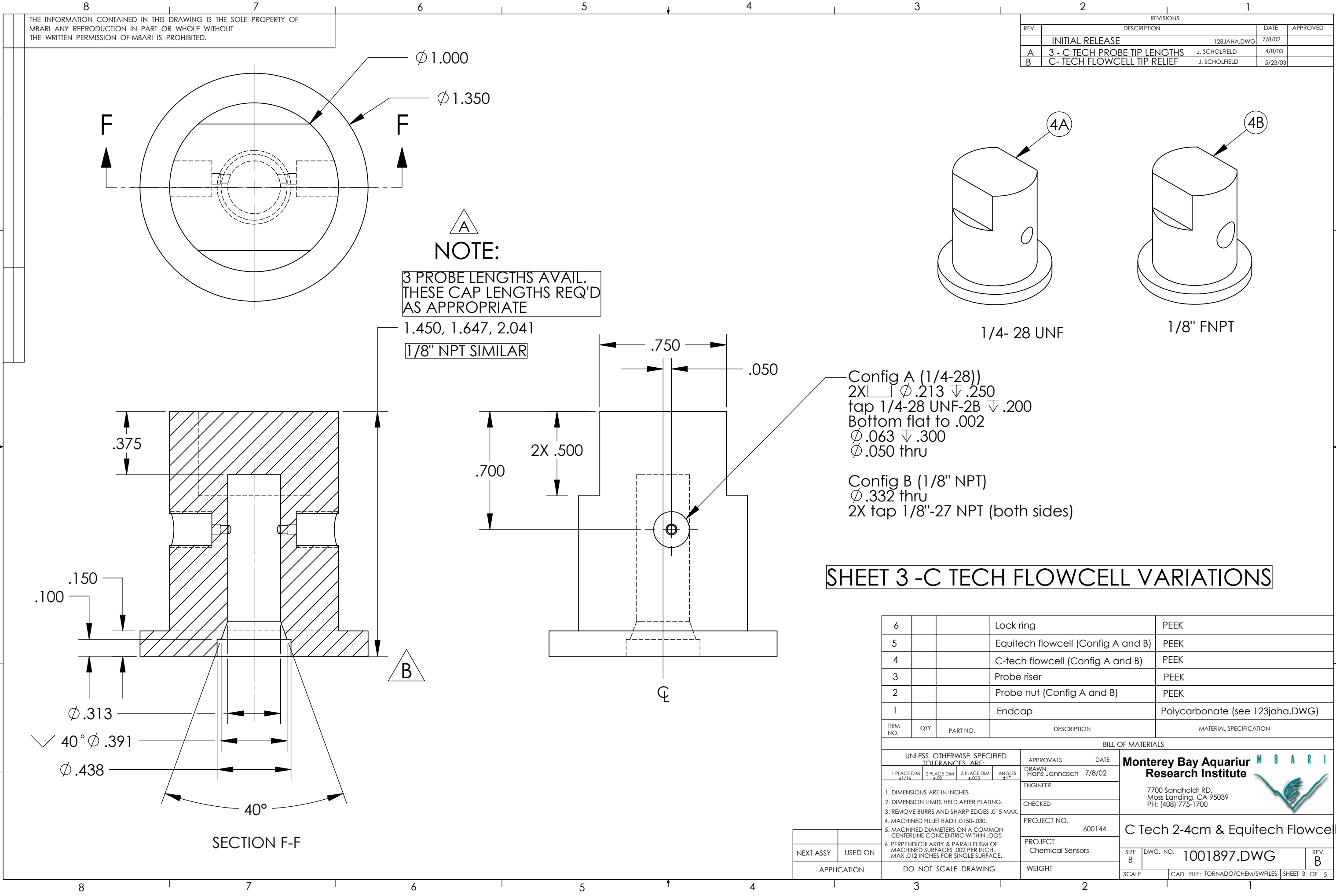
| 6                                                                                                         |                        |                        | Lock ring                          | PEEK                             |
|-----------------------------------------------------------------------------------------------------------|------------------------|------------------------|------------------------------------|----------------------------------|
| 5                                                                                                         |                        |                        | Equitech flowcell (Config A and B) | PEEK                             |
| 4                                                                                                         |                        |                        | C-tech flowcell (Config A and B)   | PEEK                             |
| 3                                                                                                         |                        |                        | Probe riser                        | PEEK                             |
| 2                                                                                                         |                        |                        | Probe nut (Config A and B)         | PEEK                             |
| 1                                                                                                         |                        |                        | Endcap                             | Polycarbonate (see 123jaha.DWG)  |
| ITEM NO.                                                                                                  | QTY                    | PART NO.               | DESCRIPTION                        | MATERIAL SPECIFICATION           |
| BILL OF MATERIALS                                                                                         |                        |                        |                                    |                                  |
| UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:                                                                |                        |                        | APPROVALS                          | DATE                             |
| 1 PLACE DIM $\pm .010$                                                                                    | 2 PLACE DIM $\pm .005$ | 3 PLACE DIM $\pm .002$ | ANGLES $\pm .1^\circ$              | DRAWN<br>Hans Jannasch<br>7/8/02 |
| 1. DIMENSIONS ARE IN INCHES                                                                               |                        |                        | ENGINEER                           |                                  |
| 2. DIMENSION LIMITS HELD AFTER PLATING.                                                                   |                        |                        | CHECKED                            |                                  |
| 3. REMOVE BURRS AND SHARP EDGES .015 MAX.                                                                 |                        |                        | PROJECT NO. 600144                 |                                  |
| 4. MACHINED FILLET RADII .0150-.030.                                                                      |                        |                        | PROJECT Chemical Sensors           |                                  |
| 5. MACHINED DIAMETERS ON A COMMON CENTERLINE CONCENTRIC WITHIN .005                                       |                        |                        | WEIGHT                             |                                  |
| 6. PERPENDICULARITY & PARALLELISM OF MACHINED SURFACES .002 PER INCH. MAX .012 INCHES FOR SINGLE SURFACE. |                        |                        | SCALE                              |                                  |
| NEXT ASSY                                                                                                 |                        |                        | USED ON                            |                                  |
| APPLICATION                                                                                               |                        |                        | DO NOT SCALE DRAWING               |                                  |
|                                                                                                           |                        |                        | CAD FILE: TORNADO/CHEM/SWFILES     |                                  |
|                                                                                                           |                        |                        | SHEET 2 OF 5                       |                                  |

