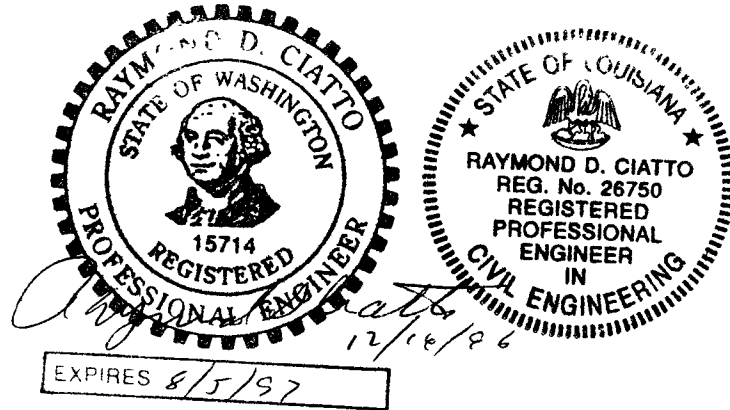


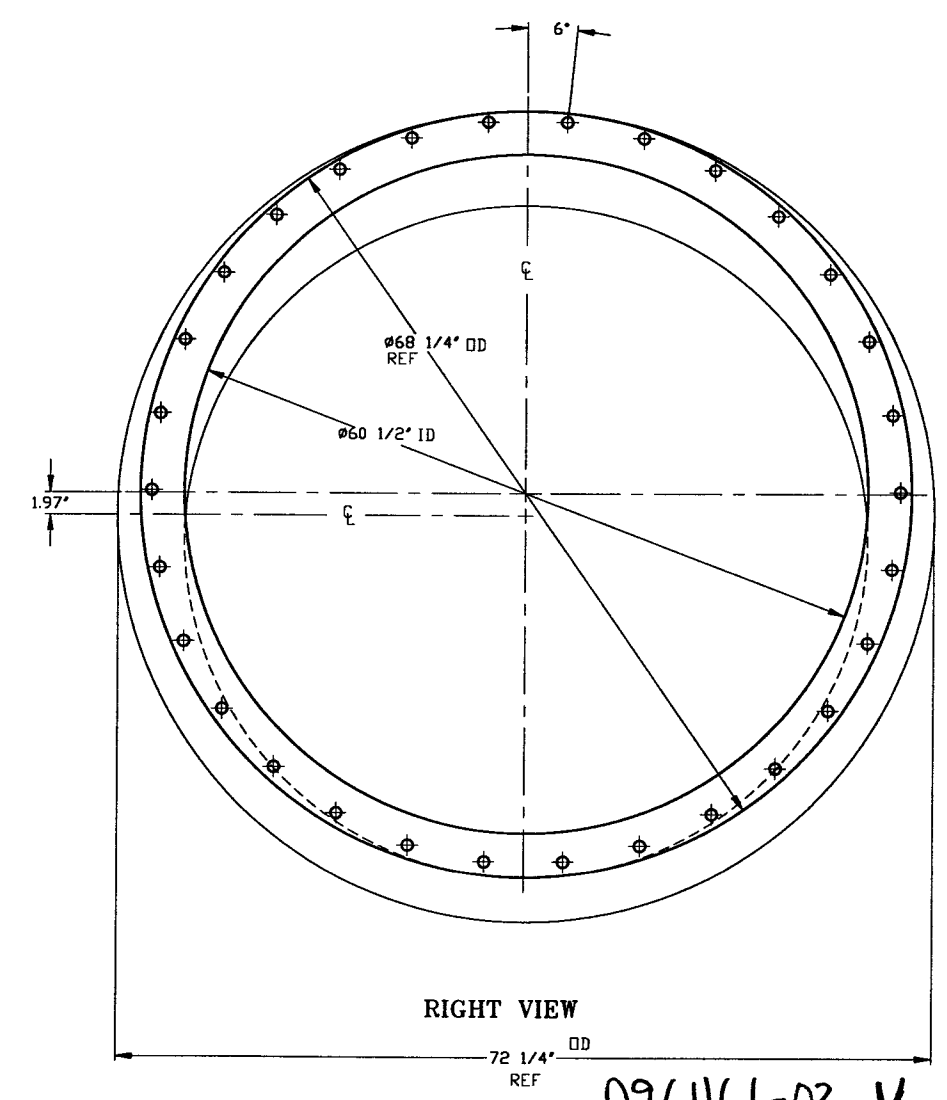
