**RATING:**

DESIGN PRESSURE …………… 1200 PSIG at 150°F

(8.27 MPa at 66°C)

MIN. OPERATING TEMP ……………… 20°F

(-7°C)

FACTORY TEST PRESSURE ……… CE / ASME

1800 PSIG / 1320 PSIG

(12.41 MPa) / (9.10 MPa)

QUALIFICATION PRESSURE ……………… 7200 PSI

(49.64 MPa)

**INTENDED USE:**

The CodeLine 80S120 Fiberglass RO Pressure Vessel is designed for continuous, long term use as a housing for reverse osmosis membrane elements to desalt typical brackish and sea waters at pressures up to 1200 psi. Any make of eight-inch nominal diameter spiral-wound element is easily accommodated; the appropriate interfacing hardware for the element specified is furnished with the vessel. The CodeLine 80S120 is designed in accordance with the engineering standards of the Boiler and Pressure Vessel Code of the American Society of Mechanical Engineers (ASME) Code. At small additional cost vessels can be inspected during construction by an ASME Authorized Inspector and ASME Code stamped. The CodeLine 80S120 must be installed, operated and maintained in accordance with the listed precautions and good industrial practice to assure safe operation over a long service life.

The high performance Filament wound FRP shell must be allowed to expand under pressure; undue restraint at support points or piping connections can cause leaks to develop in the shell. This side-ported vessel requires special precautions in mounting and connection to piping so that the vessel will not be subjected to excessive stress due to bending moments acting at the side openings in the fiberglass shell. The end closure, incorporating close fitting, interlocking metal components, must be kept dry and free of corrosion; deterioration can lead to catastrophic mechanical failure of the head.

Pentair Water will assist the purchaser in determining the suitability of this standard vessel for their specific operating conditions. The final determination however, including evaluation of the standard material of construction for compatibility with the specific corrosive environment, shall be the responsibility of the purchaser. Alternate materials with enhanced corrosion resistance are available on special order.

Specifications are subject to change without notice.

**PRECAUTIONS:**

DO…read, understand and follow all instructions; failure to take every precaution will void warranty and may result in vessel failure

DO…mount the shell on horizontal members at span “S” using compliant vessel supports furnished. Shim saddles if required. Tighten hold down straps just snug

DO…align and center side ports with the manifold header. Correct, causes of misalignment in a row of vessels connected to the same header

DO…use flexible type grooved-end pipe couplings, Victaulic® Style 77 or equal, at side ports; allow full, 0.125 inch gap between port and piping, and position piping to maximize flexibility of connection.

DO…provide flexibility in, and support for piping manifolds so that vessel can grow in length under pressure without undue restraint; provide additional flexible joints in large pipes leading to manifold header.

DO…provide overpressure protection for vessel set at not more than 105% of design pressure

DO…inspect end closures regularly; replace components that have deteriorated and correct causes of corrosion

DO…Lubricate seals sparingly, using nonpetroleum Based lubricants, i.e. Parker Super O-lube®, Glycerin or suitable silicone based lubricants.

DO NOT…work on any component until first verifying that pressure is relieved from vessel

DO NOT…make rigid piping connections to ports or clamp vessel in any way that resists growth of fiberglass shell under pressure;

DO NOT…tighten Permeate Port connection more than one turn past hand tight

DO NOT…operate vessel without connecting both Permeate Ports internally to complete set of elements or otherwise plug ports downstream

DO NOT…operate vessel at pressure and temperature in excess of its rating

DO NOT…operate vessel with permeate pressure in excess of 125 psi at 150°F (0.86 MPa at 66°C).

DO NOT…tolerate leaks or allow end closures to be routinely wetted in any way

DO NOT…operate outside the pH range 3-10.

**ORDERING:**

Using the chart below, please check the features you require and fax them with your purchase order to our customer service department for further processing.

For optional materials and / or feature not listed below, please consult the factory for pricing and availability.

**VESSEL LENGTH CODE – please check one**

MODEL 80S120 □ -1 □ -2 □ -3 □ -4 □ -5 □ -6 □ -7 □ -8

**MEMBRANE BRAND AND MODEL – please check one and fill in information**

- Please supply adapters for the following membrane brand and specific model
- Brand ________________ Model ___________________
- Membrane brand and model information is not currently available, but will be supplied to Pentair Water on or before the following date. ___ / ___ / ___

**CERTIFICATION REQUIRED**

- ASME Stamped and National Board Registered (please consult factory for pricing)
- CE Marked.
- Standard, Certified by Pentair water.

**MATERIAL OPTIONS – please check one**

- Standard: all materials as per drawing 99164 on the previous page
- Option: Customer specified Material of Construction. (Please consult factory as these options will affect pricing and vessel load time)

**FEED/CONCENTRATE PORT CONFIGURATION**

- □ Standard – 1½” IPS pipe, grooved ends, with ports in-line
- □ Optional – Multi-Ports™

Using the instructions in Order Specification Sheet #99007 please fill out your feed port configuration in the space below. List port location first, followed by port size for each choice. 1.5”, 2”, 2.5” Ports not available in 90° configurations.

<table>
<thead>
<tr>
<th>PORT SIZE CODE</th>
<th>D</th>
<th>E</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GROOVED END</strong></td>
<td>1½”</td>
<td>2”</td>
<td>2½”</td>
</tr>
</tbody>
</table>

Serial number end □ □ □ □ □ □ □ □ □ □

Opposite end □ □ □ □ □ □ □ □ □ □

**PERMEATE PORT CONFIGURATION**

- Standard 1” FNPT.
- Optional – 1.25” MNPT.

For complete information on proper use of the vessel Please refer to the 80S Series USER’S GUIDE 94182.

Note: This vessel can be operated at 190°F (88°C) upto 600 psi (4.1 MPa)