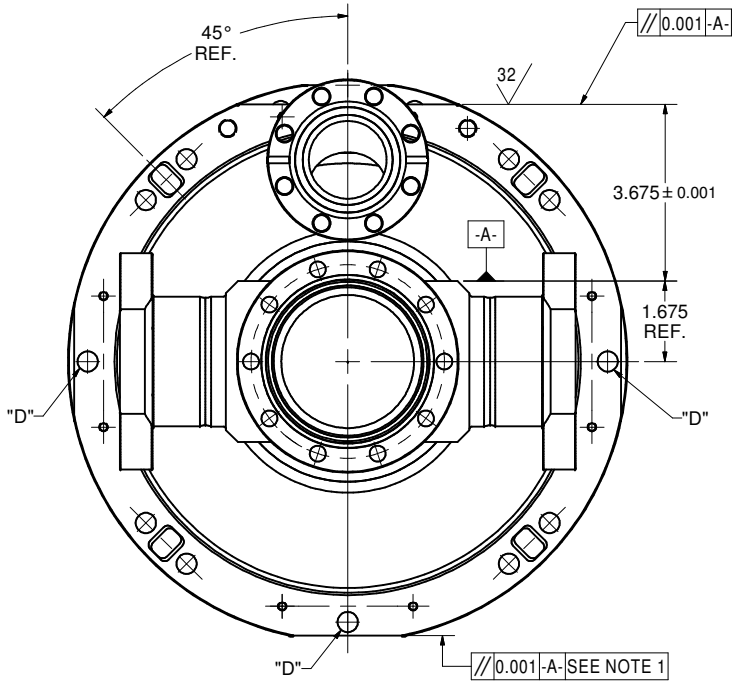
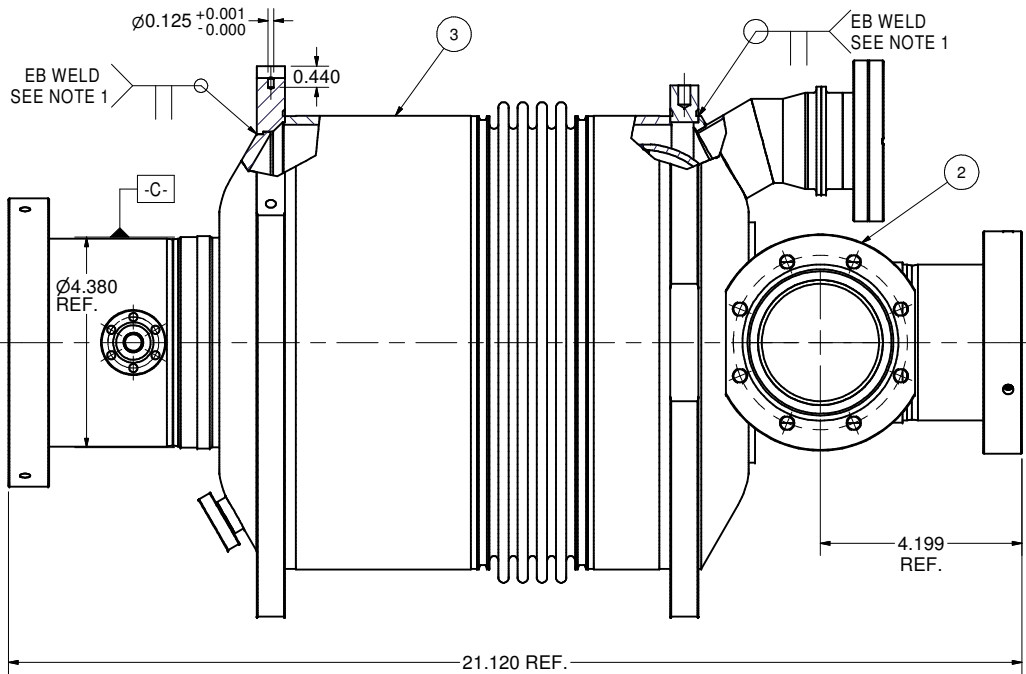
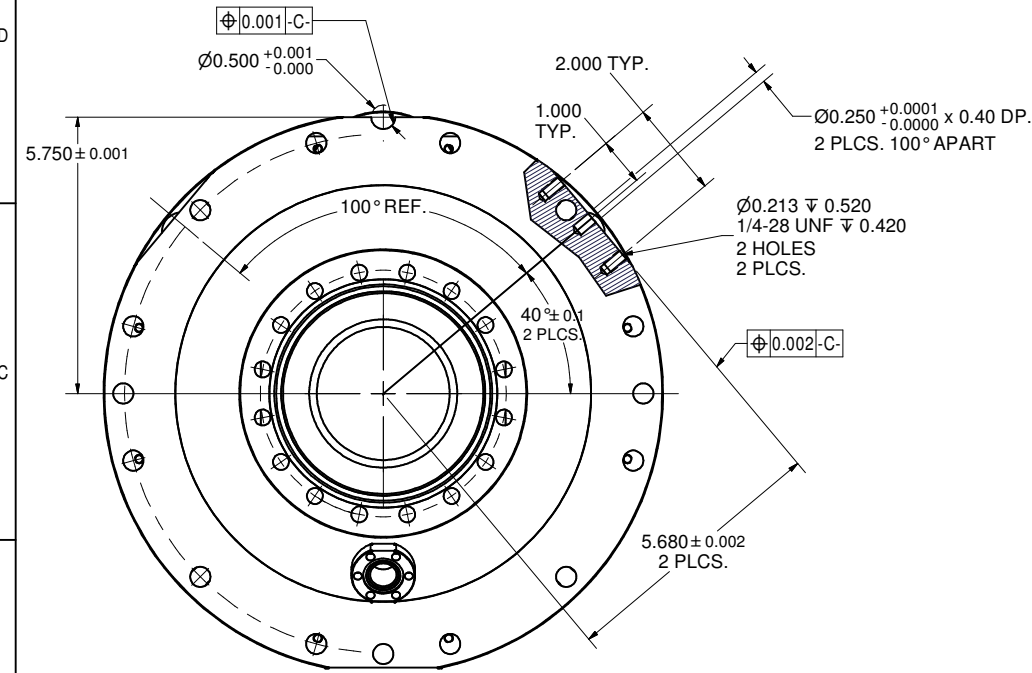
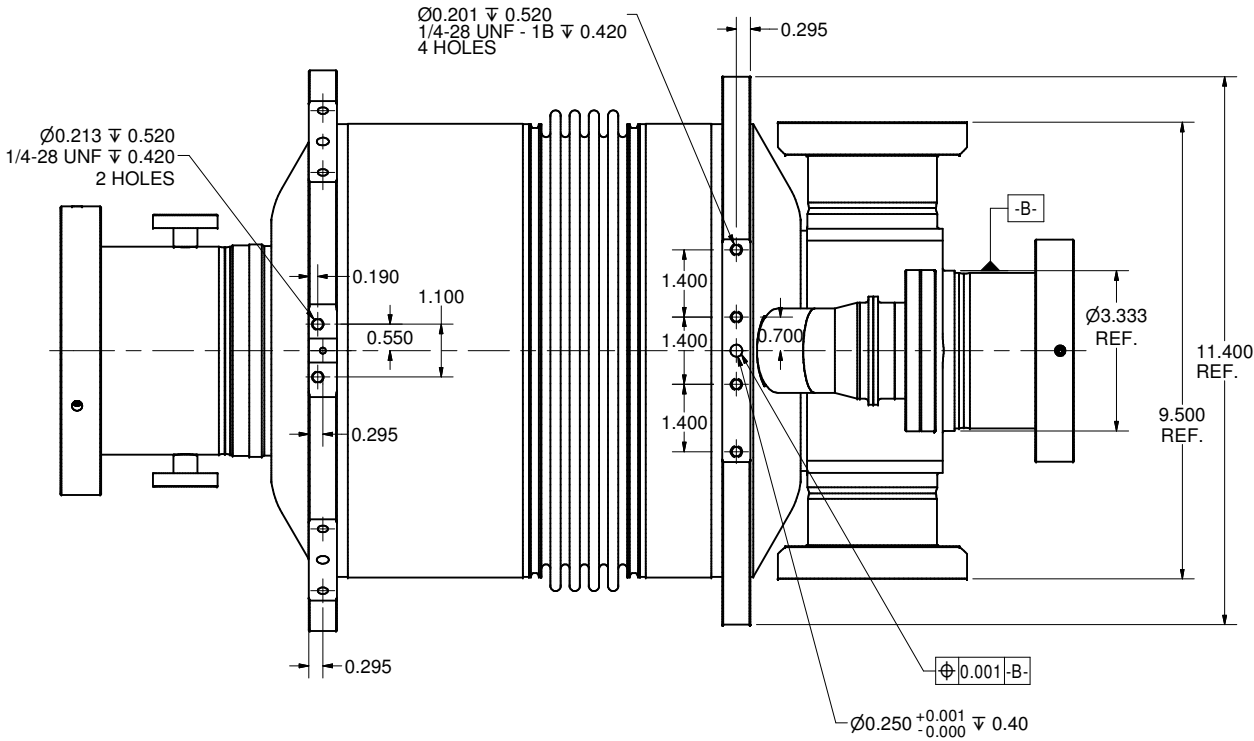
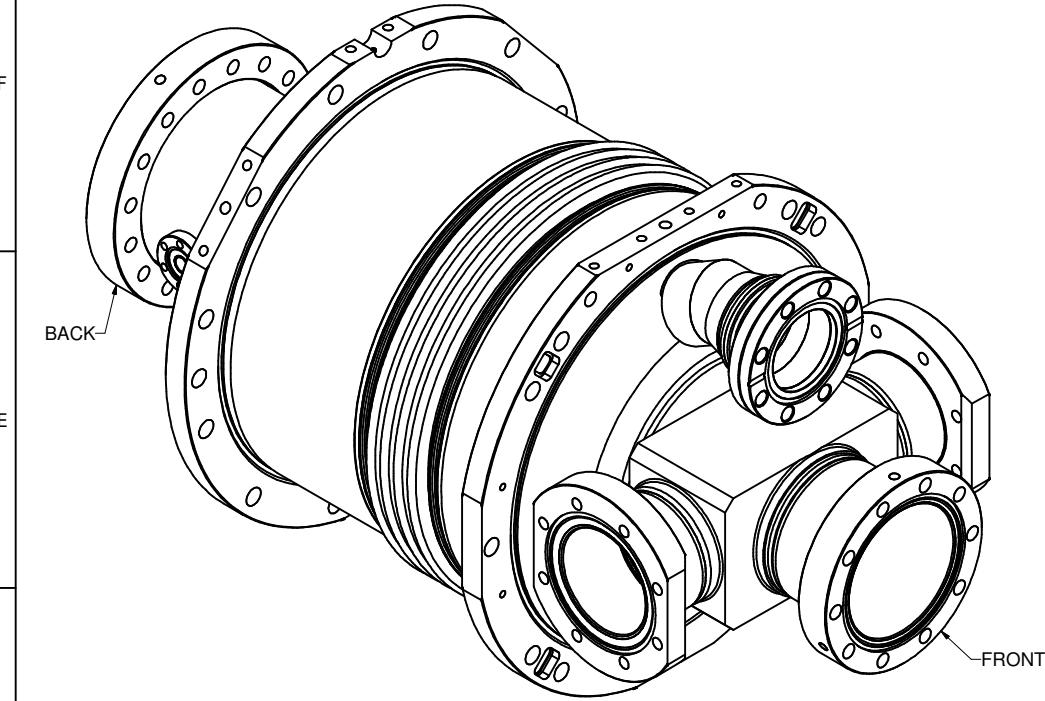


