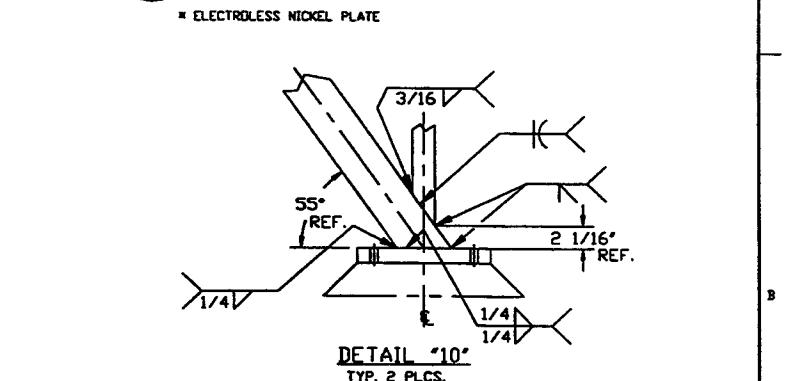


ITEM	PART NUMBER	SUFFIX	QTY	UM	DESCRIPTION
1	V0494018		1	EA	FLANGE, GROOVED, 48.25 I.D. X 56 O.D.
2	V0494B7P2		1	EA	SHELL, 304/304L SST, 1/4" THK
3	V049M818		1	EA	SUPPORT RING, 304 SST 4"x4"x1/4" ANGLE
4			24	FT	TUBE STL. (TS) A500 GRB 4"x4"x1/2"
5			13	FT	TUBE STL. (TS) 4"x2"x3/16" A500 GR B
6	V049M310		3	EA	HALF NIPPLE, SST 304L WITH CONFLAT FLANGE 12 OD X 10 OD TUBE X .083 WT
7	V0494B7P7		2	EA	SUPPORT ASSY.
8			1	SF	PLATE, CS, A36 1 1/4" THK
9	V049M825		1	EA	SUPPORT RING, 304 SST 4"x4"x1/2" ANGLE
10	V049M753		3	EA	BOLT, 5/8-11 UNC X 3 1/2" LG. A325
11	V049M755		3	EA	NUT, 5/8-11 UNC A325
12			8	EA	ANCHOR BOLT, MILTI HVA 1" DIA-12 3/8" MIN EMBED.
13			8	EA	ANCHOR BOLT, MILTI SUPER HVA 1" DIA. 12 3/8" MIN. EMBEDMENT
14	V049M852		3	EA	BAR, 4" X 3/8" 304 SST
15	V0494081		1	EA	FLANGE, GROOVED, 48.25 I.D. X 56 O.D.
16	V049M024		2	EA	O-RING, VITRON (PER SPEC V049-2-045)
17	V049M025		2	EA	O-RING, VITRON (PER SPEC V049-2-045)
18	202678		3	EA	BOLT, SA 193 B7, HEX, 7/8-9 UNC X 4" LG.
19	202679		3	EA	NUT, SA 194 B7, HEX, 7/8-9 UNC
20	202581		3	EA	WASHER, STL, 1 3/4" O.D. X 15/16" I.D. X 1/4" THK.
21	V0494195		3	EA	BLANK, CONFLAT, SST 304L, 12" O.D. (25 KF)
22	202552		3	EA	GASKET, COP COFH, CONFLAT, 12" O.D.
23	V049M777		32	EA	BOLT, 18-8 SST, HEX HD, 5/16"-18x2 1/2" LG.
24	V049M773		3	EA	WASHER, LOCK, 5/8", A325
25	V049M759		3	EA	BOLT, 5/8-11 UNC X 5 1/2" LG. A325
26	V049M782		32	EA	NUT, SILICON BRZ, HEX 5/16"-18
27	V049M785		64	EA	WASHER, 18-8 SST, FLAT 5/16"
28	V0494061		2	EA	3/4" O.D. ELBOV X 2 3/4" O.D. CONFLAT FLANGE
29	V0494080G3		1	EA	SHIPPING COVER ASSY
30	V049M740		1	EA	PSI NAME PLATE, 2" X 3"



