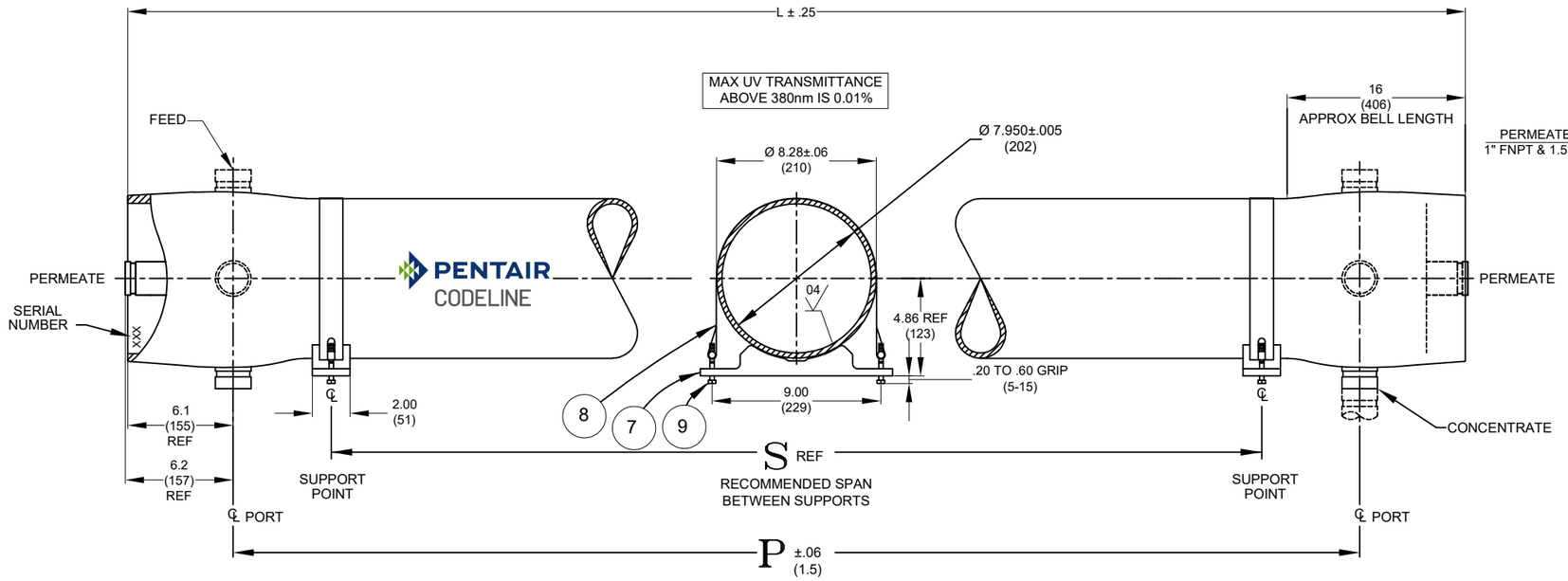
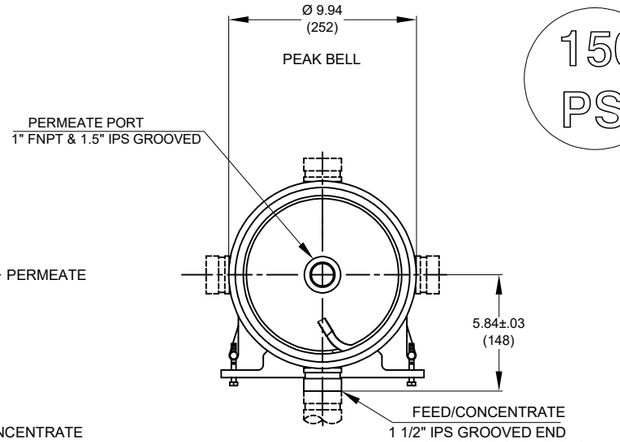




150 PSI

DWG REF	QTY	PART NUMBER	DESCRIPTION	MATERIAL
SHELL				
1	1	99230	SHELL	Filament Wound Epoxy/Glass composites - Head locking grooves integrally wound in place.
2	A/R	A/R	F/C Port	SA-351 CF3M
3	A/R	A/R	F/C Port Seal	Ethylene Propylene .
HEAD - NON CODED				
4	2	96247	Elliptical Head Assy.	Engineering Thermoplastic.
4.1	2	194440	Elliptical Head	Engineering Thermoplastic.
4.2	2	96192	Danger Label	-
5	2	196223	Head Seal	Ethylene Propylene - O - Ring
HEAD INTERLOCK				
6	2	47336	Quick Release Spiral Ring	SA-479 SS-316
VESSEL SUPPORT				
7	2*	52169	Saddle	Engineering Thermoplastic.
8	2*	45042	Strap Assy.	304 Stainless Steel-PVC Cushion.
9	4**	46265	Strap screw.	5/16-18 UNC, 2.5"L, 304 Stainless Steel.
ELEMENT INTERFACE				
10	2	A/R	Adapter	Engineering Thermoplastic.
11	2	196222	Adapter seal	Ethylene Propylene - O - Ring
12	4	A/R	PWT Seal	Ethylene Propylene - O - Ring
13	1	97014	Thrust Cone	Engineering Thermoplastic.

