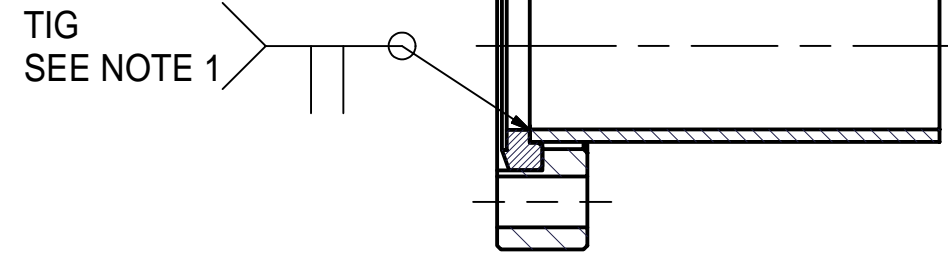
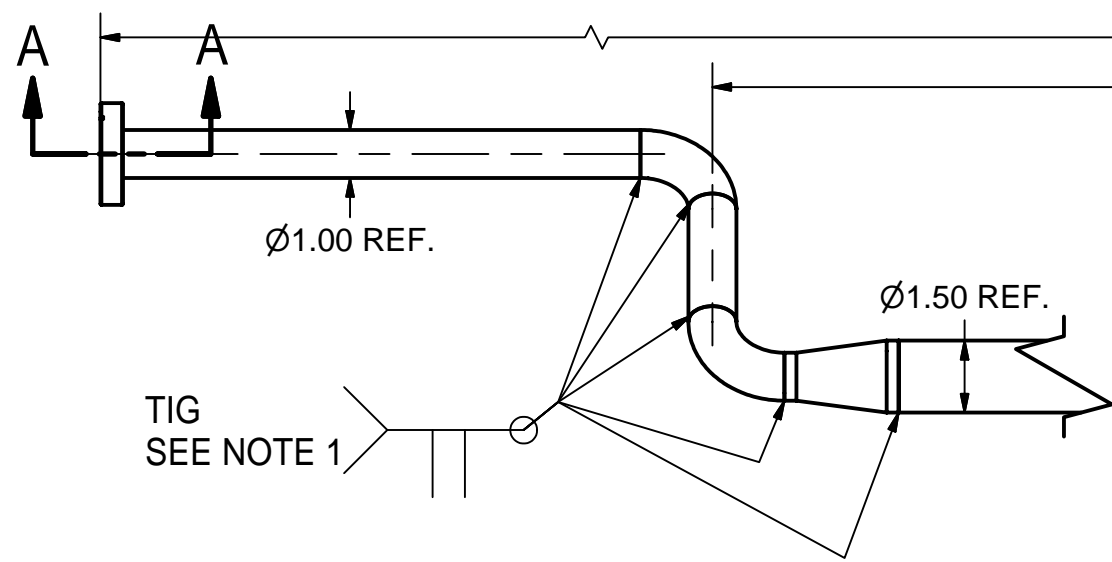
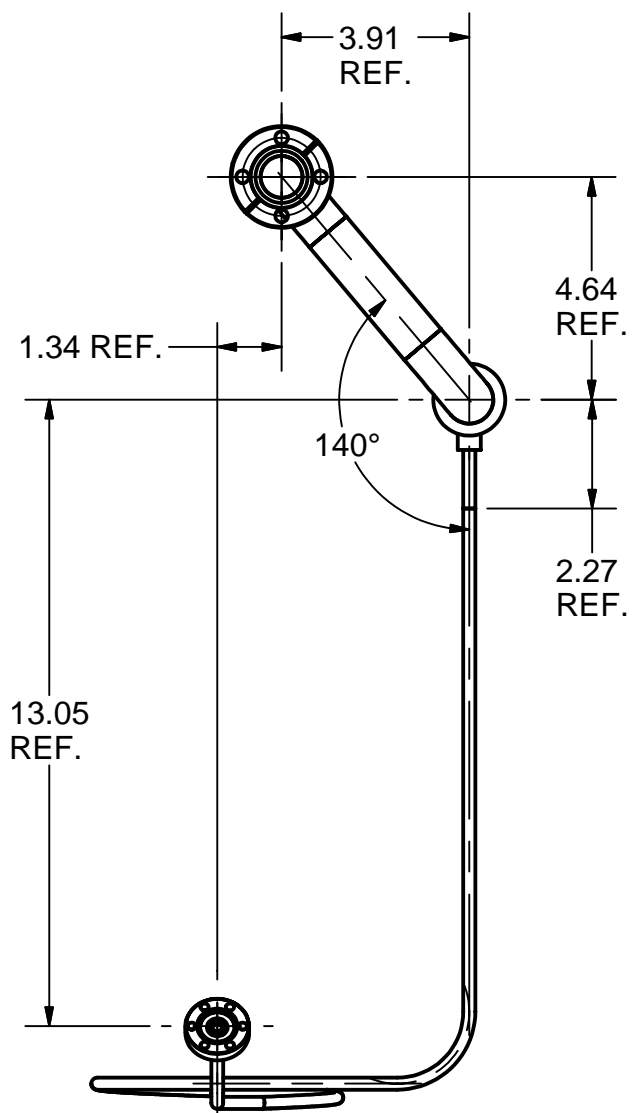
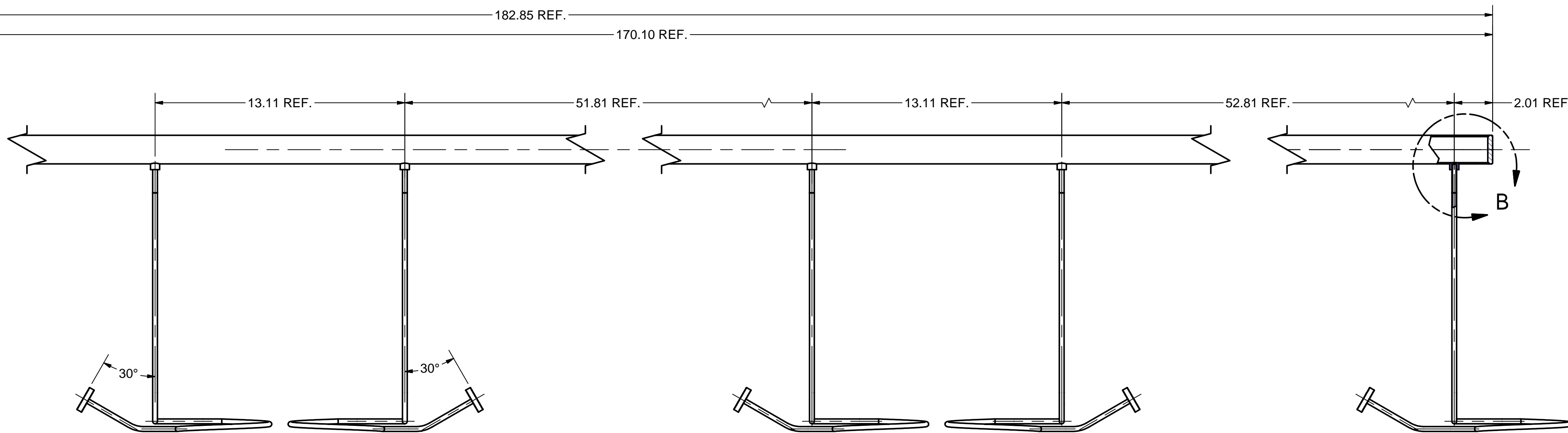


