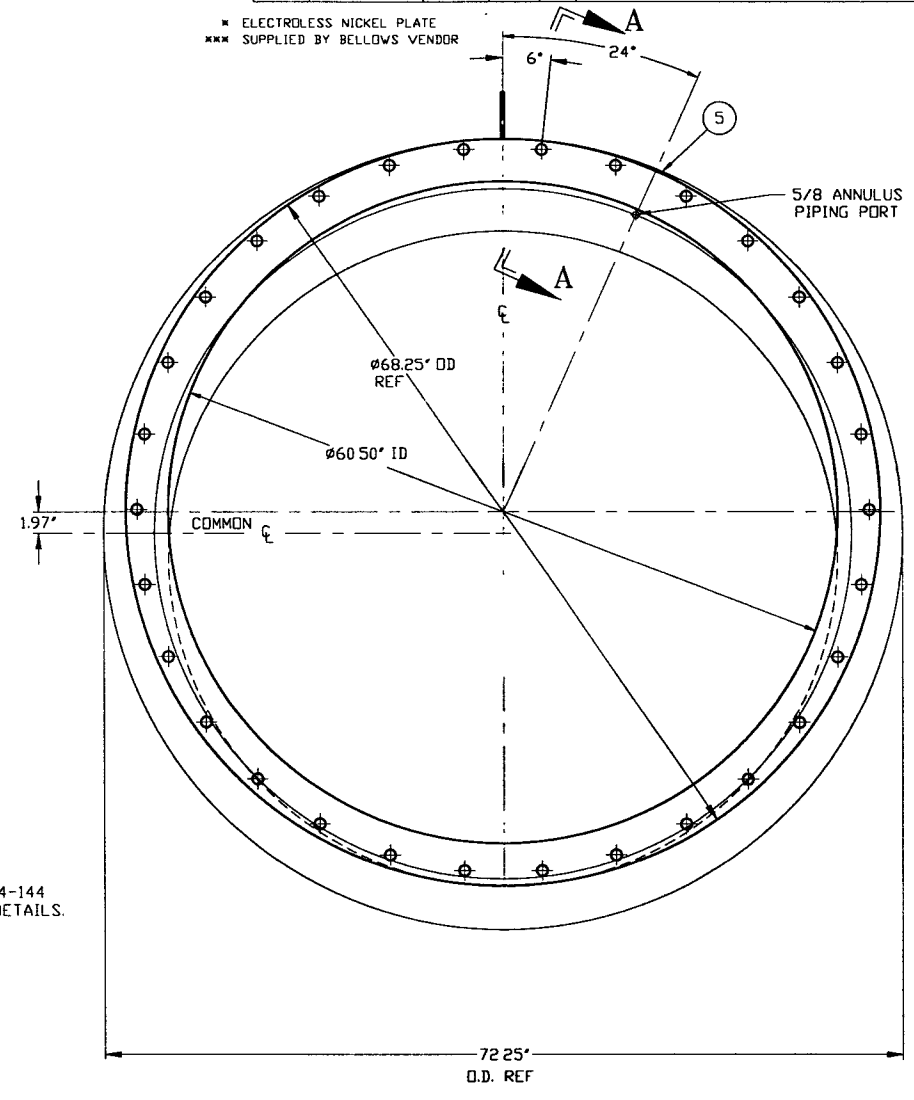
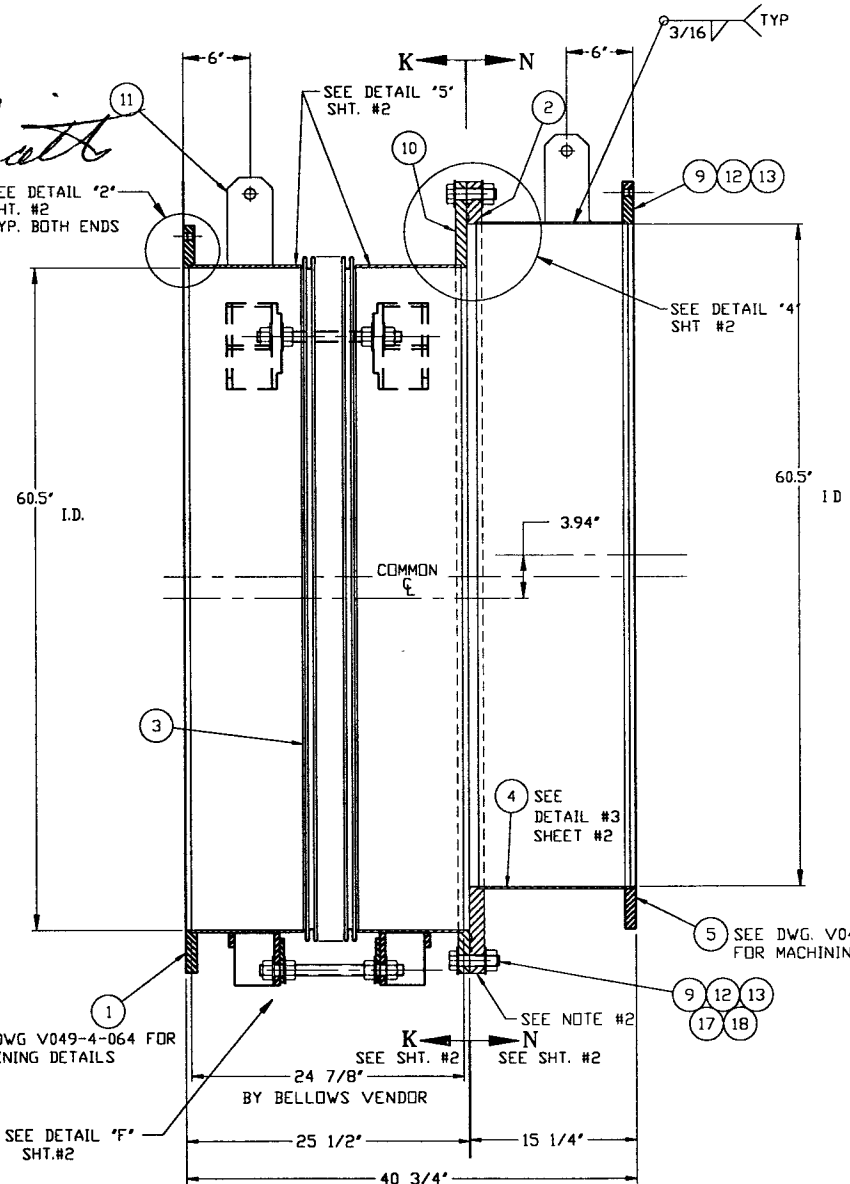
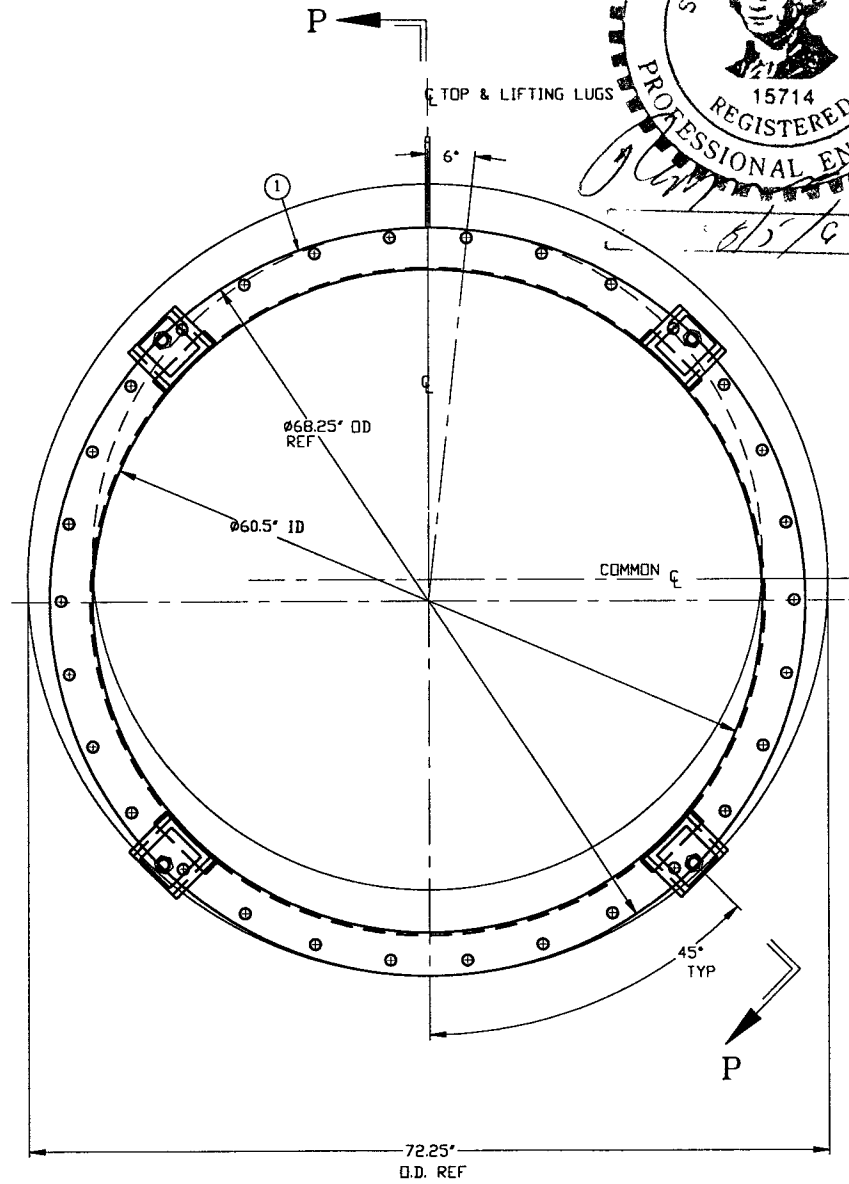
