

DairyUF®5K

High Performance Dairy Process Membranes

USDA-Accepted High-Flux 5K Dalton, Polyethersulfone Ultrafiltration Crossflow Membrane Elements in “Full-Fit”, Net-Wrapped Configuration for use in Dairy, BioPharm, Beverage and other applications.

Hydranautics’s extensive experience in membrane innovation, design, and manufacturing is at the core of every DairyUF®5K membrane element. DairyUF®5K elements deliver exceptional performance and value, being manufactured with highly controlled, ISO 9001-compliant processes which ensure the highest quality, as well as the most consistent and reliable performance available. Hydranautics PES membranes are always constructed with polypropylene backing for maximum chemical-resistance and longevity in service.

Hydranautics has set a new industry-standard for the rolling of full-fit membrane modules – hand-rolling of elements has been eliminated by the use of proprietary, robot-based automatic rolling machines, specifically designed by Hydranautics for fabricating membrane modules of the highest quality. The result is a higher level of filtration and separations performance for our customers.

Key Features:

- All elements are automatically rolled on a proprietary, robotized machine
- All components conform to FDA regulation CFR Title 21, “3A Sanitary Standards for Crossflow Membrane Modules, Number 45-02”, EC Reg. No. 1935/2004, and EU Reg. No. 10/2011
- USDA-accepted sizes – 3838, 4336, 6338 and 8038
- 100% testing of membrane rolls with 500 ppm Na₂SO₄ for flux and rejection compliance
- 100% vacuum-hold testing for element construction integrity

Key Benefits:

- Superior glue-line adhesion and strength
- Tighter rolling and caging
- Greater structural reliability
- Greater flow rates due to maximum effective membrane area

Applications:

- Sweet/acid whey concentration before evaporation and spray-drying
- Last stage concentrations of whey protein isolates
- Enzyme and protein concentrations
- Pre-concentrating milk prior to cheesemaking



Type:

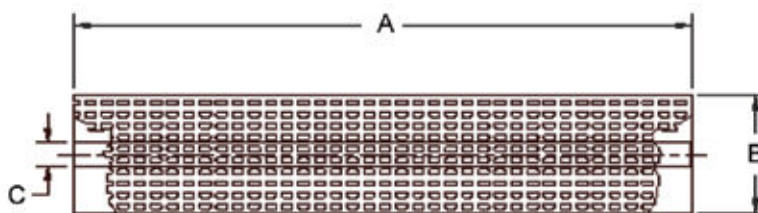
| | |
|------------------|---------------------------------------|
| Configuration | Sanitary (full-fit) spiral wound |
| Membrane polymer | Polypropylene-backed polyethersulfone |

Application Data:

| | |
|---|---------------------|
| Maximum applied pressure | 150 psig (10 bar) |
| Maximum chlorine concentration | 200 ppm @ pH > 10.5 |
| Maximum operating temperature | 131 °F (55 °C) |
| Operating pH range | 2 – 10 |
| Cleaning pH range (max. temp. 122 °F / 50 °C) | 2 – 11.5 |
| 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) | | | Feed flow, gpm (m ³ /hr) | Max. pressure drop per element, psi (bar) |
|--------------------|--------------------------|---|-------------------------|-------------|--------------|-------------------------------------|---|
| | | | A | B | C | | |
| DairyUF®5K 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) |
| DairyUF®5K 3838-46 | 0.046 (0.117) | 60 (5.6) | 38.0 (96.5) | 3.78 (9.6) | 0.83 (2.11) | 30 (6.8) | 15 (1.0) |
| DairyUF®5K 3838-65 | 0.065 (0.165) | 50 (4.6) | 38.0 (96.5) | 3.78 (9.6) | 0.83 (2.11) | 30 (6.8) | 15 (1.0) |
| DairyUF®5K 4336-30 | 0.030 (0.076) | 90 (8.4) | 35.5 (90.2) | 4.28 (10.9) | 0.83 (2.11) | 35 (7.9) | 15 (1.0) |
| DairyUF®5K 4336-46 | 0.046 (0.117) | 70 (6.5) | 35.5 (90.2) | 4.28 (10.9) | 0.83 (2.11) | 35 (7.9) | 15 (1.0) |
| DairyUF®5K 6338-30 | 0.030 (0.076) | 200 (19) | 38.0 (96.5) | 6.36 (16.2) | 1.138 (2.89) | 70 (15.8) | 15 (1.0) |
| DairyUF®5K 6338-46 | 0.046 (0.117) | 150 (14) | 38.0 (96.5) | 6.36 (16.2) | 1.138 (2.89) | 70 (15.8) | 15 (1.0) |
| DairyUF®5K 6338-65 | 0.065 (0.165) | 120 (11) | 38.0 (96.5) | 6.36 (16.2) | 1.138 (2.89) | 70 (15.8) | 15 (1.0) |
| DairyUF®5K 8038-30 | 0.030 (0.076) | 360 (33) | 38.0 (96.5) | 7.90 (20.1) | 1.125 (2.86) | 80 (18.2) | 13 (0.9) |
| DairyUF®5K 8038-46 | 0.046 (0.117) | 280 (26) | 38.0 (96.5) | 7.90 (20.1) | 1.125 (2.86) | 80 (18.2) | 13 (0.9) |
| DairyUF®5K 8038-65 | 0.065 (0.165) | 215 (20) | 38.0 (96.5) | 7.90 (20.1) | 1.125 (2.86) | 80 (18.2) | 13 (0.9) |



Nomenclature = DairyUF®5K + Size + Feed Spacer

Solutions You Need.

Technologies You Trust!

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