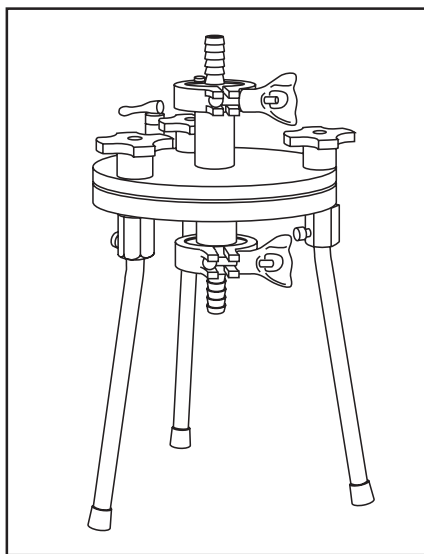


**Stainless Steel 142 mm
Filter Holder
YY30 142 36**



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Introduction

This document describes how to use the Stainless Steel 142 mm Filter Holder, including details on:

- Function
- Assembly
- Specifications

Function of the Holder

You use the holder to sterilize gases or liquids by pressure filtration through a 142 mm diameter disk filter. You can optionally place a prefilter in the same holder upstream of the membrane filter to increase throughput by eliminating filter clogging.

Diagram and Parts of the Holder for Assembly

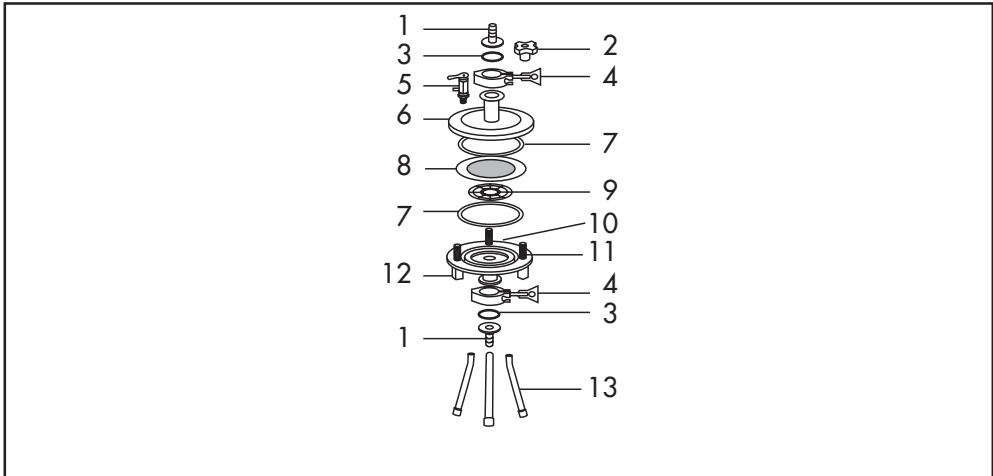


Diagram	Part	Catalogue Number
1	Adapter, 1 1/2" TC to 14 mm (9/16") I.D.	YY20 04076
2	Handwheel knob (3 required)	YY22 142 57
3	Gasket, silicone 1 1/2" TC	YY20 040 55
4	Clamp, 1 1/2" TC (2 required)	YY20 040 45
5	Vent/relief valve, 9 bar (125 psig)	YY30 293 66
6	Inlet plate, including inlet flow detector	YY30 293 07
7	O-ring, PTFE/silicone	YY22 142 53/YY22 142 65

Diagram and Parts of the Holder for Assembly, continued

Diagram	Part	Catalogue Number
8	Filter support screen, PTFE faced	YY30 142 34
9	Underdrain support	YY22 142 58
10	Outlet plate	—
11	Handwheel stud	YY22 142 70
12	Leg bushing and socket screw	YY22 142 55
13	Legs with caps	YY22 142 51

Preparing the Holder

This section includes details on:

- Cleaning the holder
- Loading the filter
- Autoclaving the holder
- Bubble point testing the holder

Cleaning the Holder

Before using the holder wash all components with a sponge, hot water, and nonabrasive cleanser. Rinse the components thoroughly with deionized, sterile, or Milli-Q® water and air dry. Do not wipe the components dry with paper or cloth. Fibers and lint left on surfaces can generate electrostatic forces that attract more dirt.

Loading the Filter

1. Attach inlet and outlet hoses to the filter holder.
2. Using smooth tip forceps, center a Millipore filter on the support screen. If you are using a prefilter, center it on the membrane filter.

NOTE: For reverse-flow surge protection, install a support screen upstream.

3. Tighten the handwheels the same number of turns all the way around to obtain a uniform membrane seal. If you plan to autoclave the unit, do not tighten the handwheels yet. Instead, see the “Autoclaving the Holder” section.

Autoclaving the Holder

1. Wrap the unit and ends of the inlet and outlet hoses with Kraft® paper or Tyvek® substrate.
2. Autoclave the assembly with the filter in place for 35–45 minutes at 121 °C (250 °F) and 15 psig (pounds per square inch gauge).

NOTE: All internal surfaces must be dry prior to autoclaving.

