

An economical extension of calibration standards

# Gas Dilution System (VOC/HP)

Merlin MicroScience



A 100% type 316L stainless steel gas dilution system capable of single step dilutions of 10,000:1 while consuming less than 1.2 L/min of input gases



## General Specifications:

Input Pressures (standard):	3–100 psig (0.2–7.0 kg/cm <sup>2</sup> ); Other ranges optional
Output Pressure (standard):	0.5–3.0 psig (0.04–0.2 kg/cm <sup>2</sup> ); Other ranges optional
Output Flow (standard):	25 ml/min minimum; Flows to 500 ml/min optional
Power Input:	110 VAC
Mounting:	Pedestal or rack
Construction:	100% type 316L stainless steel tubing in blend path
Stability:	Restrictors: ± 2% of reading / year
Repeatability:	Restrictors: ± 1% of reading



## MMSD-VOC

The MMSD-VOC system is designed to dilute blended gas standards with humidified zero air. It is capable of dilutions from 1:3 to 1:1000 using multiple restrictors, and it is equipped with solenoid valves to allow the introduction of either humidified zero air or a preset diluted sample into a sampling manifold for use with air monitoring equipment. The MMSD-VOC is also equipped with latching relays allow the system to dispense the diluted sample or zero air blank using simple dry contact closures and a single closure reset. Each system includes digital readout of manual pressure setpoints. Because it is designed primarily for ambient air monitoring applications, each system is calibrated for use with zero air. Additional calibrations can be provided on request.

Gas Inputs:	Air; Nitrogen optional
Gas Connection Fittings:	1/16" VICI® (Valco®) and 1/8" Swagelock® fittings
Dimensions:	5 ¼" H x 15 ¼" D x 17" W
Weight:	15 lbs

## MMSD-HP

The MMSD-HP system generates volumetric gas blends from two gas streams using calibrated flow restricting orifices. The MMSD-HP is a 100% type 316L stainless steel gas dilution system without polymeric seals in any gas flow paths due to their contamination potential. The MMSD-HP system's efficient operating principle can produce single step dilutions of 10,000:1 while consuming less than 1.2 l/min total of input gases. The inherent low gas consumption and high dilution ratios obtainable with the MMSD-HP can economically extend the use of common ppm-level calibration standards to the sub-ppb range.

Gas Inputs:	Air; Helium, hydrogen, oxygen, nitrogen, argon optional
Gas Connection Fittings:	1/16" VICI® (Valco®) fittings
Dimensions:	5 ¼" H x 15 ¼" D x 17" W (19" -R)
Weight:	11 lbs

## Additional Model Available: MMSD-MPV

This dilution system is an enhancement of the MMSD-VOC dilution system to allow the automatic introduction of four selectable dilutions. It is designed to be used with the Orsat AutoGC systems facilitating automated calibration curves at remote, unattended field sites. Like the MMSD-VOC it supplies humidified zero air and is capable of dilutions from 1:3 to 1:1000 by the selection of multiple restrictors. It incorporates the same solenoid controls to supply either zero air blanks or diluted samples to the sampling manifold. Each system includes a digital display of pressure setpoints.

Gas Inputs:	Air; Nitrogen optional
Gas Connection Fittings:	1/16" VICI® (Valco®) and 1/8" Swagelock fittings
Dimensions:	17" H x 15 ¼" D x 5 ¼" W
Weight:	15 lbs

