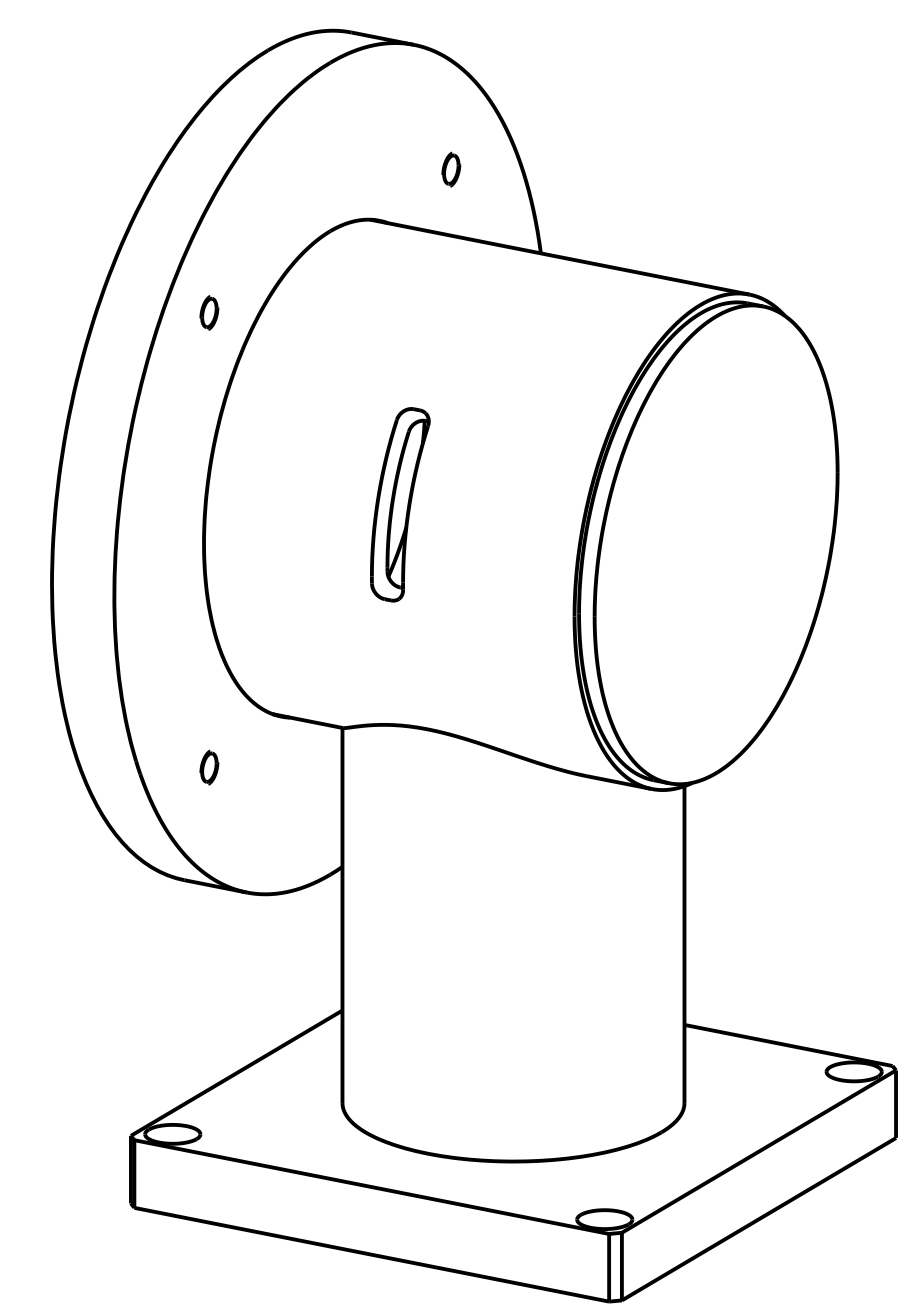
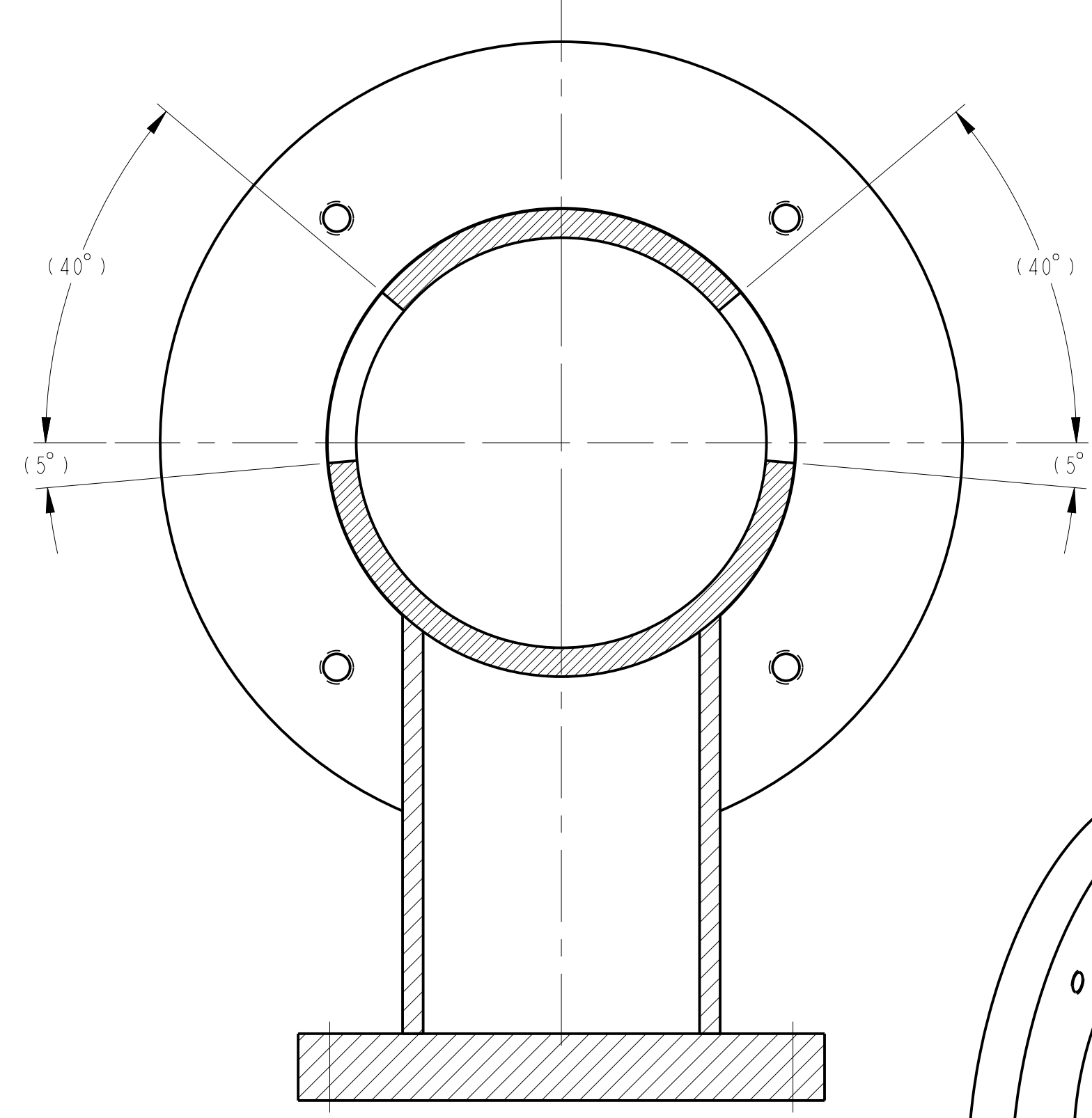
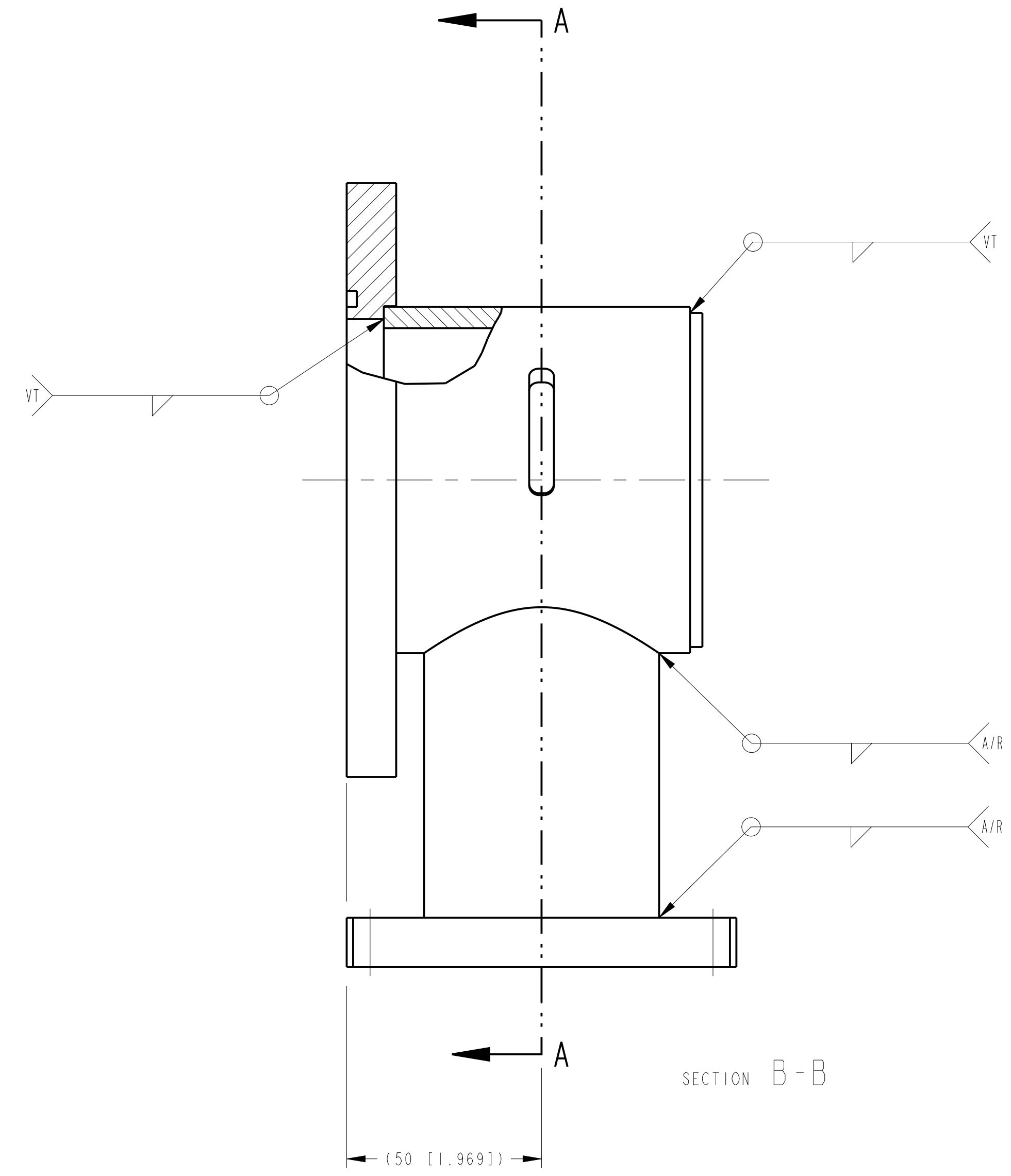
