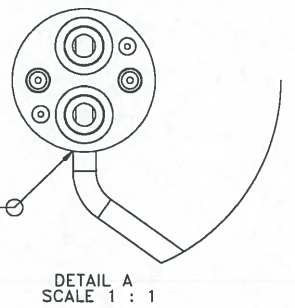
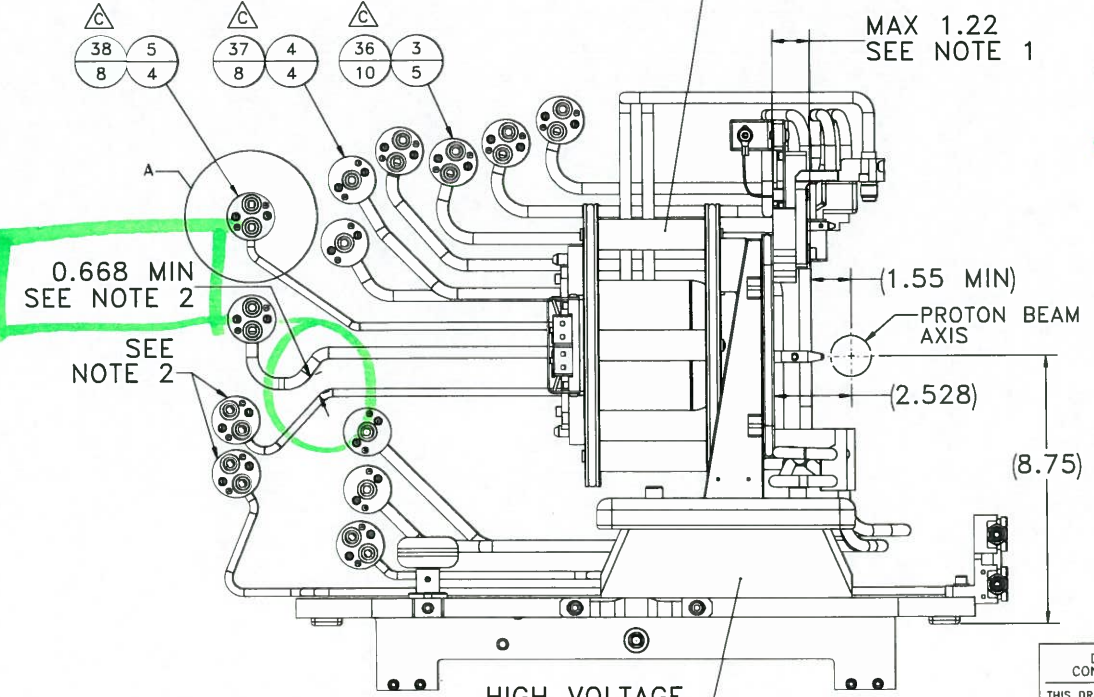
