

# NitroVap Gas Generators

**Parker Balston's NitroVap-1LV and NitroVap-2LV Nitrogen Generators** can provide clean, ultra-dry nitrogen to sample evaporators. These systems offer high nitrogen output flows in a miniature cabinet. The user can activate the manual SLEEP economy mode to eliminate compressed air consumption when the sample concentrator is not in use.

Nitrogen is produced by utilizing a combination of filtration and membrane separation technologies. A high efficiency prefiltration system pretreats the compressed air to remove all contaminants down to 0.01 micron. Hollow fiber membranes subsequently separate the clean air into a concentrated nitrogen output stream and an oxygen enriched permeate stream, which is vented from the system. The combination of these technologies produces a continuous on demand supply of pure nitrogen.

The NitroVap generators are complete systems with state-of-the-art, highly reliable components engineered for easy installation, operation, and long term performance. The Parker Balston NitroVap-1LV and NitroVap-2LV eliminate all the inconveniences and cost of LN2 dewar and nitrogen cylinder gas supplies and dependence on outside vendors. Uncontrollable price increases, dewar ice and condensation, contract negotiations, long term commitments, and tank rentals are no longer a concern. With a NitroVap generator, you control your gas supply.

Since NitroVap generators incorporate unique membrane separation technology, nitrogen delivery is immediate to the sample concentrator. "Lock-it-and-leave-it" operation of the sample concentrator is maintained without downtime and without "running out of gas" mid blow-down.



NitroVap-1LV and NitroVap-2LV



This Technology Features Advanced HiFluxx Fiber

## Features and Benefits

- Ideal for any combination of sample evaporators up to 100 nozzle positions
- Produces clean, dry (to -20°F) dewpoint evaporator grade nitrogen from any standard laboratory compressed air source
- Accelerates evaporation by decreasing the partial vapor pressure above the solvent liquid
- Eliminates inconvenient and dangerous LN2 boil-off dewars and nitrogen gas cylinders from the laboratory
- Recommended and used by many sample concentrator and sample evaporator manufacturers
- Payback period of typically less than one year
- Sleep economy mode
- Silent operation and minimal operator attention required

# NitroVap Gas Generators

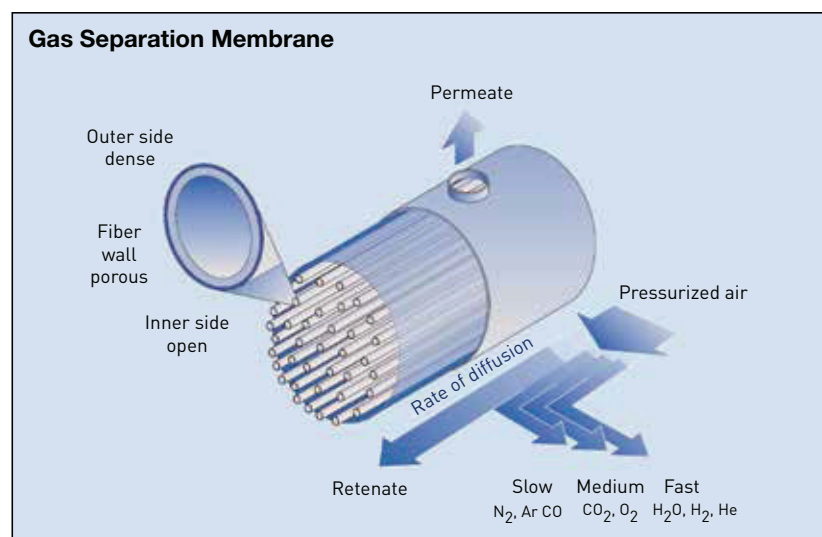
## Principal Specifications

Nitrogen Purity	Up to 90%
Nitrogen Dewpoint	Down to -20°F (-29°C) atmospheric
Maximum Nitrogen Flow Rate	NitroVap-1LV: up to 80 slpm @ 100 psig input up to 140 slpm @ 125 psig input NitroVap-2LV: up to 160 slpm @ 100 psig input up to 287 slpm @ 125 psig input
Electrical Requirements	None
Nitrogen Outlet Pressure	0-15 psig user controlled
Dimensions	10.63"w x 14.1"d x 16.5"h (26.92cm x 35.81cm x 41.91cm)
Inlet Port/Outlet Port	1/4" NPT (female)
Shipping Weight	53 lbs/24 kg

