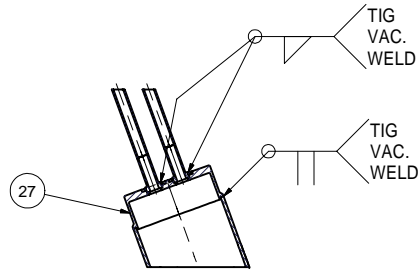
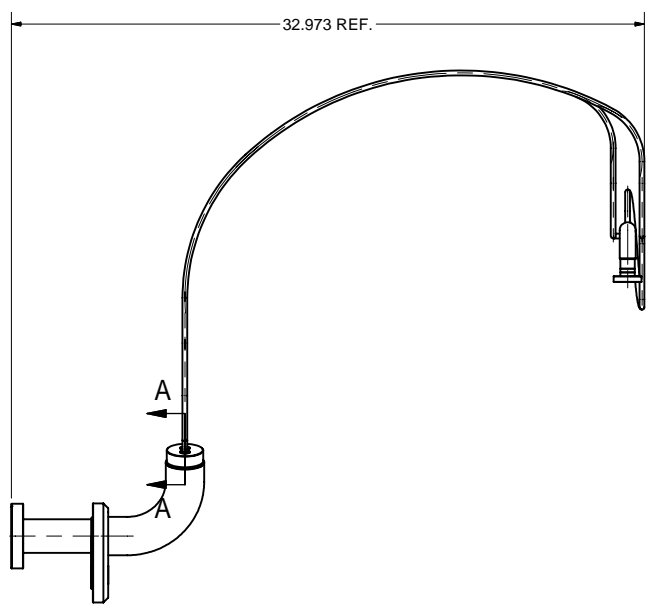
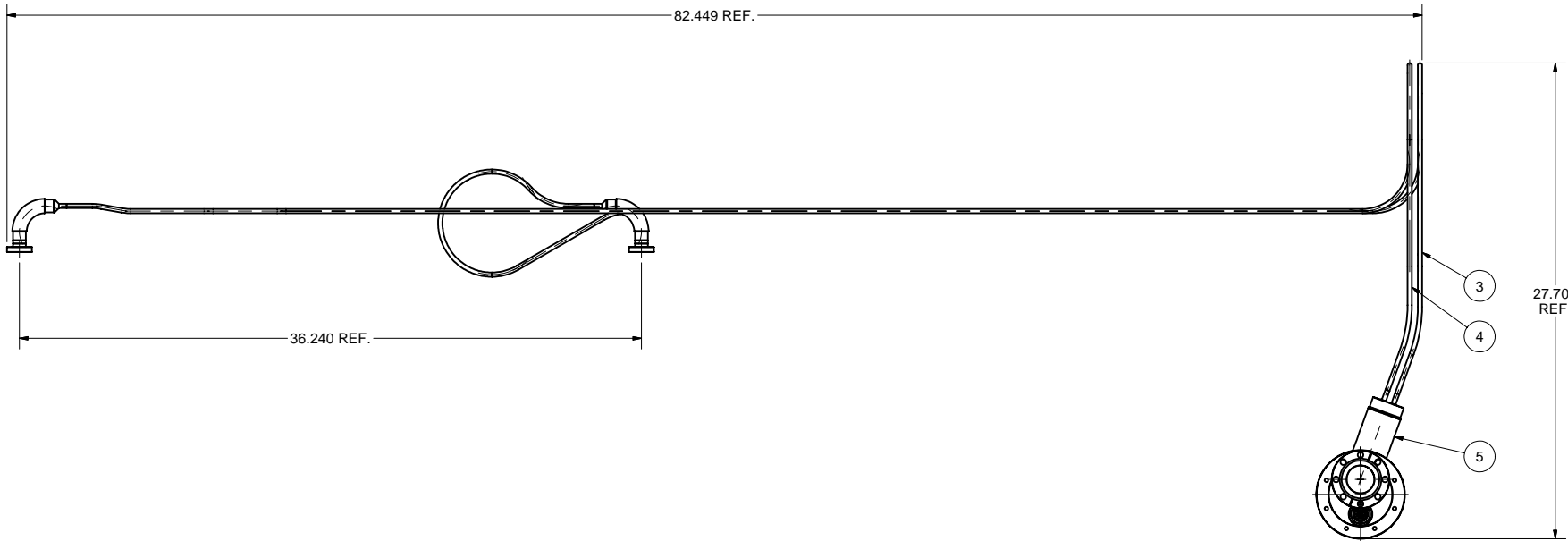


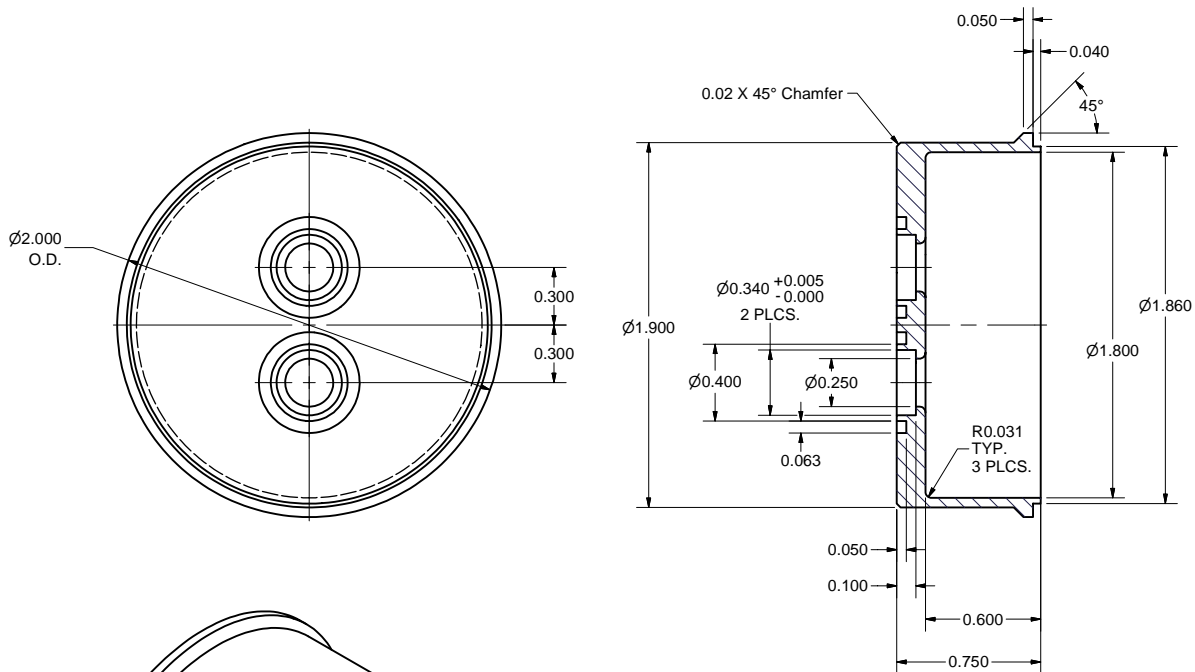
REVISIONS			
SYM.	ZONE	DESCRIPTION	DATE APP.



SECTION A-A
SCALE 1:2

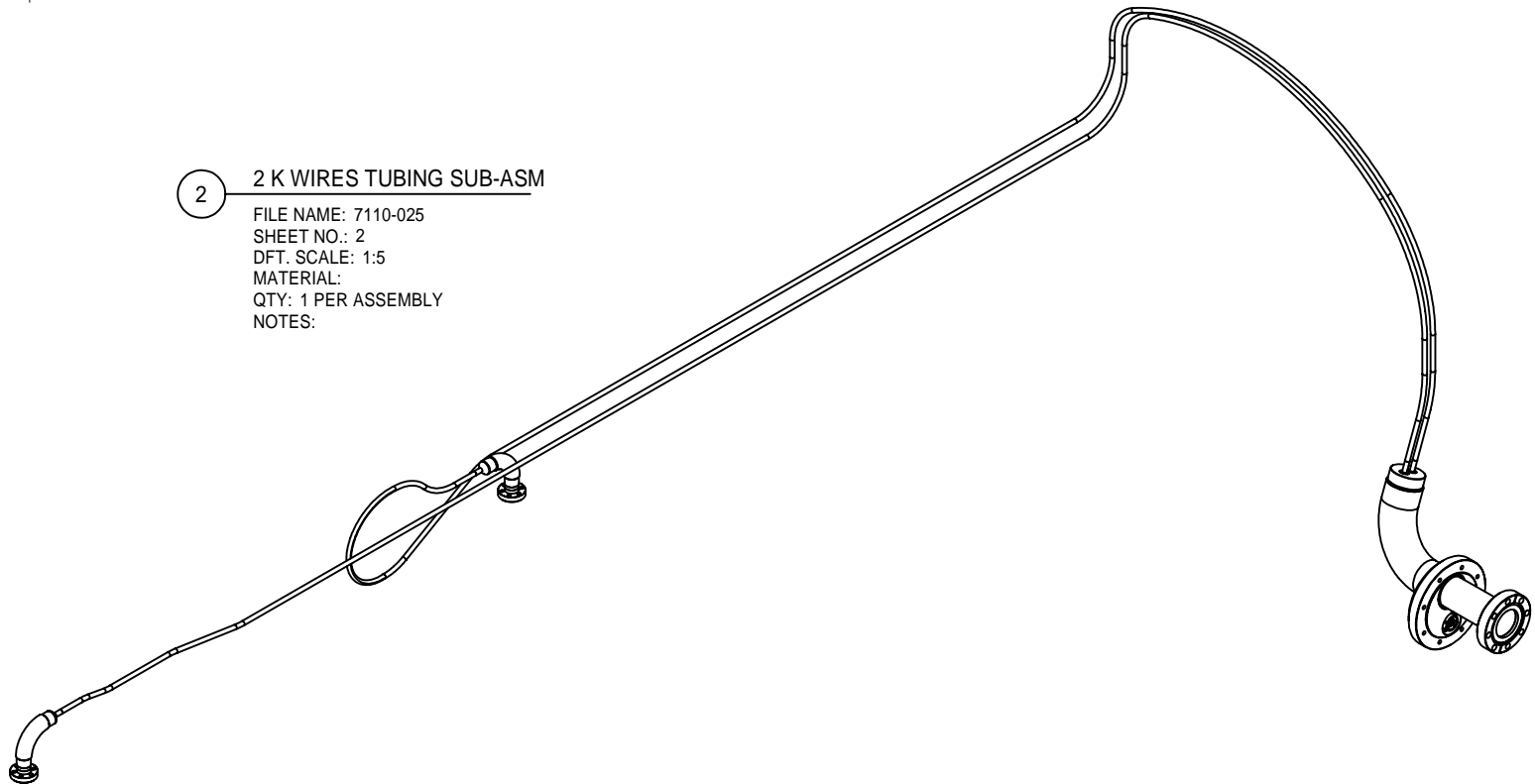
2 2 K WIRES TUBING SUB-ASM

FILE NAME: 7110-025
SHEET NO.: 2
DFT. SCALE: 1:5
MATERIAL:
QTY: 1 PER ASSEMBLY
NOTES:



27 2" OD TUBE CAP

FILE NAME: 7110-025
SHEET NO.: 2
DFT. SCALE: 2:1
MATERIAL: 316L ST. STEEL
QTY: 1 PER ASSEMBLY
NOTES:

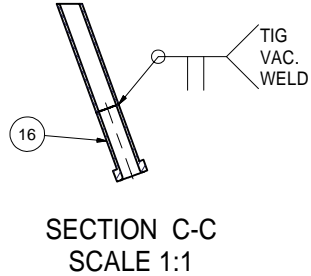
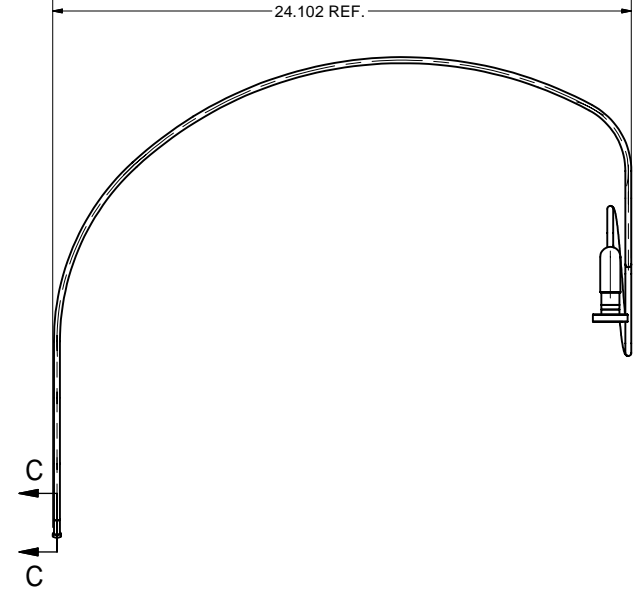
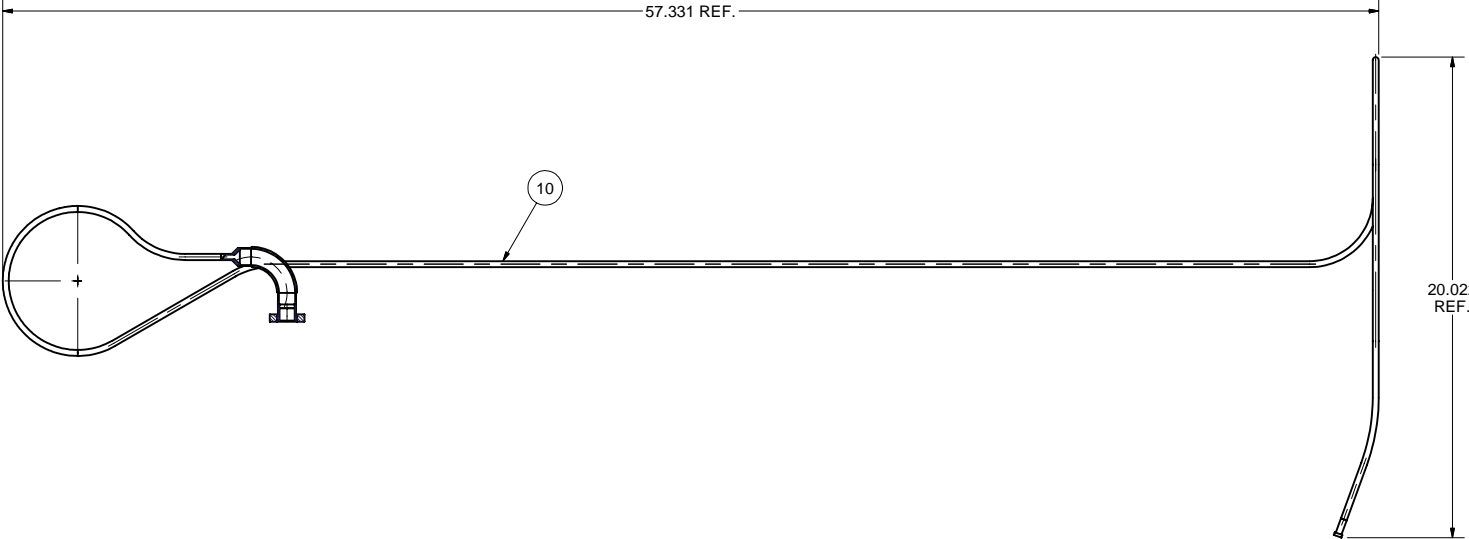


FOR MACHINING LUBRICANT USE ONLY
ALKALINE DETERGENT LUBRICANT CIMSTAR 40
OR EQUIVALENT APPROVED BY CORNELL LEPP

TECHNICAL RESOURCE APPROVALS REQUIRED BEFORE FABRICATION			
	OK	DATE	N/A
DRAFTING (O'Connell):			
MACHINE SHOP (Kaminski):			
CHEMISTRY (Conklin):			
ELECTRONICS SHOP (Barley):			
FURNACE BRAZING (Sherwood):			
BEAM WELDING (Sears):			
WELDING OTHER (Gallagher):			
UTILITIES INTEGRATION (Gallagher):			
STOCKROOMS (Lockwood):			

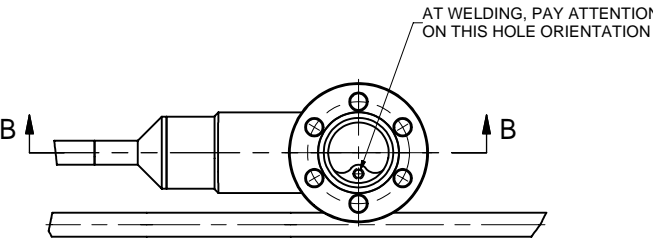
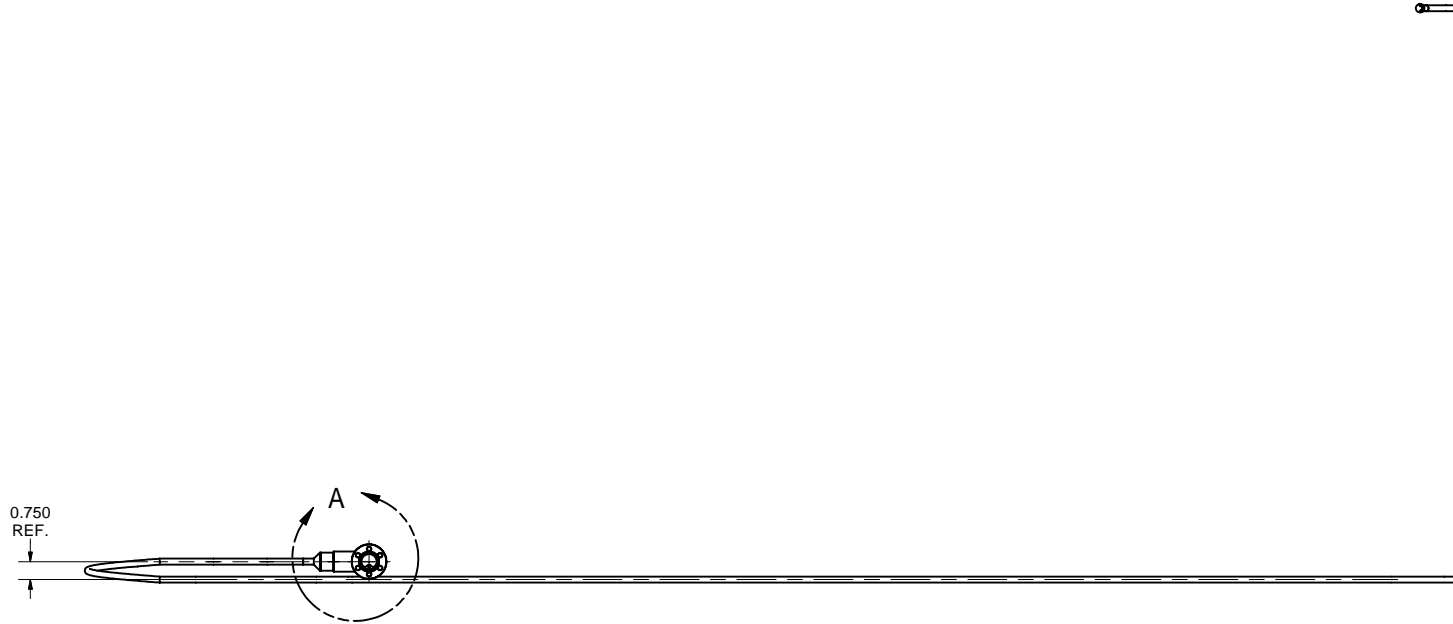
ITEM	DWG. NO.	DESCRIPTION	G1	G2	G3	REMARKS	REV.
27	7110-025 (SH.2)	2" OD TUBE CAP	1				
5	7110-025 (SH.5)	2 K WIRES 300 K FLANGE SUB-ASM	1				
4	7110-025 (SH.4)	LONG TUBE SUB-ASM	1				
3	7110-025 (SH.3)	SHORT TUBE SUB-ASM	1				
2	7110-025 (SH.2)	2 K WIRES TUBING SUB-ASM	X				
PLOT DATE: 6/29/2007 CAD FILE NAME: 7110-025.idw							
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES: TOLERANCES ON: .00 ± .010 .000 ± .005 FRACTIONS ± 1/64 ANGLES ± 0.5° ALL SURFACES		CORNELL UNIVERSITY FLOYD R. NEWMAN LABORATORY ITHACA, NY 14853					
ERL Horizontal Test Cryomodule 2 K CONTROL WIRES TUBING		DRAWN BY V.Medjdzade	DRAWN FOR M.Liepe	DATE 4/14/2007	SCALE D	7110-025 SH. NO. 2 OF 11	REV.

REVISIONS				
SYM.	ZONE	DESCRIPTION	DATE	APP.

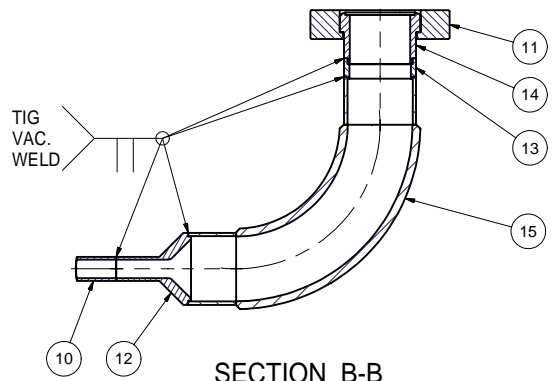


SECTION C-C
SCALE 1:1

3 SHORT TUBE SUB-ASM
FILE NAME: 7110-025
SHEET NO.: 3
DFT. SCALE: 1:4
MATERIAL:
QTY: 1 PER ASSEMBLY
NOTES:



DETAIL A
SCALE 1:1



SECTION B-B
SCALE 1:1

FOR MACHINING LUBRICANT USE ONLY
ALKALINE DETERGENT LUBRICANT CIMSTAR 40
OR EQUIVALENT APPROVED BY CORNELL LEPP

TECHNICAL RESOURCE APPROVALS REQUIRED BEFORE FABRICATION			
	OK	DATE	N/A
DRAFTING (O'Connell):			
MACHINE SHOP (Kaminski):			
CHEMISTRY (Conklin):			
ELECTRONICS SHOP (Barley):			
FURNACE BRAZING (Sherwood):			
BEAM WELDING (Sears):			
WELDING OTHER (Gallagher):			
UTILITIES INTEGRATION (Gallagher):			
STOCKROOMS (Lockwood):			

ITEM	DWG. NO.	DESCRIPTION	G1	G2	G3	REMARKS	REV.
16	7110-025 (SH.8)	1/4" OD TUBE NIPPLE					
15	7110-025 (SH.11)	3/4"OD TUBE 90 DEG. ELBOW SUB-ASM					
14	7110-025 (SH.6)	1-1/3" CF ROT. FLANGE INNER PIECE					
13	7110-025 (SH.8)	TRANSITION PLATE					
12	7110-025 (SH.9)	3/4" OD TO 1/4" OD TUBE TRANSITION					
11	7110-025 (SH.6)	1-1/3" CF CUSTOM ROTATABLE FLANGE					
10	7110-025 (SH.8)	SHORT TUBE					
3	7110-025 (SH.3)	SHORT TUBE SUB-ASM	X				

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES:
TOLERANCES ON:
.00 ± .010
.000 ± .005
FRACTIONS ± 1/64
ANGLES ± 0.5°
ALL SURFACES

CORNELL UNIVERSITY

LEPP

LABORATORY FOR ELEMENTARY-PARTICLE PHYSICS

CORNELL UNIVERSITY

Floyd R. Newman Laboratory

Ithaca, NY 14853

ERL Horizontal Test Cryomodule

2 K CONTROL WIRES TUBING

CHECKED BY: VM
APPROVED BY: TIO

DRAWN BY
V.Medjdzade

DRAWN FOR
M.Liepe

DATE
4/14/2007

SCALE
D

7110-025
SH. NO. 3 OF 11

REV.

