

8 7 6 5 4 3 2 1

ITEM	DESCRIPTION	MATL	QUANTITY
1	Quartz Window Assembly	ALUM	2
2	Gas Port Flange	ALUM	1
3	Craddle Bracket	ALUM	2
4	Quartz Window Assembly (Long)	ALUM	2
5	Crane Lifting Assembly	ALUM	2
6	Main Vessel Flange	ALUM	2
7	Main Vessel Cylinder	ALUM	1

D

D

C

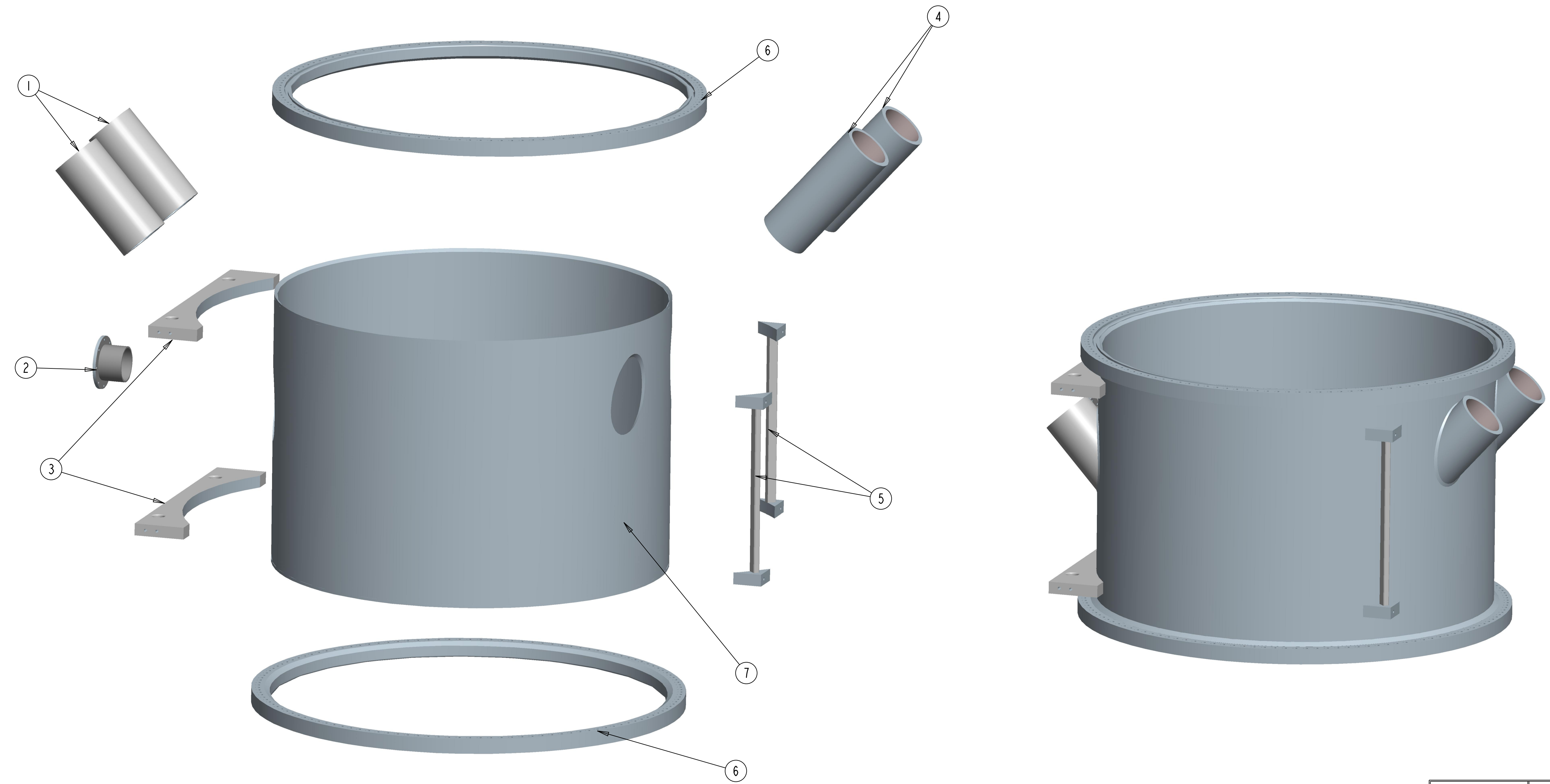
C

B

B

A

A



ALL DIMENSIONS IN mm UNLESS OTHERWISE SPECIFIED
 TOLERANCES UNLESS OTHERWISE SPECIFIED:
 FRACTIONAL DIMENSIONS
 DECIMAL DIMENSIONS XX ± 0.5
 ANGULAR DIMENSIONS ± 0.5°
 SURFACE FINISH MILL FINISH

