

114228
Glass lined steel reactor - 250 l.

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 De Dietrich & Cie, 1 rue d'Offwiller, 67110 Zinswiller, France
(Name and address of manufacturer)

2. Manufactured for _____
(Name and address of purchaser)

3. Location of installation QVF GLASTECHNIK GMBH SCHLOSSBERGSTRASSE 11 - GERMANY
(Name and address)

4. Type Vertical Vessel No. 14772 N/A ChUnV1-003-1
(Horiz. or vert. tank) (Mfg's. Serial No.) (Drawing)

2004 Year Built 1979
(Nat'l. Bld. No.)

5. The chemical and physical properties of all parts meet the requirements of material specifications of the ASME BOILER AND PRESSURE VESSEL CODE. The design, construction and workmanship conform to ASME Rules, Section VIII, Division 1 and Addenda to Winter 77
(Year) (Date)

and Code Case no. N/A Special service per UG-120(d) N/A
Manufacturers' Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of the report N/A

Items 6-11 incl. to be completed for single wall vessels, jackets of jacketed vessels, or shells of heat exchangers
6. Shell Material SA 285 B Nominal Thickness 15/64 in. Corrosion Allowance N/A in.
(Spec. No. Grade)

Diam. 2 ft 7-1/2 OD Length 1 ft 9-5/16 in.

CERTIFICATE OF COMPLIANCE

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 Jan. 30, 79 Signed De Dietrich & Cie WAGNER R. Q.C. MGR.
(Manufacturer) (Representative)

"U" Certificate of Authorization No. 11718 expires April 16, 1980

CERTIFICATE OF SHOP INSPECTION

Vessel made by De Dietrich & Cie at Zinswiller, France
I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State or Province of Ohio and employed by The Royal Indemnity Company of New York, N.Y. have inspected the pressure vessel described in this Manufacturers' Data Report on January 23 19 79 and state that, to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel in accordance with ASME Code, Section VIII, Division 1.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the pressure vessel described in the Manufacturers' 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 31 Jan 1979 Signed Owen H. Ahern Commissions N.B. 8074
(Inspector) (S.G. AKERMAN) (Nat'l. Board, State, Province and No.)

CERTIFICATE OF COMPLIANCE FOR FIELD WORK

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 _____ Signed _____ by _____
(Manufacturer) (Representative)

"U" Certificate of Authorization No. _____ expires _____ 19 _____

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 of _____ and employed by _____ have compared the statements in this Manufacturers' 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 ASME Code, Section VIII, Division 1.

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 Manufacturers' 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 _____ Signed _____ Commissions _____
(Authorized Inspector) (Nat'l. Board, State, Province and No.)

FORM U-1 (BACK)

7. Seams: Longitudinal Welded, Dbl. Butt RT Spot Efficiency 85 %
 (Welded, Dbl. Singl. Lap. Butt) (Spot, Partial or Full)

H.T. Temp. N/A F Time N/A Girth Welded, Dbl. Butt RT Partial of Courses 1
 (Welded, Dbl. Singl. Lap. Butt) (Spot, Partial or Full)

8. Heads: (a) Material SA 285 B (Spec. No. Grade) (b) Material N/A (Spec. No. Grade)

Location (Top, Bottom, Ends)	Minimum Thickness	Corrosion Allowance	Crown Radius	Knuckle Radius	Elliptical Ratio	Forming Angle	Hemispherical Radius	Flat Diameter	Side Pressure (Pounds or Centimeters)
(a) <u>Bottom</u>	<u>17/64"</u>	<u>N/A</u>	<u>31-1/2"</u>	<u>3-5/32"</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>Concave</u>
(b)									

If removable, bolts used (describe other fastenings) N/A (Material Spec. No. Gr. Size Temp.)

9. Type of Jacket Type 2, per Fig. UA-101 Proof Test N/A

10. Jacket Closure Fig. UA-104(b-1) and Fig. UA-105(e-1) If bar, give dimensions N/A
 (Describe as ogee and weld bar, etc.)

