

## PRESSURE VESSELS CODELINE 8"-150 PSI PV 80S15 "CODED" SIDE PORT



### PV 80S15 CODELINE "CODED"

#### MATERIALE DI COMPOSIZIONE:

- Vessel: \_\_\_\_\_ Vetrotresina
- Tappi: \_\_\_\_\_ Lega di alluminio 6061-T6
- Anello di chiusura tappo: \_\_\_\_\_ 316 SST
- Basamento tappo: \_\_\_\_\_ materiale termoplastico
- Selle (incluse): \_\_\_\_\_ materiale termoplastico (nr. 2 per vessel fino al 3 elementi, dal 4 elementi fino al 6 elementi nr. 3 per vessel).
- Tiranti (inclusi): \_\_\_\_\_ in AISI 304 e cuscini in PVC (nr. 2 per vessel fino al 3 elementi, dal 4 elementi fino al 6 elementi nr. 3 per vessel).

#### DATI TECNICI

- Pressione di progetto: \_\_\_\_\_ 10 bar a 88°C (150 psi a 190°F)
- Temperatura minima di esercizio: \_\_\_\_\_ -7°C (20°F)
- Pressione di collaudo:

  - ASME 13 bar (195 psi)
  - CE 15 bar (225 psi)

- Pressione di scoppio: \_\_\_\_\_ 62 bar (900 psi)
- Uscita permeato: \_\_\_\_\_ 1" NPT femmina
- Uscita concentrato: \_\_\_\_\_ 1 1/2" in AISI 316L connessione per giunto victaulic (giunto victaulic non incluso)
- Posizione porte laterali: \_\_\_\_\_ Standard a squadra
- Colore Standard: \_\_\_\_\_ Bianco
- Connettori per membrana (non inclusi): \_\_\_ Tramite adapter (2 x vessel, vedi documentazione tecnica)
- Nr. di elementi disponibili: \_\_\_\_\_ 1-2-3-4-5-6-7

#### CERTIFICATI:

- Ispezione e marcatura ASME CODE (quotazione su richiesta)
- Marcatura CE (quotazione su richiesta)
- Direttiva 97/23/CE (PED)
- NSF/ANSI 61
- ISO 9001:2000

#### APPLICAZIONI:

- Osmosi inversa;
- Ultrafiltrazione.

#### ACCESSORI DA ORDINARE A PARTE:

- Adapter: nr. 2 x vessel (vedi documentazione tecnica).
- Giunti Victaulic 1 1/2" VIC0001
- Sample Pro Valve (prelievo permeato): \_\_\_\_\_ CA0001

#### TRATTAMENTO DELLE ACQUE:

- Domestiche
- Industriali
- Municipali
- Reflue (contattare l' Ufficio tecnico Hytek)
- di mare
- Farmaceutiche
- Alimentari

### "CODED" CODELINE PV 80S15

#### MATERIALS COMPOSITION:

- Shell material: \_\_\_\_\_ Fiberglass
- Plugs: \_\_\_\_\_ 6061-T6 Hard anodized Alum. alloy
- Retaining ring \_\_\_\_\_ 316 SST
- Bearing ring \_\_\_\_\_ Engineering thermoplastic
- Saddles (included): \_\_\_\_\_ Engineering thermoplastic (nr. 2 supports required up to 3 elements, 3 supports required for length 4 and over)
- Straps (included): \_\_\_\_\_ AISI 304 and cushion in PVC (nr. 2 straps required up to 3 elements, 3 supports required for length 4 and over)

#### TECHNICAL SHEET:

- Design Pressure: \_\_\_\_\_ 10 bar a 88°C (150 psi at 190°F)
- Min. Operating temperature: \_\_\_\_\_ -7°C (20°F)
- Factory Test Pressure:

  - ASME 13 bar (195 psi)
  - CE 15 bar (225 psi)

- Burst Pressure: \_\_\_\_\_ 62 bar (900 psi)
- Permeate Port: \_\_\_\_\_ 1" NPT female
- Concentrate Port: \_\_\_\_\_ 1 1/2" in AISI 316L connection for victaulic joint (victaulic joint not included)
- Side Port Position: \_\_\_\_\_ Standard square
- Standard color: \_\_\_\_\_ White
- Connection for membrane (not included): \_\_\_\_\_ By Adapter (2 x vessel, see technical documentation)
- Nr. elements available: \_\_\_\_\_ 1-2-3-4-5-6-7

#### CERTIFICATIONS:

- Inspection and ASME CODE stamped (quotation on request)
- CE mark stamped (quotation on request)
- 97/23/CE Directive (PED)
- NSF/ANSI 61
- ISO 9001:2000

#### APPLICATIONS:

- Reverse Osmose
- Ultrafiltration.

