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**CAUTION: INCORRECT MANIFOLDING
WILL CAUSE SEVERE LOCAL STRESS
AROUND PORT AND MAY RESULT IN
LEAKS AND PREMATURE FAILURE;
TAKE EVERY PRECAUTION LISTED
ON REVERSE, SEE INSTALLATION
INSTRUCTIONS FOR FURTHER DETAILS**

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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 80H120 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 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 80H120 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 80H120 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 IPS grooved-end pipe couplings, 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 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

VESSEL LENGTH CODE – please check one

MODEL 80H120 ☐ -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

- ☐ ASME Stamped and National Board Registered.
- ☐ CE Marked Standard.
- ☐ Certified by Pentair water.
- ☐ In compliance with the ASME Sec X but not Code Stamped.
 - ☐ Hydro testing at 1.1 times the design pressure
 - ☐ Hydro testing at 1.5 times the design pressure

ADAPTER KITS	
UP STREAM	DOWN STREAM

PERMEATE PORT SELECTION

Serial Number End

Size of the Permeate Port ☐ 1” ☐ 1.25” ☐ 1.5”
Type of Connection ☐ FNPT ☐ MNPT ☐ BSPTM ☐ BSPTF ☐ IPS GROOVED
Material of Construction ☐ PET/Noryl ☐ SS316L ☐ Zeron 100

Non Serial Number End

Size of the Permeate Port ☐ 1” ☐ 1.25” ☐ 1.5”
Type of Connection ☐ FNPT ☐ MNPT ☐ BSPTM ☐ BSPTF ☐ IPS GROOVED
Material of Construction ☐ PET/Noryl ☐ SS316L ☐ Zeron 100

Note:

- Standard offering is 1.0” FNPT in PET/Noryl.
- 1.25” & 1.5” BSPTF, 1.25” & 1.5” FNPT connections cannot be offered

STRAP ASSEMBLY

☐ Standard SS304 ☐ Optional SS316 ☐ Optional SS316L

FEED/CONCENTRATE PORT SELECTION

Material of Construction ☐ STD Super Duplex SS (CD3MWCuN)
☐ Optional - CE3MN

Configuration ☐ Standard – CD3MWCuN 1G5G
☐ Optional –Multi port: (Refer SPEC.SHEET/PM/1.5”-3” for Multi ports selection).
Ports not available in 90° configurations.

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

BEARING PLATE MATERIAL

☐ Standard – 6061 T6 Aluminium
☐ Optional – Stainless Steel 316L

Note: Refer page-3 for optional Part numbers.

PORT SIZE CODE	
D	1½” GROOVED END
E	2” GROOVED END
F	2½” GROOVED END
G	3” GROOVED END

B

PORT LOCATION CODE	
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B

The diagram shows the internal components of the Codeline 2000 pump assembly. A vertical dashed line indicates the central axis. Component 1 is a small cylindrical part at the bottom. Component 2 is a flange-like part on the left side. Component 3 is a larger cylindrical part in the middle. Component 4 is a flange-like part on the right side. The brand name 'Codeline' is written vertically along the right side of the assembly.

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www.lenntech.com
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DRAWN	KPS	Code Line - 80H120					
	16 OCT 10	MEMBRANE HOUSING					
CHECKED	RD	DATE	DWG. NO.			REV.	
	16 OCT 10	20MAR12	99170			L	
APPROVED	RM	ECN	SCALE	SIZE	SHEET		
	16 OCT 10	2461	1/8" = 1'-0"	A3	3 OF 3		



Pentair Water
CodeLine - 80H120

MEMBRANE HOUSING

DWG. NO. 99170

REV.

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SCALE	SIZE	SHEET
NONE	A3	3 OF 3