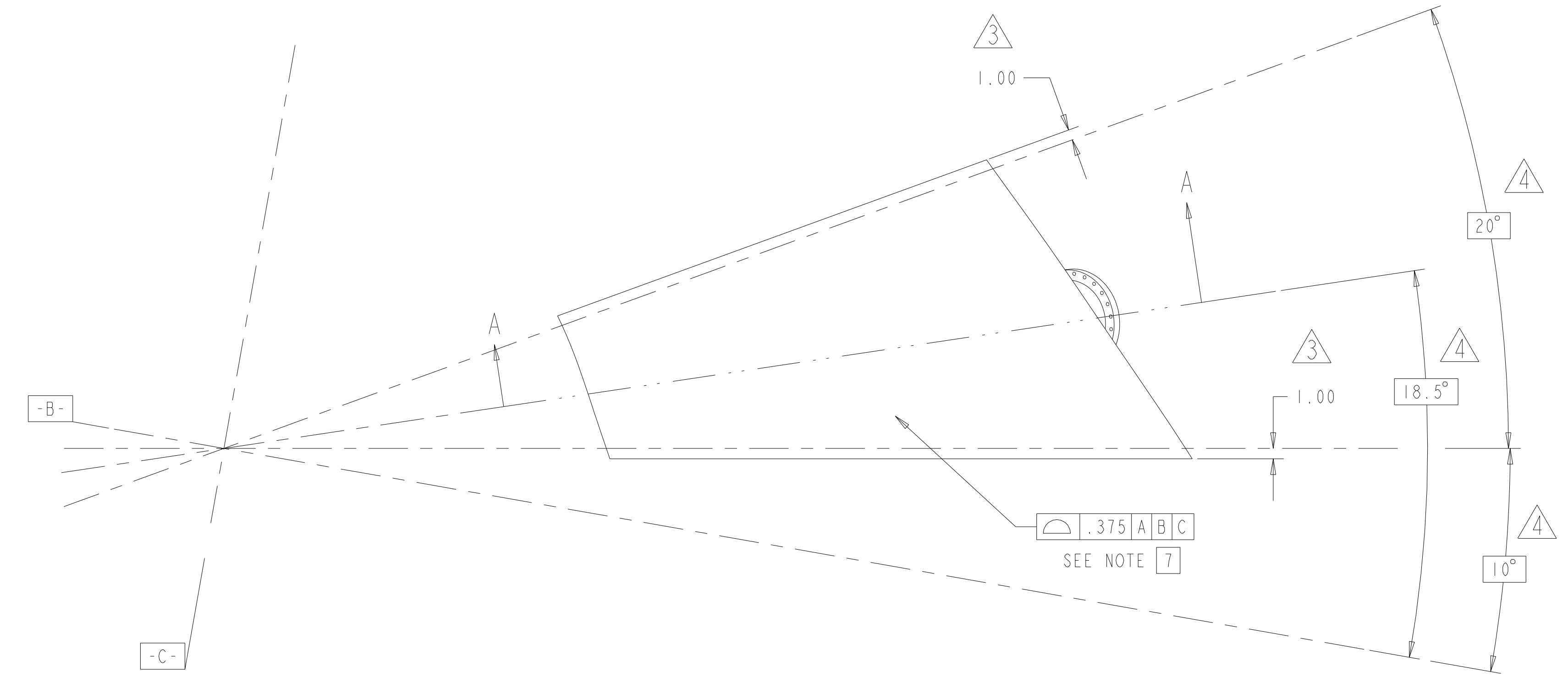
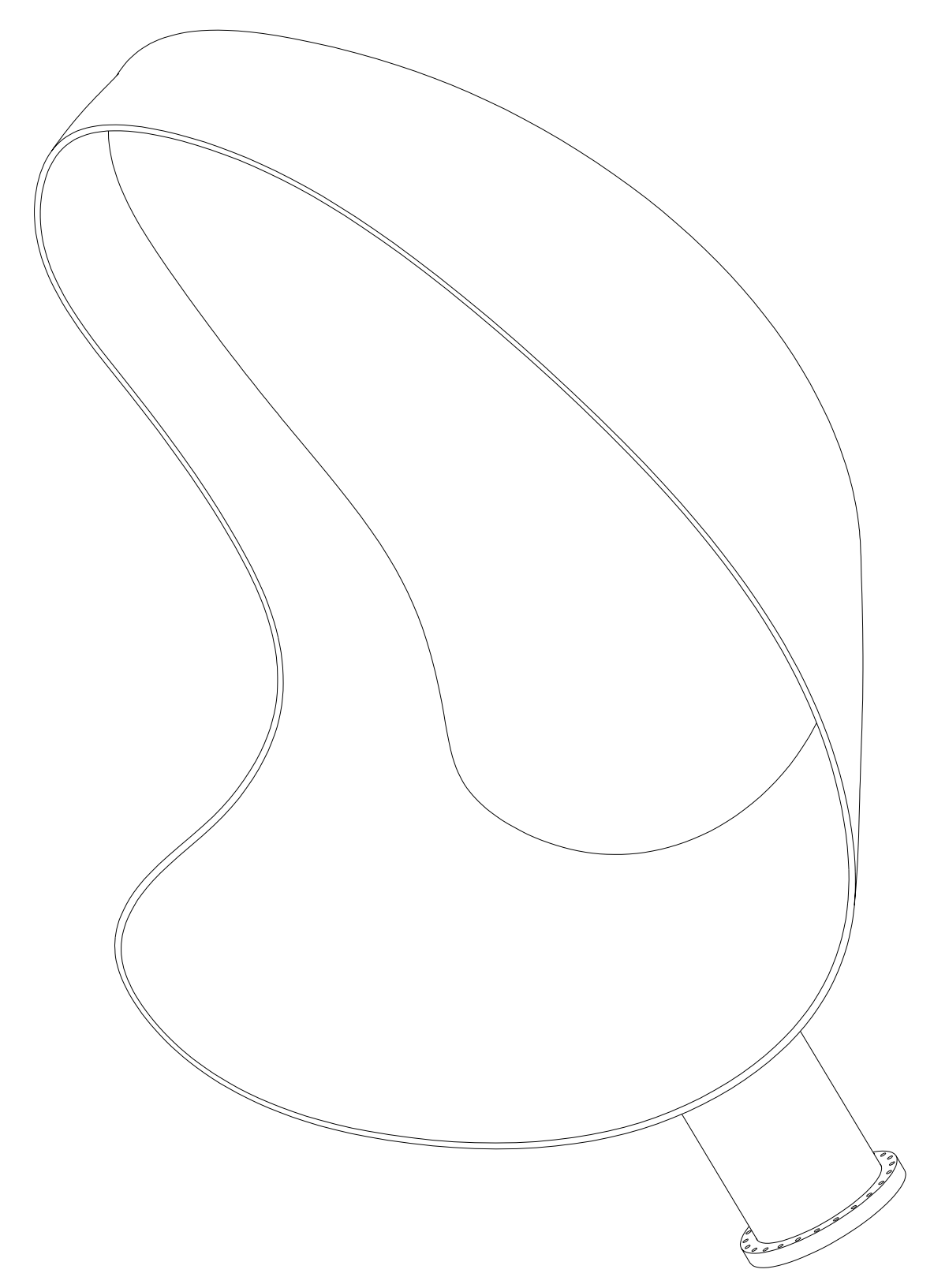
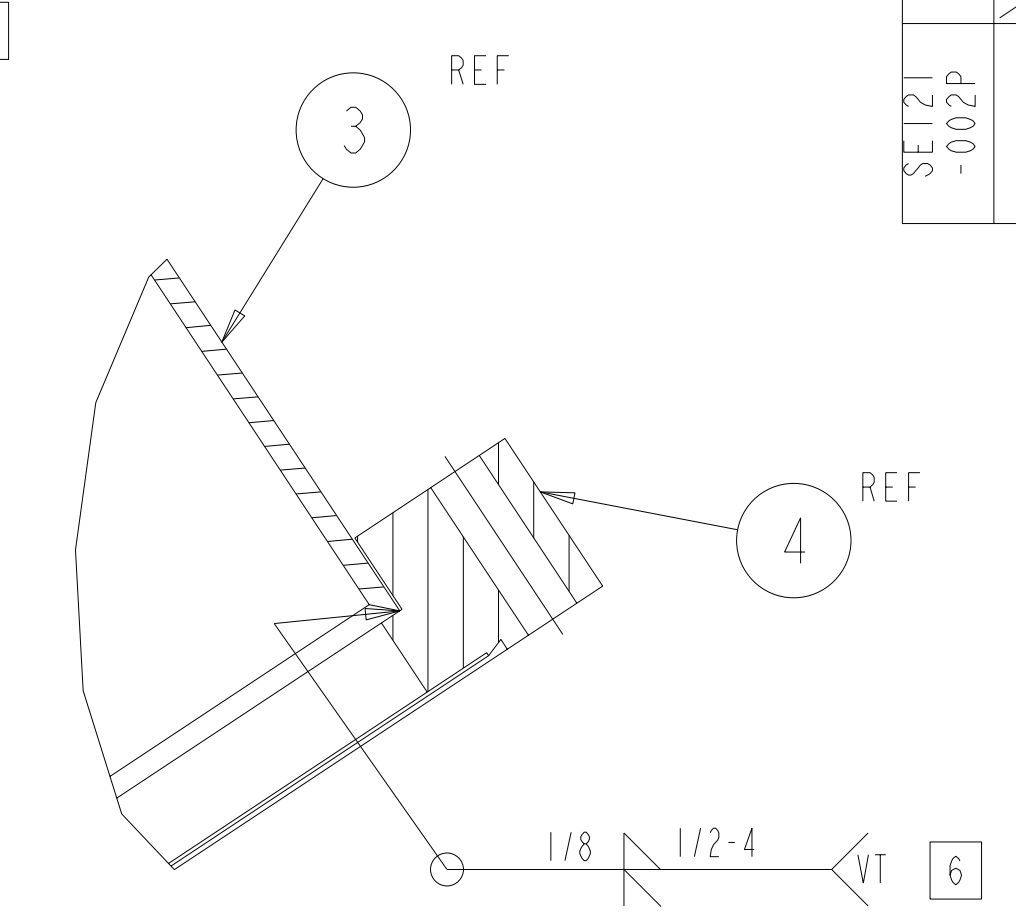
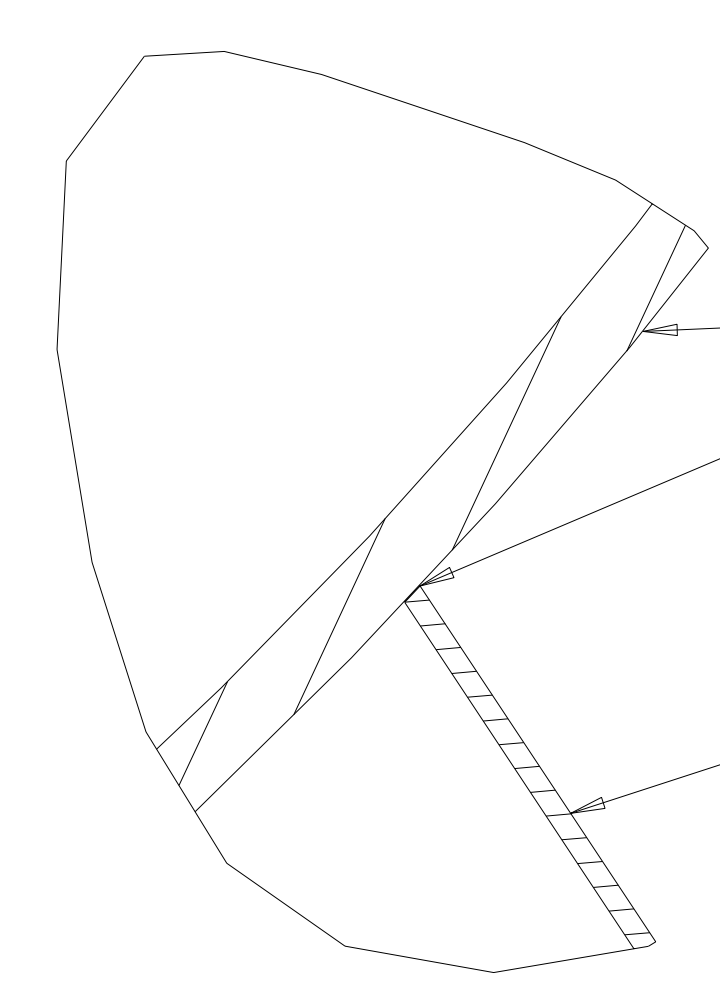
