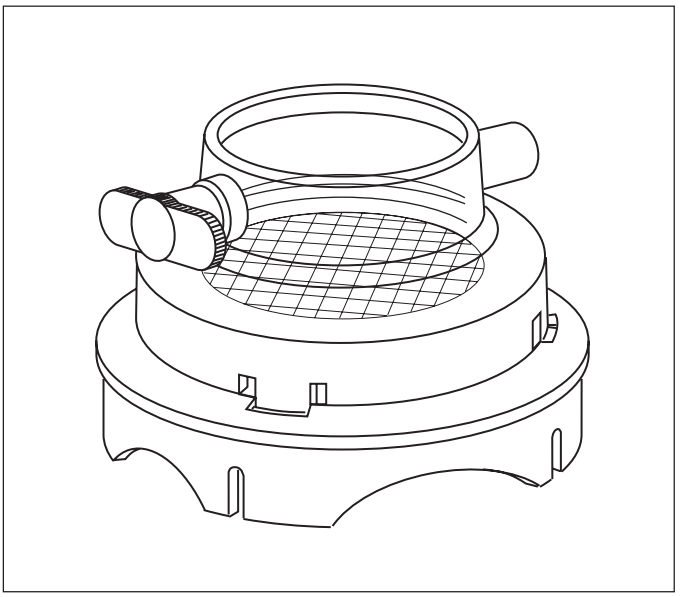
MicropreSure™

In-Line Filtration Sampler



User Guide

For research use only.
Not for use in clinical applications.
Single use only.

MSHA WGT 48 (48/pk)
MSHA WGS 48 (48/pk)

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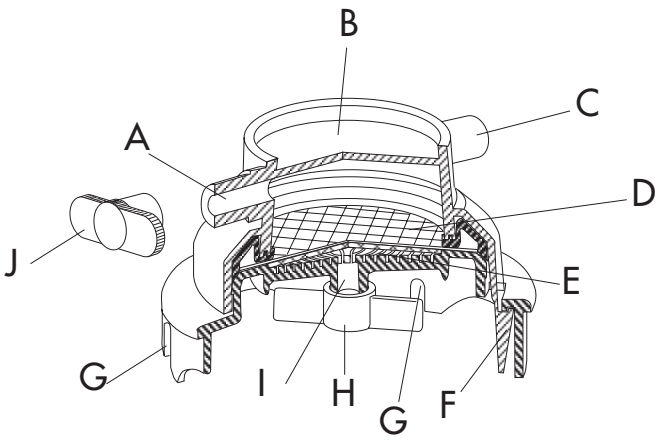
Introduction

Millipore's MicropreSure In-Line Filtration Sampler is used for in-line sampling and filtration of liquids within a closed system, minimizing the risk of false positives from adventitious contamination while sampling in a production environment. Large volumes can be filtered at once, or slowly over an extended period of time. For instance, filtration time can be adjusted to the duration of a work shift or a batch. Designed for use with pressurized process lines or reservoirs sampling, the MicropreSure device handles pressures up to 3 bar. Liquids enter the MicropreSure device and pass through the microporous membrane within its filtration chamber. After the desired sample volume has been filtered, the device's inlets and outlets can be sealed for transportation back to the lab without risk of contamination. The membrane is accessed simply by removing the MicropreSure dome and is transferred to media for incubation and microbial enumeration.

Diagram of MicropreSure Device Components



A — Inlet
B — Dome
C — Secondary dome connector
D — Membrane
E — Mesh spacer
F — Dome tabs
G — Stopper storage grooves
H — Yellow stopper
I — Outlet
J — Blue stopper

Usage Guidelines

- Do not use with pressures exceeding the recommended 3 bar limit at room temperature.
- Do not use with temperatures exceeding 90°C.
- Flush the sampling port thoroughly before filtering samples by opening the valve then closing the valve.
- Maintain the device in a horizontal position while sampling to ensure homogeneous colony distribution.
- Filtration time and throughput will vary depending upon sample pressure and fouling index.
- Remove excess liquid remaining in the MicropreSure device after sampling within 2 hours to avoid compromising test results.

Required Equipment

- MicropreSure device
- MSOpener™ manifold
- 6 mm I.D. tubing
- Sampling port with male Luer outlet (preferably horizontal)
- Media plate
- Graduated container (to measure sampled volume)
- Laboratory pen
- Forceps
- Incubator
- One sterile Petri dish

Identifying the Sampling Port Outlet and Choosing the Valve Adapter

- If the sampling port outlet is a male Luer port (such as an ESP or Milliflex™-P valve), use the MicropreSure device without a sampling port adapter.
- If the sampling port has a Tri-Clover® or an NPT connection valve, install a MicropreSure sanitary sampling valve. Order the correct valve as follows:

Connection size	Millipore Cat. No.
TC 1 1/2 "	MSES PTC L1
NPT 1/4"	MSES P14 N1
NPT 1/8"	MSES P18 N1

  Either leave the MicropreSure valve in place or remove the valve after each sampling. The MicropreSure valve is autoclavable.

