

80K/LN2 CRYOPUMP

REV.	ZONE	DESCRIPTION	DATE	REVISION COLUMN	REMARKS	APPROVED BY	DATE
15	06	STANDARD COVER FLANGE 12" (DN250CF)			SS304L		
14	01	STANDARD BLANK FLANGE 12" (DN250CF)			SS304L		
13	01	U CLAMP			SS304L		
12	01	PORT-2 FOR TURBO CONNECTION			SS304L		
11	01	PORT-1 FOR TURBO CONNECTION			SS304L		
10	02	ANNULUS PUMP OUT PORT			SS304L		
9	02	FLANGE(44 5/8" ID GROOVED)			SS304L		
8	01	LN2 LEVEL CONTROL LINE			ALUMINIUM AND SS304L		
7	01	GN2 VENT LINE			ALUMINIUM AND SS304L		
6	01	GN2 REGENERATION LINE			ALUMINIUM AND SS304L		
5	01	LN2 INLET LINE			ALUMINIUM AND SS304L		
4	01	HEAD/NOZZLE RIGHT			SS304L		
3	01	HEAD/NOZZLE LEFT			SS304L		
2	01	CRYOSTAT			SS304L		
1	02	SUPPORT LEG ASSEMBLY			CARBON STEEL		
PART NO. QUANTITY PART NAME						REFERENCE DWG NO.	REMARK

CO-ORDINATED BY	DESIGNED BY	DATE	SCALE	TITLE
				80K/LN2 CRYOPUMP

LENGTH IN mm OF SHORTER SIDE OF ANGLES	UP TO 10	10-50	50-120	OVER 120-400
LENGTH	±0.15	±0.2	±0.3	±0.5
DIAM	±0.1	±0.2	±0.3	±0.5

APPROVED	CHECKED	IN CHARGE	DATE

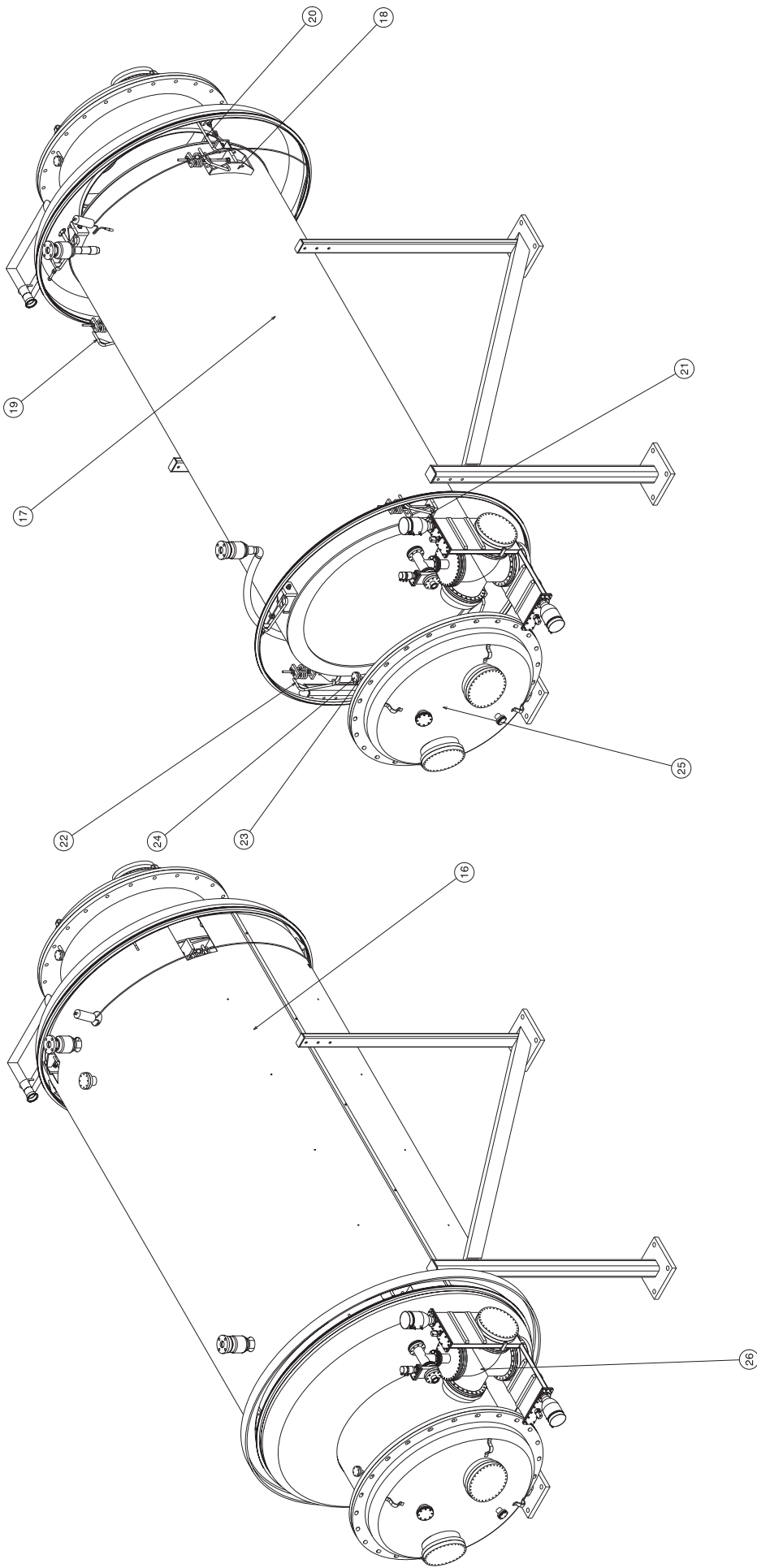
REV.	NO.	DESCRIPTION
REV. R3		
REV. R2		
REV. R1		

INSTITUTE FOR PLASMA RESEARCH  
 (LIGO-INDIA)  
 BHAS, GOWRIPET-508 428.

DATE: 11/15/2023  
 SCALE: 1:1  
 TITLE: 80K/LN2 CRYOPUMP

REF. DWG NO.: NA  
 DWG. NO.: VCP01-001-R3

SHEET 01 OF 02

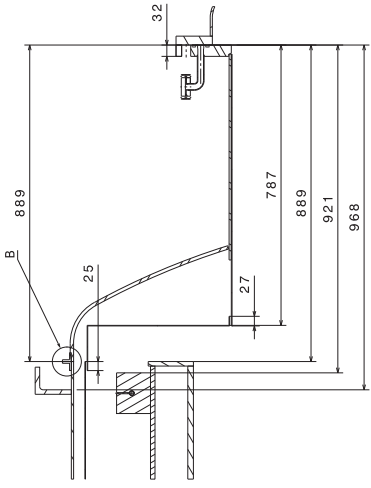


80K/LN2 CRYOPUMP

DRG. NO.	REV.	DATE	DESCRIPTION	REVISION COLUMN	REMARKS	APPROVED BY	DATE	REVISION COLUMN	REMARKS	APPROVED BY	DATE
26	01		250CF CROSS ASSEMBLY		SS304L				VCP01-015-R0		
25	02		DISH END ASSEMBLY		SS304L				VCP01-014-R0		
24	04		STANDARD COVER FLANGE 2 3/4" (DN40CF)		SS304L				VCP01-001-R1/SHEET-06		
23	04		STANDARD BLANK FLANGE 2 3/4" (DN40CF)		SS304L				VCP01-001-R1/SHEET-06		
22	06		SHIPPING ROD-3		SS304L				VCP01-001-R1/SHEET-06		
21	02		SHIPPING ROD-2		SS304L				VCP01-001-R1/SHEET-06		
20	02		SHIPPING ROD-1		SS304L				VCP01-001-R1/SHEET-06		
19	06		RESERVOIR SUPPORT ASSEMBLY-2		SS304L				VCP01-007-R1		
18	02		RESERVOIR SUPPORT ASSEMBLY-1		SS304L				VCP01-006-R1		
17	01		RESERVOIR ASSEMBLY		ALUMINIUM				VCP01-005-R1		
16	01		SHIELD ASSEMBLY		ALUMINIUM				VCP01-004-R1		
PART NO. QUANTITY PART NAME MATERIAL										REFERENCE DRG. NO.	REMARK

