(E)	PLOT SCALE: 1=1	DWG. SCALE: .5	A1856002

DESIGN SPECIFICATIONS
FOR P5 ID MONOCHROMATIC PHOTON SHUTTER 1:

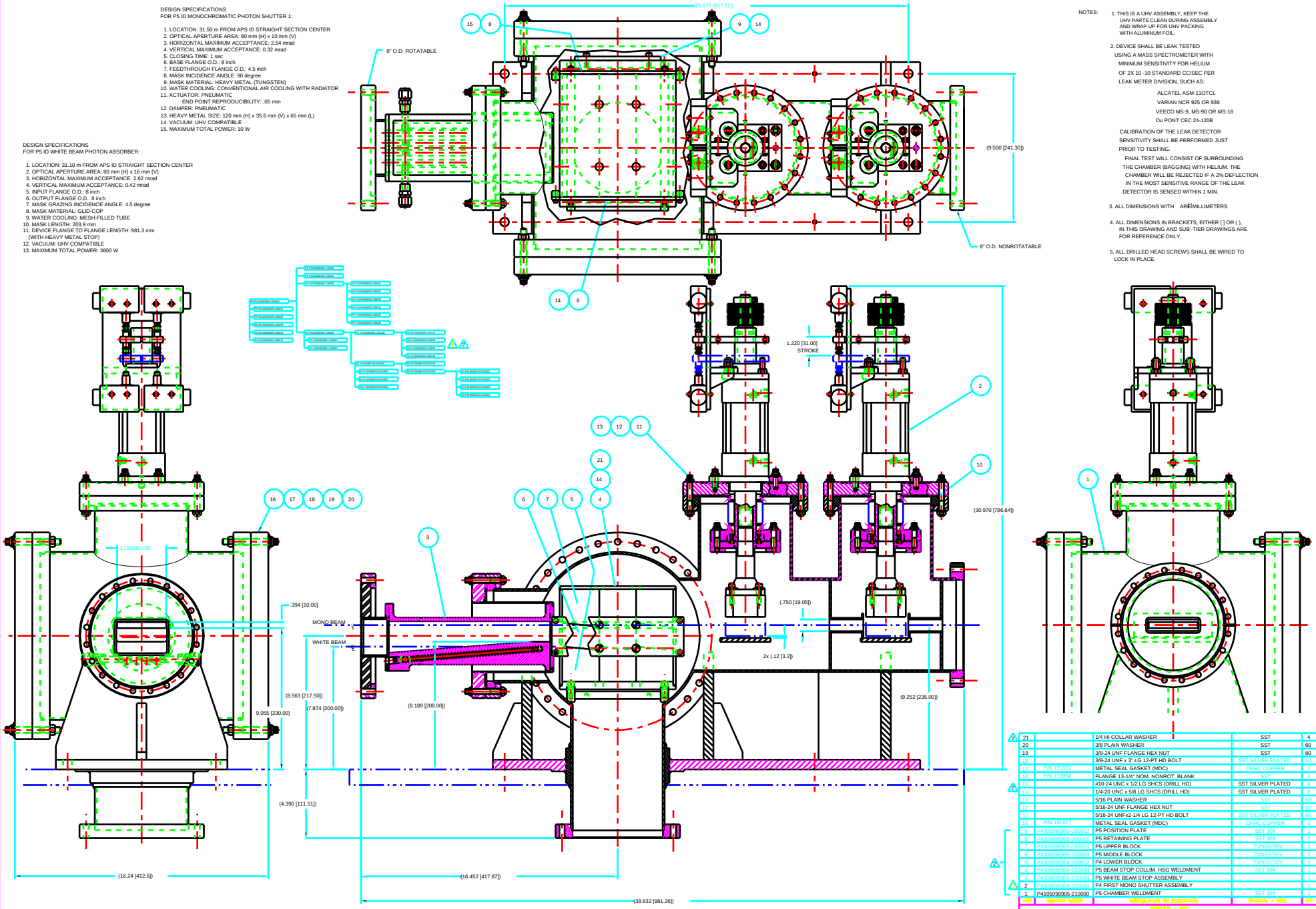
1. LOCATION: 31.50 m FROM APS ID STRAIGHT SECTION CENTER
2. OPTICAL APERTURE AREA: 80 mm (H) x 10 mm (V)
3. HORIZONTAL MAXIMUM ACCEPTANCE: 2.54 mrad
4. VERTICAL MAXIMUM ACCEPTANCE: 0.32 mrad
5. CLOSING TIME: 1 sec
6. BASE FLANGE O.D.: 8 inch
7. FEEDTHROUGH FLANGE O.D.: 4.5 inch
8. MASK INCIDENCE ANGLE: 90 degree
9. MASK MATERIAL: HEAVY METAL (TUNGSTEN)
10. WATER COOLING: CONVENTIONAL AIR COOLING WITH RADIATOR
11. ACTUATOR: PNEUMATIC
    END POINT REPRODUCIBILITY: .05 mm
12. DAMPER: PNEUMATIC
13. HEAVY METAL SIZE: 120 mm (H) x 35.6 mm (V) x 65 mm (L)
14. VACUUM: UHV COMPATIBLE
15. MAXIMUM TOTAL POWER: 10 W

