



Membrane Dryer Instruction Manual

(PMD Series)

- Please read this manual carefully before using this equipment.
- Please be aware all the safety precautions before using this equipment, please keep.

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■ Introduction

In order to maintain the performance of the membrane dryer and to use it correctly, please read the operation and maintenance instructions in the instruction manual.

Membrane dryers are designed, tested and manufactured for long-term use.

■ Product Information

Because of our position as a supplier of equipment, we do not always know the end use and full scope of our products.

We continuously improve our products to the latest state of science and technology, so we assume that our products are free from defects in terms of product liability.

However, it cannot be excluded that additional safety measures may be required during malfunction, especially in critical areas of application where there is a risk to life and body.

Therefore, we ask you to inform us about the application of our products, if necessary, for additional safety measures and for ensuring the safety of our users.

■ General Note

The Company does not accept responsibility if these safety measures are not met during handling, operation, maintenance and repair, even though this is not strictly stated in these operating instructions.

We recommend receipt and notice of these operating instructions verified by the operating personnel in writing (personnel file).

We request strict observation of these notes as otherwise we do not accept any liability in respect of this machine.



Attention!

Maintenance and repair work must only be carried out by specially trained personnel and, if necessary, under supervision of a person qualified for this work.

■ Attention

- Safety devices or protective devices must not be temporarily or permanently removed, modified or readjusted while the membrane dryer is in operation.
- Use only suitable tools for maintenance and repair work.
- Use only genuine spare parts.
- Inspection and maintenance should be performed in a clean environment.
- After inspection and maintenance work, take measures so that no unnecessary tools or parts remain in the device.
- Do not apply large force to the product or parts.
- Be careful not to deform the product.

■ Others

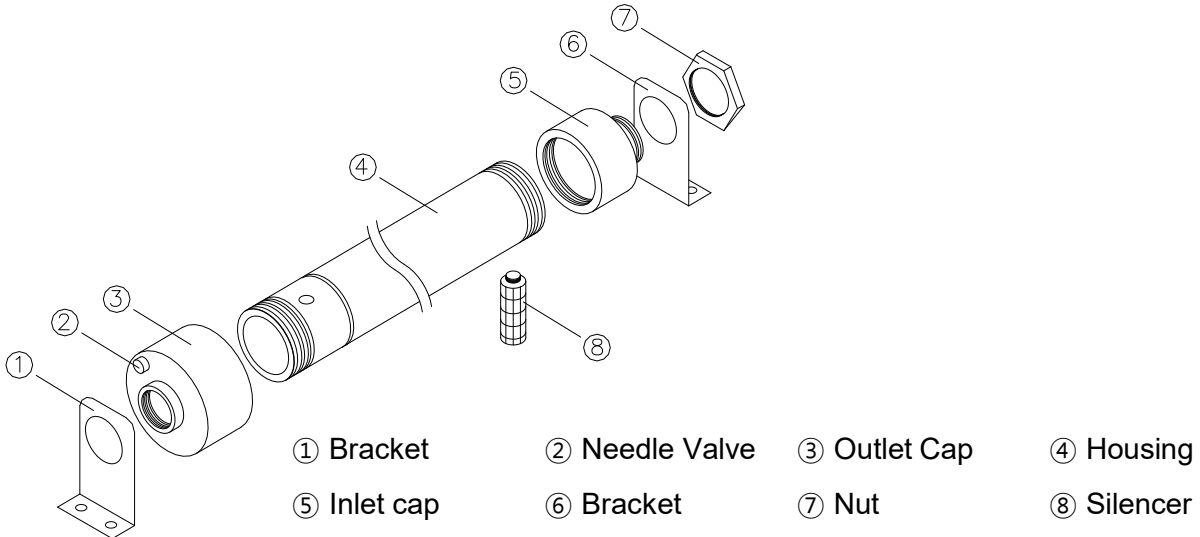
For more information on membrane dryers, please contact your dealer or manufacturer.

2. Product Description

■ Purpose

Moisture contained in the compressed air is removed through the hollow fiber of the membrane dryer.

