



T1700

Dynamic Dilution Calibrator

Overview:

The T1700 dynamic calibrator is a multi-channel gas calibrator developed based on microprocessor technology for precise gas analyzers. The device uses two high-precision mass flow controllers to control the flow of compressed standard gas and dilution gas, meeting the zero point, span, precision and multi-point calibration requirements of various gas analyzers, including but not limited to SO_2 , NO , NO_2 , CO , O_3 and VOCs.

The dynamic calibrator is equipped with a built-in programmable ozone generator and ultraviolet photometer, which can be used for precise and reliable ozone calibration. The built-in gas-phase titration (GPT) chamber mixes NO standard gas with ozone and can also generate standard concentration NO_2 gas.

Features:

- It can provide precise concentration standard gas output based on the type of external standard gas, and complete the zero point, span, precision and multi-point calibration of automatic atmospheric monitoring and analysis instruments.
- Automatically calculate the dilution gas flow rate and dilution ratio.
- Multiple calibration gas ports (customizable as required).
- Two high-precision mass flowmeters can be used to meet the demand for low-concentration output gas.
- Calibration for single gas or multiple gas mixture analyzers.
- Built-in ozone generator and ultraviolet photometer.
- The instrument is stable and reliable, and has passed the applicability test of the Quality Supervision and Inspection Center for Environmental Monitoring Instruments of the Ministry of Ecology and Environment (Certificate No. 2020-197).
- Complying with the requirements of the "Technical Requirements and Testing Methods for Continuous Automatic Monitoring Systems of Gaseous Pollutants (SO_2 , NO_2 , O_3 , CO) in Ambient Air" (HJ 654-2013) and the "Technical Specifications for Installation and Acceptance of Continuous Automatic Monitoring Systems of Gaseous Pollutants (SO_2 , NO_2 , O_3 , CO) in Ambient Air" (HJ 193-2013).

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Product Certification:

- Applicability Testing Certification: Quality (Recognition) No. 2020-197
- CCEP (China Environmental Protection Product Certification): CCAEPI-EP-2025-194

Technical data

Accuracy of flow measurement	$\pm 1\%$ FS
Accuracy of flow control	$\pm 0.2\%$ FS
Linearity of flow measurement	$\pm 0.5\%$ FS
Dilution ratio	1/100-1/1000
Flow range of dilution gas	0 - 10 L/min
Flow range of span gas	0 - 100 mL/min
Calibration gas input	3 ports
Dilution gas input	1 port

Ozone generator

Ozone concentration output	0.1 ppm ~ 5 ppm
Ozone generation Accuracy	$\pm 2\%$
Span drift	$\leq \pm 5\text{ppb} / 24\text{h}$
Response time	$\leq 180\text{s} (98\%)$

Ultraviolet spectrophotometer

Measuring range	(0 ~ 0.5) ppm or (0 ~ 1) ppm, selectable
Zero-point noise	$\leq 1\text{ ppb}$
Detection limit	$\leq 2\text{ ppb}$
Zero drift	$\leq \pm 1\text{ ppb} / 24\text{h}$
Span drift	$\leq \pm 5\text{ ppb} / 24\text{h}$
Linearity	$\leq 2\%$ FS

Note: FS=Full Scale

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