

## DairyNF™ Series

### High Flux, High Protein Rejection 150-250 Dalton Nanofiltration Membrane Elements

Hydranautics' membrane technology experience and innovation are at the core of every DairyNF™ series membrane. Specifically designed for the separation of divalent anions and/or organic molecules greater than 200 Daltons from monovalent salts and lower molecular weight organics, DairyNF™ membranes deliver exceptional performance and value.

Superior membrane technology is the key to Hydranautics' innovative DairyNF™ (Process Nanofiltration) elements. All DairyNF™ membranes are manufactured using highly controlled, ISO 9001-compliant processes, ensuring the highest quality and most consistent, reliable performance available. 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, 3840, 8038 and 8040

### 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:

- ☉ Whey and milk concentration
- ☉ De-salting (de-mineralization) of whey and other streams
- ☉ DP1/DP2 sugar fractionation
- ☉ Recovery of hydrolyzed proteins and enzymes



## Type:

Configuration	Sanitary (full-fit) spiral wound
Outerwrap	Polypropylene net wrap
Membrane polymer	Composite polyamide
Molecular weight cut-off	150 – 250 Daltons

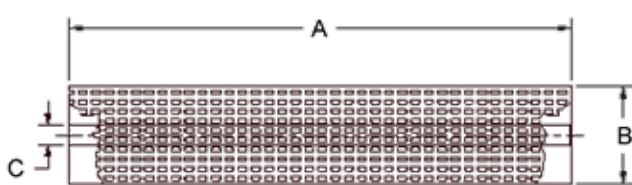
## Application Data:

Maximum applied pressure	600 psig (4.1 MPa)
Maximum chlorine concentration	< 0.1 ppm
Maximum operating temperature	122 °F (50 °C)
Operating pH range	3 – 9
Cleaning pH Range (ambient temperature)	1.8 – 11.0
Cleaning pH range (max. temp. 122 °F / 50 °C)	1.8 – 10.5
Maximum pressure drop for a vessel	60 psi (0.41 MPa)

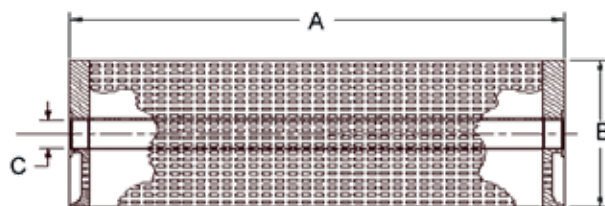
To properly condition the membrane, a RO water flush and caustic clean in place must be performed prior to first use of new elements. Refer to Technical Service Bulletin 218.

## Products and Guidelines:

Sizes	Feed spacer, inches (cm)	Area, ft <sup>2</sup> (m <sup>2</sup> )	Dimensions, inches (cm)			Max. feed flow, gpm (m <sup>3</sup> /hr)	Max. pressure drop per element, psi (MPa)
			A	B	C		
<b>DairyNF 3838-30</b>	0.030 (0.076)	80 (7.4)	38.0 (96.5)	3.78 (9.6)	0.83 (2.11)	30 (6.8)	15 (0.1)
<b>DairyNF 3838-46</b>	0.046 (0.117)	63 (5.9)	38.0 (96.5)	3.78 (9.6)	0.83 (2.11)	30 (6.8)	15 (0.1)
<b>DairyNF 3840-30</b>	0.030 (0.076)	80 (7.4)	38.75 (98.4)	3.78 (9.6)	0.83 (2.11)	30 (6.8)	15 (0.1)
<b>DairyNF 3840-46</b>	0.046 (0.117)	63 (5.9)	38.75 (98.4)	3.78 (9.6)	0.83 (2.11)	30 (6.8)	15 (0.1)
<b>DairyNF 8038-30</b>	0.030 (0.076)	385 (36)	38.0 (96.5)	7.90 (20.1)	1.125 (2.86)	80 (18.2)	13 (0.09)
<b>DairyNF 8038-46</b>	0.046 (0.117)	300 (28)	38.0 (96.5)	7.90 (20.1)	1.125 (2.86)	80 (18.2)	13 (0.09)
<b>DairyNF 8040-30</b>	0.030 (0.076)	385 (36)	40.0 (101.6)	7.90 (20.1)	1.125 (2.86)	80 (18.2)	13 (0.09)
<b>DairyNF 8040-46</b>	0.046 (0.117)	300 (28)	40.0 (101.6)	7.90 (20.1)	1.125 (2.86)	80 (18.2)	13 (0.09)



**3838, 3840, 8038 Style**



**8040 Style with ATDs**

Nomenclature = DairyNF + Size + Feed Spacer

## Solutions You Need.

## Technologies You Trust!

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