



Schmidlin

Swiss Made  Innovation



Gas calibration systems and gas generators for Air Pollution Monitoring





Gas Calibration Systems

LNI Schmidlin SA has developed a wide range of gas calibration system which exactly fits the need of Air Pollution Monitoring networks. Depending on the device, you are able to dilute high concentration ppm gas cylinders to ppb values (Mass flow controllers and sonic nozzles dilution are available). The gases like NO₂, SO₂, BTEX, NH₃... can be generated by permeation. The ozone is generated by an internal UV controlled ozone generator and can be used to perform a Gaseous Phase Titration (GPT) to generate NO₂. Of course all devices are available with their optional internal zero air generator.

Our gas calibration systems have big advantages compared with low concentration gas cylinders : better stability, accuracy and less expensive gas consumption. One calibration system is enough to calibrate a complete analysis bench. With its RS232 remote interface it is possible to drive the Sonimix from a data acquisition system (or directly from the analysers). The Sonimix calibration systems are the right tool to perform high quality regular check of the analysers. All models are available in 19 inches for rack and portable casing.

Sonimix 3022 / 3012



	Models	Dilution by sonic nozzles
	Sx 3022/3012 3 Pts Sx 3022/3012 10 Pts	3 dilution points 1/166; 1/250; 1/500 @ 3.5 l/min* 10 dilution points 1/200 to 1/2000 @ 3.5 l/min*
	Options	
	3 additional inlets Zero air generator CO/CH₄ Scrubber CO Scrubber Ozone generator Remote command Portable casing	HCnm < 50 ppb SO ₂ / O ₃ / NO / NO ₂ < 0.5 ppb, H ₂ O < -50°C DP (-40°F) CH ₄ < 50 ppb CO < 50 ppb CO < 50 ppb 30 to 500 ppb + GPT circuits

**other dilution upon request*

Sonimix 6000 C2

	Models	Dilution by Mass Flow Controllers
	Sx 6000 C2	dilution range 1/100 to 1/1000 @ 3.5 l/min
	Options	
	3 additional inlets Zero air generator CO/CH₄ Scrubber CO Scrubber Ozone generator Remote command Portable casing	HCnm < 50 ppb SO ₂ / O ₃ / NO / NO ₂ < 0.5 ppb, H ₂ O < -50°C DP (-40°F) CH ₄ < 50 ppb CO < 50 ppb CO < 50 ppb 30 to 500 ppb + GPT circuits


Sonimix 4001

	Models	Ozone primary standard
	Sx 4001	10 to 1000 ppb ozone generator @ 2.5 l/min
	Options	
	Zero air generator Wet/Dry air generator Portable casing	O ₃ / NO / NO ₂ < 0.5 ppb, H ₂ O < -50°C DP (-40°F) 80% of ambient humidity


Sonimix 6000 C1

	Models	Dilution by Mass Flow Controllers
	Sx 6000 C1 Options 3 additional inlets Permeation oven 1T Permeation oven NO Permeation oven 6T Ozone generator Remote command Portable casing	Dilution range 1/30 to 1/1000 @ 3.5 l/min Permeation oven for 1 tube (up to 3 oven/device) Permeation oven for NO and NO2 including converter Permeation oven for 6 tubes 30 to 500 ppb + GPT circuits

Sonimix 3014

	Models	Calibration by permeation
	Sx 3014 1 oven 1T Sx 3014 2 oven 1T Sx 3014 1 oven 6T Options Zero air generator Dilution line Portable casing	1 Permeation oven for 1 tube 2 Permeation oven for 1 tube 1 Permeation oven for 6 tubes Permeation dilution range of 10 / flow from 0.5 to 5 l/min HCNm < 50 ppb SO ₂ / O ₃ / NO / NO ₂ < 0.5 ppb, H ₂ O < -50°C DP (-40°F) dilution range 1/100 to 1/1000

Sonimix 3030

	Models	Modular calibration system
	Sx 3030 DIL 1PT Sx 3030 PERM1T1PT SX 3030 PERM6T1PT Options	1 dilution point 1/250 @ 3.5 l/min* 1 Permeation oven for 1 tube / 1 concentration 1 Permeation oven for 6 tubes / 1 concentration Portable casing * other dilution on customer request

Pressure Regulators



Aluminum or
Stainless Steel
P stability ±2mbar

Sonic Nozzles



Flow rates from
1Nml/min to 30Nl/min

Permeation Tubes



Large range of
components

Calibration ISO 17025



LNI Schmidlin SA laboratory is able to measure flow rate and deliver ISO 17025 calibration certificates. Today, the quality insurance is a must. ISO 9001 request that all the measuring devices are regularly checked and linked to the national standards. Normal calibration is good, but the ISO 17025 will give the assurance that the device has been correctly linked to the national standard. The ISO 17025 certificates confirm the measurements, the uncertainty and the condition of measurements as well as the full traceability. These certificates are recognized by all ILAC members (COFRAC, DKD, SAS, SIT, UKAS,...).

GasCal



This PC software will increase the capability of your sonimix gas divider. It allows performing mixtures with multigas cylinders, to "save" and "load" pre defined repeatability and linearity check procedures. This software will help in the automation of the process and save a lot of time.

Gas Generators



Generating gases by yourself has numerous advantages :

- no empty cylinders with rental costs and long delays in replacement
- no need of expensive pressure reducer

In order to offer the best possible products, LNI Schmidlin SA has developed a wide range of gas generators (nitrogen, hydrogen, zero air). Very easy to use and reliable, the gas generators are the right alternative to cumbersome and expensive gas cylinders. They are very secure producing only the requested quantity of gas (no gas storage).

The quality of the gas is compatible to the most common applications : the hydrogen / air to aliment a FID or GC, the air to feed in carrier gas the sonimix gas dividers and the nitrogen to aliment PID detectors.

Sonimix 3080

	Models	Purity 99.99% / 0.5 to 6 bar	
	Sx 3080-100 Sx 3080-160 Sx 3080-250	100 ml/min of hydrogen 160 ml/min of hydrogen 250 ml/min of hydrogen	
	Options		
	H2 Dryer Zero Air Generator CH4 Scrubber	H2 purity of 99.999% up to 5 L/min CH4 < 50 ppb	

Sonimix 3060

	Models	Purity 99.9995% / 0.5 to 4 bar	
	Sx 3060-100 Sx 3060-200	100 ml/min of nitrogen 200 ml/min of nitrogen	
	Options		
	CH4 Scrubber for N2 Zero Air generator	CH4 < 50 ppb SO2 / O3 / NO / BTEX < 0.5 ppb, HCnm < 50 ppb, H2O < -50°C DP (-40°F)	

Sonimix 3052/3057

 	Models	Self Regenrable System / up to 4 bar	
	Sx 3052/3057-5 SX 3052/3057-10 Sx 3052/3057-30	5 l/min air 10 l/min air 30 l/min air *	
	Options	SO2 / O3 / NO / BTEX < 0.5 ppb, HCnm < 50 ppb, H2O < -50°C DP (-40°F) CO2 < 5 ppm	
	CO/CH4 Scrubber CO Scrubber Portable casing	CH4 < 50 ppb / CO < 50 ppb CO < 50 ppb	

*need external compressed air



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