REVISIONS				
SYM.	ZONE	DESCRIPTION	DATE	APP.
A		VIEW OF POCKET ON FRONT FLANGE CHANGED.	05/11/06	VM
B		DRAWING CHANGES REFLECTING MODEL REV.B ON SHEET 4.	12-4-06	JOS
C	D9,8,B3	ADDED (3) DIMS. :5.750+0.001, 40 DEG. +- 0.1 (2 PLCS), 4.199 REF. & WELD SPEC. JGL	12/18/06	TIO
D	D8	ADDED 0.250 DIA. PIN HOLES - LEFT VIEW	4/30/07	JOS



### 1 2-CELL CAVITY STANDARD MODULE WELDMENT

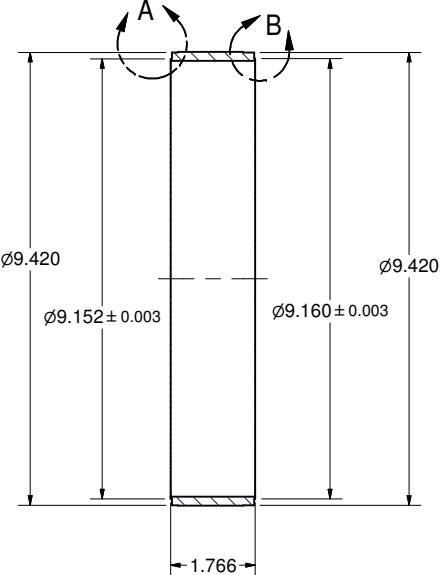
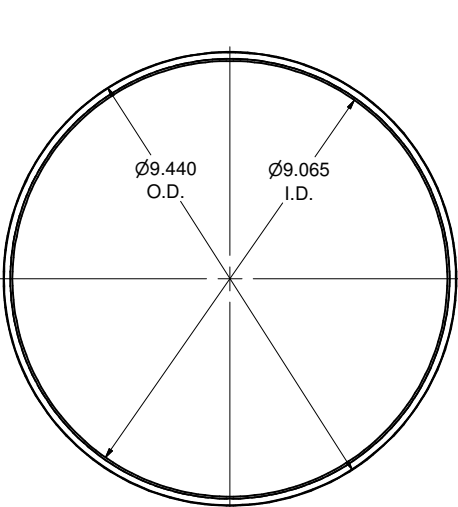
FILE NAME: 7102-011  
SHEET NO.: 1  
DFT. SCALE: 1:2  
MATERIAL:  
QTY: 5 PER CRYOMODULE  
NOTES: 1. ALIGN PARTS ITEM 2 AND 3 BEFORE WELDING.  
WELDS TO CONFORM TO UHV SPEC.  
2. BEFORE MACHINING, FIX FLANGES OF He VESSEL WITH TUBES AND THREADED RODS THRU HOLES "D".

