Zero Air Generators / Zero Air Stations

LNI Schmidlin SA has developed a full range of **Zero Air Generators** which fits almost any laboratory requirement for clean air. The **NEW-TECH LINE** is split into two families: the low flow capacity models as table-top units and the high flow capacity models with built-in oil-free air compressors (within floor casing).

The **Zero Air Generator** and **GC** is a typical device used to produce quality air for FID's. It removes the total hydrocarbons from the inlet air (supplied from an external compressed air source). In addition to Zero Air features, the **Ultra Zero Air Generator** and **GT** removes particles, moisture, CO2, CO, HC, NOx, SO2 and O3 contaminants to less than 0.1 ppm. The typical flow rates of the **Zero Air / GC** and **Ultra Zero Air Generators / GT** are 1500 Nml/min up to 6000 Nml/min.

Classic line

NEW-TECH LINE

The **Air Stations** starts with the Compressed Air Generator, producing water condensing free and clean compressed Air. The **Zero Air Station** is a Compressed **Air station** plus a catalytic oven reducing the Total Hydrocarbons down to 0.1 ppm.If the application requires higher purity level Air, then the **Ultra Zero Air Station** is the right device: based on a set of PSA filters, specific scrubbers, catalytic oven and it's internal compressor, the **Ultra Zero Air Station** will remove CO2, CO, HC, NOx, SO2 and O3 contaminants as well as moisture down to less than 0.1 ppm.

The use of the **Zero (and Ultra Zero) Air Generators** and the **Zero (and Ultra Zero) Air Stations** instead of gas cylinders reduce the operating costs significantly. These turnkey systems are engineered with the highest quality components, and manufactured following the rigorous ISO 9001 production protocol. The units are easy to install and require only minimal annual maintenance.

NEW-TECH LINE — *Classic line*

Zero Air

Model	External compressed Air required	
Zero Air 3000	3000 Nml/min Air / up to 7 bar	HC free < 0.1ppm CO free < 0.05 ppm
Zero Air 6000	6000 Nml/min Air / up to 7 bar	
Zero Air 15000	15000 Nml/min Air / up to 7 bar	
Zero Air 30000	30000 Nml/min Air / up to 7 bar	
Zero Air 60000	60000 Nml/min Air / up to 7 bar	
Zero Air 90000	90000 Nml/min Air / up to 7 bar	

GC Zero Air

Model	External compressed Air required	
GC 1500	1500 Nml/min Air / up to 9 bar	HC free < 0.1ppm CO free < 0.1ppm
GC 3000	3000 Nml/min Air / up to 9 bar	
GC 6000	6000 Nml/min Air / up to 9 bar	
GC 15000	15000 Nml/min Air / up to 9 bar	
GC 30000	30000 Nml/min Air / up to 9 bar	

Ultra Zero Air

Model	External compressed Air required	
Ultra Zero Air 3000	3000 Nml/min Air / up to 5 bar	HC < 0.1 ppm CO < 0.05 ppm CO2 < 5 ppm NOx < 0.05 ppm H2O < -50°C DP (-40°F)
Ultra Zero Air 6000	6000 Nml/min Air / up to 5 bar	
Ultra Zero Air 15000	15000 Nml/min Air / up to 5 bar	
Ultra Zero Air 30000	30000 Nml/min Air / up to 5 bar	

GT ultra zero air

Model	External compressed Air required	
GT 1500	1500 Nml/min Air / up to 9 bar	HC < 0.1 ppm CO < 0.1 ppm CO2 < 5 ppm NOx <0.1 ppm SOx < 0.1 ppm
GT 3000	3000 Nml/min Air / up to 9 bar	
GT 6000	6000 Nml/min Air / up to 9 bar	
GT 15000	15000 Nml/min Air / up to 9 bar	
GT 30000	30000 Nml/min Air / up to 9 bar	

Zero Air Station

Model	With internal compressor	
Zero Air Station 1.5 L	1500 Nml/min Air / up to 6 bar	HC free < 0.1ppm CO free < 0.05 ppm
Zero Air Station 3 L	3000 Nml/min Air / up to 6 bar	
Zero Air Station 6 L	6000 Nml/min Air / up to 6 bar	
Zero Air Station 10 L	10000 Nml/min Air / up to 6 bar	
Zero Air Station 20 L	20000 Nml/min Air / up to 6 bar	
Zero Air Station 30 L	30000 Nml/min Air / up to 6 bar	

