

Model 2010 Portable Multi-gas Dilution Calibrator

The Model 2010 is a simple, but powerful Intelligent Multi-gas Dilution Calibrator that can easily perform gas dilution, multi-source gas blending, ozone generation, and gas phase titration (GPT = $\text{NO} + \text{O}_3 \Rightarrow \text{NO}_2$) for environmental, laboratory, or point source monitoring.



The Model 2010 is small compact size and weight for users who require true portability. Enhanced with the latest technology, the Model 2010 calibration system is an uncomplicated and effective way to precisely control the dilution of gas standards for calibration of ambient air and source monitoring analyzers.

The Model 2010 calibrator uses embedded microprocessor technology to precisely deliver and control gas concentrations along multiple curve fits to linearize the desired outputs for the intended purpose. The unit can be operated manually, automatically, or semi-automatically by remote access. It also has the capability to produce and store in memory 20 calibration sequences with up to 20 levels of source/dilution in each sequence.

Users can choose either the front panel membrane keypad, external keyboard, serial port, or Ethernet to input calibration sequences.

The instrument's pneumatic system uses Mass Flow Controllers to precisely meter gas streams and implements multiple types of curve correction algorithms to linearize calibrations. A second source MFC can be added for a wider dynamic range or trace level applications. An optional second source MFC with blending allows user-performed interferent testing and evaluation.

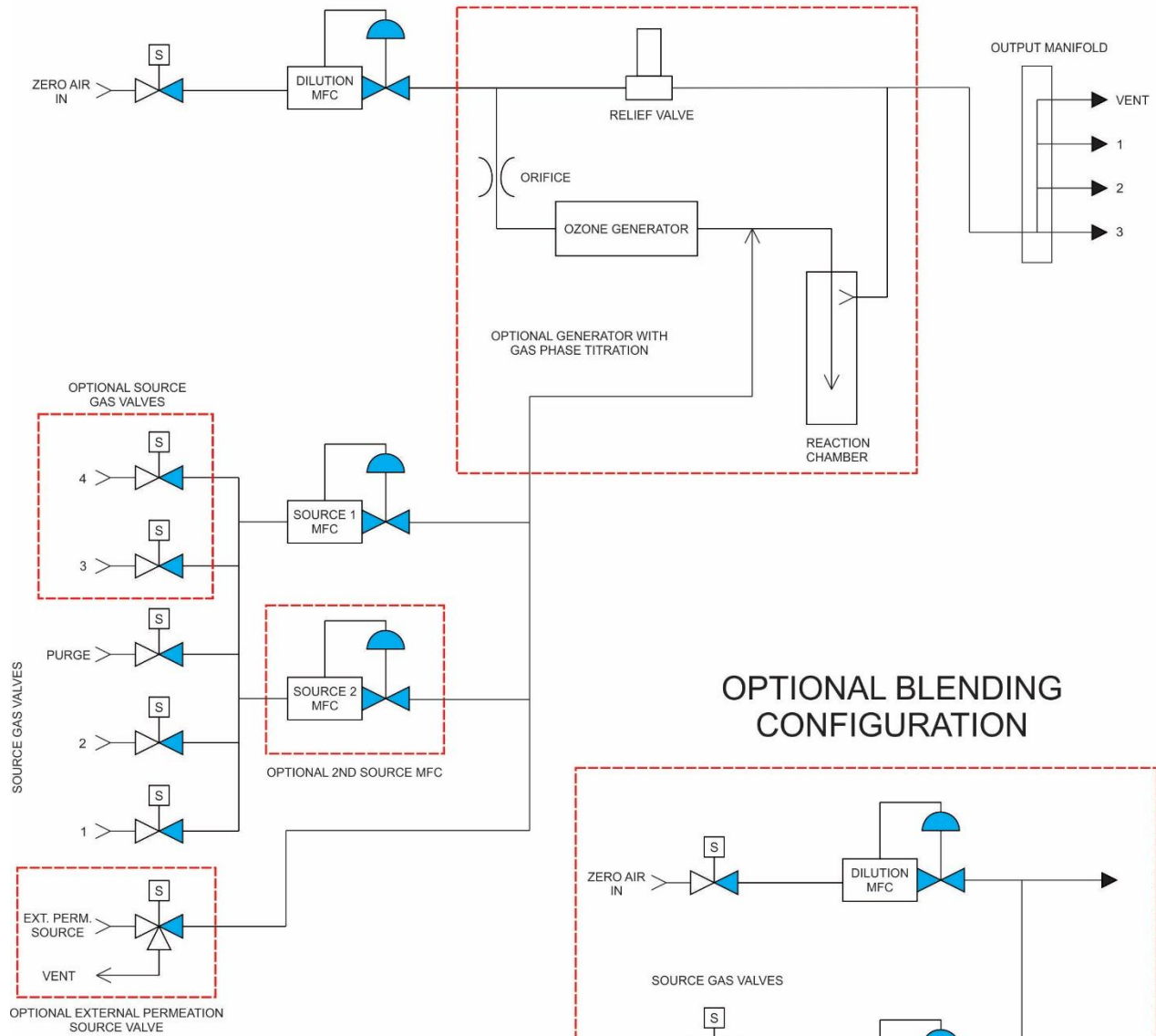
Calibrator design exceeds US EPA calibration method requirements. Dilution components are calibrated with standards and test equipment traceable to the National Institute of Standards and Technology.

