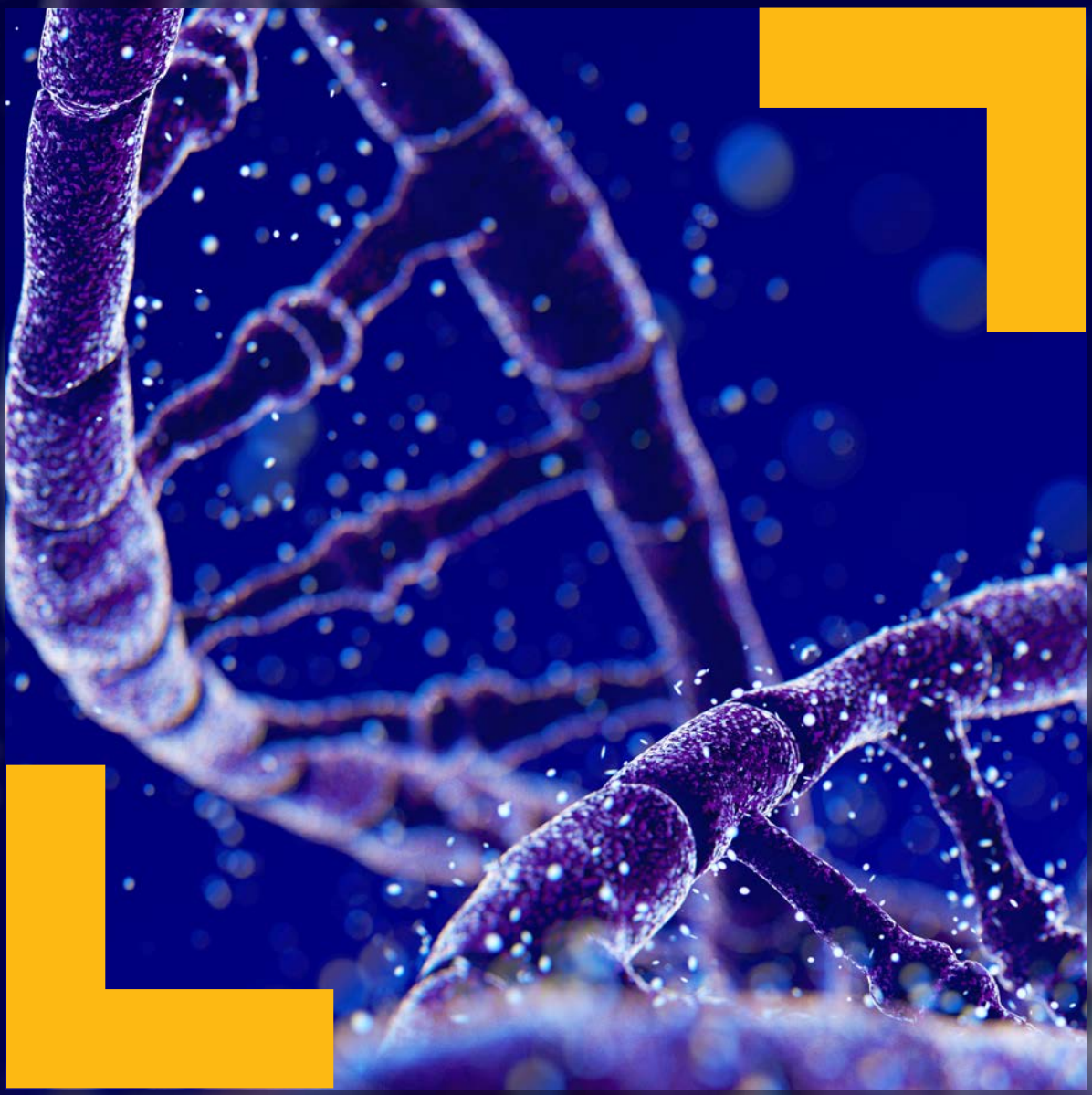

FOCUSED ON **SPECTROMETRY**

Products for LC-MS & Evaporation | AGS-LCMS-E

Parker

ENGINEERING YOUR SUCCESS.

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Products for LC-MS & Evaporation

Parker Hannifin Corporation
Industrial Gas Filtration and Generation Division
phone 800 343 4048

FOCUSED ON PURITY

Offering a wide range of advantages over traditional cylinder gas supply, gas generators are increasingly becoming the popular choice in many laboratories.

In chemical sectors such as pharmaceuticals, polymer, environmental monitoring, CRO, and forensics, scientists rely upon specialized instruments for fast and accurate analysis of compound properties.

A consistent, safe supply of high-purity LC-MS grade gases are essential to ensure precise results in mass spectrometry, particularly with the ever increasing sensitivity of instrumentation.

The challenge is to find a gas supply solution that meets the quality criteria while being easy to use, cost-efficient, and reliable.

> Parker on-site gas generation allows us to have a high-purity, safe, and consistent supply of gas.

Consistent, reliable purity

Gas purity varies significantly from cylinder to cylinder, and impurities can be introduced via the pipeline during changeover. In contrast, on-site generators consistently supply high-purity gas, preventing variations in quality, and ensuring ultra-sensitive analysis, every time.