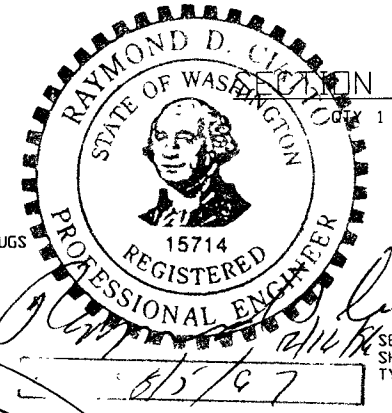
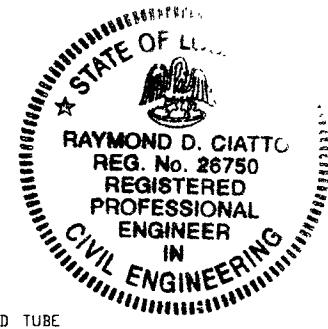
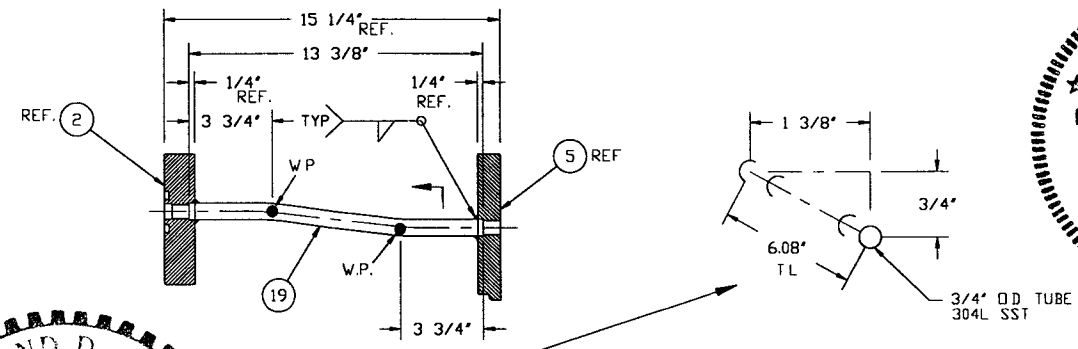