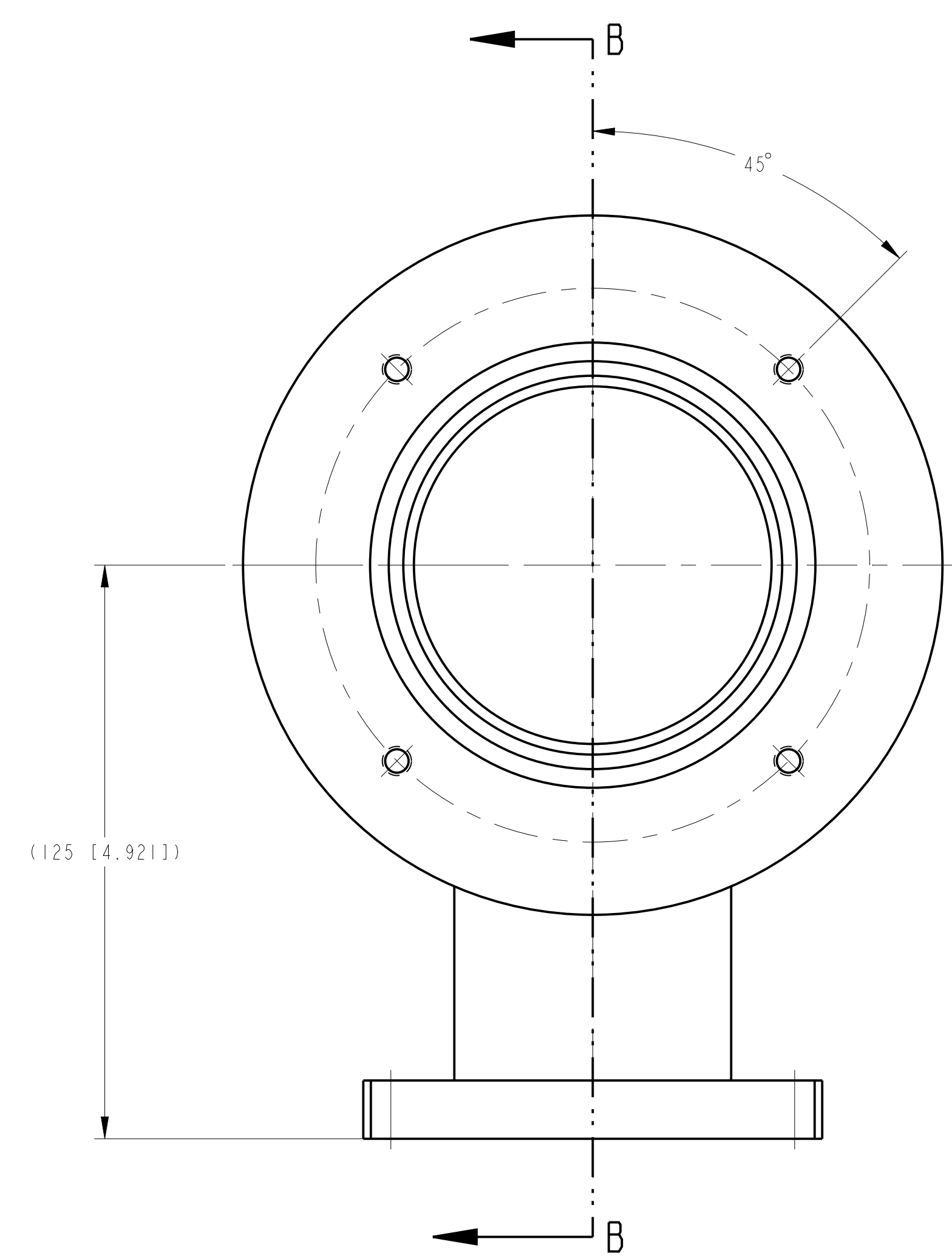
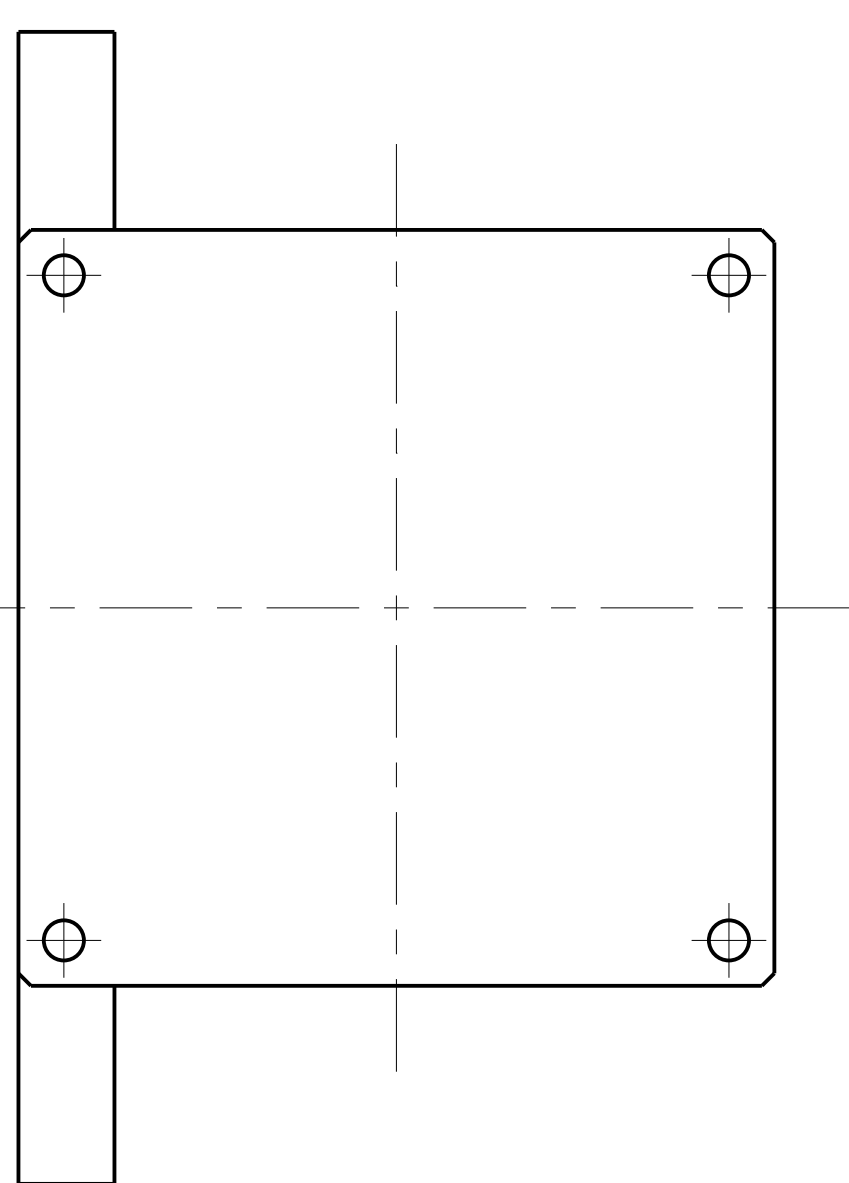