Ultra Zero Air Station

Model	With internal compressor	
Ultra ZAS 1.5 L	1500 Nml/min Air	Up to 5 bar HC < 0.1 ppm / CO < 0.05 ppm CO2 < 5 ppm / NOx < 0.05 ppm H2O < 50°C DP (-40°F)
Ultra ZAS 3 L	3000 Nml/min Air	
Ultra ZAS 6 L	6000 Nml/min Air	
Ultra ZAS 10 L	10000 Nml/min Air	
Ultra ZAS 20 L	20000 Nml/min Air	
Ultra ZAS 30 L	30000 Nml/min Air	

Compressed Air Station

Model	With internal compressor
Mini Air Station 1.5 L	1.5 NL/min Air / up to 5 bar
Air Station 20 L	20 NL/min Air / up to 6 bar
Air Station 40 L	40 NL/min Air / up to 6 bar
Air Station 80 L	80 NL/min Air / up to 6 bar
Air Station 120 L	120 NL/min Air / up to 6 bar

Product design and specifications are subject to change ED 12/10

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Hydrogen Generators

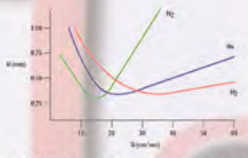
The LNI Schmidlin SA Hydrogen gas generators are the economical alternative to high pressure gas cylinders in the laboratories. Purities of up to 99.9999% are available and the generators offer silent operation at pressures up to 10.5 barg (155 PSI)

NEW-TECH LINE

The generators require just demineralised or distilled water to produce Hydrogen. No caustic solutions are needed and no cell maintenance is required at all.
Hydrogen from the model **H_2FID** or **PGH2** are the ideal fuel gas for the GC-FID's or as reactor gas for other types of detectors in gas-chromatography.
The model **H_2CARRIER** or **NMH2** has been designed to replace Helium or Nitrogen as carrier gas.

Classic line

Hydrogen from the **H_2CARRIER and NMH2** Generator offers important advantages over Helium and Nitrogen in terms of speed analysis, sensitivity and resolution. Other Hydrogen applications include total hydrocarbon analyzers, sulfur analyzers and air-pollution monitoring systems.



The **H_2FID**, **H_2CARRIER** and the **NMH2** hydrogen generators are "No Maintenance" systems which require little bench space. In addition, **H_2CARRIER** is optionally available with cascading and remote control capabilities. These unique and exclusive features open a wide range of new applications.

The **H_2-Air FID Station** has been designed to feed GC's with Hydrogen and Zero Air at the same time. The bench-top unit has a small footprint which is an advantage with limited lab space. The hydrocarbon free Hydrogen flow rate is up to 250 Nml/min.
The hydrocarbon free Zero Air flow rate is up to 1500 Nml/min with less than 0.1 ppm of total hydrocarbons.
The **H_2-Air FID Station** is very simple to take into operation: needing only demineralized or distilled water for the Hydrogen part and an external source of compressed air for the Zero Air part.

The NEW-TECH LINE are very compact, safe, ergonomic and cost effective. In addition to their high safety (production of Hydrogen only when required), the generators have been designed to meet highest quality and reliability standards.

Nitrogen Generators

Space and noise are more and more an issue in the laboratories. The **N_2-Bora** Nitrogen gas-generator is small in size and includes - as an option - an internal oil-free air compressor. It works on the PSA (Pressure Swing Adsorption) principle and delivers a continuous stream of N2 with a purity of up to 99.999% without the need of additional purification.
The **N_2-Bora** series is ideal for all kinds of laboratory and chromatography applications where Nitrogen is required. Other typical applications are ICP, ELSD, PID or incubators.

The **N_2-Sirocco** models have been designed for applications requesting larger flow and highest purity of Nitrogen. They use the DS-PSA (Double Stage PSA) principle to produce high purity Nitrogen which eliminates the need for costly, inconvenient high pressure cylinders in laboratories. **N_2-Sirocco** models include internal oil free compressors and deliver a continuous stream of 99.999% pure Nitrogen.

The **Mistral-LCMS and Whisper-C** have been specially designed to aliment LCMS systems. The **Mistral-LCMS** is Working with the PSA technology and the **Whisper-C** is using the menmbrane technology.
Both instruments includes an internal compressor and delivers up to 35L/min Nitrogen with a quality of 98.5%.
The **Whisper Hybrid-C** is also able to generate exhaust Air and Source Air for ABI LC-MC applications

The **N_2-Whisper-0** Nitrogen Generator is based on the hollow fiber technology, enabling the separation of air into Nitrogen and Oxygen enriched air from an external compressed air supply. The **N_2-Whisper-0** is designed for LCMS applications by supplying Nitrogen with the purity, pressure and flow required. The generator will automatically switch on and off depending on the Nitrogen demand. The **N_2-Whisper-0** works pneumatically, no power supply is needed. The compressed air can be sourced either from a centralized compressed air source or a dedicated air compressor. The installation has no moving parts, resulting in reliable and trouble free operation with virtually no maintenance.

