

NanoPro™ A-3012

Acid Stable Membrane Data Sheet

Product description

Membrane Chemistry:	Proprietary Composite Nanofiltration Membrane
Membrane Type:	Acid Stable Nanofiltration Membrane 2540/4040 Spiral Wound Element
Construction*:	Feed Spacer: 31 mil, 46 mil Permeate Tube: Polysulfone

*For special requests, please contact AMS

Specifications

Model	Rejection %			Flux LMH (GFD)	Membrane Area m ² (ft ²)	Feed Spacer mil
	Glucose	NaCl	MgSO ₄			
A-3012-2540-31P	≥96	40	≥96	85 (50)	1.9 (20)	31
A-3012-2540-46P					1.5 (16)	46
A-3012-4040-31P					6.5 (70)	31
A-3012-4040-46P					5.2 (56)	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% MgSO₄ 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:	80°C (176°F)
Maximum Cleaning Temperature:	80°C (176°F)
Allowable pH – Continuous Operation:	0-12
Allowable pH – Clean in Place (CIP):	0-13
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)

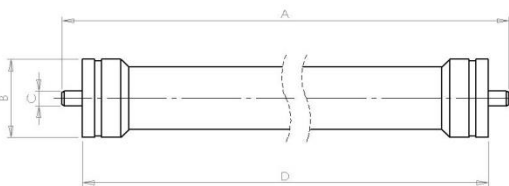
(*) Consult AMS Technologies for specific information

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).

Acid Stability:

Typical solutions include:

20% H₂SO₄ 20% HCl 4% HNO₃
30% H₃PO₄ 15% Acetic acid

Our membranes run at high and stable fluxes in very acidic environment for 12 months and more.

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.