| REVISIONS |     |             |    |          |      |
|-----------|-----|-------------|----|----------|------|
| ZONE      | REV | DESCRIPTION | BY | APPROVED | DATE |
|           |     |             |    |          |      |



SCALE 3:4

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**NOTES -**

**MACHINING -**

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**WELDING -**

ALL WELDS ARE GAS TUNGSTEN ARC WELDS (GTAW). FOR COMPLETE WELDING SPECIFICATIONS, SEE SAE DOCUMENT NO. AMS 2865D

FOR COMPLETE SPECIFICATIONS ON WELDING, SEE SAE DOCUMENT AMS 2685C.

CLEAN FOR  $10^{-9}$  TORR UHV SERVICE PRIOR TO WELDING.

**TESTING -**

VACUUM LEAK CHECK; NO DETECTABLE LEAKS WHEN TESTING AT  $2 \times 10^{-9}$  STC CC/SEC OF HELIUM LEVEL.

| ITEM | DRAWING / PART NUMBER | REV | NOMENCLATURE OR DESCRIPTION | MATERIAL / SPEC. | QTY |
|------|-----------------------|-----|-----------------------------|------------------|-----|
| 5    | 430802-100005         | 00  | SUPPORT TUBE                | ALUMINUM         | 1   |
| 4    | 430802-100004         | 00  | SUPPORT BASE                | ALUMINUM         | 1   |
| 3    | 430802-100003         | 00  | END CAP                     | ALUMINUM         | 1   |
| 2    | 430802-100002         | 00  | FLANGE                      | ALUMINUM         | 1   |
| 1    | 430802-100001         | 00  | CHAMBER TUBE                | ALUMINUM         | 1   |

| PARTS LIST / BILL OF MATERIALS   |   |   |  |   |              |
|--|---|---|--|---|--------------|
| REMOVE ALL BURRS AND BREAK SHARP EDGES .03" MAX. SURFACE TEXTURE IN ACCORDANCE WITH LATEST ASME B46.1-2002 DIMENSIONING AND TOLERANCING IN ACCORDANCE WITH LATEST ASME Y14.5M-1994 | DRAFTER: O. SCHMIDT<br>CHECKER: O. SCHMIDT<br>DATE: 16-Jan-14 | DATE: 16-Jan-14<br>RESPONSIBLE ENGINEER: O. SCHMIDT<br>GROUP LEADER/PROJECT LEADER/CAM: A. SANDY<br>DATE: | DATE: 16-Jan-14<br>APPROVER: B. RUSTHOVEN<br>RELEASE LEVEL: WIP<br>MODEL: 2<br>DWG. VER: 3<br>MATERIAL: ALUMINUM | DATE: 16-Jan-14<br>TITLE: SAMPLE CHAMBER WELDMENT<br>SIZE: D<br>DRAWING NUMBER: 430802-100010<br>SCALE: 1:1<br>DO NOT SCALE DRAWING | SHEET 1 OF 1 |

THIS DRAWING IS THE PROPERTY OF  
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**ADVANCED PHOTON SOURCE**  
 EXPERIMENTAL FACILITIES  
 BEAMLINE 1D  
 SECTOR 8 ID  
 INSTRUMENTATION