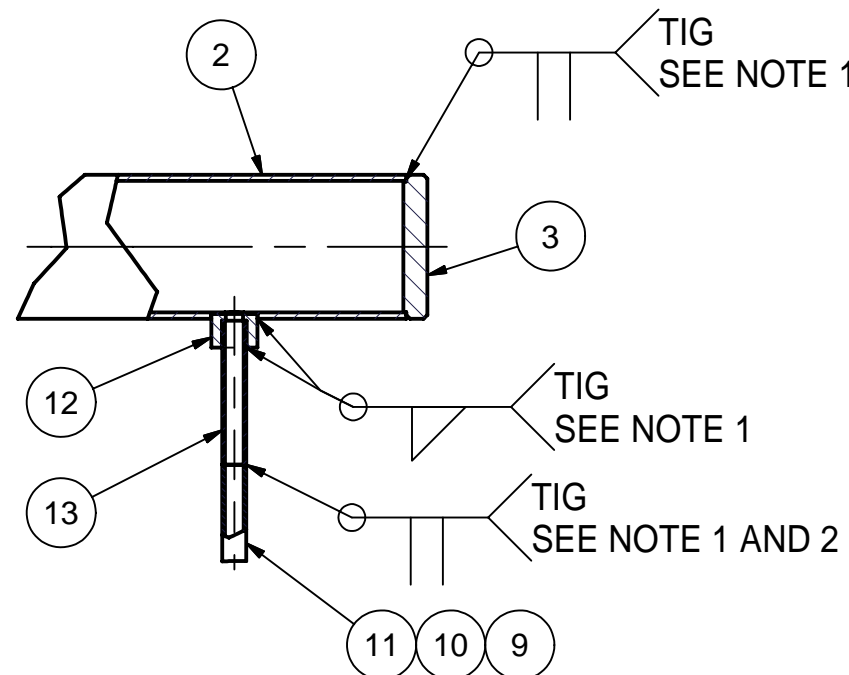
REVISIONS				
SYM.	ZONE	DESCRIPTION	DATE	APP.



SECTION A-A
SCALE 1 : 1






- 1 WARM-UP / COOL-DOWN PIPE, ASM
- FILE NAME: 7102-060
SHEET NO.: 1
DFT. SCALE: 1:4
MATERIAL:
QTY: 1
NOTES: 1. WELDS TO CONFORM TO UHV SPECS.
2. MAKE THIS WELD DURING FINAL CRYOMODULE ASSEMBLY,
SHIP WELDED PARTS ITEM 9, 10, 11 SEPARATELY.
3. MAKE LN THERMAL COLD SHOCK AND LEAK TEST: LEAK TEST <2.0E-10 TORR-L/SEC.



DETAIL B
SCALE 1 / 2

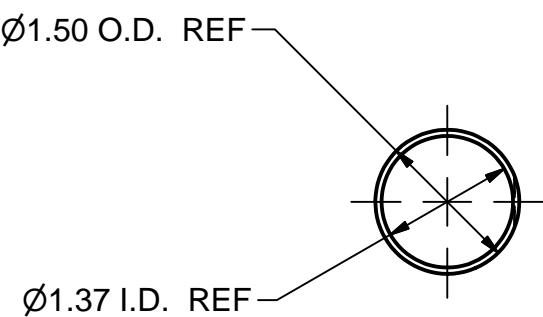
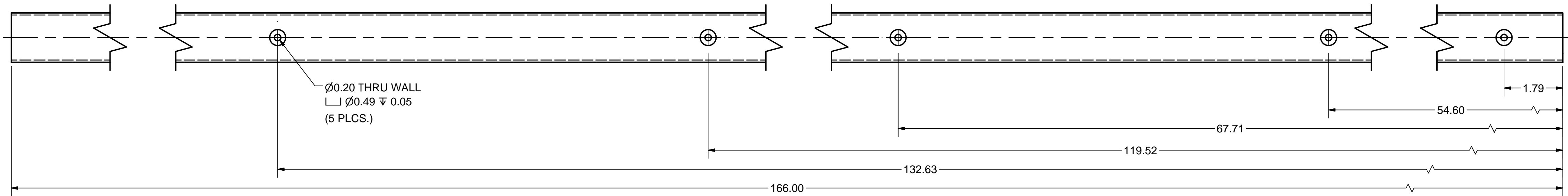
Release of final PO version for Meyer Tool - June 19, 2007.

13	7102-060 (SH. 3)	0.25" OD TUBE STUB	5				
12	7102-060 (SH. 3)	0.25" WELD COUPLING	5				
11	7102-060 (SH. 5)	0.25" CURVED TUBE III, SUB-ASM	1				
10	7102-060 (SH. 4)	0.25" CURVED TUBE II, SUB-ASM	2				
9	7102-060 (SH. 3)	0.25" CURVED TUBE I, SUB-ASM	2				
8	PUR.	2-1/8" CF 1" TUBE Rotatable Flange, 316L S.S.	1			VARIAN'S F0212-0100-RC OR EQUIV.	
7	7102-060 (SH. 2)	1" TUBE TO FLANGE	1				
6	7102-060 (SH. 2)	1" OD TUBE	1				
5	PUR.	1"OD, 90 DEG. ELBOW, 316L S.S.	2			VARIAN'S WE90100 OR EQUIV.	
4	PUR.	1.5" OD to 1" OD CONICAL REDUCER, 316L S.S.	1			VARIAN'S WRC150100 OR EQUIV.	
3	7102-060 (SH. 2)	1.5" OD END CAP	1				
2	7102-060 (SH. 2)	1-1/2" OD TUBE	1				
1	7102-060 (SH. 1)	WARM-UP/COOL-DOWN PIPE ASM	1	X			

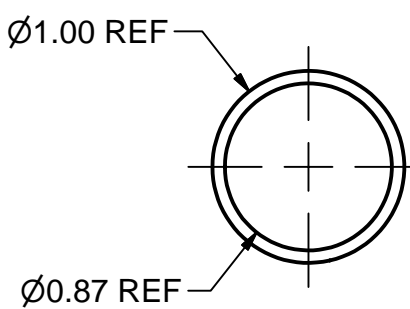
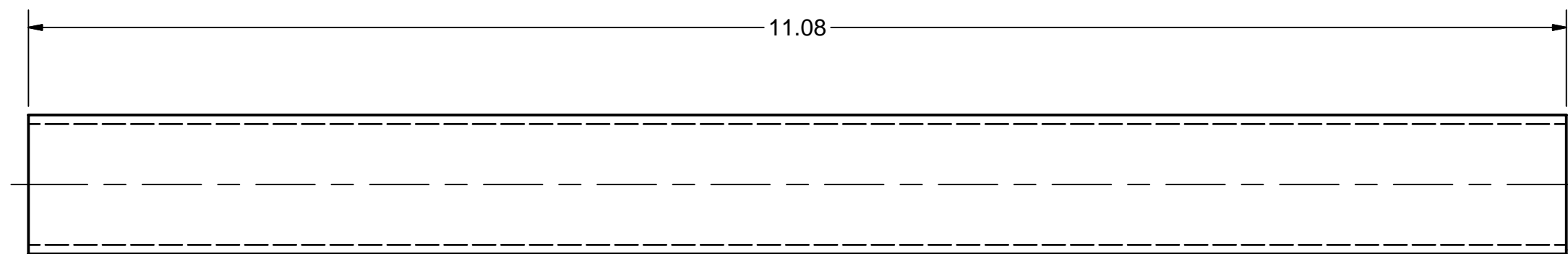
		ITEM	DWG. NO.	DESCRIPTION			G1	G2	G3	REMARKS	REV.
					QUANTITY						
D	PRINT DISTR.	PLOT DATE: 6/19/2007 CAD FILE NAME: 7102-060.idw									
	7102-060 SH. NO. 1 OF 5	CR-1	UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES; TOLERANCES ON: .0 ± .02 .00 ± .010 .000 ± .005 FRACTIONS ± 1/32 ANGLES ± 0.5° ALL SURFACES 		<div><div>CORNELL UNIVERSITY Floyd R. Newman Laboratory Ithaca, NY 14853</div></div> <div>ERL Injector Cryomodule Warm-up / Cool-Down Pipe Assembly</div>						
CHECKED BY: VM		DRAWN BY	DRAWN FOR	DATE	SCALE	D	7102-060	REV.			
APPROVED BY: ML		RHE/Di	M.Liepe	6/9/2006			SH. NO. 1 OF 5				

