

## NanoPro™ A-3014

### Acid Stable Membrane Data Sheet

#### Product description

|                            |  |
|----------------------------|--|
| <b>Membrane Chemistry:</b> | Proprietary Composite Nanofiltration Membrane                    |
| <b>Membrane Type:</b>      | Acid Stable Nanofiltration Membrane<br>8040 Spiral Wound Element |
| <b>Construction*:</b>      | Feed Spacer: 31 mil, 46 mil<br>Permeate Tube: Polysulfone        |

\*For special requests, please contact AMS

#### Specifications

| Model           | Rejection % |                   | Flux LMH<br>(GFD) | Membrane<br>Area m <sup>2</sup> (ft <sup>2</sup> ) | Feed Spacer<br>mil |
|-----------------|-------------|-------------------|-------------------|--|--------------------|
|                 | Glucose     | MgSO <sub>4</sub> |                   |  |                    |
| A-3014-8040-31P | ≥90         | ≥92               | 95 (56)           | 31 (333)   | 31                 |
| A-3014-8040-46P |             |                   |                   | 24 (263)   | 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(\*)**

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|                                      |   |
|--------------------------------------|---|
| Maximum Operating Pressure:          | 40 bar (580 psi)  |
| Maximum Operating Temperature:       | 50°C (122°F)  |
| Maximum Cleaning Temperature:        | 50°C (122°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              | 8040: Minimum 90 L/min (24 gpm), Maximum 280 L/min (74 gpm) |

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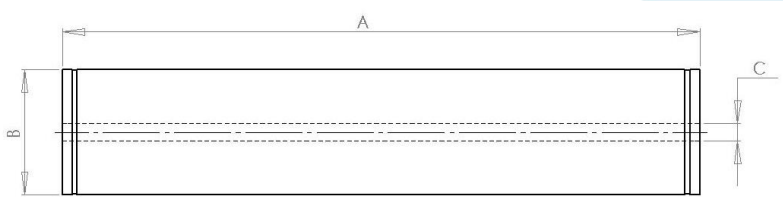
(\*) Consult AMS Technologies for specific information

### **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 8040:



| Size | A        |      | B        |      | C        |      |
|------|----------|------|----------|------|----------|------|
|      | (Inches) | (mm) | (Inches) | (mm) | (Inches) | (mm) |
| 8040 | 40       | 1016 | 7.9      | 200  | 1.122    | 28.5 |

### **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% H<sub>2</sub>SO<sub>4</sub>                      20% HCl                      4% HNO<sub>3</sub>  
30% H<sub>3</sub>PO<sub>4</sub>                      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.