SEPURAN® N₂
Membrane technology for efficient on-site nitrogen generation
EVONIK IS ONE OF THE WORLD LEADERS IN SPECIALTY CHEMICALS.
THE COMPANY GOES FAR BEYOND CHEMISTRY TO CREATE INNOVATIVE, PROFITABLE AND SUSTAINABLE SOLUTIONS FOR CUSTOMERS.

As global membrane technology leader for the gas industry, Evonik enables the transition to a sustainable gas economy.

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 BUSINESS
N₂ Polymer

Membrane

Module/Cartridge System

EVONIK TECHNOLOGY SUPPORT
OEM Partner: N₂ Package

APPLICATIONS

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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.

<table>
<thead>
<tr>
<th>Our products</th>
<th>2” SHORT</th>
<th>2” LONG</th>
<th>4” SHORT</th>
<th>4” LONG</th>
<th>6” STANDARD</th>
<th>6” SELECTIVE</th>
<th>6” LONG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material</td>
<td>PVC</td>
<td>Alu</td>
<td>PVC</td>
<td>Alu</td>
<td>SS304</td>
<td>SS316</td>
<td>SS316</td>
</tr>
<tr>
<td>Temperature rating</td>
<td>≤ 40 °C</td>
<td></td>
<td>≤ 70 °C</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pressure rating</td>
<td>≤ 10 barg</td>
<td></td>
<td>≤ 12 barg</td>
<td></td>
<td>≤ 16 barg</td>
<td></td>
<td>≤ 20 barg</td>
</tr>
<tr>
<td>Performance [N₂ 95% @ 7 barg, 25°C]</td>
<td>Capacity [Nm³/h]</td>
<td>0.5</td>
<td>0.5</td>
<td>1.27</td>
<td>1.27</td>
<td>11.3</td>
<td>22.5</td>
</tr>
<tr>
<td>Air/N₂ ratio</td>
<td>2.2</td>
<td>2.2</td>
<td>2.1</td>
<td>2.1</td>
<td>2.1</td>
<td>2.1</td>
<td>2.1</td>
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<tr>
<td>Ports NPT</td>
<td></td>
<td></td>
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<tr>
<td>NPT / BSPP</td>
<td></td>
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</tbody>
</table>
A higher pressure rating up to 50%, can minimize your membrane space. The pressure variety of up to 16 barg to 20 barg offers you a larger freedom to choose the parameters to minimize your invest cost.

Stable performance
Unlike other gas separation membranes, with typical decreases in performance over time, SEPURAN® N₂ membranes are characterized by an extremely stable performance.

Top technical service
We offer ongoing technical support to you, before and after the project. Worldwide.
MAKE YOUR CHOICE!

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 with a very low air factor as well as the fast N₂ products with a very good capacity in different sizes.

The SEPURAN® N₂
2” membrane modules

The SEPURAN® N₂ 2” product is available in two different lengths, 360 mm and 610 mm and with two different outer materials, PVC and Aluminum. The PVC module can operate up to 10 barg and 40°C; and the Aluminum module up to 12 barg and 70°C.

The compact size of the 2” SEPURAN® N₂ makes it an ideal product to use inside cabinets or wall-mount nitrogen generators; it is useable for all industries, be it food & drink or classic inertization.

The SEPURAN® N₂
4” membrane modules and systems

We offer the SEPURAN® N₂ 4” as a short module version and as a larger version in a system that consist of a 4” cartridge and housing.

This 4” short product, made of stainless steel 304, 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).

For medium flows, you can pick the 4” system, consisting of a cartridge and a housing. The housing is available in SS316, ideal for offshore applications.
The SEPURAN® N₂ 6” system

You may choose the 6” product in a standard version as 6” system (50.4 Nm³/h) or the 6” long system (72 Nm³/h) consisting of cartridge and housing, for larger quantities up to several thousand Nm³/h. With the housing in SS316 quality, this product is ideal for the offshore industry.

The SEPURAN® N₂ 6” product works up to 16 barg with a temperature range between 0 to 70 °C and a purity range from 95% to 99.9%.

The SEPURAN® N₂ Selective System 6” membranes have the highest selectivity and are characterized by an extremely good air factor with excellent capacity, resulting in more nitrogen per compression energy, a smaller compressor, lower operating cost and smaller footprint overall.

The housings for the 4” or the 6” system are facilitating different industries and business models.

You may be choosing a system consisting of a housing and a cartridge, replacement costs are very competitive. All housings are available with G or NPT threads, facilitating your regional project needs and they come with a material certificate facilitating the individual regional pressure regulation of your project being ASME, EN, SELO, CRN or NR13.

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.membrane-separation.com where you will find the product information as a download.
Calculate your N₂ product!

Use Evonik’s SEPURAN® N₂ calculator to learn how much nitrogen you can make. Estimate the number and type of membranes you need by inputting the nitrogen flow, temperature, nitrogen purity and pressure of your application.

NITROGEN CALCULATOR BY SEPURAN®

The best way to estimate nitrogen purity and pressure

https://nitrogen-calculator.membrane-separation.com/
Enter your parameters here

Nitrogen quantity required $\text{Nm}^3/h$

Temperature in °C

Nitrogen purity required in %

Pressure in barg

Calculate

Our product range

The SEPURAN® N₂
6” long membrane cartridge system v2.00 - 2022

The SEPURAN® N₂ 6” long membrane cartridge system can operate up to 16 barg / 232 psig at temperatures up to 70 °C. The SEPURAN® N₂ 6” product is available as cartridge system in SS316. The product comes with NPT and BSPP ports and is available certified as PED, ASME, CRN & Selo.

Product information

Contact us for a quotation or any technical questions!

sepuran@evonik.com
REFERENCES WORLDWIDE

Overview of facilities with SEPURAN® membrane technology

1000 References in total
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