

VARIOTEC® 8 Tracer gas

Operating Instructions



Measurable success by Sewerin equipment

Congratulations. You have chosen a quality instrument manufactured by Hermann Sewerin GmbH.

Our equipment will provide you with the highest standards of performance, safety and efficiency. They correspond with the national and international guide-lines.

Please read and understand the following operating instructions before using the equipment; they will help you to use the instrument quickly and competently. If you have any queries we are available to offer advice and assistance at any time.

Yours

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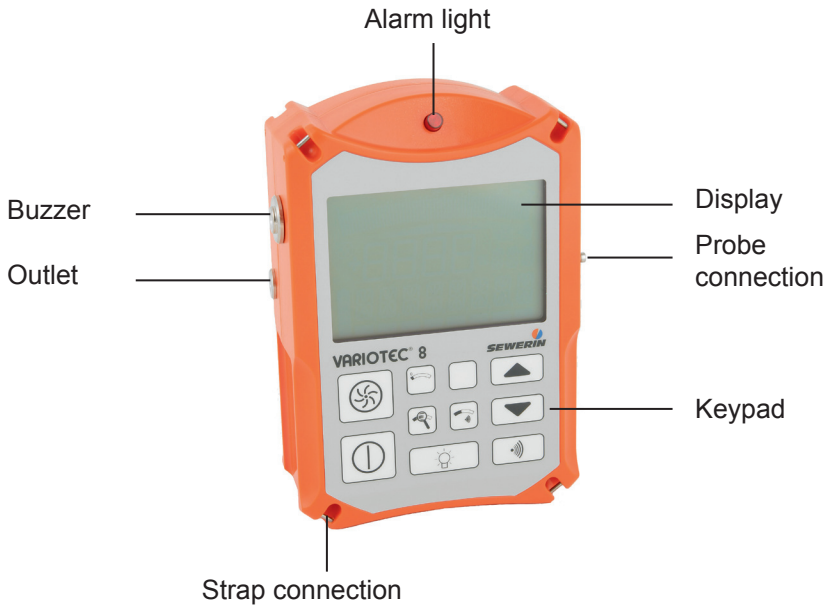
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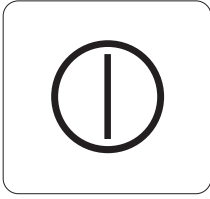
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Illustration of VARIOTEC 8 Tracer gas

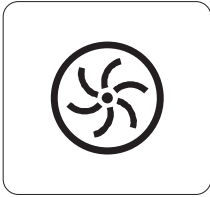


Designation	Function
Alarm light	Visual alert on: <ul style="list-style-type: none"> ● Exceeding alarm set points ● Error message display
Display	Display of: <ul style="list-style-type: none"> ● Gas concentrations ● Menu items ● Operating status ● Error messages
Probe connection	Connection for: <ul style="list-style-type: none"> ● Probe hose ● Test set
Keypad	Device operation
Strap connection	for carrying systems: <ul style="list-style-type: none"> ● Triangle ● Cross belt
Outlet	for gas sample
Buzzer	Audible alert on: <ul style="list-style-type: none"> ● Exceeding alarm set points ● Error message display

Operating instructions in brief



Switch device on/off



Switch pump on/off



Toggle between total and optimum measuring range



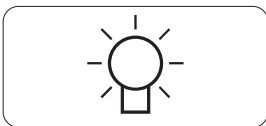
Zero point correction



Alarm threshold display



Speaker key - Acknowledge audible alarm signal



Switch LCD illumination on/off
(switches off automatically after approx.
4 minutes)

Operating Instructions

VARIOTEC® 8

Tracer gas

15.09.2011 – V1.XXX – 106605 – en

Symbols used



CAUTION! Danger of damage!

This symbol refers to important safety instructions. Adhere strictly to these instructions to avoid material damage!



Note:

This symbol refers to information and useful tips which exceed the basic operating procedures.

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1 General

1.1 Warranty

The following instructions must be complied with in order for any warranty to be applicable regarding functionality and safe operation of this equipment.

Hermann Sewerin GmbH accepts no liability for any damage resulting from non-compliance with these instructions. The warranty and liability provisions of the terms of sale and delivery of Hermann Sewerin GmbH are not affected by the information given below.

- Do not operate this product until you have read and understood the relevant operating instructions.
- This product may only be operated by qualified professionals who are familiar with the legal requirements (Germany: DVGW).
- The product must only be used for its intended purpose.
- Repairs must only be carried out by a specialist technician or by other suitably trained personnel.
- Changes or modifications to this product must not be carried out without approval from Hermann Sewerin GmbH. The manufacturer cannot be held responsible for damage if unapproved modifications have been made.
- Only accessories supplied by Hermann Sewerin GmbH may be used with this product.
- All repairs must be carried out using replacement parts that have been approved by Hermann Sewerin GmbH.
- The manufacturer reserves the right to make technical modifications in the course of further development.

Generally applicable safety and accident-prevention regulations must be complied with, in addition to the information provided in this manual.