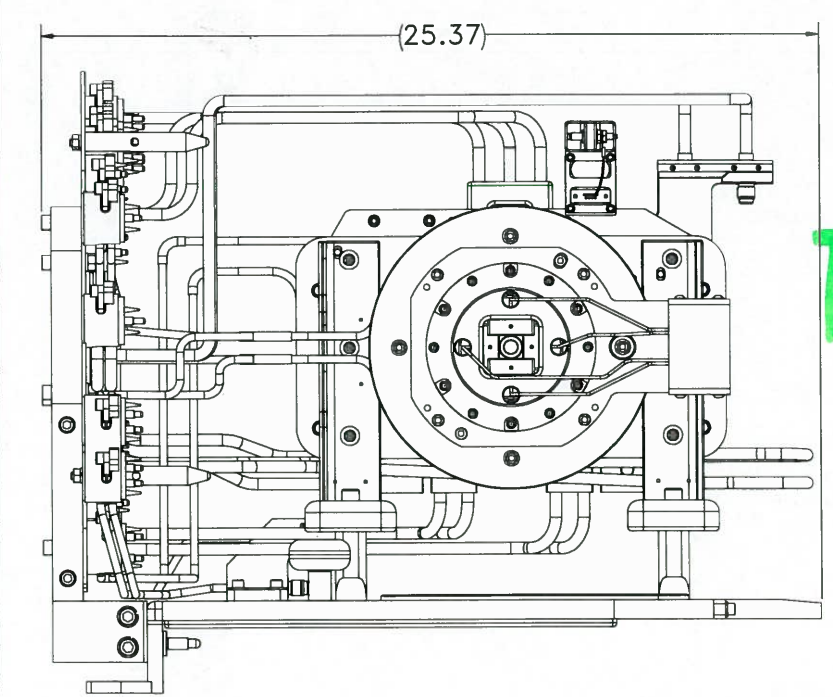
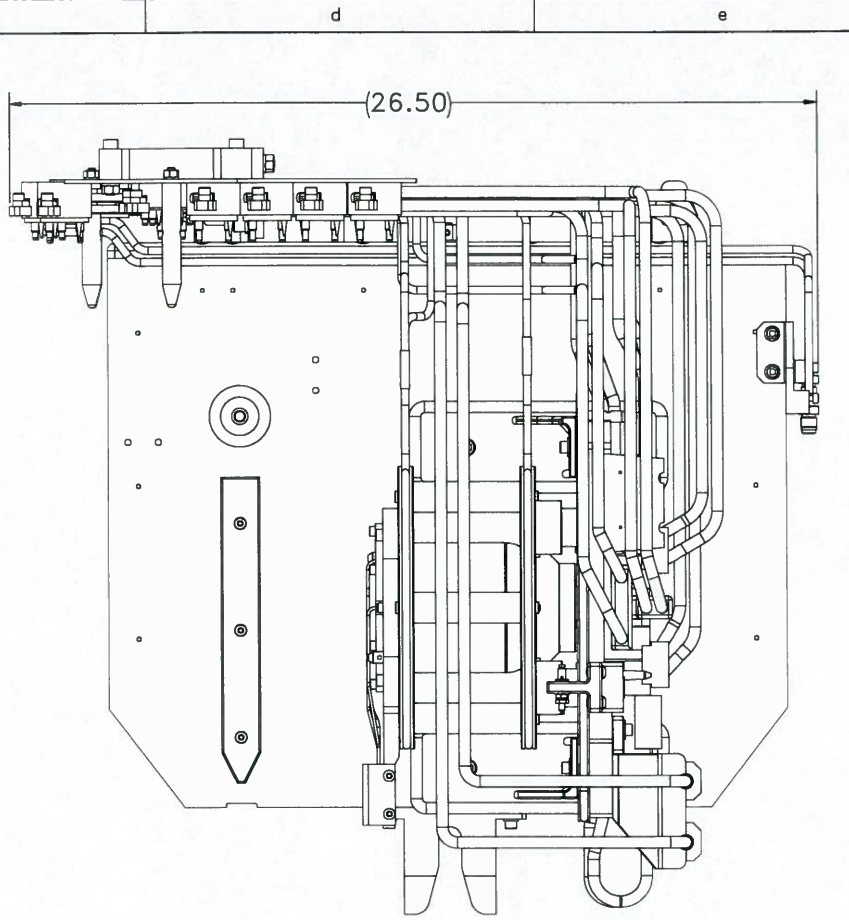