NOTES:

12. WDS NO'S. REFER TO WELD DATA SPEC V049-2-084.
11. PLATES PRIOR TO ROLLING MUST HAVE DIAGONAL CORNER TO CORNER DIMENSIONS WITHIN 1/16" OF EACH OTHER
10. MACHINING & ROLLING PER SPEC V049-2-136.
9. TIGHTEN TIE-ROD NUTS WITH BELLOWS IN "FREE" POSITION TO 100 FT-LBS PRIOR TO LEAK TEST
8. LEAK TEST & METHOD PER PSI SPEC: V049-2-014
7. CERTIFIED MANUFACTURER'S MATERIAL TEST REPORTS REQUIRED, AS NOTED.
6. BOLT HOLES OF ALL FLANGES TO STRADDLE VERTICAL CENTERLINE ± 0.15.
5. CLEAN PER SPEC: V049-2-015
4. DO NOT USE CARBON STEEL BRUSHES OR BRUSHES CONTAMINATED WITH CARBON STEEL ON STAINLESS OR ALUMINUM MATERIAL
3. SPOOL FABRICATION TO BE IN ACCORDANCE WITH SPEC. V049-2-097.
2. FOR FLANGE DETAILS SEE DWGS. V049-4-064, 067, 066 & 144.
1. THIS FLANGE INCLUDES AN ANNULAR CHANNEL BETWEEN O-RINGS, FOR A SINGLE PUMPOUT PORT.

