

# CODELINE® - ECOLINE 8 INCH SERIES

## UNIQUE 8 INCH SIDE ENTRY MEMBRANE HOUSING FOR RO APPLICATION

MEMBRANE HOUSING DATASHEET

ARTICLE CODE: ECOLINE 80-300, ECOLINE 80-450

### GENERAL INFORMATION

Codeline Ecoline 8 Inch Series is membrane housing of 8" diameter with side entry design with OCTA Technology. This is used for commercial, municipal and industrial RO applications. Vessel models are available upto a maximum operating pressure of 300 PSI & 450 PSI. These are made up of epoxy / glass composite to meet the demands of long term and continuous use in RO processes. This vessel can accommodate any standard\* 8" membrane element.

\* Standard element length = 40 " long

### THE OCTA TECHNOLOGY - AN OVERVIEW

**The Background:** The conventional internal shape for a membrane housing is considered as a round shape, but use of a round shape with multiple side ports provides a higher probability of side port leakage. Hence, the research background was that how to fit a flat surface in a circular membrane housing with multiple side ports.

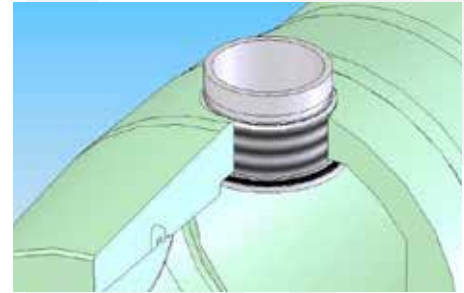
**The Research:** Research with various possibilities proved that an OCTAGON is the best shape to solve the problem of fitting of flat surface in a circular membrane housing. Hence, the technology named after OCTAGON as OCTA Technology.

**The Theory & Explanation:** Inside of industrial membrane housing made up of OCTAGONAL SHAPE can accommodate multiple side ports with the best fit surface. The reasons are explained as shown on the pictures.

**The Conclusion:** Successful execution showed that an Octagon, besides providing the best fit, would also allow for multiple sealing surfaces, each at certain intervals along with side port mounting. Apart from the above it will also provide the benefits like easy on-site service & maintenance with quick locking mechanism along with improved head sealing and integrally wound locking groove. Thus, OCTA Technology sets a benchmark for manufacturing a membrane housings series using the unique "Octagonal Groove Forming Technique" and applicable for 8" membrane housings only.



Flat surface formed in the vessel shell - reduces counter boring



Seal seated against a flat surface



Threaded side port; seal seating on side port

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#### UNIQUE BENEFITS

- **Minimized Leakage:** The octagonal shape which is integrally formed provides a flat sealing surface for superior and reliable sealing of side ports
- **Easy Service & Maintenance:** The threaded side ports are easy to mount and allows quick & easy onsite maintenance and replacements reducing downtime
- **Quick Locking Mechanism:** The user friendly Quick Lock System eliminates the requirement of special tools for removal and lets easy access the membrane quickly
- **Improved Head Sealing:** Head seal which is captured in the head / sealing plate gives better sealing and avoids head seal to roll eliminating head leak defect
- **Integrally Wound Locking Groove:** Integrally wound locking groove gives enhanced end margin strength for better performance
- **Advanced End Closure:** The most advanced single piece head, made of engineering thermoplastic, provides a superior permeate port seal joint and chemical resistance

#### UNIQUE FEATURES

- Side port options available only with 1.5" diameter
- Mirror Finish ID for easy & quick loading & unloading of membranes
- Quick lock head retention system for quick access to membranes
- Exteriors coated with high gloss polyurethane paint for UV resistance
- Head seal is captured, hence doesn't roll during head assembly fitment
- Compatible for using in all water type application