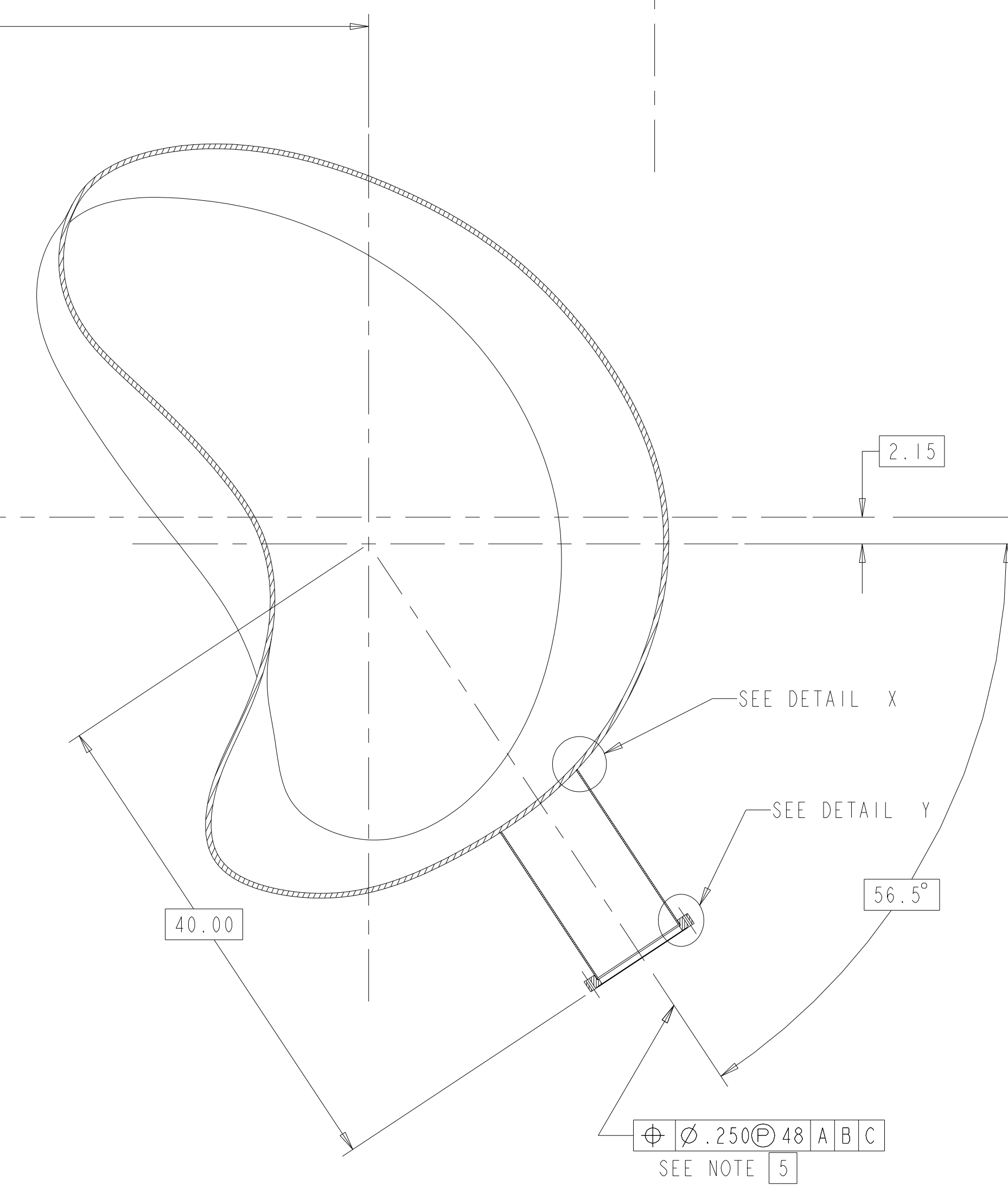
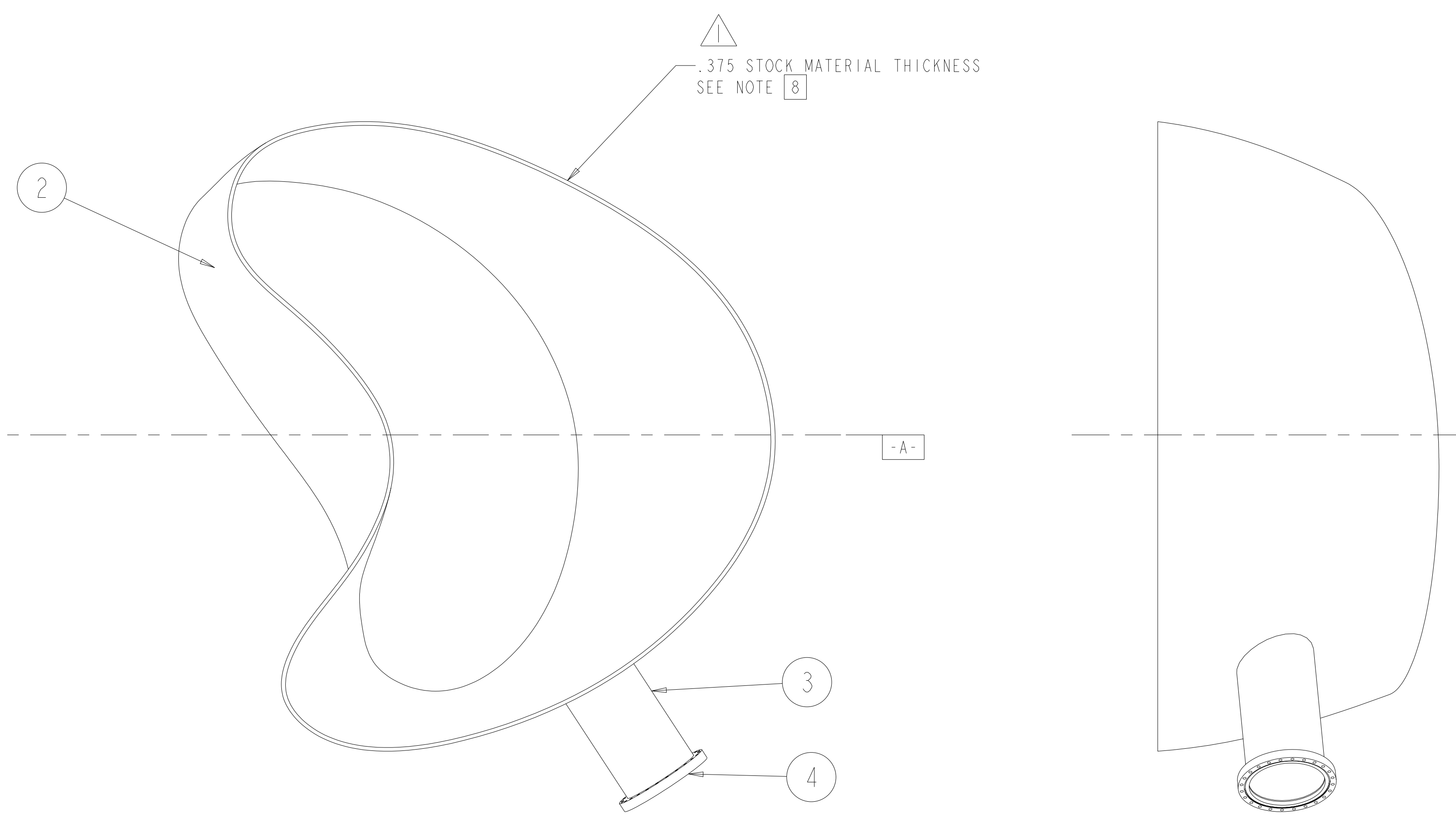


- NOTES:**
- INTERPRET DIMENSIONS AND TOLERANCES PER ANSI Y14.5M.
  - DIMENSION ARE IN INCHES.
  - REQUIREMENTS FOR FABRICATING THE VACUUM VESSEL PROTOTYPE ARE DEFINED IN THE DRAWINGS, MODELS, AND SPECIFICATION, NCSX-CSPEC-121-01.
  - GEOMETRY OF VACUUM VESSEL PROTOTYPE IS DEFINED IN CAD MODELS/FILES SE121-001P.ASM, SE121-002P.ASM, AND SE121-003P.ASM.
  - PROJECTED TOLERANCE ZONE STARTS AT INTERSECTION OF PORT AXIS AND VACUUM VESSEL OUTER SURFACE AND EXTENDS OUTWARD.
