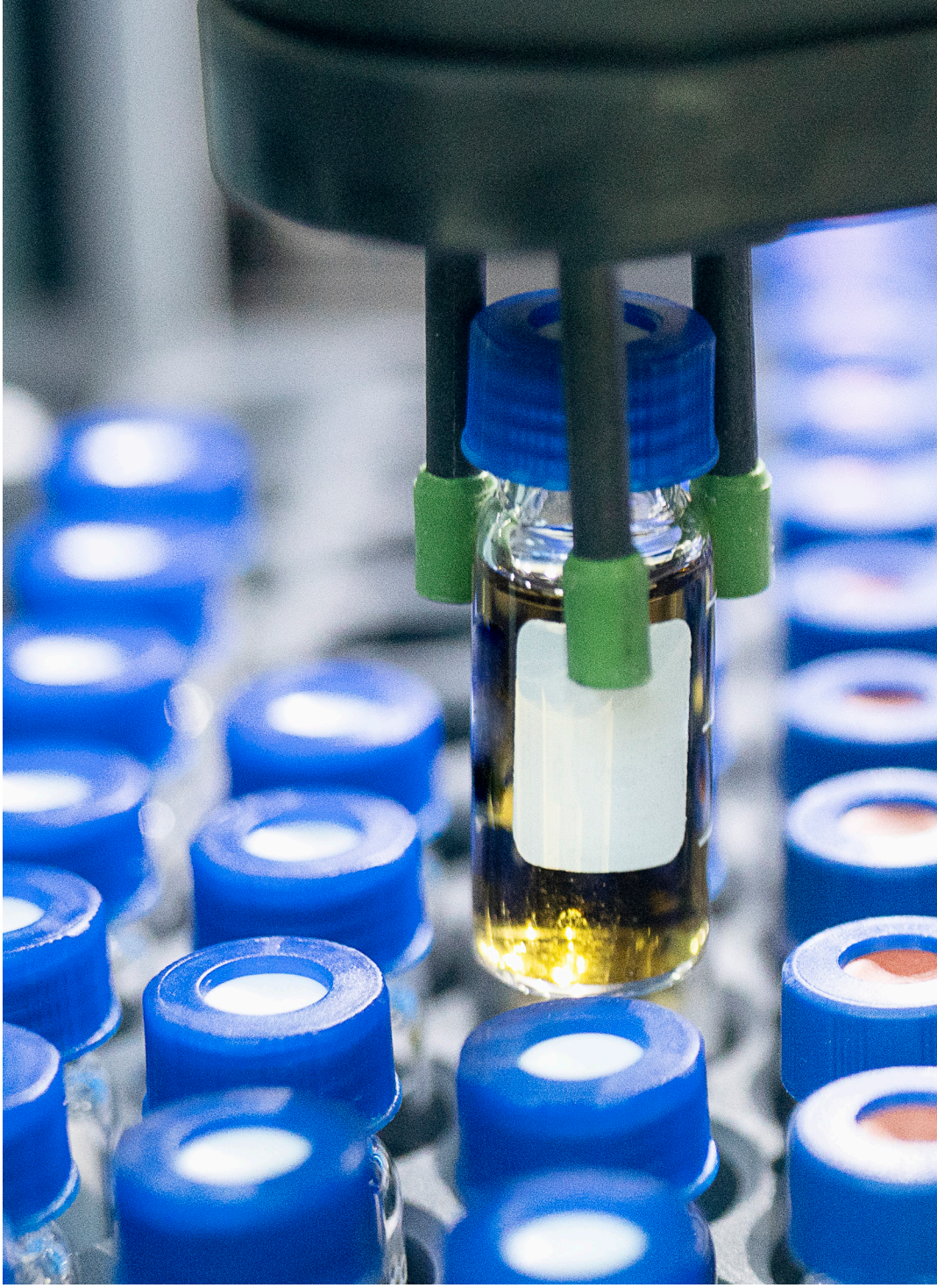


Spectrometry

Products for LC-MS

ENGINEERING YOUR SUCCESS.

