1. FOR A COMPLETE EXPLANATION OF FLANGE DESIGNATORS, FLANGE NAMING CONVENTIONS AND SUBFLANGE TYPE, SEE LIGO D1101775.

2. FOR ISC ELECTRONICS CABLE LAYOUT, SEE D1200666.

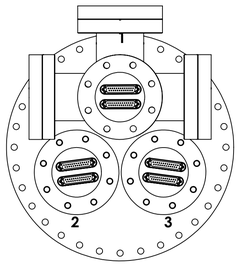
3. FAST SHUTTER CUSTOM FEEDTHROUGH COMPRISED OF:
   1) Generic ZeroLengthReducer, 4.50" X 2.75" (150008, MDC or EQ.)
   2) Circular MIL SPEC connector on a 2.75 CF flange

4. D8: 500 L/S ION PUMP AND GATE VALVE.
   D7: 500 L/S TURBO PUMP AND GATE VALVE.

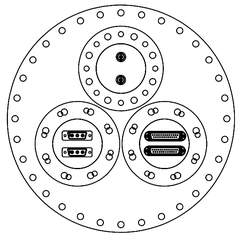
REV.	DATE	DCN #	DRAWING TREE #
v1	16 NOV 2010	-	-
v16	04 NOV 2024	E2300404-v3	-
-	-	-	-

FLANGE	SUBFLANGE	FLANGE TYPE	CONNECTOR	SUBSYSTEM	DESCRIPTION
D2-1A1	-1	G	Triax	SEI	H1 CPS - ISI CAP POS SENS Horizontal Corner 1
D2-1A2	-1	G	Triax	SEI	V1 CPS - ISI CAP POS SENS Vertical Corner 1
D2-2B1	-2	B	3PWR-1	SEI	V1 ISI COILS - ISI Vertical Corner 1
D2-2B2	-2	B	3PWR-2	SEI	H1 ISI COILS - ISI COILS Horizontal Corner 1
D2-3C1	-3	C	25D-1	SEI	H1V1 - ISI GS-13 Horizontal & Vertical Corner 1
D2-3C2	-3	C	25D-2	SEI	BDV1 - BEAM Diverter

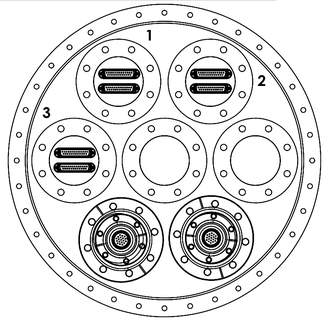
FLANGE	AUX FLANGE	SUB FLANGE	FLANGE TYPE	CONNECTOR	SUBSYSTEM	DESCRIPTION
D1-1G1	5Wx1	-1	G	TRIAX-1	SEI	H2 CPS - ISI CAP POS SENS Horizontal Corner 2
D1-1G2	5Wx1	-1	G	TRIAX-2	SEI	V2 CPS - ISI CAP POS SENS Vertical Corner 2
D1-1B3	5Wx2	-2	B	3PWR-1	SEI	V2 ISI COILS - ISI Vertical Corner 2
D1-1B4	5Wx2	-2	B	3PWR-2	SEI	H2 ISI COILS - ISI COILS Horizontal Corner 2
D1-1C5	5Wx3	-3	C	25D-1	SEI	H2V2 - ISI GS-13 Horizontal & Vertical Corner 2
D1-1C6	5Wx3	-3	C	25D-2	PEM	SEPTUM ACCELEROMETER Reserved for Future
D1-1D7	5Wx4	-4	C	25D-1	SUS	OMA1 - HDDS M1 BOSEMS
D1-1D8	5Wx4	-4	C	25D-2	SUS	OMA1 DCOILS- HDDS M2 DITHER
D1-2C1	25D-1	-5	C	25D-1	SUS	AMI - HTTS M1 BOSEMS
D1-2C2	25D-2	-5	C	25D-2	SUS	OMA3 - HCDS M1 BOSEMS
D1-3C1	25D-1	-6	C	25D-1	SUS	OMA3 DCOILS - HCDS M2 DITHER
D1-3C2	25D-2	-6	C	25D-2	SUS	OMA3 PZT - HCDS M2 PSAMS



