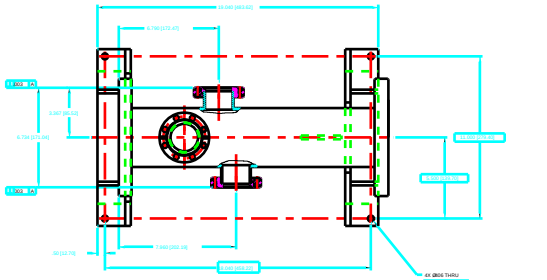


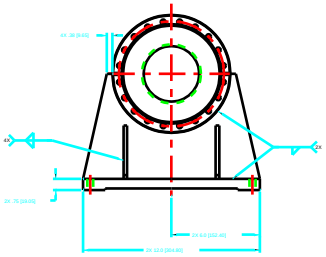


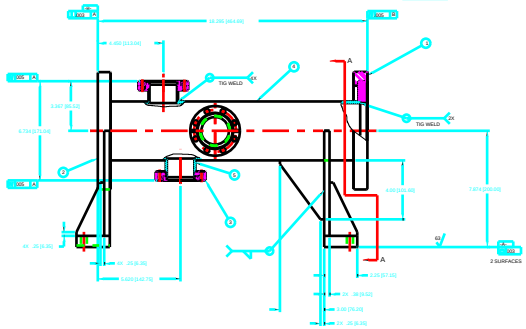


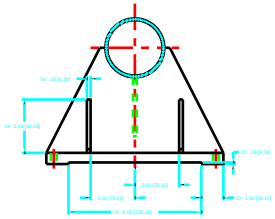


SECTION A - A

NOTES:

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

2. WHEN MACHINING VACUUM PARTS, USE OF SILICONE AND SULPHER-BASED CUTTING FLUIDS IS PROHIBITED. USE ONE OF THE FOLLOWING:

   A) CIMCOOL S STAR 49

   B) TRIM SOL

3. ELECTROPOLISHING IS NEEDED BEFORE WELDING. PRIOR TO ELECTROPOLISHING, THE CHAMBER MUST 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 MICRONCH 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 2X 10 -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
   Du PONT 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. DIMENSIONS IN [ ] ARE MILLIMETERS AND FOR REF. ONLY

REF. SOURCE

MDC VACUUM PRODUCTS CORP.
28842 CABOT BLVD.
HAYWARD, CA 94545-1651
TEL: 1-800-468-8857
FAX: 1-510-887-0626

| | | | | |
|---|---|---|---|---|
| 5 | | 2" O.D. X .065 WALL TUBING | SST | 4 |
| 4 | | 6" O.D. X .135 WALL TUBING | SST | 2 |
| 3 | #100017 | 3 3/8" O.D. ROTATABLE VACUUM FLANGE | SST | 4 |
| 2 | P4105091502-920001 | 12-30.5" O.D. NONROTATABLE VAC FLG. | SST | 1 |
| 1 | P4105091502-920003 | 12-30.5" O.D. ROTATABLE VAC FLG. | SST | 1 |
| ITEM | PART NUMBER | DESCRIPTION | MATERIAL | QTY |

| | | | |
|---|---|---|---|
| DRAWN | A2342600 | | |
| MUSICA | 05/01/99 | M. SHU | 5/29/99 |
| D. SHU | 05/29/99 | T.M. KUDAY | 5/29/99 |
| CHUM/USOA | 05/01/99 | | |
| D. SHU | 05/29/99 | | |
| SEE PARTS LIST | | | |

LAWRENCE BERKELEY NATIONAL LABORATORY

TITLE: P4105091502-920000-00
L2-30 "PINK BEAM" SLITBPM VACUUM CHAMBER WELDMENT ASSEMBLY

SIZE: E
P4105091502-920000-00