EMS-10™/eo

Emission Monitoring System for Ethylene Oxide

The Emission Monitoring System (EMS-10™/eo) is a fully automated FTIR-based gas and emission monitoring system capable of accurately analyzing gas streams for ethylene oxide (EO). The integrated design incorporates complete control of all gases including the sample stream, zero gas and calibration gas with software from the large front panel touch screen or keyboard. This system is **ideal for factory environments** whenever and wherever gas streams must be analyzed for ethylene oxide at low ppb levels.

The EMS-10™/eo can handle hot and wet samples with nitrogen and calibration streams using a single sampling pump and particulate filter, making it ideal for a wide variety of stationary sources. The EMS-10™/eo comes completely integrated with the MKS MultiGas™ 2030 gas analyzer with **proprietary MAX StarBoost™ technology,** ASC-10™ automated sample console, integrated industrial computer, MAX-Acquisition™ factory automation software, touch screen and associated electronics all enclosed within a transportable rack-mounted frame for easy transport.

Max Analytical also provides **complete factory solutions** that include ambient air monitoring, sample probes, heated lines, rated enclosures, and EPA Procedure 15 performance compatibility.

EMS-10™/eo Features

FTIR Analyzer
- Industrial FTIR w/ Ultra-sensitive MCT detector
- Proprietary optical filter
- 5.11 m / 200 mL gas cell pathlength / volume
- Fully calibrated (EO, atmospheric contaminants)

Sampling System
- 24/7/365 sampling
- ≤ 10 L/min sample flow
- MFC controlled direct, system & spike gas flows

Computer
- Industrial computer (no fan)
- Solid-state hard drive
- Large touch screen, keyboard and track pad
- MAX-Acquisition™ advanced automation software

Factory Interface Module
- Modbus-TCP/IP
- Analog/Digital IO (4-20mA analog)

Compliance
- US EPA Performance Specification 15 Compliant

EMS-10™/eo Site Requirements

Site Requirements

- Ethernet communication to control room
- UHP Nitrogen (80 psig, 0.5 - 10L/min)
- 110 VAC 50/60 Hz, 20A (6A typical)
- 1,200 watts maximum power
  - Does not include heated sample lines
- 20 – 30 C (optimal operating temp. range)

EMS-10™/eo Product Specifications

Product Dimensions

- 26” (W) x 66” (H) x 35” (D) [58 x 168 x 89 cm]
- ~400 lbs. [180 kg]

StarBoost™ FTIR Technical Specification

- 5-20 ppb ethylene oxide MDLs*
- 0-50 ppm ethylene oxide calibration range
- ± 4% analytical uncertainty
- 10 – 50 x higher SNR than standard FTIR
- 4 µm TE-cooled MCT

*MDL depends on sample matrix

ASC-10™ Technical Specification

- HMI and PLC controlled
- 35 – 191°C heated sampling system
- Heated head diaphragm sample pump
- Automated switching - sample & calibration
- 25-64 disposable particulate filter
- MFC gas flow control
- N_2, CTS and calibration gas input ports

MAX-Acquisition ™ Data Collection Software

- Controls all data acquisition from one UI
- Perform all data analysis
- Displays real-time quantitative results
- Configure alarm alerts
- Modbus – TCP/IP for factory interface

Factory Interface Module

- Analog inputs (external sensors)
- Analog outputs (concentration data to DCS)
- Digital outputs (health, state & alarms)

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