


CALIFORNIA INSTITUTE OF TECHNOLOGY
Laser Interferometer Gravitational Wave Observatory (LIGO) Project

To: D. Coyne
From: L. Jones 
Phone: 2970
Refer to: LIGO-E960019-00-B
Date: February 6, 1996

Subject: Request for design check: valve soft support

The attached sketch is a proposed design for a soft valve support, to be used at each BT/VE interface gate valve, generated to demonstrate a concept for CBI after they had responded with an unacceptable plan to use two catalog spring cans for the task. CBI gave us a reasonable price for detailing this sketched unit, fabricating it, and installing it when they install the valves. However, they refuse to be responsible for the design of an item that supports someone else's product (it's a good thing that they don't build bridges!).

I believe that we can impose a design, taking the responsibility for a fairly simple task. I would like for you to check the attached sketch, and see what modifications may be called for. Its performance requirements are as follows:

- suited for use with both valve sizes (112 & 122 cm size; dwgs. attached)
- support the weight of the valve
- allow for adjustment of that load
- allow for adjustment of the position of the valve: +/- 3", vertically & laterally

The scale of the sketch is 1/4"=1". The purpose of the small studs is for assembly and installation convenience only; these are loosened or removed during operation. The spring locating blocks can be replaced by a counterbore, at the possible expense of thickening the middle plate. Both the center tabs and floor anchors are optional, depending upon friction from the vertical load to keep the support near the center of the valve. "Racking" of the springs is controlled by tapping the assembly with a hammer to move it during anchor adjustments. I haven't yet found out the OD of the bolted flange connecting to the 112 cm valve; there's a potential interference there, with the valve adjusted low.

lj

cc:

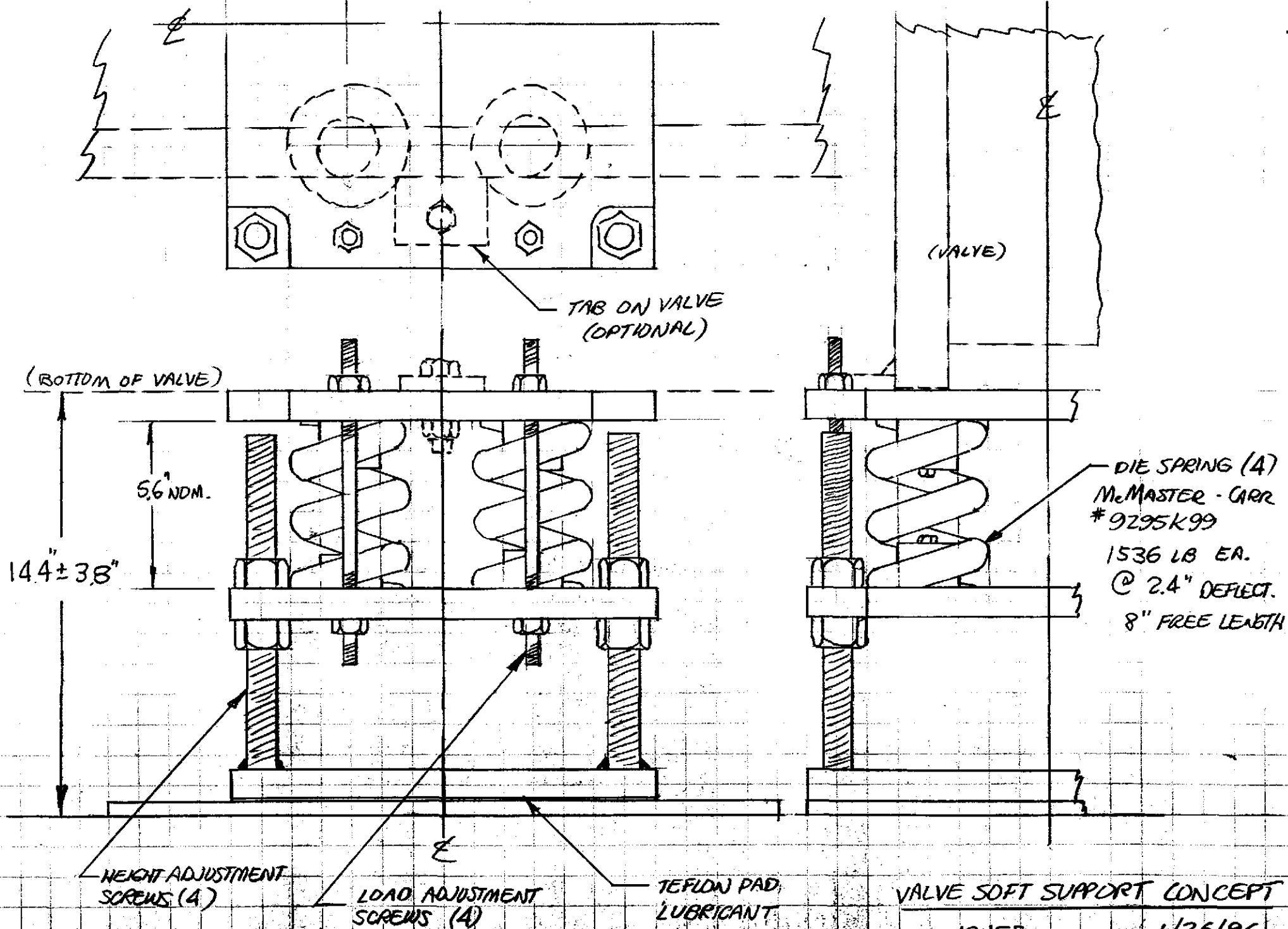
M. Coles

A. Lazzarini

G. Stapfer

R. Weiss

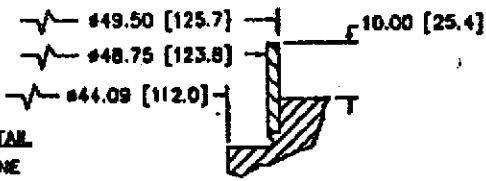