DETAIL A
(D1 CONFIGURATION)



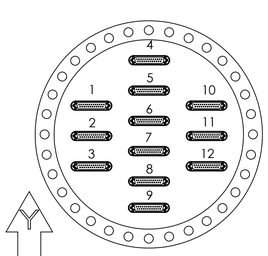
DETAIL B
(D2 CONFIGURATION)



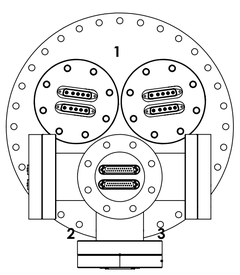
DETAIL E
(C1 CONFIGURATION

FLANGE	SUB FLANGE	FLANGE TYPE	CONNECTOR	SUBSYSTEM	DESCRIPTION
D8		BLANK			-- BLANK (FULL FLANGE) --

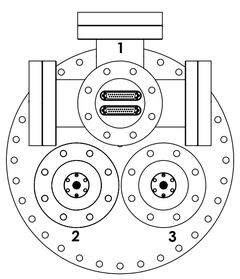
FLANGE	SUB FLANGE	FLANGE TYPE	CONNECTOR	SUBSYSTEM	DESCRIPTION
D6-F1	-	F	25D-1	SUS	OMCS - BHSS AOSEMS
D6-F2	-	F	25D-2	SUS	OMCS - BHSS AOSEMS
D6-F3	-	F	25D-3	SUS	OMB3 - HCDS M1 BOSEMS
D6-F4	-	F	25D-4	SUS	OMB3 DCOILS - HCDS M2 DITHER
D6-F5	-	F	25D-5	SUS	OMB3 PZT - HCDS M2 PSAMS
D6-F6	-	F	25D-6	ISC	OMCA - QPD A & QPD B
D6-F7	-	F	25D-7	ISC	OMCA TIA - DC OUT
D6-F8	-	F	25D-8	ISC	OMCA PZTs - PZTs HI & LOW VOLTAGE
D6-F9	-	F	25D-9	ISC	OMCB - QPD A & QPD B
D6-F10	-	F	25D-10	ISC	OMCB TIA - DC OUT
D6-F11	-	F	25D-11	ISC	OMCB PZTs - PZTs HI & LOW VOLTAGE
D6-F12	-	F	25D-12	ISC	AS C QPD LO C QPD



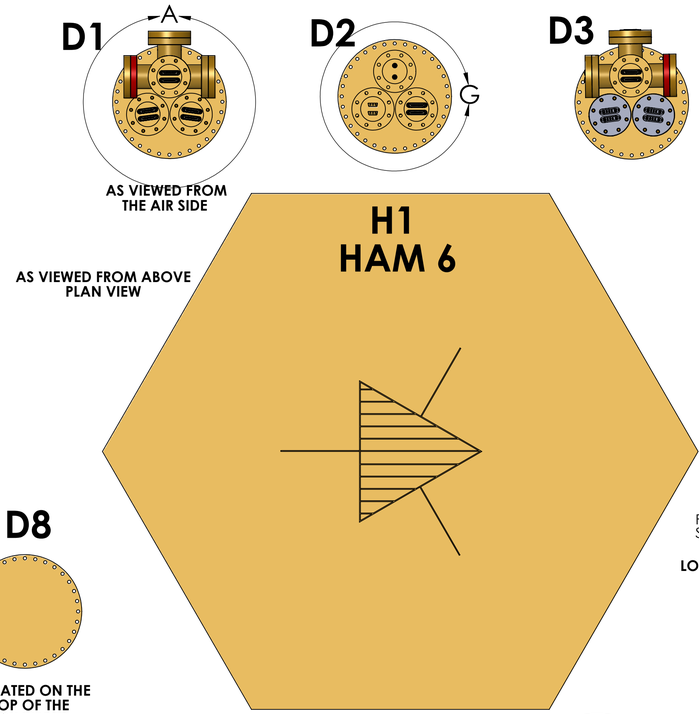
DETAIL C
(D6, D7 CONFIGURATION)



DETAIL D
(D5, D3 CONFIGURATION)



