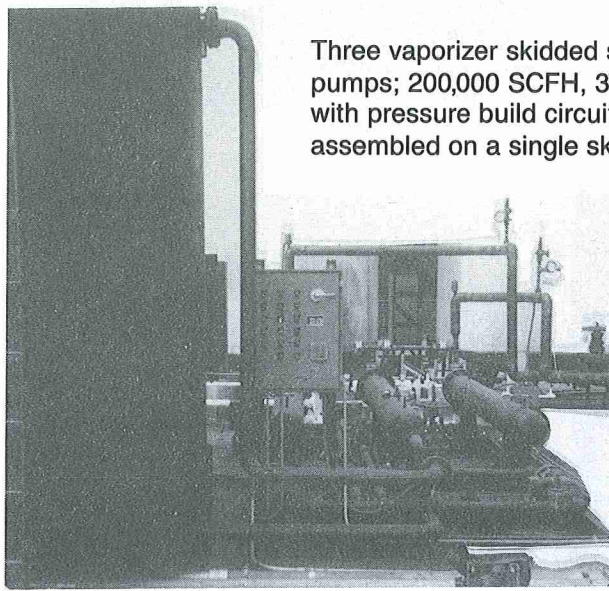


## Water Recirculating WC Vaporizers

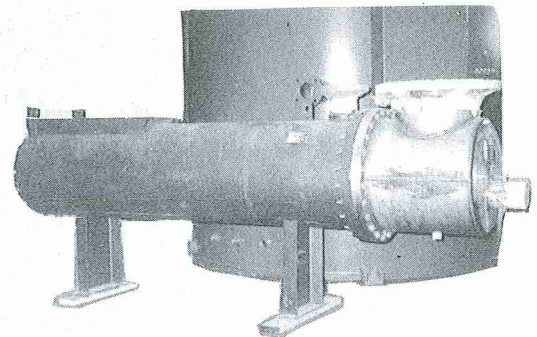
### THERMAX offers a wide variety of Water Recirculating Vortex Flow Vaporizers

These high performance cryogenic heat exchangers are offered in standard and custom designs —

- Units to over 5,000,000 SCFH
- Pressures 1 psig to 15,000 psig
- Water from 40°F to over 200°F
- Tube bundles in S.S., Monel, Cu-Ni, Copper
- Skidded systems with pumps - controls
- Designs for all liquefied gases & chemicals



Three vaporizer skidded system with twin water recirculating pumps; 200,000 SCFH, 375 psig LOX-LIN-LAR vaporizers with pressure build circuits, and controls. Unit shipped fully assembled on a single skid for steel mill application.

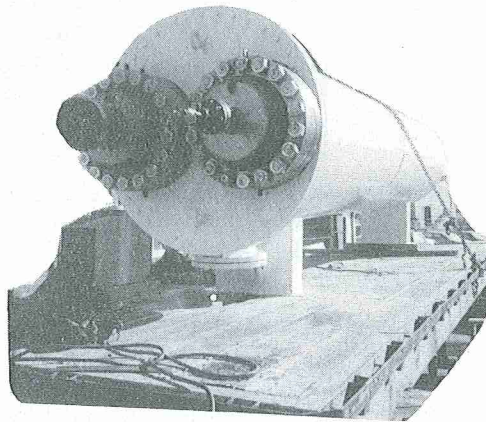


Standard configuration, low Oxygen pressure, pressure drop rated 350,000 SCFH for sewage treatment plant. Water pump mount plate is integral with vessel.

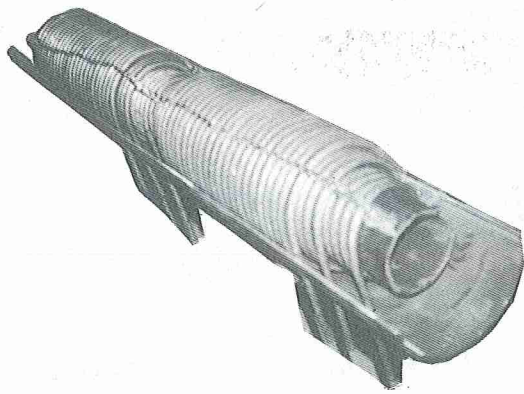
#### Features:

- Thermax removable U-bend Vortex flow bundle
- 18 BWG 340L tubes-welded and rolled into sheet
- 304 SS integral bonnet
- Carbon steel shell and baffles
- Stainless tie rods/spacers
- ASME - TEMA C Standards

Custom twin bonnet, high pressure WC vaporizer for Cryogenic  $\text{NF}_3$  at 1400 psig, 4,500,000 SCFH. Unit delivered pulsed gas at  $75^\circ\text{F} \pm 2^\circ\text{F}$  from start of pulse. The 5" thick forged stainless steel tube sheets had full access via removable bonnets. A Thermax large water ballast & recirculating system was part of this system.







