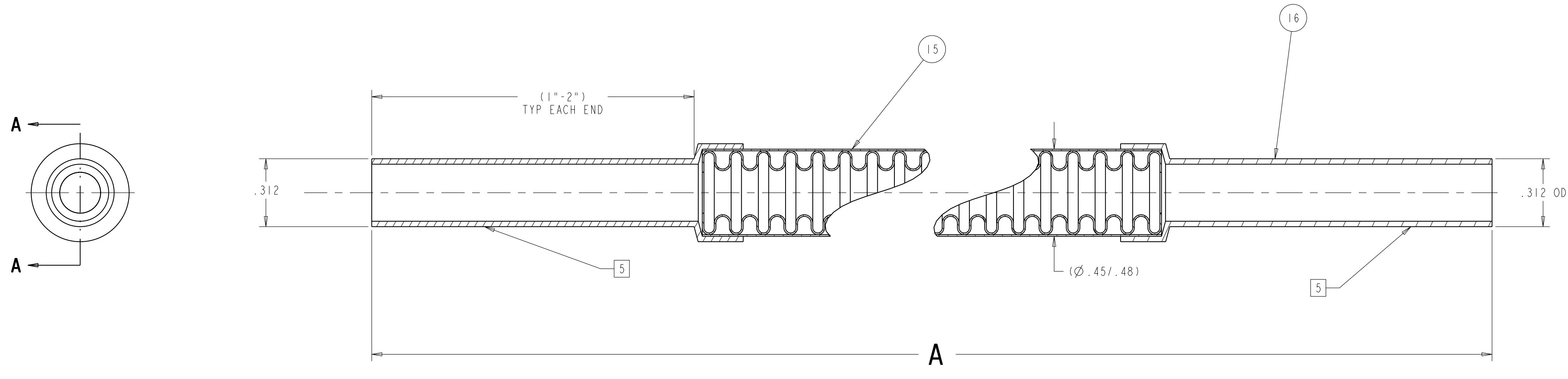


PART NO.	A	QUANTITY REQUIRED FOR FIELD PERIOD
SE123-145-1	123	4
SE123-145-2	118	4
SE123-145-3	116.5	4
SE123-145-4	131	4
SE123-145-5	128	8
SE123-145-6	132	4
SE123-145-7	150	4
SE123-145-8	166	4
SE123-145-9	167.5	4
SE123-145-10	183	8
SE123-145-11	146.5	4
SE123-145-12	135.5	4
SE123-145-13	124	4
SE123-145-14	119	4

- NOTES
- DRAWING PREPARED IN ACCORDANCE WITH ASME Y14.100-2004.
  - INTERPRET DIMENSIONS AND TOLERANCES PER ASME Y14.5M-1994.
  - DIMENSIONS ARE IN INCHES.
  - CRITERIA:
    - MAGNETIC PERMEABILITY OF THE BRAID AND TUBING, AS CHECKED BY SEVERN\* GAGE, SHALL NOT EXCEED 1.02. THE END FITTINGS AND WELD SHALL NOT EXCEED 1.05.
    - \* PRODUCT OF SEVERN ENGINEERING CO. ANNAPOLIS, MD.
    - BRAID SHALL BE A SINGLE LAYER.
    - HOSE CONVOLUTIONS SHALL BE OF AN ANNULAR CONFIGURATION.
    - OPERATING PRESSURE - 300 PSIA
    - OPERATING TEMPERATURE RANGE 70 TO 720 F.
    - OPERATING MEDIA - HELIUM GAS.
  - THE HOSE SHALL HAVE A MINIMUM WORKING PRESSURE RATING OF 1700 PSIA AT ROOM TEMPERATURE. THE HOSE ASSEMBLY SHALL BE 100% HELIUM LEAK CHECKED UNDER WATER AT 450 PSIG. NO VISIBLE LEAKS SHALL BE PERMITTED. (NOTE ON END TUBES) WALL THICKNESS OF TUBE SHALL BE DETERMINED BY THE SELLER. THE THICKNESS SHALL BE NO LESS THAN 0.025 AND NO GREATER THAN 0.04 INCHES. MINIMUM STATIC BEND RADIUS SHALL BE NO GREATER THAN 1.25 INCHES.
- [5] ATTACH MYLAR, TYVEK OR SIMILAR LABEL WITH DURABLE PRINT TO BOTH ENDS OF EACH WELDMENT. EACH LABEL SHALL BE PRINTED WITH THE PART NO. AND THE "A" LENGTH AS SHOWN IN THE CHART.



SECTION A-A  
SCALE 4:000

**RELEASED FOR FABRICATION / INSTALLATION**  
PPPL Drafting:

REV	DESCRIPTION	BY	DATE	CHK	DEPT	DATE	PE	REQ	DATE	ORNL	DOE	DATE	SCALE	TOLERANCES UNLESS OTHERWISE SPECIFIED	DESIGNER	DATE	CHECKER	DATE	PROJECT NAME	BLDG	FL	SHT	OF	TYPE	CLASS	U
0	ORIGINAL ISSUE	RAH	05/06	PLG	05/06								1:1	FRACTIONS : XX DECIMALS ±.01 XXX DECIMALS ±.005 ANGLES ±0°15' BREAK SHARP EDGES OR MAX FINISH :.125 UNLESS OTHERWISE SPECIFIED	P. GORANSON	10/05	RA HURD	10/05	UT-BATTELLE	5700	3	1	1	A	U	
1															J. SIEGEL	05/06			NATIONAL COMPACT STELLARATOR EXPERIMENT							
2																			VACUUM VESSEL HEATING/COOLING TUBE WELDMENT							
3																										
4																										
5																										
6																										
7																										
8																										

NO REPRESENTATION OR WARRANTY, EXPRESSED OR IMPLIED, IS MADE AS TO THE ACCURACY, COMPLETENESS OR USEFULNESS OF THE INFORMATION OR STATEMENTS CONTAINED IN THESE DRAWINGS, OR THAT THE USE OR DISCLOSURE OF ANY INFORMATION, APPARATUS, METHOD OR PROCESS DISCLOSED IN THESE DRAWINGS MAY NOT INFRINGE PRIVATE RIGHTS OF OTHERS. NO LIABILITY IS ASSUMED WITH RESPECT TO THE USE OF, OR FOR DAMAGES RESULTING FROM THE USE OF, ANY INFORMATION, APPARATUS, METHOD OR PROCESS DISCLOSED IN THESE DRAWINGS. DRAWINGS MADE AVAILABLE FOR INFORMATION TO BIDDER ARE NOT TO BE USED FOR OTHER PURPOSES, AND ARE TO BE RETURNED UPON REQUEST OF THE FORWARDING CONTRACTOR.

**P** THIS DRAWING PRODUCED ON PRO-ENGINEER

SCALE NOTED

DESIGNER: P. GORANSON 10/05  
DRAWN: RA HURD 10/05  
CHECKER: P. GORANSON 05/06

UT-BATTELLE  
Oak Ridge National Laboratory  
managed for the DEPARTMENT OF ENERGY under  
U.S. GOVERNMENT contract DE-AC05-00OR22725  
UT-BATTELLE, LLC, Oak Ridge, Tennessee  
PROJECT NAME: NATIONAL COMPACT STELLARATOR EXPERIMENT

VACUUM VESSEL HEATING/COOLING TUBE WELDMENT

PPPL DRFT J. SIEGEL 05/06  
VERSION NO. 0  
PLANT ORNL  
BLDG 5700  
FL 3  
SHT 1  
OF 1  
TYPE A  
CLASS U

RELEASE LEVEL: Fabrication  
SE123-145