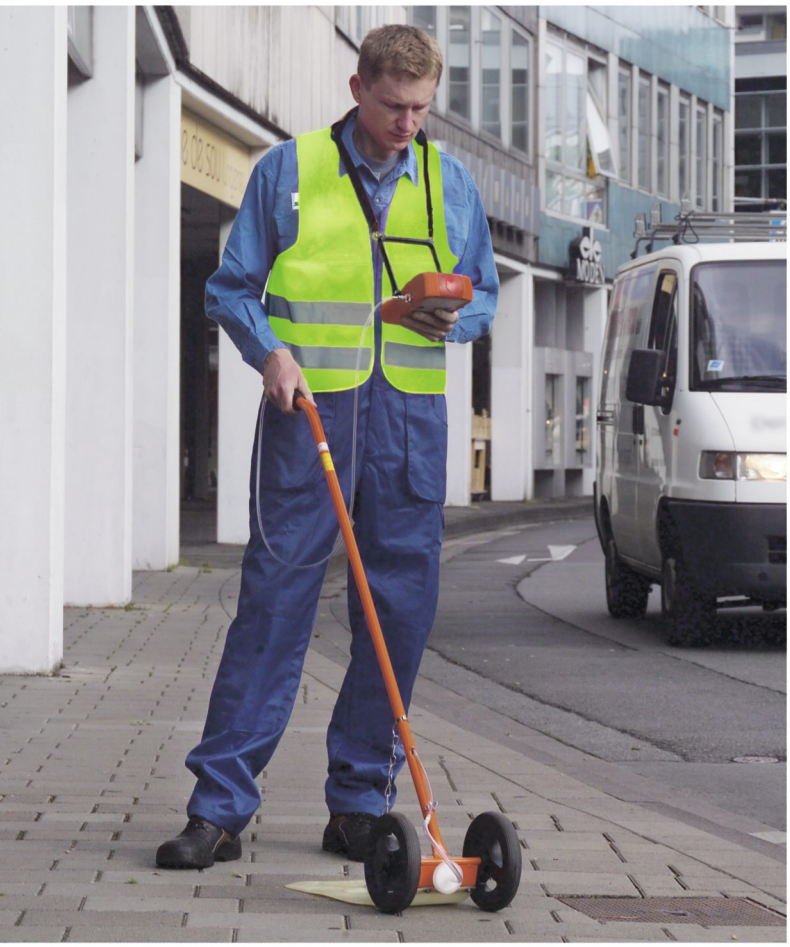
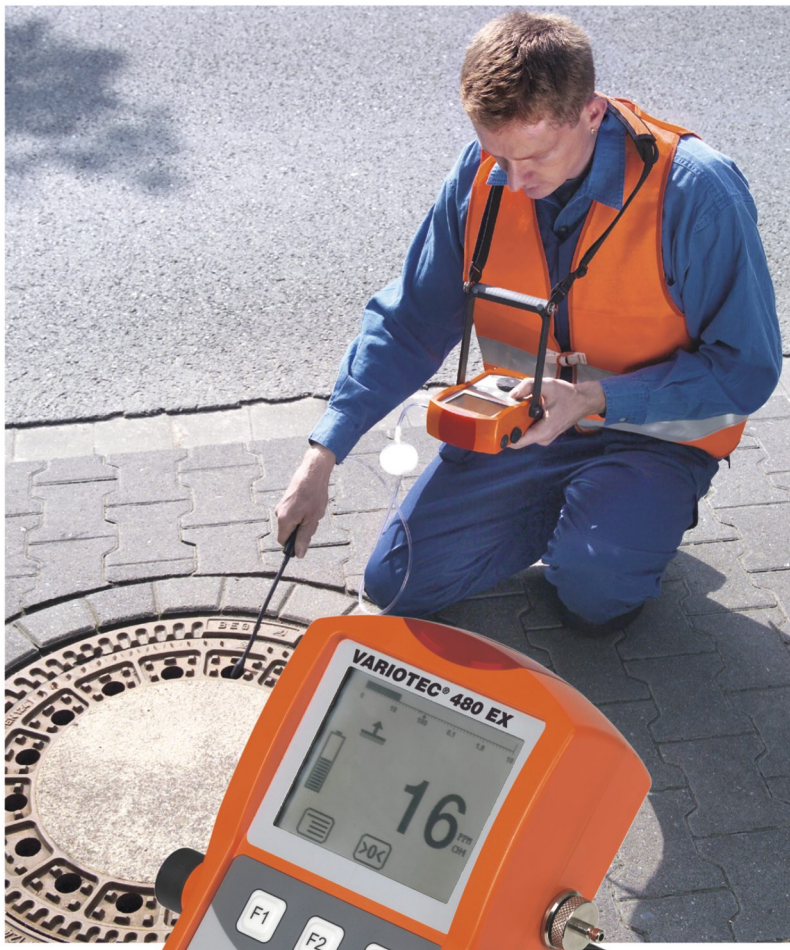
SEWERIN
Technologies for leak detection.