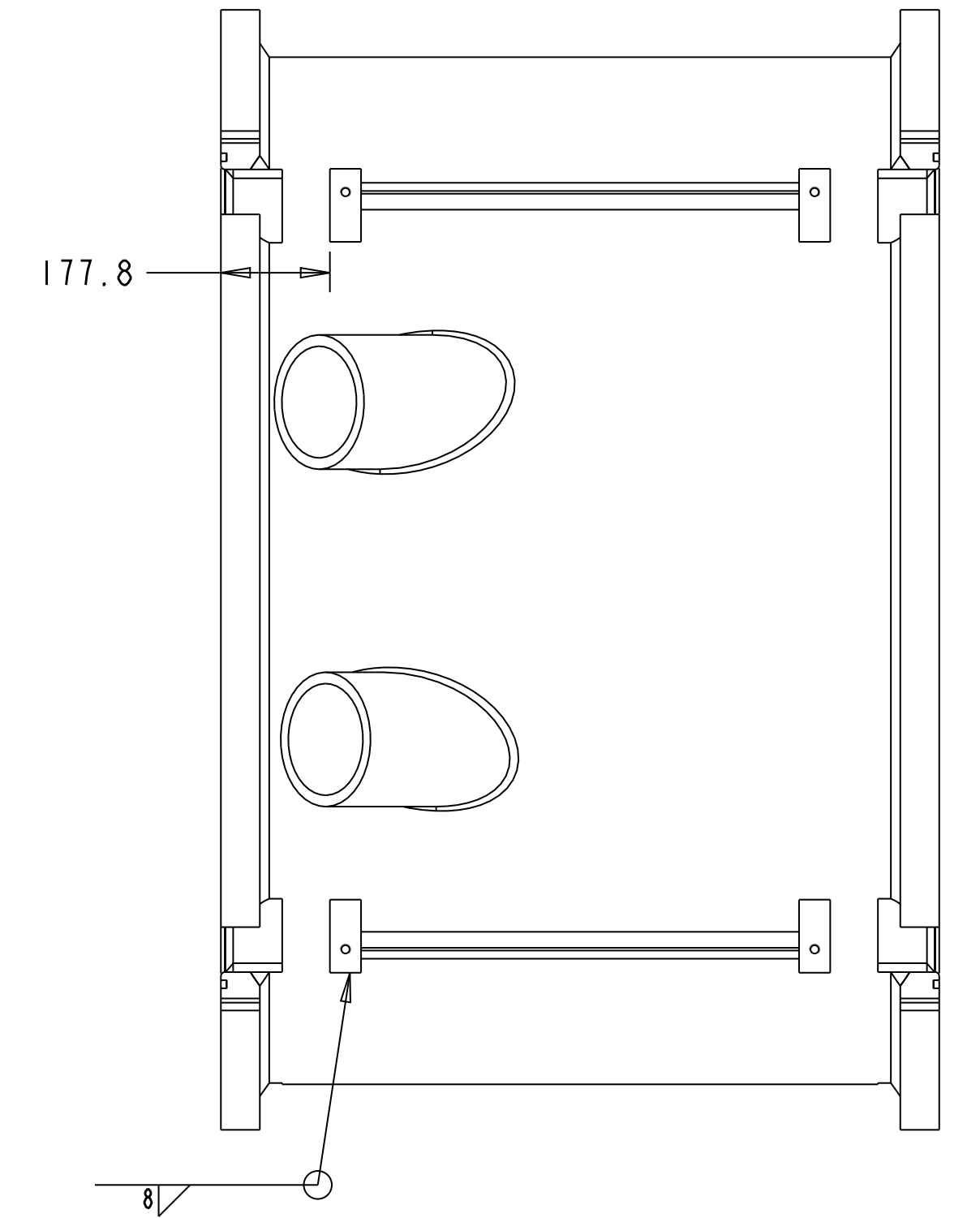
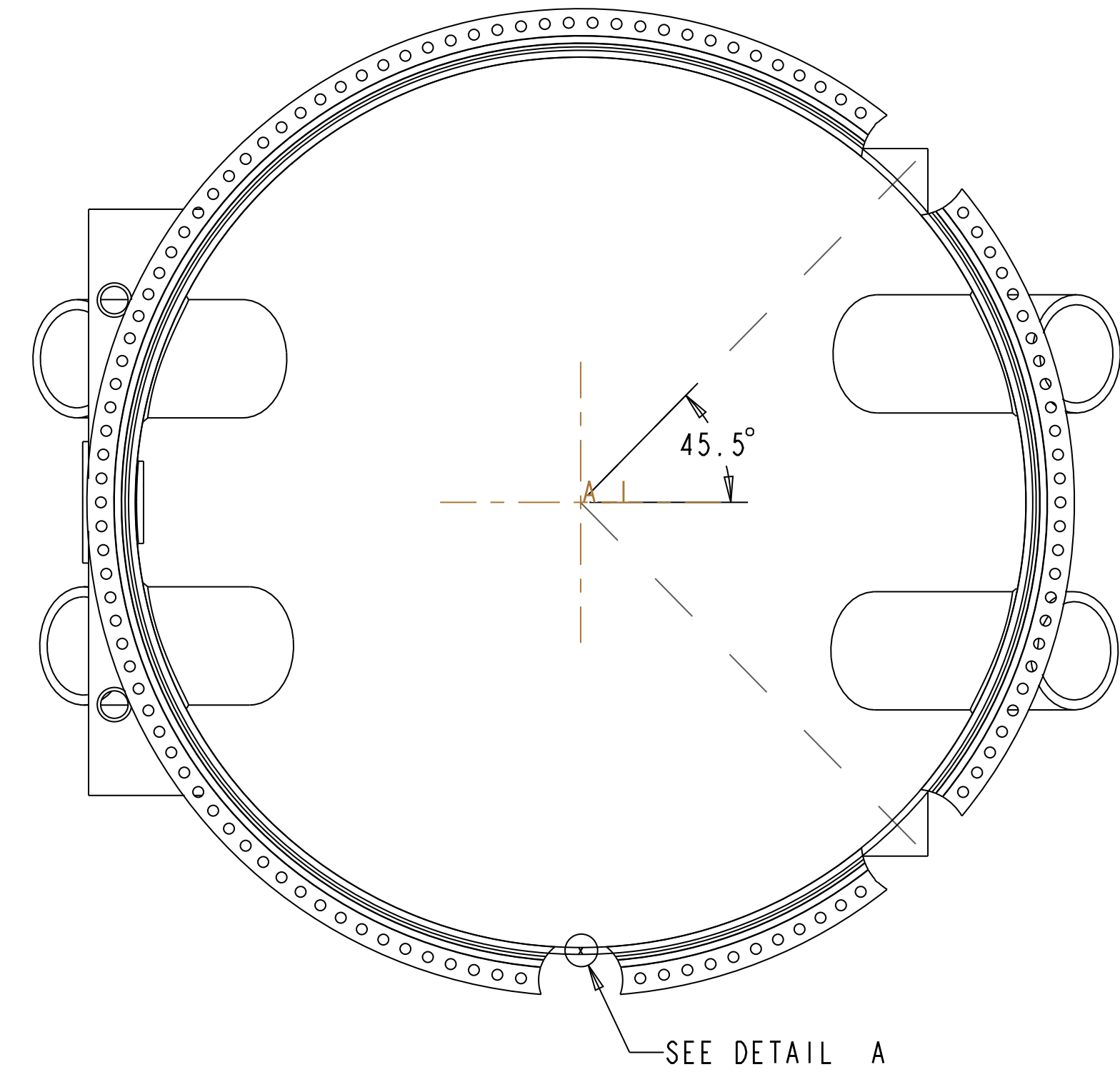
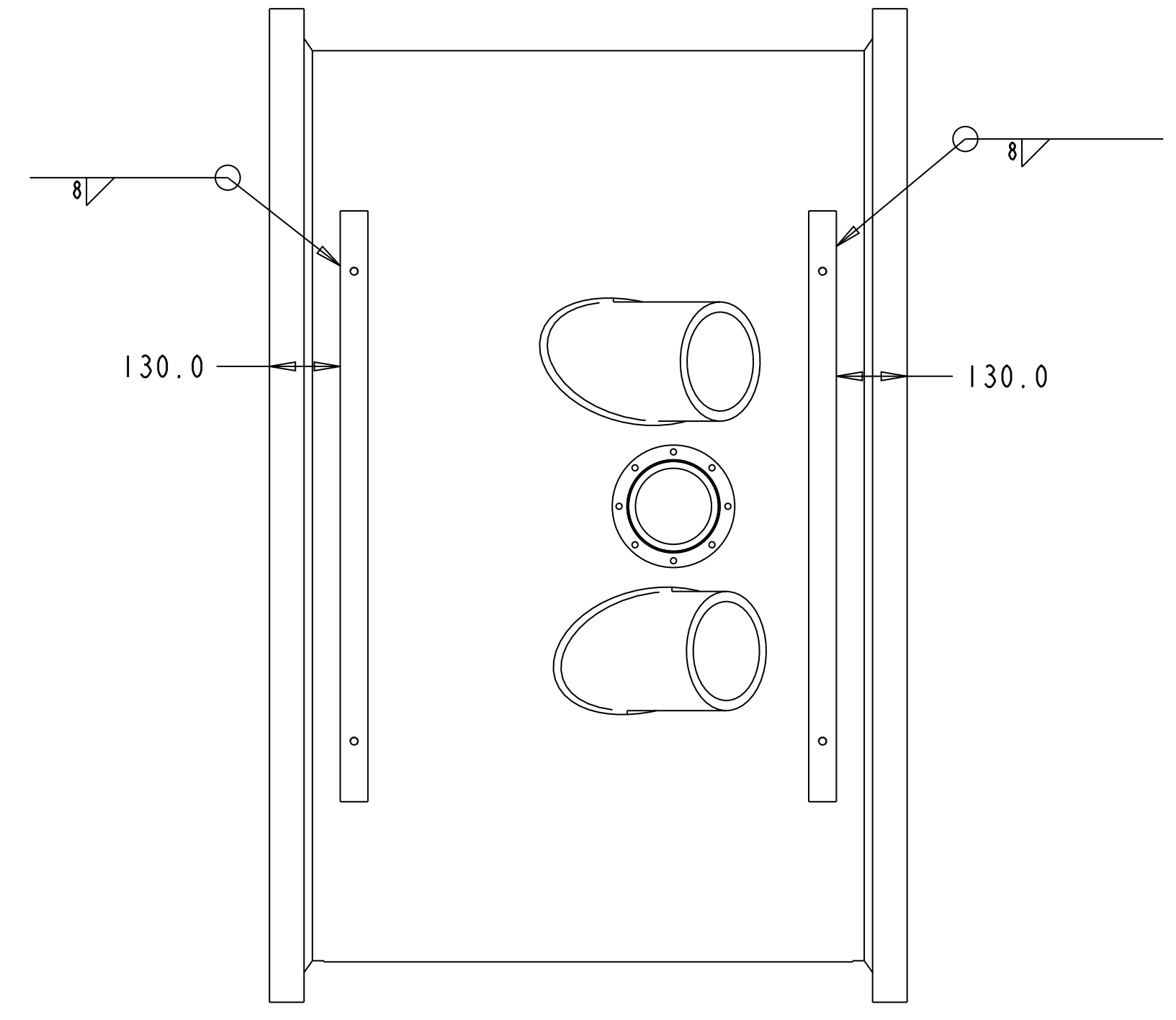
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 EDMONTON ALBERTA CANADA
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 DRAWN CHRIS NG FAX (780) 492 3408
 CHECKED E-MAIL: cjng@ualberta.ca
 APPROVED

REF. DWGS.	REV.	DATE	REVISION	BY

CENTER OF PARTICLE PHYSICS
 MAIN VESSEL ASSEMBLY EXPLODED
 SCALE 0.100 APPROVAL DWG. NO. REV.
 DATE MAR 1, 2012 CHIEF ENGR A

