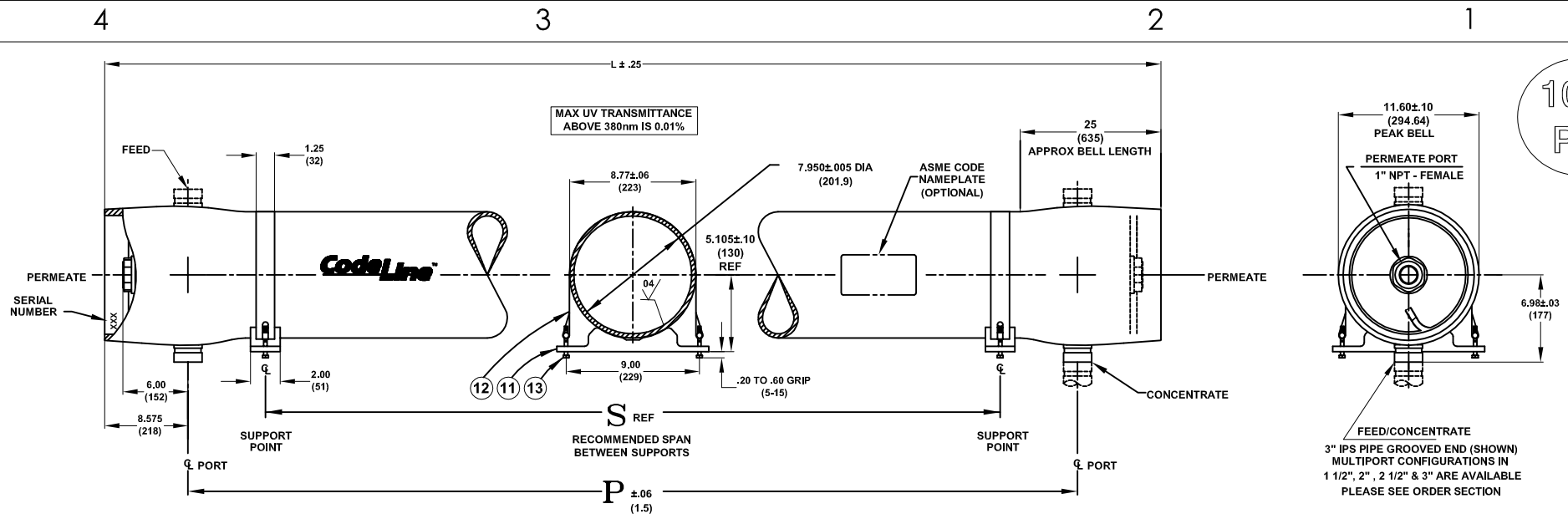
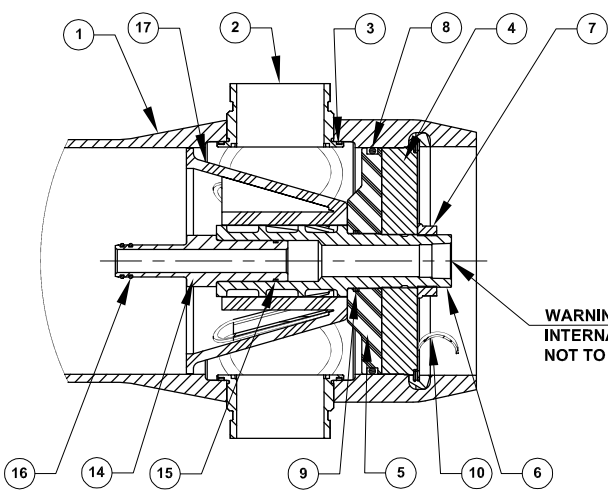


1000
PSI



VIEW AT CENTER SUPPORT
CENTER VESSEL ON 2 OR 3 SUPPORTS
AT SPAN(S) "S": 3 SUPPORTS REQUIRED
FOR LENGTHS -4 AND OVER



**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**

WARNING
INTERNAL PORT PRESSURE
NOT TO EXCEED 125 PSI

- NOTES:-**
- ◆ MAX. ANGULAR VARIATION BETWEEN ANY PORTS $\pm 0.5^\circ$.
 - ◆ DIMENSION IN INCHES (MM APPROX.)
 - ◆ SHELL EXTERIOR COATED WITH WHITE, HIGH GLOSS POLYURETHANE PAINT.
 - ◆ NOT TO BE USED FOR CONSTRUCTION UNLESS CERTIFIED.
 - ◆ ITEM 17 DOWNSTREAM ONLY.
 - * GRADE CD3MWCuN AS PER ASME SA-995 (J93380).