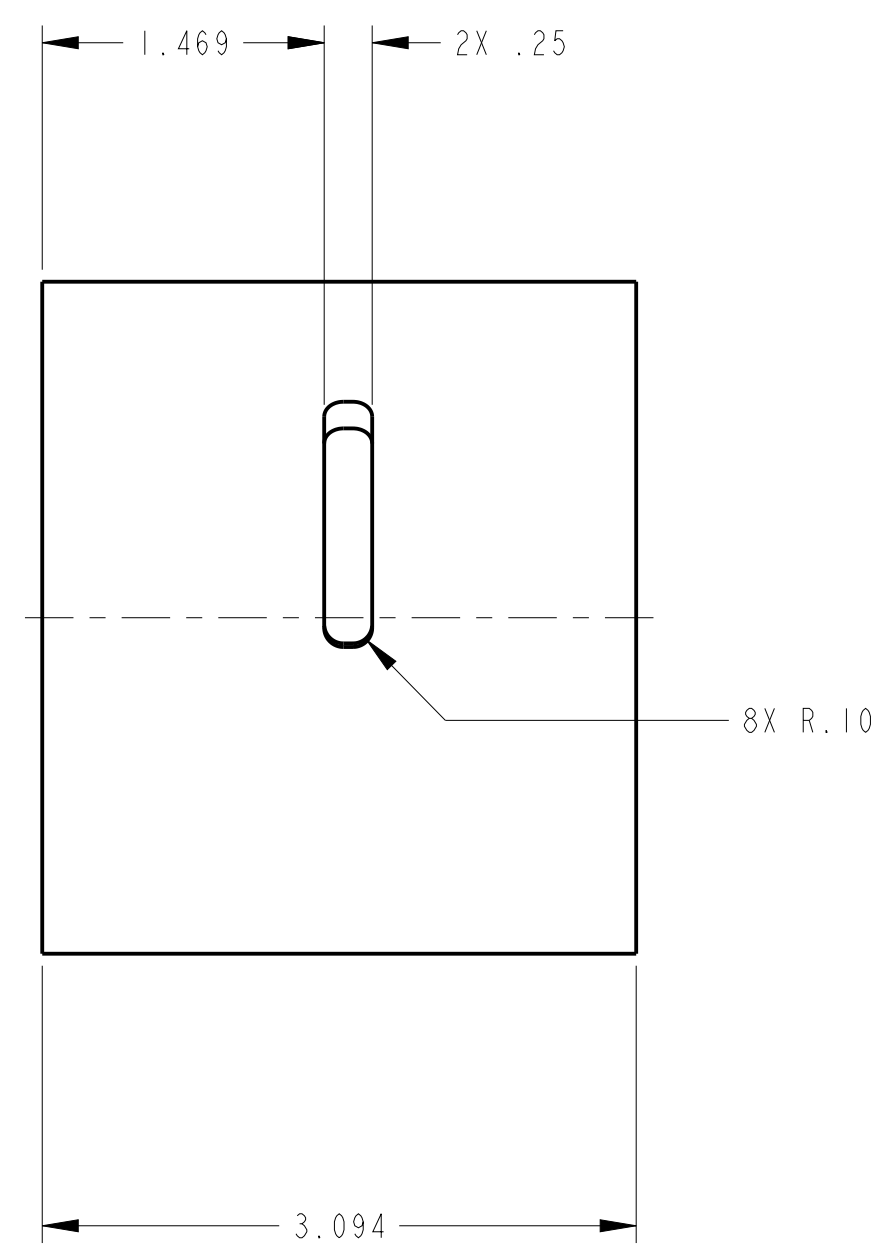
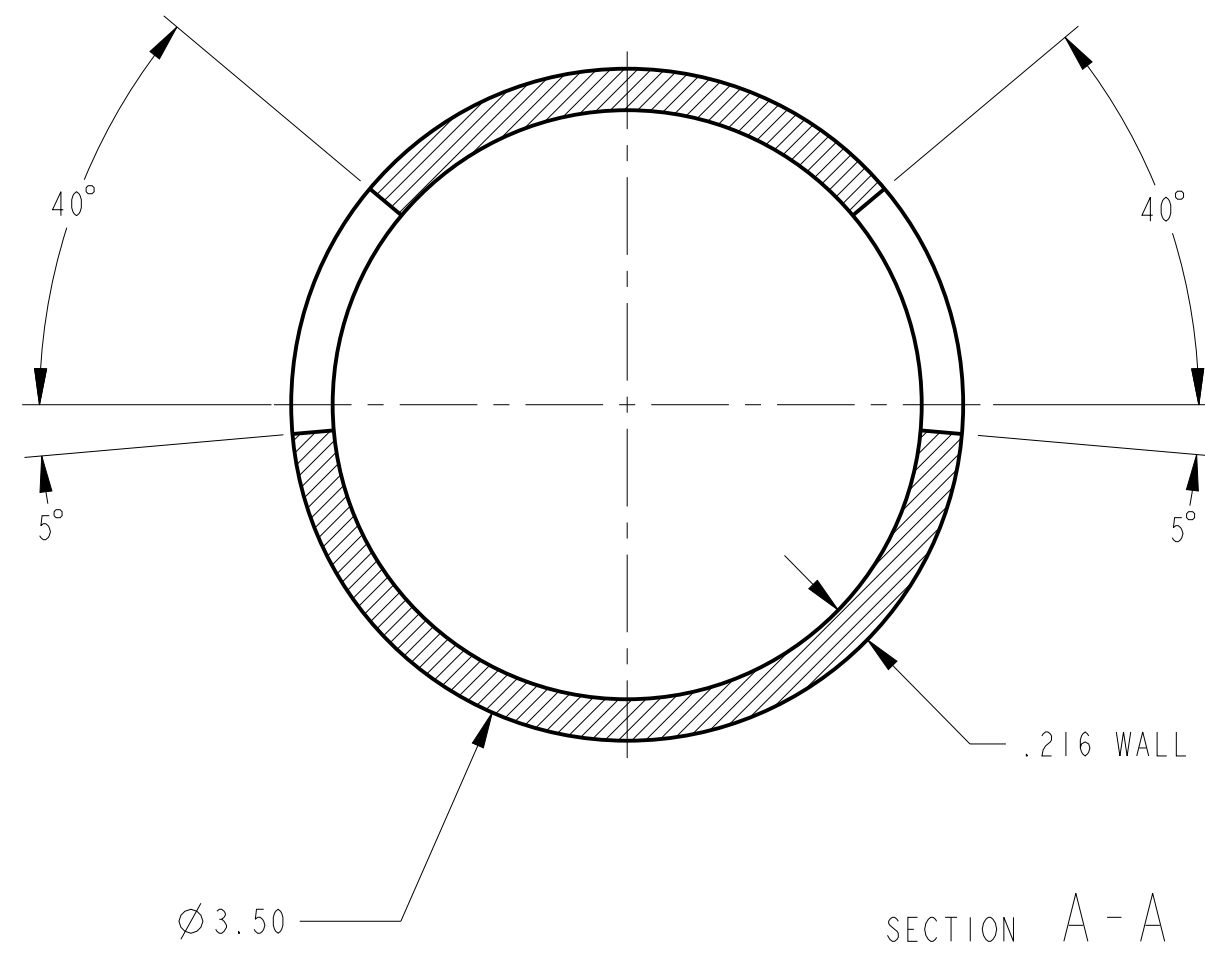
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| REVISIONS |     |             |    |          |      |
|-----------|-----|-------------|----|----------|------|
| ZONE      | REV | DESCRIPTION | BY | APPROVED | DATE |
|           |     |             |    |          |      |



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| ITEM  | DRAWING / PART NUMBER | REV | NOMENCLATURE OR DESCRIPTION   | MATERIAL / SPEC.   | QTY  |  |
|---|-----------------------|-----|---|--|--|--|
| PARTS LIST / BILL OF MATERIALS  |                       |     |   |  |  |  |
| REMOVE ALL BURRS AND BREAK SHARP EDGES .03" MAX. SURFACE TEXTURE IN ACCORDANCE WITH LATEST ASME B46.1-2002 DIMENSIONING AND TOLERANCING IN ACCORDANCE WITH LATEST ASME Y14.5M-1994<br>ELECTRONIC FILE NAME: <b>A5264900</b><br>MODEL NAME: 430802-100001<br>UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN INCHES<br>TOLERANCES<br>DECIMALS .X ± .1<br>.XX ± .03<br>.XXX ± .005<br>SURFACE ROUGHNESS 125/ |                       |     | DRAFTER: O. SCHMIDT<br>CHECKER: -<br>DESIGNER: -<br>RESPONSIBLE ENGINEER: O. SCHMIDT<br>GROUP LEADER/PROJECT LEADER/CAM: A. SANDY<br>APPROVER: B. RUSTHOVEN<br>RELEASE LEVEL: WIP<br>MATERIAL: ALUMINUM | DATE: 15-Jan-14<br>DATE: 15-Jan-14<br>DATE:<br>DATE:<br>DATE:<br>DATE:<br>DATE:<br>MODEL VER: 2<br>DRWG VER: 2 | THIS DRAWING IS THE PROPERTY OF<br><b>Argonne NATIONAL LABORATORY</b><br><b>ADVANCED PHOTON SOURCE</b><br>WBS DESCRIPTOR:<br>EXPERIMENTAL FACILITIES<br>BEAMLINE ID<br>SECTOR 8 ID<br>INSTRUMENTATION<br>TITLE:<br><b>CHAMBER TUBE</b> | SIZE: C<br>DRAWING NUMBER: <b>430802-100001</b><br>SKT. DES. REV. 00<br>SCALE: 1:1<br>FSCM No.: OHRHS<br><b>DO NOT SCALE DRAWING</b><br>SHEET 1 OF 1 |