Purity & Performance

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

Consistent, reliable purity

A steady, safe supply of high-purity gases is essential to guarantee precise results in analytical techniques such as chromatography, spectroscopy, and spectrometry. Gas purity can vary significantly from cylinder to cylinder, and impurities can be introduced via pipework during a changeover. In contrast, on-site gas generators supply consistently high-purity gas, prevent variations and ensure ultra-sensitive analysis, every time.

Supported by proven, advanced technologies you can trust, Parker gas generators deliver the reliability and consistency you depend on.

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. Parker gas generators are equipped with standard leak detection technology 'auto shut off' and integral alarm. Operating at a fraction of pressure with low volumes of stored gas, they are a safer alternative to cylinders and further reduce potential for harm.

Cost-efficient with the lowest lifetime cost

Energy-efficient technologies combined with minimal required maintenance keep operational costs down, and often payback can be realized just one year after purchase. On-demand gas generation eliminates unexpected charges, delivery costs, cylinder rental or storage fees.

Global support for your peace of mind

We know that business continuity is vital to success. That's why Parker offers a comprehensive package of expert service, care, and maintenance across our complete analytical gas systems range, worldwide. From installation to scheduled maintenance, and even emergency assistance, you can rely on Parker for total peace of mind.

Continuous supply, available on-demand

Parker gas generators are engineered to transform standard compressed air into high-quality analytical gas at safe, regulated pressures, on-demand, without operator attention. Designed for easy installation, operation, long-term performance, and permanent point-of-use installation, an on-site generator provides direct access to an unlimited supply of gas. Always at the correct pressure, flow, pressure and purity, Parker gas generators improve the stability of instruments and the accuracy of results.

ALIGN™ Series & High-Flow Multi-Gas Generators

The **Parker ALIGN™ Series** of multi-gas generators feature state-of-the-art variable frequency controllers that provide energy savings along with reduced heat and whisper-quiet operation. Its compact design allows for it to easily fit under the laboratory bench while supplying the highest quality, LCMS-grade nitrogen, dry air and zero air available today. This series of gas generators was specifically designed to meet the needs of SCIEX instruments, providing high-purity streams of curtain, source, and exhaust gases.

The Multi-Gas is tested and approved for mass spectrometer models through 6500, while the High-Flow Multi-Gas is approved for all SCIEX instruments including 7500 and Echo®.
In addition, the Multi-Gas will also support both the single and dual source QSight® LCMS from PerkinElmer®.

Principal Specifications

	ALIGN™ Multi-Gas	ALIGN™ High-Flow Multi-Gas
Dimensions	34.5" l x 23.75" w x 24.62" h	
Purity % Nitrogen	Up to 99%	
Purity % Organics	99.999%	
Curtain Gas (N2)	20 SLPM @ 110 psi	26 SLPM @ 60 psi
Source Gas (Air)	25 SLPM @ 110 psi	26 SLPM @ 100 psi
Exhaust Gas (Air)	25 SLPM @ 110 psi	25 SLPM @ 100 psi
Dewpoint	< -40°F	
Noise Level	<55 dB(A)	
Electrical	230 VAC +/- 10%, 50/60 Hz, 1 Phase. 20A, NEMA 6-20R Receptacle	

NitroFlow Series LC-MS Membrane Nitrogen Generators

NitroFlow Lab

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.

The **NitroFlow Lab** delivers a continuous, on-demand supply of nitrogen making it a safe, reliable alternative to liquid nitrogen dewars.

Ambient air from the laboratory enters the generator through an inlet filter which removes organic and particulate impurities. This purified air is then compressed by a long-life, low pressure compressor and fed to a proprietary hollow fiber membrane creating nitrogen gas. Prior to exiting the system, the nitrogen enters an amplification compressor assuring the proper flow, pressure and purity for nearly any LC-MS application.