1.2 Purpose

Using tracer gas is a tried and tested method of locating leaks.

It can be used in gas and water distribution networks, pipelines in buildings, heating systems, pressurised communication cables, gas-filled high voltage power lines and landfill sites sealed with double membrane layers. It can also be used to test for leaks in industrial products such as pipes, pumps, engine blocks and fuel tanks.

Detecting gas leaks by tracer gas involves feeding a mixture of 95% nitrogen (carrier gas) and 5% hydrogen into the pipelines being tested. Hydrogen is the lightest of gases and item through the leak site, where it is then detected by the highly sensitive **VARIOTEC 8 Tracer gas** sensor.

The low amount of hydrogen (just 5%) means that this method is absolutely safe: the gas is non flammable as per ISO 10156 thanks to the use of nitrogen as the carrier gas. It is non-toxic, and therefore permitted for use in drinking water networks, as well as non-corrosive.

1.3 Intended use

This device is intended for professional residential and commercial use including small firms and commercial operations. The appropriate specialist knowledge is required to operate the device. It may be used to measure the following gases:

- Tracer gas/forming gas 5/95 vol.%
(5 vol.% hydrogen H₂ as carrier gas / 95 % nitrogen N₂)
- Tracer gas/forming gas 10/90 vol.%
(up to 10 vol.% hydrogen H₂ as carrier gas / 90 % nitrogen N₂)
- The instrument has been factory set in the vol.% range to tracer gas/forming gas 5/95.

In case tracer gas/forming gas 10/90 vol. % is to be used, adjustment of the vol.% range needs to be done with this gas.

It should not be used for:

- Gas analysis of technical processes
- Monitoring liquids

The device can be used up to a temperature of 40°C. However, high temperatures reduce the lifetime of the rechargeable batteries.

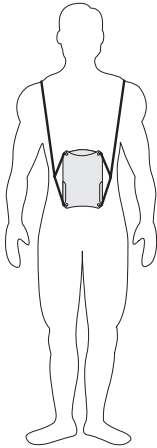
1.4 General safety information

- Only original SEWERIN accessories may be used with the device.
- Only probe hoses with a hydrophobic filter may be used.
- Ensure that the operating temperature is within the permitted limits of -10 ° to +40 ° Celsius.
- The device may only be tested with test gases in well ventilated areas.
- The **VARIOTEC 8** complies with the limits of the EMC Directive. Always observe the information in the relevant manuals when using the device close to mobile radio equipment.

2 Carrying system

2.1 Triangle carrying system

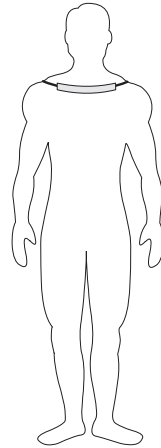
Simple and convenient carrying system, comprising a single carrying strap and neck pad.



front view



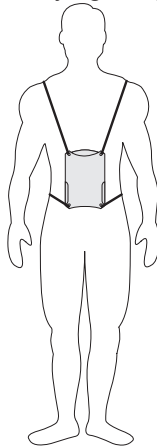
side view



back view

2.2 Cross belt carrying system

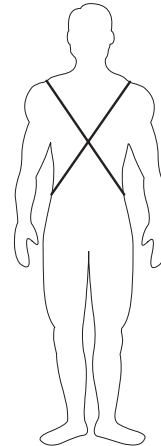
Comfortable carrying system for extended use, comprising two carrying straps which cross over at the back.



front view



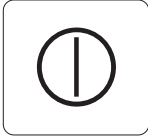
side view



back view

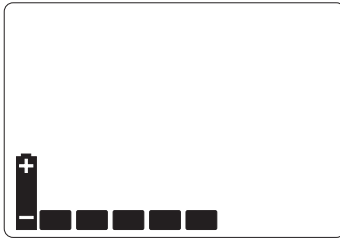
3 Measuring mode

3.1 Switching on



- Hold down the **ON/OFF** key for about 2 seconds. The device switches on

- this is confirmed by a visual and audible signal lasting for about 2 seconds

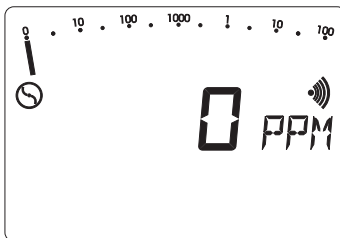


- the available operating hours are indicated in the form of bars (e.g. 5 hours)

- the built-in pump runs at maximum output power

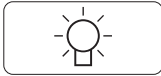


- the software version number (e.g. 2.5) and the device type are displayed.



- Wait until the sensor has reached its operating temperature and has set the zero point in fresh air (approx. 2 to 3 minutes). The reading flashes during this phase.

