Parker BALSTON®

Analytical Gas Systems

Analytical Gas Systems Product Catalog

Products for the Laboratory

Bulletin AGS B

anything Parker Possible™

FT-IR Purge Gas Generators

- **Eliminates the need for costly, dangerous, inconvenient nitrogen cylinders in the laboratory**
- **Compact design frees up valuable laboratory floor space**
- **Improves signal-to-noise ratio even on non-purge systems**
- **Increases FT-IR sample thru-put and maximizes up-time**
- **Recommended and used by all major FT-IR manufacturers**

Models 75-52NA, 75-62NA, and 75-45NA

The Parker Balston® FT-IR Purge Gas Generator is specifically designed for use with FT-IR Spectrometers to provide a purified purge and air bearing gas from compressed air. The generator supplies carbon dioxide-free air at less than -100°F (-73°C) dew point with no suspended impurities larger than 0.01 µm. The unit is designed to operate continuously 24 hours/day, 7 days/week. The Parker Balston Purge Gas Generator completely eliminates the inconvenience and the high costs of nitrogen cylinders and dewars, and significantly reduces the costs of operating FT-IR instrumentation. The Parker Balston unit offers cleaner background spectra in a shorter period of time and more accurate analysis by improving the signal-to-noise ratio. The typical payback period is less than one year. The generator is also ideally suited for use with CO_2 Analyzers and Matrix GC's in addition to supplying gas to other laboratory instruments.

The generators are quiet, reliable, and easy to install - simply attach the inlet and outlet air lines (at least 60 psig and 1/4 inch pipe), plug the power cord into a wall outlet, and enjoy trouble-free operation.

Here's what your colleagues say:

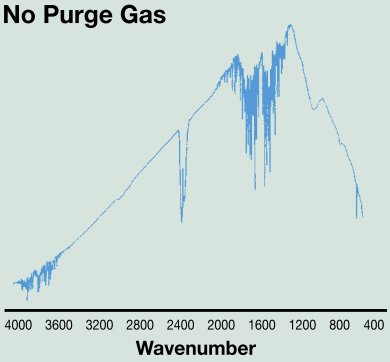
"A Parker Balston® FT-IR Purge Gas Generator and Self Contained Lab Gas Generator were used in conjunction with the Society for Applied Spectroscopy Fourier Transform Infrared Spectrometry Workshop at the University of Georgia, June 2000 (organized by Dr. James A de Haseth and Dr. Peter R. Griffiths). The Self-Contained Lab Gas Generator provided excellent purge for six spectrometers. The organizers were so pleased with the performance of the Parker Balston® systems, they have requested that Parker Hannifin Corporation, Inc. participate in future workshops."

- Dr. James A. de Haseth and Dr. Peter R. Griffiths

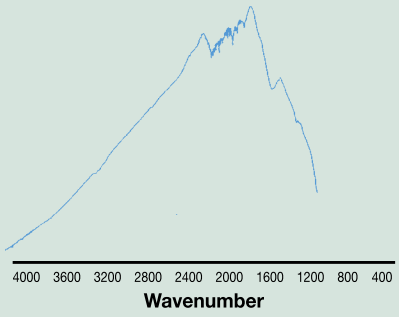
FT-IR Purge Gas Generators

Comparative Spectral Analysis in Purging an FT-IR Sample Chamber

No Purge Gas



2 Minutes Parker Balston®



This spectra comparison illustrates that a Parker Balston® FT-IR Purge Gas Generator allows an FT-IR to be purged at a much higher flow rate than is practical with nitrogen.

The sample chamber purged by the Parker Balston unit if free of CO_2 and water faster than the sample chamber purged by nitrogen.

