GAS GENERATION SOLUTIONS

LabTech

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NITROGEN GENERATORS

LN Series... innovation inspired

LabTech develops innovative nitrogen gas generators for applications requiring high purity and rapid flow changes. The LN series meets the "Green Lab Conditions" regulations by using eco-friendly materials. By integrating advanced technologies and continuous innovation, every stage of our production process is dedicated to delivering high-quality, customized solutions tailored to meet any requirement.. The LN series is designed especially for analytical and industrial use, providing an accurate control of the supply of nitrogen gas. In order to meet every requirements, the series include 2 versions: one with built-in Air Compressor (LNC) and one without.

- **Complete range of gas flow-rates**
- **Models with built-in low noise Air Compressor (LNC Series)**
- **Compact dimensions**
- **Nitrogen purity up to 99.9999%**
- **Auto-run function**
- **Unique touch screen interface**
- **Catalyst for low THC requirements (LNGC Series)**
- **Stackable (LN Series)**

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.

Version with built-in Air Compressor – LNC Series

MAIN **APPLICATIONS**

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

Version for HQ Nitrogen – LN Series

TECHNICAL **SPECIFICATIONS**

	LN Series			LNGC Series		LNC Series with built-in air compressor		
	LN500	LN1000	LN4000	LNGC500	LNGC1000	LN15NC	LN30NC	LN70SNC
▪ NITROGEN PRODUCTION								
Flow rate - up to (lt/min)	0,5	1	4	0,5	1	15	30	70
Purity - up to (%)	99,9999	> 99.9995	99,9	99,9999	> 99.9995	99,5	99,5	99,9
Outlet Pressure - up to (bar)	8					7		8
Total Hydrocarbon Content - THC (ppm)	-			<0.1 ppm		-		
▪ ELECTRICAL REQUIREMENTS								
Power Supply Voltage (Vac/Hz)	100-240Vac (±10%) 50/60 Hz					220-240 Vac (±10%) 50/60 Hz		
Rated output (kW)	0,35					0,8	1,6	2,2
Line Protection (A)	4					10	16	16
▪ AIR SUPPLY								
Air Compressor (Type)	Not included					Built-In (Piston)		Built-In (Scroll)
Minimum pressure (bar)	6.5					-		
Maximum pressure (bar)	10					-		
Maximum temperature (°C)	< 30					-		
Minimum quality	ISO 8573-1:2010 Class [1:3:1]					-		
▪ ENVIRONMENTAL CONDITIONS								
Temperature (°C /°F)	5 ÷ 40 (41÷104)					5 ÷ 35 (41 ÷ 95)		
Relative humidity (%)	20 ÷ 80					20 ÷ 70		
Noise emission (dBA)	< 35					< 56	< 58	< 50
Max. elevation for nominal performances (m a.s.l.)	< 2000							
▪ GENERAL DATA								
Dimensions - W x D x H (cm)	40.5 x 59 x 28					43.5 x 60 x 73		59 x 92 x 73
Weight (Kg)	39					50	70	175

HYDROGEN GENERATORS

LMH & LMHPLUS Series, simply the best!

The LMH & LMHPLUS series use an electrolytic cell with a long life multilayer PEM technology 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**
- **"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**
- **Stackable**
- **Hydrogen sensor (optional)**
- **RS 232 / RS 485 / USB included**
- **Digital I/O included**
- **LAN (optional)**

MAIN **APPLICATIONS**

- **Carrier gas for GC and GC-MS**
- **ICP-MS collision gas**
- **Production of H2O2**
- **Flame ionization detector (FID) for feed gas**
- **Refilling of metal hydride tanks for the application of fuel cells Electronics**

