



- MEPT-IG1  
MEPT-TSP1  
MEPT-CG1  
RESTRICTED FLOW (MEPT-BV1A (SEE NOTE 7))  
MEPT-CG1A  
MEPT-VW1A  
MEPT-IP1  
MEPT-GV1  
MEPT-IP1  
MEPT-BV1B (SEE NOTE 7)  
MEPT-CG1B  
MEPT-BV1  
MEPT-IP1  
MEPT-BP1
- MEPTBL-TP1B  
MEPTBL-BV1B  
MEPTBL-IG1  
MEPTBL-CG1  
MEPTBL-IG1AA  
MEPTBL-TP1A (SEE NOTE 8)  
MEPTBL-BV1A (SEE NOTE 8)  
MEPTBL-IV0  
MEPTBL-TP1B  
MEPTBL-BV1B  
MEPTBL-IG1  
MEPTBL-CG1  
MEPTBL-IG1AA  
MEPTBL-TP1A (SEE NOTE 8)  
MEPTBL-BV1A (SEE NOTE 8)  
MEPTBL-IV0
- TSYBL-BV1C  
TSYBL-TP1C  
TSYBL-IG1  
TSYBL-CG1  
TSYBL-IG1AA  
TSYBL-TP1B (SEE NOTE 8)  
TSYBL-BV1B (SEE NOTE 8)  
TSYBL-BV1A  
TSYBL-TP1A  
TSYBL-IV0
- MEPTBL-TP1B  
MEPTBL-BV1B  
MEPTBL-IG1  
MEPTBL-CG1  
MEPTBL-IG1AA  
MEPTBL-TP1A (SEE NOTE 8)  
MEPTBL-BV1A (SEE NOTE 8)  
MEPTBL-IV0
- TSYBL-TP1  
TSYBL-BV1 (SEE NOTE 3)  
TSYBL-BV1  
TSYBL-CG1B  
TSYBL-BV1 (SEE NOTE 4)  
TSYBL-BV1 (SEE NOTE 5)  
TSYBL-CG1A  
TSYBL-TP1  
TSYBL-W1A  
TSYBL-CG1B  
TSYBL-BV1  
TSYBL-TP1  
TSYBL-IV0  
TSYBL-BP1
- MEPTBL-TP1B  
MEPTBL-BV1B  
MEPTBL-IG1  
MEPTBL-CG1  
MEPTBL-IG1AA  
MEPTBL-TP1A (SEE NOTE 8)  
MEPTBL-BV1A (SEE NOTE 8)  
MEPTBL-IV0
- TSYBL-TP1  
TSYBL-BV1 (SEE NOTE 3)  
TSYBL-BV1  
TSYBL-CG1B  
TSYBL-BV1 (SEE NOTE 4)  
TSYBL-BV1 (SEE NOTE 5)  
TSYBL-CG1A  
TSYBL-TP1  
TSYBL-W1A  
TSYBL-CG1B  
TSYBL-BV1  
TSYBL-TP1  
TSYBL-IV0  
TSYBL-BP1