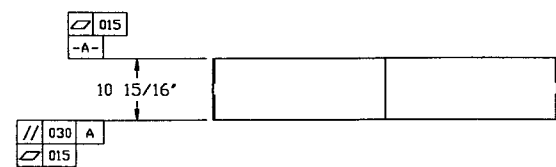
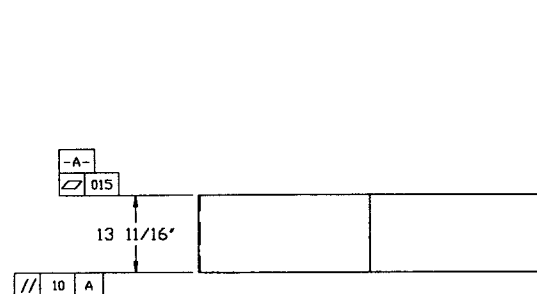


ITEM	PART NUMBER	SUFFIX	QTY	UM	DESCRIPTION	
1	V0494064		1	EA	60.5" ID FLANGE DETAIL (FLAT)	
2	V0494067		1	EA	60.5" ID 196 OFFSET FLANGE DETAIL (GROOVE)	
3	V0494BE3AP1		1	EA	BELLOWS ASSY (PER SPEC V049-2-017)	
4	V0494BE3AP4		1	EA	60.5" ID SHELL, 304/304L SST, 375" THK	
5	V0494144		1	EA	60.5" ID FLANGE DETAIL (FLAT)	
6	***	3	4	EA	ROD, THRD, A36, 1 1/4"-7UNC X 20" LG	
7	***	1	25	FT	8" X 6" X 5" THK RECT TUBING, 304 SST	
8	***	3	8	EA	WASHER, 4" X 2" X 1/4", STL A588	
9	202678		3	EA	BOLT, SA193 B7, HEX, 7/8"-9UNC X 4" LG	
10	V0494066		1	EA	60.5" ID 196 OFFSET FLANGE DETAIL (FLAT)	
11	V049MB52		3	FT	BAR, 304 SST, 4" X 3/8" THK	
12	202679		3	EA	NUT, SA193 ZH, HEX, 7/8"-9UNC	
13	202581		3	EA	WASHER, STL, 1 3/4" OD X 15/16" ID X 1/4" THK	
14	***		3	EA	WASHER PLATE, 5" X 3" X 1", STL A588	
15	***		3	EA	NUT, HEX, 1 1/4"-7UNC A563 GR-A	
16	***		1	4.5	FT	BAR, 304 SST, 2" X 1/2" THK
17	V049M022		1	EA	O-RING, VITON (PER SPEC V049-2-045)	
18	V049M023		1	EA	O-RING, VITON (PER SPEC V049-2-045)	
19	V049M454		1	2	FT	TUBING, 304L SST, 3/4" OD x 065 WT

