EVONIK, THE CREATIVE INDUSTRIAL GROUP FROM GERMANY, IS ONE OF THE WORLD LEADERS IN SPECIALTY CHEMICALS, OPERATING IN THE NUTRITION & CARE, RESOURCE EFFICIENCY AND PERFORMANCE MATERIALS SEGMENTS.

The Resource Efficiency segment supplies high performance materials such as high performance polymers for environmentally friendly and energy-efficient system solutions; we ensure sustainability – in business and everyday life.

The brand SEPURAN® stands for customized polyimide hollow fibre membranes for efficient gas separation. The SEPURAN® N₂ membrane has been especially developed for nitrogen generation combining low air consumption at all temperature levels with high nitrogen capacity.

Evonik. Power to create.
EVONIK BUSINESS

Monomer

N₂ Polymer

Membrane

Module/Cartridge System

EVONIK TECHNOLOGY SUPPORT

OEM Partner: N₂ Package

APPLICATION

CONTENT

Make your choice!

Why are we best in performance?

References worldwide

Our classic products 4” and 6”
Take advantage of the diverse SEPURAN® N₂ product range for your individual N₂ project

Are you building nitrogen generators for inerting in the oil & gas industry, for the marine industry or just for fire protection of your customers’ storage facilities? Do you construct custom made projects at higher purities or sell defined packages at fixed N₂ purity levels? Do your customers need 300 l N₂, purity 99.9% or have projects with 2000 Nm³/h N₂, purity 97%?

Depending on your application and your project size, you can chose among all SEPURAN® N₂ modules and cartridge systems generating nitrogen with a purity range from 95% to 99.9%, with a temperature from 0 to 70 °C. You can either pick the SEPURAN® N₂ Selective product as well as the fast N₂ products in different sizes, with diverse cartridge vessels. The 2” and the 6” products work up to 25 barg and the 4” products work at the pressure up to 16, 20 or even 40 barg.

For larger flows, you can either chose between the 4” module, SS304, or the system, existing of a cartridge and a vessel, SS316, ideal for offshore application. The 4” product with a length of 1292 mm (system) or 1339 mm (module) produces a capacity of 20.6 Nm³/h (95%, 7 barg, 25 °C).

Finally, you may also pick the SEPURAN® N₂ Selective 4” product ideal also for higher purities such as 99.9% with a lower capacity in comparison with the standard 4” module or system.

The SEPURAN® N₂ 2” membrane modules
The SEPURAN® N₂ 2” product is available as a module in three different lengths, 300 mm, 600 mm and 1200 mm.

All SEPURAN® N₂ 2” products work up to 25 barg with a temperature range between 0 to 70 °C and a purity range from 95% to 99.9%.

The 2" products are offered on request.

The SEPURAN® N₂ 4” membrane modules and systems
The SEPURAN® N₂ 4” product is available as module as well as a system existing of a cartridge and a vessel.

We offer the SEPURAN® N₂ 4” as a shorter version module with a length of 870 mm. This product is ideal for smaller standard N₂ generator packages with a capacity of 11.3 Nm³/h at a purity of 95% (7 barg, 25 °C) stainless steel 304.
The SEPURAN® N₂ 4” products work up to 16, 20 or even 40 barg with a temperature range between 0 to 70 °C and a purity range from 95% to 99.9%.

**The SEPURAN® N₂ 6” system**

The SEPURAN® N₂ 6” system consists of a cartridge cast in aluminum with a capacity up to 45.3 Nm³/h (95%, 7 barg, 25 °C) with a vessel made of SS316 with a pressure capacity up to 25 barg.

You may chose the 6” system, length 1310 mm, for larger quantities up to several thousand Nm³/h. With the vessel in SS316 quality, this product is ideal for the offshore industry.

The SEPURAN® N₂ 6” product works up to 25 barg with a temperature range between 0 to 70 °C and a purity range from 95% to 99.9%.

**The housings for the 4” or the 6” system – facilitating different industries and business models**

You may be choosing a system consisting of a housing and a cartridge instead of a 4” module, as replacement costs are more competitive.

The 4” housing with a weight of 13 kg comes with G or NPT threads, facilitating your regional project needs. You may choose between 304 and 316 stainless steel.

The 6” housing with a weight of 35 kg comes with a G or NPT thread, in SS316. Both housings, the 4” as well as the 6”, come with a material certificate facilitating the individual regional pressure regulation of your project.

For detailed information on each SEPURAN® N₂ product, please ask for the individual technical information folder or have a look at our web-page www.sepuran.com where you will find each technical information as a download.
SEPURAN® N₂

WHY ARE WE BEST IN PERFORMANCE?