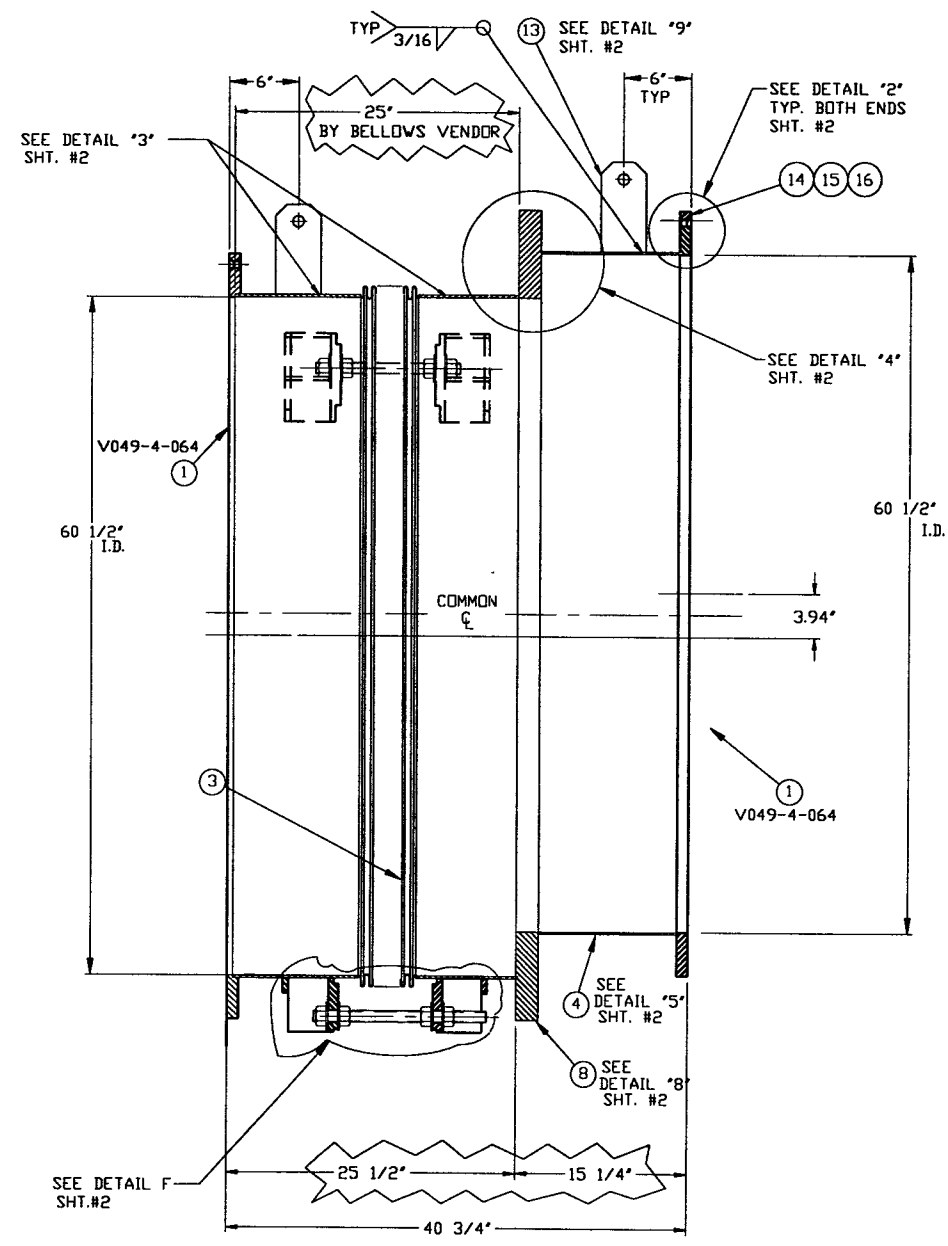
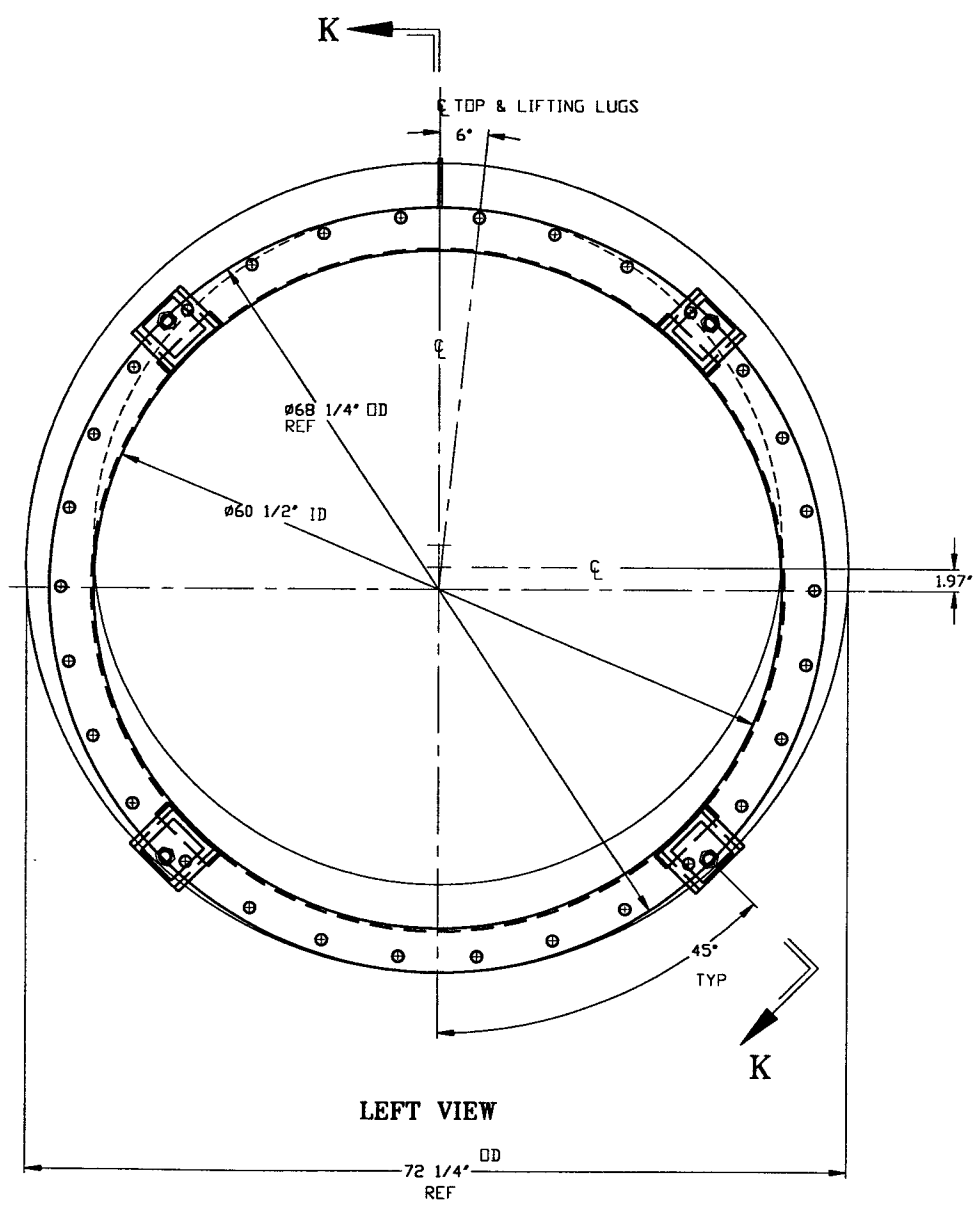
NOTES:

12. WDS NO'S. REFER TO WELD DATA SPEC. V049-2-084.
11. 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. V0494BE3-01, -02 ETC.
10. PLATES PRIOR TO ROLLING MUST HAVE DIAGONAL CORNER TO CORNER DIMENSIONS WITHIN 1/16" OF EACH OTHER.
9. MACHINING & ROLLING PER SPEC V049-2-136.
8. TIGHTEN TIE-ROD NUTS WITH BELLOWS IN 'FREE' POSITION TO 100 FT-LBS PRIOR TO LEAK TEST.
7. LEAK TEST & METHOD PER PSI SPEC. V049-2-014
6. CERTIFIED MANUFACTURER'S MATERIAL TEST REPORTS REQUIRED, AS NOTED.
5. BOLT HOLES OF ALL FLANGES TO STRADDLE VERTICAL CENTERLINE ± .015.
4. CLEAN PER SPEC. V049-2-015
3. DO NOT USE CARBON STEEL BRUSHES OR BRUSHES CONTAMINATED WITH CARBON STEEL ON STAINLESS OR ALUMINUM MATERIAL.
2. SPOOL FABRICATION TO BE IN ACCORDANCE WITH SPEC. V049-2-097.
1. FOR FLANGE DETAILS SEE DWG. V049-4-064



