

PRISM[®] Membrane Separators

PA4030-N3/PA4050-N3



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 which protects the fibers and routes the gas properly.

Air Products' PRISM membranes: experience, performance, and value.

PRISM N3 Membrane Separators deliver exceptional value and benefits to OEM customers and end users.

Thirty five years of manufacturing expertise combined with a newly developed fiber technology delivers the increased nitrogen productivity of PRISM N3 Membrane Separators.

Benefits

Reduced Cost

N3 fibers produce more nitrogen, so systems can be designed with fewer separators, reducing footprint and capital expenditure. High nitrogen recovery lowers operational power costs.

Design Flexibility

Design engineers have increased flexibility in fabricating nitrogen membrane systems to meet specific needs. Use less compression power to build an energy efficient system. Or, use fewer separators to build compact systems when space is limited.

Reliable Operation

PRISM Membrane Separators are field proven in the most demanding applications and environments like offshore platforms and mining operations. The high quality membrane fiber offers superior resistance to common feed stream contaminants.

Why choose PRISM Membrane Separators

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 in designing the most cost effective systems.

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.

Technical support

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



PA4030-N3

Nitrogen Flow (Nm ₃ /hr) / Feed Air Flow (Nm ₃ /hr)		Purity					
Pressure (BARG)	99.5%	99%	98%	97%	96%	95%	
5	2.1/13.7	2.9/14.6	4.3/16.1	5.5/17.5	6.8/18.9	8.1/20.3	
9	4.9/26.2	6.7/28.3	9.7/31.6	12.5/34.7	15.3/37.8	18.2/41.0	
15	9.3/45.2	12.7/49.2	18.4/55.6	23.6/61.5	28.9/67.3	34.5/73.4	

Operating temperature 55°C.



PA4050-N3

Nitrogen Flow (Nm ₃ /hr) / Feed Air Flow (Nm ₃ /hr)		Purity					
Pressure (BARG)	99.5%	99%	98%	97%	96%	95%	
5	3.2/21.7	4.5/23.0	6.5/25.1	8.3/27.1	10.1/29.0	12.0/30.9	
9	7.6/41.9	10.5/45.0	15.0/50.1	19.3/54.7	23.5/59.2	28.0/63.9	
15	14.7/72.9	20.1/79.1	28.9/89.0	37.0/97.9	45.2/107.0	53.8/116.0	

Operating temperature 55°C.

* Performance listed is typical for a single membrane separator. Contact our Technical Services department to receive detailed performance recommendations or to generate computer simulations for your specific production requirements.

Feed air requirements

Pre-treatment steps differ by application but typically include cooling, filtration, temperature control, and pressure control. Consult the Design-and-Reference manual for detailed information associated with these products.

Materials

Shell tube	High-performance ABS
End caps	6061-T6 Aluminum

Mechanical Design Limits

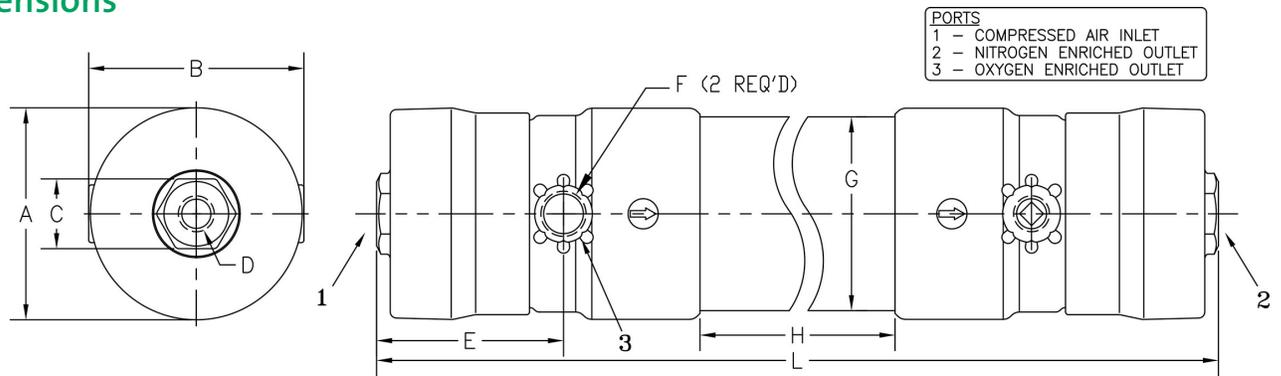
Design pressure	26.5 barg
Design temperature	65.6°C

Typical Operating Range

Pressure	3 barg to 20 barg
Temperature	5°C to 55°C

Consult our Technical Services Department for specific limits for your application.

Dimensions



Part No	Model No.	D	H	L	Weight
475629	PA4030-N3-6A-0D	3/4" NPT	26.12" (663.4 mm)	41.14" (1045 mm)	14.6 lb (6.6 kg)
472991	PA4050-N3-6A-0D		49.12" (1248 mm)	64.14" (1629 mm)	20.6 lb (9.3 kg)
472992	PA4030-N3-6B-0D	3/4" BSPP ISO228 G 3/4	26.12" (663.4mm)	41.14" (1045 mm)	14.6 lb (6.6 kg)
475628	PA4050-N3-6B-0D		49.12" (1248 mm)	64.14" (1629 mm)	20.6 lb (9.3 kg)
475565	PA4030-N3-7C-0D	7/8" SAE	26.12" (663.4mm)	41.14" (1045 mm)	14.6 lb (6.6 kg)
475564	PA4050-N3-7C-0D		49.12" (1248 mm)	64.14" (1629 mm)	20.6 lb (9.3 kg)

A	B	C	E	F	G
4.92" (125.0 mm)	5.0" (127.0 mm)	1.62" (41.1 mm)	4.34" ±.06 (110.2 ± 1.5 mm)	3/4" NPT	4.50" (114.3 mm)

WARNINGS:

Gaseous nitrogen is colorless, odorless, inert, tasteless, non-corrosive, and non-flammable. Nitrogen is non-toxic but can act as an asphyxiant by displacing the necessary amount of oxygen in the air to sustain life. Safety procedures must be established and followed before entering any enclosed or poorly ventilated area containing nitrogen generating equipment or piping. The nitrogen gas generated by the membrane cannot support life.



For more information regarding Air Products' PRISM N3 membrane separators, please contact our Technical Services department.

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PRISM Membrane Separators are available through two channels

Air Products sells and distributes membrane separators through Original Equipment Manufacturing (OEM) arrangements. This global network of value-added-resellers integrates PRISM Membrane 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, which are required for the most demanding worksites. 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.

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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The Air Products PRISM Membranes Business Unit's quality management system is certified to ISO9001 and AS9100C.



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