

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 **Alfa Laval Inc., 5400 International Trade Drive, Richmond, Virginia, 23231**
(Name and address of Manufacturer)

2. Manufactured for **Buffalo Lake Biofuels, 777 Borden Ave W, Buffalo Lake, MN, 55314**
(Name and address of Purchaser)

3. Location of installation **Unknown**
(Name and address)

4. Type **Vertical** **Plate Heat Exchanger** **30115-73056**
(Horiz., vert., or sphere) (Tank, separator, jkt. vessel, heat exh., etc.) (Mfg's serial No.)

N/A **30115-73056.0** **34356** **2014**
(CRN) (Drawing No.) (Nat'l. Bd. No.) (Year built)

5. ASME Code, Section VIII, Div. 1 **2010/ A11** **N/A** **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, shell of heat exchangers, or chamber of multichamber vessels.

6. Shell (a) No. of course(s): **N/A** (b) Overall length: **0'**

| Course(s) | | | Material | | Thickness | | Long. Joint (Cat. A) | | | Circum. Joint (Cat. A, B, & C) | | | Heat Treatment | |
|-----------|------------|------------|---------------------|--|------------|------------|----------------------|------------------|------------|--------------------------------|------------------|------------|----------------|------------|
| No. | Diameter | Length | Spec./Grade or Type | | Nom. | Corr. | Type | Full, Spot, None | Eff. | Type | Full, Spot, None | Eff. | Temp. | Time |
| | N/A | N/A | N/A | | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

7. Heads: (a) **SA-516-70** (b) **SA-516-70**
(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) | Fixed | 3.15" | 0" | N/A | N/A | N/A | N/A | N/A | 123" X 45" | | | N/A | N/A | N/A |
| (b) | Movable | 3.15" | 0" | N/A | N/A | N/A | N/A | N/A | 115" X 45" | | | N/A | N/A | N/A |

If removable, bolts used (describe other fastening) **SA193-B7 (4) 1.89" (M48 actual) & (14) 1.54" (M39 actual) BOLTS**
(Mat'l, Spec. No., Grade, Size, No.)

8. Type of jacket **N/A** Jacket closure **N/A**
(Describe as ogee & weld, bar, etc.)

If bar, give dimensions **N/A** If bolted, describe or sketch.

9. MAWP **150 psi** **N/A** at max. temp. **200 °F** **N/A** Min. design metal temp. **-20 °F** at **150 psi**
(internal) (external) (internal) (external)

10. Impact test **NO (Impact Exemption UCS-66(a), (b), UHA-51, UNF-65, as applicable)** at test temperature of **N/A**
(Indicate yes or no and the component(s) impact tested)

11. Hydro., pneu., or comb. test press. **HYDRO at 195 psi** Proof test **N/A**

Items 12 and 13 to be completed for tube sections.

12. Tubesheet: **N/A** **N/A** **N/A** **N/A** **N/A**
Stationary (Mat'l Spec. No.) Dia., (subject to press.) Nom. thk. Corr. Allow. Attachment (welded or bolted)

N/A **N/A** **N/A** **N/A** **N/A**
Floating (Mat'l Spec. No.) Dia. Nom. thk. Corr. Allow. Attachment

13. Tubes: **N/A** **N/A** **N/A** **N/A** **N/A**
Mat'l Spec. No., Grade or Type O. D. (Nom. thk.) 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): **N/A** (b) Overall length: **N/A**

| Course(s) | | | Material | | Thickness | | Long. Joint (Cat. A) | | | Circum. Joint (Cat. A, B, & C) | | | Heat Treatment | |
|-----------|------------|------------|---------------------|--|------------|------------|----------------------|------------------|------------|--------------------------------|------------------|------------|----------------|------------|
| No. | Diameter | Length | Spec./Grade or Type | | Nom. | Corr. | Type | Full, Spot, None | Eff. | Type | Full, Spot, None | Eff. | Temp. | Time |
| | N/A | N/A | N/A | | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

15. Heads: (a) **N/A** (b) **N/A**
(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) | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | | | N/A | N/A | N/A |

If removable, bolts used (describe other fastening) **N/A**
(Mat'l, Spec. No., Grade, Size, No.)

16. MAWP N/A (internal) N/A (external) at max. temp. N/A (internal) N/A (external) Min. design metal temp. N/A at N/A

17. Impact test N/A at test temperature of N/A
(Indicate yes or no and the component(s) impact tested)

18. Hydro., pneu., or comb. test press. N/A 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 | |
| INSPEC | 2 | 14" | STUDS | SA193-B7 | | 1" | | | | | |
| Outlet | 1 | 14" | STUDS | SA193-B7 | | 1" | | | | | |
| Inlet | 1 | 14" | STUDS | SA193-B7 | | 1" | | | | | |
| INSPEC | 2 | 14" | STUDS | SA193-B7 | | 1" | | | | | |
| Inlet | 1 | 14" | STUDS | SA193-B7 | | 1" | | | | | |
| Outlet | 1 | 14" | STUDS | SA193-B7 | | 1" | | | | | |

20. Supports: Skirt Lugs N/A (Yes or no) (No.) Legs N/A (No.) Others FEET (Describe) Attached BOLTED (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:

N/A

(List the name of part, item number, mfg's. name and identifying number)

22. Remarks:

Actual Plates (67) SA240-316 .033" (91)" Plates Maximum; Distance between Heads = 22.1822";
Customer PO#: PO000000000000083; Tag #: Mash Cooler; Owner to supply Safety Valve/Noncorrosive
Service Only (2) SA240-304 0.25 inch Plate

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. 25017 Expires July 5, 2016

Date 02/10/2014 Name Alfa Laval 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/or the State or Province of VA and employed by OneCIS Insurance Company, of Lynn, MA have inspected the pressure vessel described in this Manufacturer's Data Report on January 21, 2014, 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 02/10/2014 Signed [Signature] Commissions 10803A, VA951R
(Authorized Inspector) (Nat'l Board incl. endorsements, State, Province and No.)

CERTIFICATE OF FIELD ASSEMBLY COMPLIANCE

We certify that the statements made in 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/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 to the best of my knowledge and belief, the Manufacturer has constructed and assembled this pressure vessel in accordance with the 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, Province and No.)