DETAIL F
(D4 CONFIGURATION



FLANGE	AUX FLANGE	SUB FLANGE	FLANGE TYPE	CONNECTOR	SUBSYSTEM	DESCRIPTION
D3-1C1	5Wx1	-1	C	25D-1	ISC	LO A REFL A - DC OUT
D3-1C2	5Wx1	-1	C	25D-2	ISC	LO B REFL B - DC OUT
D3-1C3	5Wx2	-2	C	25D-1	SUS	OM0 -HRTS TRIPLE SUS M1 BOSEMS
D3-1C4	5Wx2	-2	C	25D-2	SUS	OM0 -HRTS TRIPLE SUS M1 BOSEMS
D3-1C5	5Wx3	-3	C	25D-1	SUS	OMB2 - HPDS M1 BOSEMS
D3-1C6	5Wx3	-3	C	25D-2	SUS	OMB2 PZT - HPDS M2 BOSEMS
D3-1C7	5Wx4	-4	C	25D-1	SUS	OM0 -HRTS TRIPLE SUS M3 BOSEMS
D3-1C8	5Wx4	-4	C	25D-2	SUS	SPARE
D3-2D1	-	-5	E	5 WAY COAX	ISC	LO A REFL A Q1Q4 - 36/45 MHZ OUT
D3-2D2	-	-5	E	5 WAY COAX	ISC	LO A REFL A Q2Q3 - 36/45 MHZ OUT
D3-3D1	-	-6	E	5 WAY COAX	ISC	LO B REFL B - Q1Q4 36/45 MHZ OUT
D3-3D2	-	-6	E	5 WAY COAX	ISC	LO B REFL B - Q2Q3 36/45 MHZ OUT

LOCATED ON THE TOP OF THE CHAMBER

D7

FLANGE	SUB FLANGE	FLANGE TYPE	CONNECTOR	SUBSYSTEM	DESCRIPTION
D7		BLANK			-- BLANK (FULL FLANGE) --

C1

FAST SHUTTER

LOCATED ON THE TOP OF THE CHAMBER

FLANGE	SUB FLANGE	FLANGE TYPE	CONNECTOR	SUBSYSTEM	DESCRIPTION
C1-1C1	-1	C	25D-1	ISC	PICOMOTORS - LO-P1, ID-P1, 36-P1, 36-P2
C1-1C2	-1	C	25D-2	ISC	SPARE
C1-2C1	-2	C	25D-1	ISC	OBS F1F2F3SD - HRTS TRIPLE SUS TOP BOSEMS
C1-2C2	-2	C	25D-2	ISC	OBS LFRT - HRTS TRIPLE SUS TOP BOSEMS
C1-3C1	-3	C	25D-1	ISC	OMB1 - HDDS M1 BOSEMS
C1-3C2	-3	C	25D-2	ISC	OMB1 DCOILS - HDDS M2 DITHER
C1-4C1	-4	-	BLANK	-	-
C1-5C1	-5	-	-	VAC	MKS 903 Gauge
C1-6K1	-6	-	K	ISC	FS1 - Fast Shutter 1
C1-7K1	-7	-	K	ISC	FS2 - Fast Shutter 2

FLANGE	AUX FLANGE	SUB FLANGE	FLANGE TYPE	CONNECTOR	SUBSYSTEM	DESCRIPTION
D4-1G1	5WX1	1	G	TRIAX	SEI	H3 CPS -ISI CAP POS SENS Horizontal Corner 3
D4-1G2	5WX1	-1	G	TRIAX	SEI	V3 CPS - ISI CAP POS SENS Vertical Corner 3
D4-1B3	5WX2	-2	B	3PWR-1	SEI	V3 ISI COILS - ISI Vertical Corner 3
D4-1B4	5WX2	-2	B	3PWR-2	SEI	H3 ISI COILS - ISI COILS Horizontal Corner 3
D4-1C5	5WX3	-3	C	25D-1	SEI	H3V3 - ISI GS-13 Horizontal & Vertical Corner 3
D4-1C6	5WX3	-3	C	25D-2	SUS	AM2 - HTSS M1 BOSEMS
D4-1C7	5WX4	-4	C	25D-1	SUS	OMA2 M1 OSEMS
D4-1C8	5WX4	-4	C	25D-1	SUS	OMA2 M2 PSAMS
D4-2A1	-	-5	A	SMA	SQZ	OMCA TIA - OMCA DCPDA RF OUT
D4-2A2	-	-5	A	SMA	SQZ	OMCA TIA - OMCA DCPDB RF OUT
D4-3A1	-	-6	A	SMA	SQZ	OMCB TIA - OMCB DCPDA RF OUT
D4-3A2	-	-6	A	SMA	SQZ	OMCB TIA - OMCB DCPDB RF OUT

