



- NOTES:**
1. 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.
  2. ALL WELDING FOR VACUUM SEALS ARE TUNGSTEN INERT GAS (TIG) WELDS. VACUUM SIDE.
  3. THIS IS A UHV ASSEMBLY. 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.
  4. ASSEMBLY SHALL BE LEAK TESTED USING A MASS SPECTROMETER WITH MINIMUM SENSITIVITY FOR HELIUM OF 2 X 10<sup>-10</sup> STANDARD CCSECF 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 TRESTING.
  5. KEEP THE ASSEMBLY CLEAN, AND WRAP FOR UHV PACKING WITH ALUMINUM FOIL.
  6. DIMENSIONS [ ] ARE MILLIMETERS AND FOR REF. ONLY.
- FINAL TEST WILL CONSIST OF SURROUNDING THE ASSEMBLY (BAGGING) WITH HELIUM. THE ASSEMBLY WILL BE REJECTED IF A 2% DEFLECTION ON THE MOST SENSITIVE RANGE OF THE LEAK DETECTOR IS SENSED WITHIN 1 MIN.

REF. SOURCE  
 MDC VACUUM PRODUCTS CORP.  
 23842 CABOT BLVD.  
 HAYWARD, CA 94545-1651  
 1-501-887-6100  
 FAX: 1-510-887-0626

| REV | DATE   | DESCRIPTION                   | BY | CHKD |
|-----|--------|-------------------------------|----|------|
| 2   | 110014 | 2 3/4" O.D. CF. VACUUM FLANGE |    | SST  |
| 1   | 110028 | 6" O.D. CF. VACUUM FLANGE     |    | SST  |

| PARTS LIST |                              |     |             |     |
|------------|------------------------------|-----|-------------|-----|
| QTY        | DESCRIPTION                  | QTY | DESCRIPTION | QTY |
| 1          | NOTE #2 ADDED                |     |             |     |
|            | 4X Ø856 THRU HOLES ADDED     |     |             |     |
|            | 4X 5/8 - 11 UNC 2B X 1" DEEP |     |             |     |
|            | ADDED                        |     |             |     |
|            | 4X 1/2 - 13 UNC 2B X 1" DEEP |     |             |     |
|            | REMOVED                      |     |             |     |

**ARGONNE NATIONAL LABORATORY**  
 THE OFFICE OF THE DIRECTOR OF  
**ADVANCED PHOTON SOURCE**  
 Y2 LONG COOLED HORIZONTALLY  
 DEFLECTING X-RAY MIRROR  
 TOP COVER CHAMBER WELDMENT  
 (REF. 507996)

| REV | DATE | DESCRIPTION | BY | CHKD |
|-----|------|-------------|----|------|
| 1   | 1/14 |             |    |      |
| 1   | 1/17 |             |    |      |

304 STAINLESS STEEL  
 SHEET 1/4  
 SHEET 1/8  
 E

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