FORM R-1, REPORT OF WELDED ☒ REPAIR OR ☐ ALTERATION
as required by the provisions of the National Board Inspection Code

1. Work performed by CERAMIC COATING COMPANY (name of repair or alteration organization) 4-38700 (P.O. no., job no., etc.)

123 BANKLICK ROAD, NEWPORT, KY 41072 (address)

2. Owner (ORIGINAL) HOFFMANN-LaROCHE, INC. (name)

NUTLEY, NJ (address)

3. Location of installation JONES-HAMILTON CO. (name)

NEWARK, CA 94560 (address)

4. Unit identification: PRESSURE VESSEL (boiler, pressure vessel) Name of original manufacturer THE PFAUDLER CO.

5. Identifying nos.: R173-0228 (mfr's. serial no.) 32100 (original National Board no.) _____ (jurisdiction no.) S172-6889 (other) 1973 (year built)

6. Description of work: Jacket was removed so inner vessel could be glass lined. (use back, separate sheet, or sketch if necessary)

Jacket was reinstalled after glass lining.

JACKET HYDROSTATIC Pressure test, if applied ~~XXXXXX~~ 135 psi

7. Replacement Parts. Attached are Manufacturers' Partial Data Reports properly identified and signed by Authorized Inspectors for the following items of this report:

(name of part, item number, mfr's. name and identifying stamp)

8. Remarks:

Q.C. 4148

C.O. 16370

This form may be obtained from The National Board of Boiler and Pressure Vessel Inspectors, 1055 Crupper Ave., Columbus, OH 43229 NB-66 Rev. 5

DESIGN CERTIFICATION

The undersigned certifies that the statements made in this report are correct and that the design changes described in this report conform to the requirements of the National Board Inspection Code.

ASME Certificate of Authorization no. _____ to use the _____ symbol expires _____, 19____.

Date _____, 19____ _____ (name of organization) Signed _____ (authorized representative)

CERTIFICATE OF REVIEW OF DESIGN CHANGE

The undersigned, holding a valid Commission issued by The National Board of Boiler and Pressure Vessel Inspectors and certificate of competency issued by the state or province of _____ and employed by _____ of _____ has examined the design change as described in this report and verifies that to the best of his knowledge and belief such change complies with the applicable requirements of the National Board Inspection Code. By signing this certificate, neither the undersigned nor his employer makes any warranty, expressed or implied, concerning the work described in this report. Furthermore, neither the undersigned nor my employer shall be liable in any manner for any personal injury, property damage or loss of any kind arising from or connected with this inspection, except such liability as may be provided in a policy of insurance which the undersigned's insurance company may issue upon said object and then only in accordance with the terms of said policy.

Date _____, 19____ Signed _____ (Authorized Inspector) Commissions _____ (National Board (incl. endorsements), state, prov., and no.)

CONSTRUCTION CERTIFICATION

The undersigned certifies that the statements made in this report are correct and that all construction and workmanship on this REPAIR (repair or alteration) conform to the National Board Inspection Code.

