


GERSTEL


Filtration Options for MPS Robotic Pro

Specifications

Uses

The Filtration Options for the GERSTEL MultiPurpose Sampler MPS Robotic Pro enable automated sample filtration. The filtration step can be inserted into any part of a sample preparation and injection method using the GERSTEL MAESTRO software. Due to its ease of use and time savings when compared to manual filtration procedures, this option makes filtration practical for almost any analysis. The routine removal of unwanted components from the sample provides significant improvement in chromatographic column life and instrument maintenance intervals.

Different Filtration Options are available for different applications and with trays of different sizes. The trays can hold filters with many types of membrane materials, diameters and pore sizes.

Each filtration option always comprises the filtration station including a waste container. The trays and filters can be combined as desired.

Filtration Steps

- Sample is drawn into the syringe
- Air is drawn into the syringe
- A filter is picked up
- The sample is dispensed through the filter and the filtrate is collected in a vial
- The filter is returned to the tray or discarded

Characteristics

- Compatible with most standard LC and GC systems
- Compatible with most commercially available syringe filters
- Automated operation exclusively with the GERSTEL MultiPurpose Sampler MPS Robotic Pro
- Operation with open or closed vials

Filter Trays

- Filter tray for 16 filters with any membrane diameter and a maximum outer diameter of 35 mm
- Filter tray for 24 filters with any membrane diameter and a maximum outer diameter of 22.5 mm, also suitable for DNPH cartridges
- Filter tray for 40 filters with a membrane diameter of 4 mm
- Several trays can be installed at one MPS

Filtration Volume

- 1 mL ... 2.5 mL per filtration step, depending on the particle load, membrane size, filtrate vial and syringe used

Filtration Speed

- Approximately 100 $\mu\text{L/s}$

Filter Pore Sizes

- 0.2 μm
- 0.45 μm
- 1.2 μm (Glass micro fiber filters only)

Filter Membranes*

- Polytetrafluorethylene PTFE
- Polypropylene PP
- Regenerated cellulose RC
- Nylon
- Polyvinylidene fluoride PVDF
- Cellulose acetate CA
- Glass Micro Fiber



Materials

- Filter housing: PP
- Needle: stainless steel

Syringes

- 1 mL or 2.5 mL for PSM tool, with gas connection
- 1 mL for USM tool, without gas connection

Control

- In combination with the GERSTEL MAESTRO software, either in stand-alone mode or integrated in an Agilent® Technologies chromatography data system (CDS), or coupled to a CDS from Thermo Scientific®
- Only one method and one sequence table required for the complete system when integrated in a CDS

Operation Temperature

- 20 ... 35 °C

Storage Temperature

- 5 ... 40 °C

Dimensions (W × H × D)

- Filtration station with waste container:
12 cm × 40 cm × 35 cm
- Filter tray for 24 filters:
9 cm × 15,5 cm × 41,5 cm
- Filter tray for 16 filters:
11 cm × 14,5 cm × 41,1 cm

Filtration Option

When using the Filtration Option, the filtration of the sample takes place in a special filtration station. For this, the MPS first inserts an empty vial into the filtration station, draws the sample into the syringe, picks up a filter and injects the sample through the filter into the vial in the filtration station. Afterwards, the filter is discarded in the waste container, the filtrate vial is placed back into the filtrate tray or can be used for further sample preparation steps.

This option is recommended especially if the filtration needs to be combined with additional sample preparation steps.

System Requirements

- GERSTEL MultiPurpose Sampler MPS Robotic Pro with GC supports or stand-alone legs which are at least 42.9 cm high
- One of the wash stations Large Wash or Fast Wash
- Standard tray holder for MPS Robotic
- Sample tray
- Standard tray as filtrate tray
- Computer with installed GERSTEL MAESTRO software

Fast Filtration Option

When using the Fast Filtration Option, the filtration takes place directly at the filtrate tray. This saves time since the MPS does not have to move an empty vial into the filtration station first.

For the Fast Filtration Option, the MPS draws the sample into the syringe, picks up a filter and injects the sample through the filter into the vial in the filtrate tray. Afterwards, the filter is discarded in the waste container.

The filtrate tray is supplied with a cover plate to guide the filters into the tray. Therefore, the MPS cannot move the filtrate vials away from the tray for further sample preparation steps.

System Requirements

- GERSTEL MultiPurpose Sampler MPS Robotic Pro with GC supports or stand-alone legs which are at least 42.9 cm high
- One of the wash stations Large Wash or Fast Wash
- Standard tray holder for MPS Robotic
- Sample tray
- Computer with GERSTEL MAESTRO software installed