



Groundwater Sampling Devices

Introduction

The United States Environmental Protection Agency requires that groundwater samples collected for dissolved or suspended metals analysis be filtered through a 0.45 µm filter (Method 3005 of Test Methods for Evaluating Solid Waste, Physical/Chemical Methods). These self-contained filter units were specifically designed with the sampling team in mind to minimize the time and effort needed to fulfill that requirement¹. These devices were designed to be used as disposable in-line filters on the pump tubing outlet.

¹In addition, 1 and 5 µm filters are available for certain state and regional requirements.

Ordering Information

Prod. No.	Description	Pore Size	Packaging
Medium Volume Groundwater Filters			
4270	AquaPrep™	0.45 µm	20/pkg
4272	AquaPrep-V	0.45 µm	20/pkg
4274	AquaPrep-V	0.45 µm	100/pkg
Large Volume Groundwater Capsules			
12175	AquaPrep 600	0.45 µm	1/pkg
12176	AquaPrep 600	0.45 µm	10/pkg
12178	GWV High Capacity Groundwater Filter	0.45 µm	1/pkg
12179	GWV High Capacity Groundwater Filter	0.45 µm	10/pkg
12180	GWV High Capacity Groundwater Filter	0.45 µm	50/pkg
12019	GWV High Capacity Groundwater Filter	5 µm	1/pkg
12020	GWV High Capacity Groundwater Filter	5 µm	10/pkg
12050	GWV High Capacity Groundwater Filter	5 µm	50/pkg
12023	GWV High Capacity Groundwater Filter	1 µm	1/pkg
12024	GWV High Capacity Groundwater Filter	1 µm	10/pkg
12025	GWV High Capacity Groundwater Filter	1 µm	50/pkg

Specifications

Materials of Construction

Housings: Polypropylene

Filter Media: 12175, 12176: Supor® (inherently hydrophilic polyethersulfone)

4270: Thermopor (polyester reinforced polysulfone).

4272, 4274, 12178, 12179, 12180, 12019, 12020, 12050, 12023, 12024, 12025: Versapor® (acrylic copolymer on a non-woven support).

Effective Filtration Area

AquaPrep 600: 600 cm²

GWV High Capacity Groundwater Capsules: 700 cm²

AquaPrep Filters: 20 cm²

Inlet/Outlet Connections

4270: 6.4-12.7 mm (1/4-1/2 in.) stepped hose barbs

4272, 4274: 1/8 in. MNPT fittings

12175, 12176: 6.4-12.7 mm (1/4-1/2 in.) stepped hose barbs.

GWV High Capacity Groundwater Capsules: 1/8 in. MNPT inlet and outlet

Overall Length (including fittings)

4270, 4272, 4274: 8.2 cm (3.2 in.)

AquaPrep 600: 14.5 cm (5.7 in.)

GWV High Capacity Groundwater Capsules: 11.4 cm (4.5 in.)

Maximum Operating Pressure

4270, 4272, 4274: 5.1 bar (510 Kpa, 50 psi)

AquaPrep 600: 4.1 bar (410 Kpa, 60 psi)

GWV High Capacity Groundwater Capsules: 3.4 bar (340 Kpa, 50 psi)

Maximum Operating Temperature

4270, 4272, 4274, 12175, 12176: 60 °C (140 °F)

GWV High Capacity Groundwater Capsules: 88 °C (190 °F)

Membrane

The membrane filters used in these devices were specifically chosen so that they would not contribute nor remove metals from the sample being collected. The AquaPrep 600 capsule filters contain Supor membrane. The same patented polyethersulfone membrane as in the Ion Chromatography Acrodisc® syringe filters recommended by Pall Life Sciences for inorganic analysis of environmental samples. The GWV High Capacity Groundwater capsule filters contain Versapor membrane. The AquaPrep and AquaPrep-V filters contain Thermopor and Versapor membranes, respectively, and are recommended when sampling wells with clean, particulate-free water. The capsule-style filters with their larger effective filtration area are recommended when sampling wells with silty, particulate-laden water.



Features and Benefits

- Self-contained filter eliminates decontamination of a filter holder, saves valuable time. Also eliminates potential for membrane damage during installation.
- Disposable design minimizes sample cross-contamination due to inefficient hardware decontamination.
- Tapered fittings allow easy insertion and removal of a variety of tubing sizes.
- Large filter area assures rapid collection of most groundwater samples.

Instructions for Use

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1. After removing the filter from the package, place the outlet of the sampling pump tubing over the inlet fitting of the device.
NOTE: For capsules, the flow label should point away from the pump tubing; for the 50 mm filters, the printing should face the pump. Make certain the fitting is inserted far enough to avoid leakage around the seal. Tubing should then be securely clamped to the filter connections.
2. To ensure maximum performance, hold the device so that the outlet is pointing upward and slowly start the pump. When the water starts coming out of the outlet fitting, turn the device over and allow a small amount of water to flow through it, using the filtrate to wash the sample container.
3. After collecting the required amount of sample, remove the capsule or AquaPrep™ filter and dispose of properly.
4. These filters are for **SINGLE USE ONLY**.

Complementary Products

Prod. No.	Description	Pore Size	Packaging
Groundwater Sampling			
60177	Supor® -450, 142 mm disc	0.45 µm	25/pkg
66536	GN-6 Metrical®, 142 mm disc	0.45 µm	50/pkg
61635	A/E Glass Fiber Filter, 142 mm disc	1 µm	100/pkg
4535	AquaPrep Flex Filter	0.45 µm	20/pkg
Environmental Sample Analysis			
4483	Ion Chromatography Acrodisc®	0.2 µm	100/tube 300/case
4485	Ion Chromatography Acrodisc	0.45 µm	100/tube 300/case

WARNING

Employment of the products in applications not specified, or failure to follow all instructions contained in this product information insert, may result in improper functioning of the product, personal injury, or damage to property or the product. See Statement of Warranty in our most recent catalog.

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