3.2 Illumination and contrast



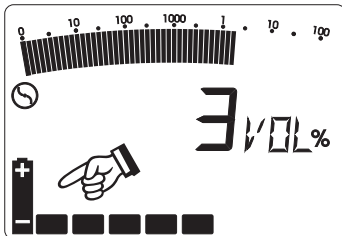
- Press the **light key** repeatedly to switch LCD illumination on and off
 - Illumination switches off automatically after about 4 minutes
- Simultaneously press the **light key and** one of the **arrow keys** to increase or reduce the LCD contrast



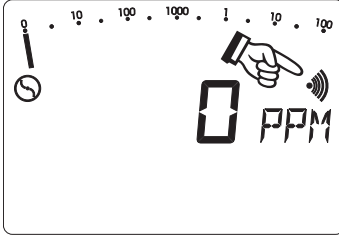
3.3 Operating hours in measuring mode



- Simultaneously pressing the **two arrow keys** in measuring mode displays the remaining operating hours (e.g. 5 hours)
 - this display (battery symbol and bars) disappears automatically after about 10 seconds



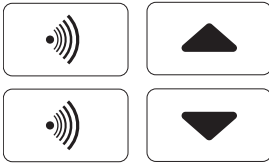
3.4 Alarm signal and volume



- Press the **signal key** repeatedly to switch the alarm signal on and off

- the corresponding symbol appears in or disappears from the LCD (position 2) accordingly

- you can check the alarm signal in this way



- Simultaneously press the **signal key** and one of the **arrow keys** to increase or reduce the buzzer volume (position 7)

3.4.1 Automatic alarm reactivation

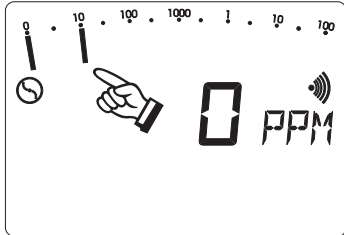


- If you have used the **signal key** to acknowledge the alarm and switch off the signal; the alarm signal is reactivated automatically after approximately 60 seconds

- the corresponding symbol appears again in the LCD (position 2)

- this is to prevent you from forgetting to switch on the alarm signal

3.5 Alarm threshold value



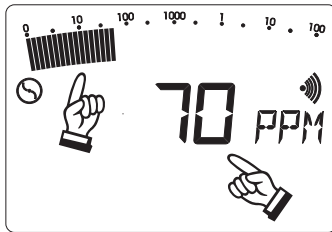
- Press the **threshold value key**

– the alarm threshold value (e.g. 10 PPM) flashes in the "total"

- Hold down the **threshold value key** and press one of the **arrow keys** repeatedly to increase or reduce the alarm threshold value

– this value is retained when you switch off the device

3.6 Measuring range changeover



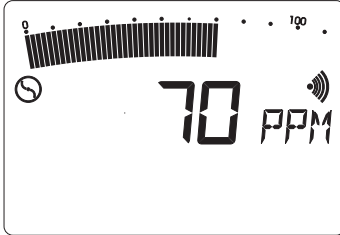
- All devices have an **analogue display** (top - the "total") and a **digital display** (bottom).

Both scales show the same concentration (e.g. 70 PPM)

- The "total" is a logarithmic scale extending from:
0 PPM – 100 %VOL.

– low concentrations are amplified here

– the measured value can be seen on the digital display



- Press the **zoom key** repeatedly to switch between the total and the **optimum measuring range**
- Depending on the concentration, the device **switches automatically** between the following measuring ranges:

0 – 10 PPM	0 – 1 %VOL
0 – 100 PPM	0 – 100%VOL
0 – 1000 PPM	
- The optimum measuring range in this example is 0 – 100 PPM
- Hold down the **zoom key** and press one of the **arrow keys** repeatedly to switch manually to the indication range you require

3.7 Pinpointing

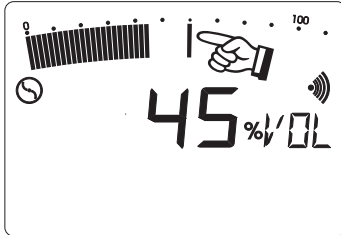
To pinpoint a leak, proceed as follows:



- Select the measuring range 0.0–100 %Vol **manually** by pressing the **zoom key** and the **arrow keys**
- This is the only measuring range in which you can clearly pinpoint a leak

3.8 Slider

To allow you to compare concentrations with one another when pinpointing a leak, for example, the maximum value is displayed in the form of a flashing **slider**.



- The slider remains visible in the display for about 4 minutes or is refreshed if a higher concentration is found

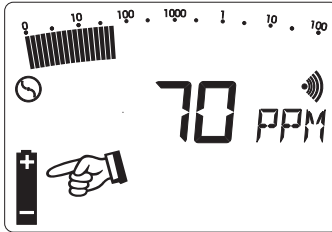
- Press the **threshold value key** to hide the slider

3.9 Zero point correction



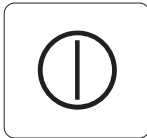
- If the measuring device does not reach its zero point of **0 PPM or 0.0 %VOL** after adequate flushing with fresh air, you can correct the zero point manually by pressing the **zero point key**
 - the measured value display flashes while the zero point is being corrected
 - you cannot continue taking measurements until the display **stops** flashing

3.10 Battery alarm



- When the battery symbol appears in the LCD, you have at least a further 15 minutes of operating time remaining. After that you must charge the device.
- In gas warning mode the battery alarm sounds as a two-note signal (short bleep) to distinguish it from the operating signal.