VARIOTEC® 480 EX





VARIOTEC® 480 EX · 460 EX · 450 EX · 400 EX

Cost-effective gas detector for distribution networks

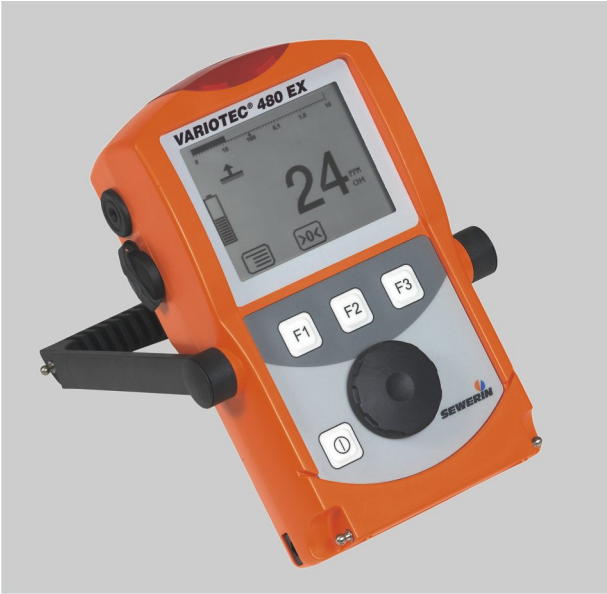
The entry into professional gas measurement

The ***VARIOTEC® 480*** range gives network technicians an efficient and cost effective means of carrying out all common measurement tasks in gas distribution networks.

The ***VARIOTEC® 480*** instruments utilise the same accessories and probes as previous generations of Sewerin gas measuring instruments so if you are upgrading there is no need to purchase new ones.

The ***480 EX*** and ***460 EX*** can incorporate an optional ethane detector to quickly distinguish between natural and swamp gas. No more false indications from swamp gas rather than natural gas

All variants, except for the ***VARIOTEC® 400 EX***, can have optional oxygen and carbon monoxide sensors fitted.



Features

Operation

Unique and simple to use operating system, with jog dial, soft keys and easy to follow task orientated menu navigation

Large matrix display with backlight, clearly showing all gas levels

Rapid charging in 4 hours – More usage time

Power supply via 4 AA rechargeable or disposable batteries

On board data logging with PC communication via USB port

The carrying handle doubles as a clever display stand, allowing versatile positioning and easy carrying

Efficiency

Simple, task orientated menu structure means new users are up and running with very little training

No complicated setup required even after extended periods of disuse

Cost-effective operation thanks to low capital cost, high up time, low maintenance costs, and paperless inspection regime

Measuring technologies

Fast and highly-sensitive semiconductor sensor for measuring very low gas concentrations in the ppm range

Electrochemical sensors for measuring oxygen and carbon monoxide (optional)

Integral gas chromatograph to measure ethane. This differentiates between natural gas and swamp gas without any other accessories (optional)

Approvals

Explosion protection:
TÜV 07 ATEX 553353 X ⟨Ex⟩ II2G Ex d e ib IIB T4,
IIC when used with the TG8 carrying bag

Measuring function:
BVS 09 ATEX G 001 X N1, PFG 08 G 002 X N1 (measuring function available for ***VARIOTEC® 480 EX***, ***450 EX*** only)