PRINT
DISTR.

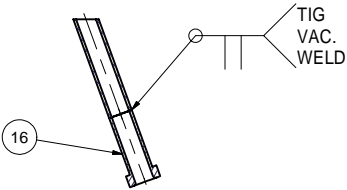
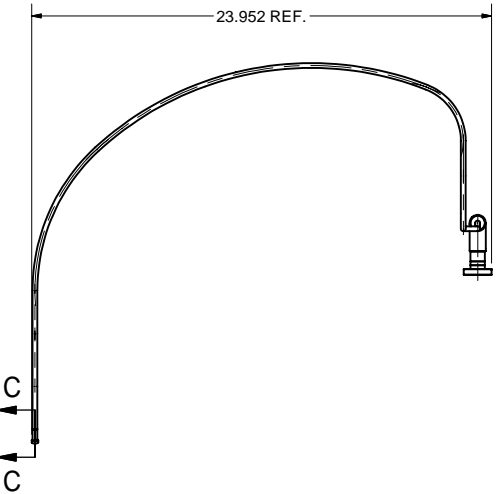
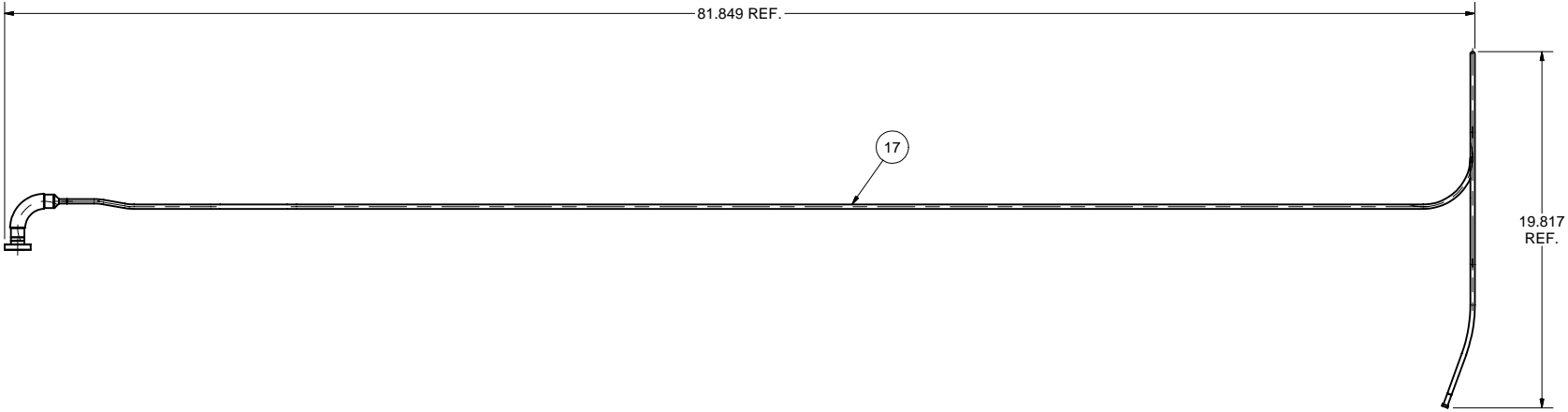
CR-1

7110-025
SH. NO. 3 OF 11

REV.

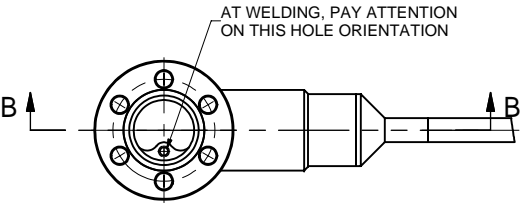
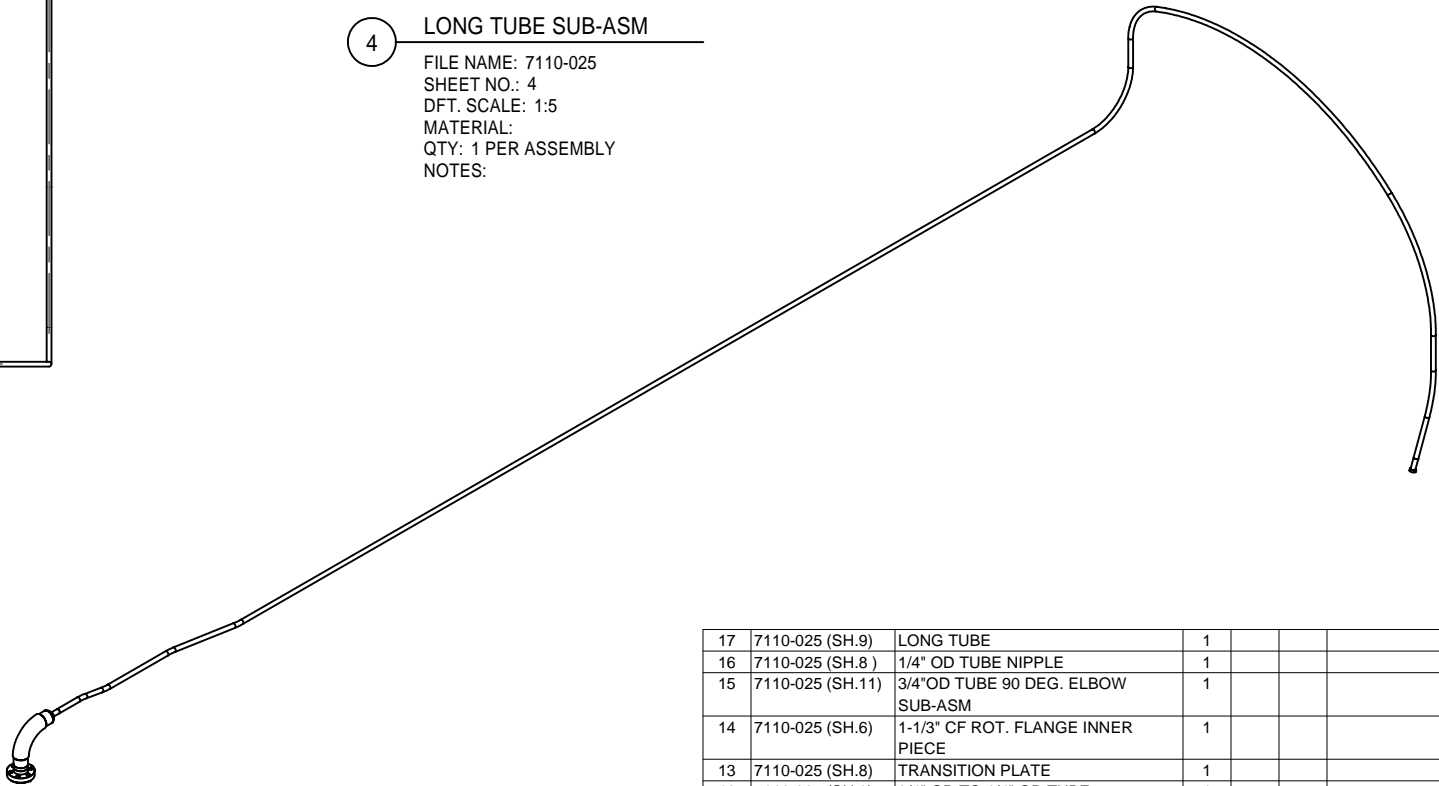
PLOT DATE: 6/29/2007
CAD FILE NAME: 7110-025.idw

REVISIONS			
SYM.	ZONE	DESCRIPTION	DATE APP.