TECHNICAL **SPECIFICATIONS**

	LMH180N	LMH350N	LMH520N	LMH180N PLUS	LMH350N PLUS	LMH520N PLUS	LMH700N PLUS	LMH1000N PLUS	LMH1200N PLUS
▪ GENERAL DATA									
Electrolytic cell	Long life Multilayer PEM technology								
Drying system	Desiccant column			PSA (Pressure Swing Adsorption)					
H2 purity	>99.9999% *			>99.99999% *					
Outlet pressure (bar)	10 (145 psi)			12 bar (174 psi) / 16 bar (232 psi) (optional)					
Max flow rate (cc/min)	180	350	520	180	350	520	700	1000	1200
Dimensions - W x D x H (cm)	40.5 x 60.5 x 46								
Net weight - water tank empty (Kg)	29 kg		31 kg	30 kg		32 kg		34 kg	36 kg
▪ SOFTWARE FUNCTIONS									
Parallel mode	Ready on Board								
Auto-refill	Included								
Fill canister	Included								
▪ WATER									
Quality	Deionized, ASTM II, <0,1uS								
Internal tank capacity (L)	3								
External tank capacity (L)	5 or 10								
▪ ELETRICAL REQUIREMENTS									
Power supply voltage	100-240VAC (±10%) 50/60 Hz								
Max power consuption (W)	320		640	320		640			
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)	5-30°C (41-86°F)								
Humidity (°C) (Max, non condensing)	70%								
Noise (dB)	< 35dB(A)								
IP rating	IP20								
Altitude	< 2000m								

* referred to O2, dew point <-50°C - Atmospheric Dew Point (ADP)

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 30.000 cc/min**
- **Outlet pressure up to 9 bar**
- **Total hydrocarbon content < 0,05 ppm**
- **Compact Dimensions**
- **Plug & Play Solution**
- **Stackable**

MAIN **APPLICATIONS**

- **Thermogravimetric Analysis (TGA)**
- **Flame photometric detector (FPD)**
- **Nitrogen-Phosphorous Detector (NPD)**
- **Flame ionization detector (FID) for feed gas**
- **Pulsed flame photometric detector (PFPD)**

TECHNICAL **SPECIFICATIONS**

	LZA1000N	LZA2000N	LZA3000N	LZA6000N	LZA30000N
▪ GENERAL DATA					
Max flow rate (cc/min)	1000	2000	3000	6000	30000
Max inlet pressure (bar)	10 (145 psi)				
Max outlet pressure (bar)	Inlet air pressure minus 1 Bar (14 psi). Exemple Inlet: 8 Bar = Outlet: 7 Bar				
Total hydrocarbon content (ppm)	< 0.05 ppm				
Dimensions - W x D x H (cm)	40.5 x 59 x 15				
Net weight (kg)	13				17
▪ AIR INLET REQUIREMENTS					
Air Inlet requirement	ISO 8573-1:2010 Class [2:4:1]				
Max Inlet hydrocarbon content	50 ppm				
Supply pressure (bar)	3 - 10 (43 to 145 psi)				
Temperature (°C)	1 (34°F) to 35 (95°F)				
▪ ELECTRICAL REQUIREMENTS					
Power Supply Voltage (Vac/Hz)	100-240Vac (±10%) 50/60Hz				
Max consumption power (W)	320				500
Fuse rating (A)	4				6.3
▪ CONNECTIONS					
Outlet port	1/8" fermale BSPP				
Inlet port	1/8" fermale BSPP				
Water purge	Threaded ISO M5 female				
▪ OPERATING CONDITIONS					
Temperature (°C)	5 (41°F) to 40 (104°F)				
Humidity (Max, non condensing)	80%				
IP rating	IP20				
Noise	< 35dB(A)				

AIR COMPRESSOR

Air compressors are low-tech equipment widely used in laboratories. In spite of being humble instruments, they are essential in labs as they generate a clean air and provide a good and constant compression. LabTech air compressors perfectly fi t among the other lines, specially the Gas Generators, in the existing portfolio. They cover the large majority of needs of a medium lab with a wide range of models from 35 to 220l/min.

Air compressors operate completely autonomously, producing only what the machinery requires, without any waste. All models are integrated with a storage tank to support peak consumptions. They also have safety systems to ensure that the design parameters are not exceeded.

