

NOTES:

1. HEADS ARE ASME F&D.
2. INCLUDE CENTERING PINS ON NOZZLE FLANGES WHERE APPROPRIATE.
3. VIEWPORT (ITEM H) MEASUREMENTS REFER TO INTERSECTION OF VIEWPORT AXIS WITH OUTER SURFACE OF VACUUM WALL.
4. TOLERANCES, UNLESS OTHERWISE SPECIFIED: LINEAR, ± 0.25 CM
ANGULAR, ± 1 DEGREE

5. NOZZLE SCHEDULE PER TABLE BELOW:

ITEM	SIZE	QUANTITY	FLANGE TYPE	PURPOSE
(A)	264cm ID TUBE	1	O/O-O/METAL*	MAJOR ACCESS
(B)	183cm ID TUBE	2	METAL SEAL	LASER BEAM
(C)	122cm ID TUBE	1	O/O-O/METAL*	LASER BEAM
(D)	122cm ID TUBE	1	O/O-O/METAL*, WITH BLIND FLANGE	EMERGENCY ACCESS (MINIMIZE NECK LENGTH)
(E)	35cm OD TUBE	4	CONFLAT**	SUPPORT BEAMS REFERENCE ICD #TBD
(F)	35cm OD TUBE	4	CONFLAT**, WITH BLIND FLANGE	ELECTRICAL FEEDTHROUGHS ROUGHING & ION PUMPS, UTILITY
(G)	25cm OD TUBE	10	CONFLAT**, WITH BLIND FLANGE	ELECTRICAL FEEDTHROUGHS, BACK-TO-AIR PURGE
(H)	20cm OD TUBE***	12	CONFLAT**, WITH BLIND FLANGE	OBSERVATION, BEAM PICKOFFS
(I)	3.8cm OD TUBE	2	CONFLAT**, WITH BLIND FLANGE	ANNULUS PUMPOUT (NOT SHOWN)
(J)	20cm OD TUBE	4	CONFLAT**	SEISMIC ISOLATION LIFT MECHANISM

REV	DATE	DRWN	APPD	DCN/DESCRIPTION

- *DUAL O-RING DESIGN, WITH CAPABILITY OF REPLACING INBOARD O-RING WITH METAL SEAL. THESE FLANGES EACH INCLUDE AN ANNULAR CHANNEL BETWEEN O-RINGS. ANNULAR CHANNEL OF (C) TO BE MANIFOLDED TO A SINGLE PUMPOUT PORT (I). ANNULAR CHANNEL OF (A) TIED TO SEPERATE PUMPOUT PORT (I).
- **REGISTERED TRADEMARK, VARIAN VACUUM PRODUCTS COMPATIBLE ALTERNATIVES ARE ACCEPTABLE
- ***THESE FLANGES ARE TANGENT TO LOCAL VACUUM WALL, WITH MINIMUM NECK LENGTH

