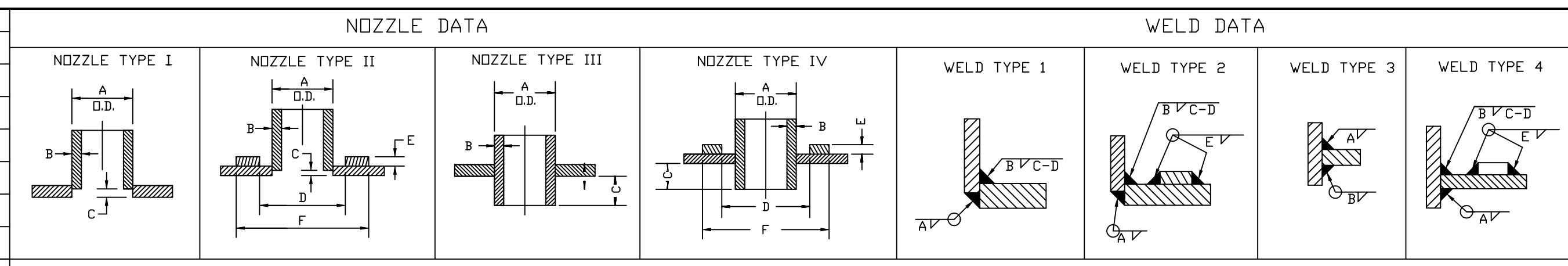
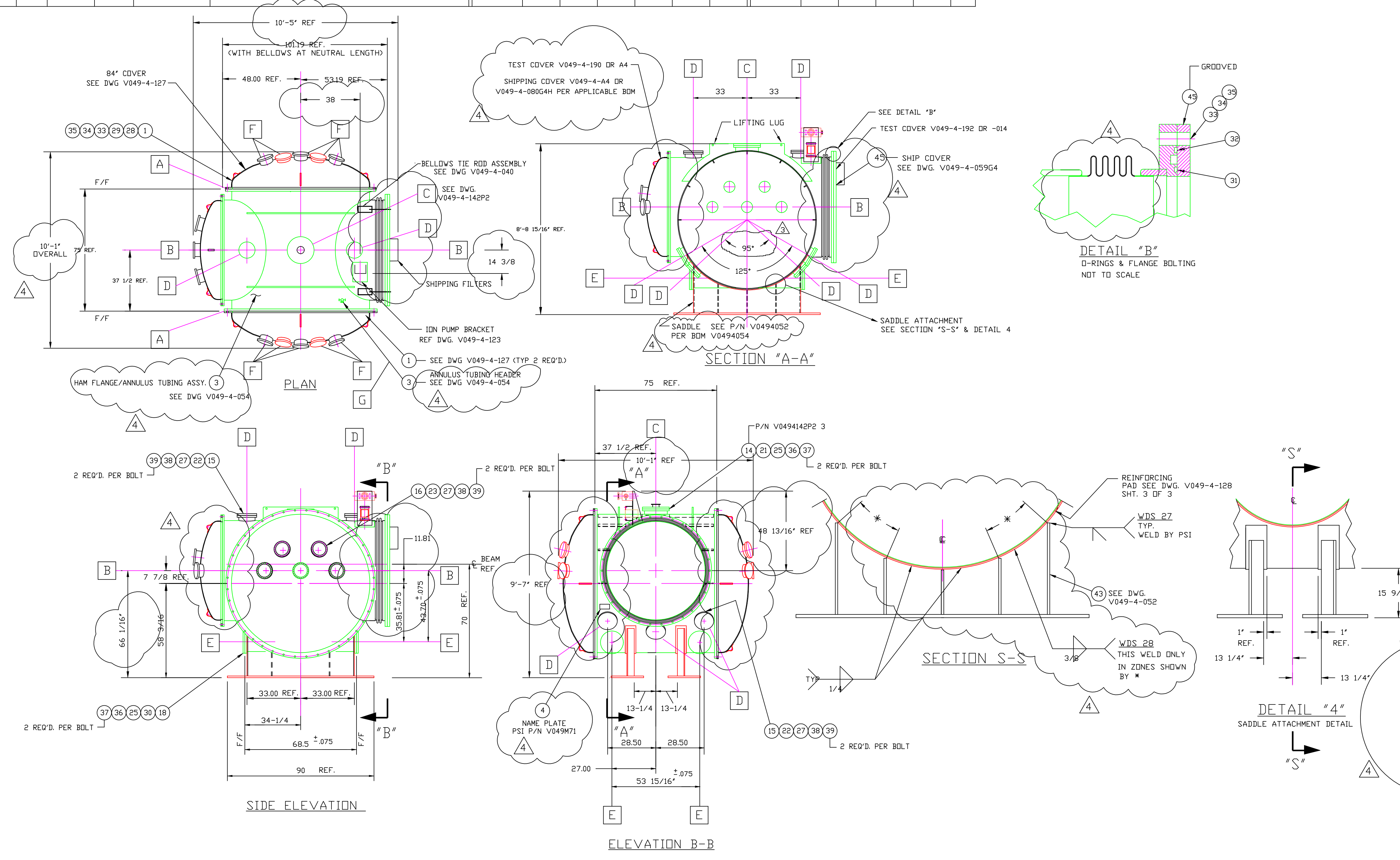