ITEM	PART NUMBER	SUFFIX	QTY	UM	DESCRIPTION	
1	V0494064		2	EA	60.5" ID FLANGE DETAIL (FLAT)	
2						
3	V0494BE3P1		1	EA	BELLOWS ASSY (PER SPEC V049-2-017)	
4	V0494BE3P4		1	EA	60.5" ID SHELL, 304/304L SST, .375" THK	
5						
6	***	3	4	EA	ROD, THRD, A36, 1 1/4"-7UNC X 20" LG.	
7	***	1	2.5	FT	8" X 6" X .38" THK. RECT. TUBING, 304 SST	
8	V0494BE3PB		1	EA	UNION, 1" THK, 304L SST	
9	***	3	16	EA	NUT, HEX, 1 1/4"-7UNC, A563 GR-A	
10	***	3	16	EA	WASHER, 4" X 2 1/2" X 1/4", STL A588	
11	***	3	8	EA	WASHER PLATE, 5" X 3" X 1", STL A588	
12	***	1	8	EA	PLATE, 304 SST, 6 1/2" X 2" X 1/2" THK.	
13	V049M852		3	1	FT	BAR, FLAT, 304 SST, 4" X 3/8" THK
14	202678		3	30	EA	BOLT, SA193B7, HEX, 7/8"-9UNC X 4" LG
15	202679		3	30	EA	NUT, SA194 2H, HEX, 7/8"-9UNC
16	202581		3	60	EA	WASHER, STL, 1 3/4" DD X 15/16" ID X 1/4" THK

* ELECTROLESS NICKEL PLATE
 *** SUPPLIED BY BELLOWS VENDOR

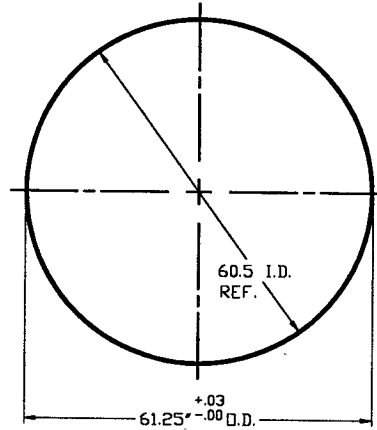
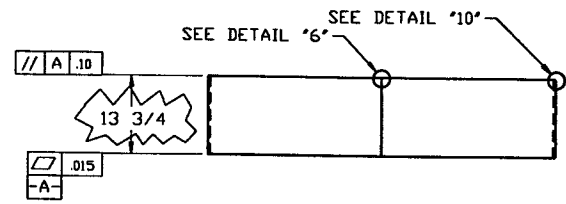
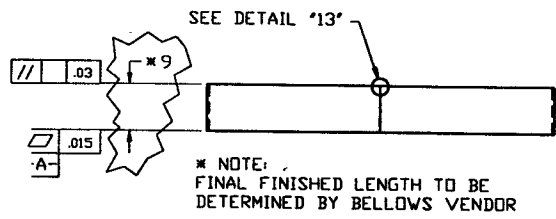


RAYMOND D. CIATTO DE-WA.