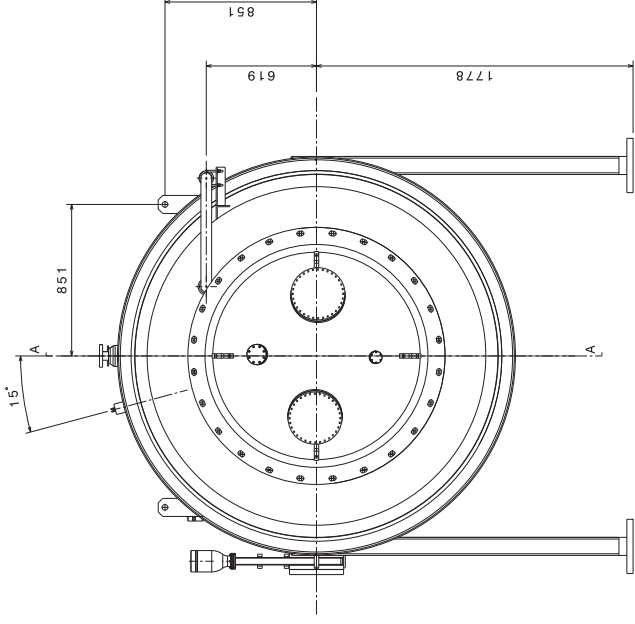
DRG. NO.	REV.	DATE	DESCRIPTION	REVISION COLUMN	REMARKS	APPROVED BY	DATE	REVISION COLUMN	REMARKS	APPROVED BY	DATE
VCP01-015-R0	01		250CF CROSS ASSEMBLY		SS304L				VCP01-015-R0		
VCP01-014-R0	02		DISH END ASSEMBLY		SS304L				VCP01-014-R0		
VCP01-001-R1/SHEET-06	04		STANDARD COVER FLANGE 2 3/4" (DN40CF)		SS304L				VCP01-001-R1/SHEET-06		
VCP01-001-R1/SHEET-06	04		STANDARD BLANK FLANGE 2 3/4" (DN40CF)		SS304L				VCP01-001-R1/SHEET-06		
VCP01-001-R1/SHEET-06	06		SHIPPING ROD-3		SS304L				VCP01-001-R1/SHEET-06		
VCP01-001-R1/SHEET-06	02		SHIPPING ROD-2		SS304L				VCP01-001-R1/SHEET-06		
VCP01-001-R1/SHEET-06	02		SHIPPING ROD-1		SS304L				VCP01-001-R1/SHEET-06		
VCP01-007-R1	06		RESERVOIR SUPPORT ASSEMBLY-2		SS304L				VCP01-007-R1		
VCP01-006-R1	02		RESERVOIR SUPPORT ASSEMBLY-1		SS304L				VCP01-006-R1		
VCP01-005-R1	01		RESERVOIR ASSEMBLY		ALUMINIUM				VCP01-005-R1		
VCP01-004-R1	01		SHIELD ASSEMBLY		ALUMINIUM				VCP01-004-R1		

DRG. NO.	REV.	DATE	DESCRIPTION	REVISION COLUMN	REMARKS	APPROVED BY	DATE	REVISION COLUMN	REMARKS	APPROVED BY	DATE
VCP01-015-R0	01		250CF CROSS ASSEMBLY		SS304L				VCP01-015-R0		
VCP01-014-R0	02		DISH END ASSEMBLY		SS304L				VCP01-014-R0		
VCP01-001-R1/SHEET-06	04		STANDARD COVER FLANGE 2 3/4" (DN40CF)		SS304L				VCP01-001-R1/SHEET-06		
VCP01-001-R1/SHEET-06	04		STANDARD BLANK FLANGE 2 3/4" (DN40CF)		SS304L				VCP01-001-R1/SHEET-06		
VCP01-001-R1/SHEET-06	06		SHIPPING ROD-3		SS304L				VCP01-001-R1/SHEET-06		
VCP01-001-R1/SHEET-06	02		SHIPPING ROD-2		SS304L				VCP01-001-R1/SHEET-06		
VCP01-001-R1/SHEET-06	02		SHIPPING ROD-1		SS304L				VCP01-001-R1/SHEET-06		
VCP01-007-R1	06		RESERVOIR SUPPORT ASSEMBLY-2		SS304L				VCP01-007-R1		
VCP01-006-R1	02		RESERVOIR SUPPORT ASSEMBLY-1		SS304L				VCP01-006-R1		
VCP01-005-R1	01		RESERVOIR ASSEMBLY		ALUMINIUM				VCP01-005-R1		
VCP01-004-R1	01		SHIELD ASSEMBLY		ALUMINIUM				VCP01-004-R1		

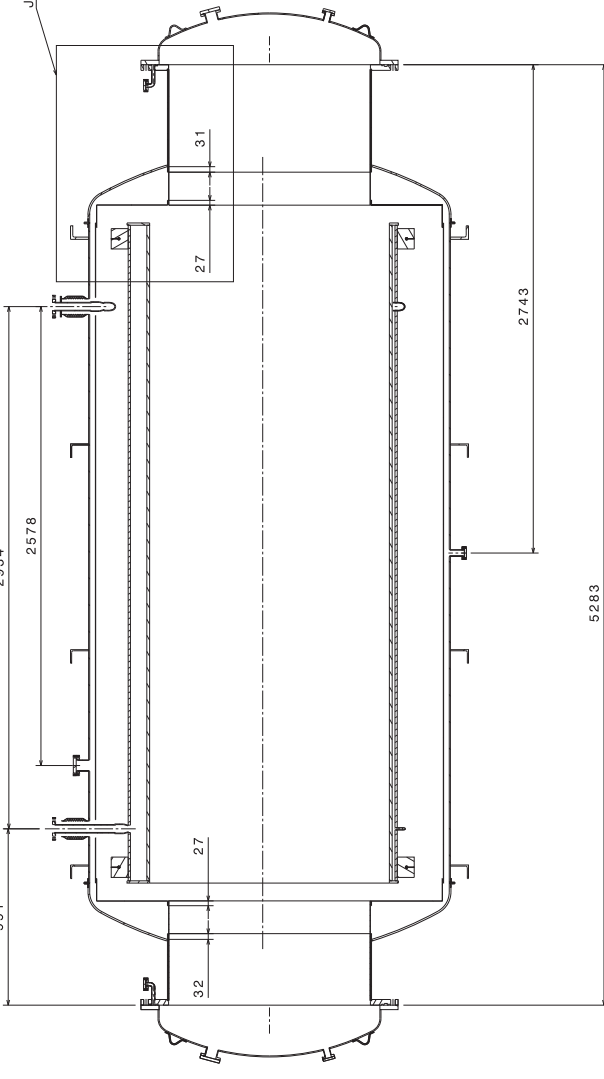


DETAIL VIEW B (1:1) OF LIP JOINT AT BOTH THE ENDS OF CRYOPUMP

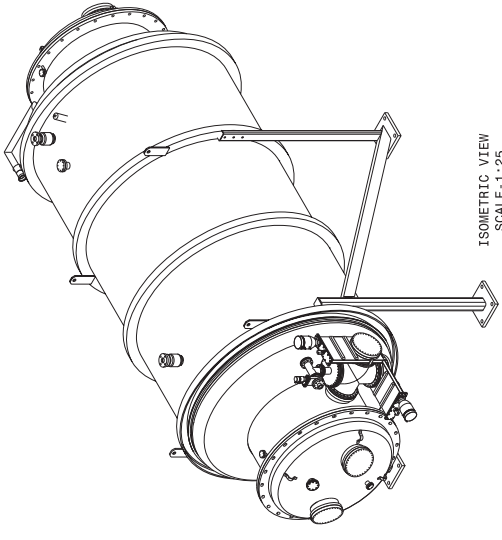
DETAIL VIEW J



FRONT VIEW



SECTION A-A



ISOMETRIC VIEW SCALE: 1:25

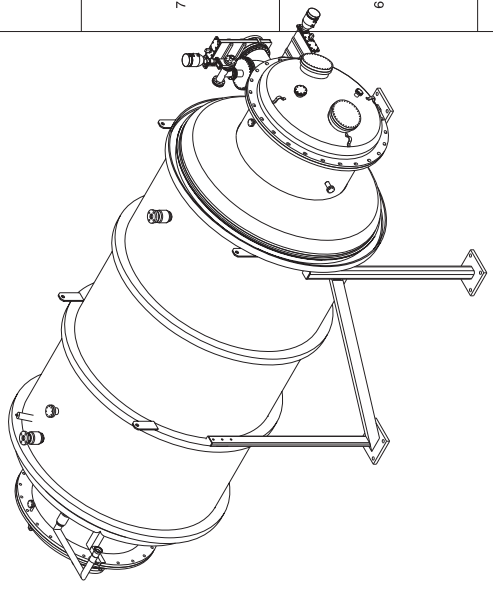
INSTITUTE FOR PLASMA RESEARCH (I.P.R.) (LIQUID-INDIUM) BIHAR, CHENNAI-600 428.			
DATE	ISSUE	BY	NO.
20/03/2018	1	MA	10201-001-03
ASSY GROUP:		TITLE	
SCALE		80K/LU2 CRYOPUMP	
DATE	BY	DATE	BY
20/03/2018	MA	20/03/2018	MA
APPROVED	CHECKED	IN CHARGE	REF. NO.
MA	MA	MA	10201-001-03
SHEET	NO.	OF	TOTAL
1	1	1	3

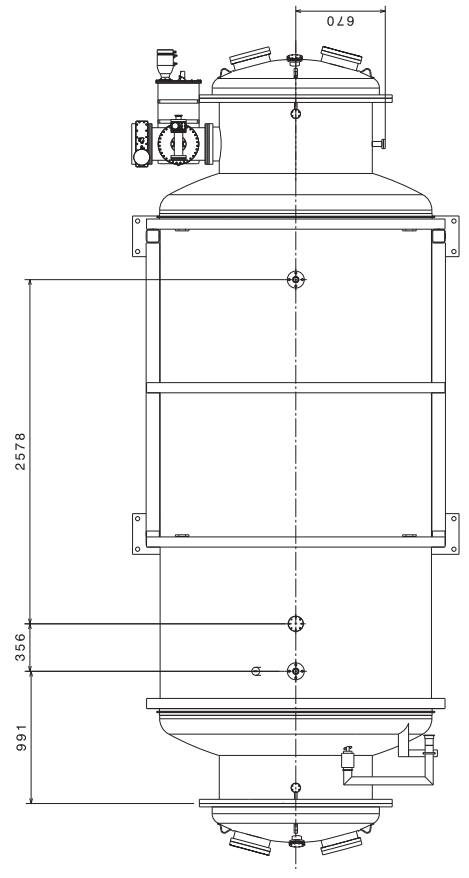
CO. ORIGINATED BY	SCALE	DATE	DESCRIPTION	REV.	ZONE	REVISION COLUMN	REMARKS	APPROVED BY