Supported by proven, advanced technologies you can trust, Parker gas generators to deliver the reliability and consistency your work demands.

Expert gas generation solutions

With a history of expertise in gas generation, Parker is perfectly positioned to support profitable operations in analytical science. Working with partners in laboratories across a range of sectors, our industry-leading solutions enable consistent accuracy through a constant, on-demand supply of various analytical gases.

FOCUSED ON PERFORMANCE

A safer choice

High-pressure cylinders are inherently linked to safety issues - from the chance of injury through manual handling to the risk of gas leaks, which can make the atmosphere potentially explosive or deficient in oxygen.

Gas generators from Parker are a safe alternative, thanks to leak detection technology wi-th 'auto shut off' and integral alarms. They also operate at a fraction of the pressure and with low volumes of stored gas, further reducing the potential for harm.

These generators eliminate many of the inconveniences of dependence on outside vendors, such as uncontrollable price increases, dewar ice and condensation, contract negotiations, long term commitments, and tank rentals. With a Parker generator, you control your gas supply.

Cost-efficient with the lowest lifetime cost

In some cases, you can expect to have recouped the cost of your gas generator in less than one year. Energy efficient technologies keep running costs down, there are no hidden charges such as on-going delivery costs, cylinder rental or storage fees for spares and empty cylinders, and maintenance and part replacement costs are minimal.

Global support for your peace of mind

We know that business continuity is vital to your work. That's why we offer a comprehensive package of expert service, care, and maintenance across our complete analytical gas systems range, worldwide.

From installation, scheduled maintenance, and in very rare cases, emergency assistance, wherever you are, you can trust Parker to give you complete peace of mind.

Continuous supply, available on-demand

Parker nitrogen generators are engineered to transform standard compressed air into nitrogen at safe, regulated pressures, on demand, without operator attention. Engineered for easy installation, operation, and long term performance, and permanently installed at the point of use, an on-site generator provides you with straightforward access to an unlimited supply of gas. Always at the correct pressure, flow, and temperature, Parker nitrogen generators improve the stability of your instruments and the accuracy of your results.

Self-Contained LC-MS Membrane Nitrogen Generator

With NitroFlow Lab, LC-MS grade nitrogen is produced with output pressures of up to 116 psig, utilizing a combination of compressors, carefully matched with filtration and membrane separation technology components.

Intake ambient air from the laboratory is filtered using an inlet suction breather filter to remove airborne organic and particulate impurities. This purified air is delivered to a long life low pressure air compressor which provides an air stream to hollow fiber membranes which subsequently separate the clean air into a concentrated nitrogen retentate and oxygen enriched permeate, which is then cycled through the system.

Prior to exiting the system pure nitrogen retentate is delivered to a nitrogen amplification compressor to assure proper pressure, flow and purity to the LC-MS. The **NitroFlow Lab** will deliver a continuous, on demand supply of pure nitrogen making it the smart alternative to cylinders. Superior engineering with specially designed components have resulted in a system of the utmost reliability and longevity.

NitroFlow Lab

Applications

- LC-MS
- Evaporative light scattering equipment
- Solvent evaporation
- TriGas Incubators
- Nebulizer gases

Principal Specifications

NitroFlowLab	
Nitrogen	Phthalate free with flow to 32 lpm @ Sea Level
Maximum Outlet Pressure	116 psig (8 barg)
Hydrocarbon Content	< 2ppm (excluding methane)
Atmospheric Dewpoint	-58°F (-50°C)
Outlet Port	Female 1/4" NPT
Min/Max Ambient Temp.	50°F/95°F (10°C/35°C)
Electrical Requirements	120Vac/60Hz/16Amp / NEMA 5 - 20 Straight Blade
Dimensions	27.6"h x 12.2"w x 35.4"d (70.1cm x 31cm x 90cm)
Shipping Weight	204 lbs. (92.5 kg)

We've used the **Parker Nitroflow®** (combined compressor and nitrogen generator) on our LCMS for 3 years. In just over two years, it more than paid for itself in nitrogen savings, but the real advantages of the nitrogen generator are the **continuous supply of high quality nitrogen** and the **tremendous amount of time saved** from not having to check, order, and switch high pressure liquid nitrogen tanks.

Karl J. Dria, PhD.
Assistant Research Scientist
Department of Chemistry and Chemical Biology
Indiana University-Purdue University Indianapolis

Self-Contained Nitrogen Generators

The Parker NitroFlow 60 is a self-contained generator that produces up to 69 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 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 as well as the 8050 or 8060 LCMS instruments from Shimadzu Scientific Instruments.

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.