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OR EQUIVALENT APPROVED BY CORNELL LEPP

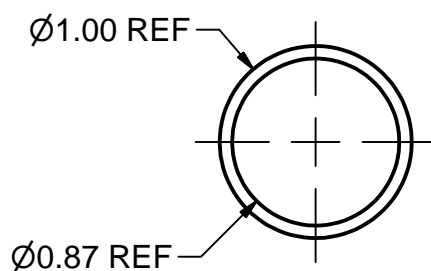
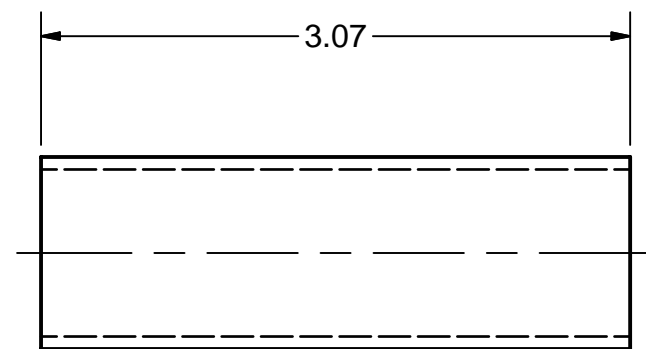
REVISIONS				
SYM.	ZONE	DESCRIPTION	DATE	APP.



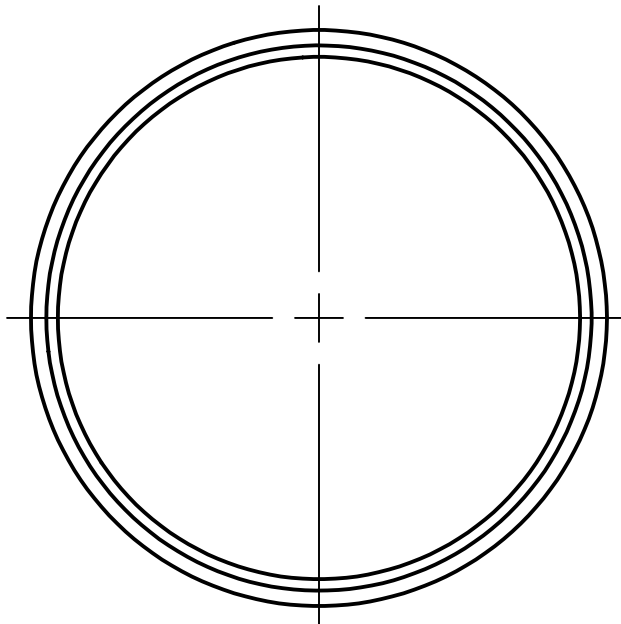
2 1-1/2" OD TUBE
FILE NAME: 7102-060
SHEET NO.: 2
DFT. SCALE: 1 : 2
MATERIAL: 1.5" OD x 0.065" W, UHV GRADE 316L STAINLESS STEEL TUBE
QTY: 1
NOTES:



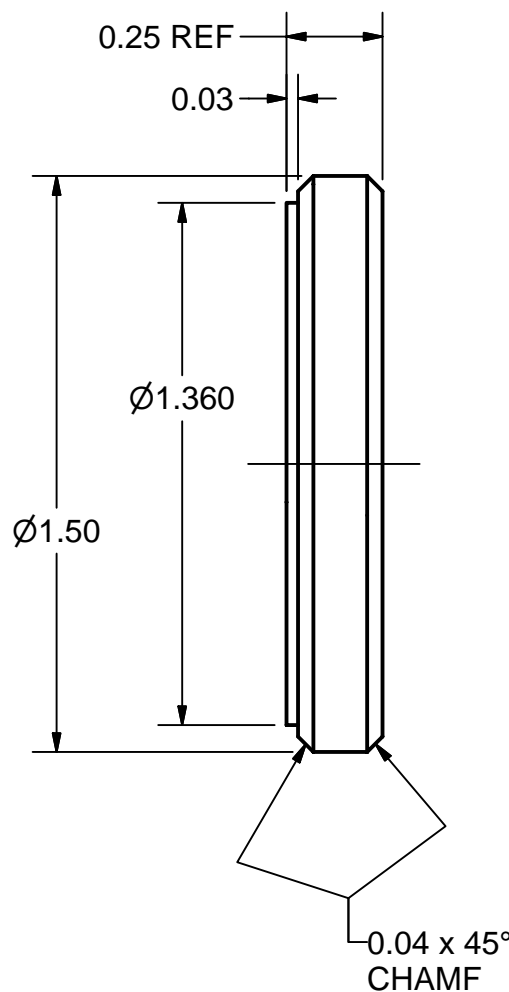
7 1" TUBE TO FLANGE
FILE NAME: 7102-060
SHEET NO.: 2
DFT. SCALE: 1 : 1
MATERIAL: 1" OD x 0.065" W, UHV GRADE 316L STAINLESS STEEL TUBE
QTY: 1
NOTES:



6 1" OD TUBE
FILE NAME: 7102-060
SHEET NO.: 2
DFT. SCALE: 1 : 1
MATERIAL: 1" OD x 0.065" W, UHV GRADE 316L STAINLESS STEEL TUBE
QTY: 1
NOTES:

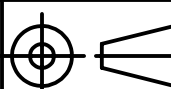







3 1.5" OD END CAP
FILE NAME: 7102-060
SHEET NO.: 2
DFT. SCALE: 2 : 1
MATERIAL: 1/4" 316L STAINLESS STEEL SHEET
QTY: 1
NOTES:

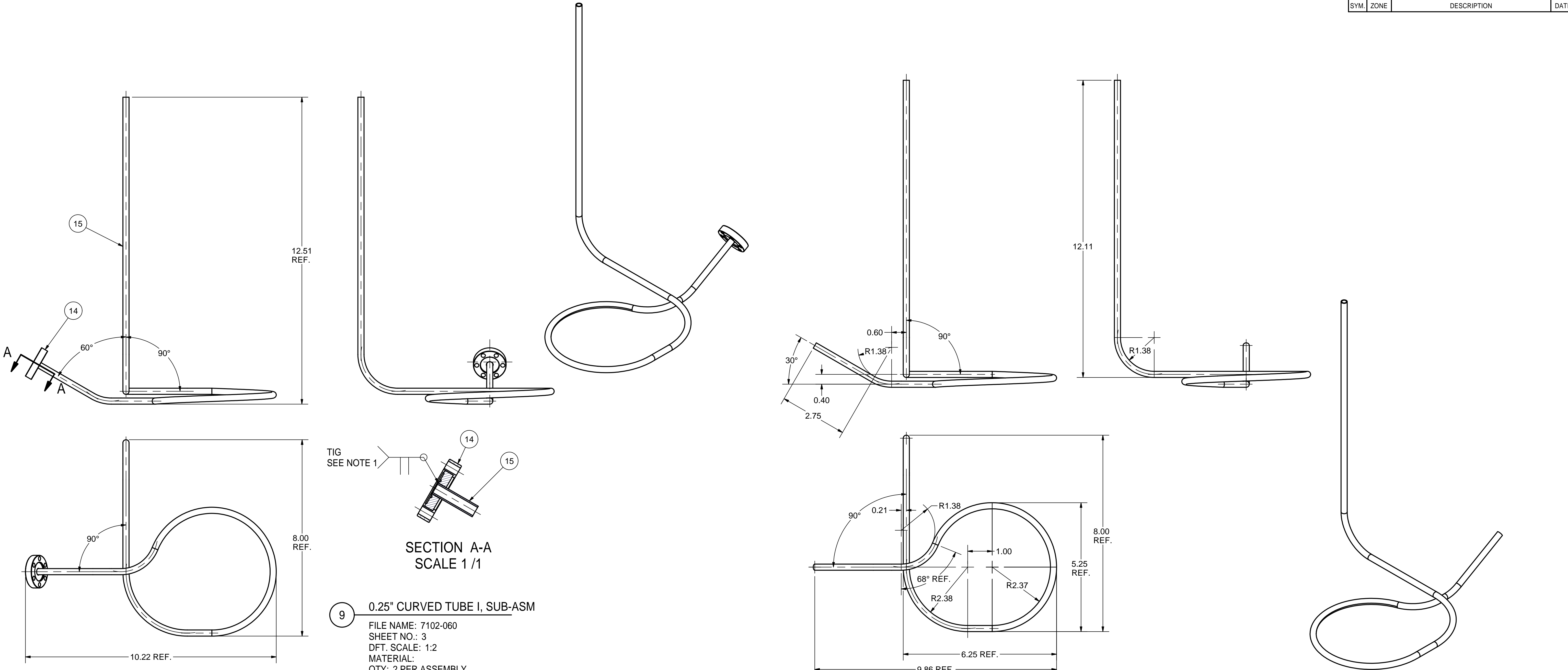


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Release of final PO version for Meyer Tool - June 19, 2007.

