Process Insights
Premium Insights Into Process

GuidedWave

PROCESS ANALYZER

PRODUCT DATASHEET

ClearView® db Hydrogen Peroxide Vapor (VHP HPV) Analyzer Solution

Measuring H_2O_2 and H_2O Under Ambient or Vacuum Conditions

Real-Time

Accurate

Measurement

- Real-time sterilant gas monitoring
- Proven technology works in vacuum and atmospheric
- H_2O_2 and H_2O concentration by direct optical NIR
- Vital for resistometers and VHP cycle development
- Independent reference for VHP load production
- Optical RH and relative saturations measurements

Our VHP HPV Sterilization Analyzer Solution is a simple turnkey solution for the measurement of hydrogen peroxide and water (H_2O_2 and H_2O) concentrations in vapor phase. These are both measured together because they are codependent. The analyzer operates in real time, which takes the guesswork out of determining the H_2O_2 and H_2O concentrations during cycle development and throughout the actual sterilization cycle. The user gains continuous, accurate data for documentation and validation.

Low Pressure Monitoring – Accurate, Reliable Results

Unlike chemical sensors, the VHP HPV Sterilization Analyzer Solution is able to measure H_2O_2 and H_2O concentrations in vapor phase under ambient or vacuum conditions. Many processes use low pressure in the sterilization process to ensure penetration of product packaging. The VHP Analyzer System allows you to monitor these cycles so you can determine that the correct concentration of H_2O_2 and H_2O were present during each cycle.

- Rapid response
- Multiple sample points on one analyzer
- Not subject to sensor poisons or analyte degradation
- Built-in validation available

Proven Technology

The VHP HPV Sterilization Analyzer Solution utilizes a multi-wavelength ClearView db™ filter photometer analyzer platform. We have been measuring H_2O_2 and H_2O concentrations in various vapor mixtures for over 20 years using near-infrared (NIR), fiber optic-coupled analyzers. Optimal wavelengths for H_2O_2 and H_2O were selected to produce a simple yet rugged and reliable analyzer for this dedicated application. This design uses fixed wavelength filter technology, yet still incorporates dual beam design for stability and accuracy. Fiber optic cables take the NIR light energy to the probe in the isolator and returns the non-absorbed light energy back to the analyzer – the optical equivalent of vapor sampling. The VHP HPV Sterilization Analyzer Solution measures as low as 0.1 mg/L of H_2O_2 and 1.0 mg/L of H_2O. With the addition of a temperature value, relative humidity and relative saturation measurements can be made.

Easy Operation and Control

The VHP HPV Sterilization Analyzer Solution is controlled via its touch screen or remotely via Ethernet (Modbus TCP/IP). All of the analytical calculations are encoded in the software.

Quick Installation and Start-up

The complete system consists of an Analyzer, one or two G-SST™ Vapor Probes, and a pair of fiber optic cables for each probe. The G-SST Vapor Probe mounts in the sterilizer chamber side wall, vapor transfer/recycle lines or optionally on the chamber inner roof with a fiber feed through sanitary cap. The VHP Analyzer System is pre-calibrated at the factory.

No programming is required by the user. Start-up requires powering the VHP HPV Steriliztion Analyzer Solution, connecting the probe or probes via the fiber optic cables, taking a ZERO reading in the dehumidified isolator and the H_2O_2 and H_2O concentration measurements may begin.

Performance Validation

When performance validation is required the G-SST Vapor Probe has a built-in validation filter (optional) made of polymeric material. This makes validation of performance easy, at any time. The filter has unique spectral characteristics at the wavelengths used to measure H_2O_2 and H_2O. It was chosen because of its insensitivity to moisture and temperature conditions. To make a validation measurement, the validation filter is manually positioned into the light path and the optical characteristics of the system are checked.

Optional Enclosures

Typically for medical, pharmaceutical and food industries, the System may be housed in a stainless steel enclosure. Other enclosure options are available, such as, painted carbon steel, explosion-proof or purged depending on area classification requirements.