| DWG REF | QTY | PART NUMBER | DESCRIPTION | MATERIAL |
|--------------------------|-----|---------------|---------------------------|---|
| SHELL | | | | |
| 1 | 1 | ORDER SECTION | SHELL | Filament Wound Epoxy/Glass composites - Head locking grooves integrally wound in place. |
| 2 | A/R | | F/C Port | CD3MWCuN * |
| 3 | A/R | | F/C Port Seal | Ethylene Propylene |
| HEAD | | | | |
| 4 | 2 | 96158 | Bearing Plate | 6061-T6 Aluminium alloy - Hard anodized |
| 5 | 2 | 96159 | Sealing Plate | Engineering Thermoplastic. |
| 6 | 2 | 96161 | Permeate Port | Engineering Thermoplastic. |
| 7 | 2 | 45066 | Port Nut | Engineering Thermoplastic. |
| 8 | 2 | 96000 | Head Seal | Ethylene Propylene - O - Ring |
| 9 | 2 | 45312 | Perm Port Seal | Ethylene Propylene - O - Ring |
| HEAD INTERLOCK | | | | |
| 10 | 2 | 47336 | Quick Release Spiral Ring | 316 Stainless Steel. |
| VESSEL SUPPORT | | | | |
| 11 | *2 | 52169 | Saddle | Engineering Thermoplastic. |
| 12 | *2 | 45042 | Strap Assy. | 304 Stainless Steel-PVC Cushion. |
| 13 | 4 | 46265 | Strap screw. | 5/16-18 UNC, 18-8 Stainless Steel. |
| ELEMENT INTERFACE | | | | |
| 14 | 2 | A/R | Adapter | Engineering Thermoplastic. |
| 15 | 2 | 52245 | Adapter seal | Ethylene Propylene - O - Ring |
| 16 | 4 | A/R | PWT Seal | Ethylene Propylene - O - Ring |
| 17 | 1 | 96163 | Thrust Cone | Engineering Thermoplastic. |

* 3 each furnished with length code 4,5,6,7&8.

| Dash Length | L IN(MM) | P IN(MM) | S IN(MM) | Approx Weight LB(KG) |
|-------------|---------------|------------|------------|----------------------|
| -1 | 64.15 (1629) | 47 (1194) | 18X1 457 | 162 (73) |
| -2 | 104.15 (2645) | 87 (2210) | 56X1 1422 | 195 (88) |
| -3 | 144.15 (3661) | 127 (3226) | 80X1 2032 | 228 (103) |
| -4 | 184.15 (4677) | 167 (4242) | 64X2 1626 | 261 (118) |
| -5 | 224.15 (5693) | 207 (5258) | 78X2 1981 | 294 (133) |
| -6 | 264.15 (6709) | 247 (6274) | 92X2 2337 | 328 (149) |
| -7 | 304.15 (7725) | 287 (7290) | 106X2 2692 | 361 (164) |
| #-8 | 344.15 (8741) | 327 (8306) | 120X2 3048 | 394 (179) |

CodeLine™
 Pentair Water
 CODELINE - 80H100
 MEMBRANE HOUSING

| | | | | | |
|---------------|---------------|----------|----------|-----------|--------------|
| DRAWN DATE | PGS 27 JAN 06 | ECN 1659 | DWG. NO. | 99169 | REV. F |
| CHECKED DATE | MD 27 JAN 06 | | DATE | 16 NOV 09 | SCALE NONE |
| APPROVED DATE | RM 27 JAN 06 | | | | SHEET 1 OF 2 |

4

3

2

1

4

3

2

1

RATING:

DESIGN PRESSURE.....1000 PSIG at 150°F
(6.895 MPa at 66°C)
MIN. OPERATING TEMP.....20°F
(-7°C)
FACTORY TEST PRESSURE.... CE / ASME
1500 PSIG / 1100 PSIG
(10.34 MPa) (7.58 MPa)
QUALIFICATION PRESSURE6000 PSI
(41.37 MPa)

INTENDED USE:

The CodeLine 80H100 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 1000 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 80H100 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 80H100 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 non petroleum based lubricants, i.e. parker Super 0-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 66.0°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 80H100 -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 99169 on the previous page

NOTE: The options listed below will increase the vessel price. Call factory for pricing details.

Option: Customer specified Material of construction. (Please consult factory as these options will affect pricing and vessel lead time)

FEED/CONCENTRATE PORT CONFIGURATION

Standard – 3” 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.

Ports not available in 90° configurations.

Serial number end

Opposite end

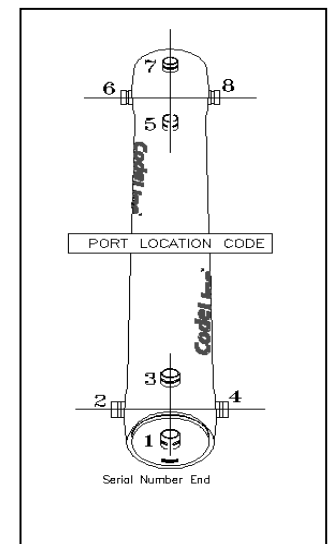
PERMEATE PORT CONFIGURATION:

Standard 1” FNPT.

Optional – 1.25” MNPT.

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

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



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