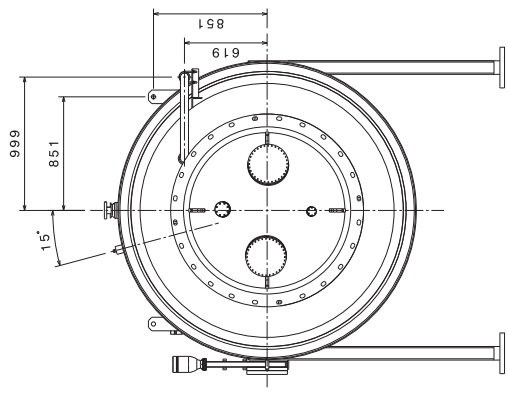
MACHINING DEVIATIONS FOR NON-TOLERANCED DIMENSIONS			
LENGTH	IN mm	OF SHORTER SIDE	OF ANGLES
UP TO 10	10-50	50-120	OVER 120-400
TOLERANCE		TOLERANCE	
±0.30		±0.30	±0.40
±0.20		±0.20	±0.30
±0.10		±0.10	±0.15



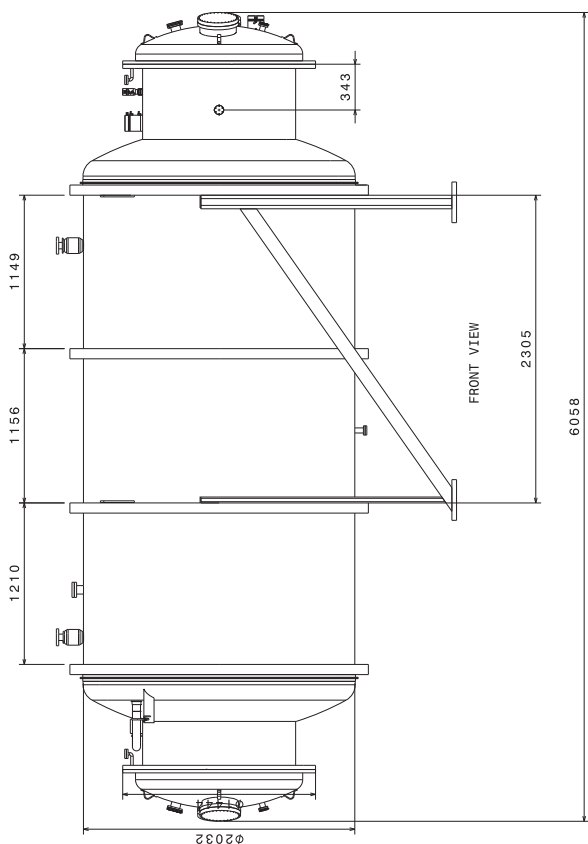
ISOMETRIC VIEW  
SCALE-1:25



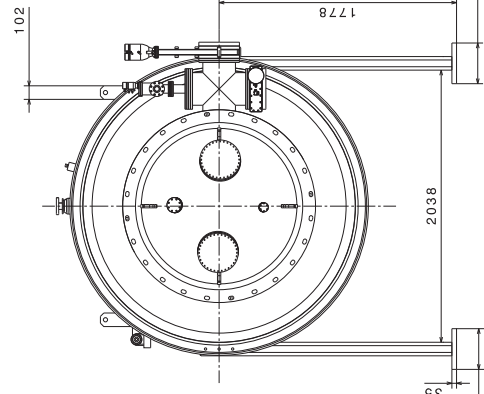
TOP VIEW



LEFT SIDE VIEW



FRONT VIEW



RIGHT SIDE VIEW

DRG. NO.		REV. NO.		DATE		DESCRIPTION		REVISION COLUMN		APPROVED BY		DATE		REMARKS	
V 8-22		V 1.6-8		V 0.025-1.6		V 0.025-0.025									
MACHINING DEVIATIONS FOR NON-TOLERANCED DIMENSIONS		LENGTH IN MM OF SHORTER SIDE OF ANGLES		UP TO 10-50		50-120		OVER 120-400		UP TO 0.30		0.30-1.00		1.00-315	
		DIA		0.1		0.2		0.3		0.5		1.0		2.0	
		TOLERANCE		±0.30		±0.30		±0.30		±0.30		±0.30		±0.30	

NO.	REV.	DATE	BY	CHKD.	APP'D.	REMARKS
1	01	11/20/2022	R.K.			

NO.	REV.	DATE	BY	CHKD.	APP'D.	REMARKS
1	01	11/20/2022	R.K.			

NO.	REV.	DATE	BY	CHKD.	APP'D.	REMARKS
1	01	11/20/2022	R.K.			

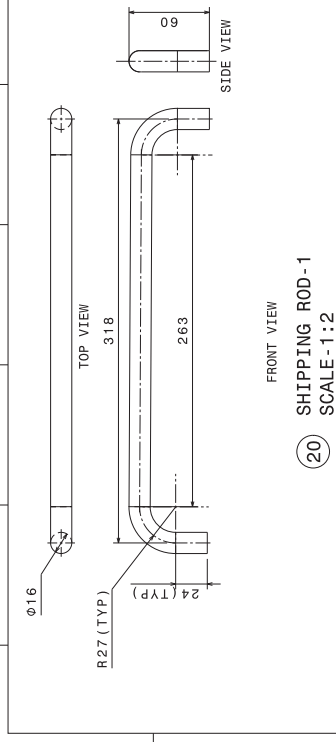
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1	01	11/20/2022	R.K.			

INSTITUTE FOR PLASMA RESEARCH  
(IIPR) - INDIAN INSTITUTE OF TECHNOLOGY BOMBAY  
TITLE: 80X(L)2 CRYOPUMP  
REF. DRG. NO.: MA  
DRG. NO.: IIPR01-001-05  
SHEET NO.: 04 OF 07

