

# GAS GENERATION SOLUTIONS



**LabTech**

WWW.LABTECHSRL.COM

# NITROGEN GENERATORS

## LN Series... innovation inspired.

LabTech develops innovative gas generators that can be used whenever high-quality nitrogen gas and rapid flow changes are required. The LN series meets the “Green Lab Conditions” regulations by using eco-friendly materials. By adapting new technologies and innovations in order to maintain a high reliability level, all of the production steps are focused to offer high-quality and customized solutions to meet any requirements. The LN series is designed especially for analytical and industrial use, providing an accurate control of the supply of nitrogen gas.

- Complete Range of Gas Flow-Rates
- Models with Built-in Low Noise Air Compressor
- Compact Dimensions
- Nitrogen Purity up to 99.9995%
- Auto-Run Function
- Outlet Flow Indicator
- Trend Graphs
- Remote Access to Screen
- Unique Touch Screen Interface
- Oxygen Sensor (optional)
- Catalyst for Low THC Requirements



The LN range by LabTech is the reliable and efficient alternative to conventional high-pressure cylinders. Considering the running costs, safety issues and the risk of running out of gas during operations, the LN series is the most advanced and reliable gas generating solution available. The control system gives all the necessary information to ensure an efficient and consistent gas supply. From process and flow alarms, to the automated start/stop function, to trend graphs, there is simply no other laboratory nitrogen system like the LabTech LN series.

## MAIN APPLICATIONS

- GC
- General laboratory
- ICP
- Evaporative light-scattering detection (ELSD)
- LC/MS and LC/MS/MS
- Sample Concentrator

# TECHNICAL SPECIFICATIONS

| LN SERIES |      |      |      |      | LN PLUS SERIES |           | LNC SERIES |       |        |        |
|-----------|------|------|------|------|----------------|-----------|------------|-------|--------|--------|
| LN15      | LN30 | LN45 | LN60 | LN75 | LN15 PLUS      | LN30 PLUS | LN30C      | LN65C | LN100C | LN200C |

## ■ NITROGEN PRODUCTION

|                                 |        |             |    |    |       |    |            |     |     |     |      |      |
|---------------------------------|--------|-------------|----|----|-------|----|------------|-----|-----|-----|------|------|
| Flow rate (up to)               | lt/min | 15          | 30 | 45 | 60    | 75 | 15*        | 30* | 30* | 65* | 100* | 200* |
| Purity                          | %      | 98 - 99,999 |    |    |       |    | up to 99,5 |     |     |     |      |      |
| Outlet Pressure                 | bar    | up to 8     |    |    |       |    | up to 10   |     |     |     |      |      |
| Total Hydrocarbon Content (THC) | ppm    | -           |    |    | < 0.1 |    | -          |     |     |     |      |      |

## ■ ELECTRICAL REQUIREMENTS

|                      |        |                          |  |  |  |            |     |     |     |
|----------------------|--------|--------------------------|--|--|--|------------|-----|-----|-----|
| Power Supply Voltage | Vac/Hz | 110-120/60 or 220-240/50 |  |  |  | 220-240/50 |     |     |     |
| Rated output         | kW     | 0,08                     |  |  |  | 1,05       | 2   | 1,7 | 3,5 |
| Rated current        | A      | 0,35                     |  |  |  | 4,6        | 8,7 | 7,5 | 16  |
| Line Protection      | A      | 2                        |  |  |  | 10         |     | 20  |     |

## ■ AIR SUPPLY

|                     |                        |     |  |  |          |   |  |  |
|---------------------|------------------------|-----|--|--|----------|---|--|--|
| Air Compressor      | Not included           |     |  |  | Built-In |   |  |  |
| Minimum pressure    | bar                    | 6   |  |  |          | - |  |  |
| Maximum pressure    | bar                    | 9,7 |  |  |          | - |  |  |
| Maximum temperature | °C                     | 45  |  |  |          | - |  |  |
| Minimum quality     | ISO 8573.1 class 1.4.1 |     |  |  | -        |   |  |  |

## ■ ENVIRONMENTAL CONDITIONS

|  |          |          |    |     |     |     |    |    |
|--|----------|----------|----|-----|-----|-----|----|----|
| Temperature                                  | °C       | 5 ÷ 35   |    |     |     |     |    |    |
| Relative humidity                            | %        | 20 ÷ 80  |    |     |     |     |    |    |
| Max. elevation<br>(for nominal performances) | m a.s.l. | 1000     |    |     |     |     |    |    |
| Noise (emission)                             | dBA      | < 46     |    |     |     |     |    |    |
| Dimensions (LxWxH)                           | cm       | 81x43x75 |    |     |     |     |    |    |
| Weight                                       | kg       | 75       | 90 | 105 | 120 | 135 | 75 | 90 |
|  |          | 85       | 85 | 110 | 200 | 220 |    |    |