8 7 6 5 4 3 2 1

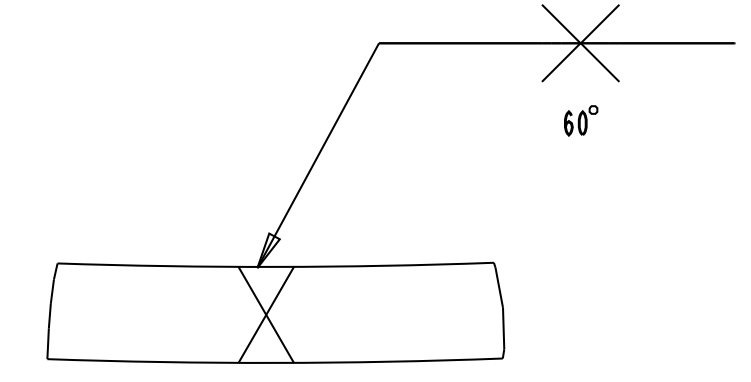
ITEM	DESCRIPTION	MATL	QUANTITY



Fillet Welds around crane lifting assemblies

NOTES:

- MAKE VESSEL OUT OF ONE 0.5" SHEET OF ALUMINUM 5083-H116
- BEND INTO CYLINDRICAL SHAPE WITH OD=1674.6mm AND H=1135.4mm AND DOUBLE-V BUTT WELD END TOGETHER



DETAIL A
SCALE 1.000

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SURFACE FINISH MILL FINISH

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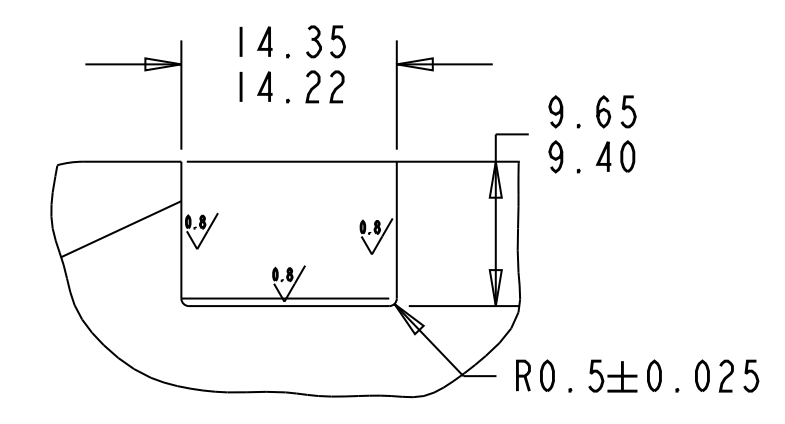
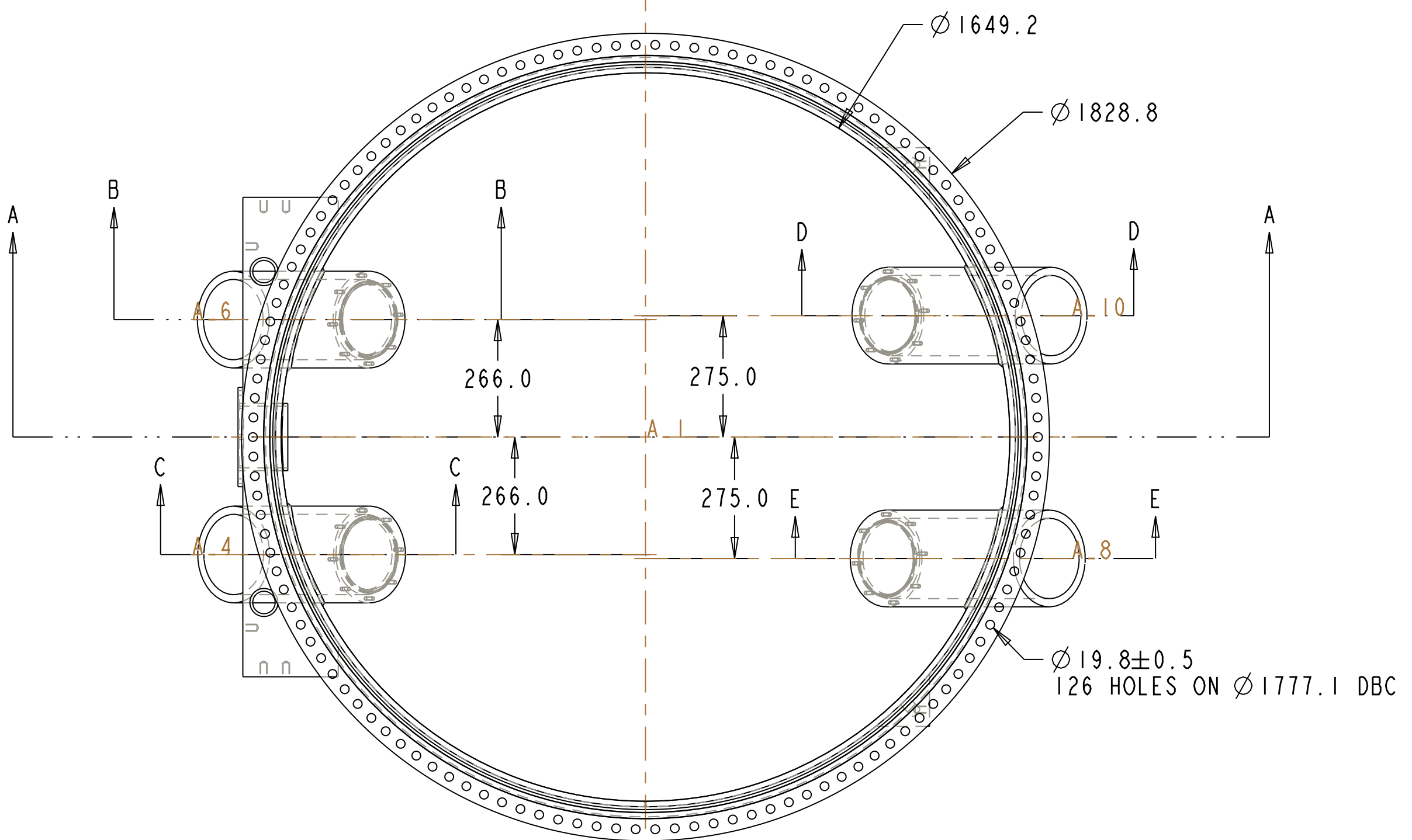
REV.	DATE	REVISION	BY
B		DECREASE DIAMETER	
C		MATERIAL CHANGED	
D		MATERIAL CHANGED	

CENTER OF PARTICLE PHYSICS

MAIN VESSEL ASSEMBLY
OUTSIDE WELDS AND CYLINDRICAL WELD

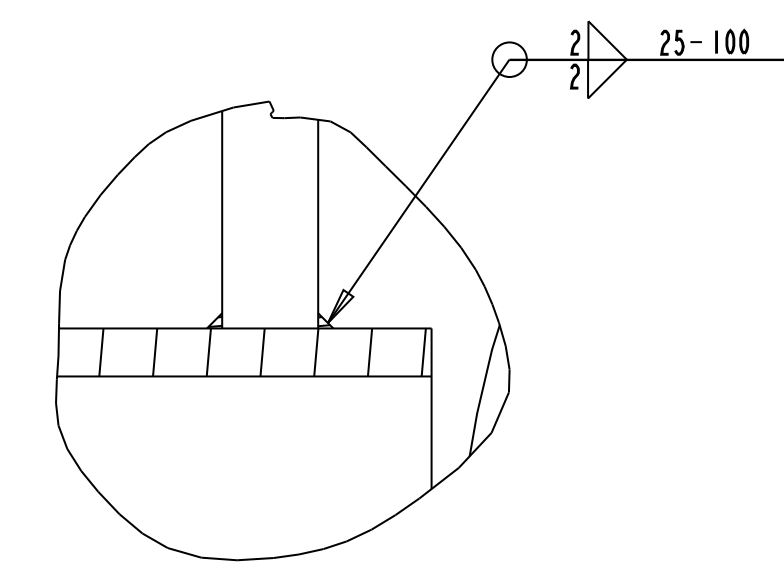
SCALE 0.100 APPROVAL DWG. NO. REV.
DATE OCT 9, 2012 CHIEF ENGR D

