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CAL-200

Gas Dilution Calibrator with Internal Ozone Generator

We know how important measuring ground-level ozone accurately can be. With all the base features of the CAL-100 calibrator, the Met One Instruments CAL-200 includes important additional features which are essential for the calibration of NO_x and O₃ analysis equipment.

An internal ozone generator enables regular ozone checks and gas phase titrations (GPT).

Features

- All the calibration ability and ease of use found in the Met One Instruments CAL-100.
- Internal ozone generator produces 3 ppm to 5 ppm of ozone.
- Ability to premix ozone and source gas before dilution to perform gas phase titrations (GPT).

Dilution & Span Flows

Dilution Gas Inputs:	1 standard 100 – 200 kPa (g) (2 optional)
Source Gas Inputs:	4 standard 100 – 200 kPa (g) (8 optional)
Dilution Mass Flow Controller:	10 SLPM, 0 Deg, 1 ATM (std), 1 SLPM, 2 SLPM, 5 SLPM or 20 SLPM (optional), 2nd MFC (optional)
Source Mass Flow Controller:	50 SCCM, 0 Deg, 1 ATM (std), 10 SCCM, 20 SCCM, 100 SCCM, 500 SCCM or 1 SLPM, 2 SLPM (optional), 2nd MFC (optional)
Flow Accuracy (Constant Temp):	Within 1 % of full scale
Flow Repeatability:	Within 0.15 % of full scale
Linearity:	Within 0.15 % of full scale
Operating Gas Pressure:	100 – 200 kPa
Zero Drift:	< 0.6 % per year
Response Time:	< 5 seconds
Output Manifold:	4 output ports standard
Dilution Ratio:	Variable 10:1 to 2000:1 (std configuration)
Case Dimensions	
Rack length:	597 mm (23.5”) (front to rear)
Total length (with latch release):	638 mm (25.1”)
Chassis width:	418 mm (16.5”)
Front panel width:	429 mm (16.9”)
Chassis height:	163 mm / uses 4RU (6.4”)
Front panel height:	175 mm (6.9”)
Weight:	20.5 kg

Communication

User Interface:

Via front panel keypad or computer.

Programmable calibrations:

16 separate programmable sequences.

32 separate programmable points.

Analog Input:

Three analog voltage inputs (0 – 5 VDC) CAT I rated.

Digital Output:

RS232 port #1: Normal digital communication.

RS232 port #2: Multidrop port used for multiple analyzer connections on a single RS232.

USB port connection on rear panel.

25 pin connector with discrete status and user control.

USB stick memory (front panel) for data logging, event logging, and parameter storage.

8 Digital Outputs, open collector max 400 mA each at 12 VDC (max total output 2A).

8 Digital Inputs, 0 – 5 VDC.

CAT I rated.

1 Diluent Control, + 12 V output.

Power

Operating Voltage:

100 – 240 V VAC 50 / 60 Hz (auto-ranging).

Power Consumption:

165 VA maximum (typical at start-up) 95 VA after warm-up.

Operating Conditions Ambient

Temperature Range:

0 – 45 °C (32 – 104 °F), 20 – 35 °C for optimum performance.

Pressure:

Maximum altitude: 3000 m above sea level.



Ozone Generator

Output Concentration:	3 ppb to 5000 ppb.
Flow Rate:	Variable dependent on Dilution Mass Flow Controller installed.
Repeatability:	< 1 % short term (24 hours) 5 % long term at constant temperature and humidity.