

805 TA 810

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

Manufactured and certified by Tolan Machinery Co., Inc., 164 Franklin Avenue, Rockaway, NJ 07866 205540
(Name and address of Manufacturer)

Manufactured for Merck & Co., One Merck Drive, Whitehouse Station, NJ 08889
(Name and address of Purchaser)

Location of Installation Merck & Co., 1216 E Lincoln Ave., Rahway, NJ
(Name and address)

Type: Vertical Jkt Vessel 7917 D-7917-H 2562 1999
(Horiz., vert. or sphere) (Tank separator, jkt. vessel, heat exh., etc.) (Mfg's serial No.) (CRN) (Drawing No.) (Nat'l. Bd. No.) (Year built)

ASME Code, Section VIII, Div. 1 Edition 1998, Addenda None
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.

Shell (a) No. of course(s): 1 (b) Overall length (ft & in.): 9 lns @ 4 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	56"		SB-168 Al 600		.105"	0	6	None	45	3	None	60		

Heads: (a) SB-167 Al 600 (b) _____

(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) Bottom	10S	0					1.625			X	3	None	60
b)													

removable, bolts used (describe other fastening) _____

Type of jacket HPC type 1 & 3 Jacket closure fillet
(Mat'l Spec. No., Grade, Size, No.) (Describe as ogee & weld, bar, etc.) If bolted, describe or sketch.

If bar, give dimensions _____

MAWP 125 psi at max. temp. 300 ° F Min. design metal temp. -20 ° F at 125 psi.
(internal) (external) (internal) (external)

0. Impact test Exempted per UNF-65
(indicate yes or no and the component(s) impact tested)

1. Hydro., ~~hydro.~~, or ~~chem.~~ test press 188 Proof test 450# UG-101

Items 12 and 13 to be completed for tube sections.

2. Tubesheet:

Stationary (Mat'l Spec. No.)	Dia., in (subject to press.)	Nom. thk., in.	Corr. Allow., in.	Attachment (welded or bolted)

3. Tubes:

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

Items 14 - 18 incl. to be completed for inner chambers of jacketed vessels or channels of heat exchangers.

4. Shell (a) No. of course(s): 1 (b) Overall length (ft & in.): 4'-3"

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	52"	4'-3"	SA-240 Ty 316L		.375"	.0625"	1	None	70	1	None	85		

5. Heads: (a) SA-240 Ty 316L (b) SA-240 Ty 316L

(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	.500"	.0625"	52"	3.75"					X	X	S		
b) Bottom	.500"	.0625"	52"	3.75"					X	X	S		

removable, bolts used (describe other fastening) _____

(Mat'l Spec. No., Grade, Size, No.)

16. MAWP 125 FV psi at max. temp. 300 300 ° F Min. design metal temp. -20 ° F at 125 psi.

17. Impact test No exempted per UHA-51d & e

18. Hydro., pneu., or other test pressure 200 (Indicate yes or no and the component(s) impact tested) 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	
Manway/Cvr	1	12x16	FLG	SA-240 Ty 316L	SA-240 Ty 316L	.500"	.0625"	SA-240 Ty 304	UW16.1e	Fig2-4.3	top head
Agitator	1	6"	RFSO	SA-312 Ty TP316L WLD	SA-182 Ty F316L	80S	"	"	"	"	"
Inlet	2	4"	RFSO	"	"	"	"	"	"	"	"
Feed	3	3"	RFSO	"	"	"	"	"	"	"	"
Inlet	4	2"	RFSO	"	"	160S	"	None	"	"	"
Instrument	2	1 1/2"	RFSO	"	"	"	"	"	"	"	"
Instrument	2	1"	RFSO	"	"	"	"	"	"	"	"

0. Supports: Skirt no Lugs Legs 4 Others Attached welded to bottom head

1. 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)

2. Remarks: 52" ID 500 Gal reactor vessel TA-810

Outlet 1, 3", pad, SA-240-316L, 1 1/2", .0625", UW-16.1e
ocket, 2, 2", LJ Flg., SB-167 AT-600, SA-182TyF316L, 10S, none, UW-16.1e

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. 30,535 Expires September 16 2001
Date 5/27/99 Name Tolan Machinery Co., Inc. Signed [Signature] (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 NJ and employed by Commercial Union Insurance Co. of Boston Ma. have inspected

the pressure vessel described in this Manufacturer's Data Report on 5/27/99, 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 5/27/99 Signed [Signature] Commissions 6105-B, NJ 401 (Authorized Inspector) (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
Date Name Signed (Assembler) (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 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 (Authorized Inspector) (Nat'l Board incl. endorsement, State, Province and No.)