GAS WATER PRESSURE

# GOLIATH

Detect – Warn – Measure – Analyse



- With the proven ESDERS operating concept
- A wide range of potential applications according to DVGW–G 465-4

## PICTURES OF APPLICATION


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# Use in accordance with DVGW – G 465-4

Numerous tasks and objectives in the field of gas supply are handled by the personnel of on-call services. Combination measurement devices are increasingly being employed for these purposes.

The menu technology which Esders has introduced with the GasTest alpha has achieved overall acceptance for the operation of combination measurement devices and has been established as the best available technology in the supplement to DVGW Process Sheet G 465-4.

The **GOLIATH** offers a wide array of options, but is even simpler to handle. It covers all applications for gas measurement in accordance with DVGW Process Sheet G 465-4.

**Detect, contain and assess damage points in the gas pipe network with just a single device!**

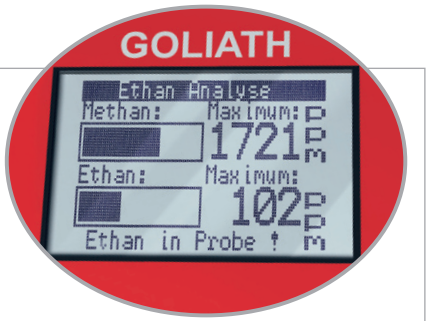
**GOLIATH's** sensor system ensures clear and rapid results. Comparison with the reaction time is made using the so-called T90 value. This indicates how many seconds it takes to reach 90 % of the measurement value. With the GOLIATH, the T90 value for methane and carbon dioxide is less than 5 seconds in a measurement range between 0.1 and 100 % vol. for methane, and between 0.1 and 30 % vol. for carbon dioxide.

The parallel display and assessment of methane, carbon dioxide and oxygen enables optimum localisation.

**Carpet probe TS 14:**

The cast carpet mat is made from a newly developed material, which combines the highest possible abrasion resistance with flexibility and suitability for use in a wide range of temperatures. The construction of the probes contributes significantly to the quality of the samples taken.

**Ethane analysis:**




An ethane analysis can be conducted in minutes to distinguish between natural gas and biogas in order to confirm damage points.

This requires the device to be equipped with a chromatographic separating column, which is available as an option. No additional accessories are required for this purpose. This separating column is used to break the gas down into its component parts and analyse it. Significant proportions of ethane are only present in natural gas, whereas biogas (fermentation gas) does not contain any ethane at all. The device assesses the measurement result and also saves these data for future use.

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# Use in a troubleshooting service

The **GOLIATH** is perfectly suited for use in a troubleshooting service. In addition to the typical application of a reported odour of gas, a large proportion of uses are based on the statement 'no gas present'. In such case, the fitter will have to determine the cause and has been informed of the pressure measurement in the gas installation. The GOLIATH is perfectly suited to this task as well, with its measurement range of 0 to 2,000 hPa (optional pressure sensor).

Measuring carbon monoxide concentrations in addition to monitoring flammable gases is a time-tested practice at many gas supply companies. For this reason, the 'Building inspection' application also indicates the CO concentration and triggers an alarm if it exceeds 10 ppm. This keeps the operator informed of potential problems with the exhaust gas routing

**Advantages:**

- Proven Esders operating concept.
- Very quick initialisation phase after switching on or changing application.
- Extremely short reaction times when measuring $CH_4$ and $CO_2$ in all concentrations.
- Propane calibration, oxygen and up to 3 toxic gas sensors are available as an option.
- Ethane analysis with automatic assessment of measurement result can be integrated.
- Optional pressure measuring up to 2,000 hPa

| Application | | Measurement range | Operating principle |
|---|---|---|---|
| Leak detection prelocation<br>Above ground | | 0 ppm to 100 Vol.-% $CH_4$ | Semiconductor (SC) + Infrared (IR) |
| | optional | 0 ppm to 100 Vol.-% $C_3H_8$ | |
| Pin pointing<br>Bar hole testing | | 0,0 to 100 Vol.-% $CH_4$ | Infrared (IR) |
| | optional | 0,0 to 100 Vol.-% $C_3H_8$ | Infrared (IR) |
| | | 0,0 to 100 Vol.-% $CO_2$ | Infrared (IR) |
| | optional | 0 to 25 Vol.-% $O_2$ | Electrochemical (EC) |
| Inspection - auto range | | 0 ppm to 100 Vol.-% $CH_4$ | Semiconductor (SC) + Infrared (IR) |
| | optional | 0 ppm to 100 Vol.-% $C_3H_8$ | |
| Ethane analysis | optional | CH4, C2H6 (nicht bei $C_3H_8$) | Chromatografic column + Semiconductor (SC) |
| Leak detection house<br>Building inspection | | 0 ppm to 100 Vol.-% $CH_4$ | Semiconductor (SC) + Infrared (IR) |
| | optional | 0 ppm to 100 Vol.-% $C_3H_8$ | |
| | optional | 0 to 500 ppm CO | Electrochemical (EC) |
| Confined space entry | | 0 to 100 % UEG $CH_4$ | Infrared (IR) |
| | optional | 0 to 100 % UEG $C_3H_8$ | Infrared (IR) |
| | | 0 to 5 Vol.-% $CO_2$ | Infrared (IR) |
| | optional | 0 to 25 Vol.-% $O_2$ | Electrochemical (EC) |
| | optional | 0 to 100 ppm $H_2S$ | Electrochemical (EC) |
| | optional | 0 to 500 ppm CO | Electrochemical (EC) |
| Filling and inertisation of pipes | | 0,0 to 100 Vol.-% $CH_4$ | Infrared (IR) |
| | optional | 0,0 to 100 Vol.-% $C_3H_8$ | Infrared (IR) |
| | optional | 0 to 25 Vol.-% $O_2$ | Electrochemical (EC) |
| Pressure measurements | optional | 0,0 to 2.000 hPa | Piezoresistive (PR) |

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**Documentation of the measurements:**

- Protocol printout on a thermal printer via IR interface.
- Data readouts to PC direct via charging tray.
- Network-capable PC software with comprehensive functions for advanced measurement description and storage in a database.
- Output of reports in PDF and HTML format.

Exports measurement data in a variety of formats:

**Adobe PDF** **MS WORD** **MS EXCEL** **MS ACCESS** **HTML** **PAINT**

## TECHNICAL DATA

| | |
|---|---|
| Display | LCD graphic display 128 x 64 pixels, illuminable |
| Power supply | NiMH rechargeable battery pack |
| Operating temperature | -10 °C to +40 °C |
| Operating time | Varies depending on application and illumination |
| Charging | Charging cradle supplied by 12 Volt DC or 230 Volt AC,<br>Charging time approx. 3 hours<br>USB port (specified for 500 mA),<br>Charging time approx. 8 hours |
| Data Store | Flash memory 4 Mbyte for more than 1 Mio. measurement values |
| Protection type | IP 54 |
| Dimensions | 200 x 100 x 87 mm |
| Weight | approx. 1.250 g |
| Explosion protection ATEX | BVS 09 ATEX E 079 X – Ⓔx II 2G Ex ib d IIB T3/T4 Gb |

Technical specifications subject to change! Status 2020/06

Esders

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