Applications:

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

Principal Specifications

	NitroFlow Lab
Nitrogen	Phthalate free with flow to 32 lpm @ sea level
Maximum Outlet Pressure	116 psig (8 barg)
Hydrocarbon Content	< 2 ppm (excluding methane)
Atmospheric Dewpoint	-58°F (-50°C)
Outlet Port	Female 1/4" NPT
Minimum/Maximum Ambient Temperature	50°F/95°F (10°C/35°C)
Electrical Requirements	120 VAC, 60 Hz, 16 Amp, NEMA 5 - 20 Straight Blade
Dimensions	27.6" h x 12.2" w x 35.4" d (70.1 cm x 31 cm x 90 cm)
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

NitroFlow 60

The Parker 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.

The NitroFlow 60 produces nitrogen utilizing a combination of a rotary scroll compressor and high-efficiency nitrogen membrane separation technology. Rotary scroll compressors operate at low temperatures, have fewer moving parts and are significantly quieter than piston compressors used by other nitrogen generator manufacturers. This unique combination yields a high performance, reliable, and quiet integrated nitrogen generation system.

This model also contains an integrated membrane dryer for use with instruments that require dry air, including the 8050 or 8060 LC-MS instruments from Shimadzu Scientific Instruments.

- 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
  - Chemical solvent evaporation
  - APCI & ESI
  - Jet Stream
  - iFunnel
  - ELSD
  - TurboVap®

Principal Specifications

Model	NitroFlow 60
Nitrogen	Up to 60 slpm
Dry Air Flow	N/A
Dry Air Dewpoint	N/A
Hydrocarbon Free	Yes
Phthalate Free	Yes
Maximum Outlet Pressure	100 psig
Atmospheric Dewpoint	-58°F (-50°C)
Outlet Port	Female 1/4" NPT
Minimum/Maximum Ambient Temperature	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*
Dimensions	43" h x 21" w x 34" d (109 cm x 53 cm x 86 cm)
Shipping Weight	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

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

N2 Series Compressorless LC-MS Membrane Nitrogen Generators

N2 Series Nitrogen Generators

This nitrogen gas generator produces a continuous, on-demand supply of nitrogen using a high-efficiency filtration system and membrane separation technology. It pre-treats compressed air to remove contaminants down to 0.01 micron and subsequently hollow fiber membranes separate the clean air into a concentrated nitrogen output stream and an oxygen enriched permeate stream, which is vented from the system.

- 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 (ELSD)
- Tri-Gas incubators

Low Flow Model

Model	# of LCMS instruments
N2-14	1
N2-22	Up to 2
N2-35	Up to 3
N2-120	Up to 5
N2-160	Up to 7
N2-240	Up to 10
N2-455	Up to 17

For single larger nitrogen systems to support from 18-50+ instruments, consult our factory at 800-343-4048.

Parker Advanced HiFluxx Fiber

Principal Specifications

	Low Flow Models N2-14, -22 & -35				Mid Flow Models N2-120, 160 & 240	Super High Flow N2-455
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
Phthalates	None				None	None
Min./Max. Operating Pressure	60/145 psig				60/145 psig	20 psig
Max. Pressure 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	N2-14	N2-22	N2-35	250 (114)	239 (108)
	42.5 (19)	75 (34)	80 (36)	90 (41)		
Dimensions LxWxD - in (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" x 24" x 20" (170 x 61 x 50)

Ordering Information

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	Annual Maintenance Kit	Installation Kit	Preventative Maintenance Plan	Extended Support with 24 Month Warranty	Carbon Tower
N2-120	N/A	75478	IK75880	N2-120-DN2	N2-120-EN2	75344
N2-160	N/A	75478	IK75880	N2-160-DN2	N2-160-EN2	75344
N2-240	N/A	75478	IK75880	N2-240-DN2	N2-240-EN2	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
N2-455	B04-0605	MKN2-200	N2-200PM-INST	N2-200PM	N2-200EN2

AGS Series High-Flow PSA Nitrogen Generators

AGS200, AGS400, AGS500 & AGS600

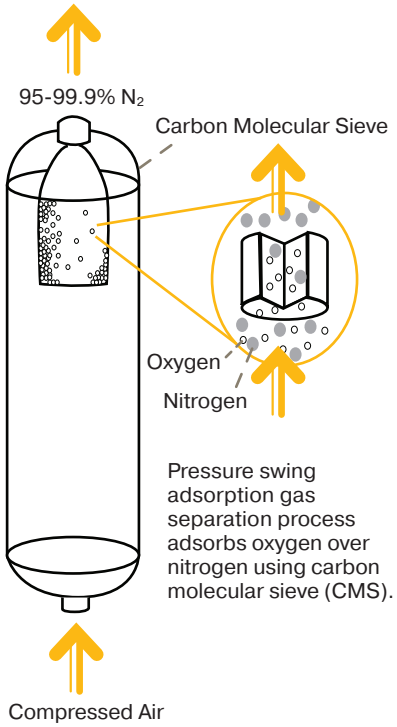
Parker PSA Nitrogen Generators utilize a combination of filtration and pressure swing adsorption technologies and are designed to continually transform standard compressed air into nitrogen at safe, regulated pressures without operator attention.

By raising and lowering the pressure within the carbon molecular sieve (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.

Oxygen concentration measurements of the nitrogen stream is possible with the installation of an optional oxygen monitor. Its audible alarm signals high or low oxygen concentrations (determined by the application) while 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.

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
Residual Oil Content	Trace
Particles	<.01 micron
Ambient Conditions	
Temperature	45°F - 90°F
Ambient Pressure	Atmospheric
Air Quality	Clean air without contaminants

Pressure Swing Adsorption Technology



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

	AGS200			AGS400		
%02	**Nitrogen Flow (SCFH)***	**Avgerage Air Demand (SCFM)**	**LC-MS Flow Rates (LPM)**	**Nitrogen Flow (SCFH)***	**Avgerage Air Demand (SCFM)**	**LC-MS 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%

	AGS500			AGS600		
%02	**Nitrogen Flow (SCFH)***	**Avg. Air Demand (SCFM)**	**LC-MS Flow Rates (LPM)**	**Nitrogen Flow (SCFH)***	**Avg. Air Demand (SCFM)**	**LC-MS 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

NITROSource

Part of the MAXIGAS Range

Advanced technology nitrogen gas generator for industry leading performance; an ideal solution for expanding labs with multiple MS instruments.

With unique design and advanced energy saving technology at its core the market leading NITROSource nitrogen gas generator requires less compressed air to generate more nitrogen.

Together with substantially lower servicing costs, reduced downtime and a longer working life, it adds up to the most cost-efficient nitrogen supply available; significantly more affordable than traditional sources, and it delivers huge savings over the lifetime of the generator.

With over 30 years experience in the market, and over 50,000 gas generators installed globally, Parker domnick hunter is first choice for innovative and reliable gas generation technology.

Features and Benefits:

- **Energy saving technology**
  Matches compressed air flow to the nitrogen outlet flow and purity, reducing compressed air use, and saving energy and money.

- **Lower cost maintenance, extensive working life**
  The Carbon Molecular Sieve, the 'engine' of the generator delivers nitrogen more efficiently, leading to a very long working life – and major savings on maintenance.

- **Five year warranty**
  Free through Parker extended warranty, offering the assurance of no unexpected maintenance costs and maximized factory up-time.*

- **Industry compliance**
  Food and pharmaceutical safe, in line with European statute (EIGA) and the USA Food & Drugs Administration (FDA Article 21) and Pharmacopeia compliance.

