

Maximum Liquid Volume for a 25 mm AQ Syringe Filter - Tech Information

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Overview

Syringe filters are essential for preparing clean samples prior to analytical methods such as HPLC, UHPLC, and general laboratory filtration.

Users often ask how much liquid can be passed through a 25 mm AQ™ brand syringe filter before it should be replaced. While general guidelines exist, the true limit depends on solvent type, sample cleanliness, and pressure behavior.

Maximum Practical Volume

For most aqueous and non-cloudy samples, a 25 mm AQ™ syringe filter can typically process around 100 mL, and in some cases slightly more. This estimate assumes:

- The solvent is water-based
- The sample does not contain particulates, emulsions, or precipitates
- Filtration is performed under normal manual syringe pressure

Highly viscous, particulate-rich, or organic-containing samples will reach filter saturation earlier.

Pressure Behavior: The Real Indicator

Volume is only a guideline. The most reliable way to know when a filter should be retired is by observing back-pressure changes. Two conditions signal the end of useful life:

1. Sudden Drop in Back Pressure

This may indicate membrane rupture or channeling, allowing unfiltered material to pass. The filter should be replaced immediately.

2. Steady Increase in Back Pressure

A gradual rise indicates the membrane is becoming clogged with particulates or insoluble matter. Once pressure becomes noticeably higher than normal, the filter should be replaced.

Monitoring these pressure changes is more accurate than relying solely on volume estimates.

Reusing Syringe Filters

Reusing filters is strongly discouraged. Even if the membrane seems functional:

- Carryover between samples can compromise analytical accuracy
- Adsorbed analytes from previous samples may leach into subsequent ones
- Membrane integrity declines with each use

For analytical assays, especially HPLC or trace-level work, always use a fresh syringe filter per sample.

AQ™ Syringe Filter Resources

Click [HERE](#) for syringe filters ordering information and pictures

Attachments: MICROSOLV filters equivalency study pdf [Download File](#)

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