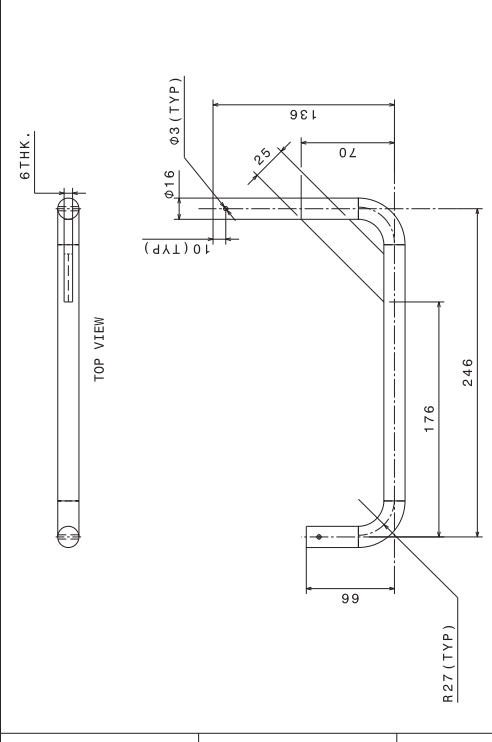
A B C D E F G H I J K L M N O P

8 7 6 5 4 3 2 1

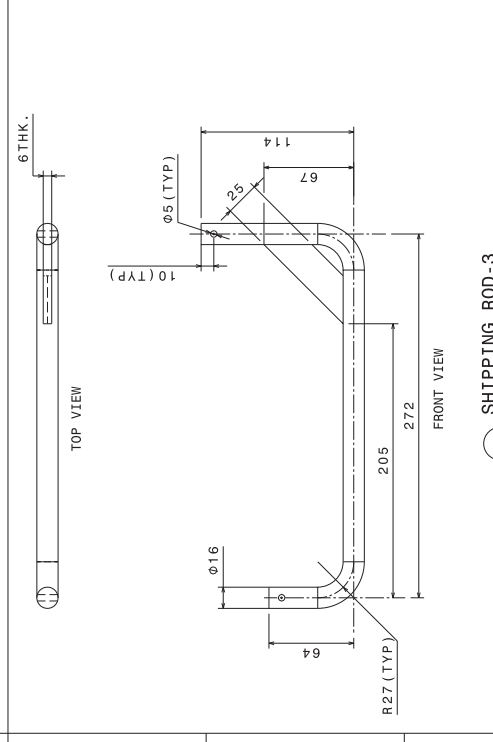




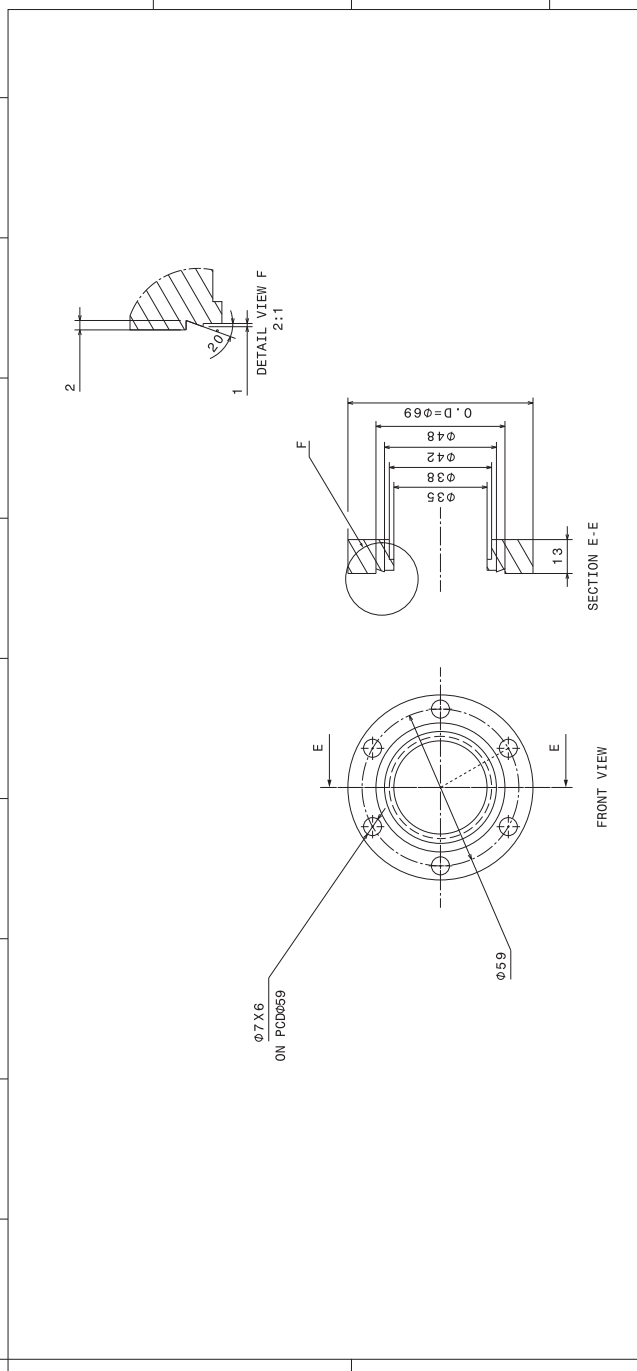
(20) SHIPPING ROD-1  
SCALE - 1:2



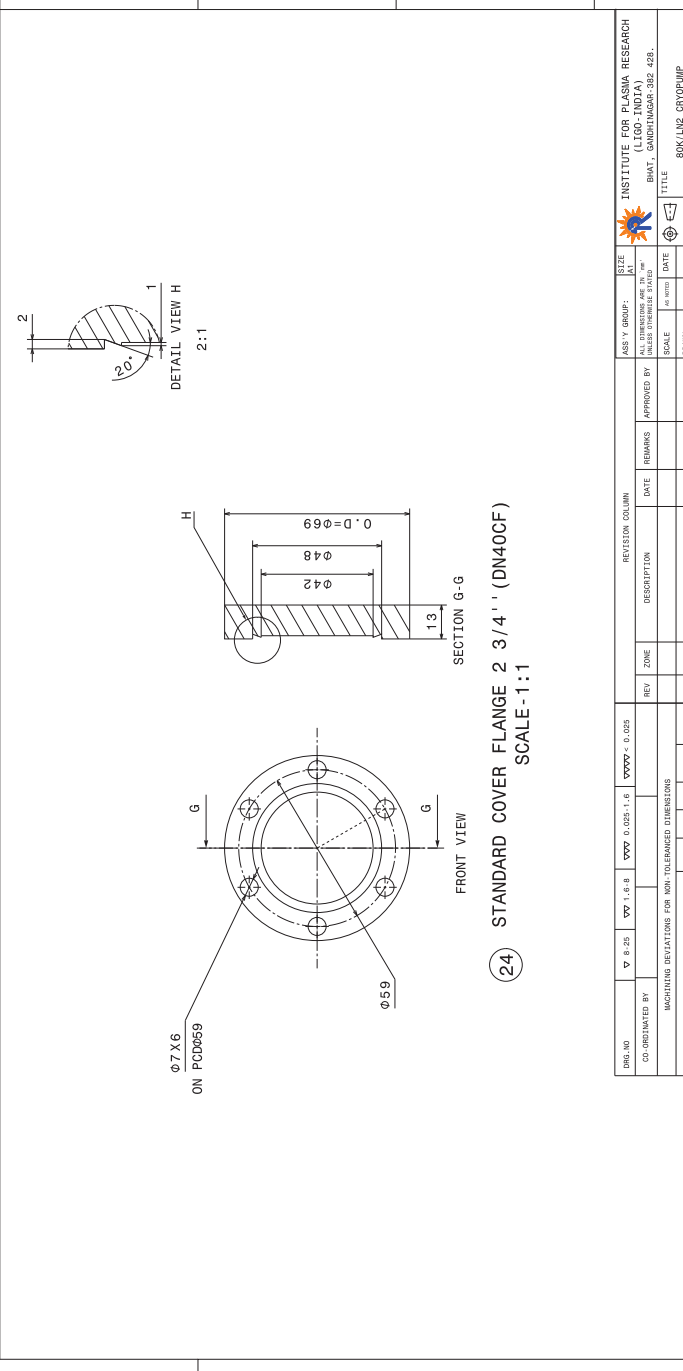
(21) SHIPPING ROD-2  
SCALE - 1:2



(22) SHIPPING ROD-3  
SCALE - 1:2



(23) STANDARD BLANK FLANGE 2 3/4" (DN40CF)  
SCALE - 1:1



(24) STANDARD COVER FLANGE 2 3/4" (DN40CF)  
SCALE - 1:1

DRG. NO.	CO-ORDINATED BY	DATE	REV.	ZONE	DESCRIPTION	DATE	REVISION COLUMN	APPROVED BY	REMARKS

INSTITUTE FOR PLASMA RESEARCH	SCALE	DATE	TITLE
ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE SPECIFIED	1:1	01/02/2024	80K/LI2 CRYOPUMP

ASST. GROUP	SCALE	DATE	TITLE

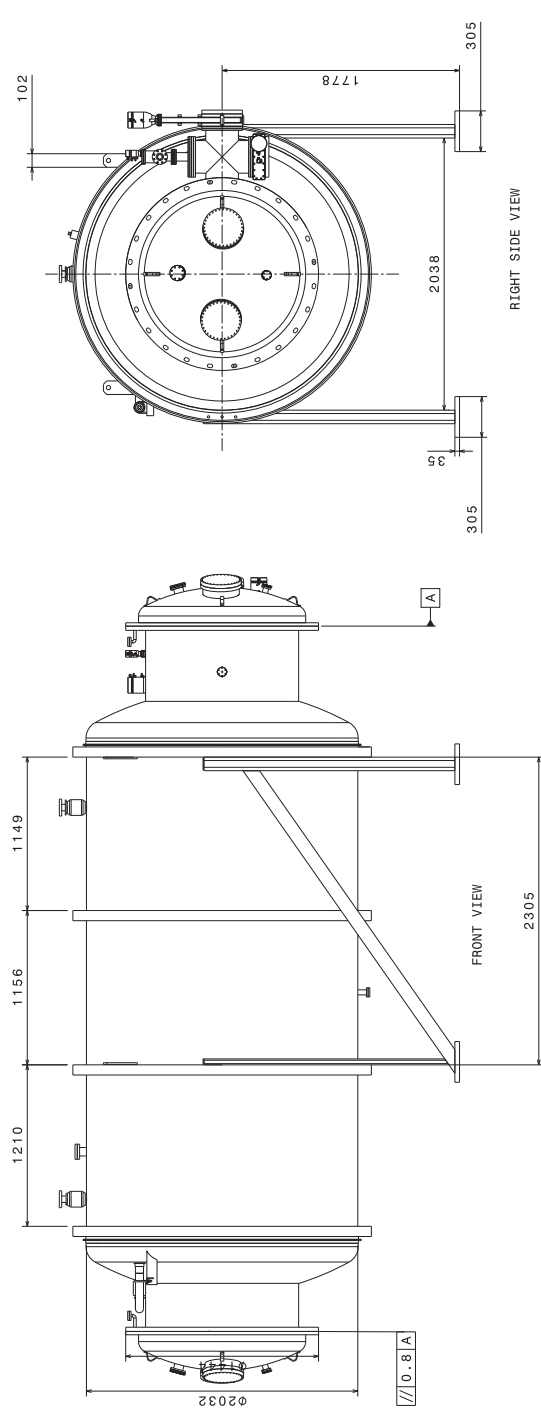
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1	01				

