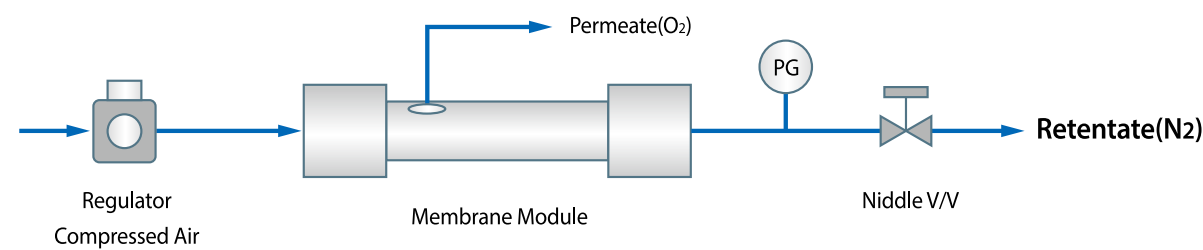


Meritair® Nitrogen Generation Membrane

Schematic Diagram



Essential to a wide range of industrial processes and mechanical operations, securing a cost-efficient nitrogen gas is often an integral part of system engineering. However, conventional methods such as high-pressure cylinders, liquid tanks and bulk storage involve significant logistical issues and increase costs. Membrane separation presents an economic alternative which enables on-site nitrogen generation from the ambient air.

Key Applications

Fuel Tank inerting for Aircraft (OBIGGS)

CA container

Shipboard Inerting (FPSO, FLNG, LNG Carrier)

Food Processing and Packaging

Chemical Processing

Preventing oxidation in manufacturing

LNG Tank Repair, Maintenance

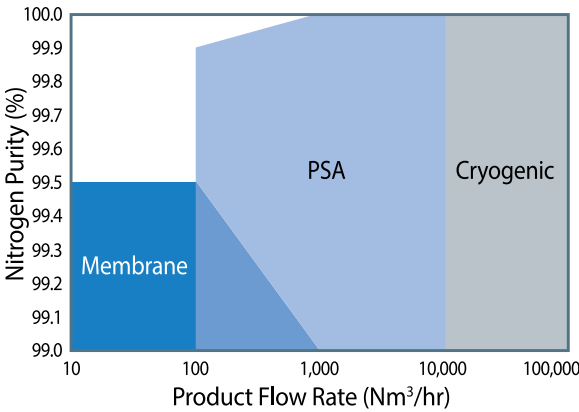
Hydrogen fueling station

AIRRANE Product Specifications

Model Number	Dimension (mm)			Connection (inch)			Weight
	L	OD	ID	Feed	Retentate	Permeate	
MNH-1512A	359	55	50	3/8"	3/8"	1/4"	0.9kg
MNH-2022A	589	70	60	3/8"	3/8"	3/8"	1.9kg
MNH-3032A	856	110	85	1/2"	1/2"	1/2"	6.0kg
MNH-4160A	1564	160	125	1"	1"	1"	19kg
MNH-6160A	1580	200	157.5	1.5"	1.5"	1.5"	26kg
MNH-8140A	1080	280	220	1.5"	1.5"	2"	44kg
MNH-8160A	1580	280	220	1.5"	1.5"	2"	55kg

Why Membrane for Nitrogen?

- Only requires compressed air to provide high-concentration nitrogen
- Mobile unit to easily move the places of installation
- No noise as separation can be carried out continuously
- Compact size requires minimal space
- Installation flexibility either vertically or horizontally



Technology Comparison

Method	Cryogenic	PSA	Membrane
Installation Costs	High	Mid/Low	Mid/Low
Operational Responsive	Irresponsive	Irresponsive	Responsive to operational fluctuations (concentration, flow volume, pressure)
Applications	Large-scale / Fixed	Mid-scale / Fixed	Mid-to-small-scale / Fixed & Mobile
Mobility	Immobile	Immobile	Mobile
Features	• High concentration (99.999%) • Requires high-pressure gas operation permit and qualified operator • Inappropriate for small-scale operation	• Relatively high concentration (98~99.999%) • Requires outdoor tank • Vulnerable to movement or vibration	• Ideal for lower concentration needs (95-99.5%) • Simple and small device • Can be operated unmanned • No risk of explosion • Unaffected by movement or vibration
Product Concentration	99.999%	99.99%	99.5%
Maintenance Costs	Middle	High	Low

