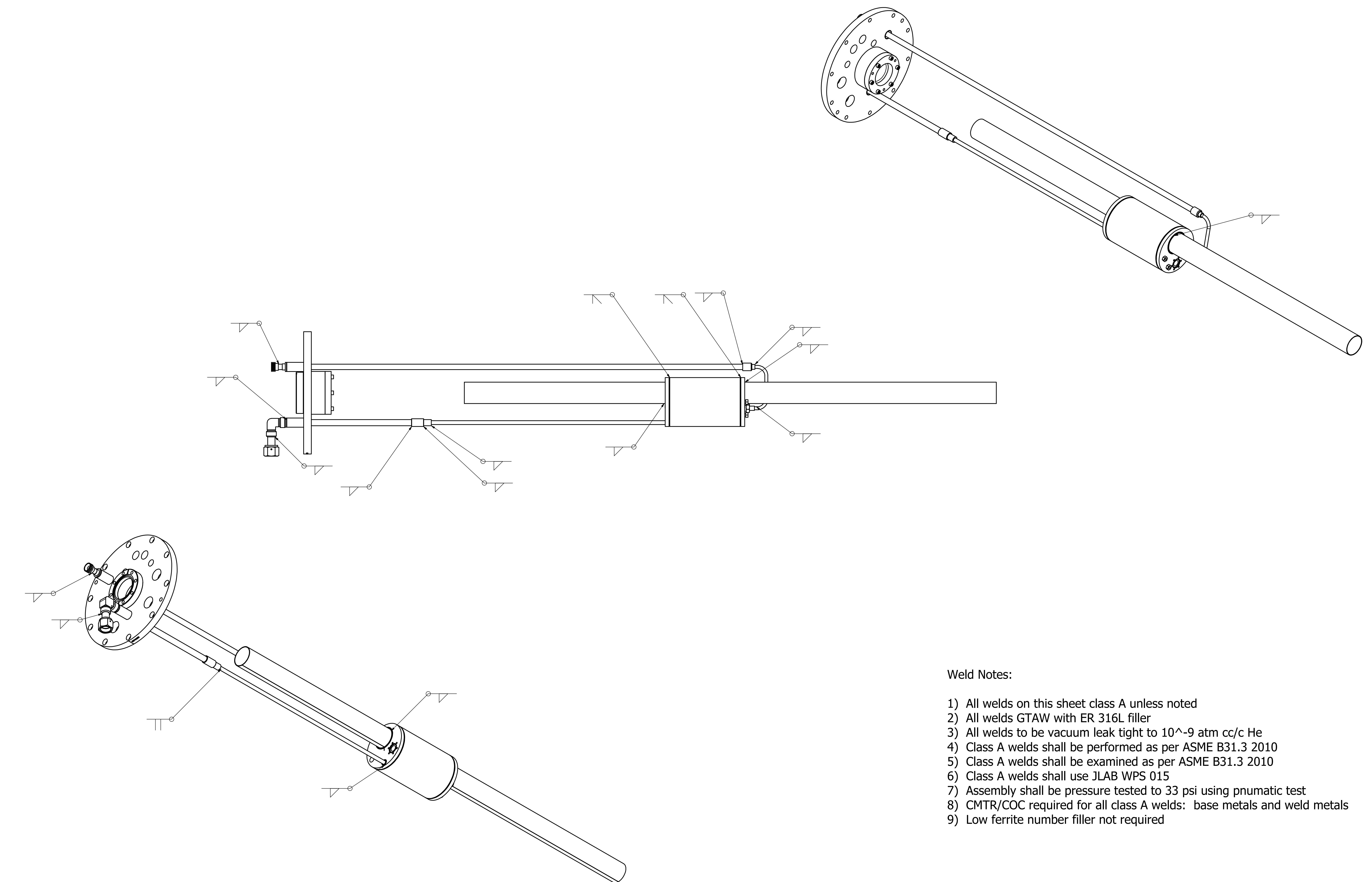



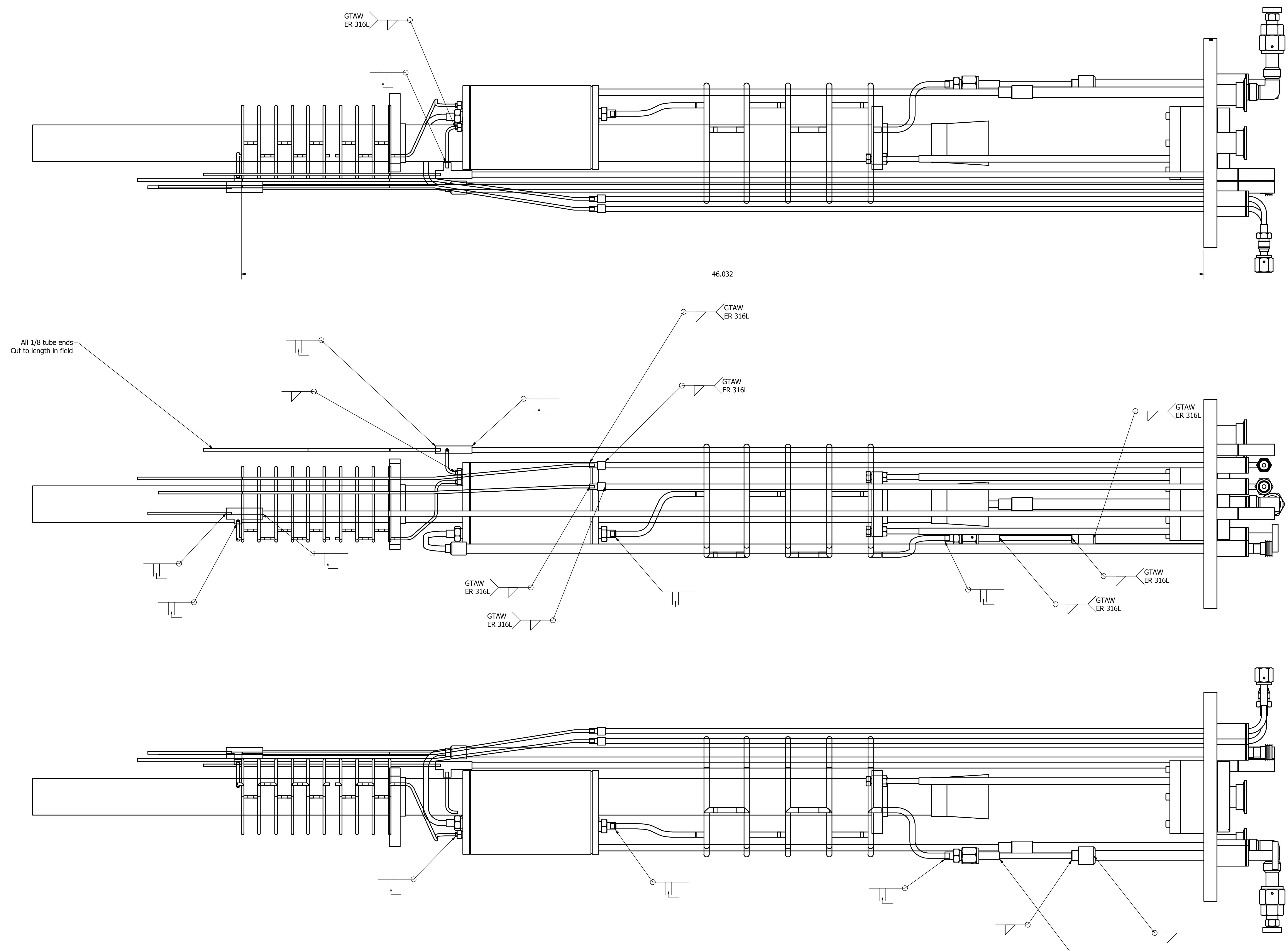
REVISION HISTORY			
ZONE	REV	DESCRIPTION	DATE
All	A	Adjusted for as built dimensions and parts	7/28/2011



Weld Notes:

- 1) All welds on this sheet class A unless noted
- 2) All welds GTAW with ER 316L filler
- 3) All welds to be vacuum leak tight to 10^{-9} atm cc/c He
- 4) Class A welds shall be performed as per ASME B31.3 2010
- 5) Class A welds shall be examined as per ASME B31.3 2010
- 6) Class A welds shall use JLAB WPS 015
- 7) Assembly shall be pressure tested to 33 psi using pneumatic test
- 8) CMTR/COC required for all class A welds: base metals and weld metals
- 9) Low ferrite number filler not required





Braze Notes:


- 1) All braze joints to use Harris SF50N or equiv filler
- 2) All braze joints are JLAB class C
- 3) All braze joints shall be vacuum leak tight to 10^{-9} atm cc/s

Weld Notes:

- 1) All welds on this sheet JLAB class C
- 2) All welds GTAW ER 316L
- 3) All welds vacuum leak tight < 10^{-9} atm cc/c

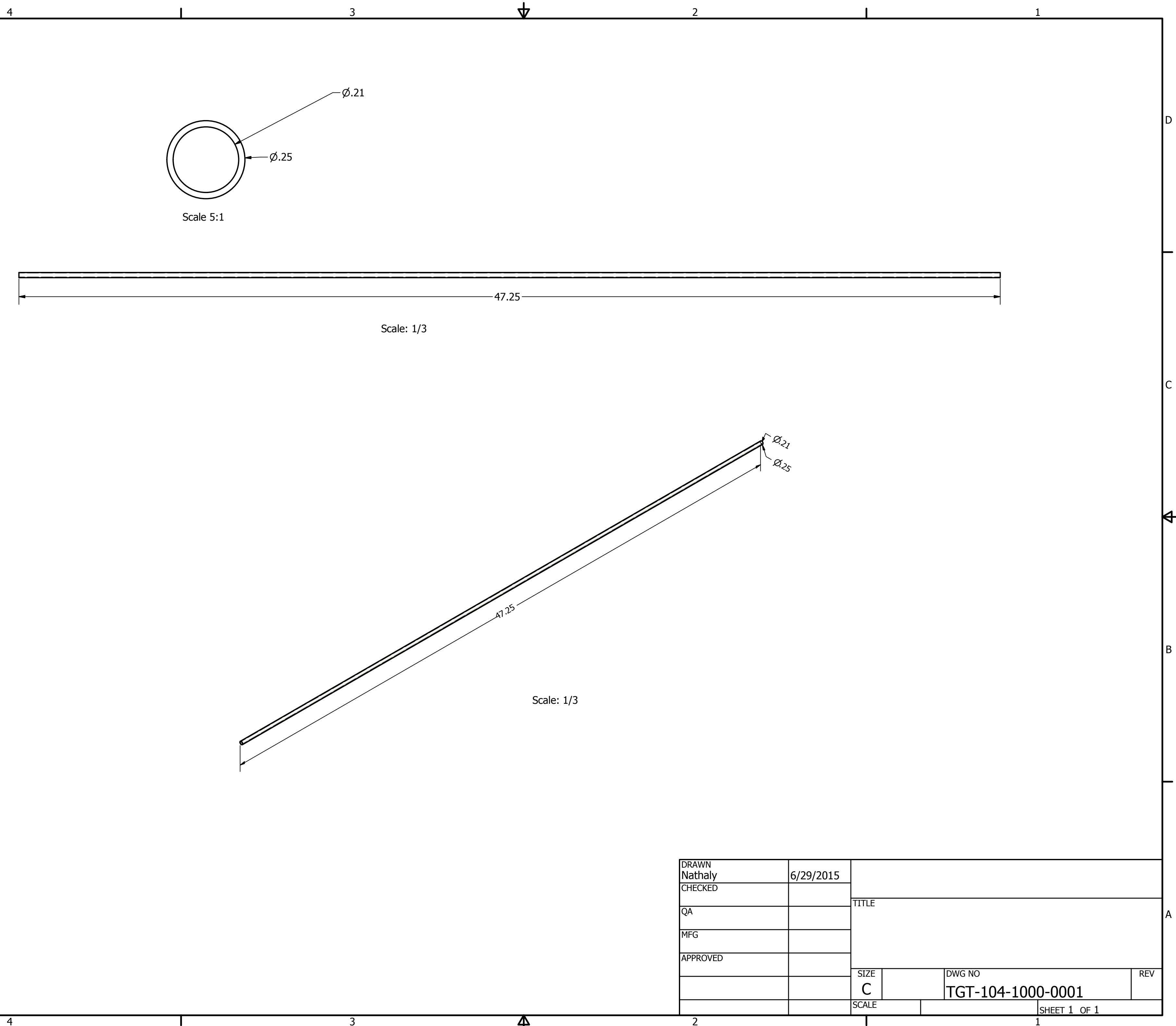
REVISION HISTORY		
ZONE	REV	DESCRIPTION
All	A	Adjusted for as built dimensions and parts 7/28/2011

1



REV

A

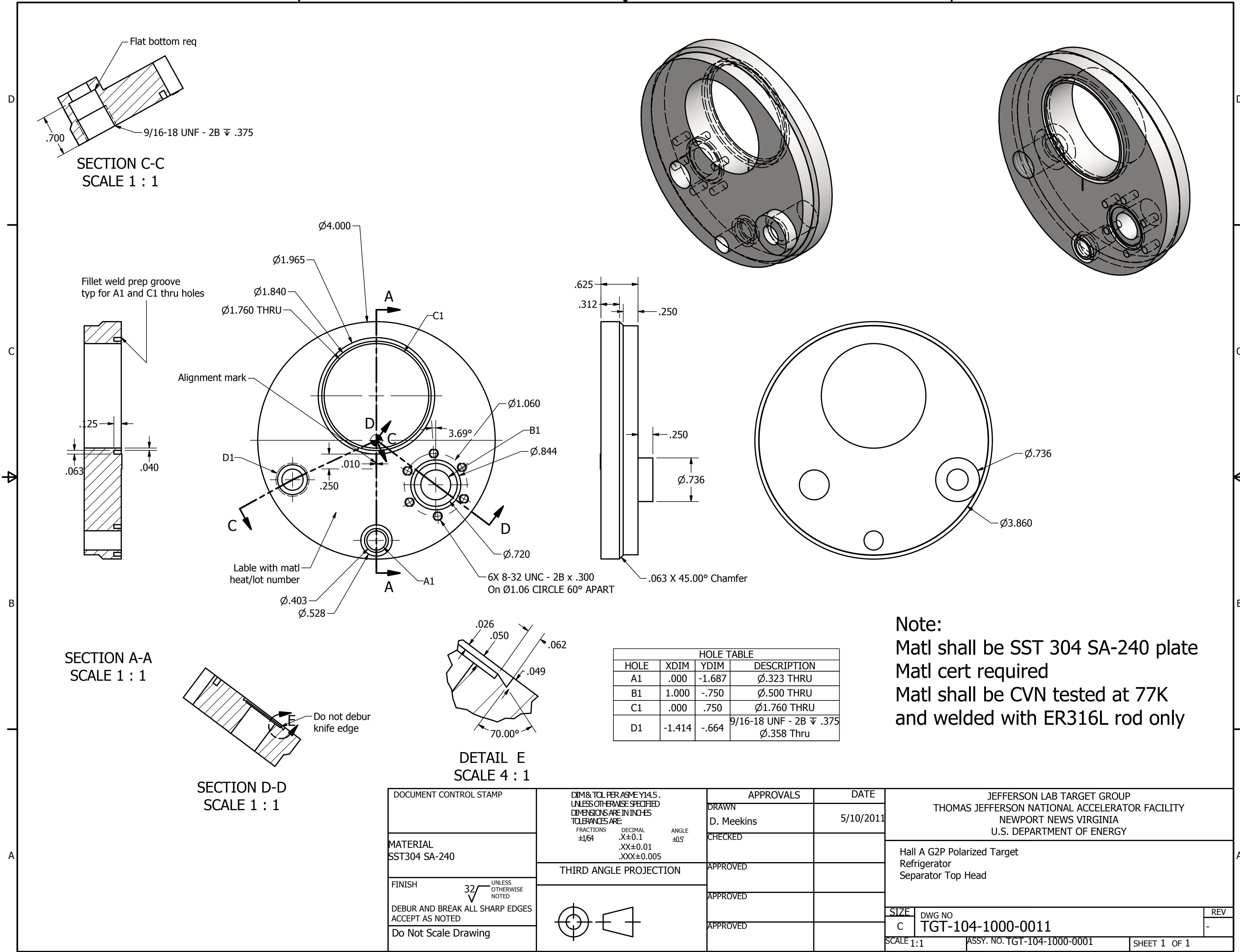


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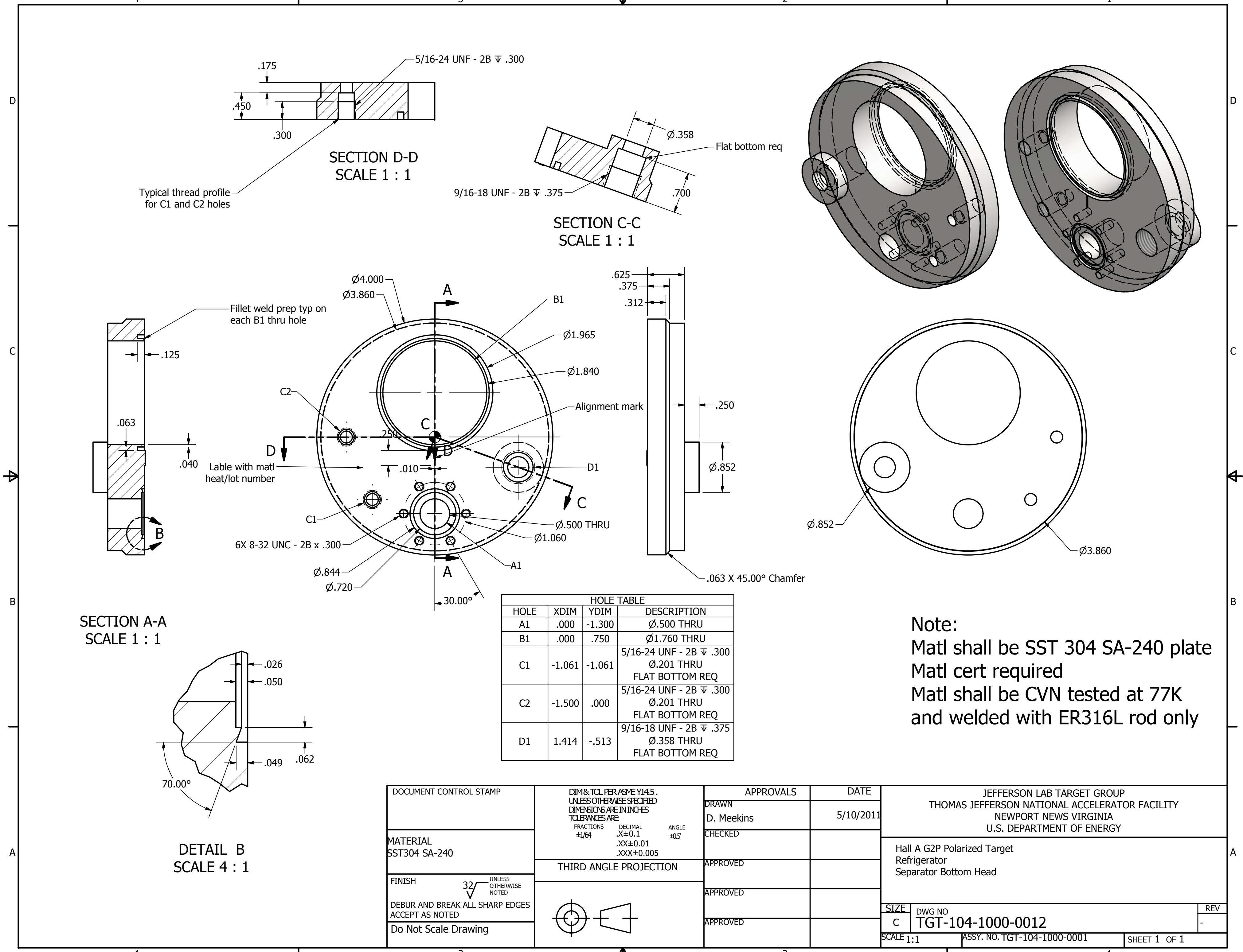
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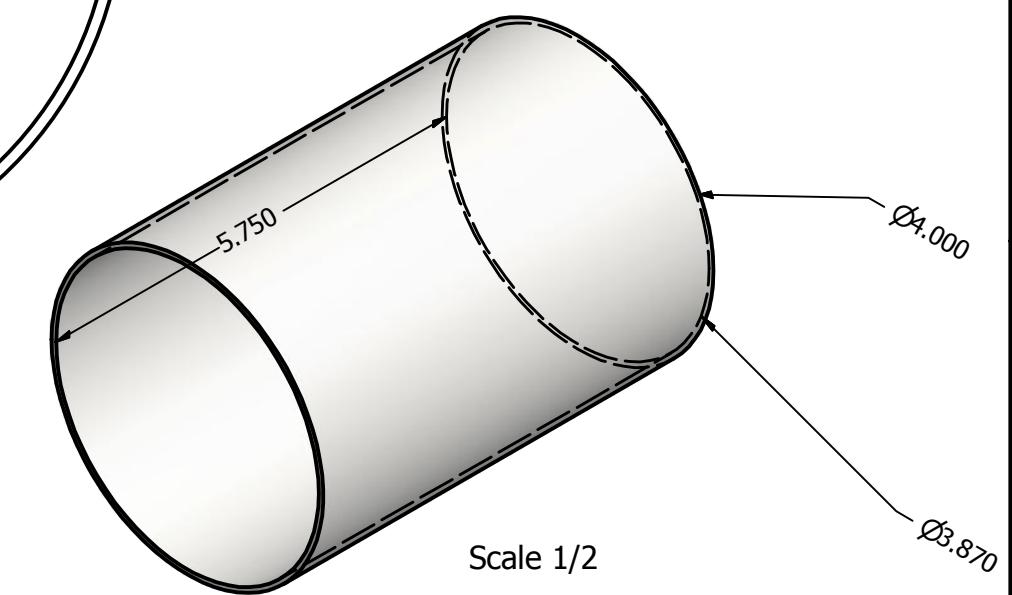
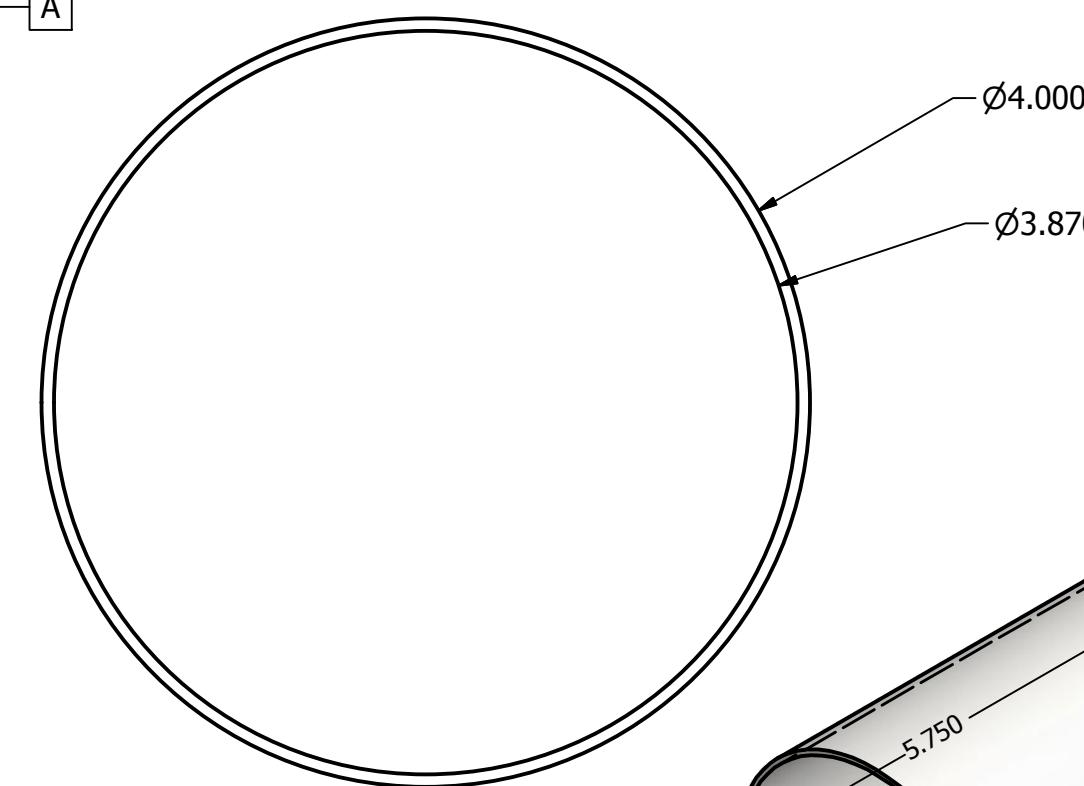
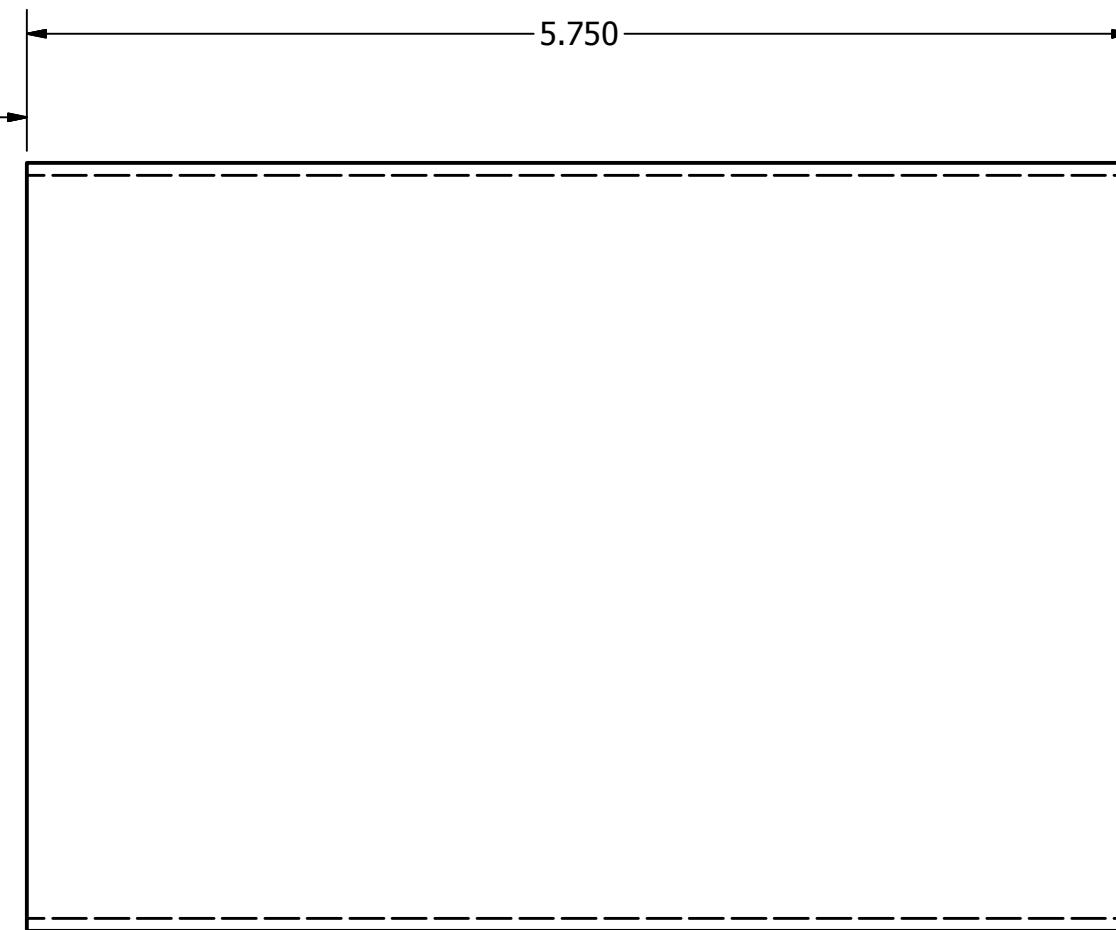
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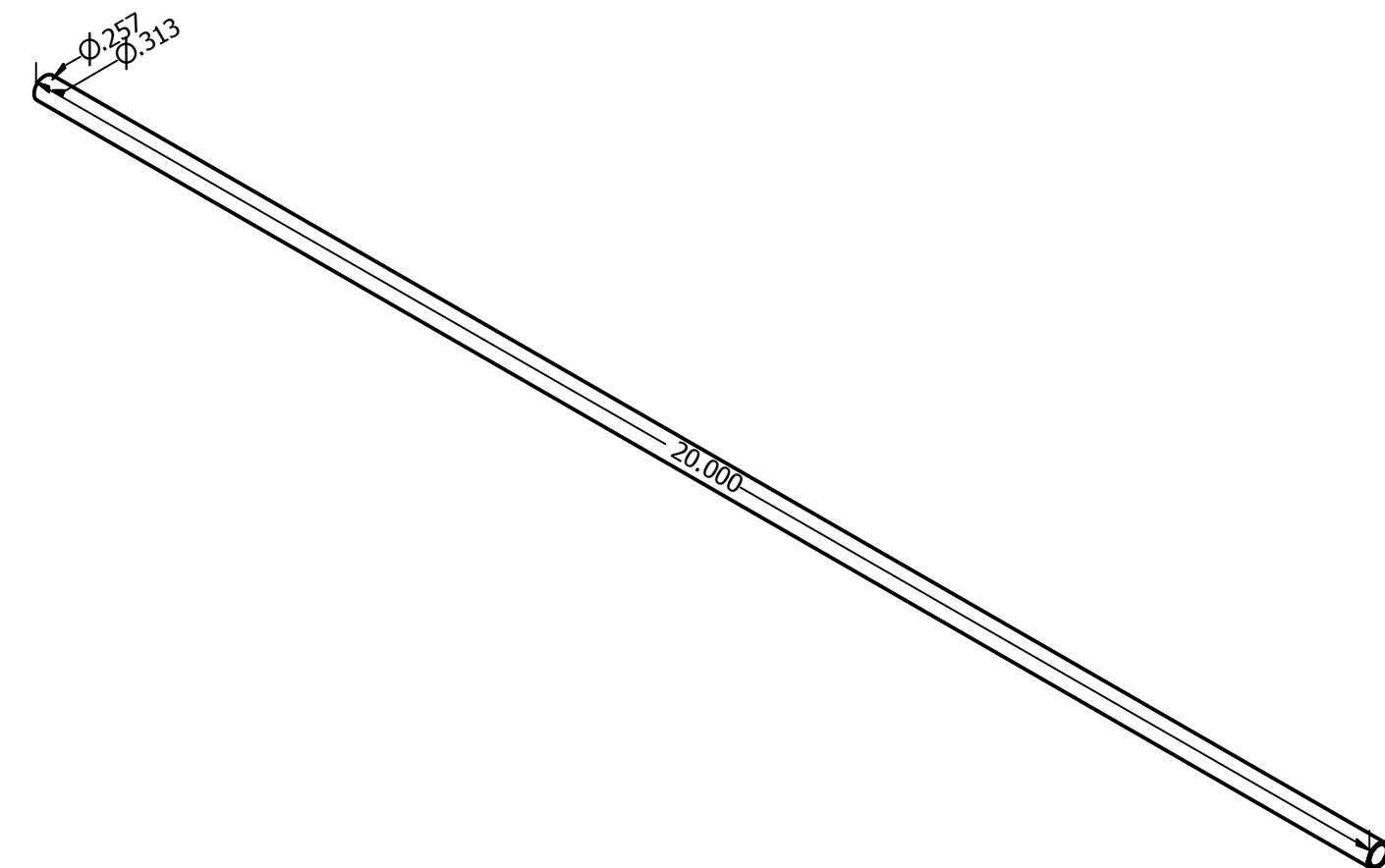
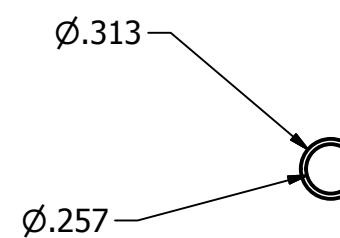
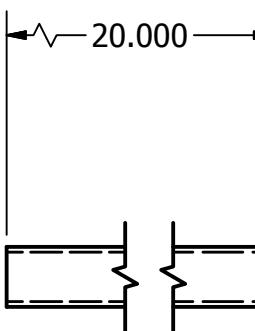


Note:
 Matl shall be SST 304 SA-240 plate
 Matl cert required
 Matl shall be CVN tested at 77K
 and welded with ER316L rod only



NOTES:
Material cert required.
Label part with heat/lot number

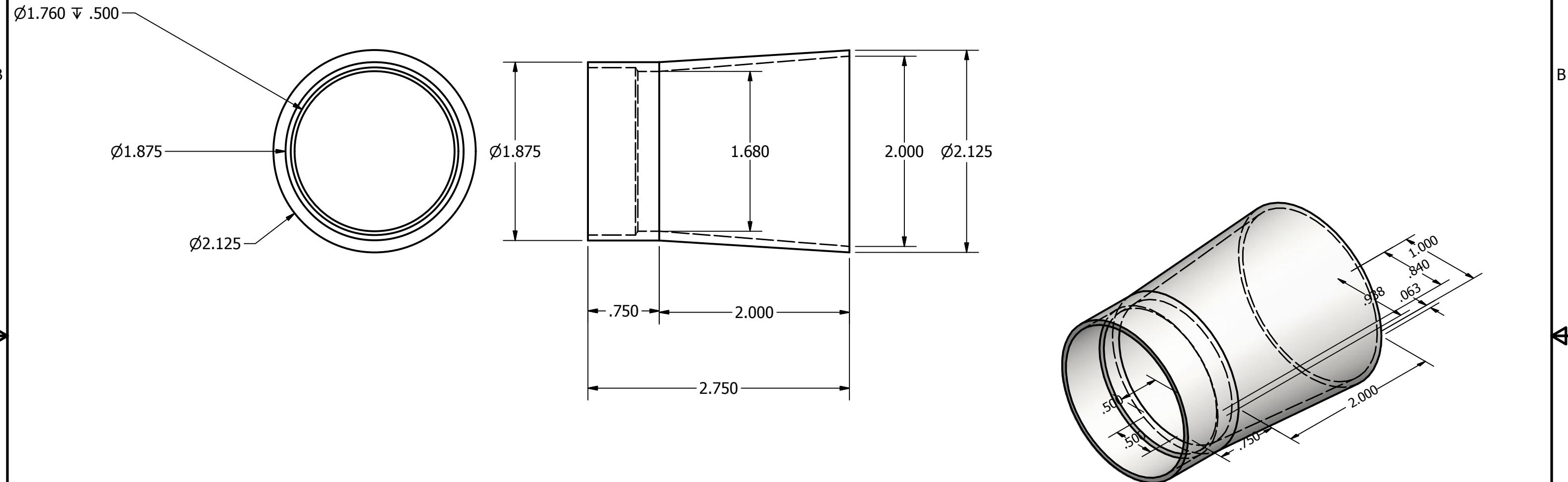
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MATERIAL SST304 SA-249		CHECKED		Hall A G2P Polarized Target Refrigerator Separator Main Body	
FINISH N/A UNLESS OTHERWISE NOTED		APPROVED			
DEBUR AND BREAK ALL SHARP EDGES ACCEPT AS NOTED		APPROVED			
Do Not Scale Drawing		APPROVED		SIZE DWG NO B TGT-104-1000-0013 REV -	
			SCALE 1:1	ASSY. NO. TGT-104-1000-0001	
				SHEET 1 OF 1	



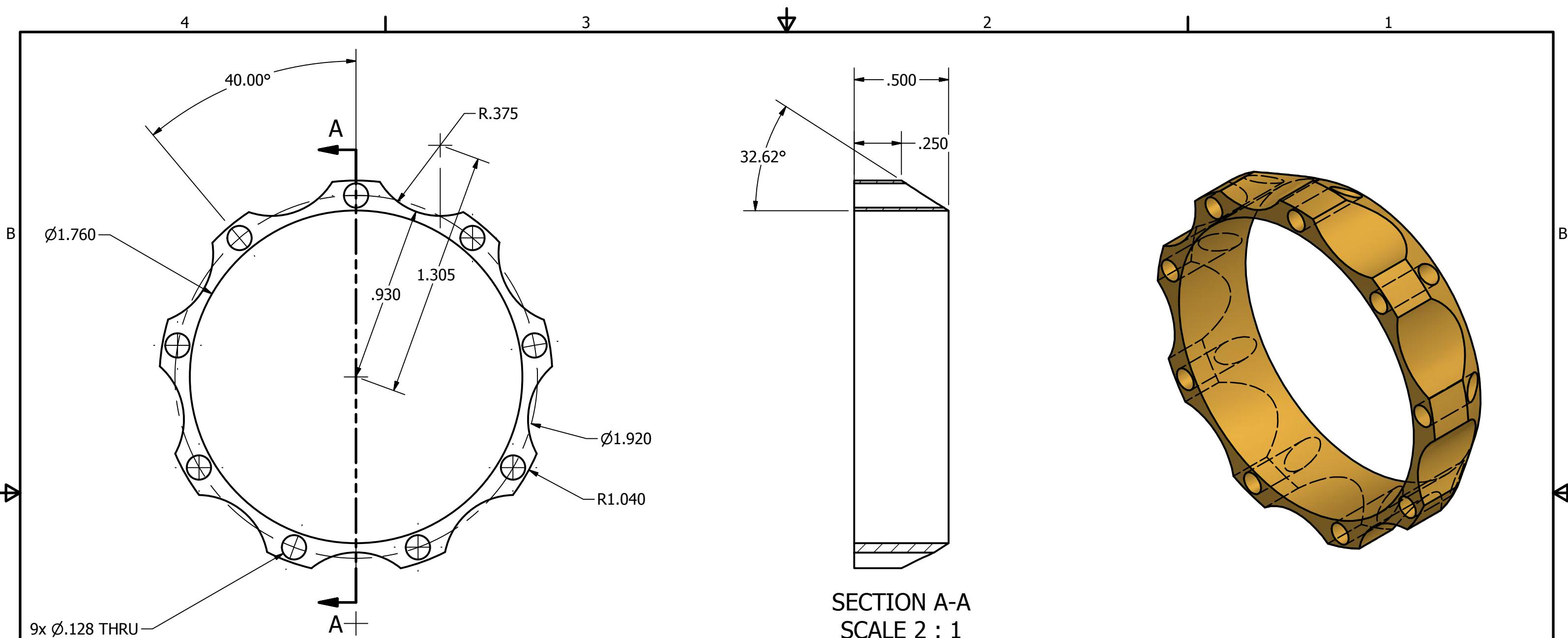
Note:
Part of relief system
Material cert required

DOCUMENT CONTROL STAMP		DIM & TOL PER ASME Y14.5. UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE FRACTIONS DECIMAL ANGLE $\pm 1/64$ $.X \pm 0.1$ ± 0.5	APPROVALS	DATE	JEFFERSON LAB TARGET GROUP THOMAS JEFFERSON NATIONAL ACCELERATOR FACILITY NEWPORT NEWS VIRGINIA U.S. DEPARTMENT OF ENERGY		
MATERIAL SST304 SA-213		CHECKED	5/10/2011	Hall A G2P Polarized Target Refrigerator Relief Tube Stage 1			
FINISH n/a UNLESS OTHERWISE NOTED		APPROVED					
DEBUR AND BREAK ALL SHARP EDGES ACCEPT AS NOTED		APPROVED		SIZE	DWG NO	REV	
Do Not Scale Drawing		APPROVED		B	TGT-104-1000-0014	-	
		SCALE 1:1	ASSY. NO. TGT-104-1000-0001	SHEET 1 OF 1			

4		3	↓	2		1
		REVISION HISTORY				
ZONE	REV	DESCRIPTION	DATE	CHECKED BY	APPROVED	
All	A	Removed threaded section	8/3/2011			