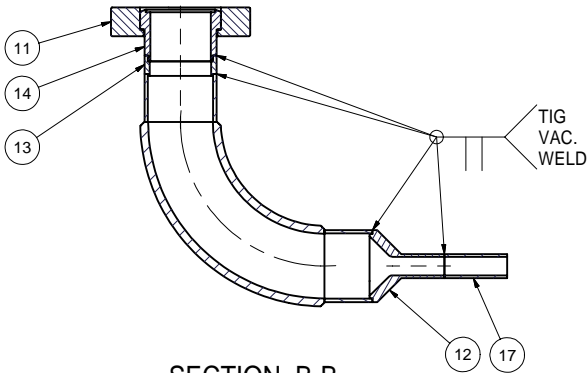


SECTION C-C
SCALE 1:1

4 LONG TUBE SUB-ASM
FILE NAME: 7110-025
SHEET NO.: 4
DFT. SCALE: 1:5
MATERIAL:
QTY: 1 PER ASSEMBLY
NOTES:



DETAIL A
SCALE 1:1



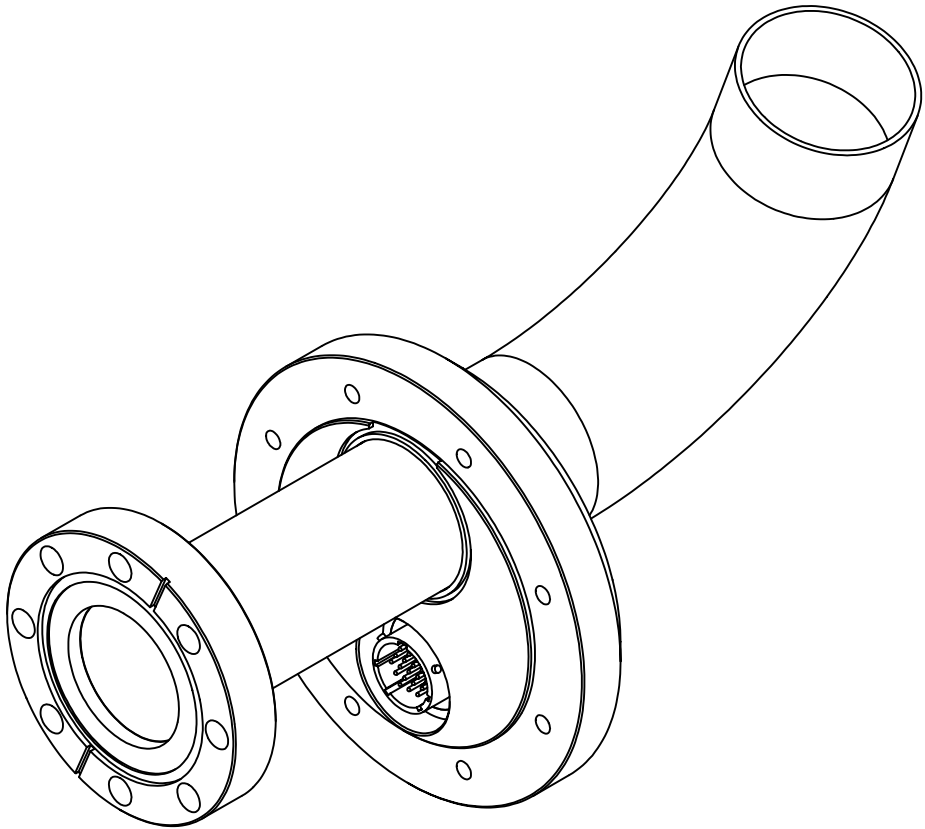
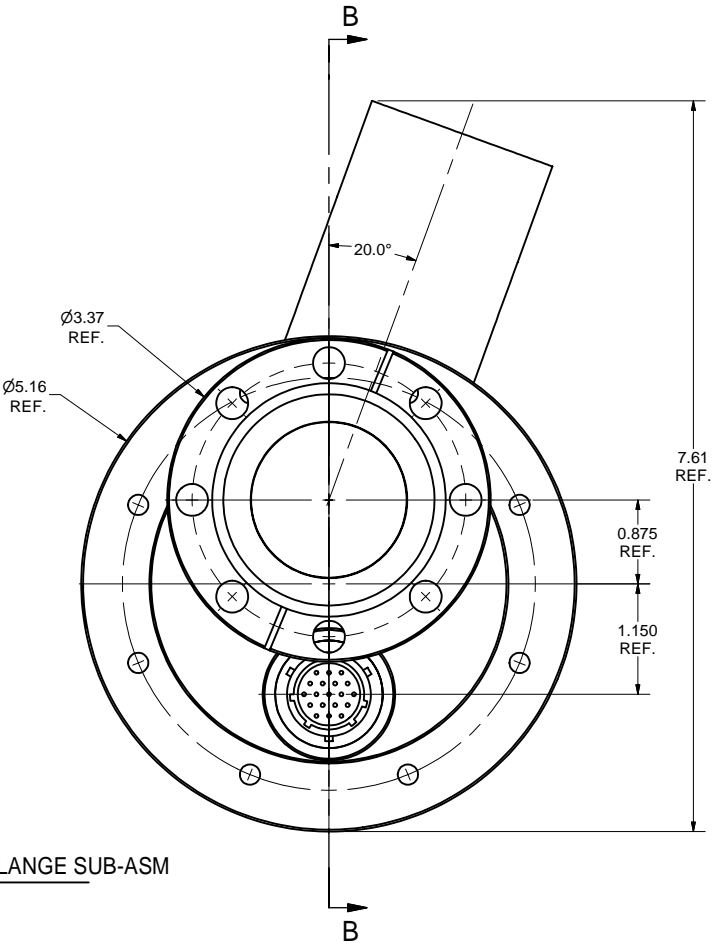
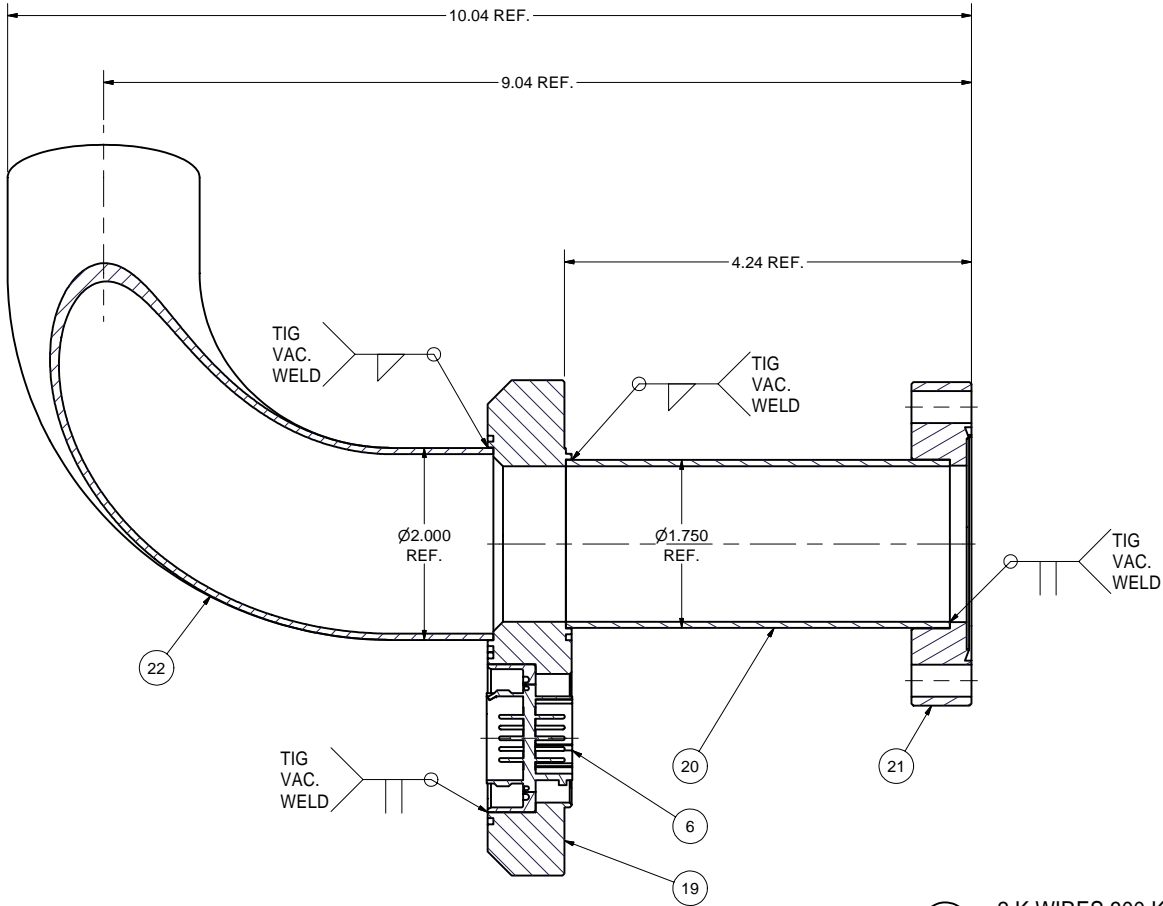
SECTION B-B
SCALE 1:1

FOR MACHINING LUBRICANT USE ONLY
ALKALINE DETERGENT LUBRICANT CIMSTAR 40
OR EQUIVALENT APPROVED BY CORNELL LEPP

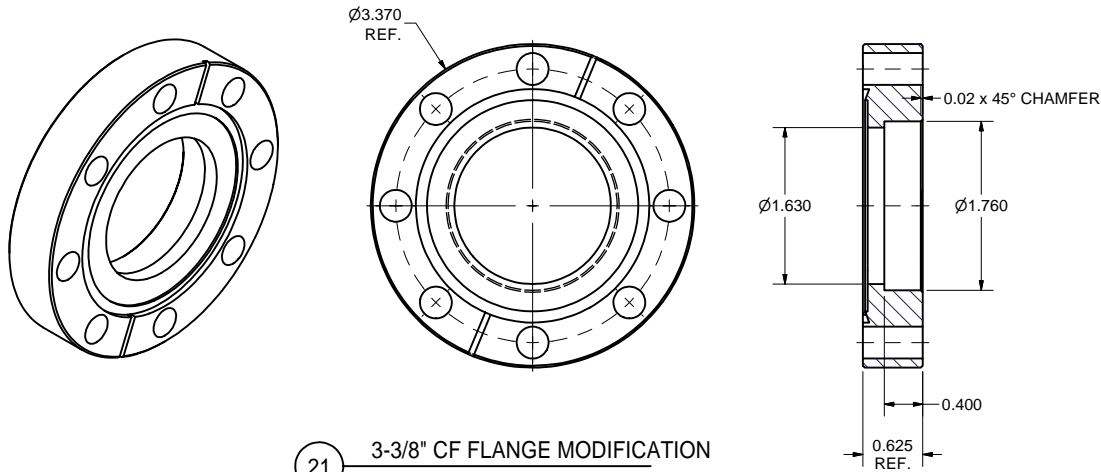
TECHNICAL RESOURCE APPROVALS REQUIRED BEFORE FABRICATION			
	OK	DATE	N/A
DRAFTING (O'Connell):			
MACHINE SHOP (Kaminski):			
CHEMISTRY (Conklin):			
ELECTRONICS SHOP (Barley):			
FURNACE BRAZING (Sherwood):			
BEAM WELDING (Sears):			
WELDING OTHER (Gallagher):			
UTILITIES INTEGRATION (Gallagher):			
STOCKROOMS (Lockwood):			

ITEM	DWG. NO.	DESCRIPTION	G1	G2	G3	REMARKS	REV.
17	7110-025 (SH.9)	LONG TUBE	1				
16	7110-025 (SH.8)	1/4" OD TUBE NIPPLE	1				
15	7110-025 (SH.11)	3/4"OD TUBE 90 DEG. ELBOW SUB-ASM	1				
14	7110-025 (SH.6)	1-1/3" CF ROT. FLANGE INNER PIECE	1				
13	7110-025 (SH.8)	TRANSITION PLATE	1				
12	7110-025 (SH.9)	3/4" OD TO 1/4" OD TUBE TRANSITION	1				
11	7110-025 (SH.6)	1-1/3" CF CUSTOM ROTATABLE FLANGE	1				
4	7110-025 (SH.4)	LONG TUBE SUB-ASM	X				
PLOT DATE: 6/29/2007 CAD FILE NAME: 7110-025.idw							
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES: TOLERANCES ON: .00 ± .010 .000 ± .005 FRACTIONS ± 1/64 ANGLES ± 0.5° ALL SURFACES		CORNELL UNIVERSITY LEPP LABORATORY FOR ELEMENTARY-PARTICLE PHYSICS CORNELL UNIVERSITY Floyd R. Newman Laboratory Ithaca, NY 14853					
ERL Horizontal Test Cryomodule 2 K CONTROL WIRES TUBING		DRAWN BY V.Medjdzade	DRAWN FOR M.Liepe	DATE 4/14/2007	SCALE D	7110-025 SH. NO. 4 OF 11	REV.

REVISIONS			
SYM.	ZONE	DESCRIPTION	DATE APP.



5 2 K WIRES 300 K FLANGE SUB-ASM
FILE NAME: 7110-025
SHEET NO.: 5
DFT. SCALE: 1:1
MATERIAL:
QTY: 1 PER ASSEMBLY
NOTES:



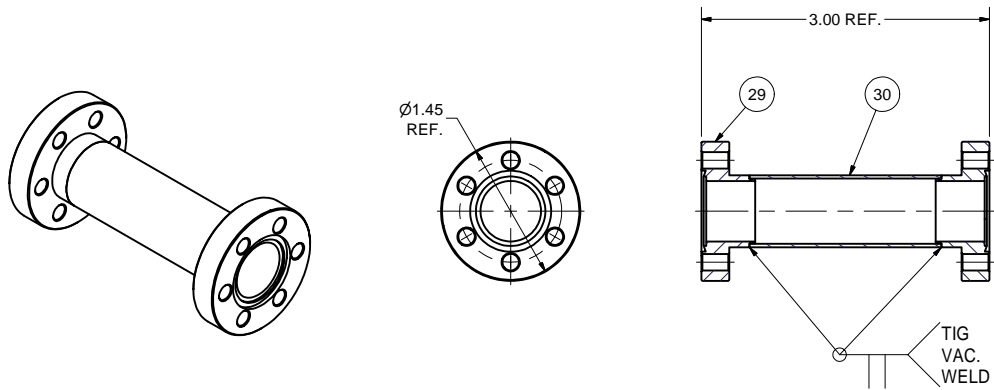
21 3-3/8" CF FLANGE MODIFICATION
FILE NAME: 7110-025
SHEET NO.: 5
DFT. SCALE: 1:1
MATERIAL: 304L ST. STEEL (SEE NOTE 1)
QTY: 1 PER ASSEMBLY
NOTES: 1. MAKE FROM 3-3/8" CF BLANK FLANGE:
VARIAN'S F0338-0000-NC4 OR EQUIV.