CO-ORDINATED BY	DATE	REV.	ZONE	DESCRIPTION	DATE	REVISION COLUMN

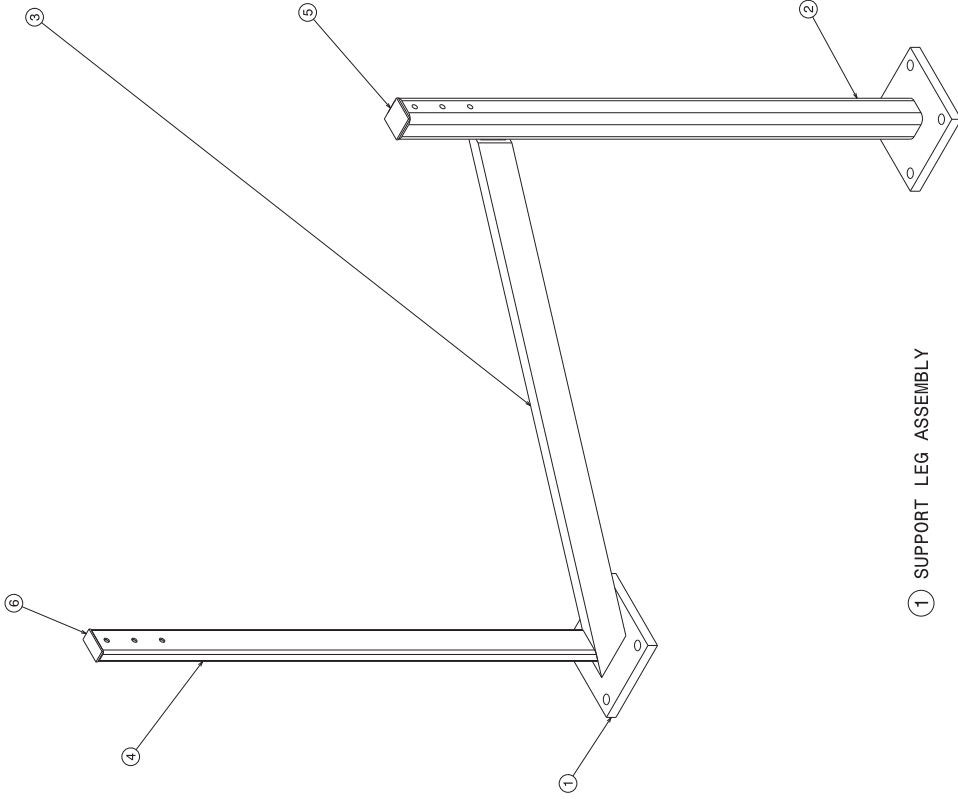
  

DRG. NO.	REV.	DATE	BY	CHKD.	APP'D.
1	01				



DRG. NO.		REV. NO.		DATE		DESCRIPTION		REVISION COLUMN		REVISION COLUMN		REVISION COLUMN		REVISION COLUMN		REVISION COLUMN		REVISION COLUMN		REVISION COLUMN		REVISION COLUMN	
NO.	DATE	BY	CHKD.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION
INSTITUTE FOR PLASMA RESEARCH (IITR)-INDIAN INSTITUTE OF TECHNOLOGY ROHTAK, HARYANA-141 103		SCALE		DATE		TITLE		REV. NO.		REV. NO.		REV. NO.		REV. NO.		REV. NO.		REV. NO.		REV. NO.		REV. NO.	
80K/1412 CRYOPUMP		1:1		11/15		80K/1412 CRYOPUMP		1		1		1		1		1		1		1		1	
APPROVED		CHECKED		DRAWN		SCALE		DATE		DESCRIPTION		REVISION COLUMN		REVISION COLUMN		REVISION COLUMN		REVISION COLUMN		REVISION COLUMN		REVISION COLUMN	
1		1		1		1		1		1		1		1		1		1		1		1	

CO. ORIGINATED BY		SCALE		DATE		DESCRIPTION		REVISION COLUMN		REVISION COLUMN		REVISION COLUMN		REVISION COLUMN		REVISION COLUMN		REVISION COLUMN		REVISION COLUMN		REVISION COLUMN	
NO.	DATE	BY	CHKD.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION
MACHINING DEVIATIONS FOR NON-RELEASED DIMENSIONS		1:1		11/15		80K/1412 CRYOPUMP		1		1		1		1		1		1		1		1	
LENGTH IN MM OF SHORTER SIDE OF ANGLES		10-50		50-120		OVER 120-400		OR		DIA		10 <sup>+0.1</sup> 20 <sup>+0.2</sup> 30 <sup>+0.3</sup> 40 <sup>+0.4</sup> 50 <sup>+0.5</sup>		1		1		1		1		1	
SURFACE FINISH		Ra 0.8		Ra 1.6		Ra 3.2		Ra 6.3		Ra 12.5		Ra 25		Ra 50		Ra 100		Ra 200		Ra 400		Ra 800	

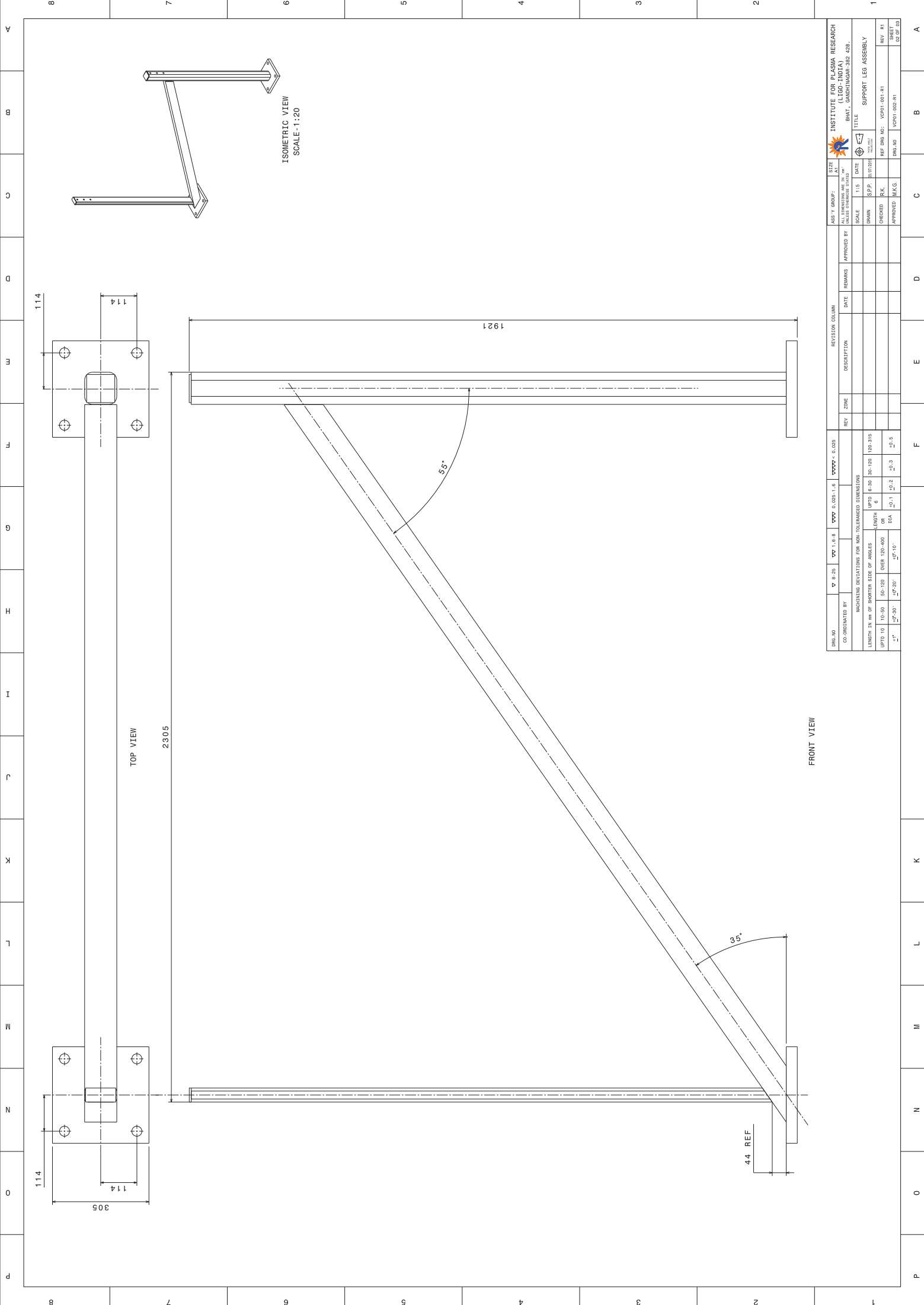


1 SUPPORT LEG ASSEMBLY

6	01	TOP PLATE-2	CARBON STEEL	VCPO1-002-R1/SHEET-03	-
5	01	TOP PLATE-1	CARBON STEEL	VCPO1-002-R1/SHEET-03	-
4	01	RECTANGULAR PIPE-3	CARBON STEEL	VCPO1-002-R1/SHEET-03	-
3	01	RECTANGULAR PIPE-2	CARBON STEEL	VCPO1-002-R1/SHEET-03	-
2	01	RECTANGULAR PIPE-1	CARBON STEEL	VCPO1-002-R1/SHEET-03	-
1	02	BASE PLATE	CARBON STEEL	VCPO1-002-R1/SHEET-03	-
		PART NO.   QUANTITY   PART NAME			REMARK

Dwg. No.		V P B-29		V P 1.6-B		V P 0.025-1.6		V P 0.025-0.025		INSTITUTE FOR PLASMA RESEARCH (IIG)-INDIAN INSTITUTE OF TECHNOLOGY BARSAT, GHAZIPOUR-202-428.	
CO-ORDINATED BY		REVISION COLUMN		ASSEMBLY GROUP		AL DIMENSIONS ARE IN MM UNLESS SPECIFIED OTHERWISE		DATE		TITLE	
MACHINING DEVIATIONS FOR NON-TOLERANCED DIMENSIONS		DESCRIPTION		APPROVED BY		SCALE		DATE		SUPPORT LEG ASSEMBLY	
LENGTH IN MM OF SHORTER SIDE OF ANGLES		REV / ZONE		REMARKS		DINMM		DATE		SHEET NO.	
UP TO 10		10-50		DATE		S.P.P.		DATE		REV. NO.	
50-120		OVER 120-400		DATE		CHECKED		DATE		REV. R1	
120-300		OVER 300-600		DATE		APPROVED		DATE		REV. R2	
OVER 300		OVER 600-1000		DATE		APPROVED		DATE		REV. R3	
1000-1500		OVER 1000-1500		DATE		APPROVED		DATE		REV. R4	
OVER 1500		OVER 1500-2000		DATE		APPROVED		DATE		REV. R5	

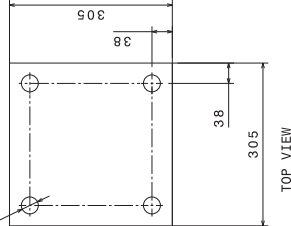




<b>INSTITUTE FOR PLASMA RESEARCH</b> CLIO-INDIAN BRISTOL, CONNECTICUT 06020-428			
ASSY GROUP: ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE SPECIFIED	SIZE AT:	TITLE: SUPPORT LEG ASSEMBLY	SHEET NO: 02 OF 03
SCALE:	DATE:	CHECKED:	REV. RT
DIMEN:	S.P.P.:	APPROVED:	SHEET
REF DRG NO:	REF DRG NO:	REF DRG NO:	DRG. NO:
VENDOR:	DATE:	DESCRIPTION:	REV. RT
DATE:	DATE:	DATE:	DATE:
DATE:	DATE:	DATE:	DATE:
DATE:	DATE:	DATE:	DATE:

CO. ORIGINATED BY:	V: 0.25	V: 1.6-8	V: 0.025-1.6	V: 0.025
MACHINING DEVIATIONS FOR NON-RELEASED DIMENSIONS:	LENGTH IN MM OF SHORTER SIDE OF ANGLES:	LENGTH:	LENGTH:	LENGTH:
UP TO 10:	UP TO 10-50:	UP TO 120-100:	UP TO 120-315:	UP TO 120-315:
$\pm 0.30$	$\pm 0.30$	$\pm 0.2$	$\pm 0.3$	$\pm 0.5$
$\pm 0.30$	$\pm 0.30$	$\pm 0.2$	$\pm 0.3$	$\pm 0.5$

Ø32 THRU HOLE  
(TYP)

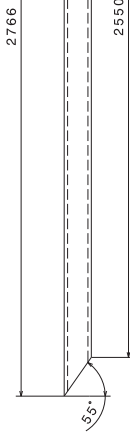


TOP VIEW



FRONT VIEW

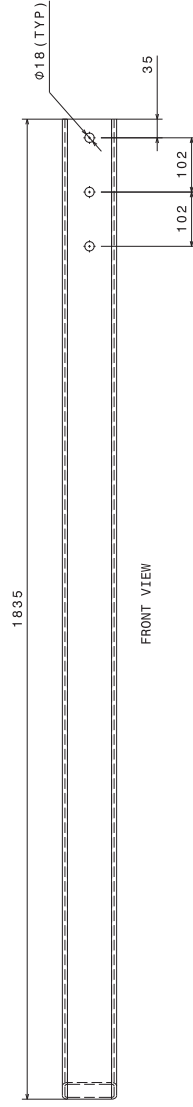
① BASE PLATE  
SCALE-1:5



FRONT VIEW

③ RECTANGULAR PIPE-2  
SCALE-1:10

SECTION A-A



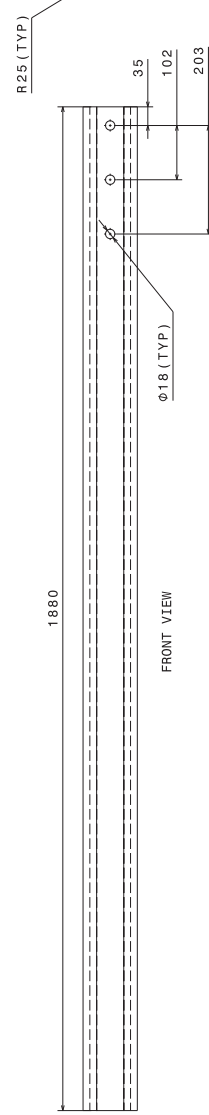
FRONT VIEW

(1835)

