



# Serinus<sup>®</sup> Cal 2000

## Gas Dilution Calibrator with Internal Ozone Generator

Acoem's reputation is built on air quality monitoring, and is based on keeping workforces, communities, businesses and the environment safe.

We know how important measuring ground-level ozone accurately can be. With all the features of its Serinus Cal 1000 stablemate, the Serinus Cal 2000 adds features essential for calibration of NO<sub>x</sub> and O<sub>3</sub> analysis equipment. An internal ozone generator enables regular ozone checks and gas phase titrations (GPT).

\* Acoem Serinus Cal 2000 formerly known as Ecotech Serinus Cal 2000

## Features

- All the calibration ability & ease of use found in the Serinus Cal 1000
- Internal ozone generator produces 3 ppm to 5 ppm of ozone
- Ability to premix ozone & source gas before dilution to perform gas phase titrations (GPT).

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## 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

<b>User interface:</b>	Via front panel keypad or computer
<b>Programmable calibrations:</b>	16 separate programmable sequences 32 separate programmable points
<b>Analog input:</b>	Three analog voltage inputs (0 – 5 VDC) CAT I rated
<b>Digital output:</b>	RS232 port #1: Normal digital communication RS232 port #2: Multidrop port used for multiple analyser connections on a single RS232 USB port connection on rear panel 25 pin connector with discrete status & user control USB stick memory (front panel) for data logging, event logging & 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.

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## Power

<b>Operating voltage:</b>	100 – 240 V VAC 50 / 60 Hz (autoranging)
<b>Power consumption:</b>	165 VA maximum (typical at start-up) 95 VA after warm-up
<b>Operating conditions ambient temperature range:</b>	0 – 45 °C (32 – 104 °F), 20 – 35 °C for optimum performance
<b>Pressure:</b>	Maximum altitude: 3000 m above sea level.

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## Ozone generator

<b>Output concentration:</b>	3 ppb to 5000 ppb
<b>Flow rate:</b>	Variable dependent on Dilution Mass Flow Controller installed
<b>Repeatability:</b>	< 1 % short term (24 hours) 5 % long term at constant temperature & humidity.

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