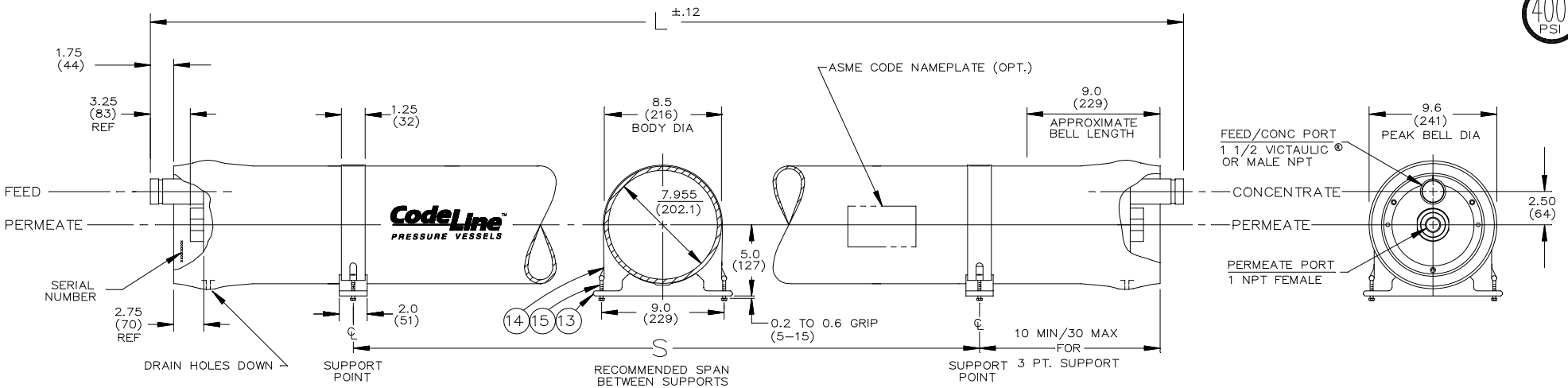
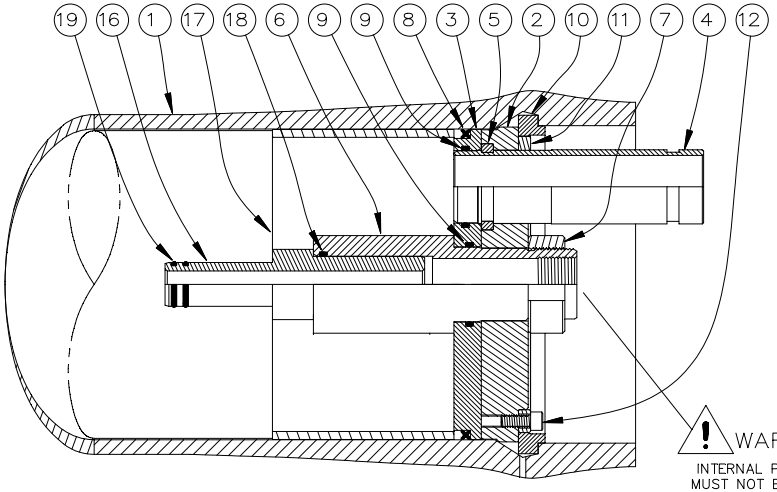
400 PSI



Dwg. Ref.	Qty. Per	Part Number	Part Name	Materials/Remarks
			SHELL	
1	1	107007– –1,–2,–3,–4,–5 –6,–7,–7.5,–8	Shell Length	Filament wound epoxy/glass composite–Head locking grooves integrally wound in–place
			HEAD	
2	2	407022–1	Bearing Plate	6061–T6 aluminum alloy–hard anodized
3	2	407002–1	Sealing Plate	PVC Thermoplastic
4	2	407018–1	Feed/Conc Port	Type 316 Stainless Steel
5	2	407233–1	Port Retainer Set	304 Stainless Steel, Two–piece set
6	2	407019–1	Permeate Port	PVC Thermoplastic
7	2	407005–1	Port Nut	PVC Thermoplastic–left hand thread
8	2	6ER002–442	Head Seal	Ethylene Propylene, Quad Ring
9	4	6ER001–225	Port Seal	Ethylene Propylene, O–Ring
			HEAD INTERLOCK	
10	6	407288–1	Locking Ring	Cast Aluminum
11	2	407007–1	Securing Ring	Reinforced Plastic – Yellow Color
12	6	6CF016–1	Securing Screws	316 Stainless Steel
			VESSEL SUPPORT	
13	*2	407333–2	Saddle	Engineering Thermoplastic
14	*2	207078–3	Strap Assy	304 Stainless Steel – PVC cushion
15	4	6CF007–16	Strap Screw	5/16–18 UNC, 18–8 Stainless Steel
			ELEMENT INTERFACE	
16	2	As Required	Adapter	Engineering Thermoplastic
17	1	407052–2	Thrust Ring	Thermoplastic, White
18	2	6ER001–221	Adapter Seal	Ethylene Propylene – O–Ring
19	4	As Required	PWT Seal	Ethylene Propylene – O–Ring

*3 each furnished with length code 6, 7, 7.5 & 8



SECTION THROUGH END CLOSURE

ITEM (17) DOWNSTREAM ONLY

ASME CODE NAMEPLATE (OPT.)

