

## 1990 Vilter 8-Pass Shell and Tube Heat Exchanger

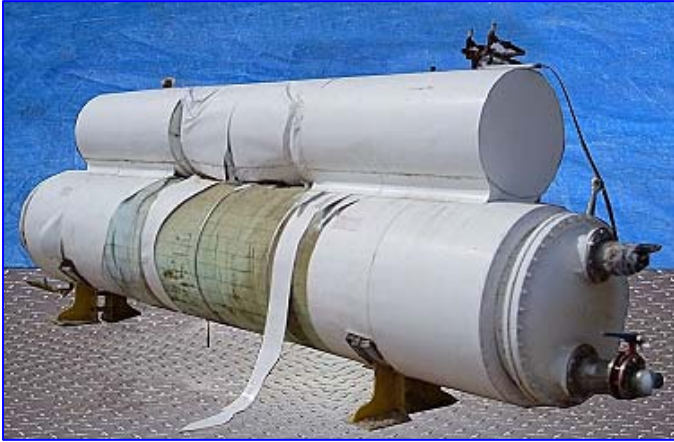
Mfg: Vilter

Model:

Stock No. 125.JMB277a.12a

Serial No. F60598

1990 Vilter 8-Pass Shell and Tube Heat Exchanger. S/N: F60598. Nat'l Bd: 36773. Media: Glycol. Shell side MAWP @ 400 °F: 300 psi. Tube side MAWP @ 400 °F: 350 psi. Shell side MDMT @ 300 psi: -20 ° F. Tube side MDMT @ 250 psi: -20 °F. Diameter of inner tubes: 1 in. Length of inner tubes: 18 ft. 4 in. Heat exchanger is equipped with a parallel-mounted 200 gallon media feed tank. Inlets: (1) 4 in. dia. pipe (product), (2) 4 in. dia. pipe (media). Outlets: (1) 4 in. dia. pipe (product), (1) 1-1/2 in. dia. pipe (media). Overall dimensions: 23 ft. L x 48 in. W x 92 in. H.



**FORM U-1 MANUFACTURER'S DATA REPORT FOR PRESSURE VESSELS**  
 As Required by the Provisions of the ASME Code Rules, Section VIII, Division 1 *PO# E 9617*

1. Manufactured and certified by Vilter Mfg Corp 2217 S First St, Milwaukee, WI 53207  
(Name and address of manufacturer)

2. Manufactured for Filbert Corp Alamonte Springs, FL  
(Name and address of purchaser)

3. Location of installation Unknown  
(Name and address)

4. Type Horiz F60598 90C327R1 36773 1990  
(Horiz. or vert., tank) (Mfg's serial No.) (CRN) (Drawing) (Nat'l. Bd. No.) (Year built)

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 1989  
Year

Addenda (date) Code Case No. Special service per UG-120(d)

*Items 6-11 incl. to be completed for single wall vessels, jackets of jacketed vessels, or shells of heat exchangers*

6. Shell: SA516GR70 3/8" 0 36"OD 237-1/8"  
Matl. (Spec. No., Grade) Nom. Thk. (in.) Corr. Allow. (in.) Diam. I.D. (ft & in.) (Length Overall) (ft & in.)

7. Seams: Sngl Spot 80  
Long. (Dbl., Sngl.) R.T. (Spot or Full) Eff. (%) H.T. Temp. (°F)

Sngl Spot 3  
Time Girth (Dbl., Sngl.) R.T. (Spot, Partial, or Full) No. of Courses

8. Heads: (a) Matl. \_\_\_\_\_ (b) Matl. \_\_\_\_\_  
(Spec. No., Grade) (Spec. No., Grade)

	Location (Top, Bottom, Ends)	Minimum Thickness	Corrosion Allowance	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure (Convex or Concave)
(a)										
(b)										

If removable, bolts used (describe other fastenings) \_\_\_\_\_  
(Matl., Spec. No., Gr., Size, No.)

9. Type of Jacket \_\_\_\_\_ Proof Test \_\_\_\_\_

10. Jacket Closure \_\_\_\_\_ If bar, give dimensions \_\_\_\_\_ If bolted, describe or sketch.  
(Describe as ogee & weld, bar, etc.)

11. MAWP 250 psi at max. temp. 400 °F. Min. design metal temp. -20 °F at 250 psi.  
 Hydro., pneu., or comb. test press. 375 Hydro psi.

*Items 12 and 13 to be completed for tube sections*

12. Tubesheets: SA516GR70 42"OD 1 3/16" 0 Welded  
Stationary Matl. (Spec. No., Gr.) Diam. (in.) (Subject to pressure) Nom. Thk. (in.) Corr. Allow. (in.) Attach. (Welded, Bolted)

SA214 1 1/4" 14Ga 459 Straight  
Floating Matl. (Spec. No., Gr.) Diam. (in.) Nom. Thk. (in. or Gauge) Number Type (Straight or "U")

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

14. Shell: \_\_\_\_\_  
Matl. (Spec. No., Grade) Nom. Thk. (in.) Corr. Allow. (in.) Diam I.D. (ft & in.) Length (Overall) (ft & in.)

15. Seams: \_\_\_\_\_  
Long. (Dbl., Sngl.) R.T. (Spot or Full) Eff. (%) H.T. Temp. (°F)

SA278CL30 \_\_\_\_\_  
(Spec. No., Grade) (Spec. No., Grade)

	Location (Top, Bottom, Ends)	Minimum Thickness	Corrosion Allowance	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure (Convex or Concave)
(a)	<u>Ends</u>	<u>3/4"</u>	<u>0</u>	<u>36"</u>	<u>7"</u>					<u>Concave</u>
(b)										

If removable, bolts used (describe other fastenings) SA193GRB7 5/8"-5" 72 Studs  
(Matl., Spec. No., Gr., Size, No.)