3.11 Switching off



- Hold down the **ON/OFF key** for approximately 2 seconds
 - this is confirmed by a visual and audible signal lasting for about 2 seconds.
 - the remaining operating hours are displayed in the form of bars

4 Charging

4.1 Charging and charge maintenance mode

Charging

When the battery is fully charged, the device has a maximum operating time of **8 hours** with the pump running.

To charge the battery you must use the **HS 1.2 A docking station** (see illustration), which can be used in the workshop or in the service vehicle.



The docking station can be connected by the following means:

- 230 V AC/DC adapter
- 12 V= vehicle cable
- 24 V= vehicle cable

Ensuring that the **VARIOTEC 8 Tracer gas** is switched off, place it in the docking station. A display similar to that shown below will appear:



- The device still has 5 hours of operating time left (= 5 bars) and will take a further 3 hours to charge fully
 - when the battery is fully charged, all bars are displayed and the number display disappears

Charge maintenance mode

Once the battery is fully charged, the device switches automatically to charge maintenance mode. The device can be left in the docking station until you are ready to use it again.

4.2 Self-discharge

If the device is **not** placed in the docking station after being switched off, the nickel metal hydride rechargeable batteries will start to self-discharge. The self-discharge period is calculated on the basis of the remaining operating time.

The battery will discharge after a maximum of 30 days and will then have to be recharged.



Note:

Short operating periods and extended periods of disuse can reduce the battery capacity.

You can counteract this by completely discharging the **VARIOTEC 8 Tracer gas** at regular intervals (e.g. once a month) (... the switched on device switches off automatically) and then charging it again.

5 Inspection

5.1 Device check and maintenance

The check also covers associated accessories. The specified checks and other activities must be documented. The documentation must be kept for at least one year. The necessary device checks as defined in DVGW Standard G 465-4 can be broken down as follows:

What?	When?	Who?
Device inspection – Housing – Probes Indication accuracy check in the ppm range Indication accuracy check in the vol.% range	– Each work day – Before starting work – Every 3 months	User
Adjustment	– Quarterly – As required – Display outside tolerance	Qualified service technician
Servicing	– Annually	Sewerin Service or qualified service technician

5.2 Device inspection

This simplest form of device check should be carried out by the user before starting work and covers the following points:

- External condition of device including probe systems
- Function of controls
- Battery charge status
- Pump and airflow passage
- Pump function
- Mechanical/electrical zero point
- Inspection

Indication accuracy test (user)

The frequency of this test depends on the device type and the level of use. It can range from once a day to once every six months.

Adjustment is only necessary if there are deviations in the indication accuracy (see inspection protocol).

The test should be carried out by a qualified service technician from the gas supply company or by a qualified service company and by Sewerin.

Maintenance - servicing and repair

The device must be serviced and repairs carried out where necessary at least once a year by **Sewerin Service**, by a qualified service company approved by Sewerin or by a qualified service technician from the gas supply company.

A certificate must be provided to confirm that the work has been carried out.



The inspection plate on the device confirms the date of the last service and indicates when the next service is due (e.g. 12/09 = December 2009).

Annual maintenance and repair covers as a minimum the professional care of the devices, replacement of any components with limited service life and any adjustments to the devices.

**Note:**

Qualified service technicians responsible for maintenance must be trained by Sewerin.

5.3 Test gases

The following test gases are used to check the function of the **VARIOTEC 8 Tracer gas**:

Test gas	Display
100 ppm H ₂ in synthetic air	=> 1000 ppm tracer gas
5 vol.% H ₂ 95 vol.% N ₂	=> 100 vol.% (depending on whether the device is set to 95/5 or 90/10)

5.4 Indication accuracy test

Proceed as follows:

- Screw the chosen test gas can onto the test set as far as the stop.
- Connect the probe fitting on your measuring device to the hose on the test set.
- Switch on your measuring device. The pump draws **fresh air** through the test set.
- Use the needle valve to set the maximum flow rate. This must be > 50 l/h.
- Wait for the warm-up time until a stable zero point is reached.
- Press the release button on the test set and adjust the flow rate to the value for fresh air.
- Hold down the release button until the displayed concentration has reached a stable value.

Permissible display values for test gas:

Range	Permissible measuring range	Permissible tolerance
ppm	100 ppm H ₂	700 – 1300 ppm
vol. %	5 vol. % H ₂	90 – 100 vol. %

If the display values are outside these tolerances, you must adjust your measuring device again (see Section 6.0 Adjustment).

6 Adjustment menu

The **VARIOTEC 8 Tracer gas** has been factory set in the vol.% range to 95/5 tracer gas, i.e. 95 vol.% N₂ / 5 vol.% H₂, and in the ppm range to 1000 ppm H₂ with 100 ppm.