\*Nominal flow rate at the standard conditions: Input air pressure 7.5 bar and temperature 20°C

# HYDROGEN GENERATORS

## LMH & LMHPLUS Series, simply the best!

The LMH & LMHPLUS series use an electrolytic cell with a polymeric membrane (PEM) to produce pure hydrogen gas. The innovative gas-drying system of the LMHPLUS series is completely maintenance-free and can run operations 24 hours a day. The exclusive electronically controlled gas/liquid separator automatically checks for internal leaks when the unit starts. Furthermore, the constant control of the operating parameters guarantees maximum safety and the LCD touchscreen interface provides a simple and user-friendly management of all of the unit's functions without requiring the operator's presence.

- Innovative Maintenance-Free Drying System for 24h/day operations
- Built-in Water Tank with Electronic Level Control and "Auto-Refill" function
- Gas Flow Rates up to 1200 cc/min
- Outlet Pressure up to 16 bar
- Hydrogen Purity up to >99.99999%
- User Friendly Touch Screen Display
- Compact Dimensions
- Cascading Facility
- Hydrogen Sensor (optional)



## MAIN APPLICATIONS

- Carrier gas for GC and GC-MS
- ICP-MS collision gas
- Production of H<sub>2</sub>O<sub>2</sub>
- Flame ionization detector (FID) for feed gas
- Refilling of metal hydride tanks for the application of fuel cells
- Electronics

# TECHNICAL SPECIFICATIONS

| LMH180 | LMH50 | LMH520 | LMH180PLUS | LMH50PLUS | LMH520PLUS | LMH700PLUS | LMH1000PLUS | LMH1200PLUS |
|--------|-------|--------|------------|-----------|------------|------------|-------------|-------------|
|--------|-------|--------|------------|-----------|------------|------------|-------------|-------------|

## ▪ GENERAL DATA

|                                    |                        |     |     |                                    |     |     |     |      |      |
|------------------------------------|------------------------|-----|-----|------------------------------------|-----|-----|-----|------|------|
| Electrolytic cell                  | PEM technology         |     |     |                                    |     |     |     |      |      |
| H <sub>2</sub> purity              | >99.9995% <sup>1</sup> |     |     | >99.99999% <sup>2</sup>            |     |     |     |      |      |
| Outlet pressure (bar)              | 8 (115psi)             |     |     | 12 (174psi) - Optional 16 (232psi) |     |     |     |      |      |
| Max flow rate (cc/min)             | 180                    | 350 | 520 | 180                                | 350 | 520 | 700 | 1000 | 1200 |
| Dimensions (LxWxH cm)              | 56x45x19               |     |     |                                    |     |     |     |      |      |
| Net weight (kg) (water tank empty) | 20                     | 22  | 20  | 22                                 | 22  | 22  | 25  | 25   | 25   |

## ▪ COMMUNICATION

|       |   |   |   |   |   |   |   |   |   |
|-------|---|---|---|---|---|---|---|---|---|
| RS232 | • | • | • | • | • | • | • | • | • |
| RS485 | - | - | - | • | • | • | • | • | • |
| USB   | - | - | - | • | • | • | • | • | • |

## ▪ SOFTWARE FUNCTIONS

|                           |   |   |   |   |   |   |   |   |   |
|---------------------------|---|---|---|---|---|---|---|---|---|
| Parallel mode capability  | • | • | • | • | • | • | • | • | • |
| Auto refill tank function | • | • | • | • | • | • | • | • | • |

## ▪ WATER

|                            |                            |  |  |  |  |  |  |  |  |
|----------------------------|----------------------------|--|--|--|--|--|--|--|--|
| Quality                    | Deionized, ASTM II, <0.1µS |  |  |  |  |  |  |  |  |
| Internal tank capacity (L) | 1.1                        |  |  |  |  |  |  |  |  |
| External tank capacity (L) | 5 or 10                    |  |  |  |  |  |  |  |  |

## ▪ ELECTRICAL REQUIREMENTS

|                          |                  |  |     |  |     |  |     |  |     |
|--------------------------|------------------|--|-----|--|-----|--|-----|--|-----|
| Power supply voltage     | 100-240V 50/60Hz |  |     |  |     |  |     |  |     |
| Max power consuption (W) | 280              |  | 450 |  | 280 |  | 450 |  | 560 |
| Fuse rating (A)          | 4                |  | 6.3 |  | 4   |  | 6.3 |  |     |