ITEM	DESCRIPTION	MATL	QUANTITY

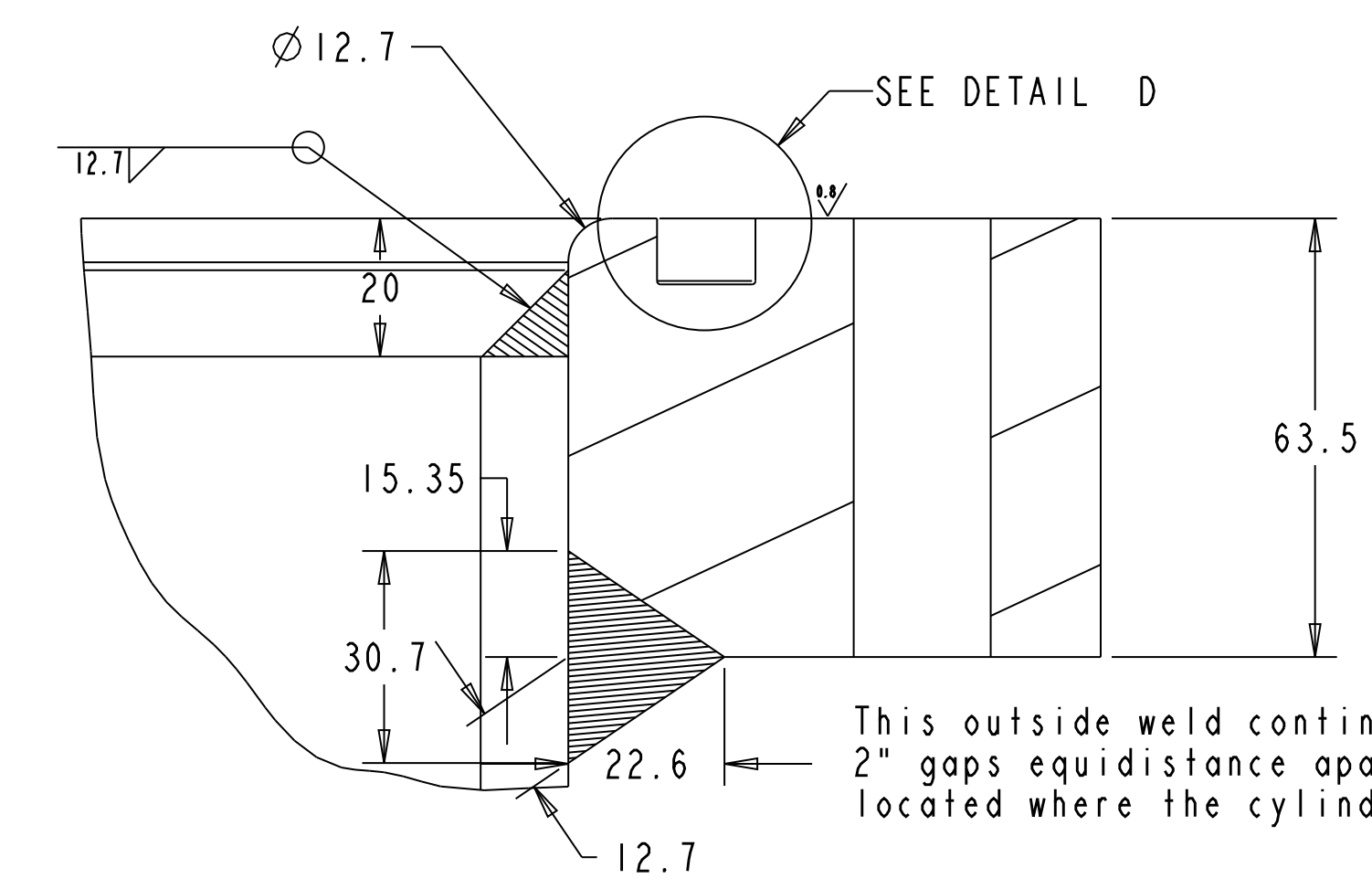


DETAIL D
SCALE 2.000

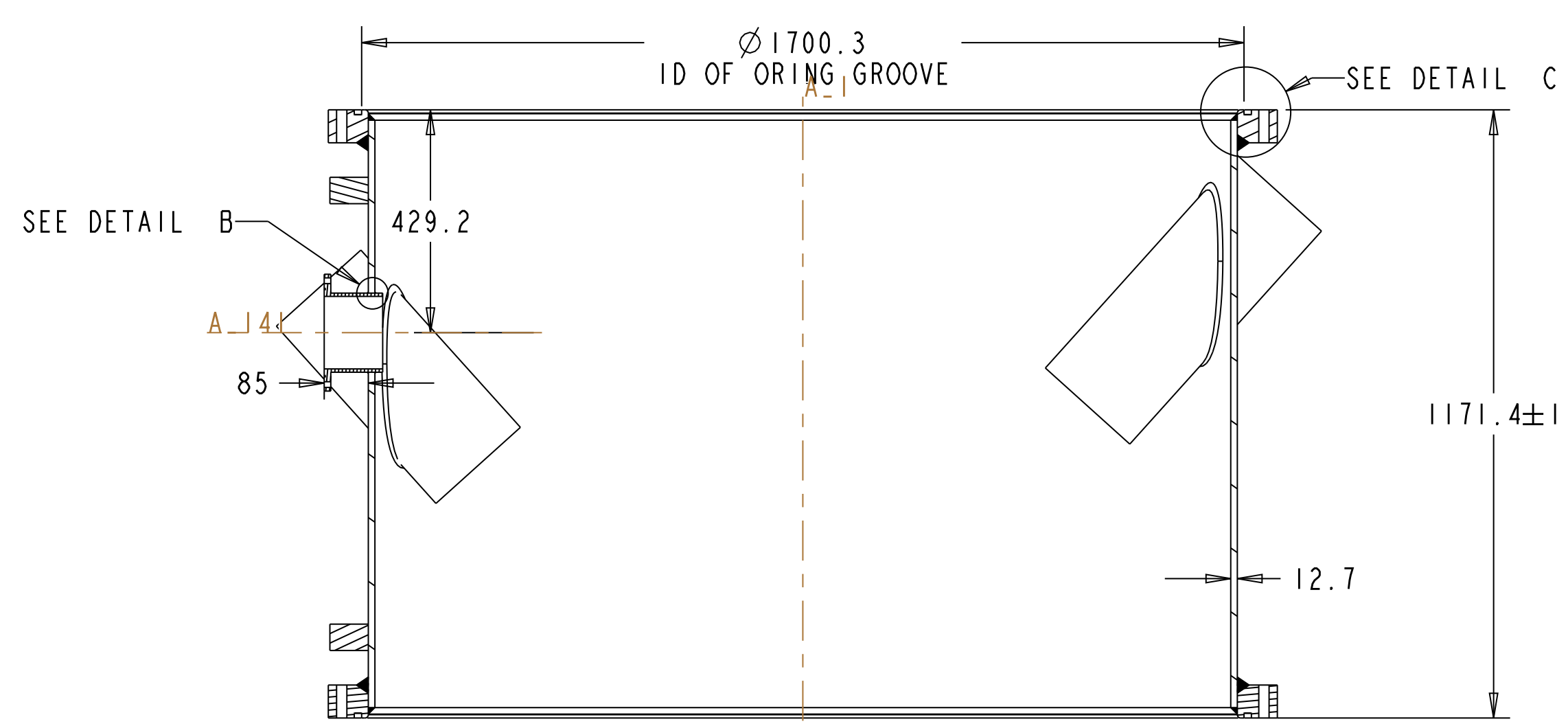
NOTE: NEED CUSTOM VITON ORING WITH ϕ 1700.3mm ID AND CROSS SECTION OF ϕ 12.7mm



