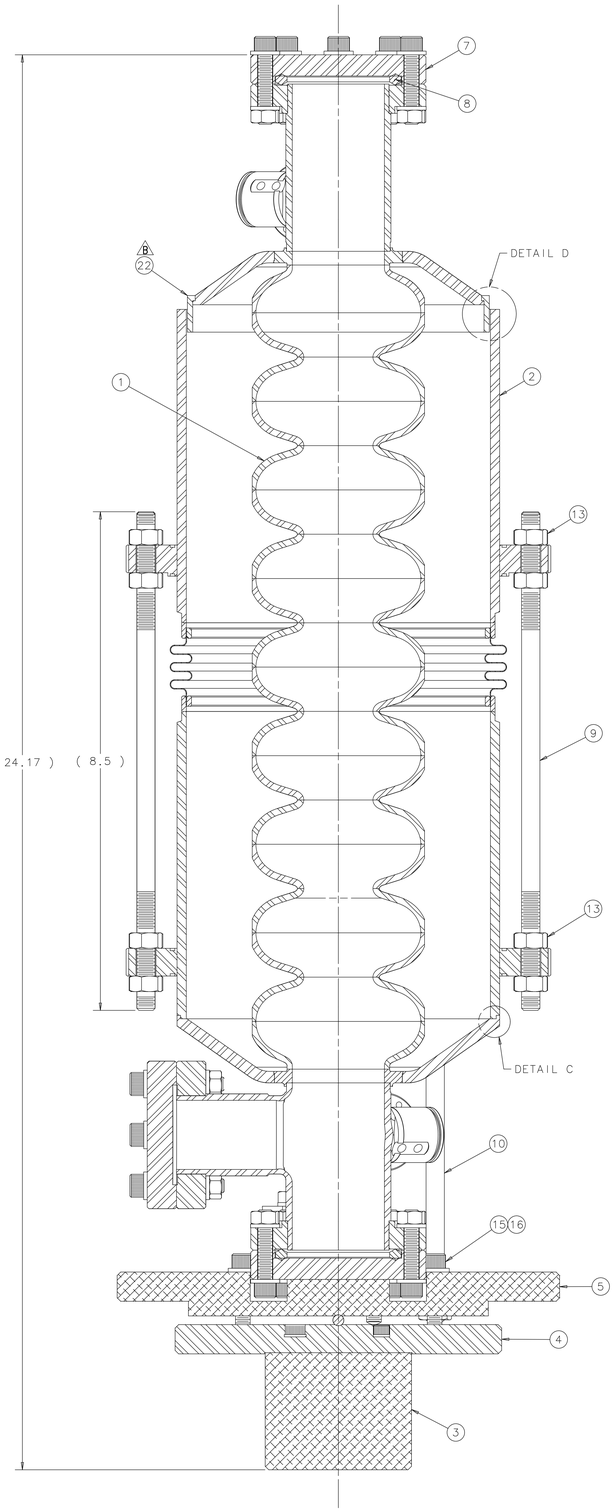
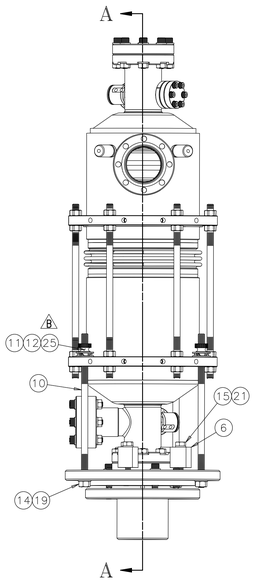
REV	DESCRIPTION	DRAWN	DATE
		APPROVED	DATE
–	NEW RELEASE - ER #8319	J. MONTELONGO	15-MAR-06
A	ECO #8348 - ADD MATERIAL TYPE TO PARTS LIST	J. MONTELONGO	06-APR-06
		D. MITCHELL	12-APR-06
B	ECO #8951 MODIFIED ITEM #22 & #10 ADDED ITEMS #23,24,25,26 ADDED EXPLODED VIEW UPDATED PER CHANGES TO #2	C.GRIMM	09-JAN-08



SECTION A-A
STEP 1 SETUP



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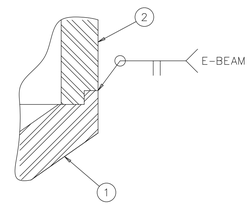