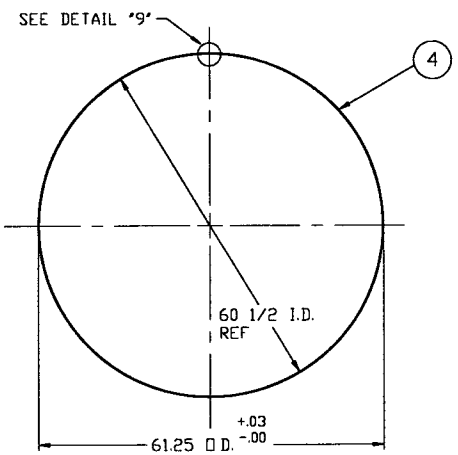
* ELECTROLESS NICKEL PLATE
*** SUPPLIED BY BELLOWS VENDOR

0961162-03-V APPROX. WEIGHT: 2119#

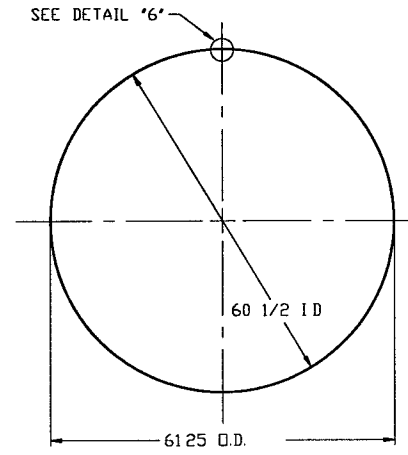
<p>PROPRIETARY AND CONFIDENTIAL</p> <p>THIS DRAWING CONTAINS PROPRIETARY INFORMATION BELONGING TO PROCESS SYSTEMS INTERNATIONAL, INC. OR ITS AFFILIATED COMPANIES AND SHALL BE USED ONLY FOR THE PURPOSE FOR WHICH IT WAS SUPPLIED. IT SHALL NOT BE COPIED, REPRODUCED OR OTHERWISE USED NOR SHALL SUCH INFORMATION BE FURNISHED IN WHOLE OR IN PART TO OTHERS EXCEPT IN ACCORDANCE WITH THE TERMS OF ANY AGREEMENT UNDER WHICH IT WAS SUPPLIED OR WITH THE PRIOR WRITTEN CONSENT OF PROCESS SYSTEMS INTERNATIONAL, INC. AND SHALL BE RETURNED UPON REQUEST.</p>		<p>UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES</p> <p>DECIMALS: FRACTIONAL ± .1</p> <p>ANGULAR: ARCH 1/4°-30° BEND 1/2°</p> <p>TWO PLACE DECIMAL ± .03</p> <p>THREE PLACE DECIMAL ± .015</p> <p>FINISHED SURFACE RMS</p> <p>BREAK CORNERS IN</p> <p>OUT</p> <p>REMOVE ALL BURRS</p>		<p>DO NOT SCALE THIS DRAWING</p> <p>USED ON: NEXT ASS'Y</p>		<p>3 DESIGN UPDATE/ISSUED FOR FABRICATION</p> <p>2 FABRICATION (SHELL ONLY)</p> <p>1 DESIGN UPDATE/FABRICATION (BELLOWS ASSY ONLY)</p> <p>0 ISSUED FOR FDR</p>		<p>GS RDC REC PV 12/2/96 0180</p> <p>GS RDC REC PV 10/1/96 0283</p> <p>DMW RDC REC TOV 4/29/96 0146</p>		<p>PROCESS SYSTEMS INTERNATIONAL, INC.</p> <p>20 WALKUP DR. WESTBOROUGH, MASSACHUSETTS 01581 USA</p> <p>OFFSET SPOOL BE-3A</p> <p>60.50" ID x 60.50" ID</p> <p>LIGO VACUUM EQUIPMENT</p>		<p>CAD FILE: V494BE3A/49BE3AS1</p> <p>SIZE: D</p> <p>DWG NO: V049-4-BE3A</p> <p>SCALE: 1/8"</p> <p>SHEET: 1 OF 2</p>	
<p>REFERENCE DRAWINGS</p>		<p>ISSUE DESCRIPTION</p>		<p>DATE</p>		<p>DEC</p>		<p>16, 1996</p>		<p>08 131</p>			



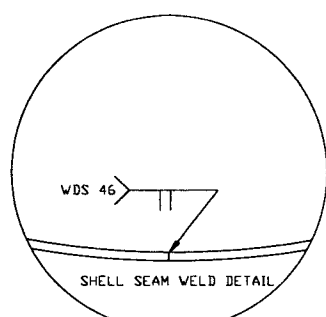
* NOTE:
FINAL LENGTH TO BE DETERMINED
BY BELLOWS VENDOR



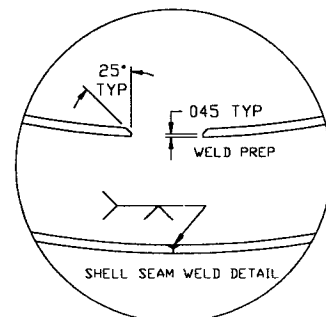
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MAKE FROM V049M177-1