CERTIFIED BY ADVANCED STRUCTURES, INC. d.b.a. CodeLine ESCONDIDO, CALIFORNIA U.S.A. MAX.W.P. 400 P.S.I. 120°F. MIN.OPER.TEMP.20 °F. MFG.SER. YR.BLT. CLASS I FW

NOTES:

- DIMENSIONS IN INCHES (MM APPROX)
- NOT TO BE USED FOR CONSTRUCTION UNLESS CERTIFIED

Shell Length Code	L L.O.A. IN (MM)	S Span IN (MM)	Empty Weight LB (KG)
1	63.0 (1600)	34 (864)	60 (27)
2	103.0 (2616)	56 (1422)	80 (36)
3	143.0 (3632)	80 (2032)	100 (45)
4	183.0 (4648)	104 (2642)	120 (54)
5	223.0 (5664)	128 (3251)	140 (63)
6	263.0 (6680)	* 3 PTS.	160 (73)
7	303.0 (7696)	* 3 PTS.	180 (82)
7.5	323.0 (8204)	* 3 PTS.	190 (87)
8	343.0 (8712)	* 3 PTS.	200 (91)

CodeLine PRESSURE VESSELS
by
CodeLine DIVISION
STRUCTURAL NORTH AMERICA
Escondido, California U.S.A.

ENGR AP 17NOV97	MODEL E8L				
QLTY JK 21NOV97	MEMBRANE HOUSING				
MRKT DWE 19NOV97	SCALE NONE	SHEET 1 OF 1	SIZE B	NUMBER 507003	REV N

RATING:

DESIGN PRESSURE..... 400 PSI at 120°F (2.8 MPa at 49°C)

MIN. OPERATING TEMP..... 20°F (−7°C)

FACTORY TEST PRESSURE..... 600 PSI (4.1 MPa)

BURST PRESSURE..... 2400 PSI (16.5 MPa)

INTENDED USE

The Model E8L 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 400 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 E8L 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 E8L 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. 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.

CodeLine Division, Structural North America 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 with drain holes down on horizontal members at central 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... keep Port Nut tight; turn counterclockwise to tighten left hand thread

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 −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 kg); permeate − 8 lbs (4 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 and interconnecting hardware

DO NOT...operate vessel with permeate pressure in excess of 125 psi at 120°F (0.9 MPa at 49°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 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...work on any component until first verifying that pressure is relieved from vessel

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

ORDERING

Please specify the following:

- VESSEL MODEL NUMBER built from table of options below
- MEMBRANE ELEMENT MODEL NUMBER
- SPECIFIC CONCERNS regarding INTENDED USE and requests for SPECIAL MATERIALS of CONSTRUCTION

A vessel model number specifies a complete assembly less element interface components. The required interface components are furnished with the vessel but are specified separately.

Membrane elements and between−element connectors (interconnectors) are furnished by membrane element manufacturer.

E8L− □ W− □ □ □ □ ■

assigned by CodeLine Division

MODEL E8L

Fiberglass RO Pressure Vessel
8" Nominal Diameter
400 PSI Design Pressure

CERTIFICATION

Code	Certification Grade
H	Certified by Advanced Structures, not ASME Code stamped
C	Certified by ASME Authorized Inspector and Code stamped
R	Code stamped and registered with National Board of Pressure Vessel Inspectors (NAT'L BD)

SHELL LENGTH

Length per code number corresponding to number of elements that can be contained

Code	Element Capacity	
	40" Long	60" Long
−1	One each	
−2	Two each	
−3	Three each	Two each
−4	Four each	
−5	Five each	
−6	Six each	Four each
−7	Seven each	
−7.5		Five each
−8	Eight each	

HEAD MATERIALS

	Materials
A	Standard per drawing
X	* Optional Material see dwg no. 507023

PERMEATE PORT CONFIGURATION

	Pipe Connection
1	1" NPT − Female
*2	Sanitary − dwg no. 507023

SHELL FINISH

Exterior Shell Finish
White, high−gloss polyurethane coating over sanding surface

FEED/CONC PORT CONFIGURATION

	Pipe Connection
1	Victaulic Grooved
2	1 1/2" NPT − Male
*3	Sanitary − dwg no. 507023

* OPTIONAL − Consult factory for specifications and pricing

DWG. NO. 507003N2