Monterey Bay Aquarium Research Institute

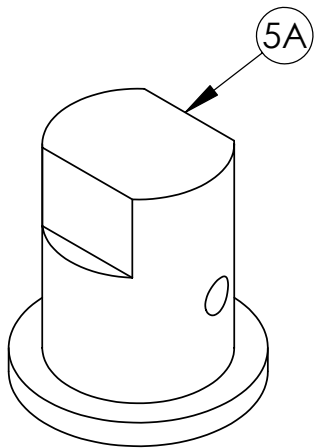
7700 Sandholdt RD.  
Moss Landing, CA 95039  
PH: (408) 775-1700

C Tech 2-4cm & Equitech Flowcell

SIZE B DWG. NO. 1001897.DWG REV. B

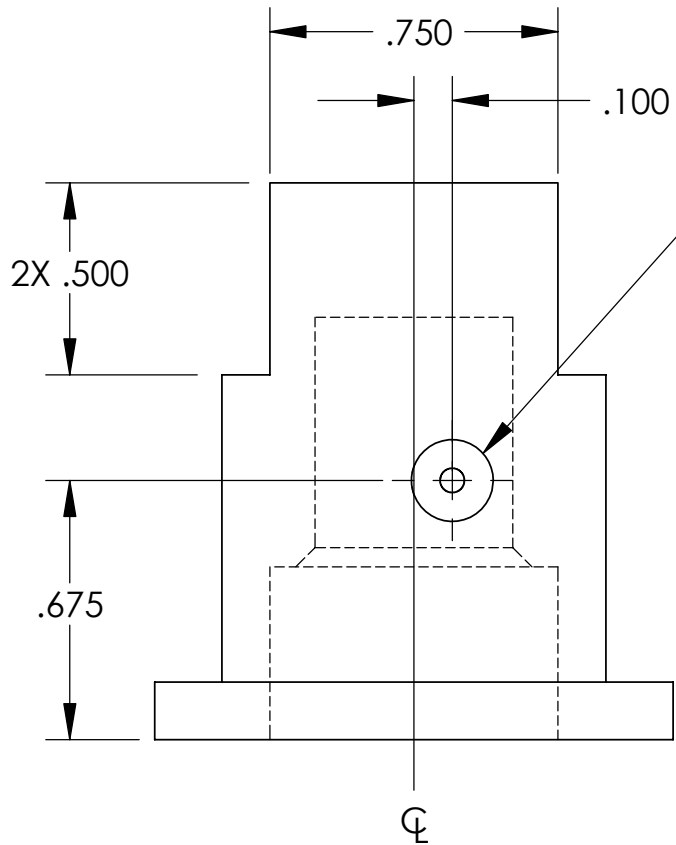


| REVISIONS |                             |         |          |
|-----------|-----------------------------|---------|----------|
| REV.      | DESCRIPTION                 | DATE    | APPROVED |
|           | INITIAL RELEASE             | 7/8/02  |          |
| A         | 3 - C TECH PROBE TIP LENGTH | 4/8/03  |          |
| B         | C TECH FLOWCELL TIP RELIEF  | 5/23/03 |          |



A diagram of a cylindrical component, labeled 5B, which is a cross-sectional view of a part of the device. It shows a cylinder with a circular feature on its side, possibly a port or a sensor, and a label 5B pointing to a specific part of the cylinder.