NOZZLE SCHEDULE				NOZZLE TYPE						WELD TYPE							
MARK	QTY	SIZE	RATING	TYPE	DESCRIPTION	A	B	C	D	E	F	TYPE	A	B	C	D	E
A	2	84 1/4" I.D.		SEE NOTE 2,3	MAJOR ACCESS (SEE DWG. V049-4-127)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B	2	60 1/2" I.D.		SEE NOTE 2,3	LASER BEAM	SEE THIS SHEET						NA	NA	NA	NA	NA	NA
C	1	14" O.D. TUBE ***		16 1/2" O.D. CONFLAT W/ BLIND FLANGE	AIR SHOWERS (SEE DWG. V049-4-142)	I	14.0	.120	1/4			1	1/8"	SEE V049-4-128 SEE DETAIL #9 SHEET #1			
D	8	18" O.D. TUBE ***		12" O.D. CONFLAT W/ BLIND FLANGE	ELEC./INSTR. FEEDTHROUGHS, UTILITY	I	10.0	.120	1/4			1	1/8"	SEE V049-4-128 SEE DETAIL #9 SHEET #1			
E	4	12" O.D. TUBE		14" O.D. CONFLAT W/ BLIND FLANGE	SUPPORT BEAM	I	12.0	.120	1/4			1	1/8"	SEE V049-4-128 SEE DETAIL #9 SHEET #1			
F	10	8" O.D. TUBE ***		10" O.D. CONFLAT W/ BLIND FLANGE	OBSERVATION PICKOFFS (DWG. V049-4-127)	I	8.0	.250	3/16			1	3/16	SEE V049-4-127 SEE DETAIL #26 SHEET #1			
G	1	2 1/2" O.D. TUBE		4 1/2" O.D. CONFLAT W/ BLIND FLANGE	ANNULUS AUX. TURBO PUMPOUT PORT (SEE DWG. V049-4-054)												



DESIGN DATA	
2	PSIG AT 120°/UHV AT 400° F
	CORROSION ALLOWANCE: 0
	POSTWELD HEAT TREATMENT: YES-SEE NOTE 15.
	FIREPROOFING: NA
	RADIOGRAPHING: NONE
MATERIALS	
HEADS:	SA 240-304L
SHELL:	SA 240-304, 304L
FLANGES:	SA 182 GRADE F, 304L
PIPE NECKS:	304L
REINFORCING- EXTERNAL:	SA 240-304
BOLTS & NUTS:	SA 193-B7
WEIGHTS	
EMPTY:	5,000 LBS
SHIPPING:	