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ALKALINE DETERGENT LUBRICANT CIMSTAR 40
OR EQUIVALENT APPROVED BY CORNELL LEPP

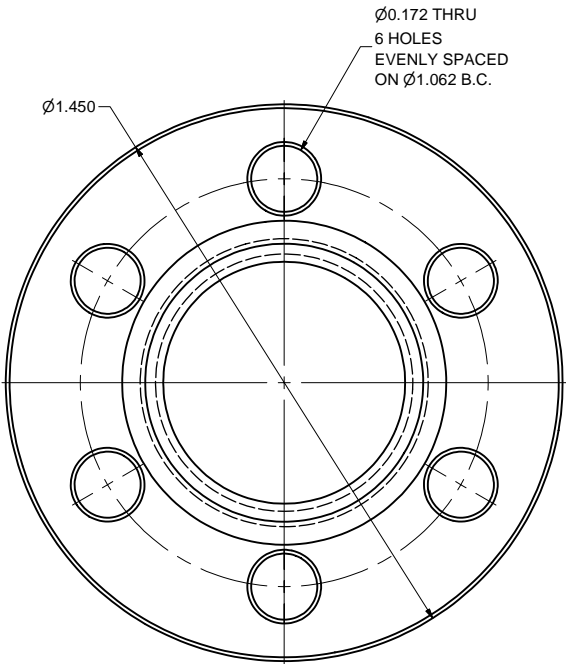
TECHNICAL RESOURCE APPROVALS REQUIRED BEFORE FABRICATION			
	OK	DATE	N/A
DRAFTING (O'Connell):			
MACHINE SHOP (Kaminski):			
CHEMISTRY (Conklin):			
ELECTRONICS SHOP (Barley):			
FURNACE BRAZING (Sherwood):			
BEAM WELDING (Sears):			
WELDING OTHER (Gallagher):			
UTILITIES INTEGRATION (Gallagher):			
STOCKROOMS (Lockwood):			

ITEM	DWG. NO.	DESCRIPTION	G1	G2	G3	REMARKS	REV.
22	-	2" OD TUBE 90 DEGREE ELBOW	1			Varian's WE90T200, or equiv.	
21	7110-025 (SH.5)	3-3/8" CF FLANGE MODIFICATION	1			Varian's F0338-0000-NC4, or equiv.	
20	7110-025 (SH.7)	1-3/4" OD TUBE	1				
19	7110-025 (SH.7)	2 K WIRES 300 K FLANGE	1				
6	7110-025 (SH.7)	19-PIN FEEDTHROUGH SUB-ASM	1				
5	7110-025 (SH.5)	2 K WIRES 300 K FLANGE SUB-ASM	X				
PLOT DATE: 6/29/2007 CAD FILE NAME: 7110-025.idw			QUANTITY			REMARKS	REV.
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES: TOLERANCES ON: .00 ± .010 .000 ± .005 FRACTIONS ± 1/64 ANGLES ± 0.5° ALL SURFACES			CORNELL UNIVERSITY FLOYD R. NEWMAN LABORATORY ITHACA, NY 14853			ERL Horizontal Test Cryomodule 2 K CONTROL WIRES TUBING	
CHECKED BY: VM APPROVED BY: TIO			DRAWN BY V.Medjdzade	DRAWN FOR M.Liepe	DATE 4/14/2007	SCALE D	7110-025 SH. NO. 5 OF 11

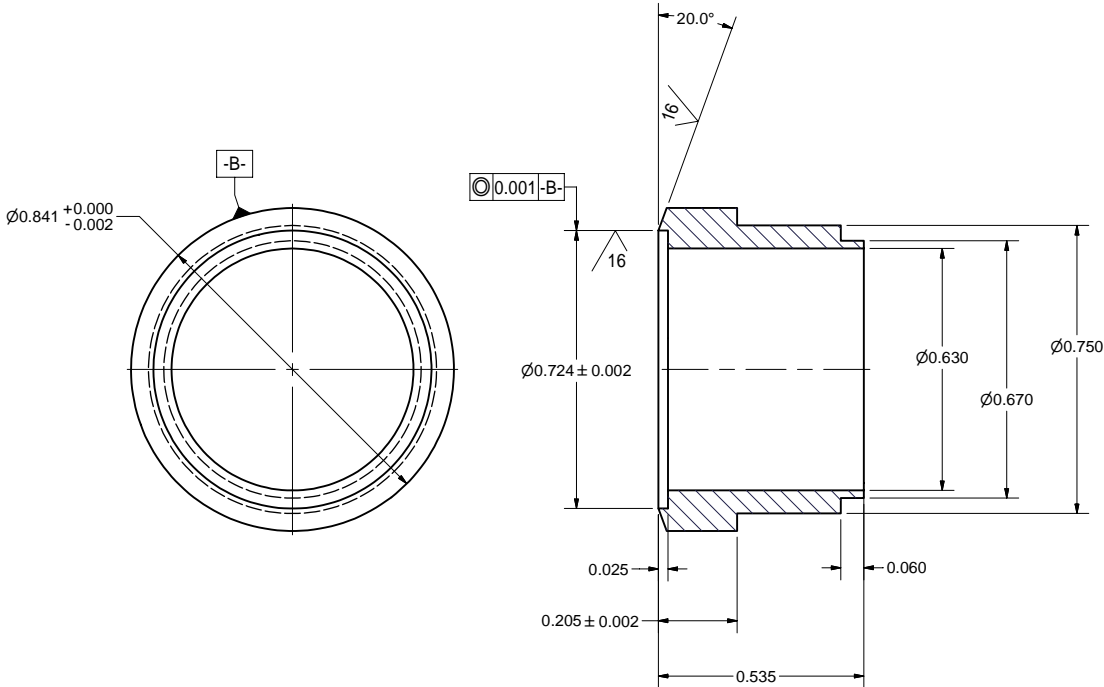
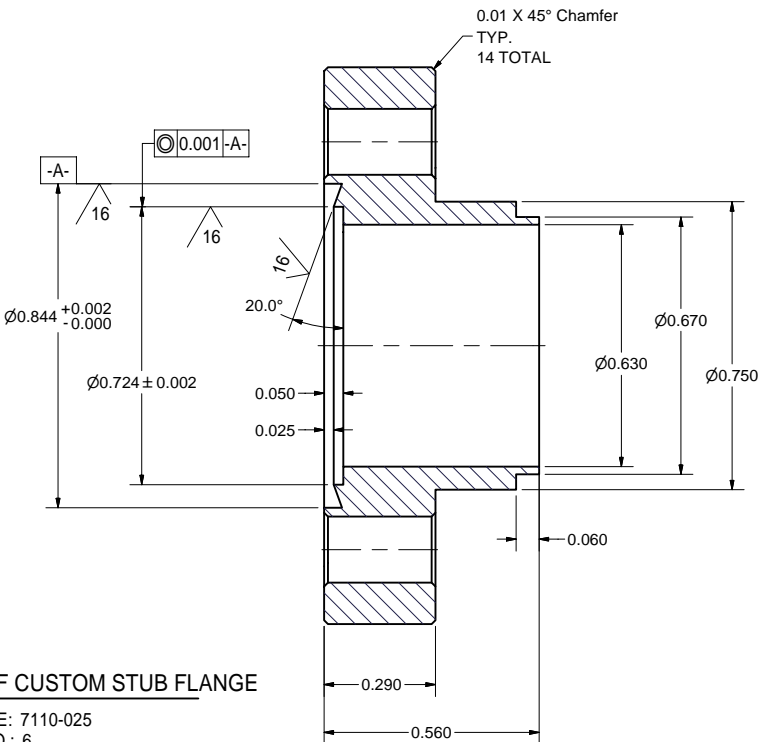
REVISIONS				
SYM.	ZONE	DESCRIPTION	DATE	APP.



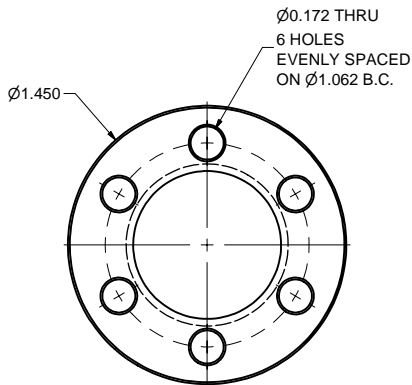
7 1-1/3" CF NIPPLE SUB-ASM
FILE NAME: 7110-025
SHEET NO.: 6
DFT. SCALE: 1:1
MATERIAL:
QTY: 2 PER ASSEMBLY
NOTES:



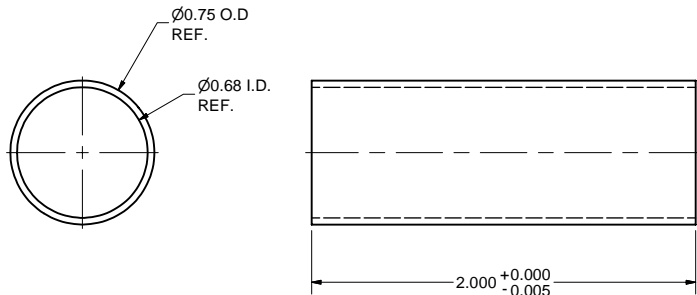
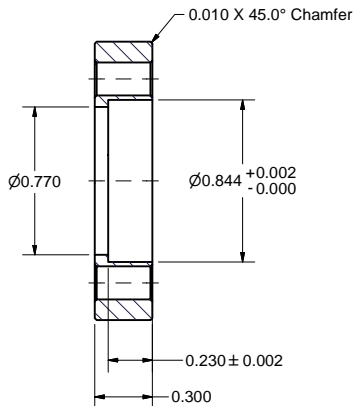
29 1-1/3" CF CUSTOM STUB FLANGE
FILE NAME: 7110-025
SHEET NO.: 6
DFT. SCALE: 4:1
MATERIAL: 316L ST. STEEL
QTY: 4 PER ASSEMBLY
NOTES:



14 1-1/3" CF ROT. FLANGE INNER PIECE
FILE NAME: 7110-025
SHEET NO.: 6
DFT. SCALE: 4:1
MATERIAL: 316L ST. STEEL
QTY: 2 PER ASSEMBLY
NOTES:



11 1-1/3" CF CUSTOM ROT. FLANGE
FILE NAME: 7110-025
SHEET NO.: 6
DFT. SCALE: 2:1
MATERIAL: 316L ST. STEEL
QTY: 2 PER ASSEMBLY
NOTES:



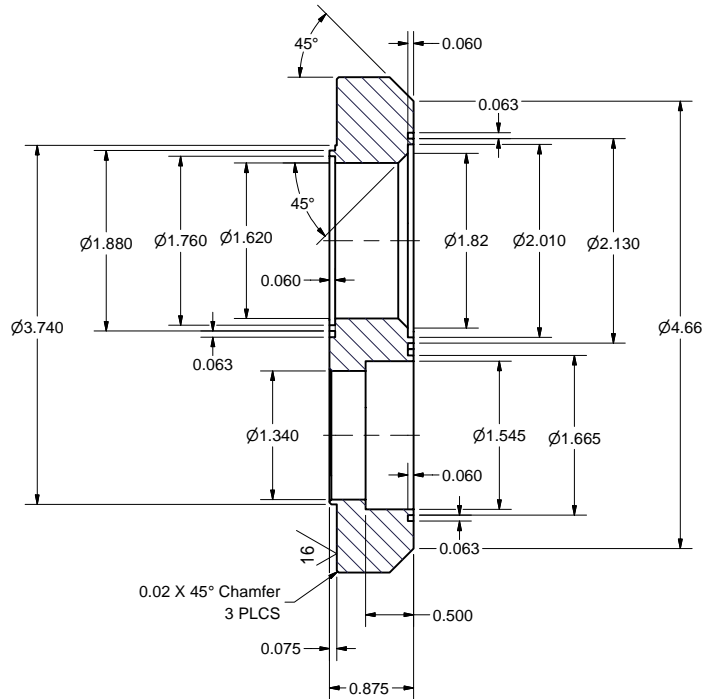
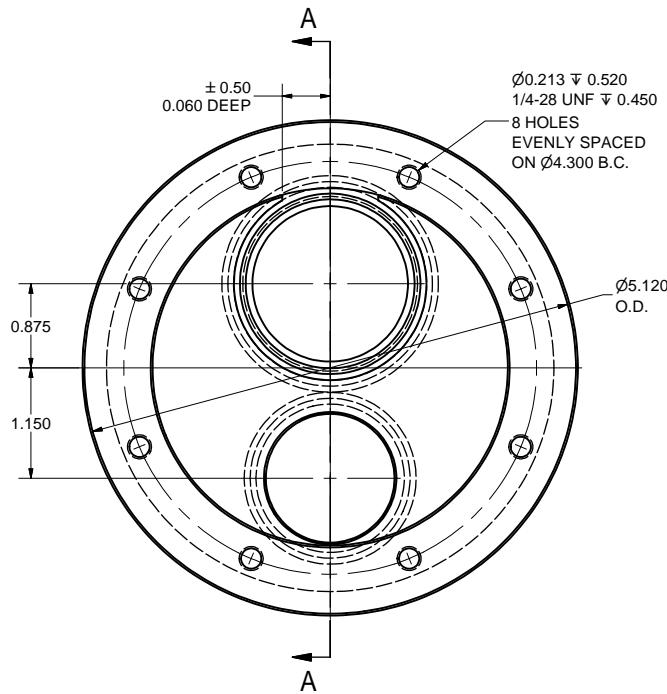
30 3/4" OD NIPPLE TUBE
FILE NAME: 7110-025
SHEET NO.: 6
DFT. SCALE: 2:1
MATERIAL: 316L ST. STEEL
QTY: 2 PER ASSEMBLY
NOTES:

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ALKALINE DETERGENT LUBRICANT CIMSTAR 40
OR EQUIVALENT APPROVED BY CORNELL LEPP

TECHNICAL RESOURCE APPROVALS REQUIRED BEFORE FABRICATION			
	OK	DATE	N/A
DRAFTING (O'Connell):			
MACHINE SHOP (Kaminski):			
CHEMISTRY (Conklin):			
ELECTRONICS SHOP (Barley):			
FURNACE BRAZING (Sherwood):			
BEAM WELDING (Sears):			
WELDING OTHER (Gallagher):			
UTILITIES INTEGRATION (Gallagher):			
STOCKROOMS (Lockwood):			

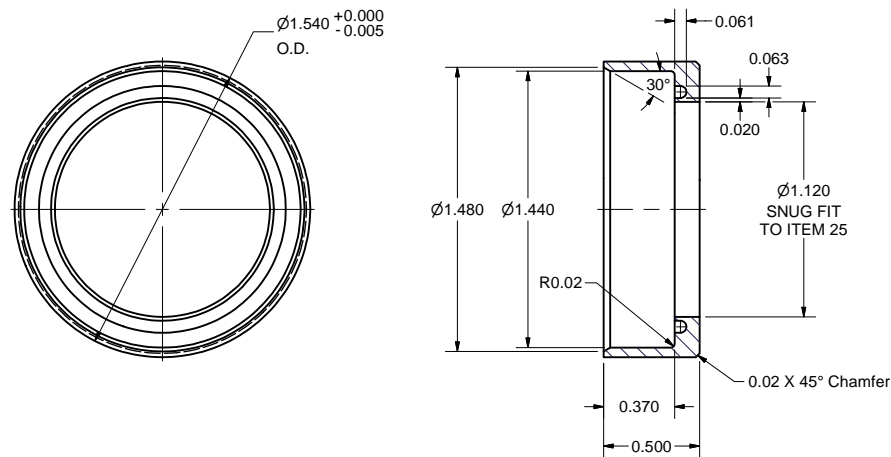
ITEM	DWG. NO.	DESCRIPTION	QTY	REMARKS	REV.
30	7110-025 (SH.6)	3/4" OD NIPPLE TUBE	1		
29	7110-025 (SH.6)	1-1/3" CF CUSTOM STUB FLANGE	2		
7	7110-025 (SH.6)	1-1/3" CF NIPPLE SUB-ASM	1		
PLOT DATE: 6/29/2007 CAD FILE NAME: 7110-025.idw					
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES: TOLERANCES ON: .00 ± .010 .000 ± .005 FRACTIONS ± 1/64 ANGLES ± 0.5° ALL SURFACES					
CORNELL UNIVERSITY FLOYD R. NEWMAN LABORATORY ITHACA, NY 14853					
ERL HORIZONTAL TEST CRYOMODULE 2 K CONTROL WIRES TUBING					
CHECKED BY: VM APPROVED BY: TIO	DRAWN BY: V.Medjdzade	DRAWN FOR: M.Liepe	DATE: 4/14/2007	SCALE: D	7110-025 SH. NO. 6 OF 11

REVISIONS				
SYM.	ZONE	DESCRIPTION	DATE	APP.

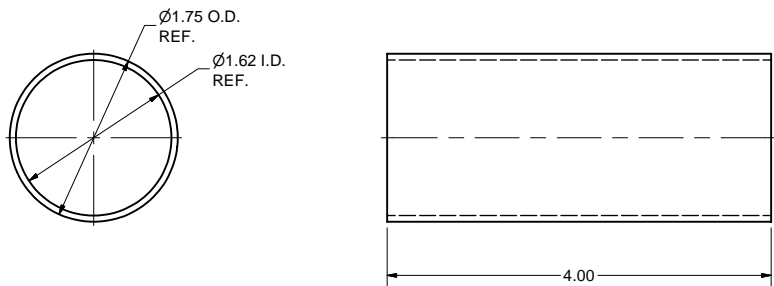
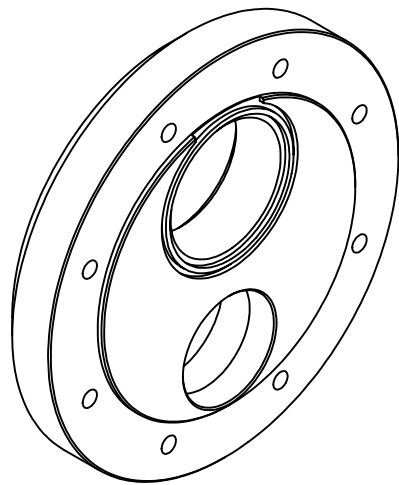


SECTION A-A

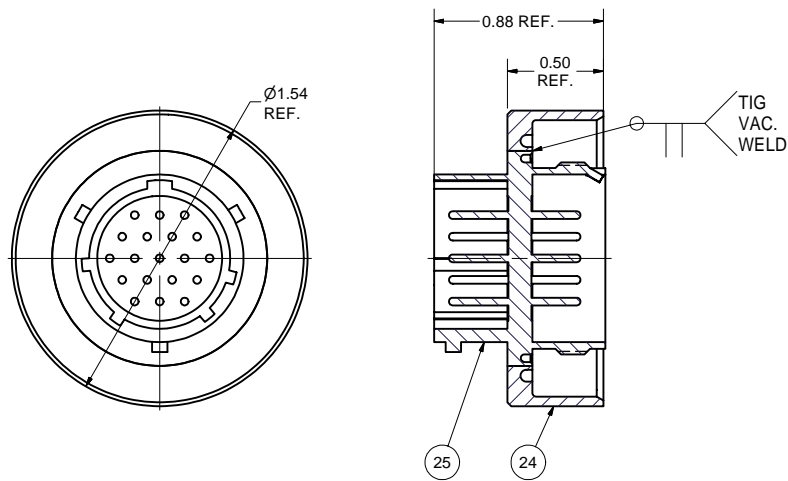
19 2 K WIRES 300 K FLANGE
FILE NAME: 7110-025
SHEET NO.: 7
DFT. SCALE: 1:1
MATERIAL: 304L ST. STEEL
QTY: 1 PER ASSEMBLY
NOTES:



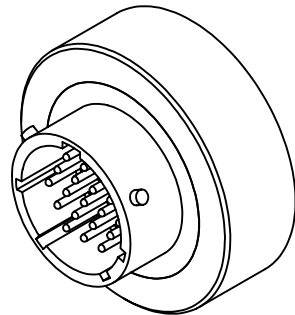
24 19-PIN FEEDTHROUGH TRANSITION
FILE NAME: 7110-025
SHEET NO.: 7
DFT. SCALE: 2:1
MATERIAL: 304L ST. STEEL
QTY: 1 PER ASSEMBLY
NOTES:



20 1-3/4" OD TUBE
FILE NAME: 7110-025
SHEET NO.: 7
DFT. SCALE: 1:1
MATERIAL: 1.75"OD x 0.065"W 304L ST. STEEL TUBE
QTY: 1 PER ASSEMBLY
NOTES:







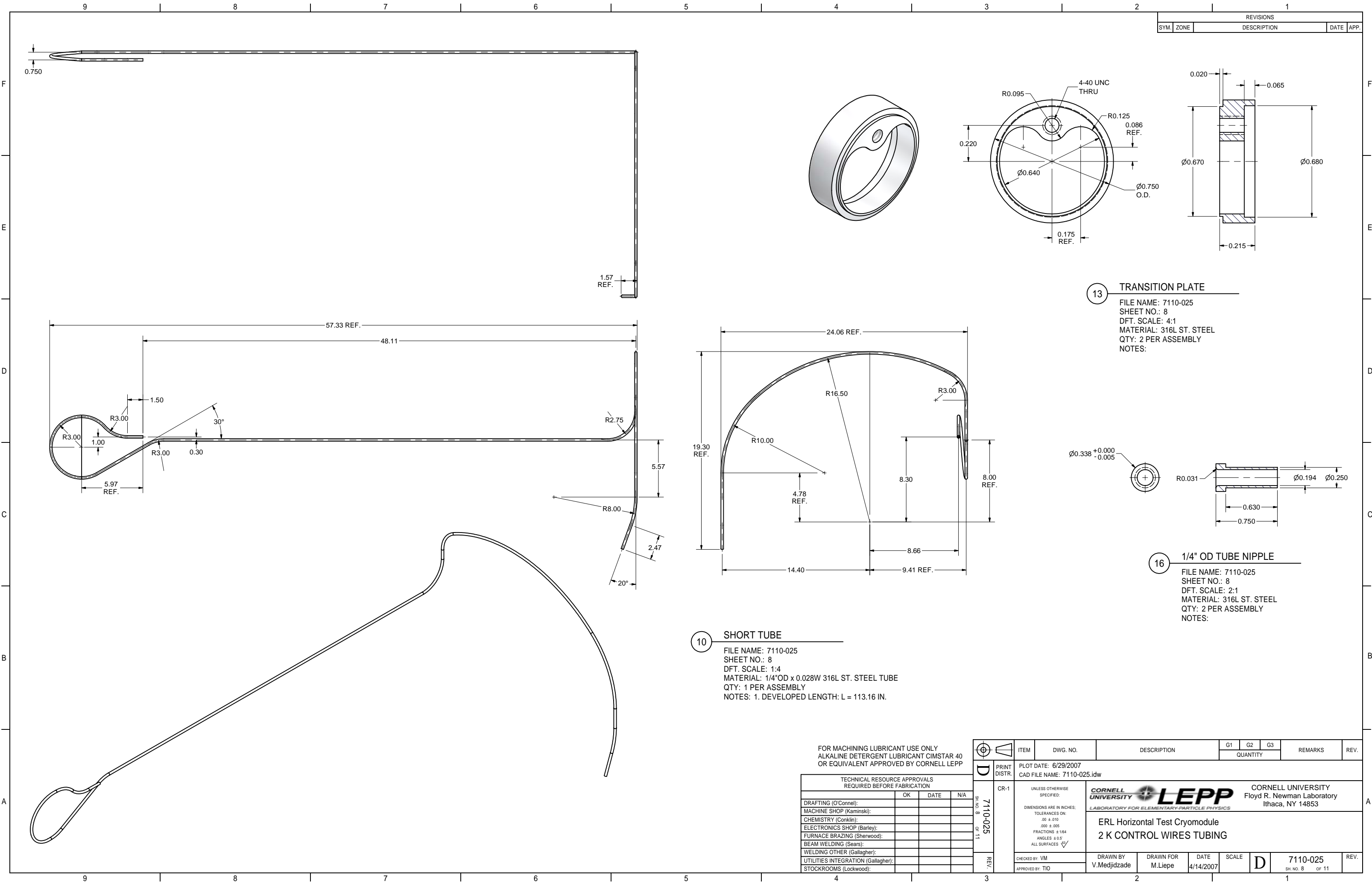
6 19-PIN FEEDTHROUGH SUB-ASM
FILE NAME: 7110-025
SHEET NO.: 7
DFT. SCALE: 2:3
MATERIAL:
QTY: 1 PER ASSEMBLY
NOTES:

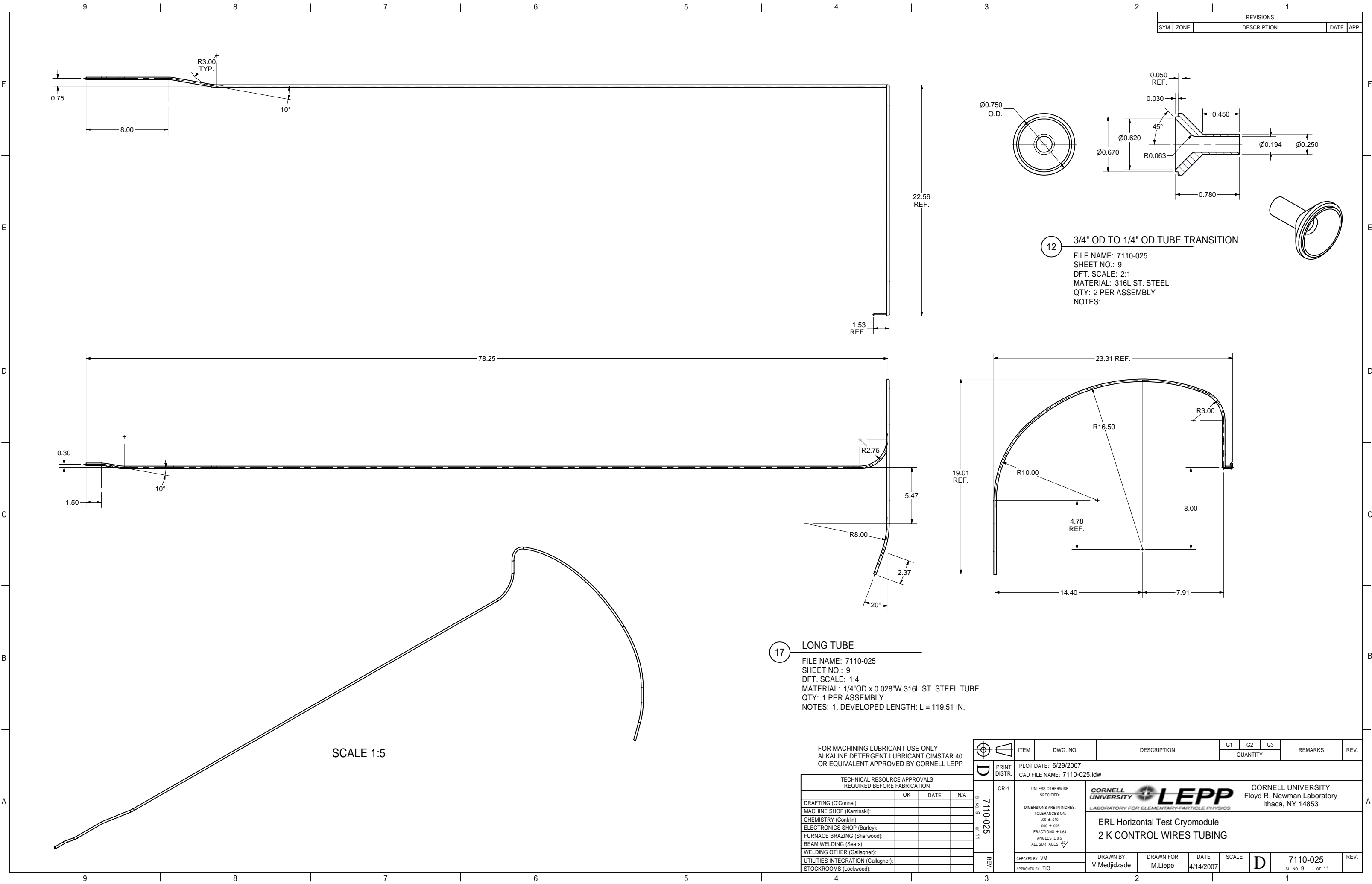


FOR MACHINING LUBRICANT USE ONLY
ALKALINE DETERGENT LUBRICANT CIMSTAR 40
OR EQUIVALENT APPROVED BY CORNELL LEPP

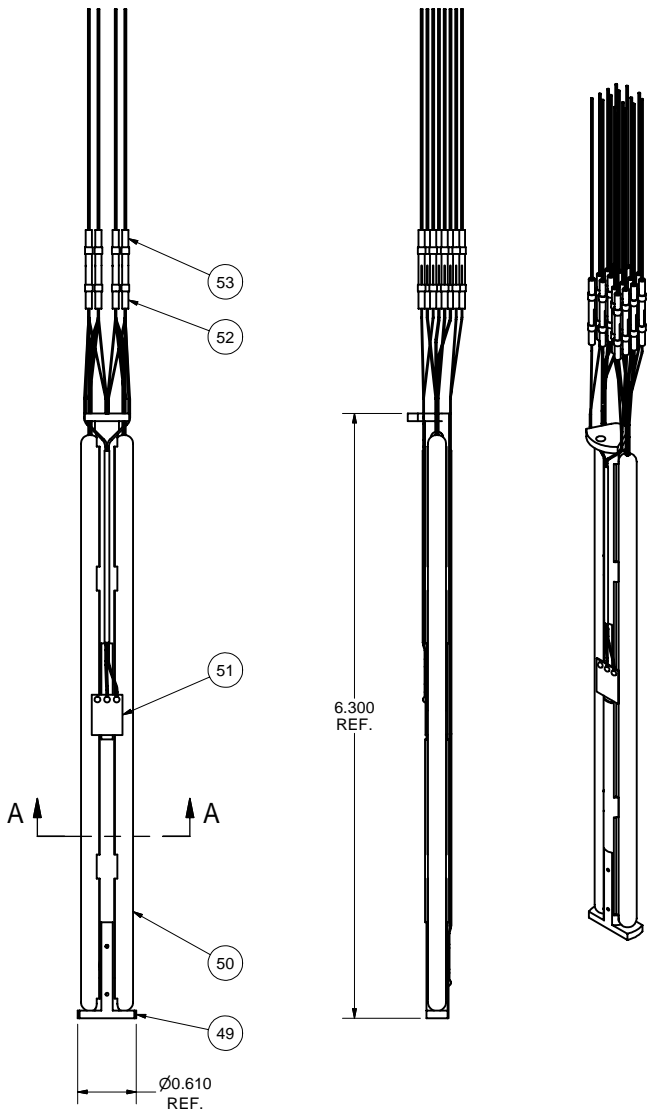
TECHNICAL RESOURCE APPROVALS REQUIRED BEFORE FABRICATION			
	OK	DATE	N/A
DRAFTING (O'Connell):			
MACHINE SHOP (Kaminski):			
CHEMISTRY (Conklin):			
ELECTRONICS SHOP (Barley):			
FURNACE BRAZING (Sherwood):			
BEAM WELDING (Sears):			
WELDING OTHER (Gallagher):			
UTILITIES INTEGRATION (Gallagher):			
STOCKROOMS (Lockwood):			

		ITEM	DWG. NO.	DESCRIPTION			G1	G2	G3	REMARKS		REV.
								QUANTITY				
	PRINT DISTR.	PLOT DATE: 6/29/2007 CAD FILE NAME: 7110-025.idw										
	CR-1	UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES: TOLERANCES ON: .00 ± .010 .000 ± .005 FRACTIONS ± 1/64 ANGLES ± 0.5° ALL SURFACES ✓			 CORNELL UNIVERSITY Floyd R. Newman Laboratory Ithaca, NY 14853					ERL Horizontal Test Cryomodule 2 K CONTROL WIRES TUBING		
SH. NO. 7 OF 11	7110-025											
REV.	CHECKED BY: VM APPROVED BY: TIO	DRAWN BY V.Medjdzade	DRAWN FOR M.Liepe	DATE 4/14/2007	SCALE		7110-025 SH. NO. 7 OF 11		REV.			