NitroFlow 60 & 60D

- 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
- Nearly silent operation; operates at less than 49 dB(A)

Applications

- LC-MS
- Nebulizer gases
  - APCI & ESI
  - Jet stream
  - I Funnel
  - ELSD
  - Turbo Vaps
  - Chemical solvent evaporation

Principal Specifications

Model	NitroFlow 60	NitroFlow 60D
Nitrogen	Up to 60 slpm	Up to 60 slpm
Dry Air Flow	N/A	Up to 30 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 Temp.	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)

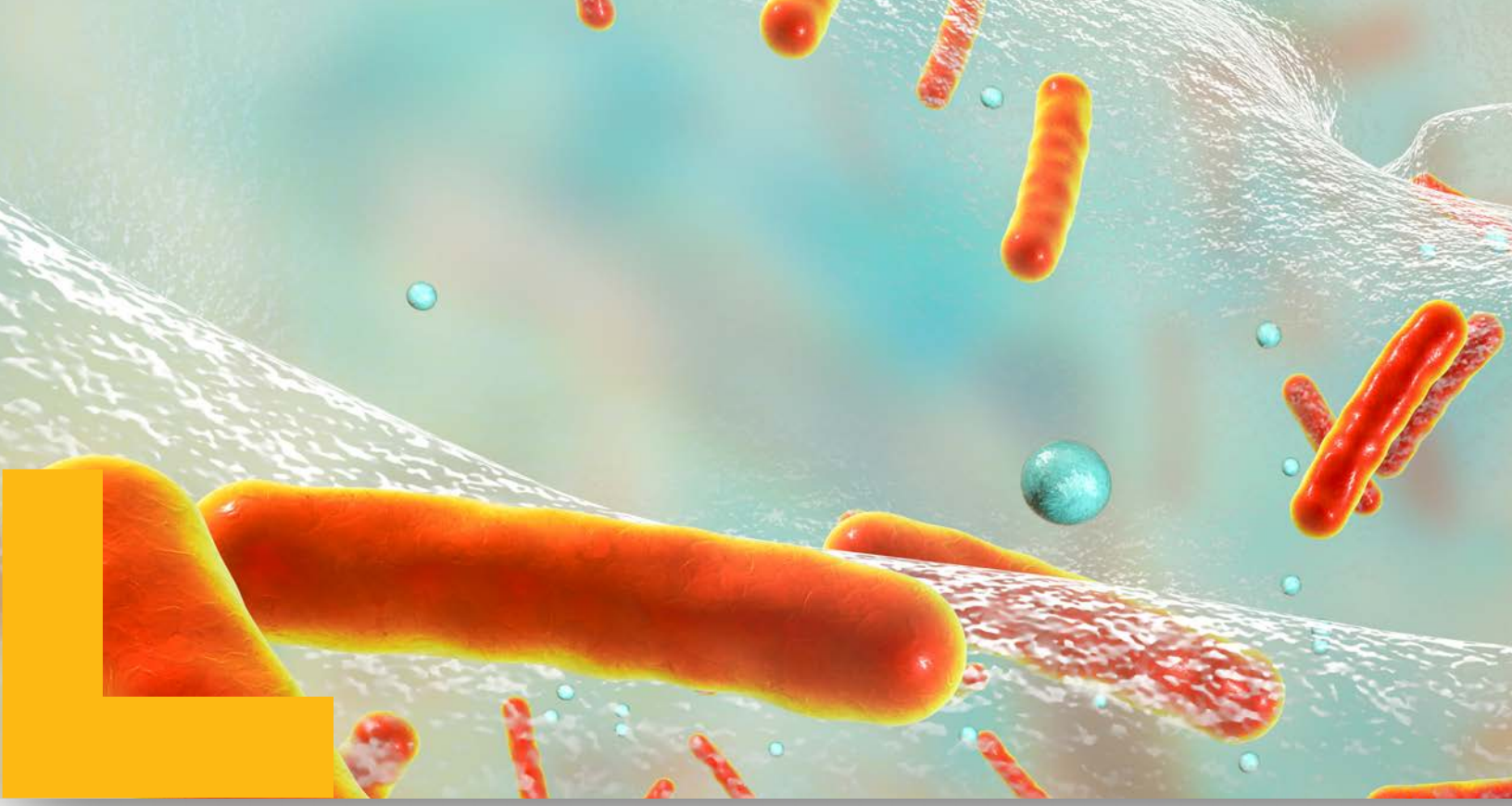
* During operation, 30A at startup

* *Total flow of the generator for combined flow of N2 and CDA is 69 slpm.

Ordering Information

for assistance, call 800-343-4048

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



TriGas Generator for LC-MS Instruments

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

Three Gases On Demand

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

Designed for both Perkin Elmer and Sciex instruments requiring multiple gasses, zero air is produced at pressure above 110 psig for Gas 1 and Gas 2 needs. Nitrogen is produced at pressure above 80 psig for curtain cad gas and exhaust dry air.

