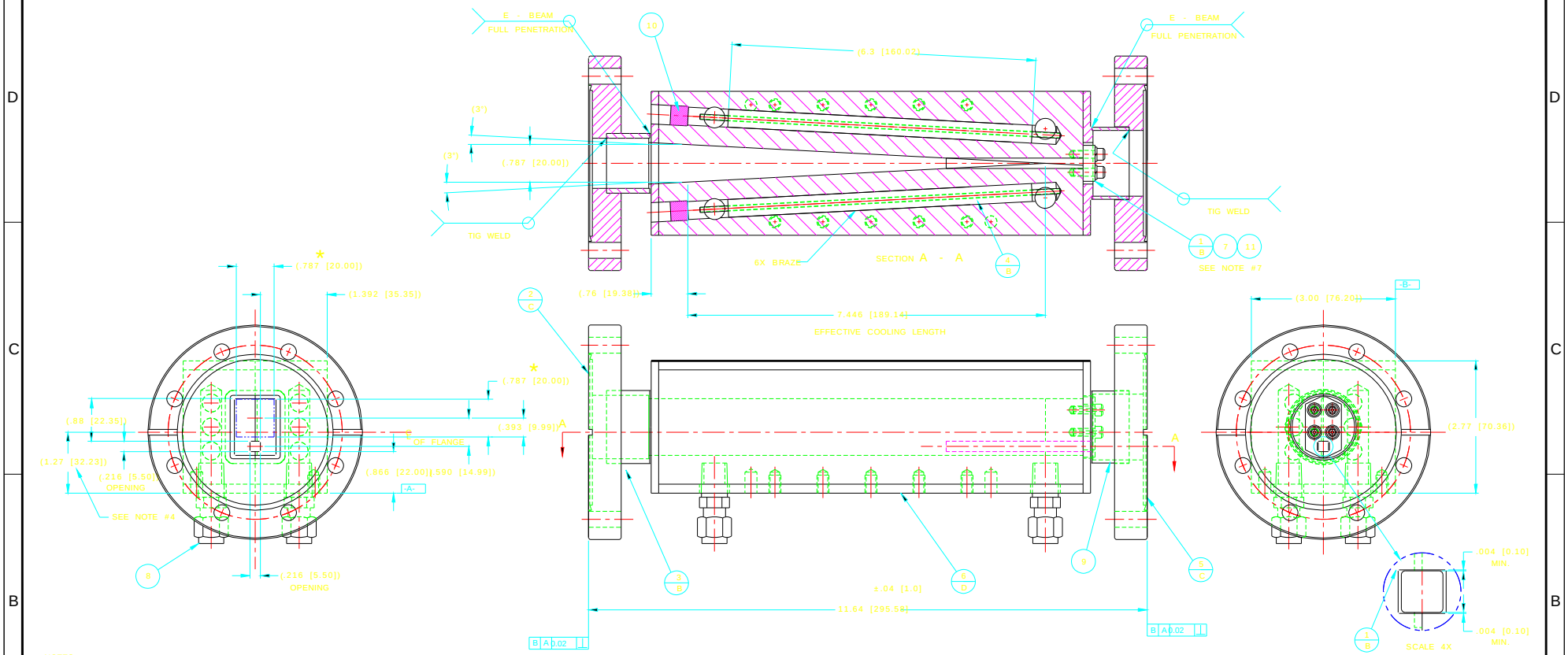

NOTES:

1. THIS IS A ULTRA - HIGH VACUUM ASSEMBLY (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. VACUUM ASSEMBLY 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 ASSEMBLY (BAGGING) WITH HELIUM. THE ASSEMBLY WILL BE REJECTED IF A 2% DEFLECTION IN THE MOST SENSITIVE RANGE OF THE LEAK DETECTOR IS SENSED WITHIN 1 MIN.
4. ORIENTATE FLANGE CORRECTLY BEFORE WELDING
5. ASSEMBLY SHALL BE WATER PRESSURE TESTED AT 300 P.S.I.
6. DIMENSIONS IN [ ] ARE INCHES AND FOR REF. ONLY
7. TORQUE TO 10 IN-LBS

★ EFFECTIVE COOLING AREA

REF. SOURCE

PARKER HANNIFIN CORP.
INSTR. CONNECTORS DIVISION
P.O. BOX 400004-1504
HUNTVILLE, AL 35815-1504
TEL: 1-205-881-2040
FAX: 1-205-881-5730

THE LEE COMPANY
TECHNICAL CENTER
2 PETTIPAUG ROAD
P.O. BOX 424
WESTBROOK, CON. 06498-0424
TEL: 1-203-399-6281
FAX: 1-203-399-7058

ITEM	DWG/PART NUMBER	NOMENCLATURE OR DESCRIPTION	MATERIAL / SPEC.	QTY.
11		.174 I.D. X .04 THK. LOCK WASHER	SST	4
10	#4060020A	LEE PLUG	SST	6
9		1.50 [38.10] O.D. X .065 [1.65] WALL TUBING	SST	1
8	#6-4FH4BZ-SS	THERMOCOUPLE CONNECTOR	SST	4
7		#8 - 32 X 1/2" LG. VENTED SOC. HD. SCREW	SST/SILVER PLATATED	4
6	P4-310100-01	P4-30 UNDULATOR STOP BODY WELDMENT ASSY	SST/GLID-COP	1
5	P4-310107-00	P4-30 RIGHT NONROTATABLE FLANGE	SST	1
4	P4-310106-00	P4-30 WATER RETARDER	SST	6
3	P4-310105-01	P4-30 RECTANGULAR TUBING	SST	1
2	P4-310104-01	P4-30 LEFT NONROTATABLE FLANGE	SST	1
1	P4-310103-00	P4-30 RADIATION GUARD	TUNGSTEN ALLOY	1

PARTS LIST

1	P4-310104-01 WAS			
	P4-310104-00			
	P4-310105-01 WAS			
	P4-310105-00			
	P4-310100-01-2 WAS			
	P4-310100-00-2			
	VENTED SOC. HD. SCREW WITH			
	SILVER PLATING ADDED			
	DRAWING BROUGHT UP TO DATE M.J.		J.C.	10/9/98
REV	CHANGE DESCRIPTION	BY	CHKD	DATE

DO NOT SCALE DRAWING

UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN INCHES

TOLERANCES
DECIMALS ±.005
FRACTIONS ±1/64

SURFACE ROUGHNESS 125√

BREAKS ALL SLIVERS AND SHARP EDGES .03 MAX

SURFACE TEXTURE TO BE IN ACCORDANCE WITH LATEST ANSI B46.1

DIMENSIONING & TOLERANCING IN ACCORDANCE WITH LATEST ASME Y14.5M

DOC NUMBER P4310100-01

THIS DRAWING IS THE PROPERTY OF ARGONNE NATIONAL LABORATORY

DRAWN BY	DATE	CHIEF DESIGN ENGINEER	DATE	TITLE
MUSCIA	9/1/98	D. SHU	10/2/98	ADVANCED PHOTON SOURCE
CHECKED BY	DATE	ENGINEER	DATE	P4-30 INTEGRAL SHUTTER FOR 4-ID-A UNDULATOR STOP ASSEMBLY
SHU/CHANG	10/2/98	D. KUZAY	10/2/98	
APPROVED	DATE	PRODUCT MGR.	DATE	
SHU/MUSCIA	9/1/98			
MANAGER D. SHU	DATE 10/2/98	RELEASED	DATE	
MATERIAL SEE PARTS LIST		SCALE 1:1	SIZE D	DRAWING NUMBER P4-310100-01-1
		SHEET 1 OF 2		