


GERSTEL


Dynamic HeadSpace for MPS Robotic

DHS

Specifications

Use

The GERSTEL DHS efficiently extracts and concentrates VOCs from liquid or solid samples placed in standard headspace vials prior to GC or GC/MS analysis. The DHS module provides thermostating and agitation as well as purging of the sample headspace onto a replaceable sorbent tube with a controlled flow of inert gas.

System Configuration

- Compatible with most standard GC systems
- Automated operation by means of the GERSTEL MultiPurpose Sampler MPS Robotic or MPS Robotic Pro
- GERSTEL Thermal Desorption Unit TDU is used for thermal desorption of analytes
- GERSTEL Cooled Injection System CIS is used for analyte focusing prior to GC or GC/MS analysis
- GERSTEL DHS FlowLog option is available for logging and saving the flow at the purge gas outlet for precise measurement of sample volume and for leak checking

Sample Volume

- 2 mL, 10 mL or 20 mL headspace vials

Adsorbent Tubes

- GERSTEL TDU tubes, filled with an adsorbent, 4 mm ID
- Individual tubes can be freely selected for each sample
- Detailed information on TDU tubes and adsorbent materials is available in the TDU supplies catalogue

Analyte Transfer

- Heated needle system between the headspace vial and TDU tube, similar to standard headspace technique
- No transfer line in system

Cooling Option

- Universal Peltier Cooling UPC Plus

Incubation Temperature

- Ambient ... 200 °C
- 10 ... 200 °C with UPC Plus

Trap Temperature

- 20 ... 70 °C

Transfer Temperature

- Ambient, 50 ... 150 °C

Agitation Speed

- 250 ... 1500 rpm

Purge Gases

- Helium
- Nitrogen
- Synthetic air
- Supply pressure 4 ...10 bar

Purge Volume

- Max. 100 liters

Gas Flow

- 5 ... 100 mL/min
- Controlled by a mass flow controller

Compressed Air

- Every non-flammable, not oxidizing, non-toxic gas
- Oil-free
- Max. supply pressure 8 bar



Control

- Based on the controller C506
- 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
- Interlacing of DHS steps and chromatographic run increases productivity

Dimensions (W × H × D)

- 7.5 × 29 × 27.5 cm

Weight

- 2.6 kg

Operating Conditions

- 20 ... 35 °C
- Relative humidity max. 50-60 %, non-condensing
- Max. 4615 m above sea level

Storage Conditions

- 5 ... 40 °C
- Relative humidity max. 50-60 %, non-condensing
- Max. 4615 m above sea level

DHS Large Option

The DHS Large option upgrades the DHS for the analysis of larger sample volumes of up to 1 liter. This makes it especially suitable for the enrichment of analytes from the headspace of solid samples.

The DHS Large option comprises a sample heater which is installed at the front of the DHS station as well as an additional power supply unit. The samples are located in closable DHS Large sample vessels. The DHS Large option is easily retrofitted to every DHS station.

Features

- Especially suitable for large-volume, solid samples
- Easy switching between DHS and DHS Large operation
- Manual sample exchange
- GERSTEL DHS FlowLog option is available for logging and saving the flow at the purge gas outlet for precise measurement of sample volume and for leak checking
- No upgrade to DHS Large Autosampler possible



DHS Large Sample Heater

Sample Capacity

- 1 sample in DHS Large sample vessel

Sample Volume

- 250 mL ... 1 L

Sample Weight

- max. 2 kg

Incubation Temperature

- Ambient ... 200 °C

Dimensions (W × H × D)

- 13 × 18 × 12.5 cm

Weight

- 935 g



Dynamic HeadSpace DHS

Operating Conditions

- 20 ... 35 °C
- Relative humidity max. 50-60 %, non-condensing
- Max. 4615 m above sea level

Storage Conditions

- 5 ... 40 °C
- Relative humidity max. 90 %, non-condensing
- Max. 4615 m above sea level

Power Supply Unit

Power Supply

- 100 ... 230 VAC, 50/60 Hz

Power Consumption

- Max. 300 Watt

Dimensions (W x H x D)

- 20.5 x 9 x 25.5 cm

Weight

- 2.1 kg

Operating Temperature

- 20 ... 35 °C

Storage Temperature

- 5 ... 40 °C



DHS Large Sampler Option

The DHS Large Sampler option upgrades the DHS for the automatic analysis of up to 11 samples with volumes of up to 1 liter. This makes it especially suitable for the enrichment of analytes from the headspace of solid samples.

The DHS Large Sampler option comprises a heated sample carousel which is installed at the DHS station as well as an additional power supply unit. The samples are located in closable DHS Large sample vessels. The DHS Large Sampler option is easily retrofitted to every DHS station.

Features

- Especially suitable for large-volume, solid samples
- Easy switching between DHS and DHS Large operation
- Automatic sample exchange
- GERSTEL DHS FlowLog option is included for logging and saving the flow at the purge gas outlet for precise measurement of sample volume and for leak checking

DHS Large Sample Heater

Sample Capacity

- 11 samples in DHS Large sample vessels, 4 of which can be heated simultaneously

Sample Volume

- 250 mL ... 1 L

Sample Weight

- max. 2 kg

Incubation Temperature

- Ambient ... 200 °C

Dimensions (Ø)

- 13 x 18 x 12.5 cm

Weight

- Sample carousel: 10 kg
- Support leg including cables: 3.5 kg



Dynamic HeadSpace DHS

Operating Conditions

- 20 ... 35 °C
- Relative humidity max. 50-60 %, non-condensing
- Max. 4615 m above sea level

Storage Conditions

- 5 ... 40 °C
- Relative humidity max. 90 %, non-condensing
- Max. 4615 m above sea level

Power Supply Unit

Power Supply

- 100 ... 230 VAC, 50/60 Hz

Power Consumption

- Max. 1000 Watt

Dimensions (W x H x D)

24 x 46 x 25 cm

Weight

- 6.5 kg

Operating Temperature

- 20 ... 35 °C

Storage Temperature

- 5 ... 40 °C

DHS Large Sample Vessel

The samples for operation with one of the options DHS Large and DHS Large Sampler are located in DHS Large Sample vessels. The sample vessels are available in 3 sizes.

Material

- Sample vessel and cover made of VA, steel, passivated
- O-ring made of Viton®

Inside Pressure

- max 2.3 bar, limited by safety valve

Inner Diameter

- 9.9 cm

Total Volume

- 1 L (1 L vessel)
- 500 mL (500 mL vessel)
- 250 mL (250 mL vessel)

Maximum Filling Level

- 11.7 cm (1 L vessel)
- 5 cm (500 mL vessel)
- 1.7 cm (250 mL vessel)

Operating Conditions

- 25 ... 200 °C



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