



- NOTES (UNLESS OTHERWISE SPECIFIED):
- ASSEMBLY MUST BE FREE OF DIRT, GREASE, OIL AND CHIPS.
 - ASSEMBLY TO BE FREE OF ALL SHARP EDGES, CORNERS, AND BURRS.
 - ALL WELDS TO BE VACUUM LEAK TIGHT. LEAK TEST: NO LEAK SHALL BE DETECTABLE ON THE MOST SENSITIVE SCALE OF A HELIUM LEAK DETECTOR WITH A MINIMUM SENSITIVITY OF 10⁻⁶ ATM. CC/SEC.
 - WELDS AS NOTED TO COMPLY WITH MOST RECENT VERSION OF PROCESS PIPING CODE ASME B31.3 FOR NORMAL FLUID SERVICE. GROOVE WELDS TO BE COMPLETE PENETRATION. RELATED DOCUMENTATION OF MATERIALS, WELDING, AND IN-PROCESS INSPECTION MUST BE INCLUDED WITH THE FINAL PRODUCT DELIVERY.
 - WELDS AS NOTED TO COMPLY WITH MOST RECENT VERSION OF PROCESS PIPING CODE ASME B31.3 FOR CATEGORY D FLUID SERVICE. GROOVE WELDS MAY BE PARTIAL PENETRATION. RELATED DOCUMENTATION OF MATERIALS MUST BE INCLUDED WITH THE FINAL PRODUCT DELIVERY.
 - INSTALL INTERNAL PIPING ASSEMBLY (ITEM 11) INTO ITEM 8. WELD ITEMS 1 AND 5, OR ITEMS 2 AND 4, TO ITEM 11 AS SHOWN. AFTER WRAPPING FLEX HOSE WITH MLI, PLACE ITEM 9 LOW ENOUGH TO WELD 6-BAYONET SEALS TO 1-1/2" BAYONET TUBES, AND 1-REDUCER TO FLEXHOSE.

ITEM	QTY	PART NAME	QTY
24	1	FLANGE, ASA, 150#, RF, SOCKET WELD, 1/2"NPS, 304 SS	1
23	1	PIPE, 1/2" SCH. 10 304SS	1
22	A/R	PIPE, 2-1/2" SCH. 10 304 SS	1
21	A/R	CAP. TUBE, 6" O.D. X .108 WALL, 316L SS	1
20	A/R	MLI BLANKET SPACER MATERIAL - REEMAY SPUNBONDED POLYESTER	1
19	A/R	REFLECTOR, FLAT - ENERGY DOUBLER, CRYOSTAT	1
18	7	REDUCER, PIPE, 3 1/2x2 1/2xSch 5, 304SS	7
17	1	REDUCER, PIPE, 3/4x1/2xSch 5, 304SS	1
16	3	650 CTL SUPPORT ASSEMBLY	3
15	6	BAYONET ASSEMBLY, 1-1/2" FEMALE W/BLEED & RELIEF VALVES	6
14	1	LONG BAYONET CROSS-BRACE ASSEMBLY	1
13	2	SHORT BAYONET CROSS-BRACE ASSEMBLY	2
12	1	PORT, VACUUM VALVE RELIEF	1
11	1	INTERNAL PIPING ASSEMBLY	1
10	1	MODIFIED TUBE CAP	1
9	7	MODIFIED PIPE, CONTOURED	7
8	1	MANIFOLD, VACUUM JACKET	1
7	1	VALVE, VAC SEAL-OFF, MODIFIED, CVI V-1046	1
6	1	PARALLEL PLATE VACUUM RELIEF VALVE ASSEMBLY, STANDARD SIZE	1
5	2	FLEXHOSE, 0.75" ID X 8.50" LOA	2
4	5	FLEXHOSE, 1.00" ID X 8.50" LOA	5
3	1	RING, REDUCING BLANK-OFF, 2-1/2" PIPE X 1/2" PIPE	1
2	4	FEM BAY SEAL 1.500 X 1.05 168591-08	4
1	2	FEM BAY SEAL 1.500 X 0.84 168591-06	2

UNLESS OTHERWISE SPECIFIED: DRAWN: C. REID DATE: 01-Apr-2020
 CHECKED: DATE: APPROVED: DATE: USED ON: F10129146
 DO NOT SCALE DRAWING DIMENSIONS BASED ON: ASME Y14.5-2009 MAX MACHINE ALL SURFACES: 125/ DRAWING UNITS: INCHES
 THIRD ANGLE PROJECTION

SCALE: 3/8" = 1" SIZE: E SHEET: 1 of 1
 LAYOUT - PIP-11-IT INTERMEDIATE TL FOR 650 TEST STAND
 FERMILAB PARTS LIST
 FERMILAB NATIONAL ACCELERATOR LABORATORY UNITED STATES DEPARTMENT OF ENERGY