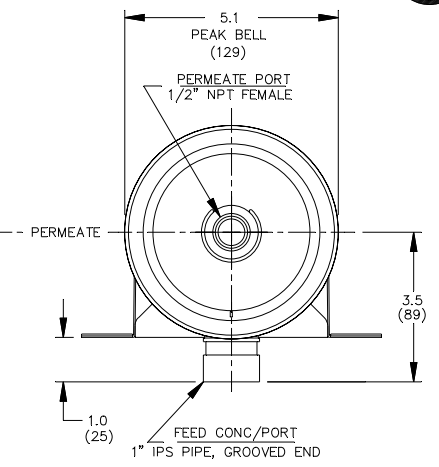
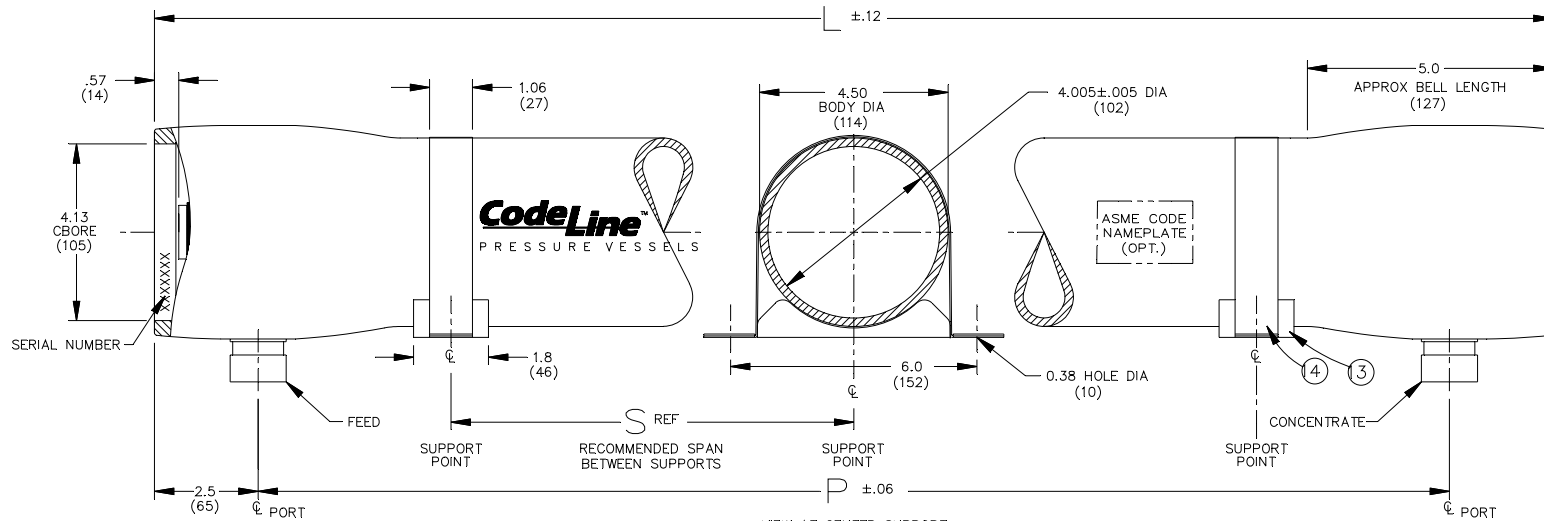
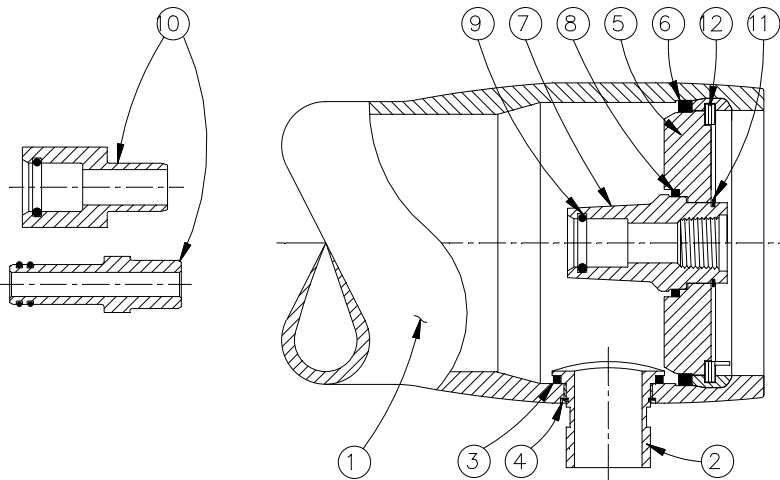


400  
PSI



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



SECTION THROUGH END CLOSURE  
(ENDS ARE IDENTICAL)

