

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 and certified by Alfa-Laval Thermal Co., American Heat, Hanna St., Lykens, PA 17048
(name and address of manufacturer)

2. Manufactured for Celleco Ltd. Norcross, Georgia
(name and address of purchaser)

3. Location of installation Great Lakes Forest Products Dryden, Ontario, Canada
(name and address)

4. Type: Vert. 18736 K0120.5 18736, Rev.2 15052 1988
(horiz. or vert. tank) (mfr's serial no.) (CRN) (drawing no.) (Nat'l. Bd no.) (year built)

5. The chemical and physical properties of all parts meet the requirements of material specifications of the ASME BOLLER AND PRESSURE VESSEL CODE. The design, construction and workmanship conform to ASME Code, Section VIII, Division 1: 1986
(year)

A86 --- ---
(addenda (Date)) (Code Case no.) (special service per UG-120(d))

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

6. Shell: SA-240,316 .135" NA 3' 9" O.D. 8' 8"
(mat'l. spec. no., grade) (nom. thickness (in.)) (corr. allow. (in.)) (dia. ID (ft. & in.)) (length (overall) (ft. & in.))

7. Seams: * NA 55
(long. (dbl., singl.)) (RT (spot or full)) (eff. (%)) (HT temp. (°F)) (time) (girth (dbl., singl.)) (RT (spot, partial, or full)) (no. of courses)

8. Heads: (a) SA-516,70/Faced with SA-240,316 (b) SA-516,70/Faced with SA-240,316
(mat'l. spec. no., grade) (mat'l. spec. no., grade)

	Location (top, bottom, ends)	Min. num Thickness	Corrosion Allowance	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure (convex or concave)
(a)	H-Bottom	1.53"	NA						46-1/2"	Flat
(b)	H-Top	1.53"	NA						46-1/2"	Flat

If removable, bolts used (describe other fastenings): SA-193,B7 (26) 1"D.ea.hd.
(mat'l. 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 75 at max. temp. 200 Min. temp.: _____ Hydro. ~~TEST PRESS.~~ test press.: 113
(psi) (°F) (°F when less than -20°F) (psi)

Items 12 and 13 to be completed for tube sections.

12. Tubesheets: _____
(stationary mat'l. (spec. no., gr.)) (dia. (in.) (subject to pressure)) (nom. thickness (in.)) (corr. allow. (in.)) (attachment (welded, bolted))

(floating mat'l. (spec. no., gr.)) (dia. (in.)) (nom. thickness (in.)) (corr. allow. (in.)) (attachment)

13. Tubes: _____
(mat'l. (spec. no., gr.)) (OD (in.)) (nom. thickness (in. or gauge)) (no.) (type (straight or U))

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

14. Shell: _____
(mat'l. spec. no., gr.) (nom. thickness (in.)) (corr. allow. (in.)) (dia. ID (ft. & in.)) (length (overall) (ft. & in.))

15. Seams: _____
(long. (dbl., singl.)) (RT (spot or full)) (eff. (%)) (HT temp. (°F)) (time) (girth (dbl., singl.)) (RT (spot, partial, or full)) (no. of courses)

16. Heads: (a) _____ (b) _____
(mat'l. (spec. no., grade)) (mat'l. (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): _____
(mat'l. spec. no., gr. size, no.)

17. MAWP 75 +EV at max. temp. 200 Min. temp.: _____ Hydro. ~~TEST PRESS.~~ test press.: 113
(psi) (°F) (°F when less than -20°F) (psi)

Items on reverse side to be completed for all vessels where applicable.

Note: Each additional sheet shall be signed and dated by the certificate holder and the AI.

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

FORM U-1 (back)

18. Nozzles, inspection and safety valve openings:

Purpose (Inlet, outlet, drain, etc.)	Number	Dia or Size	Type	Mat'l	Nom. Thickness	Reinforcement Material	How Attached	Location
Inlet	1	24"	Flg.	SA-403, 316L	Std. Sch.	----	Welded	
Outlet	1	6"	"	"	Sch. 40	SA-516, 70	"	
Outlet	1	10"	"	"	"	----	"	
Inlet	1	4"	"	"	"	----	"	
Outlet	1	4"	"	"	"	----	"	
Drain	1	1"	Thrd.	SA-312, 316L	"	----	"	

19. Supports: Skirt _____ Lugs _____ Legs _____ Other Brackets Attached _____ Welded to Shell _____
(yes or no) (no) (no) (describe) (where and how)

20. Remarks: Manufacturers' 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)

Hydro-tested per UC 99(b). Vessel is a Spiral Heat Exchanger.
*No seams in outer shell. Hoop load transferred by braces.
Bottom Cover (Hot Side) P.W.H.T. per Table UCS-56.

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. <u>1793</u> expires <u>March 30</u> , 19 <u>90</u>	
Date <u>6-27-88</u> Name <u>Alfa-Laval Thermal Co., American Heat</u> Signed <u>John J. Pittings</u> <small>(manufacturer) (National Bd. (incl. endorsements) state, prov. and no.)</small>	
CERTIFICATE OF SHOP INSPECTION	
Vessel constructed by <u>Alfa-Laval Thermal Co., American Heat</u> at <u>Hanna St., Lykens, PA</u>	
I, the undersigned, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors and the state or province of <u>Penna.</u> and employed by <u>Commercial Union Insurance Company</u>	
of <u>Boston, Mass.</u> have inspected the pressure vessel described in this Manufacturers' Data Report on <u>6-13, 6-15</u> , 19 <u>88</u> 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 <u>6-27-88</u> Signed <u>James W. Walker</u> Commissions <u>NB-9463 & PA.WC-3184</u> <small>(Authorized Inspector) (National Bd. (incl. endorsements) state, prov. and no.)</small>	
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 _____ Name _____ Signed _____ <small>(assembler that certified and constructed field assembly) (representative)</small>	
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 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 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 _____ Signed _____ Commissions _____ <small>(Authorized Inspector) (National Bd. (incl. endorsements) state, prov. and no.)</small>	