ISOMETRIC VIEW  
NOT TO SCALE

SOLDER  
SEE NOTE 6  
TYP. 22 PLACES



DETAIL A  
SCALE 1 : 1



HIGH VOLTAGE  
INSULATOR

MAX 1.22  
SEE NOTE 1

0.668 MIN  
SEE NOTE 2

SEE  
NOTE 2

(1.55 MIN)

PROTON BEAM  
AXIS

(2.528)

(8.75)

HIGH VOLTAGE  
INSULATOR

ITEM	REF No.	DESCRIPTION	MATERIAL	QTY.
1	ITA1334	1/4" VCR MALE FITTING MODIFICATION	S.S.	2
2	ITA2399	WATER BLOCK SUPPORT JIG		1
3	ITA2447	TYPE A OUTER WATER CONX. BLOCK ASS'Y		5
4	ITA2448	TYPE B OUTER WATER CONX. BLOCK ASS'Y		4
5	ITA2449	TYPE C OUTER WATER CONX. BLOCK ASS'Y		4
6	ITA3560	EXTRACTION COLUMN & SLIDING TRAY ASS'Y		1
7	ITA3567	CENTRE CONDUCTOR BLOCK WELDMENT		1
8	ITA3570	DOUBLE CONDUCTOR BLOCK WELDMENT		1
9	ITA6027	TUBE, 3/8" OD, 27.74" TOTAL LG.	Copper	1
10	ITA6028	TUBE, 3/8" OD, 27.07" TOTAL LG.	Copper	1
11	ITA6029	TUBE, 3/8" OD, 27.52" TOTAL LG.	Copper	1
12	ITA6030	TUBE, 3/8" OD, 28.71" TOTAL LG.	Copper	1
13	ITA6031	TUBE, 3/8" OD, 29.75" TOTAL LG.	Copper	1
14	ITA6032	TUBE, 3/8" OD, 28.51" TOTAL LG.	Copper	1
15	ITA6033	TUBE, 3/8" OD, 50.21" TOTAL LG.	Copper	1
16	ITA6034	TUBE, 3/8" OD, 49.68" TOTAL LG.	Copper	1
17	ITA6037	TUBE, 1/4" OD, 21.53" TOTAL LG.	Copper	1
18	ITA6038	TUBE, 1/4" OD, 20.82" TOTAL LG.	Copper	1
19	ITA6039	TUBE, 3/8" OD, 50.63" TOTAL LG.	Copper	1
20	ITA6040	TUBE, 3/8" OD, 52.20" TOTAL LG.	Copper	1
21	ITA6042	TUBE, 1/4" OD, 18.57" TOTAL LG.	Copper	1
22	ITA6045	TUBE, 1/4" OD, 23.73" TOTAL LG.	Copper	1
23	ITA6046	TUBE, 1/4" OD, 23.37" TOTAL LG.	Copper	1
24	ITA6047	TUBE, 1/4" OD, 34.57" TOTAL LG.	Copper	1
25	ITA6048	TUBE, 1/4" OD, 32.23" TOTAL LG.	Copper	1
26	ITA6145	TUBE, 1/4" OD, 19.39" TOTAL LG.	Copper	1
27	ITA6264	TUBE, 3/8" OD, 38.07" TOTAL LG.	Copper	1
28	ITA6265	TUBE, 3/8" OD, 39.51" TOTAL LG.	Copper	1
29	ITA6266	TUBE, 3/8" OD, 35.52" TOTAL LG.	Copper	1
30	ITA6267	TUBE, 3/8" OD, 32.67" TOTAL LG.	Copper	1
31	ITA6143	1/4-20 X 1 1/4 LG. MOD. SCREW DETAIL	SST	7
32	ITD0353	LEFT OVEN CONDUCTOR BLOCK SUB-ASSY		1
33	ITD0356	RIGHT OVEN CONDUCTOR BLOCK SUB-ASSY		1
34	ITD0528	LEFT COIL CONDUCTOR BLOCK V2 SUB-ASSY	TRIUMF	1
35	ITD0529	RIGHT COIL CONDUCTOR BLOCK V2 SUB-ASSY	TRIUMF	1
36	ITA6261	REMOTE HANDLING BOLT -1/4-28x1.63 LG	GRADE 8 STEEL	10
37	ITA6262	REMOTE HANDLING BOLT -1/4-28x1.00 LG	GRADE 8 STEEL	8
38	ITA6263	REMOTE HANDLING BOLT -1/4-28x1.38 LG	GRADE 8 STEEL	8
39	ITA6268	NUT CAPTURE, REMOTE HANDLING, R0.25	6061-T6	2
100		SCREW, SOC HD CAP, 5/16-18 X 0.875	SST	2
101		WASHER, SPRING LOCK, 5/16	SST	2
200	C-1008	C-1008 VENTED SCREW, SOC HD CAP, No.10-32 X 0.50 LG, U-C COMPONENTS		8
201	1-7/05001	ELBOW, 90 DEG, S.R., WROT, FOR 1/4" OD TUBE	Copper	2
202	1-7/05018	COUPLING, WROT, FOR 1/4" OD TUBE	Copper	4
203	SS-4-VCR-3	VCR SOCKET WELD GLAND, 0.25 TUBE, SWAGelok	ALSI 304	2
204	SS-4-VCR-4	MALE NUT, 1/4" TUBE, SWAGelok	SST	2