- NOTES**
- STRESS RELIEVE PER SPEC. V049-2-046.
 - WDS NO'S. REFER TO WELD DATA-SPEC V049-2-084
 - THESE FLANGE SURFACES ARE TO BE TANGENT TO THE SHELL D.D.
 - LEAK TEST & METHOD PER PSI SPEC. V049-2-014, BY PSI.
 - CERTIFIED MANUFACTURER'S MATERIAL TEST REPORTS REQUIRED, EXCEPT AS NOTED ON B.O.M.
 - FLANGE BOLT HOLES TO STRADDLE NATURAL CENTERLINES OF VESSEL, UNLESS NOTED.
 - CLEAN PER SPEC. V049-2-015
 - ALL CONFLAT NOZZLES TO BE CONTOURED TO MEDIAN SHELL DIA, UNLESS OTHERWISE NOTED.
 - DO NOT USE CARBON STEEL BRUSHES OR BRUSHES CONTAMINATED WITH CARBON STEEL ON STAINLESS OR ALUMINUM MATERIAL. GRINDING TO INTERNAL VACUUM BOUNDARY SURFACES IS NOT ALLOWED.
 - MACHINING & ROLLING TO BE IN ACCORDANCE WITH SPEC. V049-2-136.
 - HEADS ARE ASME F&D.
 - CHAMBER FABRICATION TO BE IN ACCORDANCE WITH SPEC. V049-2-078.
 - CHAMBER FABRICATION PLAN TO BE IN ACCORDANCE WITH SPEC. V049-2-081.
 - CHAMBER QUALITY PLAN TO BE IN ACCORDANCE WITH SPEC. V049-2-087.
 - FOR FLANGE DETAILS SEE DWG. V049-4-021, V049-4-027 & V049-4-031.
 - THESE FLANGES EACH INCLUDE AN ANNULAR CHANNEL BETWEEN O-RINGS, MANIFOLD TO A SINGLE PUMPOUT PORT ON EACH CHAMBER, SEE DWG. V049-4-054.
 - USE THIS DWG WITH THE FOLLOWING B.O.M'S:
 V0494009 HAM TEST/BAKE ASSY. (WITH A4 COVER)
 V0494309 HAM SHIPPING ASSY. (WITH A4 COVER)
 V0494013 HAM TEST/BAKE ASSY. (WITHOUT A4 COVER)
 V0494313 HAM SHIPPING ASSY. (WITHOUT A4 COVER)
 V0494054 HAM FLANGE/ANNULUS TUBING ASSY.
- NOTE: THIS DRAWING IS USED WITH MULTIPLE BOM'S, SEE NOTE 1. ABOVE**

PROPRIETARY AND CONFIDENTIAL	DESCRIPTION	QTY	SIZE	TYPE	NO.	DATE	BY	CHKD	DRWN	DATE	DECD	REV
V049-4-000	DRAWING TREE / BOM STRUCTURE											
V049-4-128	HAM WELDMENT											
V049-4-127	84 1/4 ID ACCESS COVER											
V049-4-123	HAM-75 ION PUMP SUPPORT											
DWG. NO.	DESCRIPTION	DWG. NO.	DESCRIPTION	REFERENCE DRAWINGS	DESCRIPTION	DESCRIPTION	DESCRIPTION	DESCRIPTION	DESCRIPTION	DESCRIPTION	DESCRIPTION	DESCRIPTION

PROCESS SYSTEMS INTERNATIONAL, INC.
 20 WALKUP DR. WESTBOROUGH, MASSACHUSETTS 01581 USA

HAM ASSEMBLY
LIGO VACUUM EQUIPMENT

CAD FILE: V0494002/4002S1
 DWG NO: V049-4-002
 SHEET: 1 OF 1

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