



SECTION A - A

NOTES:

- THIS IS A UHV PART. ELECTROPOLISHING IS NEEDED BEFORE WELDING. PRIOR TO ELECTROPOLISHING, THE PART NEEDS TO GO THROUGH A MULTIPLE STEP CLEANING PROCESS INVOLVING DEGREASING, WASHING AND DRY NITROGEN BLOW DOWN.
- CHAMBER ASSEMBLY SHALL BE LEAK TESTED USING A MASS SPECTROMETER WITH MINIMUM SENSITIVITY FOR HELIUM OF 2 X 10<sup>-10</sup> STANDARD CC/SEC PER LEAK METER DIVISION, SUCH AS: ALCATEL SAM-110TCL DU PONT CEC 24-120B VARIAN MS-9, MS-90 OR MS-18  
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 ON THE MOST SENSITIVE RANGE OF THE LEAK DETECTOR IS SENSED WITHIN 1 MIN.
- KEEP THE PART CLEAN, AND WRAP FOR UHV PACKING WITH ALUMINUM FOIL.
- DIMENSIONS IN [ ] ARE MILLIMETERS AND ARE FOR REFERENCE ONLY.
- ELECTRO POLISHING IS NEEDED BEFORE WELDING, PRIOR TO ELECTROPOLISHING. THE CHAMBER NEEDS TO GO THROUGH A MULTIPLE STEP CLEANING PROCESS INVOLVING DEGREASING, WASHING AND DRY NITROGEN BLOW DOWN. THE CHAMBER VACUUM SIDE SURFACE ROUGHNESS SHALL BE BETTER THAN 63 MICROINCH RMS AFTER ELECTROPOLISHING.
- WELD SHALL BE GAS TUNGSTEN ARC (GTAW) OR TUNGSTEN INERT GAS (TIG) ON VACUUM SIDE OF JOINTS.

2 P4105090404-310100-31 END FLANGE				2
1 P4105090404-310100-31 RECTANGULAR CHAMBER				1
ITEM	DWG/PART NUMBER	NOMENCLATURE OR DESCRIPTION	MATERIAL / SPEC	QTY
PARTS LIST				
UNLESS OTHERWISE SPECIFIED: ALL DIMENSIONS ARE IN INCHES TOLERANCES: DECIMALS      ANGULAR		LOG NUMBER <b>A2417700</b>		
X - .001 (0.025)      .005 XX - .01 (0.25)      .010 XXX - .005 (0.127)      .015		THIS DRAWING IS THE PROPERTY OF <b>ARGONNE NATIONAL LABORATORY</b>		
SURFACE ROUGHNESS 125		DRAWN BY: E. TORRES DATE: 3/15/96 CHECKED BY: J. CHANG DATE: 3/22/96 DESIGNER: CHANG/TORRES DATE: 3/15/96 RESPONSIBLE ENGINEER: J. CHANG DATE: 3/22/96		
REMOVE ALL BURRS AND BEVEL SHARP EDGES (R1.00)		DATE: 4/1/96 DATE: 4/2/96 DATE: 4/2/96		
SURFACE TEXTURE TO BE IN ACCORDANCE WITH LATEST ANSI B46.1		PROJECT MGR: T.M. KUZAY		
DIMENSIONING & TOLERANCING IN ACCORDANCE WITH LATEST ANSI Y14.5		APPROVED/RELEASED:		
REVISIONS		SCALE: 1:1 SHEET: 1 of 1		
BYM	CHANGE DESCRIPTION	BY	CHKD	DATE
DO NOT SCALE DRAWING				
SEE PARTS LIST			DRAWING NUMBER <b>P4105090404-310100-00</b>	

ADVANCED PHOTON SOURCE  
K4-31  
BM1 FOE COLLIMATOR  
VACUUM CHAMBER  
WELDMENT ASSEMBLY