

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 Brown Fintube Company, LP 12602 F.M. 529, Houston, Texas 77041
(Name and Address of Manufacturer)

2. Manufactured for Hanover Company, 20602 81st Street, Broken Arrow OK, 74014
(Name and Address of Purchaser)

3. Location of Installation Unknown
(Name and Address)

4. Type: Horizontal Heat Exchanger 06086-05-3-01-02 NA See Remarks 17727 - 17728 2006
(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 Edition 2004 NA NA
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 multi-chamber vessels.

6. Shell (a) No. of course(s): Two (2) (b) Overall length (ft & in.): 29' - 9 1/2"

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	10.750"	26' - 8 5/8"	SA-333 Gr. 6		0.594"	0.0625"	NA	NA	NA	B	* / Full	100	NA	NA
2	10.750"	3 5/8"	SA-333 Gr. 6		0.594"	0.0625"	NA	NA	NA	B & C	* / Full	100	NA	NA

7. Heads: (a) NA / NA (b) NA / NA
(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)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
(b)														

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

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

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

9. MAWP 1440 NA psi at max. temp. 130 NA °F Min. design metal temp. -50 °F at 1440 psi.
(internal) (external) (internal) (external)

10. Impact test No, on all material per UG-20 (f).
(indicate yes or no and the component(s) impact tested)

11. Hydro., pneu., or comb. test press 1875 PSI Proof test NA

Items 12 and 13 to be completed for tube sections.

12. Tubesheet: SA-516 Gr 70N 20.000" 4.000" 0.0625" Welded
Stationary (Mat'l Spec. No.) Dia., in (subject to press.) Nom. thk., in. Corr. Allow., in. Attachment (welded or bolted)

NA NA NA NA NA
Floating (Mat'l Spec. No.) Dia., in. Nom. thk., in. Corr. Allow., in. Attachment

13. Tubes: SA-214 ERW 0.750" 0.083" 85 U
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): NA (b) Overall length (ft & in.): NA

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
NA	NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

15. Heads: (a) NA / NA (b) NA / NA
(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)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
(b)														

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

16. MAWP 1440 NA psi at max. temp. 130 NA °F Min. design metal temp. -50 °F at 1440 psi.

(internal) (external) (internal) (external)

17. Impact test Yes, on tubesheet @ -50 degs. F. No, on all other materials per UG-20 (f).

(indicate yes or no and the component(s) impact tested)

18. Hydro., pneu., or comb. test press 1875 PSI Proof test NA

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	
Inlet/Outlet	2	8"-600#	RFWN	SA-420-WPL6	SA-350 LF2	0.500"	0.0625"	Self	NA	Welded	To Tee

20. Supports: Skirt No Lugs NA Legs NA Others (3) Brackets Attached To Shell & Movable

(Yes or No.)

(No.)

(No.)

(Describe)

(Where and How)

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

NA

22. Remarks: External Return: Elbows- 10"-Sch 80 LR 90 degs., SA-420 WPL6. * UT- Closing seam butt welds

Surface Per Exchanger: 966.8 Sq. Ft. Full radiograph on shellside butt welds capable of radiography.

Item No. E-201-20-A/B / P.O. No.: 4234133 / Model No. 10324-MTB-BAE PT tube to tubesheet welds.

Drawing No. 06086-05-3 C, P, N (Rev. A), GA

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. 11634 Expires November 28, 2006

Date Feb. 3, 2006 Name Brown Fintube Company, LP Signed R. E. Hamon

(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 TX, and employed by HSB CT of Hartford, CT. have inspected

the pressure vessel described in this Manufacturer's Data Report on 1-28, 06, and state that, to the best of my knowledge and belief, the

Manufacturer has constructed the 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 2-7-06 Signed Frank A. Dowell Commissions NB-1599-A-TEX#804

(Authorized Inspector)

(Nat'l Board incl. endorsement, State, Province and No.)

CERTIFICATE OF 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

(Manufacturer)

(Representative)

CERTIFICATE OF FIELD ASSEMBLY COMPLIANCE

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 the parts referred to as the data items

, not included in the certificate of shop inspection, have been inspected by me and by the best of my knowledge and belief, the Manufacture has constructed and assembled the pressure vessel in accordance with ASME Code, Section VIII, division 1. The Described vessel was inspected and subjected to a hydrolic 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.)