

## NanoPro™ S-3012

### Solvent Stable Membrane Data Sheet

#### Product description

<b>Membrane Chemistry:</b>	Proprietary Composite Nanofiltration Membrane
<b>Membrane Type:</b>	Solvent Stable Nanofiltration Membrane 2540/4040 Spiral Wound Element
<b>Construction*:</b>	Feed Spacer: 31 mil, 46 mil Permeate Tube: Stainless steel

\*For special requests, please contact AMS

#### Specifications

Model	Rejection %			Flux LMH (GFD)	Membrane Area m <sup>2</sup> (ft <sup>2</sup> )	Feed Spacer mil
	Glucose	NaCl	MgSO <sub>4</sub>			
S-3012-2540-31S	≥96	40	≥96	85 (50)	1.7 (18)	31
S-3012-2540-46S					1.5 (16)	46
S-3012-4040-31S					6.0 (65)	31
S-3012-4040-46S					4.8 (52)	46

Test Conditions: 40 bar (580 psi), 30°C (86°F), Flux measured with RO water, Feed solutions for rejection tests are 3% glucose / 3.2% NaCl / 0.2% MgSO<sub>4</sub> in RO water. Permeate flux may vary for individual element but it will no more than 20% below the above value.

#### Operating Information(\*)

Maximum Operating Pressure:	70 bar (1015 psi)
Maximum Operating Temperature:	60°C (140°F)
Maximum Cleaning Temperature:	60°C (140°F)
Allowable pH – Continuous Operation:	2-12
Allowable pH – Clean in Place (CIP):	1-12
Maximum Pressure Drop per Element:	0.5 bar (7.2 psi)
Recirculation Flow Rate	2540: Minimum 7.5 L/min (2 gpm), Maximum 19 L/min (5 gpm) 4040: Minimum 22 L/min (6 gpm), Maximum 65 L/min (17 gpm)

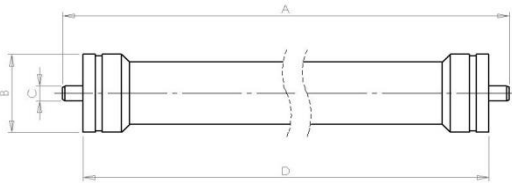
(\*) Consult AMS Technologies for specific information

## Recommended cleaning materials

- Depending on the nature of the feed material, a choice can be made from the following cleaning agents:
  - Sodium hydroxide at pH 10-12, 40°C (104°F)
  - Nitric or hydrochloric acid at pH 1-2, 40°C (104°F)
  - 0.2-1% w/w Na-EDTA, pH 10.5-11, 35°C (91°F)
  - 0.5% anionic surfactant (such as SDS), pH 10.5-11, 35°C (91°F)
- Water quality for cleaning:
  - Maximum turbidity is 1 NTU

## Nominal Product Dimensions

For 2540/4040:



Size	A	B	C	D
	mm (inches)	mm (inches)	mm (inches)	mm (inches)
2540	1016 (40)	61 (2.4)	19 (0.75)	954 (37.5)
4040	1016 (40)	99 (3.9)	19 (0.75)	965 (38)

## Lubricants:

For element 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

- Short Term (up to four weeks): 1% w/w sodium metabisulfite.
- Long Term: Please refer to the AMS element storage and handling instructions.

## Storage

- The membrane should not be allowed to dry. It should be stored in a sealed bag, at 4°-30°C (39-86°F).

### **Solvent Stability\*:**

Acetonitrile	Methanol
Ethyl acetate	Ethanol
2-Propanol	Hexane
Tetrahydrofuran (THF)	Acetone
Toluene	Dimethylformamide
N-Methyl Pyrrolidone	Methylene chloride

\* Determined upon immersing the membrane flat sheet in pure organic solvent for a period of 3 months at 25°C (77°F).

Our elements are stable in the solvents listed above as well as potentially other solvents. Solvent mixtures will have different fluxes depending on the concentration of the solvent.

### **Other**

- Do not expose the membrane to chlorine or other oxidants.
- Sodium metabisulfite (without catalysts such as cobalt) is the preferred chemical to eliminate free chlorine or other oxidizers in the feed.