## Ordering Information

for assistance, call 800-343-4048, 8 to 5 Eastern Time

Description	Model
NitroVap Nitrogen Generators	NitroVap-1LV and NitroVap-2LV
Maintenance Kit (Includes 1 each filter cartridge, and 1 each membrane cartridge)	MKNITROVAP
Preventive Maintenance Plan	NITROVAP-1LV-PM, NITROVAP-2LV-PM
Extended Support with 24 Month Warranty	NITROVAP-DN2



## Use with These and Other Blowdown Evaporators

- TurboVap from Biotage
- N-Evap from Organomation
- RapidVap from LabConco
- Reacti-Vap from Fisher Pierce
- Duo-Vap from Jones Chromatography
- DryVap from Horizon Technology
- Evaporex from Apricot

# Self Contained Nitrogen Generators for LC-MS Flow Capacities up to 60 lpm

**The Parker Balston® NitroFlow 60** is a self contained generator that produces up to 60 slpm of pure LC-MS grade nitrogen at pressures of up to 100 psig. Nitrogen is produced utilizing a combination of a scroll compressor and nitrogen membrane separation technologies. This combination of technologies yields the highest performing, most reliable and quietest integrated nitrogen generation system available.

The NitroFlow 60 is also available with an integrated membrane dryer for use with instruments that require dry air, including the chip cube interface from Agilent Technologies.

Typical applications include LC-MS, nebulizer gases for APCI and ESI, Jet Stream, I Funnel, ELSD, Turbo Vaps and chemical solvent evaporation.

The unique combination of a rotary scroll compressor and high efficiency membrane ensures that the NitroFlow 60 has many unique advantages over all other existing LC-MS nitrogen generators. Rotary scroll compressors operate at low temperatures, have less moving parts and are significantly quieter than piston compressors used by other Nitrogen Generator manufacturers.



## Features and Benefits

- Complete “plug and play” system recommended for all major LC-MS instruments
- Phthalate-free, no organic vapors
- Produces a continuous supply of nitrogen for all LC-MS applications
- Eliminate dangerous nitrogen cylinders from the laboratory
- Nearly silent operation; operates at less than 49 dB(A)

# Nitrogen Generators for LC-MS

## Flow Capacities up to 60 lpm

### Principal Specifications

Model	NitroFlow 60	NitroFlow 60D
Nitrogen	Up to 60 slpm	Up to 60 slpm
Dry Air Flow	N/A	5 slpm
Dry Air Dewpoint	N/A	-40°F (-40°C)
Hydrocarbon Free	Yes	Yes
Phthalate Free	Yes	Yes
Maximum Outlet Pressure	100 psig	100 psig
Atmospheric Dewpoint	-58°F (-50°C)	-58°F (-50°C)
Outlet Port	Female 1/4" NPT	Female 1/4" NPT
Min/Max Ambient Temperature	60°F/90°F (16°C/32°C)	60°F/90°F (16°C/32°C)
Electrical Requirements	208-254 VAC, 60 Hz, 1 Phase, 16A* 230 VAC, 50 Hz, 1 Phase, 13A*	208-254 VAC, 60 Hz, 1 Phase, 16A* 230 VAC, 50 Hz, 1 Phase, 13A*
Dimensions	43"H x 21"W x 34"D (109cm H x 53cm W x 86cm D)	43"H x 21"W x 34"D (109cm H x 53cm W x 86cm D)
Shipping Weight	643 lbs. (292 kg)	643 lbs. (292 kg)