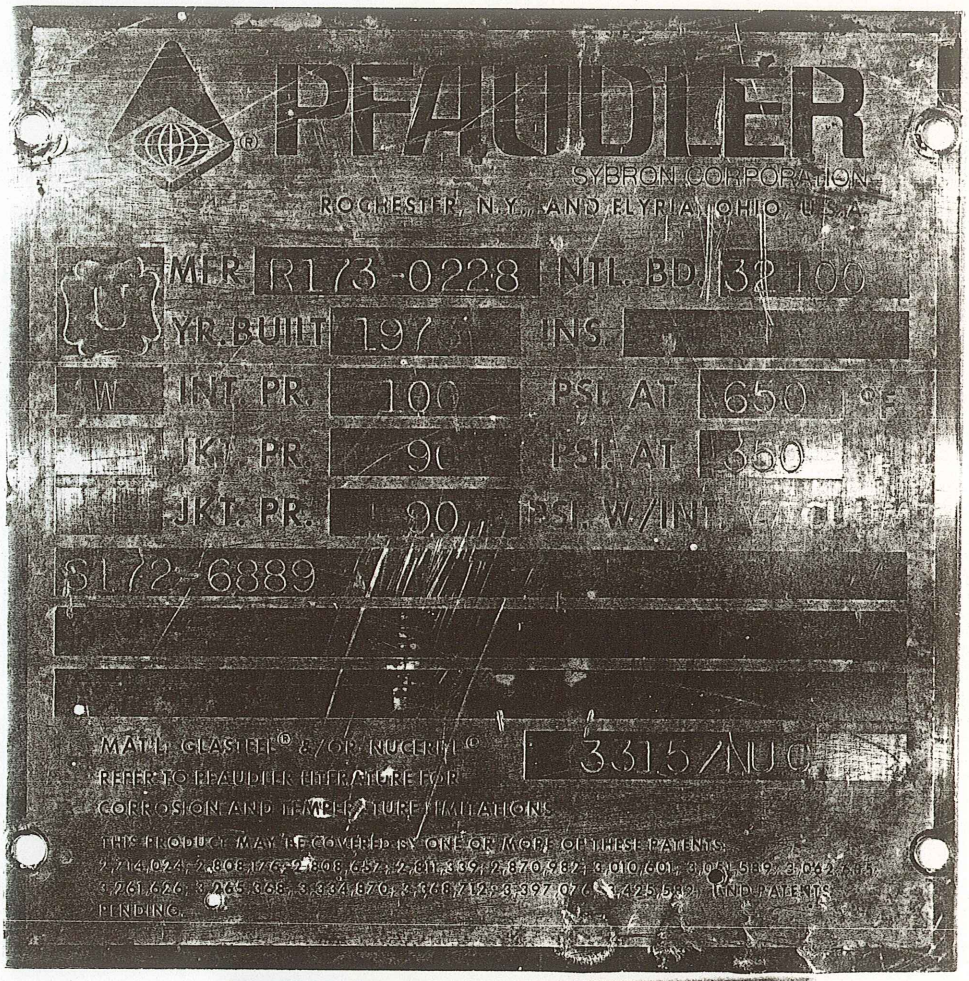
Certificate of Authorization no. 16284 to use the U symbol expires 12 JAN, 1993.

Date 8/5, 1992 Ceramic Coating Company (repair or alteration organization) Signed Kenneth R Schultz (authorized representative)

