

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 Air-X-Changers, Division of Patterson-Kelly Co., Harsco Corp., 5215 Arkansas Road, Port of Caloosa, OK 74015
(Name and address of manufacturer)
2. Manufactured for ENERFLEX SYSTEMS LTD., 7720-48TH STREET SOUTHEAST, CALGARY,
(Name and address of purchaser) ALBERTA, CANADA T2C 2V6
3. Location of installation NORTH CANADIAN OILS, LASHBURN, SASKATCHEWAN & ST. WALBURG
(Name and address) SASKATHEWAN
4. Type Heat Exchanger 905077.48 H-6717.2.3 89026 REV 0 18412 1990
(Horiz. or Vert. tank) (Mfg's serial No.) (CRN) (Drawing No.) (Mater. 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 1989
Year

to None
Addenda (Date) Code Case Nos. Special Service per UG-120(d)
Tube & Plug Sheets
6. Shell: SA-516-70 N 1 1/8" NONE 6 9/16" 2'-4 3/8"
(Mat. Spec. No., Grade) (Nom. Thk. (in.)) (Corr. Allow. (in.)) (Diam. I.D. (R. & in.)) (Length (overall) (ft. & in.))
7. Seams: Corner Joint --- C = .20 --- --- --- --- ---
(Long (Welded, Dbl. Sngl., Lap, Butt)) (R. T. (Spot or Full)) (Et. (in.)) (H. T. Temp. (F)) (Time (hr)) (Diam. (Welded, Dbl. Sngl., Lap, Butt)) (R. T. (Spot, Partial or Full)) (No. of Courses)
8. Heads: (a) Matl. SA-516-70 N (b) Matl. SA-516-70 N
(Spec. No., Grade) (Spec. No., Grade)

	Location (Top Bottom Ends)	Minimum Thickness	Corrosion Allowance	Crown Radius	Knuckle Radius (in.)	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure (Convex or Concave)
(a)	Top, Btm	3/4"	NONE	---	---	---	---	---	4" X	2'-4 3/8"
(b)	Ends	3/4"	NONE	---	---	---	---	---	4" X	5 1/16"

If removable, bolts used (describe other fastenings) _____

(Mat. Spec. No., Gr., Size, No.)

9. MAWP 1315 psi at max. temp. 300 °F
Min. design metal temp. -20 °F at 1315 psi Hydro., pneu., or comb. test pressure 1973 psi.

10. Nozzles, inspection and safety valve openings: UG-125 Note 39

Purpose (Inlet, Outlet, Drain)	No.	Diam. or Size	Type	Matl.	Nom. Thk.	Reinforcement Matl.	How Attached	Location
IN, OUT	2	4" ANSI	600# RF	SA105/SA106B	SCH 80	PIPE & WELD	Welded	Header
VENT, DRAIN	1	1"	CPLG	SA-105	3000#	CPLG & WELD	"	"

11. Supports: Skirt --- Lugs --- Legs --- Other Structure Attached Bolted
(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: _____
(Name of part, item number, mfg's name and identifying stamp)

TUBES 70 5/8 "OD Straight 16 Gauge SA-214 Rolled Tube Sht.
Insp. 140 3/4" NF Thd'd Plug Sht.
DESIGN REF: UCS 66 (a) CURVE 0

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. 4231 Expires 12-31 19 90.
Date 7-5-90 Co. name Air-X-Changers Signed Bill Hammer
(Manufacturer) (Inspector)

CERTIFICATE OF SHOP INSPECTION

Vessel constructed by Air-X-Changers at Tulsa, Oklahoma
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 Oklahoma and employed by Commercial Union Insurance Company

have inspected the component described in this Manufacturer's Data Report on 7-3 19 90, 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 7-5-90 Signed Thomas Payne Commissions NAT'L BD. 89403, OK 6264
(Authorized Inspector) (National Board (not endorsements), State, Prov. and No.)