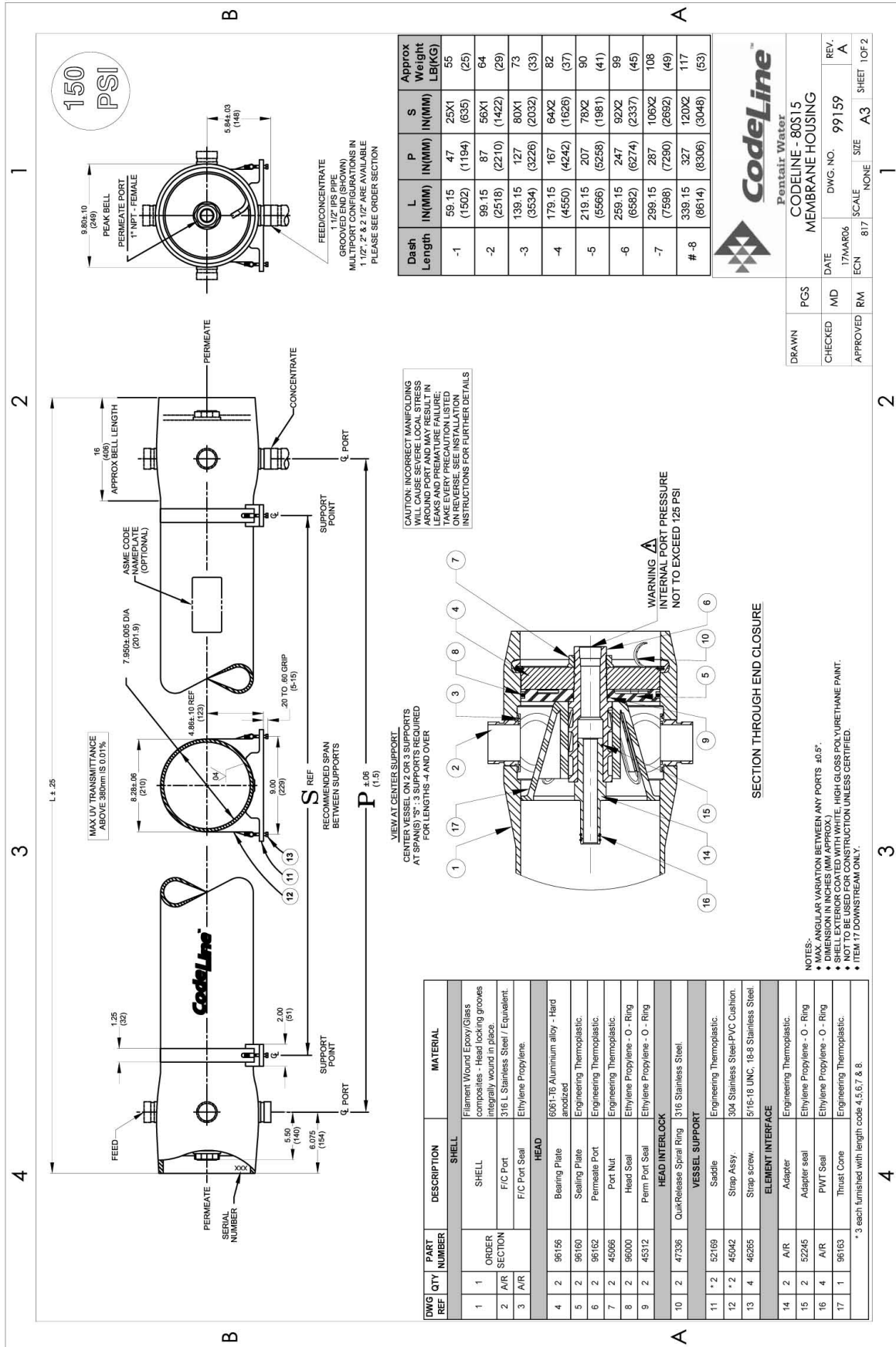
#### ACCESSORIES TO BE ORDERED SEPARATELY:

- Adapter: 2 x vessel, see technical documentation
- Victaulic Joints 1 1/2" VIC0001
- Sample Pro Valve (permeate stream): \_\_\_\_\_ CA0001

#### WATER TREATMENTS

- Domestic
- Industrial
- Municipal
- Drains (contact Hytek Technical Office)
- Sea
- Pharmaceuticals
- Alimentary

## DISEGNO TECNICO PV 80S15 CODELINE "CODED / "CODED" CODELINE PV80S15 TECHNICAL DRAW



## DISEGNO TECNICO PV 80S15 CODELINE "CODED" / "CODED" CODELINE PV80S15 TECHNICAL DRAW

### RATING:

DESIGN PRESSURE.....150 PSIG at 190°F  
(1.0 MPa at 88°C)  
MIN. OPERATING TEMP.....20°F  
(-7°C)  
FACTORY TEST PRESSURE.....CE / ASME  
225 PSIG / 195 PSIG  
(1.6 MPa) (1.3 MPa)  
QUALIFICATION PRESSURE.....900 PSI  
(6.2 MPa)

### INTENDED USE:

The Codeline 80S15 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 Codeline 80S15 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 80S15 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; tighten holding 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 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;  
\*\*\*ADIA = 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 3-10.

### 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 80S15  -1  -2  -3  -4  -5  -6  -7  -8  
# Consult Sales Manager for Eight Element Housings.

### 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 AND PORT CONFIGURATIONS OPTIONS —please check one

- Standard: all materials and port configurations as per drawing 99159 on the previous 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 customized options you require for each end of the pressure vessel (multiple options are available at each end).  
(Please consult factory as these options will affect pricing and vessel lead time)

### FEED PORT CONFIGURATION

- Standard — 1½" 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.

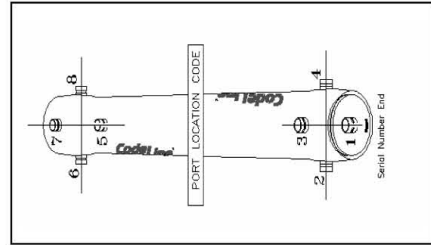
Serial number end            
Opposite end

### PERMEATE PORT CONFIGURATION:

- Standard 1" FNPT.
- Optional — 1.25" MNPT.

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

PORT SIZE CODE	
D	1½" GROOVED END
E	2" GROOVED END
F	2½" GROOVED END



## PRESSURE VESSELS CODELINE 8"-150 PSI PV 80S15NC "NO CODED" SIDE PORT



## PV 80S15NC CODELINE "NO CODED"

## MATERIALE DI COMPOSIZIONE:

- Vessel: \_\_\_\_\_ Vetrosesina
- Tappi: \_\_\_\_\_ materiale termoplastico
- Anello rapido di chiusura tappo: \_\_\_\_\_ 316 SST
- Selle (incluse): \_\_\_\_\_ materiale termoplastico (nr. 2 per vessel fino al 3 elementi, dal 4 elementi fino al 6 elementi nr. 3 per vessel).
- Tiranti (inclusi): \_\_\_\_\_ in AISI 304 e cuscini in PVC (nr. 2 per vessel fino al 3 elementi, dal 4 elementi fino al 6 elementi nr. 3 per vessel).

## DATI TECNICI

- Pressione di progetto: \_\_\_\_\_ 10 bar a 88°C (150 psi a 190°F)
- Temperatura minima di esercizio: \_\_\_\_\_ -7°C (20°F)
- Pressione di collaudo: \_\_\_\_\_ 15 bar (225 psi)
- Pressione di scoppio: \_\_\_\_\_ 62 bar (900 psi)
- Uscita permeato: \_\_\_\_ 1" NPT femmina & 1 1/2" in PVC connessione per giunto victaulic (giunto victaulic non incluso)
- Uscita concentrato: \_\_\_\_\_ 1 1/2" in AISI 316L connessione per giunto victaulic (giunto victaulic non incluso)
- Posizione porte laterali: \_\_\_\_\_ Standard a squadra
- Colore Standard: \_\_\_\_\_ Bianco
- Connettori per membrana (non inclusi): \_\_\_\_ Tramite adapter (2 x vessel, vedi documentazione tecnica)
- Nr. di elementi disponibili: \_\_\_\_\_ 1-2-3-4-5-6-7

## CERTIFICATI:

- Marcatura CE (su richiesta)
- Direttiva 97/23/CE (PED)
- NSF/ANSI 61
- ISO 9001:2000

## APPLICAZIONI:

- Osmosi inversa;
- Ultrafiltrazione.