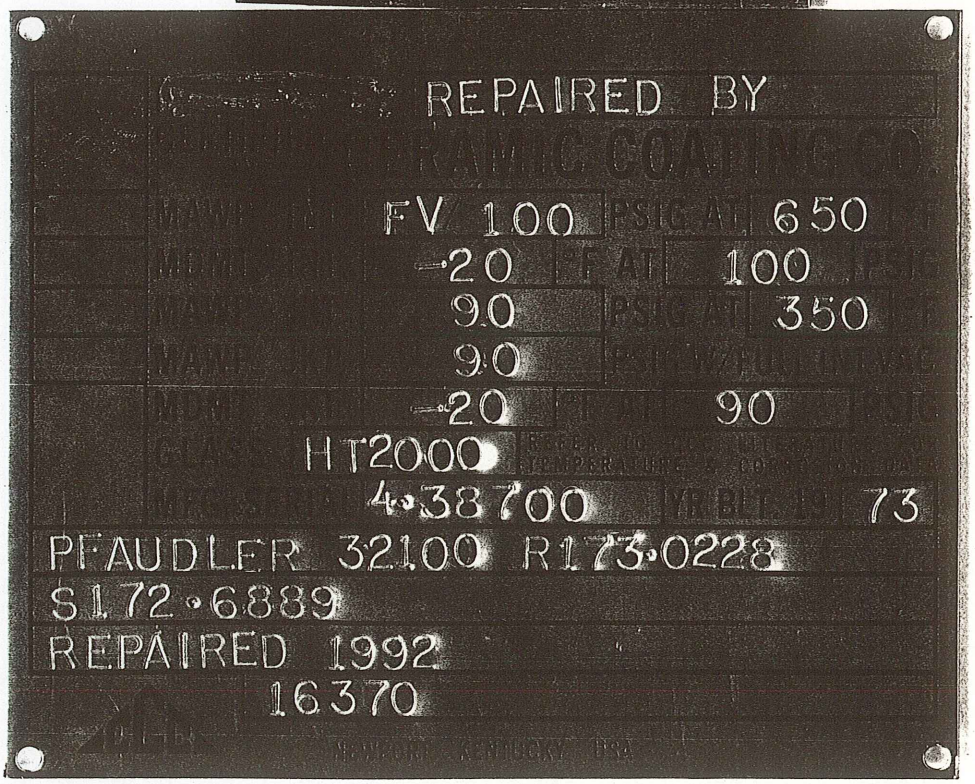
CERTIFICATE OF INSPECTION

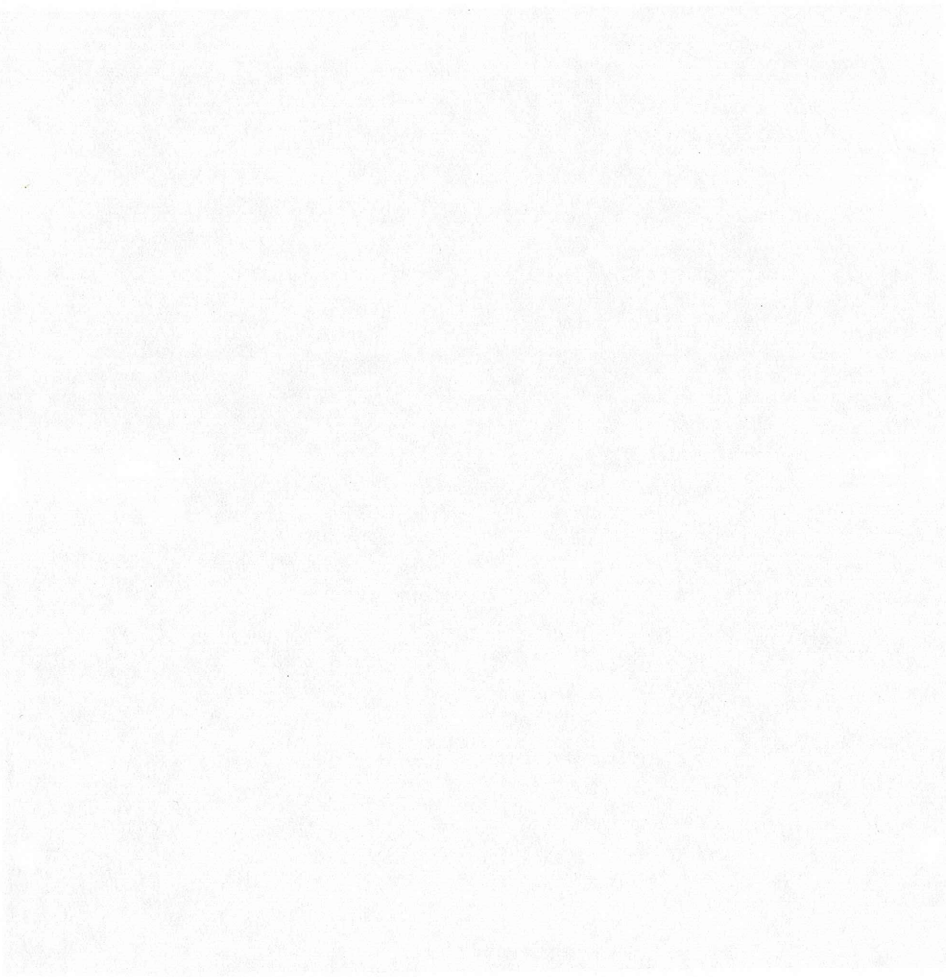
The undersigned, holding a valid Commission issued by The National Board of Boiler and Pressure Vessel Inspectors and certificate of competency issued by the state or province of Kentucky and employed by Commercial Union Insurance Company of Boston, MA has inspected the work described in this report on 8-5-92, 19____ and state that to the best of my knowledge and belief this work has been done in accordance with the National Board Inspection Code. By signing this certificate, neither the undersigned nor my employer makes any warranty, expressed or implied, concerning the work described in this report. Furthermore, neither the undersigned nor my employer shall be liable in any manner for any personal injury, property damage or loss of any kind arising from or connected with this inspection, except such liability as may be provided in a policy of insurance which the undersigned's insurance company may issue upon said object and then only in accordance with the terms of said policy.