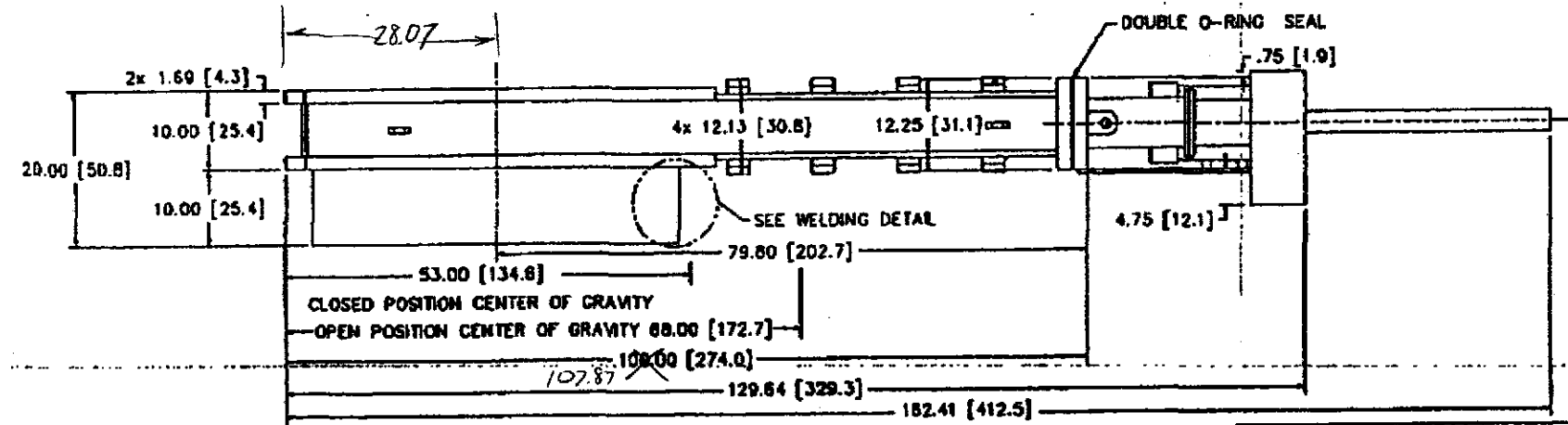
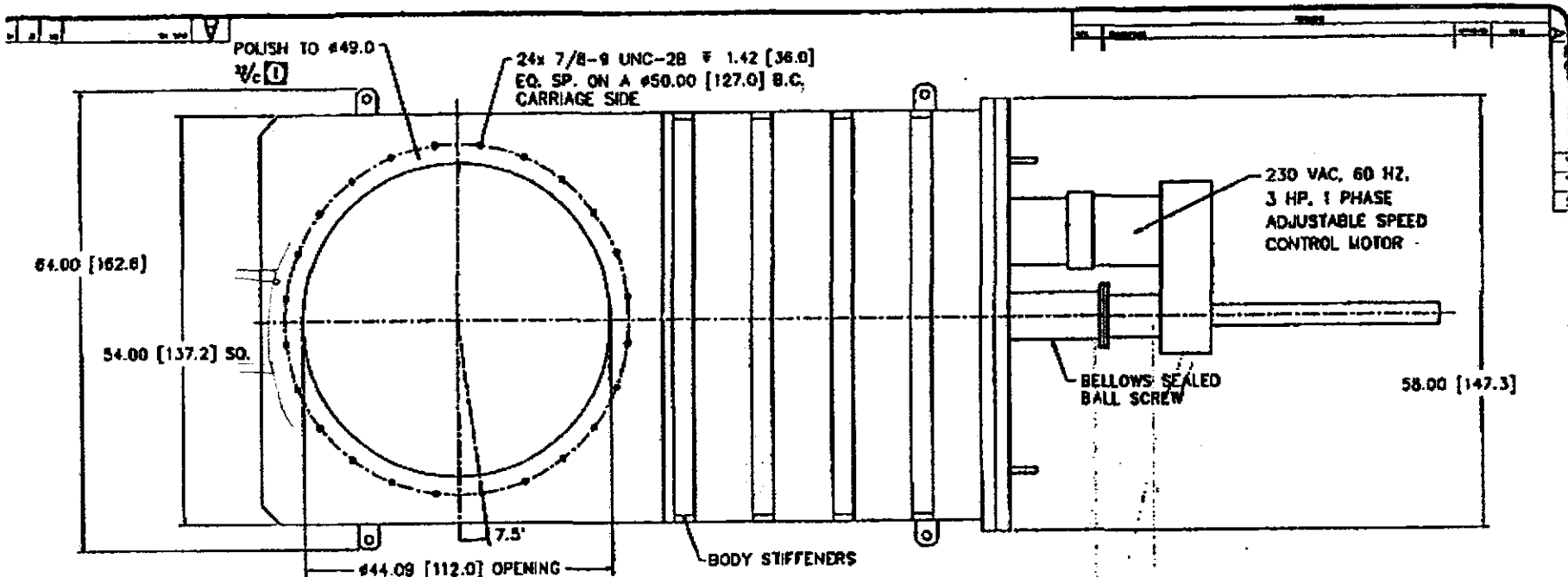
✓ Document Control Center