- NOTES:
- STRUCTURAL STEEL FABRICATION TO BE IN ACCORDANCE WITH SPEC. V049-2-039
 - EACH FINISHED SHELL IS TO BE MARKED WITH A SEQUENTIAL PSI SERIAL NUMBER. THE NUMBER IS TO BE MADE FROM THE DRAWING PLUS THE SEQUENTIAL NUMBER. V0494B23-01, 02 ETC.
 - PLATES PRIOR TO ROLLING MUST HAVE DIAGONAL CORNER TO CORNER DIMENSIONS WITHIN 1/16" OF EACH OTHER.
 - MACHINING & ROLLING PER SPEC V049-2-136.
 - LEAK TEST & METHOD PER PSI SPEC: V049-2-014
 - CERTIFIED MANUFACTURER'S MATERIAL TEST REPORTS REQUIRED AS NOTED.
 - BOLT HOLES OF ALL FLANGES TO STRADDLE VERTICAL CENTERLINE +/- .015
 - CLEAN PER SPEC V049-2-015
 - DO NOT USE CARBON STEEL BRUSHES OR BRUSHES CONTAMINATED WITH CARBON STEEL ON STAINLESS OR ALUMINUM MATERIAL.
 - THE CENTER LINES OF ALL SHELLS AND END FLANGES ARE TO LIE ON THE COMMON CENTER LINE WITHIN +/- 1/16.
 - CHAMBER FABRICATION TO BE IN ACCORDANCE WITH SPEC. V049-2-097.
 - FOR FLANGE DETAILS SEE DWG. V049-4-018 & -081.
 - FLANGES INCLUDE AN ANNULAR CHANNEL BETWEEN O-RINGS, FOR A SINGLE PUMP/OUT PORT SEE DWG V049-4-061.

RAYMOND D. CIATTO
STATE OF WASHINGTON
REGISTERED PROFESSIONAL ENGINEER
15714
6/25/99

STATE OF LOUISIANA
RAYMOND D. CIATTO
REG. No. 26750
REGISTERED PROFESSIONAL ENGINEER
IN CIVIL ENGINEERING
6/26/97

APPROX. WEIGHT: 2323#

TAG NO. WB-7

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DWG. NO.	DESCRIPTION	DWG. NO.	DESCRIPTION

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL .1
ANGULAR .01°
TWO PLACE DECIMAL .02
THREE PLACE DECIMAL .005
FRESH SURFACE DIM BREAK CORNERS BY REMOVE ALL BURRS

DO NOT SCALE THIS DRAWING
USED ON:
NEXT ASS'Y:

REV	DESCRIPTION	ISSUE DESCRIPTION
5	ISSUED FOR FAB/SHIPPING AS NOTED	
4	ISSUED FOR FABRICATION	
3	ISSUED FOR FABRICATION	
2	DESIGN UPDATE	
1	DESIGN UPDATE/FABRICATION (SHELL ONLY)	
0	ISSUED FOR FAB	

