

FORM U-1A MANUFACTURER'S DATA REPORT FOR PRESSURE VESSELS
(Alternative Form for Single Chamber, Completely Shop-Fabricated Vessels Only)
As Required by the Provisions of the ASME Code Rules, Section VIII, Division 1

1. Manufactured and certified by: ARROW TANK AND ENGINEERING COMPANY 650 NORTH EMERSON CAMBRIDGE, MINNESOTA 55008
(Name and address of manufacturer)
Manufactured for: UOP LLC, c/o HONEYWELL INTL, P.O. BOX 981762, EL PASO, TX 79998-1762
(Name and address of purchaser)

3. Location of installation: _____
(Name and address)

4. Type Vert. 41245 V2602.2 D 18363-18 REV.3 38373 2011
(Horiz. or vert. tank) (Mfr's serial No.) (CRN) (Drawing no.) (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
to 2006 Addenda Year
Addenda (Date) SA-516 Gr70 N Code Case Nos. 2" 1/16" Special Service per UG-120(d) 22'-9 1/2"

6. Shell: SA-516 Gr70 N 2" 1/16" 11'-6" ID 22'-9 1/2"
7. Seams: 1 FULL 100 1100 145MIN. 1 FULL 100% 3
Long. (Welded, Dbl., Sngl., Lap, Butt) R. T. (Spot or Full) Eff. (%) H. T. Temp (°F) Time (hr) Girth (welded, Dbl., Sngl., Lap, Butt) R. T. (Spot, Partial, or Full) No. of Courses
8. Heads: (a) Matl. SA-516 Gr70N (b) Matl. SA-516 Gr70N
(Spec. No., Grade)

	Location (Top, Bottom, Ends)	(Spec. No., Grade)				(Spec. No., Grade)				Side To Pressure (Convex or Concave)
		Minimum Thickness	Corrosion Allowance	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	
(a)	TOP	2.645	1/16"	-	-	2:1	-	-	-	CONCAVE
(b)	BOTTOM	2.645	1/16"	-	-	2:1	-	-	-	CONCAVE

If removable, bolts used (describe other fastenings) _____
9. MAWP 500 (Matl., Spec. No., Gr., Size, No.)
Min. design metal temp. -49 °F at 500 psi. at max. temp. 250 °F
Hydro., pneu., or comb. test pressure 735 psi.

10. Nozzles, inspection and safety valve openings:

Purpose	No.	Diam. or Size	Type	Matl.	Nom. Thk.	Reinforcement Matl.	How Attached	Location
(Inlet, Outlet, Drain)								
Manway	1	24"	WNF/RF	SA-350 Gr LF2 CL2	4.75"	NONE	UW16.1(e)	HEAD
INLET	1	20"	WNF/RF	SA-350 Gr LF2 CL2	4.5"	NONE	UW16.1(e)	-
OUTLET	1	10"	WNF/RF	SA-333Gr 6	SCH XS	NONE	UW16.1(a)	***
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-

11. Supports: Skirt YES Lugs - Legs - Other - Attached WELDED TO HEAD
(Yes or no) (No.) (No.) (Describe) (Where and how)
12. Remarks: Manufacturer's Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of the report: NONE

(Name of part, item number, Mfr's name and identifying stamp)
CHARPY IMPACT (HEADS, SHELLS, SKIRT, BASE PL., BASE ANCHOR TOP & GUSSET. (** 10" WNF/RF SA-350 LF2 CL1 & 10" PIPE SCH XS SA-333-6 & 10" SCH XS ELBOW SA 420-WPL6 IS ATTACHED TO A SPECIAL 24" BF/RF 4 3/4" THK. W/ 9 3/4" BORE SA-350 LF2 CL1) TAG# 206VC-501K & SERIAL # STAMPED ON FLG.
UOP P.O.# 4500245274 UOP JOB# 945597 ATE JOB# 18363-18 ATE REWORK # 22148-18

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. 10676 expires 12/31/12
Date 02/03/11 Co. name ARROW TANK AND ENGINEERING COMPANY Signed [Signature]
(Manufacturer) (Representative)

CERTIFICATE OF SHOP INSPECTION

Vessel constructed by ARROW TANK AND ENGINEERING COMPANY at 650 NORTH EMERSON CAMBRIDGE, MINNESOTA 55008
I, the undersigned, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors and the State or Province of MN and employed by Hartford Steam Boiler Insp. & Ins. Co. of CT have inspected the component described in this Manufacturer's Data Report on 02/03/11, 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 02/03/11 Signed [Signature] Commissions NB# 11620 A,B MN # 088456
(Authorized Inspector) (Nat'l Board, (Incl. endorsements) State, Prov. and No.)