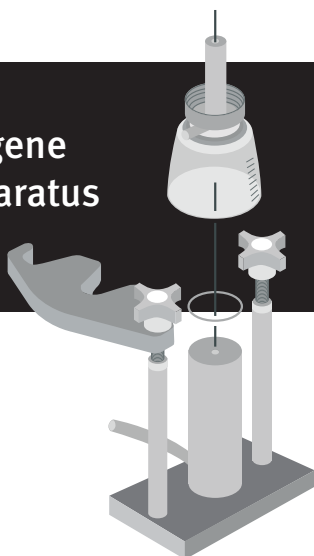


# Thermo Scientific Nalgene Bubble Point Test Apparatus

Cat. No. DS0405-0050



## For testing Thermo Scientific Nalgene filter units and bottle top filters.

Not for use with Nalgene® 115mL filter units.

This apparatus permits convenient confirmation of membrane integrity and pore size directly after filter unit use without removing the membrane from the filter unit.

### In addition to this apparatus, you will also need:

- a variable pressure source with calibrated gauge accurate to 1 psi (0.07bar)
- a length of 1/4-in. (6.4mm) I.D. pressure-rated flexible tubing, such as Nalgene 980 clear braided tubing (Cat. No. 8005-0070)
- three hose clamps
- one wash bottle, such as Nalgene Cat. No. 2402-0250

### Bubble Point Values

Membrane Pore Size, $\mu\text{m}$	Test Fluid	Nominal Bubble Point, psi/bar
0.1	99% isopropanol	24 / 1.65
0.2 *	99% isopropanol	13 / 0.90
0.2 **	Water	40 / 2.76
0.45	Water	25 / 1.72
0.8	Water	9 / 0.62

\* Use isopropyl alcohol to test Nalgene filter units and bottle top filters with 90mm diameter 0.2 $\mu\text{m}$  PES membranes (Cat. Nos. 569-0020, 567-0020, 597-3320, 597-4520).

\*\* Use water to test all Nalgene filter units and bottle top filters with 0.2 $\mu\text{m}$  membrane except Cat. Nos. 569-0020, 567-0020, 597-3320, 597-4520 (see \*)

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[thermoscientific.com/contactus](http://thermoscientific.com/contactus)

\*Contact information contained within  
this document may be incorrect.

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## Instructions for Use

**NOTE:** The membrane must be wet to perform this evaluation. DO NOT allow the membrane to dry out between use and bubble point determination. Use appropriate test fluid listed in Table.

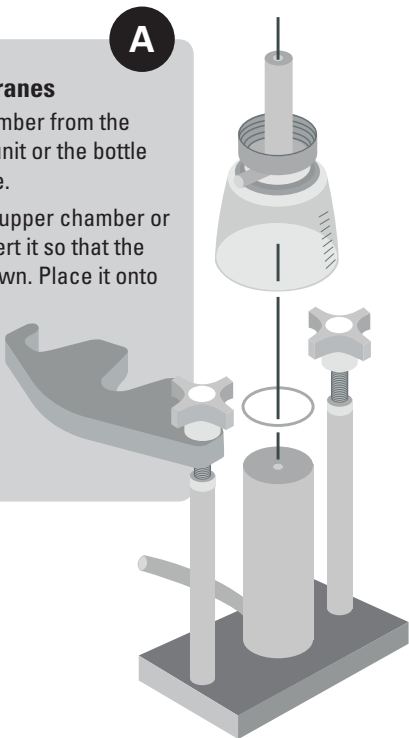
1. Select a ¼ in. (6.4mm) I.D. pressure-rated tubing that will withstand your membrane's maximum bubble point pressure as determined by its pore size (see Table). It is advisable to allow for an added safety factor when choosing the tubing.
2. Using the tubing and hose clamps, attach the pressure source to the bubble point tester's barbed fitting.
3. Loosen the two knobs on top of the bubble point tester and swing out the locking arm. Ensure that the O-ring is in place on top of the tester.
4. Place the device to be tested on the tester by following the appropriate instructions A or B.