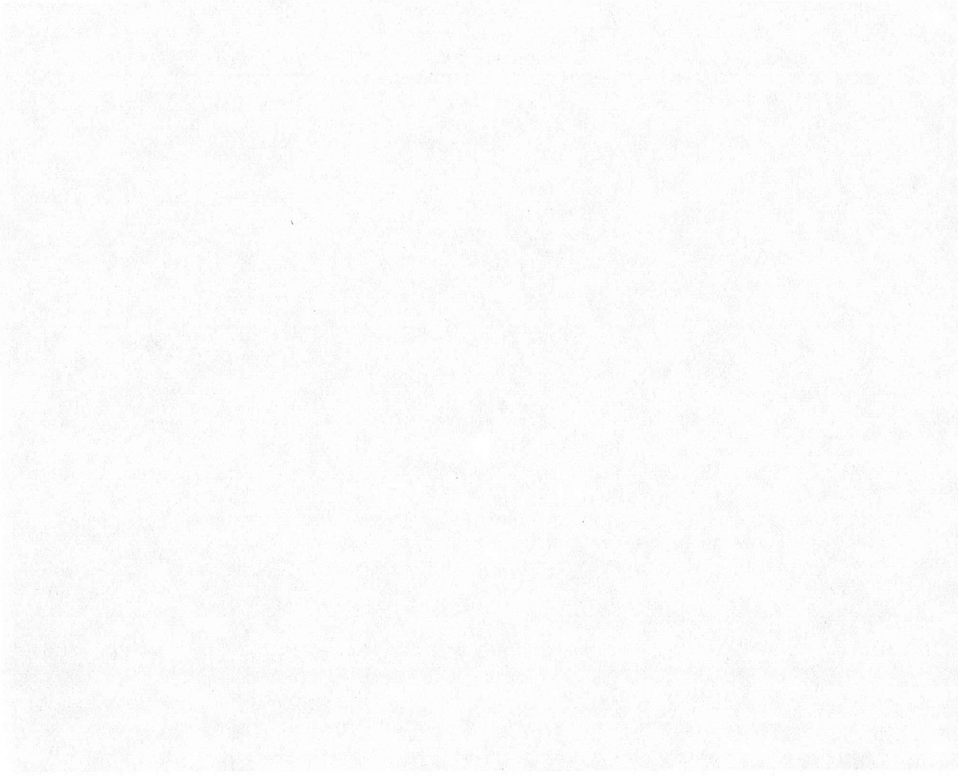
Date 8-5, 1992 Signed _____ (Authorized Inspector) Commissions NB9608 Ky 942 (National Board (incl. endorsements), state, prov., and no.)


PFAUDLER
SYBRON CORPORATION
ROCHESTER, N.Y. AND ELYRIA, OHIO, U.S.A.
MFR R173-0228
NTL. BD 32100
YR. BUILT 197
INS.
W INT. PR. 100
PSI AT 650 °F
JKT. PR. 90
PSI AT 350
JKT. PR. 90
PSI W/INT.
S172-6889
MATL GLASTEEL® &/OR NUCERITE®
REFER TO PFAUDLER LITERATURE FOR
CORROSION AND TEMPERATURE LIMITATIONS
3315/NUC
THIS PRODUCT MAY BE COVERED BY ONE OR MORE OF THESE PATENTS:
2,714,024; 2,808,176; 2,808,657; 2,811,339; 2,870,987; 3,010,601; 3,015,589; 3,042,285;
3,261,626; 3,265,368; 3,334,870; 3,366,712; 3,397,076; 3,425,589; AND PATENTS
PENDING.


ROCH
CODE YZF-388


REPAIRED BY
FV 100
-20
90
90
-20
HT2000
4-38700
PSIG AT 650
AT 100
PSIG AT 350
90
YR BLT 73
PFAUDLER 32100 R173-0228
S172-6889
REPAIRED 1992
16370





FORM U-1 MANUFACTURERS' DATA REPORT FOR PRESSURE VESSELS

As required by the Provisions of the ASME Code Rules, Section VIII, Division 1

1. Manufactured by THE PFAUDLER CO., ROCHESTER, NEW YORK, U. S. A.
(Name and address of Manufacturer)

2. Manufactured for Hoffmann-LaRoche, Inc., Nutley, New Jersey
(Name and address of Purchaser)

3. Type Vertical (Horiz. or Vert.) Kind Jacketed (Tank, Jacketed, Heat Exchr.) Vessel No. R173-0228 (Mfrs. Serial) (State & State No.) Natl. Bd. No. 32100 Yr. Built 1973

Items 4 and 5 to be completed for single wall vessels (such as air tanks), jackets of jacketed vessels, or shells of heat exchangers.

4. SHELL Material SA515GR.65 (Kind and Spec. No.) S 65,000 (Tens. or E.B. & Spec. Min. T.S.) Nominal Thickness 3/8 in. Corrosion Allowance 0 in. Diam OD 5 Ft. 6 In. Length 6 Ft. 4 In.