1804

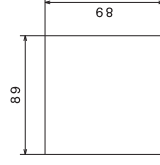
BOTTOM VIEW

④ RECTANGULAR PIPE-3  
SCALE-1:5



FRONT VIEW

② RECTANGULAR PIPE-1  
SCALE-1:5



TOP VIEW

FRONT VIEW

⑤ TOP PLATE-1  
SCALE-1:2

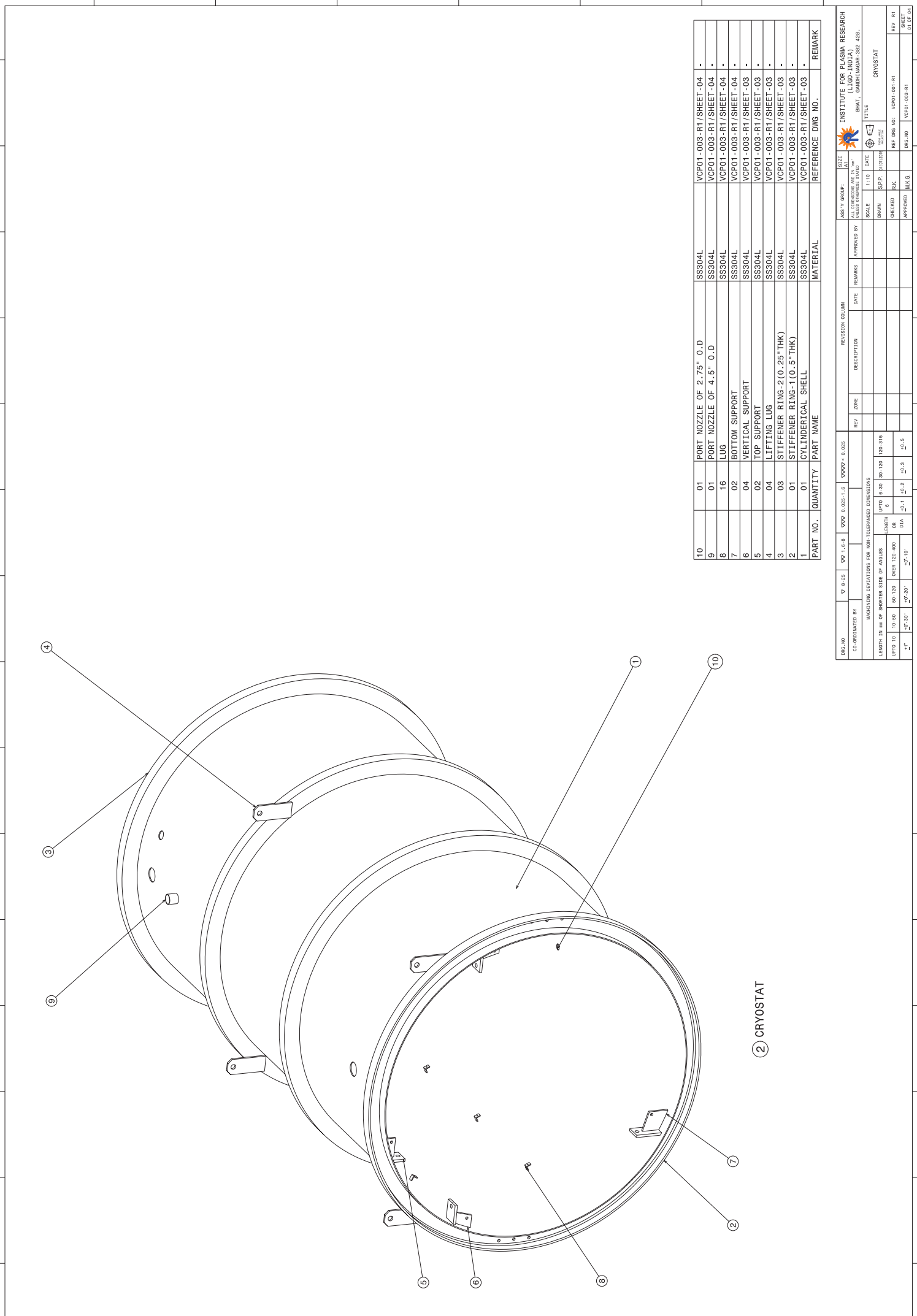


TOP VIEW

FRONT VIEW

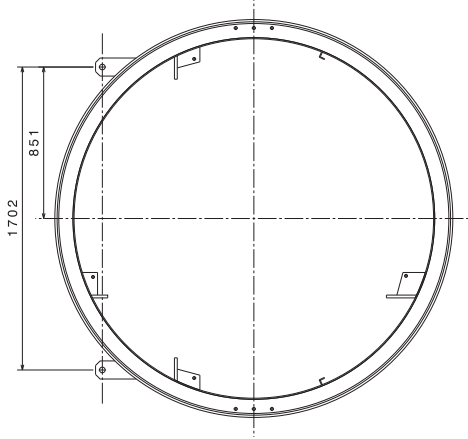
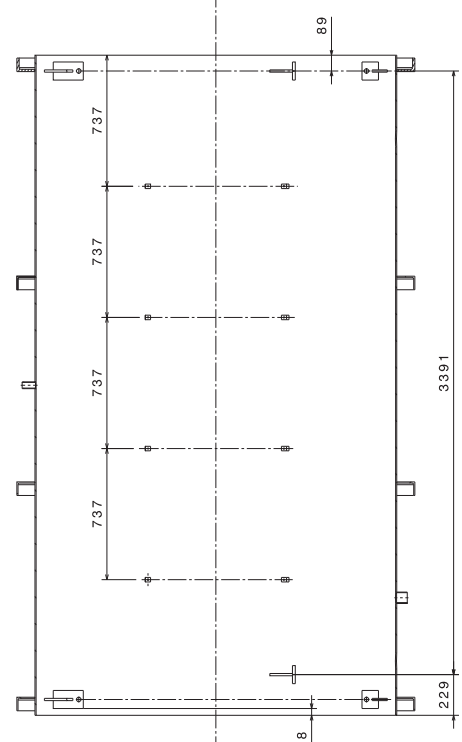
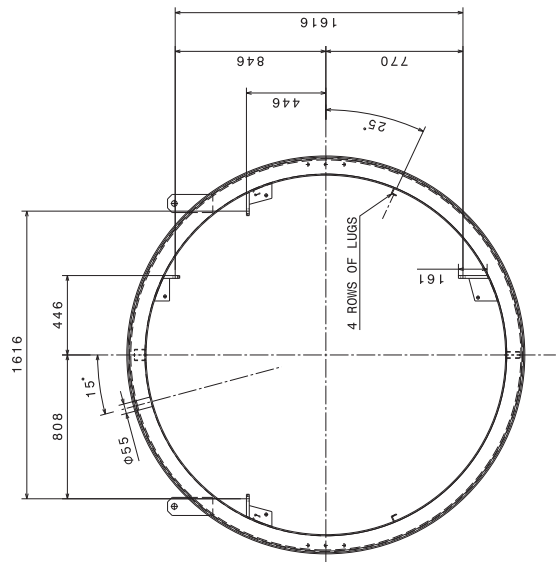
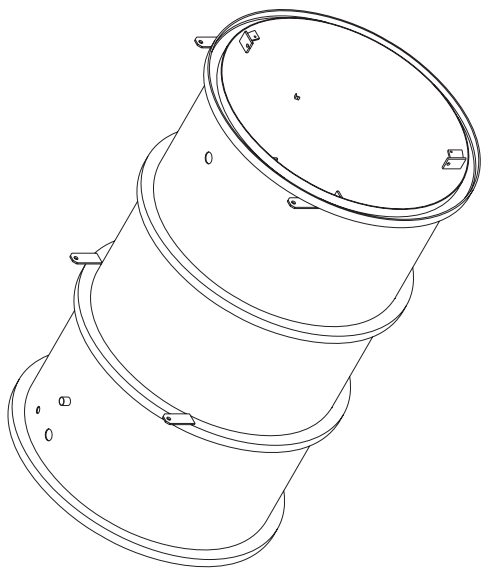
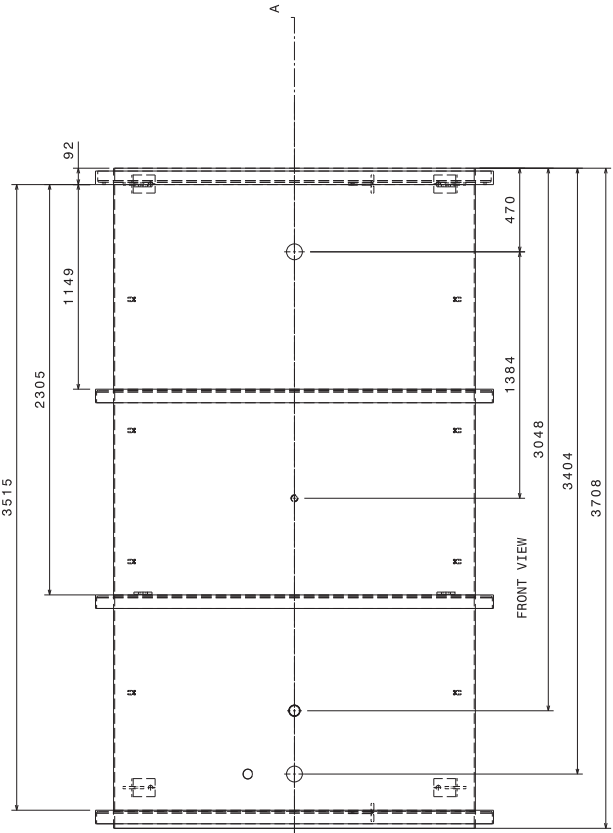
⑥ TOP PLATE-2  
SCALE-1:2

DRG. NO.		CO. ORIGINATED BY		V. R. 29		V. 1.6.8		V. 0.025-1.6		V. 0.025		REVISION COLUMN		APPROVED BY		REMARKS		DATE		DESCRIPTION		REV.		ZONE			
INSTITUTE FOR PLASMA RESEARCH (IIPR) - INDIAN INSTITUTE OF TECHNOLOGY BOMBAY, CHENNAI-600 028.		TITLE		SUPPORT LEG ASSEMBLY		SCALE		DATE		DATE		DATE		DATE		DATE		DATE		DATE		DATE		DATE		DATE	
REF. DRG. NO.		VCP01-001-R1		VCP01-002-R1		VCP01-003-R1		VCP01-004-R1		VCP01-005-R1		VCP01-006-R1		VCP01-007-R1		VCP01-008-R1		VCP01-009-R1		VCP01-010-R1		VCP01-011-R1		VCP01-012-R1		VCP01-013-R1	
SHEET		03 OF 03		04 OF 04		05 OF 05		06 OF 06		07 OF 07		08 OF 08		09 OF 09		10 OF 10		11 OF 11		12 OF 12		13 OF 13		14 OF 14		15 OF 15	

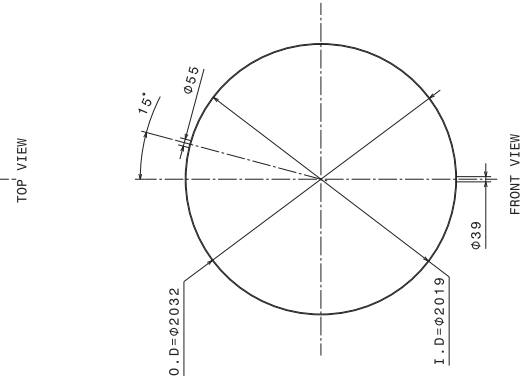
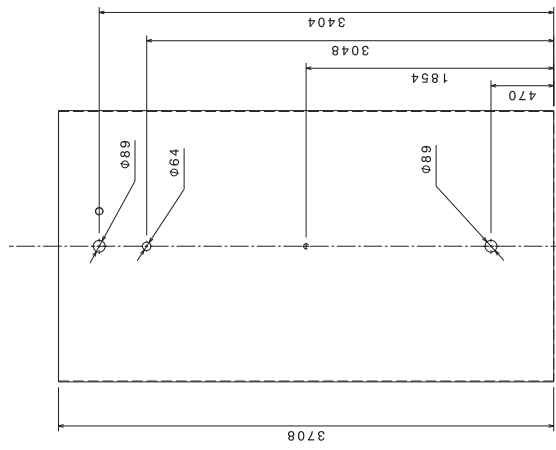


PART NO.	QUANTITY	PART NAME	MATERIAL	REFERENCE DWG NO.	REMARK	
10	01	PORT NOZZLE OF 2.75" O.D	SS304L	VCP01-003-R1/SHEET-04	-	
9	01	PORT NOZZLE OF 4.5" O.D	SS304L	VCP01-003-R1/SHEET-04	-	
8	16	LUG	SS304L	VCP01-003-R1/SHEET-04	-	
7	02	BOTTOM SUPPORT	SS304L	VCP01-003-R1/SHEET-04	-	
6	04	VERTICAL SUPPORT	SS304L	VCP01-003-R1/SHEET-03	-	
5	02	TOP SUPPORT	SS304L	VCP01-003-R1/SHEET-03	-	
4	04	LIFTING LUG	SS304L	VCP01-003-R1/SHEET-03	-	
3	03	STIFFENER RING-2 (0.25" THK)	SS304L	VCP01-003-R1/SHEET-03	-	
2	01	STIFFENER RING-1 (0.5" THK)	SS304L	VCP01-003-R1/SHEET-03	-	
1	01	CYLINDRICAL SHELL	SS304L	VCP01-003-R1/SHEET-03	-	
PART NO. QUANTITY PART NAME					MATERIAL	REFERENCE DWG NO.

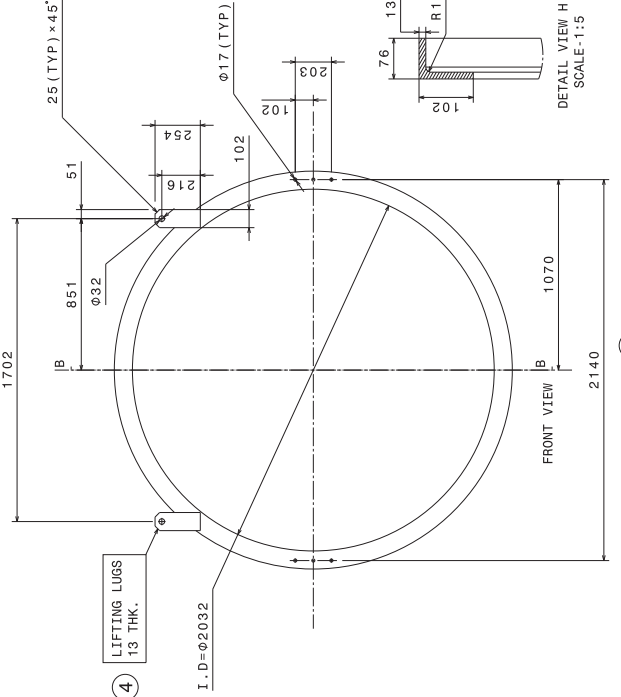
DRW. NO. V 81-29 CO. ORIGINATED BY V 1-E-8 DATE 11-01-16 SCALE 1:1		REVISION COLUMN REV. ZONE DESCRIPTION DATE REMARKS APPROVED BY		ASSEMBLY GROUP: ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED SCALE 1:1 DATE 11/10/16 DRAWN BY P.P. RAJESH CHECKED BY R.K. APPROVED BY M.K.G.		INSTITUTE FOR PLASMA RESEARCH (LIGO-INDIA) BHAS. CHENNAI-600 092-428. TITLE CRYOSTAT	
MACHINING DEVIATIONS FOR NON-RELEASED DIMENSIONS LENGTH IN mm OF SHORTER SIDE OF ANGLES UP TO 10 10-50 50-120 OVER 120-400 OVER 400 10-15 DIA 10-1 10-2 10-3 10-5 ANGLES 10-10 10-20 10-30		LENGTH IN mm UP TO 10 10-50 50-120 OVER 120-400 OVER 400 10-15 DIA 10-1 10-2 10-3 10-5 ANGLES 10-10 10-20 10-30		REF. DRW. NO. VCP01-001-R1 SHEET NO. 01 OF 04 TITLE CRYOSTAT		REF. DRW. NO. VCP01-001-R1 SHEET NO. 01 OF 04	