## ACCESSORI DA ORDINARE A PARTE:

- Adapter: nr. 2 x vessel (vedi documentazione tecnica).
- Giunti Victaulic 1 1/2" VIC0001
- Sample Pro Valve (prelievo permeato): \_\_\_\_\_ CA0001

## TRATTAMENTO DELLE ACQUE:

- Domestiche
- Industriali
- Municipali
- Reflue (contattare l' Ufficio tecnico Hytek)
- di mare
- Farmaceutiche
- Alimentari

## "NO CODED" CODELINE PV 80S15NC

## MATERIALS COMPOSITION:

- Shell material: \_\_\_\_\_ Fiberglass
- Plugs: \_\_\_\_\_ Engineering thermoplastic
- Retaining ring \_\_\_\_\_ 316 SST
- Saddles (included): \_\_\_\_\_ Engineering thermoplastic (nr. 2 supports required up to 3 elements, 3 supports required for length 4 and over)
- Straps (included): \_\_\_\_\_ AISI 304 and cushion in PVC (nr. 2 straps required up to 3 elements, 3 supports required for length 4 and over)

## TECHNICAL SHEET:

- Design Pressure: \_\_\_\_\_ 10 bar a 88°C (150 psi at 190°F)
- Min. Operating temperature: \_\_\_\_\_ -7°C (20°F)
- Factory Test Pressure: \_\_\_\_\_ 15 bar (225 psi)
- Burst Pressure: \_\_\_\_\_ 62 bar (900 psi)
- Permeate Port: \_\_\_\_ 1" NPT female & 1 1/2" in PVC connection for victaulic joint (victaulic joint not included)
- Concentrate Port: \_\_\_\_\_ 1 1/2" in AISI 316L connection for victaulic joint (victaulic joint not included)
- Side Port Position: \_\_\_\_\_ Standard square
- Standard color: \_\_\_\_\_ White
- Connection for membrane (not included): \_\_\_\_ By Adapter (2 x vessel, see technical documentation)
- Nr. elements available: \_\_\_\_\_ 1-2-3-4-5-6-7

## CERTIFICATIONS:

- CE mark stamped (quotation on request)
- 97/23/CE Directive (PED)
- NSF/ANSI 61
- ISO 9001:2000

## APPLICATIONS:

- Reverse Osmose
- Ultrafiltration.

