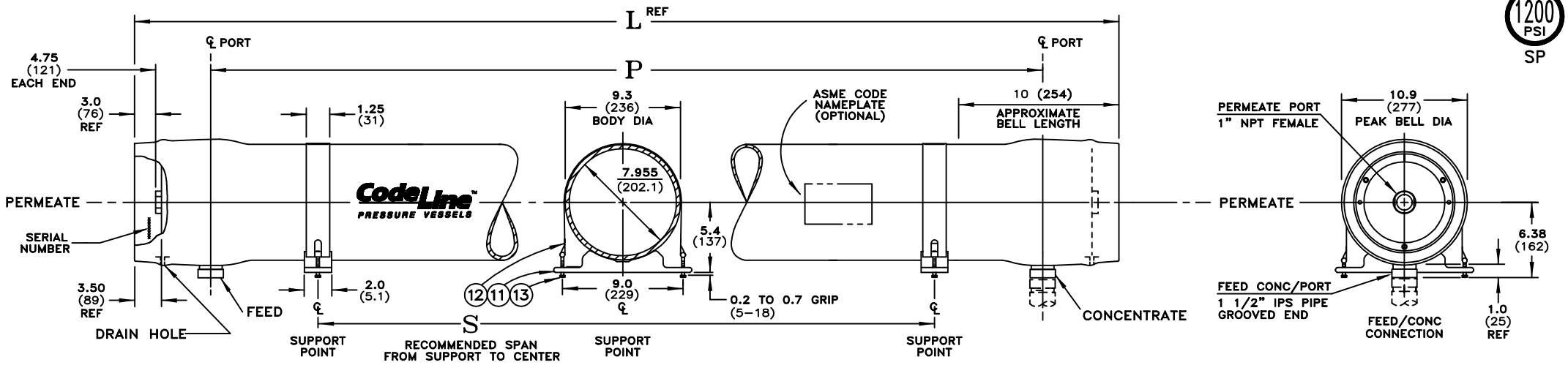


VIEW AT CENTER SUPPORT

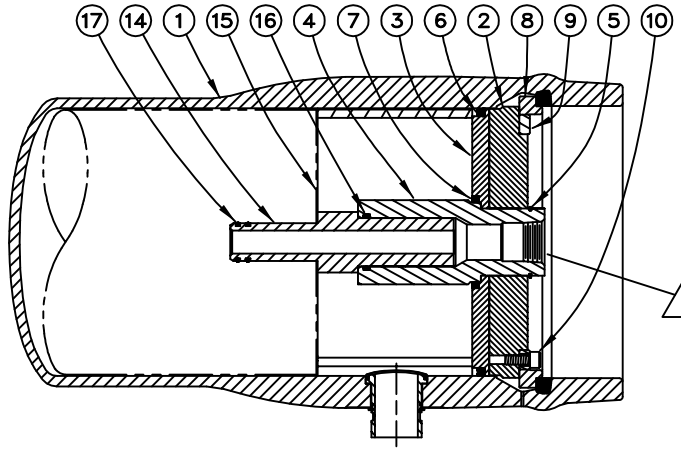
CENTER VESSEL ON 2 OR 3 SUPPORTS AT SPAN(S) "S"; 3 SUPPORTS REQUIRED FOR LENGTHS -4 AND OVER

VIEW AT END

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

Dwg. Ref.	Qty. Per	Part Number	Part Name	Materials/Remarks
			SHELL	
1	1		Shell	Filament wound epoxy/glass composite–Head locking grooves integrally wound in-place, with Superduplex steel,(CD3MWCuN) F/C side-ports.
			HEAD	
2	2	50666	Bearing Plate	6061-T6 aluminum alloy-hard anodized
3	2	50667	Sealing Plate	PVC Thermoplastic
4	2	50675	Permeate Port	PVC Thermoplastic
5	2	45248	Port Retainer	316 Stainless Steel
6	2	45320	Head Seal	Ethylene Propylene, Quad Ring
7	2	45350	Perm Port Seal	Ethylene Propylene, square-cut
			HEAD INTERLOCK	
8	6	45098	Locking Ring	316 Stainless Steel
9	2	50676	Securing Ring	Reinforced Plastic – Yellow Color
10	6	45228	Securing Screws	316 Stainless Steel
			VESSEL SUPPORT	
11	*3	52169	Universal Saddle	Engineering Thermoplastic
12	*3	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	As Required	Adapter	Engineering Thermoplastic
15	1	50734	Thrust Ring	PVC Thermoplastic, White
16	2	45308	Adapter Seal	Ethylene Propylene – O-Ring
17	A/R	As Required	PWT Seal	Ethylene Propylene – O-Ring

*2 each furnished with length code 1, 2 & 3



SECTION THROUGH END CLOSURE

ITEM (15) DOWNSTREAM ONLY

WARNING!