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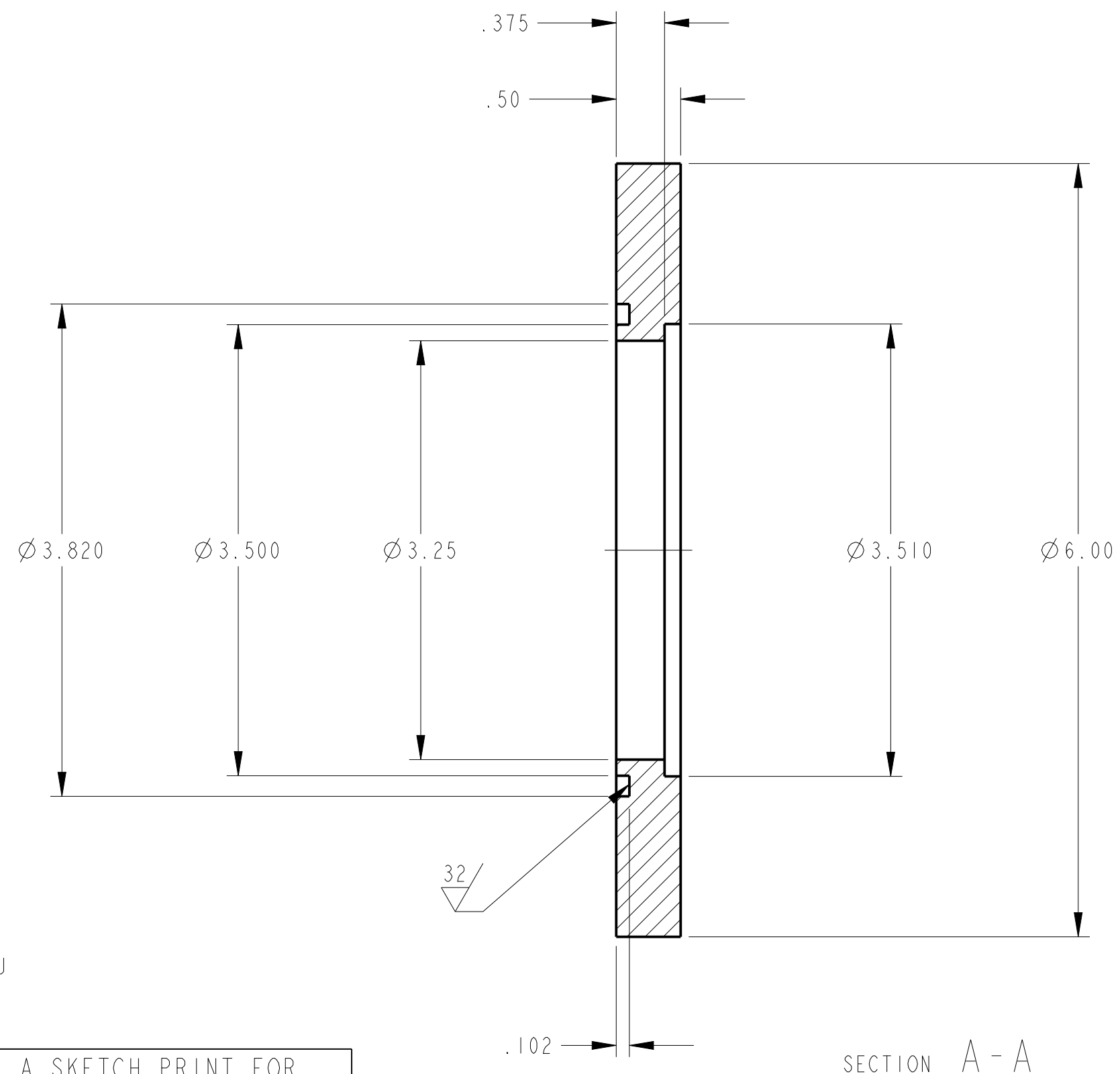
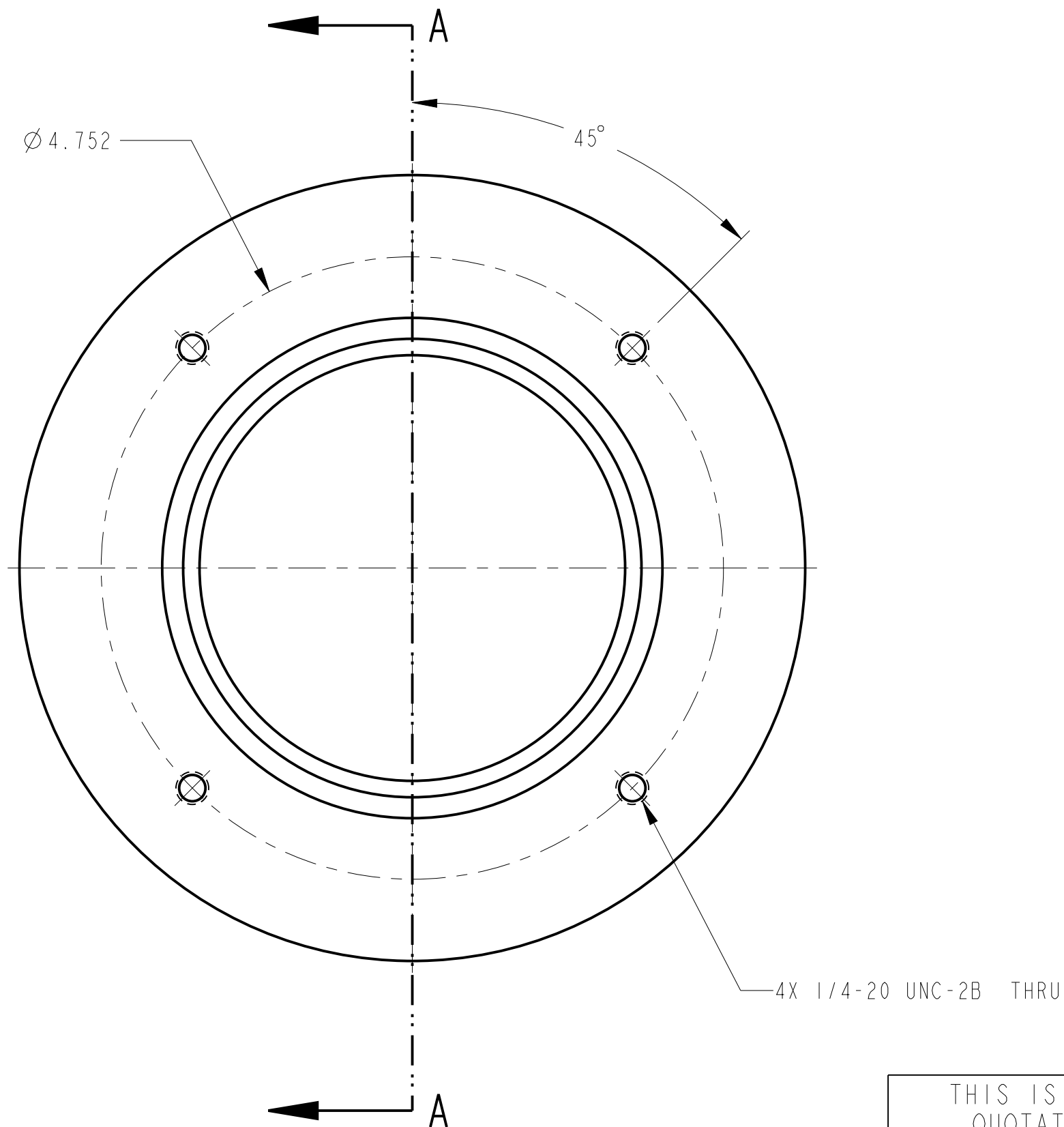
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| REVISIONS |     |             |    |          |      |
|-----------|-----|-------------|----|----------|------|
| ZONE      | REV | DESCRIPTION | BY | APPROVED | DATE |
|           |     |             |    |          |      |