Adjustment menu structure

1.	10	PPM	no function with VT 8 Tracer gas
2.	100	PPM	no function with VT 8 Tracer gas
3.	1000	PPM	
4.	1,00	%VOL	no function with VT 8 Tracer gas
5.	0	%VOL	
6.	100	%VOL	
7.	CO ₂	---	no function with VT 8 Tracer gas
8.	GAZ	VOL	
9.	1,5	10 PPM	
10.	ETHAN	0	no function with VT 8 Tracer gas
11.	RS232	0	
12.	LCD	0	

The **VARIOTEC 8 Tracer gas** is a special variant of the VARIOTEC 8. This adjustment menu states settings irrelevant for the tracer gas version which are therefore not described in detail.



Note:

Please do not make any adjustments here!

Test set-up

Making sure your measuring device is **switched off**, connect it to the SPE VOL test set for pinpointing or to the SPE ppm test set for detection.

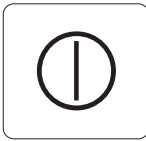


Note:

The SPE VOL test set can be used for both pinpointing and detection.

In the semiconductor ppm range a conditioner must be used.

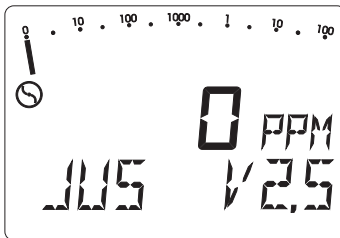
Please allow an adequate purge time when changing the test gas.



- Then simultaneously press the 3 keys illustrated here.

After showing the remaining operating hours the device switches to the **adjustment menu**.

The software version number (e.g. V 2.5) is displayed and the pump runs at maximum output power



- The measured value display flashes until the sensor zero point is set automatically



- Once the zero point has been set, press the **arrow-up key** to go to the next step

6.1 Setting the PPM range

Adjustment at 10 ppm

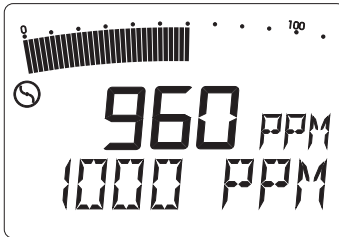
No adjustments required for VT 8 Tracer gas.

Adjustment at 100 ppm

No adjustments required for VT 8 Tracer gas.

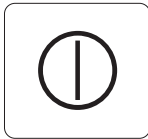
Adjustment at 1000 ppm

Now release the 100 ppm hydrogen (H₂) test gas via the SPE 3 test set.



- Wait until the display reaches a stable value

This range is adjusted more sensitive by a factor of 10, i. e. when using 100 ppm hydrogen, 1000 ppm should be displayed after adjustment.



- Press the **ON/OFF** key to confirm the adjustment
 - OK appears in the LCD
- Now stop the test gas supply

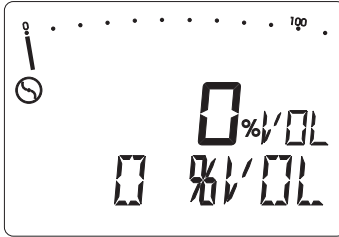


- Press the **arrow-up** key to go to the next step

6.2 Setting the VOL.% range

Adjustment at 0 vol.%

- Now use the SPE 1 test set with **fresh air** to set the zero point of the vol.% range.



- Wait until the display reaches a stable value
- Press the **ON/OFF key** to confirm the adjustment
 - **OK** appears in the LCD

- Press the **arrow-up key** to go to the next step

Adjustment at 1,00 vol.%

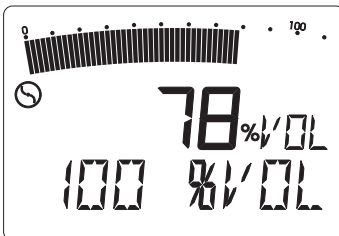
No adjustments required for VT 8 Tracer gas.

Adjustment at 100 vol.%

Now release the

- 95/5 test gas (95 vol.% N₂, 5 vol.% H₂) or
- 90/10 test gas (90 vol.% N₂, 10 vol.% H₂)

via the **SPE VOL** test set. You will need a steel test gas cylinder with pressure regulator and connecting hose.



- Wait until the display reaches a stable value
- Press the **ON/OFF key** to confirm the adjustment (**OK** appears in the LCD)
- Now stop the test gas supply



- Press the **arrow-up key** to go to the next step

This description applies to the 95/5 test gas.

Adjustment at CO₂

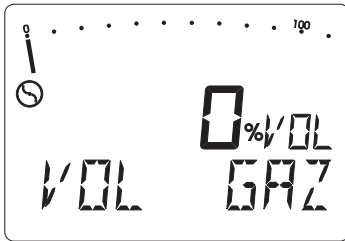
No adjustments required for VT 8 Tracer gas.

