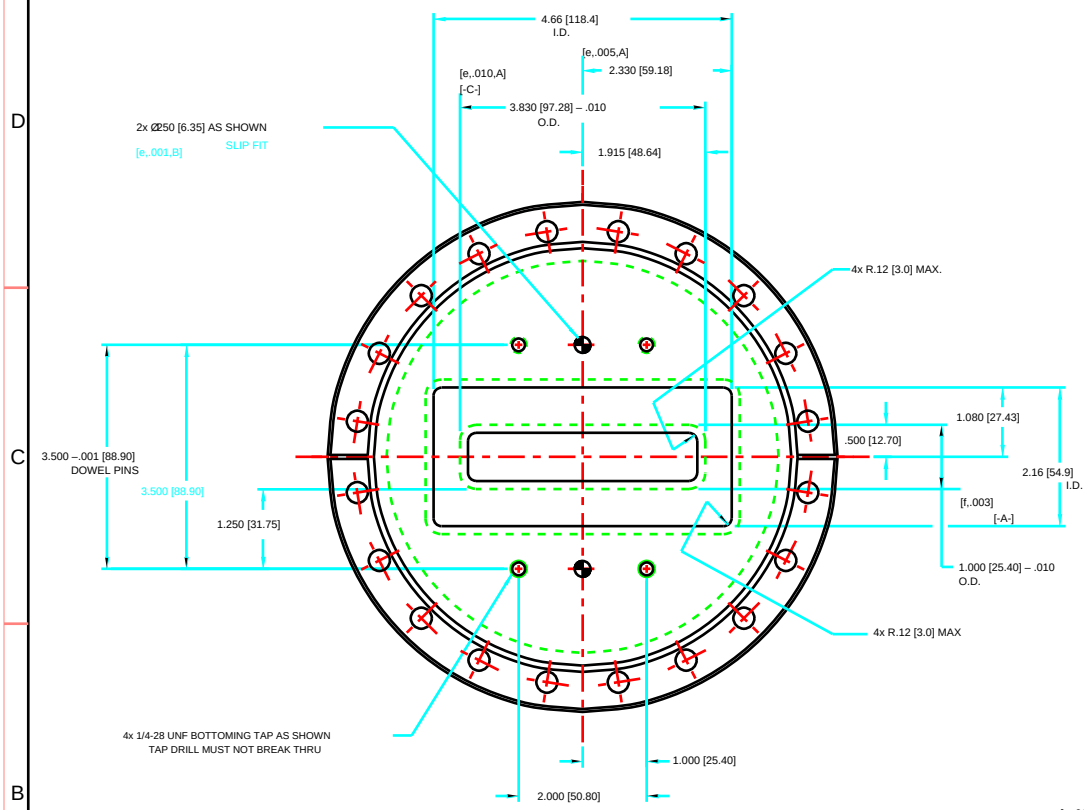
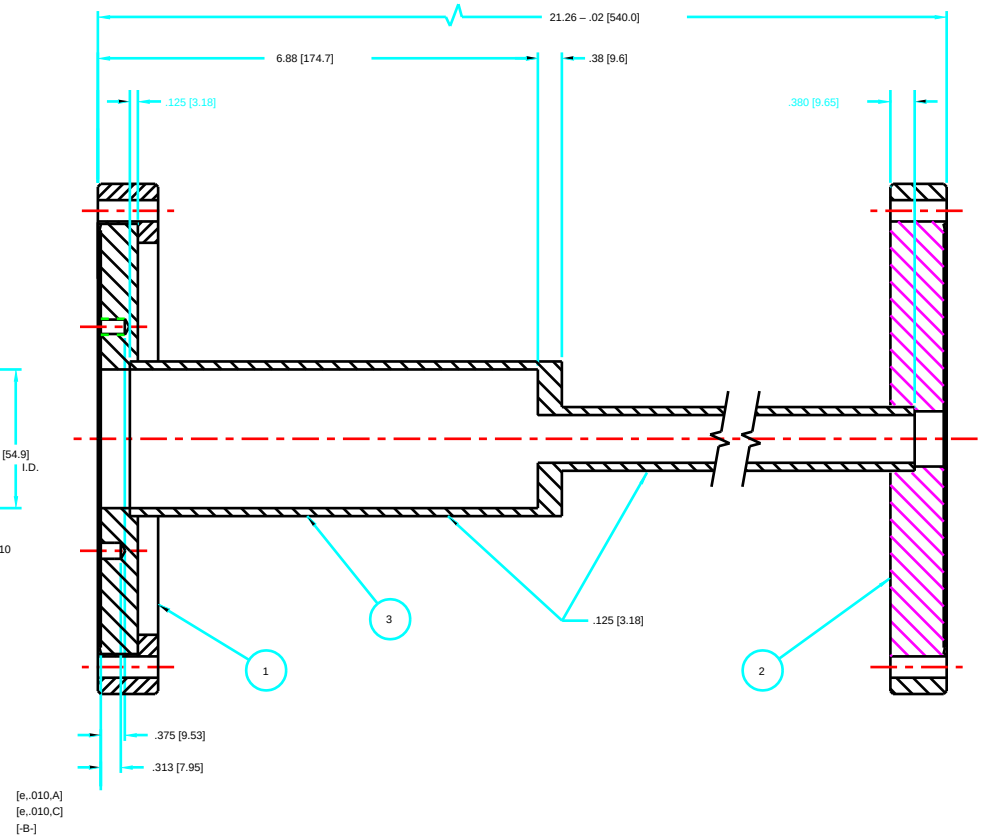
(D)	PLOT SCALE: 1=1	DWG. SCALE: 1	





