

ITEM	PART NUMBER	SUFFIX	QTY	UM	DESCRIPTION
1	V0494060		1	EA	FLANGE, GROOVED, 44 1/4" ID X 52" OD
2	V0494047		1	EA	FLANGE, FLAT FACE, 44 1/4" ID X 80" OD
3	V0494059G1		1	EA	SHIPPING COVER ASSY
4	***		3	EA	TIE-ROD ASSY. (PER V049-4-124)
5	V049M740		1	EA	PSI NAME PLATE, 2" X 3"
6	V0494AIP1		1	EA	BELLOWS ASSY. (PER V049-2-017)
7	V049M321		3	6 EA	HALF NIPPLE, SST 304L, CONFLAT, 10" OD X 8" OD TUBE
8					
9					
10	202667		3	6 EA	FLANGE, CONFLAT, BLANK 10" OD
11					
12					
13	202678		3	24 EA	BOLT, SA193 B7, HEX, 7/8-9 UNC X 4" LG
14	202679		3	24 EA	NUT, SA194 B7, HEX, 7/8-9 UNC
15	2025B1		3	48 EA	WASHER, STL, 1 3/4" OD X 15/16" ID X 1/4" THK
16	V049M026		1	EA	O-RING, VITON (PER SPEC. V049-2-045)
17	V049M027		1	EA	O-RING, VITON (PER SPEC. V049-2-045)
18	202671		3	6 EA	GASKET, COP DFHC COFC, CONFLAT, 10" OD
19	V049M777		144	EA	BOLT, 18-8 SST, HEX HD 5/16-18x2 1/2" LG.
20	V049M782		144	EA	NUT, SILICON BRZ HEX 5/16-18
21	V049M785		288	EA	WASHER, 18-8 SST, FLAT 5/16
22	V049M061		1	EA	3/4" O.D. ELBOW X 2 3/4" O.D.CF.