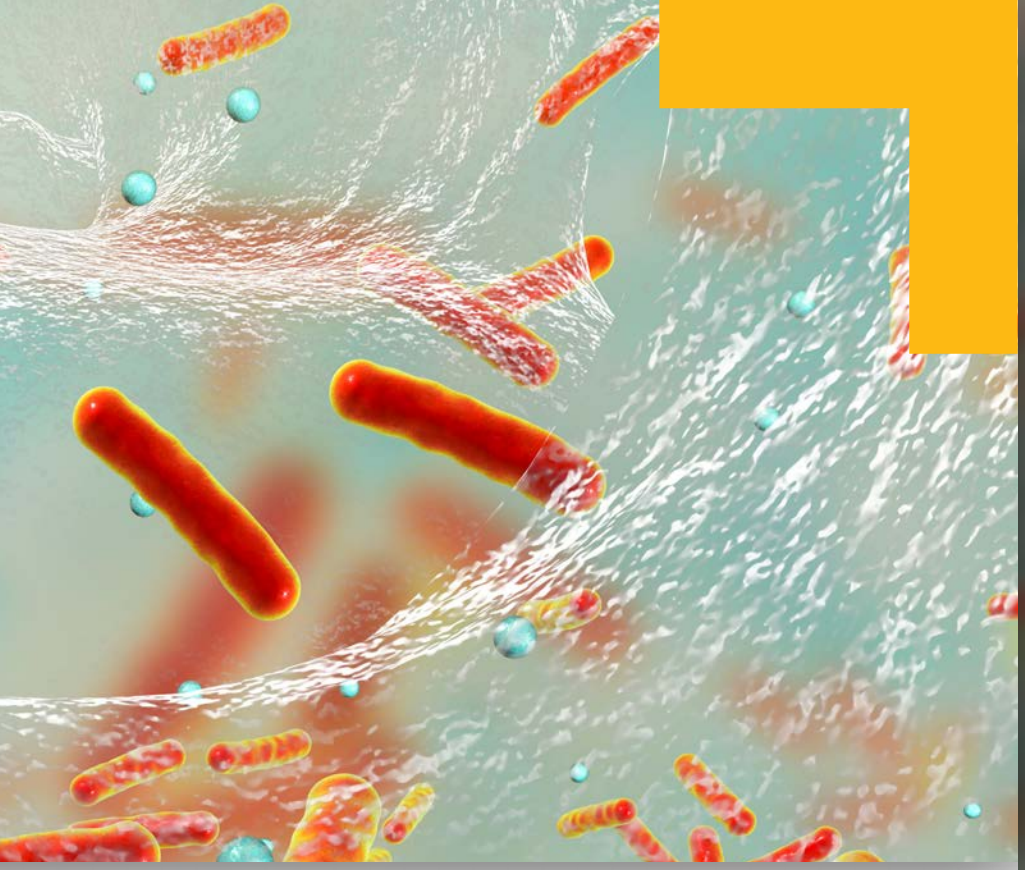
Proven Technology

The unique combination of a rotary scroll compressor and 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.

This combination of technologies yields the highest performing, most reliable, and most quiet integrated TriGas generation system available.

NitroFlow TG2

- Complete "plug and play" system recommended for AB Sciex and Perkin Elmer Instruments
- Payback period of less than one year; low cost of ownership
- Whisper quiet operation; less than 49 dB(A)
- Easy installation and start-up
- Phthalate-free gases, no organic vapors
- 3-year limited or 10,000 hour warranty on compressor



Principal Specifications

NitroFlow TG2	
Nitrogen, Curtain Cad	Up to 18 slpm @ 80 psig
Zero Air, Source	Up to 67 slpm @ 110 psig
Dry Air, Source Exaust	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 Temp.	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)
Shipping 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

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

Membrane Nitrogen Generators

Nitrogen is produced by utilizing a combination of filtration and membrane separation technologies. A high-efficiency prefiltration system pretreats the compressed air to remove 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. This combination produces a continuous, on-demand supply of pure nitrogen.

N2 Series Nitrogen Generators

- No electricity required
- Compact design frees up valuable laboratory floor space
- Phthalate-free, no organic vapors
- Unlike PSA technology, membrane will not suppress corona needle discharge.
- Gas separation membrane with High-Fluxx fiber
- Silent operation

Applications

- LC-MS
- Nebulizer gas
- Solvent evaporation
- Evaporative light scattering detector use (ELSD)
- Tri Gas incubators

Featuring Parker Advanced HiFluxx Fiber

Low Flow Model

Model	# of LCMS instruments
N2-14	1
N2-22	Up to 2
N2-35	Up to 3
N2-45	Up to 5
N2-80	Up to 7
N2-135	Up to 10
N2-200	Up to 17

For single larger nitrogen systems to support from 18-50+ instruments, consult the AGS engineering team for more information at 800-343-4048.

