

# FORM U-1 MANUFACTURER'S DATA REPORT FOR PRESSURE VESSELS

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

1. Manufactured and certified by ENERQUIP, INC., 611 NORTH ROAD MEDFORD, WI 54451  
(Name and address of Manufacturer)
2. Manufactured for Enerquip "Stock"  
(Name and address of Purchaser)
3. Location of Installation Not Known  
(Name and address)
4. Type: Horizontal BEUB Heat Exchanger 5582 n/a SA-2033-C 4153 2001  
(Horiz., vert., or sphere) (Tank, separator, jkt. vessel, heat exh., etc.) (Mfg's serial No.) (CRN) (Drawing No.) (Nat'l. Bd. No.) (Year built)
5. ASME Code Section VIII, Div. 1 1998; A00 2148 n/a  
Edition and 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 chamber of multi chamber vessels.~~ shell of heat exchangers, or chamber of multi chamber vessels.

6. Shell	(a) No. of course(s): 1					(b) Overall length (ft & in.): 65.56"							
Course(s)			Material	Thickness		Long. Joint (Cat. A)			Circum. Joint (Cat. A, B & C)			Heat Treatment	
No.	Diameter, in.	Length (ft & in.)	Spec./Grade or Type	Nom.	Corr.	Type	Full, Spot, None	Eff.	Type	Full, Spot, None	Eff.	Temp.	Time
1	8.625"	65.56"	SA-312 TP304L W	.148"	-	1	None	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-

7. Heads: (a) SA-240 304L - No H.T. (b) ----  
(Mat'l Spec. No., Grade or Type) H.T. - Time & Temp (Mat'l Spec. No., Grade or Type) H.T. - Time & Temp

	Location (Top, Bottom, Ends)	Thickness		Radius		Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure		Category A		
		Min.	Corr.	Crown	Knuckle					Convex	Concave	Type	Full, Spot, None	Eff.
(a)	End	.570"	-	-	-	-	-	-	8.625"	-	-	S	None	1
(b)	-	-	-	-	-	-	-	-	-	-	-	-	-	-

If removable, bolts used (describe other fastening) ----  
(Mat'l Spec. No., Grade, size, No.)

8. Type of jacket ---- Jacket closure ----  
(Describe as ogee & weld, bar, etc.)

If bar, give dimensions ---- If bolted, describe or sketch.

9. MAWP 150 -- psi at max. temp. 375 -- °F Min. design metal temp. -20 °F at 150 psi.  
(Internal) (external) (internal) (external)

10. Impact test No, Impact Testing Not Required Per UHA-51(d) & (d)(1)(a)  
(Indicate yes or no and the component(s) impact tested)

11. Hydro., ~~para~~, or ~~comp~~ test press. 203 Proof test n/a

Items 12 and 13 to be completed for tube sections.

12. Tubesheet: SA-240 316L 9.455" .875" -- Bolted  
Stationary (Mat'l Spec. No.) Dia., in. (subject to press.) Nom. thk., in. Corr. Allow., in. Attachment (welded or bolted)
- -- -- --  
Floating (Mat'l Spec. No.) Dia., in. Nom. thk., in. Corr. Allow., in. Attachment

13. Tubes: SA-249 TP316L .750" (.035") 22 U-Bend  
Mat'l Spec. No., Grade or Type O.D., in. Nom. thk., in. or gauge Number Type (Straight or U)

Items 14 - 18 incl. to be completed for ~~inner chambers of jacketed vessels or~~ channels of heat exchangers.

14. Shell (a) No. of course(s): 1 (b) Overall length (ft & in.): 1.937" (#)

Course(s)			Material	Thickness		Long. Joint (Cat. A)			Circum. Joint (Cat. A, B & C)			Heat Treatment	
No.	Diameter, in.	Length (ft & in.)	Spec./Grade or Type	Nom.	Corr.	Type	Full, Spot, None	Eff.	Type	Full, Spot, None	Eff.	Temp.	Time
1	12.500"	1.937"	SA-240 316L	1.937"	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-

15. Heads: (a) SA-240 316L - No H.T. (b) ----  
(Mat'l Spec. No., Grade or Type) H.T. - Time & Temp (Mat'l Spec. No., Grade or Type) H.T. - Time & Temp

	Location (Top, Bottom, Ends)	Thickness		Radius		Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure		Category A		
		Min.	Corr.	Crown	Knuckle					Convex	Concave	Type	Full, Spot, None	Eff.
(a)	End	.562"	-	-	-	-	-	-	8.625"	-	-	-	-	-
(b)	-	-	-	-	-	-	-	-	-	-	-	-	-	-

If removable, bolts used (describe other fastening) (Stud) SA-193 B8 Class 2, 1/2-13 UNC x 5.25 Long-Qty(8); (Nut) SA-194 Grade 8, 1/2-13 UNC Hex-Qty(16)  
(Mat'l Spec. No., Grade, Size, No.)



