
Instructions for Use

GS 212 Gas Sampler

SARSTEDT no: 90.170.310



CE

Contents		
1	Device data	4
2	Manufacturer address	4
3	Important information	4
3.1	Explanation of symbols	5
3.2	Device-specific safety information	5
3.3	Obligation of the operator	6
3.4	Obligation of the personnel	6
4	Additional information	7
4.1	Warranty and liability	7
4.2	Decommissioning / disposal	7
5	Device description	8
6	Transport, installation and connection	10
6.1	Scope of delivery	10
6.2	Unpacking	10
6.3	Technical data	11
6.4	Installation	12
6.5	Commissioning	12
6.6	Filling the absorber vessel	12
6.7	Assembling the absorber vessel	12
7	Operation	13
7.1	Operating elements	13
7.2	Switching the gas sampler on	14
7.3	Configuring the options	15
7.4	Configuring the date and time	16
7.5	Printing out all saved measurement protocols	17
7.6	Resetting the sample number to "0"	17
7.7	Seal inspection	17

8	Collecting a sample	18
8.1	Inputting parameters	18
8.2	Preselecting volumes or duration	18
8.3	Selecting the start time	19
8.4	Configuring flow	19
8.5	Starting the measurement	20
8.6	Outputting measurement protocols	21
8.7	Displaying the results on the display	21
8.8	Printing the measurement protocol	22
8.9	Starting/ending the measurement memory	22
8.10	Deleting the measurement memory	22
8.11	After the measurement	22
9	Ports	23
9.1	Remote control	23
9.2	The RS 232 port	23
9.3	Error messages	24
10	Maintenance and servicing	24
10.1	Service address	24
10.2	Cleaning	25
11	Index	26
12	Contamination questionnaire	27

1 Device data

(to be completed during installation)

Type: _____
 Serial no: _____
 Place of installation: _____
 Installation date: _____
 Inventory no: _____

2 Manufacturer address

DESAGA GmbH /SARSTEDT GROUP

In den Ziegelwiesen 1 - 7

D-69168 Wiesloch

Phone: +49 (0) 6222 / 92 88 22

Fax: +49 (0) 6222 / 92 88 92

3 Important information

Please read the safety information in these Instructions for Use before commissioning the device!
Knowledge of the contents of these Instructions for Use is a basic prerequisite to ensure correct handling and error-free operation of the device.
Please keep the Instructions for Use as a reference for information on your device.

Copyright:

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The Instructions for Use are intended only for the operating personnel and for the purchaser of the device.

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Violations can have criminal consequences.

Technical modifications reserved!

Wiesloch, February 2010

DESAGA GmbH /SARSTEDT GROUP

3.1 Explanation of symbols

These Instructions for Use contain the following important symbols to indicate hazards and operating errors.



This "Important" sign means that in this section:

- Important information is provided.
- An immediate or potentially imminent danger to the life and health of persons is described.
- Information about dangerous situations can be found.

Failure to observe this symbol may result in minor to serious or life-threatening injuries or damage to property.



Warning of dangerous electrical voltage!



This "info symbol" indicates information on the proper use of the device or general information to provide a better understanding. Failure to observe the information can result in the device being operated incorrectly or even damaged.

Further symbols contain information about the topic depicted by the symbol, for example, accident prevention regulations, power supply, maintenance or disposal.

3.2 Device-specific safety information



This device has been built according to the latest engineering standards and the recognised safety regulations.

Take note of the relevant safety information and guidelines as well as occupational safety and accident prevention regulations for use in the laboratory. Nevertheless, risks for users and third parties as well as damage to the device or other material assets can still arise during operation.

The device should be used only:

- For its intended use.
- In a flawless condition in terms of safety.

The device may not be used for operation in areas where there is a risk of explosions.

During the device's warranty period, only the company SARSTEDT AG & Co. KG or persons authorised by the company SARSTEDT AG & Co. KG may repair it.

Improper handling or repairs will render any warranty claims void.

The device is a laboratory device and complies with the EN 61010 European standard for laboratory equipment.

The device is operated with a voltage of 230 V ~, ± 10%, 50 - 60 Hz.
As a result, it is essential that the following information be observed:



- No water or other liquid may enter the device.
- When connecting the device to the mains power, only the supplied power cord may be used.
- The connection cable must be inspected for damage before commissioning.
- Damaged cables may not be used under any circumstances.
- The device may only be connected to the voltage specified on the type label.
- Damaged devices or cables may not be used.
- Remove the power cord from the plug socket if the device will not be used for a long period of time or when it is cleaned.



The device may be operated or supplemented only using the accessories described in these Instructions for Use.

We recommend inspecting the device every two years in accordance with the valid accident prevention regulations (repeat inspection of electrical components).

3.3 Obligation of the operator

The device's operator undertakes to commission only persons who have read and understood these Instructions for Use with using the device. This should be confirmed with their signature.

Checks to ensure personnel are aware of workplace safety should be carried out at regular intervals.