	Low Flow Models N2-14, -22, & -35				Mid Flow Models N2-45, -80, & -135	High Flow Model N2-200
Nitrogen Purity	95.0% - 99.5%				95.0% - 99.5%	96.0 - 99.5%
Atmostpheric Dewpoint	-58°F (-50°C)				-58°F (-50°C)	40°F (5°C)
Suspended Liquids	None				None	None
Particles > 0.01µm	None				None	None
Commercially Sterile	Yes				Yes	Yes
Hydrocarbons	None				None	**None**
Particles > 0.01µm	None				None	**None**
Phthalates	None				None	None
Min./Max. Operating Pressure	60/145 psig				60/145 psig	20 psig
Max. Press. Drop @ 99% N2 Purity, 125 psig	10 psig				10 psig	**10 psig**
Recommended Ambient Operating Temp.	68°F (20°C)				72°F (22°C)	68°F (20°C)
Maximum Inlet Temperature	110°F (43°C)				110°F (43°C)	60/95°F (16/41°C)
Inlet/Outlet Ports	1/4" NPT				1/2" NPT	1/2" NPT
Electrical Requirements	None				None	None
Shipping Weight - lbs (kg)	**N2-04** 42.5 (19)	**N2-14** 75 (34)	**N2-22** 80 (36)	**N2-35** 90 (41)	250 lbs (114 kg)	239 lbs
Dimensions LxWxD - ft (cm)	16.1" x 10.7" x 13.4" (40.9 x 27.2 x 34)	51.5" x 18" x 16.2" (130.8 x 45.7 x 41.1)			67" x 24"x 20" (140 x 61 x 50)	67"h x 24"w x 20"d (170cm x 61cm x 50cm)

Ordering Information

for assistance, call 800-343-4048

Low Flow Generators

Part Number	Galvanic Cell	Annual Maintenance Kit	Installation Kit	Preventative Maintenance Plan	Extended Support with 24 Month Warranty
N2-14	N/A	MK7572C	IK7572	N2-14-PM	N2-14-DN2
N2-22 **N2-35**	N/A	MK7572C	IK7572	N2-22-PM N2-35-PM	N2-22-DN2 N2-35-DN2

Mid Flow Generators

Part Number	Galvanic Cell	Maintenance Kit	Installation Kit	Preventative Maintenance Plan	Extended Support with 24 Month Warranty	Carbon Tower
N2-45	N/A	75478	IK75880	N2-45-DN2	N2-45-DN2	75344
N2-80	N/A	75478	IK75880	N2-80-DN2	N2-80-DN2	75344
N2-135	N/A	75478	IK75880	N2-135-DN2	N2-135-DN2	75344

High Flow Generator

Part Number	Optional Oxygen Monitor Kit	6 Month Maintenance Kit	Installation Kit	Preventative Maintenance Plan	Extended Support with 24 Month Warranty
N2-200	B04-0605	MKN2-200	N2-200PM-INST	N2-200PM	N2-200EN2

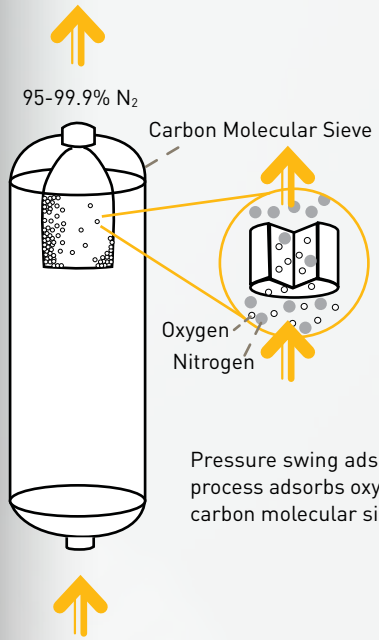
High-Flow Nitrogen Generators

Parker Dual Bed Nitrogen Generators produce up to 99.95% pure, compressed nitrogen at dewpoints to -70°F (-21°C) from nearly any compressed air supply.

AGS200, AGS400, AGS500, AGS600

- Complete package with prefilters, final filters, and receiving tank
- Hassle-free, easy to install and operate
- Little maitenance or monitoring required
- Optional oxygen monitor with alarm

Pressure Swing Adsorption Technology



Pressure swing adsorption gas separation process adsorbs oxygen over nitrogen using carbon molecular sieve (CMS).

The generators are designed to continually transform standard compressed air into nitrogen at safe, regulated pressures without operator attention.

Parker PSA Nitrogen Generators utilize a combination of filtration and pressure swing adsorption technologies.

By raising and lowering the pressure within the CMS bed, all contaminants are captured and released, leaving the CMS unchanged. This process allows the nitrogen to pass through as a product gas at pressure.

The depressurization phase of the CMS releases the absorbed oxygen and other contaminant gases to the atmosphere.

An oxygen monitor to measure the oxygen concentration of the nitrogen stream is available as an option. An audible alarm signals high or low oxygen concentrations (determined by the application). The oxygen analyzer is supplied with alarm relay outputs which may be used to signal a remote alarm, open a backup supply or the process stream, or close the process flow for protection of downstream equipment or processes.