VALVE SOFT SUPPORT CONCEPT

L. JONES 1/26/96
LIGO C960157-00-B

NOV 8 1995

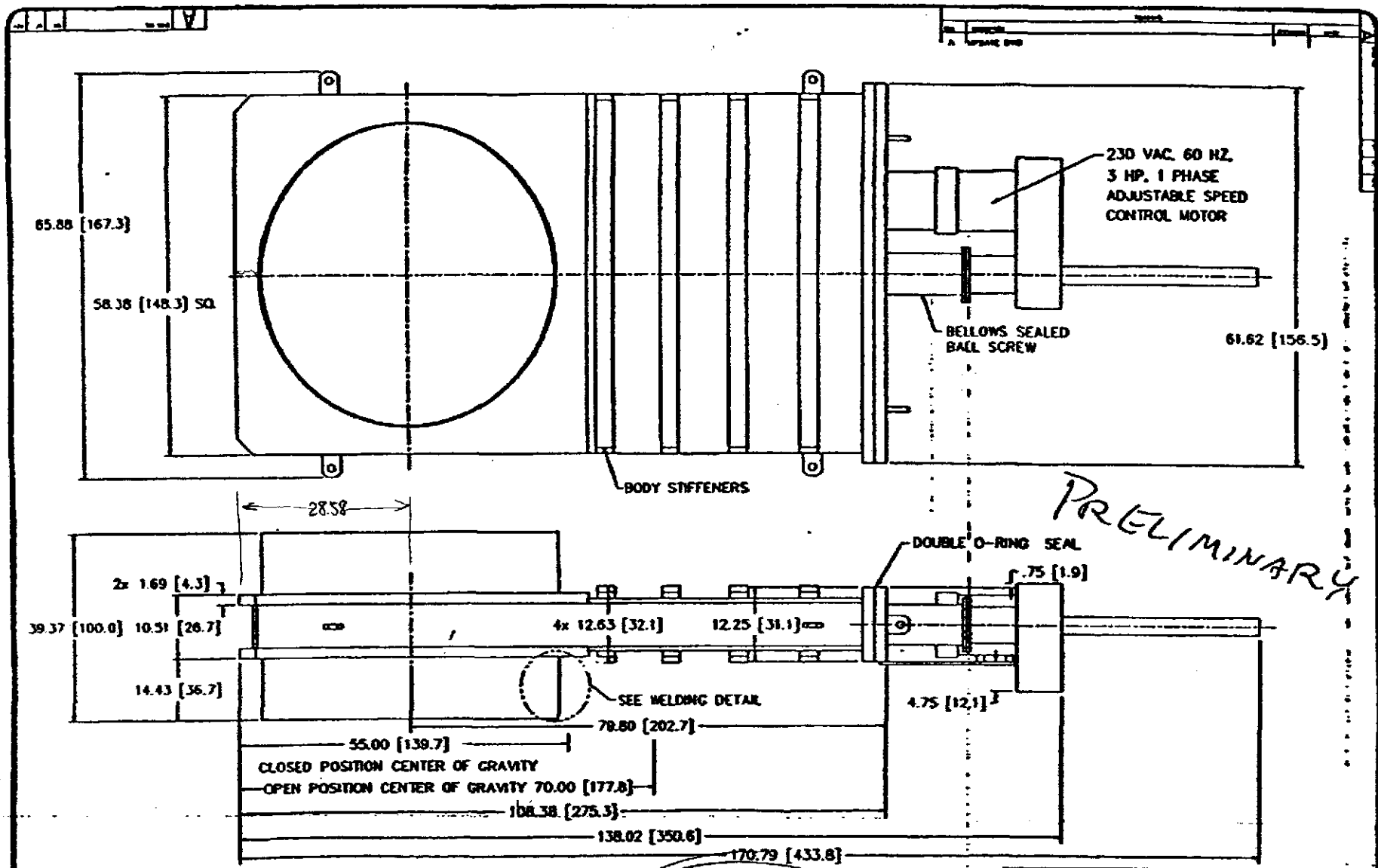


WELDING DETAIL
SCALE: NONE

- NOTES:
- 1 VACUUM SEALING SURFACE
 - 2 APPRX. WT. = 5100/
 - 3 DIMENSIONS ARE IN [CM]

TOTAL P. 02

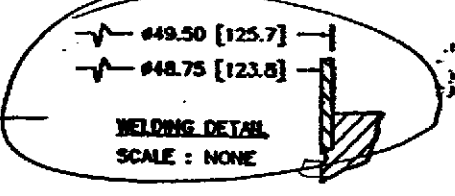
REV	DATE	DESCRIPTION	APPROVED
PART NO.		304 SSF	
GNS Corporation			
OUTLINE DWG			
044 [112] ESOP-X			
103098-02			



PRELIMINARY

PRELIMINARY

WILL CHANGE TO MATCH BEAM TUBE



- NOTES:
- 1 VACUUM SEALING SURFACE
 - 2 BOTH SIDES IDENTICAL
 - 3 APPRX. WT. = 8000g
 - 4 DIMENSIONS ARE IN (CM)

REV	DATE	BY	CHKD	DESCRIPTION
PART NO.		304 SST		
GNB Corporation				
300 N. 30th St. P.O. Box 1000 Plymouth, MI 48170				
OUTLINE DWG				
G48 (122) E30P-X				
101114-10				A

TOTAL P.02

JA 12/14/95