DESIGN SPECIFICATIONS
FOR P5 ID WHITE BEAM PHOTON ABSORBER:

1. LOCATION: 31.10 m FROM APS ID STRAIGHT SECTION CENTER
2. OPTICAL APERTURE AREA: 80 mm (H) x 16 mm (V)
3. HORIZONTAL MAXIMUM ACCEPTANCE: 2.62 mrad
4. VERTICAL MAXIMUM ACCEPTANCE: 0.42 mrad
5. INPUT FLANGE O.D.: 8 inch
6. OUTPUT FLANGE O.D.: 8 inch
7. MASK GRAZING INCIDENCE ANGLE: 4.5 degree
8. MASK MATERIAL: GLID-COP
9. WATER COOLING: MESH-FILLED TUBE
10. MASK LENGTH: 203.9 mm
11. DEVICE FLANGE TO FLANGE LENGTH: 981.3 mm (WITH HEAVY METAL STOP)
12. VACUUM: UHV COMPATIBLE
13. MAXIMUM TOTAL POWER: 3800 W

NOTES:

1. THIS IS A UHV ASSEMBLY, KEEP THE UHV PARTS CLEAN DURING ASSEMBLY AND WRAP UP FOR UHV PACKING WITH ALUMINUM FOIL.
2. DEVICE 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.
3. ALL DIMENSIONS WITH ARE MILLIMETERS
4. ALL DIMENSIONS IN BRACKETS, EITHER [ ] OR ( ), IN THIS DRAWING AND SUB-TIER DRAWINGS ARE FOR REFERENCE ONLY.
5. ALL DRILLED HEAD SCREWS SHALL BE WIRED TO LOCK IN PLACE.



2	21		1/4 HI-COLLAR WASHER	SST	4
	20		3/8 PLAIN WASHER	SST	60
	19		3/8-24 UNF FLANGE HEX NUT	SST	60
	18		3/8-24 UNF x 3" LG 12-PT HD BOLT	SST SILVER PLATED	60
	17	P/N 191022	METAL SEAL GASKET (MDC)	OFHC COPPER	2
	16	P/N 110034	FLANGE 13-1/4" NOM. NONROT. BLANK	SST	2
2	15		#10-24 UNC x 1/2 LG SHCS (DRILL HD)	SST SILVER PLATED	8
	14		1/4-20 UNC x 5/8 LG SHCS (DRILL HD)	SST SILVER PLATED	6
	13		5/16 PLAIN WASHER	SST	60
	12		5/16-24 UNF FLANGE HEX NUT	SST	60
	11		5/16-24 UNFx2-1/4 LG 12-PT HD BOLT	SST SILVER PLATED	60
	10	P/N 191017	METAL SEAL GASKET (MDC)	OFHC COPPER	3
	9	P4105090905-200002	P5 POSITION PLATE	SST 304	1
	8	P4105090905-200001	P5 RETAINING PLATE	SST 304	2
	7	P4105090905-200003	P5 UPPER BLOCK	TUNGSTEN	3
	6	P4105090905-200004	P5 MIDDLE BLOCK	TUNGSTEN	3
	5	P4105090904-200012	P4 LOWER BLOCK	TUNGSTEN	3
	4	P4105090905-220000	P5 BEAM STOP COLLIM. HSG WELDMENT	SST 304	1
	3	P4105090905-230000	P5 WHITE BEAM STOP ASSEMBLY		1
1	2	P4105090904-220000	P4 FIRST MONO SHUTTER ASSEMBLY		2
	1	P4105090905-210000	P5 CHAMBER WELDMENT	SST 304	1
ITEM	PART NO.		DESCRIPTION OR ASSEMBLY	MATERIAL / SIZE	QTY

SHEET 1 OF 1

2	ITEM 21 ADDED;	J.G.	
2	REV. NO'S REM. GEN. UPDATE;	J.G.	
1	GEN. UPDATE;	J.G.	J.C. 9/31/94

A1856002

ARGONNE NATIONAL LABORATORY

DRAWN BY J.GOGOL	5/9/94	D.SHU	7/11/94
CHECKED BY J.CHANG	7/11/94	T.M.KUZAY	7/12/94
ISSUED BY J.GOGOL/J.CHANG	5/9/94		
APPROVED BY J.CHANG	7/11/94		

ADVANCED PHOTON SOURCE
P5 I.D. FIXED W/M/S
INTEGRAL SHUTTER ASSEMBLY

SEE B.O.M.

SCALE 1:2 | SHEET 1 OF 1 | E | P4105090905-200000-02

Plotted: APR 21,1995 3:56 PM