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| ITEM   | DRAWING / PART NUMBER | REV | NOMENCLATURE OR DESCRIPTION  | MATERIAL / SPEC. | QTY   |
|--|-----------------------|-----|--|------------------|---|
| <b>PARTS LIST / BILL OF MATERIALS</b>  |                       |     |  |                  |   |
| REMOVE ALL BURRS AND BREAK SHARP EDGES .03" MAX. SURFACE TEXTURE IN ACCORDANCE WITH LATEST ASME B46.1-2002 DIMENSIONING AND TOLERANCING IN ACCORDANCE WITH LATEST ASME Y14.5M-1994<br>ELECTRONIC FILE NAME:<br><b>A5265000</b><br>MODEL NAME:<br>430802-100002 |                       |     | DRAFTER:<br><b>O. SCHMIDT</b><br>CHECKER:<br>DATE:<br><b>17-Jan-14</b>   |                  | THIS DRAWING IS THE PROPERTY OF<br><b>Argonne NATIONAL LABORATORY</b><br><b>ADVANCED PHOTON SOURCE</b><br>WBS DESCRIPTOR:<br>EXPERIMENTAL FACILITIES<br>BEAMLINE ID<br>SECTOR 8 ID<br>INSTRUMENTATION |
| UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN INCHES TOLERANCES<br>DECIMALS .XX ± .03<br>.XXX ± .005<br>ANGULAR ± 0.5°<br>SURFACE ROUGHNESS 125/  |                       |     | DESIGNER:<br><b>O. SCHMIDT</b><br>GROUP LEADER/PROJECT LEADER/CAM:<br><b>A. SANDY</b><br>DATE:<br><b>17-Jan-14</b> |                  |   |
| APPROVER:<br><b>B. RUSTHOVEN</b><br>RELEASE LEVEL:<br><b>WIP</b><br>MATERIAL:<br><b>ALUMINUM</b>   |                       |     | DATE:<br>DATE:<br>MODEL VER: <b>3</b> DRWG VER: <b>3</b>   |                  |   |
| TITLE:<br><b>FLANGE</b>  |                       |     | SIZE: <b>C</b> DRAWING NUMBER: <b>430802-100002</b> SKT. DES. <b>00</b> REV. <b>00</b>                             |                  |   |
| SCALE: 1:1   |                       |     | FSCM No: <b>0HRHS</b> <b>DO NOT SCALE DRAWING</b>  |                  | SHEET 1 OF 1  |

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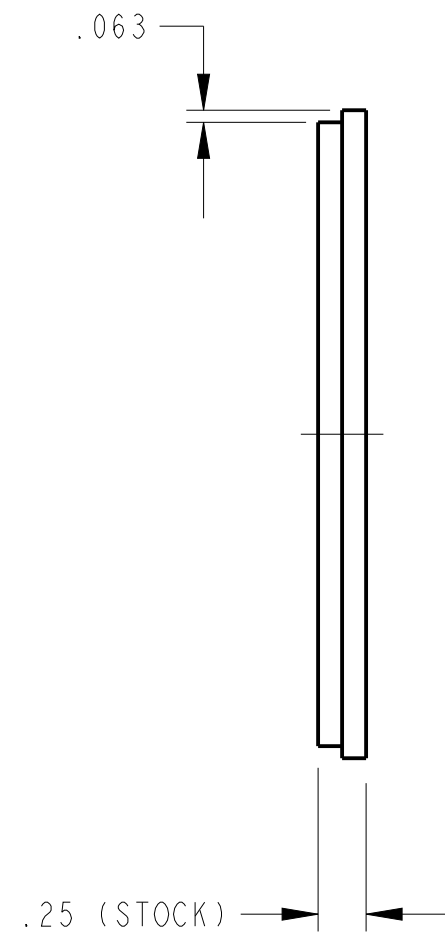
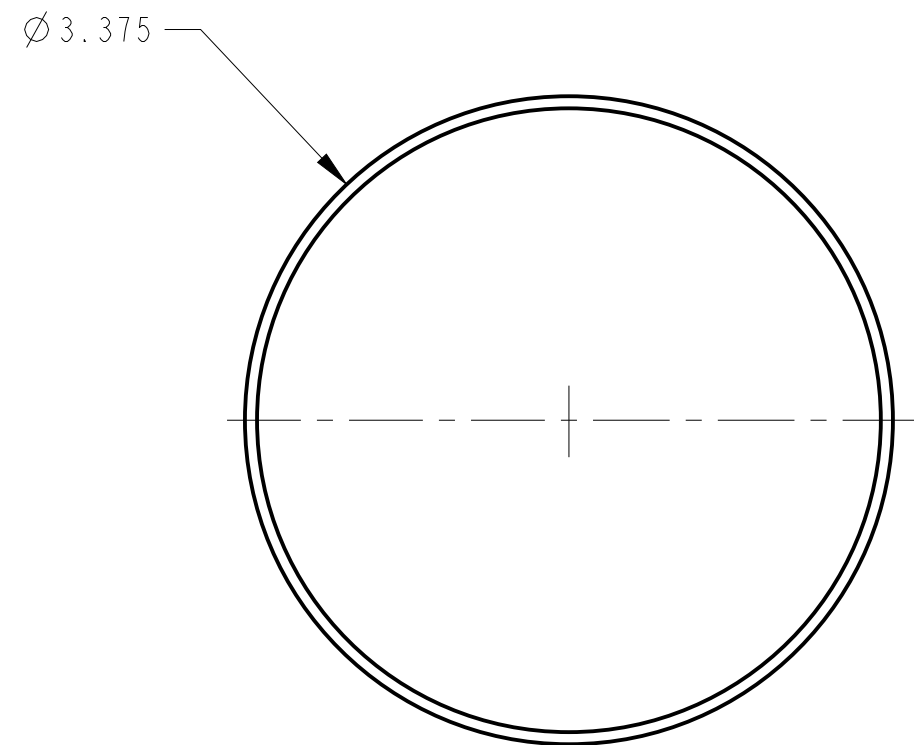
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| REVISIONS |     |             |    |          |      |
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| ZONE      | REV | DESCRIPTION | BY | APPROVED | DATE |
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| ITEM   | DRAWING / PART NUMBER | REV | NOMENCLATURE OR DESCRIPTION  | MATERIAL / SPEC.  | QTY   |
|--|-----------------------|-----|--|-------------------|---|
| <b>PARTS LIST / BILL OF MATERIALS</b>  |                       |     |  |                   |   |
| REMOVE ALL BURRS AND BREAK SHARP EDGES .03" MAX. SURFACE TEXTURE IN ACCORDANCE WITH LATEST ASME B46.1-2002 DIMENSIONING AND TOLERANCING IN ACCORDANCE WITH LATEST ASME Y14.5M-1994<br>ELECTRONIC FILE NAME:<br><b>A5265100</b><br>MODEL NAME:<br>430802-100003 |                       |     | DRAFTER: O. SCHMIDT DATE: 15-Jan-14<br>CHECKER: DATE:<br>DESIGNER: - DATE: 15-Jan-14<br>RESPONSIBLE ENGINEER: O. SCHMIDT DATE:<br>GROUP LEADER/PROJECT LEADER/CAM: A. SANDY DATE:<br>APPROVER: B. RUSTHOVEN DATE:<br>RELEASE LEVEL: WIP MODEL VER: 2 DRWG VER: C |                   | THIS DRAWING IS THE PROPERTY OF<br><b>Argonne NATIONAL LABORATORY</b><br><b>ADVANCED PHOTON SOURCE</b><br>WBS DESCRIPTOR:<br>EXPERIMENTAL FACILITIES<br>BEAMLINE ID<br>SECTOR 8 ID<br>INSTRUMENTATION<br>TITLE:<br><b>END CAP</b> |
| UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN INCHES<br>TOLERANCES<br>DECIMALS .X ± .1<br>.XX ± .03<br>.XXX ± .005<br>ANGULAR ± 0.5°<br>SURFACE ROUGHNESS 125/√   |                       |     | MATERIAL: ALUMINUM   |                   | SCALE: 1:1<br>FSCM No.: OHRHS<br><b>DO NOT SCALE DRAWING</b><br>SHEET 1 OF 1  |
| SIZE: C<br>DRAWING NUMBER: <b>430802-100003</b>  |                       |     |  | SKT. DES. REV. 00 |   |