NOTE:

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 BLOW DOWN. THE CHAMBER VACUUM SIDE SURFACE ROUGHNESS SHALL BE BETTER THAN 63 MICROINCH RMS AFTER ELECTROPOLISHING.

4. WELD 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 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 THE LEAK DETECTOR IS SENSED WITHIN 1 MIN.

6. ALL DIMENSIONS IN [ ] ARE MILLIMETERS AND ARE FOR REFERENCE ONLY.

7. MACHINE 63 FINISH FOR ALL VACUUM SURFACES BEFORE ELECTROPOLISHING.

REFERENCE SOURCE

1 MDC VACUUM PRODUCTS CORP.
23842 CABOT BOULEVARD
HAYWARD, CA. 94545-1651
(800)-443-8817

	ITEM	DWG/PART NUMBER	NOMENCLATURE OR DESCRIPTION	MATERIAL / SPEC	QTY
	3		RECTANGULAR CHAMBER	304 SST	1
1	2	MDC#110030	FLANGE 8" NOM. NON-ROTATABLE	304 SST	1
1	1	MDC#100030	FLANGE 8" NOM. ROTATABLE	304 SST	1

PARTS LIST

SYM	CHANGE DESCRIPTION	BY	CHKD	DATE

REVISIONS

UNLESS OTHERWISE SPECIFIED: ALL DIMENSIONS ARE IN INCHES
TOLERANCES
DECIMALS: .X – .01 [.7620]; .XX – .01 [0.25]; .XXX – .005 [0.127]
ANGULAR – ±5
SURFACE ROUGHNESS 125
REMOVE ALL BURRS AND BREAK SHARP EDGES .03 MAX.
SURFACE TEXTURE TO BE IN ACCORDANCE WITH LATEST ANSI B46.1
DIMENSIONING & TOLERANCING IN ACCORDANCE WITH LATEST ANSI Y14.5
DO NOT SCALE DRAWING

LOG NUMBER A2420700

THIS DRAWING IS THE PROPERTY OF ARGONNE NATIONAL LABORATORY

DRAWN BY E. TORRES- STERLING	DATE 3/18/96	CHIEF DESIGN ENGINEER D.SHU	DATE 4/1/96
CHECKED BY J.CHANG	3/22/96	GP LEADER T.M.KUZAY	4/2/96
DESIGNER CHANG/TORRES	3/18/96	PROJECT MGR.	
RESPONSIBLE ENGINEER J.CHANG	3/22/96	APPROVED/RELEASED	

TITLE
ADVANCED PHOTON SOURCE

K4-21
BM2 FOE COLLIMATOR
VACUUM CHAMBER

MATERIAL SEE BOM

SCALE 1:1 SHEET 1 of 1

SIZE D

DRAWING NUMBER P4105090404-210101-00