Applications

Application	Gases measured and ranges	Gas sensor technique
Inspection above ground	0.0 – 10 % vol. CH_4	Gas-sensitive semiconductor Thermal conductivity sensor*
Measuring in bar holes	0.0 – 100 % vol. CH_4 0 – 25 % vol. O_2 (optional)	Thermal conductivity sensor Electrochemical sensor
Enclosed spaces	0 ppm – 100 % vol. CH_4	Gas-sensitive semiconductor Thermal conductivity sensor
House	0 ppm – 100 % vol. CH_4	Gas-sensitive semiconductor Thermal conductivity sensor
Warning ExTox	0 – 100 % LEL CH_4 0 – 25 % vol. O_2 (optional) 0 – 500 ppm CO (optional)	Catalytic combustion sensor Electrochemical sensor Electrochemical sensor
Measuring gas purity	0.0 – 100 % vol. CH_4	Thermal conductivity sensor
Ethane analysis	CH, CH_4, C_2H_6, C_3H_8 (optional)	Gas-sensitive semiconductor / gas chromatograph

* depending on model

A model for each application

Device selection

Model	Inspection above ground	House	Warning EX	Warning ExTox	Warning O_2	Warning CO	Enclosed spaces	Measuring in bar holes	Measuring O_2	Gas purity measurement	Ethane analysis
VARIOTEC® 480 EX	X	X	X	X	O	O	X	X	O	X	O
VARIOTEC® 460 EX	X	X					X	X	O	X	O
VARIOTEC® 450 EX			X	X	O	O		X	O	X	
VARIOTEC® 400 EX	X										

X = standard O = optional

Application: Inspection above ground

Measuring low gas concentrations above ground and above gas pipes.

Example: Inspection of underground gas pipes

Application: House

Measuring low gas concentrations in buildings and locating the source of gas leaks.

Example: Leak detection in accessible gas installations

Application: Work area monitoring

(Warning EX and Warning ExTox) Monitoring and protecting the work environment, property and personnel during work on gas pipes and/or gas installations where there is a risk of explosion.

Example: Work on gas pressure regulating stations, biogas plants, responding to reports of the smell of gas

Application: Enclosed spaces

Measuring gas concentrations in enclosed spaces where there is increased potential of gas build up.

Example: Telephone switch boxes, lamp posts, sewers

Application: Measuring in bar holes

Measuring the gas concentration and determining gas dispersal in the ground, leak classification and location of suspected gas leaks.

Example: Reducing the area of leak search

Application: Gas purity measurement

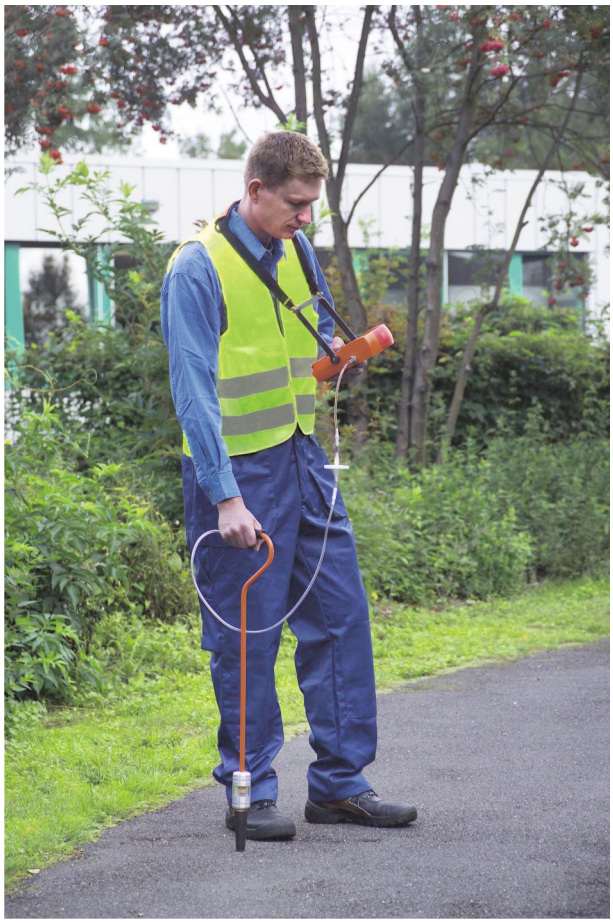
Proving gas purity / absence of natural gas and or oxygen in gas pipes.