		ITEM	DWG. NO.	DESCRIPTION			G1	G2	G3	REMARKS	REV.
					QUANTITY						
	PRINT DISTR.	PLOT DATE: 6/19/2007 CAD FILE NAME: 7102-060.idw									
	7102-060 SH. NO. 2 OF 5	CR-1	UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES: TOLERANCES ON: .0 ± .02 .00 ± .010 .000 ± .005 FRACTIONS ± 1/32 ANGLES ± 0.5° ALL SURFACES 		  CORNELL UNIVERSITY Floyd R. Newman Laboratory Ithaca, NY 14853 ERL Injector Cryomodule Warm-up / Cool-Down Pipe Large Tubes and Cap, Details						
REV.		CHECKED BY: VM APPROVED BY: ML	DRAWN BY RHE/Di	DRAWN FOR M.Liepe	DATE 6/9/2006	SCALE		7102-060 SH. NO. 2 OF 5		REV.	

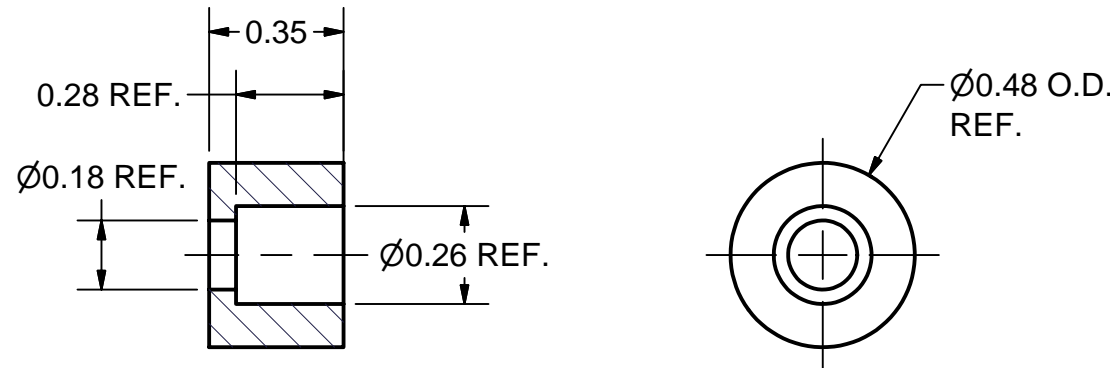
REVISIONS			
SYM.	ZONE	DESCRIPTION	DATE APP.



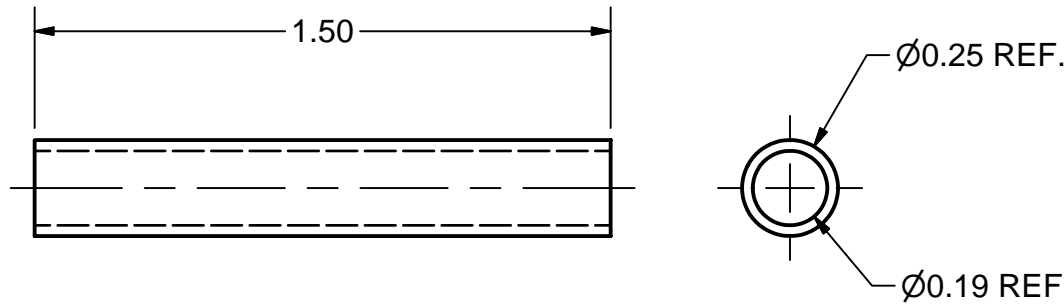
SECTION A-A
SCALE 1 / 1

9 0.25" CURVED TUBE I, SUB-ASM
FILE NAME: 7102-060
SHEET NO.: 3
DFT. SCALE: 1:2
MATERIAL:
QTY: 2 PER ASSEMBLY
NOTES: 1. WELDS TO CONFORM TO UHV SPECS.

15 0.25" OD CURVED TUBE I
FILE NAME: 7102-060
SHEET NO.: 3
DFT. SCALE: 1:2
MATERIAL: 1/4" OD x 0.028" W, UHV GRADE 316L STAINLESS STEEL TUBE
QTY: 2 PER ASSEMBLY
NOTES: 1. DEVELOPED LENGHT L=38,04 IN



12 0.25" WELD COUPLING
FILE NAME: 7102-060
SHEET NO.: 3
DFT. SCALE: 2:1
MATERIAL: SWAGelok Union Pt. no. SS-4-TSW-6 OR EQUIV.
QTY: 5 PER ASSEMBLY
NOTES:

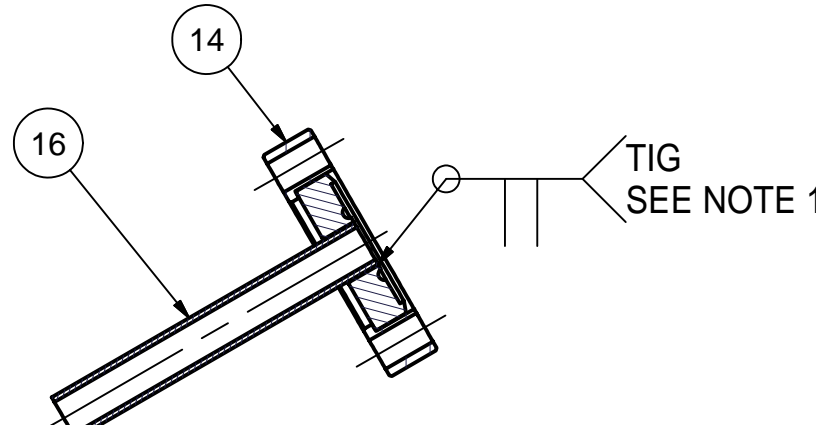
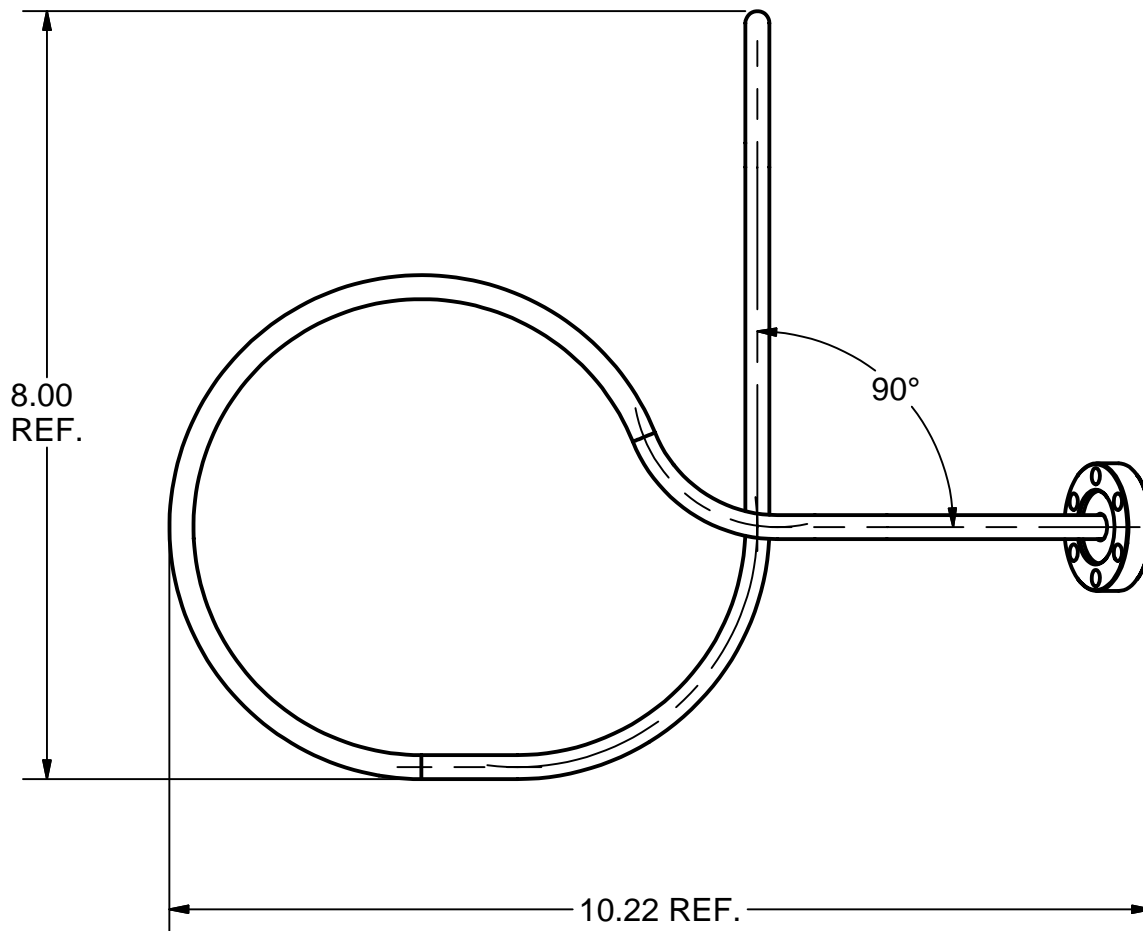
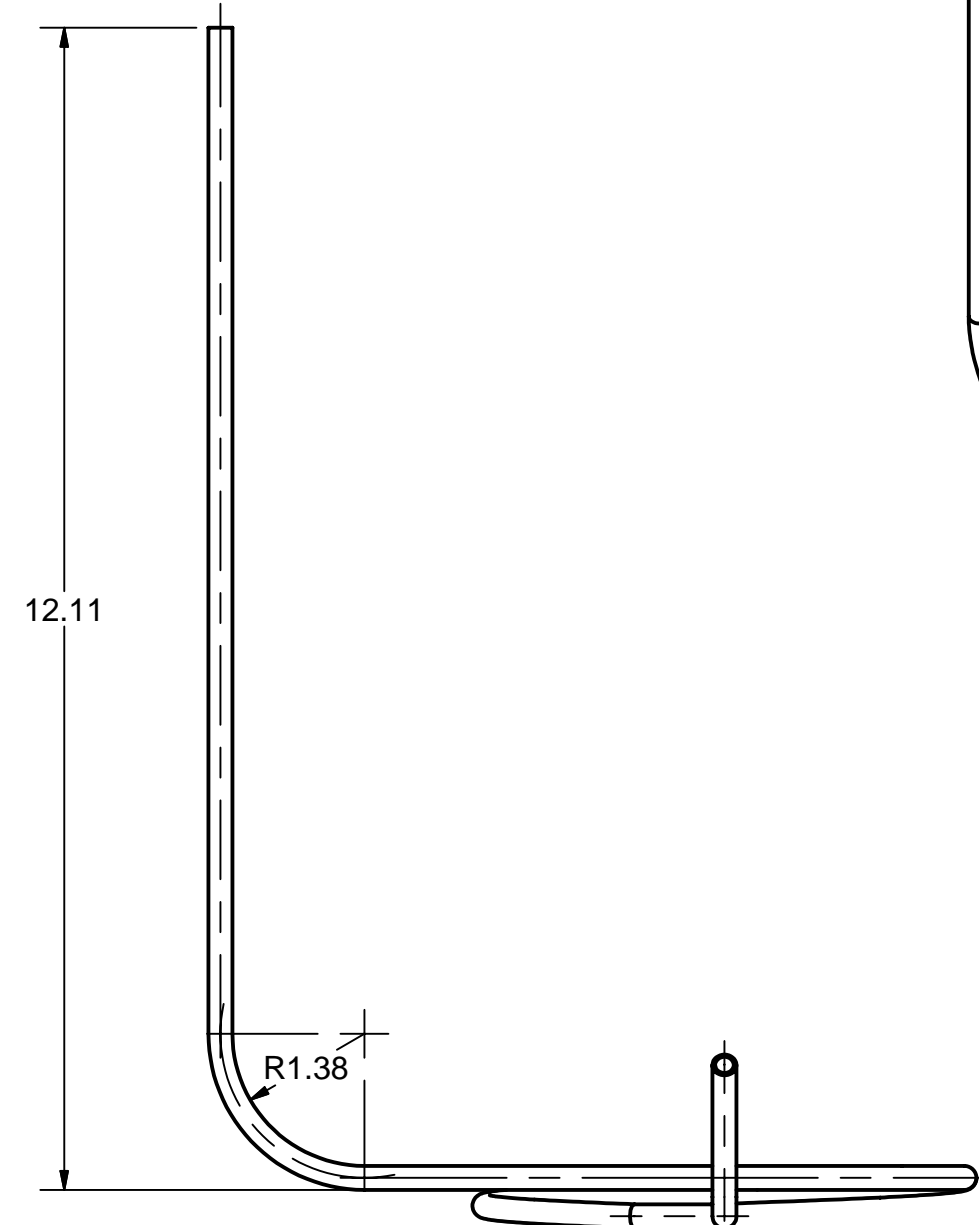