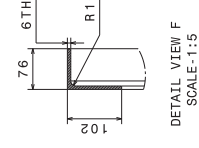
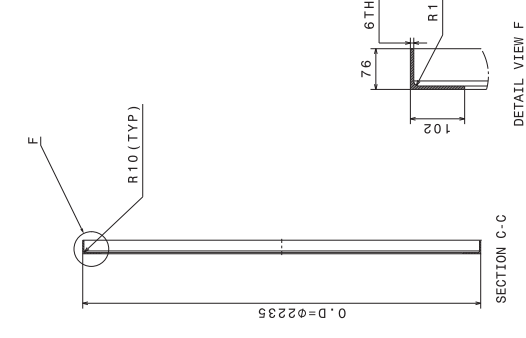
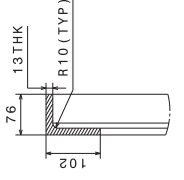
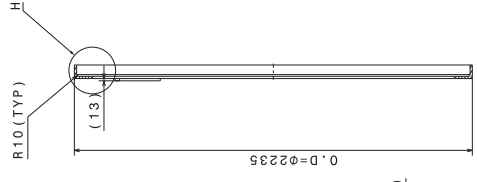
DRG. NO.	CO. ORIGINATED BY	V	H	I	J	K	L	M	N	O	P	REV.	ZONE	DESCRIPTION	DATE	REMARKS	APPROVED BY	ASBY GROUP:	SIZE	INSTRUMENT	INSTITUTE FOR PLASMA RESEARCH (IOP-INDIA) BHAV. CENTER/RSR-02B-42B.
																			A1	1:1	
MACHINING DEVIATIONS FOR NON-RELEASED DIMENSIONS																					
LENGTH IN mm OF SHORTER SIDE OF ANGLES		UP TO 10		10-50		50-120		OVER 120-400		OR		LENGTH		UP TO 120-315		30-120		120-315		CRYOSTAT	
±0.30		±0.30		±0.30		±0.30		±0.30		±0.30		±0.3		±0.3		±0.3		±0.3			
DIA		±0.1		±0.2		±0.3		±0.5		±0.5		±0.5		±0.5		±0.5		±0.5		REF. DRG. NO.: YCP01-001-R1	
±1°		±1°		±1°		±1°		±1°		±1°		±1°		±1°		±1°		±1°			REF. DRG. NO.: YCP01-003-R1
SHEET																		1	OF 02		



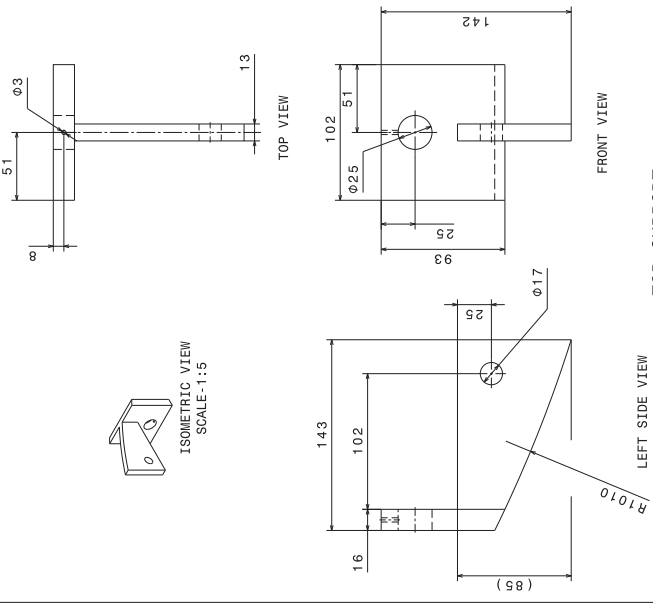
① CYLINDRICAL SHELL  
SCALE - 1 : 20



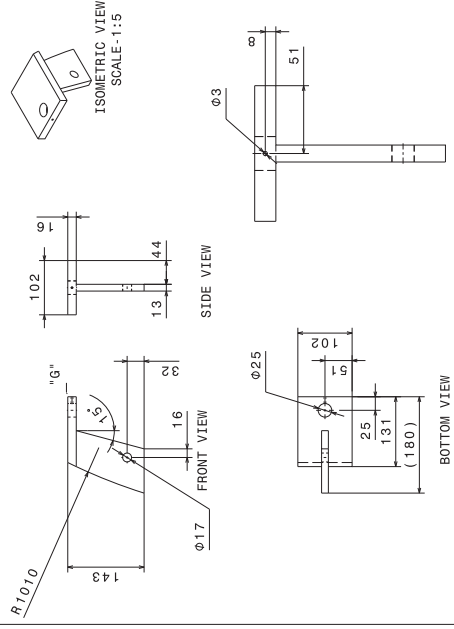
② STIFFENER RING-1 (0.5" THK)  
SCALE - 1:15



③ STIFFENER RING-2 (0.25" THK)  
SCALE - 1:15



⑤ TOP SUPPORT  
SCALE - 1:2



⑥ VERTICAL SUPPORT  
SCALE - 1:5

DRG. NO.	CO-ORDINATED BY	DESIGNED BY	SCALE	DATE	APPROVED BY	REVISION COLUMN	DATE	REMARKS	APPROVED BY	DATE	REVISION	DESCRIPTION	REV.	ZONE	DATE	DESCRIPTION	APPROVED BY	DATE	REVISION	DESCRIPTION	APPROVED BY	DATE	REVISION	DESCRIPTION

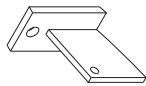
INSTITUTE FOR PLASMA RESEARCH (I.P.R.) INDIAN INSTITUTE OF TECHNOLOGY BOMBAY, GUANTRIPUR-408.	SIZE A1	ASBY GROUP	SCALE	DATE	APPROVED BY	DATE	REVISION	DESCRIPTION	APPROVED BY	DATE	REVISION	DESCRIPTION	APPROVED BY	DATE	REVISION	DESCRIPTION	APPROVED BY	DATE	REVISION	DESCRIPTION	APPROVED BY	DATE	REVISION	DESCRIPTION

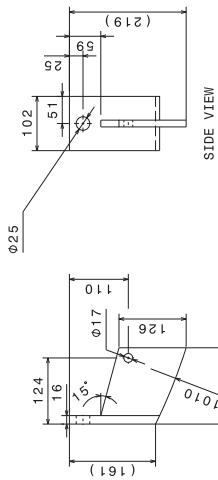
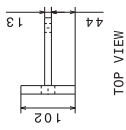
LENGTH IN mm OF SHORTER SIDE OF ANGLES	UP TO 10	10-50	50-120	OVER 120-400	OR	LENGTH	UP TO 10	10-50	50-120	OVER 120-400	OR	LENGTH	UP TO 10	10-50	50-120	OVER 120-400	OR	LENGTH	UP TO 10	10-50	50-120	OVER 120-400	OR	LENGTH
	±0.10	±0.15	±0.20	±0.30	±0.40		±0.10	±0.15	±0.20	±0.30	±0.40		±0.10	±0.15	±0.20	±0.30	±0.40		±0.10	±0.15	±0.20	±0.30	±0.40	

DRG. NO.	REV. NO.	DATE	DESCRIPTION

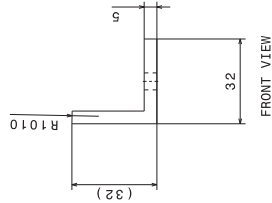
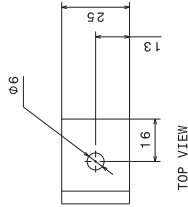


ISOMETRIC VIEW

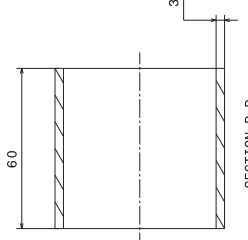
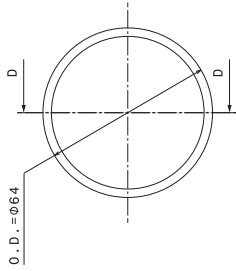


SIDE VIEW

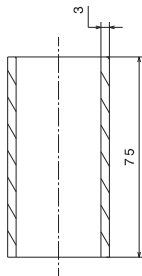
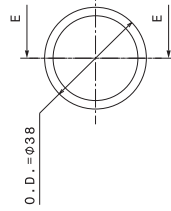
⑦ BOTTOM SUPPORT  
SCALE-1:5



⑧ LUG  
SCALE-1:1



⑨ PORT NOZZLE OF 4.5" O.D  
SCALE-1:1



⑩ PORT NOZZLE OF 2.75" O.D  
SCALE-1:1

DRG. NO.	CO-ORDINATED BY	DATE	REV.	ZONE	DESCRIPTION	REVISION COLUMN	DATE	REMARKS	APPROVED BY	ASSY GROUP:	SIZE	DATE
										INSTITUTE FOR PLASMA RESEARCH (LIC-INDIA) BMSAT, CHENNAI-600 028.	A1	
										SCALE	DATE	
										DRAWN	DATE	
										CHECKED	DATE	
										APPROVED	DATE	
										TITLE		
										CRYOSTAT		
										REF DRG NO:		
										REF DRG NO:		
										DRG. NO.		
										DRG. NO.		
										SHEET		
										OF		
										OF		