3.4 Obligation of the personnel

Before commissioning, persons working with the device for the first time undertake to:

- Read through these Instructions for Use.
- Comply with the applicable accident prevention regulations and requirements.

4 Additional information

4.1 Warranty and liability

In general, the "Delivery and Payment Terms" of SARSTEDT AG & Co. KG. apply.
These are noted on the back of the invoice.

Warranty and liability claims are excluded if they are attributable to one or more of the following causes:

- Improper use of the device.
- Improper installation, commissioning, operation and maintenance of the device.
- Operation of the device in the event of defective safety equipment or improperly installed or inoperable safety and protective devices.
- Failure to observe the Instructions for Use regarding transport, storage, assembly, commissioning, operation, maintenance, set-up and disposal.
- Unauthorised changes to the device.
- Disasters caused by foreign bodies and force majeure.
- Improperly performed repairs.

4.2 Decommissioning / Disposal



- The device must be disposed of properly by an approved specialist company or the local waste disposal company.
- Substances used in connection with this device must be handled and disposed of in a proper and professional manner.



These Instructions for Use consist of the following material:
Spine binder and cover sheet are PVC, the rest is made from paper.
This can be separated by removing the spine binder.

5 Device description

DESAGA gas samplers are used to:

- Determine the emission and immission of pollutants
- Inspect air quality in the workplace
- Examine process gases
- Conduct analyses during laboratory experiments.

The device contains all components necessary to convey the flow of the gas sample, configure the flow speed, measure and configure the gas volume and condition the gas sample to the ambient conditions.

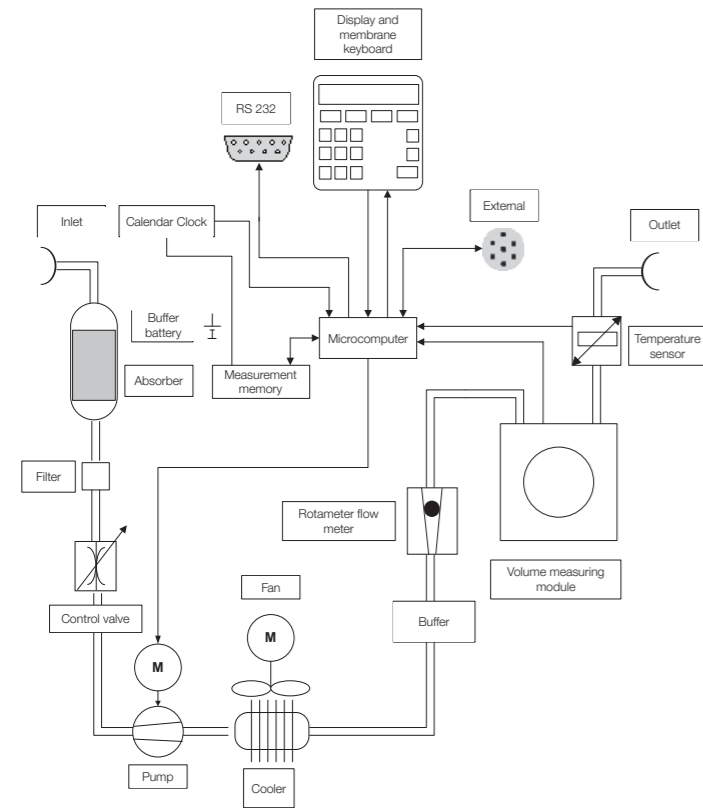


Figure 1: Gas flow chart in the GS 212

The maximum value is dependent on the flow resistance of the sensors, filters and separators active in the gas path. This covers the area which is included in numerous VDI guidelines and various national and international regulations. With suitable filters, the gas sampler can also be used to take dust and aerosol samples.

The gas volume is measured with a dry gas meter. The gas leaves its open outlet under ambient pressure.

Before it enters the gas meter, it flows through a cooler that a fan blows with ambient air. In the gas cooler, the gas temperature, which increases in the pump, is brought back down to the ambient temperature.

After it leaves the gas meter, the gas flows around a platinum resistance thermometer. The gas temperature is measured with an accuracy of 0.2 °C.

The sample gas is sucked from the gas sampler through the dust filter and separator, which collect the pollutants to be identified. In the gas sampler, it first passes through an absorber vessel where corrosive components and moisture are removed from it through activated carbon or silica gel. This protects the device's components. A filling of 300 ml of silica gel at 20 °C absorbs the moisture from 1000 l of gas. Corrosion-resistant glass frits in the inlet and outlet of the absorber vessel serve as an additional dust filter.

The gas then flows through a pump, a control valve and a rotameter. This achieves sample gas flows from 1 to 12 l/min.