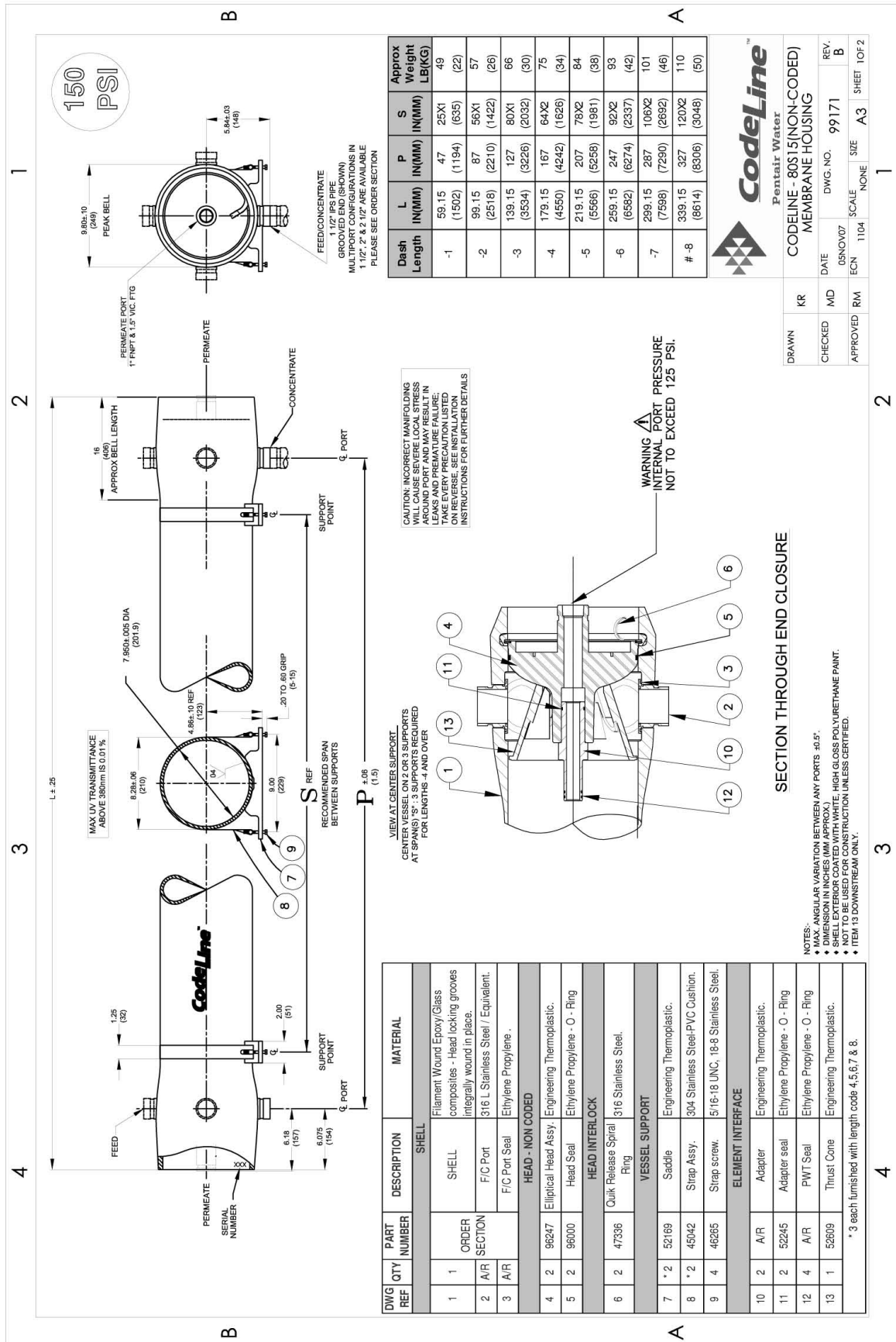
## ACCESSORIES TO BE ORDERED SEPARATELY:

- Adapter: 2 x vessel, see technical documentation
- Victaulic Joints 1 1/2" VIC0001
- Sample Pro Valve (permeate stream): \_\_\_\_\_ CA0001

## WATER TREATMENTS

- Domestic
- Industrial
- Municipal
- Drains (contact Hytek Technical Office)
- Sea
- Pharmaceuticals
- Alimentary

## DISEGNO TECNICO PV 80S15NC CODELINE "NO CODED / "NO CODED" CODELINE PV80S15NC TECHNICAL DRAW



## DISEGNO TECNICO PV 80S15NC CODELINE "NO CODED" / "NO CODED" CODELINE PV80S15NC TECHNICAL DRAW

### RATING:

DESIGN PRESSURE.....150 PSIG at 190°F  
(1.0 MPa at 88°C)  
MIN. OPERATING TEMP.....20°F  
(-7°C)  
FACTORY TEST PRESSURE.....225 PSIG  
(1.6MPa)  
QUALIFICATION PRESSURE.....900 PSI  
(6.2 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 is designed in accordance with the engineering standards of the Boiler and Pressure Vessel Code of the American Society of Mechanical Engineers (ASME) Code.

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 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; 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 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 3-10.

### 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 80S15 Non Coded □ -1 □ -2 □ -3 □ -4 □ -5 □ -6 □ -7 □ -8  
# Consult Sales Manager for Eight Element Housings.

### 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

- CE Marked
- Standard, Certified by Pentair Water.

### MATERIAL AND PORT CONFIGURATIONS OPTIONS - please check one

- Standard: all materials and port configurations as per drawing 99171 on the previous 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 customized options you require for each end of the pressure vessel (multiple options are available at each end).  
(Please consult factory as these options will affect pricing and vessel lead time)

### FEED PORT CONFIGURATION

- Standard - 1/2" IPS pipe, grooved ends, with ports in-line
- Optional - Multi-Ports<sup>SM</sup>  
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.

- Serial number end
- Opposite end

### PERMEATE PORT CONFIGURATION:

- Standard, 1" FNPT & 1.5" VICTUALIC.
- Optional, 1" BSP F/JIS F Parallel Thread & 1.5" VIC.

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

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

