

# Methane point instrument



Continuous, scalable methane monitoring

Know when, where, and how much your facilities are emitting.



## Validation

Best-in-class METEC\* results



## Sensitivity

0.4 kg/h under ideal conditions



## Accuracy

Regression bias 4%



## Plug and play

Fully integrated device that is mounted in minutes with no specialized tools or training



## Robust construction

No moving parts, no maintenance, fully integrated design

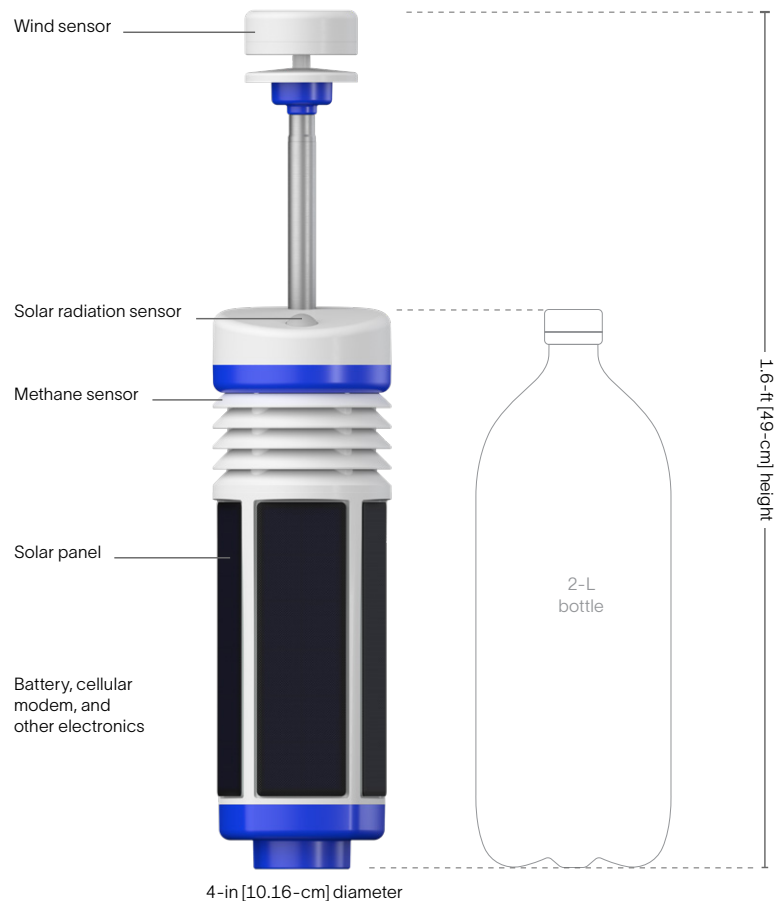
## Applications

- Monitor for methane emissions 24/7, in real time
- Support efficient leak detection and repair (LDAR) programs
- Quantify emissions for regulatory and voluntary reporting
- Use in oil and gas production and processing facilities onshore

## How it is unique

- Reliably detects, localizes, and quantifies methane emissions
- Scalable for large deployments
- Streams data automatically on deployment; access and manage data via our digital platform or within your own infrastructure
- Maintenance-free, 10-year life
- Humidity-controlled, fully calibrated, drift-free methane sensor
- Wind sensor on every device to map the full wind field
- Number and location of devices determined by our Prevailing Meteorological Conditions (PMC) planning algorithm
- Accurate localization of emission source and quantification of emission rate using our proprietary Advection-Diffusion under Turbulent Conditions (ADT) interpretation algorithm
- Measures the rolling window averaged mass emission rate with and without baseline emissions

\* Methane Emissions Technology Evaluation Center at Colorado State University



A compact device with integrated solar panels and an anemometer, the SLB methane point instrument can be self-installed in minutes at near-zero installation cost.

## Methane point instrument

### How it detects emissions

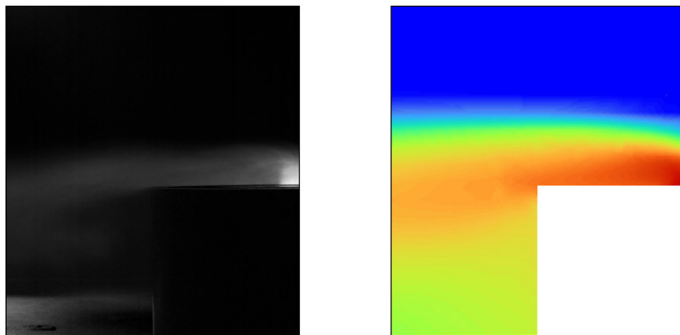
Many oilfield methane emissions come from sources that leak and vent intermittently during normal operations. Continuous monitors can measure these emissions more accurately than handheld devices or mobile sensors mounted on satellites, airplanes, or drones.

The [methane point instrument](#) from [SLB End-to-end Emissions Solutions](#) is designed for continuous monitoring at sites such as well pads and tank batteries. A network of fully calibrated point sensors is installed on the site perimeter to measure methane concentration. This network is used in conjunction with an interpretation algorithm that is continuously updated to reflect the latest science.