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

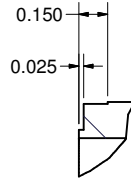
TECHNICAL RESOURCE APPROVALS REQUIRED BEFORE FABRICATION			
	OK	DATE	N/A
DRAFTING (O'Connell):			
MACHINE SHOP (Kaminski):			
CHEMISTRY (Conklin):			
ELECTRONICS SHOP (Barley):			
FURNACE BRAZING (Sherwood):			
BEAM WELDING (Sears):			
WELDING OTHER (Gallagher):			
UTILITIES INTEGRATION (Gallagher):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

ITEM	DWG. NO.	DESCRIPTION	G1	G2	G3	REMARKS	REV.
3	7102-011 (SH. 2)	HELIUM VESSEL WELDMENT	1				
2	7102-010	2 CELL CAVITY WELDMENT	1				
1	7102-011 (SH. 1)	2-CELL CAVITY STANDARD MODULE WELDMENT	X				
PLOT DATE: 4/30/2007 CAD FILE NAME: 7102-011.idw							
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES: TOLERANCES ON: .00 ± .010 .000 ± .005 FRACTIONS ± 1/64 ANGLES ± 0.5° ALL SURFACES		<b>CORNELL UNIVERSITY LEPP</b> LABORATORY FOR ELEMENTARY-PARTICLE PHYSICS CORNELL UNIVERSITY Floyd R. Newman Laboratory Ithaca, NY 14853					
ERL INJECTOR CRYOMODULE: 2-CELL CAVITY STANDARD MODULE - WBS 3.1.2		CHECKED BY: M.U.L.	DRAWN BY: V.M.	DRAWN FOR: M. Liepe	DATE: 6/28/2005	SCALE: D	7102-011 SH. NO. 1 OF 5
APPROVED BY: M.U.L.		REV. D					

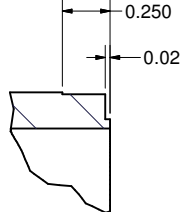
REVISIONS				
SYM.	ZONE	DESCRIPTION	DATE	APP.
A		ADDED DETAIL VIEWS "A" AND "B".	4/28/06	TIO
B		VIEW OF POCKET ON FRONT FLANGE CHANGED.	5/11/06	VM
C	D-6	ADDED "BELLOWS END" TO DETAIL A & "FLANGE END" TO DETAIL B, REMOVED WBS-# FROM TITLE JGL	5/19/06	TIO
D		DRAWING CHANGES REFLECTING MODEL REV.B ON SHEET 4.	12-4-06	JOS



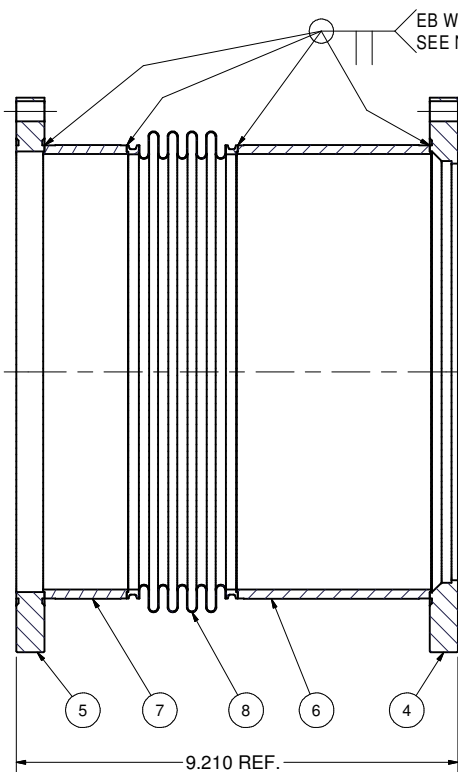
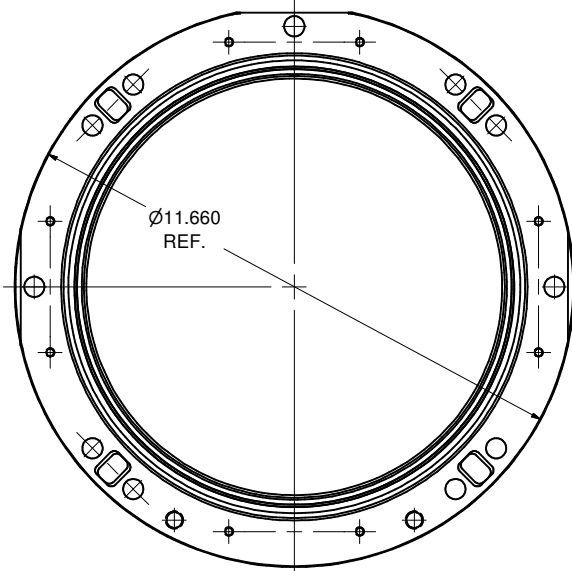
7 TUBE SHORT  
FILE NAME: 7102-011  
SHEET NO.: 2  
DFT. SCALE: 1:2  
MATERIAL: TITANIUM GRADE 2  
QTY: 1 PER ASSEMBLY  
NOTES:



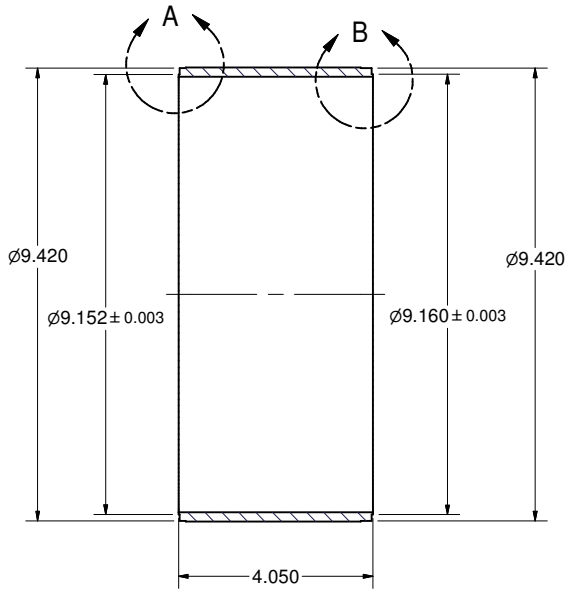
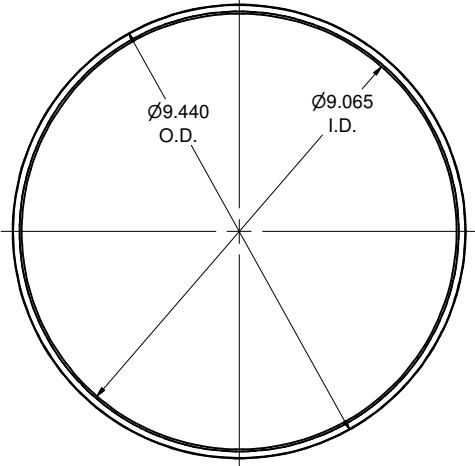
DETAIL A  
SCALE 2 : 1  
(BELLOWS END)



