

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

0403 or
0407 114249

1. Manufactured and certified by KAM THERMAL EQUIPMENT LTD. 98-21 -97th AVENUE 11416
(Name and address of manufacturer)
2. Manufactured for AMERICAN HOECHST CORP.. COVENTRY, R.I.
(Name and address of purchaser)
3. Location of installation _____
(Name and address)
4. Type HORIZONTAL 6614 B-6465-ST 746 1986
(Horiz or vert. tank) (Mfg's serial No.) (CRN) (Drawing) (Nat'l Bd No.) (Year built)
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 1983
Year

Appendix (date) _____ Code Case No. _____ Special service per UG-120 (d) _____

Items 6-11 incl. to be completed for single wall vessels, jackets of jackets of jackets of jackets of jackets of heat exchangers.

6. Shell A-312 T-316 .165 C 10" 8' 2 1/2'
(Mat. Spec No. Grade) (Nom. Thk. (in.)) (Corr. Allow. (in.)) (Diam. I.D. (ft. & in.)) (Length (Overall) (ft. & in.))
7. Seams WELDED 70% 1
(Long. (Dbl. Sngl.)) (R.T. (Spot or Full)) (Eff. (%)) (H.T. Temp. (°F))
(Time) (Girth (Dbl. Sngl.)) (R.T. (Spot, Partial, or Full)) (No. of Courses)

8. Heads (a) Mat. _____ (b) Mat. _____
(Spec. No. Grade) (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)

If removable, bolts used (describe other fastenings) _____ (Matl. 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 90 psi at max. temp. 390 °F. Min. temp. (when less than -20° _____ °F)
Hydro, pneu., or comb. test press. 135 psi.

Items 12 and 13 to be completed for tube sections

Tubesheets SA-240 T-316 10 3/4 C WELDED
(Stationary Mat. (Spec. No., Gr.)) (Diam. (in.) (Subject to pressure)) (Nom. Thk. (in.)) (Corr. Allow. (in.)) (Attach (Welded, Bolted))
Floating Mat. (Spec. No., Gr.) (Diam. (in.)) (Nom. Thk. (in.)) (Corr. Allow. (in.)) (Attach)
13. Tubes A-240 T-316 3/4" 18 56 STRAIGHT
(Mat. Spec No. Gr.) (OD (in.)) (Nom. Thk. (in. or Gauge)) (Number) (Type (Straight or U))

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

14. Shell _____
(Mat. Spec. No. Grade) (Nom. Thk. (in.)) (Corr. Allow. (in.)) (Diam. I.D. (ft. & in.)) (Length (Overall) (ft. & in.))
15. Seams _____
(Long. (Dbl. Sngl.)) (R.T. (Spot or Full)) (Eff. (%)) (H.T. Temp. (°F))
(Time) (Girth (Dbl. Sngl.)) (R.T. (Spot, Partial, or Full)) (No. of Courses)

16. Heads (a) Mat. SA-312 & SA-240 T-316 (b) Mat. SA-240 T-316
(Spec. No., Grade) (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) END .165 0 CONCAVE
(b) END .165 0 CONCAVE

If removable, bolts used (describe other fastenings) T-304 SA-193-B-8; 5/8"; 8 (Matl. Spec No., Gr., Size No.)

17. MAWP 90 psi at max. temp. 390 °F. Min. temp. (when less than -20° _____ °F)
Hydro, pneu., or comb. test press. 135 psi.

18. Nozzles, Inspection and Safety Valve Openings:

Purpose (Inlet, Outlet, Drain, etc.)	No.	Diag. of Size	Type	Matl.	Nom. Thk.	Reinforcement Matl.	How Attached	Location
INLET	1	2	S.C.F.	SA-182			WELDED	BONNET
OUTLET	1	2	S.O.F.	"			"	"
DRAIN	1	3/4	CLG	"			"	BONNET
INLET	1	1 1/2	S.O.F.	"			"	SHELL
OUTLET	1	1 1/2	S.C.F.	"			"	"
VENT	1	3/4	CLG	"			"	"
DRAIN	1	3/4	CLG	SA-182			WELDED	OUTLET

19. Supports: Skirt _____ Lugs _____ Legs _____ Other _____ Attached _____
(Yes or no) (No) (No) (Describe) (Where and how)

20. Remarks: Manufacturer's 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, infr.'s name and identifying stamp.)

UNIT TO BE USED AS A HEAT EXCHANGER

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. 892 expires Aug. 19 1988
Date 8-18-88 Co. name KAM THERMAL EQUIP. LTD. Signed [Signature] (Manufacturer) (Representative)

CERTIFICATE OF SHOP INSPECTION

Vessel constructed by KAM THERMAL EQUIP. LTD. at OZONE PARK, NEW YORK

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 COMMERCIAL UNION CO.

of NEW YORK have inspected the pressure vessel described in this Manufacturer's Data Report on 8-18-88, 19 _____, 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 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 8-18-88 Signed [Signature] (Authorized Inspector) NEW YORK STATE COMMISSION # 2340
ALSO COMMISSIONED IN PENN., OHIO, N.B. & CONN.