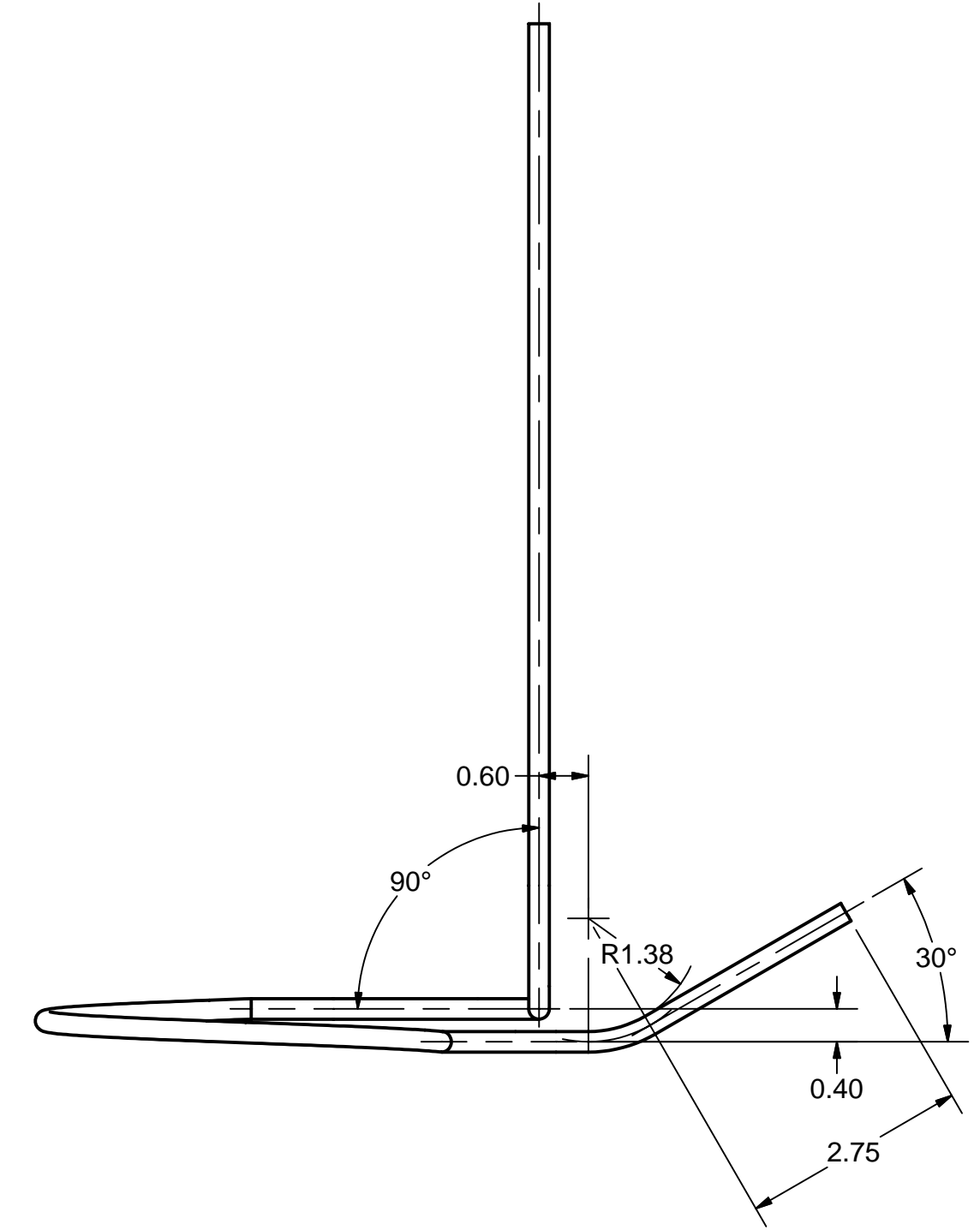
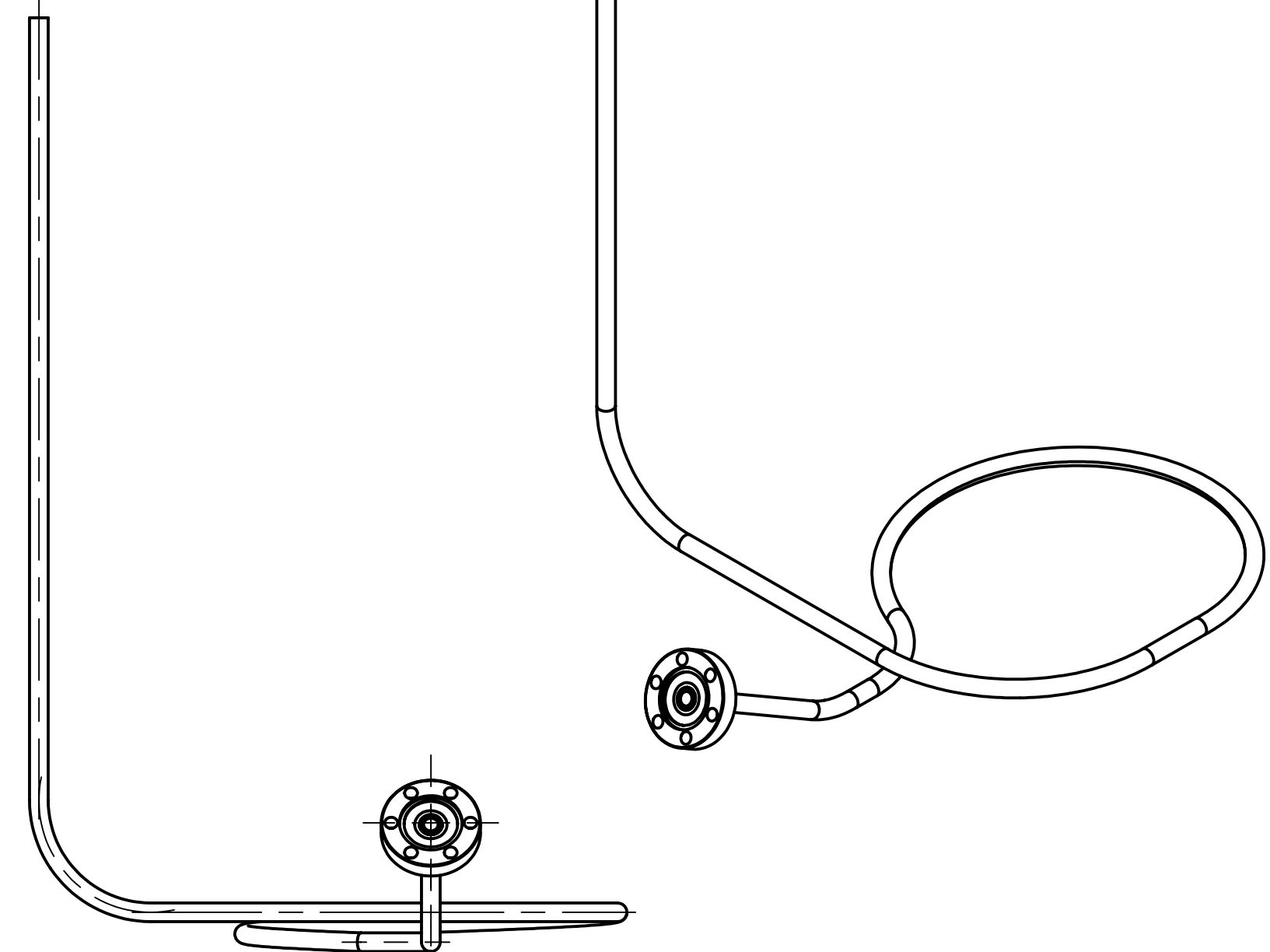
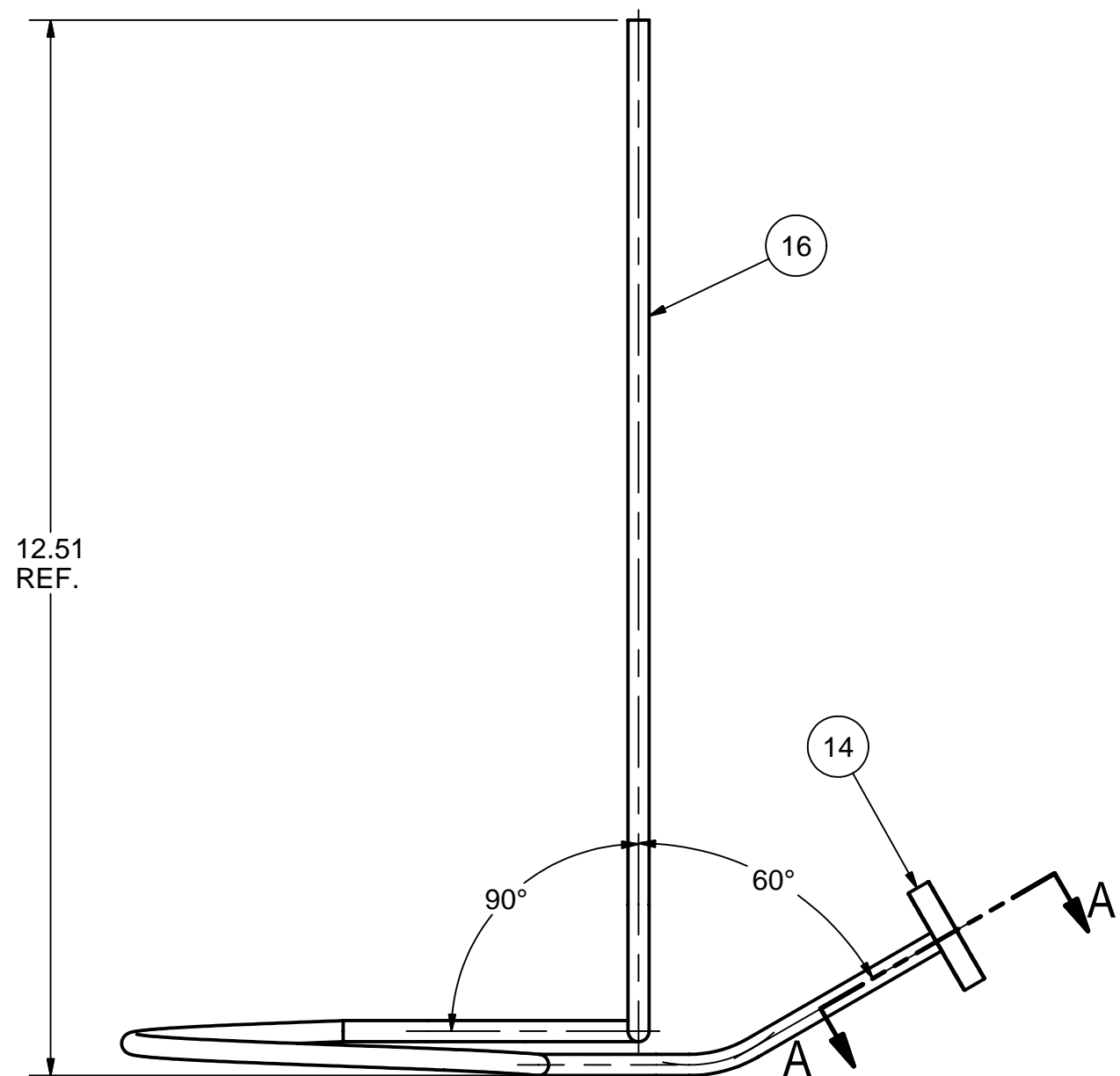