- » **Oil-free**
- » **Low noise**
- » **Built-in humidity removal system**
- » **Automatic water drain**
- » **Self-protection function**
- » **Intuitive and simple operation**
- » **Easy maintenance**
- » **Stackable (LAC40N)**

MAIN **APPLICATIONS**

- **AAS**
- **ICP-OES**
- **Evaporation**
- **Zero Air Generation for LZA Series**
- **Nitrogen Generation for LN Series**
- **Thermogravimetric Analysis (TGA)**
- **Direct Mercury Analysis System (DMA)**

TECHNICAL **SPECIFICATIONS**

	LAC35	LAC40N	LAC200S	LAC220S
▪ **GENERAL DATA**				
Air flowrate (L/min)	35	40	200	220
Dew point	< -10°C (<-14°F)	< -20°C (< 4°F)	< -20°C (<-4°F)	< -20°C (<-4°F)
Pressure (bar)	7	10	10	8
Noise level (dB)	53	58	65	63
Power (kW)	0.7	0.75	2.5	2.2
Dimensions - W x D x H (cm)	46x32x45	40.5x61x46	59x69x74	59x69x74
Weight (kg)	30	43	130	130
Power Supply Voltage	220/240V - 50/60Hz	220/240V - 50/60Hz	220/240V - 50/60Hz	220/240V - 50/60Hz

SUSTAINABLE GAS GENERATION FOR A GREENER FUTURE

By generating gas on-site and on demand, LabTech gas generators eliminate the need for delivered gas cylinders, reducing transportation emissions and the environmental impact associated with production and logistics. This significantly lowers the facility's carbon footprint while improving operational efficiency.

Our hydrogen, nitrogen, zero air generators and air compressor are engineered for optimized energy consumption, using advanced control systems to deliver only the amount of gas required on demand. This minimizes energy waste and ensures maximum resource efficiency throughout daily operations.

In addition, the long service life of our components, reduced consumable requirements and low-maintenance design contribute to less material waste over time. With fewer cylinder changeovers and deliveries, workplace safety is also improved creating a cleaner, safer and more responsible laboratory or production environment.

COMPLETE GAS SOLUTIONS FOR GC & GC-MS

LabTech gas generators are able to deliver reliable nitrogen, hydrogen and zero air tailored to your specific instrument configuration. Designed with modern laboratories in mind, our generators provide a safe, efficient and high-purity gas supply, eliminating the inconvenience, cost and safety risks associated with traditional gas cylinders. Our hydrogen and nitrogen generators offer a smart, cost-effective alternative to helium, helping laboratories reduce operating expenses while ensuring uninterrupted performance.

With LabTech gas generators, you gain:

- Continuous on-demand gas supply
- High purity for sensitive analytical applications
- Enhanced laboratory safety
- Reduced operational costs
- Compact, hassle-free operation

MODULAR BY DESIGN. FLEXIBLE BY NATURE.

LabTech gas generators are engineered with a modular configuration that adapts seamlessly to your laboratory environment. Designed to be fully stackable, each unit can be safely and efficiently placed on top of another, optimizing valuable bench or floor space. LabTech's modular system allows you to configure your setup exactly as needed. Units can be positioned side by side, stacked vertically or arranged to fit specific spatial or workflow requirements, giving you total flexibility. **With LabTech gas generators, you don't adapt your lab to the equipment, the equipment adapts to you.**

HYDROGEN

Hydrogen is widely used in GC as a carrier and fuel gas for FID, NPD and FPD due to its excellent chromatographic performance. Compared to helium, it offers higher optimal linear velocity for faster analyses and good peak shapes. With an on-site generator, consistent purity and stable flow ensure reproducible retention times and reliable performance.

ZERO AIR

Zero Air is used in GC as an oxidant for FID and a combustion-support gas for FPD and flame-based detectors, with ultra-low hydrocarbon content essential for performance. Low THC levels minimize baseline noise and improve sensitivity and peak reproducibility. On-site generation ensures stable flame conditions and makes Zero Air ideal for high-precision GC system.

NITROGEN

Nitrogen is widely used in GC as a carrier, make-up and detector support gas in ECD, FID, NPD, TCD. At optimal linear velocity, it provides high plate efficiency, sharp peaks and excellent resolution under low-flow conditions. When generated on-site, constant purity and stable flow ensure robust, reproducible performance.

AIR COMPRESSOR

The silent, oil- and moisture-free air compressor supplies high-quality compressed air for analytical laboratories. It prevents contamination and ensures stable detector response. Consistent pressure and flow support reliable combustion and reproducible results, while the compact, stackable, low vibration design suits sensitive instruments and saves lab space.

LabTech

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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.

RoHS compliant

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COOL GREEN

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REV05-03/2026