User Programmable Features

- Password protection for configuration changes
- Sampling time: 1 second minimum. User settable
- Reporting units: mg/L or ppm-V

Accessories and Options

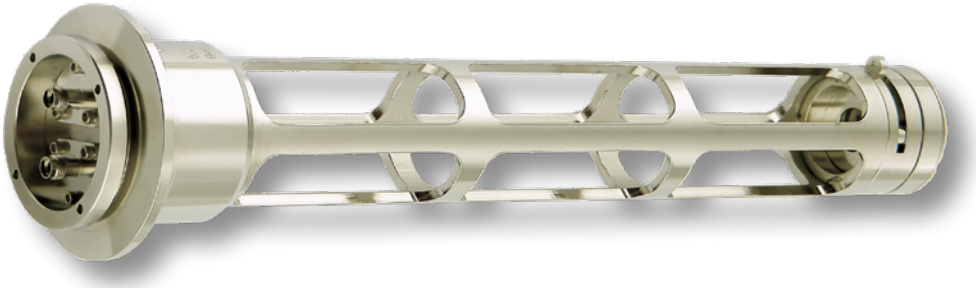
- 2nd channel for additional independent sampling point
- Custom length fiber cables
- KF or Tri-clover® flanged fiber feed throughs and dual fiber feed throughs
- Annual factory calibration service available
- Universal power supply (110-240 VAC converter to 24 VDC)
- Custom calibration for elevated temperature on request

Fiber Cable

- 500 µm Ultra Low-OH fiber with Stainless Steel SMA-905 connectors
- Kevlar® protected or armored cables available

G-SST Vapor Probe

- Operating temperature range: 5 °C to 90 °C
- 50 cm path length – double pass 25 cm
- Suitable for vacuum (down to 1 x 10^{-5} Torr) and positive pressure (up to 1520 Torr, 2 atm)
- SMA 905 fiber optic interface
- Built-in validation filter (optional)
- Probe may be mounted fully inside the isolator or through isolator wall using a 2 inch sanitary flange



The Smart Choice for Reliable VHP HPV Measurement

The System delivers accurate, real-time H_2O_2 and H_2O measurement results. Its long term stability and no maintenance requirements make it a cost effective, smart choice to help optimize production and ensure product quality ultimately enhancing profitability.

An ISO 9001 certified company, we maintain expert technical support and responsive global service for the lifetime of the system.

Specifications	
H_2O_2 Vapor Measurement Range:	0.1 - 50.0 mg/L [71.2 – 35,600 ppm V/V]
H_2O_2 Measurement Accuracy:	± 0.1 mg/L
H_2O Vapor Measurement:	1.0 mg/L – to condensation [>1345 ppm V/V]
H_2O Measurement Accuracy*:	± 1.0 mg/L
Enclosure Options	
Stainless Steel:	16 in x 12 in x 6 in (41 cm x 30 cm x 15 cm)
Painted Carbon Steel:	14 in x 12 in x 6 in (36 cm x 30 cm x 15 cm)
Sample Points (channel):	1 or 2
Response Time:	1 second, minimum. User settable

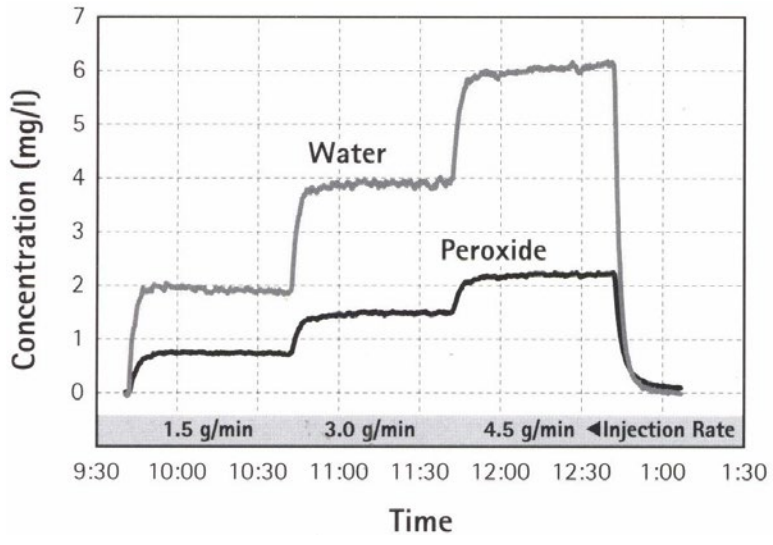
*Relative to concentration at time of reference

Operating Environment

Ambient Temperature: 10 °C – 45 °C

Optimal Ambient Temperature Stability: < ±2 °C

Relative Humidity: 0 – 90% non-condensing



ProcessInsights™
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GAIN REAL-TIME INSIGHT INTO YOUR PROCESS

Process Insights delivers premium analytical sensors, analyzers, instrumentation, software and solutions that are mission-critical to keep your operations, personnel, and the environment safe. Our commitment to customer satisfaction is evident through our diverse range of products, programs, and services, designed to accommodate various budgets and application needs.

CENTERS OF EXCELLENCE | PROVIDING PROVEN SOLUTIONS

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