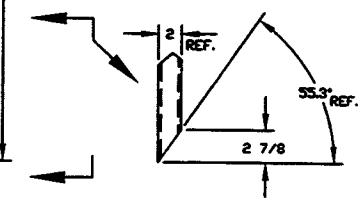
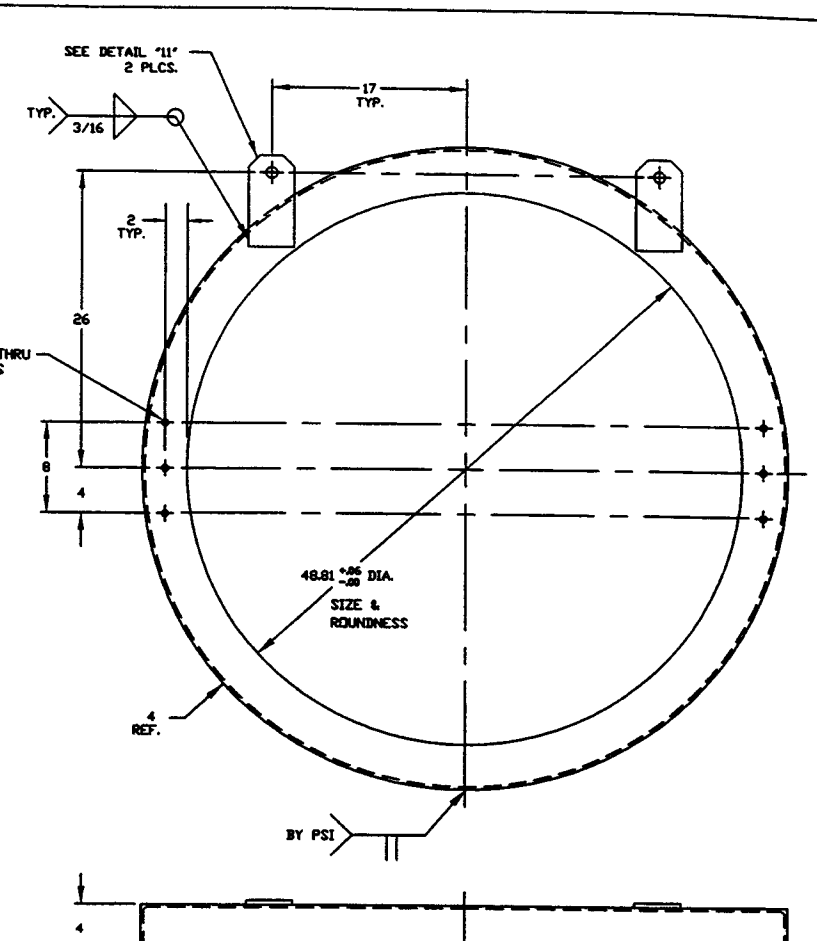
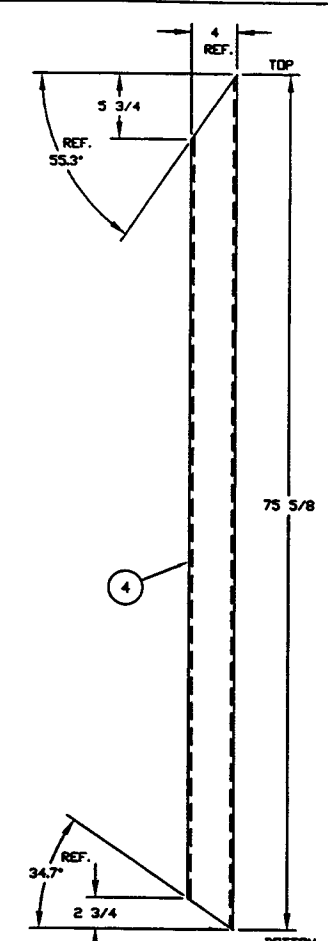
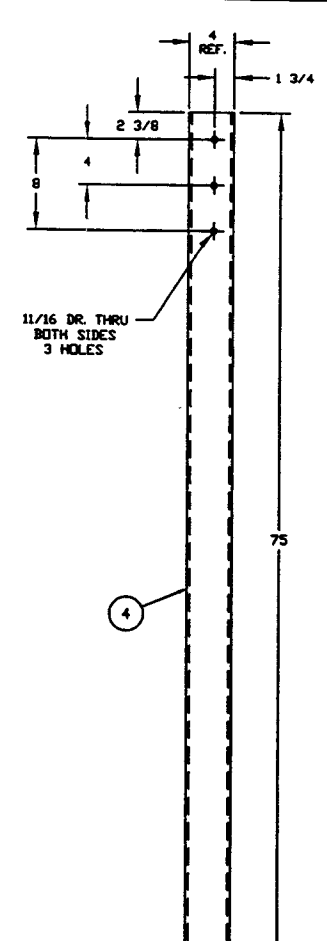