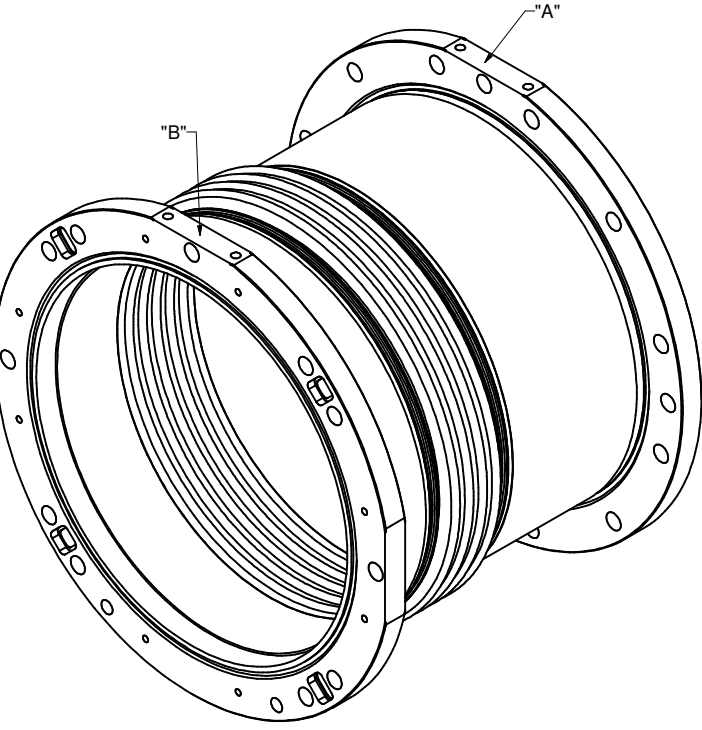
DETAIL B  
SCALE 2 : 1  
(FLANGE END)



3 HELIUM VESSEL WELDMENT  
FILE NAME: 7102-011  
SHEET NO.: 2  
DFT. SCALE: 1:2  
MATERIAL:  
QTY: 1 PER ASSEMBLY  
NOTES: 1. WELDS TO CONFORM TO UHV SPEC.  
2. FLATS "A" AND "B" SHOULD BE ALIGNED WITHIN 0.001 IN.



6 TUBE LONG  
FILE NAME: 7102-011  
SHEET NO.: 2  
DFT. SCALE: 1:2  
MATERIAL: TITANIUM GRADE 2  
QTY: 1 PER ASSEMBLY  
NOTES:



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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	QUANTITY	REMARKS	REV.
8	7102-011 (SH. 5)	BELLOWS WELDMENT	1		
7	7102-011 (SH. 2)	TUBE SHORT	1		
6	7102-011 (SH. 2)	TUBE LONG	1		
5	7102-011 (SH. 4)	FRONT WALL FLANGE	1		
4	7102-011 (SH. 3)	BACK WALL FLANGE	1		
3	7102-011 (SH. 2)	HELIUM VESSEL WELDMENT	X		

87102-011

SH. NO. 2 OF 5

REV. 3

PRINT  
DISTR.

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

LABORATORY FOR ELEMENTARY-PARTICLE PHYSICS

CORNELL UNIVERSITY  
Floyd R. Newman Laboratory  
Ithaca, NY 14853

ERL INJECTOR CRYOMODULE: 2-Cell Cavity Standard Module  
Helium Vessel Weldment Details

CHECKED BY: M.U.L.  
APPROVED BY: M.U.L.

DRAWN BY  
V.M.