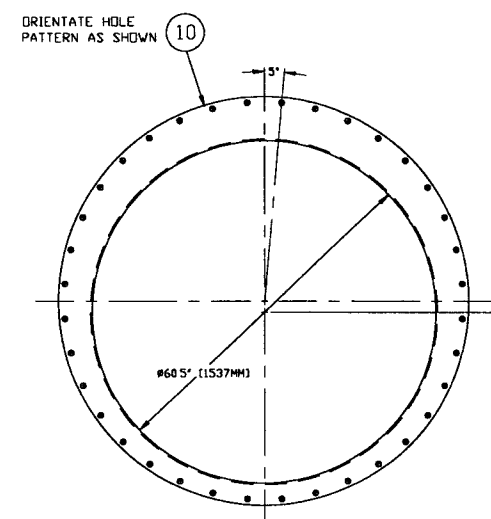
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QTY 2
MAKE FROM V049M177-1



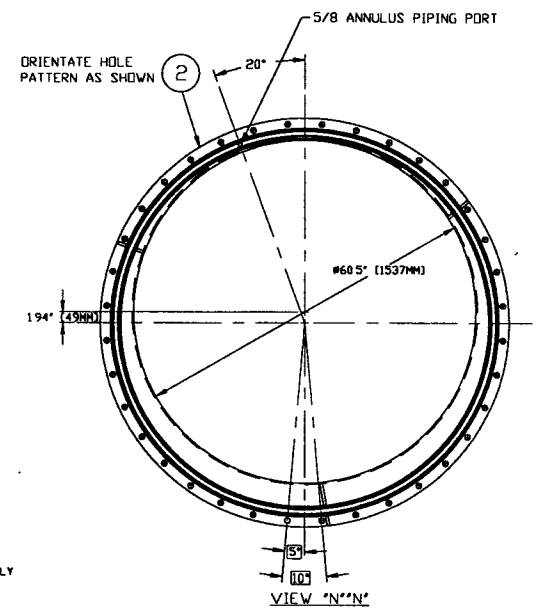
DETAIL "9"



DETAIL "6"

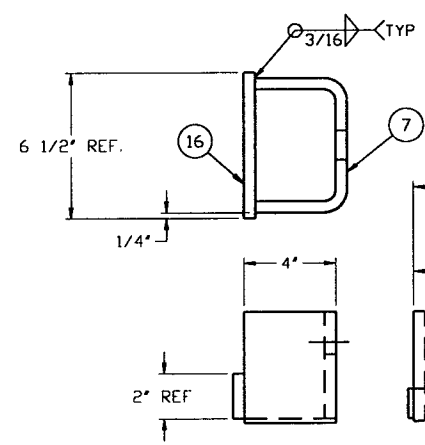


VIEW "K"

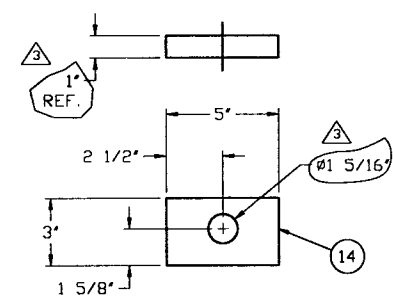
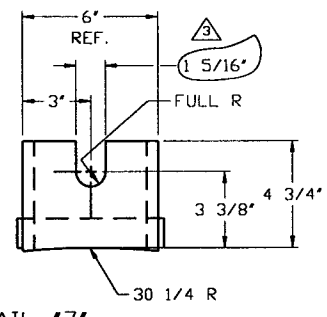


VIEW "N"

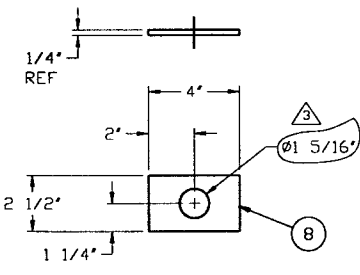
PARTIAL SECTION
VIEW FOR REF ONLY



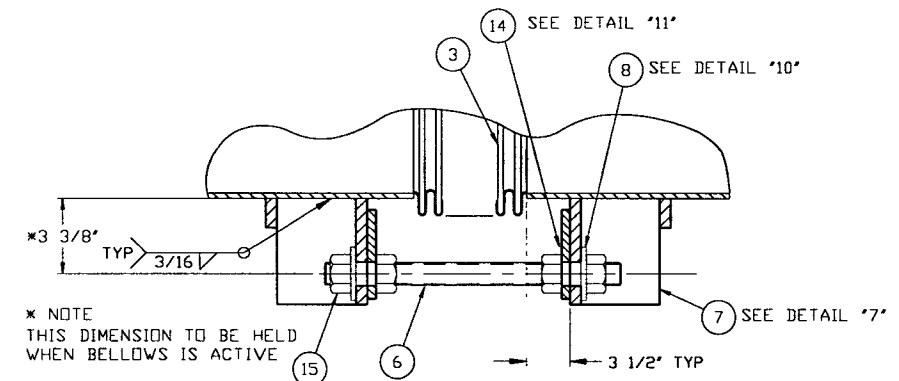
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QTY. 8