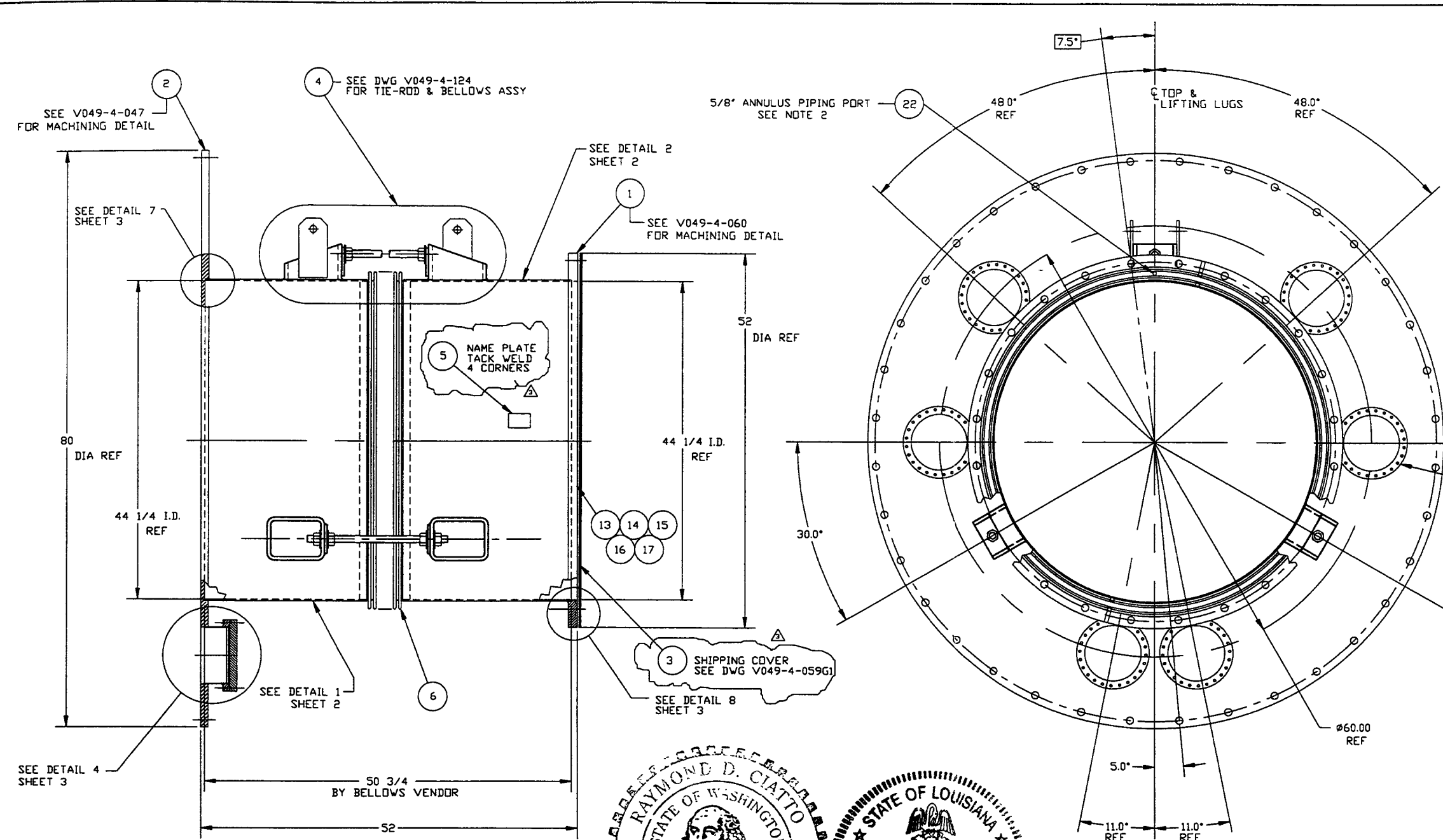
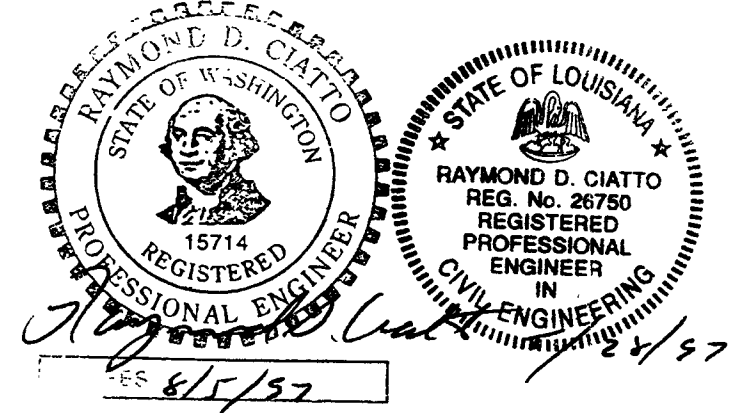
* ELECTROLESS NICKEL PLATED
 *** SUPPLIED BY BELLOWS VENDOR

NOTES:

- CONFLAT LEAK CHECK SLOTS ARE TO BE POSITIONED ON VERTICAL CENTERLINE.
- 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. V0494A1-01, 02 ETC.
- TIGHTEN TIE-ROD NUTS WITH BELLOWS IN 'FREE' POSITION TO 100 FT-LB PRIOR TO LEAK TEST
- 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 ±0.15.
- CLEAN PER SPEC. V049-2-015
- DO NOT USE CARBON STEEL BRUSHES OR BRUSHES CONTAMINATED WITH CARBON STEEL ON STAINLESS OR ALUMINUM MATERIAL.
- SPOOL FABRICATION TO BE IN ACCORDANCE WITH SPEC. V049-2-097.
- FOR FLANGE DETAILS SEE DWG. V049-4-047 & 060.
- THIS FLANGE INCLUDES AN ANNULAR CHANNEL BETWEEN O-RINGS FOR A SINGLE PUMPOUT PORT, SEE DWG V049-4-061.
- WDS NO'S. REFER TO WELD DATA SPEC. V049-2-084.