The gas volume is measured under ambient conditions. To convert to

- standard conditions (pressure = 1013 hPa, temperature = 0 °C) and
- MAK litres (pressure = 1013 hPa, temperature = 20 °C),

the following formulae apply (for the calculation, you must determine the actual air pressure during the measurement yourself!):

Conversion to standard litres:

(V_N Standard volume)

$$V_N = V_M \times \frac{273}{273 + t_M} \times \frac{p_M}{1013}$$

Conversion to MAK litres:

(V_K MAK volume)

$$V_K = V_M \times \frac{293}{273 + t_M} \times \frac{p_M}{1013}$$

with:

- V_M measured volume
- p_M air pressure during measurement
- t_M temperature during measurement

All measurement data is stored for up to 20 measurements. The measurement protocol contains the date, time, a 6-digit sample number, the volume, duration and temperature in the gas meter as well as any error messages. The measurement protocol can be displayed on the display or via an installed RS 232 port.

Samples are assigned to the measurement protocol via the sample serial number, which automatically increases upon each sampling process.

A measurement can be started via keyboard, via the built-in remote control socket or at a predetermined time.

The GS 212 Gas Sampler operates at 15 V DC and a maximum of 2.4 A. Any car battery will suffice for this.

The GN 230/12 power supply from DESAGA allows operation on a 230 V 50-60 Hz supply network.

6 Transport, installation and connection

6.1 Scope of delivery

Standard delivery contents

- 1 GS 212 Gas Sampler including sheet metal cover
- 1 Absorber vessel (unfilled) consisting of:
 - 1 Glass vessel
 - 2 Plastic connectors
 - 2 Seals for plastic connectors
 - 2 Glass frits
 - 2 Seals for glass frits
- 1 Instructions for Use

DESAGA no.

170310

Accessories / consumables

- 1 Absorber vessel GS 212/312

DESAGA no.

170191

If you have any questions about other DESAGA devices or the DESAGA supply programme, please contact:

DESAGA GmbH / SARSTEDT GROUP
 PO Box 1220
 51582 Nümbrecht, Germany
 Phone: +49 (0) 22 93 / 305 0
 Fax: +49 (0) 22 93 / 305 282

or your local SARSTEDT sales agent.

6.2 Unpacking



- Please check that the packaging and device are undamaged.
- In the event of transport damage, contact the carrier immediately! Observe the reporting deadline of the individual transport companies (rail, post, parcel services or carrier). This is only 24 hours in some cases.
- Inspect delivery contents
- Defects and damage must be reported immediately to SARSTEDT AG & Co. KG!

6.3 Technical data

Manufacturer data:		
Device:	GS 212 Gas Sampler	
Manufacturer:	DESAGA GmbH / SARSTEDT GROUP	
Address:	In den Ziegelwiesen 1-7 69168 Wiesloch, Germany	
Device data:		
Measurements:	Width:	410 mm
	Depth:	220 mm
	Height:	330 mm
	Weight:	11 kg
General data:		
Electrical connection:	Power supply:	100-240 V ~ 0.4 A, 47 – 63 Hz
	Adapter:	15 V DC, max 2.4 A
	Fuse:	2 A F
Ambient conditions during operation:		
Temperature:	+ 0 °C to + 50 °C	
Relative humidity:	max 80%, non-condensing	
Configurable parameters:		
Flow rate:	configurable manually / mechanically	1 - approx. 12 l/m
Flow quantity:	1 - 9999 l	
Flow time:	1 - 999 min or 10 - 9990 min	
Start time:	0:00 - 23:59	
Measurement value:		
Volume:	1 - 9999.0 l ±2 %	
Duration:	1:00 - 999:00 min or 1:00 - 999:00 Dmin	
Temperature:	-10 – +80° C (±0.2 °C)	
Absorber vessel volume:	350 ml	
Data output:		
Output:	via display and RS 232 port	
Report memory:	for 20 measurements	

6.4 Installation



- Place the device on a firm, vibration-free and level surface.
- Maintain a sufficient distance to other objects and devices.
- While the device is in operation, it must not come into contact with other devices or objects.

6.5 Commissioning



Please note the following before initial commissioning!

- Check to see whether there is sufficient mains voltage and check the specified mains voltage for conformity.
- Take note of the device's permissible ambient conditions.

6.6 Filling the absorber vessel

Fill the absorber vessel with a suitable absorption agent:

- orange gel for moist gases
- and/or activated carbon for corrosive gases.

6.7 Assembling the absorber vessel

- Press the larger of the two seals into the plastic connection.
- Press the frit into the frit seal (red rubber seal).
- Place the rubber seal for the frit with the frit inserted into the plastic connection and twist it onto the absorber bottle.
- Repeat this process for the second opening on the absorber bottle if necessary.