DETAIL B
SCALE 1.000



DETAIL C
WELD DETAIL
SCALE 1.000



SECTION A-A

NOTE: FOR FLANGE MATERIALS USE ALUM 6061-T6

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SURFACE FINISH MILL FINISH

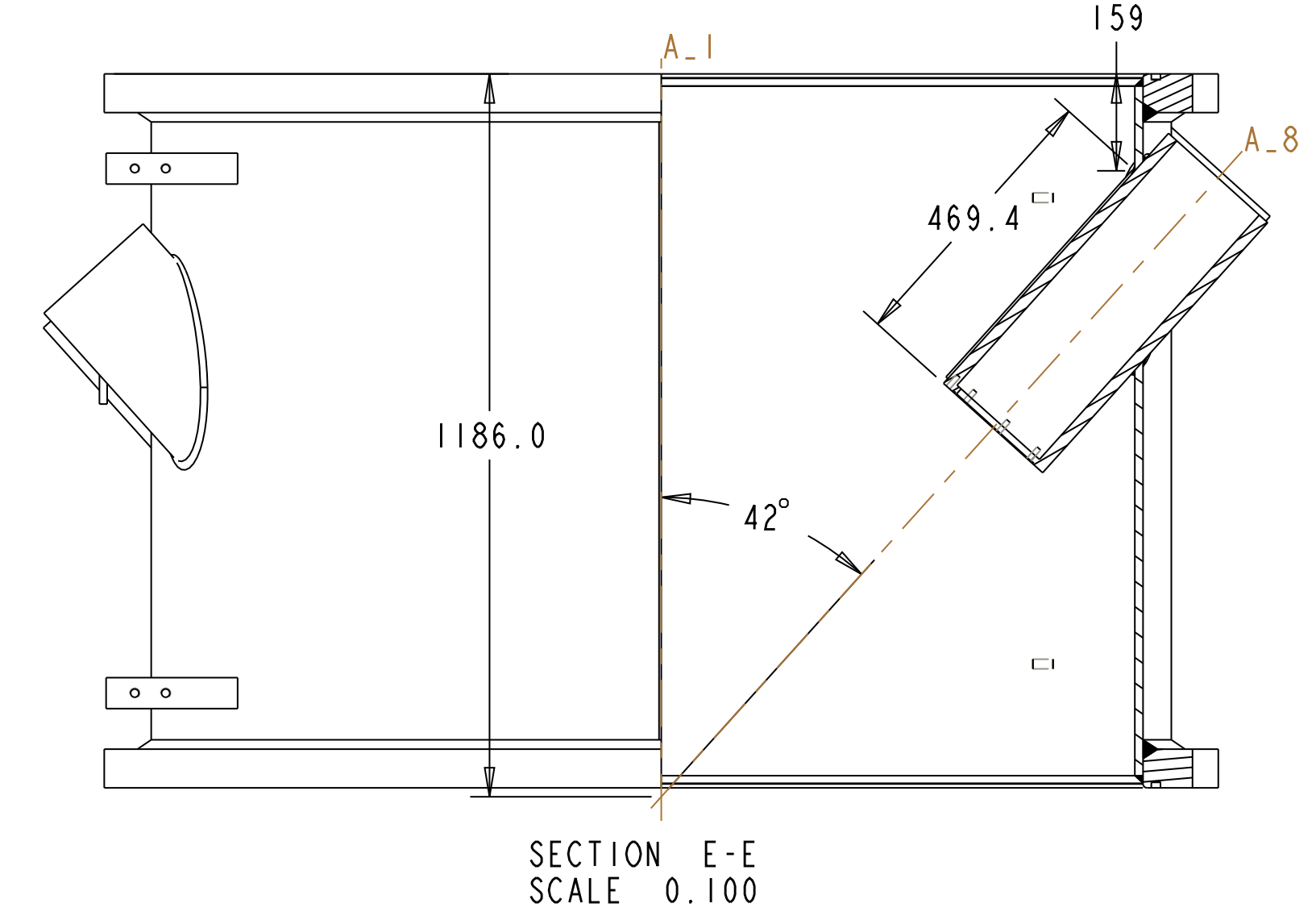