Specifications

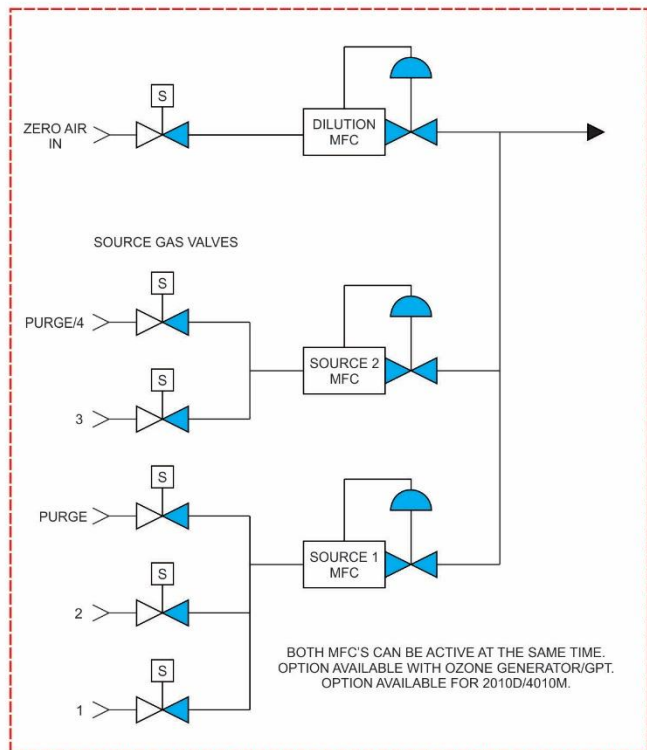
Specifications subject to change without notice

Dilution System	Input Dilution Gases	1 Standard (2 Optional)
	Input Source Gases	1 Standard, 1 Purge, Optional 2 Additional
	Output Manifold	3 Outputs Standard, Optional 1 Additional
	Dilution Mass Flow Controller	0-10 SLM, Optional Ranges 0-20 SLM
	Source Mass Flow Controller	0-100 SCCM, Optional Ranges 0-2000 SCCM
	2nd Source Mass Flow Controller	0-100 SCCM, Optional Ranges 0-2000 SCCM
	Input Pressure	12-35 PSI
	Flow Accuracy	$\leq \pm 0.5\%$ Full Scale
	Flow Repeatability	$\leq \pm 0.15\%$ Full Scale
	Linearity	$\leq \pm 0.5\%$ Full Scale
	Response Time at Output	< 1 Minute
Optional Internal Ozone Generator	Output (Standard)	2ppb-1000ppb @ 5 SLPM
	Accuracy	$\pm 1\%$ of Set Point or ± 1 ppb @ 5 SLM
	Nominal Flow	100 SCCM, ± 3 SCCM
	UV Lamp Temperature	50 °C, ± 0.1 °C
	Reaction Chamber	Teflon standard or Glass (optional)
Calibrator Interface	Operation	Membrane Keypad, Keyboard, Serial, Ethernet
	Calibration Definitions	20 User defined calibration sequences
	Calibration Types	Gas Dilution, Ozone, GPT, Multi-gas, Multi-blend, Permeation
	Gas Definitions	1 Diluent Gases, 20 Sources Gases
	Auto Calibrations	20 timer driven cal routines that perform user-defined calibration sequences on a 7-day calendar of event
	Digital Inputs	8 Status I/O bits for calibrator functions, Optional 24 bits
	Digital Input Types	Contact Closure or TTL Logic
	Digital Outputs	8 Status Outputs bits for monitoring calibrator functions, Optional 24 bits
Calibrator System	Communications	RS232, Ethernet 10/100 Base-T
	Operating Temperature	5 °C to 40 °C
	Dimensions	6.2 (15.6 cm) H x 14.3 (36.4 cm) W x 12.4 (31.6 cm) D
	Base Unit Weight	19 lbs. (8.6 kg)
	Input Voltage	98-264 VAC, 150-300 VA, 50/60 HZ

Model 2010 Flow Diagram



OPTIONAL BLENDING CONFIGURATION





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