Gas measuring technology

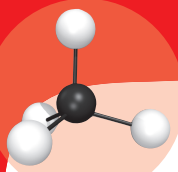# GOLIATH - One for Everything

Detect – Warn – Measure – Analyse

- With the time-tested ESDERS operation concept
- A wide range of potential applications according to DVGW– G 465-4

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 (without backlight)	> 8 to > 12 hours, depending on application
Charging	Charging cradle supplied by 12 Volt DC or 230 Volt AC, charging time approx. 5 hours
Data Store	Flash memory 4 Mbyte for more than 1 Mio. measurement values
Protection category	IP 54
Dimensions	200 x 100 x 87 mm
Weight	approx. 1,250 g
Explosion protection ATEX	BVS 09 ATEX E 079 X – Ex II 2G Ex ib d IIB T3/T4 Gb

Esders

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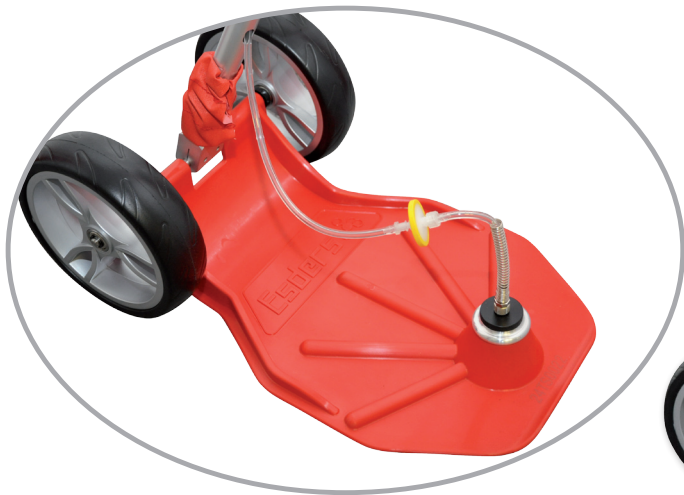
The menu technology which Esders has introduced with the GasTest alpha has achieved overall acceptance for the operation of combination measurement devices and has been established as the best available technology in the supplement to DVGW Process Sheet G 465-4.

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 T_{90} value. This indicates how many seconds it takes to reach 90% of the measurement value. With the **GOLIATH**, the T_{90} 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.
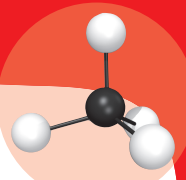
Ethane analysis:

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.

GOLIATH

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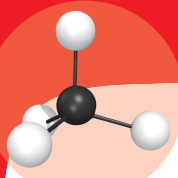
Measuring carbon monoxide concentrations in addition to monitoring flammable gases is a time-tested practice at many gas supply companies. For this reason, the 'Building inspection' application also indicates the CO concentration and triggers an alarm if it exceeds 10 ppm. This keeps the operator informed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

Vantages:
- time-tested Esders operation concept.
- Very quick initial break-in phase after being switching on or changing application.
- Extremely short reaction times when measuring CH_4 and CO_2 in all concentrations.
- Oxygen and up to 3 toxic gas sensors are available as an option.
- Ethane analysis with automatic measurement result assessment can be integrated.
- Optional pressure measuring up to 2,000 hPa

Application		Measurement range	Operating principle
Leak detection prelocation Above ground		0 ppm to 100 Vol.-% CH_4	Semiconductor (SC) + Infrared (IR)
Pin pointing Bar hole testing		0.0 to 100 Vol.-% CH_4	Infrared (IR)
		0,0 to 100 Vol.-% CO2	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)
Ethane analysis	optional	CH_4, C_2H_6	Chromatografic column + Semiconductor (SC)
Leak detection house Building inspection		0 ppm to 100 Vol.-% CH_4	Semiconductor (SC) + Infrared (IR)
	optional	0 to 500 ppm CO	Electrochemical (EC)
Confined space entry		0 to 100 % UEG CH_4	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 to 25 Vol.-% O_2	Electrochemical (EC)
Pressure measurements	optional	0.0 to 2,000 hPa	Piezoresistive (PR)

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:

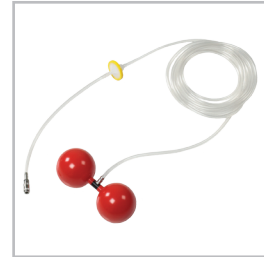| Adobe PDF	MS WORD	MS EXCEL	MS ACCESS	HTML	PAINT

GOLIATH accessories

Item no. 262009 Thermal Printer	Item no. 3720... Test gases
Item no. 212013 Pressure Adapter	Item no. 232080 Floating probe

Item no. 202002 230 V Power Supply Unit	Item no. 202042 Case GOLIATH
Item no. 202021 Test- and charging cradle	Item no. 271118 Flexible hand probe V2

Item no. 232131 Carpet probe TS 14	Item no. 232085 Borehole probe
Item no. 232086 Bell probe	Item no. 271125 Industrial probe

Other accessories on inquiry!

Technical specifications subject to change! 01/2017

Esders

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