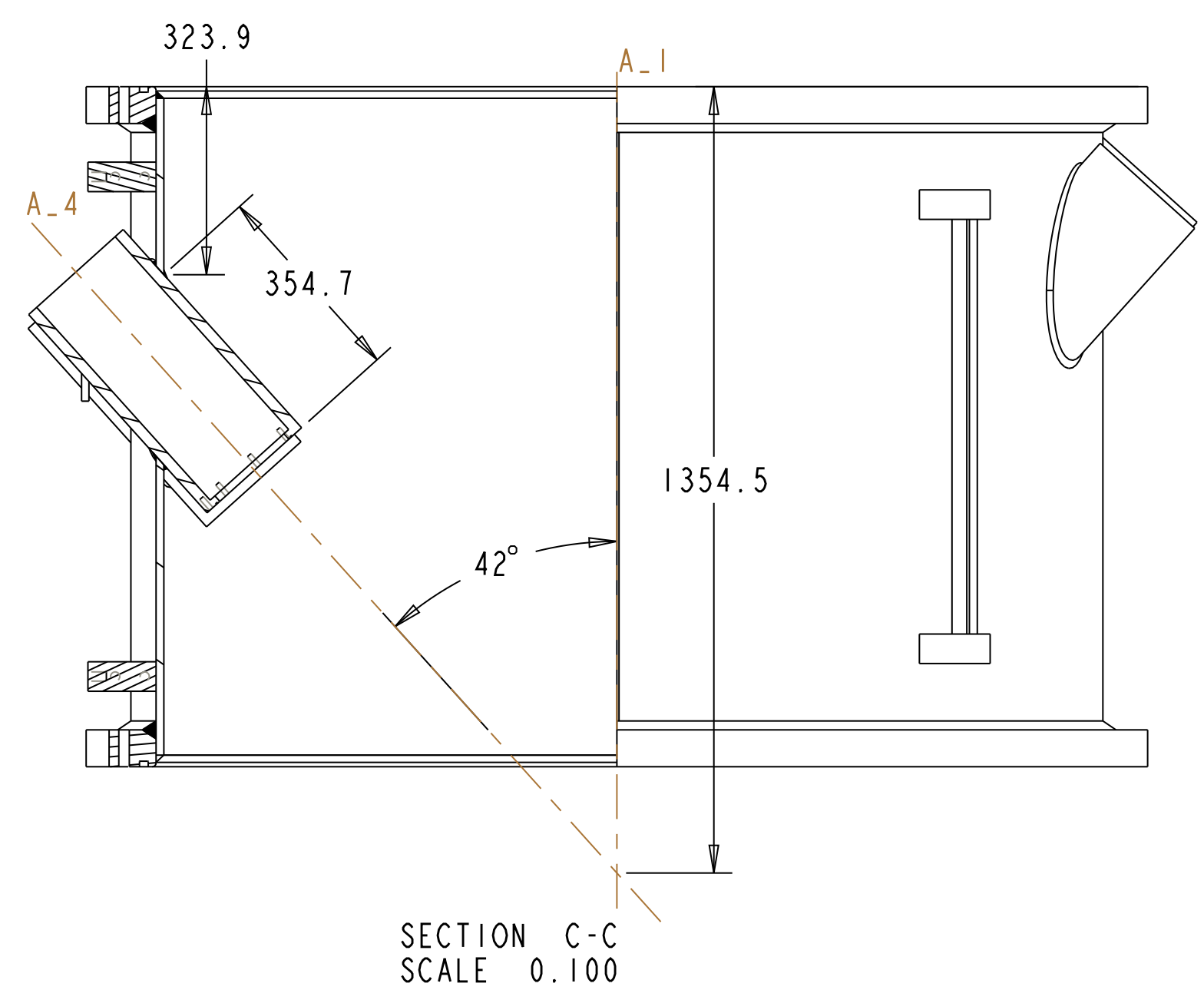
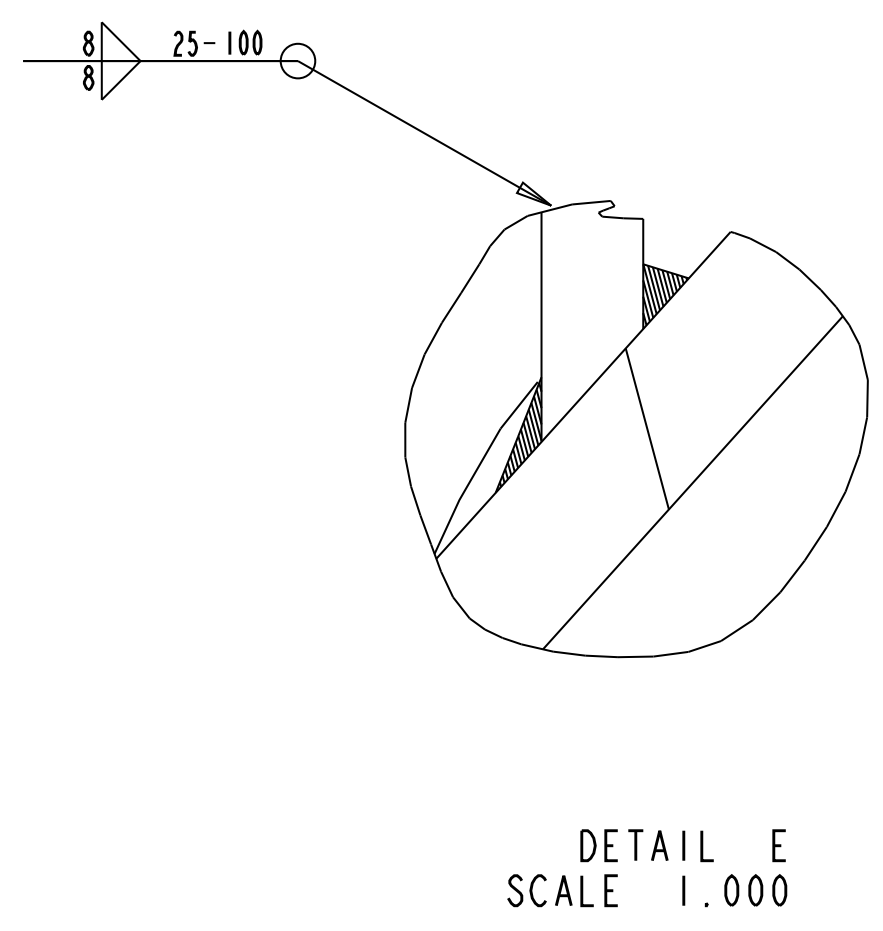
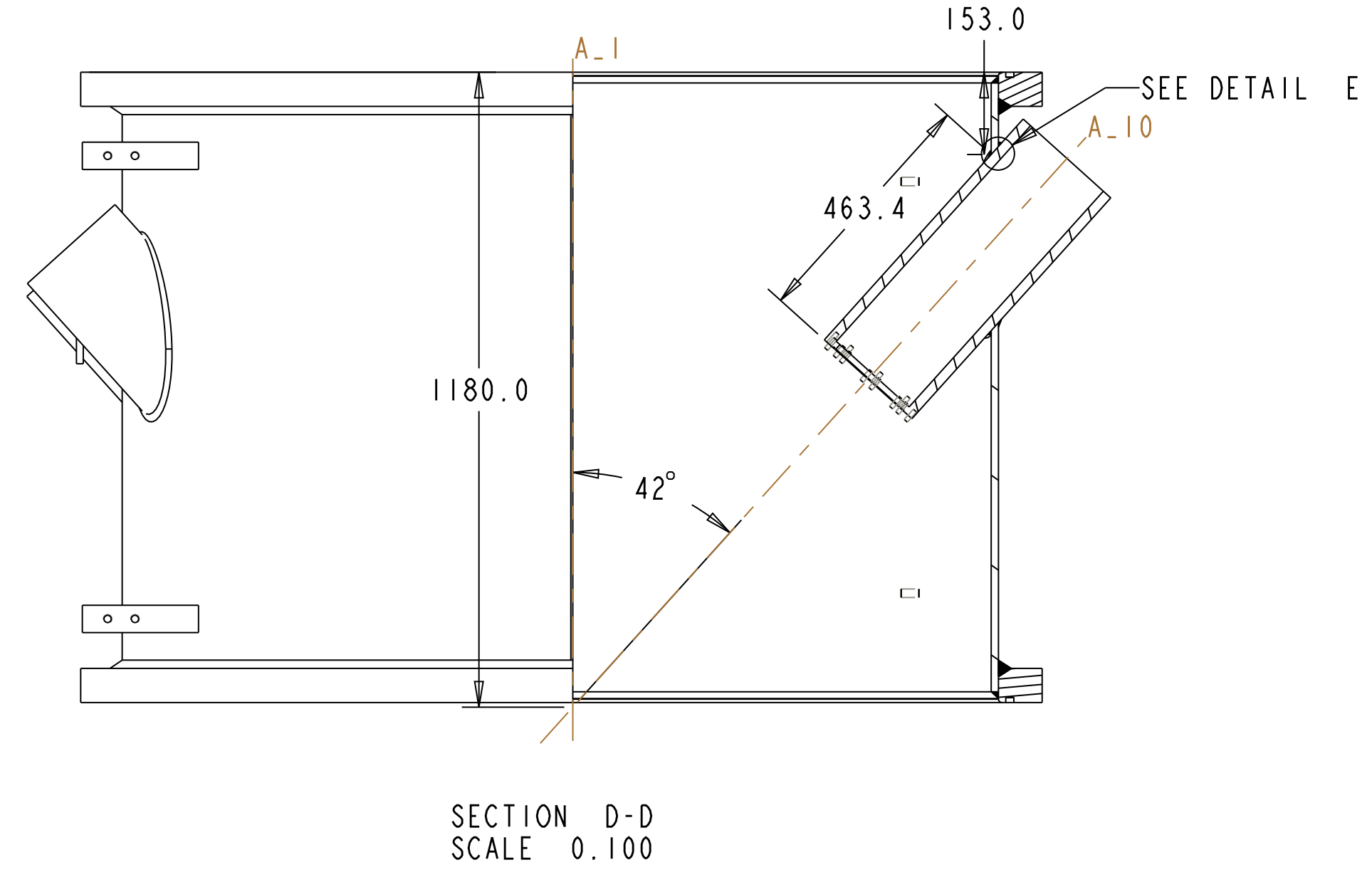
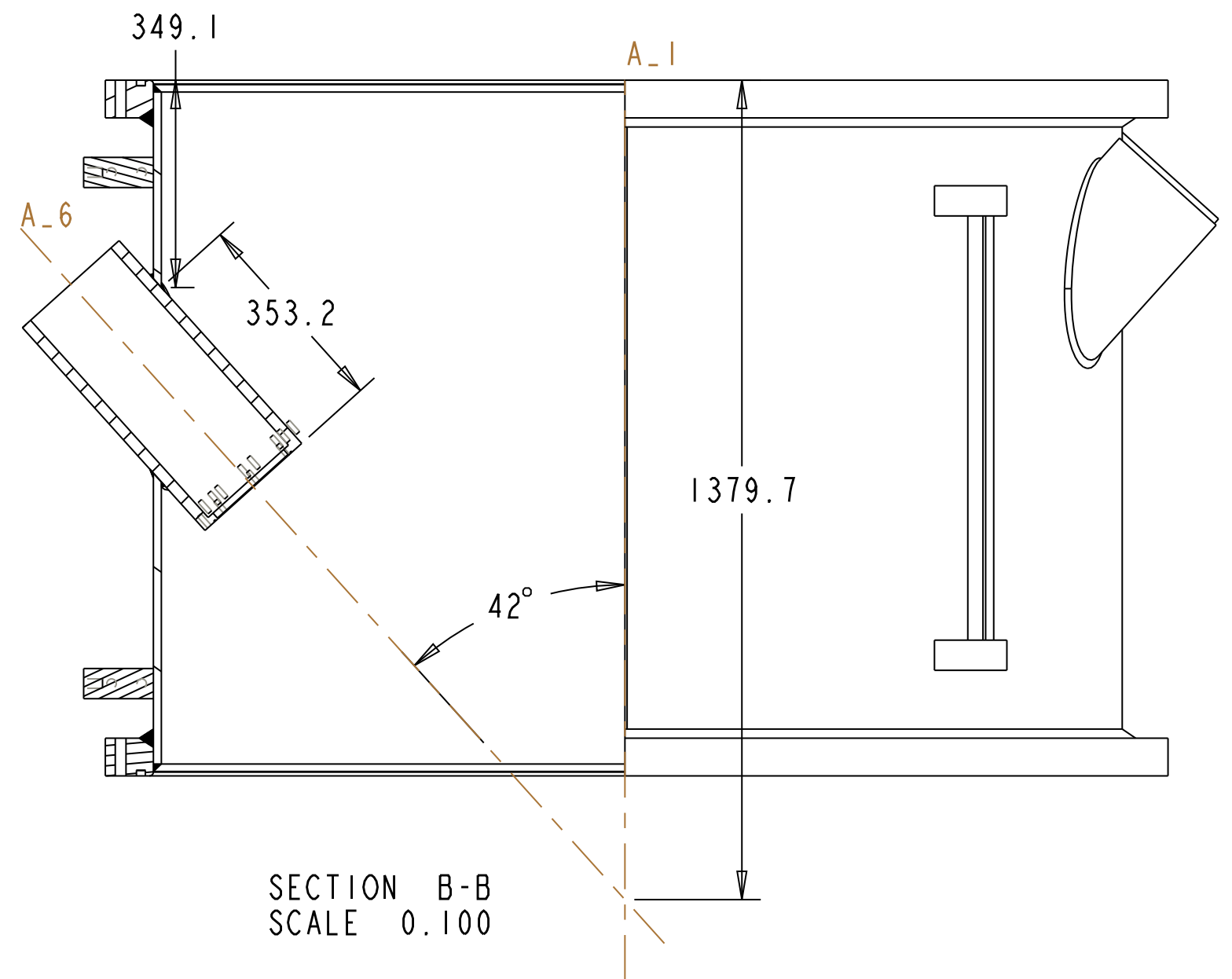
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FAX (780) 492 3408	
E-MAIL: cjang@ualberta.ca	
APPROVED	