NOTES

1. COPPER TUBE WATER LINE ROUTING MAY NOT EXTEND BEYOND 1.22 INCHES PAST THE MOUNTING SUPPORT PLATE.
2. GROUND ELECTRODE AND WINDOW WATER CONX. BLOCKS, AND ASSOCIATED COPPER COOLING TUBES ARE AT GROUND POTENTIAL. THESE ITEMS MUST BE ELECTRICALLY ISOLATED FROM ALL OTHER HIGH-VOLTAGE COOLING TUBES AND SURFACES BY AN AIR GAP NO LESS THAN 0.668". BEND ALL COOLING TUBES TO SUIT.
3. COOLING LINES MUST BE BENT USING A JIG TO ALIGN END FITTINGS CORRECTLY WITH MATING FITTINGS.
4. USE ARCTEC 1005 BARE CADMIUM-FREE SILVER BRAZING ALLOY WITH HANDY FLUX TYPE B-1 (HANDY & HARMAN) AS PER MANUFACTURING PROCEDURE DOCUMENT-32201. BRAZING PERFORMED ON THE BENCH (NOT ON THE ASSEMBLY).
5. SOLDER ON THE BENCH WITH CERTANIUM 34C AFTER TUBE BENDING. MAINTAIN TUBE ORIENTATION.
6. SOLDER WATER BLOCKS WITH CERTANIUM 34C AFTER STEPS DESCRIBED BY NOTE 4 AND NOTE 5. USE JIG ITA5834D.
7. LEAK CHECK ALL JOINTS. ANY LEAK IN EXCESS OF 10x10-9 ATM CC/SEC MUST BE REPAIRED.
8. PRESSURIZE EACH LINE WITH 120 PSI HELIUM. USE LEAK DETECTOR SNIFFER TO FIND LEAKS. REPAIR ANY LINES THAT SHOW RESPONSE.
9. THIS WATER TUBE CONFIGURATION IS DESIGNED FOR OPTICS TRAY MKIV ITA6082. FOR THE WATER-COOLED MKIII OPTICS TRAY TUBE CONFIGURATION, SEE ITA6021.

JUN 10 2015

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TOLERANCES UNLESS OTHERWISE SPECIFIED	DECIMALS	XX	XXX	ANGULAR	SURFACE FINISH
	± 0.2	± 0.1	± 0.005	± 1.0°	3.2 µ inch

DESIGNED	CHECKED	REA #	TRACKING #	DATE
M. ILAGAN	G. MINOR	1970	P-0312	16 DEC 2014

REV	DATE	REVISION DESCRIPTION	BY	APPD
C	5/12/2015	ECO-3686 - ADDED ITEMS 34-39; MODIFIED ITEMS 27-30	Daniel Rowbotham	S. MINOR
B	3/26/2015	ECO-3656 - ITA2399 HIDDEN IN VIEW	Mark Ilagan	G. MINOR
A	1/28/2015	ECO-3587 - CHANGE CONTROL APPLIES	Mark Ilagan	F. AMES