%VOL range language

Press the ON/OFF key repeatedly to toggle between the following displays in the vol.% range:

%VOL - Concentration indicator in vol.% (German/English)

%GAZ - Concentration indicator in vol.% (French)



- Press the ON/OFF key to confirm the display, e.g. **%VOL**
 - OK appears in the LCD
 - this display setting is retained even if you switch off the measuring device



- Press the **arrow-up key** to go to the next step

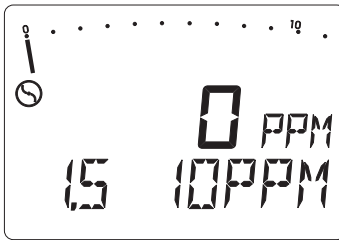
6.3 Setting the 10 PPM sensitivity

The sensitivity in the lower ppm range can be adjusted.

We recommend a setting of 1 ppm, as the **VARIOTEC 8 Tracer gas** has already been adjusted in the ppm range by a factor of 10.

Press the ON/OFF key repeatedly to toggle between the following amplification values in the 10 ppm range:

- 1.0 × 10 PPM - 100 % amplification
- 1.2 × 10 PPM - 120 % amplification
- 1.5 × 10 PPM - 150 % amplification (factory setting).



- Press the ON/OFF key to confirm the amplification setting (e.g. 1.5 x 10 PPM)

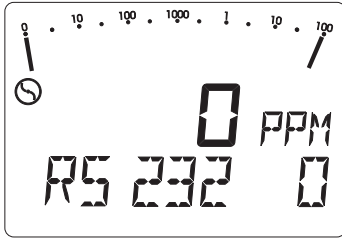


- Press the **arrow-up key** to go to the next step

6.4 Enabling ETHAN-BOX

No adjustments required for VT 8 Tracer gas.

6.5 Interface mode



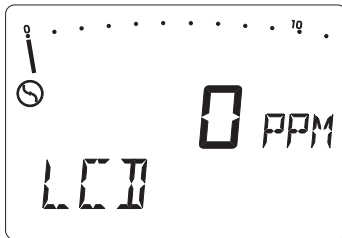
- If your device has an external RS-232 interface, you can enable it as follows:

RS-232 1 = on
RS-232 0 = off

- If your device does not have an interface, it should be disabled
- Press the **arrow-up key** to go to the next step

6.6 Checking the LCD

This function allows you to check that all segments of the LCD are working properly.



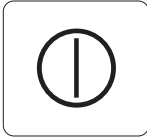
- Press the ON/OFF key to confirm the LCD check

- Press the **arrow-up key** to return to step 1

6.7 Exiting the adjustment menu



- Press the **pump key** to return to gas detection mode



- Press the **ON/OFF key** to switch off your measuring device

7 Technical data

7.1 Technical information

Cleaning

We recommend cleaning the device with a damp cloth only.



WARNING!

Do not use solvents, petrol or cockpit spray containing silicone or similar substances to clean the device!

Electrostatic charge

Avoid electrostatically charging the device. Electrostatically un-earthed objects (including metallic housings without an earth connection) are not protected against applied charges (e.g. from dust or dispersed flows).

Fine dust filter

There are fine dust filters in the unscrewable probe connection and in most probes.

You can clean the filters by knocking out or blowing out the dust.



Note:

Make sure that you replace the filter exactly as you found it.

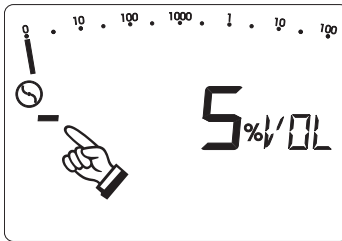
If the filter is very dirty you should replace it with a new one (see Accessories).

Sensor sensitivity

Gaseous components of silicones, oils and phosphate esters, for example, are harmful to the sensors. They cause an **irreversible** decrease in sensitivity.

Impurities in the measuring environment, for example, due to halogens, burned neoprene, PVC or trichloroethylene, also **decrease** the sensitivity of the sensors; in this case, however, the sensitivity can be restored.

Heavy gas (vol.% range)



- A negative sign in the measured value display indicates a mixture of light and heavy gases in which the heavy gas component e.g. propane (C_3H_8) or carbon dioxide (CO_2) **dominates**
- If it is carbon dioxide, we recommend the use of a CO_2 filter (see Accessories), which suppresses this heavy gas component

7.2 Specifications and permitted operating conditions

Device	VARIOTEC 8
Calibration:	Hydrogen H ₂ /tracer gas
Dimensions (W × D × H):	Approx. 129 × 192 × 65 mm
Weight:	Approx. 1500 g
Operating position:	Any
Alarm thresholds:	Adjustable
Protection rating:	IP54
Power supply:	Rechargeable NiMH battery
Operating time:	Max. 8 h
Charging time for rechargeable batteries:	14 h
Charging voltage:	12 V
Charging current:	300 mA
Operating temperature:	-10 °C – +40 °C
Storage temperature:	-25 °C – +70 °C
Pressure:	900 – 1100 hPa
Permissible relative humidity:	5 – 90 % r.h., non-condensing
Warm-up time:	Approx. 3 min (ppm range) < 1 min (vol.% range)
PC connection:	Optional RS232 (serial)
Display:	LCD segment display
Buzzer:	Frequency 2.4 kHz, volume = 70 db (A) 1 m
Signal light:	Red
Pump capacity: – Gas detection/pinpointing	> 50 l/h and 150 mbar