## ▪ CONNECTIONS

|                 |                               |  |  |  |  |  |  |  |  |
|-----------------|-------------------------------|--|--|--|--|--|--|--|--|
| Hydrogen outlet | 1/8" Compression Fitting      |  |  |  |  |  |  |  |  |
| Water           | Quick release push-in fitting |  |  |  |  |  |  |  |  |

## ▪ OPERATING CONDITIONS

|  |                       |  |  |  |  |  |  |  |  |
|--|-----------------------|--|--|--|--|--|--|--|--|
| Temperature (°C)                       | 5 to 35 (41° to 95°F) |  |  |  |  |  |  |  |  |
| Humidity (°C)<br>(Max, non condensing) | 80% at 25 (77°F)      |  |  |  |  |  |  |  |  |
| Noise (dB)                             | <25                   |  |  |  |  |  |  |  |  |
| IP rating                              | 20                    |  |  |  |  |  |  |  |  |

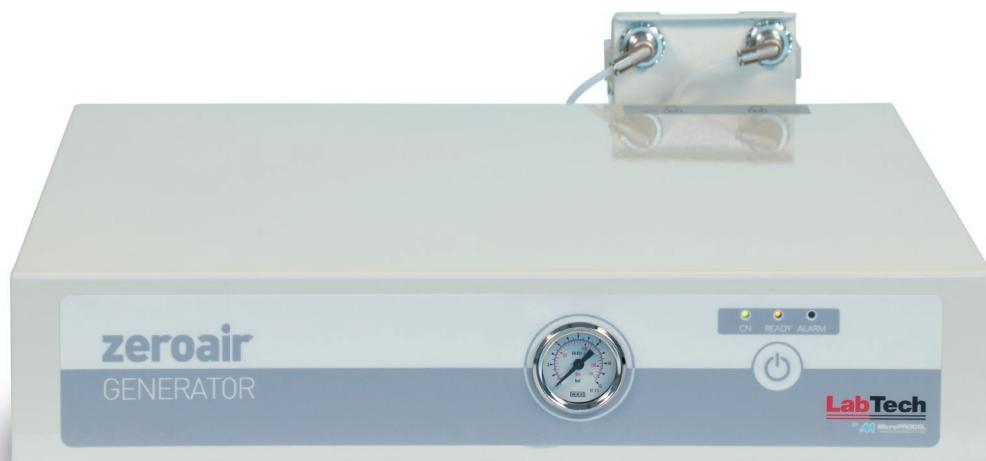
<sup>1</sup>Referred to O<sub>2</sub>, DewPoint < -50°C - <sup>2</sup>Referred to O<sub>2</sub>, DewPoint < -75°C

# ZERO AIR GENERATORS

## LZA Series, the right partner in air purification.

The LZA series is one of the smallest and most efficient hydrocarbon-free air purifier systems for laboratory use. It utilizes the reliable and efficient heated catalyst technology to reduce the emission of THC and methane to less than 0.05 ppm. The LZA series increases the efficiency of any laboratory by removing the high-pressure gas cylinders. Zero air is used in many commercial and laboratory applications to improve the quality of a product or process, like the source of fuel air for Flame Ionization Detectors (FID) or a zero reference for any instrument that measures hydrocarbon concentration. The LZA generators allow the production of in-house purified air in a simple and inexpensive way.

- Flow-Rates up to 6000 cc/min
- Outlet Pressure up to 6,5 bar
- Total Hydrocarbon Content < 0,05 ppm
- Compact Dimensions
- Plug & Play Solution



## MAIN APPLICATIONS

- THA
- Flame photometric detector (FPD)
- NPD
- Flame ionization detector (FID) for feed gas
- Pulsed flame photometric detector (PFPD)

## TECHNICAL SPECIFICATIONS

# LabTech

W W W . L A B T E C H S R L . C O M

## LabTech, your reliable laboratory solution provider.

LabTech is a leading manufacturing company with skill and passion devoted to provide advanced laboratory solutions to the analytical community. We are located in Sorisole, northern Italy, with facilities in USA and China. Incorporated with global branches, LabTech is organized into R&D, production, marketing & sales and customer support. Major LabTech products include organic/inorganic sample preparation systems, laboratory cooling/heating/temperature control equipments, analytical instruments, gas generators, laboratory centrifuges and liquid nitrogen generators. With knowledgeable scientists and experienced engineers, our R&D team has developed and released a series of new lab equipments and instruments dedicated to the modern analytical laboratories. With all of these accomplishments and our endless research and development efforts, we are proud to be your professional partner in lab solutions.



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