With polymer produced at Evonik, we have given our SEPURAN® N₂ products a high selectivity and permeability. This results in numerous advantages for you and your customer.
We offer best in class price performance!

Qualitative comparison of technological advantages

COMPETITOR 1
EVONIK INDUSTRIES
COMPETITOR 2
COMPETITOR 3

We offer ongoing technical support to you, before and after the project. Worldwide.

Higher pressure rating

With a pressure rating up to 50% higher, you can minimize your membrane space using SEPURAN® N₂. The pressure variety of up to 16 barg to 25 barg or even 40 barg offers you a larger freedom to choose the parameters to minimize your invest cost.

Top technical service
REFERENCES WORLDWIDE

Quantity of facilities with SEPURAN® membrane technology

- Canada: 1
- USA: 13
- Spain: 2
- France: 23
- Netherlands: 12
- Switzerland: 9
- Norway: 1
- United Kingdom: 1
- USA: 8
OUR CLASSIC PRODUCTS
4” AND 6”

<table>
<thead>
<tr>
<th>Material of construction</th>
<th>4” Module Short</th>
<th>4” Module</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cast in place/not replaceable</td>
<td>SS304</td>
<td>SS304</td>
</tr>
<tr>
<td>Pr/T rating</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pressure</td>
<td>≤ 16 barg (≤ 232 psig)</td>
<td>≤ 16 barg (≤ 232 psig)</td>
</tr>
<tr>
<td>Temperature</td>
<td>1-70 °C (33.8 - 158 °F)</td>
<td>1-70 °C (33.8 - 158 °F)</td>
</tr>
<tr>
<td>Minimum capacity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 barg / 95% / 25 °C</td>
<td>11.3 Nm³/h</td>
<td>20.6 Nm³/h</td>
</tr>
<tr>
<td></td>
<td>423 scfh</td>
<td>769 scfh</td>
</tr>
<tr>
<td></td>
<td>7.0 scfm</td>
<td>12.8 scfm</td>
</tr>
<tr>
<td>9 barg / 95% / 55 °C</td>
<td>17.9 Nm³/h</td>
<td>32.5 Nm³/h</td>
</tr>
<tr>
<td></td>
<td>668 scfh</td>
<td>1213 scfh</td>
</tr>
<tr>
<td></td>
<td>11.1 scfm</td>
<td>20.2 scfm</td>
</tr>
<tr>
<td>Nominal dimensions</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>873 x 114.3 mm (34.4 x 4.5&quot;)</td>
<td>1339 x 114.3 mm (52.7 x 4.5&quot;)</td>
</tr>
<tr>
<td>Thread</td>
<td></td>
<td></td>
</tr>
<tr>
<td>G or NPT</td>
<td>0.5&quot;</td>
<td>0.5&quot;</td>
</tr>
<tr>
<td>Permeate G or NPT</td>
<td>1.5&quot;</td>
<td>1.5&quot;</td>
</tr>
</tbody>
</table>
## OUR CLASSIC PRODUCTS

<table>
<thead>
<tr>
<th>Cartridge:</th>
<th>Housing:</th>
<th>Cartridge:</th>
<th>Housing:</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS304</td>
<td>SS316</td>
<td>Al</td>
<td>SS316</td>
</tr>
</tbody>
</table>

- **Material of construction**
  - Cartridge: SS304, SS316
  - Housing: SS316

- **Pr/T rating**
  - ≤ 16 barg (≤ 232 psig)
  - ≤ 20 barg (≤ 290 psig)
  - ≤ 25 barg (≤ 362 psig)
  - 1 - 70 °C (33.8 - 158 °F)

- **Minimum capacity**
  - 7 barg / 95% / 25 °C
  - 11.3 Nm³/h 20.6 Nm³/h
  - 20.6 Nm³/h 45.3 Nm³/h
  - 668 scfh 1213 scfh

- **Nominal dimensions**
  - 873 x 114.3 mm (34.4 x 4.5”)
  - 1237 x 108.7 mm (48.7 x 4.3”)
  - 1292 x 124 mm (50.9 x 4.88”)
  - 1310 x 154.8 mm (51.6 x 6.1”)
  - 1448 x 168.3 mm (57.0 x 6.6”)

- **Thread**
  - G or NPT 0.5”
  - 0.75”
  - 1.5”
  - 2.0”

- **Permeate**
  - G or NPT 1.5”
  - 1.5”
  - 2.0”
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* = registered trademark