LaserMethane SMART

TGES

DESIGNED FOR PROFESSIONALS:

Laser Methane Series

We are the frontier; we are the best.

MADE IN JAPAN

In 2004, we launched the world's first reflective open-path gas detector, Laser Methane. Over the 20 years since then, we have made numerous improvements to our products. Laser Methane, which is a testament to its high performance and reliability, is still unrivaled.

In 2022, it was certified as a device that can be used in city gas leakage detections in Japan.*

So that our Laser Methane has truly become a legitimate tool for the work of professionals who support social infrastructure.

* Laser gas detectors have been added as a practical gas leak inspection method to the voluntary standard text “Supply Pipe and Inner Pipe Guidelines (Maintenance Edition): Issued in June 2022” published by Japan Gas Association.

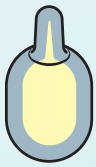
01

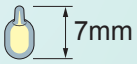
Stable measurement results with constant monitoring of oscillation wavelength

Any of our Laser Methane product is equipped with a built-in gas cell. During measurement, the oscillation wavelength of the measurement laser is constantly monitored and adjusted based on the incredibly tiny gas cell in which a standard gas is sealed.
The optimized measuring laser ensures highly accurate and stable measurements in any environment*.

The Built-in Gas Cell

The part that contains and seals the standard gas





(Actual size)

In the case of laser gas detectors that are not equipped with a built-in gas cell, the oscillation wavelength of the measurement laser may not be stable, resulting in reduced measuring accuracy so that they may detect and wrongly react to gases other than methane, such as water vapor.

*Temperature: -17 to 50°C, Humidity: 30 to 90%

02

ATEX Explosion-proof certified

[Mainframe explosion-proof]
Compatible with Zone 2

Laser Methane has been certified ATEX explosion-proof (IECEx) for use in places where gas leakage may occur.

IECEx DEK 22.0012X
DEKRA 22ATEX0013X

[Optical explosion-proof]
Compatible with Zone 0, 1, and 2

Laser light itself contains high energy, and the temperature of the irradiated surface increases.

Our laser light emitted by Laser Methane is strictly controlled and thus certified as optical explosion-proof, so it can be used safely even in explosion-proof areas.

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Ex ic op is [op is T3 Ga] IIA T4 Gc

03

The trademark “Laser Methane" is a sign of trust

LaserMethane

“Laser Methane” is the name we have been using since our first model, and has now become synonymous with this type of inspection equipment.
The product name “Laser Methane” is a registered trademark both in Japan and overseas, and similar products can not use this name without our company's permission.
“Laser Methane” is the product name that is permitted only for our products with the highest performance.

04

Smart Beam Pointer

(Domestic patent* pending)

If you move the device quickly during measurement, gas leaks may be missed.

[Slow Scan Mode]

► Guidance by light

Laser Methane Smart is ergonomically designed to blink the green guide laser light to guide the user to slow down the scanning speed. In addition, the measuring sound that is linked to the blinking of the light increases the visibility of the measuring point.

► Guidance by sound

Furthermore, because the blinking cycle of the guide laser light is adjusted to the column density of the detected methane gas, it is possible to determine the presence or absence of a gas leakage just by checking whether the green guide laser light is blinking or on, even in environments where it is difficult to hear measuring sounds or detection alarms, such as construction sites or factories.

* Smart Beam Pointer (scanning speed): Patent pending, Patent application 2024-174790

05

Virtual Beam Locator

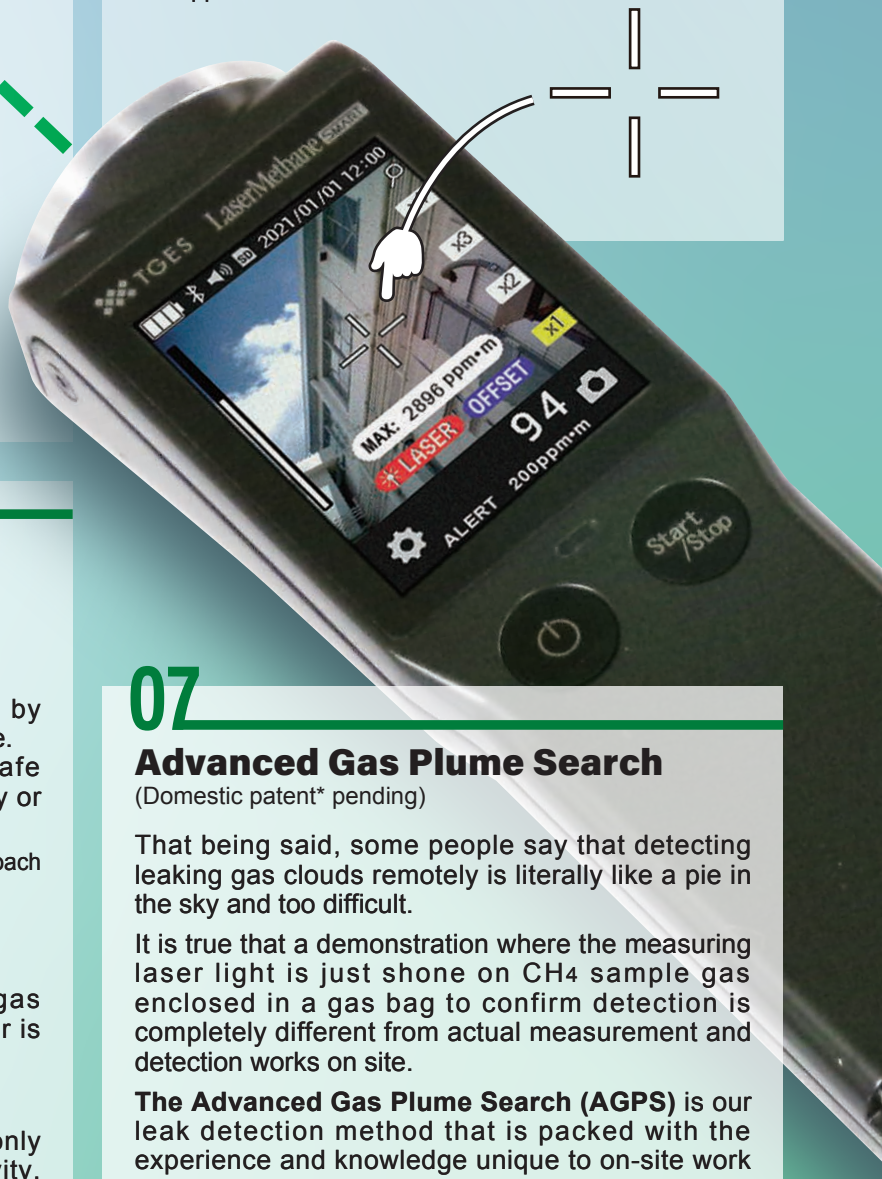
(Domestic patent*1 obtained, US patent*2 pending)

When detecting leakages outdoors, the green guide laser light can sometimes be difficult to see.

[VBL]

Laser Methane Smart displays a marker called Virtual Beam Locator (VBL) on the camera screen of the searching area to locate where you are measuring.
This is effective when searching for leaking gases at a distant point and difficult to see.

*1 Virtual Beam Locator (Screen Patent) Japan: Patented, No. 7469557 (P7469557)
*2 Virtual Beam Locator (Screen Cross) US: Application No. 2018/550394



06

TDLAS* Reflective type for remote, high-speed and selective detection

[Remote detection] (up to 30m)

Our Laser Methane can detect gas leakages by emitting the measuring laser light from a distance. Measurements can be performed from a safe location and so the equipment will not get dirty or damaged.

With a suction type gas detector, it is necessary to approach the very leaking point and sample the gas there.

[High-speed detection]
(Response speed 0.1 seconds)

In an instant the presence or absence of gas leakage is detected when the measuring laser is emitted.

[Selective Detection] (CH_4 only)

Our Laser methane detectors can measure only methane gas with high accuracy and sensitivity, even if the methane is in low concentration.

With suction type gas detectors, it is sometimes impossible to distinguish between the target gas and other gases.

***Tunable diode laser absorption spectroscopy**
When a laser oscillates at a specific wavelength and that wavelength matches the absorption line of a gas molecule, the gas absorbs part of the laser light. By measuring the degree of this absorption, the methane column density of the gas can be calculated.

07

Advanced Gas Plume Search

(Domestic patent* pending)

That being said, some people say that detecting leaking gas clouds remotely is literally like a pie in the sky and too difficult.

It is true that a demonstration where the measuring laser light is just shone on CH_4 sample gas enclosed in a gas bag to confirm detection is completely different from actual measurement and detection works on site.

The Advanced Gas Plume Search (AGPS) is our leak detection method that is packed with the experience and knowledge unique to on-site work by gas companies, and by using Laser Methane with this method, methane gas leakages can be found quickly and efficiently.

When you purchase our Laser Methane, fully detailed explanations of the AGPS method come with, which will contribute to your on-site work.

* Gas detection method: Patent pending, Patent application 2024-213734

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