17. MAWP 75 psi at max. temp. 375 °F. Min. design metal temp. -20 °F at 75 psi.  
 Hydro., pneu., or comb. test press. 150 Hydro psi.

Form U-1 (Back)

18. Nozzles, Inspection and Safety Valve Openings:

Purpose (Inlet, Outlet, Drain, etc.)	No.	Diam. or Size	Type	Matl.	Nom. Thk.	Reinforcement Matl.	How Attached	Location
Liq In	1	6"	Flg	SA278CL30	150#		Cored Ope	Head
Liq Out	1	6"	Flg	SA278CL30	150#		Cored Ope	Head
Vent	1	1/2"	Thrd'd	SA278CL30	-		Cored Ope	Head
Drain	1	1/2"	Thrd'd	SA278CL30	-		Cored Ope	Head
Liq In	3	1"	Cplg	SA105	3000#		Welded	Shell
Flt Swtch	1	1 1/4"	Pipe	SA106GRB	Sch 80		Welded	Shell
Risers	4	8"	Pipe	SA53GRB	Sch 40	SA516GR70	Welded	Shell
Drain	2	1"	Cplg	SA105	3000#		Welded	Shell

19. Supports: Skirt No Lugs        Logs        Other        Attached         
(Yes or no) (No) (No) (Describe) (Where and how)

20. Remarks: Manufacturer's Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of the report: \_\_\_\_\_  
(Name of part, item number, mfr's name and identifying stamp)

Flat heads on nozzles were used for test purposes only and are to be cut off no closer than two inches from the shell. For non-corrosive service.

Also see U4 Form

CERTIFICATE OF SHOP 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.

"U" Certificate of Authorization No. 402 expires 3/31, 19 92  
 Date 7/5/90 Co. name Vilter Mfg Corp Signed [Signature]  
(Manufacturer) (Representative)

CERTIFICATE OF SHOP INSPECTION

Vessel constructed by Vilter Mfg Corp at Milwaukee, WI

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 Wisconsin and employed by Lumbermens Mutual Casualty Co

of Long Grove, Illinois have inspected the pressure vessel described in this Manufacturer's Data Report on 7-5, 19 90, 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 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 7-12-90 Signed [Signature] Commissions AB 6412 WI 170  
(Authorized Inspector) (Nat'l Board, State, Province and No.)

CERTIFICATE OF FIELD ASSEMBLY COMPLIANCE

We certify that the field assembly construction of all parts of this vessel conforms with the requirements of Section VIII, Division 1 of the ASME Boiler and Pressure Vessel Code.

"U" Certificate of Authorization No. \_\_\_\_\_ expires \_\_\_\_\_, 19 \_\_\_\_\_  
 Date \_\_\_\_\_ Co. name \_\_\_\_\_ Signed \_\_\_\_\_  
(Assembler that certified and constructed field assembly) (By Representative)

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 \_\_\_\_\_

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 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 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 \_\_\_\_\_ Signed \_\_\_\_\_ Commissions \_\_\_\_\_  
(Authorized Inspector) (Nat'l Board (incl. endorsements), State, Prov., and No.)

**FORM U-4 MANUFACTURER'S DATA REPORT SUPPLEMENTARY SHEET**  
**As Required by the Provisions of the ASME Code Rules, Section VIII, Division 1**

1. Manufactured and certified by VILTER MANUFACTURING CORP. 2217 S. 1st St. Milwaukee, Wisconsin 53207  
(Name and address of manufacturer)

2. Manufactured for Filbert Corp Alamonte Springs, FL  
(Name and address of purchaser)

3. Location of installation Unknown  
(Name and address)

4. Type Horiz F60598 90C327R1 36773 1990  
(Horiz., vert., tank, etc.) (Mfg'r's serial No.) (CRN) (Dwg) (Nat'l. Bd. No.) (Year built)

Data Report  
 Item Number

Remarks

*Mat'l Specs for 24" Surge*

*Shell*

*SA53GRB 3/8"MW 0"CA 24"OD 174'3/8"LG  
 Smls Sngl Girth 1 Course*

*Heads*

*a&b)Heads SA516GR70  
 Ends 5/16"MW 0"CA 2:1Ratio Concave*

*Fittings:*

<i>Gas Out</i>	<i>2</i>	<i>4"</i>	<i>Pipe</i>	<i>SA53GRB</i>	<i>Sch 40X</i>	<i>Welded</i>	<i>Shell</i>
<i>Flt Swtch</i>	<i>1</i>	<i>1 1/4"</i>	<i>Pipe</i>	<i>SA106GRB</i>	<i>Sch 80</i>	<i>Welded</i>	<i>Shell</i>
<i>Relief</i>	<i>1</i>	<i>1"</i>	<i>Cplg</i>	<i>SA105</i>	<i>3000#</i>	<i>Welded</i>	<i>Shell</i>
<i>EQL</i>	<i>1</i>	<i>1 1/4"</i>	<i>Cplg</i>	<i>SA105</i>	<i>3000#</i>	<i>Welded</i>	<i>Shell</i>
<i>Risers</i>	<i>4</i>	<i>8"</i>	<i>Pipe</i>	<i>SA53GRB</i>	<i>Sch 40</i>	<i>Welded</i>	<i>Shell</i>

*Exempt from impact testing per UCS66b. Max allow stress per UCI23.*

*36" X 20' Chiller w/ 24" Surge*

Date 7/5/90 Co. name VILTER MFG. CORP. Signed [Signature]  
(Manufacturer) (Representative)

Date 7-12-90 Signed [Signature] Commissions ASCE 412 WI 170  
(Authorized Inspector) (Natl. Board incl. endorsements), State, Prov., and No.]