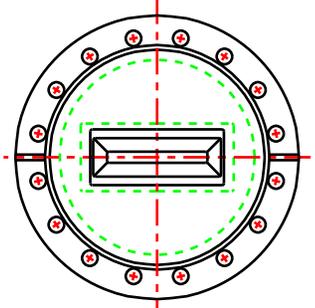
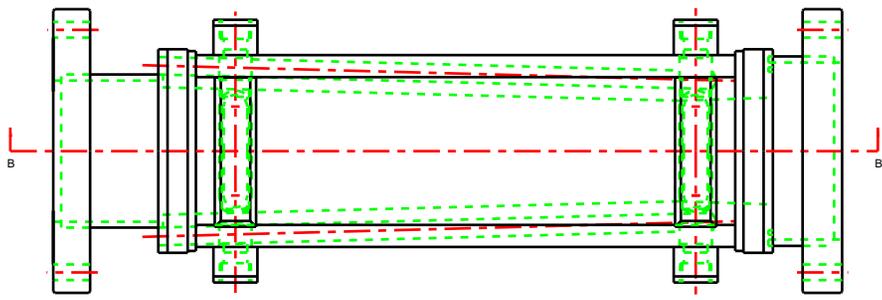


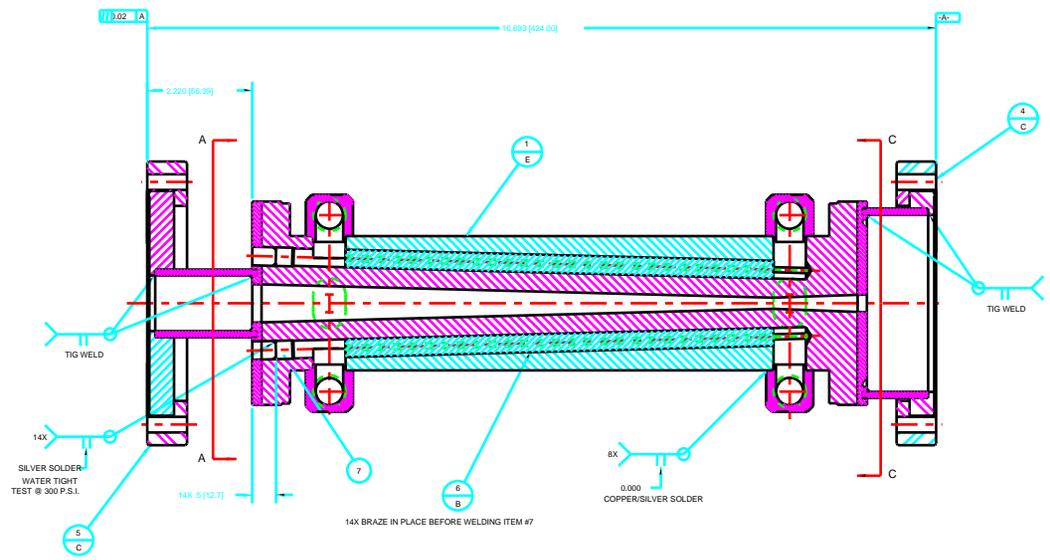
SECTION A - A



SECTION C - C



SECTION B - B



- NOTES:
- THIS IS AN ULTRA-HIGH WELDMENT ASSEMBLY (UHV). ELECTROPOLISHING IS NEEDED BEFORE WELDING. PRIOR TO ELECTROPOLISHING, THE ASSEMBLY MUST GO THROUGH A MULTIPLE STEP CLEANING PROCESS INVOLVING DEGREASING, WASHING, AND DRY NITROGEN BLOW DOWN.
  - 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
  - WELDMENT ASSEMBLY SHALL BE LEAK TESTED USING A MASS SPECTROMETER WITH MINIMUM SENSITIVITY FOR HELIUM OF 2X 10<sup>-10</sup> STANDARD CC/SEC PER LEAK METER DIVISION, SUCH AS:
    - ALCATEL A380-1070C1
    - VARIAN NCR 925 OR 936
    - VEECO MS-3, MS-90 OR MS-18
    - DU PONT CEC 24-1208
 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 THE LEAK DETECTOR IS SENSED WITHIN 1 MIN.
  - ASSEMBLY SHALL ALSO BE WATER TESTED FOR LEAKS @ 300 P.S.I.
  - CERTIFICATION OF ULTRASONIC TEST AND VACUUM EXAMINATION SHALL BE SIGNED BY A CONTRACTOR REPRESENTATIVE TO SIGN SUCH CERTIFICATIONS.
  - KEEP THE PART CLEAN, AND WRAP FOR UHV PACKING WITH ALUMINUM FOL.
  - DIMENSIONS IN [ ] ARE MILLIMETERS

ITEM	QUANTITY	DESCRIPTION	REVISION	DATE
7		M1 WATER ONLET PLUG		
6		M2 Ø8 COPPER MESH WITH SCREW		
5		M2 LEFT END VACUUM FLANGE		
4		M1 RIGHT END VACUUM FLANGE		
3		M1 LEFT & RIGHT PIPE CONNECTIONS		
2		M1 UPPER & LOWER PIPE CONNECTIONS		
1		M2 MAIN BODY		

ITEM	QUANTITY	DESCRIPTION	REVISION	DATE
14		OFHC COPPER		
14		COPPER & SST		
1		SST		
1		SST		
4		OFHC COPPER		
4		OFHC COPPER		
1		SST & GLID - COP		

DATE	DESCRIPTION	BY	CHKD	DATE
9/21/93	DRAWING Brought up to date	M.J.M.		

DATE	DESCRIPTION	BY	CHKD	DATE
9/21/93	DESIGNED BY	T.M. KUZAY		
9/21/93	APPROVED BY	D. SHU		

ARGONNE NATIONAL LABORATORY  
 ADVANCED PHOTON SOURCE  
 M2 APS I.D. FRONT END  
 2-ND FIXED MASK  
 MAIN BODY  
 WELDMENT ASSEMBLY