Principal Specifications

Flow Rate for Specified Dew Point		
Inlet Pressure 125 psig	75-45NA	36 scfh (17 lpm)
Inlet Pressure 60 psig		18 scfh (9 lpm)
Inlet Pressure 125 psig	75-52NA	72 scfh (34 lpm)
Inlet Pressure 60 psig		36 scfh (17 lpm)
Inlet Pressure 125 psig	75-62NA	216 scfh (102 lpm)
Inlet Pressure 60 psig		120 scfh (57 lpm)
CO_2 Concentration		< 1 ppm
Dew Point		-100°F (-73°C)
Min/Max Inlet Air Pressure		60 psig/125 psig
Max Inlet Air Temperature (1)		78°F (25°C)
Air Consumption for regeneration (2)	75-45NA	30 scfh (14 lpm)
	75-52NA	60 scfh (28 lpm)
	75-62NA	120 scfh (57 lpm)
Inlet/Outlet Port Size		1/4" NPT (female)
Electrical Requirements		120 VAC/60 Hz/10 watts
Dimensions	75-45NA	7"w x 13"h x 6"d (18cm x 33cm x 15cm)
	75-52NA	13"w x 28"h x 9"d (32cm x 71cm x 23cm)
	75-62NA	13"w x 42"h x 9"d (32cm x 102cm x 23cm)
Shipping Weight	75-45NA	25 lbs (11 kg)
	75-52NA	40 lbs (20 kg)
	75-62NA	80 lbs (36 kg)

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

Description		Model Number
FT-IR Purge Gas Generator		75-45NA, 75-52NA, 75-62NA
Annual Maintenance Kit	75-45NA	MK7505
	75-52NA	MK7552
	75-62NA	MK7520
Installation Kit for all models		IK7572
Preventative Maintenance Contract	75-45NA	LFFTIR-PM
	75-52NA	MFFTIR-PM
	75-62NA	HFFTIR-PM
Extended Support with 24 Month Warranty		75-45-DN2, 75-52-DN2, 75-62-DN2

Notes
1 Outlet dew point will increase at higher inlet compressed air temperatures.
2 Total air consumption = regeneration flow + flow demand.

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Self-Contained FT-IR Purge Gas Generator

- ▲ **Less expensive and more convenient than nitrogen cylinders and dewars**
- ▲ **Includes state-of-the-art, oil-less compressor**
- ▲ **Compact, portable design is ideal for mobile labs**
- ▲ **Improves signal-to-noise ratio even on non-purge systems**
- ▲ **Increases FT-IR sample thru-put and maximizes up-time**
- ▲ **Special sound insulation design ensures quiet operation**

Model 74-5041NA

The Parker Balston® Model 74-5041NA FT-IR Purge Gas Generator is specifically designed for use with FT-IR spectrometers to provide a purified purge and air bearing gas supply from compressed air. The Parker Balston model 74-5041NA provides instruments with CO_2-free compressed air at less than -100°F (-73°C) dew point with no suspended impurities larger than 0.01 micron 24 hours/day, 7 days/week. The Parker Balston Self-Contained FT-IR Purge Gas Generator completely eliminates the inconvenience and the high costs of nitrogen cylinders and Dewars, and significantly reduces the costs of operating FT-IR instruments.

The Parker Balston unit generates cleaner background spectra in a shorter period of time and more accurate analysis by improving the signal-to-noise ratio. The typical payback period is less than one year.

The generator is quiet, very reliable, and easy to install - simply attach the outlet air line, plug the electrical cord into a wall outlet, and the unit is ready for trouble-free operation.

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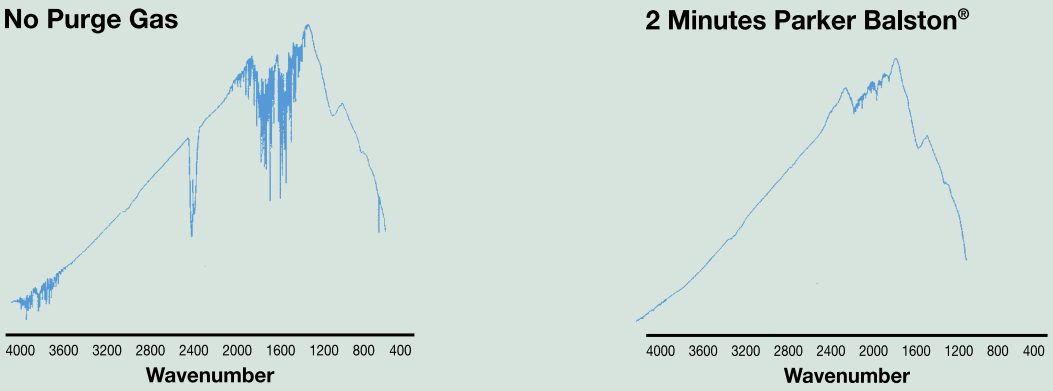
Self-Contained FT-IR Purge Gas Generator

