

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 K MANAGEMENT, INC. 1/2 MILE E. JCT FM 1196 & 1821, MINERAL WELLS, TX 76067
(Name and address of manufacturer)

2. Manufactured for: POROUS MEDIA CORPORATION, 1360 HAMMOND ROAD, ST. PAUL, MN. 55110
(Name and address of purchaser)

3. Location of installation UNKNOWN
(Name and address)

Type VERTICAL 5411 N/A D-5411-A R0 1426 1996
(Hertz 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 1995
Year

to A95 NONE NONE
Addenda (Date) Code Case Nos. Special Service per UG-120(d)

6. Shell: SA-333-B 1.438" .125" 1' 4" O D 9' 10"
Matl. (Spec. No., Grade) Nom. Thk. (in.) Corr. Allow. (in.) Diam. I.D. (ft. & in.) Length (overall) (ft. & in.)

7. Seams: SEAMLESS PIPE N/A 100% ----- ----- DBL BUTT EQUIV NONE 1
Long. (Welded, Dbl. Srgl., Lap, Butt) R T (Spot or Full) Eff. (%) H T Temp. (F) Time (hr) Girth (Welded, Dbl. Srgl., Lap, Butt) R T (Spot, Partial, or Full) No. of Courses

8. Heads: (a) Matl. SA-516-70N (HEAD) SA-350-LF2 (SUB) (b) Matl. SA-516-70N
(Spec. No. Grade) (Spec. No. Grade)

	Location (Top Bottom Ends)	Minimum Thickness	Corrosion Allowance	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure (Convex or Concave)
(a)	TOP	1.613"	.125"	16" VERTICAL CLOSURE BY FLOW CONTROL INC.						CONCAVE
(b)	BOTTOM	1.270"	.125"			2:1				CONCAVE

If removable, bolts used (describe other fastenings) NONE
(Matl., Spec. No., Gr., Size, No.)

9. MAWP 2200 psi at max. temp. 150 ° F

Min. design metal temp. -20 ° F at 2200 psi Hydro. ~~Design~~ test pressure 3300 psi

10. Nozzles, inspection and safety valve openings:

Purpose (Inlet Outlet Drain)	No	Diam or Size	Type	Matl.	Nom. Thk.	Reinforcement Matl.	How Attached	Location
INLET	1	8"	CL 900 LWN	SA-105 N	1.88"	INTEGRAL	WELDED	SHELL
OUTLET	1	8"	CL 900 LWN	SA-105 N	1.88"	INTEGRAL	WELDED	SHELL
L C (SUMP)	2	1-1/2"	SCR'D CPLGS	SA-105	6000#	-----	WELDED	SHELL
L C (COAL)	2	1-1/2"	SCR'D CPLGS	SA-105	6000#	-----	WELDED	SHELL

11. Supports: Skirt YES Lugs NONE Legs NONE Other NONE Attached BOTTOM HEAD, WELDED
(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: 8 (a): 16" VERTICAL CLOSURE S/N FQ17 BY FLOW CONTROL EQUIPMENT, INC. "U" STAMP CERT. # 10052.
(Name of part, item number, Mfr's name and identifying stamp)

ONE PAGE FORM U-4 SUPPLEMENTARY SHEET ATTACHED.
MDMT: BASED ON UCS 86(a) CATAGORY B SEAMS IMPACTED TESTED PER UG-84 @ -20 DEG.F. DESIGNED TO UG 22(a) ONLY
2200 PSIG ULITSEP COALESCING FILTER.
CUSTOMER P O # 2567-29

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. 15097 expires May 3, 19 97
 Date 12-26-96 Co. Name K MANAGEMENT INC. Signed Charles J. Manley
(Manufacturer) (Representative)

CERTIFICATE OF SHOP INSPECTION

Vessel constructed by K MANAGEMENT, INC. at MINERAL WELLS, TEXAS 76067
 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 TEXAS and employed by OLD REPUBLIC INSURANCE COMPANY, DALLAS, TEXAS
 have inspected the component described in this Manufacturer's Data Report on 12-26, 19 96 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 12-27-96 Signed Gregory A. Hanson Commissions 5920 BNA TX #548
(Authorized Inspector) (Nat'l Board (incl. endorsements), State, Prov. and No.)

