



**Schmidlin**  
Swiss Made  Innovation



ISO 9001 : 2008 CERTIFIED  
ISO 13485 : 2003 CERTIFIED

# Gas generators for Laboratory



# Hydrogen

The LNI Schmidlin SA hydrogen generators are 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 pressure up to 10.9 bar (155 PSI).

The generators require just demineralised or distilled water to produce hydrogen. No caustic solution are needed and no cell maintenance is required at all. PG-Plus is the ideal fuel gas for the GC-FID's or as reactor gas for other types of detectors in gas-chromatography. NM-Plus has been designed to replace helium or nitrogen as carrier gas. NM-Plus generator offer important advantages over helium or nitrogen in terms of speed analysis, sensitivity and resolution.

Other hydrogen applications include total hydrocarbon analyzers, sulfur analyzers and air-pollution monitoring systems. NM-Plus and PG-Plus generators are "No Maintenance" systems wich require little bench space.

## NM-Plus

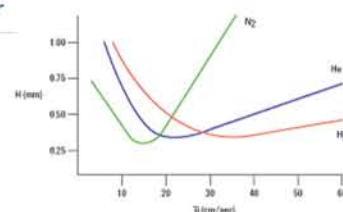


### Models

NM-Plus 100  
 NM-Plus 160  
 NM-Plus 250  
 NM-Plus 300  
 NM-Plus 500  
 NM-Plus 600  
 NM-Plus 1000

Purity > 99.9999% / 0.5 to 10.9 bar

100 Nml/min of hydrogen  
 160 Nml/min of hydrogen  
 250 Nml/min of hydrogen  
 300 Nml/min of hydrogen  
 500 Nml/min of hydrogen  
 600 Nml/min of hydrogen  
 1000 Nml/min of hydrogen



## PG-Plus



### Models

PG-Plus 100  
 PG-Plus 160  
 PG-Plus 250  
 PG-Plus 300  
 PG-Plus 500  
 PG-Plus 600

Purity > 99.999% / 0.5 to 10.9 bar

100 Nml/min of hydrogen  
 160 Nml/min of hydrogen  
 250 Nml/min of hydrogen  
 300 Nml/min of hydrogen  
 500 Nml/min of hydrogen  
 600 Nml/min of hydrogen



## Rapid Oven Cooler

LNI Schmidlin SA ROC system is able to quickly cool down the GC oven temperatures.

Starting from the 400°C the ROC will help the GC oven to reach the 30°C in less than 6 minutes and 20°C in less than 10 minutes, without using CO2 or liquid nitrogen. This makes the ROC a must that will help each laboratory to increase the number of measurements per day and have a higher profitability and return of investments.

### Benefits of the ROC:

- Better results from analytical instruments
- Better laboratory efficiency
- Cost saving
- Simple installation





# Nitrogen

Space and noise are more and more an issue in the laboratories. The HP-N2 generator is small in size and includes - as an option - an internal oil-free air compressor (HP-N2-C). It works on the PSA (Pressure Swing Absorption) principle and delivers a continuous stream of N<sub>2</sub> with a purity of up to 99.999% without the need of additional purification. The HP-N2 series is ideal for all kind of laboratory and chromatography applications where nitrogen is required. Other typical applications are ICP, ELSD, PID or incubators.

## High Purity Nitrogen Generator

| Models       |   | Models        | Flow rate @ 5 bar     |   |
|--------------|---|---------------|-----------------------|---|
| HP-N2-C 500  |  | HP-N2-NC 500  | 500 Nml/min / 99.999% | <i>HC &lt; 0.1 ppm with scrubber option for zero nitrogen</i> |
| HP-N2-C 750  |   | HP-N2-NC 750  | 750 Nml/min / 99.999% |   |
| HP-N2-C 1300 |  | HP-N2-NC 1300 | 1300 Nml/min / 99.99% |   |
| HP-N2-C 4000 |   | HP-N2-NC 4000 | 4000 Nml/min / 98%    |   |

The Mistral LCMS and the Whisper have been specially designed to aliment LCMS systems. The Mistral LCMS is working with the PSA technology and the Whisper is using the membrane technology. The Mistral-LCMS include an internal compressor and deliver up to 35 NI/min nitrogen with a quality of 98.5%.


