

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 SCHOELLER-BLECKMANN NOOTER APPARATETECHNIK GMBH, HAUPTSTRASSE 2, A-2630 TERNITZ / AUSTRIA
(Name and address of Manufacturer)

2. Manufactured for TRIAD CHEMICAL, DONALDSONVILLE, LOUISIANA 70346, U S A
(Name and address of Purchaser)

3. Location of installation TRIAD CHEMICAL, DONALDSONVILLE, LOUISIANA 70346, U S A
(Name and address)

4. Type: VERTICAL HEAT EXCHANGER 8182
(Horiz., vert., or sphere) (Tank, separator, jkt. vessel, heat exh., etc.) (Mfg's serial No.)

--- T-AN 10555 - 01 70 1997
(CRN) (Drawing No.) (Nat'l. Bd. No.) (Year built)

5. ASME Code, Section VIII, Div. 1 Edition 1995 Addenda -- 2038-3 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): 6 (b) Overall length (ft & in.): 233.86"

Course(s)			Material		Thickness		Long. Joint (Cat. A)			Circum. Joint (Cat. A, B, & C)			Heat Treatment	
No.	ID Diameter, in.	Length (ft & in.)	Spec./Grade or Type	Nom.	Corr.	Type	Full, Spot, None	Eff.	Type	Full, Spot, None	Eff.	Temp.	Time	
1+2	67.72	158.15"	SA 516 / 70	0.98	0.125	1	FULL	1.0	1	FULL	1.0	---	---	
3	67.72	14.49"	SA 240 / 321	0.47	0	1	FULL	1.0	1	FULL	1.0	---	---	
4-6	67.72/81.10	61.22"	SA 516 / 70	1.38	0.125	1	FULL	1.0	1	FULL	1.0	---	---	

7. Heads: (a) NA (b) 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)														
(b)														

If removable, bolts used (describe other fastening) NA
(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
 9. MAWP 389 --- psi at max. temp. 482 --- °F Min. design metal temp. 32 °F at 20 psi
(internal) (external) (internal) (external)

10. Impact test Yes, support material SA 516/70 at 32°F, others are exempted as per UCS-66 and UHA-51
(Indicate yes or no and the component(s) impact tested)

11. Hydro. ~~pressure~~ test press. 583.5 psi Proof test NA

Items 12 and 13 to be completed for tube sections.

12. Tubesheet: SA 266 / 2 72.44 15.94 0.125 WELDED
Stationary (Mat'l Spec. No.) Dia., in. (subject to press.) Nom. thk., in. Corr. Allow., in. Attachment (welded or bolted)

NA --- --- ---
Floating (Mat'l Spec. No.) Dia., in. Nom. thk., in. Corr. Allow., in. Attachment

13. Tubes: SA 213 UNS S31050, CC 2038-3 1.22 0.12 1400 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.): 56.97"

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	72.44	29.65"	SA 266 / 2	5.71	0	—	—	—	1	FULL	1.0	1100°F	150min
2	72.44	27.32"	SA 266 / 2	5.71	0	—	—	—	1	FULL	1.0	1100°F	150min

15. Heads: (a) SA 266/2 / 150 min / 1100°F (b) SA 266/2 / 150 min / 1100°F
(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	11.02	0	—	—	—	—	—	00 55.51	—	—	—	—	—
(b)	BOTTOM	11.02	0	—	—	—	—	—	00 55.51	—	—	—	—	—

If removable, bolts used (describe other fastening) SA 193/B7 / 3-1/2"-8UN / 20 pcs. per head
(Mat'l Spec. No., Grade, size, No.)

16. MAWP 2321 -- psi at max. temp. 482 -- °F. Min. design metal temp. 32 °F at 80 psi.
(internal) (external) (internal) (external)

17. Impact test Yes, materials SA 266/2 and SA 516/70 at 32°F, others are exempted as per UCS-66 and UHA-51
(Indicate yes or no and the component(s) impact tested)

18. Hydro. ~~xxxxxx~~ test press. 3481.5 psi Proof test NA

19. Nozzles, inspection, and safety valve openings:

[illegible]

20. Supports: Skirt No Lugs - Legs - Others 4 BRACKETS Attached WELDED TO SHELL
(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: 1) Lining, H.P.Pipes, Tubes & Internals out of material UNS S31050 (Code Case 2038-3)
2) Expansion bellow is designed in accordance with EJMA-Code, sp.r. $18.7 \cdot 10^4$ N/mm, ax.m. 0.295", $41 \cdot 10^3$ cycles
3) UG - 46 (a)
4) Heads and channels are designed per UCL - 23 (a)

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. 15,904 Expires July 03, 1998
Date March 5, 1997 Name SCHOELLER-BLECKMANN NOOTER APPARATETECHNIK GMBH Signed Persting Forck, RHM
(Manufacturer) (Representative)

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, Illinois have inspected the pressure vessel described in this Manufacturer's Data Report on March 5, 19 97, 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 March 5, 1997 Signed *mmah* Commissions NB No. 11328 "A"
(Authorized Inspector) (Net'l Board incl. endorsement, State, Province and No.)

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)

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 _____ Commissions _____