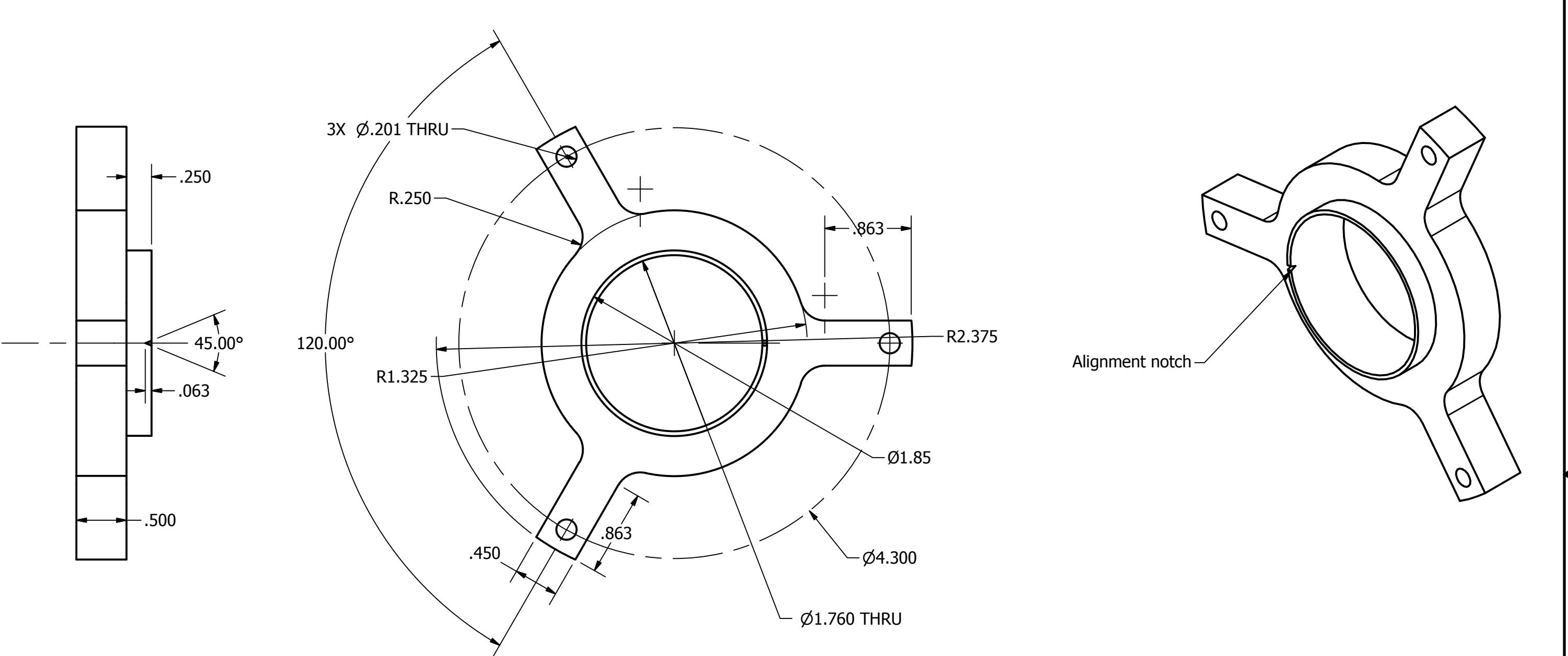


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	MATERIAL SST304				Hall A G2P Polarized Target Refrigerator Main Support Tube Guide Cone		
A	FINISH 32 UNLESS OTHERWISE NOTED	THIRD ANGLE PROJECTION	APPROVED D. Meekins	7/1/11			
	DEBUR AND BREAK ALL SHARP EDGES ACCEPT AS NOTED		APPROVED C. Keith	7/1/11			
	Do Not Scale Drawing		APPROVED				
					SIZE B	DWG NO TGT-104-1000-0015	REV A
					SCALE 1:1	ASSY. NO. TGT-104-1000-0001	SHEET 1 OF 1



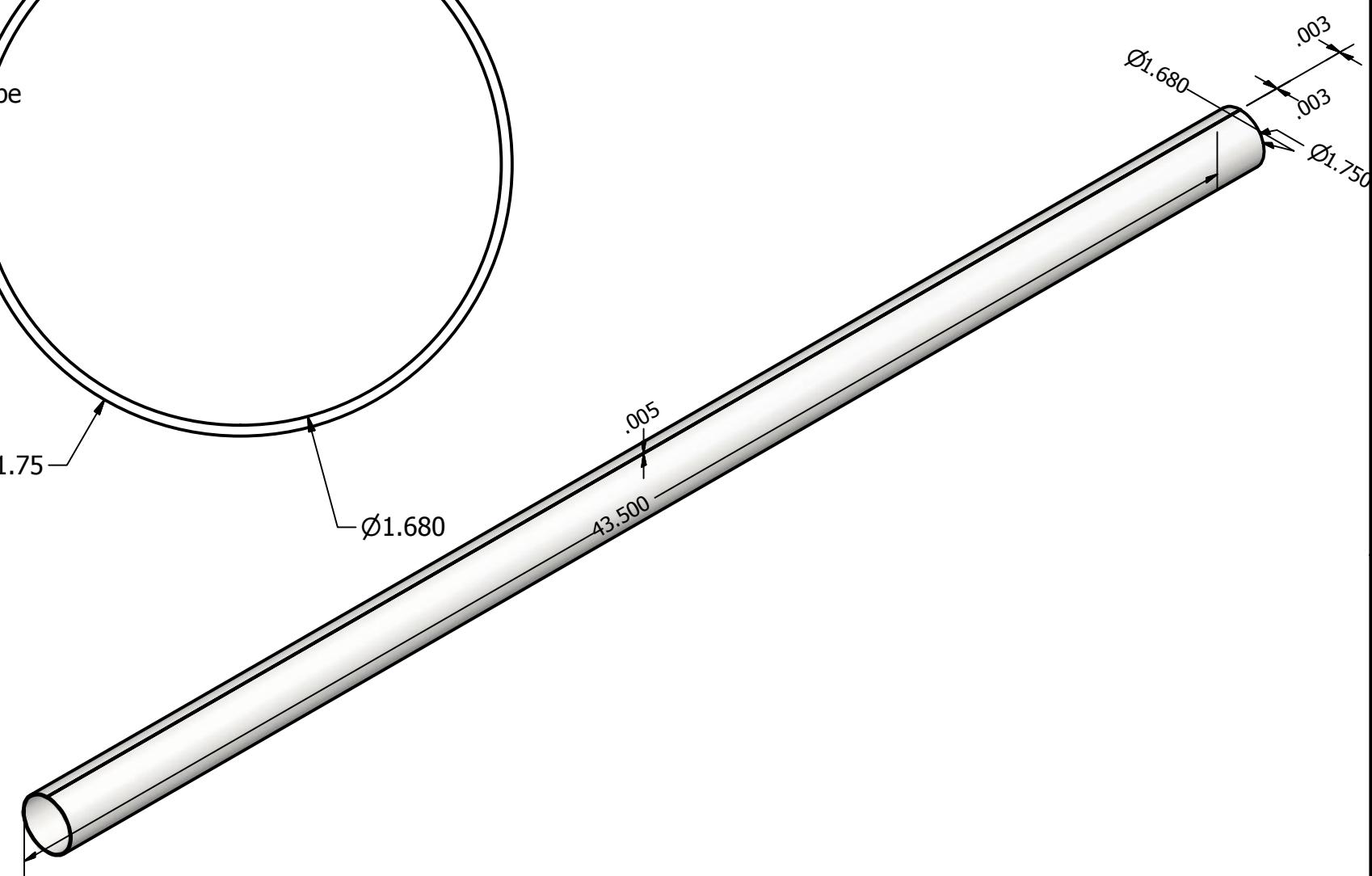
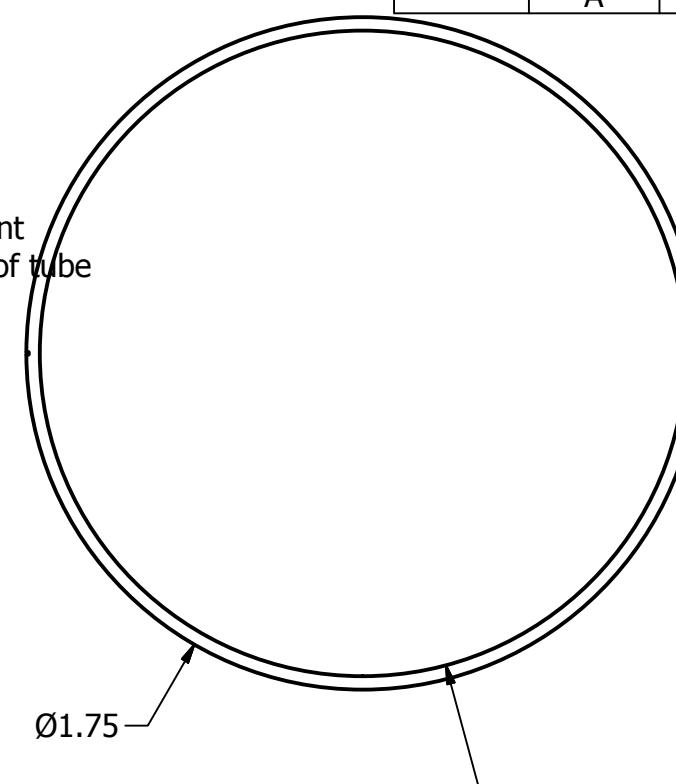
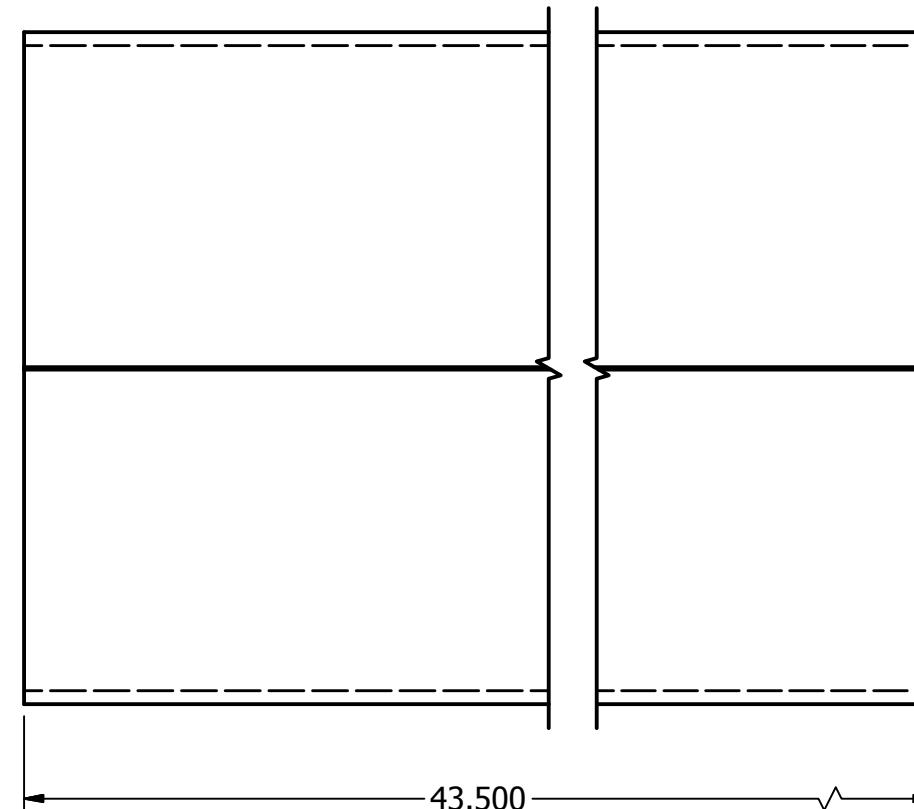
SECTION A-A
SCALE 2 : 1

DOCUMENT CONTROL STAMP		DIM & TOL PER ASME Y14.5. UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMAL ANGLE $\pm 1/64$ $.X \pm 0.1$ ± 0.5	APPROVALS	DATE	JEFFERSON LAB TARGET GROUP THOMAS JEFFERSON NATIONAL ACCELERATOR FACILITY NEWPORT NEWS VIRGINIA U.S. DEPARTMENT OF ENERGY
MATERIAL Brass C3600		CHECKED		Hall A G2P Polarized Target Refrigerator Nose Guide	
FINISH 32 ⁺ UNLESS OTHERWISE NOTED DEBUR AND BREAK ALL SHARP EDGES ACCEPT AS NOTED		APPROVED			
Do Not Scale Drawing		APPROVED			
4	3	2	1	SIZE DWG NO B TGT-104-1000-0016 REV - SCALE 2:1 ASSY. NO. TGT-104-1000-0001 SHEET 1 OF 1	

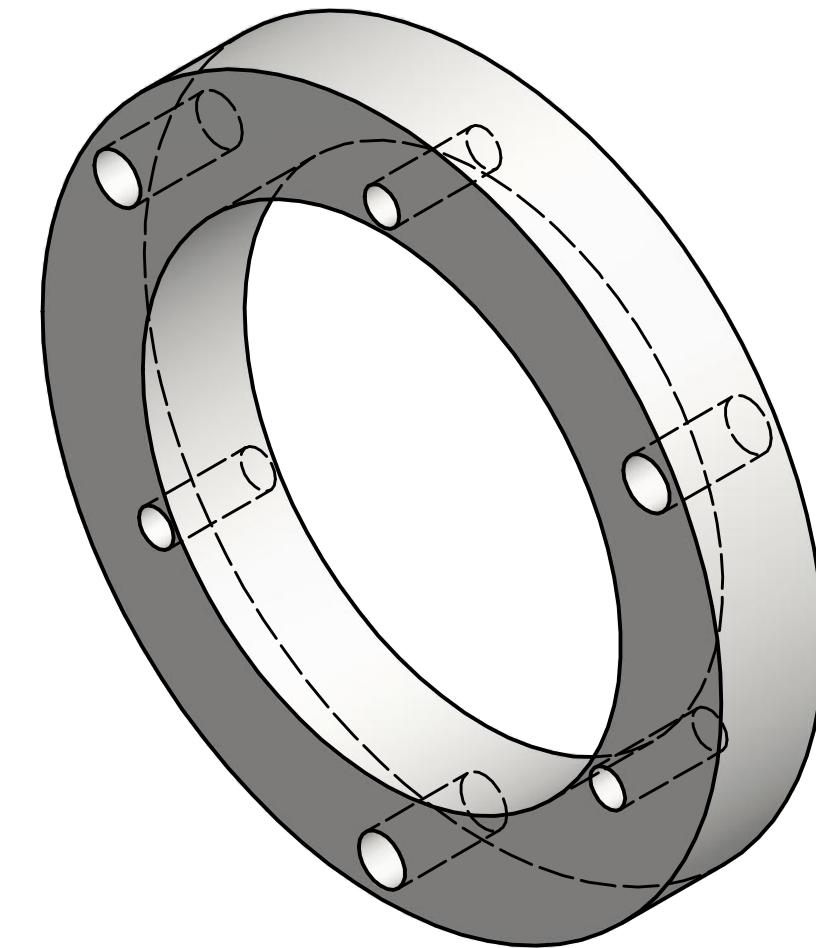
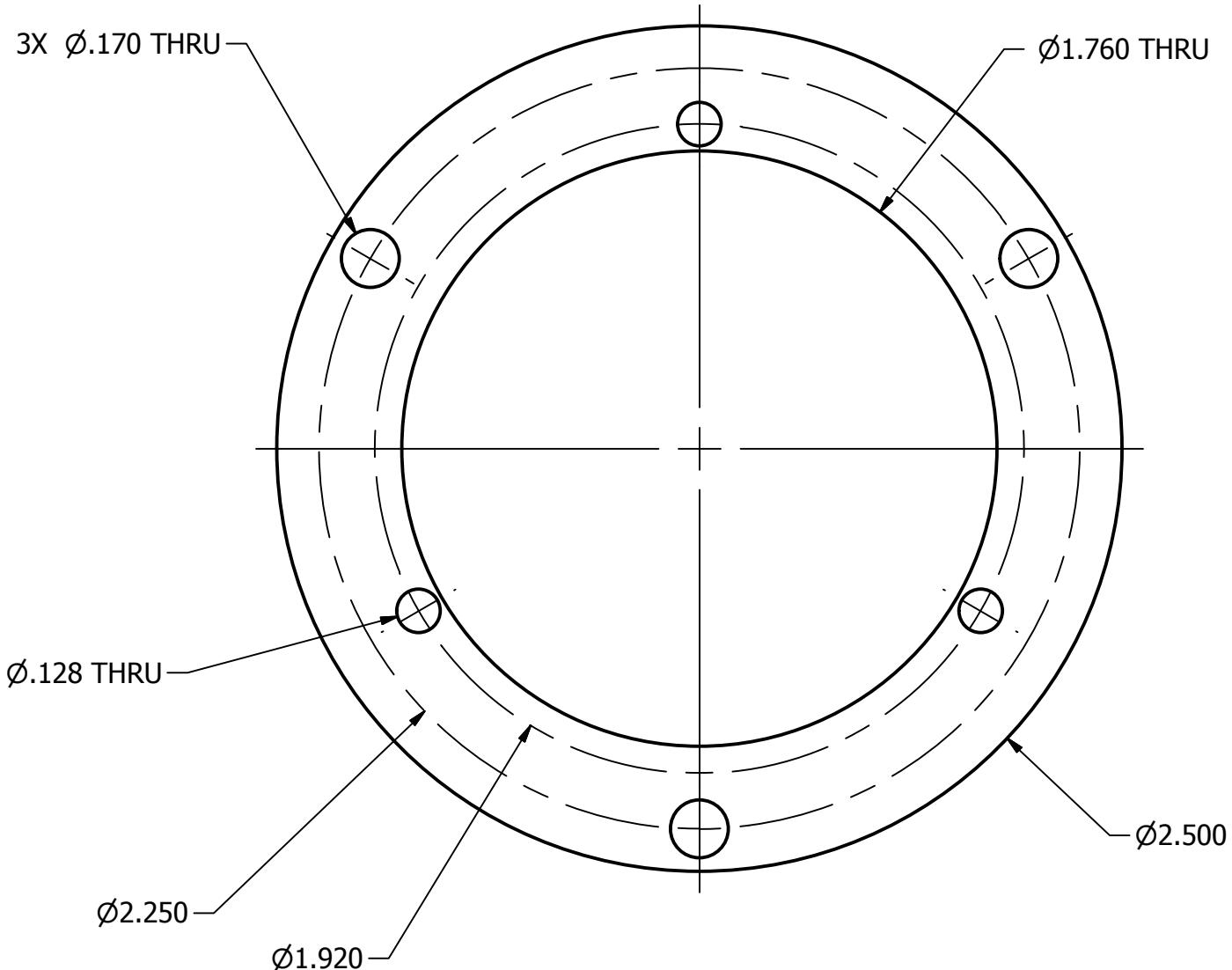


DOCUMENT CONTROL STAMP		DIM & TOL PER ASME Y14.5. UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONAL DECIMAL ANGLE $\pm\frac{1}{64}$ $.X \pm 0.1$ $\pm 0.5^\circ$	APPROVALS	DATE	JEFFERSON LAB TARGET GROUP THOMAS JEFFERSON NATIONAL ACCELERATOR FACILITY NEWPORT NEWS VIRGINIA U.S. DEPARTMENT OF ENERGY		
MATERIAL	SST304	THIRD ANGLE PROJECTION	DRAWN D. Meekins	5/19/2011	Hall A G2P Polarized Target Refrigerator HX Lower Plate Adapter		
FINISH	32 UNLESS OTHERWISE NOTED		CHECKED				
DEBUR AND BREAK ALL SHARP EDGES ACCEPT AS NOTED			APPROVED				
Do Not Scale Drawing			APPROVED		SIZE B	DWG NO TGT-104-1000-0017	REV -
			APPROVED		SCALE 2:1	ASSY. NO. TGT-104-1000-0001	SHEET 1 OF 1

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REVISION HISTORY						
ZONE	REV	DESCRIPTION		DATE	APPROVED	
	A	Removed Thread		7/27/2011		

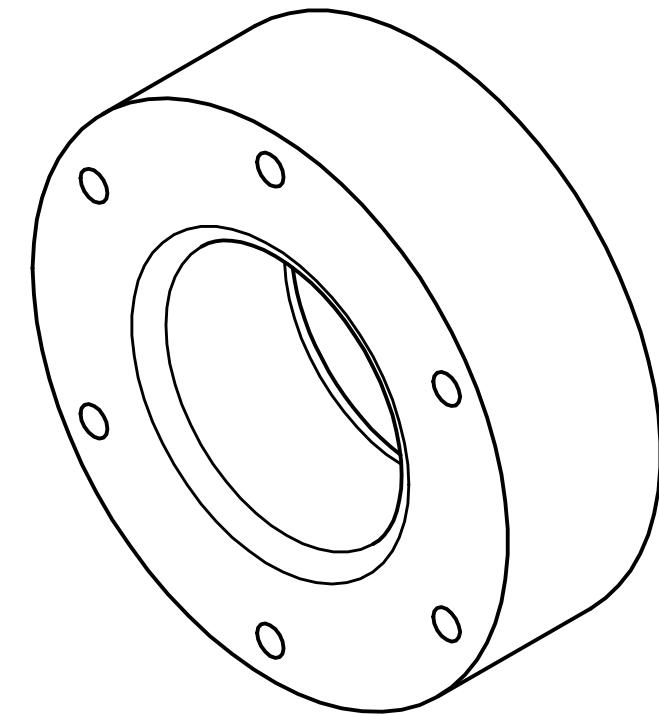
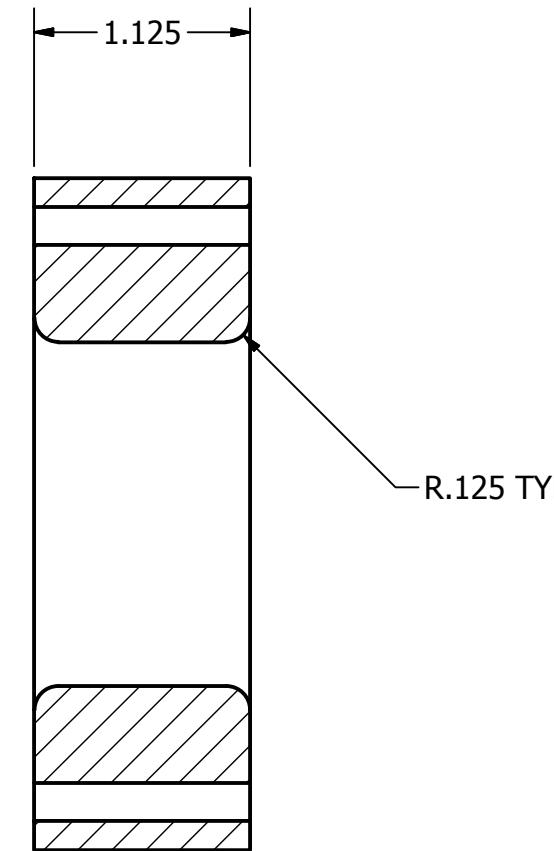
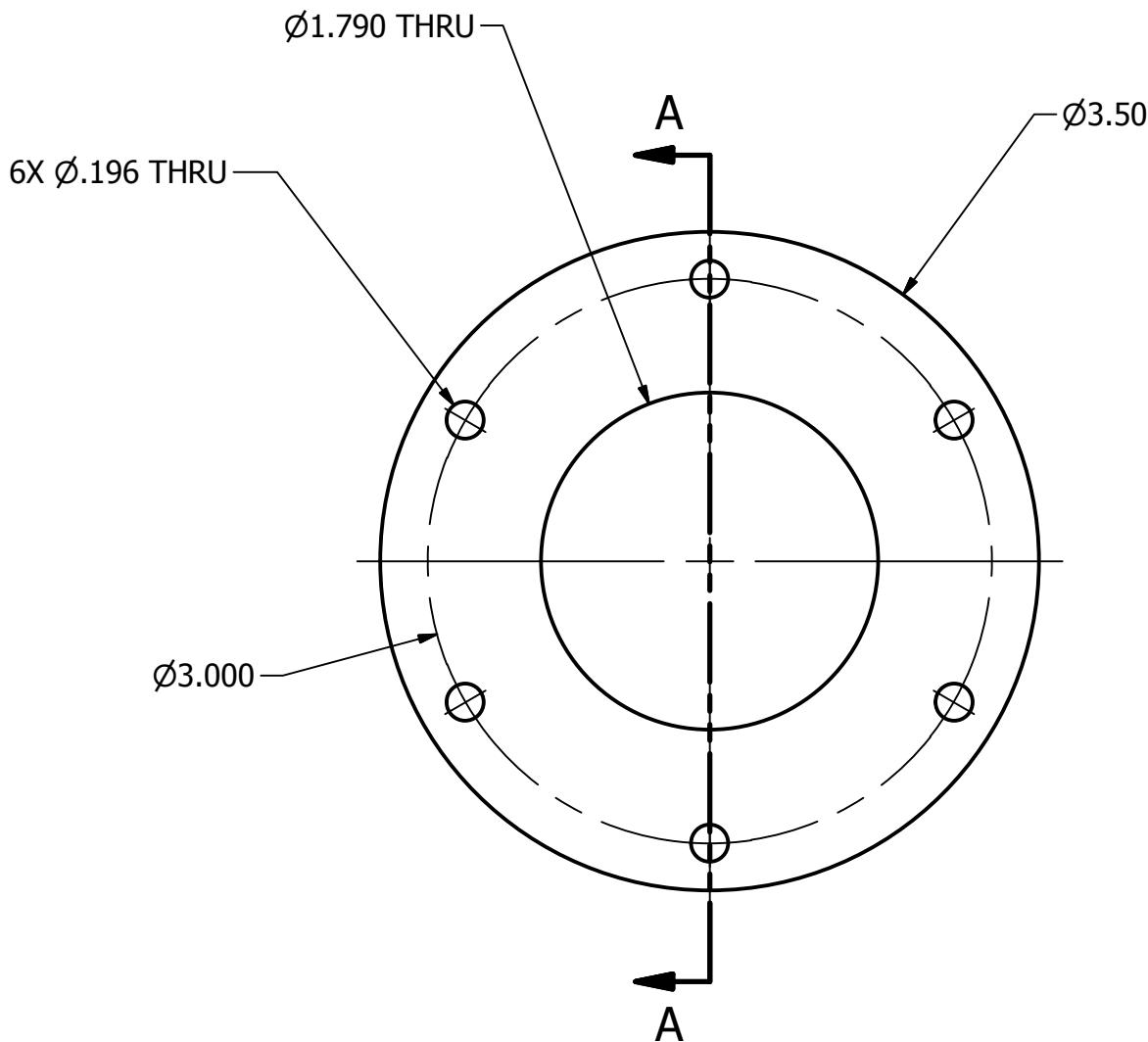


DOCUMENT CONTROL STAMP	DIM & TOL PER ASME Y14.5. UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMAL ±1/64 .X±0.1 .XX±0.01 .XXX±0.005	APPROVALS	DATE	JEFFERSON LAB TARGET GROUP THOMAS JEFFERSON NATIONAL ACCELERATOR FACILITY NEWPORT NEWS VIRGINIA U.S. DEPARTMENT OF ENERGY
MATERIAL SST304 SA-213	ANGLE ±0.5	DRAWN D. Meekins	5/12/2011	
		CHECKED		
FINISH N/A UNLESS OTHERWISE NOTED	THIRD ANGLE PROJECTION	APPROVED		Hall A G2P Polarized Target Refrigerator Main Support Tube
DEBUR AND BREAK ALL SHARP EDGES ACCEPT AS NOTED		APPROVED		
Do Not Scale Drawing		APPROVED		
				SIZE DWG NO B TGT-104-1000-0018
				REV -
		SCALE 1:1	ASSY. NO.	SHEET 1 OF 1



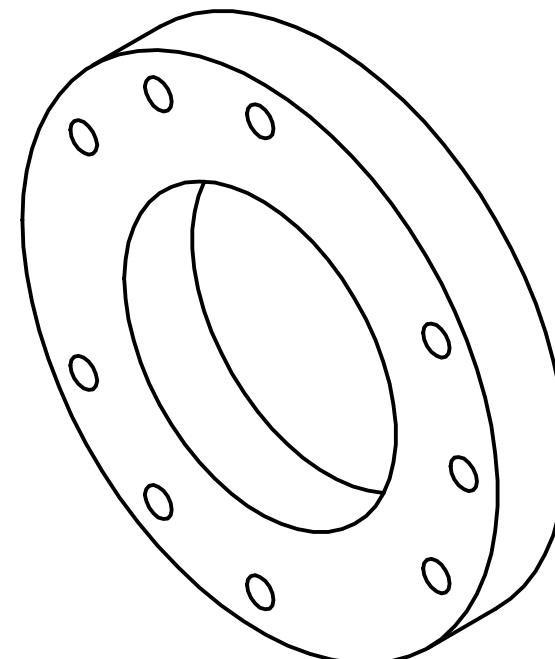
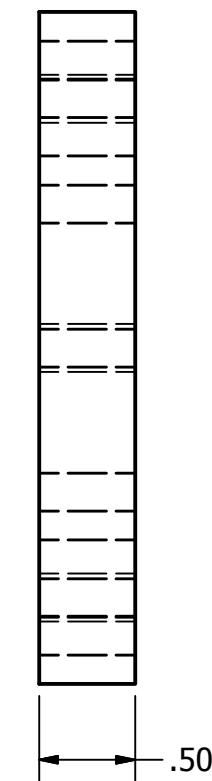
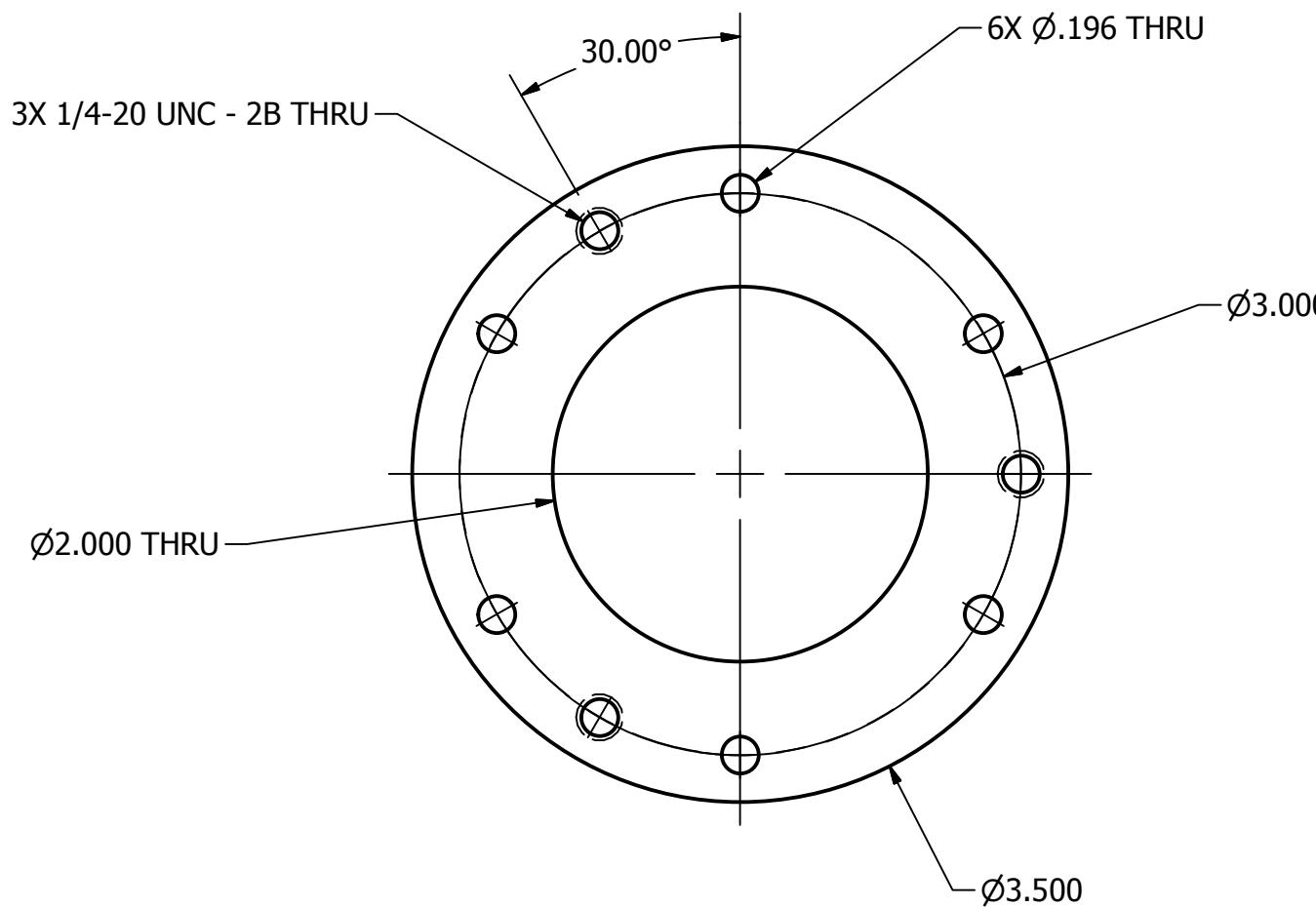
DOCUMENT CONTROL STAMP		DIM & TOL PER ASME Y14.5. UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMAL ANGLE $\pm 1/64$ $.X \pm 0.1$ ± 0.5	APPROVALS	DATE	JEFFERSON LAB TARGET GROUP THOMAS JEFFERSON NATIONAL ACCELERATOR FACILITY NEWPORT NEWS VIRGINIA U.S. DEPARTMENT OF ENERGY		
MATERIAL	SST304		DRAWN D. Meekins	5/12/2011			
FINISH	32 UNLESS OTHERWISE NOTED	THIRD ANGLE PROJECTION	CHECKED				
DEBUR AND BREAK ALL SHARP EDGES ACCEPT AS NOTED		APPROVED			Hall A G2P Polarized Target Refrigerator Nose Guide Support Adapter		
Do Not Scale Drawing		APPROVED			SIZE B	DWG NO TGT-104-1000-0019	REV -
		APPROVED			SCALE 2:1	ASSY. NO. TGT-104-1000-0001	SHEET 1 OF 1

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		REVISION HISTORY			
ZONE	REV	DESCRIPTION	DATE	CHECKED BY	APPROVED
	A	Changed ID	8/16/2011		



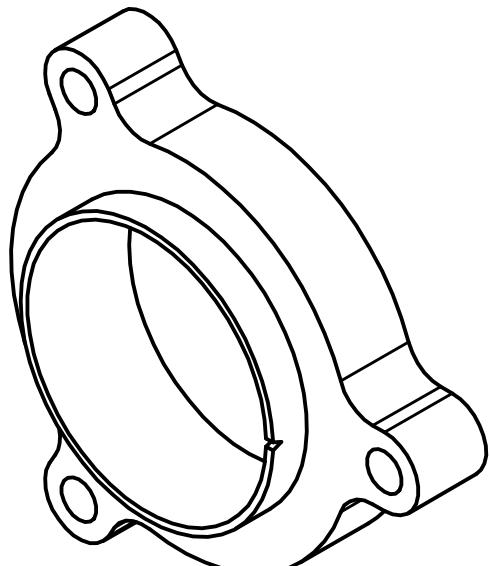
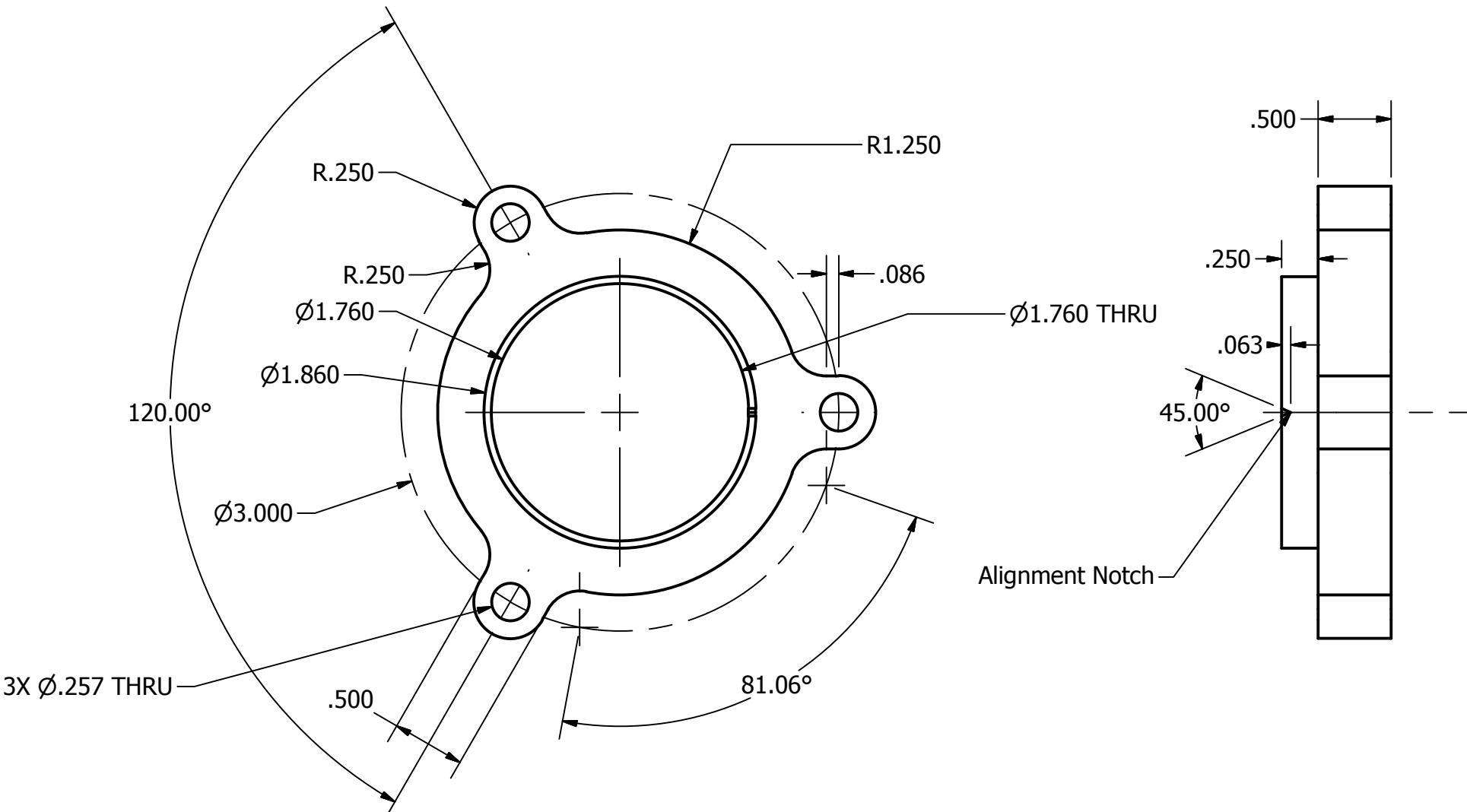
SECTION A-A
SCALE 1 : 1

DOCUMENT CONTROL STAMP		DIM & TOL PER ASME Y14.5. UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMAL ANGLE $\pm 1/64$ $.X \pm 0.1$ ± 0.5	APPROVALS	DATE	JEFFERSON LAB TARGET GROUP THOMAS JEFFERSON NATIONAL ACCELERATOR FACILITY NEWPORT NEWS VIRGINIA U.S. DEPARTMENT OF ENERGY		
MATERIAL Torlon Graphite Impregnated		DRAWN D. Meekins	5/12/2011				
FINISH 32 UNLESS OTHERWISE NOTED DEBUR AND BREAK ALL SHARP EDGES ACCEPT AS NOTED		CHECKED J. Pierce	7/1/11				
THIRD ANGLE PROJECTION		APPROVED D. Meekins	7/1/11	Hall A G2P Polarized Target Refrigerator Bellows Support Tube Guide Bushing			
Do Not Scale Drawing		APPROVED C. Keith	7/1/11				
		APPROVED		SIZE	DWG NO	REV	
				B	TGT-104-1000-0020	A	
				SCALE 1:1	ASSY. NO. TGT-104-1000-0001	SHEET 1 OF 1	



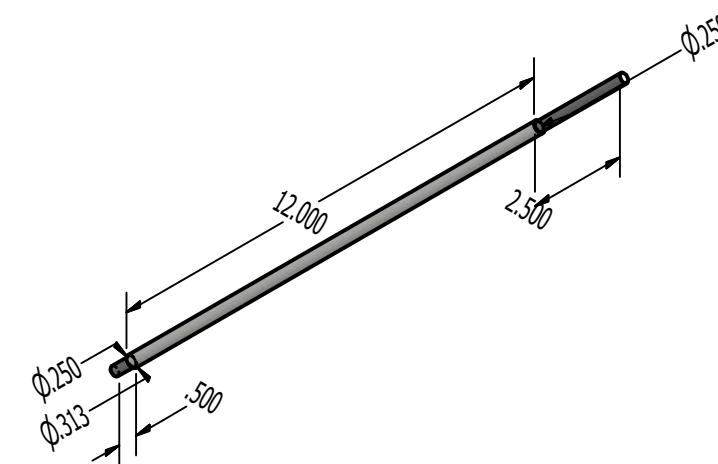
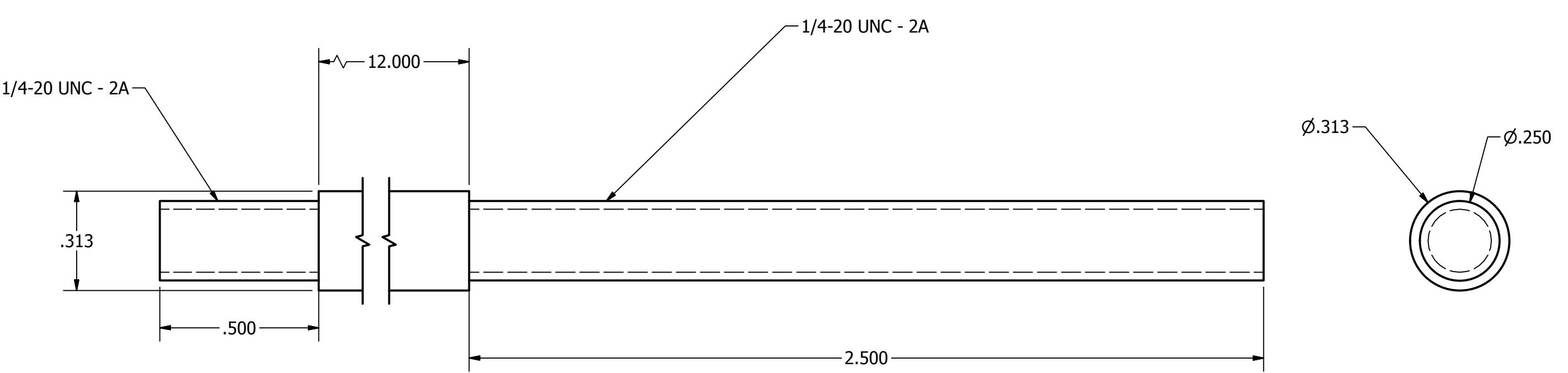
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MATERIAL	SST304		DRAWN D. Meekins	5/12/2011			
FINISH	32 UNLESS OTHERWISE NOTED	THIRD ANGLE PROJECTION	CHECKED				
DEBUR AND BREAK ALL SHARP EDGES ACCEPT AS NOTED		APPROVED			Hall A G2P Polarized Target Refrigerator Main Guide Tube Adapter		
Do Not Scale Drawing		APPROVED			SIZE B	DWG NO TGT-104-1000-0021	REV -
		APPROVED			SCALE 1:1	ASSY. NO. TGT-104-1000-0001	SHEET 1 OF 1