FORM U-2A MANUFACTURER'S PARTIAL DATA REPORT (ALTERNATIVE FORM)
A Part of a Pressure Vessel Fabricated by One Manufacturer for Another Manufacturer
As Required by the Provisions of the ASME Code Rules, Section VIII, Division 1

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1. Manufactured and certified by **FLOW CONTROL EQUIPMENT INC. 10906 FM 2920 TOMBALL, TEXAS 77375**
(Name and address of Manufacturer)

2. Manufactured for **POROUS MEDIA 1107 INTERSTATE 45 SOUTH CONROE, TX 77301**
(Name and address of Purchaser)

3. Location of installation **UNKNOWN**
(Name and address)

4. Type **(1) 16" VERTICAL CLOSURE**
(Description of vessel part (shell, two-piece head, tube bundle))

FQ17
(Mfg. serial No.)

N/A

N/A
(Nat'l. Bd. No.)

50E16V-RO
(Drawing No.)

FLOW CONTROL EQUIPMENT INC.
(Drawing prepared by)

1996
(Year built)

5. ASME Code, Section VIII, Div. 1 **1995 ADDENDA 95**
(Edition and Addenda (date))

N/A
(Code Case No.)

N/A
(Special Service per UG-120(d))

6. Shell (a) No. of course(s): **1**

(b) Overall length (ft & in): **0 FT-10.0 IN**

No.	Course(s)		Material Spec./Grade or Type	Thickness		Type	Long Joint (Cat. A)		HT	Type	Seam Joint (Cat. A, B, S, etc.)		HT	Temp.	Heat Treatment
	Diameter, in.	Length, ft & in.		Num.	Corr.		Full	Spot			Full	Spot			
1	13.124	0-10.0	SA350LF2	1.438	.125	S	NONE		1	S	NONE	1	N/A	N/A	

7. Heads: (a) **SA516-70N**
(Mat'l. Spec. No., Grade or Type, H.T., Time & Temp.)

(b) **N/A**

Location (Top, Bottom, Ends)	Thickness		Radius		Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Gale to Pressure		Category A		
	Min.	Corr.	Crown	Knuckle					Convex	Concave	Type	Full	Spot
(a) END	1.613	.125			2:1				X		S	NONE	1
(b)													

If removable, bolts used (describe other fastening) **N/A**

8. MAWP **2200**
(internal) (external)

SEE REMARKS
psi at max. temp

+150
(internal) (external)

F Min. design metal temp **-20**
(internal) (external)

Flat 2200 psi

9. Impact test **YES - CAP & HUB**

10. Hydro., pneu., or comb. test press **SEE REMARKS**
(Indicate yes or no and the components; impact tested)

Proof test **N/A**

11. Nozzles, inspection, and safety valve openings: **UG-125(a)**

Purpose (Inlet, Outlet, Drain, etc.)	No.	Diameter or Size	Flange Type	Material		Nozzle Thickness		Attachment Material	How Attached		Location (Insp./Open)
				Nozzle	Flange	Num.	Corr.		Nozzle	Flange	
SEE REMARKS											
PAV	1	1/2" NPT	THD	SA350	LF2	N/A	N/A	INHERENT	INT. THD.		SHELL

12. Supports: Skirt (Yes or no) Lugs (No) Legs (No) Others (Describe) Attached (Where and how)

13. Remarks: **THIS TEMPERATURE APPLICABLE TO CLOSURE METAL COMPONENTS ONLY. ACTUAL SERVICE TEMPERATURE IS DETERMINED BY TEMPERATURE LIMITATIONS OF O-RING MATERIAL. UG-120(c)2 DESIGN & CALCULATION BY FLOW CONTROL EQUIPMENT INC. CLOSURE ASSEMBLY IS NOT HYDROSTATICALLY TESTED. PRESSURE ALERT VALVE FURNISHED.**

CERTIFICATE OF SHOP/FIELD COMPLIANCE

We certify that the statements made in this report are correct and that all details of material, construction, and workmanship of this pressure vessel part conform to the ASME Code for Pressure Vessels, Section VIII, Division 1

U Certificate of Authorization No. **10052** Expires **JULY 16**, 19 **99**

Date **12/13/94** Name **FLOW CONTROL EQUIPMENT INC.** (Manufacturer) Signed **[Signature]** (Representative)

CERTIFICATE OF SHOP/FIELD INSPECTION

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 **TEXAS** and employed by **HARTFORD STEAM BOILER INSPECTION & INSURANCE CO.** of **CONNECTICUT** have inspected the pressure vessel part described in this Manufacturer's Data Report on **12-13-96**, 19 **96** and state that, to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel part 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 part 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 **12 13 96** Signed **[Signature]** (Authorized Inspector) Commissions **TX 755** **OHIO 07 01 97** (Nat'l. Board exl. enforcement, State/Province and No.)