

DairyRO®

High performance Reverse Osmosis Membranes for the Dairy Industry

Hydranautics – A Nitto Group Company has 40+ years of reverse osmosis membrane manufacturing experience which is incorporated into every DairyRO® membrane and element. Automation employed for all our DairyRO® elements ensures straight and minimally sized glue lines, maximum membrane area and the highest possible glue line adhesion.

DairyRO® composite polyamide reverse osmosis elements are of the net-wrapped, high flow full-fit design and hot water sanitizable type. All membranes and elements are manufactured using highly controlled, ISO 9001-compliant processes, ensuring the highest quality, most consistent and reliable performance available. Hydranautics has set a new industry-standard using robot-based automatic rolling machine, specifically designed by Hydranautics, for fabricating membrane modules of the highest quality. The result is a higher level of filtration and separation performance for our customers.

Key Features:

- 100% testing of membranes with 1500 ppm NaCl for flux and rejection compliance
- DairyRO-HF is a high-flow version using Hydranautics' patented technology which provides 20% more water flow
- DairyRO-HT is a high temperature version using Hydranautics' patented technology which allows heat sanitization at 85 °C or continuous operation at 70 °C

Key Benefits:

- Superior glue-line adhesion and strength
- Tighter rolling and caging
- Greater structural reliability
- All elements provide the highest rejection using Hydranautics' RO technology
- Greater flow rates due to maximum effective membrane area
- Hot water sanitizable membranes for efficient sanitization and cleaning operations

Applications:

- Pre-concentration of milk or whey for reducing product transportation costs
- Lactose production
- Sweet/acid whey concentration
- Concentration of UF permeate
- Milk and juice concentration



Type:

| | |
|------------------|----------------------------------|
| Configuration | Sanitary (full-fit) spiral wound |
| Membrane polymer | Composite polyamide |

Application Data:

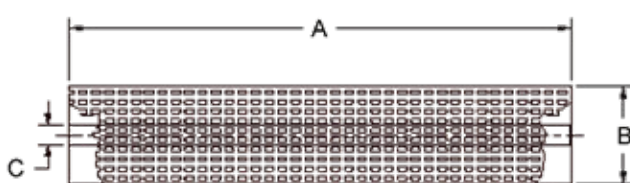
| | |
|---|---------------------|
| Maximum applied pressure | 800 psig (55.0 bar) |
| Maximum chlorine concentration | < 0.1 ppm |
| Maximum operating temperature | 122 °F (50 °C) |
| Operating pH range | 2 – 11 |
| Cleaning pH range (ambient temperature) | 1.5 – 11.5 |
| Cleaning pH range (max. temp. 122 °F / 50 °C) | 1.8 – 11.0 |
| Maximum pressure drop for a vessel | 60 psi (4 bar) |

Products and Guidelines:

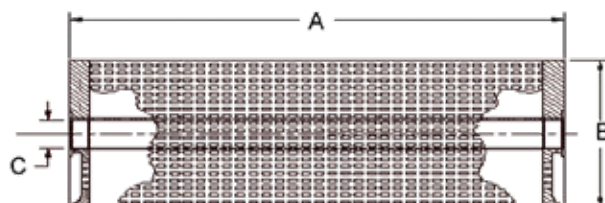
| Model | Feed spacer, inches (cm) | Area, ft ² (m ²) | Dimensions, inches (cm) | | | Max. feed flow, gpm (m ³ /hr) | Max. pressure drop per element, psi (bar) |
|-----------------|--------------------------|---|-------------------------|-------------|--------------|--|---|
| | | | A | B | C | | |
| DairyRO®3838-30 | 0.030 (0.076) | 80 (7.4) | 38.0 (96.5) | 3.78 (9.6) | 0.83 (2.11) | 30 (6.8) | 15 (1.0) |
| DairyRO®3838-46 | 0.046 (0.117) | 63 (5.9) | 38.0 (96.5) | 3.78 (9.6) | 0.83 (2.11) | 30 (6.8) | 15 (1.0) |
| DairyRO®3840-30 | 0.030 (0.076) | 80 (7.4) | 38.75 (98.4) | 3.78 (9.6) | 0.83 (2.11) | 30 (6.8) | 15 (1.0) |
| DairyRO®3840-46 | 0.046 (0.117) | 63 (5.9) | 38.75 (98.4) | 3.78 (9.6) | 0.83 (2.11) | 30 (6.8) | 15 (1.0) |
| DairyRO®6338-30 | 0.030 (0.076) | 240 (22) | 38.0 (96.5) | 6.36 (16.2) | 1.138 (2.89) | 70 (15.9) | 15 (1.0) |
| DairyRO®8038-30 | 0.030 (0.076) | 385 (36) | 38.0 (96.5) | 7.90 (20.1) | 1.125 (2.86) | 80 (18.2) | 13 (0.9) |
| DairyRO®8038-46 | 0.046 (0.117) | 300 (28) | 38.0 (96.5) | 7.90 (20.1) | 1.125 (2.86) | 80 (18.2) | 13 (0.9) |
| DairyRO®8040-30 | 0.030 (0.076) | 385 (36) | 40.0 (101.6) | 7.90 (20.1) | 1.125 (2.86) | 80 (18.2) | 13 (0.9) |
| HYDRApolish 8* | 0.030 (0.076) | 350 (33) | 40.0 (101.6) | 7.90 (20.1) | 1.125 (2.86) | 80 (18.2) | 13 (0.9) |

* HF-HT elements are available in any of the above sizes excluding HYDRApolish.

HYDRApolish 8 is provided with one interconnector assembly, two anti-telescoping devices, and one brine seal.



3838, 3840, 8038 Style



8040 Style with ATDs

Nomenclature = DairyRO® + Size + Feed Spacer

Solutions You Need.

Technologies You Trust!

For regulatory compliance details, please contact us at hy-marketing@nitto.com or reach out to your regional Hydranautics representative.

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