0961161-03-V
 APPROX. WEIGHT: 2275#

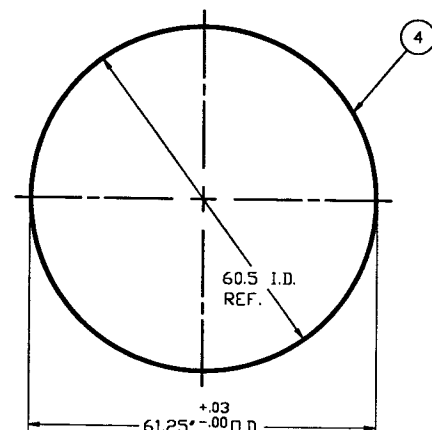
<p>PROPRIETARY AND CONFIDENTIAL</p> <p>THIS DRAWING CONTAINS PROPRIETARY INFORMATION BELONGING TO PROCESS SYSTEMS INTERNATIONAL, INC. OR ITS AFFILIATES AND SHALL BE KEPT CONFIDENTIAL FOR THE PURPOSE FOR WHICH IT WAS SUPPLIED. IT SHALL NOT BE COPIED, REPRODUCED OR OTHERWISE USED, NOR SHALL SUCH INFORMATION 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>TOLERANCES: FRACTIONAL ± 1/16" ANGULAR APPROX ± 30' BOND ± 2" TWO PLACE DECIMAL ± .015 THREE PLACE DECIMAL ± .010 FINISHED SURFACE RNS BREAK CORNERS IN 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 RICKLE PV 12/2/96 0180</p> <p>DMW RDC REC PV 10/1/96 0283</p> <p>DMW RDC REC TDV 4/17/96 0146</p>		<p>PROCESS SYSTEMS INTERNATIONAL, INC. 20 WALJUP DR. WESTBOROUGH, MASSACHUSETTS 01581 USA</p> <p>OFFSET SPOOL BE-3 60 1/2" ID X 60 1/2" ID LIGO VACUUM EQUIPMENT</p>	
DWG. NO.	DESCRIPTION	DWG. NO.	DESCRIPTION	REV	DESCRIPTION	CHKD	DRWN	DATE	DECD