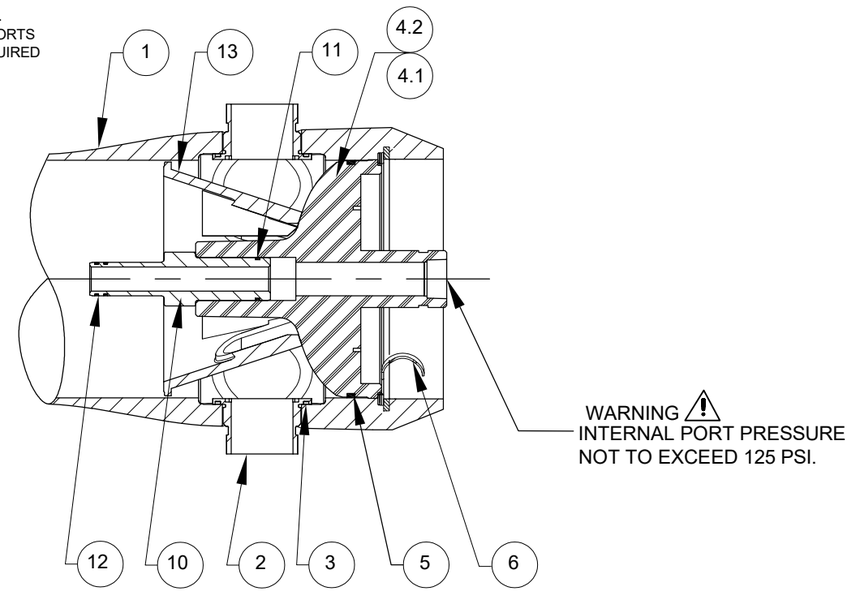
*3 & **6 each furnished with length code 4,5,6,7 & 8.

VIEW AT CENTER SUPPORT

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

PORT SIZE CODE	
D	1 ½" GROOVED END
E	2" GROOVED END
F	2 ½" GROOVED 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



SECTION THROUGH END CLOSURE

NO. OF PORTS	PORT LOCATION	VESSEL QTY.

Dash Length	L IN(MM)	P IN(MM)	S IN(MM)	Approx Weight LB(KG)**
-1	59.15 (1502)	47 (1194)	23X1 (584)	49 (22)
-2	99.15 (2518)	87 (2210)	56X1 (1422)	57 (26)
-3	139.15 (3534)	127 (3226)	80X1 (2032)	66 (30)
-4	179.15 (4550)	167 (4242)	64X2 (1626)	75 (34)
-5	219.15 (5566)	207 (5258)	78X2 (1981)	84 (38)
-6	259.15 (6582)	247 (6274)	92X2 (2337)	93 (42)
-7	299.15 (7598)	287 (7290)	106X2 (2692)	101 (46)
-8	339.15 (8614)	327 (8306)	120X2 (3048)	110 (50)

GENERAL NOTES:

1. MAX. ANGULAR VARIATION BETWEEN ANY PORT ±0.5°.
2. DIMENSION IN INCHES (MM APPROX.).
3. SHELL EXTERIOR COATED WITH WHITE RAL 9003, HIGH GLOSS POLYURETHANE PAINT.
4. ITEM 13 DOWNSTREAM ONLY.
5. NOT TO BE USED FOR CONSTRUCTION UNLESS CERTIFIED BY PENTAIR.

** WEIGHTS GIVEN IN THE TABLE ARE FOR HIGHEST CONFIGURATION AND WILL VARY WITH CHANGE IN CONFIGURATION.

PENTAIR CODELINE
VERNA, GOA INDIA

DRAWN BY:	KR	DRAWING DESCRIPTION: MODEL - 80S15 NC MEMBRANE HOUSING		DRAWING NO.: 99171	REV.: V
DATE:	05NOV07				
CHECKED BY:	MD	CUSTOMER NAME: -		VESSEL MODEL: 80S15 (NON-CODED)	
DATE:	05NOV07				
APPROVED BY:	RM	PROJECT NAME: -			TOTAL QTY: -
DATE:	05NOV07				
PCO NO. :	547854	CUSTOMER P.O.#: -	SIZE: A3	SCALE: NONE	PAGE NO.: 01 OF 02
REV. DATE:	16OCT25				

RATING:

DESIGN PRESSURE/MAWP……..150 PSI (1.03 MPa)
MAX. ALLOWABLE TEMP…… 190°F (88°C)
MIN. ALLOWABLE TEMP……..……20°F (-7°C)
FACTORY TEST PRESSURE…..……165 PSI (1.14MPa)
QUALIFICATION PRESSURE…..…… 900 PSI (6.21 MPa)

INTENDED USE:

The CodeLine 80S15 Non Coded 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 150 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 Shell of CodeLine 80S15 Non Coded vessels is designed in accordance with the engineering standards of the Boiler and Pressure Vessel Code of the American Society of Mechanical Engineers (ASME) as per Section X Edition 2025 and all metallic parts are designed as per ASME Section VIII Division I Edition 2025.