\* During operation, 30A at startup

### Ordering Information for assistance, call 800-343-4048, 8 to 5 Eastern Time

Description	Model Number
Nitrogen Generator with Integrated Compressor	NitroFlow 60
Nitrogen Generator with Dryer Option and Integrated Compressor	NitroFlow 60D
NitroFlow 60-PM	PM service program
NitroFlow 60-PMPLUS	Plus service program
NitroFlow60-DN2	Depot extended warranty
NitroFlow60-EN2	Express extended warranty



# TriGas Generator for AB Sciex LC-MS Instruments

## Flow Capacities up to 80 lpm

### Three Gases “TriGas” On Demand

The Parker Balston NitroFlow TG2 is a self-contained gas generator that produces up to 80 lpm of pure LC-MS grade gases.

Designed for the AB Sciex 6500 series, zero air is produced at pressure above 110 psig for Gas1 and Gas2 needs. Nitrogen is produced at pressure above 80 psig for curtain cad gas and exhaust dry air is produced at pressure above 80 psig.

All gases are generated using a combination of a scroll compressor carefully engineered with nitrogen and gas dehydration membranes. The output gases are then purified using a proprietary series of unique purifiers, polishers and getter materials. This combination of Parker technologies yield the highest per-

forming, most reliable and most quiet integrated TriGas generation system available.

### Proven Technology

The unique combination of a rotary scroll compressor and Parker high efficiency membranes and purification systems ensure that the NitroFlow TG2 has many operational advantages over all other existing LC-MS gas generators. Rotary scroll compressors operate at low temperatures, have less moving parts, are vibration-free and are significantly quieter than piston compressors used by other gas generator manufacturers. The compressor in the NitroFlow TG2 comes with a 3-year limited or 10,000 hour compressor warranty.



**The safe, convenient and cost effective method of providing high purity curtain, source and exhaust gases for your AB Sciex LC-MS**

### Features and Benefits

- Complete “plug and play” system recommended for AB Sciex LC-MS instruments
- Payback period of less than one year; low cost of ownership
- Whisper quiet operation; operates at less than 49 dB(A)
- Produces a continuous supply of nitrogen, zero air and exhaust gases for the instrument
- Easy installation and start-up
- Phthalate-free gases, no organic vapors
- Eliminates dangerous nitrogen and zero air cylinders from the laboratory, freeing up valuable laboratory floor space



# TriGas Generator for AB Sciex LC-MS Instruments

## Flow Capacities up to 80 lpm

### Principal Specifications

Model	NitroFlow TG2
Nitrogen, Curtain Cad	Up to 18 slpm @ 80 psig
Zero Air, Gas 1, Gas 2	Up to 26 slpm @ 110 psig
Dry Air, Source Exhaust	Up to 25 slpm @ 80 psig
Hydrocarbon Free	Yes
Phthalate Free	Yes
Sound Level	<49 dB(A)
Atmospheric Dewpoint	Nitrogen -58°F (-50°C)    Dry Air -40°F (-40°C)
Outlet Ports	1/4" gas tubing
Min/Max Ambient Temperature	60°F/85°F (16°C/29°C)
Electrical Requirements	208-230 VAC, 60 Hz, 1 Phase, 16A (1) (2) 230 VAC, 50 Hz, 1 Phase, 13A (1) (2)
Dimensions	43"H x 21"W x 34"D (109cm H x 53cm W x 86cm D)
Product Weight	427 lbs. (194 kgs)

#### NOTES

- 1 During operation, 30A at startup
- 2 Main supply voltage fluctuations not to exceed +10% / -15% of nominal voltage.

### Ordering Information

for assistance, call 800-343-4048, 8 to 5 Eastern Time

Description	Model
TriGas Generator with Integrated Compressor	NitroFlow TG2NA (230 VAC, 60 Hz) NitroFlow TG2WD (230 VAC, 50 Hz) NitroFlow TG2JA200 (Japan)