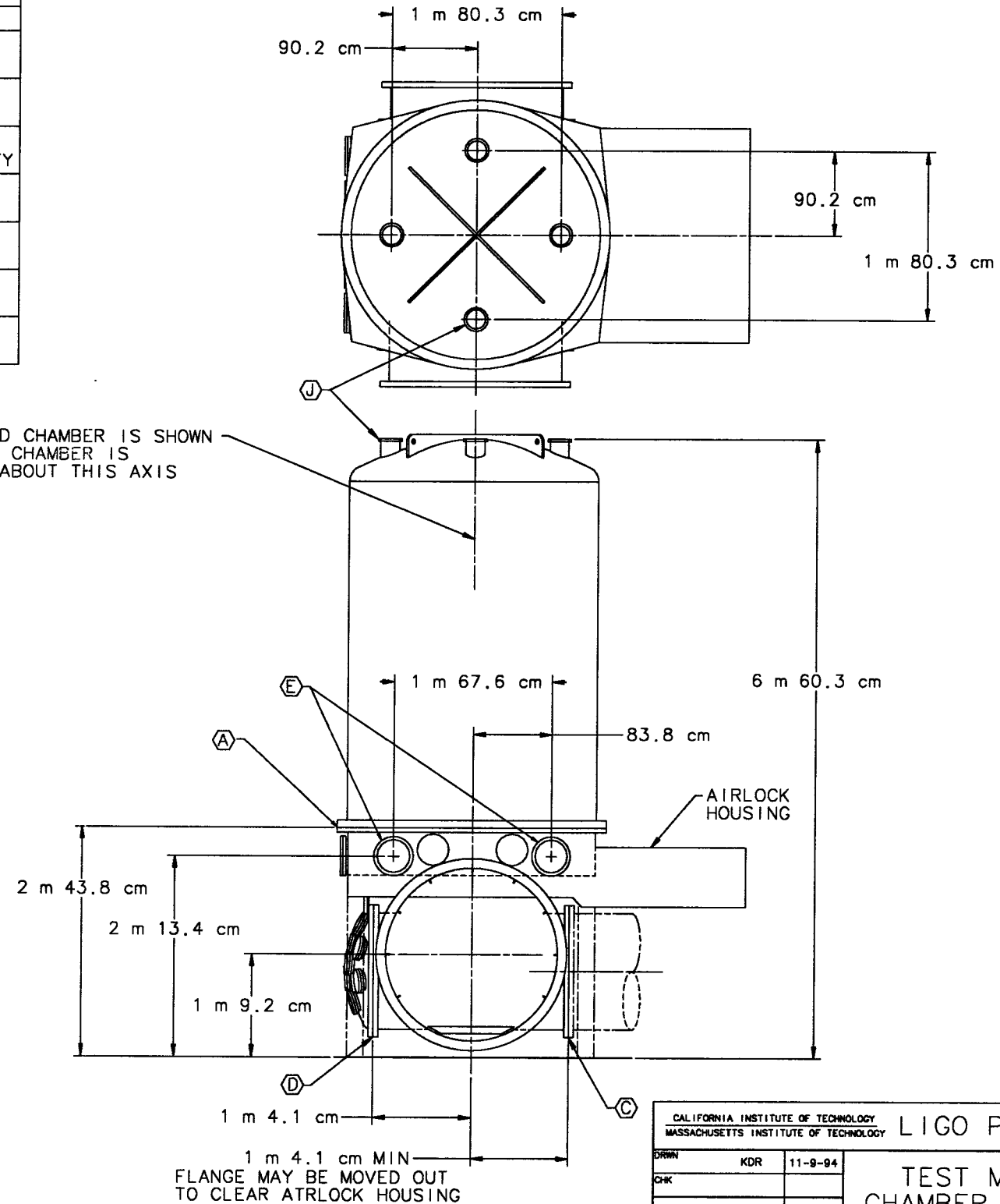
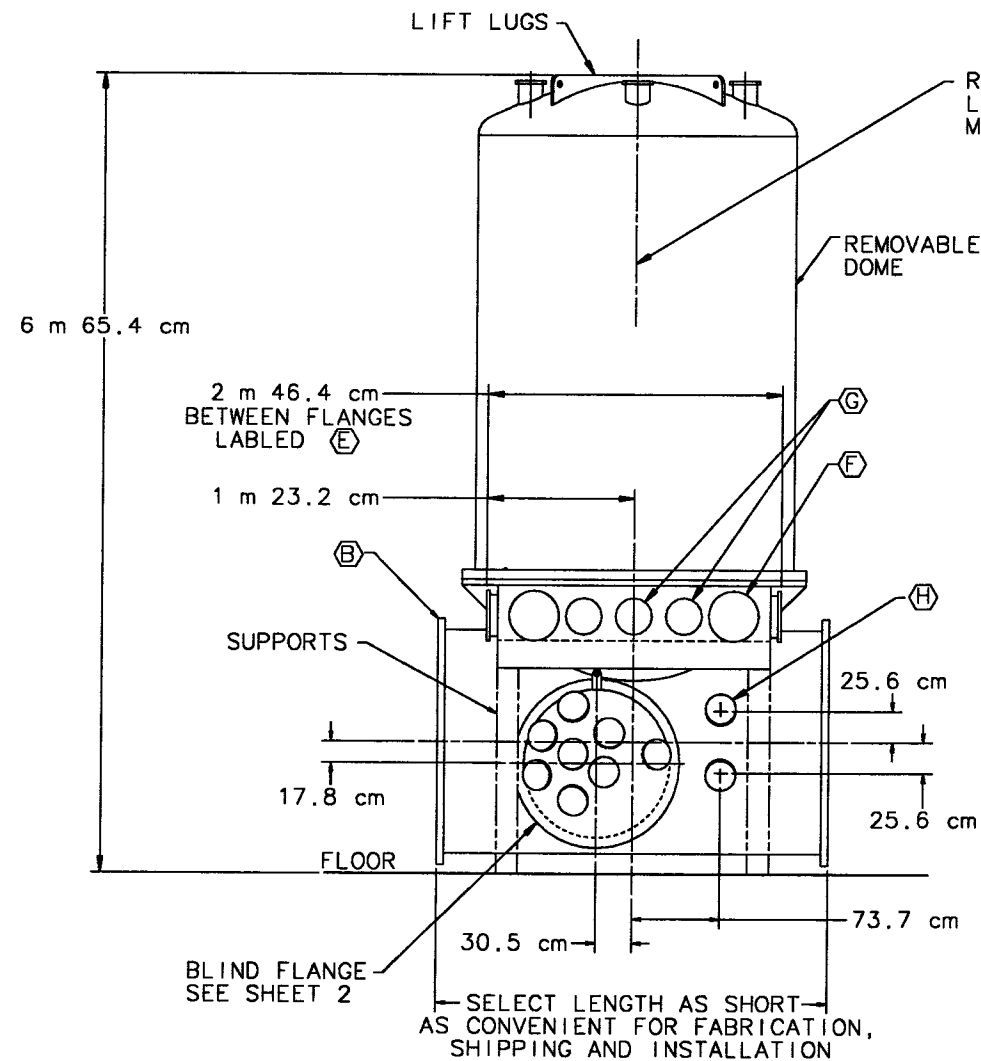