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 _____ Co. name _____ Signed _____
(Assembler that certified and constructed field assembly) (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 _____

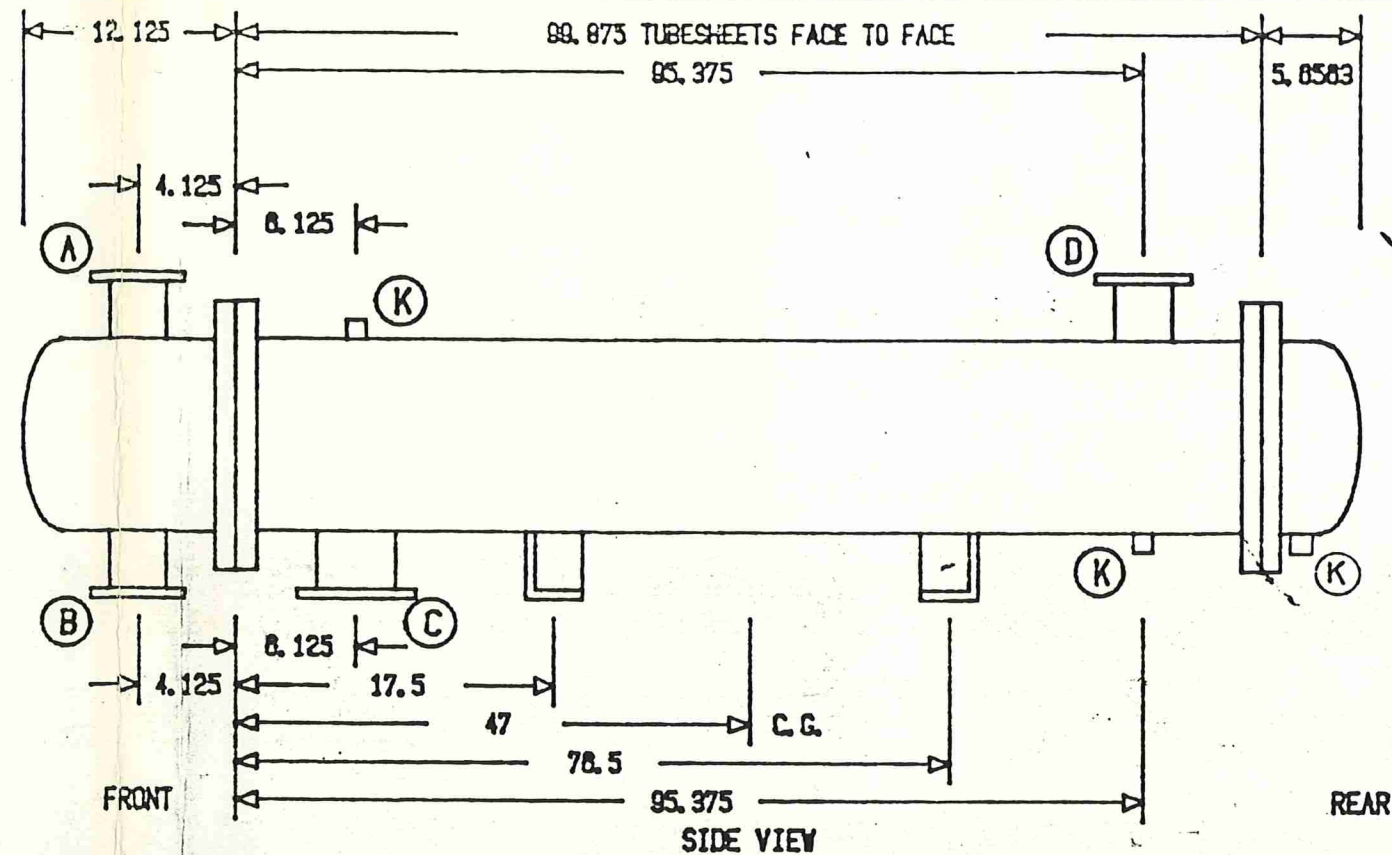
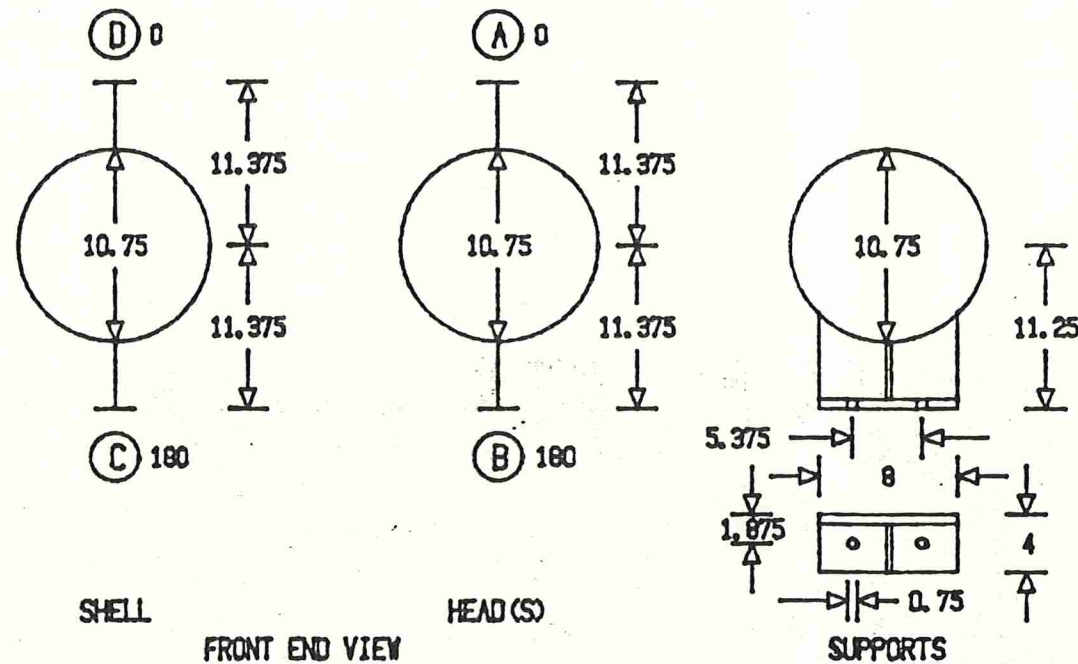
of _____ have compared the statements in this Manufacturer's Data Report with the described pressure vessel and state that parts referred to as data items _____, not included in the

