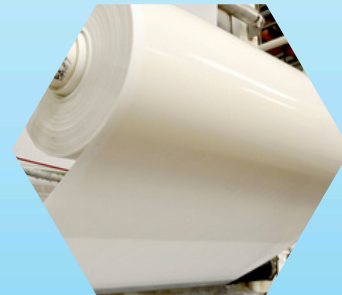


**CA-tech** **ZONE**  
California Tech Zone

**Synder**<sup>®</sup>

**Flat Sheet  
Membranes**



Nanofiltration membranes operate within a precise molecular weight cut-off range of 100 – 800 Daltons, selectively sieving solutes based on their size and charge. This unique capability extends to the rejection of multivalent ions, and to a varying extent, monovalent ions, positioning nanofiltration as an indispensable asset in the arsenal of process and chemical engineers.

In applications demanding high solids retention, flat sheet nanofiltration membranes exhibit exceptional performance and longevity, offering a compelling balance between effectiveness and operational cost. Unlike their hollow fiber counterparts, flat sheet membranes boast robust support structures, enhancing their physical resilience and extending their service life.

Synder Filtration stands at the forefront, providing a comprehensive range of both dry and wet nanofiltration flat sheet membranes. Available in sizes spanning from a single square foot to thousands of linear feet, our membranes cater to diverse needs, from rigorous process research and pilot testing to spiral element winding and integration into plate & frame membrane systems.

Model	Polymer	Approx. Molecular Weight Cutoff	Typical Operating Flux	Avg Lactose Rejection <sup>1</sup>	Avg MgSO <sub>4</sub> Rejection <sup>2</sup>	Avg NaCl Rejection <sup>3</sup>
NFS	Proprietary PA TFC	100-250Da	30-40 GFD	99.50%	99.50%	50.00%
NFX	Proprietary PA TFC	150-300Da	20-25 GFD	99.00%	99.00%	40.00%
NFW	Proprietary PA TFC	300-500Da	45-50 GFD	98.50%	97.00%	20.00%
NFG	Proprietary PA TFC	600-800Da	55-60 GFD	60.00%	50.00%	10.00%

1 Test Conditions: 2% Lactose solution at 110PSI (760 kPa) operating pressure, 77° F (25° C)

2 Test Conditions 2,000ppm MgSO<sub>4</sub> Solution at 110PSI (760 kPa) operating pressure, 77° F (25° C)

3 Test Conditions 2,000ppm NaCl Solution at 110PSI (760 kPa) operating pressure, 77° F (25° C)

## Order Information

Part Number	Description	Molecular Weight Cut-Off
FSM0101NFS1212	Flat Sheet Membrane, NFS, PA-TFC, NF, 305 X 305mm, 1/Pk	100-250Da
FSM0101NFX1212	Flat Sheet Membrane, NFX, PA-TFC, NF, 305 X 305mm, 1/Pk	150-300Da
FSM0101NFW1212	Flat Sheet Membrane, NFW, PA-TFC, NF, 305 X 305mm, 1/Pk	300-500Da
FSM0101NFG1212	Flat Sheet Membrane, NFG, PA-TFC, NF, 305 X 305mm, 1/Pk	600-800Da

We provide Synder Brands a diverse range of flat sheet Ultrafiltration membranes, covering all available membrane types. While our standard sizes are 12" x 12" and 1m x 1m, we also offer custom sizes and flat sheet rolls to meet specific requirements. These flat sheet membranes are ideal for small-scale lab testing, offering ease of installation and compatibility with various test units.

Ultrafiltration membranes feature a molecular weight cut-off range of 1,000 to 500,000 Daltons, enabling the selective rejection of large macromolecules and proteins. Widely utilized across industries including dairy, food & beverage, biotech, and pharmaceuticals, these membranes are integral to numerous processes.

In applications with high solids content, flat sheet ultrafiltration membranes excel in performance and longevity, providing a compelling balance between membrane life and operational cost. Unlike hollow fiber counterparts, our flat sheet ultrafiltration membranes boast a robust support material that substantially enhances their physical durability.

At Synder Filtration, we offer a comprehensive selection of both dry and wet ultrafiltration flat sheet membranes, available in a wide range of molecular weight cut-offs. From process research and pilot testing to spiral element winding and integration into plate & frame membrane systems, our membranes cater to diverse needs, with product sizes ranging from a single square foot to thousands of linear feet.