DEC 02 1996 09:52:39



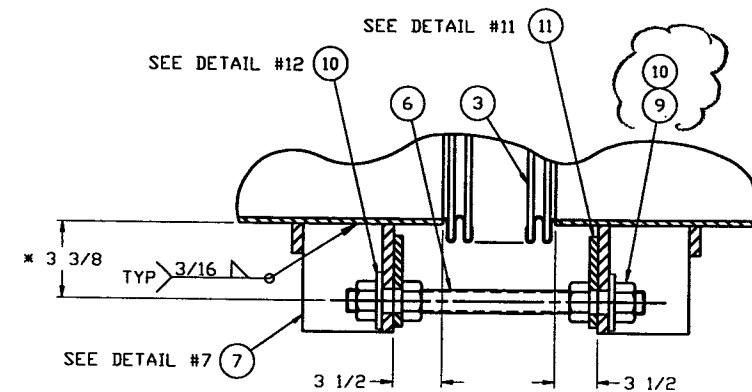
DETAIL "3"
QTY. 2

MAKE FROM V049M177-1



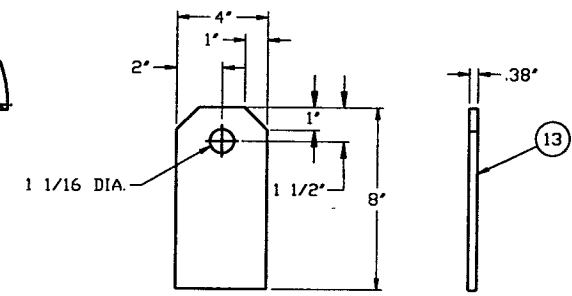
DETAIL "5"
QTY. 1

MAKE FROM V049M177-1

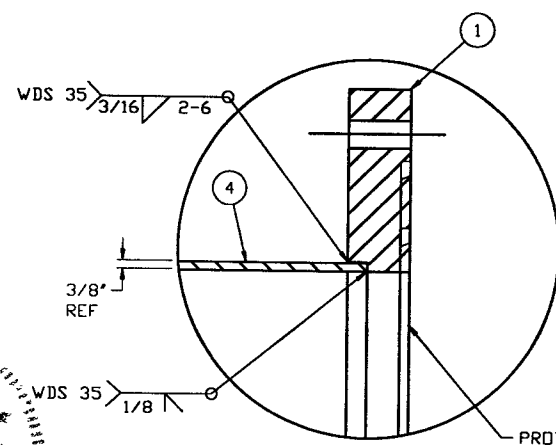


* NOTE:
THIS DIMENSION TO BE HELD
WHEN BELLOWS IS ACTIVE.

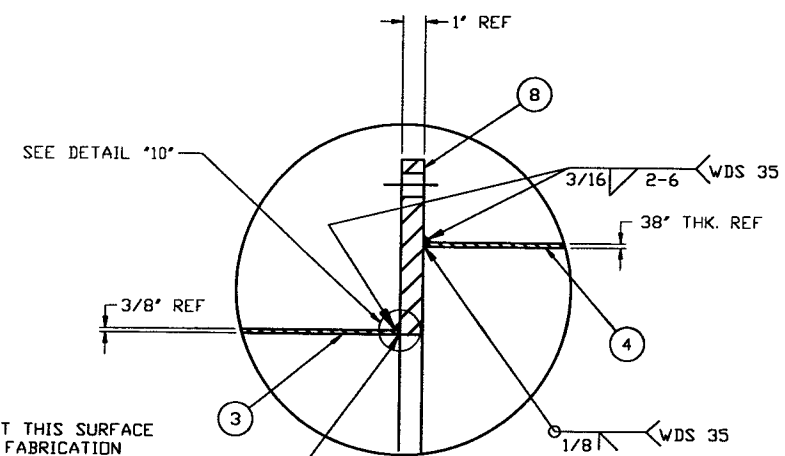
DETAIL "F"
EXPANSION JOINT &
TIE ROD ASSEMBLY
TYP 4 PLCS
(BY BELLOWS MANUF.)



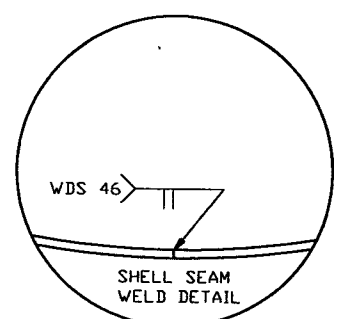
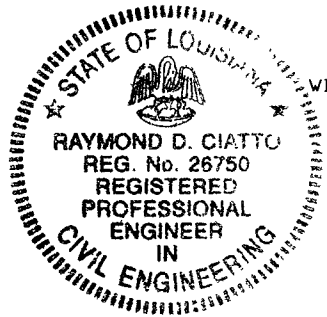
DETAIL "9"
QTY. 2



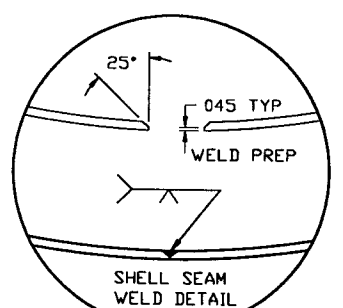
DETAIL "2"
TYP 2 PLCS.