7.3 Sensors

Type:	Semiconductor sensor
Measuring range:	ppm
Measuring error:	$\pm 30 \%$
Response time:	$t_{90} \leq 10 \text{ s}$
Temperature range:	$-20 \text{ }^\circ\text{C} - +40 \text{ }^\circ\text{C}$
Interference:	$< 5 \text{ ppm H}_2$ with $1 \text{ vol.}\% \text{ CH}_4$
Lifetime:	
– Warranted	1 year
– Expected	5 years
Test gases:	
– Zero point	Fresh air
– Sensitivity	100 ppm H_2

Type:	Thermal conductivity sensor
Measuring range:	vol. %
Measuring error:	$\pm 5 \%$
Response time:	$t_{90} \leq 10 \text{ s}$
Temperature range:	$-20 \text{ }^\circ\text{C} - +40 \text{ }^\circ\text{C}$
Interference:	All gases with a differing thermal conductivity
Lifetime:	
– Warranted	1 year
– Expected	5 years
Test gases:	
– Zero point	Fresh air
– Sensitivity	$5 \text{ vol.}\% \text{ H}_2 / 95 \text{ vol.}\% \text{ N}_2$

7.4 Faults

If a fault occurs during operation, an error message will appear on the screen.

Error messages are displayed in the order in which they occur. Up to 5 errors can be displayed.

Error messages continue to be displayed until the error is corrected.

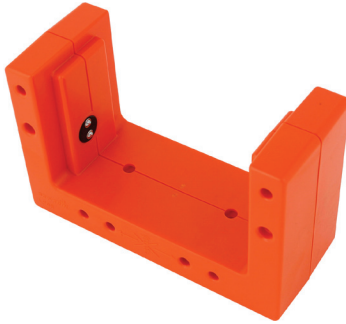
Error code	Error message on the display	Error correction
10 – 14	Adjustment error in the ppm range	Check test gas or repeat adjustment
15, 16, 19, 20	Adjustment error in the vol.% range	Check test gas or repeat adjustment
21	Component error	Error can only be corrected by SEWERIN Service
22 – 23	Adjustment error in the PPM range	Check test gas or repeat adjustment
50 – 56	Component error	Error can only be corrected by SEWERIN Service
62 – 63	Thermal conductivity sensor break	Error can only be corrected by SEWERIN Service
64	Flow sensor break	Error can only be corrected by SEWERIN Service
65	Semiconductor sensor break	Error can only be corrected by SEWERIN Service
100	Insufficient pump capacity	Switch device off and back on. Check filters in device and probes



Note:

In the case of other error codes please contact our SEWERIN service team.

8 Accessories



HS 1.2 A docking station

Art. no.: LP08-10201

- in order to charge a device you need an AC/DC adapter or a vehicle cable



M4 AC/DC adapter

Art. no.: LD10-10001

- 100 – 240 V~ / 12 V= / 1.2 A



M4 vehicle cable, 12 V= portable

Art. no.: ZL07-10100

- includes built-in fuse and cigarette lighter adapter
- for mobile use in a vehicle



M4 vehicle cable, 12 V= installed

Art. no.: ZL07-10000

- includes built-in fuse and female spade connectors
- permanently connects the unit to the vehicle electrical system



M4 vehicle cable, 24 V= installed

Art. no.: ZL09-10000

- includes 12 V= voltage converter and female spade connectors
- permanently connects the unit to the vehicle electrical system



Triangle carrying system

Art. no.: 3209-0005

- padded neck strap with 4-point device attachment



Cross belt carrying system

Art. no.: 3204-0040

- 2 crossover carrying straps and 4-point device attachment



VT/SR carrying case

Art. no.: ZD08-10000

- with built-in compartments
- allows for charging from the outside
- Holds:
 - EX-TEC SR6, SR5, SR4, SR2, SR2-DO, VARIOTEC 8, VARIOTEC 9-EX or EX-TEC Combi
 - HS docking station
 - 230 V AC/DC adapter
 - 1 m, 2 m or 6 m probe hose
 - Flexible hand probe
 - Bell probe
 - Localisation probe
 - Floating probe
 - 100 fine dust filters
 - etc.



VT/SR universal carrying case

Art. no.: ZD11-10000

- with built-in compartments
- Holds:
 - EX-TEC SR6, SR5, SR4, SR2, SR2-DO, VARIOTEC 8, VARIOTEC 9-EX or EX-TEC Combi
 - HS docking station
 - 230 V AC/DC adapter
 - 1 m, 2 m or 6 m probe hose
 - Flexible hand probe
 - Floating probe
 - 100 fine dust filters
 - etc.