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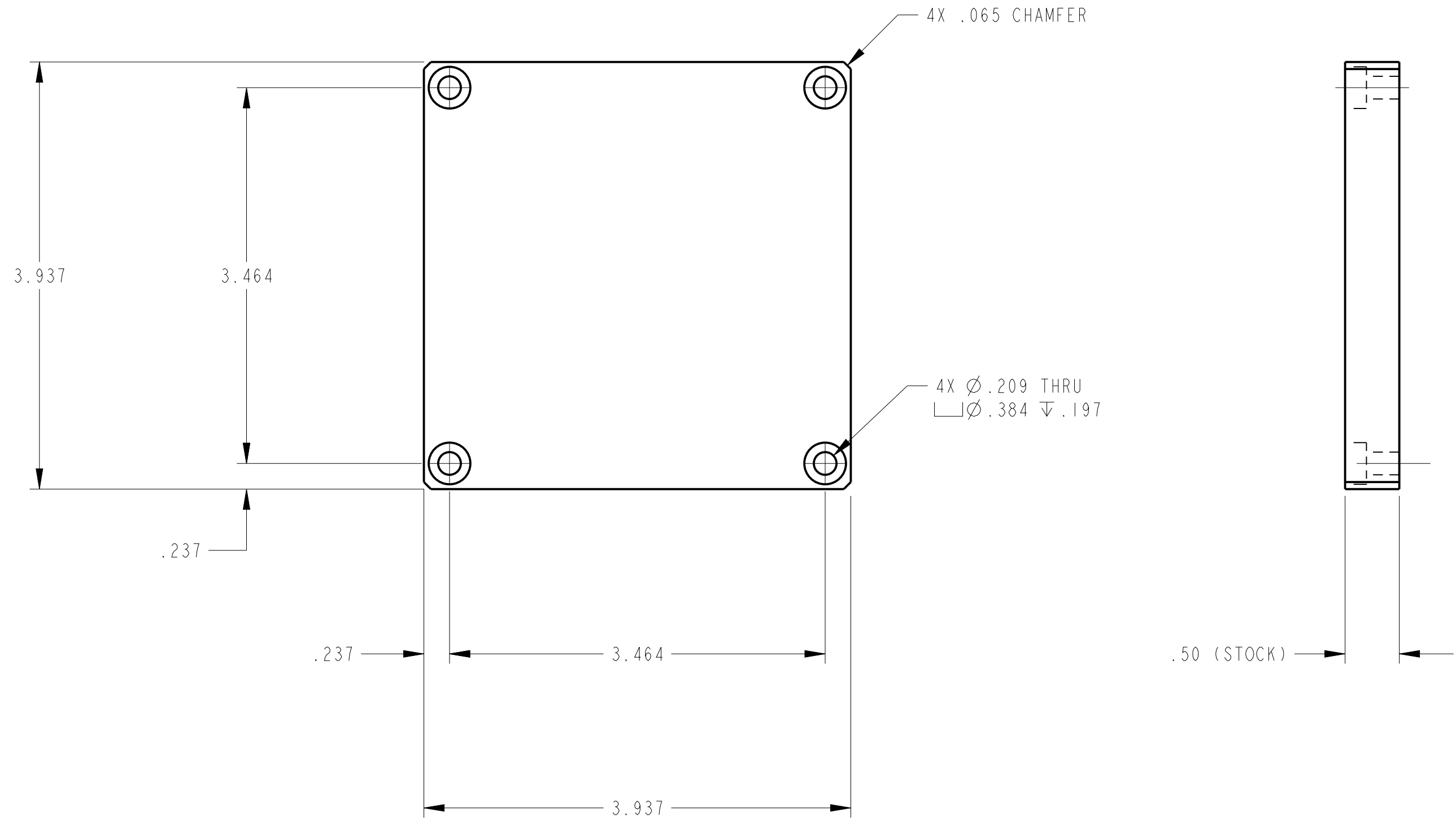
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| REVISIONS |     |             |    |          |      |
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| ZONE      | REV | DESCRIPTION | BY | APPROVED | DATE |
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| ITEM   | DRAWING / PART NUMBER | REV | NOMENCLATURE OR DESCRIPTION  | MATERIAL / SPEC. | QTY   |
|--|-----------------------|-----|--|------------------|---|
| <b>PARTS LIST / BILL OF MATERIALS</b>  |                       |     |  |                  |   |
| REMOVE ALL BURRS AND BREAK SHARP EDGES .03" MAX. SURFACE TEXTURE IN ACCORDANCE WITH LATEST ASME B46.1-2002 DIMENSIONING AND TOLERANCING IN ACCORDANCE WITH LATEST ASME Y14.5M-1994<br>ELECTRONIC FILE NAME:<br><b>A5265200</b><br>MODEL NAME:<br>430802-100004 |                       |     | DRAFTER: O. SCHMIDT DATE: 17-Jan-14<br>CHECKER: DATE:<br>DESIGNER: - DATE: 17-Jan-14<br>RESPONSIBLE ENGINEER: O. SCHMIDT DATE:<br>GROUP LEADER/PROJECT LEADER/CAM: A. SANDY DATE:<br>APPROVER: B. RUSTHOVEN DATE:<br>RELEASE LEVEL: WIP MODEL VER: 2 DRWG VER: 3 |                  | THIS DRAWING IS THE PROPERTY OF<br><b>Argonne NATIONAL LABORATORY</b><br><b>ADVANCED PHOTON SOURCE</b><br>WBS DESCRIPTOR:<br>EXPERIMENTAL FACILITIES<br>BEAMLINE ID<br>SECTOR 8 ID<br>INSTRUMENTATION |
| UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN INCHES TOLERANCES<br>DECIMALS ANGULAR<br>.X ± .1 ± 0.5°<br>.XX ± .03<br>.XXX ± .005<br>SURFACE ROUGHNESS 125/√  |                       |     | MATERIAL: ALUMINUM<br>SCALE: 1:1<br>FSCM No.: OHRHS<br><b>DO NOT SCALE DRAWING</b>   |                  | TITLE: <b>SUPPORT BASE</b><br>DRAWING NUMBER: <b>430802-100004</b><br>SKT. DES. REV. <b>00</b>  |
| SHEET 1 OF 1   |                       |     |  |                  |   |