1/8" NPT



Config B (1/8" NPT)  
 $\phi$ .332 thru  
 2X tap 1/8"-27 NPT (both sides)

SHEET 4- EQUITECH FLOWCELL TOP

|          |     |          |                                    |                                 |
|----------|-----|----------|------------------------------------|---------------------------------|
| 6        |     |          | Lock ring                          | PEEK                            |
| 5        |     |          | Equitech flowcell (Config A and B) | PEEK                            |
| 4        |     |          | C-tech flowcell (Config A and B)   | PEEK                            |
| 3        |     |          | Probe riser                        | PEEK                            |
| 2        |     |          | Probe nut (Config A and B)         | PEEK                            |
| 1        |     |          | Endcap                             | Polycarbonate (see 123jaha.DWG) |
| ITEM NO. | QTY | PART NO. | DESCRIPTION                        | MATERIAL SPECIFICATION          |

| UNLESS OTHERWISE SPECIFIED<br>TOLERANCES ARE:                                                                                                                                                                                                                                                                                                                                                          |                     |                      |               | APPROVALS              |        | DATE             |                                                                                                                                                                                                                                      | BILL OF MATERIALS                |  |              |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|----------------------|---------------|------------------------|--------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|--|--------------|--|
| 1 PLACE DIM<br>±.14                                                                                                                                                                                                                                                                                                                                                                                    | 2 PLACE DIM<br>±.02 | 3 PLACE DIM<br>±.005 | ANGLES<br>±1° | DRAWN<br>Hans Jannasch | 7/8/02 |                  | <div>Monterey Bay Aquarium Research Institute</div> <div>7700 Sandholdt RD.<br/>Moss Landing, CA 95039<br/>PH: (408) 775-1700</div> <div></div> |                                  |  |              |  |
| <div>1. DIMENSIONS ARE IN INCHES</div> <div>2. DIMENSION LIMITS HELD AFTER PLATING.</div> <div>3. REMOVE BURRS AND SHARP EDGES .015 MAX.</div> <div>4. MACHINED FILLET RADII .0150-.030.</div> <div>5. MACHINED DIAMETERS ON A COMMON CENTERLINE CONCENTRIC WITHIN .005</div> <div>6. PERPENDICULARITY &amp; PARALLELISM OF MACHINED SURFACES .002 PER INCH. MAX .012 INCHES FOR SINGLE SURFACE.</div> |                     |                      |               | ENGINEER               |        |                  |                                                                                                                                                                                                                                      |                                  |  |              |  |
|                                                                                                                                                                                                                                                                                                                                                                                                        |                     |                      |               | CHECKED                |        |                  |                                                                                                                                                                                                                                      |                                  |  |              |  |
|                                                                                                                                                                                                                                                                                                                                                                                                        |                     |                      |               | PROJECT NO.            |        | 600144           |                                                                                                                                                                                                                                      | C Tech 2-4cm & Equitech Flowcell |  |              |  |
|                                                                                                                                                                                                                                                                                                                                                                                                        |                     |                      |               | PROJECT                |        | Chemical Sensors |                                                                                                                                                                                                                                      |                                  |  |              |  |
| DO NOT SCALE DRAWING                                                                                                                                                                                                                                                                                                                                                                                   |                     |                      |               | WEIGHT                 |        | SIZE<br>B        |                                                                                                                                                                                                                                      | DWG. NO.<br>1001897.DWG          |  | REV.<br>B    |  |
|                                                                                                                                                                                                                                                                                                                                                                                                        |                     |                      |               |                        |        | SCALE            |                                                                                                                                                                                                                                      | CAD FILE: TORNADO/CHEM/SWFILES   |  | SHEET 4 OF 5 |  |