B	FIXED TOLERANCES			
C	DECREASE DIAMETER			
D	INCREASE HOLE TOLERANCE			
	CHANGED WELD DETAIL C			
REF. DWGS.	REV.	DATE	REVISION	BY

CENTER OF PARTICLE PHYSICS			
MAIN VESSEL ASSEMBLY			
SCALE	0.100	APPROVAL	DWG. NO.
DATE	JULY 13, 2012	CHIEF ENGR	REV. D

8 7 6 5 4 3 2 1

ITEM	DESCRIPTION	MATL	QUANTITY



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REF. DWGS.	REV.	DATE	REVISION	BY

CENTER OF PARTICLE PHYSICS
 MAIN VESSEL ASSEMBLY
 QUARTZ WINDOW SLEEVE WELDS
 SCALE APPROVAL DWG. NO. REV.
 DATE MAY 10, 2012 CHIEF ENGR B

8 7 6 5 4 3 2 1

ITEM	DESCRIPTION	MATL	QUANTITY

NOTES:

1. CYLINDRICAL BODY SHALL BE MADE WITH CLEAN ROLLERS TO ELIMINATE ANY POSSIBILITY OF ANY INCLUSIONS BEING INTRODUCED INTO THE MATERIAL
2. WELDING SHALL CONFORM TO THE REQUIREMENTS OF CSA W59.2 OR AWS D1.2.
3. ALL WELDING TO BE DONE BY CONTRACTORS CERTIFIED UNDER A DIVISION 1 OR 2 FABRICATION SHOP IN ACCORDANCE WITH CSA W47.2. OR AWS D1.2.
4. ALL WELDS INSPECTED BY A LEVEL 3 INSPECTOR CERTIFIED IN ACCORDANCE WITH CSA W178.2-01 OR AWS CWI
5. ALL SEALING SURFACES MUST BE FREE OF NICKS/DENTS/SCRATCHES
6. DEGREASE ALL PARTS PRIOR TO WELDING
7. CYLINDRICAL BODY WELD SHOULD BE LOCATED APPROX 90 DEGREES FROM GAS PORT WELD
8. ALL INSIDE WELDS TO BE VACUUM TIGHT
9. FINISHED VESSEL TO BE VACUUM TIGHT.
10. FINISHED VESSEL TO BE DEGREASED & CLEANED FOLLOWED WITH ETHANOL OR METHANOL RINSE
11. PROVIDE BLANK-OFF FLANGES TO MATCH EACH FLANGE
12. EACH FLANGE TO BE CLAMPED WITH 126 3/4"-10 UNC 316 SS BOLTS WITH 316 SS WASHERS AND SILICON BRONZE NUTS. INSTALLATION TORQUE SHOULD BE 26 lbf-ft USING NUCLEAR NON-METALLIC HIGH TEMPERATURE ANTI-SEIZE COMPOUND
13. BOLTS/NUTS MUST HAVE MATERIAL TEST REPORTS OR A CERTIFICATE OF CONFORMANCE TO THE ASTM SPECIFICATIONS
14. SUPPLY O-RINGS FOR FLANGES AS INDICATED
15. VACUUM TEST PERFORMED AT THE VENDOR FACILITY WILL BE IN ACCORDANCE WITH ASME-V, ASNT-TC1A NON DESTRUCTIVE EXAMINATION CODE. LEAK TIGHTNESS SHOULD BE DEMONSTRATED BY RECORDING THE HELIUM MASS SPECTROMETER LEAK DETECTOR OUTPUT ON A CHART RECORD FOR A MINIMUM OF ONE HOUR. THE MAX LEAK RATE SHOULD NOT EXCEED 1x10e-8 mbar liter/sec

	B	CORRECT NOTE 12	
REF. DWGS.	REV.	DATE	REVISION BY

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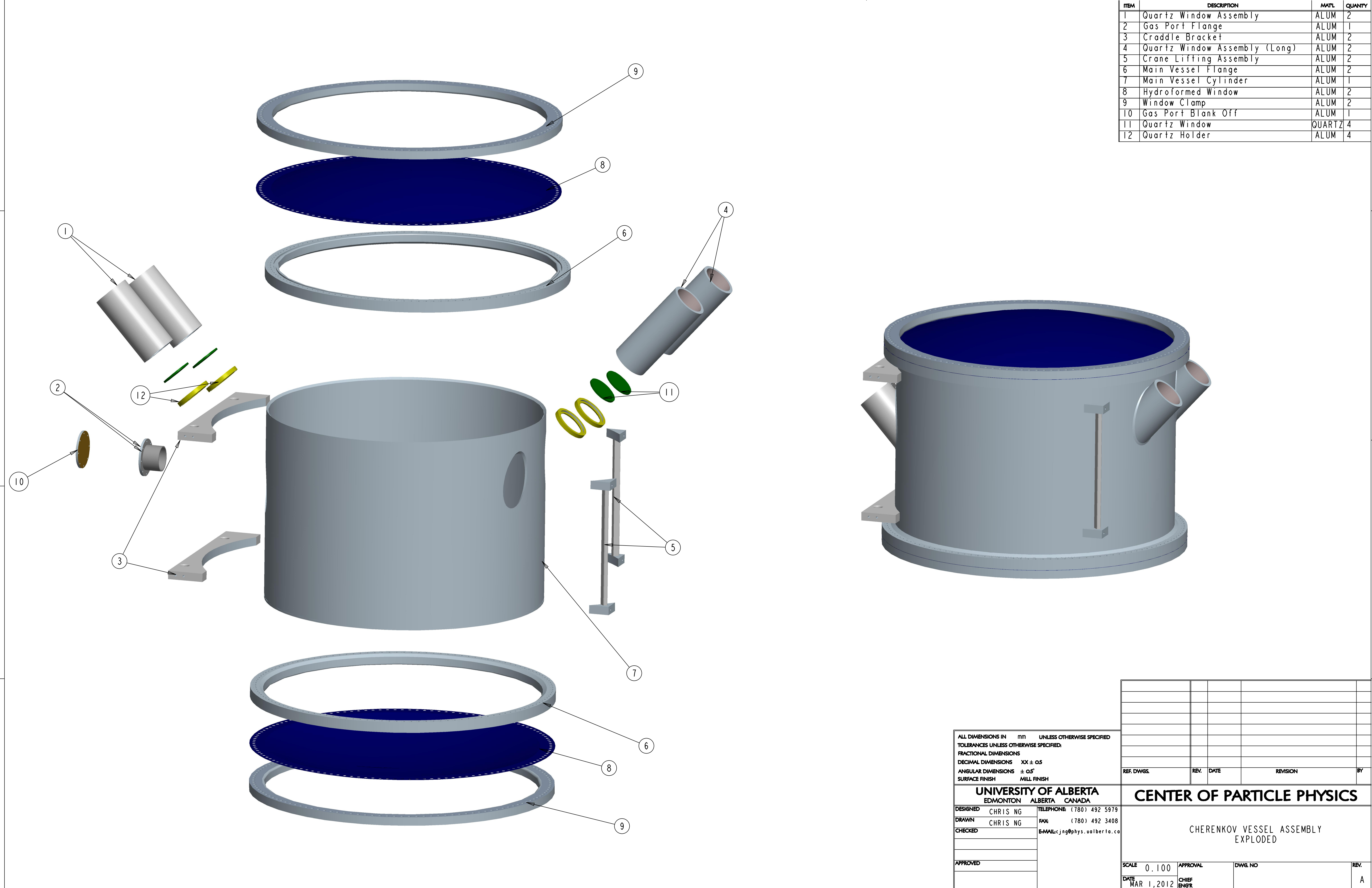
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 EDMONTON ALBERTA CANADA

CENTER OF PARTICLE PHYSICS

MAIN VESSEL ASSEMBLY NOTES

SCALE APPROVAL DWG. NO. REV.
 DATE MAY 10, 2012 CHIEF ENGR B

ITEM	DESCRIPTION	MATL	QUANTITY
1	Quartz Window Assembly	ALUM	2
2	Gas Port Flange	ALUM	1
3	Craddle Bracket	ALUM	2
4	Quartz Window Assembly (Long)	ALUM	2
5	Crane Lifting Assembly	ALUM	2
6	Main Vessel Flange	ALUM	2
7	Main Vessel Cylinder	ALUM	1
8	Hydroformed Window	ALUM	2
9	Window Clamp	ALUM	2
10	Gas Port Blank Off	ALUM	1
11	Quartz Window	QUARTZ	4
12	Quartz Holder	ALUM	4