Comparative Spectral Analysis in Purging an FT-IR Sample Chamber



This spectra comparison illustrates that a Parker Balston FT-IR Purge Gas Generator allows an FT-IR to be purged at a much higher flow rate than is practical with nitrogen. The sample chamber purged by the Parker Balston unit if free of CO_2 and water faster than the sample chamber purged by nitrogen.

Principal Specifications

Self-Contained FT-IR Purge Gas Generator	**74-5041NA**
Maximum Flow Rate (at 80 psig)	60 SCFH (28 lpm)
Maximum Output Pressure	80 psig
CO_2 Concentration	< 1 ppm
Dew Point	-100°F (-73°C)
Outlet Port Size	1/4" NPT (female)
Min/Max Ambient Temperature	30°F/90°F (-1°C/32°C)
Electrical Requirements (single phase)	120 VAC/60 Hz, 20 amps
Compressor	3/4 hp
Dimensions	18"w x 31"h x 32"d (46 cm x 76 cm x 81 cm)
Shipping Weight	250 lbs. (114 kg)

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

Description	**Model Number**
FT-IR Purge Gas Generator	74-5041NA
Annual Maintenance Kit	74065
Replacement Compressor	74156
Preventative Maintenance Contract	SCFTIR-PM
Extended Support with 24 Month Warranty	74-5041-DN2

Ultra Dry Gas Generator

- ▲ **Supplies ultra-dry, purified compressed air to NMR Spectrometers and other analytical instruments**
- ▲ **Ideal gas supply for spindle and automatic sample changer**
- ▲ **Completely eliminates costly, inconvenient nitrogen dewars - never pay for or change out another dewar**
- ▲ **Compact design frees up valuable laboratory floor space**
- ▲ **Completely automatic - plug it in and forget about it**

Model UDA-300NA

The Parker Balston® Model UDA-300NACompressed Air Dryer provides ultra-dry, purified compressed air to analytical instruments. The model UDA-300 reduces the dewpoint to -100°F (-73°C) without operator attention.

Each system is delivered complete, and ready for easy installation. A high efficiency prefiltration system, automatic drains, a 0.01µm final filter, a moisture indicator, and pretested controls are integral to the design of each dryer.

To install, simply connect your house compressed air supply (at least 60 psig and 1/4 inch pipe) to the dryer inlet port, and connect the dryer outlet port to your instruments. Plug the electrical cord into a wall outlet - no electrician required - and the unit is ready for trouble-free operation.

Designed specifically for NMR instrumentation, the generator is completely automatic, and virtually maintenance free. It is ideal for injecting, spinning, and lifting operations. It is recommended by major NMR instrument manufacturers and is currently installed in several thousand locations.

Principal Specifications

Model UDA-300NA Compressed Air Dryer	
Dew Point	-100°F (-73°C)
Flow Rate at 60 psig	390 scfh (184 lpm)
Flow Rate at 125 psig	720 scfh (340 lpm)
Min/Max Inlet Air Pressure	60 psig/125 psig
Max Inlet Air Temperature (1)	78°F (25°C)
Inlet/Outlet Port Size	1/4" NPT (female)
Electrical Requirements	120 VAC/60 Hz, 10 Watts
Dimensions	41"h x 15"w x 8"d (104cm x 38cm x 20cm)
Shipping Weight	50 lbs (23 kg)

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

Description	**Model Number**
Compressed Air Dryer	UDA-300NA
Inlet Pressure Regulator	72-130-V883
Annual Maintenance Kit	MK7525
Annual Preventative Maintenance Contract	NMRDRY-PM
Extended Support with 24 Month Warranty	UDA-300-DN2