4 | 1 | 3 | 2 | 1

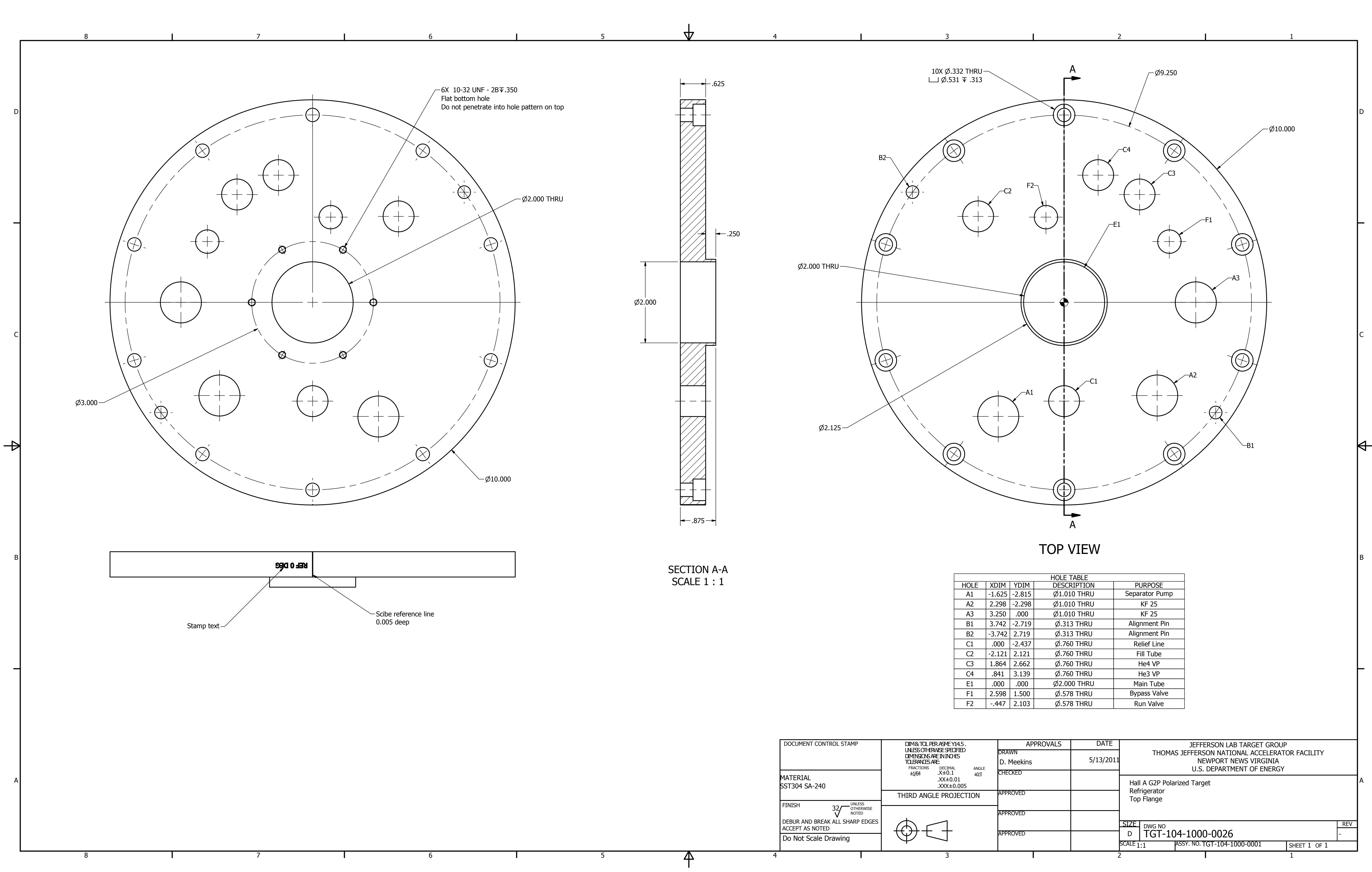


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MATERIAL SST304		CHECKED	5/10/2011				
FINISH 32 UNLESS OTHERWISE NOTED		APPROVED		Hall A G2P Polarized Target Refrigerator HX Lower Plate Adapter			
DEBUR AND BREAK ALL SHARP EDGES ACCEPT AS NOTED		APPROVED		SIZE	DWG NO	REV	
Do Not Scale Drawing		APPROVED		B	TGT-104-1000-0022	-	
		SCALE 1:1	ASSY. NO. TGT-104-1000-0001	SHEET 1 OF 1			

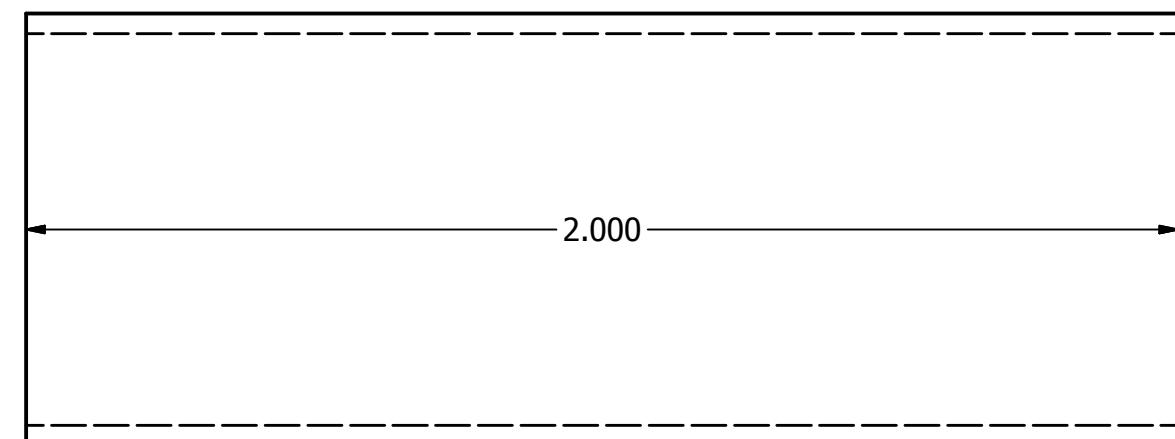
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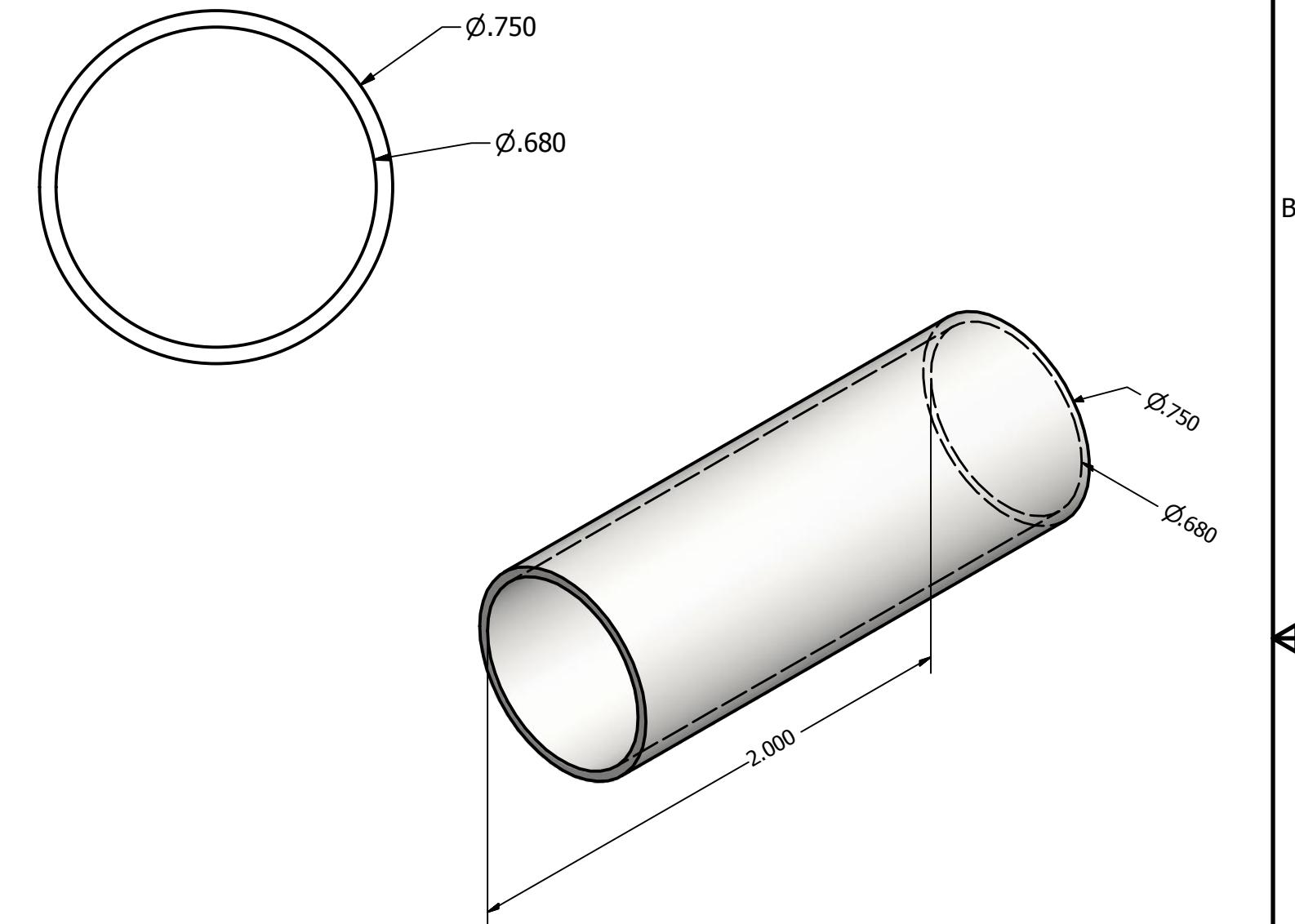
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MATERIAL SST304		CHECKED	5/12/2011				
FINISH N/A UNLESS OTHERWISE NOTED		APPROVED		Hall A G2P Polarized Target Refrigerator Main Support Tube Hanger			
DEBUR AND BREAK ALL SHARP EDGES ACCEPT AS NOTED		APPROVED					
Do Not Scale Drawing		APPROVED		SIZE B	DWG NO TGT-104-1000-0023	REV -	
		SCALE 5:1	ASSY. NO. TGT-104-1000-0001	SHEET 1 OF 1			



4 | 3 | 2 | 1



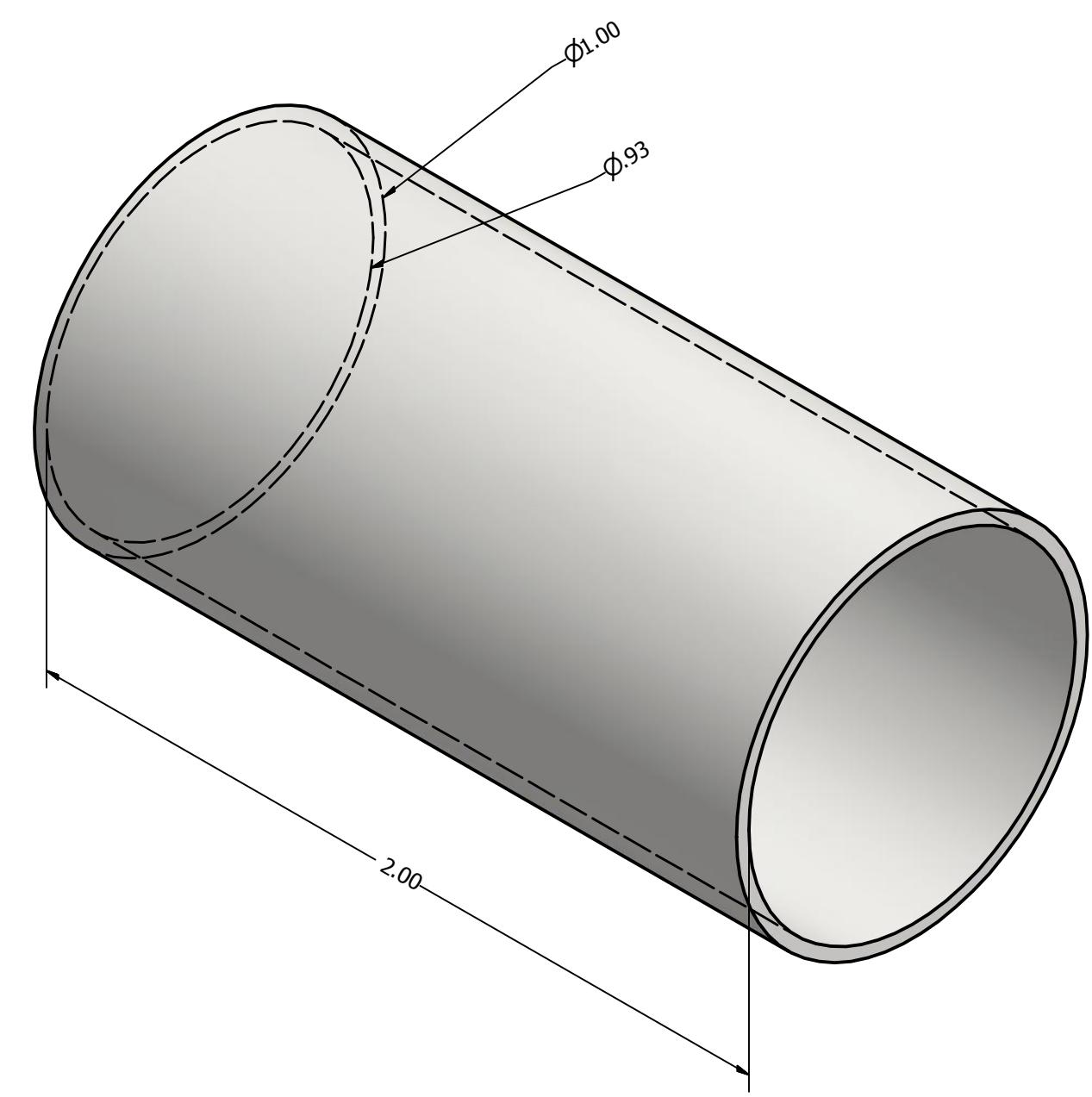
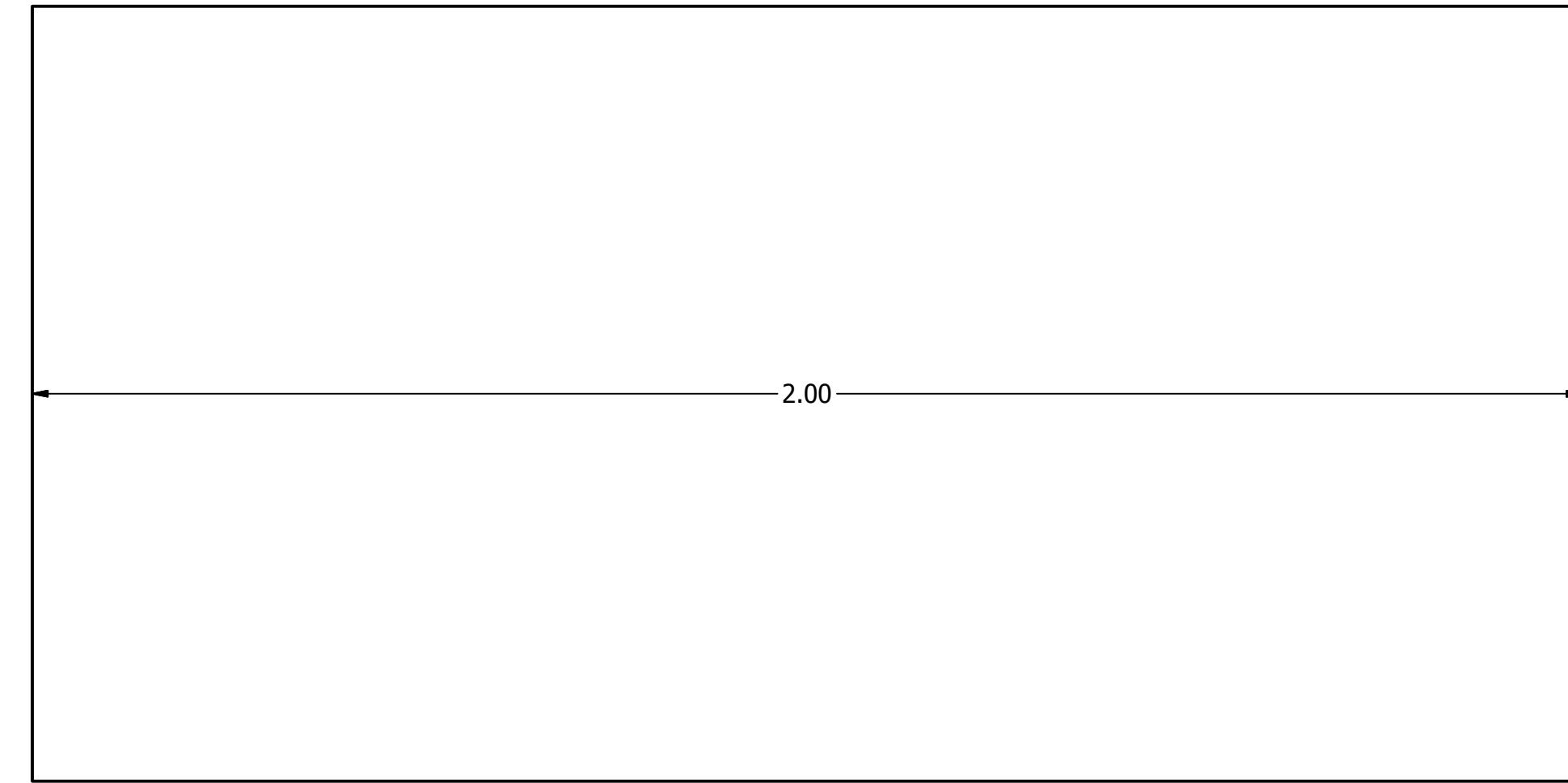
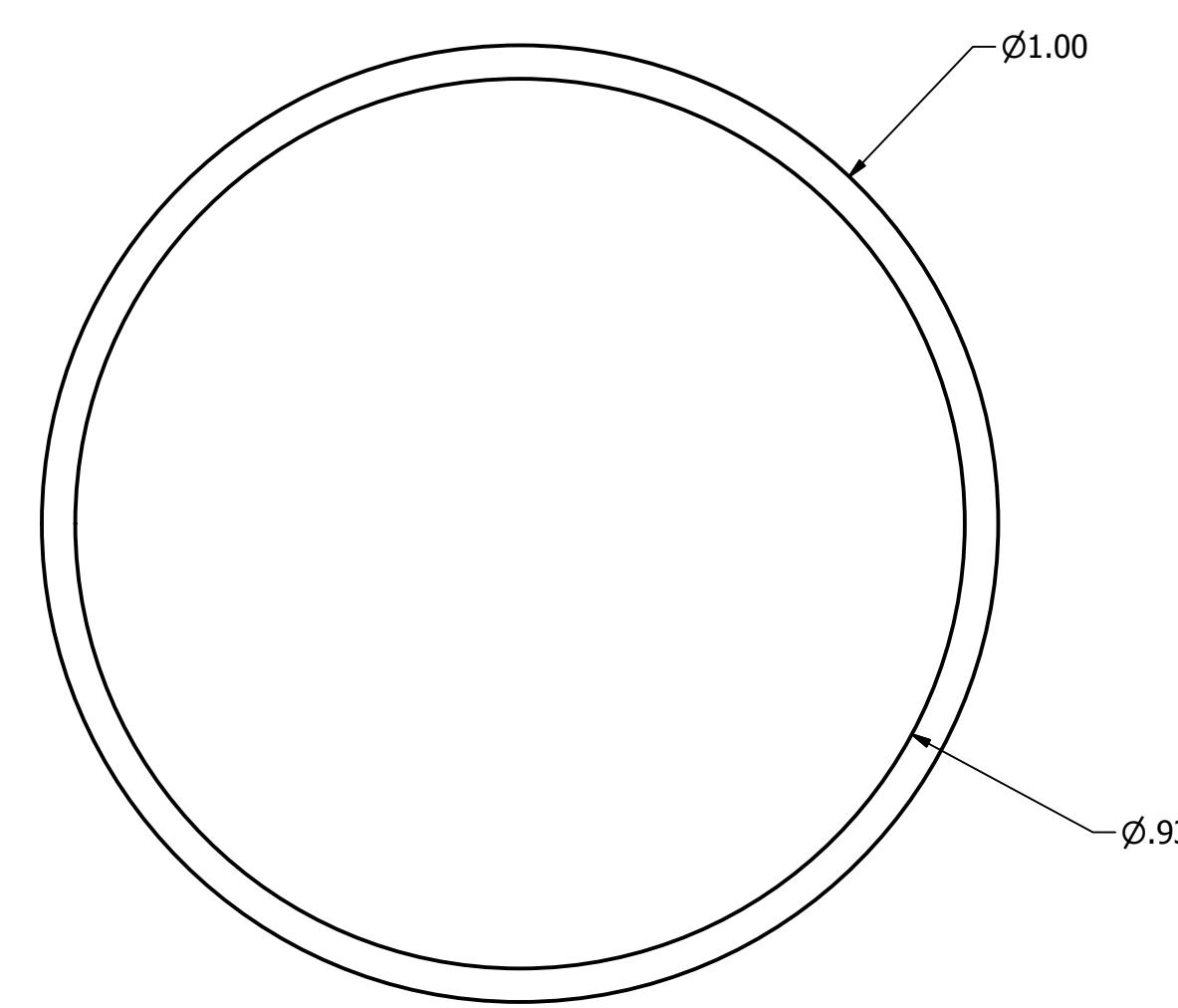
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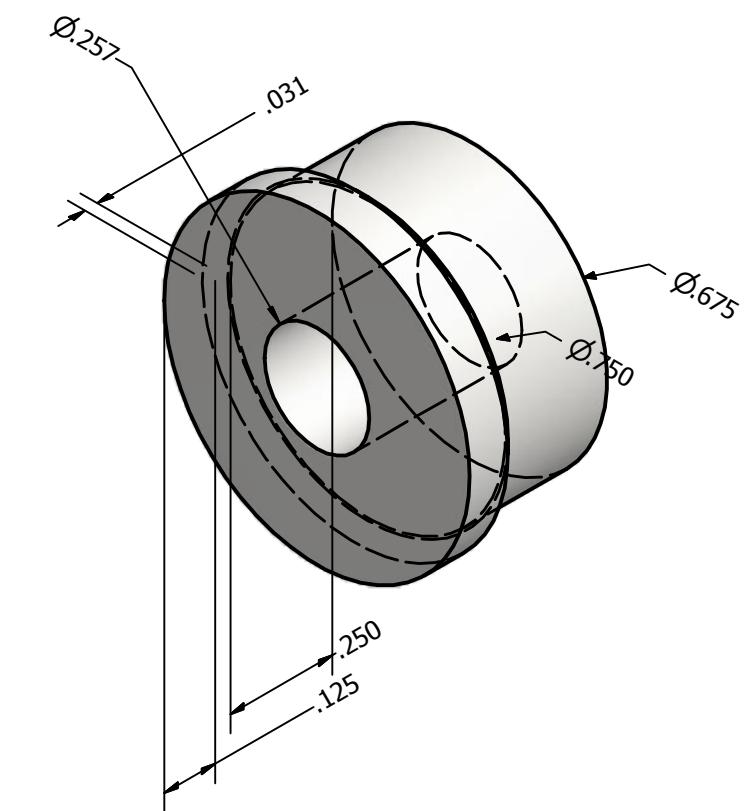
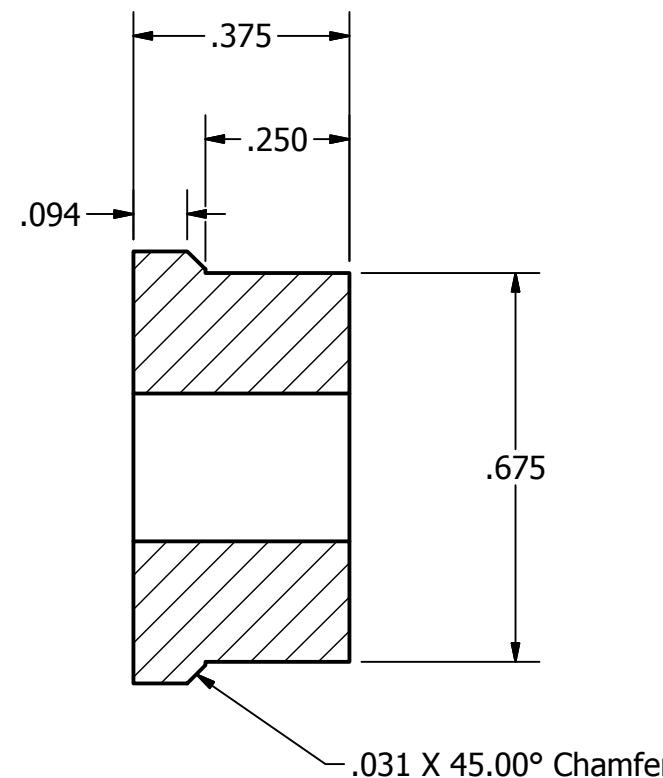
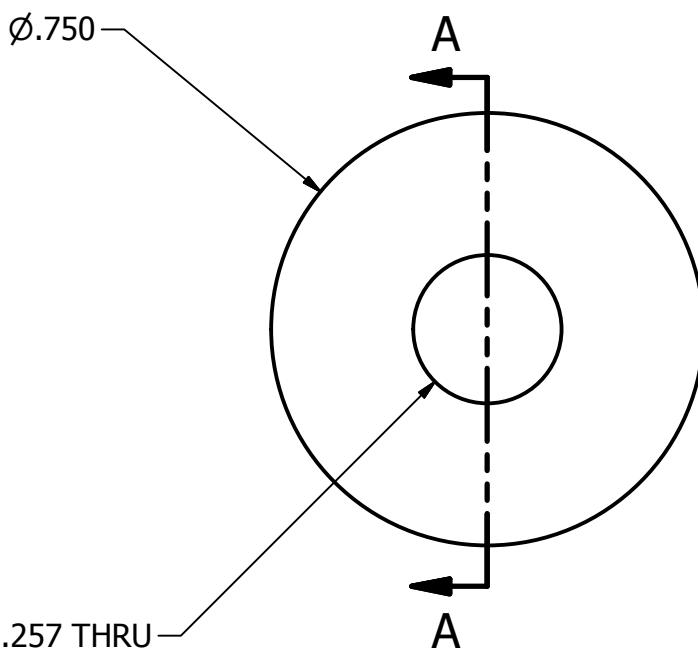
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MATERIAL SST304 SA-213		CHECKED		5/13/2011			
FINISH 32 UNLESS OTHERWISE NOTED		APPROVED					
DEBUR AND BREAK ALL SHARP EDGES ACCEPT AS NOTED		APPROVED			SIZE	DWG NO	REV
Do Not Scale Drawing		APPROVED			B	TGT-104-1000-0027	-
					SCALE 4:1	ASSY. NO. TGT-104-1000-0001	SHEET 1 OF 1

4 | 3 | 2 | 1

4 | 3 | 2 | 1

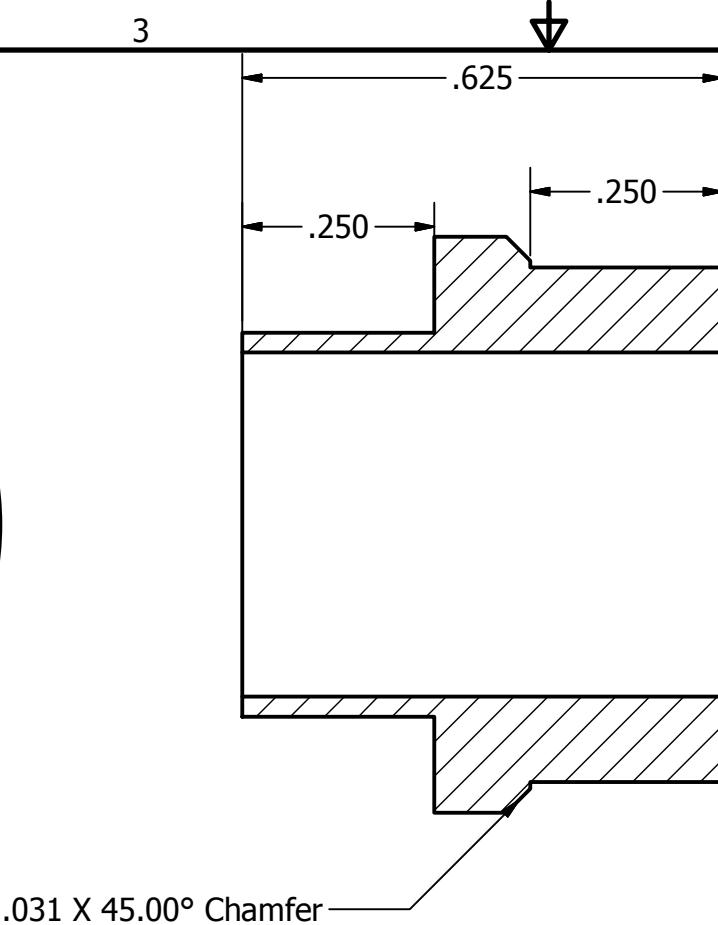
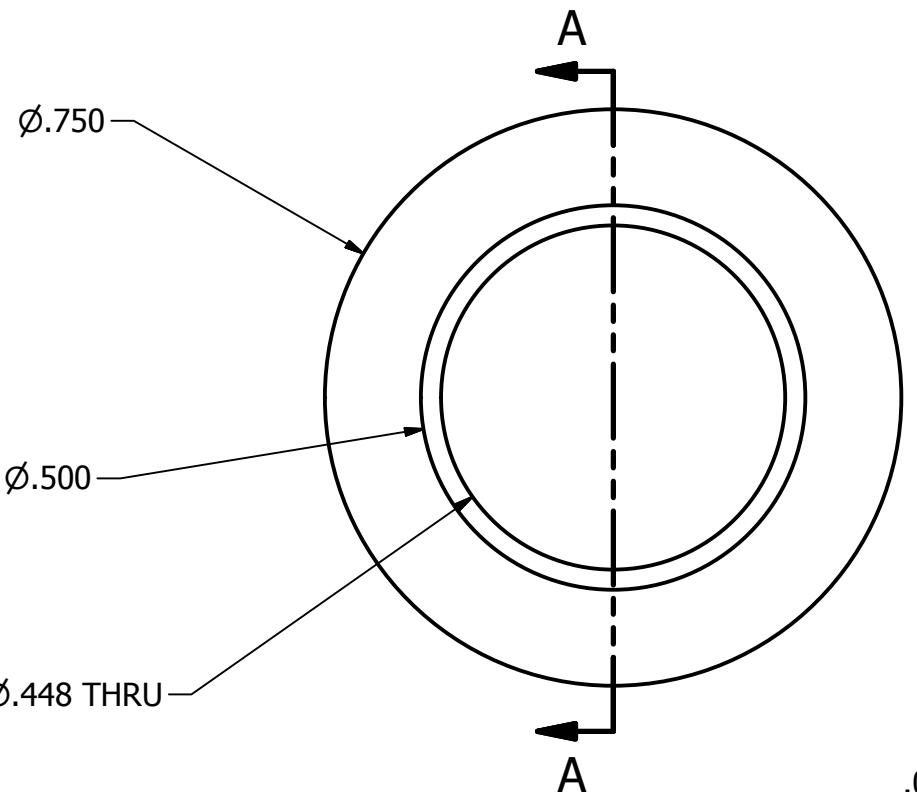


DRAWN	Nathaly	6/29/2015	TITLE		
CHECKED					
QA					
MFG					
APPROVED			SIZE	DWG NO	REV
			C	TGT-104-1000-0028	
			SCALE		SHEET 1 OF 1

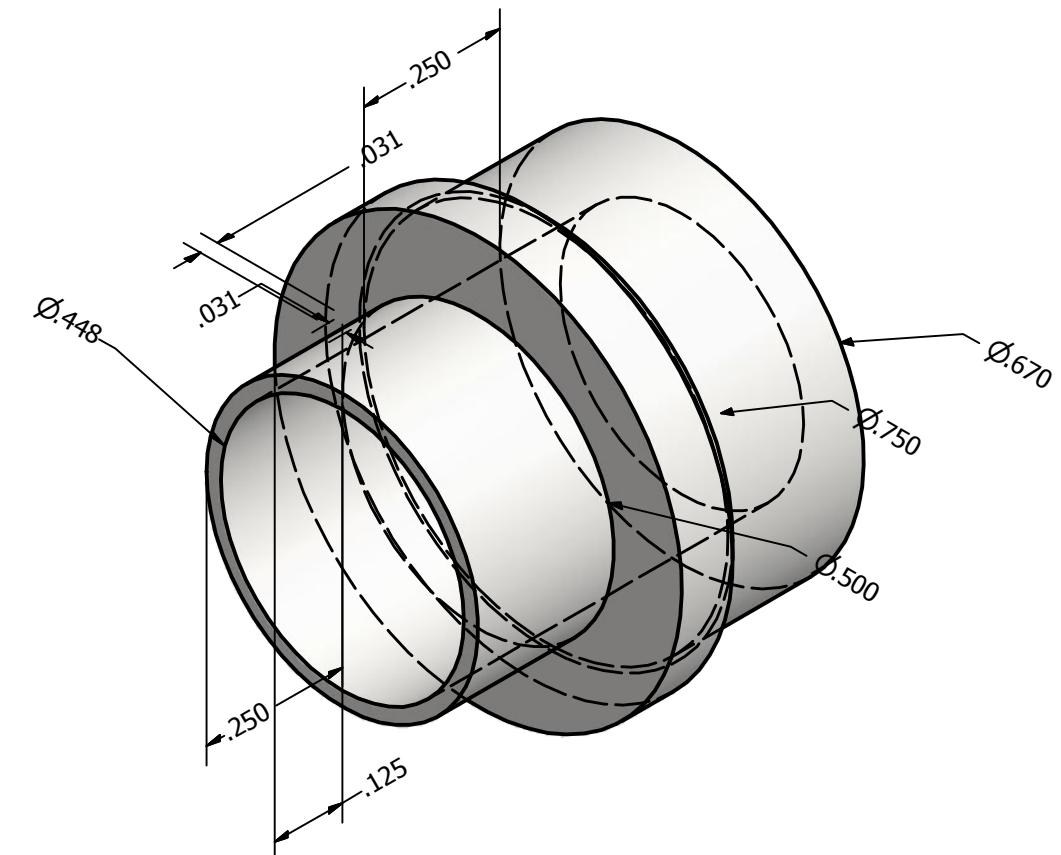


SECTION A-A
SCALE 3 : 1

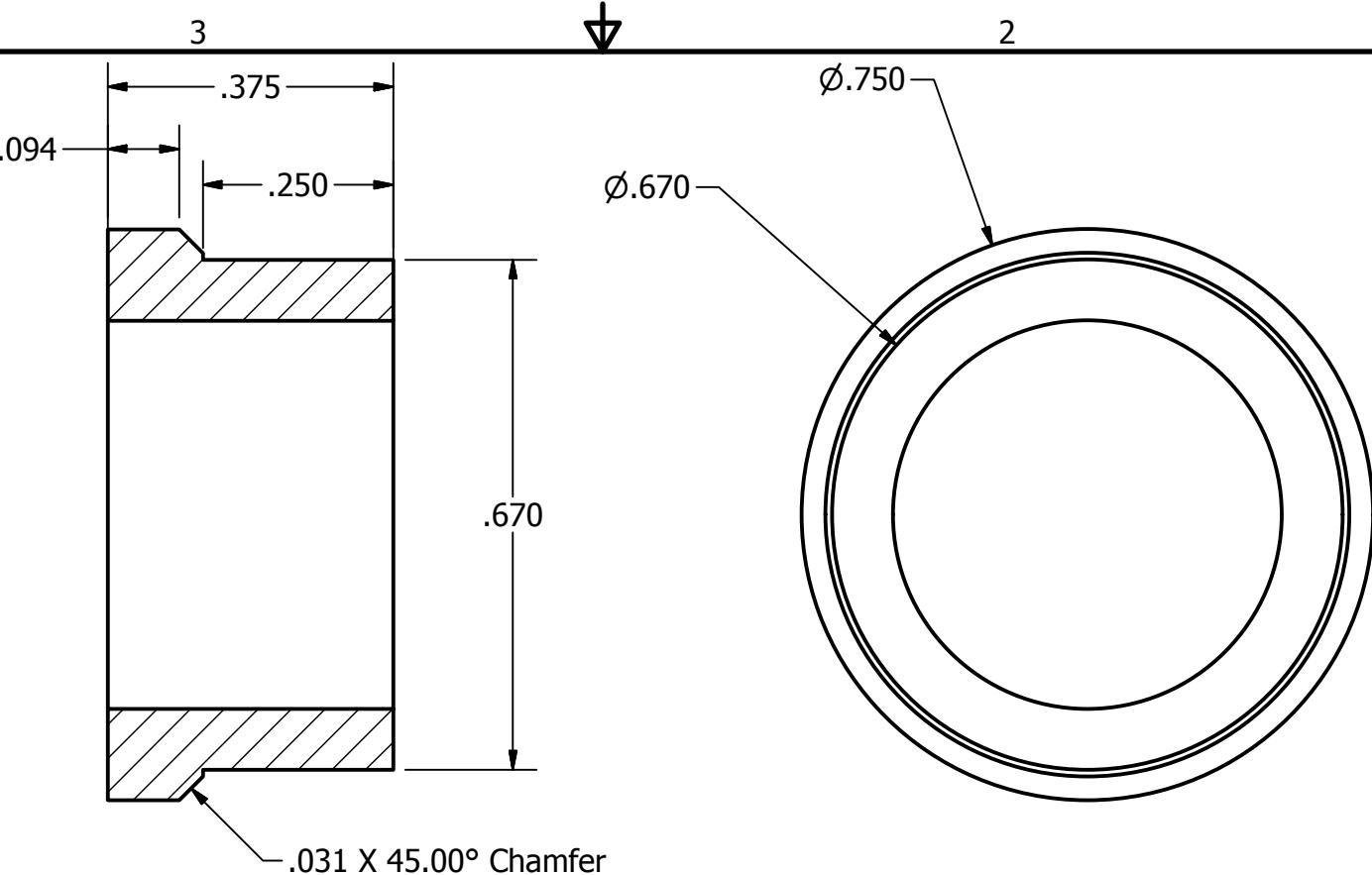
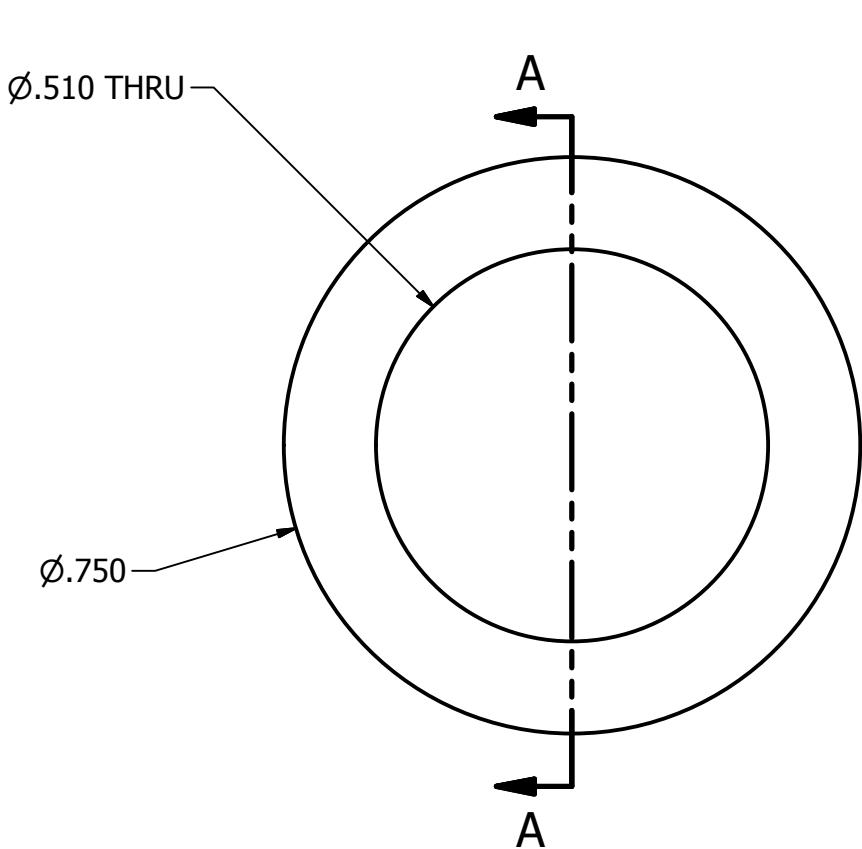
DOCUMENT CONTROL STAMP		DIM & TOL PER ASME Y14.5. UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMAL ANGLE $\pm 1/64$ $.X \pm 0.1$ ± 0.5	APPROVALS	DATE	JEFFERSON LAB TARGET GROUP THOMAS JEFFERSON NATIONAL ACCELERATOR FACILITY NEWPORT NEWS VIRGINIA U.S. DEPARTMENT OF ENERGY		
MATERIAL SST304		CHECKED	5/13/2011				
FINISH 32 UNLESS OTHERWISE NOTED		APPROVED		Hall A G2P Polarized Target Refrigerator 1/4 in Tube Adapter Bushing			
DEBUR AND BREAK ALL SHARP EDGES ACCEPT AS NOTED		APPROVED					
Do Not Scale Drawing		APPROVED		SIZE	DWG NO	REV	
				B	TGT-104-1000-0029	-	
				SCALE	3:1		
					ASSY. NO. TGT-104-1000-0001	SHEET 1 OF 1	