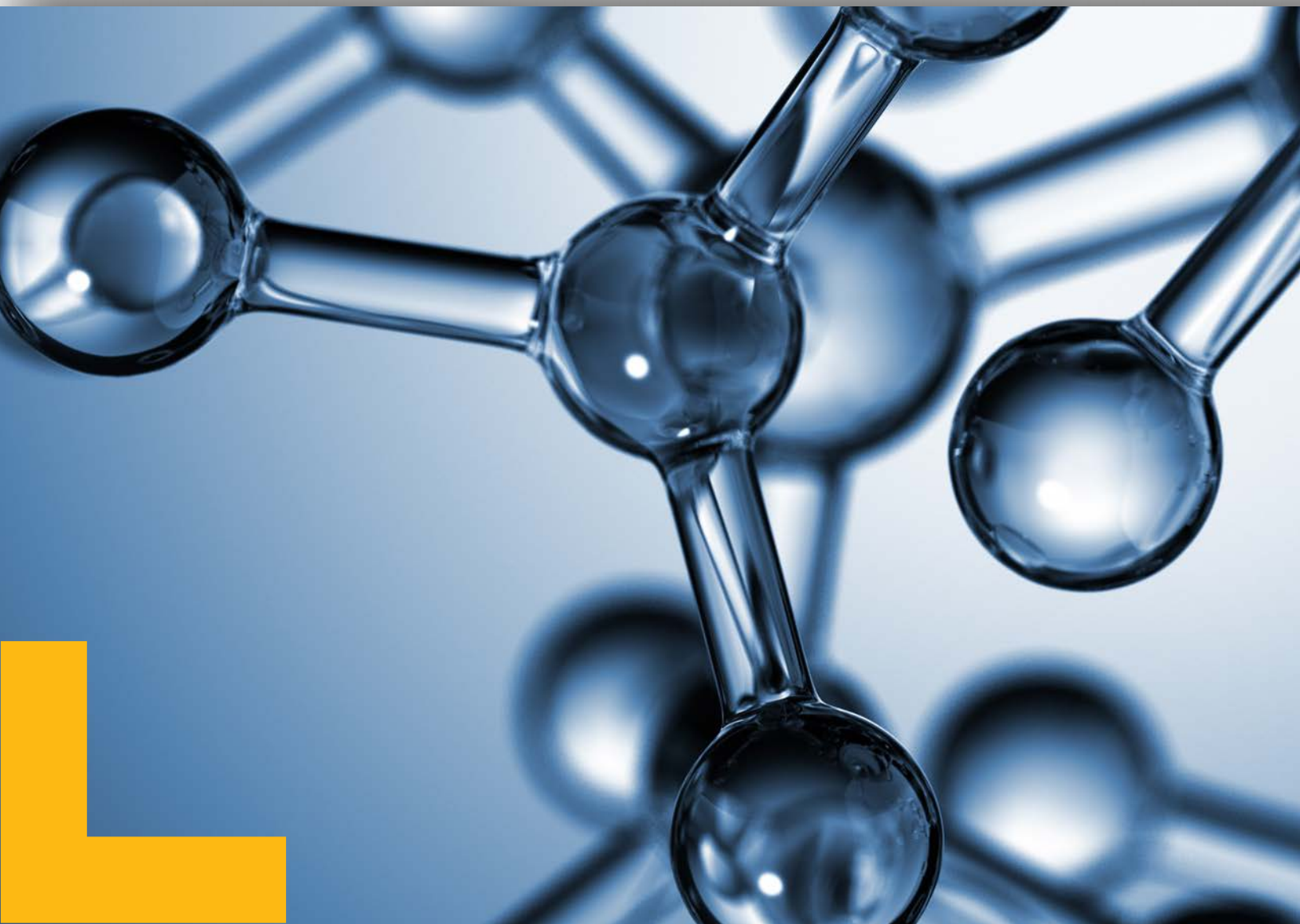
High-Flow Nitrogen Generators

Principal Specifications

Nominal Conditions	
Feed Pressure	140 psig
Temperature	80°F
Ambient Pressure	1 atm.
Compressed Air Specifications	
Maximum Pressure	140 psig
Temperature Range	60°F - 105°F
Dewpoint	40°F pressure dewpoint or better
Residual Oil Content	Trace
Particles	<.01 micron
Ambient Conditions	
Temperature	45°F-90°F
Ambient Pressure	Atmospheric
Air Quality	Clean air without contaminants

	AGS200			AGS400		
% O2	Nitrogen Flow (SCFH)*	Avg. Air Demand (SCFM)	LCMS Flow Rates (LPM)	Nitrogen Flow (SCFH)*	Avg. Air Demand (SCFM)	LCMS Flow Rates (LPM)
.001	94	20	44	189	41	89
.005	150	21	71	300	42	142
.01	194	22	92	388	44	183
.05	314	25	148	629	49	297
.1	365	26	172	730	52	345
.5	512	28	242	1024	57	483
1	618	30	292	1235	59	583
2	770	32	363	1541	63	727
3	892	34	421	1783	68	842
4	983	36	464	1966	72	928
5	1065	37	503	2130	75	1005

*Nitrogen flow will be ±5%



	AGS200	AGS400	AGS500	AGS600
Dimensions (L x D x H)	28.50"x 32.25x 77.75"	28.50"x 32.25x 77.75"	28.50"x 32.25x 77.75"	28.50"x 32.25x 77.75"
Weight (w/ N_2 tank)	1065 lbs	1265 lbs	1553 lbs	1753 lbs
Inlet	1/2" NPT	1/2" NPT	1" NPT	1" NPT
Outlet	1/2" NPT	1/2" NPT	3/4" NPT	3/4" NPT

