Organomation®

Cat# NA1955

NITRO-GEN Nitrogen Generator

DESCRIPTION

The NITRO-GEN Nitrogen Generator (Catalog# NA1955) was developed with Organomation's nitrogen evaporators in mind, making it the most suitable generator for our instruments. This generator is a safe, reliable, and cost-effective alternative to traditional gas suppliers.

It is a lightweight, easy to set up unit that requires only a source of compressed air to run. This unit is an ideal choice for labs with an in-house compressed air source. The NITRO-GEN produces up to 20 LPM of nitrogen gas and is recommended for evaporation of up to 48 samples.

The NITRO-GEN uses a hollow-fiber membrane to convert compressed air to a stream of 95-99% pure nitrogen gas. The hollow-fiber membrane consists of a series of narrow, semipermeable tubes in a porous membrane. As compressed air travels through the fibers, oxygen and water vapor permeate the membrane and are vented off, leaving a stream of high purity nitrogen gas. At up to 99% purity, the resulting N2 gas stream can be used in a variety of sample preparation applications.

ADVANTAGES

- **Quick Start-Up Time**- Nitrogen is produced instantly, no heat up time
- **Saves Energy**- No electrical power needed
- **Engineered Design**- Life expectancy is more than 10 years
- **Low Maintenance**- Serviceable clean air filter
- **Compact and Lightweight**- Small footprint conserves valuable bench space
- **Reduced CO2 Emissions**- No heaters, less energy required

STANDARD FEATURES

- Adjustable outlet pressure regulator, **(0-100 psi)**
- Replaceable internal air filter
- Requires an oil-less compressed air source

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NITRO-GEN Specifications

Case Specifications	
Dimensions (L x W x H)	9.5 x 8 x 19.5 in 24.1 x 20.3 x 49.5 cm
Material	Aluminum (powder coated)
Weight	13.25 lbs 6 kg
Inlet Fitting	¼" Push-to-Connect Female
Outlet Fitting	¼" Push-to-Connect Female
Inlet Air Conditions	
Maximum Operating Pressure	10.3 bar g
Particles	Filtered at 0.01 µm cut off
Maximum Oil Vapor Content	<0.01 ppm (w)
Relative Humidity	<100% (non-condensing)
Ambient Conditions	
Ambient Temperature	36 °F to 122 °F 2 °C to 50 °C
Ambient Pressure	Atmospheric
Air Quality	Clean air without contaminants

Flow Rate (LPM) and Purity (%) Based on Inlet Pressure

	Nitrogen Purity				
Inlet Pressure	99%	98%	97%	96%	95%
4 bar g	2.5	4.5	6.5	8.3	10.3
5 bar g	3.2	5.7	8.0	10.3	13.0
6 bar g	4.2	7.5	10.3	13.3	16.3
7 bar g	4.8	8.7	12.2	15.5	19.0
8 bar g	5.5	10.0	13.8	17.7	21.8
9 bar g	6.5	11.7	15.8	20.5	25.3
10 bar g	6.8	12.5	17.3	22.2	27.3

Based on conditions at 1.01 bar and 20 °C

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Required Compressor Specifications for NITRO-GEN

The NITRO-GEN Nitrogen Generator, Cat# NA1955, must be used in conjunction with a laboratory grade oil-less air compressor or other clean compressed air source.

Inlet Air Conditions

Max. operating pressure	150 psig
Particles	filtered at 0.01 µm cut off
Max. oil vapor content	<0.01 ppm (w)
Relative humidity	<100% (non-condensing)

The tables below show the minimum feed-air consumption for the NITRO-GEN Nitrogen Generator at varying inlet air pressure and resulting nitrogen purity. The first table relates compressor pressure to nitrogen output flow and purity, and the second specifies required minimum feed-air consumption to achieve that nitrogen output.
Match entries between the two tables based on nitrogen purity and inlet air pressure; for instance 19.33 L/min of compressed air at 58 psi will be consumed to generate 2.5 L/min of nitrogen gas at 99% purity.

Minimum Nitrogen Flow Rate NITRO-GEN (L/min)

	Nitrogen Purity (%)				
Inlet AIR (psi)	99	98	97	96	95
58	2.50	4.50	6.50	8.33	10.33
73	3.17	5.67	8.00	10.33	13.00
87	4.17	7.50	10.33	13.33	16.33
102	4.83	8.67	12.17	15.50	19.00
116	5.50	10.00	13.83	17.67	21.83
131	6.50	11.67	15.83	20.50	25.33
145	6.83	12.50	17.33	22.17	27.33

Feed-air consumption at minimum nitrogen flow rate (L/min)

	Nitrogen Purity (%)				
Inlet AIR (psi)	99	98	97	96	95
58	19.33	21.50	23.83	25.67	28.17
73	24.00	26.83	29.67	32.00	35.17
87	28.83	33.00	36.33	39.83	44.17
102	33.67	38.50	42.50	46.50	51.50
116	38.50	44.00	48.50	53.17	58.83
131	45.00	51.00	55.50	61.50	68.33
145	48.17	55.00	60.67	66.50	73.67