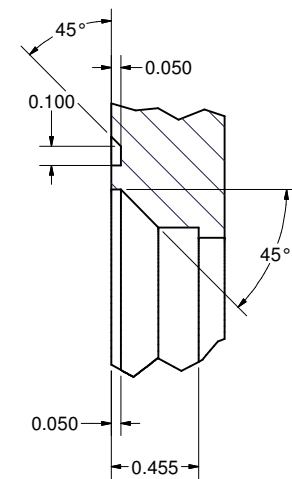
DRAWN FOR  
M. Liepe

DATE  
6/28/2005

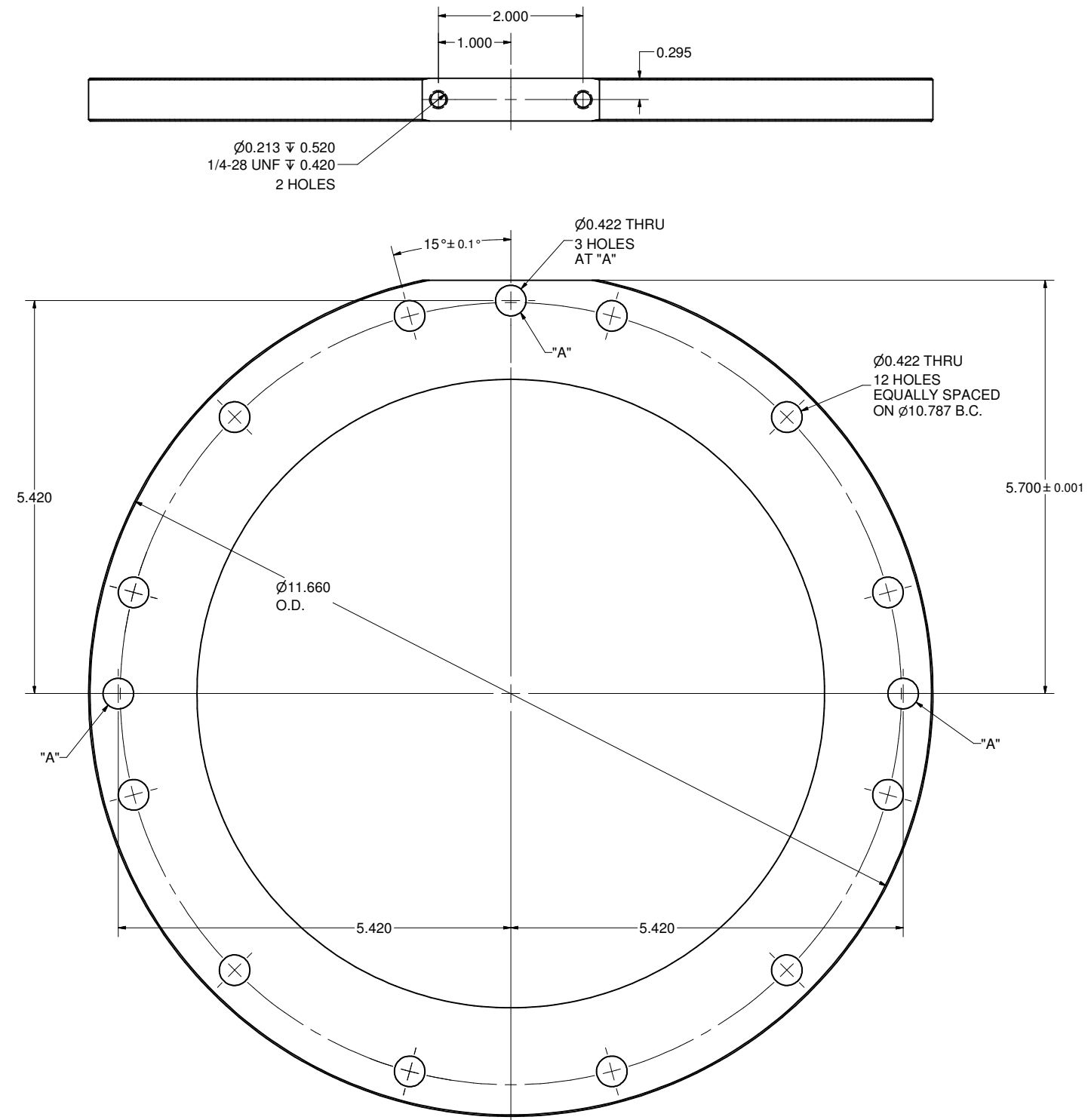
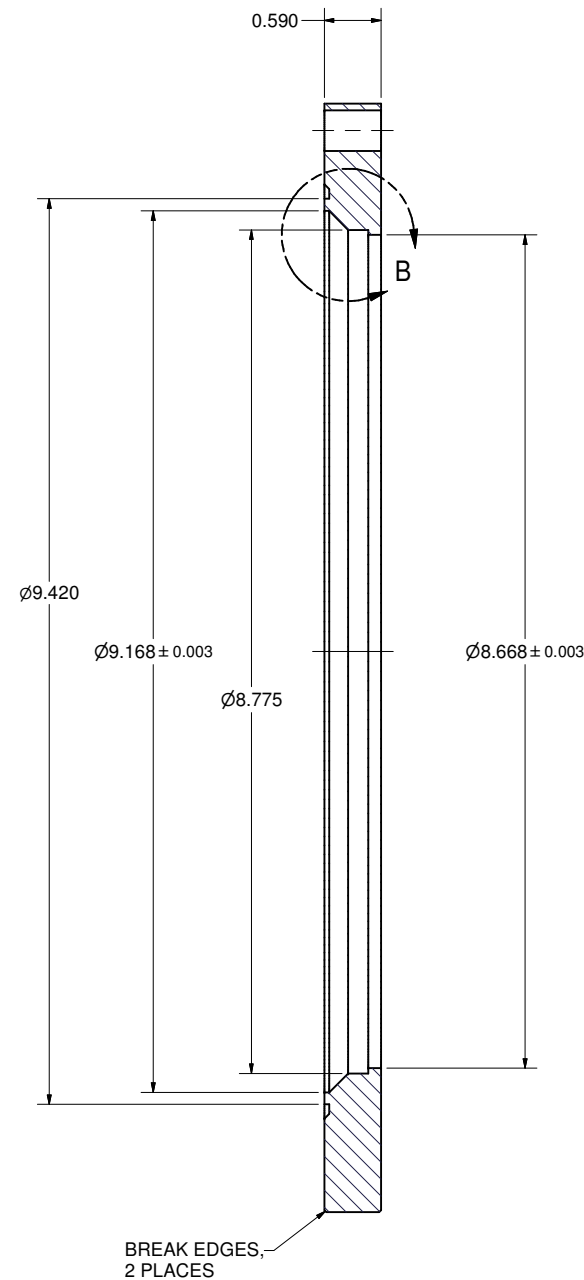
SCALE  
D