The CodeLine 80S15 Non Coded 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 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 190°F (0.86 MPa at 88°C).
DO NOT…tolerate leaks or allow end closures to be routinely wetted in any way
DO NOT…operate outside the pH range of 3-11.
DO NOT…operate outside the pH range 2-12 for cleaning.
DO NOT…exceed 43.2 hours in a year for cleaning with above mentioned pH range.

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

ORDERING:
Using the chart below, please check the features you require

VESSEL LENGTH CODE – please check one

MODEL 80S15 Non Coded ☐ -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

☐ **Hydro testing at 1.1 times the design pressure.**
☐ **CE Marked Standard – MODULE-D1, CATEGORY-2.**

ADAPTER KITS	
UP STREAM	**DOWN STREAM**

PERMEATE PORT CONFIGURATION:

❑ **Standard. 1" FNPT & 1.5" IPS GROOVED NORYL HEAD**.
❑ Optional .1" FEMALE BSP/JIS Parallel Thread & 1.5" IPS GROOVED NORYL HEAD.
❑ Optional .1.5" MALE BSP/JIS Parallel Thread

PERMEATE PORT PART NUMBERS & PERMPORT TO F/C PORT OFFSET DISTANCE					
SIZE	MATERIAL	MALE		FEMALE	
		PART NUMBER	DIM "A"	PART NUMBER	DIM "A"
1"	NORYL	NOT APPLICABLE		94567	6.18
1.5"	NORYL	96758	5.86	NOT APPLICABLE	

STRAP ASSEMBLY ☐ **Standard SS304** ☐ Optional SS316 ☐ Optional SS316L

STRAP ASSEMBLY PART NUMBERS		
SS304	**SS-316**	**SS-316L**
45042	46926+	94371+

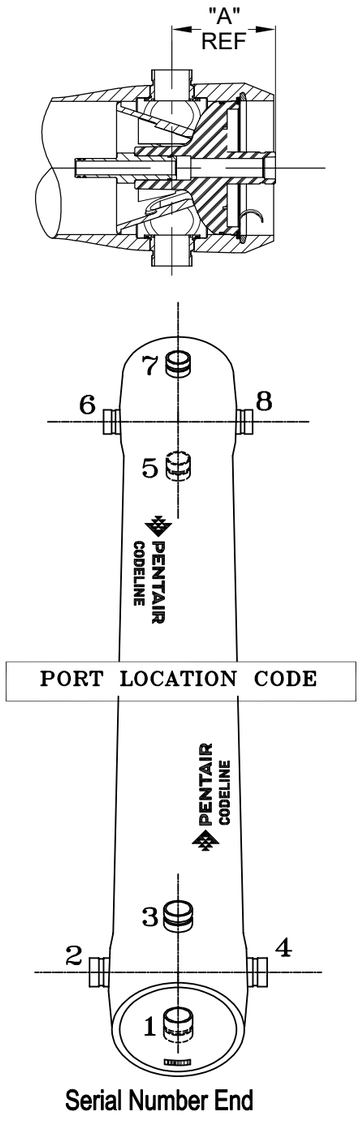
FEED/CONCENTRATE PORT SELECTION

Material of Construction ☐ **Standard CF3M** ☐ Optional Duplex SS (CD3MN)
☐ Optional Super Duplex SS (CD3MWCuN)

Configuration ☐ **Standard - CF3M 1D5D**
☐ Optional – Multi ports :

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

F/C PORT & SEAL PART NUMBER				
SIZE	***CF3M**	****CD3MN**	*****CD3MWCuN**	**SEAL**
1.5"	**98024**	97353	96507	**196224**
2.0"	98025	97357	96643	196225
2.5"	98026	97364	96556	196226



Serial Number End

CODELINE BODY LABELS ARE PLACED AT 90° ON SERIAL NUMBER END AND AT 270° ON THE OPPOSITE SIDE END

GENERAL NOTES:

DIMENSIONS IN INCHES (MM APPROX.).
* GRADE SA-351 CF3M.
** GRADE SA-995 CD3MN (UNS J92205).
*** GRADE SA-995 CD3MWCuN (UNS J93380)
+ OPTIONAL STRAP ASSEMBLY WITH SS-316 & 316L SHALL BE SUPPLIED AS PER METRIC STANDARDS.

PENTAIR CODELINE VERNA, GOA INDIA

DRAWN BY:	KR	DRAWING DESCRIPTION: MODEL - 80S15 NC MEMBRANE HOUSING		DRAWING NO.: 99171	REV.: V
DATE:	05NOV07				
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REV. DATE:	16OCT25				