



## F-900

### Portable Ethylene Analyzer

The F-900 Portable Ethylene Analyzer non-destructively measures ethylene in real time, providing Quality Assurance professionals with the data they need to manage ethylene accurately and efficiently.

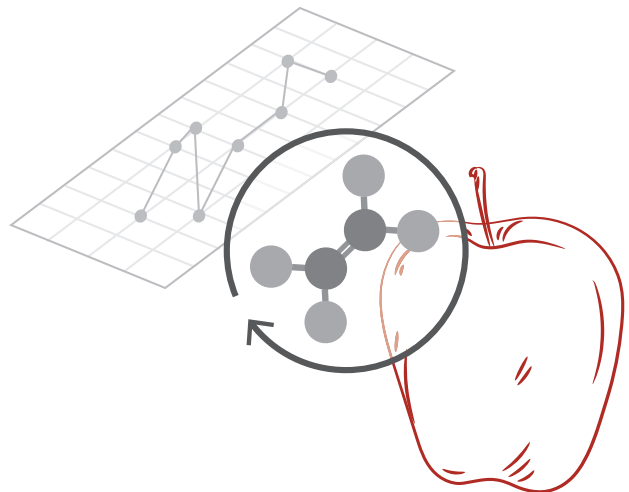
Using two electrochemical sensors, the F-900 measures ethylene from 0-200 ppm with a lower detection limit of 0.025 parts-per-million (ppm).

The patent pending “PolarCept” filter removes polar hydrocarbons from the gas stream to ensure that measurements are not polluted by interfering gases such as ethanol.

## Product Features

- ▶ Real-time, continuous monitoring
- ▶ Rapid response time
- ▶ Functional across broad temperature and humidity range
- ▶ Highly sensitive C<sub>2</sub>H<sub>4</sub> sensors with lower detection limit of 0.025 ppm
- ▶ Optional CO<sub>2</sub> sensors
- ▶ Optional O<sub>2</sub> sensor
- ▶ Relative humidity, temperature, and pressure sensors on-board
- ▶ Internal data logging and storage (4GB SD card)
- ▶ Wi-Fi capabilities
- ▶ Direct interface with PC or data logging systems
- ▶ Terminal block for controlling ventilation systems
- ▶ Optional Injection Port Kit for small volume static samples

**Continuous, sensitive  
ethylene measurement  
in real time!**



## F-900 Specifications

<b>Air sampling rate</b>	80 ml/min
<b>Measuring rate</b>	1 second intervals, open or closed loop
<b>Display</b>	Sunlight visible transreflective LCD
<b>Operating environment</b>	0°C - 45°C (0-90% humidity non-condensing)
<b>Battery capacity</b>	5 hours, rechargeable li-ion (5000 mAh)
<b>PC interface</b>	USB and Wi-Fi SD card
<b>Dimensions</b>	255 mm (L) x 210 mm (W) x 138 mm (H; includes body with legs)
<b>Weight</b>	2.96 kg
<b>Enclosure</b>	Anodized aluminum
<b>Warm-up time</b>	1 min (C <sub>2</sub> H <sub>4</sub> )
<b>C<sub>2</sub>H<sub>4</sub> PPB</b>	
<b>Sensor type</b>	Electrochemical
<b>Range</b>	0-10 ppm
<b>Resolution</b>	0.001 ppm
<b>Accuracy</b>	5% ± 0.025 ppm
<b>Lower detection limit</b>	0.025 ppm (25 ppb)
<b>Offset recalibration</b>	Weekly
<b>Span recalibration</b>	3 months <sup>+</sup>
<b>C<sub>2</sub>H<sub>4</sub> PPM</b>	
<b>Sensor type</b>	Electrochemical
<b>Range</b>	0-200 ppm
<b>Resolution</b>	0.1 ppm
<b>Accuracy</b>	5% ± 0.5 ppm
<b>Lower detection limit</b>	0.5 ppm
<b>Offset recalibration</b>	Weekly
<b>Span recalibration</b>	3 months <sup>+</sup>
<b>CO<sub>2</sub> PPM SENSOR (OPTIONAL)</b>	
<b>Sensor type</b>	Low power non-dispersive infrared gas analyzer
<b>Range</b>	0-2000 ppm
<b>Resolution</b>	0.1 ppm
<b>Accuracy</b>	5%
<b>Offset recalibration</b>	Weekly

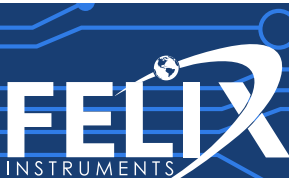


<b>CO<sub>2</sub> PPM SENSOR (CONTINUED)</b>	
<b>Span recalibration</b>	6 months <sup>*</sup>
<b>CO<sub>2</sub> PCT SENSOR (OPTIONAL)</b>	
<b>Sensor type</b>	Infrared sensor, pyroelectric detector
<b>Range</b>	0-20%
<b>Resolution</b>	0.01%
<b>Accuracy</b>	5%
<b>Offset recalibration</b>	6 months
<b>Span recalibration</b>	6 months <sup>*</sup>
<b>O<sub>2</sub> SENSOR (OPTIONAL)</b>	
<b>Sensor type</b>	Electrochemical
<b>Range</b>	0-100%
<b>Resolution</b>	0.1%
<b>Accuracy</b>	5%
<b>Offset recalibration</b>	6 months
<b>Span recalibration</b>	6 months <sup>*</sup>

Full recalibration required annually at the manufacturer  
<sup>\*</sup>standard gas required + typically < 5% per month

## Applications

- ▶ Monitoring controlled atmosphere facilities to ensure ethylene levels do not exceed critical thresholds
- ▶ Assisting research and development efforts by providing a simple, portable platform to measure ethylene, O<sub>2</sub>, and CO<sub>2</sub>
- ▶ Measuring flux from a single fruit to understand how ethylene emission levels may vary across treatments
- ▶ Measuring head-space accumulation for analysis of small-volume samples or fruits with low ethylene emission rates



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