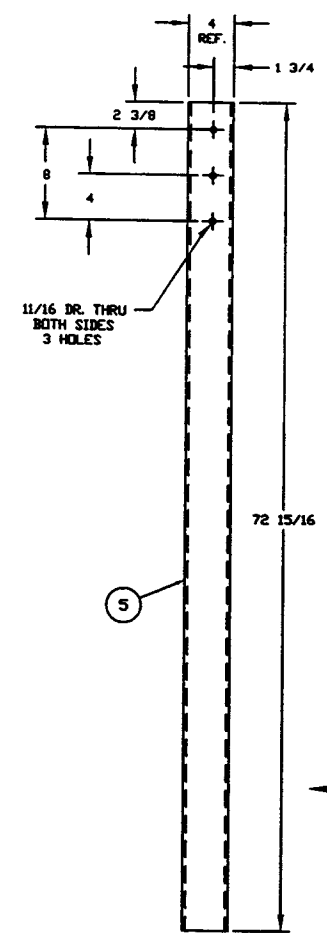
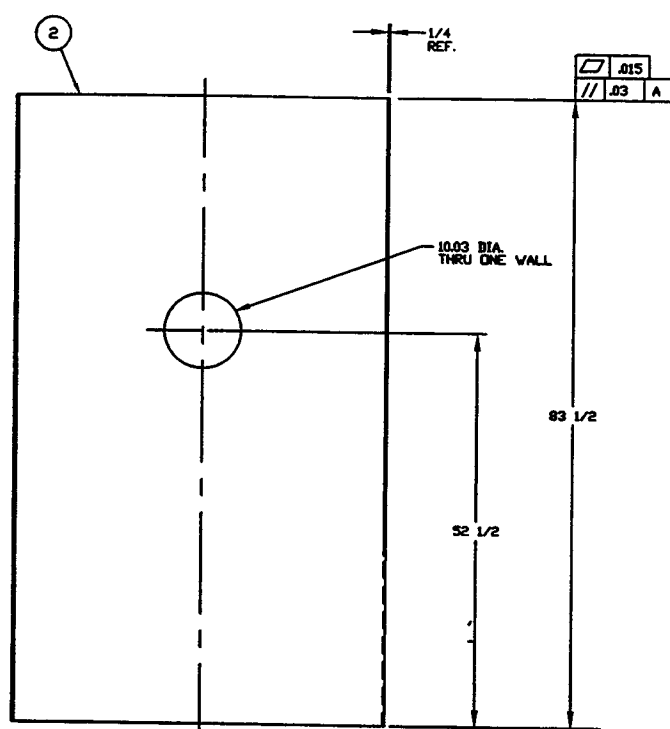
PROCESS SYSTEMS INTERNATIONAL, INC.
20 SHILOH BLVD. WESTPORT, MASSACHUSETTS 02886

SPOOL B-7
48.25" ID
LIGO VACUUM EQUIPMENT

CAD FILE	SIZE	DWG. NO.	REV.
V0494B7/48781	D	V049-4-B7	5

SCALE AS NOTED SHEET 1 OF 2

LIGO-D961157-05-V



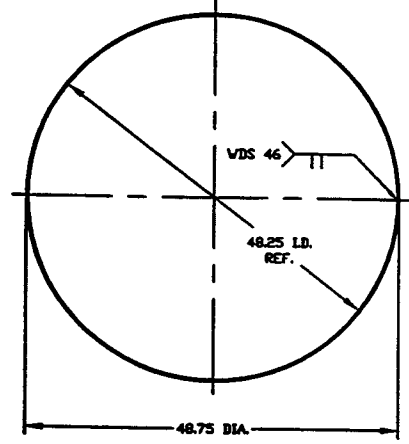
DETAIL '2'
QTY: 2
CL AS SHOWN
CL OPP. HAND

DETAIL '3'
QTY: 2

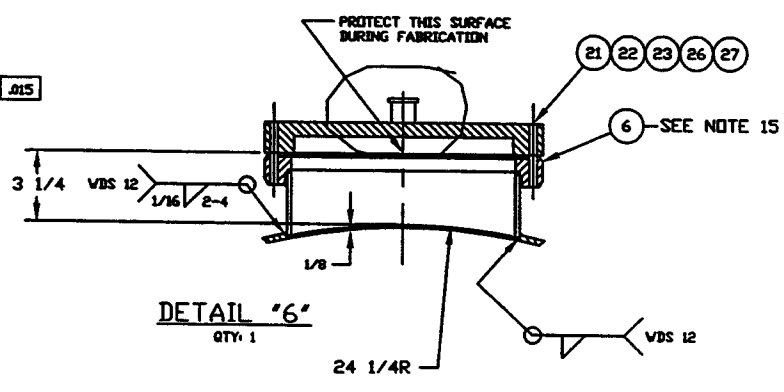
DETAIL '4'
QTY: 2

DETAIL '5'

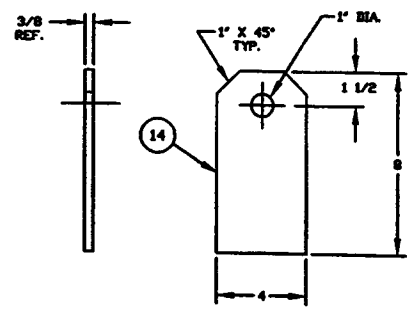
- 3 ANGLE 4" X 4" X 1/4" QTY: 12
- 9 ANGLE 4" X 4" X 1/2" QTY: 12



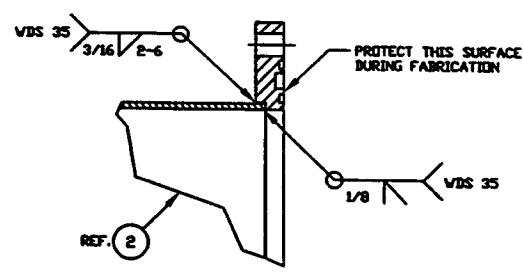
DETAIL '1'
QTY: 1
MAKE FROM V049M166-1



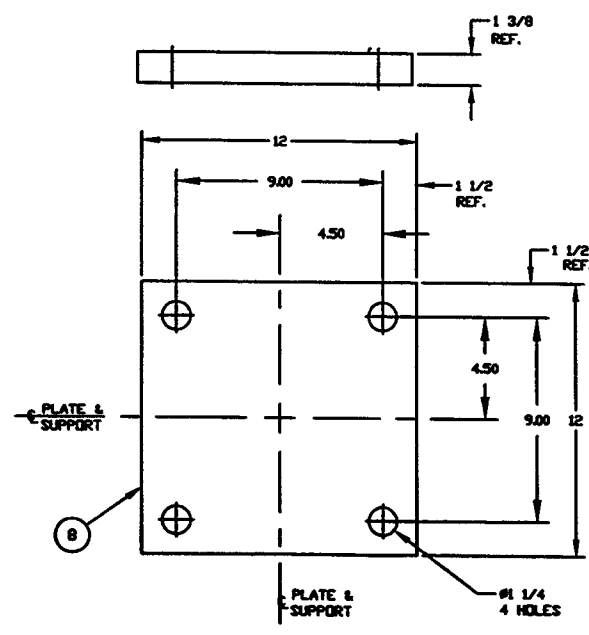
DETAIL '6'
QTY: 1



DETAIL '11'
QTY: 4



DETAIL '8'
TYP. BOTH ENDS



DETAIL '9'
QTY: 2



EXPIRES 8/5/93
6/24/97

PROCESS SYSTEMS INTERNATIONAL INC.			
SPOOL B-7 48.50" ID LIGO VACUUM EQUIPMENT			
CAD FILE 49782	REV. D	DWG. NO. V049-4-B7	REV. 5
SCALE AS NOTED		SHEET 2 OF 2	