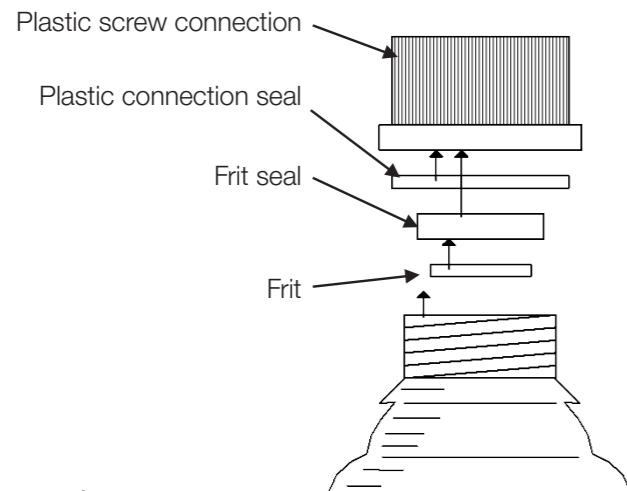


Figure 2: Absorber vessel

7 Operation

7.1 Operating elements

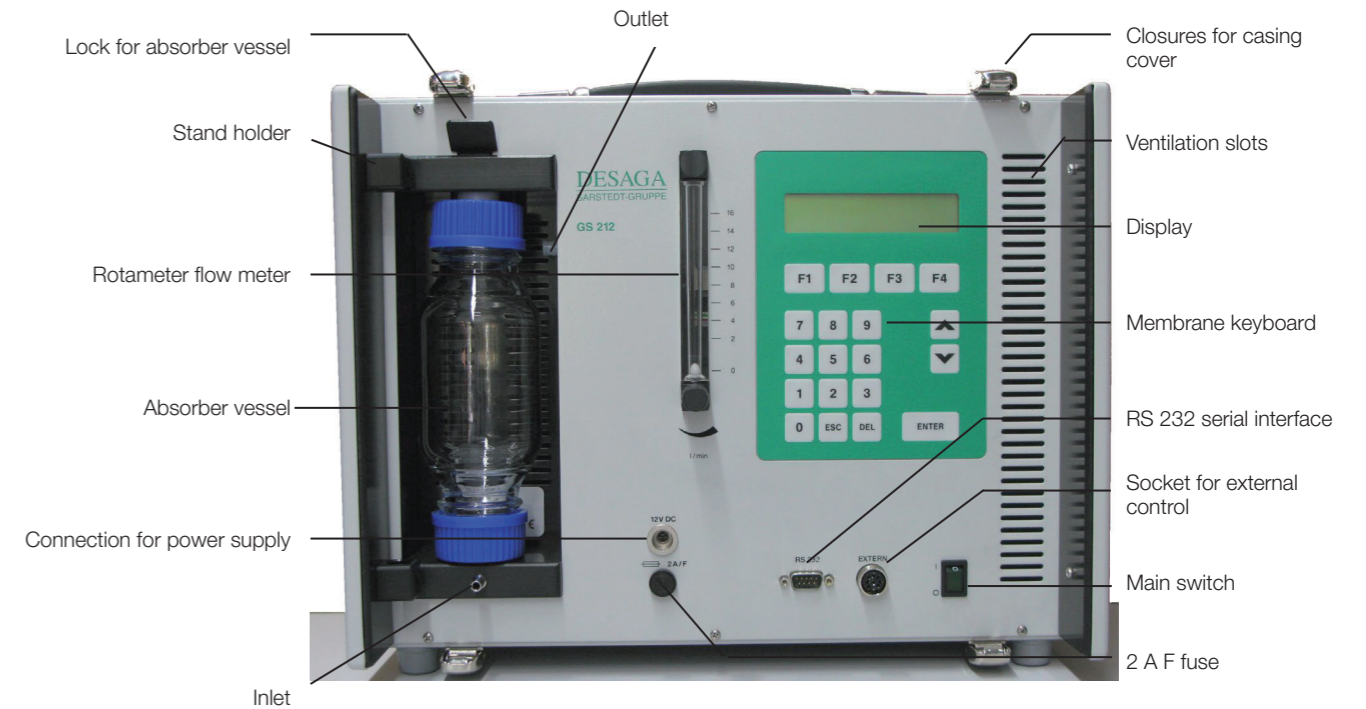


Figure 3: Operating elements

7.2 Switching the gas sampler on

Turn the main switch on.
You will see the following display for a few seconds during initialisation:

```
D E S A G A
GS 212 = (V1.7e)    V1.7e: EPROM program version number
```

Then the main menu will appear. The first line will display:

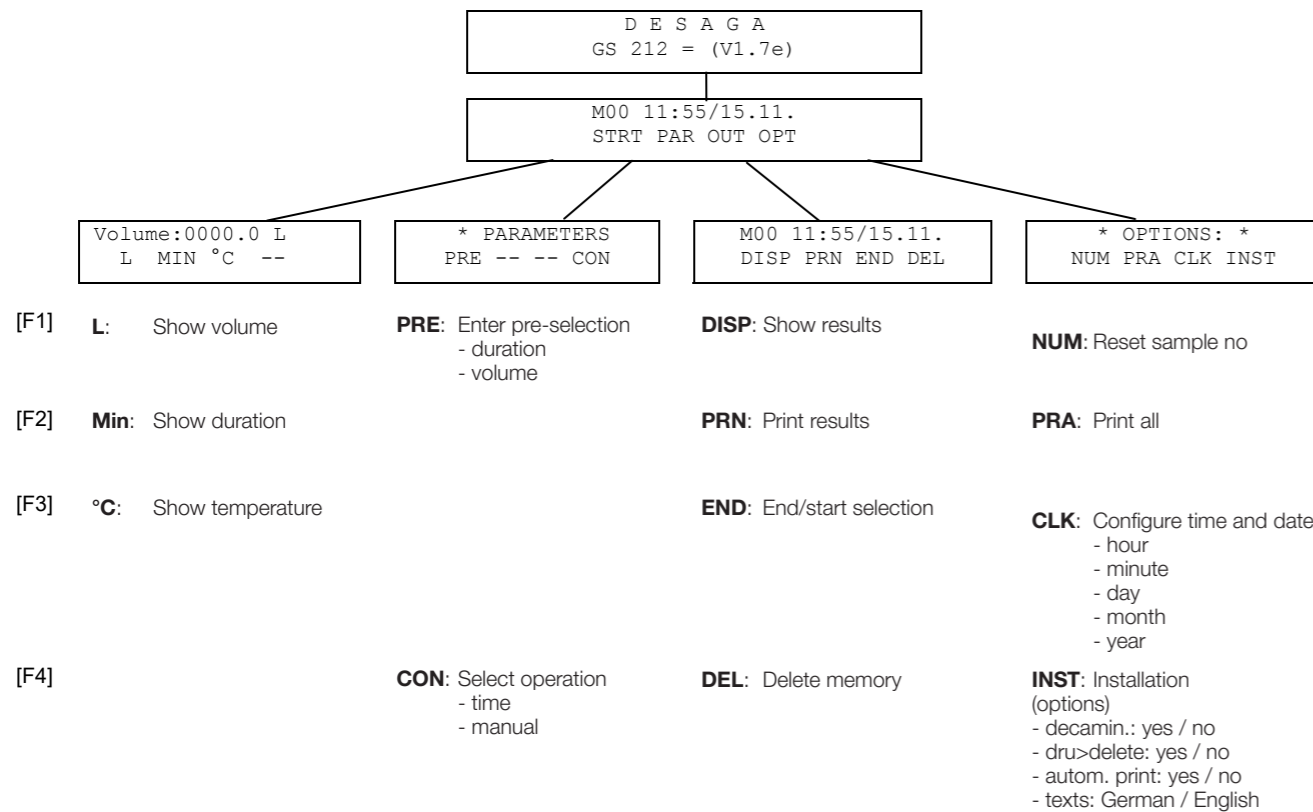
```
M00 11:55/15.11.
STRT PAR OUT OPT
```

- the relevant measurement memory (M00, in example no. 0, i.e. no protocol present)
- the time (11:55) and date (15.11).

The second line contains a list of the various sub-menus. You can access your desired menu item by using the function keys [F1] to [F4] located below.

The abbreviations mean:

- STRT:** to start a measurement
- PAR:** to input measurement parameters
- AUS:** to output the measurement protocol
- OPT:** for options



7.3 Configuring the options

Select [F4] (OPT) to proceed to the Options sub-menu.

There, you can:

- Reset the sample number to "0",
- print out all measurement protocols,
- set the time and date,
- and carry out the installation.

The following display will appear:

```
* OPTIONS: *
NUM PRA CLK INST
```

NUM: Reset the sample number to "0"
DRA: Print out all measurement protocols
UHR: Set the time and date
INST: Installation

In the "Options" menu, select [F4] (INST) to perform the installation.
The default setting need be configured only once; all parameters will remain saved.

```
* OPTIONS *
Deka-Min: no
```

< [ENTER] >

```
* OPTIONS *
Deka-Min: yes
```

When "Decamin: yes" is inputted, the sampling time will be counted up slower by a factor of 10. This allows for longer sampling without any flow.

Maximum sampling when selecting:

- Minutes: 999 min = 16 h 39 min or 9999 l
- Decaminutes: 999 Dmin = 166 h 30 min or 9999 l

It is advised that decaminutes be selected for longer sampling.

Continue using the [V] key, go back using the [^] key, cancel using the [ESC] key.

```
* OPTIONS *
PRN->DEL: no
```

< [ENTER] >

```
* OPTIONS *
PRN->DEL: yes
```

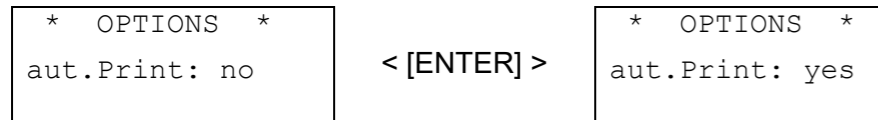
Selecting "Dru → Loesch: yes" will automatically delete the content of the measurement memory after it has been output via the RS 232 port = to a serial printer, for example = and thus also recorded.

If you select "no", the measurement protocol will remain saved.

Continue using the [V] key, go back using the [^] key, cancel using the [ESC] key.

Selecting “yes” for this option is advised only if a gas sampler is stationary and a serial data printer or storage device has been connected to the RS 232 port of the GS 212 Gas Sampler. Once measurement is complete, the measurement protocol will be automatically output if “yes” is selected.