DETAIL C
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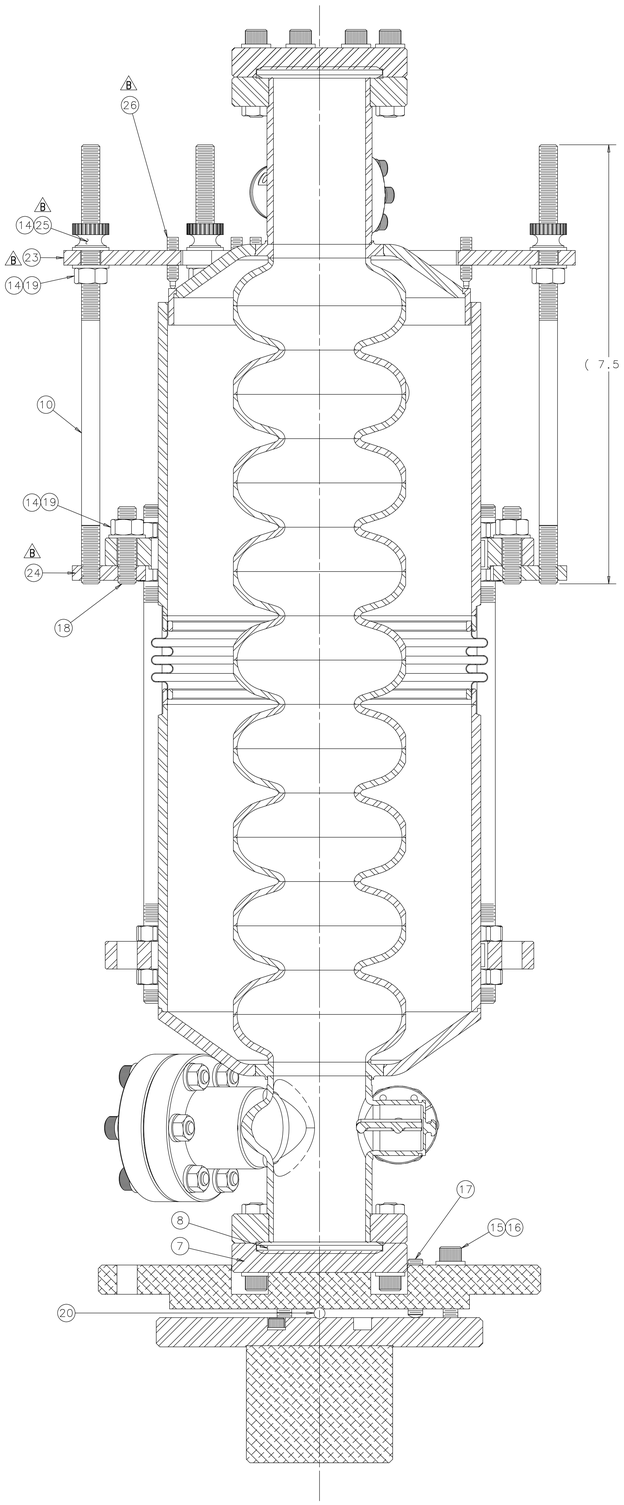
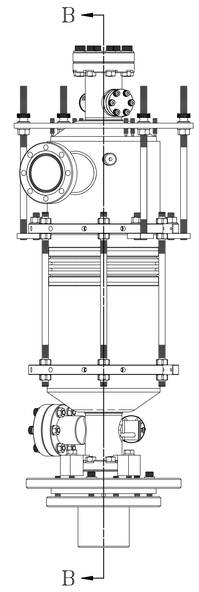


SECTION B-B
STEP 2 SETUP



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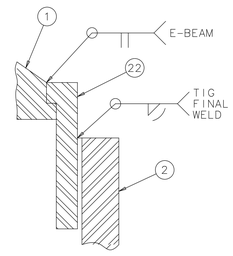

DETAIL D
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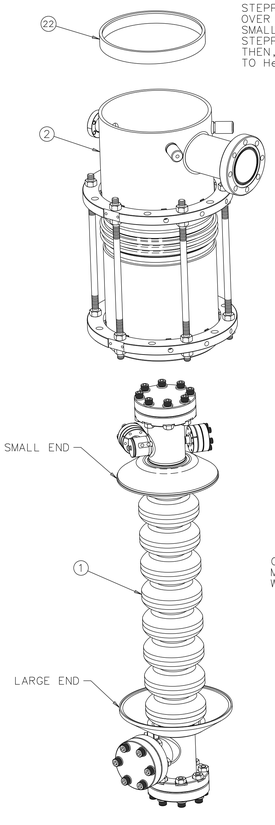

C
STEPPED FLANGE END RING TO SLIDE OVER CAVITY ASSEMBLY AND SEAT ON SMALL END CAVITY. E-BEAM WELD STEPPED FLANGE TO SMALL END FLANGE. THEN, TIG WELD STEPPED FLANGE TO He VESSEL PER STEP 2 SET-UP.

B
HELIUM VESSEL TO SLIDE OVER CAVITY ASSEMBLY AND SEAT ON LARGE END CAVITY FLANGE. E-BEAM WELD THAT LOCATION PER STEP 1 SET-UP.

A
CAVITY ASSEMBLY TO BE MOUNTED IN VERTICAL WELD FIXTURE.

