

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

1/2

1. Manufactured and certified by Kopetz Mfg., Inc., 1500 N. Country Club Road, Decatur, IL 62521
(Name and address of Manufacturer)

2. Manufactured for United Cities Gas Company
(Name and address of Purchaser)

3. Location of installation Columbus, GA
(Name and address)

4. Type: Vert. Exchanger 95096A
(Horiz., vert., or sphere) (Tank, separator, jet vessel, heat exch., etc.) (Mfg's serial No.)

L95-096 A Rv. 2 1278 1995
(CPN) (Drawing No.) (Ret'l. Bd. No.) (Year built)

5. ASME Code, Section VIII, Div. 1 1992 with 1993 addenda
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): 3 (b) Overall length (ft & in.): 12'-7"

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	EH	Type	Full, Spot, None	EH	Temp	Time
1	28"OD	8'-0"	SA240-304	1/4"	0	1	Spot	.85	1	Spot	.85	--	--
2	28"OD	1'-7-3/8"	SA240-304	1/4"	0	1	Spot	.85	1	Spot	.85	--	--
3	28"OD	2'-11-5/8"	SA240-304	1/4"	0	1	Spot	.85	1	Spot	.85	--	--

7. Heads: (a) _____ (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	EH
(a)													
(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. 220 _____ °F Min. design metal temp. -20 _____ °F at 150 _____ psi
(internal) (external) (internal) (external)

10. Impact test Yes, Weld metal impact tested; Base metal impact test exempt per UHA-51
(Indicate yes or no and the component(s) impact tested)

11. Hydro., pneu., or comb. test press. 247 _____ Proof test _____

Items 12 and 13 to be completed for tube sections.

12. Tubesheet: SA240-304 28" 2-1/2" 0 Welded
Stationary (Mat'l Spec. No.) Dia., in. (subject to press.) Nom. thk., in. Corr. Allow. in. Attachment (welded or bolted)

13. Tubes: SA249-TP304 1" 16GA 369 Straight
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) 2 (b) Overall length (ft & in.): 1'-4"

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	EH	Type	Full, Spot, None	EH	Temp	Time
1	28"OD	8"	SA240-304	3/8"	0	1	Full	100%	1	Full	100%	--	--
1	28"OD	8"	SA240-304	3/8"	0	1	Full	100%	1	Full	100%	--	--

15. Heads: (a) _____ (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	EH
(a) Top	3/8"	0	--	--	2:1	--	--	--	Concave	1	Full	100%	
(b) Bottom	3/8"	0	--	--	2:1	--	--	--	Concave	1	Full	100%	

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

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16. MAWP 450 (internal) (external) psi at max. temp. 220 (internal) (external) °F. Min. design metal temp. -260 °F at 450 psi.

17. Impact test Welded metal impact tested; Base metal impact test exempt per UHA-51
(Indicate yes or no and the component(s) impact tested)

18. Hydro. pneu., or comb. test press. 730 Proof test -----

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	
Gas Out	1	8"	300#	RFWNSA403-304	SA182-304	Sch40	0	SA240-304	Welded	Welded	Top Head
Liq. Nat. Gas In	1	6"	300#	RFWNSA312-304	SA182-304	Sch40	0	SA240-304	Welded	Welded	Bot. Head
Glycol In, Out	2	10"	150#	RFWNSA240-304	SA182-304	1/4"	0	--	Welded	Welded	Shell
Rupture Disk	1	8"	150#	RFWNSA312-304	SA182-304	Sch40	0	--	Welded	Welded	Shell
Vent. Drain	2	1"	CPL	THRDSA182-304	--	3000#	0	--	Welded	--	Noz. "A" & "B"

20. Supports: Skirt No (Yes or no) Lugs 4 (No.) Legs --- (No.) Others --- (Describe) Attached Welded to shell scab plate (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)
Expansion joint Hyspan Precision Prod. S/N 001 Chula Vista, CA

22. Remarks: Contents and use are unknown to fabricator

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. 14276 Expires Nov. 10, 19 95
 Date 8/1/95 Name Kopetz Mfg., Inc. (Manufacturer) Signed [Signature] (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 Illinois and employed by Kemper National Insurance Companies of Long Grove, IL have inspected the pressure vessel described in this Manufacturer's Data Report on 8-1, 19 95, 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 8-1-95 Signed [Signature] (Authorized Inspector) Commissions NB9291AB IL1208 (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 _____, 19 _____
 Date _____ Name _____ (Assembler) Signed _____ (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 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 _____ (Authorized Inspector) Commissions _____ (Nat'l Board incl. endorsement, State, Province and No.)