**TRIUMF**  
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CANADA V6T-2A3

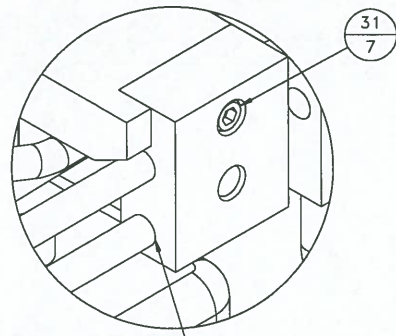
CANADA'S NATIONAL LABORATORY FOR  
PARTICLE AND NUCLEAR PHYSICS

3/8" & 1/4" WATER TUBE INSTALL  
SOURCE TRAY ASSEMBLY  
ISAC TARGET MODULE

SCALE 1:3  
DATE 16 DEC 2014

DWG NO. ITA6144  
SIZE D  
SHEET 1 OF 2  
REV C



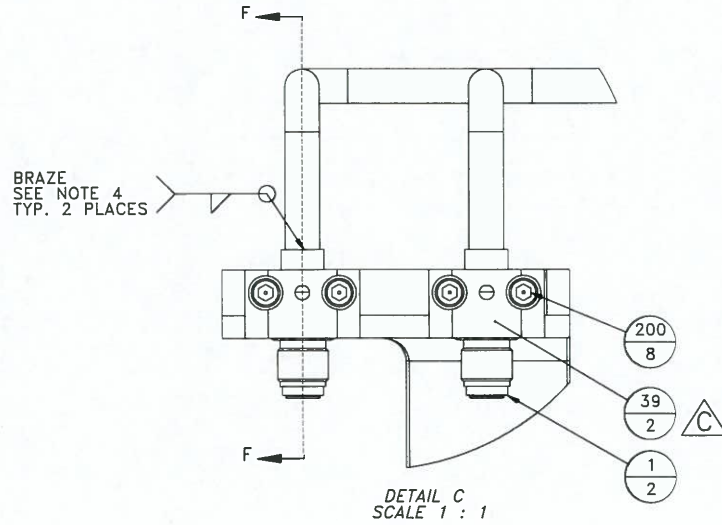