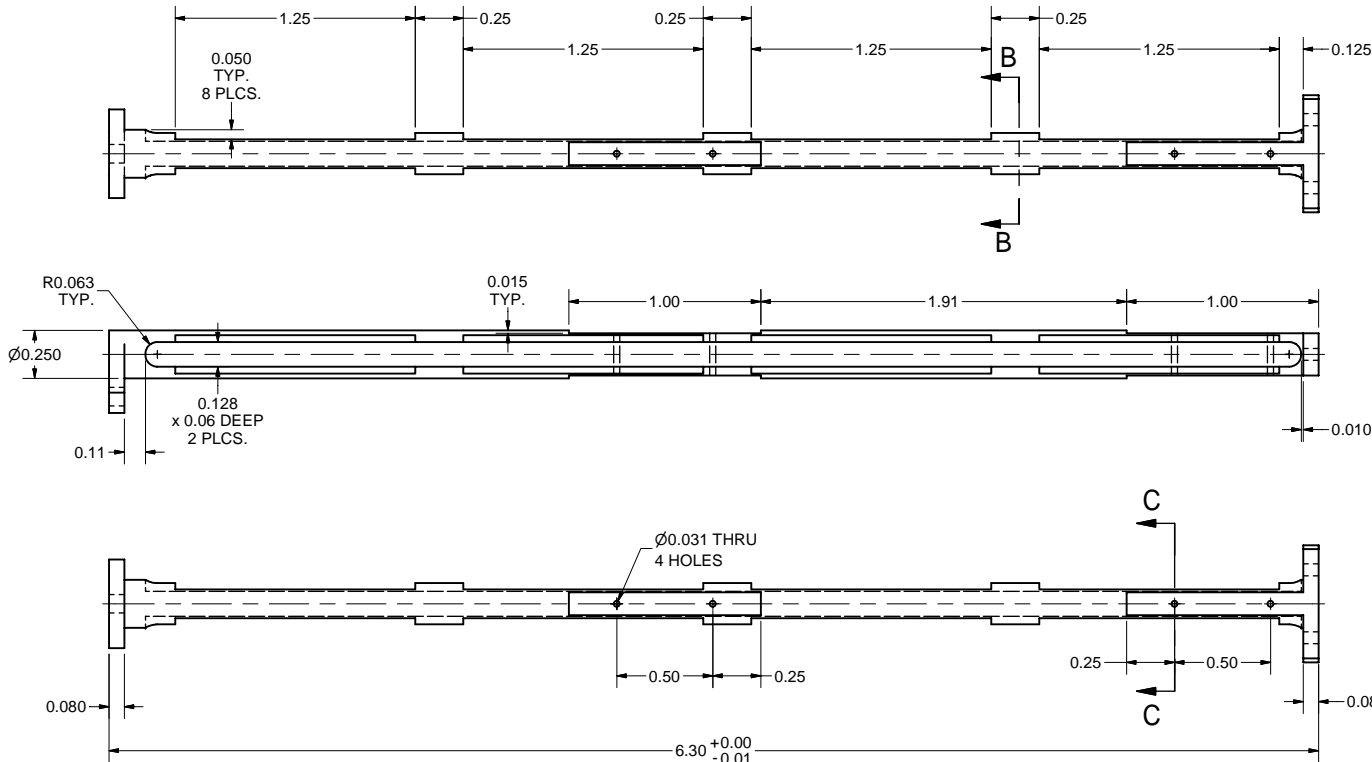
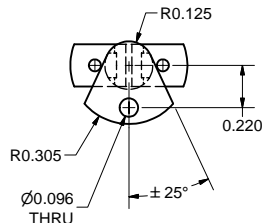


REVISIONS				
SYM.	ZONE	DESCRIPTION	DATE	APP.



SECTION A-A

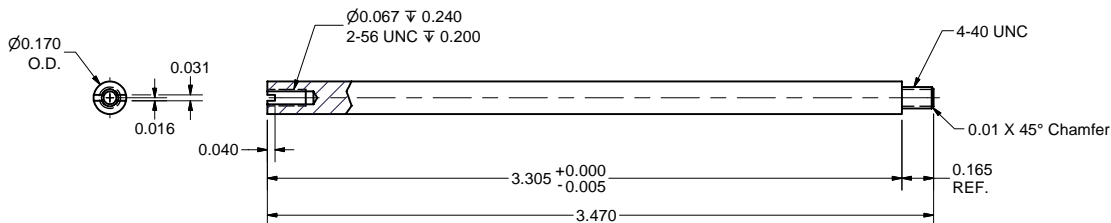
8 2 K SENSORS SUB-ASM
FILE NAME: 7110-025
SHEET NO.: 10
DFT. SCALE: 1:1
MATERIAL:
QTY: 2 PER ASSEMBLY
NOTES:



SECTION B-B

SECTION C-C

49 2 K SENSORS G-10 BASE
FILE NAME: 7110-025
SHEET NO.: 10
DFT. SCALE: 2:1
MATERIAL: G-10
QTY: 2 PER ASSEMBLY
NOTES:



31 2 K SENSORS ST. STEEL POST
FILE NAME: 7110-025
SHEET NO.: 10
DFT. SCALE: 2:1
MATERIAL: 316L ST. STEEL
QTY: 2 PER ASSEMBLY
NOTES:

FOR MACHINING LUBRICANT USE ONLY
ALKALINE DETERGENT LUBRICANT CIMSTAR 40
OR EQUIVALENT APPROVED BY CORNELL LEPP

TECHNICAL RESOURCE APPROVALS REQUIRED BEFORE FABRICATION			
	OK	DATE	N/A
DRAFTING (O'Connell):			
MACHINE SHOP (Kaminski):			
CHEMISTRY (Conklin):			
ELECTRONICS SHOP (Barley):			
FURNACE BRAZING (Sherwood):			
BEAM WELDING (Sears):			
WELDING OTHER (Gallagher):			
UTILITIES INTEGRATION (Gallagher):			
STOCKROOMS (Lockwood):			

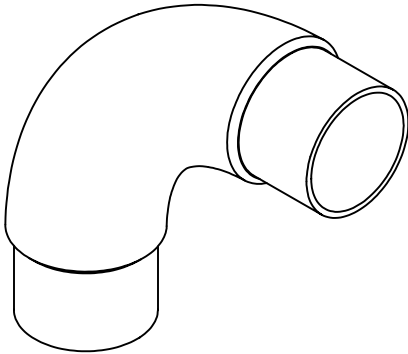
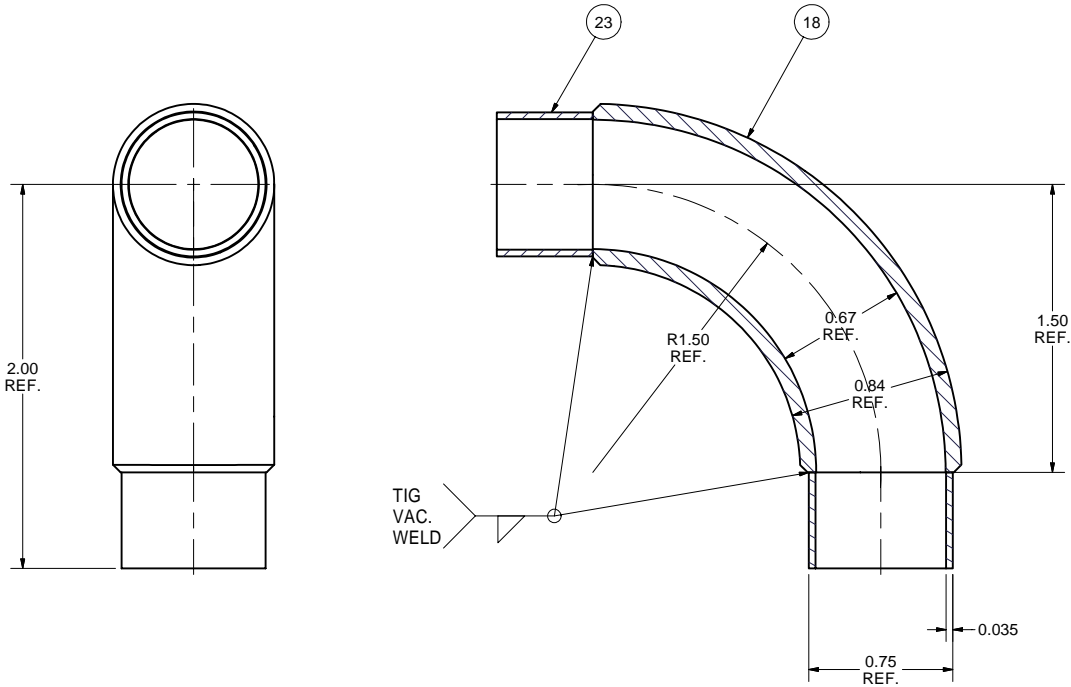
ITEM	DWG. NO.	DESCRIPTION	G1	G2	G3	REMARKS	REV.
53	-	1 MM PIN (FEMALE)	16				
52	-	1 MM PIN (MALE)	16				
51	-	CLTS SENSOR	2				
50	-	5" LIQUID HELIUM LEVEL SENSOR	2				
49	7110-025 (SH.10)	2 K SENSORS G-10 BASE	1				
8	7110-025 (SH.10)	2 K SENSORS SUB-ASM	X				
PLOT DATE: 6/29/2007 CAD FILE NAME: 7110-025.idw							
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES: TOLERANCES ON: .00 ±.010 .000 ±.005 FRACTIONS ± 1/64 ANGLES ± 0.5° ALL SURFACES							
CHECKED BY: VM APPROVED BY: TIO		DRAWN BY V.Medjdzade	DRAWN FOR M.Liepe	DATE 4/14/2007	SCALE D	7110-025 SH. NO. 10 OF 11	REV.



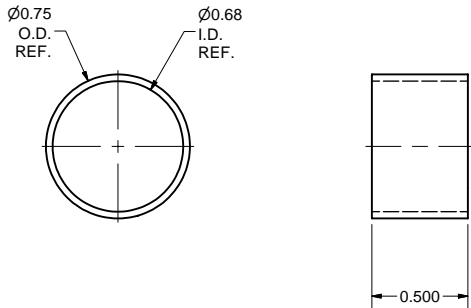
ERL Horizontal Test Cryomodule
2 K CONTROL WIRES TUBING

CORNELL UNIVERSITY
Floyd R. Newman Laboratory
Ithaca, NY 14853

REVISIONS			
SYM.	ZONE	DESCRIPTION	DATE APP.



15 3/4" OD TUBE 90 DEG. ELBOW SUB-ASM
FILE NAME: 7110-025
SHEET NO.: 11
DFT. SCALE: 2:1
MATERIAL:
QTY: 2 PER ASSEMBLY
NOTES:



23 3/4" OD TUBE SHORT STUB
FILE NAME: 7110-025
SHEET NO.: 11
DFT. SCALE: 2:1
MATERIAL: 3/4"OD x 0.035"W 316L ST. STEEL
QTY: 4 PER ASSEMBLY
NOTES:

FOR MACHINING LUBRICANT USE ONLY
ALKALINE DETERGENT LUBRICANT CIMSTAR 40
OR EQUIVALENT APPROVED BY CORNELL LEPP

TECHNICAL RESOURCE APPROVALS REQUIRED BEFORE FABRICATION			
	OK	DATE	N/A
DRAFTING (O'Connell):			
MACHINE SHOP (Kaminski):			
CHEMISTRY (Conklin):			
ELECTRONICS SHOP (Barley):			
FURNACE BRAZING (Sherwood):			
BEAM WELDING (Sears):			
WELDING OTHER (Gallagher):			
UTILITIES INTEGRATION (Gallagher):			
STOCKROOMS (Lockwood):			



PRINT
DISTR.

7110-025
SH. NO. 11 OF 11

REV.

ITEM	DWG. NO.	DESCRIPTION	G1	G2	G3	REMARKS	REV.
23	7110-025 (SH.11)	3/4" OD TUBE SHORT STUB	2				
18	-	Female 90 deg. Elbow, 1/2" Pipe, 316L St.St.	1			McMaster-Carr's 43645K311	
15	7110-025 (SH.11)	3/4" OD TUBE 90 DEG. ELBOW SUB-ASM	X				

PLOT DATE: 6/29/2007 CAD FILE NAME: 7110-025.idw		UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES: TOLERANCES ON: .00 ± .010 .000 ± .005 FRACTIONS ± 1/64 ANGLES ± 0.5° ALL SURFACES		CORNELL UNIVERSITY FLOYD R. NEWMAN LABORATORY ITHACA, NY 14853	
ERL Horizontal Test Cryomodule 2 K CONTROL WIRES TUBING		DRAWN BY V.Medjdzade		DATE 4/14/2007	
CHECKED BY: VM APPROVED BY: TIO		SCALE D		7110-025 SH. NO. 11 OF 11	