Figure 10.

CALIFORNIA INSTITUTE OF TECHNOLOGY		LIGO PROJECT	
MASSACHUSETTS INSTITUTE OF TECHNOLOGY			
DRWN	KDR	11-9-94	
CHK			
		TEST MASS CHAMBER (TMC)	
SCALE:	DRAWING NUMBER	SHEET	REV.
	1101013	1	2

LIGO-D940005-00-V

REV	DATE	DRWN	APPD	DCN/DESCRIPTION

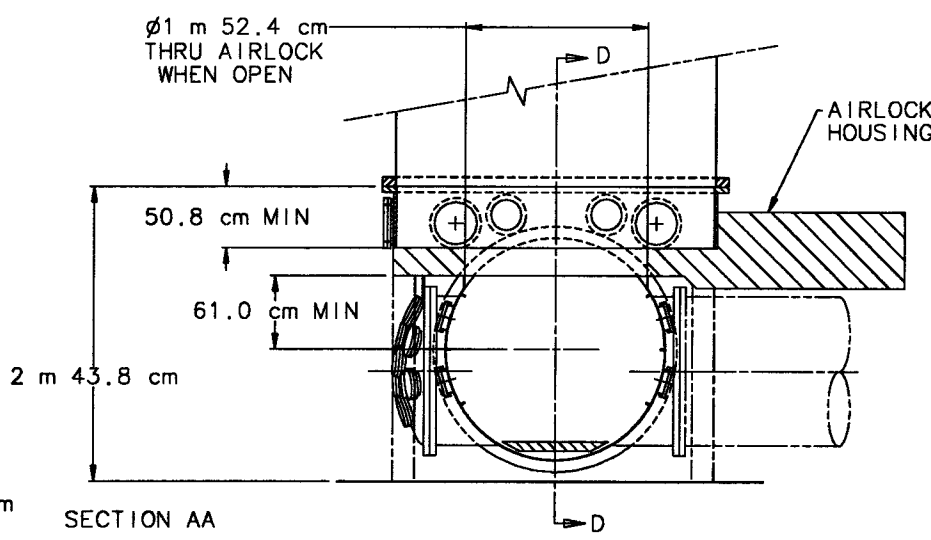
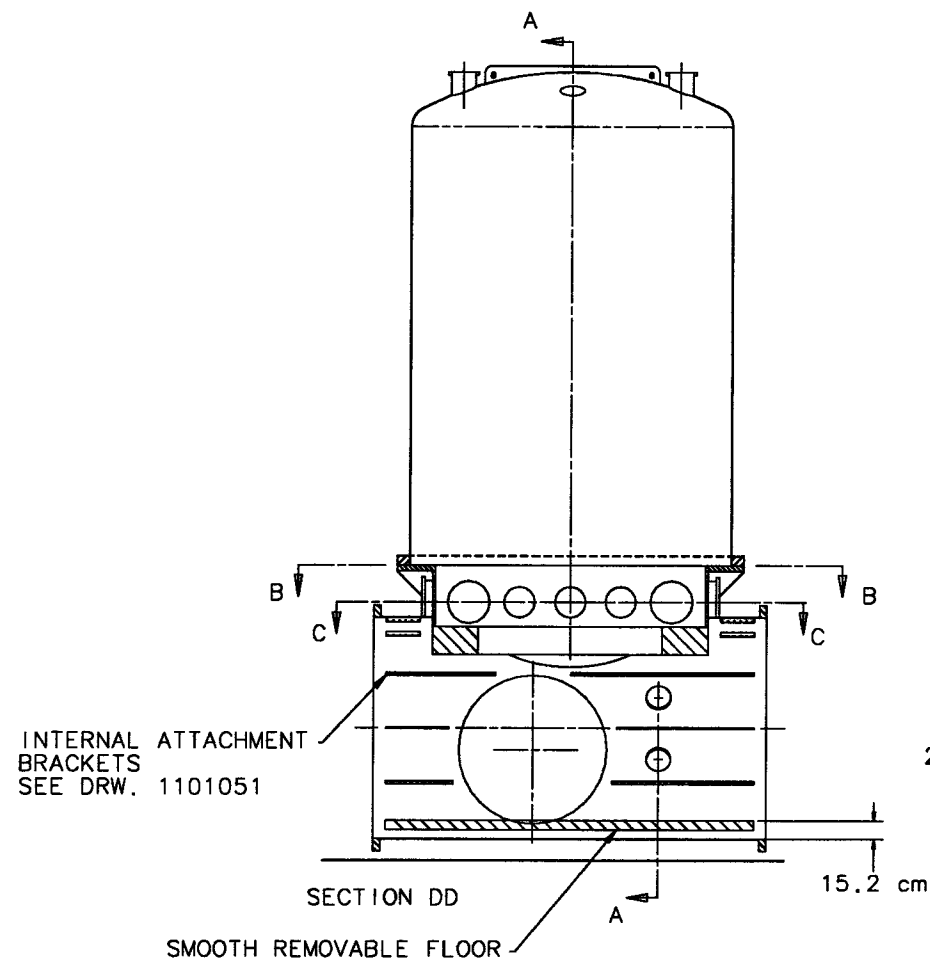