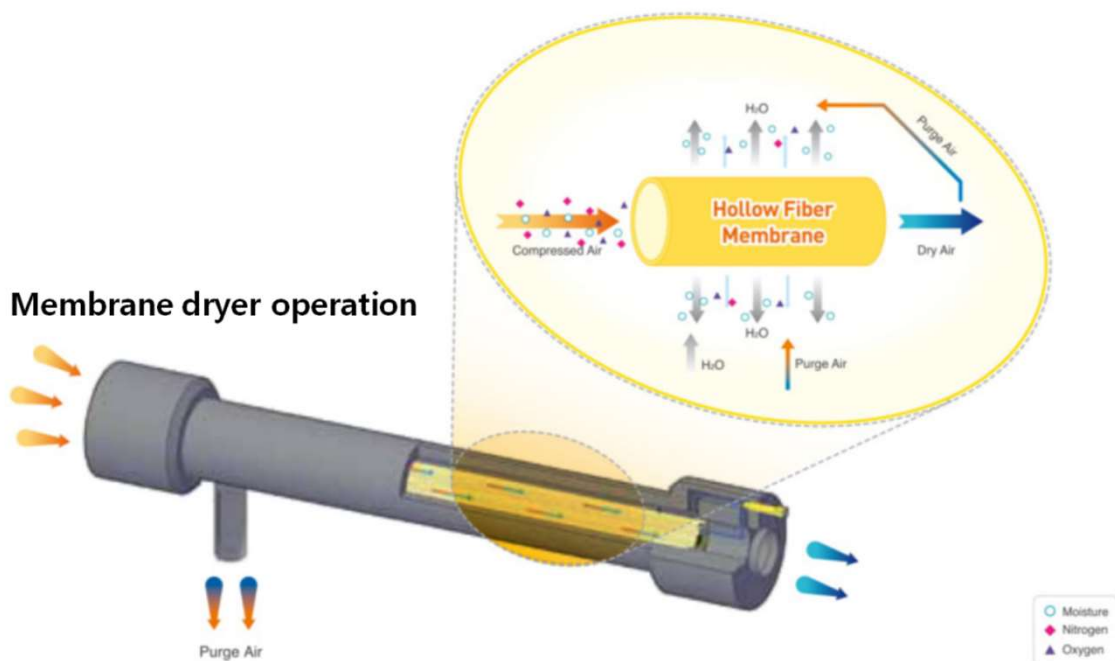
■ Unit layout



■ Function principle

Membrane dryers is a dehumidifying equipment that uses the principle that moist compressed air passes through the hollow fiber (membrane module), and moisture, which diffuses and passes quickly within the hollow fiber, quickly escapes to the outside of the hollow fiber. Moisture escaping to the outside of the hollow fiber (membrane module) is continuously removed from the compressed air through the regeneration process that is released to the outside of the membrane dryer through the silencer together with the purge air.

Membrane dryers use the principle of selective permeation of gaseous components in the air. Hollow fibers have selective permeability for water vapor removal. So you can also use certain membranes to make nitrogen.



2. Product Description

■ Specification

MODEL	PMD-135	PMD-240	PMD-360	PMD-600
Inlet Air Pressure [barg]	4 ~ 7			
Inlet Air Temperature [°C]	5 ~ 60			
Dew Point at Atmosphere [°C]	-20			
Applied Compressor [HP]	1	2	3	5
Capacity [L/min]	135	240	360	600
Purge Air [%]	20			
Air Inlet/Outlet Connection	PT 15A (1/2")			
Silencer Connection	1/4"	1/4"	3/8"	3/8"
Weight [kg]	1	1.3	1.6	2
Body Material	Aluminum (Anodizing)			
Purge Air Control	Needle Valve (Outlet Cap)			

