



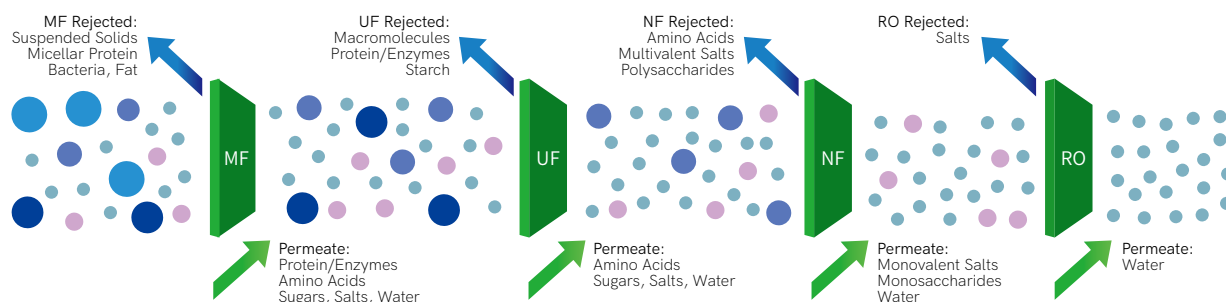
SPIRAL WOUND

Membrane Elements

Wide Range • FDA Compliant • Customized

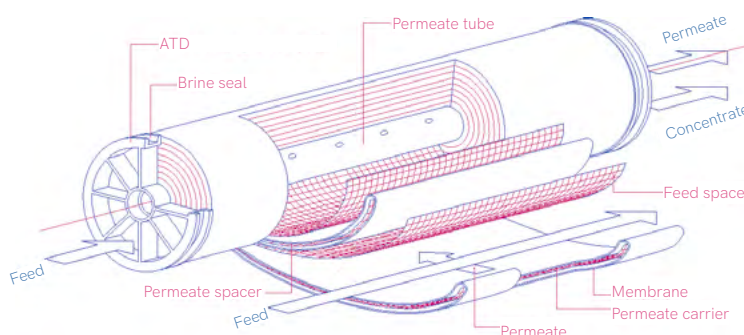
Spiral Wound Elements

Aiming at spiral wound membrane application needs in multiple fields, UNISOL has built a complete membrane product system covering microfiltration, ultrafiltration, nanofiltration and reverse osmosis. With stable performance and strong environmental adaptability, products withstand high temperature/pressure and extreme pH, comply with FDA/EU food certifications, and feature high salt rejection, high flux and strong anti-fouling. UNISOL offers both standardized solutions and customized products/services to fully meet diversified market scenarios.



Applications

E-coat	Clarification of soy sauce
Concentration of protein and gelatin	Industrial water
Enzymes, fermentation broths	Cream cheese production
Caustic recovery	Clarification of cheese brine
Standardization of milk	Acid recovery
Whey concentration processing	Oil / Water emulsions



Membrane Module Codes

Module: SN UPS010 8038 C

SN	Design / Application	UPS010	Membrane	8038	Diameter / Length	C	Feed spacer
Type		Membrane Type		Standard Dimensions		Standard Feed Spacers	
SN	Sanitary design	UPS	Polyethersulfone	2540		A	34mil (parallel)
SH	Sanitary& High °C	USP	Polysulfone	3838		B	31mil (diamond)
ID	Industrial Design	UPV	Polyvinylidene Flouride	4040		C	46mil (diamond)
EC	Electro Coating	MPV	Polyvinylidene Flouride	4333		D	51mil (parallel)
PD	Pharmaceutical Design	NFDK	Piperazinamide	6338		E	65mil (diamond)
FG	Fiberglass	NFDL	Piperazinamide	8038		F	80mil (diamond)
CR	Caustic stable	BWFR	Polyamide	8040		G	80mil (parallel)
AR	Acid stable	SWHR	Polyamide	8338		H	60mil (parallel)
SR	Solvent stable					J	28mil (diamond)
HP	High preasure					M	34mil (diamond)
TR	Temp. Resistant						
HS	Heat sanitizable						
Here		Here	Polyethersulfone	Here		Here	
Sanitary Design		MWCO 10kDa		Diameter 8.0inch		46mil diamond	
		* See Common Membrane Types for more		Length 38inch		1 mil = 0.001 " = 0.0254 mm	

Operating Condition

Type	SN/ID/PD	FG	EC	SH	CR	AR	SR	HP	TR	HS
Max. operating pressure loss /bar	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Max. operating pressure loss /psi	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5
Max. Temperature /°C	50	50	50	80	50	50	50	50	80	80
Max. Temperature / °F	122	122	122	176	122	122	122	122	176	176
pH range during filtration	2-11	2-11	2-11	2-11	3-12	1-12	2-12	2-11	2-11	2-11
Outer wrap	Net Wrap	FRP	Net Wrap	Net Wrap	FRP	FRP	Net Wrap	FRP	FRP	Net Wrap

Common Membrane Types

MF Membrane Model	Membrane materials	Pore size [μm]
MPV010	Polyvinylidene Flouride (PVDF)	0.1
MPV020	Polyvinylidene Flouride (PVDF)	0.2
MPS010	Polyethersulfone (PES)	0.1

UF Membrane Model	Membrane materials	Nom. MWCO [kDa]
UPS005	Polyethersulfone (PES)	5
UPS010	Polyethersulfone (PES)	10
UPS020	Polyethersulfone (PES)	20
UPS150	Polyethersulfone (PES)	150
USP100	Polysulfone (PS)	100
UPV080	Polyvinylidene Flouride (PVDF)	80
UPV200	Polyvinylidene Flouride (PVDF)	200
UPV1000	Polyvinylidene Flouride (PVDF)	1000

NF Membrane Model	Membrane materials	Rejection [%]
UNF90	Polyamide (PA)	≥ 98.5%
NFDK	Piperazinamide	≥ 98%
NFDL	Piperazinamide	≥ 97%
UNF454	Piperazinamide	≥ 92%
UNF604	Piperazinamide	≥ 70%

Test condition: 2000ppm MgSO₄, 7.6bar (110psi), 25°C (77 °F)

RO Membrane Model	Membrane materials	Stabilized Rejection [%]	Minimum Rejection [%]
BWFR	Polyamide (PA)	99.6% ⁽¹⁾	99.4% ⁽¹⁾
SWHR	Polyamide (PA)	99.8% ⁽²⁾	99.6% ⁽²⁾

Test condition: ⁽¹⁾ 2000ppm NaCl, 15.5bar (225psi), 25°C (77 °F). ⁽²⁾ 32000ppm NaCl, 55bar (800psi), 25°C (77 °F)

**** For more products information, welcome to contact us. ****

WE SUPPORT YOU - WORLDWIDE!



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For the latest version, please refer to the internet. info@unisol-global.com
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