13 0.25" OD TUBE STUB
FILE NAME: 7102-060
SHEET NO.: 3
DFT. SCALE: 2:1
MATERIAL: 1/4" OD x 0.028" W, UHV GRADE 316L STAINLESS STEEL TUBE
QTY: 5 PER ASSEMBLY
NOTES:

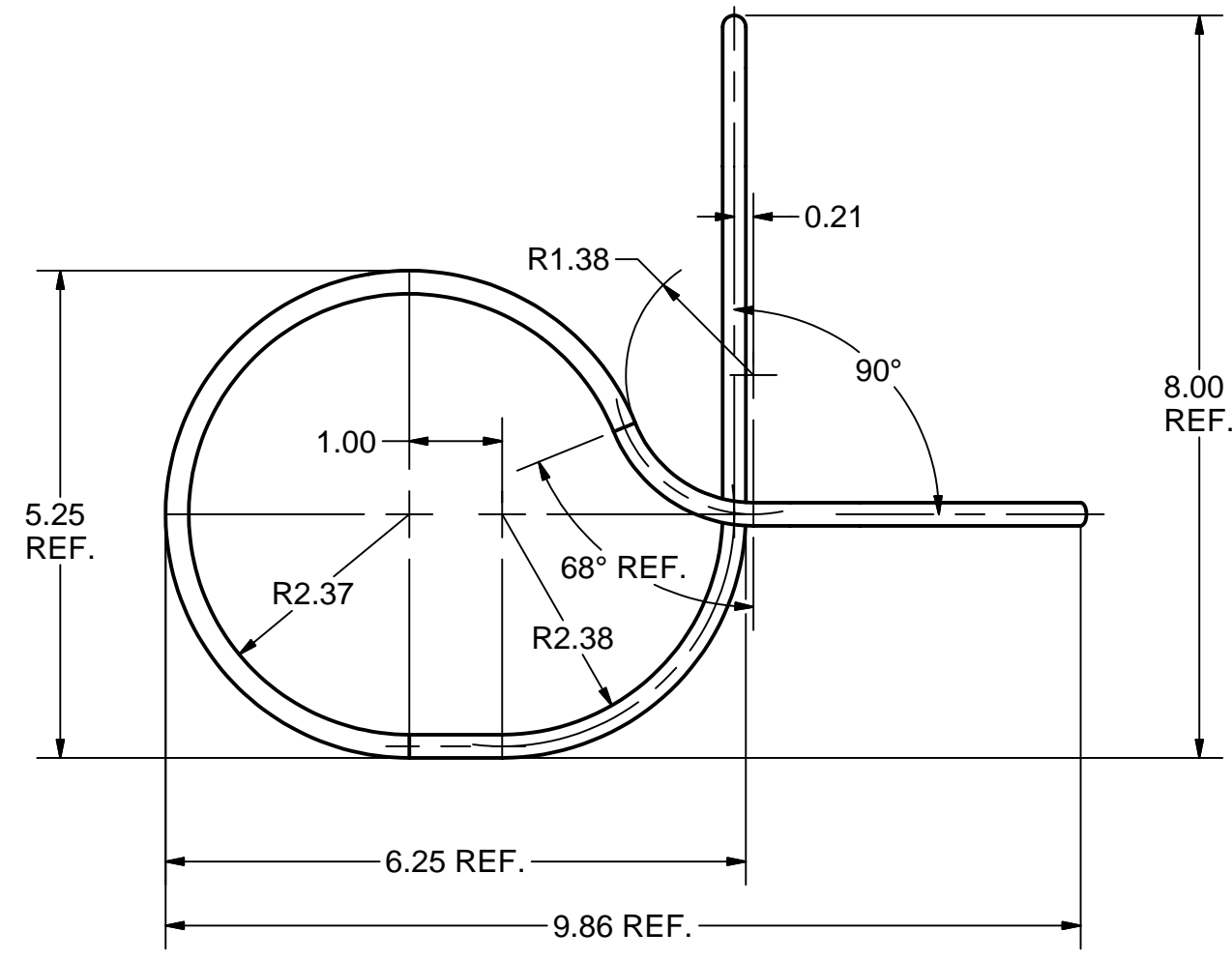
Release of final PO version for Meyer Tool - June 19, 2007.

15	7102-060 (SH. 7)	0.25" OD CURVED TUBE I	1					
14	PUR.	1-1/3" CF Rotatable 0.25" Tube Flange, 316L S.S.	1					VARIAN'S F0133-0025-RC6 OR EQUIV.
9	7102-060 (SH. 3)	0.25" CURVED TUBE I, SUB-ASM	X	1				
ITEM	DWG. NO.	DESCRIPTION	G1	G2	G3	QUANTITY	REMARKS	REV.
D	PRINT DISTR.	PLOT DATE: 6/19/2007 CAD FILE NAME: 7102-060.idw						
7102-060 SH. NO. 3 OF 5	CR-1	UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES; TOLERANCES ON: .0 ± .02 .00 ± .010 .000 ± .005 FRACTIONS ± 1/32 ANGLES ± 0.5° ALL SURFACES	CORNELL UNIVERSITY LEPP LABORATORY FOR ELEMENTARY-PARTICLE PHYSICS CORNELL UNIVERSITY Floyd R. Newman Laboratory Ithaca, NY 14853 ERL Injector Cryomodule Warm-up / Cool-Down Pipe 0.25" Curved Tube I, Sub-Asm					
REV.	CHECKED BY: VM APPROVED BY: ML	DRAWN BY: RHE/Di	DRAWN FOR: M.Liepe	DATE: 6/9/2006	SCALE: D	7102-060 SH. NO. 3 OF 5	REV.	

REVISIONS				
SYM.	ZONE	DESCRIPTION	DATE	APP.