5. SEAMS: Long DBFW (Welded, Dbl., Single, Lap, Butt) H.T. No (Yes or No) R.T. No (Spot or Complete) Sectioned No (Yes or No) Efficiency 70 %
Girth DBFW H.T. No R.T. No Sectioned No No. of Courses 1
If riveted describe seams fully on reverse side of form.

6. HEADS: (a) Material SA515 GR.65 S 65,000 (b) Material ____ S. ____ (c) Material ____ S. ____

Location (Top, bottom, ends)	Thickness	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure (Convex or Concave)
(a) Bottom	7/16"	66"	4"					Concave
(b)								

If removable, bolts used (a) ____ (Material, Spec. No., T.S., Size, Number) Other fastening ____ (Describe or Attach Sketch)

7. STAYBOLTS: ____ (Material) If hollow, Dia. of Hole ____ Attachment ____ (Threaded, Welded) Pitch ____ (Horiz.) X ____ (Vert.) Diam ____ (Nominal)

8. JACKET CLOSURE Pfaudler sealer welded per figure UA-104 (b-2)
(Describe as over & weld bar etc. If bar give dimensions. If bolted describe or sketch.)

9. Constructed for max. allowable working press. 90 psi at max. temp. 350 °F. Min. temp. (when less than -20°) ____ °F. Hydrostatic / ~~Pneumatic~~ / ~~Combination~~ Test Press 135 psi

Items 10 and 11 to be completed for tube sections.

10. TUBE SHEETS Stationary Material ____ (Kind & Spec. No.) Diam ____ (Subject to Pressure) In. Thickness ____ In. Attachment ____ (Welded, Bolted)
Floating Material ____ (Kind & Spec. No.) Diam ____ In. Thickness ____ In. Attachment ____

11. TUBES Material ____ (Kind and Spec. No.) O.D. ____ In. Thickness ____ Inches or Gage Number ____ Type ____ (Straight or U)

Items 12-15 incl. to be completed for inner chambers of jacketed vessels, or channels of heat exchangers.

12. SHELL: Material SA285GR.B (Kind and Spec. No.) S 50,000 (Tens. or E.B. & Spec. Min. T.S.) Nominal Thickness 11/16 in. Corrosion Allowance 0 in. Diam 5 Ft. 0 In. Length 5 Ft. 8 In.

13. SEAMS: Long DBFW (Welded, Dbl., Single, Lap, Butt) H.T. No (Yes or No) R.T. No (Spot or Complete) Sectioned No (Yes or No) Efficiency 70 %
Girth DBFW H.T. No R.T. No Sectioned No No. of courses 1
If riveted describe seams fully on reverse side of form.

14. HEADS: (a) Material SA285-B S 50,000 (b) Material SA285-B S 50,000 (c) Material ____ S. ____

Location	Thickness	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure (Convex or Concave)
(a) Top. XXXXXX	11/16"			2:1				Concave
(b) XXXX Bot.	5/8"			2:1				Both
(c) Floating								

If removable, bolts used (a) ____ (Material, Spec. No., T.S., Size, Number) (b) ____
(c) ____ Other fastening ____ (Describe or Attach Sketch)

15. Constructed for max. allowable working press. 100 psi at max. temp. 650 °F. Min. temp. (when less than -20°) ____ °F. Hydrostatic / ~~Pneumatic~~ / ~~Combination~~ Test Press 100 psi.

Items below to be completed for all vessels where applicable.

16. SAFETY VALVE OUTLETS: Number Over pressure prot. to be installed in connecting piping

17. NOZZLES

Purposes (Inlet, Outlet, Drain)	Number	Diam. or Size	Type	Material	Thickness	Reinforcement Material	How Attached
Inlet	7	2"4"8"	L.J.Flg.	Case 1251	150#	-	W
Outlet	1	4"	L.J.Flg.	Case 1251	150#	-	W
Jacket	11	½"1½"2"3"	Cplg.	SA216 WCA X Hvy.		-	W
Drive	1	4-3/8"	L.J.Flg.	Case 1251	150#	-	W

FORM U-1 (back)

