

## NANO H<sub>2</sub>O QuantumFlux™ Pressurized UF Membrane

# Technical Service Bulletin 603

## Installation of Membrane Modules

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Installation guidelines provide recommendations to ensure proper and safe installation of NANO H<sub>2</sub>O UF modules.

### Drain Protective Solution

 **WARNING**

The protective solution can cause serious eye irritation. Wear protective gloves, appropriate skin protection, and eye protection when handling. **IF IN EYES:** Rinse cautiously with water for several minutes

 **CAUTION**

The protective solution can corrode metals. Should the metal pipes or skids come into contact with the protective solution, water should be used to clean the affected area immediately to prevent corrosion. Protective solution should be discharged according to your local requirements.

 **CAUTION**

After removing the protective solution, module installation should be completed as soon as possible to prevent the membrane fibers from drying out. Once the membrane fibers become dry, the filtration performance of the module may deteriorate or even be totally lost.

 **CAUTION**

Use two people when handling 6" modules. Use a forklift, or other lifting device, when handling 9" and 10" modules.

Prior to installing the membrane module, the protective solution must be removed. To remove the protective solution, follow the below steps:

1. Move the module near a drain.
2. Stand the module up vertically with the feed/discharge port facing down. Secure the module with straps to prevent from falling over.
3. Remove the sealing caps from the feed/discharge and concentrate ports.
4. For the 6" modules – DN32 female threaded plastic cap.
5. For the 9" & 10" modules – DN50 rubber caps slid over the grooved end ports.
6. Allow the protective solution to pour out of the module for 1-2 minutes.
7. Immediately proceed to install the module on the skid.

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### Installing the Membrane Module on the Skid

**CAUTION**

Before connection, clean the skid piping thoroughly by flushing with water. Ensure that there are no foreign particles, such as metal or plastic scraps from construction, or sand, inside the piping

**CAUTION**

Use two people when handling 6" modules. Use a forklift, or other lifting device, when handling 9" and 10" modules.

**Note**

Pay attention to the marks on the ports of the module. The concentrate port must be connected to the upper end of the skid, and the other end labelled with "feed port" must be connected to the lower end of the skid. Do not connect the module upside down, this will cause damage to the module.

**CAUTION**

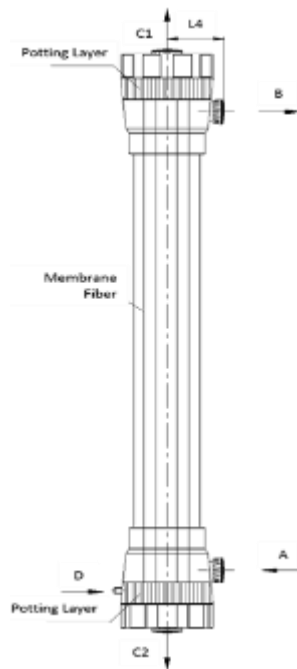
Minimize time between draining the protective solution and installing on skid. Once the membrane fibers become dry, the filtration performance of the module may deteriorate or even be totally lost.

Module installation should be conducted immediately after draining the protective solution.

1. Ensure that connections ports on the skid are well aligned with skid piping connections.
2. Ensure all sealing caps are removed.
3. Place the module on the skid with the feed/discharge port side down.
4. Connect each port to the skid piping.
5. Refer to Table 1 for 6" module connection types.
6. Refer to Table 2 for 9" and 10" module connection types.
7. A section of transparent pipe is recommended to be installed on the concentrate piping for each module. This will facilitate identification of compromised modules during integrity testing.
8. When connecting to the individual module piping to the header, a grooved end style connection is recommended.
9. Figure 1 shows an example of individual piping connection to the skid.
10. Installation of all modules on the same skid should be completed in < 8 hours. After installation of all modules on the same skid, fill the skid with water as soon as possible.

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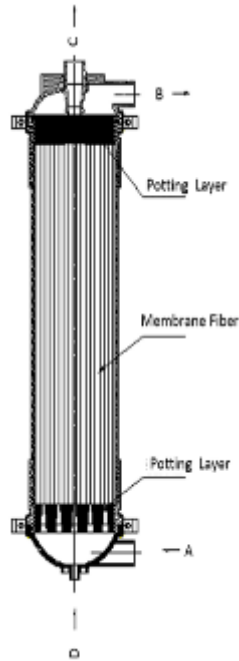


**Table 1: 6" Module Connection information**

	P0615-S / P0620-S	P0615-D / P0620-D
<b>A</b>	Not Used	Feed/Discharge Port – DN32 Female Socket
<b>B</b>	Concentrate Port – DN32 Female Socket	Concentrate Port – DN32 Female Socket
<b>C1</b>	Permeate Port – DN32 Female Socket	Permeate Port – DN32 Female Socket
<b>C2</b>	Feed/Air Inlet/ Discharge Port – DN32 Female Socket	Permeate Port – DN32 Female Socket
<b>D</b>	N/A	Air Inlet Port – $\phi 12/9.5$ Press Fitting

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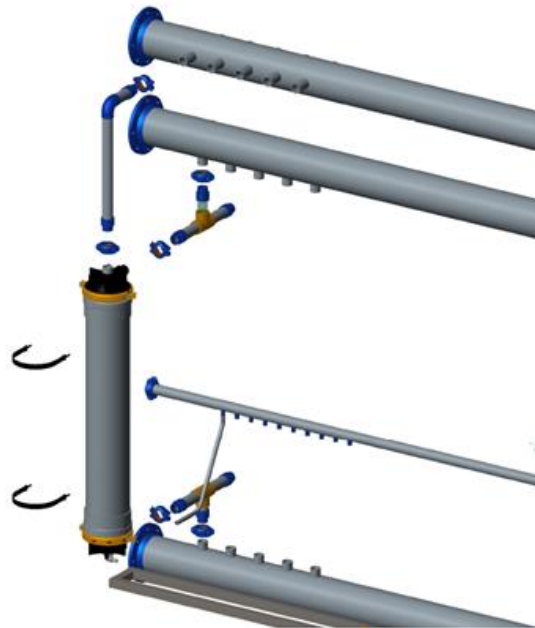
**Table 2: 6" Module Connection information**

	<b>P0615-S / P0620-S</b>
<b>A</b>	P1010-S / P1015-S / P1020-S
<b>B</b>	Influent / Discharge Port – DN50 / 2" Grooved End (Victaulic Style)
<b>C1</b>	Permeate Port – DN50 / 2" Grooved End (Victaulic Style)
<b>C2</b>	Concentrate Port – DN50 / 2" Grooved End (Victaulic Style)
<b>D</b>	Air Inlet Port – Ø 25/19 Hose Barb

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### Note

This diagram is an example and does not apply to all module types.

### Materials Required

- Eye protection
- Safety Shoes
- Protective gloves (for jobs with post startup bacteria testing of UF filtrate, use sterile, powder free exam gloves)
- Other safety equipment and clothing as required by jobsite regulations
- Critical spare parts and pipe fittings that might break during unloading and loading process

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