SOLDER  
SEE NOTE 5  
TYP. 12 PLACES

DETAIL B  
SCALE 1 : 1

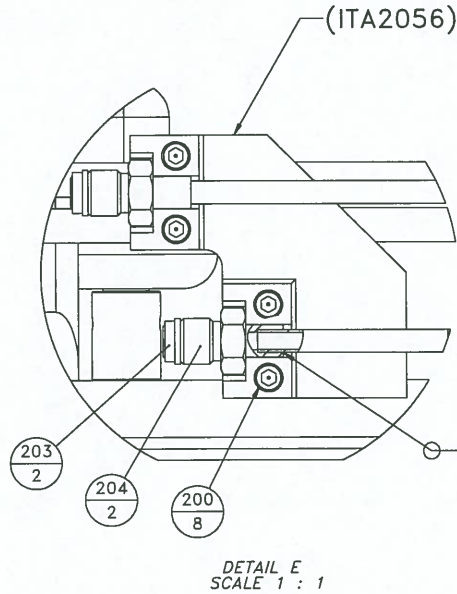
ALL HIGH-VOLTAGE  
COOLING LINES  
1 MIN  
TO SURFACE OF  
TOOLING PLATE

DETAIL D  
SCALE 1 : 1



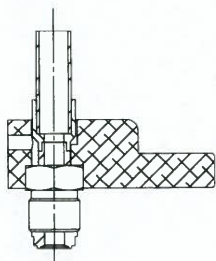
BRAZE  
SEE NOTE 4  
TYP. 2 PLACES

DETAIL C  
SCALE 1 : 1

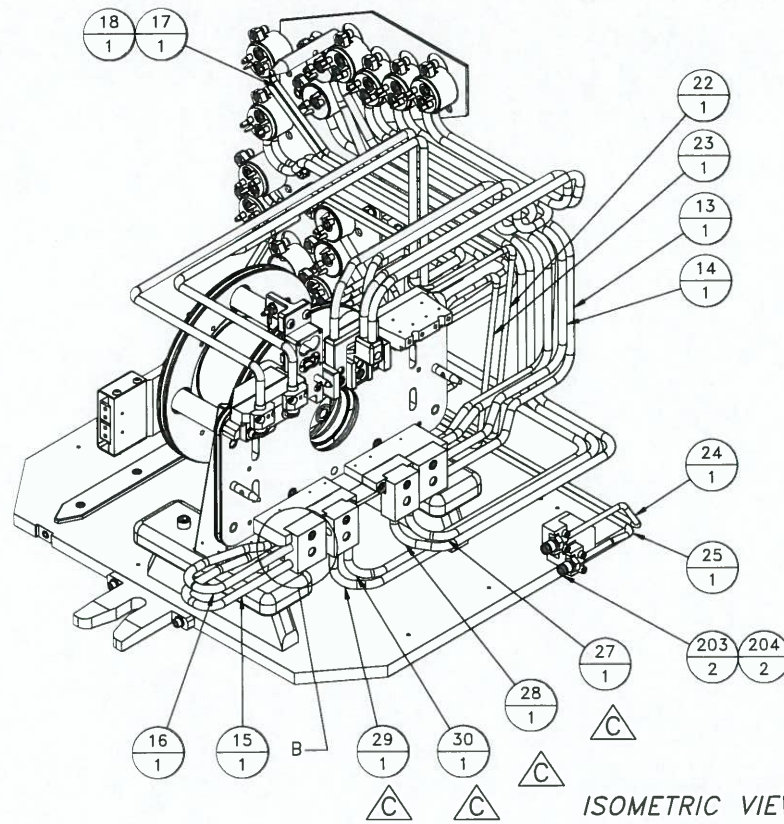
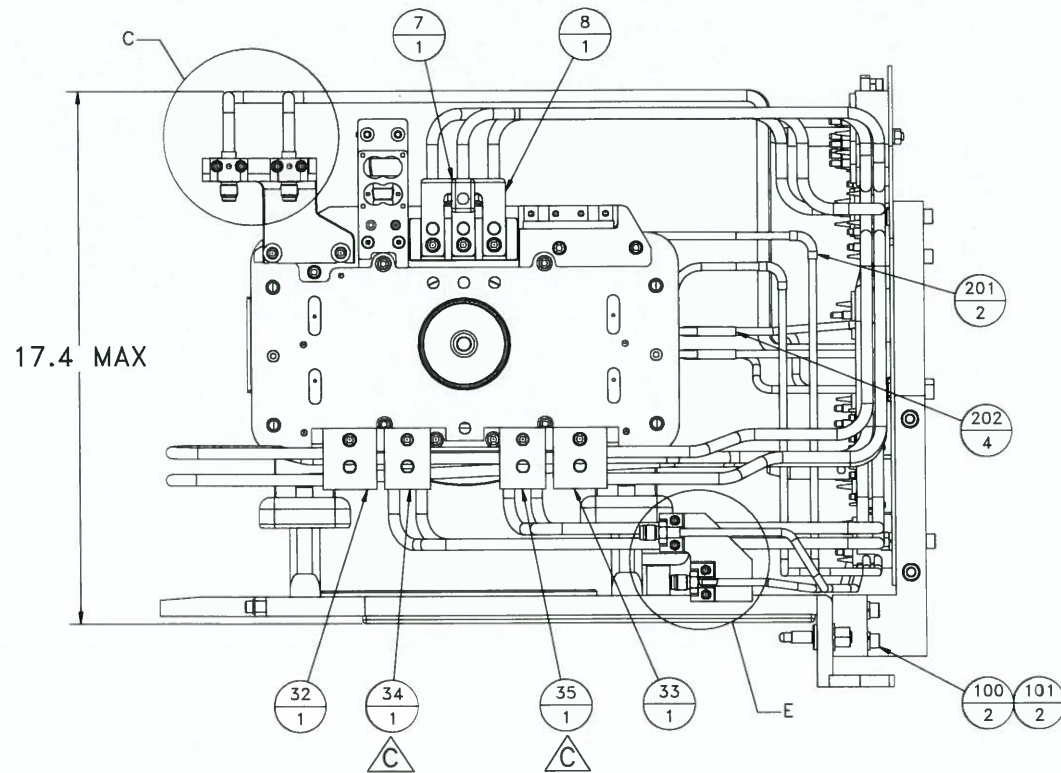