Continue using the [V] key, go back using the [^] key, cancel using the [ESC] key.



The menu text can be displayed in either German or English.

Go back using the [^] key, cancel using the [ESC] key.

7.4 Configuring the time and date

```

    *  OPTIONS:  *
    NUM PRA CLK INST
  
```

In the Options menu, select [F3] (UHR) to configure the time and date on the built-in clock. Just like the measurement memory, the clock is buffered via a built-in battery.

```

    *  OPTIONS:  *
    Hour:  10
  
```

Input the hour value of the current time and confirm your input via the [ENTER] key.

```

    *  OPTIONS:  *
    Minutes: 13
  
```

Input the minute value and confirm your input via the [ENTER] key.

```

    *  OPTIONS:  *
    Day:  13
  
```

Input the day and confirm your input via the [ENTER] key.

```

    *  OPTIONS:  *
    Month: 11
  
```

Input the month and confirm your input via the [ENTER] key.

```

    *  OPTIONS:  *
    Year:  96
  
```

Input the year and confirm your input via the [ENTER] key.

7.5 Printing out all saved measurement protocols

```

    *  OPTIONS  *
    NUM PRA CLK INST
  
```

In the Options menu, select [F2] (DRA) to print out all saved measurement protocols one after the other.

```

    M01 10:31/15.11.
    Printing ...
  
```

If there is no printer connected, you will still not receive an error message.

The printing process can be cancelled at any point using the [ESC] key.

7.6 Returning the sample number to “0”

In addition to the measurement memory number, each sample is allocated a sample serial number. This number will be increased automatically for each sampling procedure.

```

    *  OPTIONS  *
    NUM PRA CLK INST
  
```

In the Options menu, select [F1] (NUM) to reset the sample serial number.

Press the [ENTER] key to reset the sample number to “0”.

```

    SampleNo: 001243
    Delete → ENTER
  
```

Press the [ESC] key to avoid resetting the sample number.

7.7 Seal inspection

- Turn the device off to inspect the seal.
- Press the [F4] key and keep it pressed while you switch the device on via the main switch.
- Check the seal by firmly closing the inlet of the gas sampler using your finger.
- The pump will start automatically.
- The display will show the time that the one-minute test has been running. The device will simultaneously integrate (add up) the amount of air which has flowed through it.
- After a short while, once the air in the system has been extracted, the volume display may no longer change.
- The test will end automatically after one minute. Watch the display during this period.
- Very slowly open the air inlet. Otherwise, depending on the vacuum created during the seal inspection, a glass frit may jump out of its holder in the screw cap. It can be reinserted as described in Chapter “3.2 Filling the absorber vessel”.

8 Collecting a sample

8.1 Inputting parameters

To carry out a measurement, connect the outlet of the sensors or separators to the gas sampler inlet. The dimensions and the material of the connections are frequently included in the regulations.

Before sampling, the parameters listed below must be input.

- Volume or duration
- Flow rate (manually on the regulator valve of the rotameter) and
- Manual start or programmed start time

The parameters will remain saved even after the device is switched off. This allows you to start measurements with the same parameters without having to input them once again.

In the main menu, select the [F2] (PAR) key to input the parameters for the measurement.

<pre>* PARAMETER: * PRE -- -- CON</pre>	[F1]: VOR: Pre-selection: Volume or duration [F4]: BED: Start manually or at specific time
--	---

8.2 Preselecting volume or duration

You can choose between a volume-based or time-based measurement.

- Input either a specific volume in litres. Once this volume has been reached, the measurement will end automatically.
- Or input a time in minutes (or decaminutes). Once the time is up, the measurement will end automatically. The device will also turn itself off if either the time of 999 minutes (in the case of decaminutes, 999 minutes x 10) or the volume of 9999 l is reached.

Select the [F1] (VOR) key for pre-selection.

<pre>* PARAMETERS * Select: Volume</pre>	< [ENTER] >	<pre>* PARAMETERS * Select: time</pre>
Continue using the [V] key		Continue using the [V] key
<pre>* PARAMETERS * Volume: 10 l</pre>	< [ENTER] >	<pre>* PARAMETERS * Time: 10 min</pre>
Input: 1 - 9999 l		Input: 1 - 999 min for "decamin" 1 - 999 Dmin = 10 - 9990 min

- Confirm your input using the [ENTER] key.
- Delete it using the [DEL] key.
- Cancel it using the [ESC] key.

8.3 Selecting the start time

You can start the measurement either:

- manually by pressing the [F1] key (STRT in the main menu)
- or at a pre-programmed time.

To select the start time, press the [F3] (BED) key in the "Parameters" menu.