SECTION A-A
SCALE 1 / 1



16 0.25" OD CURVED TUBE II
FILE NAME: 7102-060
SHEET NO.: 4
DFT. SCALE: 1:2
MATERIAL: 1/4" OD x 0.028" W, UHV GRADE 316L STAINLESS STEEL TUBE
QTY: 2 PER ASSEMBLY
NOTES: 1. DEVELOPED LENGHT L=38,04 IN

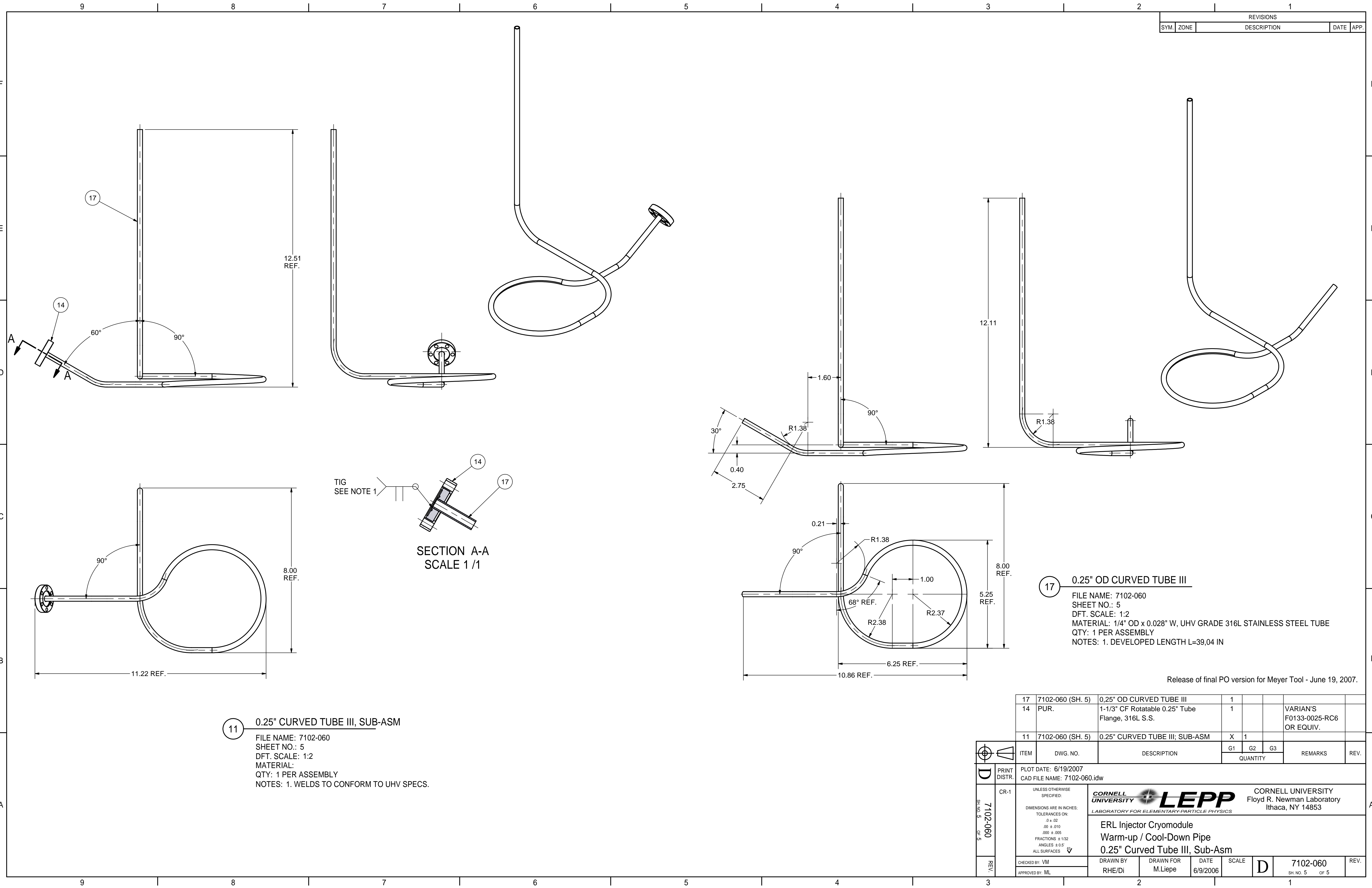
10 0.25" CURVED TUBE II, SUB-ASM
FILE NAME: 7102-060
SHEET NO.: 4
DFT. SCALE: 1:2
MATERIAL:
QTY: 2 PER ASSEMBLY
NOTES: 1. WELDS TO CONFORM TO UHV SPECS.

Release of final PO version for Meyer Tool - June 19, 2007.

16	7102-060 (SH. 4)	0.25" OD CURVED TUBE II	1						
14	PUR.	1-1/3" CF Rotatable 0.25" Tube Flange, 316L S.S.	1						VARIAN'S F0133-0025-RC6 OR EQUIV.
10	7102-060 (SH. 4)	0.25" CURVED TUBE II, SUB-ASM	X	1					
ITEM	DWG. NO.	DESCRIPTION	G1	G2	G3	QUANTITY	REMARKS	REV.	
PRINT DISTR.	D	PLOT DATE: 6/19/2007 CAD FILE NAME: 7102-060.idw							
SH. NO. 4 OF 5	CR-1	UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES; TOLERANCES ON: .0 ± .02 .00 ± .010 FRACTIONS ± 1/32 ANGLES ± 0.5° ALL SURFACES	<div><div>CORNELL UNIVERSITY</div><div>LABORATORY FOR ELEMENTARY-PARTICLE PHYSICS</div><div>ERL Injector Cryomodule Warm-up / Cool-Down Pipe 0.25" Curved Tube II, Sub-Asm</div></div>						
REV.		CHECKED BY: VM APPROVED BY: ML	DRAWN BY: RHE/Di	DRAWN FOR: M.Liepe	DATE: 6/9/2006	SCALE: D	7102-060 SH. NO. 4 OF 5	REV.	

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REVISIONS			
SYM.	ZONE	DESCRIPTION	DATE APP.



0.25" OD CURVED TUBE III
FILE NAME: 7102-060
SHEET NO.: 5
DFT. SCALE: 1:2
MATERIAL: 1/4" OD x 0.028" W, UHV GRADE 316L STAINLESS STEEL TUBE
QTY: 1 PER ASSEMBLY
NOTES: 1. DEVELOPED LENGTH L=39,04 IN

Release of final PO version for Meyer Tool - June 19, 2007.

17	7102-060 (SH. 5)	0.25" OD CURVED TUBE III	1				
14	PUR.	1-1/3" CF Rotatable 0.25" Tube Flange, 316L S.S.	1				VARIAN'S F0133-0025-RC6 OR EQUIV.
11	7102-060 (SH. 5)	0.25" CURVED TUBE III; SUB-ASM	X	1			

		ITEM		DWG. NO.		DESCRIPTION			G1G2G3			REMARKS		REV.	
									QUANTITY						
D	PRINT DISTR.	PLOT DATE: 6/19/2007 CAD FILE NAME: 7102-060.idw													
SH. NO. 5 OF 5	7102-060	CR-1	UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES; TOLERANCES ON: .0 ± .02 .00 ± .010 .000 ± .005 FRACTIONS ± 1/32 ANGLES ± 0.5° ALL SURFACES		<div><div>CORNELL UNIVERSITY</div><div>LEPP</div><div>LABORATORY FOR ELEMENTARY-PARTICLE PHYSICS</div></div> <div>CORNELL UNIVERSITY Floyd R. Newman Laboratory Ithaca, NY 14853</div>										
		ERL Injector Cryomodule Warm-up / Cool-Down Pipe 0.25" Curved Tube III, Sub-Asm													
	REV.	CHECKED BY: VM		DRAWN BY		DRAWN FOR		DATE		SCALE		D	7102-060		REV.
		APPROVED BY: ML		RHE/Di		M.Liepe		6/9/2006					SH. NO. 5 OF 5		