FLANGE	AUX FLANGE	SUB FLANGE	FLANGE TYPE	CONNECTOR	SUBSYSTEM	DESCRIPTION
D5-1C1	5Wx1	-1	C	25D-1	ISC	AS A - DC OUT
D5-1C2	5Wx1	-1	C	25D-2	ISC	AS B - DC OUT
D5-1D3	5Wx2	-2	D	5 WAY COAX-1	ISC	OMCA REFL - 36/45MHZ OUT
D5-1D4	5Wx2	-2	D	5 WAY COAX-2	ISC	SPARE
D5-1C5	5Wx3	-3	C	25D-1	ISC	OMCA REFL - DC OUT
D5-1C6	5Wx3	-3	C	25D-2	ISC	SPARE
D5-1C7	5Wx4	-4	D	5 WAY COAX-1	ISC	AS A - Q1Q4 36/45MHZ OUT
D5-1C8	5Wx4	-4	D	5 WAY COAX-1	ISC	AS A - Q2Q3 36/45MHZ OUT
D5-2D1	-	-5	D	5 WAY COAX-1	ISC	AS B - Q1Q4 36/45MHZ OUT
D5-2D2	-	-5	D	5 WAY COAX-2	ISC	AS B - Q2Q3 36/45MHZ OUT
D5-3C1	-	-3	-	-	ISC	PURGE AIR PORT
D5-3C2	-	-3	-	-	ISC	PURGE AIR PORT

* SUBFLANGE TYPE >	A	B	C	D	E	F	G	CUSTOM	J
CONNECTORS >	TRIAX	3PWR	25D	5 WAY COAX (2 PER FLANGE)	5 WAY COAX (1 PER FLANGE)	25PIN FULL FLANGE	TRI-AXIAL	MIL. SPEC. CIRCULAR CONNECTOR	SMA
SUBSYSTEMS v									
SEI (ISI)	6	6	6						
SUS			23						
ISC			22	10		1		2	
I/O									
TCS									
PSL									
AOS									
SQZ									4
NOT ASSIGNED O5			8						
TOTALS (CONNECTORS)	6	6	59	10	0	24	0	2	4
TOTALS (FLANGES)	3	3	4	2	0	2	0	1	2

NOTES AND TOLERANCES: (UNLESS OTHERWISE SPECIFIED)

DIMENSIONS ARE IN

TOLERANCES:
.XX ±
.XXX ±

ANGULAR ± °

1. INTERPRET DRAWING PER ASME Y14.5-1994.
2. REMOVE ALL SHARP EDGES, .005-.015. FOR MACHINED PARTS. ROUND ALL EDGES APPROXIMATLEY R.02 FOR SHEET METAL PARTS.
3. DO NOT SCALE FROM DRAWING.
4. ALL MACHINING FLUIDS MUST BE FULLY SYNTHETIC, FULLY WATER SOLUBLE AND FREE OF SULFUR, SILICONE, AND CHLORINE.

MATERIAL: N/A
FINISH: N/A µinch

LIGO — CALIFORNIA INSTITUTE OF TECHNOLOGY / MASSACHUSETTS INSTITUTE OF TECHNOLOGY

SYSTEM: ADVANCED LIGO
SUB-SYSTEM: ALL
NEXT ASSY: D0901822

PART NAME: FLANGE LAYOUT H1 HAM CHAMBER 6 (HAM6)

DESIGNER			SIZE	DWG. NO.	REV.
DRAFTER	E. BROWN	16 NOV 2010	D	D1002877	v16
CHECKER	SEE DCC	SEE DCC			
APPROVAL	SEE DCC	SEE DCC	SCALE: 1:12	PROJECTION:	SHEET 1 OF 1

PART PDM VERSION: y-009
DWG PDM VERSION: y-016
D1002877 flange layout Ham chamber H1 HAM6