Membrane	Type	Polymer	Molecular Weight Cut-Off
XT	UF*	PES	1,000
VT	UF*	PES	3,000
MT	UF*	PES	5,000
ST	UF*	PES	10,000
SM	UF*	PES	20,000
MK	UF*	PES	30,000
MQ	UF*	PES	50,000
LY	UF*	PES	100,000
LV	UF*	PES	200,000
LX	UF*	PES	300,000
PZ	UF	PAN	30,000
PY	UF	PAN	100,000
PX	UF	PAN	400,000
V3	UF*1	PVDF	30,000
V4	UF*1	PVDF	70,000
V5	UF*1	PVDF	200,000
V6	UF*1	PVDF	500,000
V7	UF*1	PVDF	800,000
BN	UF*	PVDF	50,000
BY	UF*	PVDF	100,000
BX	UF*	PVDF	250,000
A6	UF*	PVDF	500,000

## Order Information

Part Number	Description	Molecular Weight Cut-Off
FSM0102XT1212	Flat Sheet Membrane, XT, PES, UF*, 305 X 305mm, 1/Pk	1,000
FSM0102VT1212	Flat Sheet Membrane, VT, PES, UF*, 305 X 305mm, 1/Pk	3,000
FSM0102MT1212	Flat Sheet Membrane, MT, PES, UF*, 305 X 305mm, 1/Pk	5,000
FSM0102ST1212	Flat Sheet Membrane, ST, PES, UF*, 305 X 305mm, 1/Pk	10,000
FSM0102SM1212	Flat Sheet Membrane, SM, PES, UF*, 305 X 305mm, 1/Pk	20,000
FSM0102MK1212	Flat Sheet Membrane, MK, PES, UF*, 305 X 305mm, 1/Pk	30,000
FSM0102MQ1212	Flat Sheet Membrane, MQ, PES, UF*, 305 X 305mm, 1/Pk	50,000
FSM0102LY1212	Flat Sheet Membrane, LY, PES, UF*, 305 X 305mm, 1/Pk	100,000
FSM0102LV1212	Flat Sheet Membrane, LV, PES, UF*, 305 X 305mm, 1/Pk	200,000
FSM0102LX1212	Flat Sheet Membrane, LX, PES, UF*, 305 X 305mm, 1/Pk	300,000
FSM0102PZ1212	Flat Sheet Membrane, PZ, PAN, UF, 305 X 305mm, 1/Pk	30,000
FSM0102PY1212	Flat Sheet Membrane, PY, PAN, UF, 305 X 305mm, 1/Pk	100,000
FSM0102PX1212	Flat Sheet Membrane, PX, PAN, UF, 305 X 305mm, 1/Pk	400,000
FSM0102V31212	Flat Sheet Membrane, V3, PVDF, UF*1, 305 X 305mm, 1/Pk	30,000
FSM0102V41212	Flat Sheet Membrane, V4, PVDF, UF*1, 305 X 305mm, 1/Pk	70,000
FSM0102V51212	Flat Sheet Membrane, V5, PVDF, UF*1, 305 X 305mm, 1/Pk	200,000
FSM0102V61212	Flat Sheet Membrane, V6, PVDF, UF*1, 305 X 305mm, 1/Pk	500,000
FSM0102V71212	Flat Sheet Membrane, V7, PVDF, UF*1, 305 X 305mm, 1/Pk	800,000
FSM0102BN1212	Flat Sheet Membrane, BN, PVDF, UF*, 305 X 305mm, 1/Pk	50,000
FSM0102BY1212	Flat Sheet Membrane, BY, PVDF, UF*, 305 X 305mm, 1/Pk	100,000
FSM0102BX1212	Flat Sheet Membrane, BX, PVDF, UF*, 305 X 305mm, 1/Pk	250,000
FSM0102A61212	Flat Sheet Membrane, A6, PVDF, UF*, 305 X 305mm, 1/Pk	500,000

\* - MAX (High Temperature/High pH) Models Also Available

1 - Only Available In Industrial Grade

We offer Synder Brands a comprehensive selection of flat sheet Microfiltration membranes, encompassing all available membrane types. While our standard sizes include 12" x 12" and 1m x 1m, we also accommodate custom sizes and flat sheet rolls upon request. These flat sheet membranes are often procured for small-scale lab testing, facilitating the determination of the most suitable cut-off for each specific application due to their ease of installation and compatibility with various test units.

Microfiltration membranes feature a molecular weight cut-off range of 0.08 to 0.2 microns, enabling the selective rejection of large macromolecules. This capability proves invaluable in applications such as fat and microbe separation within the dairy industry.

In scenarios involving high solids content, flat sheet microfiltration membranes demonstrate exceptional performance and longevity, offering a favorable balance between membrane life and operational cost. Distinguished by their robust support material, flat sheet membranes boast enhanced physical durability compared to hollow fiber counterparts.

Synder Filtration proudly presents a comprehensive range of both dry and wet microfiltration flat sheet membranes. With product sizes ranging from a single square foot to tens of thousands of linear feet, our membranes cater to diverse needs, spanning from process research and pilot testing to spiral element winding and integration into plate & frame membrane systems.

