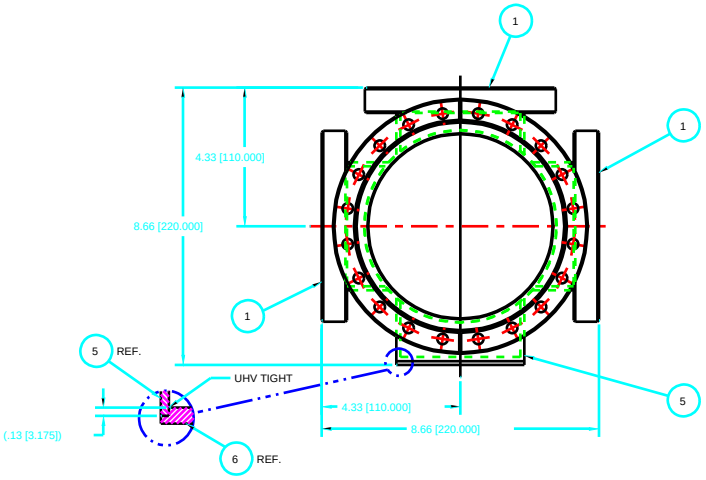
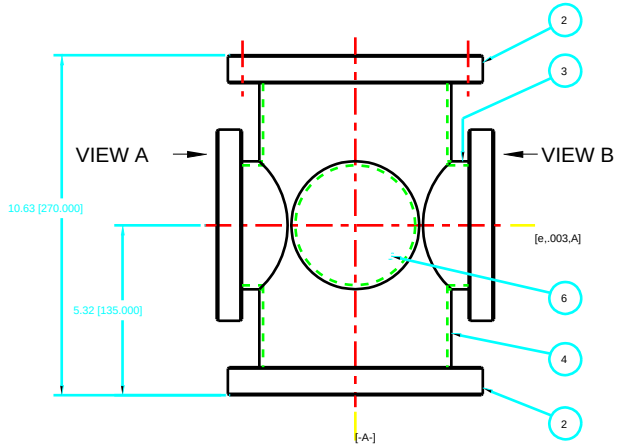
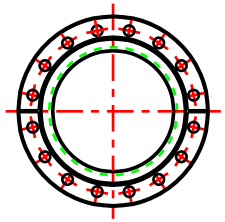
(D)	PLOT SCALE: 1=2	DWG. SCALE: 1	







VIEW A
VIEW B

NOTES:

1. THIS IS A ULTRA-HIGH VACUUM CHAMBER (UHV).

2. WHEN MACHINING VACUUM PARTS, USE OF SILICONE AND SULPHUR-BASED CUTTING FLUIDS IS PROHIBITED. USE ONE OF THE FOLLOWING:
   A) CIMCOOL 5 STAR 49
   B) TRIM SOL

3. ELECTROPOLISHING IS NEEDED BEFORE WELDING. PRIOR TO ELECTROPOLISHING, THE CHAMBER NEEDS TO GO THROUGH A MULTIPLE STEP CLEANING PROCESS INVOLVING DEGREASING, WASHING AND DRY NITROGEN BLOWDOWN. THE CHAMBER VACUUM SIDE SURFACE ROUGHNESS SHALL BE BETTER THAN 63 MICROINCH RMS AFTER ELECTROPOLISHING.

4. WELDS SHALL BE GAS TUNGSTEN ARC (GTAW) OR TUNGSTEN INERT GAS (TIG) ON VACUUM SIDE OF JOINTS.

5. VACUUM CHAMBER SHALL BE LEAK TESTED USING A MASS SPECTROMETER WITH MINIMUM SENSITIVITY FOR HELIUM OF 2 x 10^{-8} STANDARD CC/SEC PER LEAK METER DIVISION, SUCH AS:
   ALCATEL ASM-110TCL
   VARIAN NCR 925 OR 936
   VEECO MS-9, MS-90 OR MS-18
   DuPONT CEC 24-120B

   CALIBRATION OF THE LEAK DETECTOR SENSITIVITY SHALL BE PERFORMED JUST PRIOR TO TESTING.

   FINAL TEST WILL CONSIST OF SURROUNDING THE CHAMBER (BAGGING) WITH HELIUM. THE CHAMBER WILL BE REJECTED IF A 2% DEFLECTION IN THE MOST SENSITIVE RANGE OF LEAK DETECTOR IS SENSED WITHIN 1 MIN.

6. KEEP THE PART CLEAN AND WRAP FOR UHV PACKING WITH ALUMINUM FOIL.

ITEM	DRAWING NUMBER	NOMENCLATURE OR DESCRIPTION	MATERIAL / SPEC	QTY
6		PLATE, ROUND Ø4.00 x .25 THK		
5		TUBING 4.00 O.D. x .125 WALL x 2.09 LG.		
4		TUBING 6.00 O.D. x .120 WALL x 9.63 LG.	S.STEEL 304L	1
3		TUBING 4.00 O.D. x .125 WALL x 2.OO LG.	S.STEEL 304L	3
2		FLANGE, 8" O.D. NOM. NON-ROTATABLE	MDC #110031	2
1		FLANGE, 6" O.D. NOM. NON-ROTATABLE	MDC #110026	3

PARTS LIST

DRAWN BY	RICK KRAKORA	DATE 4/93	
CHECKED BY	J.W.	DATE 8/31/93	
RELEASED	D. SHU	DATE 8/31/93	
MATERIAL ENGINEER	D. SHU	DATE 8/31/93	
CHIEF DESIGN ENGINEER	D. SHU	DATE 8/31/93	
QA LEADER	T. KUZAY	DATE 8/31/93	
PROJECT ENG.			
APPROVED/RELEASED			

A11206

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MATERIAL: SEE B.O.M.

SCALE: 1:2 SHEET: 1 of 1

SIZE: D

DRAWING NUMBER: P4102010104-230000-00

ADVANCED PHOTON SOURCE

B1 ID FRONT END
FIRST BEAM POSITION MONITOR
VACUUM CHAMBER WELDMENT

SYM	CHANGE DESCRIPTION	BY	CHKD	DATE