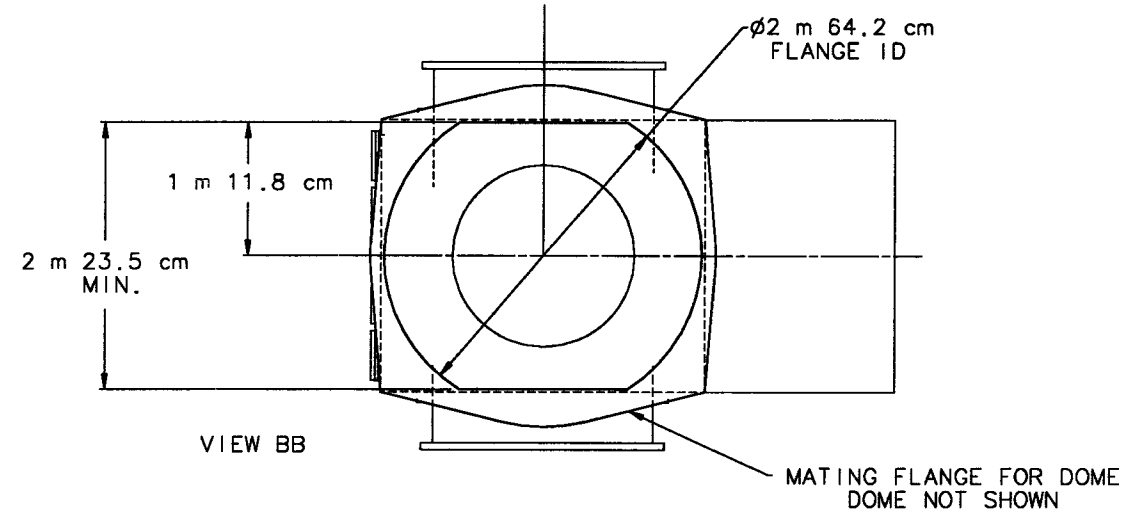
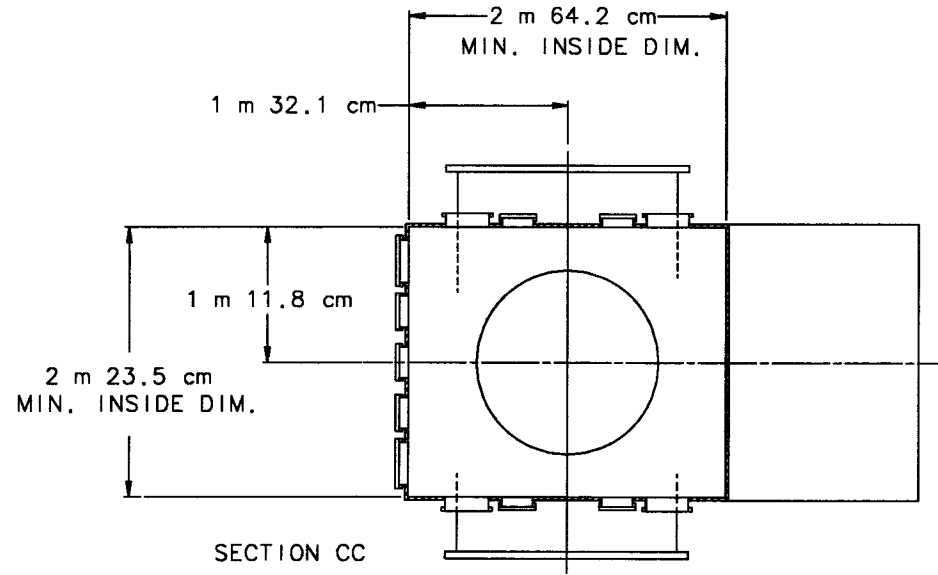
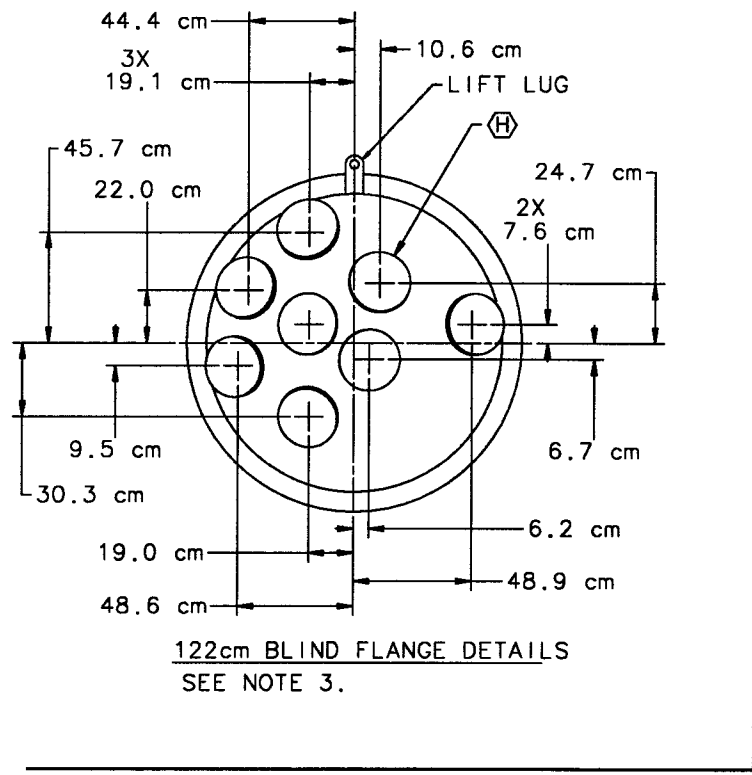


Figure 11.

CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY		LIGO PROJECT	
DRWN		TEST MASS CHAMBER (TMC)	
CHK		SCALE:	DRAWING NUMBER
			1101013
		SHEET	REV.
		2 of 2	