

Accurately diluting gas standards for calibration or analytical system performance validation is very important. We have over 30 years of experience in gas dilution and gas handling. All our knowledge is provided in this high quality dilution system which is based on laser calibrated sonic orifice.

FEATURES

- **High accuracy** with sonic flow orifice technology based on ISO 6145-6
- **Long term stability** — Sonic orifice are mechanically unaffected over time
- **No influence** from ambient pressure or temperature with sonic orifice technology and temperature compensated electronics pressure controller
- **Wide dilution ranges** 1:4 to 50:800
 - Adjustable with temperature compensated electronics pressure controller
 - Custom range available
- **High sample integrity** with purged electronics pressure controller and UHP grade wetted parts
- **User configurable orifice design**
- **Optional inert flow path**
- **Automated dilution sequences**—save time and automate your testing
- Available in **3 flow path** configurations
 - Dual inline pressure regulator version
 - High integrity bypass regulator version
 - Pressure measurement only version
- **IIoT ready**—remote control

LASER CALIBRATED ORIFICE



Our dilution system is based on laser calibrated orifice technology. This technology allows greater flexibility in term of dilution ratio and greater precision compared to traditional mass flow type system. In the sonic flow mode, the flow through the orifice is only a function of the inlet pressure. No influence from ambient or outlet pressure. When combined with our ultra stable temperature compensated electronics pressure controller (EPC), this technology offers unsurpassed performance.

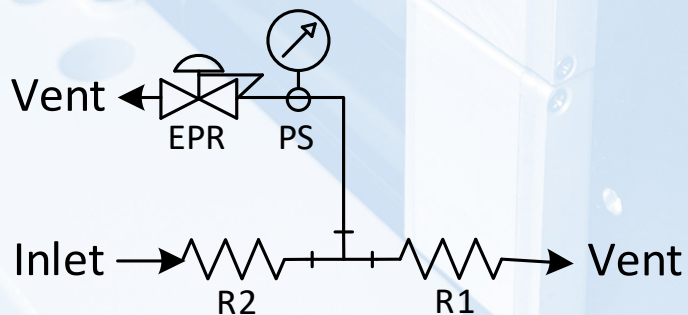
All orifices are laser adjusted and calibrated using a NIST calibrated CMM to optically measure the orifice diameter.

PURGED ELECTRONICS PRESSURE REGULATOR



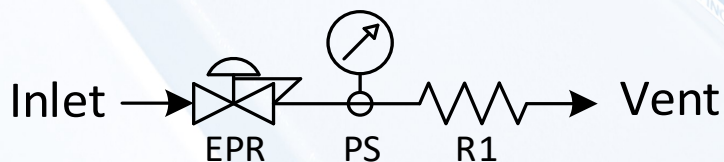
Our dilution system uses our high end pressure controller. This unique pressure controller is 100% leak tight. All components are installed inside a purged enclosure to preserve sample gas integrity. In order to achieve high performance, our system uses a temperature compensated pressure sensor which is sealed with a stainless steel diaphragm.

BYPASS PRESSURE CONTROL



Bypass pressure control is ideal for ultra-trace level dilution and to preserve sample integrity as the valve and pressure sensor are not in contact with the gas used for the dilution. They are located in the bypass vent.

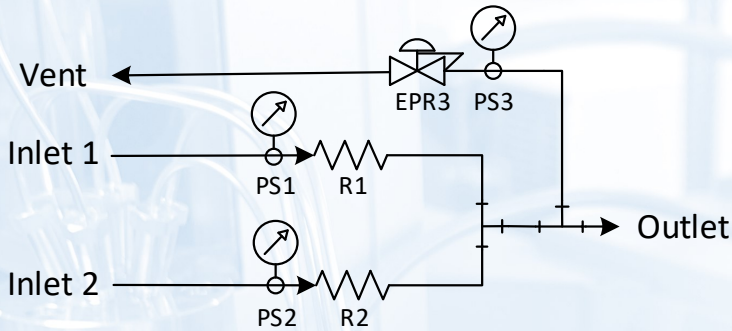
INLINE PRESSURE CONTROL



Inline pressure control means that the control valve is inline with the flow path. The inlet gas flows through the control valve and the valve opening is controlled to adjust the pressure measured by the pressure sensor. The valve opening is increased in order to increase pressure.