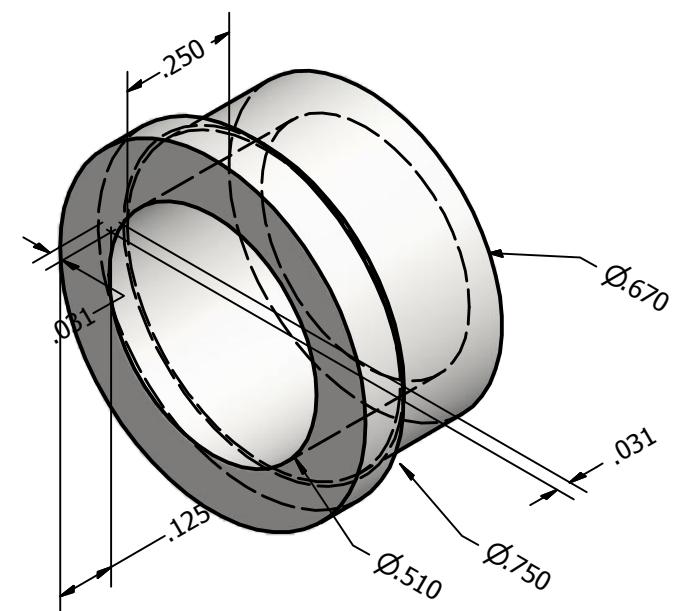
SECTION A-A
SCALE 4 : 1



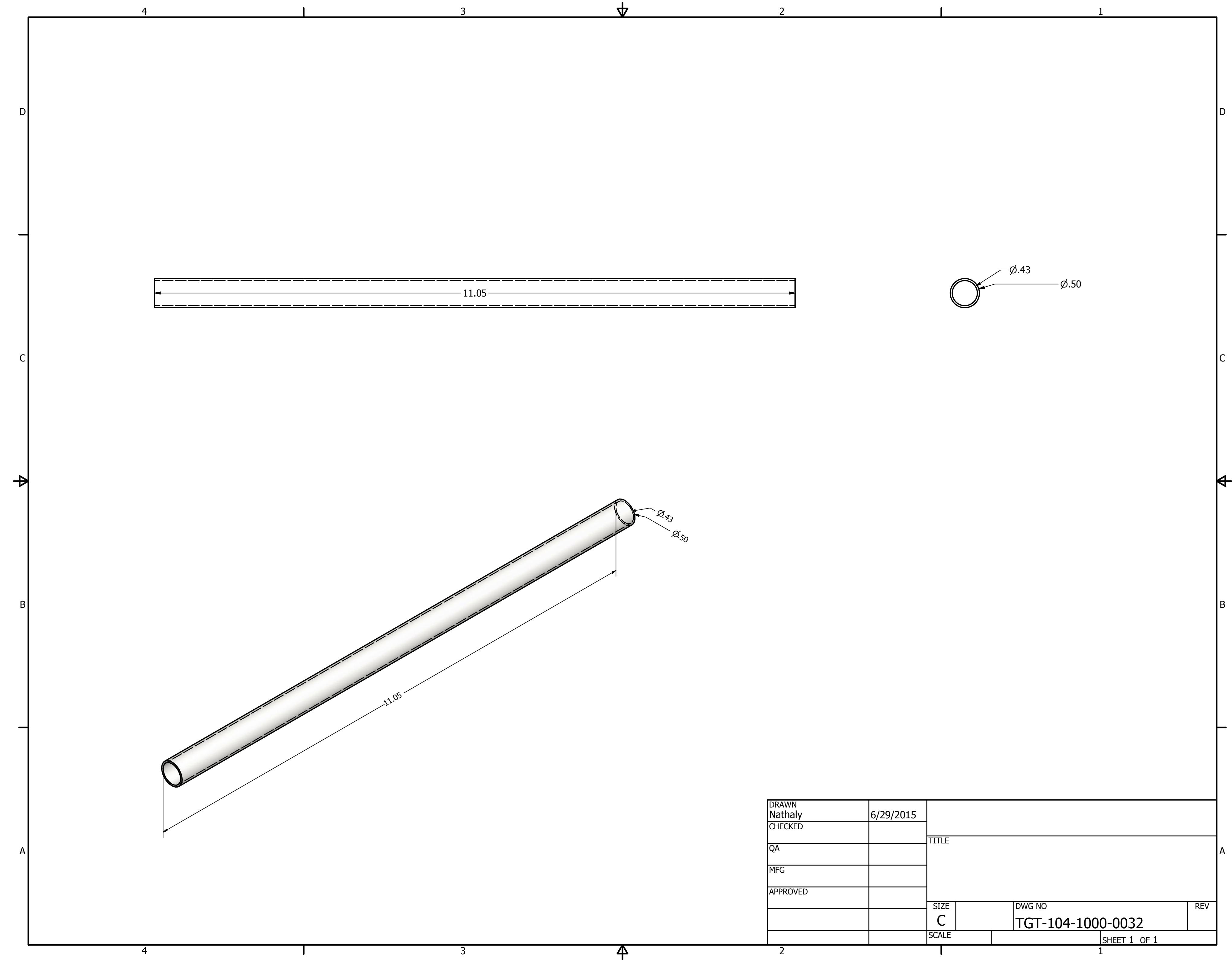
DOCUMENT CONTROL STAMP		DIM & TOL PER ASME Y14.5. UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMAL ANGLE $\pm 1/64$ $.X \pm 0.1$ ± 0.5		APPROVALS	DATE	JEFFERSON LAB TARGET GROUP THOMAS JEFFERSON NATIONAL ACCELERATOR FACILITY NEWPORT NEWS VIRGINIA U.S. DEPARTMENT OF ENERGY		
MATERIAL SST304				DRAWN D. Meekins	5/13/2011			
FINISH 32 UNLESS OTHERWISE NOTED		THIRD ANGLE PROJECTION		CHECKED				
DEBUR AND BREAK ALL SHARP EDGES ACCEPT AS NOTED		APPROVED				Hall A G2P Polarized Target Refrigerator Fill Tube Adapter Bushing		
Do Not Scale Drawing				APPROVED		SIZE	DWG NO	REV
				APPROVED		B	TGT-104-1000-0030	-
						SCALE 4:1	ASSY. NO. TGT-104-1000-0001	SHEET 1 OF 1



SECTION A-A
SCALE 4 : 1



DOCUMENT CONTROL STAMP		DIM & TOL PER ASME Y14.5. UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMAL ANGLE $\pm 1/64$ $.X \pm 0.1$ ± 0.5	APPROVALS	DATE	JEFFERSON LAB TARGET GROUP THOMAS JEFFERSON NATIONAL ACCELERATOR FACILITY NEWPORT NEWS VIRGINIA U.S. DEPARTMENT OF ENERGY		
MATERIAL	SST304		DRAWN D. Meekins	5/13/2011			
FINISH	32 UNLESS OTHERWISE NOTED	THIRD ANGLE PROJECTION	CHECKED				
DEBUR AND BREAK ALL SHARP EDGES ACCEPT AS NOTED		APPROVED			Hall A G2P Polarized Target Refrigerator 1/2 in Tube Adapter Bushing		
Do Not Scale Drawing		APPROVED			SIZE B	DWG NO TGT-104-1000-0031	REV -
		APPROVED			SCALE 4:1	ASSY. NO. TGT-104-1000-0001	SHEET 1 OF 1



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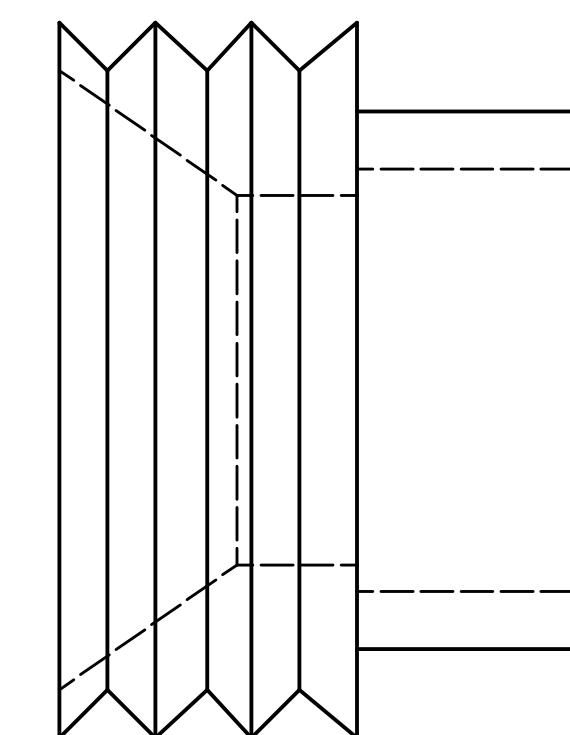
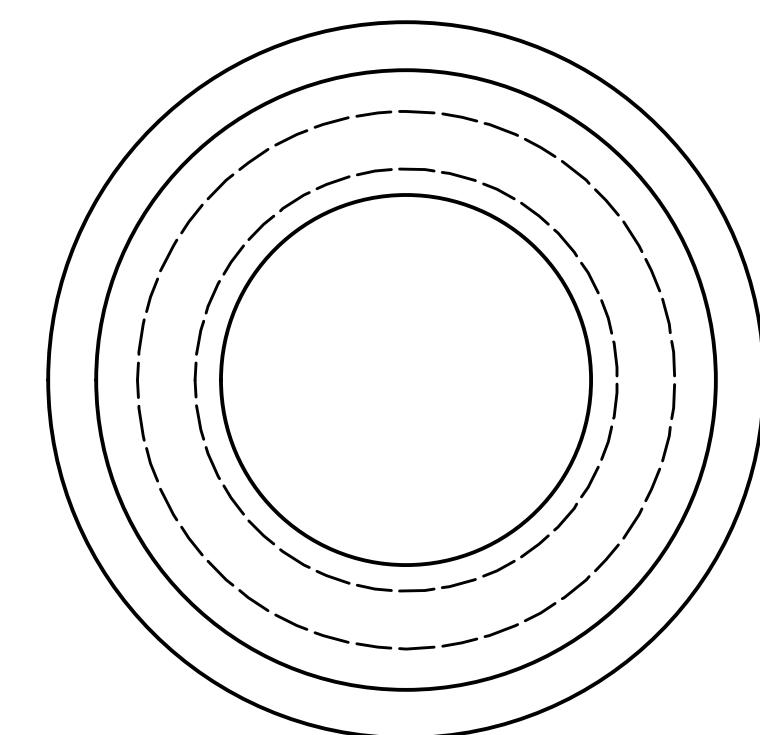
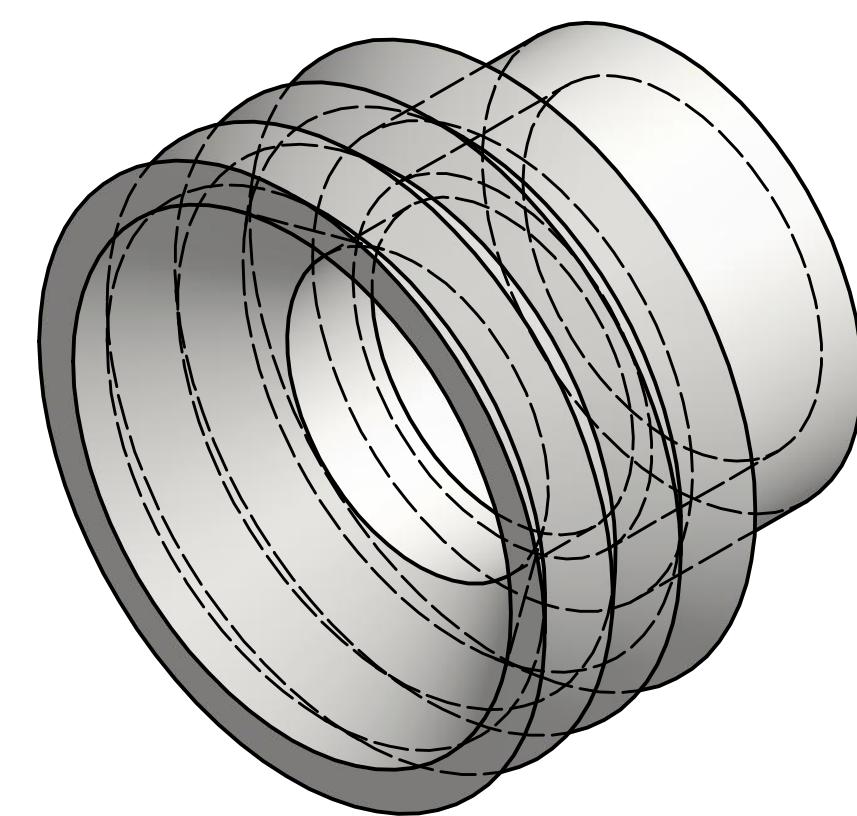
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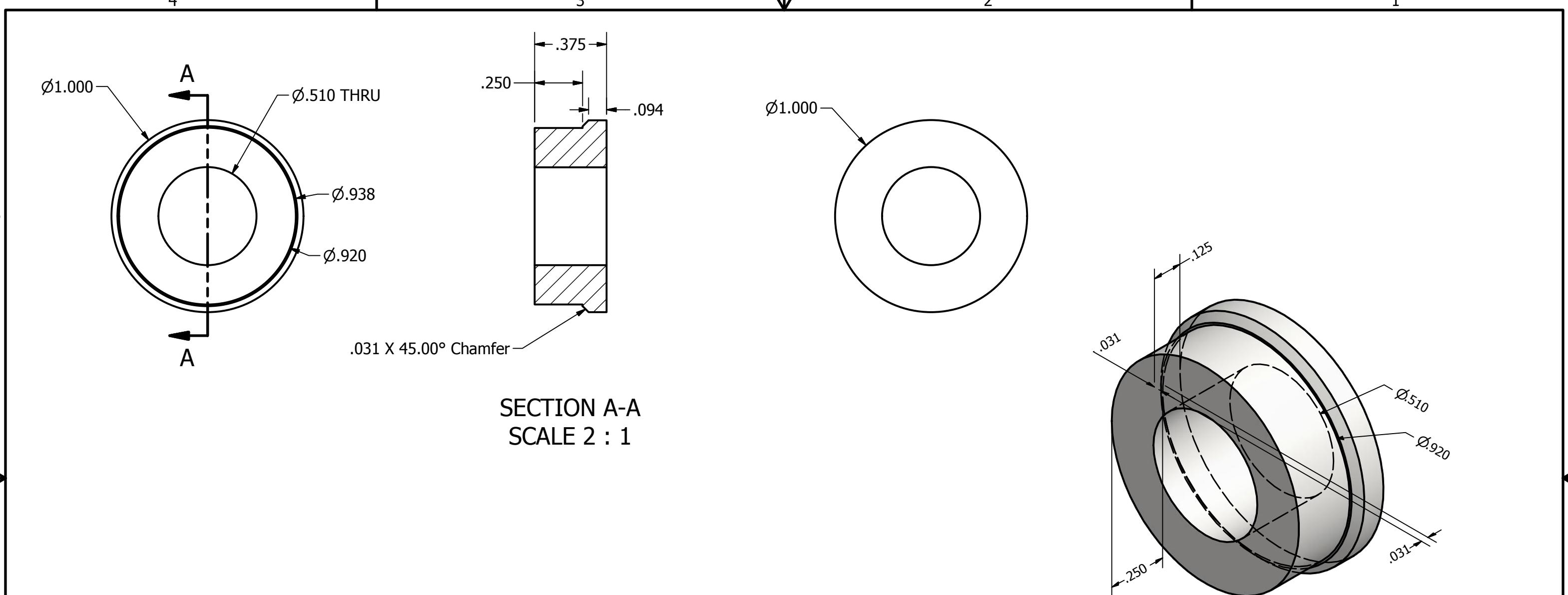
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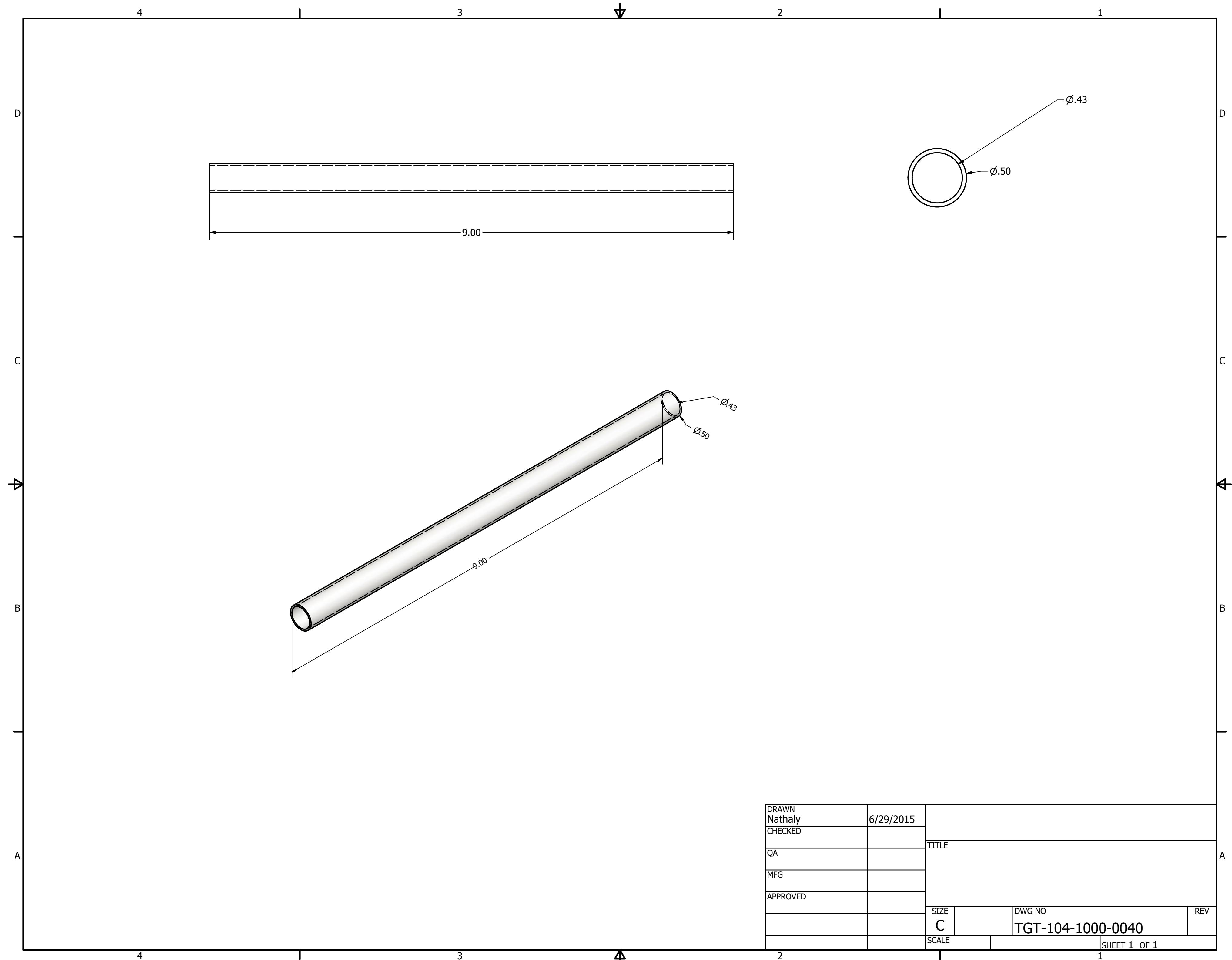


DRAWN Nathaly	6/29/2015			
CHECKED		TITLE		
QA				
MFG				
APPROVED		SIZE C	SCALE	DWG NO TGT-104-1000-0038
				REV
				SHEET 1 OF 1



SECTION A-A
SCALE 2 : 1

DOCUMENT CONTROL STAMP		DIM & TOL PER ASME Y14.5. UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMAL ANGLE $\pm 1/64$ $.X \pm 0.1$ ± 0.5	APPROVALS	DATE	JEFFERSON LAB TARGET GROUP THOMAS JEFFERSON NATIONAL ACCELERATOR FACILITY NEWPORT NEWS VIRGINIA U.S. DEPARTMENT OF ENERGY		
MATERIAL SST304		CHECKED	5/23/2011				
FINISH 32 UNLESS OTHERWISE NOTED DEBUR AND BREAK ALL SHARP EDGES ACCEPT AS NOTED Do Not Scale Drawing		APPROVED		Hall A G2P Polarized Target Refrigerator 1 in to 1/2 in Adapter Bushing			
		APPROVED		SIZE	DWG NO	REV	
		APPROVED		B	TGT-104-1000-0039	-	
		SCALE 3:1	ASSY. NO. TGT-104-1000-0001	SHEET 1 OF 1			



DRAWN Nathaly	6/29/2015	TITLE		
CHECKED				
QA				
MFG				
APPROVED		SIZE C	SCALE	DWG NO TGT-104-1000-0040
				REV
				SHEET 1 OF 1

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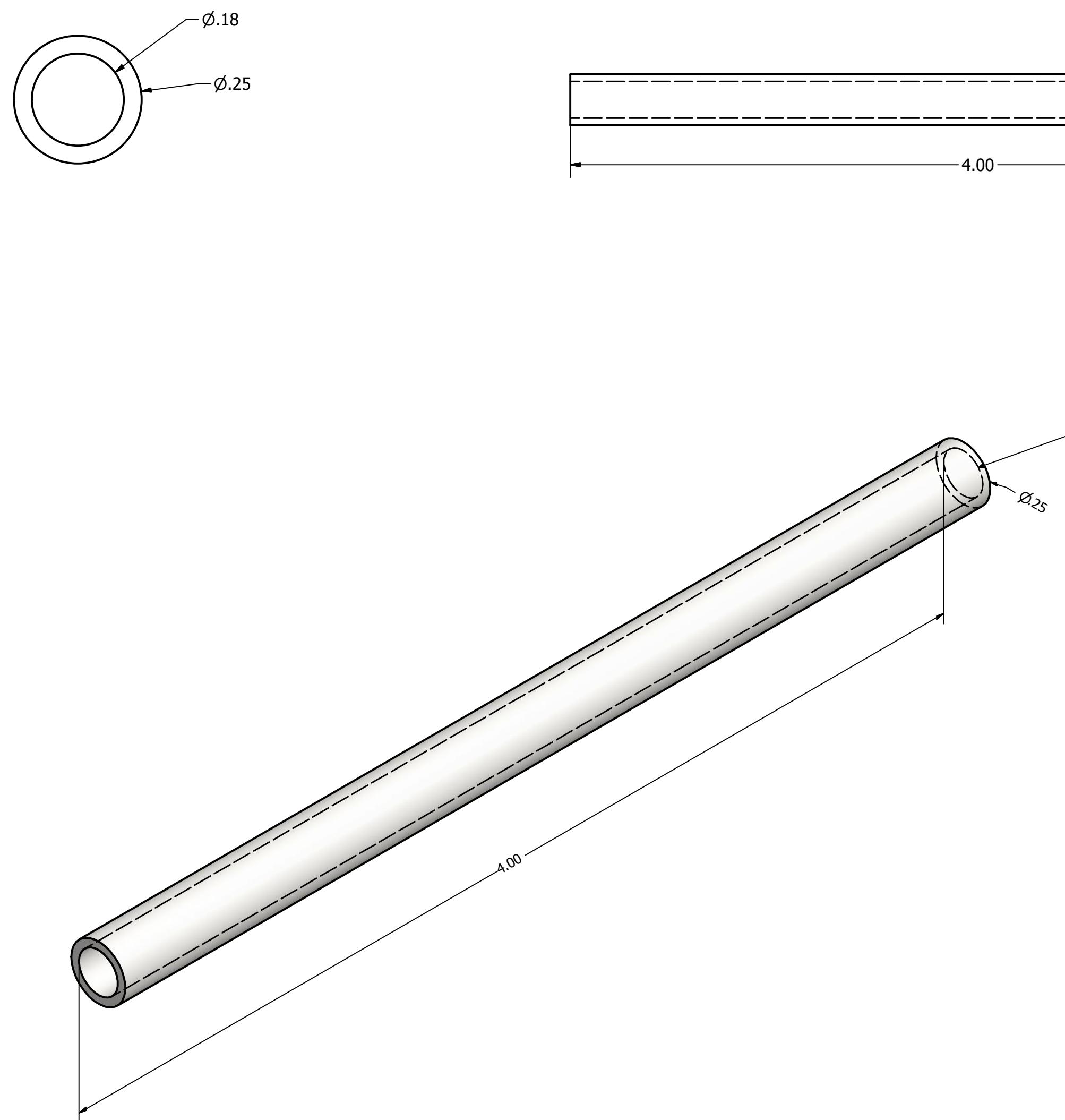
C

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DRAWN Nathaly	6/29/2015	TITLE		
CHECKED				
QA				
MFG				
APPROVED				
SIZE C		DWG NO TGT-104-1000-0041		
SCALE				
		REV		
		SHEET 1 OF 1		

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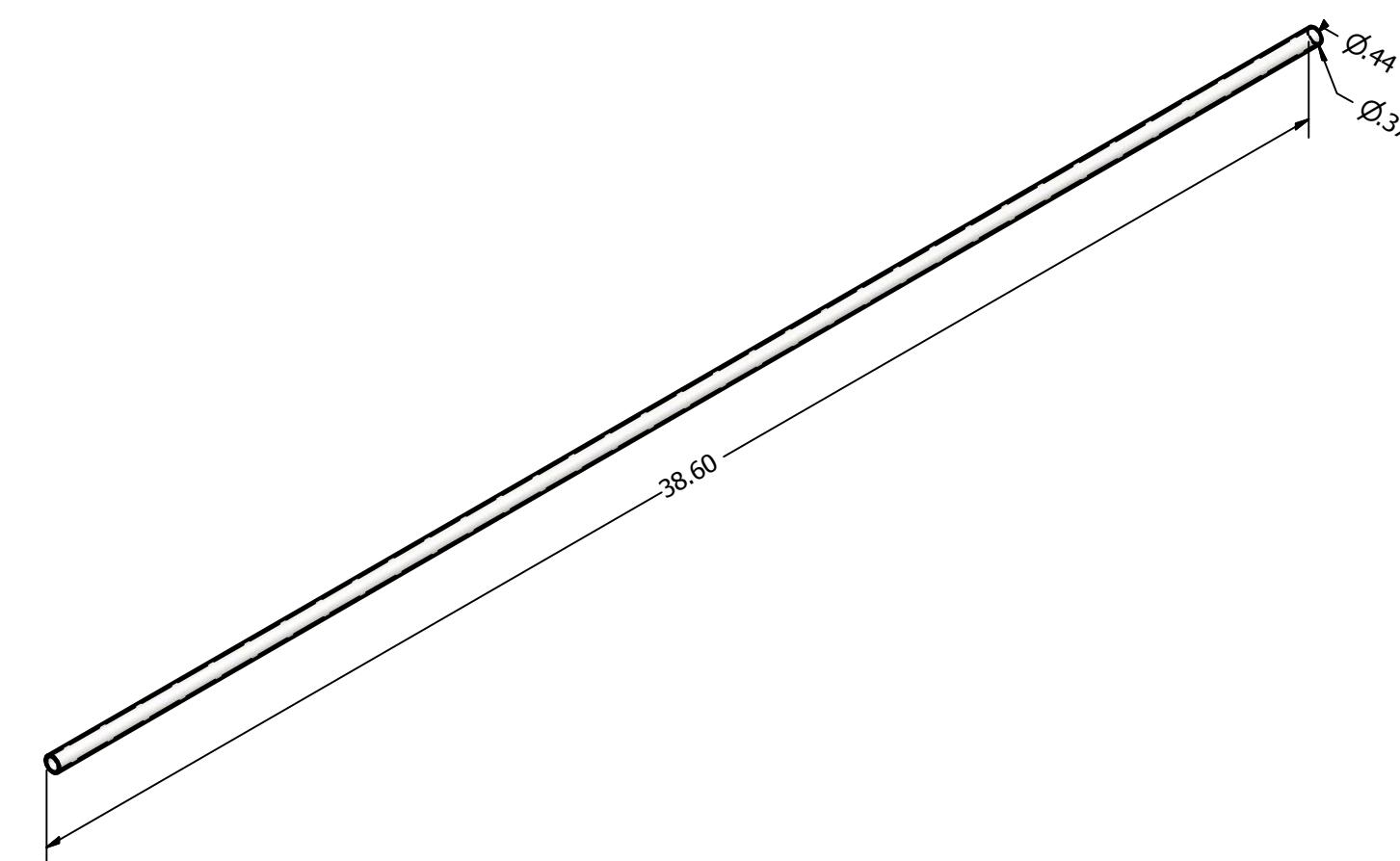
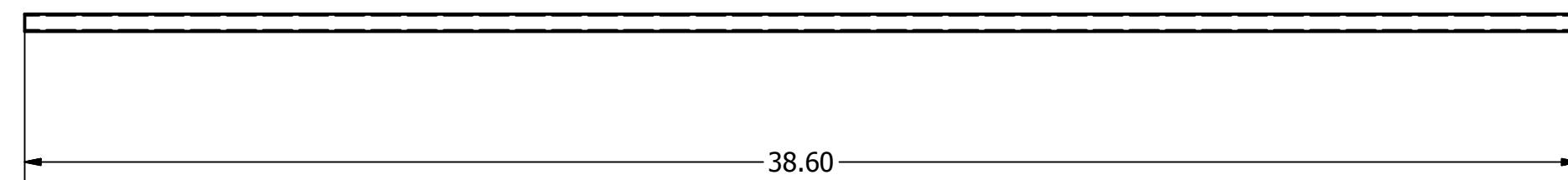
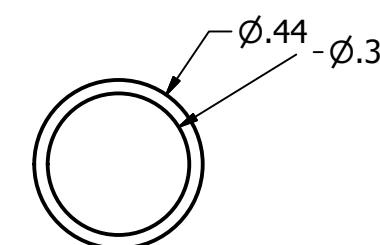
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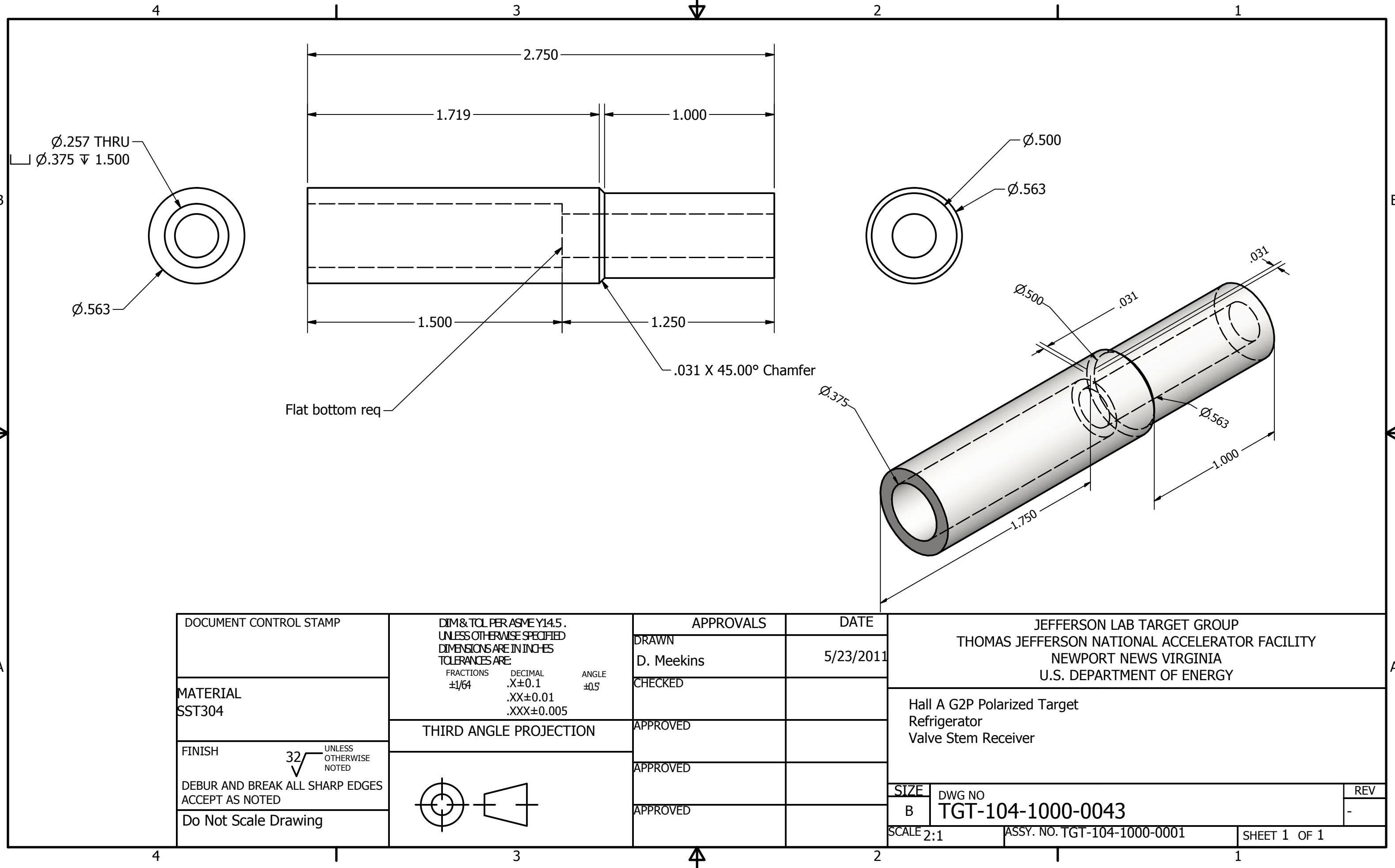
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DRAWN Nathaly	6/29/2015	TITLE		
CHECKED				
QA				
MFG				
APPROVED		SIZE C	SCALE	DWG NO TGT-104-1000-0042
				REV
				SHEET 1 OF 1



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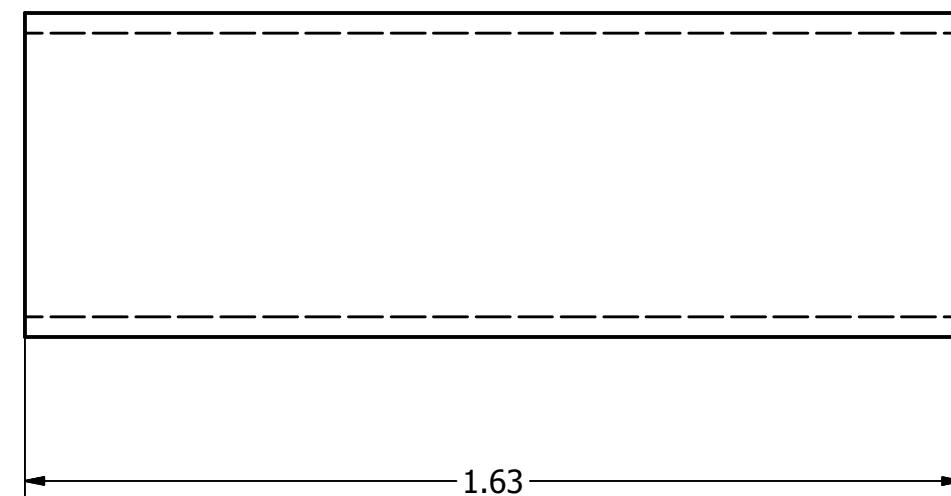
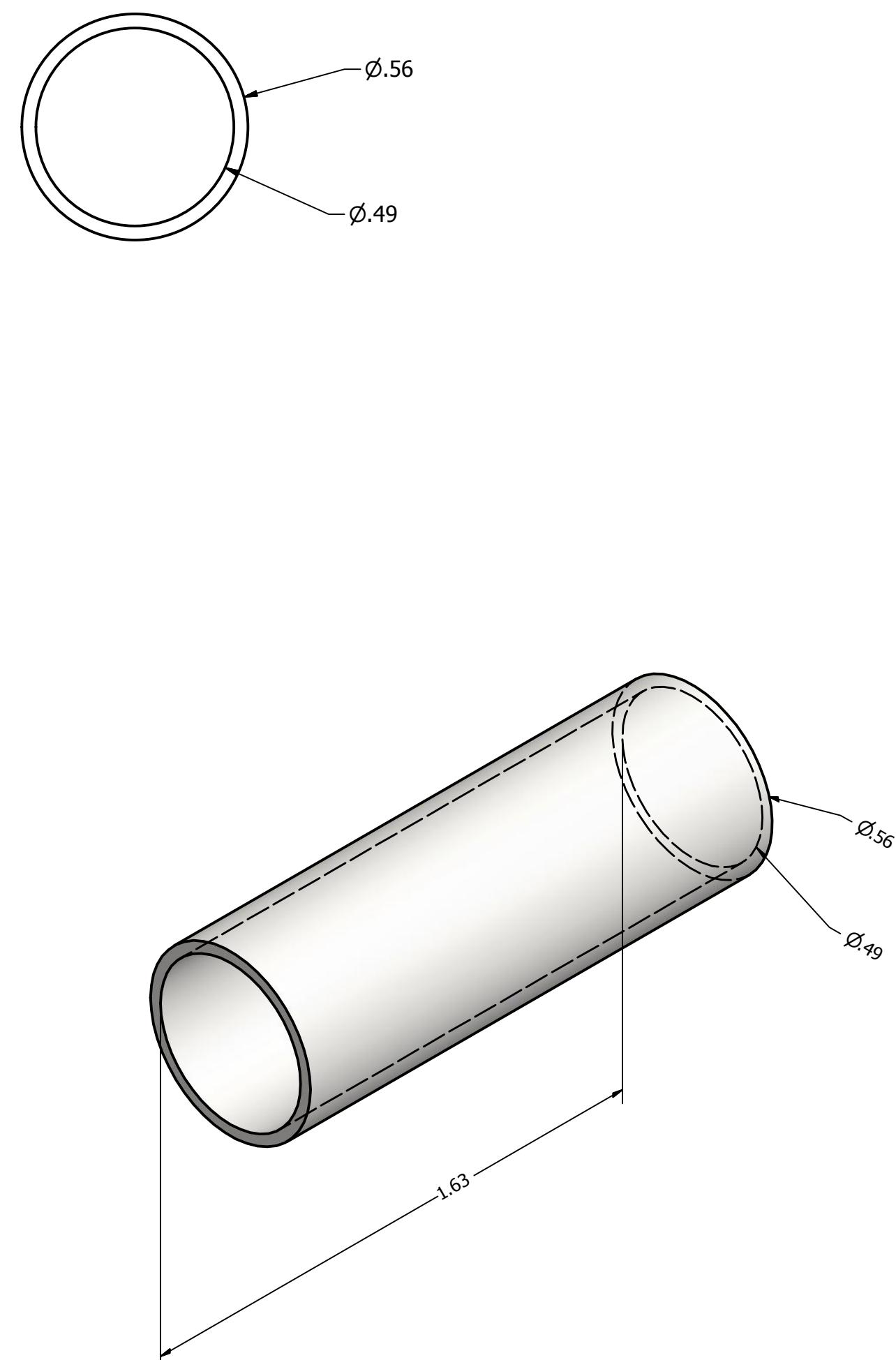
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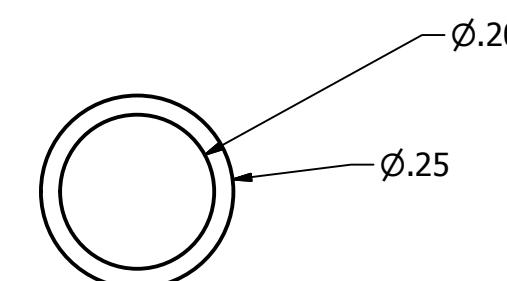
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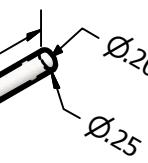
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CHECKED				
QA				
MFG				
APPROVED		SIZE C	SCALE	DWG NO TGT-104-1000-0044
				REV
				SHEET 1 OF 1