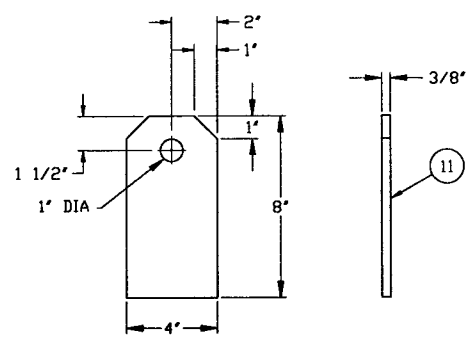
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QTY. 8



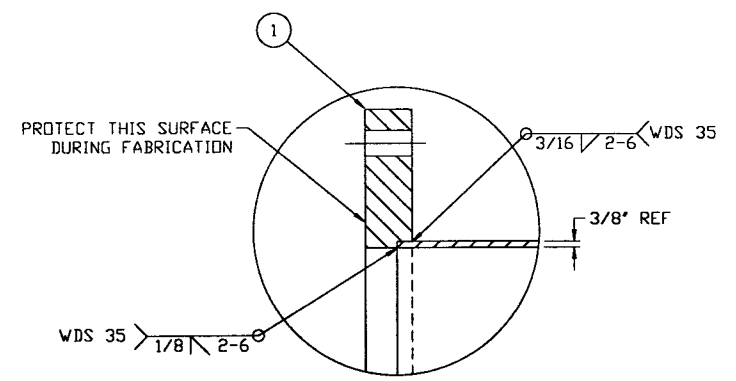
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QTY. 8



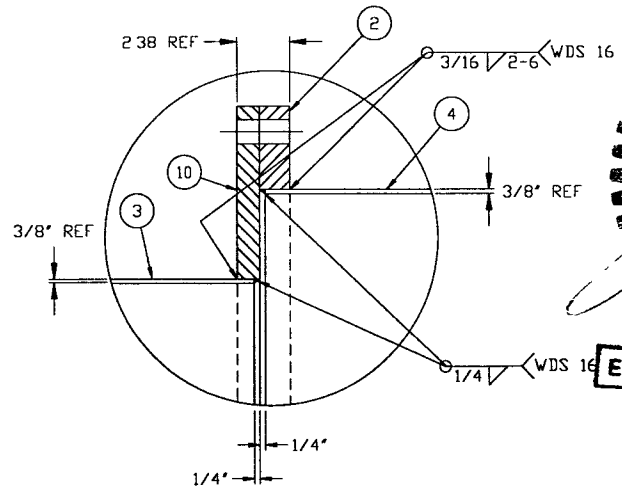
DETAIL "F"
EXPANSION JOINT & TIE ROD ASSEMBLY
TYP. 4 PLCS



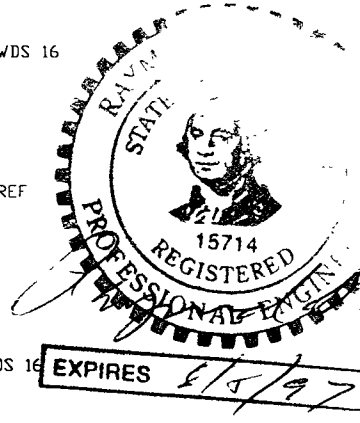
DETAIL "8"
QTY. 2



DETAIL "2"
TYP - 2 PLCS.



DETAIL "4"



PROCESS SYSTEMS INTERNATIONAL INC. 20 WALKUP DR. WESTBOROUGH, MASSACHUSETTS 01581 USA			
OFFSET SPOOL BE-3A 60.25"ID x 60.50"ID LIGD VACUUM EQUIPMENT			
CAD FILE 49BE3AS2	SIZE D	DWG. NO. V049-4-BE3A	REV 3
SCALE 1/4 & 1/16	SHEET 2 OF 2		

Dec 06, 1996 14:08:16