Notes:

1 Outlet dew point will increase at higher inlet compresses air temperatures

2 Power consumption - less than 10 watts; dryer is supplied with a 12 VDC transformer to connect to the local power supply

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ICP Spectrometer Nitrogen Generator

- **Produces a continuous supply of ultra high purity nitrogen gas from existing compressed air**
- **Eliminates the need for costly, dangerous, inconvenient nitrogen cylinders or dewars in the laboratory**
- **Extends ICP Analysis into far-UV range below 170 (nm)**
- **Compact design frees up valuable laboratory floor space**
- **Offers long term cost stability - uncontrollable vendor price increases, contract negotiations, long term commitments and tank rentals are no longer a concern**

Model 76-98NA
Nitrogen Generator

The Parker Balston® 76-97NA and 76-98NA UHP Nitrogen Generators can produce 5-12 lpm of ultra high purity nitrogen gas. These systems are completely engineered to transform standard compressed air into 99.9999% of 99.995% pure nitrogen, exceeding the specification of UHP cylinder gas and dewars. Nitrogen is produced by utilizing a combination of state-of-the-art purification technologies and high efficiency filtration. Pressure swing absorption is utilized for the removal of 02, CO_2, and water vapor. A catalyst module is incorporated in the 76-98NA to oxidize hydrocarbons from the inlet air supply. The generators also have a combination of high efficiency prefilters and a 0.01 micron (absolute) membrane filter incorporated into their design. The Parker Balston UHP Nitrogen Generators are engineered and packaged in a laboratory cabinet to fit nearly any laboratory. The systems eliminate the needs for costly, inconvenient high pressure nitrogen cylinders or dewars. The 76-97NA and 76-98NA are ideal for ICP Purge gas applications.

Applications

Other applications include high flow GC carrier gas needs, DNA Synthesis and Sequencing Equipment, Mocon Moisture Analyzers, Circular Dichroism and Gel Permeation needs.

ICP Spectrometer Nitrogen Generator

Flow Table@ 99.9999% Purity

Inlet Air Pressure (psig) Models 76-97NA and 76-98NA	Max Outlet Flow (lpm)	Max Outlet Pressure (psig)
120	5	83
110	5	73
100	5	63
90	4	62
80	4	51
70	2	50
60	2	42

Flow Table@ 99.995% Purity

Inlet Air Pressure (psig) Models 76-97NA and 76-98NA	Max Outlet Flow (lpm)	Max Outlet Pressure (psig)
120	12	60
110	12	55
100	12	45
90	10	45
80	8	40
70	8	35
60	6	33

Principal Specifications

Model	76-97NA/76-98NA
Nitrogen Purity	99.995% and 99.9999%
Max Nitrogen Output Pressure	See Table
CO Concentration	< 1 ppm
CO_2 Concentration	< 1 ppm
O_2 Concentration	< 1 ppm
H_2O Concentration	< 2 ppm
Hydrocarbon Concentration (1)	< 0.1 ppm
Argon Concentration (2)	0.9%
Min/Max Inlet Pressure	60 psig/120 psig
Recommended Inlet Temperature	78°F (25°C)
Ambient Operating Temperature	60°F-100°F (16°C-38°C)
Average Air Consumption	3.0 scfm
Inlet Connection	1/4" NPT
Outlet Connection	1/8" NPT, convertible to 1/4" NPT
Electrical Requirements (3)	120 VAC/60 Hz
Dimensions	41"h x 25"w x 25"d (104cm x 64cm x 64cm)
Shipping Weight	500 lbs (227 kg)

Ordering Information

Description	Model Numbers
Ultra High Purity	76-97NA and 76-98NA Nitrogen Generator
Preventative Maintenance Contract	HFUHP-PM
Extended Support with 24 Month Warranty	76-97-DN2, 76-98-DN2

Notes:

1 Model 76-97NA does not remove hydrocarbons.

2 Purity specification for Nitrogen does not include Argon concentration.

3 Power Consumption is as follows:
Model 76-97NA = 10 Watts, Model 76-98NA = 1 KW