- If the sampling valve outlet is simple tubing, measure the tubing's outer diameter and then order the correct valve adapter as follows:

Outer Diameter	Millipore Cat. No.	Outer Diameter	Millipore Cat. No.
3 mm	MS0S T03 03	20 mm	MS0S T20 03
6 mm	MS0S T06 03	3/16"	MSST 316 03
8 mm	MS0S T08 03	1/4"	MS0S T14 03
12 mm	MS0S T12 03	3/8"	MS0S T38 03

- If the sampling valve outlet is a male threaded connection, check the format and measure the tubing's outer diameter and then order the correct valve adapter as follows:

Outer Diameter	Millipore Cat. No.
1/8" Gas	MSFM 18G 03
1/4" Gas	MSFM 14G 03
1/8" NPT	MSFM 18N 03
1/4" NPT	MSFM 14N 03

- If the sampling valve outlet is a female threaded connection, check the format and measure the tubing's outer diameter and then order the correct valve adapter as follows:

Outer Diameter	Millipore Cat. No.
1/8" Gas	MSLM 18G 03
1/4" Gas	MSLM 14G 03
1/8" NPT	MSLM 18N 03
1/4" NPT	MSLM 14N 03

- If the sampling valve outlet is a Tri-Clover connection, measure the valve outlet's outer diameter and then order the correct adapter as follows:

Outer Diameter	Millipore Cat. No.
TC 3/4" (25 mm)	MS0T C34 03
TC Mini Clamp (34 mm)	MS0T CMC 03
TC 1 1/2" (50.5 mm)	MSTC 120 03

Sampling Procedure

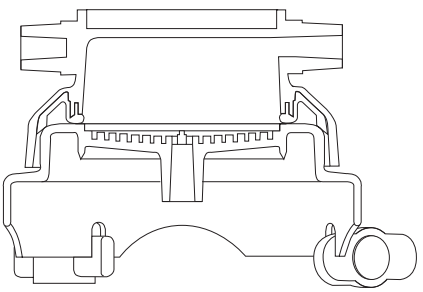
This section outlines the procedures for filtering samples on site, accessing the membrane, and transferring the membrane to agar in the laboratory.

Filtering the Sample

1. Open the sanitary sampling valve and flush thoroughly, then close the valve.
2. Remove the blue stopper from the MicropreSure inlet and attach to the base as shown below.

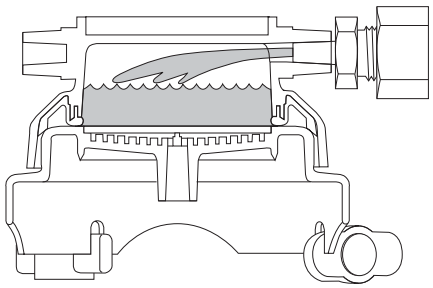
   NOTE: Only one of the 2 dome connectors is an inlet. The device inlet is identified by the blue stopper and by the INLET mark.

3. Remove the yellow stopper from the MicropreSure outlet on the bottom of the device and attach to the base as shown below.



Filtering the Sample, continued

4. Fit the MicropreSure outlet to the receiving graduated container. If the MicropreSure device does not fit directly on the receiving container, connect a length of tubing to the device outlet. Use either tubing with a male Luer connection to fit into the device outlet, or connect tubing with an internal diameter of approx. 6mm (1/4 inch) around the device outlet.
5. Insert the sampling port outlet into the MicropreSure inlet.



6. Hold the MicropreSure device in position on the valve without tightening the connection. Open the sampling valve until liquid covers the entire filter surface (dome half full) and the desired flow is obtained.

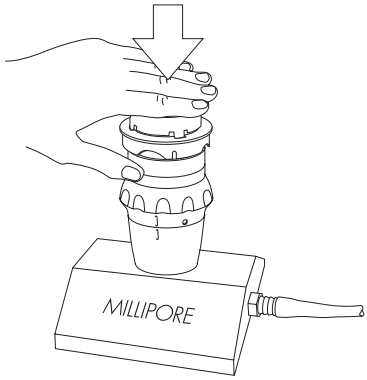
   NOTE: This step ensures that the surface of the membrane is fully wetted. If the valve is installed horizontally so that the MicropreSure unit is oriented parallel to the floor and the liquid flows evenly over the membrane surface, skip this step.
7. Secure the MicropreSure device in position by firmly pushing it onto the valve (with a slightly rotating movement).
8. Close the sampling valve when the desired sample volume or the desired sampling time has been reached.
9. Disconnect the MicropreSure device from the sampling valve by gently pulling it away from the valve, using a rotating movement. Maintain the device in a horizontal position.
10. Place the yellow stopper over the device outlet and use the blue stopper to seal the device inlet.
11. Record the sample location, time, and volume on the side of the MicropreSure dome.