APPROX. WEIGHT: 1849#

TAG NO'S: WA-1A, WA-1B, WA-1C, WA-1D, WA-1E, WA-1F
 LA-1A, LA-1B, LA-1C, LA-1D



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DWG. NO.	DESCRIPTION	DWG. NO.	DESCRIPTION

SYMBOL	CHARACTERISTIC	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±.1 ANGULAR ±.05 BEND ±.02 TWO PLACE DECIMAL ±.03 THREE PLACE DECIMAL ±.015 FINISHED SURFACE RNS BREAK CORNERS IN OUT REMOVE ALL BURRS
□	FLATNESS	
○	CYLINDRICITY	
∥	PARALLELISM	
⊥	PERPENDICULARITY	
∠	ANGULARITY	
⊕	TRUE POSITION	
⊙	CONCENTRICITY	

REV	DESCRIPTION	ISSUE DESCRIPTION
3	REISSUED FOR FAB/SHIPPING AS NOTED	
2	DESIGN UPDATE/ISSUED FOR FABRICATION	
1	DESIGN UPDATE / FABRICATION (BELLOWS ASSY. ONLY)	
0	ISSUED FOR FDR	
P1	PRELIMINARY	

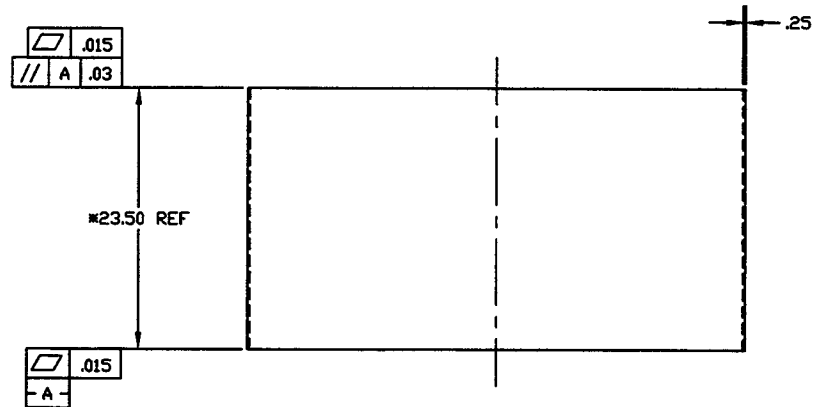
PROCESS SYSTEMS INTERNATIONAL, INC.
 20 WALKUP DR. WESTBOROUGH, MASSACHUSETTS 01581 USA

ADAPTER A-1
 44 1/4" ID X 72 1/4" I.D.
 LIGO VACUUM EQUIPMENT

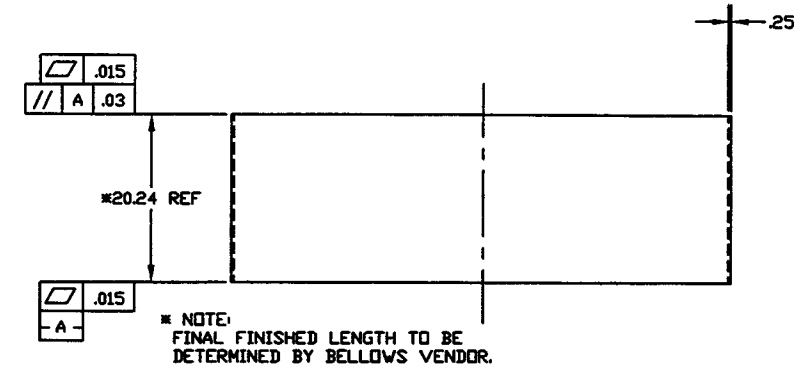
CAB FILE 4A1S1
 SIZE D
 DWG NO. V049-4-A1
 REV. 3

