



LASER MACHINES Nitrogen Generator Range

Consistent, High-Purity Nitrogen for Laser Welding



WHAT IS A NITROGEN GENERATOR?

Nitrogen generators are essential in modern industrial applications, particularly for laser welding processes. They produce nitrogen gas on-site, eliminating the need for high-pressure nitrogen cylinders and reducing overall operating costs. These systems work by separating nitrogen from atmospheric air, ensuring a constant, reliable supply of high-purity nitrogen (up to 99.999%) that is crucial for many laser welding operations.

Nitrogen plays a critical role in shielding and purging during welding, preventing oxidation and ensuring clean, strong welds. Unlike traditional methods of sourcing nitrogen via gas cylinders, nitrogen generators provide a more efficient, safer, and environmentally friendly solution. With the ability to produce nitrogen as needed, these systems offer long-term cost savings and improved safety, as they eliminate the risks associated with storing and transporting high-pressure gas cylinders.

AIR

Compressed air powers the system and provides material to produce nitrogen, generally requiring 0.7-0.8 MPa pressure.



PURIFY

The air is cleaned of moisture and impurities through a dryer and filters, ensuring clean air for nitrogen production.



N₂

Oxygen is absorbed more quickly than nitrogen, allowing the nitrogen to be separated and produced continuously.

ADVANTAGES



Cost Efficiency

Nitrogen generators offer significant savings compared to using bottled gas. By producing nitrogen on-site, they eliminate the need for frequent purchases of bottled gas.



High Purity

Nitrogen produced by these generators maintains a consistent purity level of 99.99%, which is higher than bottled nitrogen. Making it a viable and cost-effective alternative.



Safety

Unlike high-pressure argon cylinders, nitrogen generators provide low-pressure nitrogen, significantly reducing the risk of accidents related to high-pressure gas storage and transport.



Long-Term Investment

A nitrogen generator is a one-time investment, unlike bottled gases which require constant replenishment, as well as a dependency on external gas suppliers.



Mobility and Convenience

Nitrogen generators are compact and portable, allowing for easy transportation. Unlike bottled gases, which are classified as hazardous materials and require special handling, nitrogen generators offer greater flexibility without the logistical challenges of moving dangerous goods.



Reliability

Once installed, nitrogen generators offer a continuous, on-demand supply of nitrogen, removing the need to frequently refill or replace gas cylinders. This ensures uninterrupted production and is more convenient and efficient for operations.

SG-Z052 Nitrogen Generator

Designed for smaller laser welding operations, producing 1m³ per hour of high-purity nitrogen, ideal for supporting a single handheld laser welder.

Nitrogen Purity: 99.99%

Input Pressure: 8 Bar

Output Pressure: 7 Bar

Power: 3.6kW

Nitrogen Production Capacity:

1m³/h can support one handheld laser welder at a time.



SG-Z057 Nitrogen Generator

Designed for low-cost operation and ideal for handheld laser welding applications. The compact size makes it easy to transport and position near work areas.

Nitrogen Purity: 99.999%

Input Pressure: 8 Bar

Output Pressure: 7 Bar

Power: 15W

Nitrogen Production Capacity:

2m³/h can support up to two handheld laser welders simultaneously.

1m³/h can support one handheld laser welder at a time.

To ensure optimal nitrogen production, an air compressor and a cold dryer are necessary. The air compressor provides the required pressurised air, while the cold dryer removes moisture, preventing condensation from affecting the nitrogen generation process.



SG-Z058 Nitrogen Generator

Features low power consumption and is compatible with two laser handheld welding machines. It offers reliable nitrogen production without the need for additional cold dryers.

Nitrogen Purity: 99.999%

Input Pressure: 8 Bar

Output Pressure: 7 Bar

Power: 1.1kW

Nitrogen Production Capacity:

2m³/h can support up to two handheld laser welders simultaneously.

1m³/h can support one handheld laser welder at a time.



To ensure optimal nitrogen production, an air compressor is necessary to provide the required pressurised air.

SG-Z059 / SG-Z060 Nitrogen Generator

Provides high-purity nitrogen suitable for sensitive welding tasks. It offers reliable nitrogen production without the need for additional compressors or cold dryers.

Nitrogen Purity: 99.999%

Input Pressure: 8 Bar

Output Pressure: 7 Bar

Power: 3.6kW

Nitrogen Production Capacity:

2m³/h can support up to two handheld laser welders simultaneously.

1m³/h can support one handheld laser welder at a time.



SPECIFICATIONS

| | | SG-Z052 | SG-Z057 | SG-Z058 | SG-Z059 / 60 |
|--|----------------|------------------------|----------------------------|----------------|----------------|
| Nitrogen Production | | 1m ³ /h | 2m ³ /h | | |
| Nitrogen Purity | | 99.99 / 99.999% | | | |
| Power Supply | | 220V / 50Hz | | | |
| Power | | 3.6kW | 15W | 1.1kW | 3.6kW |
| Automatic Start and Stop | | Standard Configuration | | | |
| Configuration Requirements | Cold Dryer | Not Required | Required | Not Required | Not Required |
| | Air Compressor | Not Required | Required | Required | Not Required |
| Type of Configuration | | 3 in 1 | Single Nitrogen Generator | 2 in 1 | 3 in 1 |
| Dimensions (cm) | | 111 x 63 x 112 | 59.5 x 50 x 105 | 111 x 63 x 112 | 111 x 63 x 112 |
| Weight (kg) | | 208 | 128 | 204 | 238 |
| Air Intake Pressure | | >0.65 ≤0.8Mpa | | | |
| Nitrogen Production Pressure | | >0.55 ≤0.7Mpa | | | |
| Recommended Quantity For Laser Welding | | One Handheld Laser | Two Handheld Laser Welders | | |
| Avg. Parts Replacement Interval | | 12 Months | | | 2 - 3 Months |