Membrane	Type	Polymer	Molecular Weight Cut-Off
FR	MF	PVDF	800,000
V0.1	MF	PVDF	0.1 $\mu$
V0.2	MF	PVDF	0.2 $\mu$

## Order Information

Part Number	Description	Molecular Weight Cut-Off
FSM0103FR1212	Flat Sheet Membrane, FR, PVDF, MF, 305 X 305mm, 1/Pk	800 000
FSM0103V0.11212	Flat Sheet Membrane, V0.1, PVDF, MF, 305 X 305mm, 1/Pk	0.1 $\mu$
FSM0103V0.21212	Flat Sheet Membrane, V0.2, PVDF, MF, 305 X 305mm, 1/Pk	0.2 $\mu$

## Order Information

Part Number	Description	Molecular Weight Cut-Off	Filtration Types
FSM0101NFS1212	Flat Sheet Membrane, NFS, PA-TFC, NF, 305 X 305mm, 1/Pk	100-250Da	Nanofiltration
FSM0101NFX1212	Flat Sheet Membrane, NFX, PA-TFC, NF, 305 X 305mm, 1/Pk	150-300Da	
FSM0101NFW1212	Flat Sheet Membrane, NFW, PA-TFC, NF, 305 X 305mm, 1/Pk	300-500Da	
FSM0101NFG1212	Flat Sheet Membrane, NFG, PA-TFC, NF, 305 X 305mm, 1/Pk	600-800Da	
FSM0102XT1212	Flat Sheet Membrane, XT, PES, UF*, 305 X 305mm, 1/Pk	1,000	Ultrafiltration
FSM0102VT1212	Flat Sheet Membrane, VT, PES, UF*, 305 X 305mm, 1/Pk	3,000	
FSM0102MT1212	Flat Sheet Membrane, MT, PES, UF*, 305 X 305mm, 1/Pk	5,000	
FSM0102ST1212	Flat Sheet Membrane, ST, PES, UF*, 305 X 305mm, 1/Pk	10,000	
FSM0102SM1212	Flat Sheet Membrane, SM, PES, UF*, 305 X 305mm, 1/Pk	20,000	
FSM0102MK1212	Flat Sheet Membrane, MK, PES, UF*, 305 X 305mm, 1/Pk	30,000	
FSM0102MQ1212	Flat Sheet Membrane, MQ, PES, UF*, 305 X 305mm, 1/Pk	50,000	
FSM0102LY1212	Flat Sheet Membrane, LY, PES, UF*, 305 X 305mm, 1/Pk	100,000	
FSM0102LV1212	Flat Sheet Membrane, LV, PES, UF*, 305 X 305mm, 1/Pk	200,000	
FSM0102LX1212	Flat Sheet Membrane, LX, PES, UF*, 305 X 305mm, 1/Pk	300,000	
FSM0102PZ1212	Flat Sheet Membrane, PZ, PAN, UF, 305 X 305mm, 1/Pk	30,000	
FSM0102PY1212	Flat Sheet Membrane, PY, PAN, UF, 305 X 305mm, 1/Pk	100,000	
FSM0102PX1212	Flat Sheet Membrane, PX, PAN, UF, 305 X 305mm, 1/Pk	400,000	
FSM0102V31212	Flat Sheet Membrane, V3, PVDF, UF*1, 305 X 305mm, 1/Pk	30,000	
FSM0102V41212	Flat Sheet Membrane, V4, PVDF, UF*1, 305 X 305mm, 1/Pk	70,000	
FSM0102V51212	Flat Sheet Membrane, V5, PVDF, UF*1, 305 X 305mm, 1/Pk	200,000	
FSM0102V61212	Flat Sheet Membrane, V6, PVDF, UF*1, 305 X 305mm, 1/Pk	500,000	
FSM0102V71212	Flat Sheet Membrane, V7, PVDF, UF*1, 305 X 305mm, 1/Pk	800,000	
FSM0102BN1212	Flat Sheet Membrane, BN, PVDF, UF*, 305 X 305mm, 1/Pk	50,000	
FSM0102BY1212	Flat Sheet Membrane, BY, PVDF, UF*, 305 X 305mm, 1/Pk	100,000	
FSM0102BX1212	Flat Sheet Membrane, BX, PVDF, UF*, 305 X 305mm, 1/Pk	250,000	
FSM0102A61212	Flat Sheet Membrane, A6, PVDF, UF*, 305 X 305mm, 1/Pk	500,000	
FSM0103FR1212	Flat Sheet Membrane, FR, PVDF, MF, 305 X 305mm, 1/Pk	800 000	Microfiltration
FSM0103V0.11212	Flat Sheet Membrane, V0.1, PVDF, MF, 305 X 305mm, 1/Pk	0.1 $\mu$	
FSM0103V0.21212	Flat Sheet Membrane, V0.2, PVDF, MF, 305 X 305mm, 1/Pk	0.2 $\mu$	