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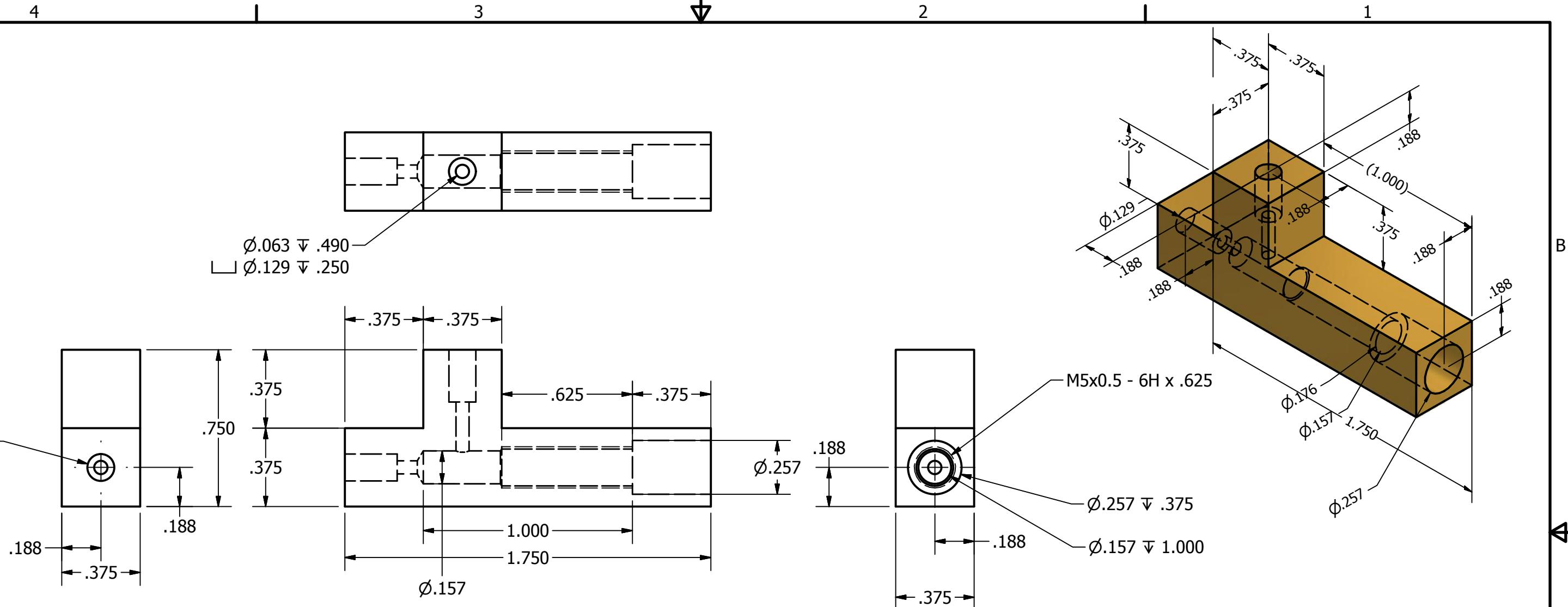
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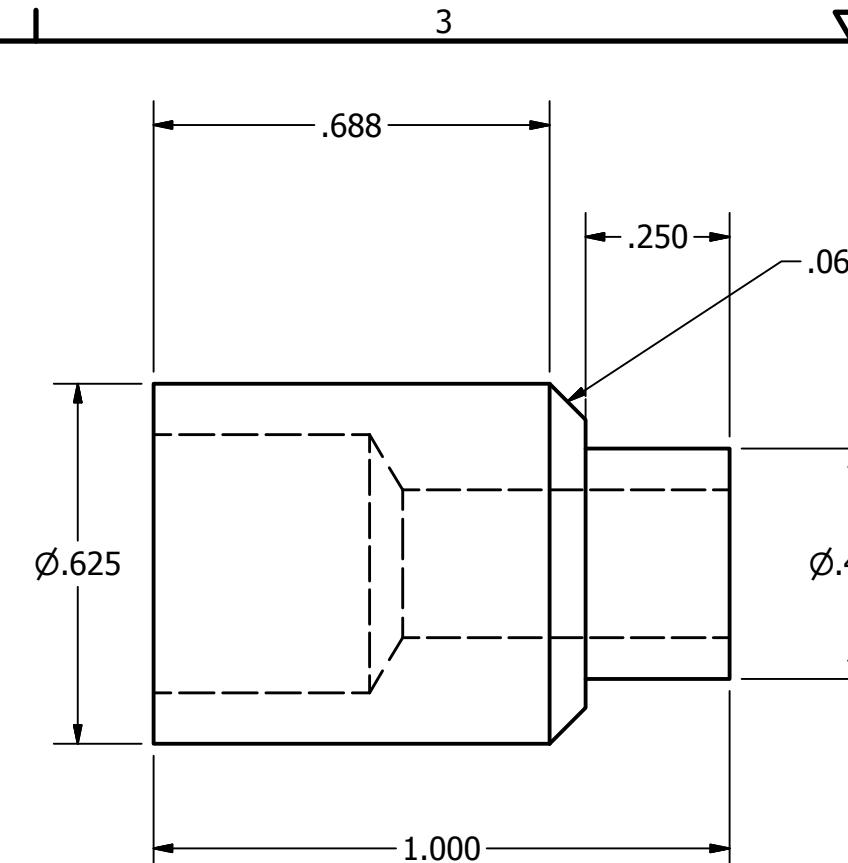
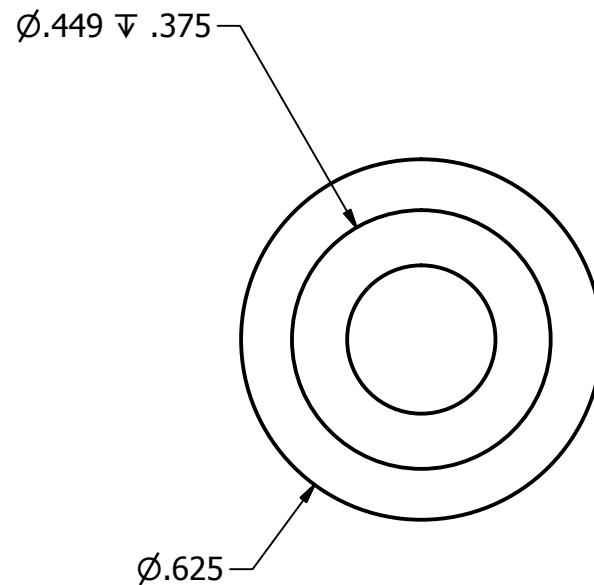
DRAWN	Nathaly	6/29/2015	TITLE
CHECKED			
QA			
MFG			
APPROVED			
SIZE	C	DWG NO	
SCALE		TGT-104-1000-0045	REV
			SHEET 1 OF 1



DOCUMENT CONTROL STAMP		DIM & TOL PER ASME Y14.5. UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONAL DECIMAL ANGLE $\pm\frac{1}{64}$ $.X \pm 0.1$ $\pm 0.5^\circ$	APPROVALS	DATE	JEFFERSON LAB TARGET GROUP THOMAS JEFFERSON NATIONAL ACCELERATOR FACILITY NEWPORT NEWS VIRGINIA U.S. DEPARTMENT OF ENERGY		
MATERIAL Brass C3600		CHECKED	5/23/2011				
FINISH 32 UNLESS OTHERWISE NOTED		APPROVED		Hall A G2P Polarized Target Refrigerator Run/Bypass Control Valve			
DEBUR AND BREAK ALL SHARP EDGES ACCEPT AS NOTED		APPROVED		SIZE	DWG NO	REV	
Do Not Scale Drawing		APPROVED		B	TGT-104-1000-0047	-	
		SCALE 2:1	ASSY. NO. TGT-104-1000-0001	SHEET 1 OF 1			

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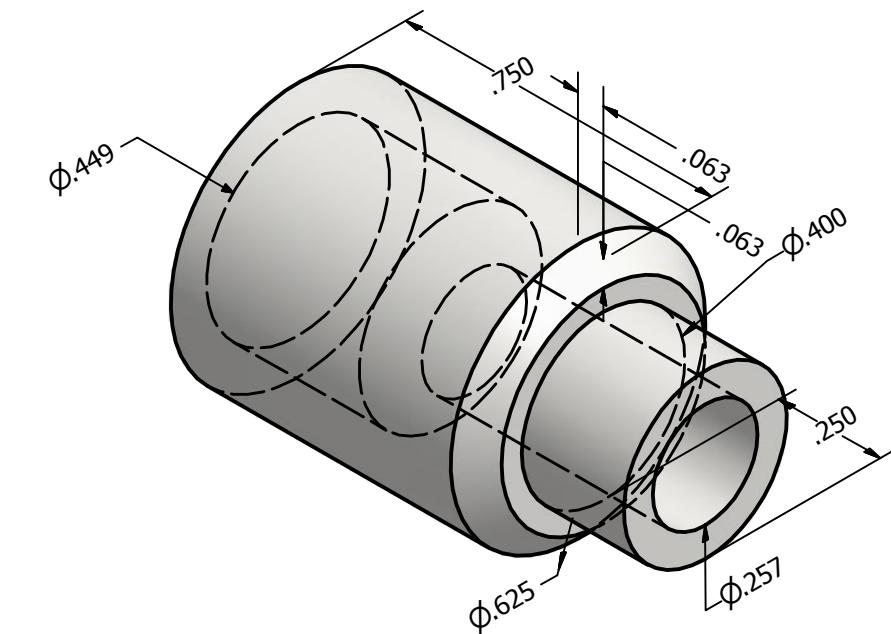
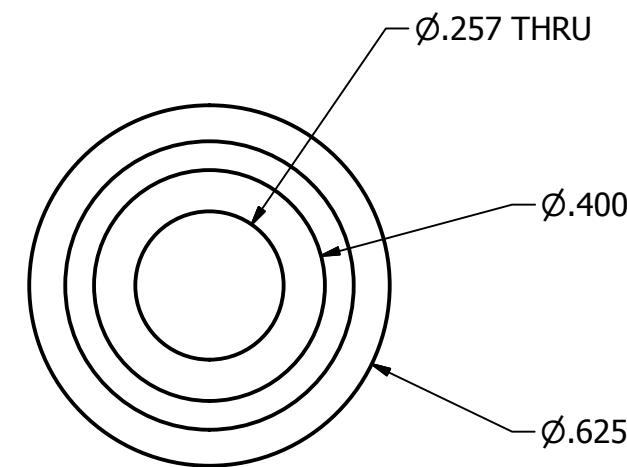


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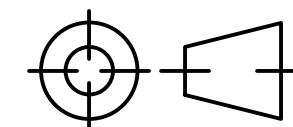
DOCUMENT CONTROL STAMP

DIM & TOL PER ASME Y14.5.
UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ARE:
FRACTIONS DECIMAL ANGLE
 $\pm\frac{1}{64}$ $.X \pm 0.1$ ± 0.5

MATERIAL
SST304

FINISH
32 $\sqrt{ } \text{ UNLESS
OTHERWISE
NOTED}$
DEBUR AND BREAK ALL SHARP EDGES
ACCEPT AS NOTED
Do Not Scale Drawing

THIRD ANGLE PROJECTION



APPROVALS

DRAWN
D. Meekins

DATE

5/24/2011

CHECKED

APPROVED

APPROVED

APPROVED

JEFFERSON LAB TARGET GROUP
THOMAS JEFFERSON NATIONAL ACCELERATOR FACILITY
NEWPORT NEWS VIRGINIA
U.S. DEPARTMENT OF ENERGY

Hall A G2P Polarized Target
Refrigerator
Fill Tube Adapter

SIZE

B

DWG NO
TGT-104-1000-0048

REV

-

SCALE

3:1

ASSY. NO. TGT-104-1000-0001

SHEET 1 OF 1

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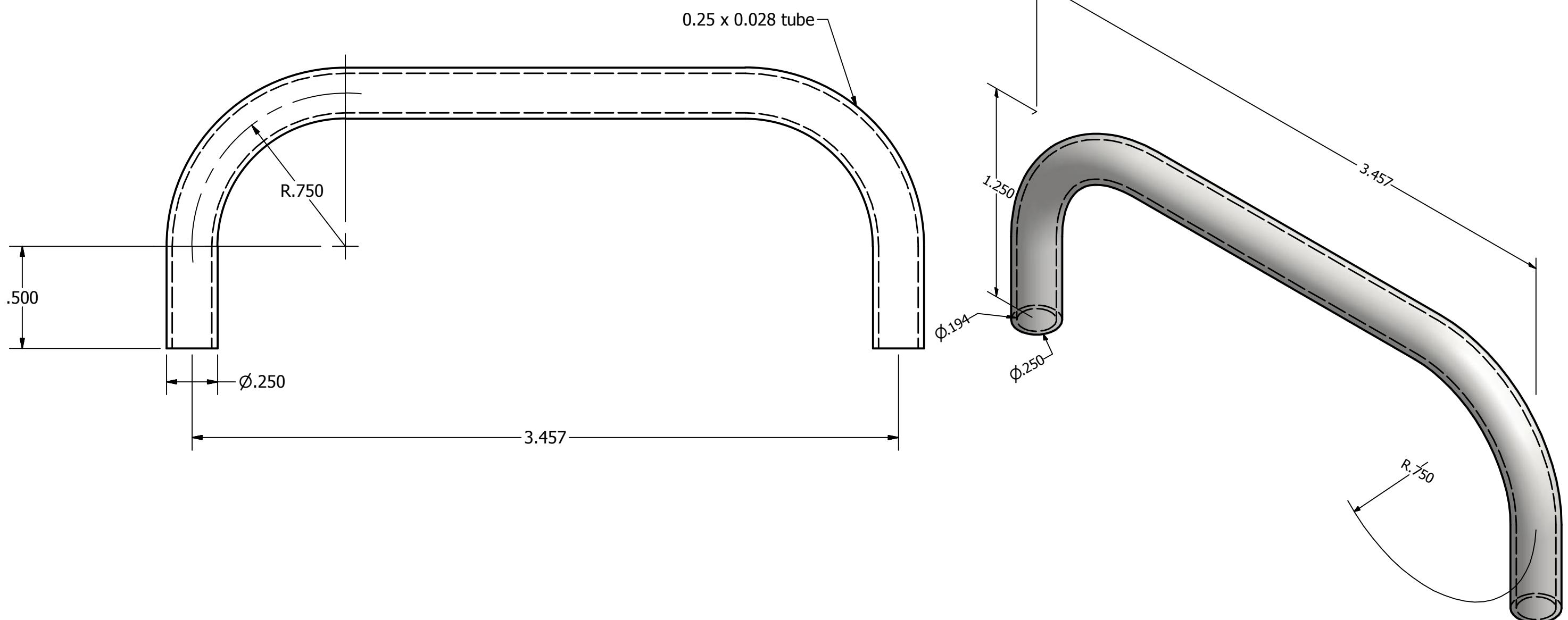
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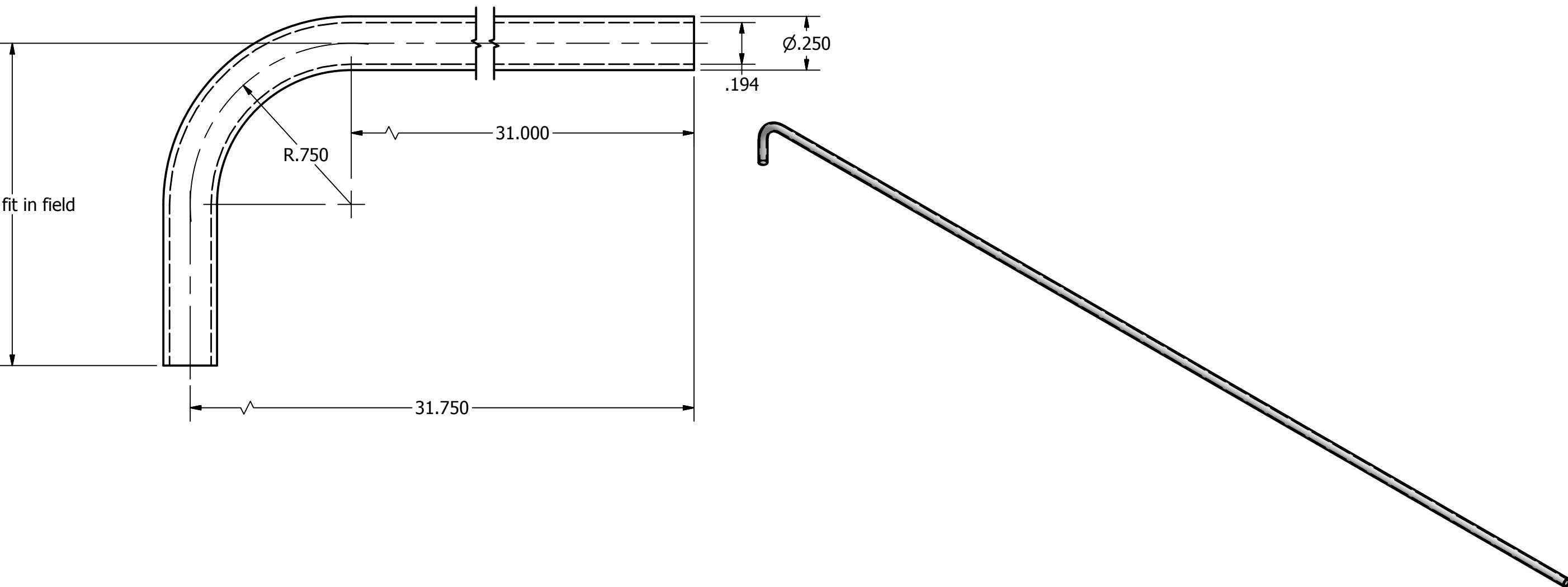
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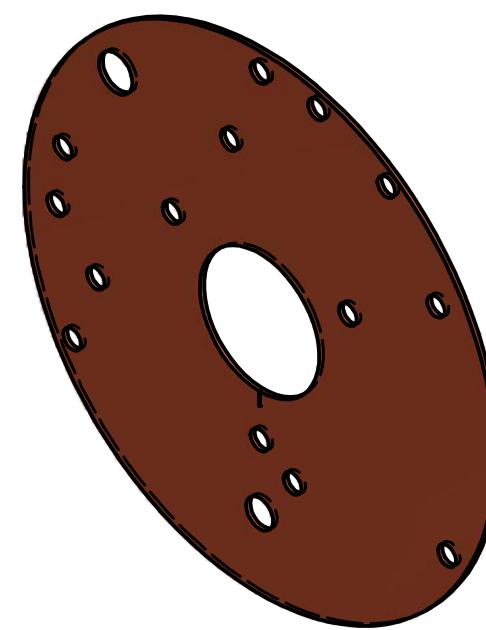
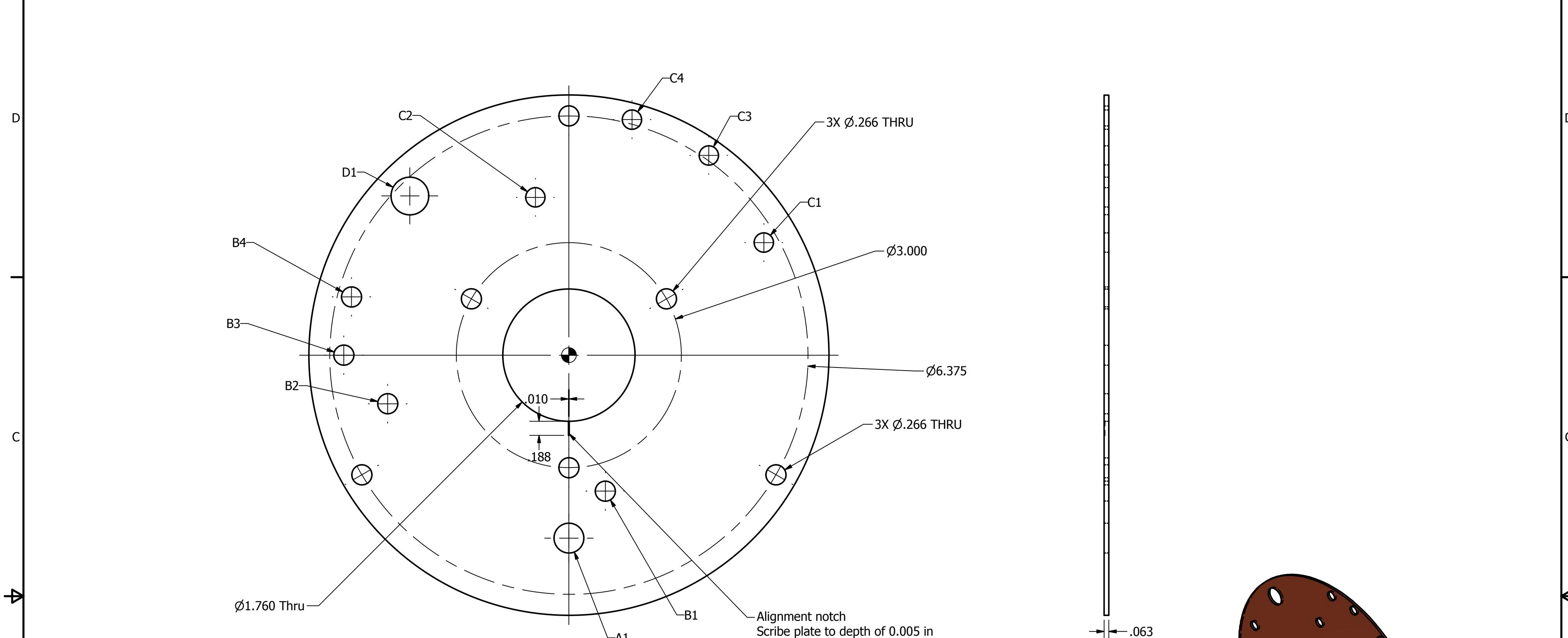


DOCUMENT CONTROL STAMP		DIM & TOL PER ASME Y14.5. UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMAL ANGLE ±1/64 .X±0.1 ±0.5	APPROVALS	DATE	JEFFERSON LAB TARGET GROUP THOMAS JEFFERSON NATIONAL ACCELERATOR FACILITY NEWPORT NEWS VIRGINIA U.S. DEPARTMENT OF ENERGY		
MATERIAL SST304 SA-213		CHECKED		5/25/2011			
FINISH N/A UNLESS OTHERWISE NOTED		APPROVED			Hall A G2P Polarized Target Refrigerator Jumper Fill Tube to Separator		
DEBUR AND BREAK ALL SHARP EDGES ACCEPT AS NOTED		APPROVED			SIZE	DWG NO	REV
Do Not Scale Drawing		APPROVED			B	TGT-104-1000-0049	-
			SCALE	2:1	ASSY. NO. TGT-104-1000-0001		SHEET 1 OF 1



DOCUMENT CONTROL STAMP		DIM & TOL PER ASME Y14.5. UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMAL ANGLE $\pm 1/64$ $.X \pm 0.1$ ± 0.5	APPROVALS	DATE	JEFFERSON LAB TARGET GROUP THOMAS JEFFERSON NATIONAL ACCELERATOR FACILITY NEWPORT NEWS VIRGINIA U.S. DEPARTMENT OF ENERGY		
MATERIAL SST304 SA-213		CHECKED	5/25/2011				
FINISH N/A UNLESS OTHERWISE NOTED		APPROVED		Hall A G2P Polarized Target Refrigerator Manometer Tube			
DEBUR AND BREAK ALL SHARP EDGES ACCEPT AS NOTED		APPROVED		SIZE	DWG NO	REV	
Do Not Scale Drawing		APPROVED		B	TGT-104-1000-0050	-	
		SCALE 3:1	ASSY. NO. TGT-104-1000-0001	SHEET 1 OF 1			

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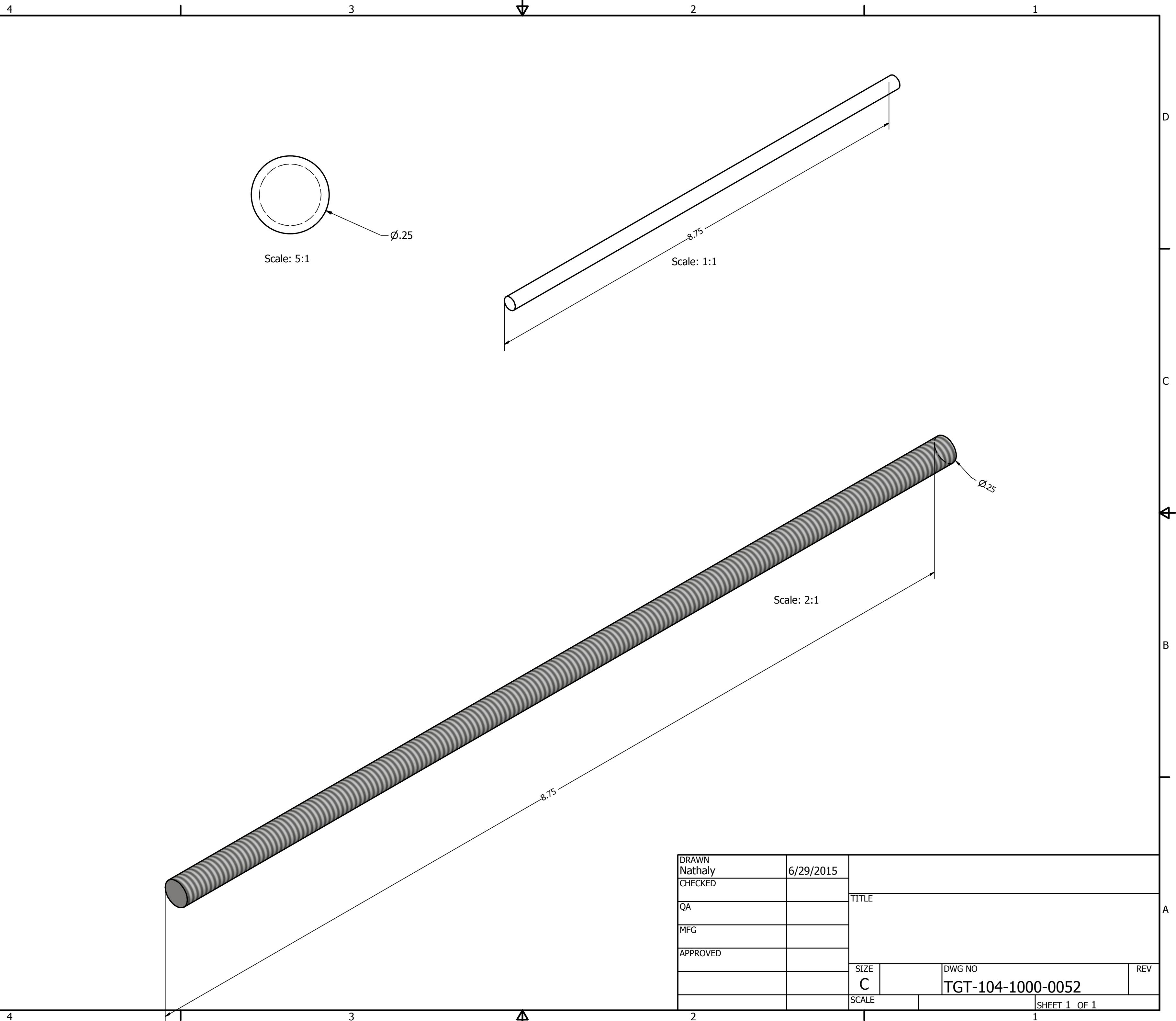


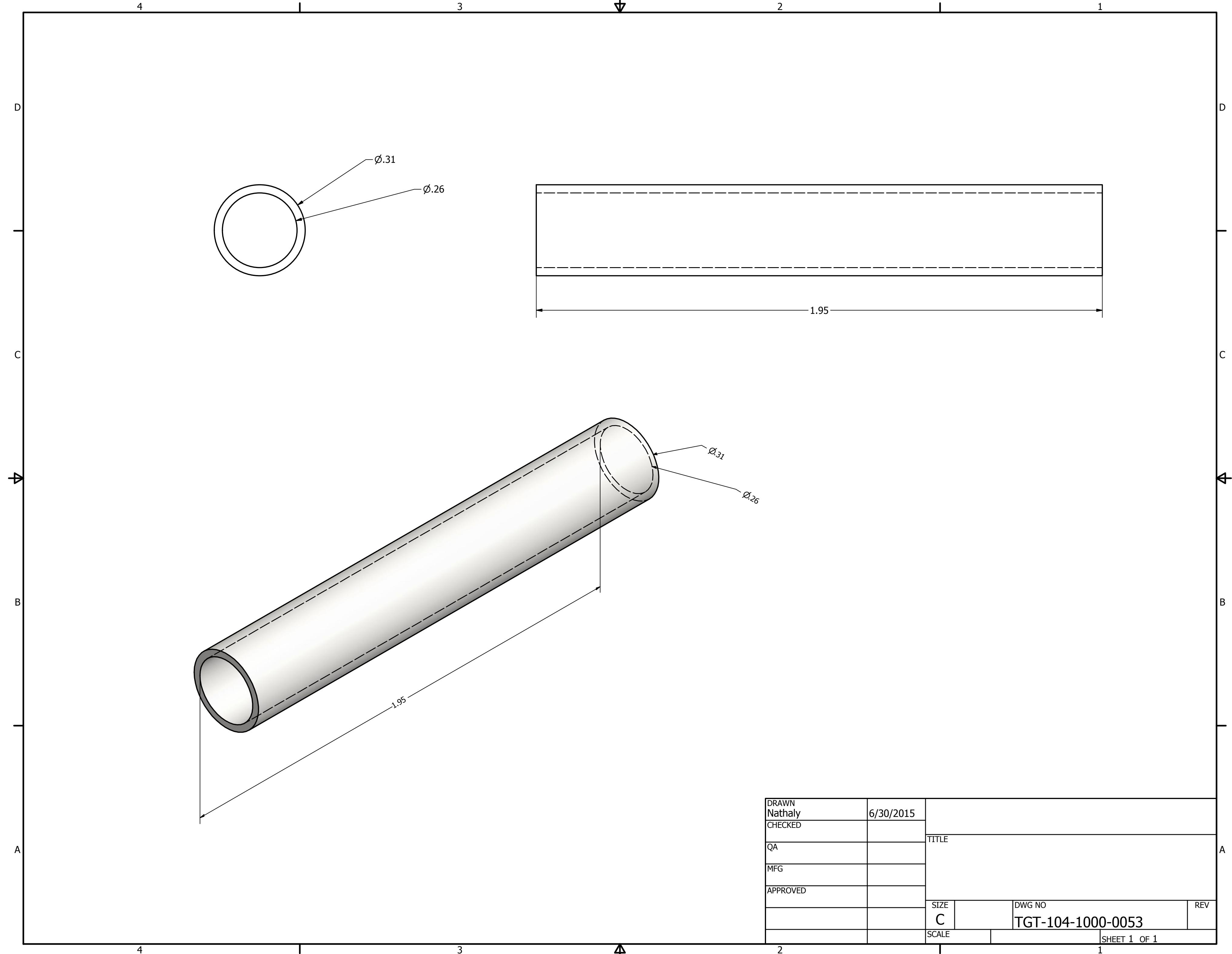
HOLE TABLE

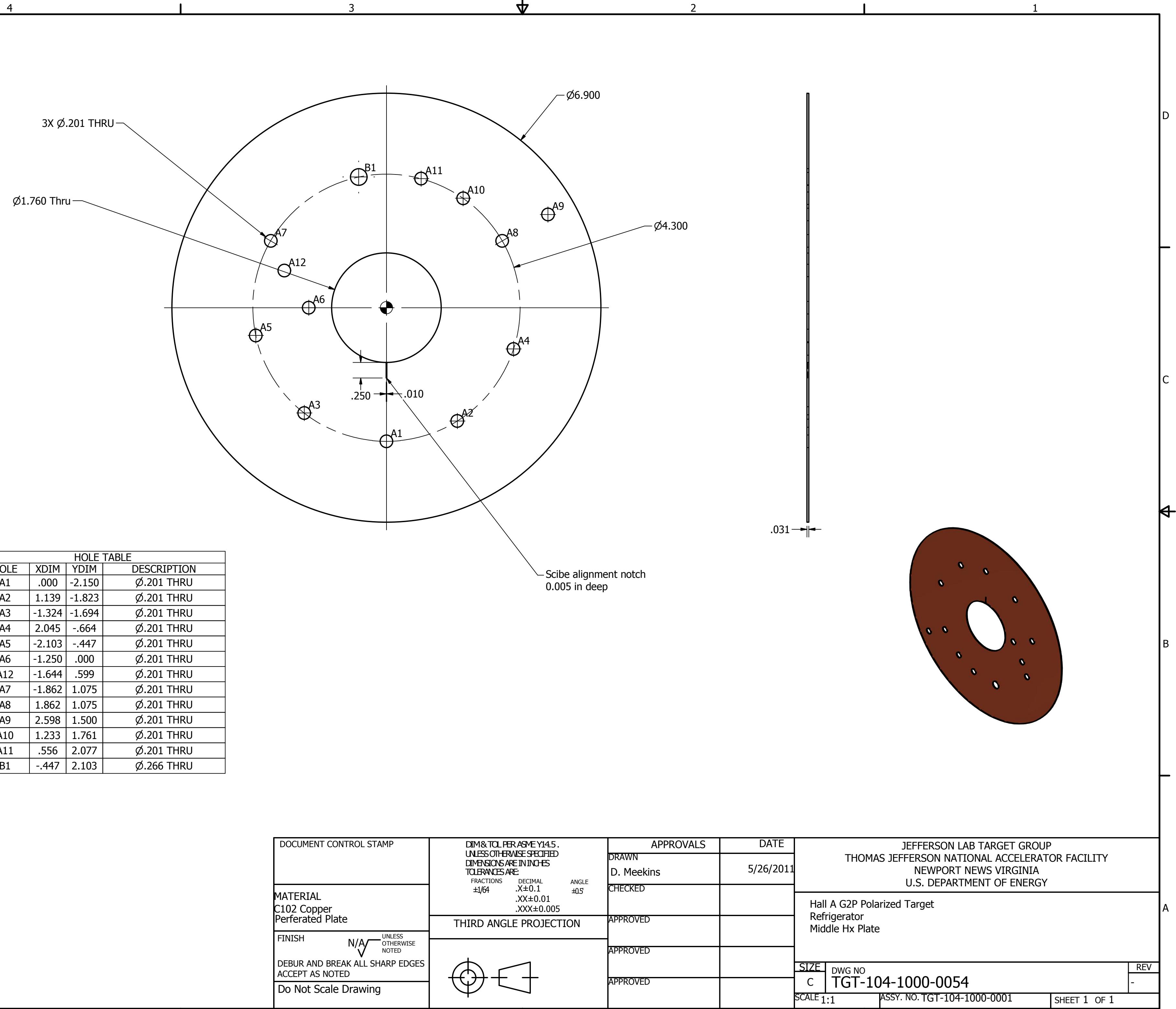
HOLE	XDIM	YDIM	DESCRIPTION	PURPOSE
A1	.000	-2.437	Ø.397 THRU	Separator Relief
B1	.485	-1.811	Ø.266 THRU	Coil Pass
B2	-2.415	-.647	Ø.266 THRU	Coil Pass
B3	-3.000	.000	Ø.266 THRU	Electronics
B4	-2.898	.776	Ø.266 THRU	Electronics
C1	2.598	1.500	Ø.257 THRU	Bypass
C2	-.447	2.103	Ø.257 THRU	Run
C3	1.864	2.662	Ø.257 THRU	He4 VP
C4	.841	3.139	Ø.257 THRU	He3 VP
D1	-2.121	2.121	Ø.500 THRU	Siphon

DOCUMENT CONTROL STAMP		DIM & TOL PER ASME Y14.5. UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE FRACTIONAL $\pm 1/64$ DECIMAL $.X \pm 0.1$ ANGLE $\pm 0.5^\circ$		APPROVALS		DATE	JEFFERSON LAB TARGET GROUP THOMAS JEFFERSON NATIONAL ACCELERATOR FACILITY NEWPORT NEWS VIRGINIA U.S. DEPARTMENT OF ENERGY	
MATERIAL C102 Copper Perforated Plate		THIRD ANGLE PROJECTION		DRAWN D. Meekins	5/25/2011	Hall A G2P Polarized Target Refrigerator HX Upper Plate		
FINISH N/A UNLESS OTHERWISE NOTED		DEBUR AND BREAK ALL SHARP EDGES ACCEPT AS NOTED		CHECKED				
Do Not Scale Drawing				APPROVED				
SIZE C	DWG NO TGT-104-1000-0051				REV -			
SCALE 1:1 ASSY. NO. TGT-104-1000-0001				SHEET 1 OF 2				