INTERNAL PORT PRESSURE MUST NOT EXCEED 125 PSI

Shell Length Code	L L.O.A. IN (MM)	P Port to Port IN (MM)	S Span IN (MM)	Empty Weight LB (KG)
1	60.75 (1543)	45.0 (1143)	28 X 1 (711)	125 (57)
2	100.75 (2559)	85.0 (2159)	56 X 1 (1422)	175 (79)
3	140.75 (3575)	125.0 (3175)	80 X 1 (2032)	225 (102)
4	180.75 (4591)	165.0 (4191)	64 X 2 (1626)	275 (125)
5	220.75 (5607)	205.0 (5207)	78 X 2 (1981)	325 (147)
6	260.75 (6623)	245.0 (6223)	92 X 2 (2337)	375 (170)
7	300.75 (7639)	285.0 (7239)	106 X 2 (2692)	425 (193)

NOTES

- SHELL EXTERIOR COATED WITH WHITE, HIGH GLOSS POLYURETHANE PAINT
- DIMENSION IN INCHES (MM APPROX.)
- NOT TO BE USED FOR CONSTRUCTION UNLESS CERTIFIED

CodeLine™ Pentair Water

MODEL E8H/SP

SEAWATER RO PRESSURE VESSEL

SIDEWALL PORTING

DRAWN	ECN	SHEET	SIZE	NUMBER	REV
KR 22JAN08 / MD 22JAN08 / SS 22JAN08	1698	1 OF 2	B	507031	L

RATING:

DESIGN PRESSURE.....1200 PSI at 120°F (8.3 MPa at 49°C)

MIN. OPERATING TEMP.....20°F (–7°C)

FACTORY TEST PRESSURE.....1800 PSI 12.4 MPa)

BURST PRESSURE.....7200 PSI 49.6 MPa)

INTENDED USE

The **Model E8H/SP** Fiberglass RO Pressure Vessel is designed for continuous, long–term use as a 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 model E8H/SP 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 Model E8H/SP must be installed, operated and maintained in accordance with the precautions listed and good industrial practice to assure safe operation over a long service life.

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. 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 closures, incorporating close–fitting, interlock–ing metal components, must be kept dry and free of corrosion; deterioration can lead to catastrophic mechanical failure of the heads.

Pentair Water Treatment 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 materials of construction for compatibility with the specific corrosive environment, shall be the responsibil–ty of the purchaser. Alternate materials with enhanced corrosion resistance are available on special order.

Specifications 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 shell centered on horizontal members spaced at recomended span(s) "S" using compliant mounting hardware furnished; 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 sideports; allow full .125 inch gap between port and piping, and position piping to maximize flexibility of connection

DO... provide flexibility in, and support for piping manifold 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 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 restricts growth of fiberglass shell under pressure; ▲DIA = 0.02 in. (0.5mm) and ▲L = 0.3 in. (8mm) 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 a 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 Ring installed downstream

DO NOT... pressurize vessel until double checking to verify that all three segments of Locking Ring Set are in place, and that the Securing Ring is fully seated and secured by all three Securing Screws

DO NOT... operate vessel at pressures and temperatures in excess of its rating

DO NOT... operate vessel with permeate pressure in excess of 125 psi at 120°F (0.9 MPa at 49°C)

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

For complete information on proper use of this vessel please refer to the E8 Series USER'S GUIDE, Bulletin 507011

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

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

MODEL E8H/SP ☐–1 ☐–2 ☐–3 ☐–4 ☐–5 ☐–6 ☐–7

EXTERIOR FINISH – please check one

☐ **Standard – white high–gloss polyurethane coating over sanded surface.**

CERTIFICATION – please check one

☐ **Standard – certified by CodeLine, not code stamped.**

☐ Option – Certified by ASME Authorized Inspector, Code stamped and registered with National Board. Call factory for pricing details.

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 CodeLine on or before the following date. ____/____/____

MATERIAL AND PORT CONFIGURATIONS OPTIONS – please check one

☐ **Standard – all materials and port configurations per drawing 507031 on the opposite page.**
NOTE: The options listed below will increase the vessel price. Call factory for pricing details.

☐ Option **Customer specified port configuration.** Using the chart below, please indicate the custom options you require for each end of the pressure vessel (many options are required only at one end). Please consult the factory as these options will affect pricing and vessel lead time.

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

PERMEATE PORT MATERIAL

Standard – PVC Thermoplastic (for applications up to 120° F)
Option – PET Thermoplastic (for up to 176° and high back pressure operation)
Option – 316L Stainless Steel (for up to 176° and high back pressure operation)

PERMEATE PORT CONFIGURATION

Standard – 1" NPT Female Threads
Option – 3/4" NPT Female Threads; 4.5" Port Offset
Option – 1/2" NPT Female Threads; 4.5" Port Offset
Option – 1 1/2" IPS Grooved End; 6.3" Port Offset
Option – 1 1/4" IPS Grooved End; 6.3" Port Offset

PORT SIZE CODE	
D	1 1/2" GROOVED END
E	2" GROOVED END
F	2 1/2" GROOVED END
S	2" SANITARY

FEED PORT CONFIGURATION

Standard – 1 1/2" IPS pipe, grooved ends, with ports in–line
Optional – Multi–Ports™, increased port diameter or port clocking
Using the instructions in CodeLine Bullentin #507054
please fill out your feed port configuration in the space below.
List port location first followed by port size for each choice.
2 1/2" ports & 2" Sanitary ports are not allowed 90° from any other port size.

Serial number end ☐☐☐☐☐☐

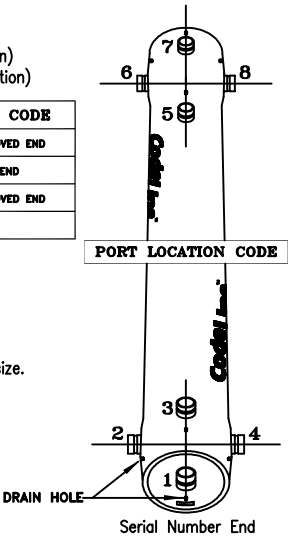
Opposite end ☐☐☐☐☐☐

DRAIN HOLE LOCATION

Serial number end ☐

Opposite end ☐

Drain Hole Size ø5/32". Only Two Holes per Vessel,one per side.



DWG. NO. 507031L