ELEVATION VIEW

- North  
East
- 10E-10 TORR VACUUM  
10E-9 TORR VACUUM  
10E-9 TORR VACUUM  
10E-8 TORR VACUUM  
10E-8 TORR VACUUM  
10E-7 TORR VACUUM
- TO VERTICAL SECTION (SEE DWG. ISK5043D)
- MEPT-IG1  
MEPT-TSP1  
MEPT-CG1  
RESTRICTED FLOW (MEPT-BV1A (SEE NOTE 7))  
MEPT-CG1A  
MEPT-VW1A  
MEPT-IP1  
MEPT-GV1  
MEPT-IP1  
MEPT-BV1B (SEE NOTE 7)  
MEPT-CG1B  
MEPT-BV1  
MEPT-IP1  
MEPT-BP1
- MEPTBL-TP1B  
MEPTBL-BV1B  
MEPTBL-IG1  
MEPTBL-CG1  
MEPTBL-IG1AA  
MEPTBL-TP1A (SEE NOTE 8)  
MEPTBL-BV1A (SEE NOTE 8)  
MEPTBL-IV0  
MEPTBL-TP1B  
MEPTBL-BV1B  
MEPTBL-IG1  
MEPTBL-CG1  
MEPTBL-IG1AA  
MEPTBL-TP1A (SEE NOTE 8)  
MEPTBL-BV1A (SEE NOTE 8)  
MEPTBL-IV0
- TSYBL-BV1C  
TSYBL-TP1C  
TSYBL-IG1  
TSYBL-CG1  
TSYBL-IG1AA  
TSYBL-TP1B (SEE NOTE 8)  
TSYBL-BV1B (SEE NOTE 8)  
TSYBL-BV1A  
TSYBL-TP1A  
TSYBL-IV0
- MEPTBL-TP1B  
MEPTBL-BV1B  
MEPTBL-IG1  
MEPTBL-CG1  
MEPTBL-IG1AA  
MEPTBL-TP1A (SEE NOTE 8)  
MEPTBL-BV1A (SEE NOTE 8)  
MEPTBL-IV0
- TSYBL-TP1  
TSYBL-BV1 (SEE NOTE 3)  
TSYBL-BV1  
TSYBL-CG1B  
TSYBL-BV1 (SEE NOTE 4)  
TSYBL-BV1 (SEE NOTE 5)  
TSYBL-CG1A  
TSYBL-TP1  
TSYBL-W1A  
TSYBL-CG1B  
TSYBL-BV1  
TSYBL-TP1  
TSYBL-IV0  
TSYBL-BP1

**Mnemonics:**

BV = Backing Valve  
CCP = Cryopump Compressor  
CG = Convection Gauge  
CP = Cryopump  
EV = Pump Exhaust Valve  
FG = Flow Gauge  
IG = Ion Gauge  
IP = Ion Pump  
IV = Isolation Valve  
GV = Gate Valve (For Pump)  
HOV = Hand-Operated Valve  
MR = Metering Valve  
PR = Pressure Regulator  
RVC = Rough Valve Cryopump  
RP = Roughing Pump  
SV = Solenoid Valve  
TP = Turbomolecular Pump  
HSP = Ti Sublimation Pump  
VW = Vent Valve  
CO = Cross Over Valve

Item	Part No.	Description	QTY
1	9689223	Turbo-V551 Navigator Pump, 8 in. CF	1
2	9689544	Turbo-V550 Navigator Controller 120/220 V, 50/60 Hz	3
3	9689304	Turbo-V551 Inlet Screen DN180	3
4	9689306	Pump, Turbo-V70, 4.5 CF	3
5	9689205	Controller, Turbo-V70, R&R, 120V	3
6	9689205	Pump, Turbo-V70, R&R, 120V	3
7	9689205	Pump, Turbo-V70, R&R, 120V	3
8	9689205	Pump, Turbo-V70, R&R, 120V	3
9	9689205	Pump, Turbo-V70, R&R, 120V	3
10	9689205	Pump, Turbo-V70, R&R, 120V	3
11	9689205	Pump, Turbo-V70, R&R, 120V	3
12	9689205	Pump, Turbo-V70, R&R, 120V	3
13	9689205	Pump, Turbo-V70, R&R, 120V	3
14	9689205	Pump, Turbo-V70, R&R, 120V	3
15	9689205	Pump, Turbo-V70, R&R, 120V	3
16	9689205	Pump, Turbo-V70, R&R, 120V	3
17	9689205	Pump, Turbo-V70, R&R, 120V	3
18	9689205	Pump, Turbo-V70, R&R, 120V	3
19	9689205	Pump, Turbo-V70, R&R, 120V	3
20	9689205	Pump, Turbo-V70, R&R, 120V	3
21	9689205	Pump, Turbo-V70, R&R, 120V	3
22	9689205	Pump, Turbo-V70, R&R, 120V	3
23	9689205	Pump, Turbo-V70, R&R, 120V	3
24	9689205	Pump, Turbo-V70, R&R, 120V	3
25	9689205	Pump, Turbo-V70, R&R, 120V	3