PRO carpet probe

Art. no.: ZS01-12000

- for fixed surfaces
- with dust filter and probe hose and improved holder for hydrophobic filter



Bell probe D125

Art. no.: ZS05-10300

- for non-fixed surfaces
- with probe filter inset
- 1 m probe hose is required



Telescopic bell probe

Art. no.: ZS04-10100

- extends to 1000 mm
- with fine dust filter
- 1 m probe hose is required



345 mm localisation probe with probe tip

Art. no.: ZS03-10300

- for pinpointing
- with probe filter inset
- 1 m probe hose is required



345 mm trench probe with probe tip

Art. no.: ZS03-10400

- for pinpointing in trenches
- with probe filter inset
- 1 m probe hose is required

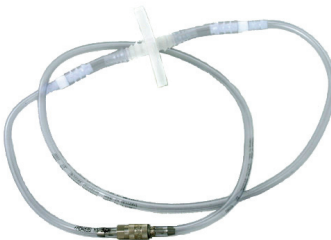


Universal probe

Art. no.: ZS37-10000

multi-part probe for the following applications:

- Triangle probe
 - for detection on fixed surfaces
- Bell probe
 - for detection on non-fixed surfaces
- Gas search probe
 - for measuring concentrations in bar holes
- Hand probe
 - for detection in accessible gas lines



1 m probe hose

Art. no.: ZS25-10000

- with hydrophobic filter and quick-release fittings



SPE ppm test set

Art. no.: PP01-40101

- for testing and adjusting the indication accuracy with 100 ppm H_2 on the gas-sensitive semiconductor
- with integrated conditioner for wetting the test gas
- Manometer (0 – 16 bar) for displaying the test gas can pressure
- Flowmeter (0 – 80 l/h)



SPE DUO test set

Art. no.: PP01-60001

- for testing and adjusting the indication accuracy and for testing the pump capacity
- with two connectors for the simultaneous use of two SEWERIN test gas cans
- first connection (10 ppm CH_4) for 100 ppm H_2 test gas
- second connection for all other test gases (vol.% and LEL range)
- includes two manometers (0 – 16 bar) for displaying the test gas can pressures
- with flowmeter (0 – 80 l/h)
- can be wall mounted



SPE VOL test set

Art. no.: PP01-90101

- for testing and adjusting the indication accuracy in the LEL and vol.% range and for testing the pump capacity
- includes connection for all SEWERIN test gas cans
- Manometer (0 – 16 bar) for displaying the test gas can pressure and flowmeter (0 – 80 l/h)

8.1 Consumables



Fine dust filter

Art. no.: 2499-0020

- suitable for the various probes and the suction pipe end on pump devices
- 100 units



PRO carpet probe filter set

Art. no.: ZS01-Z0100



PRO carpet probe repair kit

Art. no.: ZS01-R2000

- comprising Neoprene mat and fixings



Probe filter inset

Art. no.: 2499-0005

- suitable for the bell probe and the localisation probe
- 1 unit



Hydrophobic filter

Art. no.: 2491-0050

- suitable for all shown probe hoses
- 1 unit

9 Appendix

9.1 EC Declaration of Conformity

Hermann Sewerin GmbH hereby declares that the **VARIOTEC 8 Tracer gas** fulfils the requirements of the following guidelines:

- 2004/108/EC

The complete declaration of conformity can be found online (www.sewerin.com > Downloads).

9.2 Advice on disposal


The European Waste Catalogue (EWC) governs the disposal of appliances and accessories.

Description of waste	Allocated EWC waste code
Device	16 02 13
Test gas can	16 05 05
Disposable battery, rechargeable battery	16 06 05

Used equipment

Used equipment can be returned to Hermann Sewerin GmbH. We will arrange for the equipment to be disposed of appropriately by certified specialist contractors free of charge.

9.3 Inspection Protocol

<p>INSPECTION PROTOCOL Setting: Serial Number: (e. g.: 040 06 0001)</p>	<p>VARIOTEC 8 Tracergas Tracergas</p>	
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14.10.2010

1.0	General status																
1.1	– Perfect condition (e. g.: Y / N)																
1.2	– Fine dust filter correct (e. g.: Y / N)																
1.3	– Remaining operating hours (e. g.: 5 h)																

2.0	Pump check																
2.1	F 100 when sealing																

3.0	Measuring range ppm																
3.1	Zero point																
	– Display with fresh air																
3.3	Test gas 100 ppm H ₂ in synth. air																
	– Display 700 – 1300 ppm																

4.0	Measuring range % vol.																
4.1	Zero point																
	– Display -2 – +2 % vol.																
4.2	Test gas 100 % vol. Tracergas 95/5																
	– Display 98 – 102 % vol.																

5.0	Comments																
	– Housing damaged																
	– Adjustment, repair																
	– Inspection at factory																
	– or similar																

6.0	Inspection																
	– Day																
	– Month																
	– Year																
	– Signature																

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