certificate of shop inspection, have been inspected by me and 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 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) (National Board (incl. endorsements), State, Prov., and No.)

#114249

ALL SIZE DIMENSIONS
IN INCHES



Certified By:
KAM THERMAL EQUIPMENT, LTD.
9/2/86

COMPONENT	O. D.	TKS.	MATERIALS OF CONSTRUCTION	DESIGN SPECIFICATIONS		
					SHELL SIDE	TUBE SIDE
NOZZLE A	2.375	0.065	150 # ANSI S.O. FLG SA-240 WITH SA-312 TP316 WLD HI ALLOY PIPE	DESIGN PRESSURE	90	90
NOZZLE B	2.375	0.065	150 # ANSI S.O. FLG SA-240 WITH SA-312 TP316 WLD HI ALLOY PIPE	TEST PRESSURE	CODE	CODE
NOZZLE C	1.9	0.065	150 # ANSI S.O. FLG SA-240 WITH SA-312 TP316 WLD HI ALLOY PIPE	DESIGN TEMPERATURE	390	390
NOZZLE D	1.9	0.065	150 # ANSI S.O. FLG SA-240 WITH SA-312 TP316 WLD HI ALLOY PIPE	NUMBER OF PASSES	1	2
COUPLING K	0.75		3000 # HALF LENGTH SA-182 F316 HI ALLOY STEEL COUPL	CORROSION ALLOWANCE	0.0	0.0
SHELL CYLINDER	10.75	0.165	SA-312 TP316 WLD HI ALLOY PIPE	RADIOGRAPHING	NONE	NONE
FRONT HEAD CYLINDER	10.75	0.1875	SA-182 GR F11 ALLOY STEEL FORG			
HEAD COVERS	10.75	0.1875	SA-182 F316 HI ALLOY STEEL FORG ELLIPSOIDAL COVER	TEMA TYPE	BEM	SIZE 10-100
TUBESHEETS	14.5	0.625	SA-240 GR 316 HI ALLOY STEEL PLT	AREA	92 ft ²	
HEAD FLANGES AT TBSHTS	14.5	0.875	SA-240 GR 316 HI ALLOY STEEL PLT RING FLANGE	TUBE TYPE	BARE	# HOLES 56
HEAD GASKETS AT TBSHTS	11.875	0.125	GYLON 3504 1/8" TK PERIPH. WIDTH 0.375 in	LENGTH	100 in	
HEAD BOLTING AT TBSHTS	0.625		SA-193 B8 CL.1 (304) HI ALLOY STEEL BLT 8 BOLTS ON 13.0 in B.C.	LAYOUT	0.9375 in TRI	TUBE-TS JOINT EXPANDED
TUBES	0.75	0.049	SA-249 TP316 WLD HI ALLOY TUBE BARE TUBES	BAFFLE TYPE	SINGLE SEGMENTAL	CUT 30 % H
BAFFLES	10.375	0.125	SA-240 GR 316 HI ALLOY STEEL PLT	BAFFLE SPACING (C-C)	5	AT INLET
SHELL SUPPORTS		0.375	SA-240 GR 316 HI ALLOY STEEL PLT	IMPINGEMENT PROTECTION	NONE	
				CODE	ASME SEC. VIII DIV. 1	TEMA CLASS
				WEIGHT EMPTY	625	FULL 954
				BUNDLE	309 lb	
				DRAWN BY	CKD BY	APVD BY
				KAM THERMAL EQUIPMENT, LTD.		
				OZONE PARK, NEW YORK		
				AMERICAN HOECHST CORP		
				COVENTRY RI		
				P.O. 508191		
				DATE-4-17-86		
				DWG-B6465ST		
			ITEM-B403			

B-407