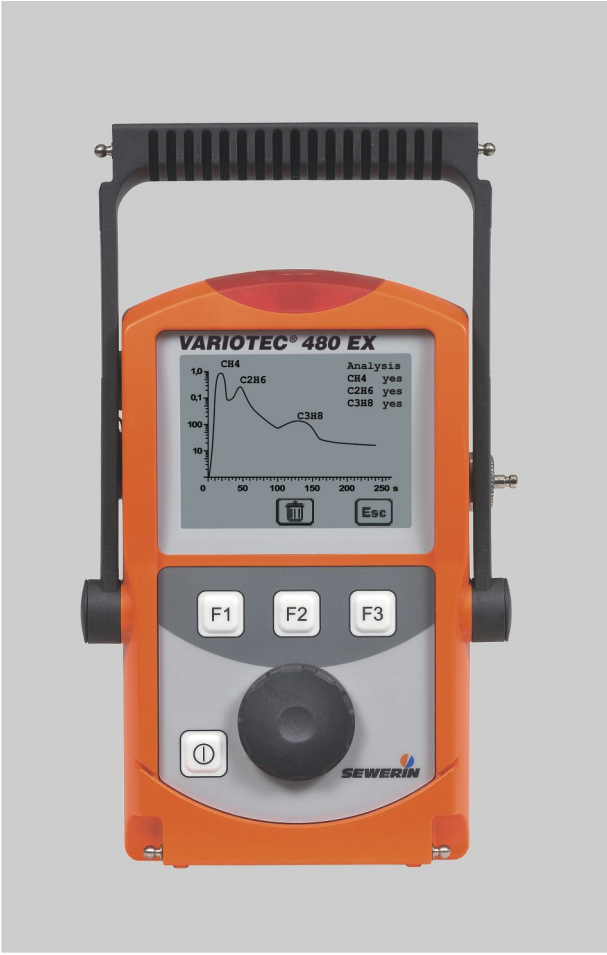
Example: Decommissioning and recommissioning of gas pipes

Application: Ethane analysis

Determining the methane, ethane, and propane components of a gas sample

Example: Distinguishing between natural gas and swamp gas if a leak occurs





Ethane analysis – Natural gas or swamp gas?

The ***VARIOTEC® 480*** product family helps the user pinpoint leaks in underground pipes.

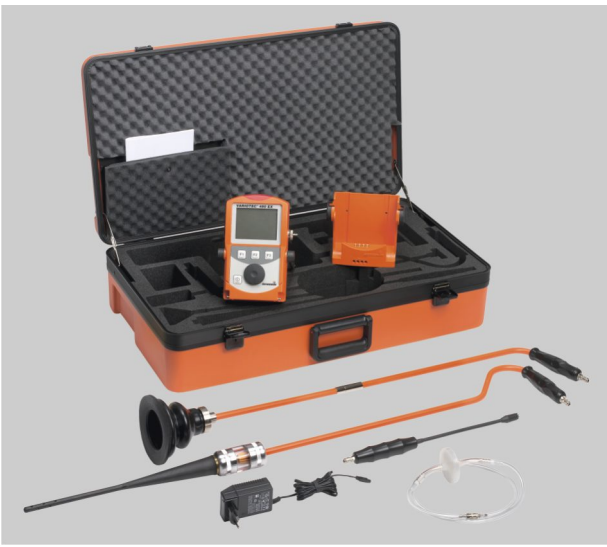
Before making an expensive excavation you need to be sure the gas detected is really emanating from a natural gas pipe and that it is not swamp gas or coming from another gas source.

The optional integrated ethane detector can quickly and easily distinguish between natural gas and swamp gas. There are no accessories or any specialist training required. The user is guided through the ethane analysis process with clear prompts. The result can then be saved and stored on a PC for record keeping.

Oxygen measurement – Get closer to the leak source

If the natural gas has dispersed over a wide area, over a period of time, under a road for example, it is often difficult to pinpoint the precise source of the leak.

The optional oxygen sensor displays the measured oxygen level whilst at the same time the methane sensor shows the natural gas level. At the point where the methane reading is highest and the oxygen level the lowest is the most likely position of the source of the leak.



Accessories

- Charging equipment for 12 V=, 24 V= or 230 V~
- Docking station/wall bracket
- System case
- Testing equipment and test gases
- Flexible hand probe with probe hose
- Localisation probe
- Bell probe

Please contact us for a comprehensive quotation, including additional technical specifications and information on accessories.

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106638 – 12/10 – Subject to technical changes.

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Hermann Sewerin GmbH
Robert-Bosch-Straße 3 | D-33334 Gütersloh
Phone +49 5241 934-0 | Fax +49 5241 934-444
www.sewerin.com | info@sewerin.com