CUSTOMER ORDER NO. E378145E Del. Bldg. 104 Pos. No. Gen. Spare-769Equip.Code

PFAUDLER ORDER NO. No. YZE-388 MOE-2279 DRV-2170

18. INSPECTION: Manholes, No 1 Size 30" Location Top Head W/14X18" M.H. & 4" Obs. Gl.

OPENINGS Handholes No ____ Size ____ Location ____

Threaded No ____ Size ____ Location ____

19 SUPPORTS Skirt No (Yes or No) Legs 0 (Number) Legs 4 (Number) Other None (Describe) Attached Welded to jacket head. (Where and How)

20 REMARKS Jacketed glassed steel vessel for chemical service. Jacket also rated for 90 psi with full vacuum in tank @ 350°F. Temperature requirements greater than 350°F necessitate a reduction in jacket design pressure.
Jacket for non-corrosive service.

(Brief description of purpose of the vessel, as Air Tank, After Cooler, Jacketed Cooker, etc. State contents of each part.)

We certify that the statements made in this report are correct and that all details of design, material, construction, and workmanship of this vessel conform to the ASME Code for Pressure Vessels, Section VIII, Division 1.

Date July 10, 19 73 Signed THE PFAUDLER CO. (Manufacturer) By Richard DeBellis

Certificate of Authorization Expires 10S 12-31-73

N.B.# 32100

CERTIFICATE OF SHOP INSPECTION

VESSEL MADE BY THE PFAUDLER CO. at ROCHESTER, NEW YORK

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and or the State or Province New York and employed by Hartford Steam Boiler & Insp. of Hartford, Conn. have inspected the pressure vessel described in this manufacturer's data report on June 28, 19 73, and state that to the best of my knowledge and belief, the manufacturer has constructed this pressure vessel in accordance with the applicable sections of the ASME Boiler and Pressure Vessel Code.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the pressure vessel described in this manufacturer's data report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date July 16, 19 73

Russell B Miller
Inspector's Signature

Commissions N.B.#6658, Ohio, Pa. #WC1849
Nat'l. Board, State, or Province and No.

CERTIFICATE OF FIELD ASSEMBLY INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and or the State or Province ____ and employed by ____ of ____ have compared the statements in this manufacturer's data report with the described pressure vessel and state that parts referred to as data items ____, not included in the certificate of shop inspection have been inspected by me and that to the best of my knowledge and belief the manufacturer has constructed and assembled this pressure vessel in accordance with the applicable sections of the ASME Boiler and Pressure Vessel Code. The described vessel was inspected and subjected to a hydrostatic test of ____ psi.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the pressure vessel described in this manufacturer's data report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date ____, 19____.