Accessing the Membrane

The liquid remaining in the MicropreSure device will not compromise the test results if it remains in the device for a short period of time (2 hours). Therefore, the device containing the remaining liquid may be carried to the laboratory and purged just before transferring the membrane onto the agar media.

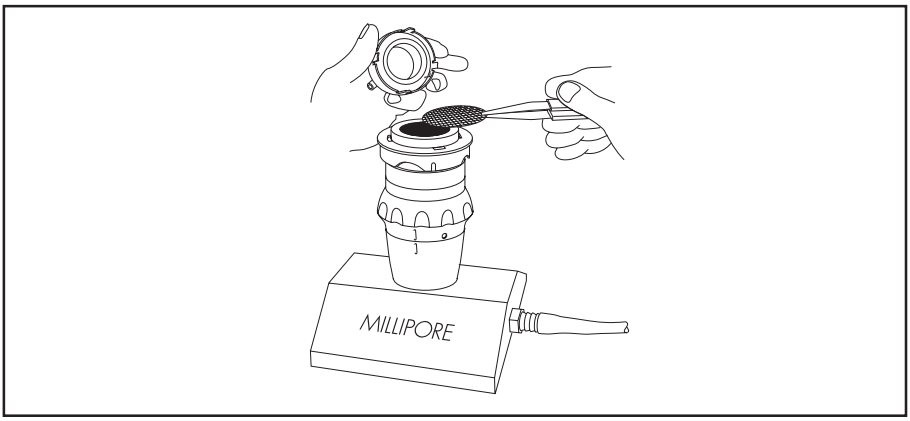
Use the following procedure to remove the excess liquid in the MicropreSure device and to gain access to the membrane. If company procedures require it, the MSOpener manifold can be sterilized by autoclaving before entering the working area.

1. Connect the MSOpener manifold to a vacuum source (from 15 psi to 25 psi).
2. Remove and discard both stoppers (inlet and outlet) from the MicropreSure device.
3. Place the device on top of the MSOpener.
4. Turn the grooved ring to position |.
5. After purging, press down on the dome to separate it from the base.

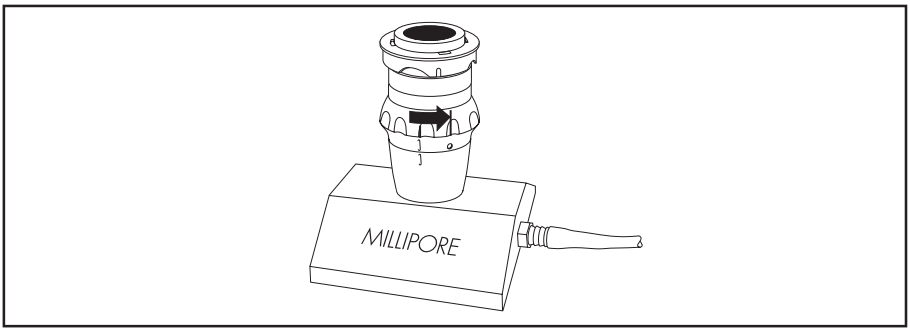


Accessing the Membrane, continued

6. Remove the dome.
7. Lift the membrane using sterilized forceps and transfer it onto an agar plate.



8. Twist the MicropreSure base to remove it from the MSopener manifold. Return the grooved ring to position ● in preparation for next use.



9. Incubate agar plate upside down as with any standard 47 mm membrane.

Specifications

Device height:	45 mm (1.75 in)
Filter diameter:	47 mm
Filter area:	9.10 cm^2
Filter type:	0.45 µm pore size, white, gridded
Pressure limit at 25°C:	3 bar
Pressure limit at 90°C:	1 bar, 1 minute, 1 liter
Temperature range:	5 °C–90 °C

Materials of Construction

Filtration chamber/base:	Polycarbonate
Membrane:	Mixed ester cellulose, 0.45 µm, white, gridded
Filtration support:	Tenax® mesh spacer

Technical Assistance

For more information, contact the Millipore office nearest you. In the U.S., call **1-800-MILLIPORE** (1-800-645-5476). Outside the U.S., see your Millipore laboratory catalogue for the phone number of the office nearest you. You can reach us by e-mail at tech_service@millipore.com or visit our web site (www.millipore.com).

Product Ordering Information

This section lists the catalogue numbers for MicropreSure filtration devices and accessories. See the Technical Assistance section for information about contacting Millipore. You can also buy Millipore products on-line at www.millipore.com/purecommerce.

Description	Quantity	Catalogue No.
MicropreSure device, EO sterilized, W filter transfer onto agar media, 0,45µm white gridded	48/pk	MSHA WGT 48
MicropreSure sterile device, indiv. pkd W filter transfer onto agar plate, sterile, 0,45µm white gridded	48/pk	MSHA WGS 48
MSopener manifold, complete vacuum manifold for removing excess liquid and accessing membrane	1/pk	MS0P ENR 01
MSopener tulip for mounting on 3 or 6 place manifold	1/pk	MS0P NMS 01
Maintenance kit for MSOpener manifold	1/pk	MS0P KIT 01

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