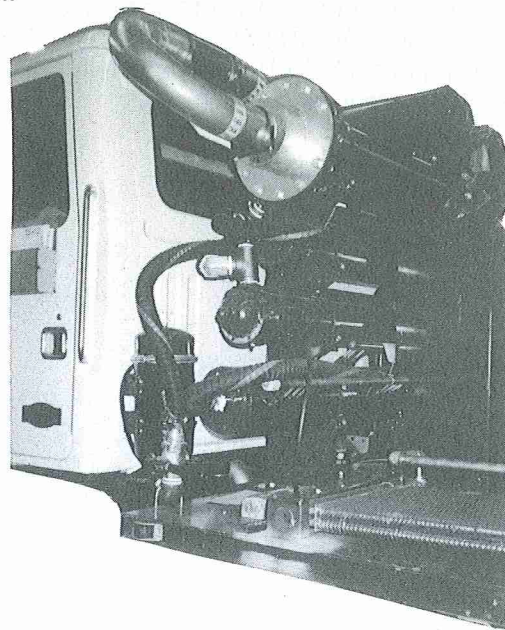
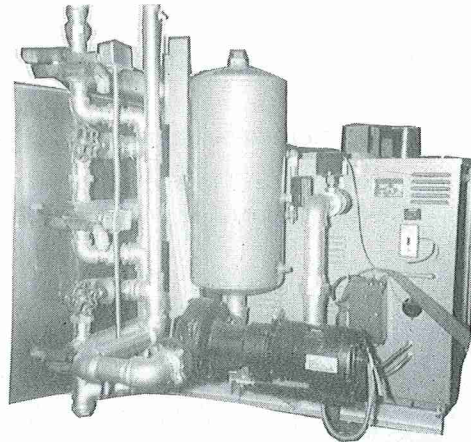
Internals of a compact high performance vaporizer for oil field service - 90,000 SCFH N<sub>2</sub>  
10,000 psig  
80 CPM 170°F water-anti-freeze mix

NOTE: Tube support/Spacer to prevent tube wear on reciprocating pump service.

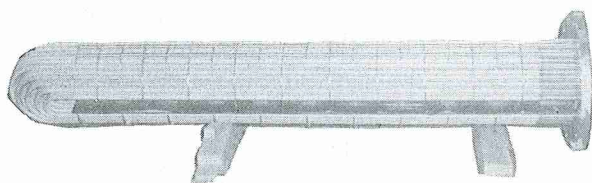
**LOX-LIN-LAR Vaporizers**

- Cylinder filling service
- Compact arrangement, 3500 psig, 30,000 SCFH each
- Water recirculating system

This economic concept now finds use in steel making for GOX-insert gas mix "blows" to reduce energy demand level.



Truck mounted high pressure 90,000 SCFH vaporizer is the lower of the 4 exchangers on this oil field service rig, the tank pressure build vaporizer is shown at lower left (Also available from Thermax).



Standard WC internal tube bundle arrangement is shown in this 2-shell pass vaporizer. U-Bend construction reduces thermal stress. TEMA close fit baffles for water flow control. Stainless tie-rod/spacers-STANDARD 18 BWG-304L-STANDARD seal weld Roll tube-to-sheet joint for tube support and zero leakage - STANDARD seal weld Vortex Flow<sup>®</sup> vaporizer tubes for compact reduced surge - high turndown vaporization - STANDARD

All the tables shown here are intended as guides reflecting our experience on these models. Actual performance may vary. This product and/or data was designed and/or developed by Thermax Inc. and shall not be used in any way injurious to the interests of Thermax Inc.

Vortex Flow<sup>™</sup> is a Thermax trademark.

*With 25 years of vaporizer design experience THERMAX is available to solve your particular problem.*  
• Standard or custom arrangement • Economic selection • Quick response

Steam Vaporizers    Hot Water Vaporizers    Electric Vaporizers    Fan-Ambient Vaporizers    Water Bath Vaporizers    Ambient Vaporizers    Sparged Steam Vaporizers

**Thermax Incorporated**    TEL: 508 • 999 • 1231  
695 DARTMOUTH ST., S. DARTMOUTH, MA 02748-3010 U.S.A.    FAX: 508 • 993 • 4036

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