____ Commissions ____
Inspector's Signature
Nat'l. Board, State, or Province and No.

THE CERAMIC COATING COMPANY

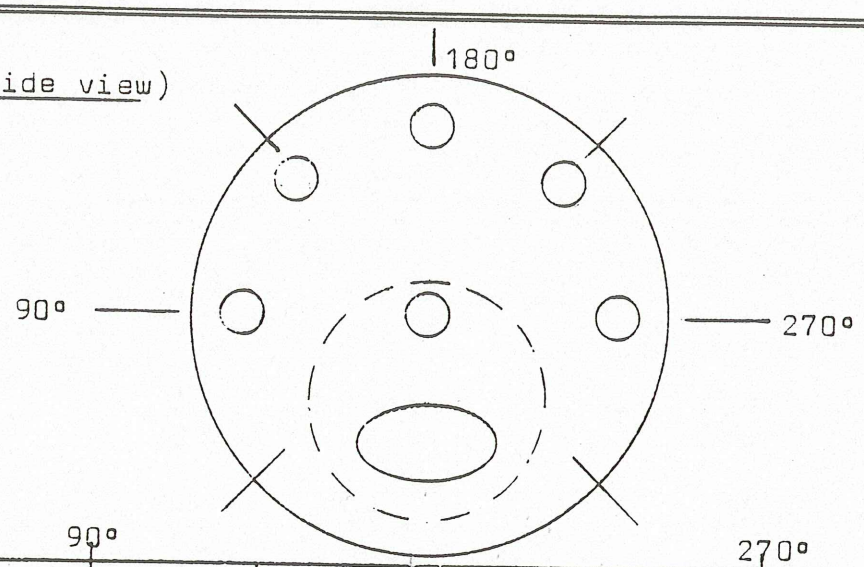
Date: 8/12/92

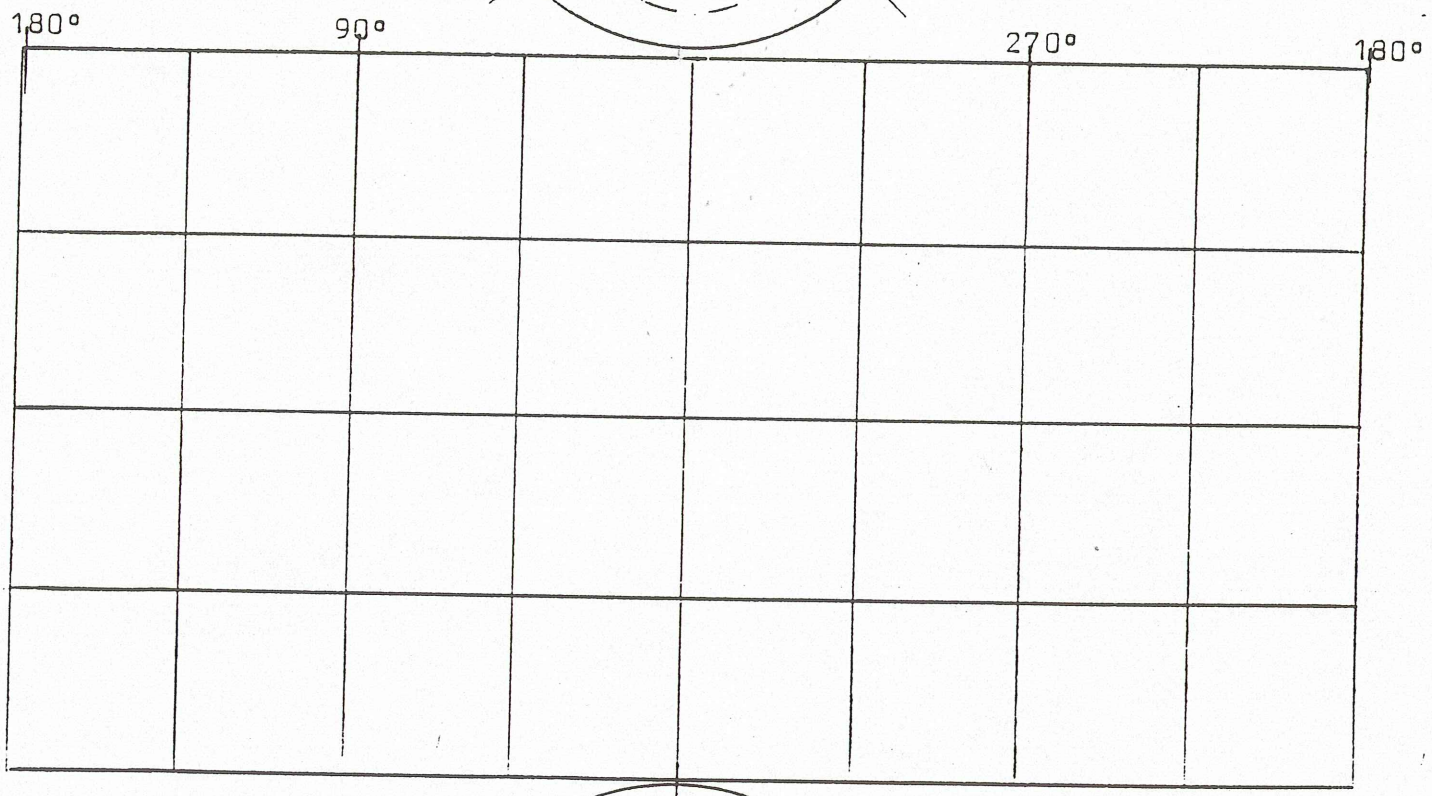
PLUG LOCATION CHART

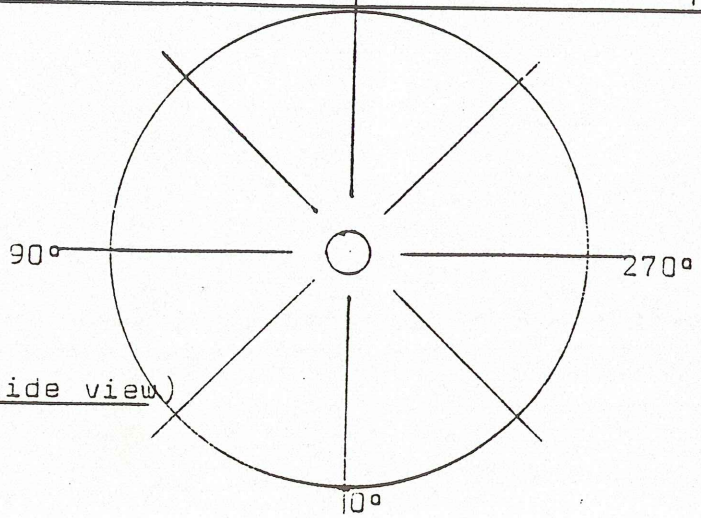