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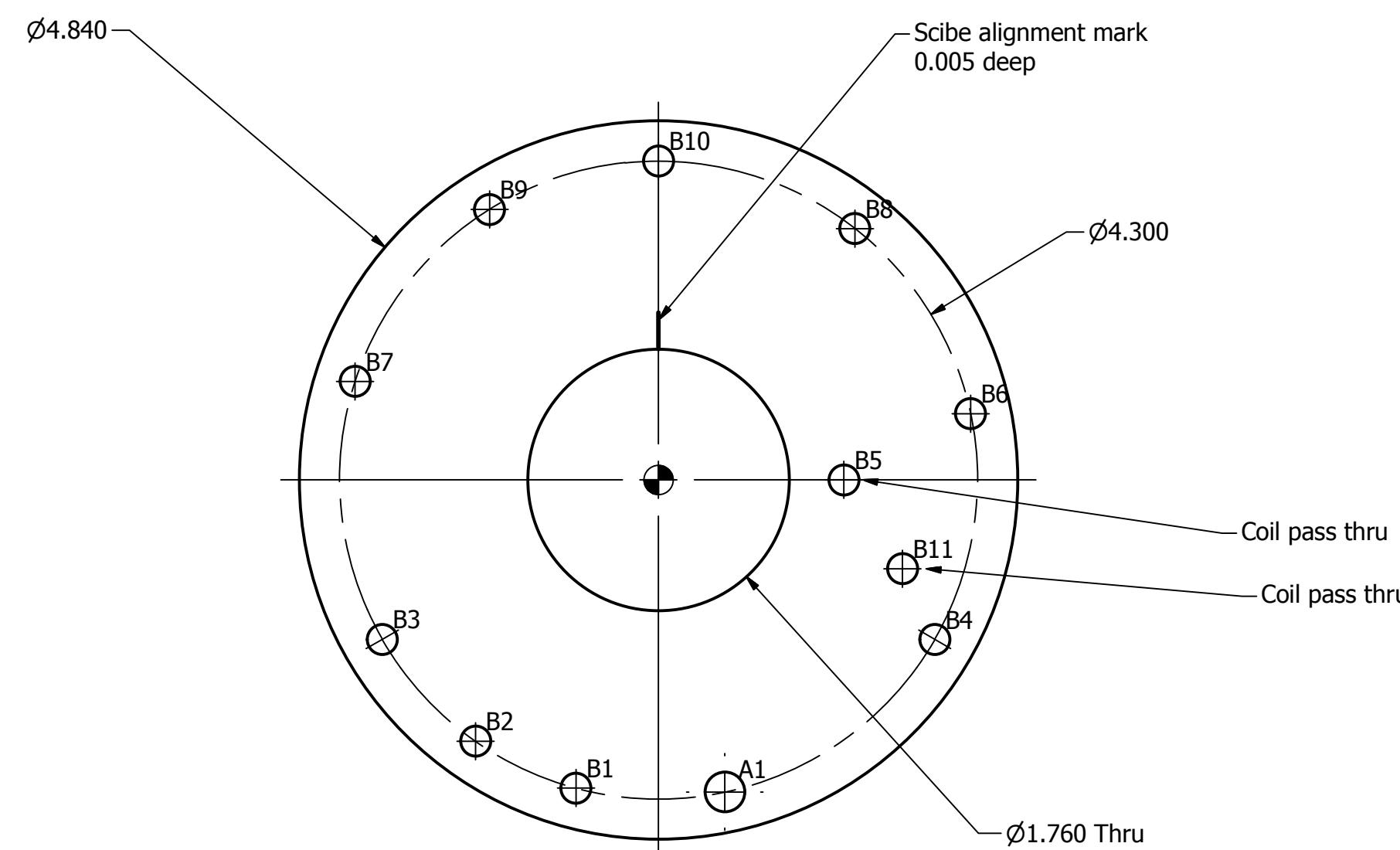
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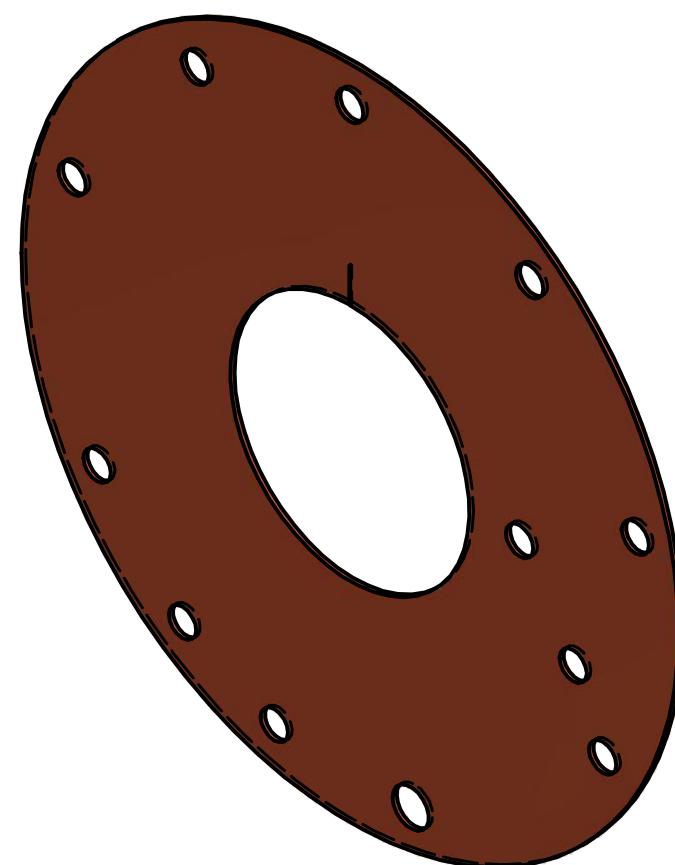
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HOLE TABLE			
HOLE	XDIM	YDIM	DESCRIPTION
A1	.447	-2.103	Ø.266 THRU
B1	-.556	-2.077	Ø.201 THRU
B2	-1.233	-1.761	Ø.201 THRU
B3	-1.862	-1.075	Ø.201 THRU
B4	1.862	-1.075	Ø.201 THRU
B11	1.644	-.599	Ø.201 THRU
B5	1.250	.000	Ø.201 THRU
B6	2.103	.447	Ø.201 THRU
B7	-2.045	.664	Ø.201 THRU
B8	1.324	1.694	Ø.201 THRU
B9	-1.139	1.823	Ø.201 THRU
B10	.000	2.150	Ø.201 THRU

DOCUMENT CONTROL STAMP		DIM & TOL PER ASME Y14.5. UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE		APPROVALS		DATE		JEFFERSON LAB TARGET GROUP THOMAS JEFFERSON NATIONAL ACCELERATOR FACILITY NEWPORT NEWS VIRGINIA U.S. DEPARTMENT OF ENERGY	
MATERIAL C102 Copper Perforated Plate		FRACTIONS $\pm 1/64$	DECIMAL $.X \pm 0.1$	ANGLE $\pm 0.5^\circ$	DRAWN D. Meekins	5/26/2011		Hall A G2P Polarized Target Refrigerator Lower Hx Plate	
FINISH N/A UNLESS OTHERWISE NOTED		.XX ± 0.01		CHECKED					
DEBUR AND BREAK ALL SHARP EDGES ACCEPT AS NOTED		.XXX ± 0.005		APPROVED					
Do Not Scale Drawing				APPROVED					
SIZE C	DWG NO TGT-104-1000-0055				REV -				
SCALE 1:1		ASSY. NO. TGT-104-1000-0001		SHEET 1 OF 1					

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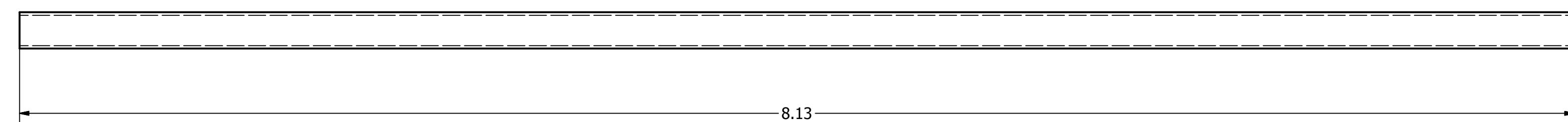
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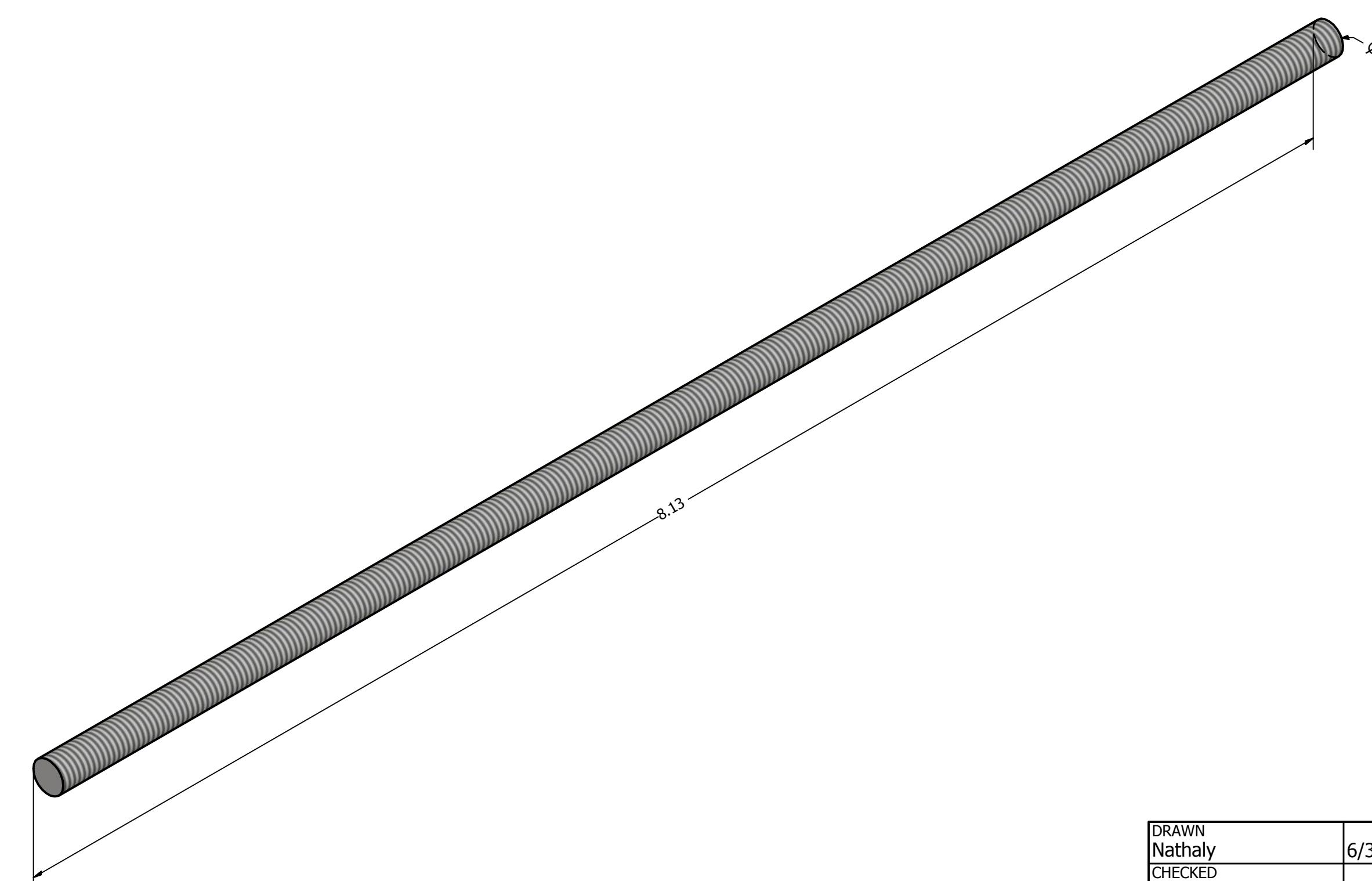
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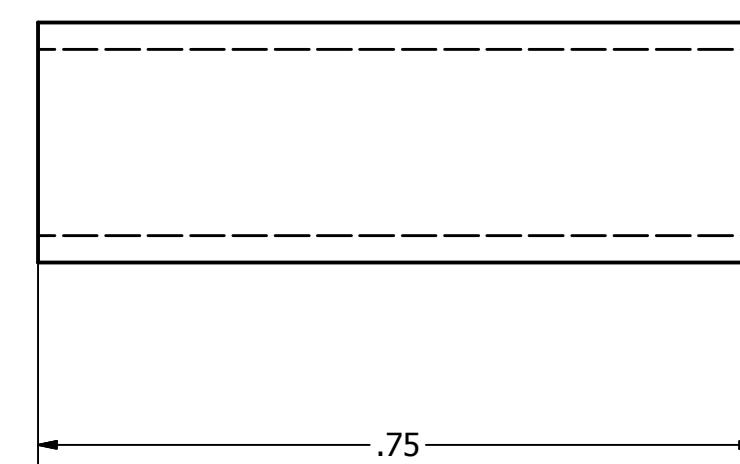
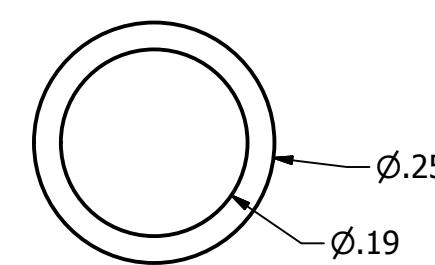
DRAWN Nathaly	6/30/2015	TITLE		
CHECKED				
QA				
MFG				
APPROVED				
SIZE C		DWG NO TGT-104-1000-0056		
SCALE				
		REV		
		SHEET 1 OF 1		

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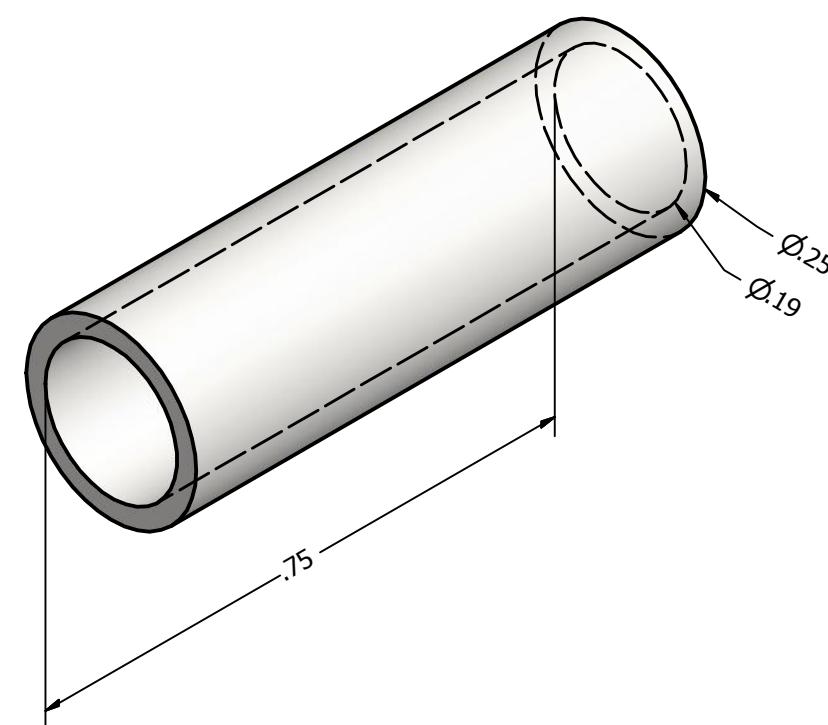


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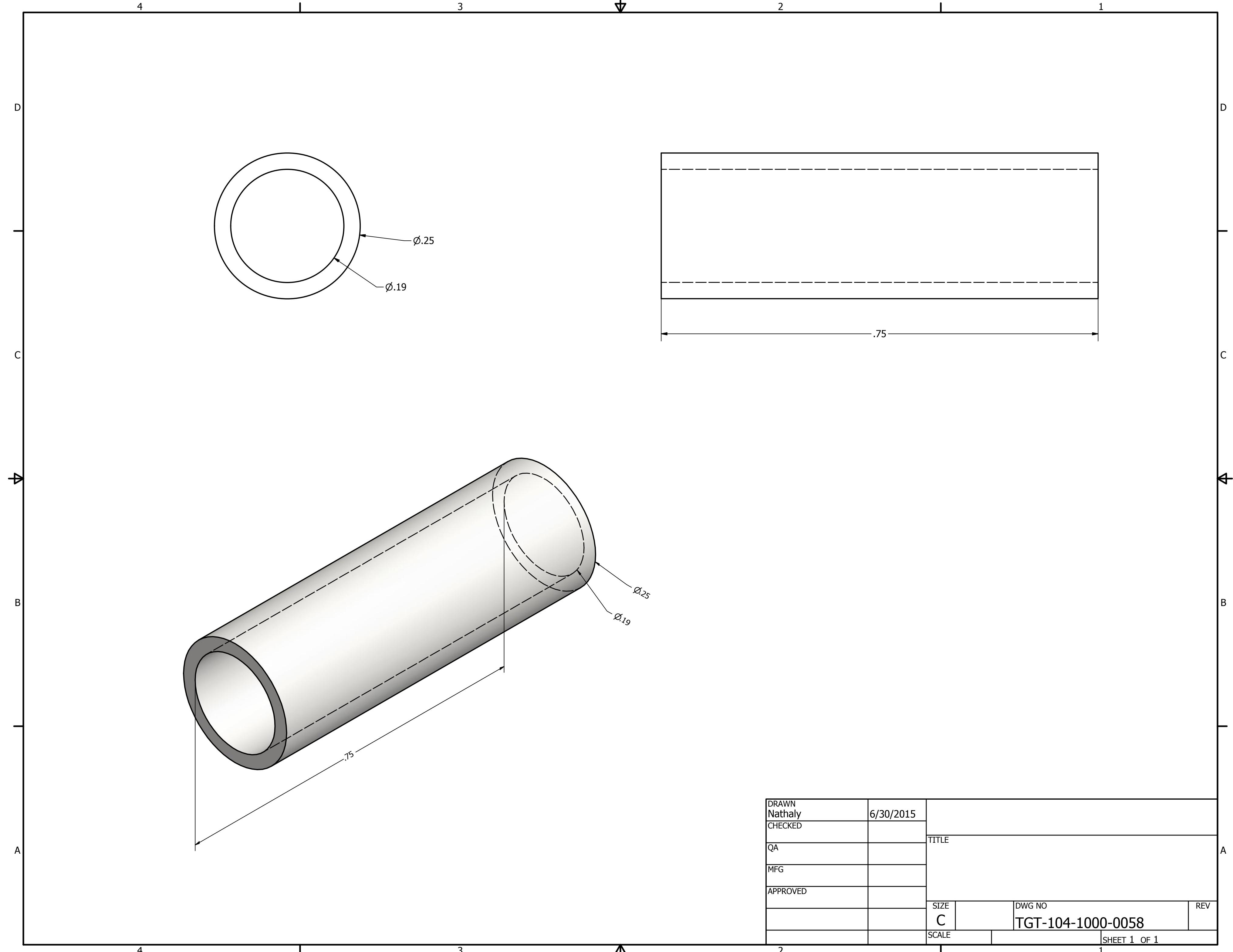


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DRAWN Nathaly	6/30/2015	TITLE		
CHECKED				
QA				
MFG				
APPROVED		SIZE C	SCALE	DWG NO TGT-104-1000-0057
				REV
				SHEET 1 OF 1

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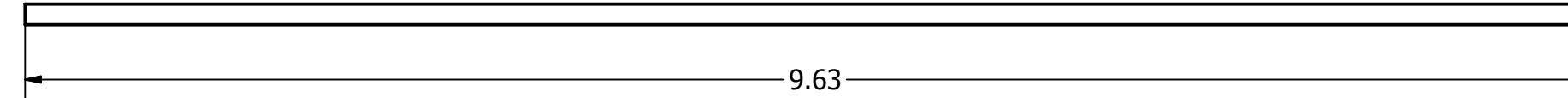


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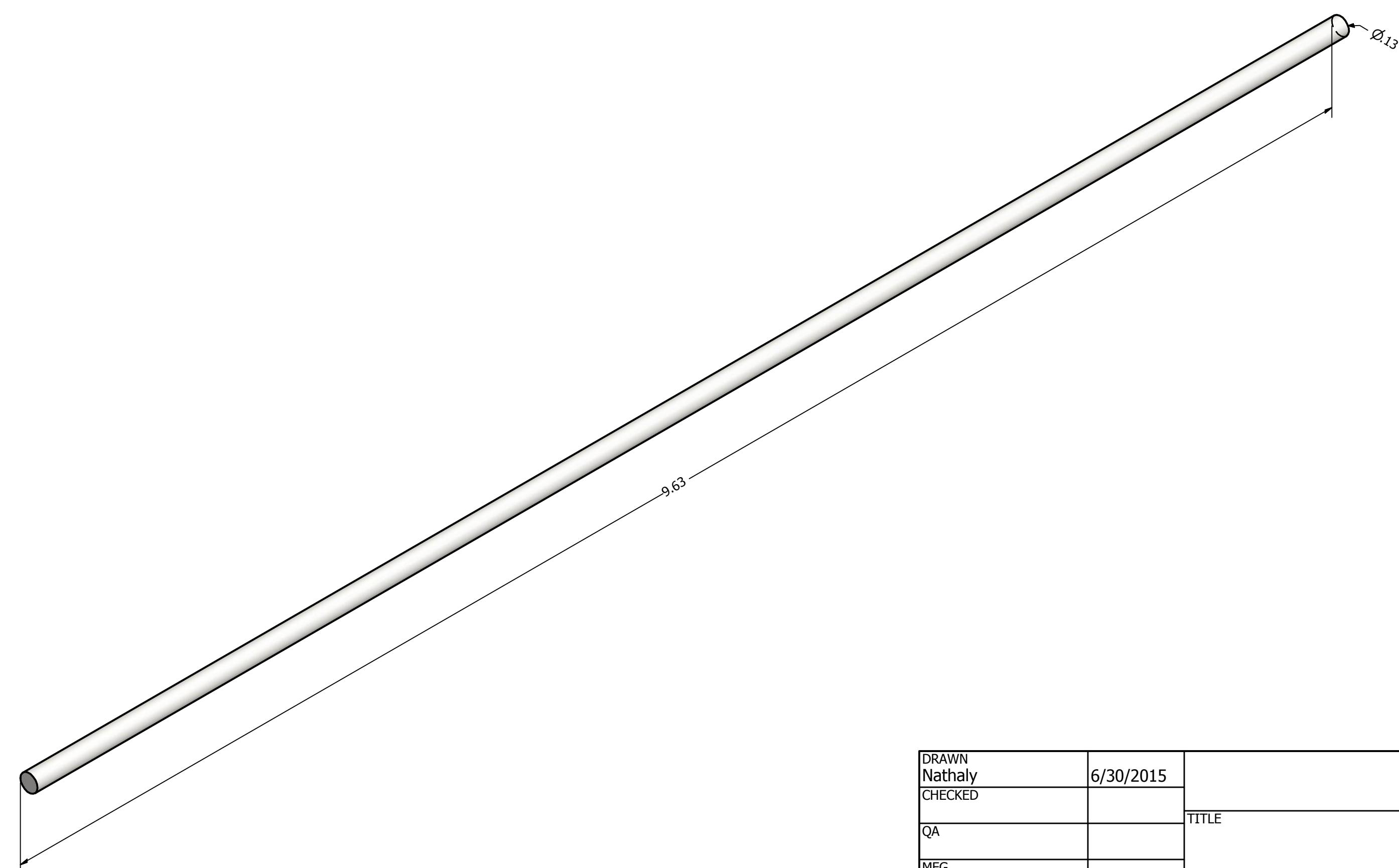
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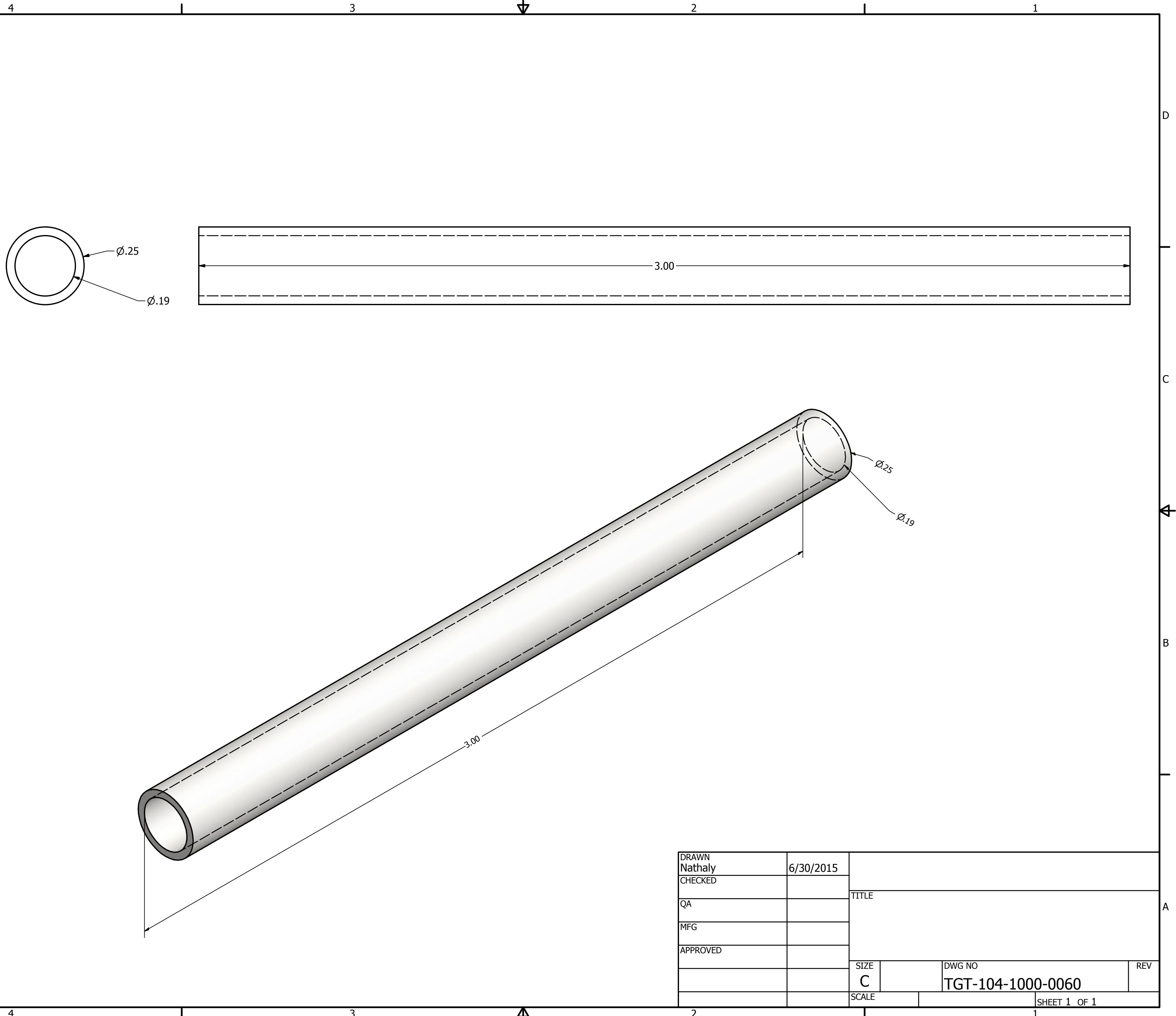
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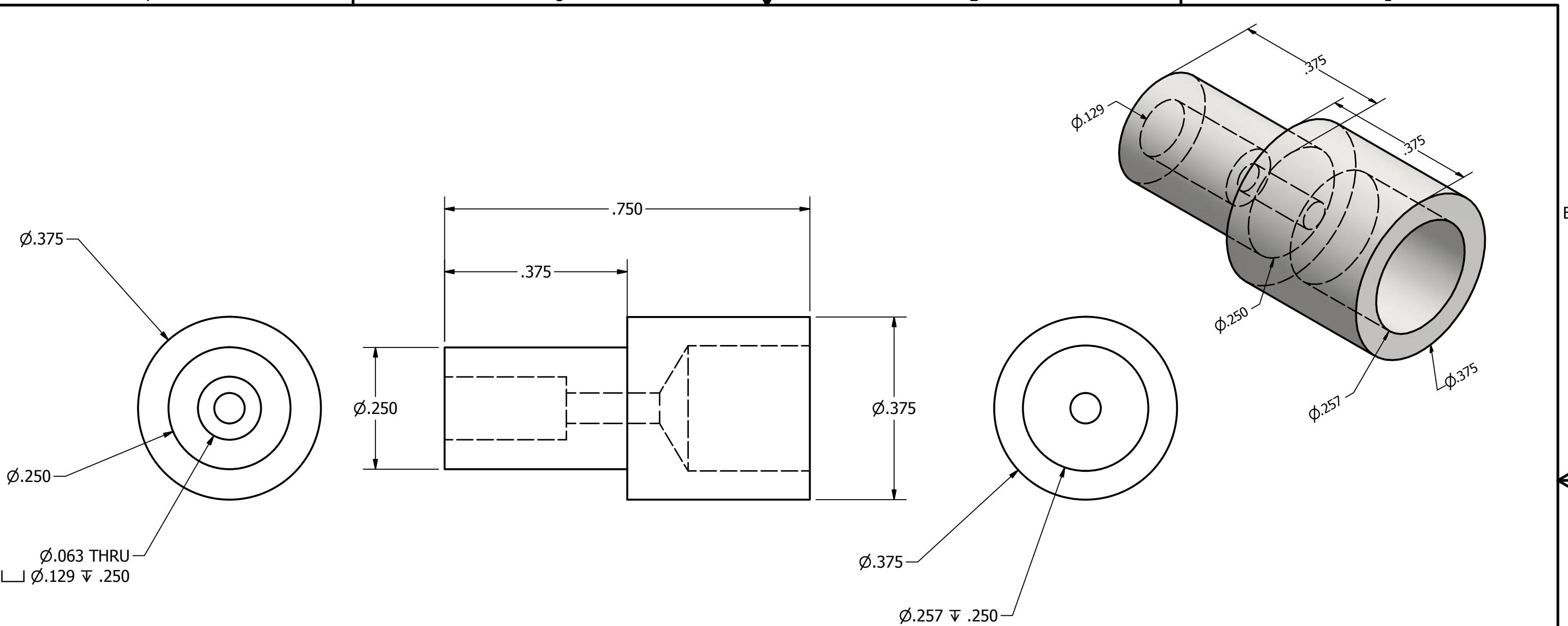
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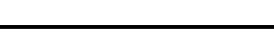
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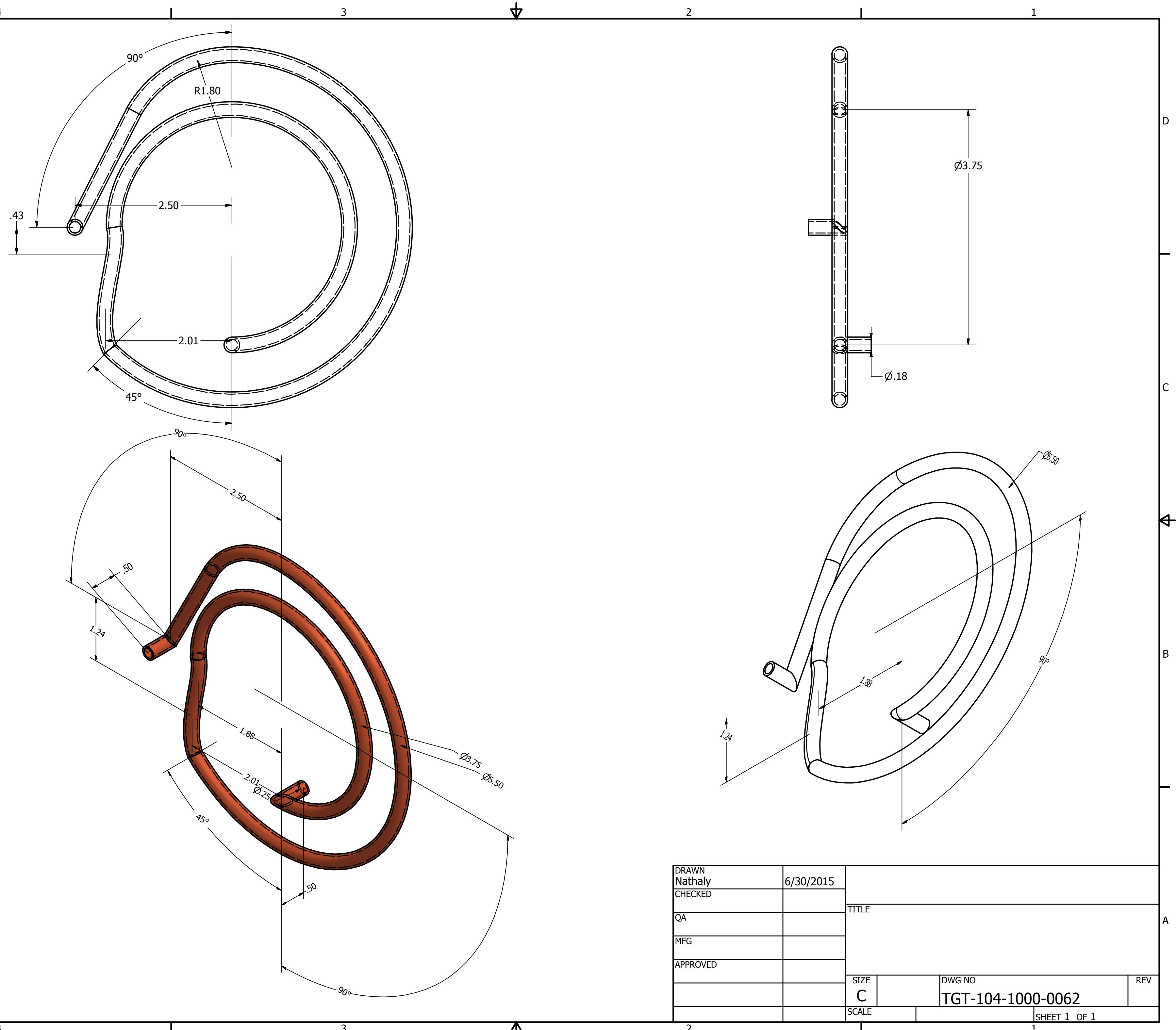


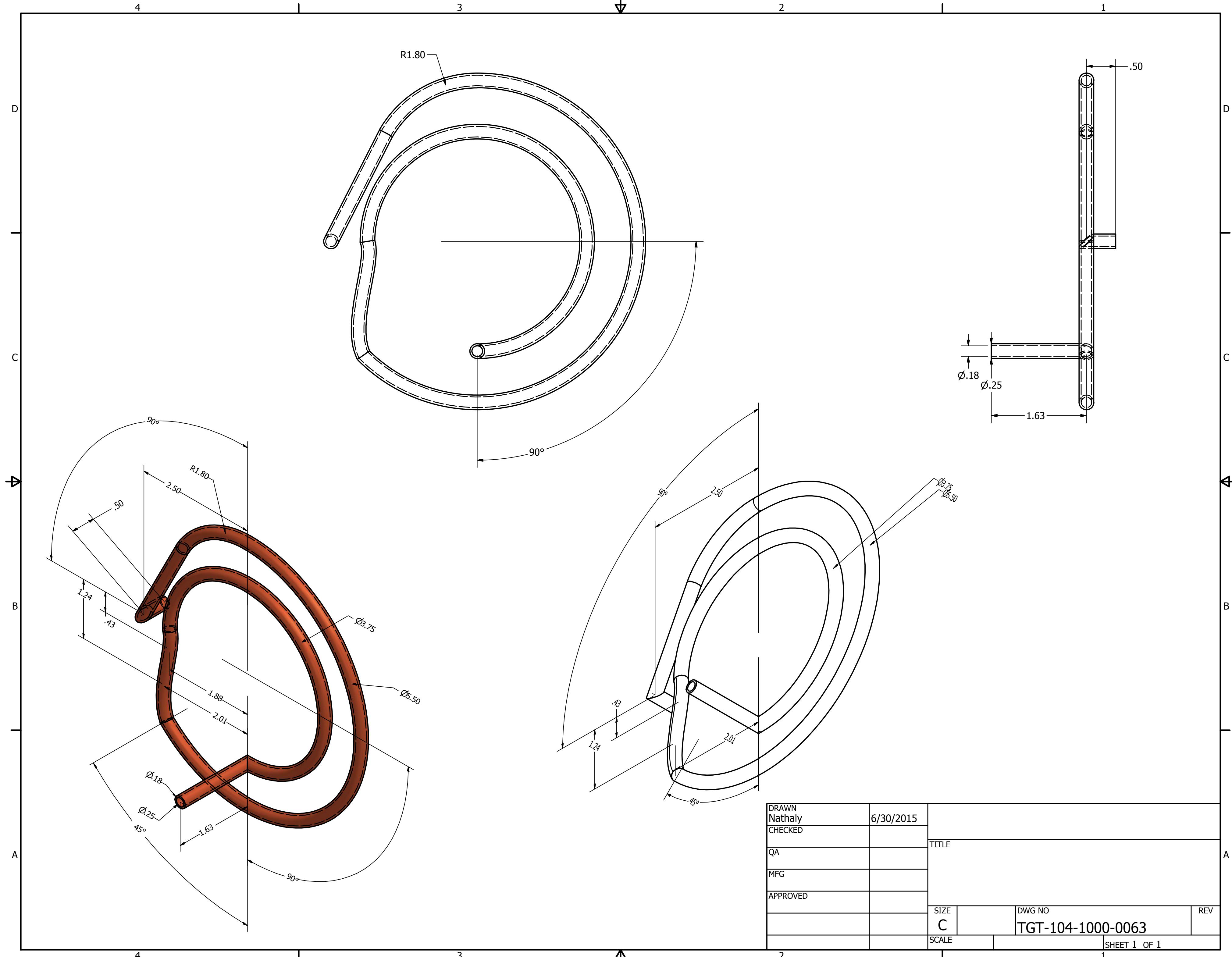
DRAWN	Nathaly	6/30/2015			
CHECKED			TITLE		
QA					
MFG					
APPROVED			SIZE	DWG NO	REV
			C	TGT-104-1000-0059	
			SCALE		SHEET 1 OF 1



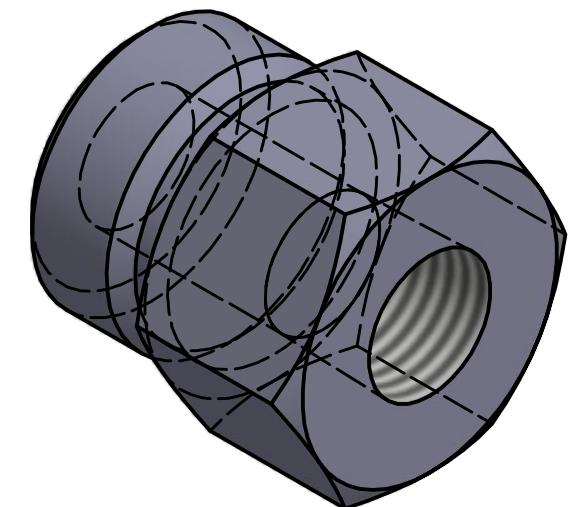
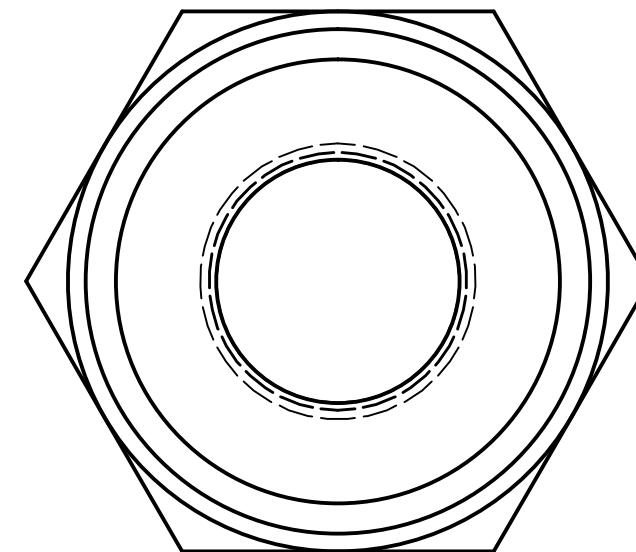
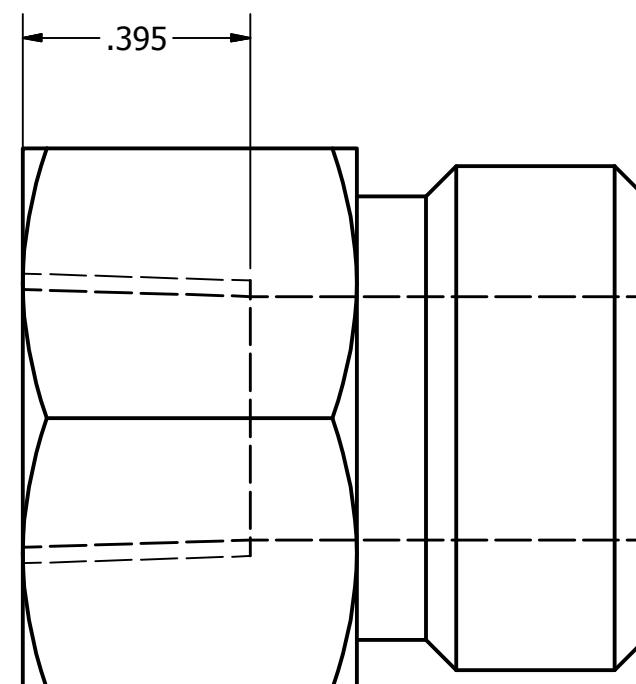
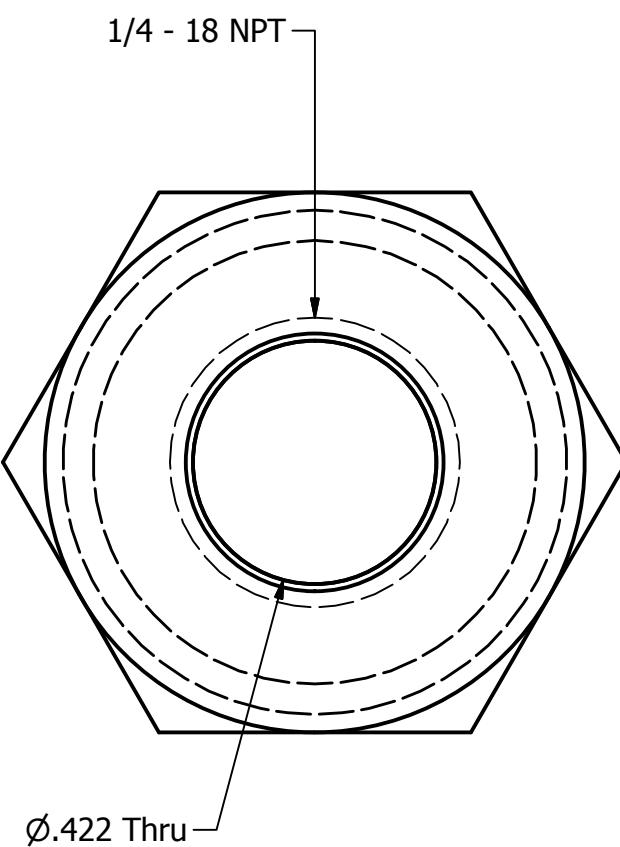