**NOTE:** All 50mm diameter Nalgene disposable filter units and bottle top filters have a membrane which is approximately the same diameter as the colored collar. All 75 and 90mm diameter Nalgene disposable filter units and bottle top filters have a membrane which is larger than the diameter of the colored collar.

**A**

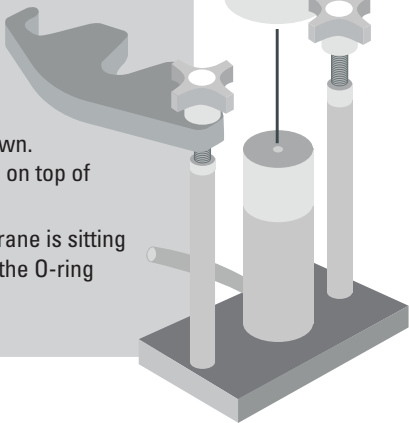
### For 50mm diameter membranes

- A. Remove the upper chamber from the used disposable filter unit or the bottle top filter from the bottle.
- B. Grasp the collar of the upper chamber or bottle top filter and invert it so that the membrane is facing down. Place it onto the O-ring on top of the bubble point tester.
- C. Be sure that the membrane is sitting flush on top of the O-ring.

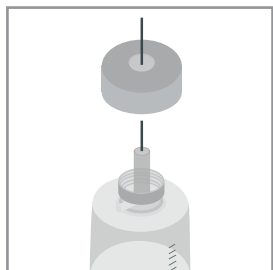


**B****For 75/90mm diameter membranes**

- A. Place the appropriate large solid adapter onto the top of the bubble point tester. The O-ring groove should be facing up. The adapter is properly seated when it allows free rotation on the tester.
- B. Seat the appropriate large O-ring onto the adapter. Make sure that the O-ring is sitting flush on top of the adapter.
- C. Remove the upper chamber from the used disposable filter unit or the bottle top filter from the bottle.
- D. Grasp the collar of the upper chamber or bottle top filter and invert it so that the membrane is facing down. Place it onto the O-ring on top of the bubble point tester.
- E. Be sure that the membrane is sitting flush and flat on top of the O-ring and adapter.

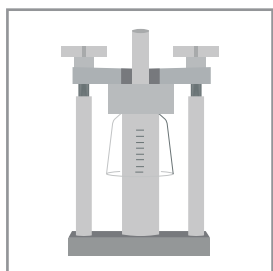


5. Place the large hollow adapter over the filter unit. Line up the slot on the bottom surface of the adapter with the tubing adapter on the filter unit and lower onto the unit. Be sure that it is seated flat on the plastic of the housing.



6. Swing the locking arm over the filter unit and tighten the knobs snugly. Do not over tighten.

7. Attach a 3-in. (76mm) section of the tubing to the filter's outlet. Use a wash bottle to fill the tubing with water or isopropanol (see Table). This is where you will detect bubbles during testing.



8. To determine the membrane's bubble point:

- Slowly apply pressure with the variable pressure regulator.
- Increase pressure by 2 psi (0.14 bar) every 5 seconds until within 10 psi (0.69 bar) of the nominal bubble point.
- Increase pressure by 0.5 psi (0.03 bar) every 5 seconds until the first steady stream of bubbles is detected. This final pressure is the membrane's actual bubble point.

**CAUTION:** *The Nalgene bubble point tester is designed for use with Nalgene disposable filter units and bottle top filters only (except Nalgene 115mL filter units). Use of other companies' filtration products on this tester may cause damage or injury.*

**USE ONLY WITH Nalgene Filtration Products.**

**CAUTION:** *Misusing Nalgene products can be potentially dangerous. Before using this product, read the instructions carefully. Refer to the Nalgene Labware Catalog for chemical resistance information. If any doubt exists about the specific use of this Nalgene product, please contact Technical Service at [NNItech@thermofisher.com](mailto:NNItech@thermofisher.com).*

**NOTE:** *The 75mm and 90mm adapters can be stored on the sides of the tester with the thumb screws provided.*

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