Customer: JONES-HAMILTON Shop Order No. 4-38709 No. Plugs 0

Description: RAGO 7000 Glass Type HT2000 Plug Type —

Top Head (outside view)



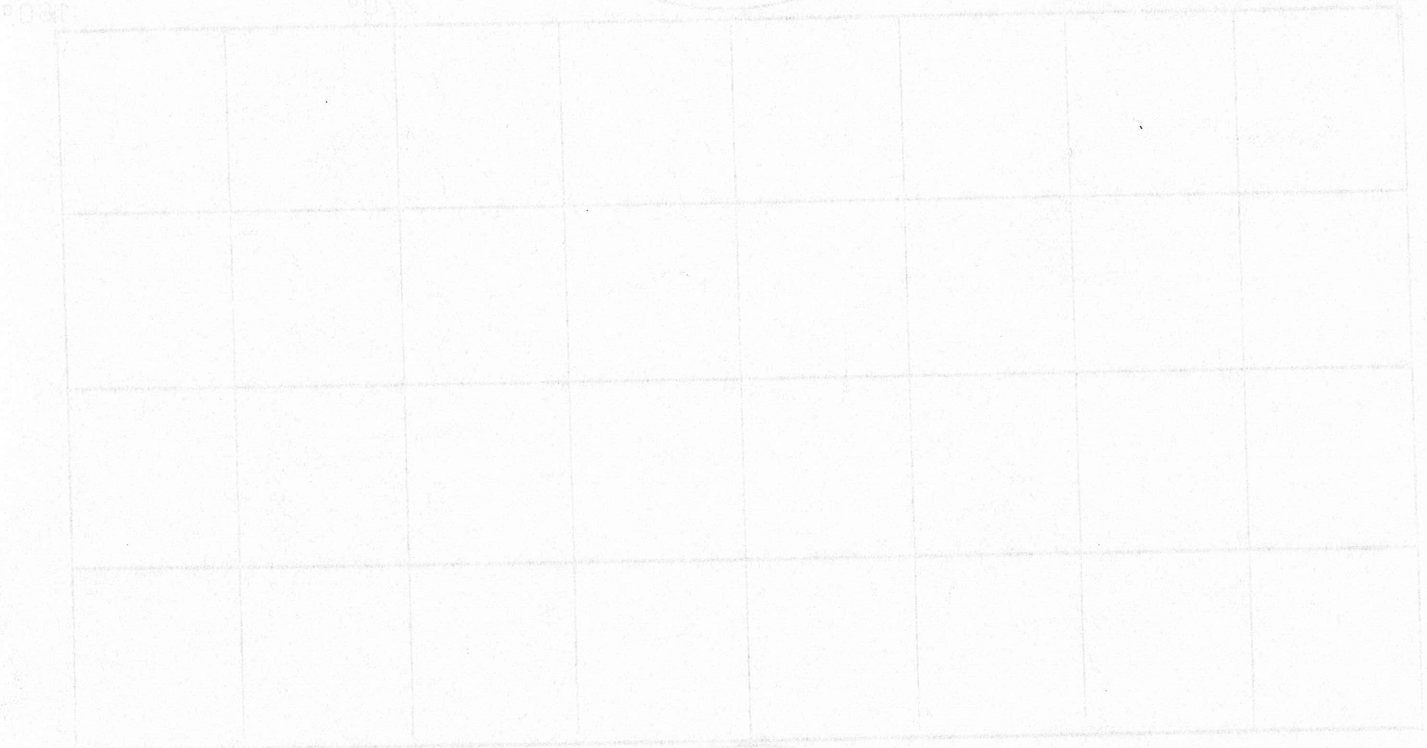




Bottom Head (outside view)

Report by: RLT

90°
270°



90°
270°