

MiniModule® Membrane Contactors Answers to Commonly Asked Questions

The MiniModule® Membrane Contactors come in three sizes. These two products are basically the same thing; one is just larger and therefore handles more flow.

Please refer to the data sheet located on our website for all of the technical data and performance information.

For customers that have a water stream that they want to de-bubble, or remove dissolved oxygen, carbon dioxide, or other gases from this product works great in the flow ranges for which it was designed. Customers that have fluids other than water may need to purchase one of these devices to test applicability. We know that ink solutions typically do not work with our polypropylene fiber and our current MiniModule Contactor design because the inks often have solvents and other chemicals that attack our MiniModule housing materials. We have

other products that are well suited for ink degassing.

What is the delivery? Typically we can ship either of these products within 3 days.

Will MiniModules work for a water stream? Yes, they work great.

Are quantity discounts available? Yes if you order more than 25 we can quote you a discounted price.

What is the maximum pressure of this device? The 1.5 x 5.5 device can be operated up to 60 psig if the temperature is 23° C or lower. The 1.7 x 5.5 and 1.7 x 8.75 devices can be used at pressures up to 60 psig at 25° C and lower.

What is the maximum temperature for this device? Either device can be operated at temperatures up to 35-45° C, but the operating pressure is reduced at this temp. Refer to the data sheet for actual ratings.

What is the pressure drop for These contactors? It depends on the flow rate. On the back of the data sheet there is a pressure drop curve that lists pressure drop as a function of flow rate.

What connections are available? Available connections are listed on the Data Sheet.

What if I need another type of connection? These are the only ones available at this time. We can supply an adapter to convert the Luer Lock to a hose barb connection at no extra charge. If you need other adaptors, you may be able to find them with a web search on-line.

What is a Luer Lock connection? It is a standard connection often used in medical and other similar applications. Typing "luer lock" into an Internet search engine will provide numerous sources for these types of connectors.

What does Lumen Side and Shell side refer to? Lumen side is the inside of the hollow fiber. This is the side where the process liquid flows in the MiniModule design. The Shellside is the vacuum side of the membrane.

What keeps these two phases separate inside of the device? The membrane used in both MiniModule designs is polypropylene and it is hydrophobic. The water will not pass through the membrane wall when operated under normal pressures as listed on the data sheet.

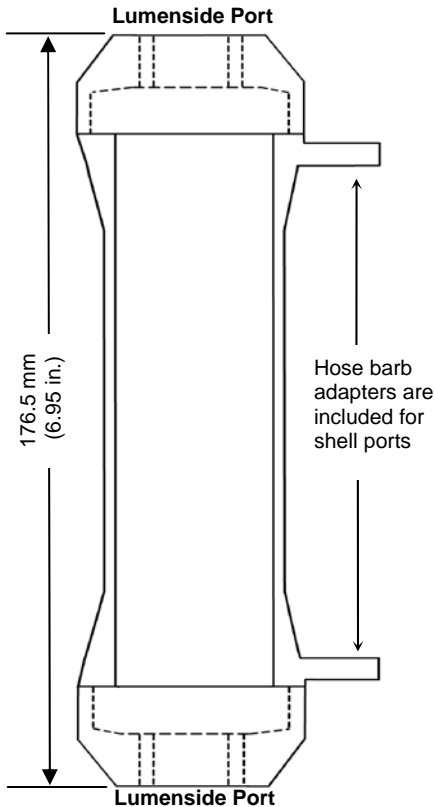
Should my water inlet be hooked up to the lumenside or the shellside? You can flow water through either connection. For optimum performance, however, the water should be connected so that it flows through the lumenside with vacuum applied to the shellside. The Lumen ports are the ones that come straight off of the end of the device. See Illustration 1.

Product	Part Number for Ordering	Flow Capacity (One Contactor)	Surface Area	Number of Fibers
1 x 5.5	G543	Up to 500 ml/min	0.18 m ² (1.9 ft ²)	2300
1.7 x 5.5	G542	Up to 2500 ml/min	0.58 m ² (6.24 ft ²)	7400
1.7 x 8.75	G541	Up to 2500 ml/min	1.0 m ² (10.7 ft ²)	7400

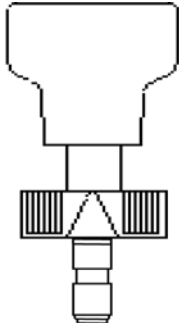
This device has four connections, what are they for?

There are two lumenside and two shellside connections. This provides a water inlet and a water outlet connection and two vacuum connections. Again, see illustration 1.

Illustration 1



선택사항 John Guest 어댑터



Why do I need two vacuum connections? You do not have to use both vacuum connections, two are provided to give additional flexibility to the housing design.

Then do I plug one of the vacuum connections and pull vacuum from the other? You have two options. You can plug one port and pull vacuum from the other port or you can connect these two ports together with a tee and pull a vacuum from both shell side ports. This provides slightly improved performance to the module.

What are the dimensions of this device? These are listed on the data sheet.

What are the weights of these products? Again, please look on the data sheet.

Where can I get a data sheet? Go to our website at www.liquicel.com, then click on the "Product Info" button, then on the button labeled "Water Products". A table listing of our products will be displayed. Clicking on the MiniModule Data Sheet link under the "Product" heading will connect you to a printable pdf version of a data sheet that describes both of these products.

Can I use this product for other liquids? Maybe. It depends on the specific solution. If your solution is compatible with materials used in the construction of these modules, then there is a high probability that these devices will be adequate for your application. The membrane hollow fibers are made from polypropylene. These fibers are potted in an epoxy material. The housing on both sizes is polycarbonate.

My fluid is essentially all water, but has some surfactants, can I use this product? It depends. As a rule of thumb, our standard MiniModules can handle a water-based stream with a surface tension as low as 40 dynes/cm. As a comparison, a clean water stream will have a surface tension of 76 dynes/cm. Our SuperPhobic contactors can be used with fluids having a low surface tension. If you have additional questions, please contact your Membrana-Charlotte representative.

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