#### CERTIFICATIONS

- CE certified

#### CODELINE® ECOLINE 8 INCH SERIES SPECIFICATION\*

| MODEL NUMBER            | DRAWING NUMBER | MAX. OPERATING PRESSURE | MAX. OPERATING TEMPERATURE | QUALIFICATION PRESSURE | ELEMENT LENGTH |
|-------------------------|----------------|-------------------------|----------------------------|------------------------|----------------|
| CODELINE ECOLINE 80-300 | 99196          | 300 PSI / 20 Bar        | 120 °F / 49 °C             | 1200 PSI / 82 Bar      | 1-8            |
| CODELINE ECOLINE 80-450 | 99197          | 450 PSI / 31 Bar        | 120 °F / 49 °C             | 1800 PSI / 124 Bar     | 1-8            |

Any make of 8" nominal diameter spiral-wound element is easily accommodated.

\* Specifications are subjected to change without prior notice (for more details refer to model specific engineering drawings)

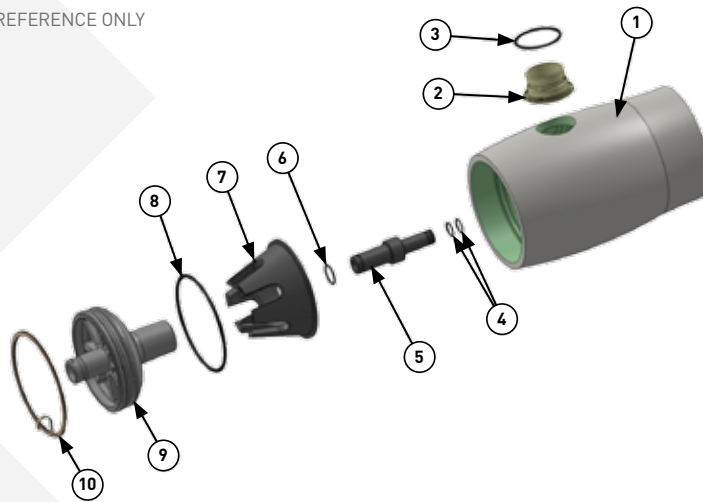
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#### EXPLODED VIEW & DETAILS

A GENERIC VIEW FOR VISUAL REFERENCE ONLY



#### PARTS TABLE

| DRG REG | QTY | DESCRIPTION                  | MATERIAL  | 80-300        | 80-450        |
|---------|-----|------------------------------|---|---------------|---------------|
|         |     |                              |   | PART NUMBER   | PART NUMBER   |
| 1       | 1   | Shell                        | Filament Wound Epoxy / Glass composites.<br>Head Locking grooves integrally wound in place. | Order section | Order section |
| 2       | AR  | 1.5 Inch F / C Port          | CF3M  | 98024         | 98024         |
| 3       | AR  | 1.5 Inch F / C Port Seal     | Ethylene Propylene  | 96077         | 96077         |
| 4*      | 4   | PWT Seal                     | Ethylene Propylene - O Ring   | As required   | As required   |
| 5*      | 2   | Adapter                      | Engineering Thermoplastic   | As required   | As required   |
| 6       | 2   | Adapter Seal                 | Ethylene Propylene - O Ring   | 52245         | 52245         |
| 7       | 1   | Thrust Cone                  | Engineering Thermoplastic   | 97014         | 97014         |
| 8       | 2   | Head Seal                    | Ethylene Propylene - O Ring   | 96000         | 96000         |
| 9       | 2   | Elliptical Head Sub Assembly | Engineering Thermoplastic   | 96668         | 96669         |
| 10      | 2   | Retaining Ring               | 316 Stainless Steel   | 47336         | 47336         |
| 11**    | AR  | Saddle                       | Engineering Thermoplastic   | 52169         | 52169         |
| 12**    | AR  | Strap Assembly               | 304 Stainless Steel - PVC Cushion   | 45042         | 45042         |
| 13**    | AR  | Strap Screw                  | 5/16-18 UNC, 18-8 Stainless Steel   | 46265         | 46265         |

\* Depends on membrane used

\*\* Not shown in the exploded view



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