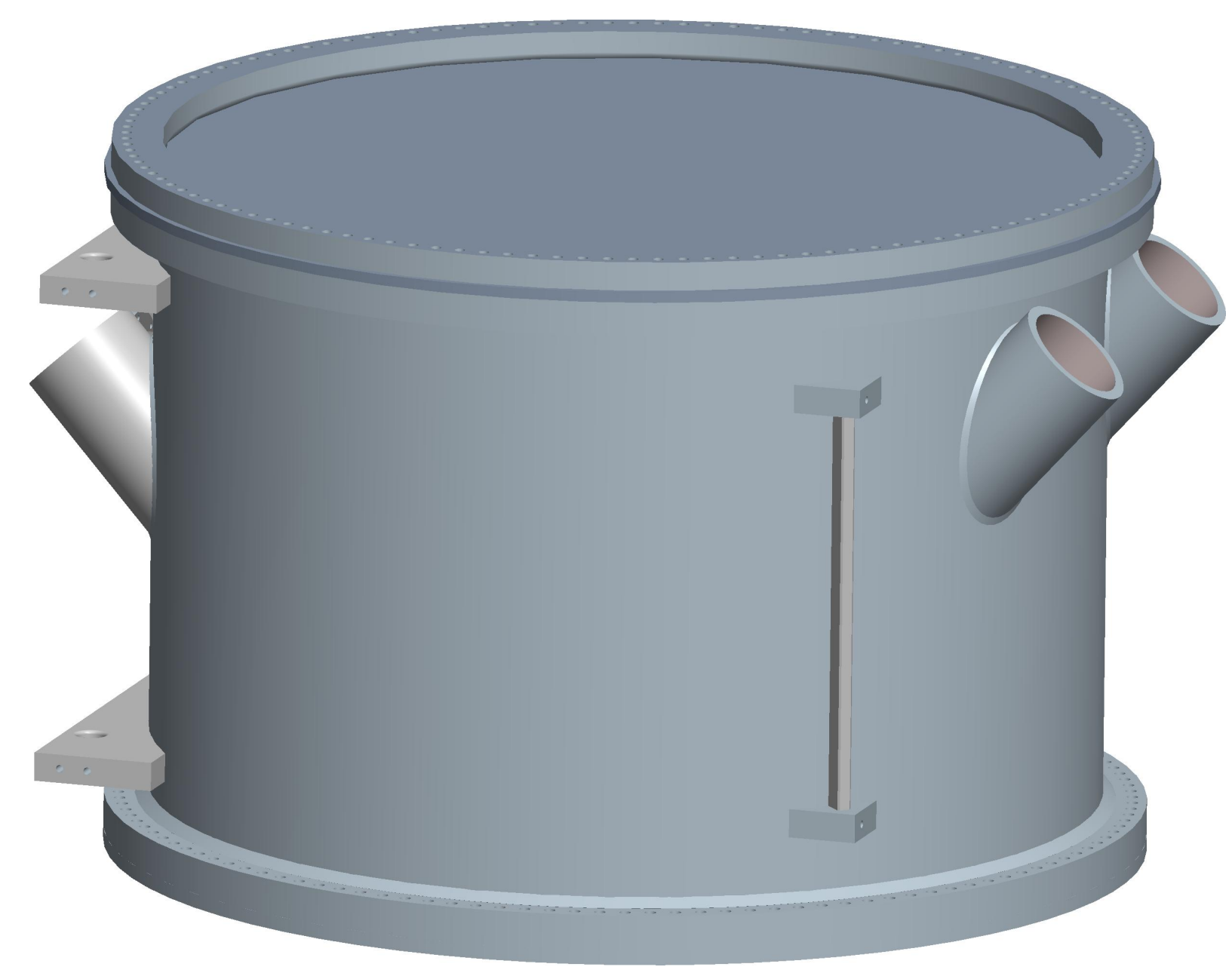
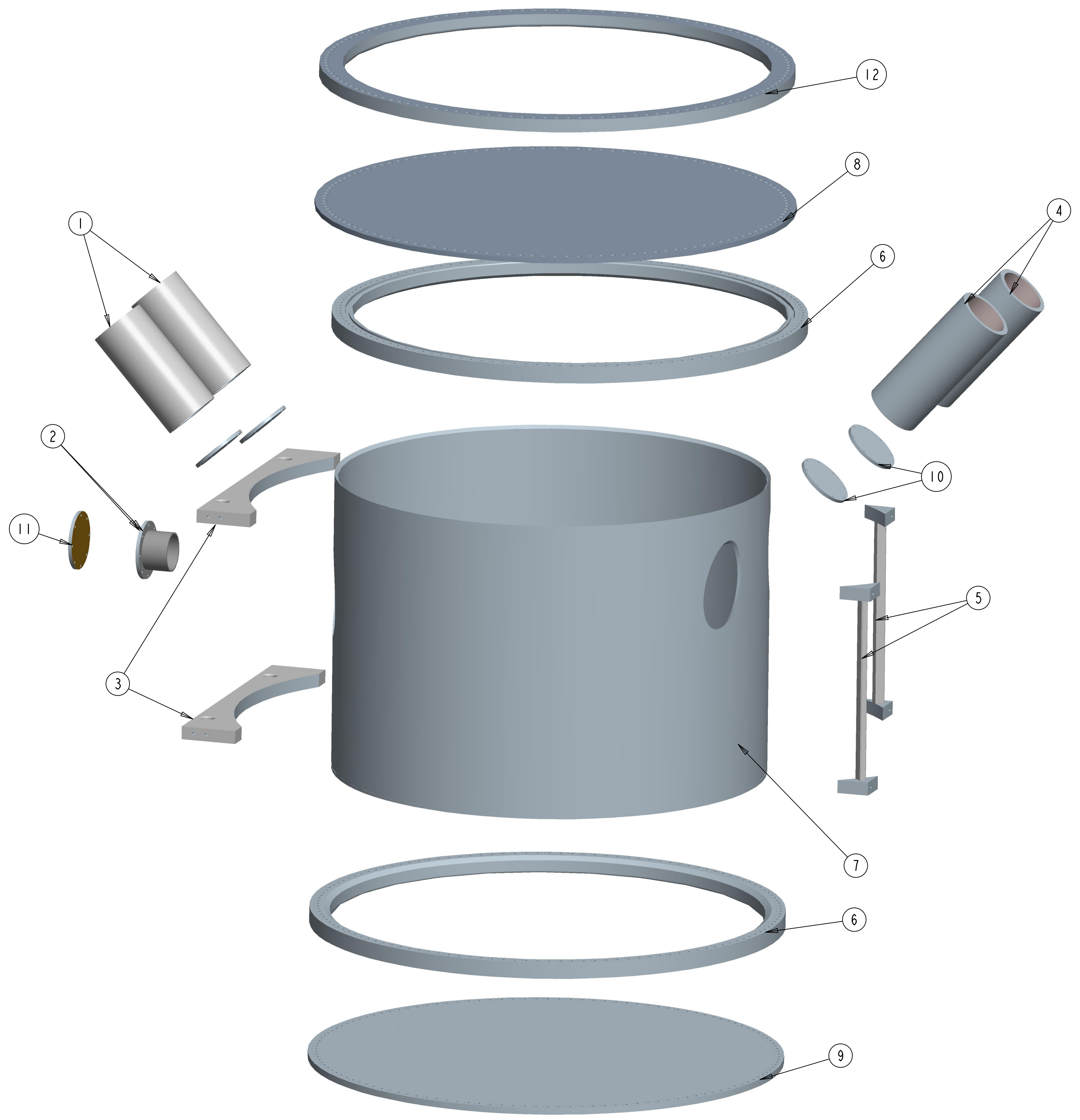
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REF. DWGS.	REV.	DATE	REVISION	BY

CENTER OF PARTICLE PHYSICS
 CHERENKOV VESSEL ASSEMBLY
 EXPLODED
 SCALE 0.100 APPROVAL DWG. NO. REV.
 DATE MAR 1, 2012 CHIEF ENGR A

ITEM	DESCRIPTION	MATL	QUANTITY
1	Quartz Window Assembly	ALUM	2
2	Gas Port Flange	ALUM	1
3	Craddle Bracket	ALUM	2
4	Quartz Window Assembly (Long)	ALUM	2
5	Crane Lifting Assembly	ALUM	2
6	Main Vessel Flange	ALUM	2
7	Main Vessel Cylinder	ALUM	1
8	Window Blank Off	STEEL	1
9	Hydroforming Plate	STEEL	1
10	Quartz Window Blank Off	STEEL	4
11	Gas Port Plate	ALUM	1
12	Window Clamp	ALUM	1



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REF. DWGS.	REV.	DATE	REVISION	BY

CENTER OF PARTICLE PHYSICS
 CHERENKOV VESSEL ASSEMBLY VACUUM TEST
 EXPLODED
 SCALE 0.100 APPROVAL DWG. NO. REV.
 DATE MAR 5, 2012 CHIEF ENGR A