	AGS500			AGS600		
% O2	Nitrogen Flow (SCFH)*	Avg. Air Demand (SCFM)	LCMS Flow Rates (LPM)	Nitrogen Flow (SCFH)*	Avg. Air Demand (SCFM)	LCMS Flow Rates (LPM)
.001	283	61	134	377	81	178
.005	450	64	212	600	85	283
.01	583	66	275	777	88	367
.05	943	74	445	1258	98	594
.1	1095	78	517	1460	105	689
.5	1536	85	725	2048	114	967
1	1853	89	875	2470	119	1166
2	2311	95	1091	3081	126	1454
3	2675	103	1263	3566	137	1683
4	2949	108	1392	3931	144	1855
5	3195	112	1508	4260	149	2011

*Nitrogen flow will be ±5%

Recommended Gas Generators for Analytical Instruments

Instrument	Gas Requirements	Gas Purity Requirements	Flow Rates	Generator Recommendation/Model
Atomic Absorption (AA) with Flame	Air for Oxidant Gas	Clean, dry	1-7 SCFM	**AA Gas Purifier** Model 73-100
Atomic Thermal Desorber	Zero Air Hydrogen for FID Fuel	Clean, dry, hydrocarbon-free Clean, dry, high purity	Up to 1600 ml/ min.	**Zero Air or TOC Gas Generator** HPZA-3500 or TOC-1250
Atmospheric Pressure Ionization (API-MS)	Air for nebulizer gas, nitrogen for curtain, sheath, and shield gas	Clean, dry, hydrocarbon-free 99% or higher (Nitrogen or Zero Air)	20-67 lpm	**Nitrogen Generator** N2-14, N2-22, N2-35, N2-45, N2-80, N2-135, N2-200, Nitroflowlab, Nitroflow60, NitroflowTG1, NitroflowTG2, 76-98-N100, 76-98-N200, 76080
Autosamplers for Various Instruments	Air for pneumatic controls, nitrogen for sample injector	Clean, dry Ultra high purity	<1 SCFM <550 cc/min	**Membrane Air Dryer** 64-02 **UHP Nitrogen Generator** UHPN2-1100
CO_2 Analyzers	Calibration Air	CO_2 free	0.5-1.0 SLPM	**FT-IR Purge Gas Generator** Spectra15, Spectra30
Continuous Emissions Monitoring (CEM)	Calibration Air Dilution Air	Dry, CO_2, SO_2, NO_x, Hydrocarbon-free	10-15 SLPM	**CEM Zero Air Generator** 75-45-M744
Emissions Analyzers	Zero Air	Hydrocarbon-free	2-15 SLPM	**Zero Air Generator** HPZA-18000
Fourier Transform Infrared Spectrometer (FT-IR)	Air for sample compartment, optics, and/or air-bearing	Clean, dry, CO2-free	0.5-3 SCFM	**FT-IR Purge Gas Generator** Spectra15, Spectra30 **Lab Gas Generator** 74-5041NA
Gas Chromatograph (GC) GC-FID	Zero air as flame support air Hydrogen as flame fuel gas Hydrogen as capillary carrier gas Nitrogen as packed carrier gas Nitrogen as make up gas	Clean, hydrocarbon-free Ultra high purity Ultra high purity Ultra high purity, zero grade Ultra high purity, zero grade	150-600 cc/min. 30-40 cc/min. Varies Varies <100 cc/min	**Zero Air Generator** HPZA-3500 **Hydrogen Generator** H2PEM-260 **Hydrogen Generator** H2PD-300 **UHP Nitrogen Generator** UHPN2-1100 **UHP Nitrogen Generator** UHPN2-1100
GC-FPD	Zero Air as Flame Support Air Hydrogen as Flame Fuel Gas Hydrogen as Capillary Carrier Gas Nitrogen as Packed Carrier Gas	Clean, hydrocarbon-free Ultra high purity Ultra high purity Ultra high purity	<200 cc/min 50-70 cc/min Varies Varies	**Zero Air Generator** HPZA-3500 **Hydrogen Generator** H2PEM-260 **Hydrogen Generator** H2-1200 **UHP Nitrogen Generator** UHPN2-1100
GC-NPD	Zero Air to Rubidium/Thermonic Bead Hydrogen as Detector Support Gas Hydrogen as Capillary Carrier Gas Nitrogen as Packed Carrier Gas	Dry, clean, hydrocarbon-free Ultra high purity Ultra high purity Ultra high purity	<200 cc/min <10 cc/min Varies Varies	**Zero Air Generator** HPZA-3500 **Hydrogen Generator** H2PEM-100 **Hydrogen Generator (Palladium)** H2PD-300 **UHP Nitrogen Generator** UHPN2-1100
GC-ECD	Nitrogen as carrier gas Nitrogen as make up gas	Ultra high purity, zero grade Ultra high purity, zero grade	Varies <100 cc/min	**UHP Nitrogen Generator** UHPN2-1100 **UHP Nitrogen Generator** UHPN2-1100
GC-ELCD, HALL	Hydrogen as reaction gas	Ultra high purity	70-200 cc/min	**Hydrogen Generator** H2PD-300

Legal Notifications

WARNING

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

This document and other information from Parker Hannifin Corporation, its subsidiaries and authorized distributors provide product and/or system options for further investigation by users having technical expertise. It is important that you analyze all aspects of your application and review the information concerning the product or system in the current product catalog. Due to the variety of operating conditions and applications for these products or systems, the user, through its own analysis and testing, is solely responsible for making the final selection of the products and systems and assuring that all performance, safety and warning requirements of the application are met. The products described herein, including without limitation, product features, specifications, designs, availability and pricing, are subject to change by Parker Hannifin Corporation and its subsidiaries at any time without notice.