## Mistral Evolution LCMS Nitrogen Generator PSA

|   |                        |   |  |
|---|------------------------|---|--|
|  | Models                 | Purity 98.5% / up to 8 bar              | <b>New filtration concept</b><br><b>Easy maintenance</b><br><b>Low noise</b> |
|   | Mistral LCMS Evolution | 35 NI/min including internal compressor |  |



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.

## Whisper LCMS Nitrogen Generator Membrane

|   |   |  |                                   |
|---|---|--|-----------------------------------|
|  | Models  | Purity 98.5% / up to 8 bar                       |                                   |
|   | Mini Whisper<br>Whisper 0-40 L<br>Whisper 0-80 L<br>Whisper 0-120 L | 8 NI/min<br>40 NI/min<br>80 NI/min<br>120 NI/min | external compressed air requested |

# Zero air

LNI Schmidlin SA has developed zero air generators (with and without compressor) which fit almost any laboratory requirement for clean air. The GC/ZAS is a typical device used to produce quality air for FID, removing the total hydrocarbons from the inlet air (supplied by external compressed air). The GT/UZAS removes particules, moisture, CO, CO<sub>2</sub>, HC, NO<sub>x</sub>, SO<sub>2</sub> and O<sub>3</sub> contaminants. The typical flow rates are from 1500Nml/min up to 30000Nml/min. If no compressed air is available, ZAS and UZAS with internal compressor and tank management can be used.



## Zero Air Generator

|  | Models  | External compressed air required   | HC free < 0.1 ppm<br>CO free < 0.1 ppm |
|---|---|--|--|
|   | GC 1500<br>GC 3000<br>GC 6000<br>GC 15000<br>GC 30000 | 1500 Nml/min Air up to 9 bar *<br>3000 Nml/min Air up to 9 bar *<br>6000 Nml/min Air up to 9 bar *<br>15000 Nml/min Air up to 9 bar *<br>30000 Nml/min Air up to 9 bar * |  |

*\*if inlet pressure is sufficient*

## Ultra Zero Air Generator

|  | Models  | External compressed air required   | HC < 0.1 ppm<br>CO < 0.1 ppm<br>CO <sub>2</sub> < 5 ppm<br>NO <sub>x</sub> < 0.1 ppm<br>SO <sub>x</sub> < 0.1 ppm |
|---|---|--|---|
|   | GT 1500<br>GT 3000<br>GT 6000<br>GT 15000<br>GT 30000 | 1500 Nml/min Air up to 9 bar *<br>3000 Nml/min Air up to 9 bar *<br>6000 Nml/min Air up to 9 bar *<br>15000 Nml/min Air up to 9 bar *<br>30000 Nml/min Air up to 9 bar * |   |

*\*if inlet pressure is sufficient*



## Zero Air Station

|  | Models              | With internal compressor                                      | HC free < 0.1 ppm<br>CO free < 0.1 ppm<br>DP < -20°C |
|---|---------------------|---|--|
|   | ZAS 6 L<br>ZAS 30 L | 6000 Nml/min Air up to 6 bar<br>30000 Nml/min Air up to 6 bar |  |

## Ultra Zero Air Station

|  | Models                | With internal compressor                                      | HC < 0.1 ppm<br>CO < 0.1 ppm<br>CO <sub>2</sub> < 5 ppm<br>NO <sub>x</sub> < 0.1 ppm<br>SO <sub>x</sub> < 0.1 ppm<br>DP < -50°C |
|---|-----------------------|---|---|
|   | UZAS 6 L<br>UZAS 30 L | 6000 Nml/min Air up to 5 bar<br>30000 Nml/min Air up to 5 bar |   |

## Compressed Air Station

|  | Models   | With internal compressor   | DP < -20°C |
|---|--|--|------------|
|   | Mini 1.5 L<br>Air Station 20 L<br>Air Station 40 L | 1.5 Nl/min Air up to 5 bar<br>20 Nl/min Air up to 6 bar<br>40 Nl/min Air up to 6 bar |            |



**Schmidlin**  
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46 chemin de l'étang  
 1219 Geneva - Switzerland  
 Tel: +41 22 979 37 24

info@lni-schmidlin.com  
 www.lni-schmidlin.com  
 Fax : + 41 22 979 37 20