**The instrument precisely records the start and stop times of emissions, finds their locations, and quantifies the emission rates. Its performance—including the ability to detect small methane leaks and quantify the emission rate—has been proved through multiple third-party tests, including at METEC and Texas Tech University.**

### How it works

Beginning with a map of your site and a history of the weather conditions in your region, SLB uses its proprietary PMC planning algorithm to determine how many instruments are needed for your site and to optimize where they should be mounted. The algorithm incorporates findings from independent wind tunnel tests to determine the optimal height for sensor installation to maximize emission detection.



Experiments in one of the world's largest wind tunnels (left) demonstrate that the [downwash](#) effect creates enhanced methane concentrations at heights lower than that of the emission source. Physics modelling of that effect (right) enables installing sensors at optimal heights.

Fully integrated sensors are then shipped to your location. The devices are approximately 1.6-ft [49-cm] tall and weigh about 2.6 lbm [1.2 kg]. They can be self-installed in minutes; no specialized training or tools are required. Instruments are typically mounted on existing infrastructure, powered by integrated solar panels, and connected automatically to the global LTE-M cellular network. Alternative mounting and power options are available.

Once the instrument is installed, sensor data are automatically streamed and displayed within our [digital platform](#) or yours. Users can log into the platform and intuitively access real-time emission data, history, and trends.

Methane concentration and wind measurements are analyzed using a modified version of the Gaussian plume model to determine emission rate, location, and timing. The proprietary algorithm leverages the latest academic results—including studies at the Colorado School of Mines showing how a puff-based model can improve quantification of intermittent events—resulting in a customized interpretation that handles the realities of oil and gas facilities.

### Designed for low cost

The SLB methane point instrument is designed for low total cost of ownership (TCO). Only a small number of devices is required per facility. The instrument is simple to install and maintenance-free across its 10-year life.

It reduces the need for labor-intensive optical gas imaging (OGI) surveys. And it can be used to confidently report annual emissions because it had the smallest systematic error of any continuous monitor evaluated in the 2024 METEC tests.

### Performance at METEC

Our methane point instrument was evaluated in single-blind controlled testing at METEC. Across hundreds of controlled releases during three months in 2024, the instrument achieved the following ranks compared with 12 other continuous monitors tested at the same time:

- #1 in regression bias, which measures the accuracy summed over many events
- #2 in least quantitative error, which measures the accuracy for a single event
- #2 in 90% detection limit, which measures the ability to detect small leaks
- #3 in localization accuracy, which measures the ability to pinpoint the emission source.

The SLB methane point instrument is the only continuous monitor that placed in the top quartile across each of these important metrics.

Detailed test results are available on [METEC's website](#), where our methane point instrument is "Solution S."



## Methane point instrument



### Methane Point Instrument Specifications

<b>Instrument performance</b> (as measured by METEC in the 2024 ADED* tests)	Limit of detection: 3 kg/h, 90% probability of detection	<b>System</b>	No moving parts, no fan
	Estimates leak rate within a factor of two with 54% confidence		No maintenance required
	Emission localization accuracy within 49 ft [15 m]		10-year lifetime
<b>Methane concentration sensor</b>	1-ppm threshold		Continuous system health monitoring
	Fully calibrated for temperature and humidity, automatic recalibration if necessary	<b>Size and weight</b>	4-in [10.16-cm] diameter and 1.6-ft [49-cm] height
	Physical element to stabilize humidity		2.6 lbm [1.2 kg]
	Dust protected	<b>Cloud interface</b>	24/7 with real-time display of emissions
<b>Other sensors</b>	Atmospheric temperature, humidity, and pressure		Real-time alerts
	Wind speed and direction from ultrasonic wind sensor		If required, can be integrated with other measurements in the methane digital platform
	Solar radiation	<b>Certification</b>	CE / UKCA / CSA / RoHS / FCC / ETL certified
	Vertical tilt	<b>Environmental conditions</b>	Storage temperature, unpowered: -40 to 158 degF [-40 to 70 degC]
	GPS location and time synchronization		Survival temperature rating: -40 to 158 degF [-40 to 70 degC]
<b>Algorithms</b>	Prevailing Meteorological Conditions (PMC) planning algorithm to optimize the number and location of devices to be deployed		Operational temperature rating: -4 to 140 degF [-20 to 60 degC]
	Advection-Diffusion under Turbulent Conditions (ADT) interpretation algorithm to quantify emission rate, identify emission start and stop times, and localize emission source		IP65 / Type 4X
<b>Installation</b>	Simple self-installation		0% to 100% humidity
	No specialized tools or training requirement		Up to 3-ft [91-cm] drop per ASTM D3332-99
	Can be mounted to existing infrastructure		
	Connects directly to the global LTE-M cellular network		
	Powered by integrated solar panels		
	Internal battery supports 2 weeks of operation		
	Custom mounting and power options available		

All specifications are subject to change without notice.

\* Advancing Development of Emissions Detection