<pre>* PARAMETERS * Start: Manual</pre>	< [ENTER] >	<pre>* PARAMETERS * Start: Clock</pre>
Go back using the [ESC] key		Continue using the [V] key
		<pre>* PARAMETERS * Hours: 11</pre>
		Input: 0 - 23 Confirm using [ENTER]
Go back using the [ESC] key		Continue using the [V] key
		<pre>* PARAMETERS * Minutes: 55</pre>
		Input: 0 - 59 Confirm using [ENTER]

To have the measurement automatically start at 11:55, you must press the [F1] key for STRT in the main menu.

The following message will then appear:

```
M00 08:12/29.10.
→Start at 11:55
```

8.4 Configuring flow

- Close the regulator valve of the rotameter by turning it clockwise.
- Once you have started your measurement, watch the rotameter and wash bottles.
- Configure the desired flow rate using the regulator valve.
- The chart beside the rotameter will indicate the flow value.

8.5 Starting the measurement

Start sampling in the main menu using the [F1] [STRT] key.

If the entire memory is filled with measurement protocols, you will not be able to start a measurement.

Depending on the pre-set “Start: Manual” or “Start: Time” parameters, the measurement will either start immediately or the following message will appear:

```
M00 08:12/29.10.
→Start at 11:55
```

In this example, the measurement would start at 11:55.

If manual start has been pre-selected, the measurement will start immediately and one of the following three displays will appear (depending on whether you have selected “pre-selection”, “volume” or “duration”, “minutes” or “decaminutes”):

```
Volume: 0000.21
L MIN °C --
```

```
Time:000:01 min
L MIN °C --
```

```
Time:000:00Dmin
L MIN °C --
```

```
Time:000:01 min
L MIN °C --
```

During the measurement, the time and volume will be automatically counted. You can also display the parameters volume, duration and temperature using the [F1] - [F3] function keys.

- [F1]:** L: Display of collected volume
- [F2]:** MIN: Display of elapsed time
- [F3]:** °C: Display of temperature in gas meter
- [ESC]: Cancel measurement

While pressing one of the other buttons, the pre-set volume or duration will be displayed. Once the specified volume or specified time has been reached, the pump will switch off and the measurement will end. Pressing the [ESC] key will stop the measurement prematurely. Then the following message will appear:

```
Time:004:15 min
END -- -- CONT
```

- [F1]: END:** End the measurement
- [F4]: CONT:** Continue the measurement

8.6 Issuing the measurement protocol

In the main menu, select the [F3] (OFF) key to output the measurement protocol.

This will direct you to a sub-menu.

This menu will allow you to do the following with the results of your measurements:

- have them shown on the display,
- or output them via the installed RS 232 port (print out protocol).

You can select measurement memory M01 - M20 via the [V] and [^] cursor keys.

You can also use the [F3] key to jump between the start and the end of the measurement memory.

8.7 Displaying the results on the display

In the previously selected sub-menu for displaying or printing measurement protocols, select the [F1] (DISP) key to view the measurement protocol on the display.

Display example (scroll using the [V] or [^] keys:

```
M00 10:35/10.09.
SampleNo.: 000047
```

```
-- Preselect: --
Time: 2 min
```

```
-- Measures: --
Volume:0023.1 L
Temp.: 26.9 °C
```

Average temperature over the entire measurement period.

```
-- Remark: --
Aborted at 10.32
after 001:56 min
```

Return to the “Output” menu using the [ESC] key.

8.8 Printing the measurement protocol

Using the [F2] (DRU) key, you can output the measurement protocol to a serial data printer or a computer in the "Output" menu via the built-in RS 232 port (if you are using a computer, you must use a terminal program!). The data output via the port will be the same as the data shown on the display.

8.9 Start/end of measurement memory

You can use the [F3] (ANF/END) key to jump between the start and the end of the measurement memory.

8.10 Deleting the measurement memory

In the "Output" menu, you can use the [F4] (LOE) key to delete the content of the measurement memory shown on the display.

Caution: No subsequent query will appear; as soon as you press the [F4] button, the content of the measurement memory will be deleted!

If the entire memory is filled with measurement protocols, you will not be able to start a measurement.

8.11 After the measurement

Remove the collection vessel and seal it carefully.

Mark the vessel clearly and note the marking in the protocol.

Store the vessel carefully for transport and analysis.

Turn the main switch off and disconnect the sampling device from the power supply.

Check to see whether the absorption medium in the vessel is depleted and replenish it.

9 Ports

9.1 Remote control

The socket (5: "EXTERNAL") allows remote control via the following signals:

1:	Start	pull to ground for 100 ms.
2:	Ground	
3:	Stop	pull to ground for 100 ms.
4:	Pause	pull to ground for the duration of the pause.
5:	On	pull to ground while on.
6:	Status	+ 5V during sampling
7:	+ 5V	maximum load 10 mA.
8:		n.c.

9.2 The RS 232 port

The GS 212 Gas Sampler is equipped with an RS 232 C-compatible serial port. The corresponding D-sub socket is located on the front of the device.

This allows the GS 212 to connect to a PC or serial data printer.

(If you are using a computer, you must use a terminal program!)