**Monterey Bay Aquarium  
Research Institute**

7700 Sandholdt RD.  
Moss Landing, CA 95039  
PH: (408) 775-1700

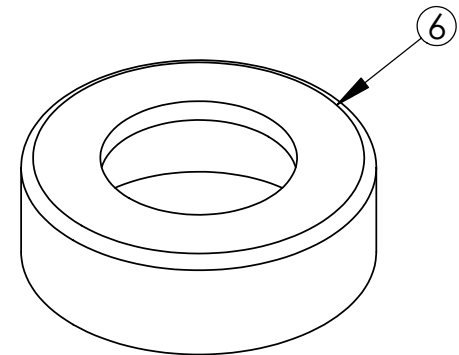
C Tech 2-4cm &amp; Equitech Flowcell

|           |                         |
|-----------|-------------------------|
| SIZE<br>B | DWG. NO.<br>1001897.DWG |
|-----------|-------------------------|

REV  
B

|       |                                |              |
|-------|--------------------------------|--------------|
| SCALE | CAD FILE: TORNADO/CHEM/SWFILES | SHEET 4 OF 5 |
|-------|--------------------------------|--------------|

| REVISIONS |                            |               |          |
|-----------|----------------------------|---------------|----------|
| REV.      | DESCRIPTION                | DATE          | APPROVED |
|           | INITIAL RELEASE            | 128JAH.DWG    | 7/8/02   |
| A         | 3 - CTECH PROBE TIP LENGTH | J. SCHOLFIELD | 4/8/03   |
| B         | CTECH FLOWCELL TIP RELIEF  | J. SCHOLFIELD | 5/23/03  |



|          |     |          |                                    |                                 |
|----------|-----|----------|------------------------------------|---------------------------------|
| 6        |     |          | Lock ring                          | PEEK                            |
| 5        |     |          | Equitech flowcell (Config A and B) | PEEK                            |
| 4        |     |          | C-tech flowcell (Config A and B)   | PEEK                            |
| 3        |     |          | Probe riser                        | PEEK                            |
| 2        |     |          | Probe nut (Config A and B)         | PEEK                            |
| 1        |     |          | Endcap                             | Polycarbonate (see 123jaha.DWG) |
| ITEM NO. | QTY | PART NO. | DESCRIPTION                        | MATERIAL SPECIFICATION          |

|                                                                                                            |                     |                      |               |                        |        |                                                                                                                                                                                                                                          |
|------------------------------------------------------------------------------------------------------------|---------------------|----------------------|---------------|------------------------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BILL OF MATERIALS                                                                                          |                     |                      |               |                        |        |                                                                                                                                                                                                                                          |
| UNLESS OTHERWISE SPECIFIED<br>TOLERANCES ARE:                                                              |                     |                      |               | APPROVALS              | DATE   | <div>Monterey Bay Aquariur<br/>Research Institute</div> <div>7700 Sandholdt RD.<br/>Moss Landing, CA 95039<br/>PH: (408) 775-1700</div> <div></div> |
| 1 PLACE DIM<br>±.1/16                                                                                      | 2 PLACE DIM<br>±.02 | 3 PLACE DIM<br>±.005 | ANGLES<br>±1° | DRAWN<br>Hans Jannasch | 7/8/02 |                                                                                                                                                                                                                                          |
| 1. DIMENSIONS ARE IN INCHES                                                                                |                     |                      |               | ENGINEER               |        |                                                                                                                                                                                                                                          |
| 2. DIMENSION LIMITS HELD AFTER PLATING.                                                                    |                     |                      |               | CHECKED                |        |                                                                                                                                                                                                                                          |
| 3. REMOVE BURRS AND SHARP EDGES .015 MAX.                                                                  |                     |                      |               | PROJECT NO.            |        |                                                                                                                                                                                                                                          |
| 4. MACHINED FILLET RADII .0150-.030.                                                                       |                     |                      |               | 600144                 |        |                                                                                                                                                                                                                                          |
| 5. MACHINED DIAMETERS ON A COMMON CENTERLINE CONCENTRIC WITHIN .005                                        |                     |                      |               | PROJECT                |        |                                                                                                                                                                                                                                          |
| 6. PERPENDICULARITY & PARALLELISM OF MACHINED SURFACES .002 PER INCH. MAX. .012 INCHES FOR SINGLE SURFACE. |                     |                      |               | Chemical Sensors       |        |                                                                                                                                                                                                                                          |
| DO NOT SCALE DRAWING                                                                                       |                     |                      |               | WEIGHT                 |        | <div><div>SHEET 5 OF 5</div><div>CAD FILE: TORNADO/CHEM/SWFILES</div><div>SCALE</div></div>                                                                                                                                              |

|        |                      |        |
|--------|----------------------|--------|
| SIZE B | DWG. NO. 1001897.DWG | REV. B |
|--------|----------------------|--------|

SECTION Z-Z