

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

112163

1. Manufactured and certified by Koch Heat Transfer Company LP 12602 FM 529, Houston, TX 77041

(Name and Address of Manufacturer)

2. Manufactured for Tryer Process Equipment Ltd., 3737 Old Iowa Park Road, Wichita Falls TX, 76306

(Name and Address of Purchaser)

3. Location of Installation Not Known

(Name and Address)

4. Type: Horizontal Heat Exchanger 11403-08-4-03 NA See Remarks 19188 2009
(Horiz., vert., or sphere) (Tank separator, jkt. vessel, heat exch., etc.) (Mfg's serial No.) (CRN) (Drawing No.) (Nett. Bd. No.) (Year Built)

5. ASME Code, Section VIII, Div. 1 Edition 2007 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): One (1) (b) Overall length (ft & in.): 24' - 10 3/8"

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	12.750"	24' - 7 7/8"	SA-106 Gr B SMLS		0.375"	0.125"	NA	NA	NA	C	NA	100	NA	NA

7. Heads: (a) SA-516 GR 70N (b) SA-516 GR 70N
(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)	(2) Flgs.	1.938"	0.125"	NA	NA	NA	NA	NA	16.500"	NA	NA	NA	NA	NA
(b)	(1) Flg.	2.188"	0.125"	NA	NA	NA	NA	NA	**	NA	NA	NA	NA	NA

If removable, bolts used (describe other fastening) SA-193 B-7 (40) 0.750" Dia. / ** = 17.875" x 37.875"
(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 150 NA psi at max. temp. 500 NA °F Min. design metal temp. -20 °F at 150 psi.
(internal) (external) (internal) (external)

10. Impact test Yes, Ret. Bnt. @ -50 degs. F. No on all other material per UG-20 (f).

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

11. Hydro., pneum., or comb. test press 195 PSI Proof test NA

Items 12 and 13 to be completed for tube sections.

12. Tubesheet: SA-182-F316L 11.860" 10.250" 0.000" Bolted
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-249 TP-316L ERW. AW 0.750" 0.065" 136 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	N

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.)

10. MAWP 150 NA psi at max. temp. 500 NA °F Min. design metal temp. -100 °F at 150 psi.
(internal) (external) (internal) (external)

17. Impact test No, on all materials per UHA-51 (a).

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

18. Hydro., pneu., or comb. test press 195 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	3"-150#	RFWN	SA-106 Gr B SMLS	SA-105	0.300"	0.125"	Self	Welded	Welded	To Shell
Inlet/Outlet	2	3"-150#	RFWN	SA-312-TP-316L ERW	SA-182-F316L	0.216"	0.000"	Self	Welded	Welded	To TS Flg.
Vent	2	.75"-3000#	CPLG	NA	SA-105	3000#	0.125"	Self	NA	Welded	To Shell

20. Supports: Skirt No Lugs No Legs NA Others (2) Brackets Attached To Shell & Movable
(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 the part, item number, mfg's. name and identifying number)

NA

22. Remarks: Return Bonnet: SA-352 LCB, 0.750" Thk., 0.125" Corr. Allow., 16.000" Crown Radius, Concave side to pressure

Surface Per Exchanger: 1298.3 Sq. Ft.

Item No.: E-101C / P.O. No.: 08-008-003 / Model No.: 12276-MTB-AAJ

Drawing No.: 11403-08-4 C ; N, P / PT- Tube to tubesheet welds

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 Nov. 28, 2009

Date Sept. 1, 2009 Name Koch Heat Transfer Company LP Signed R. E. Hanon
(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 One Beacon America Insurance Co. of Lynn, MA have inspected the pressure vessel described in this Manufacturer's Data Report on September 01, 09, 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 09-03-09 Signed Carol Shun Commissions NBIC 62412N 7x1599
(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 Manufacturer 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.)