The data is transferred via the following cables:

Pin 1: DCD
 Pin 2: RXD
 Pin 3: TXD
 Pin 4: DTR
 Pin 5: GND
 Pin 6: DSR
 Pin 7: RTS
 Pin 8: CTS
 Pin 9: n.c.

The data is transferred in an ASCII format with the following protocol:

Data rate: 9600 Baud
 Parity: no
 Start bits: 1
 Stop bits: 1
 Code: 8 bits/character

A data word therefore looks as follows:

Start	Bit 1 to Bit 8	Stop
-------	----------------	------

Bit 1 = lowest value

Each print line finishes with CR + LF.

9.3 Error messages

The following error messages can appear on the display or be printed out in the measurement protocol:

The following can appear on the display:

Supply voltage is too low ...	This error will appear if the operating voltage during a measurement is too low. Check the charge level on the connected battery.
Battery weak	This will appear after 7 years at the earliest, when the built-in battery becomes too weak to save the data. Please send the device to DESAGA GmbH, Wiesloch, to have the battery exchanged.

The following is printed in the measurement protocol:

-- Remark: -- Aborted at 15:29 after 001:15 min	Cancelled: The measurement was cancelled with the [ESC] key or via remote control (after 1:15 minutes of sampling time).
-- Remark: -- Failure at 15:00 after 001:20 min	Failed: There was a mains failure during the measurement (after 1:20 min).

10 Maintenance and servicing

10.1 Service address

If you have any questions or problems with the device, please contact the service department of DESAGA GmbH / SARSTEDT GROUP in Wiesloch or your local SARSTEDT sales agency. Please make sure to provide the serial number of the device.



DESAGA GmbH /SARSTEDT GROUP
Service Department
 In den Ziegelwiesen 1-7
 D-69168 Wiesloch
 Phone: +49 (0) 62 22 / 92 88 65
 service.des@desaga-gmbh.de



- Fill in the contamination questionnaire and send it with the device with a copy of the delivery note and brief descriptions of the problems which have arisen.
- The contamination questionnaire serves to ensure the safety of our Service employees. Please therefore fill this in with the utmost care!



Recommendation:

Have your device serviced by the manufacturer at regular intervals.
 We recommend having it serviced once a year.

10.2 Cleaning



It is essential that the device be switched off before cleaning.



Risk of contamination!



Be sure to observe the instructions for cleaning the device. Careless cleaning or failure to observe the regulations can result in malfunctions!

- Disinfect the device before cleaning it.
- Disconnect the appliance from the power supply for cleaning.
- Do not allow any liquid to enter the device during cleaning.
- Clean parts of the case with a damp cloth.
You can use a soap solution. Carefully dry the device afterwards.
- Never use abrasive cleaners, aggressive cleaners or solvents (with the exception of alcohol).
- If the device is very dirty, isopropyl alcohol can be used.



Example of a disinfectant:

Use an aqueous solution to disinfect the device:

25 g ethanol 96%, 35 g 1-propanol, 0.1 g glyoxal ad 100 g aqua dest. Apply the solution and allow a few minutes for it to take effect depending on the extent of the contamination. If necessary, moisten repeatedly with the disinfectant solution.

11 Index

Absorber bottle	11
Operating voltage	23
Data transfer	22
Disinfectants	24
Seal inspection	16
Frits	11
Charge level	23
MAK litres	8
Measurement memory	21
Standard conditions	8
Port	22
Sensors	17
VDI guidelines	7

Contamination questionnaire for repair orders																												
<p>Dear Customer,</p> <p>for safety reasons, we ask you to answer all the following questions before submitting your device to DESAGA GMBH /SARSTEDT GROUP Wiesloch for maintenance, repair or return.</p>																												
Company: _____	Department: _____																											
City: _____	Street: _____																											
Name: _____	Phone No.: _____																											
Device/article: _____	SN: _____																											
<p><input type="checkbox"/> The device is free of harmful substances</p> <p><input type="checkbox"/> The device came into contact with the following harmful substances</p>																												
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr style="background-color: #e0e0e0;"> <th style="width: 5%;"></th> <th style="width: 75%;">Substance class</th> <th style="width: 20%;">Substance name</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Toxic substances</td> <td></td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Corrosive substances</td> <td></td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Explosive substances</td> <td></td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Radioactive material</td> <td></td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Contagious substances</td> <td></td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Flammable substances</td> <td></td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Other dangerous substances</td> <td></td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td colspan="2">The device has been decontaminated in accordance with the legal regulations</td> </tr> </tbody> </table>			Substance class	Substance name	<input type="checkbox"/>	Toxic substances		<input type="checkbox"/>	Corrosive substances		<input type="checkbox"/>	Explosive substances		<input type="checkbox"/>	Radioactive material		<input type="checkbox"/>	Contagious substances		<input type="checkbox"/>	Flammable substances		<input type="checkbox"/>	Other dangerous substances		<input type="checkbox"/>	The device has been decontaminated in accordance with the legal regulations	
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Date: _____	Signature: _____																											

GS 212 Gas Sampler

Technical modifications reserved

BA 073-0323



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