11. Constructed for max. allowable working pressure 87 or 87.6 F.V. psi at max temp 400° F Min temp (when less than -20 F) N/A F Hydrostatic, pneumatic, or combination test pressure 130.5 psi
 Items 12 and 13 to be completed for tube sections

12. Tubesheets: Stationary—Material N/A (Spec. No. Gr.) Diam N/A (Subject to pressure) in

Nominal Thickness N/A in Corrosion Allowance N/A in Attachment N/A

Floating—Material N/A (Spec. No. Gr.) Diam N/A in Nominal Thickness N/A in Corrosion Allowance N/A in Attachment N/A

13. Tubes: Material N/A (Spec. No. Gr.) O.D. N/A in Nominal Thickness N/A in or gauge Number N/A Type N/A (Straight or U)

Items 14-17 incl. to be completed for inner chambers of jacketed vessels or channels of heat exchangers

14. Shell: Material SA 285 B (Spec. No. Gr.) Nominal Thickness 25/64 in Corrosion Allowance N/A in
 Diam 2 ft 3-1/2 O.D. in Length 1 ft 5-29/32 in

15. Seams: Longitudinal Welded, Dbl. Butt RT Spot Efficiency 85 %
 (Welded, Dbl. Singl. Lap. Butt) (Spot, Partial or Full)

H.T. Temp. * F Time * Girth Welded, Dbl. Butt RT Partial No. of courses 1
 (Spot, Partial or Full) (Welded, Dbl. Singl. Lap. Butt)

16. Heads: (a) Material SA 285 B (Spec. No. Grade) (b) Material SA 285 B (Spec. No. Grade)

Location (Top, Bottom, Ends)	Minimum Thickness	Corrosion Allowance	Crown Radius	Knuckle Radius	Elliptical Ratio	Forming Angle	Hemispherical Radius	Flat Diameter	Side Pressure (Pounds or Centimeters)
(a) <u>Top</u>	<u>15/32"</u>	<u>N/A</u>	<u>17-1/2"</u>	<u>2-3/4"</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>Concave</u>
(b) <u>Bottom</u>	<u>15/32"</u>	<u>N/A</u>	<u>17-1/2"</u>	<u>2-3/4"</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>Concave</u>

If removable, bolts used (describe other fastenings) N/A (Material Spec. No. Gr. Size Temp.)

17. Constructed for max. allowable working pressure **full vacuum psi at max temp 400° F Min temp (when less than -20 F) N/A F Hydrostatic, pneumatic, or combination test pressure N/A psi
 Items below to be completed for all vessels where applicable

18. Safety Valve Outlets: Number N/A Size N/A Location N/A

19. Nozzles:

Purpose (Inlet, Outlet, Drain)	Number	Diam. or Size	Type	Material	Nominal Thickness	Reinforcement Material	How Attached
<u>Top inlet</u>	<u>1</u>	<u>16-15/16"</u>	<u>Dbl. Butt Girth</u>	<u>SA 181-1</u>	<u>45/64"</u>	<u>None</u>	<u>Welded</u>
<u>Outlet</u>	<u>1</u>	<u>2"</u>	<u>Dbl. Butt Girth</u>	<u>SA 181-1</u>	<u>15/32"</u>	<u>None</u>	<u>Welded</u>
<u>Jacket</u>	<u>3</u>	<u>1"</u>	<u>Sit. trough</u>	<u>SA 105</u>	<u>Standard</u>	<u>None</u>	<u>Welded</u>
<u>Jacket drain</u>	<u>1</u>	<u>1/2"</u>	<u>Sit on</u>	<u>SA 105</u>	<u>Standard</u>	<u>None</u>	<u>Welded</u>
<u>Jacket vent</u>	<u>1</u>	<u>1/2"</u>	<u>Sit Trough</u>	<u>SA 105</u>	<u>Standard</u>	<u>None</u>	<u>Welded</u>

20. Inspection Openings

Manholes No 0 Size N/A Location N/A

Handholes No 0 Size N/A Location N/A

Threaded No 0 Size N/A Location N/A

21. Supports: Skirt no (Yes or no) Lugs see other (No) Legs 0 (No) Other 4 side support lugs (Describe)

Attached Welded on jacket shell

22. Remarks: *Vessel H.T. at high temperature for extended period of time due glass lining process.
**Vessel designed fabricated and tested in accordance with Section VIII, Division 1 for jacket internal pressure only.
Glass lined steel vessel for chemical use.