

**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 Yula Corporation 330 Bryant Avenue, Bronx, NY 10474  
(Name and address of Manufacturer)

2. Manufactured for Thermal Kinetics Systems, LLC. 667 Tiff Street Buffalo, N.Y. 14220  
(Name and address of Purchaser)

3. Location of installation IL.  
(Name and address)

4. Type: Vertical Heat Exchanger 20086 ----- 20978-2 12473 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 2004, A2005 2519 -----  
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): 1 (b) Overall length (ft & in.): 5'-10"

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	14"	5'-10"	SA-53 Gr.B ERW	3/8"	1/16"	E	None	100%	--	----	----	----	----

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	Eff.
(a)													
(b)													

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

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

If bar, give dimensions \_\_\_\_\_ If bolted, describe or sketch \_\_\_\_\_  
9. MAWP 100 0 psi at max. temp. 250 250 °F Min. design metal temp. -20 °F at 100 psi  
(internal) (external) (internal) (external)

10. Impact test NO, CHARPY IMPACT TEST EXEMPT PER UCS-66(b)  
(Indicate yes or no and the component(s) impact tested)

11. Hydrostatic test pressure. 130 Proof test \_\_\_\_\_

Items 12 and 13 to be completed for tube sections.

12. Tubesheet: Top:SA-240Tp.304L 16.3125" 15/16" None Welded  
(Mat'l Spec. No.) Dia., in. (subject to press.) Nom. thk., in. Corr. Allow., in. Attachment (welded or bolted)  
Bottom:SA-182 F304L 15.125" 1 5/16" None Welded  
(Mat'l Spec. No.) Dia., in. Nom. thk., in. Corr. Allow., in. Attachment

13. Tubes: SA249Tp.304L 1" 18 GA. 80 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): Top: 1 (b) Overall length (ft & in.): Top: 2'-10 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	14"	2'-10 1/2"	SA-312Tp.304L	.188"	----	E	None	85%	--	----	----	----	----

15. Heads: (a) Top: SA-240Tp.304L (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) Top	.1875"	----	14"	----	2:1	----	----	----	----	Concave	1	None	70%
(b)													

If removable, bolts used (describe other fastening) \_\_\_\_\_  
(28) 5/8" dia. SA-193-B8 CL.1 studs & SA-194-8 nuts  
(Mat'l Spec. No., Grade, Size, No.) RR 1026.10

16. MAWP 100 14.7 psi at max. temp. 250 250 °F Min. design metal temp. -20 °F at 100/FV psi.  
 (internal) (external) (internal) (external)

17. Impact test NO, CHARPY IMPACT TEST EXEMPT PER UHA-51(a)  
 (Indicate yes or no and the component(s) impact tested)

18. Hydrostatic test pressure. 130 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	
Inlet/Outlet	2	4"	CL150FLG.	SA106Gr.B SMLS	SA105	.237"	1/16"	Not Required	Welded	Welded	-----
Vent/Drain/PRV	3	1"	THD'DCPLG	SA105	-----	3000#	1/16"	Not Required	Welded	-----	-----
* Vapor Out	1	6"	CL150LAPJNT	SA312Tp.304L	SA105	.134"	----	Not Required	Welded	Loose	-----
* CIP Nozzle	1	6"	CL150LAPJNT	SA312Tp.304L	SA105	.134"	----	Not Required	Welded	Loose	-----
* P.S.V.	1	1 1/2"	CL150LAPJNT	SA312Tp.304L	SA105	.145"	----	Not Required	Welded	Loose	-----

20. Supports: Skirt \_\_\_\_\_ Lugs \_\_\_\_\_ Legs \_\_\_\_\_ Others \_\_\_\_\_ Support Lugs \_\_\_\_\_ Attached \_\_\_\_\_ Side Welded \_\_\_\_\_  
 (Yes or No) (No.) (No.) (Describe) (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)

22. Remarks: Yula Model #WC-1F-72CS P.O. No. 73338-11 Tag No. ET-4105 Knockback Condenser.  
 \* Tubeside nozzles have a St. Stl. SA-403 WP304L stub end welded to nozzle pipes for a Lap Joint construction.

**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. 2624 Expires 03/30 2007  
 Date 11/30/06 Name Yula Corporation (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 the State or Province of NY and employed by HSB CT. of HARTFORD, CT. have inspected the pressure vessel described in this Manufacturer's Data Report on 11-29, 2006, 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 1-10-07 Signed [Signature] (Authorized Inspector) Commissions NY 2991 AB 95371A (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 \_\_\_\_\_, 20\_\_\_\_  
 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 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.)