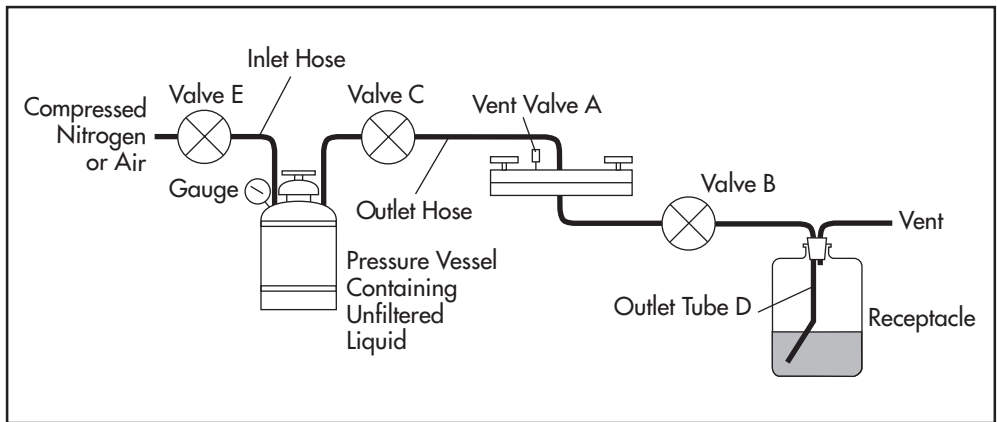
3. Tighten the handwheel bolts by turning them the same number of times all the way around after the unit cools.

Integrity Testing the Holder

Follow the steps in these sections to test the filter assembly for leaks.

Equipment Set Up for Integrity Test and Filtering

To perform the bubble point integrity test and filter your sample, set up your equipment as shown:



Integrity Test

1. Open the filter holder vent valve A.
2. Close valve B to the receptacle.
3. Open valve C to let liquid flow through the holder slowly and wet the filter thoroughly. Open valve B.
4. Close vent valve A. Liquid will continue to flow.
5. Close liquid supply valve C. Open valve E and apply low pressure to force out residual liquid and saturate the filter.
6. Increase the pressure slowly and observe outlet tube D for continuous bubbling when the liquid stops flowing. If continuous bubbling occurs at a pressure equal to the bubble point value for the filter pore size, the test is a success. If bubbling occurs at a pressure less than the bubble point value, the test has failed.

NOTE: See the “Bubble Point Values for Millipore Membrane Filters” section.

If the test is successful: The filter is intact and the holder is tight. Disconnect the compressed air source and proceed to the next section. “Filtering Your Sample.”

If the test is not successful: Repeat the test, ensuring that the filter is sufficiently wetted. If the repeat test fails, disassemble the unit and check for dirt on the O-ring or damage to the O-ring or filter. Reinsert the O-ring. Then repeat the “Loading the Filter,” “Autoclaving the Holder,” and “Bubble Point Set Up and Test” sections.

Filtering Your Sample

1. Set up your equipment as shown in the “Equipment Set Up for Bubble Point Test and Filtering” section. Open vent valve A. Close outlet valve B. Unfiltered liquid will begin to flow.
2. Just when the flow is steady, close valve A.
3. Open outlet valve B, and increase the flow. For optimum flow rate, see the “Flow Rates for Water and Methanol” section.
4. Disconnect the inlet and outlet hoses and proceed to the next section, “Maintenance of the Holder” when filtration is complete.

Maintenance of the Holder

1. Disassemble and wash all components with a sponge, hot water, and non-alkaline, nonabrasive cleanser.

CAUTION: Do not use abrasive materials which can harm components.

2. Rinse components thoroughly with clean, laboratory-grade or Milli-Q water and then air dry.

CAUTION: Do not wipe the components dry with paper or cloth. Fibers and lint left on surfaces can generate electrostatic forces that attract more dirt.

Product Specifications

Item	Specifications
Materials	316 stainless steel holder; anodized aluminum legs; Teflon® O-rings; silicone gaskets
Filter diameter	142 mm
Filtration area	Approximately 127 cm ²
Prefilter diameter	124 mm
Dimensions	184 mm (7 1/4 in.) diameter; 270 mm (10 5/8 in.) height
Pressure	14.06 kg/cm ² (200 psig) inlet; 7.03 kg/cm ² (100 psi) differential

Bubble Point Values for Millipore Membrane Filters

Filter	Water				Methanol		
	GS	HA	RA	SM	FG	FH	FA
PSI	50	30	11	6	13	7	3
BAR	3.52	2.11	0.77	0.42	0.91	0.49	0.21

Initial Flow Rates for Water and Methanol

This section shows the initial flow rates for water and methanol at 10 psi (.7 bar) differential pressure and 20 °C (68 °F).

Filter Type Pore Size (µm)	GS 0.22	HA 0.45	RA 1.2	SM 5.0	FG 0.2	FH 0.5	FA 1.0
Liters per minute (L/min)	Water				Methanol		
	1.5	3.7	15.2	19.6	1.5	3.9	8.1

Initial Flow Rates for Air

This section shows standard cubic feet per minute (SCFM) of air flow at specified standard conditions of temperature and pressure: 1.0 atm (14.7 psi) and 20 °C (68 °F).

Filter Type Pore Size (µm)	GS 0.22	HA 0.45	RA 1.2	SM 5.0	FG 0.2	FH 0.5	FA 1.0
SCFM	6.4	11.5	27.0	30.4	9.2	18.4	24.7

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 catalogue for the phone number of the office nearest you or go to our web site at www.millipore.com/offices for up-to-date worldwide contact information. You can also visit the tech service page on our web site at www.millipore.com/techservice.

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