Instrument	Gas Requirements	Gas Purity Requirements	Flow Rates	Generator Recommendation/Model
GC-TCD	Hydrogen as carrier & reference gas	Ultra high purity	Varies	**Hydrogen generator** H2PD-300
LC-MS	Nitrogen as a curtain gas	LC-MS Grade	3-30 lmp	**Nitrogen generator** N2-14, NitroFlowLab, NitroFlow60, N2-35
ICP Spectrometer	Nitrogen as Optic/Camera Purge	Ultra high Purity	<1-5 lmp	**Nitrogen generator** 76-98NA
Nuclear Magnetic Resonance (NMR)	Air for lifting, spinning	Clean, dry	<10 SCFM	**Air dryer** UDA-300NA **Lab gas generator** 74-5041NA
Ozone generator	Supply air	Clean, dry	.3-20 SCFM	**Air dryer** 64-01, 64-02, 64-10, UDA-300NA
Protein analyzer	Dry air, nitrogen	Clean, dry	Up to 5 SCFM	**Nitrogen generator** N2-14, N2-22, NitroFlowLab, N2-35
Solvent evaporators (sample concentrators)	Nitrogen	Clean, dry nitrogen	2-15 SLPM	**Zero Air Generator** Nitrovap-1LV, Nitrovap-2LV
Stack gas sampler	Dilution air	Clean, dry	<1.0 SCFM	**CEM zero air generator** (75-45-M744)
Total oxygen demand (TOD)	Nitrogen as a carrier gas	Ultra high purity	300 cc/min	**Nitrogen Generator** UHPN2-1100
Thermal gravametric analyzer (TGA)	Nitrogen as furnace purge	Clean, dry, inert	<100 cc/min	**Zero Air Generator** HPZA-3500 **Hydrogen Generator** H2PEM-260 **Hydrogen Generator** H2PEMPD-1300-100 **UHP Nitrogen Generator** UHPN2-1100
Differential scanning calorimeter (DSC)	Air for air shield	Clean, dry	<100 cc/min	**Dry Air Generator** 64-01, UDA-300
Total hydration analyzer (THA)	Zero Air for FID Hydrogen as flame fuel gas	Clear, hydrocarbon free Ultra high purity	50-500 cc/min 5-50 cc/min	**Zero Air Generator** 75-82S, 75-83NA **Hydrogen Generator** H2PEM-100
Total organic carbon analyzer (TOC)	Dry air or nitrogen for carrier gas Combusion gas	Clean, dry, hydrocarbon-free, CO_2 Free, Ultra high purity	100-500 SLPM 50-700 cc/min	**TOC gas generator** TOC-625, TOC-1250 **UHP Nitrogen Generator** UHPN2-1100

Parker Also Offers Gas Generators for these Applications

Products for Ultra Dry Air

- Gas generators for dilution and calibration of Emissions Analyzers
- Exceed instrument manufacturer specifications
- Nitrogen and specialty blend gasses available

Products for Spectroscopy

- Remove water and CO_2 from compressed air
- Protect expensive optics from damage from water vapor
- Increase Signal to Noise Ratio and maximize instrument sensitivity
- Ultra dry air for NMR injecting, spinning, and ejecting samples

Products for TOC Analysis

- Generate gasses for all combustion, UV persulfate, and wet oxidation techniques
- Ensures consistent, reliable, instrument operation and reduces instrument service and maintenance costs

Products for Chromatography

- Hydrogen, Zero Air, and UHP Nitrogen Generators for gas chromatography
- Combination systems available to provide multiple gasses from one unit
- Highest purities available from any supplier

Analytical Gas Supplies

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www.parker.com/igfg

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Engine Filtration

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Modesto, CA
209 521 7860
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Holly Springs, MS
662 252 2656
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Hydraulic Filtration

Hydraulic & Fuel Filtration
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www.parker.com/hydraulicfilter

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www.parkerfarr.com

Velcon
Colorado Springs, CO
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www.velcon.com

Process Filtration

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SciLog
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Water Purification

Village Marine, Sea Recovery, Horizon Reverse Osmosis
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Compressed Air Treatment

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Parker Gas Separations
Etten-Leur, Netherlands
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Hiross Zander
Essen, Germany
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Engine Filtration & Water Purification

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Racor Research & Development
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Hydraulic Filtration

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Condition Monitoring
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