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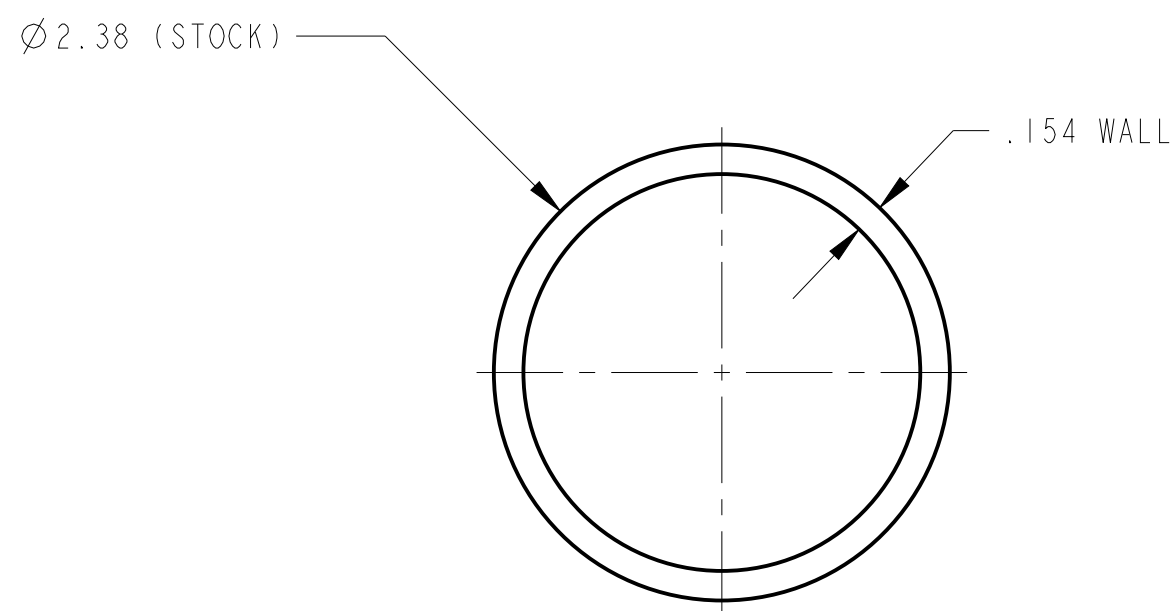
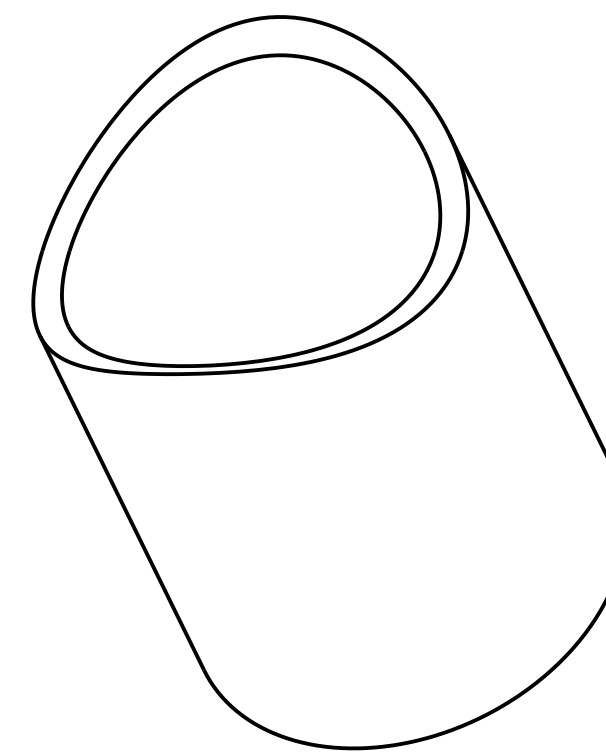
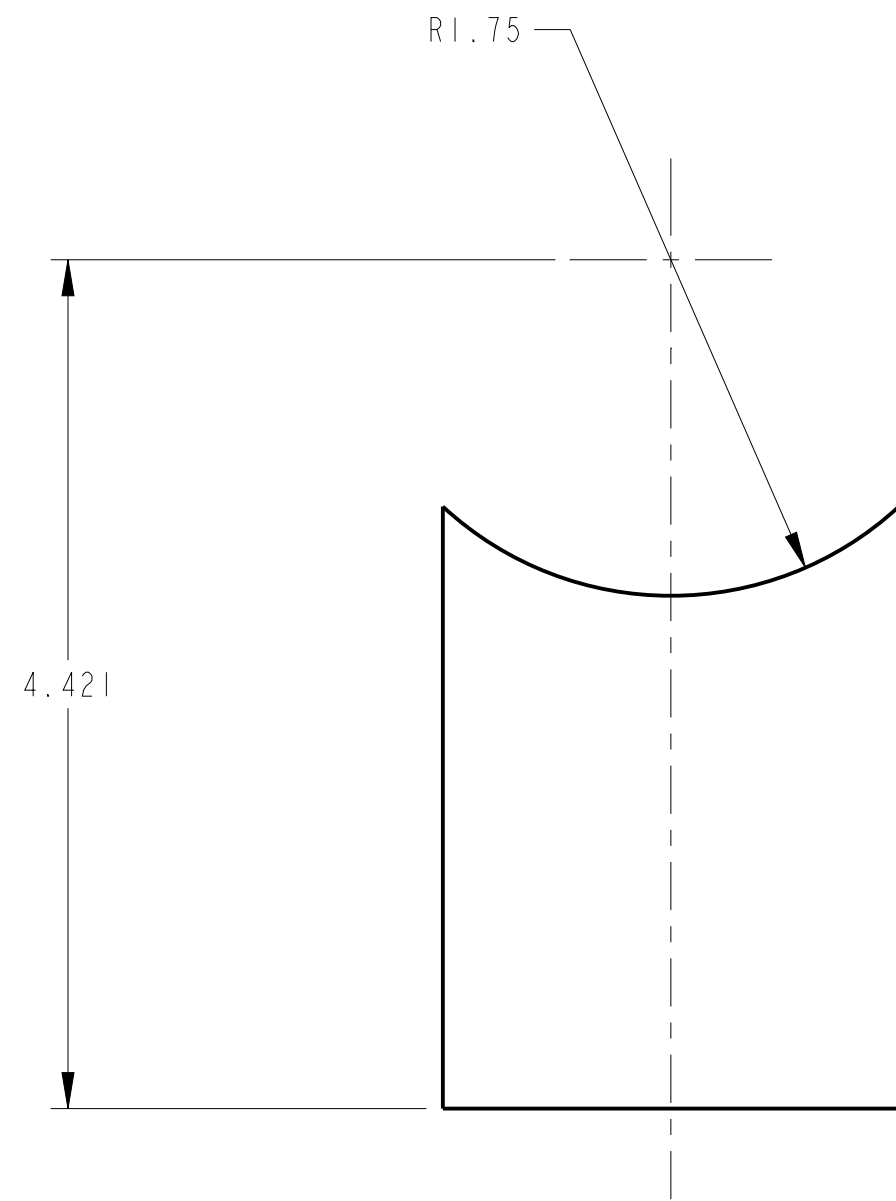
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| REVISIONS |     |             |    |          |      |
|-----------|-----|-------------|----|----------|------|
| ZONE      | REV | DESCRIPTION | BY | APPROVED | DATE |
|           |     |             |    |          |      |



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| ITEM   | DRAWING / PART NUMBER | REV | NOMENCLATURE OR DESCRIPTION  | MATERIAL / SPEC. | QTY   |
|--|-----------------------|-----|--|------------------|---|
| <b>PARTS LIST / BILL OF MATERIALS</b>  |                       |     |  |                  |   |
| REMOVE ALL BURRS AND BREAK SHARP EDGES .03" MAX. SURFACE TEXTURE IN ACCORDANCE WITH LATEST ASME B46.1-2002 DIMENSIONING AND TOLERANCING IN ACCORDANCE WITH LATEST ASME Y14.5M-1994<br>ELECTRONIC FILE NAME: <b>A5265300</b><br>MODEL NAME: 430802-100005 |                       |     | DRAFTER: O. SCHMIDT<br>CHECKER: -<br>DESIGNER: O. SCHMIDT<br>GROUP LEADER/PROJECT LEADER/CAM: A. SANDY<br>APPROVER: B. RUSTHOVEN<br>RELEASE LEVEL: WIP<br>MATERIAL: ALUMINUM   |                  | DATE: 17-Jan-14<br>DATE: 17-Jan-14<br>DATE:<br>DATE:<br>DATE:<br>DATE:<br>MODEL VER: 2<br>DRWG VER: 3 |
| UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN INCHES<br>TOLERANCES<br>DECIMALS .X ± .1<br>.XX ± .03<br>.XXX ± .005<br>ANGULAR ± 0.5°<br>SURFACE ROUGHNESS 125/  |                       |     | THIS DRAWING IS THE PROPERTY OF<br><b>Argonne NATIONAL LABORATORY</b><br><b>ADVANCED PHOTON SOURCE</b><br>WBS DESCRIPTOR:<br>EXPERIMENTAL FACILITIES<br>BEAMLINE ID<br>SECTOR 8 ID<br>INSTRUMENTATION<br>TITLE: SUPPORT TUBE |                  | SKT. DES. REV. 00   |
| DRAWING NUMBER: <b>430802-100005</b><br>SCALE: 1:1<br>FSCM No.: OHRHS<br>DO NOT SCALE DRAWING<br>SHEET 1 OF 1  |                       |     | SIZE: C  |                  | REV. 00   |

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