Item	Part No.	Description	QTY
24	KE0200277	Elbow, NW50, 2.75" Clearance, Stainless Steel	4
25	KC065V	Seal, Centering Ring, NW50, Stainless Steel, Viton O-Ring	23
26	KC04M	Clamp, Quick, Wing Nut, NW50, Black	23
27	215	Clamp, Quick, Wing Nut, NW50, Black	23
28	KC0100197	Thee, NW25, 1.97" Clearance	7
29	KC0100197	Thee, NW25, 1.97" Clearance	7
30	KC0100197	Thee, NW25, 1.97" Clearance	7
31	KC0100197	Thee, NW25, 1.97" Clearance	7
32	KC0100197	Thee, NW25, 1.97" Clearance	7
33	KC0100197	Thee, NW25, 1.97" Clearance	7
34	KC0100197	Thee, NW25, 1.97" Clearance	7
35	KC0100197	Thee, NW25, 1.97" Clearance	7
36	KC0100197	Thee, NW25, 1.97" Clearance	7
37	KC0100197	Thee, NW25, 1.97" Clearance	7
38	KC0100197	Thee, NW25, 1.97" Clearance	7
39	KC0100197	Thee, NW25, 1.97" Clearance	7
40	KC0100197	Thee, NW25, 1.97" Clearance	7
41	KC0100197	Thee, NW25, 1.97" Clearance	7
42	KC0100197	Thee, NW25, 1.97" Clearance	7
43	KC0100197	Thee, NW25, 1.97" Clearance	7
44	KC0100197	Thee, NW25, 1.97" Clearance	7
45	KC0100197	Thee, NW25, 1.97" Clearance	7

**NOTES:**

- THE ISOLATION VALVES (IV) FOR THE MAIN BEAMLINE ARE TO BE SPECIFIED BY THE TRIUMF DESIGN OFFICE.
- ALL DRY SCROLL PUMP EXHAUST IS TO BE CONNECTED TO A DRY EXHAUST SYSTEM IF POSSIBLE.
- V70LP TURBO PUMP USED TO BACK BEAMLINE TURBO PUMPS.
- BACKING VALVE FOR THE V70LP TURBO PUMP IS CLOSED TO ISOLATE THE TURBO PUMP DURING VENTING / ROUGHING PROCEDURES. THE BACKING VALVES OF THE BEAMLINE TURBO PUMPS ARE FOR ROUGHING / BACKING.
- ROUGHING VALVE POSITIONED ON BACKING LINE FOR EVACUATING THE FORELINE AND/OR THE MAIN BEAMLINE.
- VENT VALVE POSITIONED ON BACKING LINE FOR VENTING THE FORELINE AND/OR THE MAIN BEAMLINE.
- TWO BACKING VALVES ARE USED. RESTRICTED FLOW THROUGH BV1A USING ORIFICE UNTIL PRESSURE IS IN THE MILLI Torr RANGE. SWITCH TO BV1B TO SPEED EVACUATION.
- VACUUM DEVICES SHOWN FOR FUTURE INSTALLATION.

**FOR COMMENT**

JUL 'Y 4, 2006

REV	DATE	LOC	BY	APP'D
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ALL DIMS IN INCHES

TOLERANCES UNLESS OTHERWISE SPECIFIED

FRACTIONS XX X

DECIMALS .XX

ANGULAR SURFACE FINISH

TRIFUM  
4001 WESPOK M&L  
MANUFACTURER BRITISH COLUMBIA  
CANADA'S NATIONAL WESON FACILITY

VACUUM SYSTEM SCHEMATIC  
TITAN HORIZONTAL UHV BEAMLINE  
ISAC EXPERIMENTAL HALL

SCALE: N.T.S.  
DATE: 30JUN06  
DWG NO: ISK5043D