

Powerful Solution for Network Gas Leak Inspections

Building on over forty years of experience in gas leak detection, GAZOMAT™ (France), a T.D. Williamson company, has developed a methane analyser dedicated to natural gas network inspections, that integrates the company's exclusive INSPECTRA® laser system. The patented measurement system uses high-tech laser diode spectroscopy technology with a multipass cell to offer an unsurpassed performance.



INSPECTRA® with accessories

Combination of both technologies ensures :

- Complete selectivity to methane. Totally unaffected by other hydrocarbons or chemicals, the system measures methane only. False alarms are thus eliminated.
- A highly sensitive system with a measurement dynamic range extending from below 1 ppm to 100% gas volume. This unique feature enables the INSPECTRA® Laser system to cover the entire field detection process including leak detection, location and quantification, which used to require several devices.
- A short response time ensuring efficient measurements for immediate reaction.

Lightweight and small in size, the system comes with various accessories and different configurations.

Rugged, easily portable with carrying straps, the INSPECTRA® Laser detector has been developed to improve on-foot gas leak detection of natural gas distribution networks, although it has many applications, for example monitoring of natural gas compression plants, methanation plants, landfills or in laboratories.

Available in an ATEX version, it can be safely used in explosive atmospheres both indoors and outdoors.

The INSPECTRA® Laser portable detector has been designed to improve overall survey performance. It features class-leading start-up and reaction times, which coupled with long autonomy and an extended temperature range, maximises the efficiency of inspections. It has been designed to be natural to use correctly even with limited training, through the application of a user-friendly and ergonomic interface and automatic calibration and ranging of the sensor. A series of useful accessories add to the usability.

Once integrated into a vehicle, the INSPECTRA® Laser system permits operation as a Network Survey Vehicle, making it possible to survey gas distribution networks at up to 40 km/hr. The robust GAZOMAT vehicle equipment ensures faster and more cost-effective surveys, while still providing the same measuring performance.

Through its dedication to constant innovation in the service of the customer, GAZOMAT™ now offers a complete set of complementary tools to its INSPECTRA® analyser. These extend the system capability for the benefit of the leak survey operators, including introducing wireless communication and GPS location, resulting in a brand-new generation of intelligent gas leak survey systems.



INSPECTRA® with operator and survey vehicle

Fully Modular Natural Gas Detection System to Satisfy any Network Survey Requirement now made even more user-friendly

As new safety regulations in Europe and the rest of the world put gas companies under an increasing obligation to guarantee traceability of their surveys by providing precise location and dating, GAZOMAT™ has responded by launching the NGS Network Survey software. This provides precise location and dating of the gas concentrations measured, for any gas transmission and distribution network.

In conjunction with the INSPECTRA® Laser measurement system, the NGS software provides:

1. A GPS mapping system – the software integrates a GPS type map which gas companies can supplement further with building or pipeline network maps in SHAPE format, a standard format used world-wide.
2. A GPS receiver offering a high quality coverage.
3. Real-time visualization of the operator's position and of the survey's progress on the downloaded road map as well as any gas concentration detected.
4. Permanent saving of key survey data such as concentrations measured, their associated GPS coordinates, their precise address on the map, date and time and any comment entered by the operator.
5. An interactive and simplified interface with the operator: pop-up windows and easy-to-understand graphic symbols guide the operator throughout the process.
6. Saved survey data are fully secured: once recorded into the system, they are no longer modifiable.
7. A final survey report in PDF format compiling the information on the survey as well as all events recorded during the operation plus functional tests of the measurement equipment.
8. A multilingual system that can be used worldwide.

Thanks to the NGS software's extreme ease-of-use and powerful functions, GAZOMAT™ now offers the NGS software for installation not only on a laptop or PC but also on a rugged tablet, which ensures improved portability, simplicity and flexibility in use for operators.

The INSPECTRA® Laser gas analyser communicates in real time via a Bluetooth® link to the tablet running the NGS software. The software associates the gas concentration measured with the coordinates provided by the GPS receiver, and plots this on the uploaded network maps. This can be used both for on-foot and in-vehicle surveys, and fulfils all traceability requirements of gas operators.



Operator on foot with Tablet running NGS survey software.

On-foot operation is greatly simplified: Equipped with a rucksack containing the INSPECTRA® Laser analyser connected to the gas sampling rod, the operator follows the survey route on the tablet's high resolution screen.

- Instrumentation control is fully automated.
- Gas leaks are displayed on screen with clear indicators, audio and visual signals to alert the operator and guide him through the proper procedure.
- Regular road maps can be downloaded along with network maps, for totally customized survey data.
- The survey results can be exported to the GIS (Geographical Information System)
- Alerts in case of high concentration levels and complementary survey data can be transmitted by GPRS to a survey control centre.
- Easily portable for the operator's maximum comfort, coupled with wireless connectivity through Bluetooth® technology, the system gives a new ease and efficiency to network surveys.

With the recently introduced EASY INSPECTRA™ equipment, GAZOMAT™ completely revolutionizes the very concept of network surveys by combining both pedestrian and vehicular detection.



EASY INSPECTRA™ in small electric car for access to pedestrian zones

Operator & EASY INSPECTRA™



EASY INSPECTRA™ inside - single driver-operator

To aid access, the system can be installed on a small vehicle, such as an electric vehicle for access to pedestrian precincts, or on a quad bike for access off road.



EASY INSPECTRA™ quad bike

The same detection equipment is used for both in-vehicle and on-foot inspection, and can be simply mounted and demounted in the vehicle when moving from one method to the other, without changing the equipment parameters.

The EASY INSPECTRA™ system is the most adaptable, convenient and cost-efficient equipment available;

- No interruptions in the survey route. The mission can be fully completed in one single operation, no need to schedule an on-foot detection at some other time.
- No time lost in switching between on-foot and on-vehicle detection. The INSPECTRA® Laser analyser with GPS, tablet and probe rod can be removed in seconds from the vehicle by the operator and turned to the portable configuration as soon as vehicle access is no longer possible. Bluetooth® communication ensures continuity of survey data recording.
- Survey speed suited to urban environments
- Larger daily range of operation
- Immediately operational on site,
- Greater comfort of operation
- Single driver-operator

GAZOMAT™'s INSPECTRA® Laser system is an efficient all-in-one measurement device that offers real value to gas network operators. Modular and flexible, the INSPECTRA® system and its powerful complementary tools will certainly provide the right network survey solution, to match new traceability and safety obligations as well as optimising operating cost.

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