<table>
<thead>
<tr>
<th>QTY</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
<th>MATERIAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>99302</td>
<td>SHELL</td>
<td>Filament Wound Epoxy/Glass composite - Head locking grooves integrally wound in place.</td>
</tr>
<tr>
<td>2</td>
<td>51051</td>
<td>Bearing Plate</td>
<td>6061-T6 As per SB-221 ASME Edition 2015</td>
</tr>
<tr>
<td>2</td>
<td>98003</td>
<td>Sealing Plate</td>
<td>Engineering Thermoplastic.</td>
</tr>
<tr>
<td>2</td>
<td>50567</td>
<td>Feed/Conc Port</td>
<td>SS-316L As per SA-312 ASME Edition 2015</td>
</tr>
<tr>
<td>2</td>
<td>45090</td>
<td>Port Retainer Set</td>
<td>CF8M Cast SS, Ten-piece set</td>
</tr>
<tr>
<td>2</td>
<td>50569</td>
<td>Saddle Port</td>
<td>Engineering Thermoplastic.</td>
</tr>
<tr>
<td>2</td>
<td>45096</td>
<td>Port Nut</td>
<td>Engineering Thermoplastic.</td>
</tr>
<tr>
<td>2</td>
<td>96000</td>
<td>Head Seal</td>
<td>Ethylene Propylene - O-Ring</td>
</tr>
<tr>
<td>2</td>
<td>45312</td>
<td>Port Seal</td>
<td>Ethylene Propylene - O-Ring</td>
</tr>
<tr>
<td>2</td>
<td>47336</td>
<td>Retaining Ring</td>
<td>SS-316 As per SA-479 ASME Edition 2015</td>
</tr>
<tr>
<td>2</td>
<td>52169</td>
<td>Saddle</td>
<td>Engineering Thermoplastic.</td>
</tr>
<tr>
<td>2</td>
<td>45042</td>
<td>Strap Assy.</td>
<td>304 Stainless Steel - PVC cushion</td>
</tr>
<tr>
<td>2</td>
<td>46260</td>
<td>Strap Screw</td>
<td>5/16-18 UNC, 2.5&quot; L, 18-8 Stainless Steel.</td>
</tr>
</tbody>
</table>

**NOTES**

* Shell exterior coated with hips 921000. *45+ Gloss Polyester Paint.*

*GENERAL TOLERANCES APPLY FOR DETAILS CONTACT FACTORY.*

*LOA refers to overall length of the vessel.*

*EMPTY WEIGHT refers to SHELL WEIGHT including head assemblies without membrane.*

**WARNING!**

INTERNAL PORT PRESSURE MUST NOT EXCEED 125 PSI

**SECTION THROUGH END CLOSURE**

ITEM 17 DOWNSTREAM ONLY

**MODEL 80E45**

MEMBRANE HOUSING

**PENTAIR**

CODELINE®

*450 PSI*
RATING:

DESIGN PRESSURE.................................450 PSI                                                                   (3.1 MPa)
MAX. OPERATING TEMP...............................120°F                                                                        (49°C)
MIN. OPERATING TEMP...............................20°F                                                                         (-7°C)
FACTORY TEST PRESSURE.............. CE / ASME                                                       675 PSI / 495 PSI
                      (4.65Mpa) / (3.41 MPa)
BURST PRESSURE........... 2700 PSI                                                               (18.62 MPa)

INTENDED USE:
The CodeLine Model 80E45 Fiberglass RO Pressure Vessel is designed for continuous, long-
term use as housing for reverse osmosis membrane elements to desalt typical brackish waters at
pressures up to 450 psi. Any make of eight-inch nominal diameter spiral-wound element is easily
accommodated; the appropriate interfacing hardware for the element is specified is furnished with the vessel.
The CodeLine Model 80E45 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 CodeLine Model 80E45 is designed in accordance with the engineering standards of the Boiler and Pressure Vessel Code of the American Society of Mechanical Engineers (ASME Code) Section X Edition 2015. At small additional cost, vessels can be inspected during construction by an ASME Authorized inspector and ASME Code stamped.
The high performance reinforced plastic shell must be allowed to expand under pressure; undue restraint at support points or piping connections can cause leaks to develop in the 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.
The end closures, incorporating close-fitting, interlocking metal components, must be kept dry and free from corrosion; deterioration can lead to catastrophic mechanical failure of the heads.

Pentair 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.

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; tighten hold down straps just snug
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 NOT… make rigid piping connections to ports or clamp vessel in any way that resists growth of fiberglass shell under pressure; \( \Delta AIA = 0.02 \text{ in.} \) \((0.5\text{mm})\) and \( \Delta L = 0.2 \text{ in.} \) \((5\text{mm})\) for a length code – 6 vessel
DO NOT… hang piping manifolds from ports or use vessel in any way to support other components; branch connection piping may be simply supported between the header and port; maximum weight of branch piping; feed/concentrate – 16 lbs \((7 \text{kg})\); permeate – 8 lbs \((4 \text{kg})\)
DO NOT… operate vessel at pressures and temperatures in excess of its rating
DO NOT… operate vessel without permeate ports internally connected with a complete set of elements and interconnecting hardware
DO NOT… operate vessel with permeate pressure in excess of 125 psi at 120°F \((0.86 \text{ MPa} @ 49^\circ\text{C})\)
DO NOT… overtighten the connection to the permeate port (hand-tighten plus one-quarter turn, check for leaks)
DO NOT… tolerate leaks or allow end closures to be routinely wetted in any way
DO NOT… pressurize vessel until double-checking to verify that the retaining ring is completely inside the groove
DO NOT… work on any component until first verifying that pressure is relieved from vessel
DO NOT… operate outside the pH range 3-11

ORDERING:

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

Please note that we require your membrane brand and model number when ordering. If this information is not initially available, you may provide it at a later date by checking the appropriate box below.

VEssel LENGTH CODE – please check one

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

CERTIFICATION REQUIRED

EXTERIOR FINISH – please check one

MATERIAL OPTIONS

For complete information on proper use of this vessel please refer to the 80E series USER’S GUIDE Bulletin 523004.