

# LDGDSA



## AUTOMATIC GAS DILUTION SYSTEM



The LDGDSA is a user's friendly gas dilution system that offers all the flexibility to generate automatically the desired gas mixtures. The Windows user's interface gives the ability to control and monitor the mixtures, flows, pressures and the concentrations remotely. The system can store multiple gas cylinder mixtures and it becomes easy to select the right cylinder to generate different blends. It reduces the cost of having specific standard for each blend needed.

The dilution system is designed with an automatic electronic pressure controller installed on the zero gas line, on the span gas line and to regulate the outlet blended gas line pressure. This way, it improves the stability and the regularity of the flow controls. Each flow table uses a 10 points calibration curve to characterize the linearity of each flow controller.

To ensure ultra high purity zero gas reference to generate ppb blends, an optional integrated heated gas purifier (compact-LDP1000 series) can be mounted on the zero-gas flow path. Our flow path design is also configured with zero dead volume and all made of Stainless Steel 316L hardware to ensure an ultra-high purity for sub ppb blends.

An ultra high purity stainless steel pneumatic shut off valve is mounted on the zero and the span gas lines to cut-off the gas consumption when the unit is in standby mode. These valves can be controlled remotely and are designed to avoid any risk of contamination to be sure to deliver ppt/ppb blends in a quick turn around time. As option, the LDGDSA can be configured with 2 gas inlets for zero and/or for span depending of the requirement in terms of gas blends. In this case, a 2 streams stainless steel selection valve is used to select the proper flow path and gas source for zero and/or for span. For the zero gas, an second gas purifier can be added in the same unit to allow purification of a different gas media to sub ppb.

### FEATURES:

- Automatic calculation of dilution concentrations
- Automatic pressure controllers
- Broad range of dilution ratios (up to 1000 to 1)
- Windows user's interface through serial communication
- Multiple gas standard libraries available
- Alarms management
- 3U cabinet
- Integrated heated gas purifier to generate ultra high purity zero gas reference (optional)
- 2 inlets for zero and/or span with UHP Stainless steel selection valve(s) (optional)

### APPLICATIONS:

- Multi-point calibration of gas analyzers
- Gas mixture
- Calibration standard of ppb/ppt concentrations for the electronic gas grade instrument. (The integrated heated gas purifier is required)

## SPECIFICATIONS:

<b>PRESSURE CONTROLLERS</b>	Electronic pressure regulators	
<b>DILUTION RATIOS</b>	0 – 10 0 – 100	0 – 1000 other ratios possible on request
<b>REPEATABILITY</b>	< 1%	
<b>ACCURACY</b>	Better than $\pm 1\%$	
<b>OPTIONS</b>	Integrated heated gas purifier for Zero gas reference 2 inlets for zero and/or span with UHP Stainless steel selection valve(s)	
<b>GAS CONNECTIONS</b>	Inlets/Outlets: 1/8" compression fittings (Swagelok type) 1/4" compression fittings (Swagelok type)	1/8" VCR fittings (Swagelok type) 1/4" VCR fittings (Swagelok type) Vents: 1/8" compression fitting (Swagelok type)
<b>Recommended maximum operating pressure:</b>	100 PSIG (6.89 Bar)	
<b>Recommended minimum operating pressure:</b>	10 PSIG (0.7 Bar)	
<b>OPERATING TEMPERATURE</b>	10 °C to 50 °C	
<b>SUPPLY</b>	115 VAC, 50 – 60 Hz or 220 VAC, 50 – 60 Hz	
<b>POWER CONSUMPTION</b>	Maximum 10 watts Maximum 60 watts with optional integrated heated gas purifier	
<b>DRIFT</b>	< $\pm 1\%$ over 24 hours	
<b>WEIGHT</b>	16 lbs (13 kg)	

## ORDERING INFORMATION:

LDGDSA	-X	-X	-X	-XXXX	-XXX	-XX	-XX
	Zero Gas type: <b>A:</b> Argon <b>H:</b> Helium <b>N2:</b> Nitrogen (other possible on request)	Span Gas type: <b>A:</b> Argon <b>H:</b> Helium <b>N2:</b> Nitrogen (other possible on request)	Ratio: <b>10:</b> 10 to 1 <b>100:</b> 100 to 1 <b>1000:</b> 1000 to 1 (other possible on request)	Inlet/Outlets Fittings <b>2SWG:</b> 1/8" Swagelok <b>4SWG:</b> 1/4" Swagelok <b>2VCR:</b> 1/8" VCR <b>4VCR:</b> 1/4" VCR	Operating Voltage: <b>120:</b> 120 volts <b>220:</b> 220 volts	<b>C:</b> Integrated heated purifier for zero reference <b>CC:</b> Dual integrated heated purifiers for dual zero references	<b>DZ:</b> Dual zero gas inlets with 2 streams isolation valve <b>DS:</b> Dual span gas inlets with 2 streams isolation valve

## DIMENSIONS:

