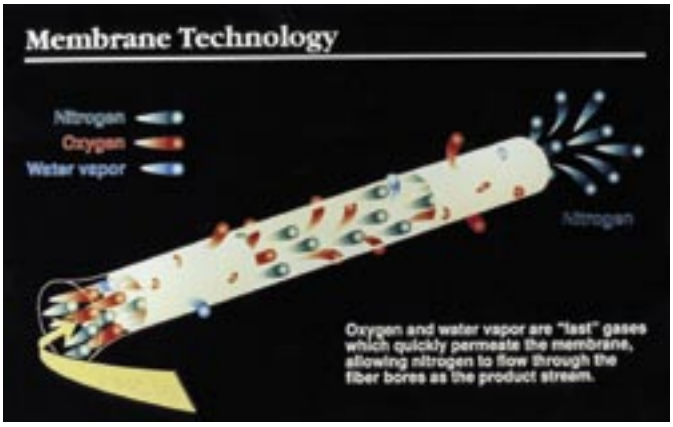
Low and Mid Flow Nitrogen Generators

- **Recommended and used by all major LC/MS manufacturers**
- **Eliminates the need for costly, dangerous, inconvenient nitrogen cylinders in the laboratory**
- **Models N2-04, N2-14, N2-22, N2-35 require no electricity**
- **Compact design frees up valuable laboratory floor space**
- **Phthalate-free, no organic vapors**
- **Unlike PSA technology, membrane will not suppress corona needle discharge.**

Model N2-14 Low Flow Membrane Nitrogen Generator

Parker Balston® Low Flow Nitrogen Generators include models N2-04, N2-14, N2-14A that produce up to 61 SLPM of compressed nitrogen, on-site. **The Parker Balston® Mid-Flow Nitrogen Generators** include models N2-22, N2-22ANA, N2-35, and N2-35ANA that produce 132 SLPM of compressed nitrogen, on-site. The purity level of the nitrogen stream is defined by the user, for the application, and may range from 95% to 99.5%.

Low Flow Model N2-14ANA and Mid Flow Models N2-22ANA and N2-35ANA Nitrogen Generators include an oxygen analyzer which monitors the oxygen concentration of the nitrogen stream. An audible alarm signals high or low oxygen concentrations. Parker Balston Nitrogen Generators are complete systems engineered to transform standard compressed air into nitrogen at safe, regulated pressures, on demand, without the need for operator attention. The systems eliminate the need for costly, dangerous dewars and cylinders in the laboratory.



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.

This Technology Features Advanced HiFluxx Fiber!

Typical applications include: LC/MS, nebulizer gas, chemical and solvent evaporation, instrument purge and supply, evaporative light scattering detector use (ELSD), and sparging.

Low and Mid Flow Nitrogen Generators

Nitrogen Purity / Flow Chart

Flow measured in SLPM at indicated Operating Pressure, psig. Flows for Model N2-04 printed in black, flows for Models N2-14 and N2-14A in red.

	145		125		110		100		90		80		70		60	
99.5	–	11	–	10	–	9	–	8	–	7	–	6	–	5	–	4
99	6	18	5	16	5	15	4	13	4	11	3	10	3	8	2	7
98	11	29	10	25	9	25	8	20	7	18	6	16	5	13	4	11
97	15	40	13	34	13	33	10	27	9	25	8	21	7	18	6	15
96	20	50	17	43	16	42	13	34	12	31	10	26	9	22	7	19
95	24	60	21	52	20	51	17	42	15	37	13	32	11	28	9	24

Nitrogen Purity / Flow Chart

Flow measured in SLPM at indicated Operating Pressure, psig. Flows for Model N2-22, N2-22A printed in black, flows for Models N2-35, N2-35A in red.

	145		125		110		100		90		80		70		60	
99.5	19	29	16	25	14	22	13	20	12	18	10	16	9	13	17	11
99	29	44	25	37	22	33	20	30	18	27	15	23	13	20	11	17
98	44	66	38	57	34	51	30	46	27	41	24	36	20	30	17	26
97	59	83	50	74	45	65	40	57	36	52	31	46	26	40	23	35
96	73	109	63	94	56	84	50	75	45	67	39	59	32	50	27	42
95	88	131	177	114	69	102	61	90	55	81	48	71	41	60	35	52

Principal Specifications

Model		**N2-04, N2-14, N2-14ANA, N2-22, N2-22ANA, N2-35 and N2-35ANA**
Nitrogen Purity		95.0% - 99.5%
Atmospheric Dewpoint		-58°F (-50°C)
Suspended Liquids		None
Particles > 0.01µm		None
Commercially Sterile		Yes
Phthalate-free		Yes
Hydrocarbon-free		Yes
Min./Max. Operating Pressure		60/145 psig
Max. Press. Drop @ 99% N_2 Purity, 125 psig		10 psig
Recommended Ambient Operating Temperature		68°F (20°C)
Max. Inlet Air Temperature		110°F (43°C)
Inlet/Outlet Ports		1/4" NPT
Electrical Requirements	N2-04, N2-14, N2-22, N2-35	None
	N2-14ANA, N2-22ANA, N2-35ANA	120 VAC/60 Hz/25 Watts
Shipping Weight	N2-04	42.5 lbs (19 kg)
	N2-14	75 lbs (34 kg)
	N2-14ANA, N2-22, N2-22ANA	80 lbs (36 kg)
	N2-35, N2-35ANA	90 lbs (41 kg)
Oxygen Analyzer		Included with Model N2-14ANA, N2-22ANA, N2-35ANA
Dimensions, N2-04		16.1"h x 10.7"w x 13.4"d (40.9cm x 27.2cm x 34cm)
Dimensions, N2-14, N2-14ANA, N2-22, N2-22ANA, N2-35, N2-35ANA		51.5"h x 18"w x 16.2"d (130.8cm x 45.7cm x 41.1cm)

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

Description	**Galvanic Cell**	**Annual Maintenance Kit**	**Installation Kit**	**Preventative Maintenance Contract**	**Extended Support with 24 Month Warranty**
N2-04	N/A	MK7840	IK7572	MFZATOC -PM	N2-04-DN2
N2-14	N/A	MK7572C	IK7572	LFMEMN2-PM	N2-14-DN2
N2-14ANA	72695A	MK7572C	IK7572	LFMEMN202-PM	N2-14ANA-DN2
N2-22, N2-35	N/A	MK7572C	IK7572	LFMEMN2-PM	N2-22-DN2, N2-35-DN2
N2-22ANA, N2-35ANA	72695A	MK7572C	IK7572	LFMEMN202-PM	N2-22ANA-DN2, N2-35ANA-DN2

High Flow Nitrogen Generators

- ▲ **Recommended and used by all major LC/MS manufacturers**
- ▲ **Eliminates the need for costly, dangerous, inconvenient nitrogen cylinders in the laboratory**
- ▲ **Models N2-45, N2-80, and N2-135 require no electricity**
- ▲ **Compact design frees up valuable laboratory floor space**
- ▲ **Phthalate-free, no organic vapors**
- ▲ **Unlike PSA technology, membrane will not suppress corona needle discharge.**

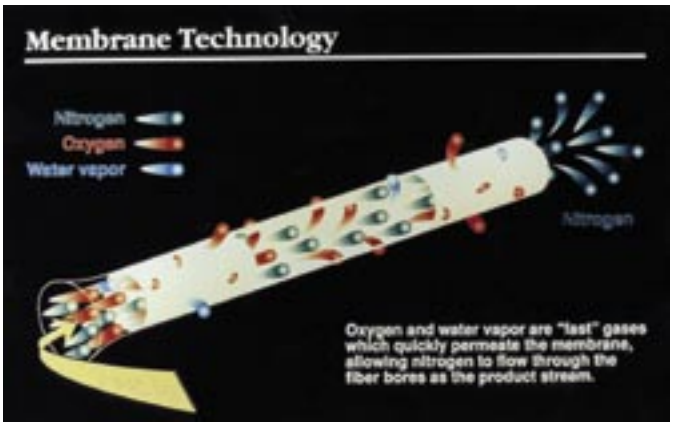
Model N2-135 High Flow Membrane Nitrogen Generator

Parker Balston® High Flow Nitrogen Generators include models N2-45, N2-80, N2-135 that produce up to 467 SLPM of compressed nitrogen, on-site. The purity level of the nitrogen stream is defined by the user, for the application, and may range from 95% to 99.5%.

High Flow Model N2-45ANA, N2-80ANA, and N2-135ANA Nitrogen Generators include an oxygen analyzer which monitors the oxygen concentration of the nitrogen stream. An audible alarm signals high or low oxygen concentrations. Parker Balston Nitrogen Generators are complete systems engineered to transform standard compressed air into nitrogen at safe, regulated pressures, on demand, without the need for operator attention. The systems eliminate the need for costly, dangerous dewars and cylinders in the laboratory.

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.

Typical applications include: LC/MS, nebulizer gas, chemical and solvent evaporation, instrument purge and supply, evaporative light scattering detector use (ELSD), and sparging.



High Flow Nitrogen Generators

Nitrogen Purity / Flow Chart

Flow LPM (liters per minute), at 68°F (25°C) inlet air temperature and operating pressure, PSIG.
Flows printed in black are for Models N2-45 and N2-45A
Flows printed in red are for Models N2-80 and N2-80A
Flows printed in green are for Models N2-135 and N2-135A

	145			125			110			100			90			80		
99.5	67	100	133	55	83	110	47	71	94	39	59	78	33	50	66	27	41	54
99	92	138	183	74	112	149	63	95	127	53	79	106	44	66	89	35	53	71
98	129	194	258	106	159	212	89	134	179	73	110	147	62	93	124	50	75	101
97	163	244	325	132	198	264	113	169	226	94	141	187	79	119	159	65	97	130
96	200	300	400	160	240	320	137	205	274	114	171	228	97	145	194	80	119	159
95	233	350	467	187	281	374	160	241	321	134	201	268	111	167	222	90	135	180

Principal Specifications

Model		**N2-45, N2-80, N2-135, N2-45ANA, N2-80ANA, and N2-135ANA**
Nitrogen Purity		95.0% - 99.5%
Atmospheric Dewpoint		-58°F (-50°C)
Suspended Liquids		None
Particles > 0.01µm		None
Commercially Sterile		Yes
Phthalate-free		Yes
Hydrocarbon-free		Yes
Min./Max. Operating Pressure		60/145 psig
Max. Press. Drop @ 99% N_2 Purity, 125 psig		10 psig
Recommended Ambient Operating Temperature		72°F (22°C)
Max. Inlet Air Temperature		110°F (43°C)
Inlet/Outlet Ports		1/2" NPT
Electrical Requirements	N2-45, N2-80, N2-135	None
	N2-45ANA, N2-80ANA, N2-135ANA	120 VAC/60 Hz/25 Watts
Shipping Weight	N2-45, N2-80, N2-135	250 lbs (114 kg)
	N2-45ANA, N2-80ANA, N2-135ANA	250 lbs (114 kg)
Oxygen Analyzer		Included with Model N2-45ANA, N2-80ANA, N2-135ANA
Dimensions		67"h x 24"w x 20"d (140cm x 61cm x 50cm)

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

Description	Galvanic Cell	Carbon Tower	Installation Kit	Preventative Maintenance Contract	Extended Support with 24 Month Warranty
N2-45	N/A	75344	IK75880	MFMEMN2-PM	N2-45-DN2
N2-45ANA	72695A	75344	IK75880	MFMEMN202-PM	N2-45ANA-DN2
N2-80	N/A	75344	IK75880	MFMEMN2-PM	N2-80-DN2
N2-80ANA	72695A	75344	IK75880	MFMEMN202-PM	N2-80ANA-DN2
N2-135	N/A	75344	IK75880	MFMEMN2-PM	N2-135-DN2
N2-135ANA	72695A	75344	IK75880	MFMEMN202-PM	N2-135ANA-DN2