7102-011  
SH. NO. 2 OF 5

REV.  
D



DETAIL B  
SCALE 2 : 1








4 BACK WALL FLANGE

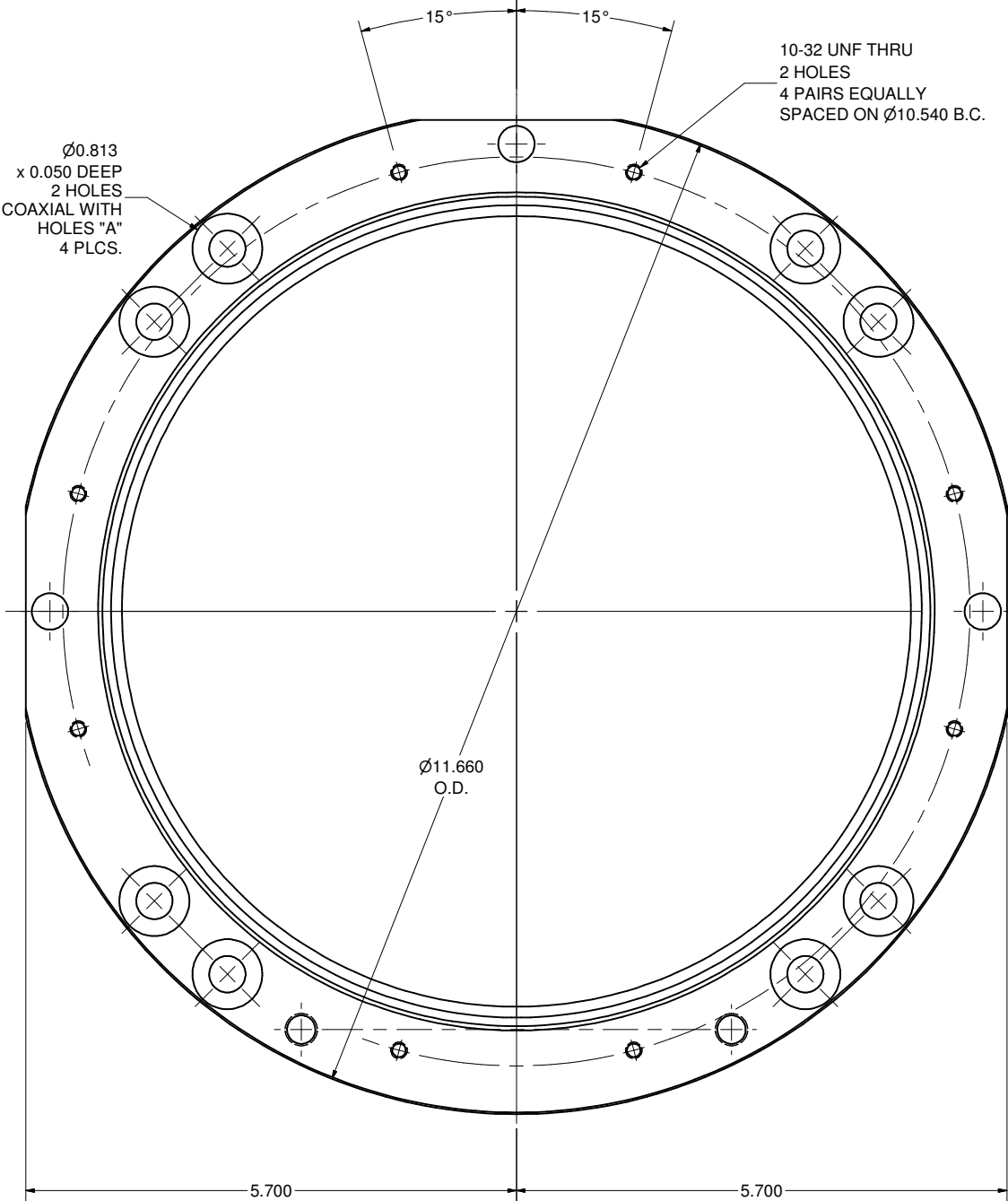
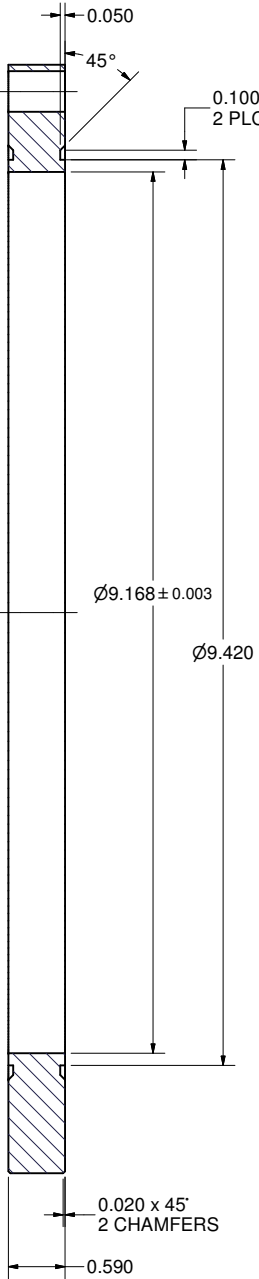
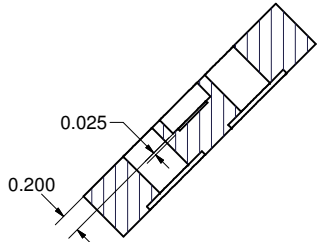
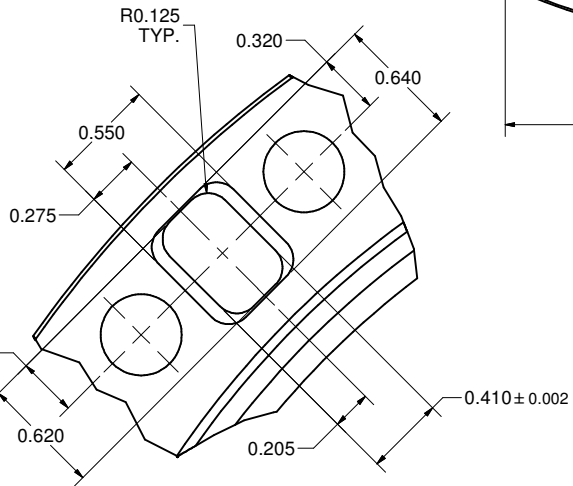
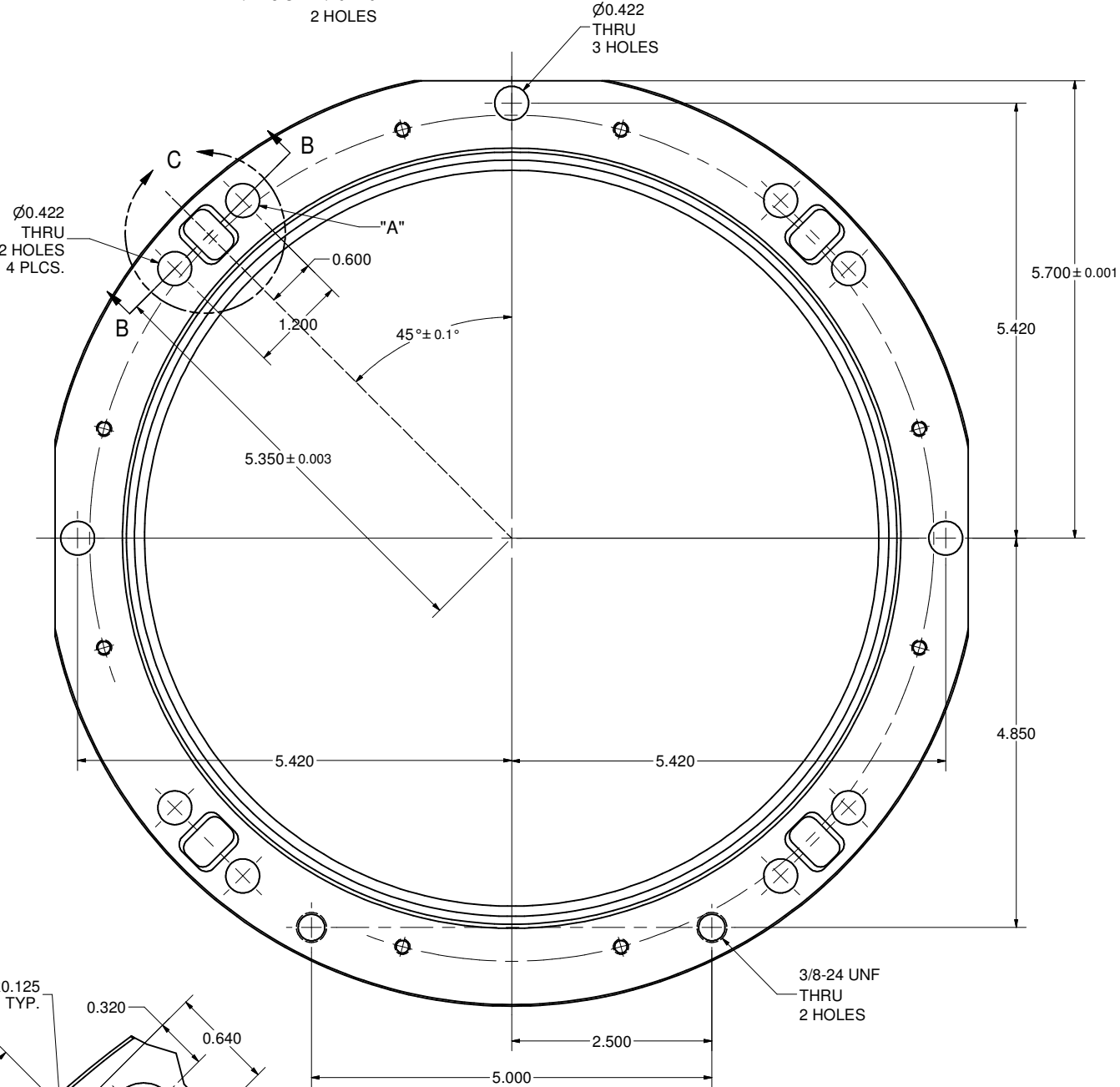
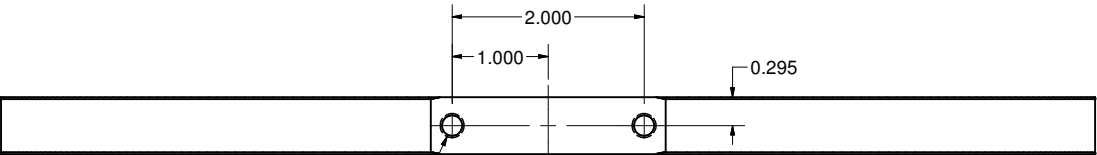
FILE NAME: 7102-011  
SHEET NO.: 3  
DFT. SCALE: 1:1  
MATERIAL: TITANIUM GRADE 2  
QTY: 1 PER ASSEMBLY  
NOTES:

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: 4/30/2007 CAD FILE NAME: 7102-011.idw									
	CR-1	<div>UNLESS OTHERWISE SPECIFIED:</div> <div>DIMENSIONS ARE IN INCHES:</div> <div>TOLERANCES ON:     .00 ± .010     .000 ± .005 FRACTIONS ± 1/64 ANGLES ± 0.5° ALL SURFACES </div>			<div> CORNELL UNIVERSITY Floyd R. Newman Laboratory Ithaca, NY 14853</div> <div>ERL INJECTOR CRYOMODULE: 2-Cell Cavity Standard Module Helium Vessel Weldment Details - WBS 3.1.2</div>						
	7102-011 3rd NO. 3 OF 5										
REV.	<div>CHECKED BY: M.U.L.</div> <div>APPROVED BY: M.U.L.</div>		<div>DRAWN BY V.M.</div>		<div>DRAWN FOR M. Liepe</div>		<div>DATE 6/28/2005</div>	<div>SCALE</div>		<div>D</div> <div>SH. NO. 3 OF 5</div>	REV.




REVISIONS				
SYM.	ZONE	DESCRIPTION	DATE	APP.
A		NEW DESIGN OF RECT POCKET. SECTION "B" AND DETAIL "C" ADDED.	5/11/06	VM
B	D-1 D-4	ADDED 2 FLATS AND RESPECTIVE DIMS 5.700 D.M.E.	12-4-06	JOS



5 FRONT WALL FLANGE  
FILE NAME: 7102-011  
SHEET NO.: 4  
DFT. SCALE: 1:1  
MATERIAL: TITANIUM GRADE 2  
QTY: 1 PER ASSEMBLY  
NOTES:

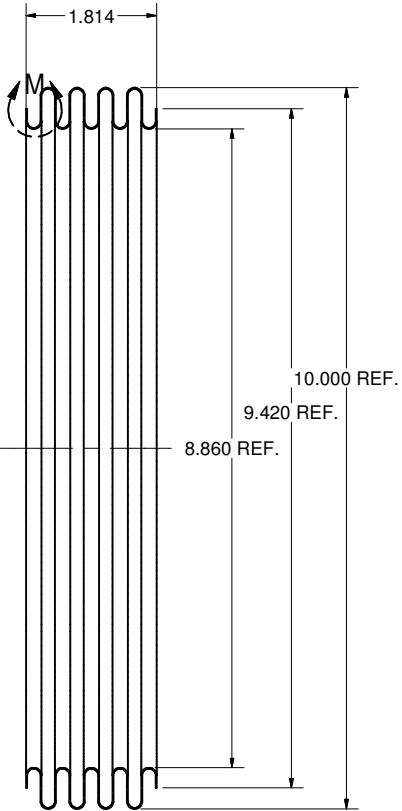
FOR MACHINING LUBRICANT USE ONLY  
ALKALINE DETERGENT LUBRICANT CIMSTAR 40  
OR EQUIVALENT APPROVED BY CORNELL LEPP

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):			

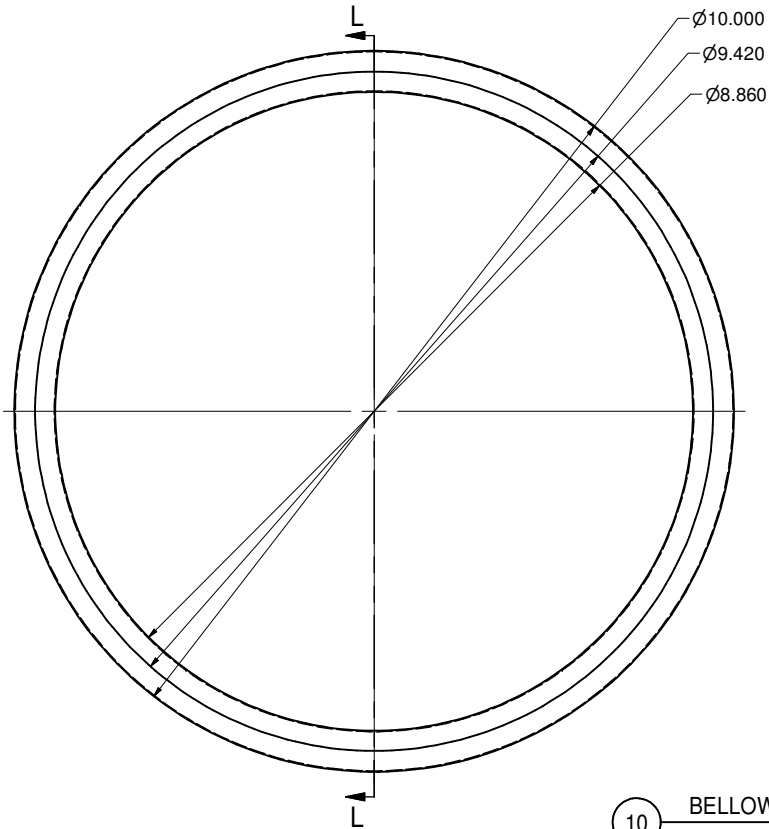
 		ITEM		DWG. NO.		DESCRIPTION		G1	G2	G3	REMARKS		REV.
								QUANTITY					
D		PRINT DISTR.		PLOT DATE: 4/30/2007 CAD FILE NAME: 7102-011.idw									
7102-011 SH. NO. 4 OF 5		CR-1		UNLESS OTHERWISE SPECIFIED:  DIMENSIONS ARE IN INCHES: TOLERANCES ON: .00 ± .010 .000 ± .005 FRACTIONS ± 1/64 ANGLES ± 0.5° ALL SURFACES ✓		 CORNELL UNIVERSITY FLOYD R. NEWMAN LABORATORY ITHACA, NY 14853							
				ERL INJECTOR CRYOMODULE: 2-Cell Cavity Standard Module Helium Vessel Weldment Details - WBS 3.1.2									
REV. B		CHECKED BY: M.U.L.  APPROVED BY: M.U.L.		DRAWN BY V.M.		DRAWN FOR M. Liepe		DATE 6/28/2005		SCALE D		7102-011 SH. NO. 4 OF 5 REV. B	