AVAILABLE IN 3 DIFFERENT CONFIGURATIONS

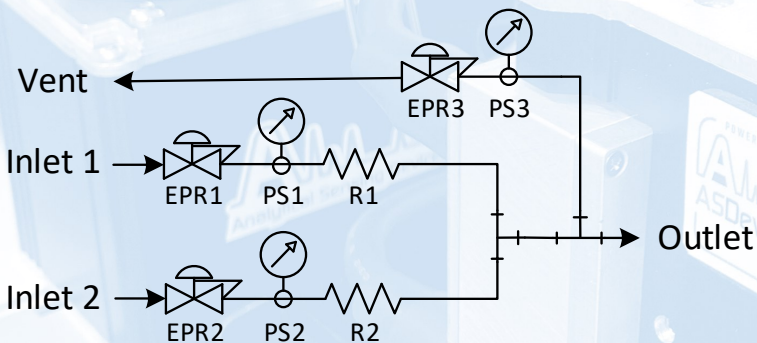
PRESSURE MEASUREMENT ONLY VERSION



This is our entry level version. In this version, only the outlet pressure is internally controlled by the outlet bypass pressure regulator.

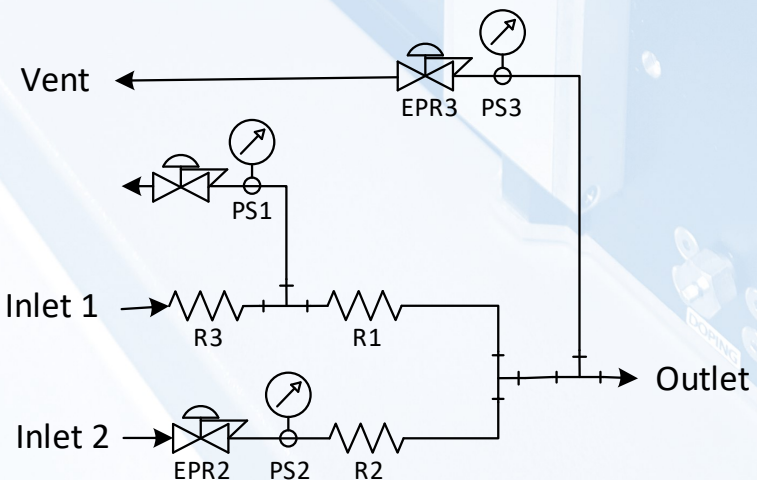
Pressure from inlet 1 and 2 are internally measured but controlled externally by external pressure regulator.

DUAL INLINE PRESSURE REGULATOR VERSION



With this version, both inlet 1 and 2 pressures are internally controlled by inline pressure controllers. This version is suitable for most applications ranging from ppb to % impurity level dilution.

HIGH PURITY BYPASS REGULATOR VERSION



This version has been designed for sample gas containing reactive gases such as sulfurs.

As such, inlet one uses a bypass pressure regulator so that the gas is never in contact with control elements.

Inlet 2 is typically used for the "pure" dilution gas and has been designed with an inline pressure controller.

SPECIFICATIONS

TECHNOLOGY	Sonic orifice based on ISO 6145-6 Precision laser drilled calibrated stainless steel orifice
PRESSURE CONTROLLER	<ul style="list-style-type: none"> • Temperature compensated pressure sensor • Purged enclosure • Electronically controlled • Inline or Bypass configuration
ACCURACY FLOW (SONIC MODE)	< 0.25% set point
REPEATABILITY FLOW (SONIC MODE)	< 0.20% set point
ACCURACY DILUTION (SONIC MODE)	< 0.50%
DILUTION RANGES (BASED ON AIR SAMPLE MATRIX)	<p>Standard dilution version: Sonic mode @ 0 PSIG outlet pressure: 1 : 4 Full range mode @ 0 PSIG outlet pressure: 1: 10</p> <p>High dilution version: Sonic mode @ 0 PSIG outlet pressure: 20 : 400 Full range mode @ 0 PSIG outlet pressure: 50 : 800</p> <p>Other custom dilution ratios available on request. *Full range mode means sonic and subsonic flow</p>
FLOW RANGES (BASED ON AIR SAMPLE MATRIX)	<p>Standard dilution version: up to 1160 ml/min One channel can deliver 580 ml/min at 80 PSIG using argon and 0 PSIG outlet pressure.</p> <p>High dilution version: up to 585 ml/min High flow channel delivers up to 500 ml/min at 80 PSIG based on argon and 0 PSIG outlet pressure. Low flow channel delivers up to 5 ml/min at 80 PSIG based on argon and 0 PSIG outlet pressure.</p>
INLET PRESSURE RANGE	80 PSIG
OUTLET PRESSURE RANGES	Ambient to 20 PSIG
INLET AND OUTLET FITTINGS	1/8 LipLok (Backward compatible with Swagelok™ double ferrule)
OPERATING TEMPERATURE	5 °C to 45 °C
DIMENSIONS	133 x 202 x 330 mm
VOLTAGE	90 to 260 VAC universal power supply
COMPLIANCE	CE and ROHS compliant

IGCS - XX - XX - X

ST: Standard dilution version
HD: High dilution version

NC: Pressure measurement only version
DI: Dual inline pressure regulator version
HP: High purity bypass regulator version

S: Standard electropolished version
T: SilcoNert™ treated version