DETAIL E  
SCALE 1 : 1

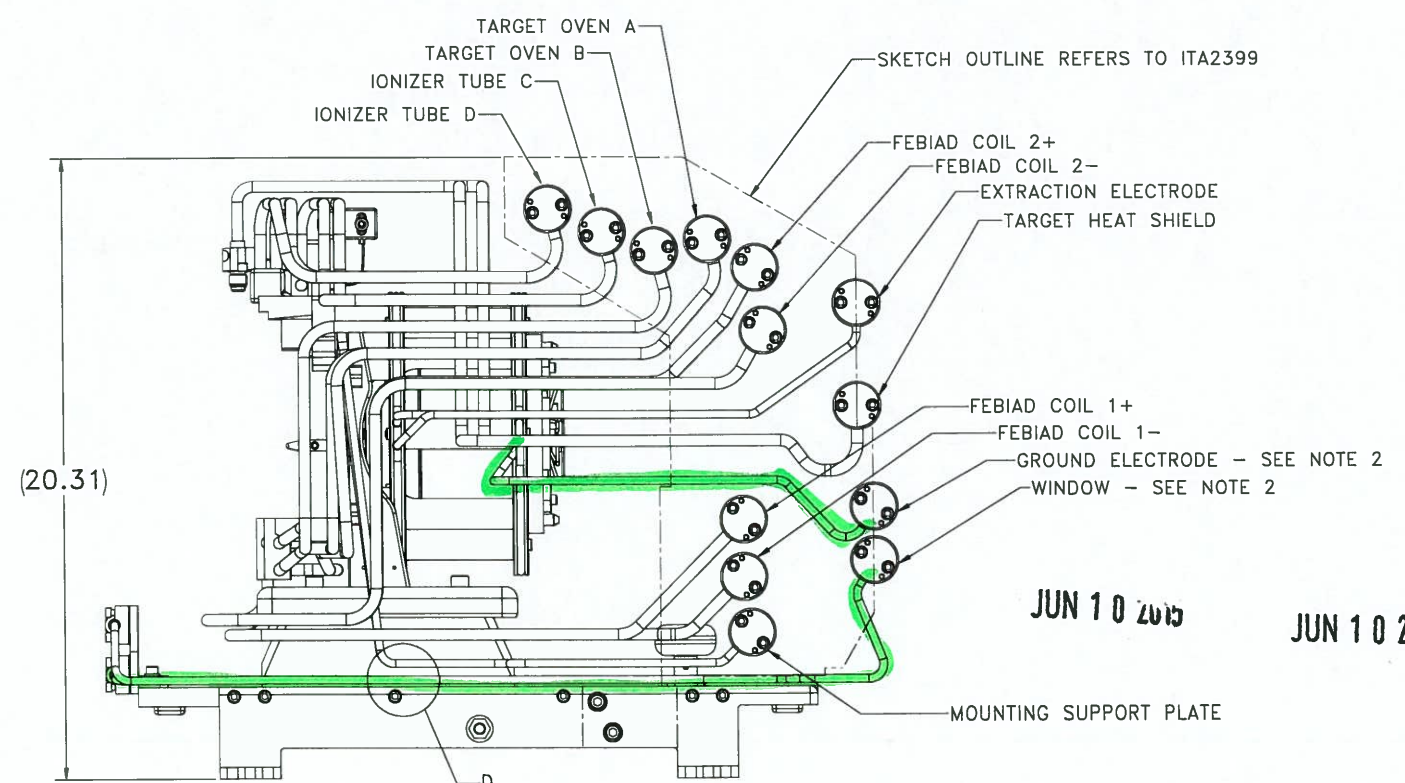
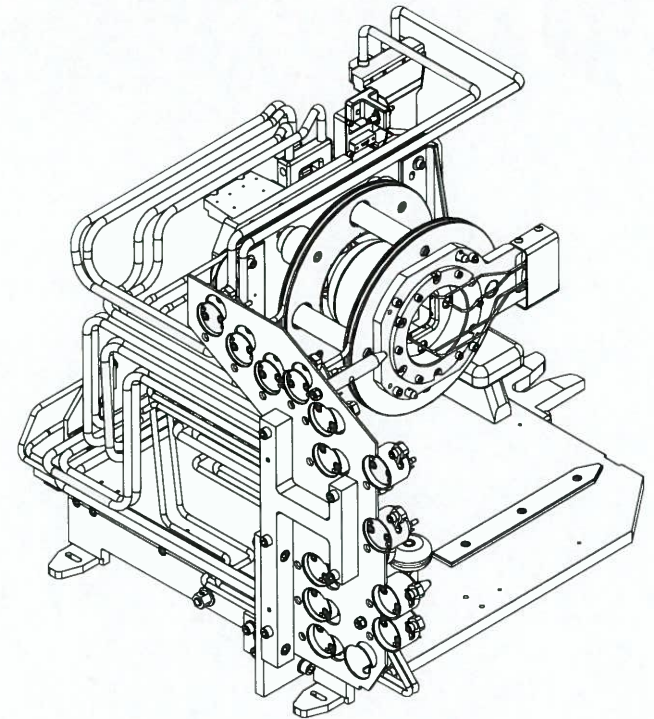
BRAZE  
SEE NOTE 4  
TYP. 2 PLACES



SECTION F-F  
SCALE 1 : 1



ISOMETRIC VIEWS NOT TO SCALE



ITA2399 HIDDEN IN VIEW

JUN 10 2015

JUN 10 2015

REV	DATE	REVISION DESCRIPTION	BY	APPD
1				

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CANADA'S NATIONAL LABORATORY FOR  
 PARTICLE AND NUCLEAR PHYSICS

SCALE 1:3  
 USE IN CONJUNCTION WITH SHEET No. 1

DWG. NO. ITA6144  
 SIZE D  
 SHEET 2 OF 2  
 REV C