

PRISM[®] Membrane Dryers

PE2020 & PE2030

Membrane Dryers for Air and Gas

PRISM PE2020 & PE2030 membrane dryers deliver exceptional value and benefits to OEM customers and end users. Severe duty construction, solid performance, and exceptional lifetime, make the PE2020 & PE2030 membrane dryers the choice for industrial applications.

Benefits

Industrial Grade

PRISM PE2020 and PE2030 membrane dryers are constructed with heavy gauge ABS shells and aluminum caps which makes them extremely durable for applications where equipment is operating in all types of conditions.

Design Flexibility

Adjustable purge rates make the PE dryers a flexible choice for system designers. Dew point depressions are set by adjusting the sweep air flows. Compressed air dew points are optimized without wasting energy by over-drying. Three-port caps make connections easy in difficult applications.

Reliable Operation

PRISM membrane separators are field-proven in the most demanding applications and environments, like offshore platforms and mining operations.



A typical membrane separator contains thousands of fibers that are bundled and encased at both ends in epoxy resin. The ends of the bundle are cut, which leaves the fiber bores open on both ends, allowing the gas to travel from one end to the other. The fiber bundle is enclosed in a suitable casing. The casing protects the fibers and routes the gas properly.

PE2020-E1



Pressure Dew Point	Feed Flow	Outlet Flow	Outlet Purge	Pressure Drop
Feed air: 100 PSIG; 100°F; Pressure Dew Point 100°F				
40 °F	13.59 scfm	11.70 scfm	14.0 %	1.5 psi
20 °F	10.50 scfm	8.72 scfm	16.9 %	1.2 psi
0 °F	6.37 scfm	5.18 scfm	18.7 %	0.7 psi
-20 °F	4.01 scfm	3.18 scfm	20.7 %	0.4 psi
Feed air: 7 BARG, 35°C, Pressure Dew Point 35°C				
3 °C	5.44 nL/sec	4.72 nL/sec	13.3 %	0.092 bar
-10 °C	4.06 nL/sec	3.39 nL/sec	16.6 %	0.068 bar
-20 °C	2.52 nL/sec	2.06 nL/sec	18.2 %	0.042 bar
-30 °C	1.44 nL/sec	1.13 nL/sec	19.8 %	0.023 bar

PE2030-E1



Pressure Dew Point	Feed Flow	Outlet Flow	Outlet Purge	Pressure Drop
Feed air: 100 PSIG; 100°F; Pressure Dew Point 100°F				
40 °F	28.89 scfm	24.85 scfm	14.0 %	5.3 psi
20 °F	24.26 scfm	20.16 scfm	16.9 %	4.4 psi
0 °F	17.86 scfm	14.52 scfm	18.7 %	3.2 psi
-20 °F	14.38 scfm	11.40 scfm	20.7 %	2.6 psi
Feed air: 7 BARG, 35°C, Pressure Dew Point 35°C				
3 °C	11.96 nL/sec	10.37 nL/sec	13.3 %	0.33 bar
-10 °C	9.92 nL/sec	8.28 nL/sec	16.6 %	0.27 bar
-20 °C	7.60 nL/sec	6.21 nL/sec	18.2 %	0.21 bar
-30 °C	6.12 nL/sec	4.90 nL/sec	19.8 %	0.017 bar

Performance listed for single input pressure and operating temperature. Performance varies with compression and temperature of the feed air and sweep flows. Contact our Technical Services department to receive detailed performance recommendations or to generate simulations for your specific production requirements.

Feed Air Requirements

Pre-treatment steps differ by application but typically include coalescing filtration to remove particulates and liquid droplets, temperature control, and pressure control. Consult Design-and-Reference manual for detailed information associated with these products.

Materials

Shell tube: 4A/B/V	High Performance ABS
End caps: 4A/B/V	6061 T6 Aluminum

Mechanical Design Limits

Design Pressure	385 PSIG (26.5 BARG)
Design Temperature	150°F (65°C)

Operating Limits

Pressure	30 to 200 PSIG/ (2.1 to 13.8 BARG)
Temperature	-10°F to 150°F (-23°C to 65°C)



For more information regarding PRISM Membrane separators, please contact our Technical Services department.

Air Products PRISM Membranes
11444 Lackland Road
Saint Louis, Missouri 63146 USA
T: 1-314-995-3300
F: 1-314-995-3500
E: membrane@airproducts.com
airproducts.com/membranes

Permea China LTD
60 Jinshajiang Road
Shandong, 264006 China
T: +86-535-2165333
F: +86-535-2165336
E: fungp@airproducts.com
permea.com.cn

Air Products Japan K.K.
Kamiyacho Prime Place 9F
4-1-17 Toranomon, Minato-ku,
Tokyo 105-0001 JAPAN
T: +81-3-5405-6304
F: +81-3-5405-6301
E: higucht@airproducts.com

PRISM membrane separators are available through two channels:

Air Products Prism Membranes sells and distributes membrane separators through Original Equipment Manufacturing (OEM) arrangements. This global network of value-added-resellers integrates the PRISM Membrane gas separators into systems for a variety of applications, from food preservation to scuba diving air. If you have an interest in using PRISM membrane separators in your gas generation systems, please contact our Business Development specialists.

Fully-assembled membrane systems are available through the Air Products Engineered Systems group. Each nitrogen system is fabricated to highest engineering classifications. These are the same nitrogen-membrane systems that Air Products uses in its own facilities, so you can be sure that the quality and performance meets the highest standards.

We look forward to working with you.

Reasons why our membrane separators are the best on the market

1. Low total costs

- Lowest air consumption membrane separator on the market across the widest portfolio of product offerings.
- Broad operating range enables flexible design and optimization.
- More than 35 years of experience designing the most cost effective systems.

2. Quality & Reliability

- USA-based manufacturing with quality systems certified to AS9100 and ISO9001 standards.
- Trusted in critical applications like aircraft fuel tank inerting, shipboard/offshore systems, and refinery operations.
- Longest demonstrated lifespan.

3. Technical Support

- Access to experts at membrane@airproducts.com or +1-314-995-3300.
- Specialized experience in troubleshooting and development support.
- Capabilities to customize or develop new membrane products.

The information contained in this document is believed to be true and accurate at time of publication. Air Products PRISM Membranes reserves the right to change product specifications without notification. Please consult current *Product Design and Reference* manual for detailed information associated with these products.

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