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

\* PARTS LISTED ARE STANDARD OPTIONS

Dwg. Ref.	Qty. Per	* Part Number	Part Name	Materials/Remarks
SHELL				
①	1		Shell	Filament wound epoxy/glass composite. S.S. head locking grooves integrally wound in place. Shell exterior coated with white high gloss polyurethane paint.
②	2	SEE	Feed/Concentrate Port	316 SST
③	2	ORDER	F/C Port Seal	Ethylene Propylene - Square Cut
④	2	SECTION	F/C Port Retainer	300 Series SST
HEAD				
⑤	2	51661	Bearing Plate	Fiber Reinforced Epoxy Laminate
⑥	2	45352	Seal	Ethylene Propylene - Square Cut
⑦	2	50898	Permeate Port	Engineering Thermoplastic
⑧	2	45335	Permeate Port Seal	Ethylene Propylene - Square Cut
⑨	4	45296	PWT/Adapter Seal	Ethylene Propylene - O-Ring
⑩	2	As Required	Adapter	Engineering Thermoplastic
⑪	2	45242	Port Retainer	300 Series SST
HEAD INTERLOCK				
⑫	2	45260	Retaining Ring	300 Series SST
VESSEL SUPPORT				
⑬	* 3	45058	Saddle	Cast Urethane Elastomer
⑭	* 3	50329	Strap	Type 304 SST - PVC cushion
* 2 Each furnished with length code 1, 2 & 3.				
FOR REFERENCE ONLY				

Shell Length Code	L L.O.A. IN (MM)	P Port to Port IN (MM)	S Span IN (MM)	APPROX. ASSEMBLY Weight LB (KG)
1	47 (1194)	42 (1067)	28 X 1 (711)	14.75 (6.7)
2	87 (2210)	82 (2083)	56 X 1 (1422)	20.75 (9.4)
3	127 (3226)	122 (3099)	80 X 1 (2032)	28.25 (12.8)
4	167 (4242)	162 (4115)	64 X 2 (1626)	35.75 (16.2)
5	207 (5258)	202 (5131)	78 X 2 (1981)	43.25 (19.6)
6	247 (6274)	242 (6147)	92 X 2 (2337)	50.75 (23.0)
7	287 (7290)	282 (7163)	106 X 2 (2692)	58.25 (26.4)
8	327 (8306)	322 (8179)	120 X 2 (3048)	65.75 (29.8)

**Pentair Water** VERNA, GOA INDIA.

MODEL 40A40  
LOW PRESSURE MEMBRANE HOUSING

ENGR AP 16MAR99	ECO 9193	SHEET 1 OF 1	SIZE B	NUMBER 518010	REV D
QLTY RAP 23MAR99					
MRKT DWE 23MAR99					

**RATING:**

DESIGN PRESSURE..... 400 PSI at 176°F  
(2.8 MPa at 80°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 40A40 Fiberglass RO/UF Pressure Vessel is designed for continuous, long-term use as a housing for reverse osmosis and ultrafiltration elements in typical industrial water treatment systems at pressures up to 400 psi. Any make of 4-inch nominal diameter spiral-wound element is easily accommodated. The appropriate interfacing hardware for the element specified is furnished with the vessel.

The Model 40A40 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 a small additional cost, vessels can be inspected during construction by an ASME Authorized Inspector and ASME Code stamped.

The Model 40A40 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, interlocking components, must be kept dry and free of corrosion; deterioration can lead to catastrophic mechanical failure of the heads.

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 responsibility 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 on horizontal members at central span "S" using compliant vessel supports 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 75 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 = 0.01 in. (0.25 mm) and ▲L = .140 in. (3.5 mm) 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...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 interconnecting hardware
- DO NOT...tighten Permeate Port connection more than one turn past hand tight
- DO NOT...operate vessel with permeate pressure in excess of 125 psi at 176°F (0.9 MPa at 80°C)
- 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 the Retaining Rings are in place.
- DO NOT...install Spacer on downstream end of vessel

**NOTE**

Spiral Retaining Ring Removal Tool (1MM007-1) recommended to open and close vessel.

**ORDERING**

Please specify the following:

- VESSEL MODEL
- MEMBRANE ELEMENT MAKE AND MODEL NUMBER
- SPECIFIC CONCERNS regarding INTENDED USE and requests for SPECIAL MATERIALS of CONSTRUCTION

40A40-□

SHELL LENGTH

(Length given as the maximum 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	
-8	Eight each	

**SHELL FINISH**

Exterior Shell Finish
White, high-gloss polyurethane coating over sanded surface

**CAUTION:**

EYE PROTECTION SHOULD BE WORN WHEN REMOVING OR INSTALLING RETAINING RINGS.

KEEP FINGERS CLEAR FROM RETAINING RING WHILE INSTALLING LAST OF THREE TURNS.

RING MAY SNAP INTO POSITION POSSIBLY PINCHING FINGERS.

**OPTIONS**

**CERTIFICATION**

Certification Grade
Certified by CodeLine Division, not ASME Code stamped
Certified by ASME Authorized Inspector and Code stamped
Code stamped and registered with National Board of Pressure Vessel Inspectors (NAT'L BD)

**PERMEATE PORT MATERIALS**

Materials
* NORYL
PVC (120°F maximum)
316 SST

**PERMEATE PORT CONFIGURATIONS**

Port Sizes
* 1/2" NPT Female (Standard per drawing)
1/2" BSP/JIS Female

**FEED/CONC. PORT CONFIGURATIONS**

Port Sizes
* 1" IPS Victaulic, 316 SS (Std. per drawing)
3/4" NPT Female, 316 SS
3/4" BSP/JIS Female, 316 SS

**\* STANDARD OPTIONS**