B **EXPLODED VIEW**
SCALE = NONE

ITEM	PART NO.	DESCRIPTION OR SIZE	QTY.
B 26	COM'L.	SPRING PLUNGER #10-32 X .75" LG. McMASTER-CARR PART #8490A39	8
B 25	COM'L.	ROUND THUMB NUT - 5/16-18 THD. S.S. McMASTER-CARR PART #95150A180	7
B 24	MB-442474	BOTTOM BLOCK (ALUMINUM)	4
B 23	MC-442473	PLUNGER HOLDER (ALUMINUM)	1
B 22	MB-426252	FLANGE, VESSEL END STEPPED (TITANIUM)	1
21	COM'L.	1/4-20 UNC X 1.750 LG. HEX HEAD SCREW - STAINLESS STEEL	3
20	COM'L.	3/16 DIA. PRECISION BALL S.S McMASTER-CARR PART #9642K35	1
19	COM'L.	HEX NUT 5/16-18 UNC STAINLESS STEEL	11
18	COM'L.	5/16-18 UNC X 1.50 LG. STAINLESS STEEL THREADED ROD	4
17	COM'L.	1/4-20 X 1.0 LG. OVAL PT. SET SCREW STEEL McMASTER-CARR PART #92765A311	3
16	COM'L.	1/4-20 UNC X 1.375 LG - SHCS STAINLESS STEEL	3
15	COM'L.	FLAT WASHER FOR 1/4 SCREW STAINLESS STEEL	6
14	COM'L.	FLAT WASHER FOR 5/16 SCREW STAINLESS STEEL	39
13	COM'L.	HEX NUT 5/16-24 UNF STAINLESS STEEL	24
12	COM'L.	FINGER DISC SPRING WASHER - STEEL McMASTER-CARR PART #9717K52	3
11	COM'L.	FLAT WASHER FOR 5/16 SCREW - ALUM. McMASTER-CARR PART #93286A030	6
B 10	COM'L.	5/16-18 UNC X 7.50 LG. STAINLESS STEEL THREADED ROD	7
9	COM'L.	5/16-24 UNF X 8.50 LG. STAINLESS STEEL THREADED ROD	6
8	MB-439231	SEAL FOR NW40 FLANGE (ALUMINUM HEX)	2
7	MB-440576	FLANGE BLANKOFF NW40 Nb (55%) Ti	2
6	MB-440564	CLAMP, WELD BENCH (ALUMINUM)	3
5	MB-440562	PLATE-LEVELING, WELD BENCH (ALUMINUM)	1
4	MB-440558	BASE, WELD BENCH (STAINLESS STEEL)	1
3	MB-440560	SHAFT, WELD BENCH (ALUMINUM)	1
2	ME-426450	HELIUM VESSEL SHELL WELDMENT	1
1	ME-426321	CAVITY WELDMENT NIOBIUM 9 CELL	1

PARTS LIST

NOTES:
1. TIGHTEN ALL CLAMPING ROD HARDWARE FINGER TIGHT ONLY! DO NOT USE TOOLS. OVER-TIGHTENING WILL CAUSE DAMAGE TO THE CAVITY, OR AT LEAST, EFFECT CAVITY FREQUENCY.
2. ITEM # 20, "PRECISION BALL", WILL ASSIST WITH THE FIXTURE LEVELING PROCESS, BUT CAN BE OMMITTED IF DESIRED. LEVELING AND ALIGNMENT ARE REQUIRED TO CONTROL THE ELECTRON BEAM WELDING PROCESS.
3. AFTER FINAL WELD, ITEM # 9, "THREADED ROD", MUST BE ADJUSTED TO FULLY FIX THE CAVITY LENGTH PRIOR TO SHIPPING AND HANDLING. 3 ADDITIONAL RODS (ITEM #9) AND RELATED HARDWARE MUST ALSO BE ADDED TO THE ASSEMBLY.
4. PRIOR TO WELDING, THE CAVITY WILL BE CLEAN, DRY, EVACUATED OF ALL AIR, AND WILL HAVE ALL PORTS BLANKED-OFF.
5. CAVITY VACUUM VALVE IS NOT SHOWN.

UNLESS OTHERWISE SPECIFIED			ORIGINATOR	M. FOLEY	12-MAR-2006
.XX	.XXX	ANGLES	DRAWN	J.MONTELONGO	14-MAR-2006
± --	± --	± --	CHECKED	D.MITCHELL	21-MAR-2006
1. BREAK ALL SHARP EDGES MAX.			APPROVED	D.MITCHELL	21-MAR-2006
2. DO NOT SCALE DRAWING.			USED ON		
3. DIMENSIONS BASED UPON ASME Y14.5M-1994					
4. MAX. ALL MACH. SURFACES			MATERIAL	SEE PARTS LIST	
5. DRAWING UNITS: U.S. INCH					

FERMI NATIONAL ACCELERATOR LABORATORY
UNITED STATES DEPARTMENT OF ENERGY

SCRF - 3RD HARMONIC ACCEL HELIUM VESSEL VERTICAL HE VESSEL WELD FIXTURE

SCALE	DRAWING NUMBER	SHEET	REV
1:1 & NOTED	5525.000-ME-440598	1 OF 1	B

CREATED WITH : Ideas12NXSeries | GROUP: TD/DDCIS-DESIGN-COMPUTING

Created: 08:50:40 on 09-02-08 (D-M-Y) By: dmitchel State: 1-INITIAL