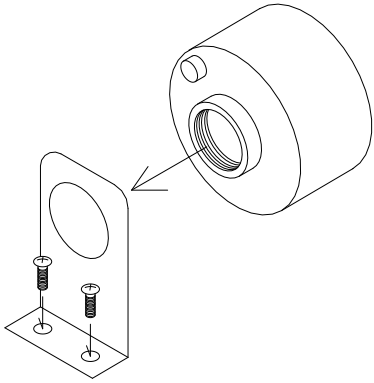
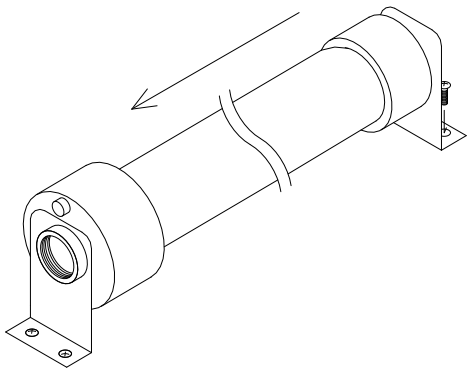
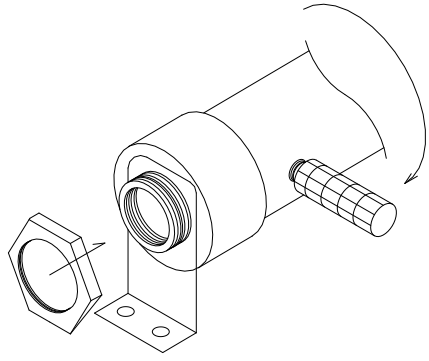
■ Recommendation

- 1) Compressed air for painting booth
- 2) Food industry
- 3) High precision machine
- 4) Location near the explosion area
- 5) Dental use

3. Installation

■ Installation

Any installation position and direction, horizontal or vertical, can be chosen accompanied to the local requirements. In horizontal installation, please let the silencer to be located to lower direction. In vertical installation, inlet cap must be located to lower direction.

1		<p>Please mount the bracket at first and keep the outlet cap inserted to the hole of bracket.</p>
2		<p>Please position the other side's bracket PMD-dryer body not to disassemble and fasten the bolt to fix bracket.</p>
3		<p>Assemble the silencer like picture. Fasten the nut to hold the PMD- dryer.</p>



Attention!

Because hollow fibers are too easy to be breakable, to protect hollow fibers, silencer should not fasten too much.

■ Note

Please keep the caution in installation as follows.

- 1) When installing the silencer to the membrane dryer, install it so that purge air does not leak, but the connection thread of the silencer is not excessively inserted into the membrane dryer. If the threads of the Silencer are deeply inserted into the housing of the membrane dryer, the purge air may cause damage to the membrane module due to friction between the membrane module and the threads of the Silencer.
- 2) Be sure to install a particle filter and an coalescing oil filter at upstream of the membrane dryer. If particles and oil in compressed air are introduced into the membrane dryer without being properly removed, it will cause fatal damage to the membrane dryer.
- 3) When supplying compressed air to the membrane dryer, install a valve at upstream. Open the valve slowly to avoid excessive supply of compressed air to the membrane dryer. Sudden excessive supply of compressed air will cause damage to the membrane module.
- 4) Prevent condensate from entering the membrane dryer. Membrane dryers remove moisture in the gaseous state, but not condensate.
- 5) The needle valve for purge air control of the outlet cap is equipped with a double O-ring to prevent purge air leakage. Do not arbitrarily remove the O-ring or open the needle valve excessively. In this case, purge air leakage may occur.
- 6) A membrane dryer is a equipment that removes moisture contained in compressed air. To prevent condensate water from entering, install pre-treatment equipment such as an aftercooler and filter at upstream of the membrane dryer.

■ Installation location

To prevent deterioration and contamination of the membrane dryer, please refrain from installing it in the following places as much as possible.

- 1) Areas with a lot of pollutants such as dust, moisture, and oil
- 2) Areas where the ambient temperature is too high or too low

■ Maintenance

Membrane dryers do not require regular maintenance.

However, care must be taken to prevent condensate and oil from entering the membrane dryer. Periodically check the element of the pre-filter and replace it at an appropriate time.

■ Recommendation compressed air quality

The following inlet air quality is recommended for the performance and longevity of the membrane dryer.

- Oil : 0.01 ppm
- Particle : 1 μ m

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