DOCUMENT CONTROL STAMP		DIM & TOL PER ASME Y14.5. UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMAL ANGLE $\pm 1/64$ $.X \pm 0.1$ ± 0.5 $.XX \pm 0.01$ $.XXX \pm 0.005$	APPROVALS	DATE	JEFFERSON LAB TARGET GROUP THOMAS JEFFERSON NATIONAL ACCELERATOR FACILITY NEWPORT NEWS VIRGINIA U.S. DEPARTMENT OF ENERGY	
MATERIAL SST 304 A-479			DRAWN D. Meekins	5/27/2011		
			CHECKED			
			APPROVED			
FINISH DEBUR AND BREAK ALL SHARP EDGES ACCEPT AS NOTED		THIRD ANGLE PROJECTION	APPROVED	Hall A G2P Polarized Target Refrigerator 1/4 to 1/8 TSW Adapter		
Do Not Scale Drawing			APPROVED	SIZE B	DWG NO TGT-104-1000-0061	REV -
			SCALE 5:1	ASSY. NO. TGT-104-1000-0001	SHEET 1 OF 1	





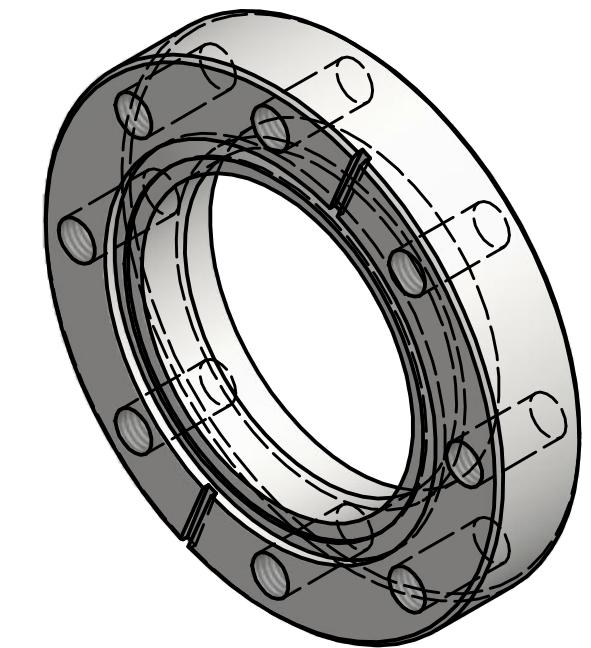
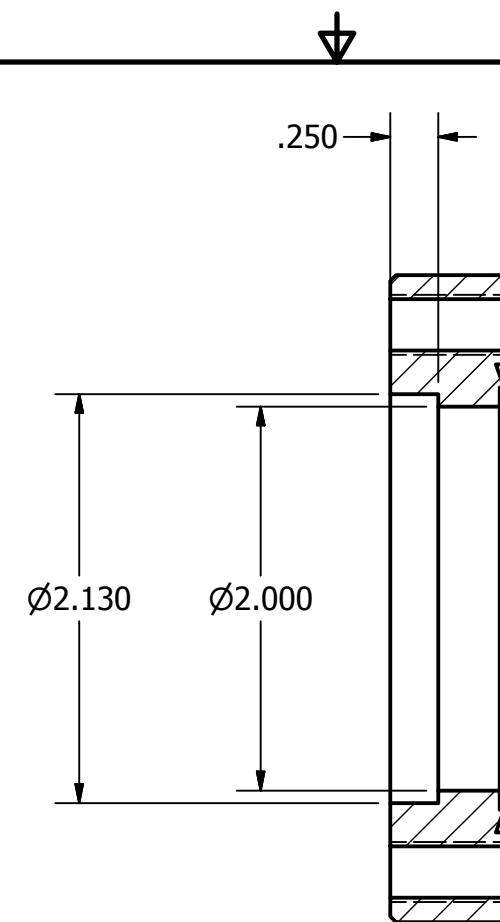
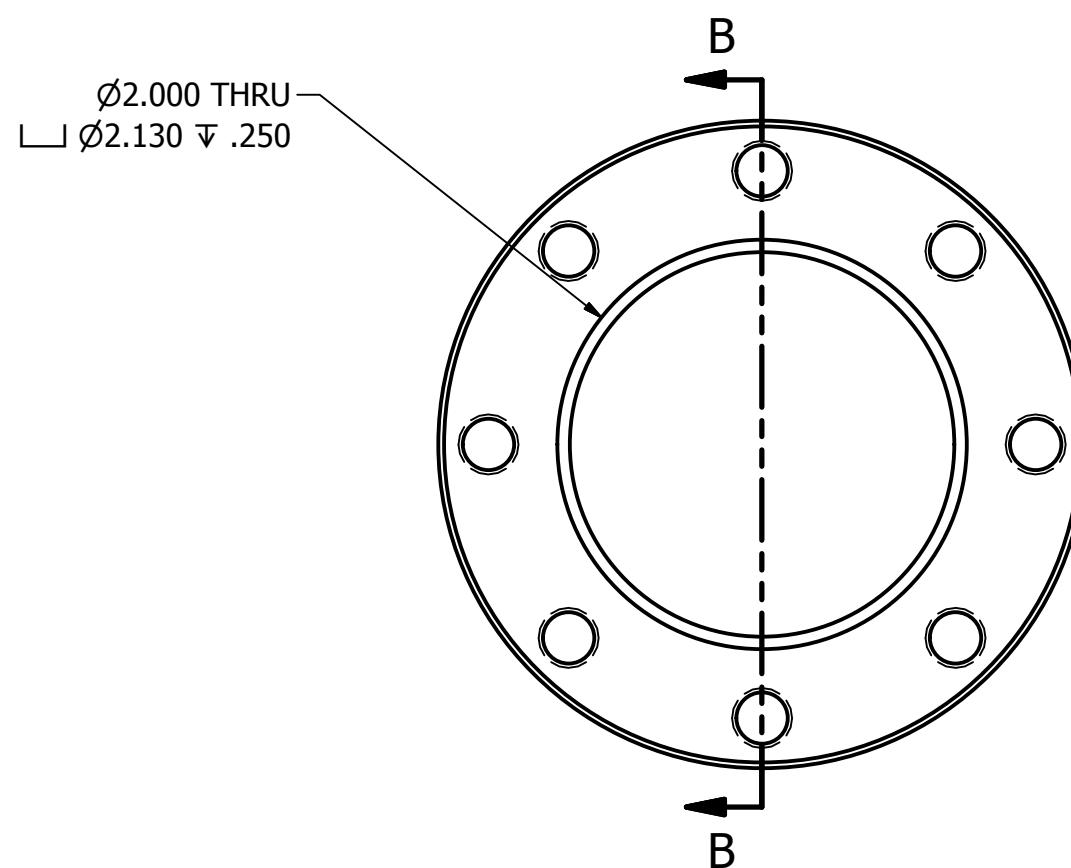
4 3 2 1



Note:
Use standard 1/2 in Swagelok VCR plug
Swagelok part# SS-8-VCR-P
Bore thru and tap

DOCUMENT CONTROL STAMP		DIM & TOL PER ASME Y14.5. UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE FRACTIONS DECIMAL ANGLE $\pm 1/64$ $.X \pm 0.1$ ± 0.5	APPROVALS	DATE	JEFFERSON LAB TARGET GROUP THOMAS JEFFERSON NATIONAL ACCELERATOR FACILITY NEWPORT NEWS VIRGINIA U.S. DEPARTMENT OF ENERGY		
MATERIAL	SST304		DRAWN D. Meekins	6/3/2011	Hall A G2P Polarized Target Refrigerator Modified 1/2 in VCR Plug		
FINISH	N/A UNLESS OTHERWISE NOTED	THIRD ANGLE PROJECTION	CHECKED				
DEBUR AND BREAK ALL SHARP EDGES ACCEPT AS NOTED		APPROVED					
Do Not Scale Drawing		APPROVED			SIZE B	DWG NO TGT-104-1000-0065	REV -
		APPROVED			SCALE 3:1	ASSY. NO. TGT-104-1000-0001	SHEET 1 OF 1

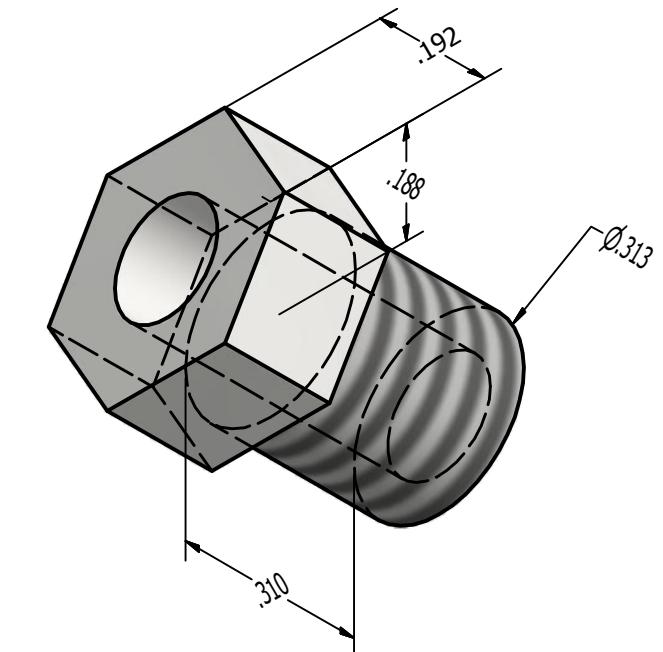
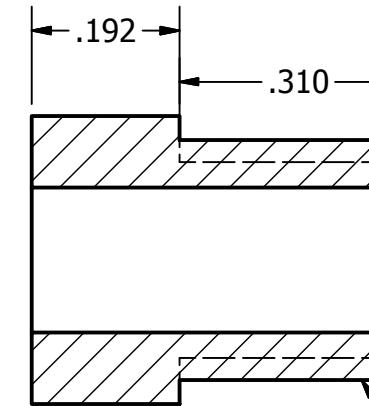
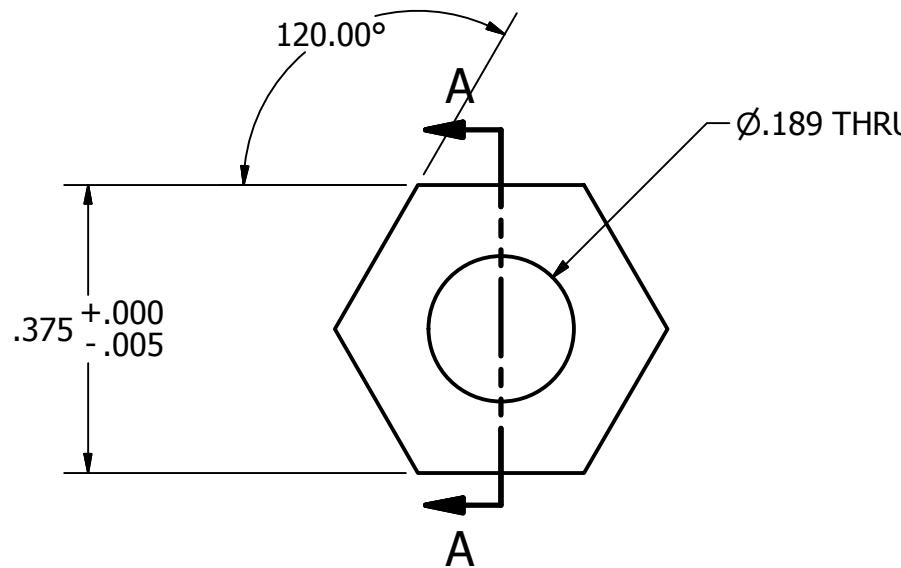
4 3 2 1



SECTION B-B
SCALE 1 : 1

Note:
Use MDC part number 130015
3.375 Blank tapped CF flange
and bore hole

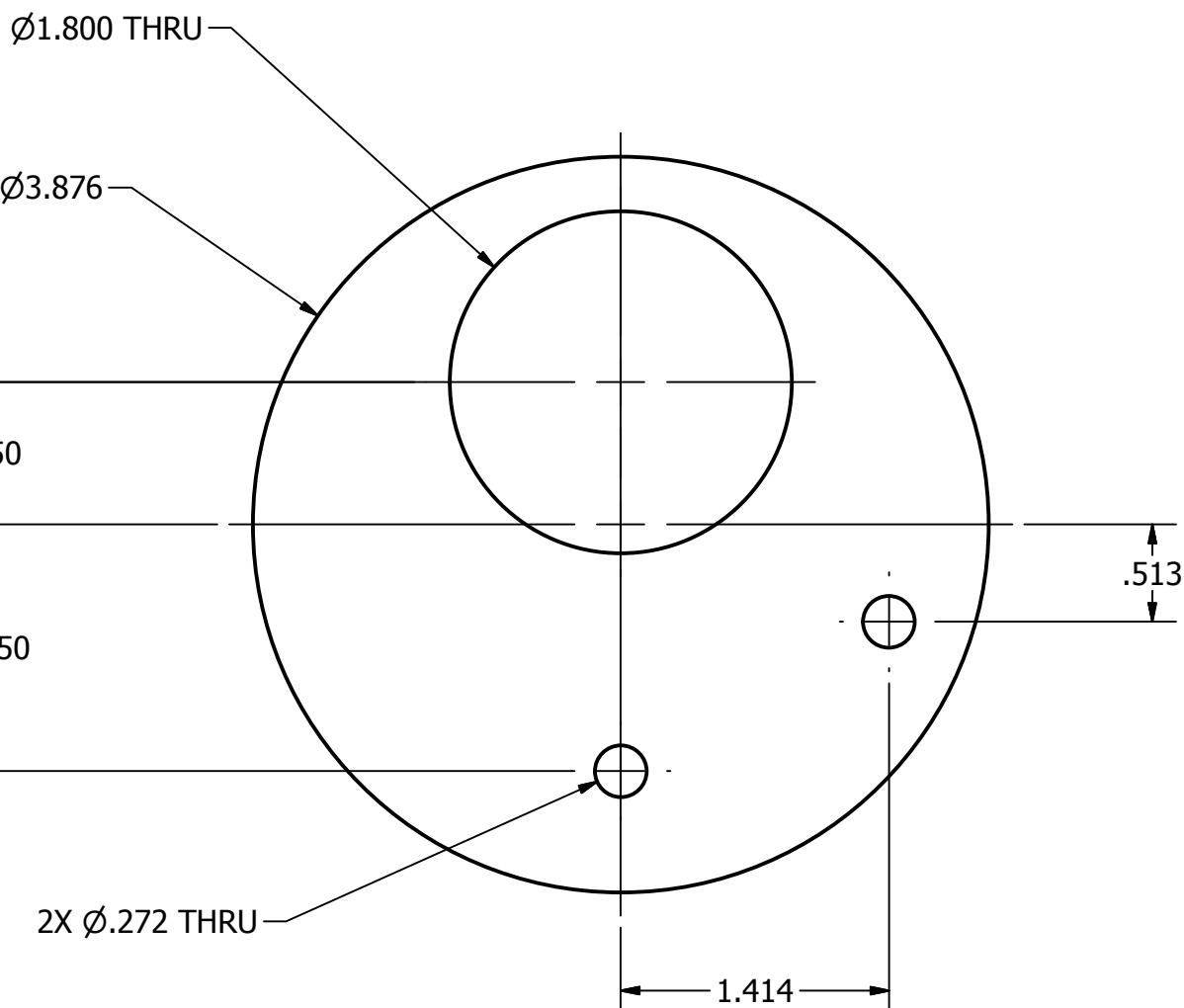
DOCUMENT CONTROL STAMP		DIM & TOL PER ASME Y14.5. UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE FRACTIONS DECIMAL ±1/64 .X±0.1 .XX±0.01 .XXX±0.005	APPROVALS	DATE	JEFFERSON LAB TARGET GROUP THOMAS JEFFERSON NATIONAL ACCELERATOR FACILITY NEWPORT NEWS VIRGINIA U.S. DEPARTMENT OF ENERGY
MATERIAL SST304		ANGLE ±0.5	DRAWN D. Meekins	6/20/2011	Hall A G2P Polarized Target Refrigerator Top Plate Bellows Flange
FINISH 32 UNLESS OTHERWISE NOTED		THIRD ANGLE PROJECTION	CHECKED		
DEBUR AND BREAK ALL SHARP EDGES ACCEPT AS NOTED		APPROVED			
Do Not Scale Drawing		APPROVED		SIZE DWG NO B TGT-104-1000-0070	
		APPROVED		REV -	
			SCALE 1:1	ASSY. NO. TGT-104-1000-0001	
				SHEET 1 OF 1	



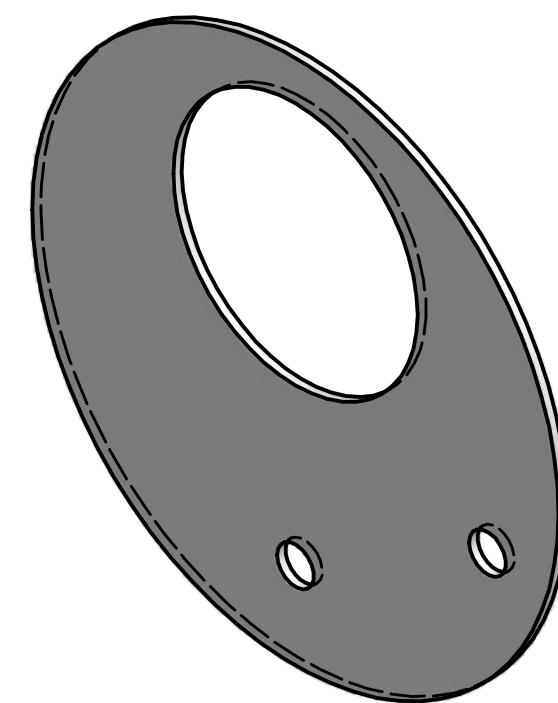
Note:
Must be made from certified material
CMTR required with part

SECTION A-A
SCALE 4 : 1

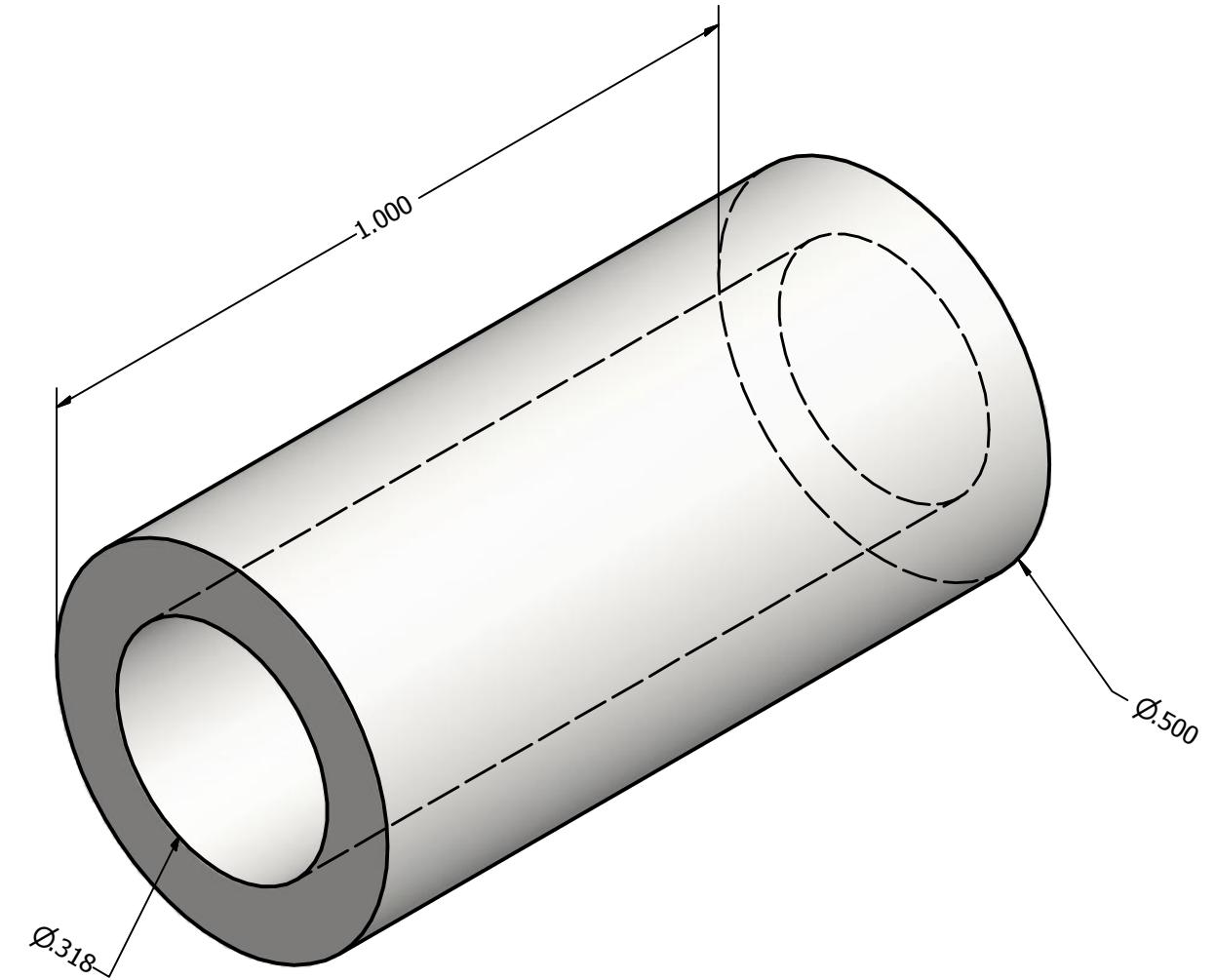
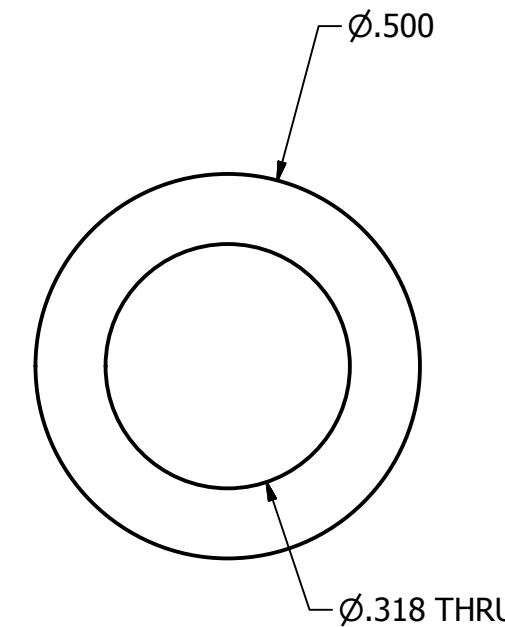
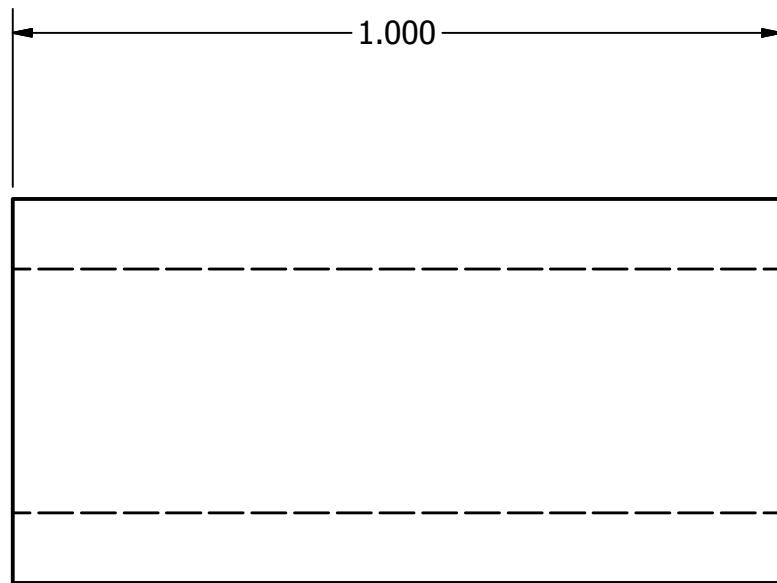
DOCUMENT CONTROL STAMP		DIM & TOL PER ASME Y14.5. UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE FRACTIONS DECIMAL ANGLE ±1/64 .X±0.1 ±0.5	APPROVALS	DATE	JEFFERSON LAB TARGET GROUP THOMAS JEFFERSON NATIONAL ACCELERATOR FACILITY NEWPORT NEWS VIRGINIA U.S. DEPARTMENT OF ENERGY		
MATERIAL SST304 SA-240		CHECKED		6/27/2011	Hall A G2P Polarized Target Refrigerator Modified 1/8 Male VCR Nut		
FINISH 32 UNLESS OTHERWISE NOTED DEBUR AND BREAK ALL SHARP EDGES ACCEPT AS NOTED Do Not Scale Drawing		APPROVED			SIZE DWG NO B TGT-104-1000-0071		
		APPROVED			REV		
4	3	2	1		SCALE 4:1	ASSY. NO. TGT-104-1000-0001	SHEET 1 OF 1



Note:
Plate to be made from sintered plate
Use caution when machining
may fracture



DOCUMENT CONTROL STAMP		DIM & TOL PER ASME Y14.5. UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE FRACTIONS DECIMAL ANGLE $\pm 1/64$ $X \pm 0.1$ ± 0.5	APPROVALS	DATE	JEFFERSON LAB TARGET GROUP THOMAS JEFFERSON NATIONAL ACCELERATOR FACILITY NEWPORT NEWS VIRGINIA U.S. DEPARTMENT OF ENERGY		
MATERIAL Sintered SST 316L		CHECKED	6/30/2011	Hall A G2P Polarized Target Refrigerator Separator Plate			
FINISH N/A UNLESS OTHERWISE NOTED		APPROVED					
DEBUR AND BREAK ALL SHARP EDGES ACCEPT AS NOTED		APPROVED		SIZE	DWG NO	REV	
Do Not Scale Drawing		APPROVED		B	TGT-104-1000-0072	-	
		SCALE 1:1	ASSY. NO.				
				SHEET 1 OF 1			



DOCUMENT CONTROL STAMP		DIM & TOL PER ASME Y14.5. UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMAL ANGLE $\pm 1/64$ $.X \pm 0.1$ ± 0.5	APPROVALS	DATE	JEFFERSON LAB TARGET GROUP THOMAS JEFFERSON NATIONAL ACCELERATOR FACILITY NEWPORT NEWS VIRGINIA U.S. DEPARTMENT OF ENERGY
MATERIAL SST 316		CHECKED		Hall A G2P Polarized Target Refrigerator 5/16 TSW to 1/2 Adapter	
FINISH 32 UNLESS OTHERWISE NOTED		APPROVED			
DEBUR AND BREAK ALL SHARP EDGES ACCEPT AS NOTED		APPROVED			
Do Not Scale Drawing		APPROVED		SIZE DWG NO B TGT-104-1000-0075 REV - SCALE 4:1 ASSY. NO. SHEET 1 OF 1	

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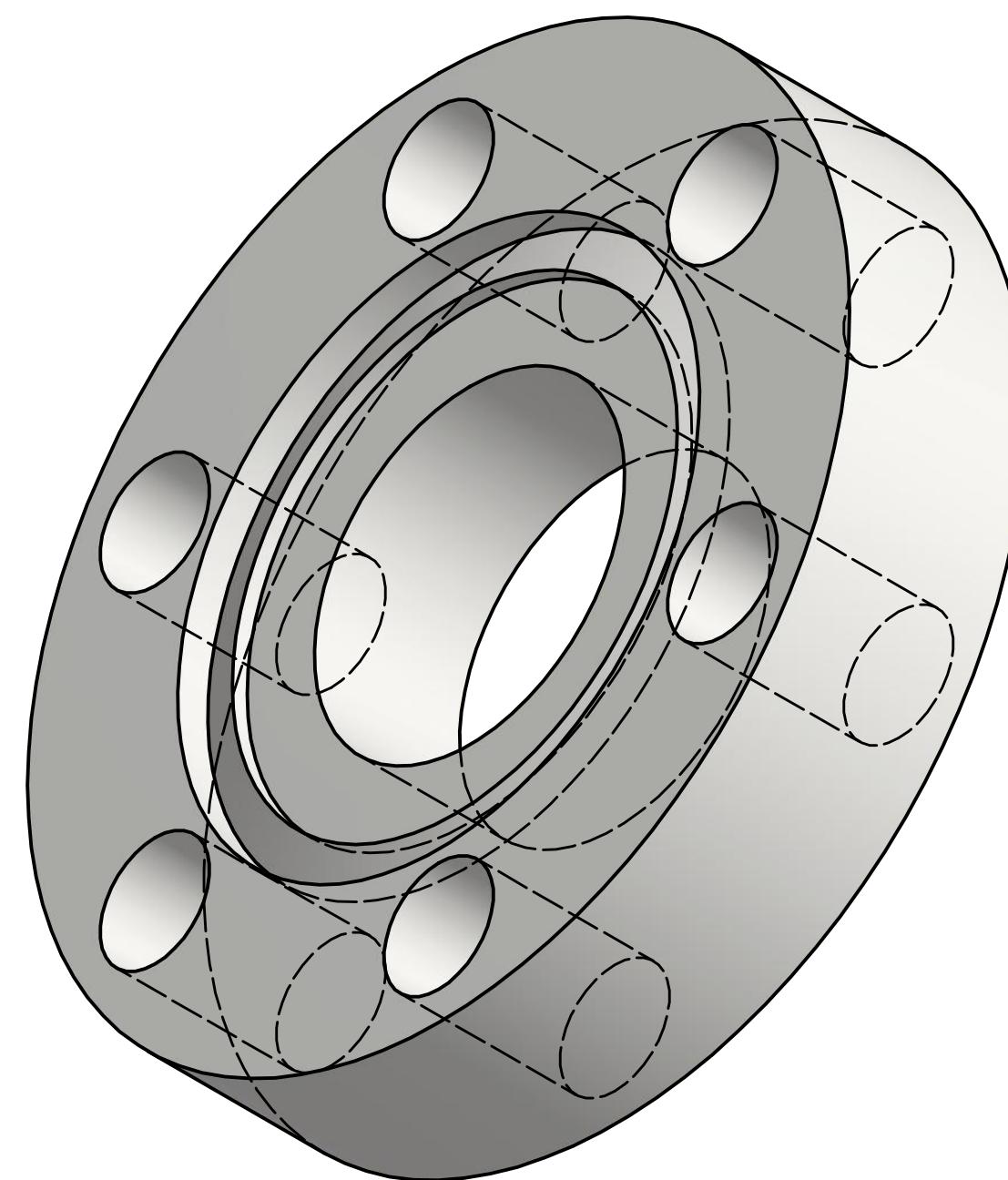
C

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MODEL REFERENCE: REF# F133050
PART NUMBER: 110003
PART NAME: Flng, 1.33"x0.5"
ID NOMINAL: 1/2
BOLT HOLE: CLEARANCE
A: 0.502
FIG: 1
HOLES: 6
HOLE DIAM.: 0.172
HOLE THREAD: -
WT LB: 1/4

DRAWN	Nathaly	6/30/2015	TITLE
CHECKED			
QA			
MFG			
APPROVED			
		SIZE C	DWG NO 110003
		SCALE	REV
			SHEET 1 OF 1

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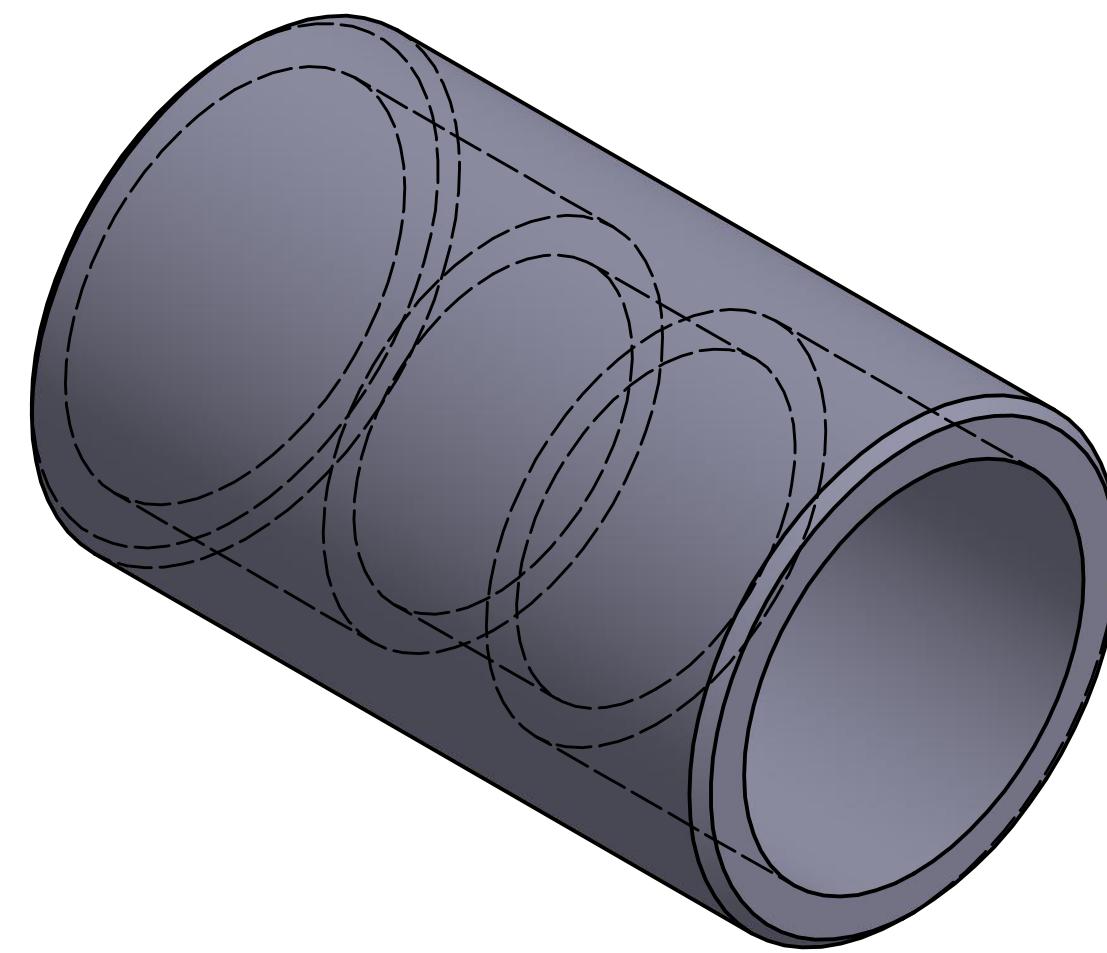
C

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Body Material 316L Stainless Steel
Body Type Union
Series Automatic Socket Weld Fittings
End Connection 1 Size 1/2 in
End Connection 1 Type Automatic tube socket weld
End Connection 2 Size 1/2 in
End Connection 2 Type Automatic tube socket weld
Cleaning Swagelok SC-10

DRAWN	Nathaly	6/30/2015	TITLE		
CHECKED					
QA					
MFG					
APPROVED			SIZE	C	DWG NO
			SCALE		316L-8-ASW-6
					REV
					SHEET 1 OF 1

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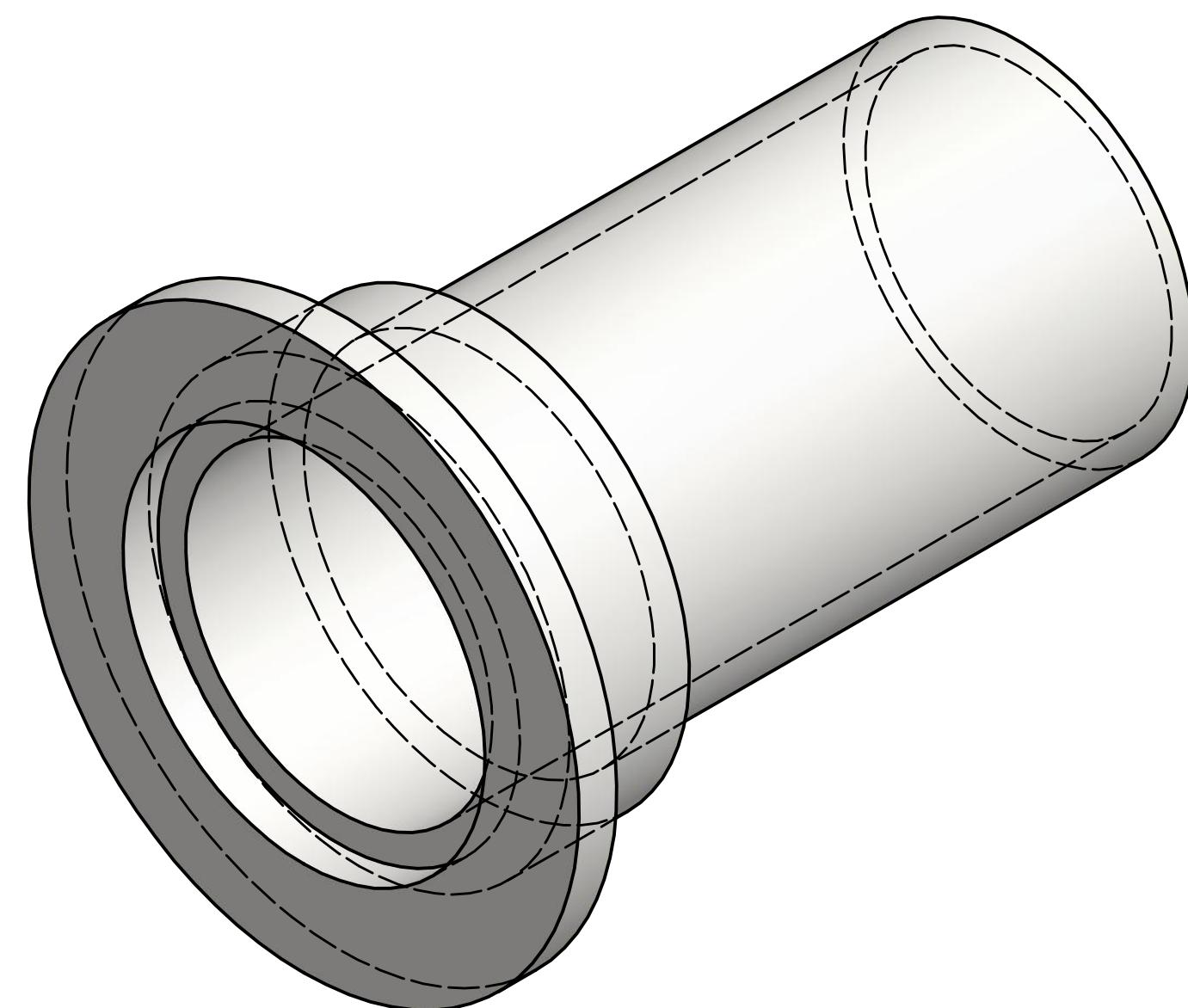
C

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MODEL REFERENCE: REF# K100-1
PART NUMBER: 720001
PART NAME: Half Nipple, NW25
FLANGE ISO REF.: NW 25
FLANGE O.D.: 1.57
NOMINAL TUBE SIZE: 1
TUBE O.D.: 1.00
WALL THICKNESS: .065
A: 2.04
WT LB: 1/4
FIG.: 2
MATL: SS

DRAWN	Nathaly	6/29/2015			
CHECKED			TITLE		
QA					
MFG					
APPROVED			SIZE	DWG NO	REV
			C	720001	
			SCALE		SHEET 1 OF 1

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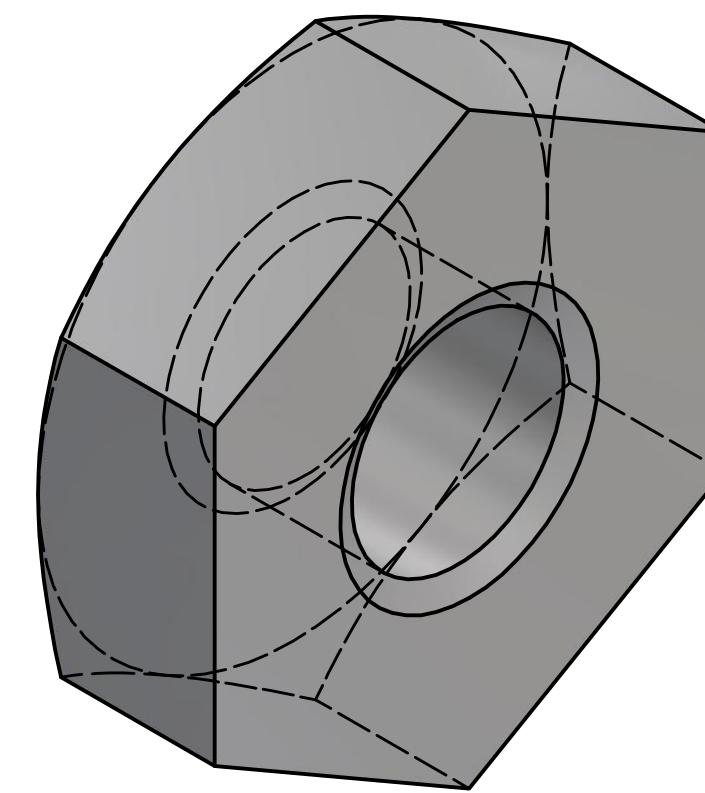
C

