

PRISM[®] Membrane Dryers PC3010, PC3020 & PC3030 for air and gas dehydration

PRISM PC3010, PC3020, and PC3030 membrane dryers deliver exceptional value and benefits to OEM customers and end users. Severe duty construction, solid performance, and exceptional lifetime, make these membrane dryers the choice for industrial applications.



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.

Benefits

Industrial Grade

PRISM PC3010, PC3020 and PC3030 membrane dryers, also known as PRISM Cactus 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. A stainless-steel shell option makes severe duty and corrosive applications, like off-shore and shipboard, possible without secondary containment.

Design Flexibility

Simple, fixed-purge design makes the PC dryers a flexible choice for system designers. Dew point depressions are set with no additional equipment or plumbing required.

Reliable Operation

PRISM membrane separators are field-proven in the most demanding applications and environments, like offshore platforms and mining operations. PC dryers have no moving parts and require no replaceable media. This makes them the the choice for point-of-use and severe duty applications where bulky dryer equipment is not practical.

PC3010-D2



Feed Air Conditions	Pressure Dew Point	Feed Flow	Outlet Flow	Outlet Purge
100 psig 100 °F 100 °F PDP	40 °F	7.8 scfm	6.7 scfm	14.1 %
	20 °F	6.5 scfm	5.4 scfm	16.9 %
	0 °F	5.5 scfm	4.3 scfm	21.8 %
	-20 °F	4.7 scfm	3.5 scfm	25.5 %
	-40 °F	3.9 scfm	2.7 scfm	30.8 %
300 psig 100 °F 100 °F PDP	40 °F	30.7 scfm	27.4 scfm	10.8 %
	20 °F	22.3 scfm	18.9 scfm	15.3 %
	0 °F	16.6 scfm	13.2 scfm	20.5 %
	-20 °F	12.7 scfm	9.2 scfm	27.6 %
	-40 °F	9.8 scfm	6.3 scfm	35.7 %

PC3020-D2



Feed Air Conditions	Pressure Dew Point	Feed Flow	Outlet Flow	Outlet Purge
100 psig 100 °F 100 °F PDP	40 °F	17.2 scfm	14.9 scfm	13.4 %
	20 °F	14.7 scfm	12.3 scfm	16.3 %
	0 °F	12.6 scfm	10.2 scfm	19.1 %
	-20 °F	10.7 scfm	8.2 scfm	23.4 %
	-40 °F	8.9 scfm	6.4 scfm	28.1 %
300 psig 100 °F 100 °F PDP	40 °F	76.9 scfm	70.0 scfm	9.0 %
	20 °F	56.1 scfm	49.0 scfm	12.7 %
	0 °F	41.4 scfm	34.1 scfm	17.6 %
	-20 °F	31.0 scfm	23.6 scfm	23.9 %
	-40 °F	23.2 scfm	15.9 scfm	31.5 %

PC3030-D2



Feed Air Conditions	Pressure Dew Point	Feed Flow	Outlet Flow	Outlet Purge
100 psig 100 °F 100 °F PDP	40 °F	29.0 scfm	25.1 scfm	13.4 %
	20 °F	24.8 scfm	20.8 scfm	16.1 %
	0 °F	21.2 scfm	17.1 scfm	19.3 %
	-20 °F	18.0 scfm	13.8 scfm	23.3 %
	-40 °F	15.0 scfm	10.8 scfm	28.0 %
300 psig 100 °F 100 °F PDP	40 °F	129.8 scfm	118.0 scfm	9.1 %
	20 °F	94.6 scfm	82.6 scfm	12.7 %
	0 °F	69.8 scfm	57.5 scfm	17.6 %
	-20 °F	52.2 scfm	39.9 scfm	23.6 %
	-40 °F	39.2 scfm	26.8 scfm	31.6 %

Performance listed for single input pressure and operating temperature. Performance varies with compression and temperature of the feed air. 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: 3A/4A	High Performance ABS
End caps: 3A/4A	6061 T6 Aluminum
Shell tube: 2E/2F	316L Stainless Steel
End caps: 2E/2F	316L Stainless Steel

