

112162

**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 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 11403-08-4-02 NA See Remarks 19187 2009  
(Horiz., vert., or sphere) (Tank separator, jkt. vessel, heat exch., etc.) (Mfg's serial No.) (CRN) (Drawing No.) (Nat'l. 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.)

(Natl Board Incl. endorsement, State, Province and No.)