16. MAWP 150 (internal) -- (external) psi at max. temp. 375 (internal) -- (external) °F Min. design metal temp. -20 °F at 150 psi

17. Impact test No, Impact Testing Not Required Per UHA-51(d) & (d)(1)(a)  
(Indicate yes or no and the component(s) impact tested)

18. Hydro., ~~power~~, or ~~vacuum~~ test press. 203 Proof test n/a

19. Nozzles, inspection, and safety valve openings:

Purpose (Inlet, Outlet, Drain, etc.)	No.	Diameter or Size	Flange Type	Material		Nozzle Thickness		Reinforcement Material	How Attached		Location (Insp. Open.)
				Nozzle	Flange	Nom.	Corr.		Nozzle	Flange	
In/Out	2	2.198" OD	Tube	SA-479 316L	-	.164"	-	-	(b)	-	-
Shell Inlet	1	4" NPS	150#	SA312 304L W	SA-182 F304L	.110"	-	-	-	bw	-
Shell Outlet	1	1 1/2" NPT	Coupling	SA-182 F304L	-	3000#	-	-	(p)	-	-
Shell Vent	1	3/4" NPT	Coupling	SA-182 F304L	-	3000#	-	-	(p)	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-

20. Supports: Skirt No (Yes or No) Lugs - (No.) Legs - (No.) Others - (Describe) Attached - (Where and How)

21. Manufacturer's Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of the report:  
(List the name of part, item number, mfg's. name and identifying number)  
n/a

22. Remarks: (19.) Nozzle Attachments Described Above Are Per Those Described In UW-16.1  
(#) Shell Side And Tube Side Body Flanges Are Defined On Data Report Supplementary Form U-4  
Pressure And/Or Temperature Sensitive Devices Are Not By Enerquip Inc

#### 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. 12063 Expires 10/28 2003

Date 12 Sep 01 Name ENERQUIP, INC. Signed [Signature]  
(Manufacturer) (Representative)

#### CERTIFICATE OF SHOP INSPECTION

I, the undersigned, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Wisconsin and employed by Hartford Steam Boiler Inspection & Insurance Company of Hartford, CT have inspected the pressure vessel described in this Manufacturer's Data Report on Sept. 13, 2001, 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 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 Sept. 13, 2001 Signed [Signature] Commissions NR10733A WI. 100113  
(Authorized Inspector) (Nat'l Board incl. endorsement, State, Province and No.)

#### CERTIFICATE OF FIELD ASSEMBLY COMPLIANCE

We certify that the statements on this report are correct and that the field assembly construction of all parts of this vessel conforms with the requirements of ASME Code, Section VIII, Division 1,  
U Certificate of Authorization No. \_\_\_\_\_ Expires \_\_\_\_\_

Date \_\_\_\_\_ Name \_\_\_\_\_ Signed \_\_\_\_\_  
(Assembler) (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 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 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. endorsement, State, Province and No.)

$$2/2$$

4. Type:	<u>Horizontal</u> (horiz., vert., or sphere)	<u>BEUB Heat Exchanger</u> (tank, separator, heat ex., etc.)	<u>5582 - 5583</u> (mfg's serial no.)
	<u>n/a</u> (CRN)	<u>SA-2033-C</u> (drawing no.)	<u>4153 - 4154</u> (Nat'l. Bd. no.)
			<u>2001</u> (year built)

[illegible]

Certificate of Authorization: Type U No. 12063 Expires 10/28, 2003

Date 12 Sep 01 Name ENERQUIP, INC. (manufacturer) Signed [Signature] (representative)

Date Sept. 13, 2001 Name John S. Goble Commission NB10733A WI. 100113  
(Authorized Inspector) (Nat'l. Board incl. endorsement, state, province and no.)