**Item Description**

- **SHELL**: Filament Wound Epoxy/Glass composites - Head locking grooves integrally wound in place.
- **F/C Port**: CF3M
- **F/C Port Seal**: Ethylene Propylene
- **Elliptical Head Assy.**: Engineering Thermoplastic
- **Quick Release Spiral Ring**: 316 Stainless Steel
- **Saddle**: Engineering Thermoplastic
- **Head Seal**: Ethylene Propylene - O-Ring
- **Strap Assy.**: 304 Stainless Steel-PVC Cushion
- **Strap Screw**: 5/16-18 UNC, 18-8 Stainless Steel
- **Adapter Seals**: Ethylene Propylene - O-Ring
- **Thrust Core**: Engineering Thermoplastic

**Dimensions**

- **Approx Weight (LB/KG)**:
  - 58.75 (16.7)
  - 99.75 (22.1)
  - 139.75 (32.2)
  - 179.75 (41.6)
  - 219.75 (49.2)
  - 259.75 (56.8)
  - 299.75 (66.3)
  - 339.75 (75.5)

**Notice**

- Internal Port Pressure must not exceed 125 PSI.

**Legend**

- **Dash Length**
- **L (IN/MM)**
- **P (IN/MM)**
- **S (IN/MM)**
- **Weight Approx. (LB/KG)**
RATING:

DESIGN PRESSURE………………...450 PSIG at 190°F
(3.1 MPa at 88°C)
MIN. OPERATING TEMP. ………………...20°F
(-7°C)
FACTORY TEST PRESSURE……………675 PSIG
(4.65 MPa)
QUALIFICATION PRESSURE…………...2700 PSI
(18.62 MPa)

INTENDED USE:
The CodeLine 80S45 Non Coded 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 specified is
furnished with the vessel.

The Shell of CodeLine 80S45 Non Coded vessel is
designed in accordance with the engineering standards of
the Boiler and Pressure Vessel Code of the American
Society of Mechanical Engineers (ASME) as per Section
X.
The CodeLine 80S45 Non Coded vessel 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-port 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 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 IPS grooved-end pipecouplings, 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;
***ΔDIA = 0.015 in. (0.4mm) and
***ΔL = 0.2 in. (6mm) for a length code –8 vessel
DO NOT… hang piping manifolds from ports or use vessel in any
way to support other components
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
internally so that external piping connection is not subjected to
feed pressure
DO NOT…install Spacer on downstream end of vessel
DO NOT…operate vessel without Thrust Cone installed
downstream
DO NOT…pressurize vessel until double-checking to verify that the
Locking Ring is in place and fully seated.
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 190°F (0.86 MPa at 88°C).
DO NOT…tolerate leaks or allow end closures to be routinely
wetted in any way
DO NOT…operate outside the pH range 3-11.

ORDERING:
Using the chart below, please check the features you require
VESSEL LENGTH CODE – please check one
MODEL 80S45 Non Coded □ -1 □ -2 □ -3 □ -4 □ -5 □ -6 □ -7 □ -8

MEMBRANE BRAND AND MODEL
☐ Please supply adapters for the following membrane brand and specific model
Brand_________________________ Model_________________________

CERTIFICATION REQUIRED
☐ CE Marked Standard
☐ Certified by Pentair.

PERMEATE PORT CONFIGURATION:
☐ Standard. 1” FNPT & 1.5” IPS GROOVED NORYL HEAD.
☐ Optional .1” BSP F/JIS F Parallel Thread & 1.5” IPS GROOVED NORYL HEAD.

STRAP ASSEMBLY
☐ Standard SS304 ☐ Optional SS316 ☐ Optional SS316L

FEED/CONCENTRATE PORT SELECTION

Material of Construction ☐ Standard CF3M ☐ Optional Duplex SS (CD3MN)
☐ Optional Super Duplex SS (CD3MWCuN)

Configuration ☐ Standard - CF3M 1D5D
☐ Optional – Multi ports (Refer SPEC.SHEET/PM/1.5”-3"for Multi port selection)
2.5” Ports not available in 90° Configuration.

Serial number end
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
Opposite end
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

PORT SIZE CODE
D 1⅜” GROOVED END
E 2” GROOVED END
F 2½” GROOVED END

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

CODELINE BODY LABELS ARE PLACED
AT 90° TO SERIAL NUMBER END AND
AT 270° ON THE OPPOSITE SIDE END