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ValProbe® RT CO_2 Logger

DATA LOGGER FOR CO_2 MEASUREMENTS

The ValProbe RT CO_2 Logger from the Kaye ValProbe RT product line offers the capability to measure CO_2 (carbon dioxide). The logger is temperature-, pressure-, and humidity-compensated, making it the ideal unit for measuring CO_2 in incubators, even under high humidity conditions. The CO_2 logger can measure CO_2 from 0% to 20% using an integrated infrared gas sensor over a temperature range of 0°C to 50°C.

The measurement and validation of CO_2 play an important role in various applications during the qualification and commissioning of equipment. This innovation in the Kaye ValProbe RT product line extends measurement capabilities for users without compromising accuracy, reliability, or GxP compliance. For applications where these measurements are quality-critical, the Kaye ValProbe RT CO_2 Logger provides economical, accurate, and GxP-compliant recording and documentation. This extension broadens the range of applications for the Kaye ValProbe RT product line by providing an additional measurement tool.

The CO_2 sensor is based on proven non-dispersive infrared (NDIR) technology, offering high measurement accuracy and long-term stability. It is also equipped with a rechargeable battery that can be quickly swapped if needed.

With additional features such as storage capacity of up to 100,000 data points per channel and on-site replaceable CO_2 sensors, the Kaye ValProbe RT CO_2 Logger completes the technical package. Each sample is date- and time-stamped. Storage intervals, as well as start and stop events, are defined when programming the loggers. The minimum sample rate is 120 seconds.

The logger is made from 316 stainless steel with a PEEK cover and is intended for in-situ use. Data is maintained in non-volatile memory, which means that if the battery fails or needs to be replaced, the data recorded before the failure is still preserved. The qualification data is not cleared until a new program is downloaded to the loggers, allowing them to be read as many times as necessary before the data is deleted.

Should the logger reach 100,000 samples, it will stop collecting new data and retain the current data in memory. The logger's memory contains the factory calibration, setup parameters, and CO_2 readings, along with their timestamps. The ValProbe RT software performs calculations and generates reports after the raw data has been read into the system.

FEATURES

- CO_2 measurement unit with temperature, pressure, and humidity compensation
- Very high accuracy and long-term stability
- Enhanced electronics with a rechargeable battery
- 100,000 data points per sensor
- Data recording intervals from 120 seconds to 10 minutes
- On-site replaceable rechargeable battery
- On-site replaceable CO_2 sensors
- Supported by ValProbe RT software version 1.6

APPLICATIONS

The measurement of CO_2 is important in several areas of the pharmaceutical industry, including:

- **CO_2 incubators and stability chambers:** Ensuring optimal conditions for cell growth and stability
- **Cell culture and biotechnology research:** In biotechnology and cell therapy research, controlling CO_2 concentration is crucial for cell growth and viability
- **Pharmaceutical and biotechnology CO_2 validation applications:** CO_2 monitoring and validation are critical for pharmaceutical manufacturing, biotechnology research, and controlled environmental applications
- **Fermentation processes:** Monitoring CO_2 is essential during the fermentation process in pharmaceutical production

TECHNICAL SPECIFICATIONS

CO_2 Measurement Range	0 – 20%
CO_2 Accuracy	0 to 10% – ±0.2% 10% to 20% – ±0.5%
CO_2 Resolution	0.01%
Measuring Principle	NDIR (Non-Dispersive Infrared Sensor)

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