NEW-TECH LINE

H_2 Carrier

Model	Purity > 99.9999% / 1.5 to 10.5 bar
H2 CARRIER 100	100 Nml/min of Hydrogen
H2 CARRIER 160	160 Nml/min of Hydrogen
H2 CARRIER 250	250 Nml/min of Hydrogen
H2 CARRIER 400	400 Nml/min of Hydrogen
H2 CARRIER 500	500 Nml/min of Hydrogen
H2 CARRIER 700	700 Nml/min of Hydrogen
H2 CARRIER 900	900 Nml/min of Hydrogen

H_2 FID

Model	Purity 99.999% / 1.5 to 10.5 bar
H2 FID 100	100 Nml/min of Hydrogen
H2 FID 160	160 Nml/min of Hydrogen
H2 FID 250	250 Nml/min of Hydrogen
H2 FID 400	400 Nml/min of Hydrogen
H2 FID 500	500 Nml/min of Hydrogen
H2 FID 700	700 Nml/min of Hydrogen
H2 FID 900	900 Nml/min of Hydrogen

HC free < 0.1ppm purity 99.999%

H_2-Air FID Station

Model	External compressed Air required
H2-Air FID 100	100 Nml/min H2
H2-Air FID 160	160 Nml/min H2
H2-Air FID 250	250 Nml/min H2

HC free < 0.1ppm Purity 99.999% pressure up to10.5 bar

All models with 1500 Nml/min Air / up to 5 bar

Classic line

NM-H_2

Model	Purity > 99.9999% / 0.5 to 10 bar
NMH2 100	100 Nml/min of Hydrogen
NMH2 160	160 Nml/min of Hydrogen
NMH2 250	250 Nml/min of Hydrogen
NMH2 300	300 Nml/min of Hydrogen
NMH2 500	500 Nml/min of Hydrogen
NMH2 600	600 Nml/min of Hydrogen
NMH2 1000	1000 Nml/min of Hydrogen

PG-H_2

Model	Purity 99.999% / 0.5 to 7 bar
PGH2 100	100 Nml/min of Hydrogen
PGH2 160	160 Nml/min of Hydrogen
PGH2 250	250 Nml/min of Hydrogen
PGH2 300	300 Nml/min of Hydrogen
PGH2 500	500 Nml/min of Hydrogen
PGH2 600	600 Nml/min of Hydrogen

NEW-TECH LINE

MINI-High Purity Nitrogen Generators

Model	Flow rate @ 5 bar
BORA 500	500 Nml/min / 99.999%
BORA 750	750 Nml/min / 99.999%
BORA 1300	1300 Nml/min / 99.99%
BORA 4000	4000 Nml/min / 98%

Internal or external compressor option
HC<0.1 ppm scrubber option for ZERO Nitrogen

LCMS - Nitrogen Generators (Membrane)

Model	Purity 98.5% / up to 8 bar
Mini Whisper 0-8L	8 NL/min
Whisper 0-40	40 NL/min
Whisper 0-80	80 NL/min
Whisper 0-120	120 NL/min

external compressed air requested

LCMS - Nitrogen Generators (Membrane)

Model	Purity 98.5% / up to 8 bar
Whisper-C-35L	35 NL/min Nitrogen
Whisper Hybrid-C+	5 NL/min N_2 + 26L/min source Air + 10L exhaust Air

including compressor

Classic line

STANDARD-High Purity Nitrogen Generators

Model	Flow rate @ 5 bar
Sirocco 3	3 NL/min / 99.999%
Sirocco 3 + Air	3 NL/min / 99.999% + 3 NL/min compressed air
Sirocco 5	5 NL/min / 99.999%
Sirocco Flex	up to 25 NL/min / 99.9% to 99.995% (depend on flow)

with internal compressor

HC<0.1ppm scrubber option for ZERO Nitrogen
Internal compressor as option

LCMS - Nitrogen Generator (PSA)

Model	Purity 98.5% / up to 8 bar
Mistral LCMS	35 NL/min / including internal compressor