SCALE 1-1/2" = 1'
 SHEET 1 OF 3

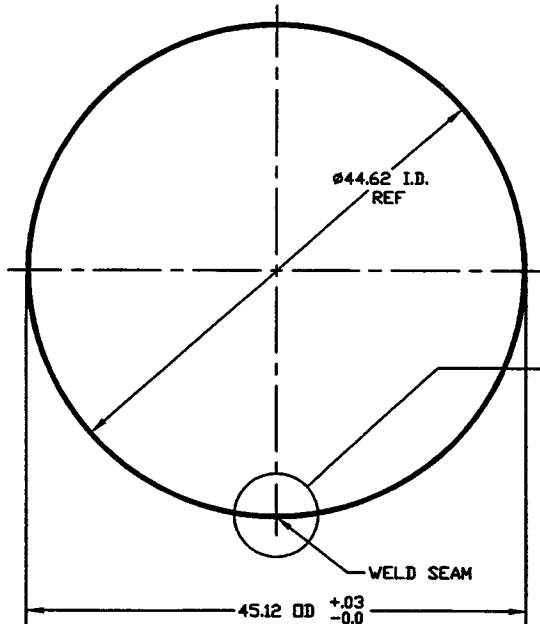
LIGO-D961140-03-V



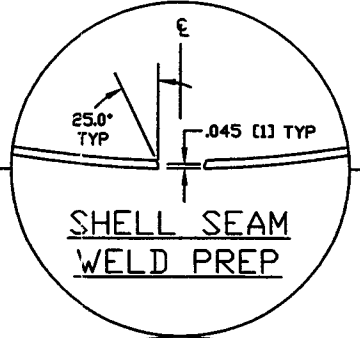
* NOTE:
FINAL FINISHED LENGTH TO BE
DETERMINED BY BELLOWS VENDOR.



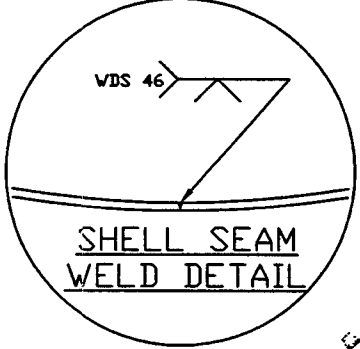
* NOTE:
FINAL FINISHED LENGTH TO BE
DETERMINED BY BELLOWS VENDOR.