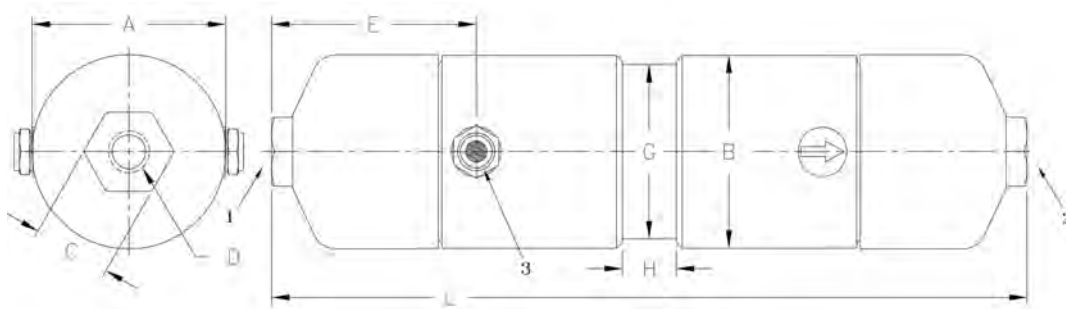
Mechanical Design Limits

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

Typical Operating Range

Pressure	30 to 300 PSIG/ (2.1 to 20.7 BARG)
Temperature	-10 °F to 150 °F (-23 °C to 65 °C)

Dimensions – ABS Shell

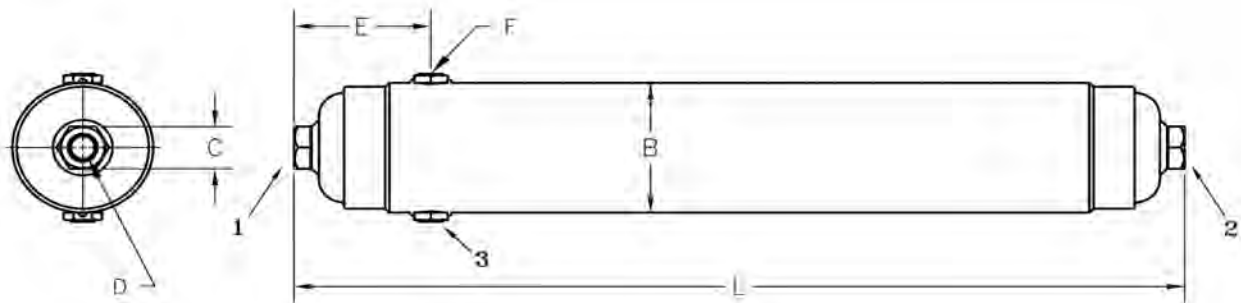


Ports:

1. Compressed Air Inlet
2. Dry Air inlet
3. Purge Outlet

Part No	Model No.	A	B	C	D	E	F	G	H	L	Weight
107025	PC3010-D2-3A-20				3/8" NPT				1.10" (27.9 mm)	15.25" (387 mm)	4.6 lb (2.09 kg)
107036	PC3020-D2-4A-20	3.91" (99.3 mm)	3.88" (98.6 mm)	1.38" (35.1 mm)	1/2" NPT	4.13" ±0.06 (104.9 ± 1.5 mm)	3/8" NPT	3.50" (88.9 mm)	11.12" (282.4 mm)	26.14" (664 mm)	10.9 lb (4.94 kg)
107045	PC3030-D2-4A-20	3.91" (99.3 mm)	3.88" (98.6 mm)	1.38" (35.1 mm)	1/2" NPT	4.13" ±0.06 (104.9 ± 1.5 mm)	3/8" NPT	3.50" (88.9 mm)	26.12" (663.4 mm)	41.14" (1045mm)	14.9 lb (6.76 kg)

Dimensions – Stainless Steel



Part No	Model No.	B	C	D	E	F	L	Weight
107034	PC3020-D2-00-2E			1/2" NPT			26.88" (682 mm)	15.4 lb (7.0 kg)
107035	PC3020-D2-00-2F	4.25" (108.0 mm)	1.38" (35.1 mm)	1/2" BSPP	4.13" (104.9 mm)	3/8" NPT		
107043	PC3030-D2-00-2E			1/2" NPT			41.25" (1048 mm)	20.5 lb (9.3 kg)
107044	PC3030-D2-00-2F			1/2" BSPP				



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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 the 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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