
Membrane Housings



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Membrane Housings

**Presented by Bob Pallais
CodeLine**

Membrane Housings... The Important Issues

- **Safe Operation**
- **Cost**
 - Initial
 - Long-term
- **Other Considerations**

3mBw. (20/22) →

Safety

- Membrane housings must be safe in long term use
- Vessels should be designed to be fall-safe
- The ASME Code is the best standard for safety of fiberglass pressure vessels

(Note to L: pressure vessel)

Video

Selecting Pressure Vessels

10:00 Minutes

The Code and Beyond

• The Code

- Is a minimum safety standard
- Three basic elements to help assure against catastrophic failure
- Internationally recognized standard

• Beyond the Code

- Additional testing to assure long lasting, fail-safe housings
- Quality throughout → safety factor = 4
- User friendly, cost effective design features

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Initial Cost

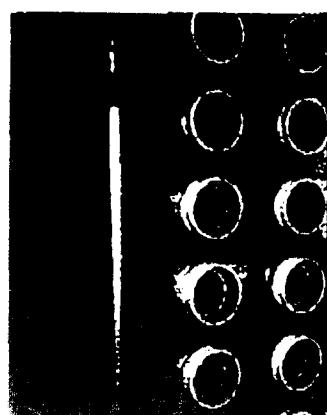
- **Membrane housing costs**

- Select housing with optimum pressure rating
- Pay for only the features you want
- Remember that housing cost itself is only one factor

Initial Costs cont.

- **Piping Costs**

- Side Port design eliminates U-bends
- Optional port size on vessel can cut piping costs



Initial Cost cont.

- **Manifolding Costs**
 - Multiple- port design can eliminate manifolding

CodeLine's Next Generation Offers Greater Versatility

- Multi-Port™ eliminates manifolds, couplings and expensive U-bends
- Order up to 4 ports per end
- Ports available in 1 1/2", 2" and 2 1/2"
- Add ports for flushing, recycling or cleaning
- Design pressures to match latest membranes: 150, 300, 450 and 600 psi.



Long Term Cost

• Operating & Maintenance

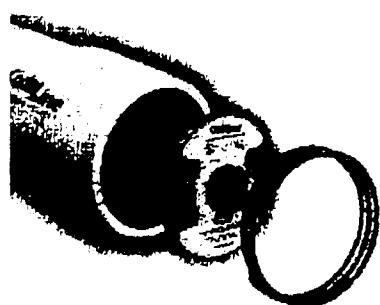
- Use side-pording to eliminate high pressure piping**
- Limit the number of parts**
- Simplify head installation and removal**
- Provide for easy seal replacement**
- Minimize bio-fouling** *(minimum dead space)*

Long Term Cost cont.

• Vessel Replacement

- Manufacturer must build a consistently high quality product with a proven track record**
- Fail-safe mode must be adequate to provide for long life**

CodeLine's Simple Solution



- Side-port
 - Industry preferred
 - No manifolds to remove
 - One-piece stainless steel head
 - 75% fewer parts → 2 piece
 - Handle in the head
 - Head seal resides in the vessel
 - QLS retaining system
 - No bolts, nuts or segments to drop
 - No special tools required
- (gritlock
lock
system)

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Consider These...

• External Aesthetics

- Smooth, high-gloss, abrasion-resistant finish
- High-gloss retention
- Chemical resistance

• Internal Precision

- Mirror-like bore with no porosity
- Low extractables - less than 2 PPB
- Appropriate corrosion resistance
- High temperature operation

20 Years. One Focus. Membrane Housings

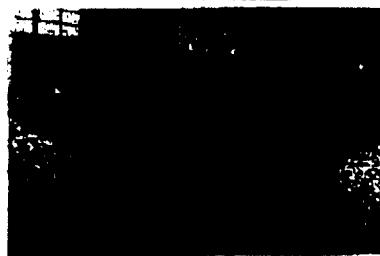
• Over 200,000 vessels In service worldwide



*Left:
An Aquatec plant
in India*

20 Years. One Focus. Membrane Housings

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In service worldwide
- Over 100,000 square
feet dedicated to
manufacturing



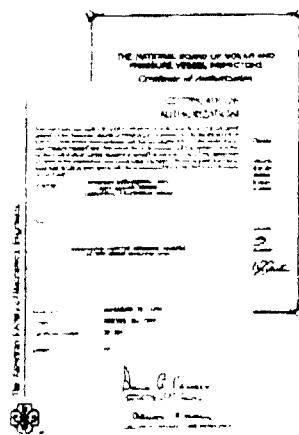
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- Innovators of FRP
Side-port and Multi-
Port™ technology



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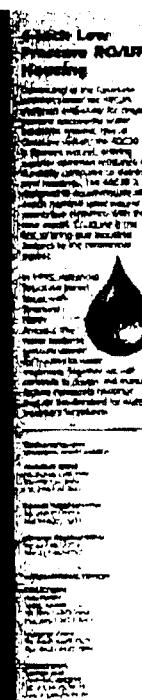
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Side-port and Multi-
Port™ technology
- ASME Code Certified



Full Line of low-pressure 4" products

- Side-port
 - 40C Series → 300 psi
 - 40A Series
- End-entry
 - 40E Series → 250 psi

CodeLine



Get A Handle On Savings

The 80A Series...
A Generation
Ahead



8" { * 600psi in market.
* 1202 psi model in development.