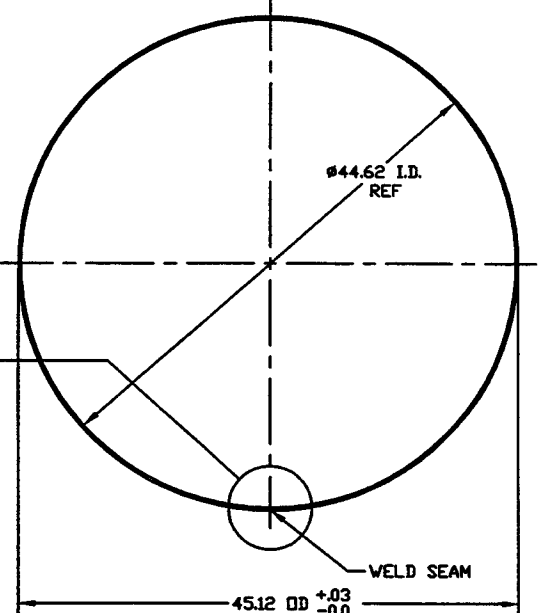
DETAIL 1
QTY: 1
MAKE FROM V049M159-1



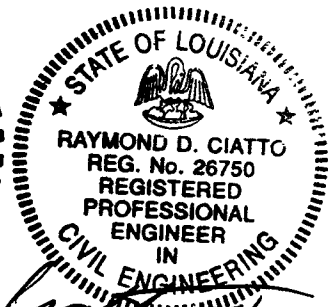
**SHELL SEAM
WELD PREP**



**SHELL SEAM
WELD DETAIL**



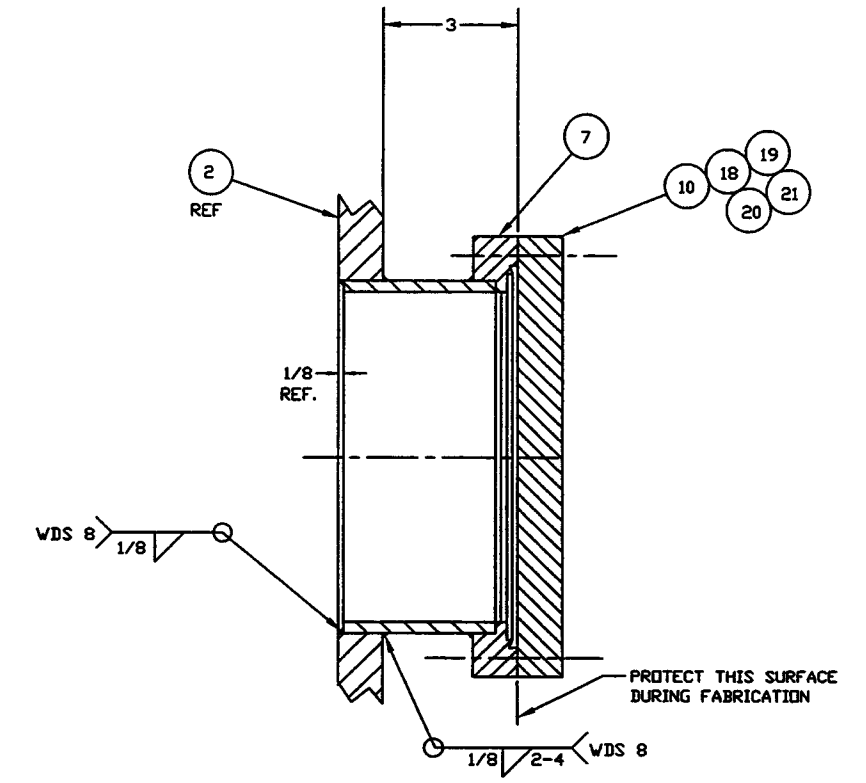
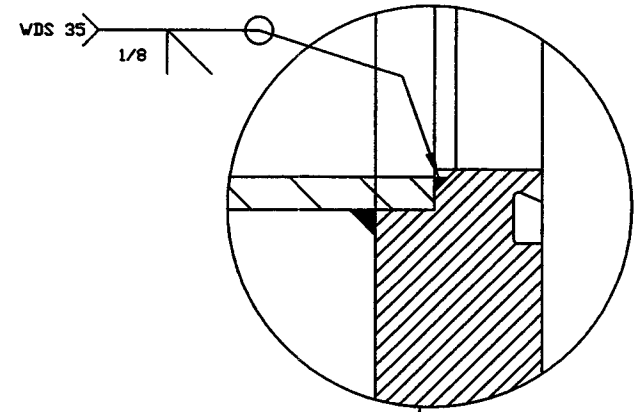
DETAIL 2
QTY: 1
MAKE FROM V049M159-1