  - WELDING PROCEDURES AND PERFORMANCE QUALIFICATIONS SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF ASME CODE, SECTION IX. WELDS MAY BE MADE BY THE GTAW OR GMAW PROCESSES. WELDS USING SMAW PROCESS ARE NOT PERMITTED. WELD INSPECTIONS SHALL BE PERFORMED IN ACCORDANCE WITH SPECIFICATION NCSX-CSPEC-121-01-00.
  - PROFILE TOLERANCE ON OUTER VACUUM SURFACE IS BILATERAL, I.E. 0.1875 EITHER SIDE OF REFERENCE SURFACE.
  - MATERIAL THICKNESS TOLERANCES SHALL BE PER REQUIREMENTS SET FORTH IN ASTM B443. THE MINIMUM THICKNESS AFTER FORMING SHALL BE .338. THINNING BELOW THE STOCK THICKNESS SHALL NOT OCCUR OVER MORE THAN 10% OF THE TOTAL POLOIDAL CIRCUMFERENCE OF ANY CROSS-SECTION.



ISOMETRIC VIEW



WELDING ENGINEER  
 APPROVED ROBERT F. PARSELLS DATE: 7/14/03

AR		-5	WELD, FILLER METAL		5	
I		F10000000NC4	FLANGE CONFLAT 10.0 O.D. NON-ROTATABLE	VARIAN VACUUM TECHNOLOGIES 121 HARTWELL AVENUE LEXINGTON, MA. 02421	4	
I		-3	TUBE 8.0 O.D. X .12 WALL	UNS N06625	3	
I		-2	PROTOTYPE VACUUM VESSEL SHELL	UNS N06625	2	
I		-1	PROTOTYPE VACUUM VESSEL SEGMENT PORT WELDMENT		1	
SE121-002P	CAGE CODE	PART OR IDENTIFYING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL	SPECIFICATION	FIND NO
			NEXT ASSEMBLY			

QUALITY VERIFICATION	
MECHANICAL AND STRUCTURAL REFERENCE ORNL QA-995	
OW CLAUSE	DOCUMENTS REQUIRED
303	MATERIAL MILL TEST REPORT
325	MATERIAL SELLER CERT
326	SPECIAL MATERIAL INSPECTION REPORT
205	MANUFACTURING, INSPECTION AND TEST PLAN
312	FIELD INSPECTION AND TEST PLAN
321	MILD AND BRASS INSPECTION REPORT
322	HEAT TREAT REPORT (INTEGRITY)
310	CLEARANCE TEST REPORT
315	CLEANING CERT
318	DEVIATION REQUEST
319	NONCONFORMANCE REPORT
323	DIMENSIONAL REPORT
330	FUNCTIONAL TEST REPORT
100	DOCUMENTATION

RELEASED FOR FABRICATION/INSTALLATION

REV	DESCRIPTION	A-E	BY	CHK	SECT	DEPT	DATE	PE	REQ	DATE	ORNL	DATE	DOE	DATE	QA	CV	EC	EE	EM	IE	M	PD	SE	ST	XAD	PES
2	TOLERANCE WAS .01 PER ECN #4799		GHJ				9/5/03																			
	WAS ASTM 443 PER ECN #4799																									
	MOD. DIM. SCHEME PER ECN #4799																									
	ADDED 1.00 DIMS PER ECN #4799																									
1	ADDED NOTE 8		MJC	GHJ			8/8/03	JS			PLG															
	ADDED MATERIAL THICKNESS																									

SCALE NOTED		DES		UT-BATTELLE		OAK RIDGE NATIONAL LABORATORY	
TOLERANCES UNLESS OTHERWISE SPECIFIED		P.L. GORANSON	7/14/03	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	
FRACTIONS		G.H. JONES	7/14/03	NATIONAL COMPACT STELLERATOR EXPERIMENT		PROTOTYPE VACUUM VESSEL SEGMENT PORT WELDMENT	
XXX DECIMALS ±.03		M.J. COLE	7/14/03	VERSION NO.		PLANT	BLDG
ANGLES ±0°15'				Y-12		19201-2	FL
BREAK SHARP EDGES .06 MAX				PPPL DRFT J. SIEGEL		7/15/03	SHT
FINISH .125 UNLESS OTHERWISE SPECIFIED				VERSION NO.		Y-12	OF
				1		2	TYPE
				1		1	CLASS
				1		1	U
				1		2	REV
				1		2	2

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