Molecular Analysis

Gas Calibration System

Series 7800 Gases Dilutor/ Generator Devices

Series 7804D
Gas Standards
Generator
with HMI

Series 7804R
Gas Standards Generator
with Remote Computer

Series 7800P
Portable Gases
Dilutor/Generator

Series 7840R
Gases Dilutor
with Remote Computer

Series 7840D
Gases Dilutor with HMI

The Series 7800 Gases Dilutor /Generator device is a laboratory instrument designed to calibrate most types of gas analyzers including gas chromatographs, mass spectrometers, and ion mobility spectrometers. The **Molecular Analysis Series 7800** is module design for Cylinder Dilution and Permeation Oven device. It can up to four different modules for Per-meation Ovens and a mass flowmeter with Dilute Module & Humidify Genera -tor. All the tubing is stainless steel or PFA/PTFE. Commands are entered from the front panel and displayed on a 5” touch screen for Series 7800D type. The instrument may also be remotely operated using RS-485 data interface for Series 7800R.

Under **dilution mode** is a computerized gas dilution system that automatically generates precise gas standards for rapid multipoint calibration of analyzers. The gas mixes can be used in generating precise gas calibration standards, creating gaseous atmospheres or producing gas mixes for analytical research or production purposes. The Series 7800 can produce gas concentrations from percent to ppb levels for single or multipoint calibration. Broad range of dilution ratios (up to 1,000:1) allows the user to significantly reduce the number of cylinders needed to perform compliance tests.

Under **Permeation Oven mode** uses Trace Source™ Permeation Tubes to generate low concentration **(1000 ppm to ppb)** gas standards for VOCs, Acid Gases, Amines, Sulfurs and Hydrocarbons (over 250 compounds). The Series 7800 holds the Trace Source™ Permeation Tube at a constant temperature and introduces a controlled flow of dilution gas over the tube. A small, accurate, constant flow of pure component vapor permeates from the tube and mixes with the dilution gas to form the ppm or ppb standard. The stand-ard then flows through the generator output to the gas analyzer.

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FEATURES

- ❖ Module design can combine with Oven and Dilute Modules and Humidify Module (Up to 4 modules), and it also can extend extra cabinet for the other 4 modules.
- ❖ HMI Control (7800D) or remote control (7800R) by RS-485.
- ❖ The sample is available at any pressure up to 50 psig for calibration of monitors requiring pressurized sample.
- ❖ 19” Rack Mounted/ Bench/ Stand Alone type design available.
- ❖ Broad range of dilution ratios (up to 1,000:1) allows the user to significantly reduce the number of cylinders needed to perform compliance tests.
- ❖ It has two modes of operation of Concentration Mode & Flow Mode.
- ❖ User definable cylinder library allows for easy selection of frequently used gas cylinders. Each cylinder may contain an unlimited number of component gases with automatic K-factor calculation.
- ❖ High thermal mass ovens keep the permeation tube at a constant temperature.
- ❖ The digital temperature controller is accurate to ±0.1˚C and traceable to NIST.
- ❖ The Series 7800 uses disposable, LFH or ULED type Trace Source™ permeation tubes.
- ❖ A mass flowmeter measures the dilution flow to ±1% of full scale.
- ❖ The span gas contacts only glass, Teflon and stainless steel.
- ❖ The all Mass flowmeters are calibrated by NIST Traceable.
- ❖ CE Certified.

SPECIFICATIONS

Measuring Principle: MFC with Temperature Controlled Permeation oven, wetted surfaces Borosilicate glass.

Dilute Module:

Accuracy of Flow Measurements (of reading)	: ± 1%
Repeatability of Flow Control	: ± 0.1%
Linearity of Flow Measurements (of reading)	: ± 1%
Standard MFC Range for Dilution Air	: 0- 5 SLPM/ 0-10 SLPM
Signal Output	: Modbus

Permeation Module

Temperature range oven	: 30-105℃ standard
Temperature Accuracy	: ± 0.1℃
Standard MFC Range	: 0 - 100 SCCM

Dilute Module

Standard MFC Range	: 0-20 SCCM/ 0-2 SLPM

Dimension : 17” x 10.5” x 16” (43 x 26.5 x 41 cm, W x H x D)

Power: 110 VAC/ 60 Hz or 230 VAC/50 Hz

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