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Material 18-8 Stainless Steel
Thread Direction Right Hand
Thread Size 10-32
Width 3/8"
Height 1/8"
RoHS Compliant

DRAWN Nathaly	6/30/2015	TITLE		
CHECKED				
QA				
MFG				
APPROVED		SIZE C	DWG NO 91841A195	REV
		SCALE		SHEET 1 OF 1

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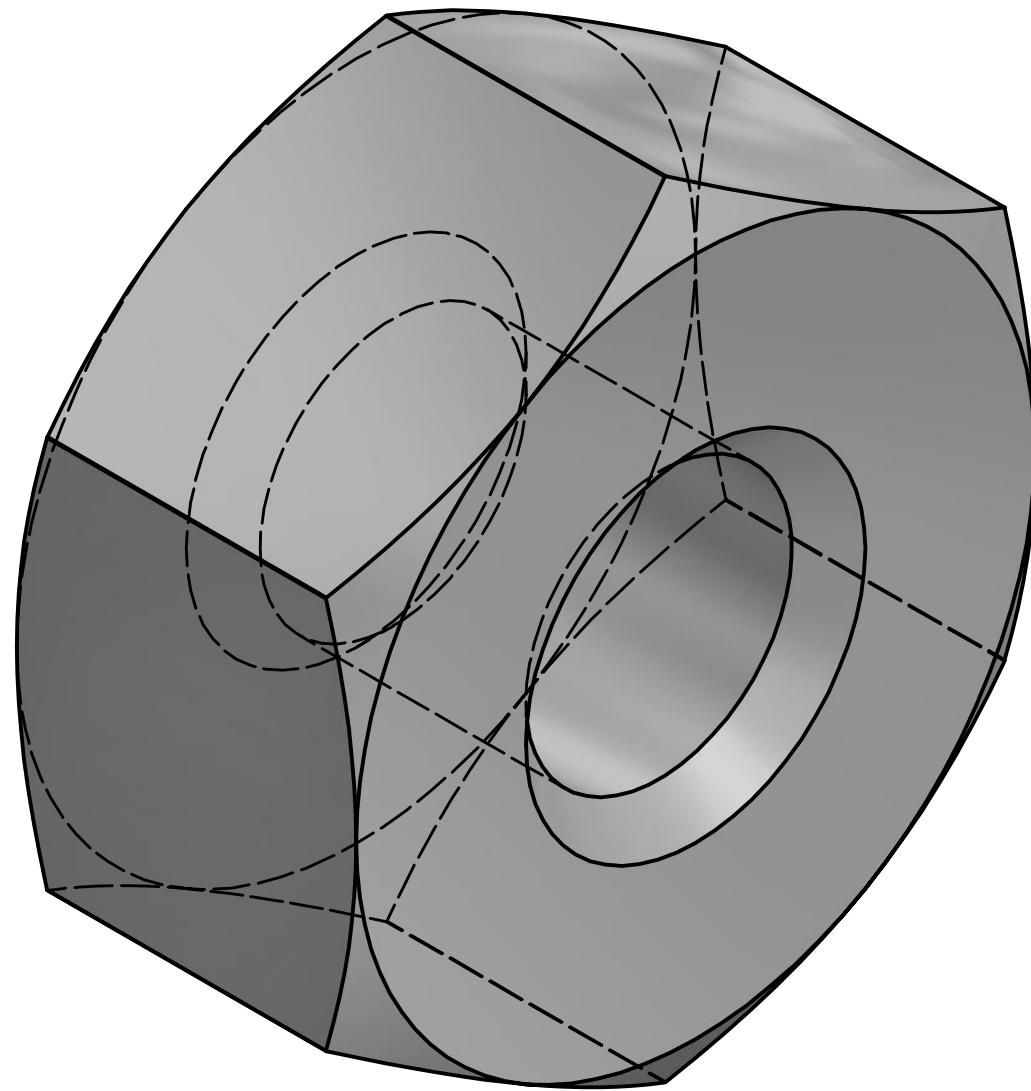
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Material 18-8 Stainless Steel
Thread Direction Right Hand
Thread Size 1/4"-20
Width 7/16"
Height 7/32"
RoHS Compliant

DRAWN	Nathaly	6/29/2015	TITLE
CHECKED			
QA			
MFG			
APPROVED			
SIZE	C	SCALE	DWG NO
			91845A029
			REV
			SHEET 1 OF 1

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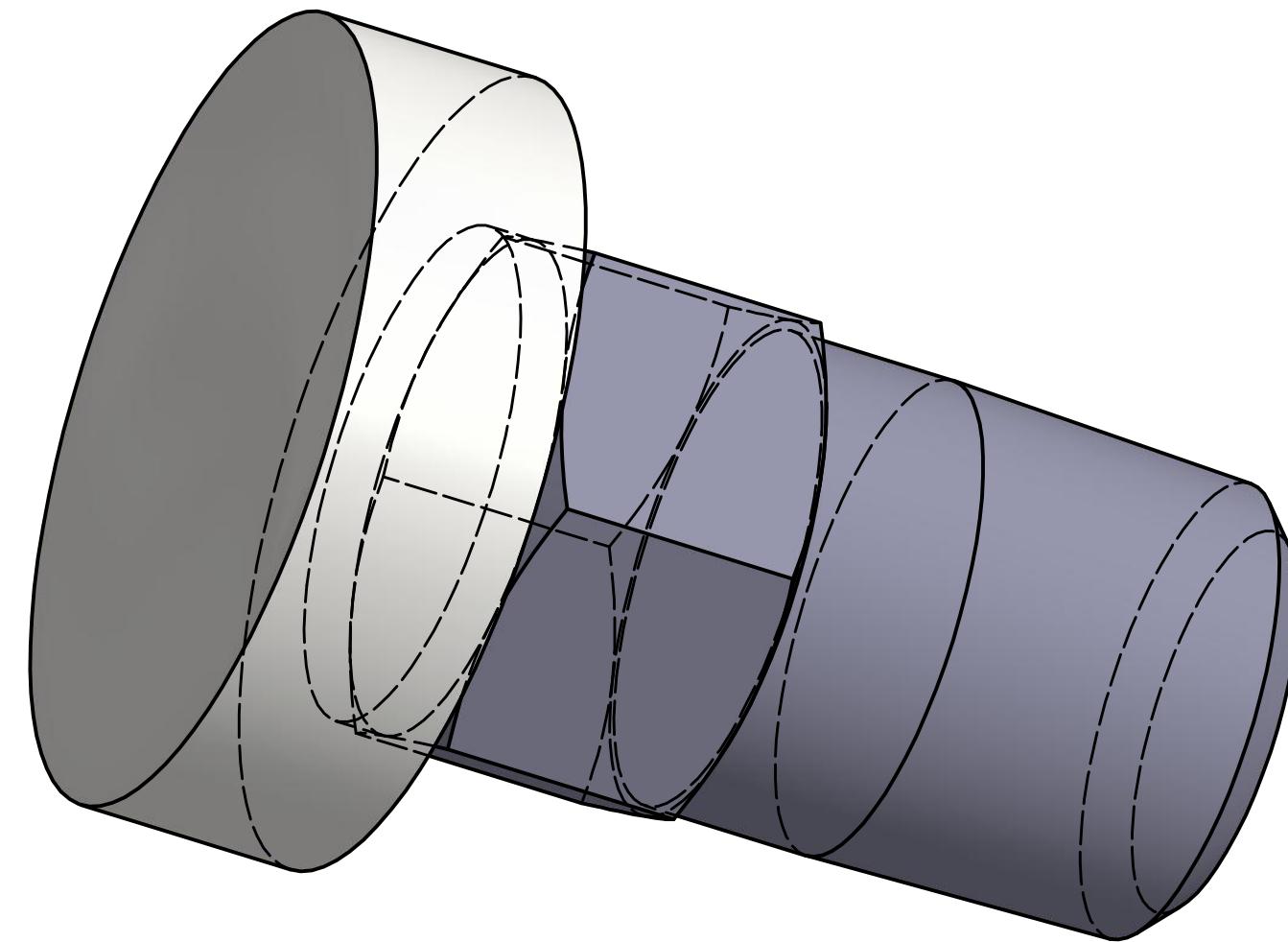
C

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Series D500
Certification ASME
Operating Pressure 15 to 150 psig
1 to 10 bar
O-Ring Material Viton®
Operating Temperature -20 to 350 °F
Body Material 316 Stainless Steel
Valve Size 1/4 in
Connections (Inlet) Male pipe

DRAWN	Nathaly	6/30/2015	TITLE		
CHECKED					
QA					
MFG					
APPROVED			SIZE	C	DWG NO
			SCALE		D532T1-2M-15
					REV
					SHEET 1 OF 1

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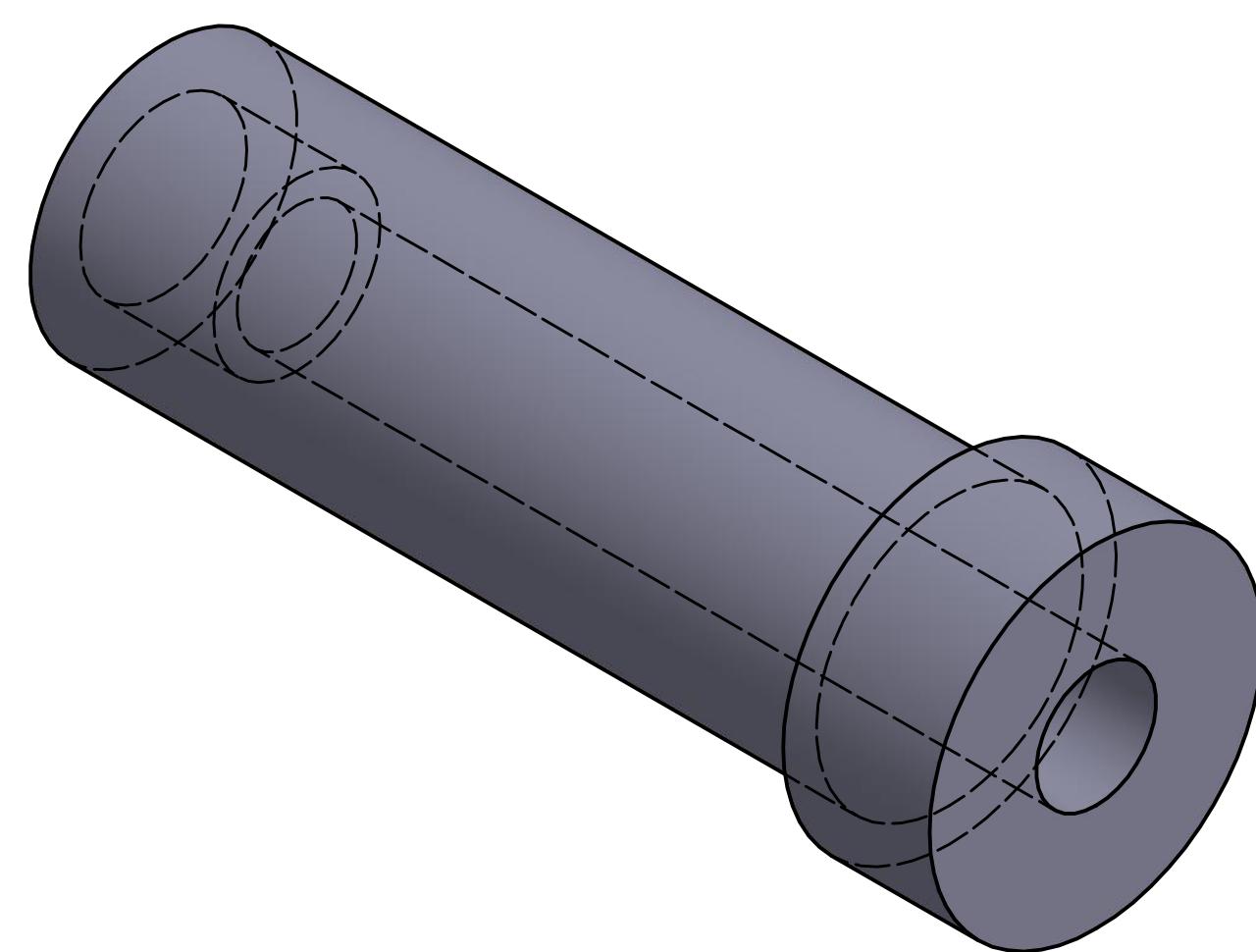
C

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Body Material Stainless Steel
Body Type Gland
Series VCR metal gasket face seal fittings
End Connection 1 Size 1/8 in
End Connection 1 Type Male VCR®
End Connection 2 Size 1/8 in
End Connection 2 Type Tube socket weld
Cleaning Swagelok SC-10

DRAWN Nathaly	6/30/2015	TITLE		
CHECKED				
QA				
MFG				
APPROVED		SIZE C	SCALE	DWG NO SS-2-VCR-3
				REV
				SHEET 1 OF 1

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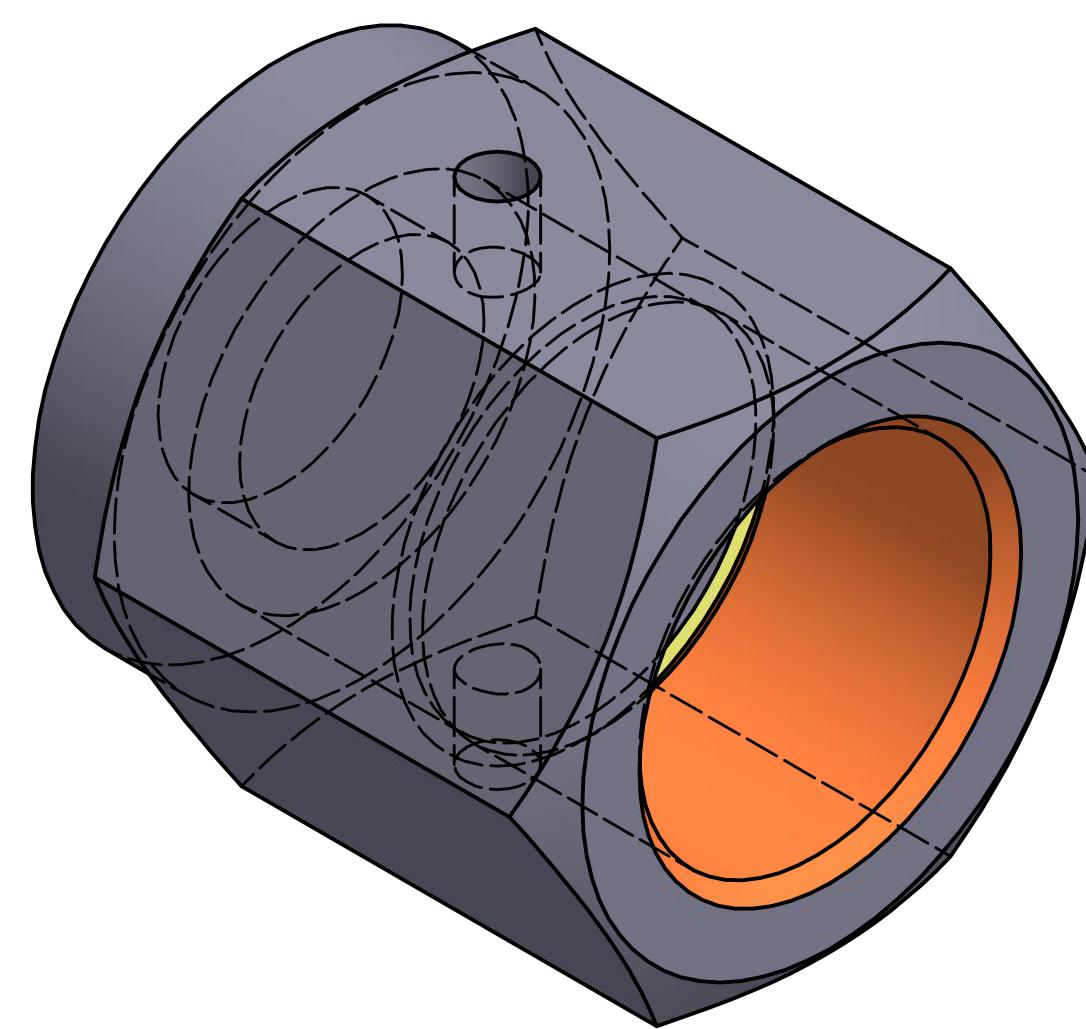
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Body Material 316 Stainless Steel
Cleaning Process Standard Cleaning and Packaging (SC-10)
Connection 1 Size 1/4 in.
Connection 1 Type Female VCR® Metal Gasket Face Seal
eClass (4.1) 37020718
eClass (5.1.4) 37020517
eClass (6.0) 23-11-07-00
eClass (6.1) 37-02-05-17
UNSPSC (10.0) 31161700
UNSPSC (11.0501) 31161700
UNSPSC (13.0601) 31161700
UNSPSC (15.1) 31161700
UNSPSC (4.03) 31163100
UNSPSC (SWG01) 31163100

DRAWN	Nathaly	6/29/2015	TITLE		
CHECKED					
QA					
MFG					
APPROVED			SIZE	DWG NO	REV
			C	SS-4-VCR-1	
			SCALE		SHEET 1 OF 1

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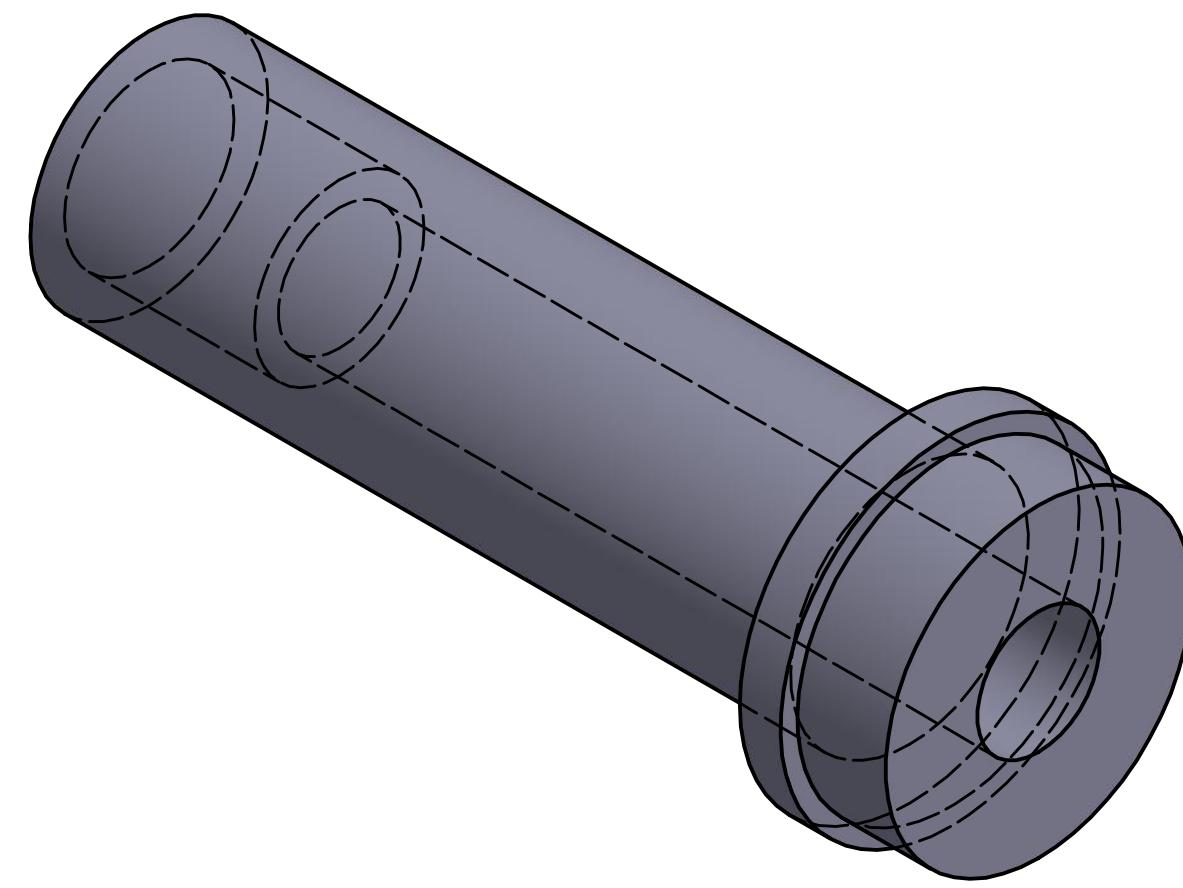
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Body Material Stainless Steel
Body Type Gland
Series VCR metal gasket face seal fittings
End Connection 1 Size 1/4 in
End Connection 1 Type Male VCR®
End Connection 2 Size 1/4 in
End Connection 2 Type Tube socket weld
Cleaning Swagelok SC-10

DRAWN Nathaly	6/30/2015	TITLE		
CHECKED				
QA				
MFG				
APPROVED				
		SIZE C	SCALE	DWG NO SS-4-VCR-3
				REV
				SHEET 1 OF 1

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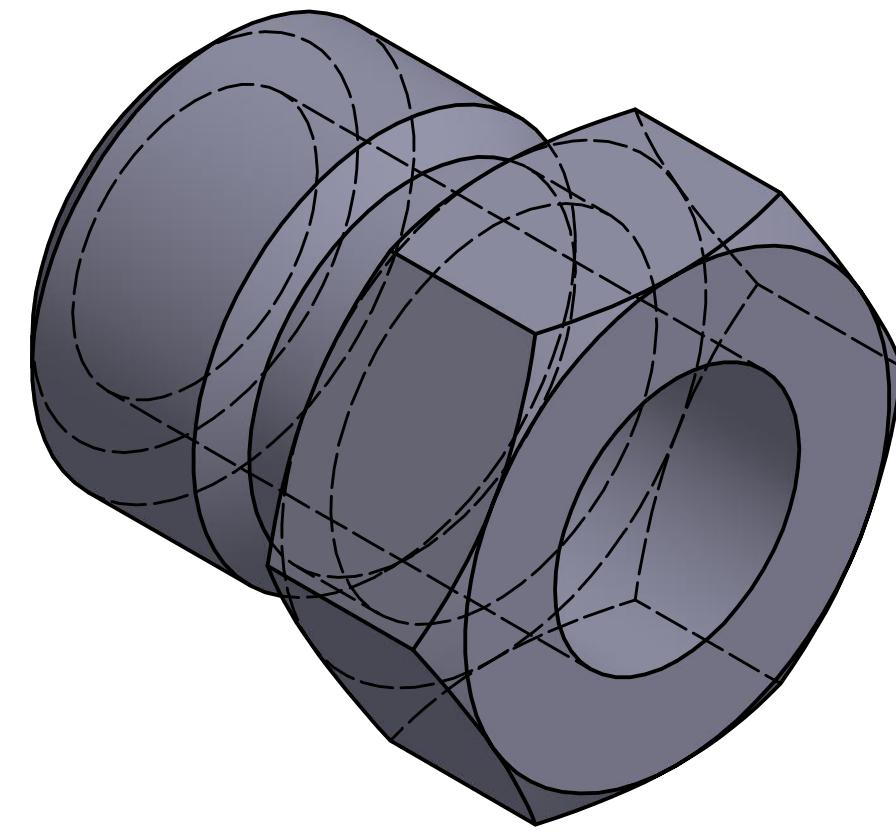
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Body Material 316 Stainless Steel
Cleaning Process Standard Cleaning and Packaging (SC-10)
Connection 1 Size 1/4 in.
Connection 1 Type VCR® Metal Gasket Face Seal Fitting
eClass (4.1) 37020718
eClass (5.1.4) 37020517
eClass (6.0) 23-11-07-00
eClass (6.1) 37-02-05-17
UNSPSC (10.0) 31161700
UNSPSC (11.0501) 31161700
UNSPSC (13.0601) 31161700
UNSPSC (15.1) 31161700
UNSPSC (4.03) 31163100
UNSPSC (SWG01) 31163100

DRAWN Nathaly	6/29/2015	TITLE		
CHECKED				
QA				
MFG				
APPROVED		SIZE C	SCALE	DWG NO SS-4-VCR-4
				REV
				SHEET 1 OF 1

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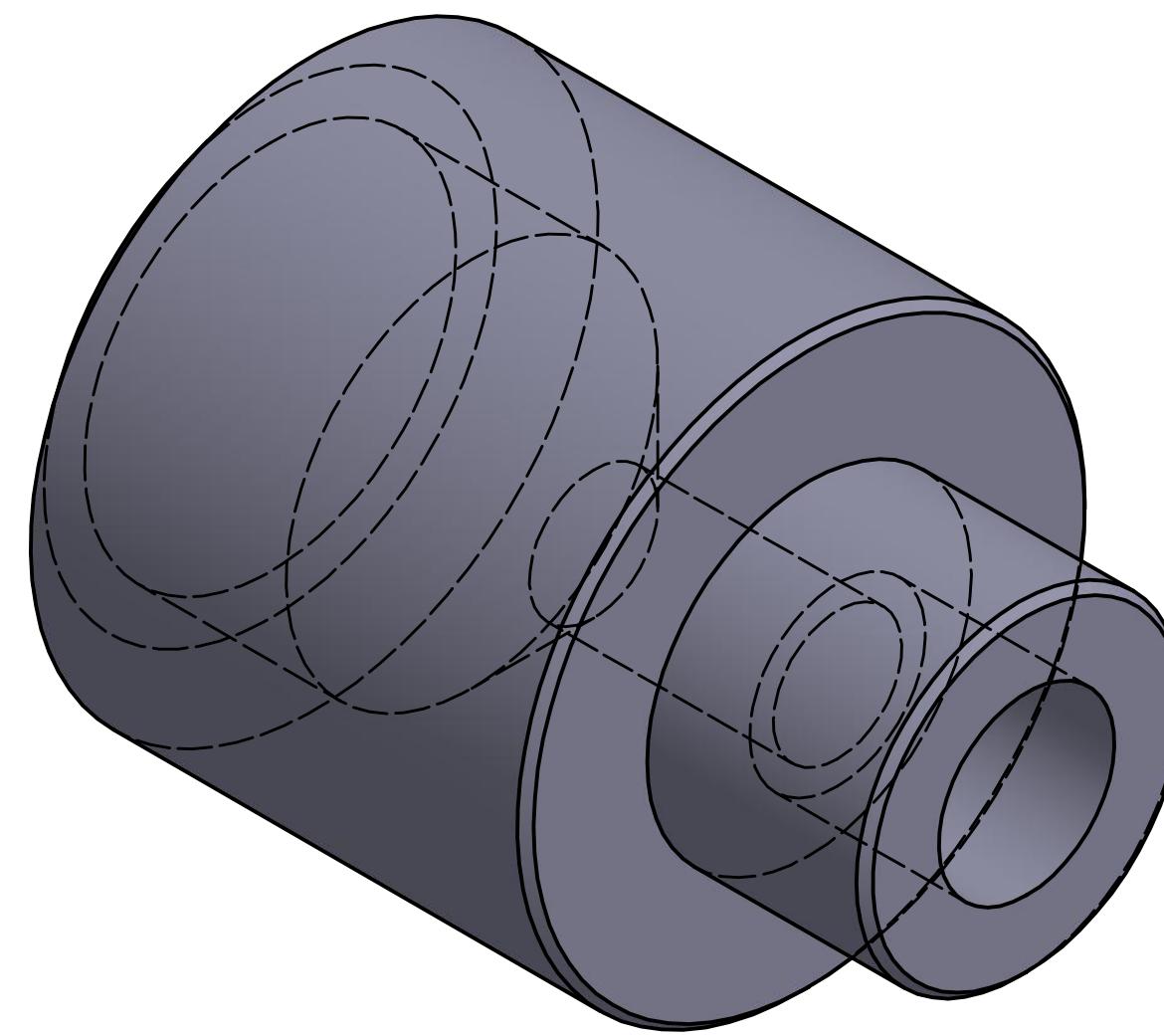
C

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Body Material Stainless Steel
Body Type Adapter
Series Pipe Weld to Tube Socket Weld Fittings
End Connection 1 Size 1/2 in
End Connection 1 Type Pipe weld to tube weld adapter
End Connection 2 Size 1/4 in
End Connection 2 Type Tube socket weld
Cleaning Swagelok SC-10

DRAWN	Nathaly	6/29/2015	TITLE		
CHECKED					
QA					
MFG					
APPROVED			SIZE	DWG NO	REV
			C	SS-8-MPW-A-4TSW	
			SCALE		SHEET 1 OF 1

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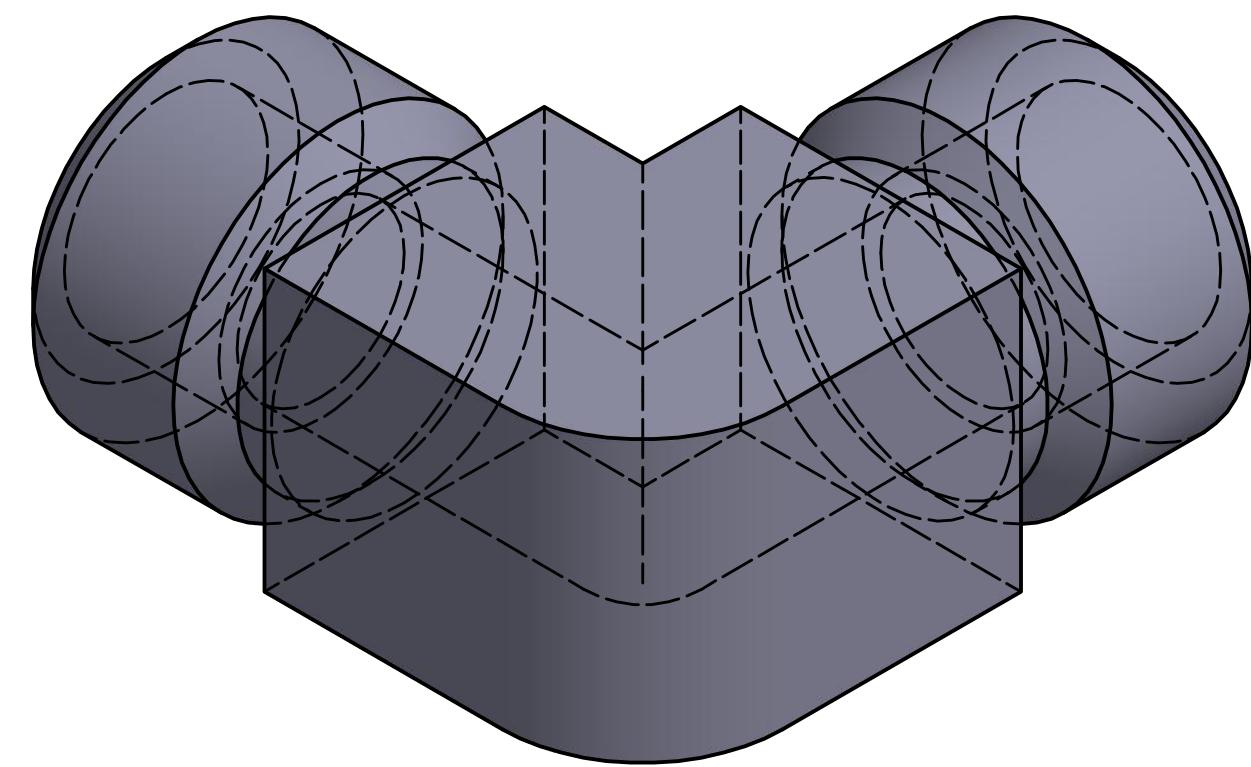
C

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Body Material Stainless Steel
Body Type Union elbow
Series Tube Socket Weld Fittings
End Connection 1 Size 1/2 in
End Connection 1 Type Tube socket weld
End Connection 2 Size 1/2 in
End Connection 2 Type Tube socket weld
Cleaning Swagelok SC-10

DRAWN	Nathaly	6/30/2015	TITLE		
CHECKED					
QA					
MFG					
APPROVED			SIZE	DWG NO	REV
			C	SS-8-TSW-9	
			SCALE		SHEET 1 OF 1

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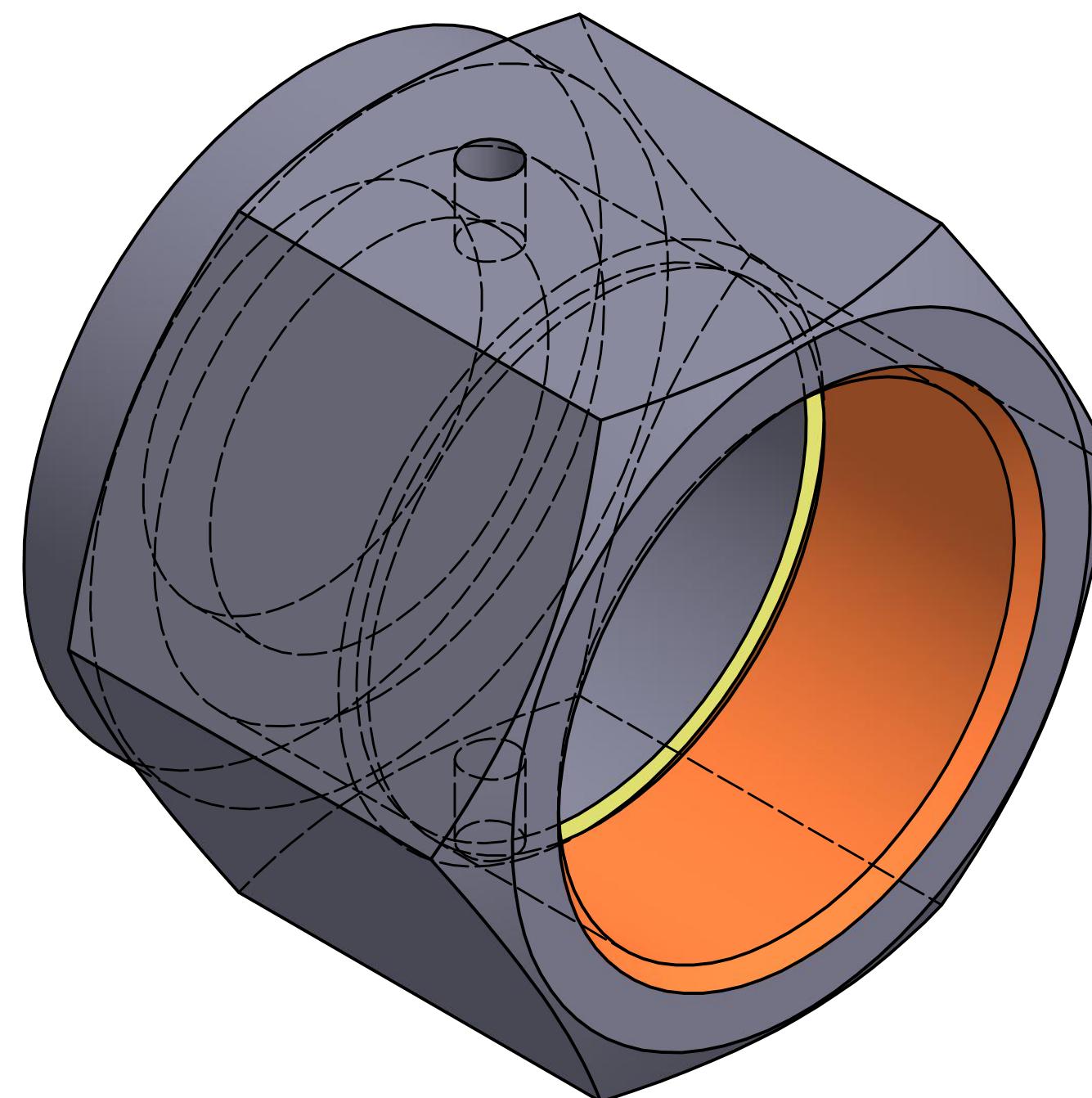
C

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Body Material 316 Stainless Steel
Cleaning Process Standard Cleaning and Packaging (SC-10)
Connection 1 Size 1/2 in.
Connection 1 Type Female VCR® Metal Gasket Face Seal
eClass (4.1) 37020713
eClass (5.1.4) 37020517
eClass (6.0) 23-11-07-00
eClass (6.1) 37-02-05-17

DRAWN	Nathaly	6/30/2015	TITLE		
CHECKED					
QA					
MFG					
APPROVED			SIZE	DWG NO	REV
			C	SS-8-VCR-1	
			SCALE		SHEET 1 OF 1

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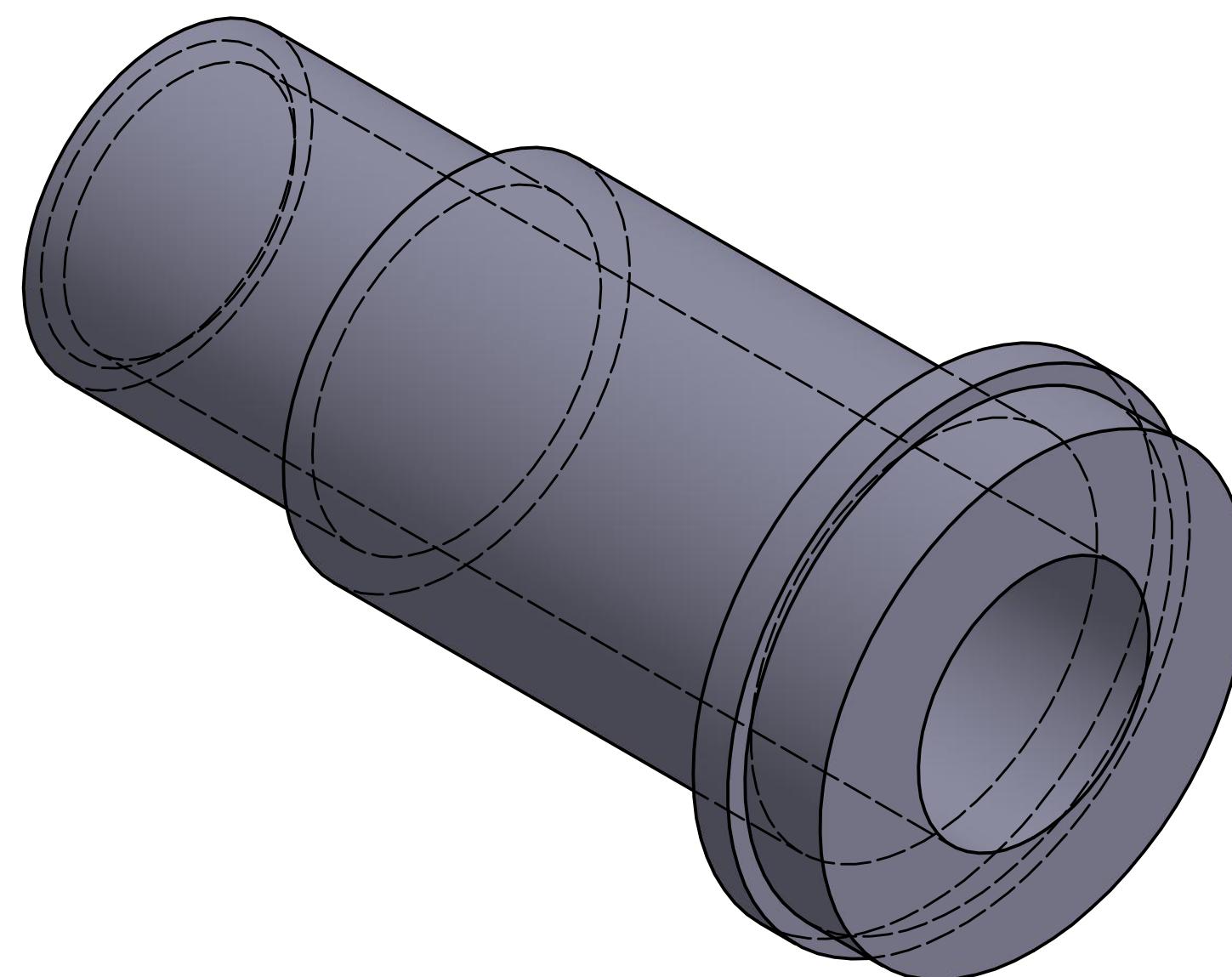
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Body Material 316 Stainless Steel
Cleaning Process Standard Cleaning and Packaging (SC-10)
Connection 1 Size 1/2 in.
Connection 1 Type VCR® Metal Gasket Face Seal Fitting
Connection 2 Size 1/2 in.
Connection 2 Type Tube Butt Weld
eClass (4.1) 37020713
eClass (5.1.4) 37920191
eClass (6.0) 22-56-92-00
eClass (6.1) 37-02-92-90
UNSPSC (10.0) 40142610

DRAWN	Nathaly	6/30/2015	TITLE		
CHECKED					
QA					
MFG					
APPROVED			SIZE	DWG NO	REV
			C	SS-8-VCR-3-8MTW	
			SCALE		SHEET 1 OF 1

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