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:
- All elements are automatically rolled on a proprietary, robotized machine
- 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-HS is a heat-sanitizable version using Hydranautics’ patented technology which allows heat sanitization at 85 °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
Solutions You Need.

Technologies You Trust!

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:

<table>
<thead>
<tr>
<th>Model</th>
<th>Feed spacer, inches (cm)</th>
<th>Area, ft² (m²)</th>
<th>Dimensions, inches (cm)</th>
<th>Max. feed flow, gpm (m³/hr)</th>
<th>Max. pressure drop per element, psi (bar)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DairyRO®3838-30</td>
<td>0.030 (0.076)</td>
<td>80 (7.4)</td>
<td>38.0 (96.5)</td>
<td>0.83 (2.11)</td>
<td>30 (6.8) 15 (1.0)</td>
</tr>
<tr>
<td>DairyRO®3838-46</td>
<td>0.046 (0.117)</td>
<td>63 (5.9)</td>
<td>38.0 (96.5)</td>
<td>0.83 (2.11)</td>
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<tr>
<td>DairyRO®3840-30</td>
<td>0.030 (0.076)</td>
<td>80 (7.4)</td>
<td>38.75 (98.4)</td>
<td>0.83 (2.11)</td>
<td>30 (6.8) 15 (1.0)</td>
</tr>
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<td>DairyRO®3840-46</td>
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<td>30 (6.8) 15 (1.0)</td>
</tr>
<tr>
<td>DairyRO®6338-30</td>
<td>0.030 (0.076)</td>
<td>240 (22)</td>
<td>38.0 (96.5)</td>
<td>6.36 (16.2)</td>
<td>1.138 (2.89) 70 (15.9) 15 (1.0)</td>
</tr>
<tr>
<td>DairyRO®8038-30</td>
<td>0.030 (0.076)</td>
<td>385 (36)</td>
<td>38.0 (96.5)</td>
<td>7.90 (20.1)</td>
<td>1.125 (2.86) 80 (18.2) 13 (0.9)</td>
</tr>
<tr>
<td>DairyRO®8038-46</td>
<td>0.046 (0.117)</td>
<td>300 (28)</td>
<td>38.0 (96.5)</td>
<td>7.90 (20.1)</td>
<td>1.125 (2.86) 80 (18.2) 13 (0.9)</td>
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<tr>
<td>DairyRO®8040-30</td>
<td>0.030 (0.076)</td>
<td>385 (36)</td>
<td>40.0 (101.6)</td>
<td>7.90 (20.1)</td>
<td>1.125 (2.86) 80 (18.2) 13 (0.9)</td>
</tr>
<tr>
<td>HYDRApolish 8*</td>
<td>0.030 (0.076)</td>
<td>350 (33)</td>
<td>40.0 (101.6)</td>
<td>7.90 (20.1)</td>
<td>1.125 (2.86) 80 (18.2) 13 (0.9)</td>
</tr>
</tbody>
</table>

* HF-HS 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.

Nomenclature = DairyRO® + Size + Feed Spacer

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