FORM U-2 MANUFACTURER'S PARTIAL DATA REPORT
 A Part of a Pressure Vessel Fabricated by One Manufacturer for Another Manufacturer
 As Required by the Provisions of the ASME Code Rules, Section VIII, Division 1

NB* 1278

2/R

1. Manufactured and certified by HYPAN PRECISION PRODUCTS INC. 1685 BRANDYWINE AVENUE CHULA VISTA CA 91911

2. Manufactured for KOPETZ, INC. 1500 NORTH COUNTRY CLUB RD., DECATUR, IL 62521

3. Location of installation UNKNOWN

4. Type UNKNOWN 001, 002 N/A 51570 N/A 1995

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 1992

6. (a) Drawing prepared by HYPAN PRECISION PRODUCTS INC. **(b) Description of part inspected** BELLOWS AND WELD ENDS

7. Postweld heat treatment: Temp. N/A **°F** **Time** N/A

8. WELD ENDS SA240-T304 250 0.00 2'-3.5" 0'-6"

9. Seams: DBL V BUTT Fuu 1.0 N/A N/A N/A N/A 3

10. Heads: (a) Matl. **(b) Matl.**

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

11. Type of Jacket **Proof Test**

12. Jacket Closure **if bolted, describe or sketch.**

13. MAWP **psi at max. temp.** **°F. Min. design metal temp.** **°F or** **psi.**

14. Tubesheets:

Secondary Mat. (Spec. No., Gr.)	Dim. (in.) (Subject to pressure)	Thick. (in.)	Corr. Allow. (in.)	Attach. (Weld, Bolted)
Plating Mat. (Spec. No., Gr.)	Dim. (in.)	Thick. (in.)	Corr. Allow. (in.)	Attach.

15. Tubes **Mat. (Spec. No., Gr.)** **O.D. (in.)** **Thick. (in. or gage)** **No.** **Type (straight or U)**

16. Shell:

Mat. (Spec. No., Gr.)	Thick. (in.)	Corr. Allow. (in.)	Dim. L.D. (ft & in.)	Length (overall) (ft & in.)

17. Seams:

18. Heads: (a) Matl. **(b) Matl.**

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

19. If removable, bolts used (describe other fastenings)

Form U-2 (Back)

19. MAWP 156 psi at max. temp. 220 °F. Min. design metal temp. -260 °F at 156 psi.
 Hydro, pneu., or comb. test press. 251 psi.

Items below to be completed for all vessels where applicable

20. Nozzles, Inspection and Safety Valve Openings:

No.	Diem. or Size	Type	Mat.	Man. Thk.	Reinforcement Mat.	How Attached	Leakage

21. Supports: Skirt _____ Lug _____ (Nos.) _____ Leg _____ (Nos.) _____ Other _____ (Describe) _____ Attached _____ (Where and how)

22. Remarks: SEE NOTE 8 (BELLOWS) & NOTE 9 (SEAMS) & NOTE 10

- NOTE 8: BELLOWS MATERIAL THICKNESS DIA. I.D. LENGTH
SA240-T304 .060 2'-4" 0'-7"
- NOTE 9: SEAMS TYPE RT
SQUARE BUTT FULL
- NOTE 36: NO IMPACT TEST REQUIRED PER UFA-57
- NOTE 53: DESIGN FUNCTION PREFORMED BY HYSpan PRECISION PRODUCTS, INC.

NOTE: AXIAL SPRING RATE-26429 LB/IN; AXIAL MOVEMENT-.375 COMPRESSION,
375 EXTENSION; DESIGNED FOR 1146 CYCLES PER APPENDIX 26

CERTIFICATE OF SHOP COMPLIANCE

We certify that the statements made in this report are correct and that all details of material, construction, and workmanship of this vessel conform to the ASME Code for Pressure Vessels, Section VIII, Division 1.
 "U" Certificate of Authorization No. 19165 expires FEBRUARY 03, 1996
 Date 4/28/95 Co. name HYSpan PRECISION PRODUCTS, INC. Signed J.W. Myette
(Manufacturer) (Manufacturer)

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 CALIFORNIA and employed by H.S.B.I. & I. CO. of HARTFORD, CT have inspected the pressure vessel described in this Manufacturer's Partial Data Report on 5-4 19 95 and state that, to the best of my knowledge and belief, the Manufacturer has constructed this part in accordance with the ASME Boiler and Pressure Vessel Code, Section VIII, Division 1. By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the part described in this Manufacturer's Partial 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 5-4-95 Signed [Signature] Commissioners [Signature]
(Authorized Inspector) (N.B. Board (incl. representatives, State, Prov. and Mfg.)