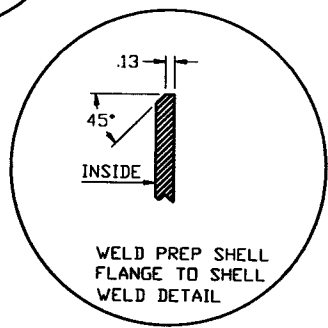
DETAIL "4"



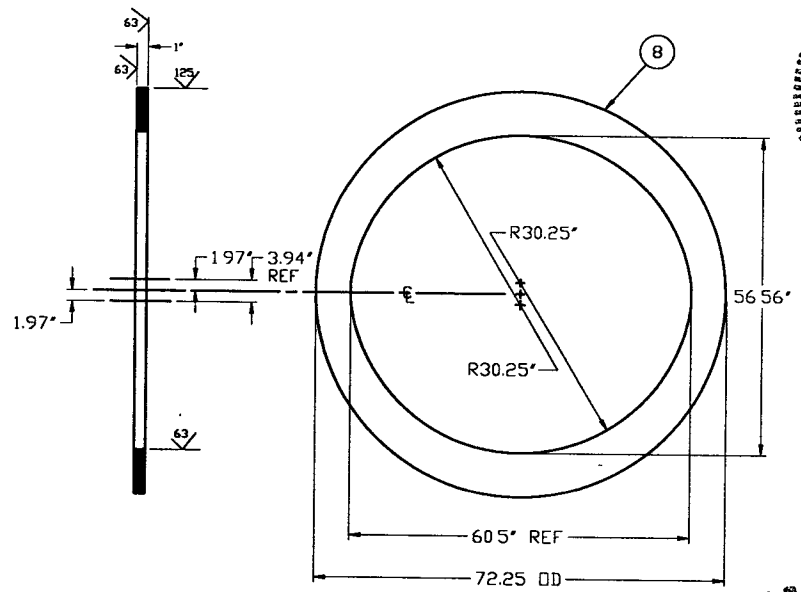
DETAIL "6"



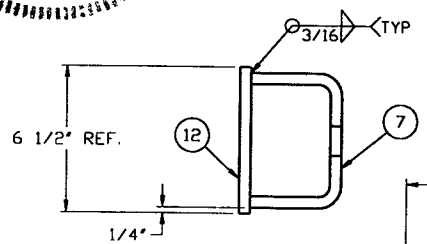
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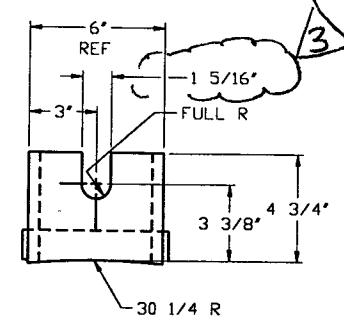
DETAIL "10"



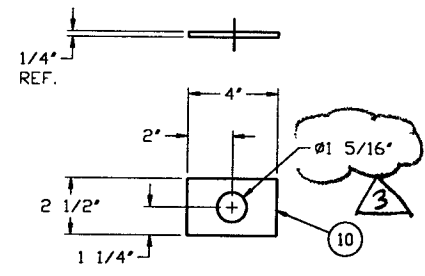
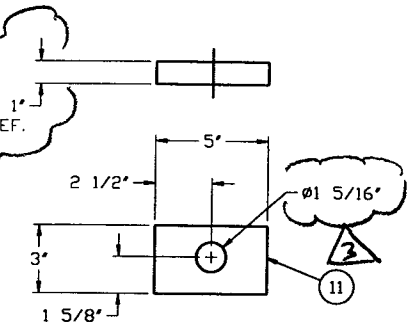
DETAIL "8"
QTY. 1
MAKE FROM V049M250-1



DETAIL "7"
QTY. 4
(BY BELLOWS MANUF.)



DETAIL "11"
QTY. 8



DETAIL "12"
QTY. 8



S. Ciatto
12/16/96

EXPIRES 8/5/97

RAYMOND D. CIATTO PE-WA

PROCESS SYSTEMS INTERNATIONAL INC. 20 WALGUP DR. WESTBOROUGH, MASSACHUSETTS 01581 USA			
OFFSET SPOOL BE-3 60.50"ID x 60.50"ID LIGD VACUUM EQUIPMENT			
CAD FILE 494BE3S2	SIZE D	DWG. NO. V049-4-BE3	REV. 3
SCALE NONE	SHEET 2 OF 2		