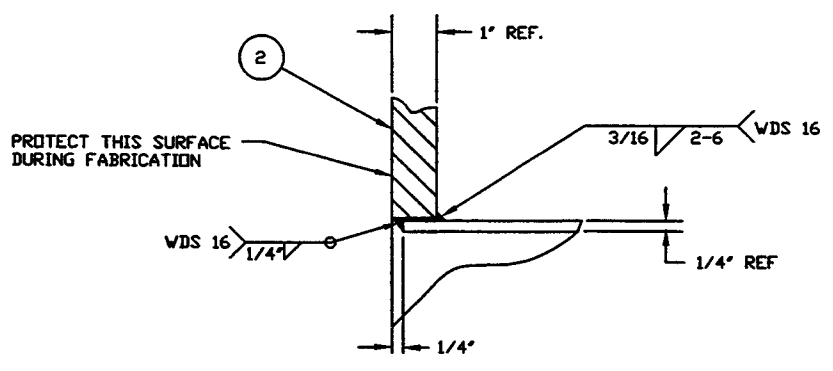
Raymond D. Ciatto
9/2/97

PROCESS SYSTEMS INTERNATIONAL INC. <small>20 WALKUP DR. WESTBOROUGH, MASSACHUSETTS 01581 USA</small>			
ADAPTER A-1 44 5/8" I.D. X 72 1/4" I.D. LIGD VACUUM EQUIPMENT			
CAD FILE 44152	SIZE D	TRNG. NO. V049-4-A1	REV. 3
SCALE AS NOTED	SHEET 2 OF 3		

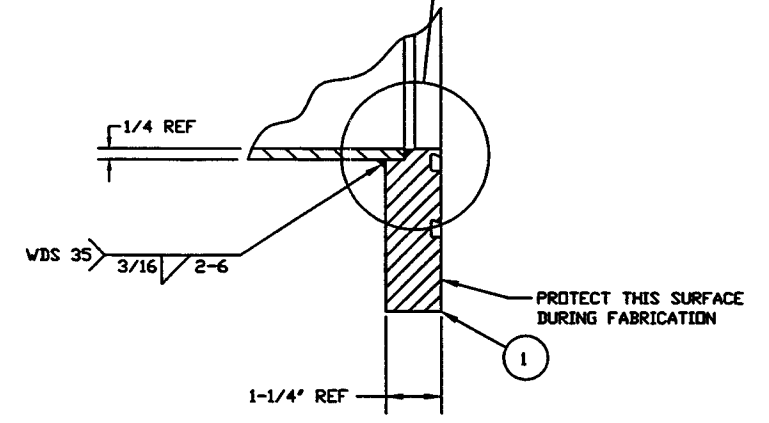
Nov 12, 1996 - 196429



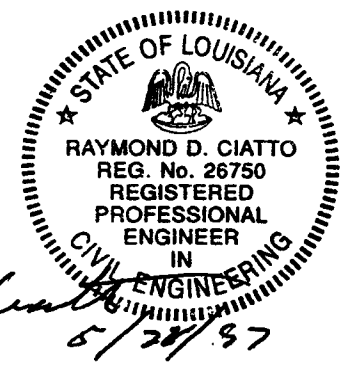
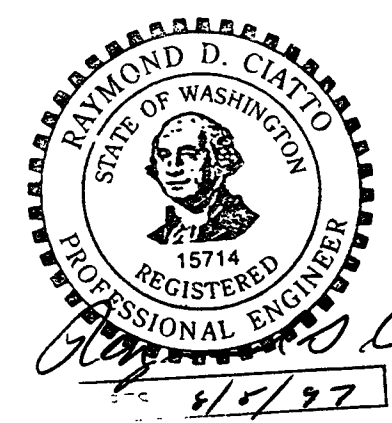
DETAIL 4
6 PLCS.



DETAIL "7"



DETAIL "8"



PROCESS SYSTEMS INTERNATIONAL INC. <small>20 WALDEP DR. WESTBOROUGH, MASSACHUSETTS 01581 USA</small>			
ADAPTER A-1 44 5/8 I.D. X 72 1/4 I.D. LIGD VACUUM EQUIPMENT			
CAD FILE 44153	SIZE D	ENG. NO. V049-4-A1	REV. 3
SCALE AS NOTED	SHEET 3 OF 3		DATE APR 27, 1996 - 180131