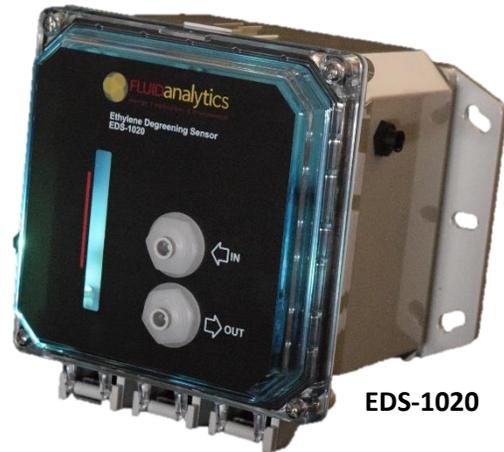


Ethylene Degreening Sensor

PRODUCT AND FEATURES: EDS-1020

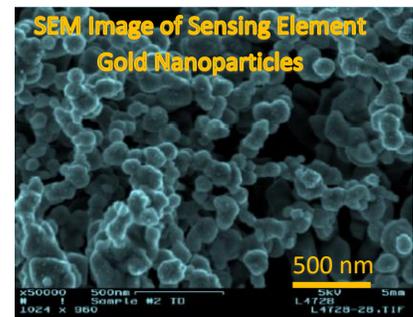
- Rugged, wall-mountable construction
- Near real-time reading of C_2H_4
- High sensitivity of less than 100 ppb, Range: 0-100 ppm
- Operation in 0-100% relative humidity
- Limited cross-sensitivity
- Temperature compensation
- Built in sampling pump with adjustable sampling rate
- Quick connections for air inlet and outlet
- Compact and low maintenance
- Auto, hands-off calibration
- Internal data logging and storage
- Battery backup
- Simple, menu-driven interface software through mobile unit
- Bluetooth or 4-20 mA communication
- Optional Front panel display



EDS-1020

PRODUCT OVERVIEW

The EDS-1020 device is a measurement instrument specifically targeting ethylene gas in air. The device is based on the platform technology used in our ETH-1010 devices, in which a nanocrystalline gold electrocatalytic sensing element oxidizes ethylene to produce a signal proportional to the partial pressure or concentration of ethylene in the sample air. EDS-1020 devices are tuned to provide both performance and affordability for a number of end-users, in particular ripening and degreening rooms.

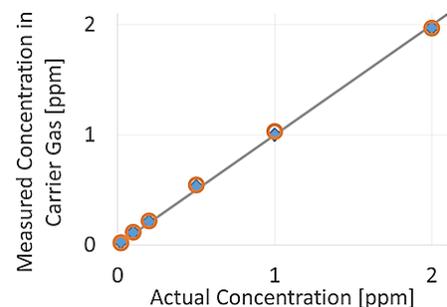


APPLICATIONS

- Postharvest CA storage room monitoring for control (Kiwifruit, Apple, Pear, Melons, etc.)
- Fruit ripening and degreening room (Citrus, Mango, Banana, Tomatoes, and Avocado)

PERFORMANCE

Continuous sampling from a ripening or degreening room for measurement of ethylene levels in high humidity environments. Unlike other devices, EDS-1020 responds just as well under 90%+ humidity as it does in lower humidity environments, provided that there is no condensate formation in the line that could block the flow. The sweet spot of the device is concentration range between 0-10 ppm, with a linear response and resolution that would provide better controllability over management of the ethylene concentration in the conditioning or storage room. (Ref: Friedrichsen, D., Shekarriz, R., and Gäbler, R., 2017, "Challenges and technological solutions for measuring ethylene and 1-MCP across various locations and conditions," VI Postharvest Unlimited, ISHS International Conf. 17-20 October, 2017, Madric, Spain.)



TECHNICAL SPECIFICATIONS (EDS-1020)*

Dimensions	6.6" W x 6.6" H x 5.1" D (17cm W x 17cm H x 13 cm D)
Sensor type	Electrocatalytic
Weight	3 lb (1.4 kg)
Enclosure	UL Listed to UL508A Sealed Polycarbonate
Air sampling rate	Default 150 ml/min (Adjustable from 75 to 300 mL/min)
Sampling rate	User adjustable: 1 per minute to 1 per day
Measurement Range/Resolution	Ethylene: 0–10 ppm ± 0.1 ppm (Auto ranging option)
Measurement Accuracy	Ethylene: ±1% of full scale
Power Input	18 VDC, 1 A (110-240 AC Outlet Power)
Battery	5,000 mAh Rechargeable Li-Polymer
Operating environment	0°C to 45°C (32°F to 113°F) 0-100% Relative humidity
Display	Color LCD Optional
Data logging	Bluetooth connection to mobile unit; Export to spreadsheet; 4-20 mA options available.
Warm-up time	Minimum of 10 minutes and up to 1 hour recommended
Air sampling ports	¼" quick connects standard on inlet and outlet.

* Specifications subject to change.

CROSS SENSITIVITY**

Ethylene Cross Sensitivity		
Gas	Concentration	Response
Ethylene, C ₂ H ₄	1 ppm	1 ppm
Ammonia, NH ₃	100 ppm	0 ppm
Carbon Dioxide, CO ₂	1%	0 ppm
Carbon Monoxide, CO	50 ppm	1 ppm
Hydrogen Sulfide, H ₂ S	0.1 ppm	1 ppm
Sulfur Dioxide, SO ₂	0.1 ppm	1 ppm
Propene, C ₃ H ₆	1.6 ppm	1 ppm
Acetylene, C ₂ H ₂	0.12 ppm	1 ppm
Ethanol, C ₂ H ₆ O	1%	0 ppm

**The following data is approximate and may vary depending on the purity of chemicals tests.