REVISIONS			
SYM.	ZONE	DESCRIPTION	DATE APP.



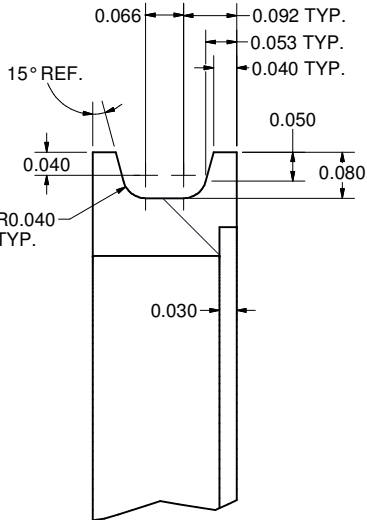
SECTION L-L  
SCALE 3 / 4



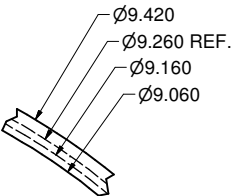
DETAIL M  
SCALE 3 : 1

10 BELLOWS

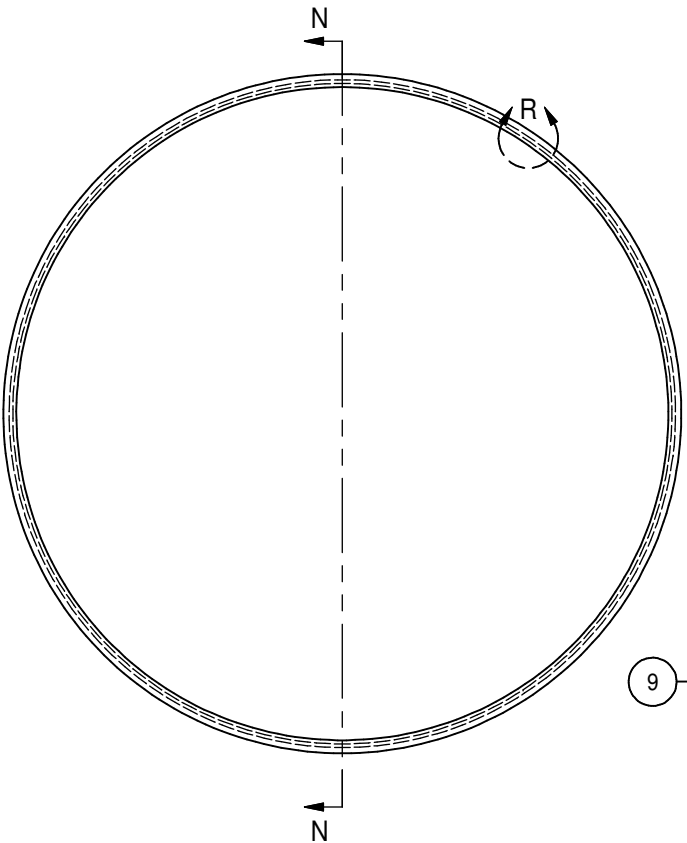
FILE NAME: 7102-011  
SHEET NO.: 5  
DFT. SCALE: 3:4  
MATERIAL: TITANIUM  
QTY: 1  
NOTES:



DETAIL P  
SCALE 6 : 1



DETAIL R  
SCALE 1.50 : 1



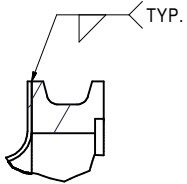
SECTION N-N  
SCALE 3 / 4

9 BELLOWS RING

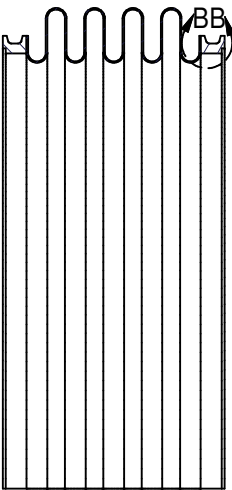
FILE NAME: 7102-011  
SHEET NO.: 5  
DFT. SCALE: 3:4  
MATERIAL: TITANIUM  
QTY: 2  
NOTES:

8 BELLOWS WELDMENT

FILE NAME: 7102-011  
SHEET NO.: 5  
DFT. SCALE: 1:1  
MATERIAL:  
QTY: 1  
NOTES:



DETAIL BB  
SCALE 3 : 1



SECTION Z-Z  
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	Q1	Q2	Q3	REMARKS	REV.
10	SHT. 5	BELLOWS	1			PART OF ITEM#8	
9	SHT. 5	BELLOWS RING	2			PART OF ITEM#8	
8	SHT. 5	BELLOWS WELDMENT	1			PART OF ITEM#3	

10	SHT. 5	BELLOWS	1			PART OF ITEM#8	
9	SHT. 5	BELLOWS RING	2			PART OF ITEM#8	
8	SHT. 5	BELLOWS WELDMENT	1			PART OF ITEM#3	
ITEM	DWG. NO.	DESCRIPTION	Q1	Q2	Q3	REMARKS	REV.
PLOT DATE: 4/30/2007 CAD FILE NAME: 7102-011.idw							
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES: TOLERANCES ON: .00 ± .010 .000 ± .005 FRACTIONS ± 1/64 ANGLES ± 0.5° ALL SURFACES		<b>CORNELL UNIVERSITY</b> <b>LEPP</b> LABORATORY FOR ELEMENTARY-PARTICLE PHYSICS CORNELL UNIVERSITY Floyd R. Newman Laboratory Ithaca, NY 14853					
ERL INJECTOR CRYOMODULE: 2-Cell Cavity Standard Module Helium Vessel Weldment Details - WBS 3.1.2							
CHECKED BY: M.U.L.	DRAWN BY: V.M.	DRAWN FOR: M. Liepe	DATE: 6/28/2005	SCALE: D	7102-011	REV.	
APPROVED BY: M.U.L.					SH. NO. 5 OF 5		