

Title: Filter Integrity Testing Protocol

Approvals:

Preparer: Kari Britt Date 03Aug10
Reviewer: Sonia Wallman Date 03Apr10

1. Purpose:

- 1.1. Test the membrane integrity of used syringe filters.

2. Scope:

- 2.1. Applies to previously used syringe filters to confirm sterility of filtered solutions.

3. Responsibilities:

- 3.1. It is the responsibility of the course instructor /lab assistant to ensure that this SOP is performed as directed and to update the procedure when necessary.
- 3.2. It is the responsibility of the students/technicians to follow the SOP as described and to inform the instructor about any deviations or problems that may occur while performing the procedure.

4. References: N/A

5. Definitions: N/A

6. Precautions: N/A

7. Materials:

- 7.1. small beaker
- 7.2. 250 mL deionized water
- 7.3. 7-10 inch silicone tubing
- 7.4. pressure gauge
- 7.5. 30mL syringe
- 7.6. 0.22 μ m or 0.45 μ m syringe filter being tested

8. Procedure:

- 8.1. Gather the following; small beaker, 250mL of deionized water, 7- 10 inch silicone tubing, pressure gauge, a 30mL syringe, and the used syringe filter being tested.
- 8.2. Take the 30mL syringe and fill it with deionized water.
- 8.3. Attach the 30mL syringe to the filter.
- 8.4. Push water through until the filter is completely wet.
Note: If filter is not completely wet there will be no resistance for the pressure gauge to read.
- 8.5. Detach the syringe from the filter.
- 8.6. Refer to figure 1 for bubble point assembly and perform the following steps.
 - 8.6.1. Draw air into the 30mL syringe, and then attach the syringe to the syringe adaptor on the pressure gauge so that it cannot come apart.
 - 8.6.2. Take the used syringe filter and attach it to the filter adaptor on the pressure gauge. Make sure it is twisted in tightly enough to prevent air from escaping, but do not over tighten.
Note: Over tightening can result in the plastic threads being damaged.
 - 8.6.3. Attach a 7- 10 inch piece of silicone tubing securely to the nozzle on the used syringe filter.
- 8.7. Test the integrity of the syringe filter.
 - 8.7.1. Fill the small beaker with approximately 250mL of deionized water.

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- 8.7.2. Place the end of the silicone tubing into the beaker so that it is submerged in the water.
- 8.7.3. Push the air from the syringe out, until the pressure gauge reaches 60psi for 0.22 μ m filter or 30psi for 0.45 μ m filter.
- 8.7.4. When the designated pressure is reached on the pressure gauge a spurt of bubbles should emerge from tubing and into water.
- 8.7.5. If the pressure does not reach the designated psi level, then the filter is damaged.

9. Attachments:

- 9.1. Figure 1: Bubble Point Assembly
- 9.2. Figure 2: Pressure Gauge

10. History:

Name	Date	Amendment
Katrice Jalbert	25Mar06	Initial Release
Deb Audino	04Apr08	College name change
Kari Britt	03Aug10	Changed name of document from Bubble Point SOP to Filter Integrity Protocol. Also made formatting and grammar edits as needed throughout the document.

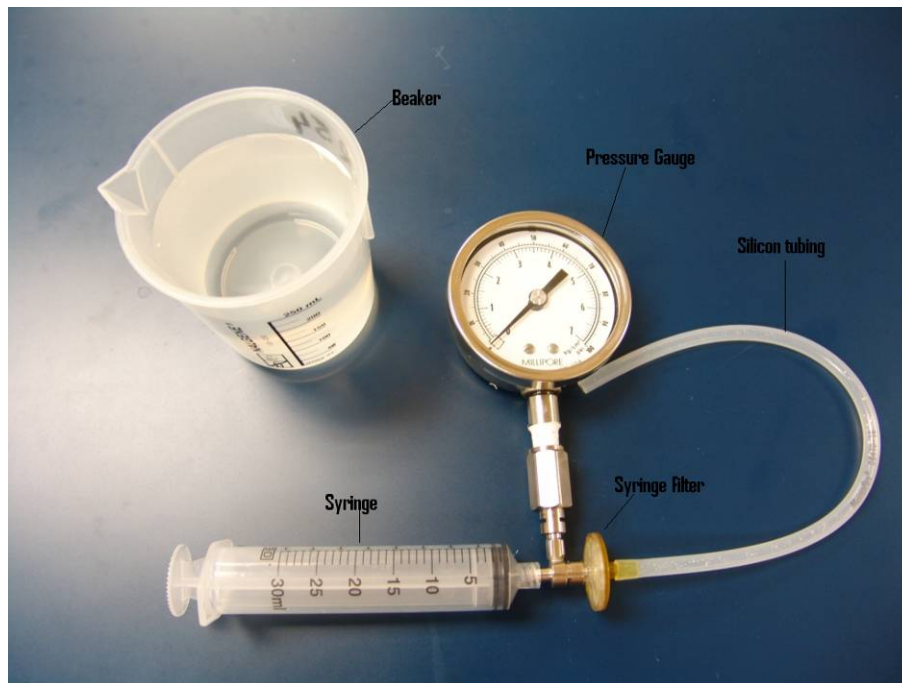


Figure 1: Bubble Point Assembly

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Figure 2: Pressure Gauge