UNISOL Food & Dairy UF Elements

Sanitary High temperature NF Spiral Wound Elements

SH NFDL Series

Description	UNISOL sanitary nanofiltration (NF) membrane elements are used by food and dairy processors for a variety of desalting, purification and other separations. All NFDL elements contain an improved nanofiltration membrane sheet designed to reject organics with a MWCO more than 400 Daltons while passing monovalent salts. The SH Series are designed with temperature resistance up to 80°C (176 °F).	
Characteristics	Membrane	NFDL
	Material	Polypiperazine
	Outer wrap	Net wrap
	Regulatory Status	Compliant with US FDA CFR Title 21, EC Reg. No. 1935/2004, and EU Reg. No. 10/2011. Halal certificate by by the Islamic Food and Nutrition Council of America (IFANCA). Kosher certificate by Committee of Kashrut.
Limits	Max Operating Pressure	32.2 bar (470 psi) at 60°C (140°F) 27.6 bar (400 psi) at 70°C (158°F) 24.1 bar (350 psi) at 80°C (176°F)
	Max Pressure Drop	0.5-1 bar (7.3 – 14.5psi) per element @30°C (86°F) 0.3 bar (5 psi) per element @70°C (158°F)
	Max. Operating Temperature	80 °C (176 °F)
	Operating pH range	2 – 10
	Cleaning pH Range	1.8 – 11
	Free Chlorine Tolerance	Non-detectable

Area ft^2 (m^2)

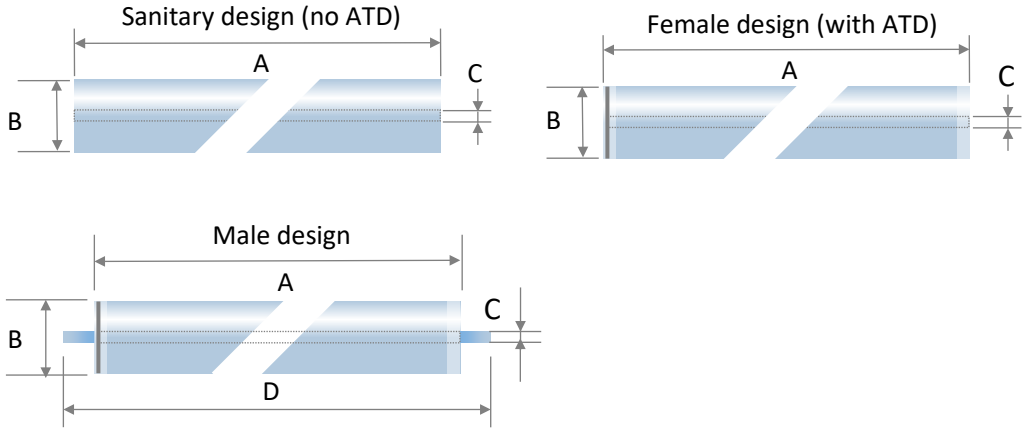
Spacer	31mil (B)	46mil (C)	47mil
3838	75 (7.0)	58 (5.4)	58 (5.4)
3840	81 (7.5)	62 (5.8)	62 (5.8)
4038	81 (7.5)	62 (5.8)	62 (5.8)
4040	85 (7.9)	68 (6.3)	68 (6.3)
6338	226 (21)	172 (16)	172 (16)
8038	344 (32)	290 (27)	290 (27)
8040	355 (33)	269 (25)	269 (25)

(1) For the purpose of improvement, specifications may be updated periodically

(2) Consult UNISOL Membrane Technology when intend to operate at elevated pressure, temperature, concentrations.

(3) For the product name, please refer to the annex in the last page.

Dimensions



Size mm (inch)	A[1]	⌀B[2]	⌀C[3]	D	Permeate tube	ATD
3838	965 (38)	96 (3.8)	21 (0.827)	/	Female	NO
3840	1016 (40)	96 (3.8)	21 (0.827)	/	Female	NO
4038	965 (38)	99.4 (3.9)	21 (0.827)	/	Female	NO
4040	1016 (40)	99.4 (3.9)	19 (0.748)	1016 (40)	Male	With
6338	965 (38)	162 (6.3)	28.9 (1.138)	/	Female	NO
8038	965 (38)	200.5 (7.9)	28.9 (1.138)	/	Female	NO
8040	1016 (40)	200.5 (7.9)	28.9 (1.138)	/	Female	With

[1] Tolerance: -2~0mm
[2] Tolerance: -2~0mm
[3] 3840/4040-M tolerance: 0~+0.1 mm. 3838/4038 tolerance: ±0.1mm, 6338/8038/8040 tolerance: -0.2~0 mm

Handling

Water quality for cleaning and diafiltration. Maximum feed turbidity is 1NTU. Maximum feed SDI is 5.0 (15minutes test).

Operation. Stated operational conditions are valid and the rules for installation, cleaning, water and preservation have to be adhered. UNISOL approved cleaning detergent, anti-foam, polymers, other chemicals and filter-aids lubricants can be applied only. For further questions, do not hesitate to contact our service engineer.
Lubricants. During installation, use only water or glycerin to lubricate seals. The use of petroleum or vegetable-based oils or solvents may damage the element and void any warranty.

Preservation and Storage. Plan ahead to use new membranes. The element should be stored in a sealed bag, at 4 – 30 °C (39 – 86 °F). Storage solutions should be made with: 1 % w/w sodium metabisulfite.

Chemical Exposure. Residual chlorine concentration during cleaning cycle (CIP) should be 150 ppm @ pH 10.5 or higher. Chlorine concentration should never exceed 200 ppm.

Cleaning. UNISOL modules may be put into production after having gone through the first cleaning prescribed by UNISOL on product packing notes or given differently by UNISOL.

Annex

Nomenclature: SH-NFDL–8038-B

SH	NFDL	8038	B
Design/Application	Membrane	Diameter & Length	Feed spacer
SH Sanitary Design (High Temperature)	**NFDL**	3838 3840 4338 6338 6438 **8038**	**B: 31mil /0.8mm (diamond)** C: 46mil/1.1mm (diamond) E: 65mil /1.6mm (diamond) F: 80mil /2.0mm (diamond)