Variotec 460 Tracergas | Find water leaks with tracergas

Tracer gas is a well proven and successful technique for localising a wide variety of leaks including but not limited to:

- Customer Side Leakage
- Water distribution pipes
- Pressurised telephone cables
- Water leaks within buildings and houses
- Leaks in heating systems
- Leaks in combi boilers
- SF6 insulated or oil filled power or communication cable ducts
- For integrity testing in products such as valves, engine blocks, fuel tanks in aeroplane wings…

Variotec 460 Tracergas operation

- The pipe, or item with the leak, is emptied of its contents. In heating or water systems you should remove as much water as possible; small amounts of water remaining allow points of the system do not dramatically affect the effectiveness as the gas is pressurised around the system.
- Ensure the system is sealed. i.e. no gas can escape except via the leakage point.
- From a cylinder of Tracergas, (5% hydrogen / 95% nitrogen, supplied by compressed gas suppliers), make a suitable connection from the cylinder to the item to be filled with gas.
- Pressurise the system to be filled. Pressure will depend on normal operating pressure of the system and how high you want to pressurise.
- When the cylinder pressure gauge steadies you know that the system is now losing gas only through the leak.
- With the internal sampling pump turned on (speeds up response time) walk over the area to be searched with the Variotec 460 in its most sensitive setting. Observe the display looking for the location with the highest gas readings.
- Move away from the area with the highest readings and see that the display drops.
- Return to the area that indicated the highest reading and check the display increases
- Check other areas for high readings.

Note: The above information is for generic guidance only and is not to be considered as instructions for how to operate or implement the use the Variotec 460

Why use hydrogen as the tracer gas?

Hydrogen is the lightest and smallest molecule and will escape at the leak point making its way to the surface where it is detected by the highly sensitive Variotec 460 tracer gas detector.

The tracer gas being made up of 5% hydrogen and the balance of nitrogen is:

- Non flammable - See ISO 10156, IEC60079-20:2000., IEC60079, EN61779
- Non toxic - approved for use in water networks
- Non corrosive

Readily economically available from gas suppliers and welding supply companies (it is used as a blanket gas)

- Totally safe and does not damage the environment in any way. Unlike helium, which has also been used for some types of leak detection, hydrogen is renewable and cheap; helium is finite and expensive.
- The smallest, lightest molecule so permeates all surfaces including , tarmac, block paving grass and even, eventually, concrete, rising quickly to the surface. Like water it will take the easiest route to surface so it is wise to consider the make up of the ground when deciding where the leak location is likely to be.

Sampling probes

There are a wide selection of search probes available:

- Carpet probes for long stretches of smooth surfaces
- Bell probes for localising in undergrowth or on floors
- Cone probe for localisation in the ground
- Hand probe for searching around cupboards and pipes

Bump test

To check that the Variotec 460 is responding to hydrogen gas a key ring sized hydrogen generator is available. The PGG H2 generates a small quantity of hydrogen (ppm) . This is sampled by the VarioTec 460 which, if responding displays the indicated gas level on the large LCD.

Digital gas level display from Zero to 100 Vol % gas

An important feature of the Variotec 460 tracer gas is that it contains 2 sensors. The low level sensor is used to measure very small levels of gas, parts per million (ppm), and the second sensor automatically measures the higher levels of gas, Vol %.

The measured gas level is displayed, not by LEDs, but in large digital numerals. This means it is fast, clear and simple to see if the gas level is higher from one position to another without needing to constantly re-zero the display. This makes finding leaks faster and more accurate.

Variotec 460 Tracergas specification

- Display quasi analogue and large digital numerical gas levels - Not just LEDs! · Protected to : IP 54
- Dimensions (W × D × H): approx. 148 × 57 × 205 mm
- Weight: approx. 1000 g (depending on equipment)
- Power supply: 4 cells, either rechargeable (NiMH) or disposable (alkaline) · Operating time: At least 8h
- Storage temperature: -25 ºC – +60 ºC
- Operating temperature:- 20° ... +40° Celsius
- Internal data logging 8MB
- USB connection to PC
- EC type examination certificate TÜV 07 ATEX 553353 X
- Explosion protection II2G Ex d e ib IIC T4 Gb with TG8 carrying bag · Operated by jog dial, function keys and menu navigation

VARIOTEC 460 TRACERGAS

Developed especially for leak detection on underground pipes by using tracer gas. It is characterised by an outstanding price to performance ratio.

Using tracer gas is a tried and tested method of pinpointing 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 airfoils.

VARIOTEC VT460 (H2) PROFESSIONAL KIT

- Superior dual sensor unit with sensitive PPM a VOL % ranges
- Extremely fast response and recovery times for faster leak detection
- Detects safe, cheap & readily available non-explosive H2/Nitrogen mix
- All accessories included in the one case no expensive add-ons
- Hand Probe, surface probe & cone probe all included in the kit
- Perfect for Professional Plumbers and leak contractors

VARIOTEC VT - HS SERIES GAS WARNING DEVICES

- Sewerin large range of Specialised Gas Warning Devices
- Multiple Gas warning systems
- Large easy to read LCD screen
- Powerful pump for fast response times
- Ideal for specialist Gas Warning

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