- **Gas quality control**
  - **Mass Flow Controller** – ensuring correct set pressure and flow
  - **Integral Oxygen Analyzer** – constantly measures gas purity
  - **Off-Gas-By-Pass** – automatically vents off out-of-specification gas ensuring product quality by ensuring gas quality
  - **Inlet and Outlet Pressure Regulation** – preventing damage to the generator or application
  - **Electronic Control System** –100% management of all critical generator functions

- **Remote monitoring**
  Enabling connection to proprietary remote management and the generator control systems to control and track gas parameters from a central location

- **Easily upgradable supply**
  Simply add extra generators as the application requirement grows

Product Selection

Model	Nitrogen flow rates SCFH / (m3/hr) vs Purity (oxygen content)													
	5 ppm	10 ppm	50 ppm	100 ppm	250 ppm	550 ppm	0.10%	0.40%	0.50%	1%	2%	3%	4%	5%
N2-20P	124	159	237	283	343	392	438	590	625	752	893	1052	1091	1190
	(3.5)	(4.5)	(6.5)	(8)	(9.7)	(11.1)	(12.4)	(16.7)	(17.7)	(21.3)	(25.3)	(29.8)	(30.9)	(33.7)
N2-25P	187	240	357	424	516	590	657	886	939	1130	1342	1579	1639	1787
	(5.3)	(6.8)	(10.1)	(12)	(14.6)	(16.7)	(18.6)	(25.1)	(26.6)	(32)	(38)	(44.7)	(43.4)	(50.6)
N2-35P	247	318	473	565	685	784	876	1180	1250	1504	1787	2105	2182	2380
	(7)	(9)	(13.4)	(16)	(19.4)	(22.2)	(24.8)	(33.4)	(35.4)	(42.6)	(50.6)	(59.6)	(61.8)	(67.4)
N2-45P	311	399	593	706	858	982	1095	1476	1564	1882	2235	2631	2730	2977
	(8.8)	(11.3)	(16.8)	(20)	(24.3)	(27.8)	(31)	(41.8)	(44.3)	(53.3)	(63.3)	(74.5)	(77.3)	(84.3)
N2-55P	371	477	710	848	1028	1176	1314	1769	1875	2257	2680	3157	3274	3570
	(10.5)	(13.5)	(20.1)	(24)	(29.1)	(33.3)	(37.2)	(50.1)	(53.1)	(63.9)	(75.9)	(89.4)	(92.7)	(101.1)
N2-60P	410	530	788	939	1141	1303	1455	1960	2080	2500	2970	3500	3627	3959
	(11.6)	(15)	(22.3)	(26.6)	(32.3)	(36.9)	(41.2)	(55.5)	(58.9)	(70.8)	(84.1)	(99.1)	(102.1)	(112.1)
N2-65P	470	604	901	1074	1303	1490	1663	2242	2377	2857	3394	3998	4146	4524
	(13.3)	(17.1)	(25.5)	(30.4)	(36.9)	(42.2)	(47.1)	(63.5)	(67.3)	(80.9)	(96.1)	(113.2)	(117.4)	(128.1)
N2-75P	512	657	978	1169	1420	1624	1812	2440	2589	3115	3697	4358	4517	4926
	(14.5)	(18.6)	(27.7)	(33.1)	(40.2)	(46)	(51.3)	(69.1)	(73.3)	(88.2)	(104.7)	(123.4)	(127.9)	(139.5)
N2-80P	569	731	1088	1300	1575	1805	2013	2712	2875	3461	4111	4842	5018	5474
	(16.1)	(20.7)	(30.8)	(36.8)	(44.6)	(51.1)	(57)	(76.8)	(81.4)	(95)	(116.4)	(137.1)	(142.1)	(155)

Performance data is based on 102 psi g air inlet pressure and 68˚F - 77˚F (20˚C - 25˚C) ambient temperature.
Consult Parker for performance under specific conditions

Inlet Parameters

Inlet Air Quality	ISO 8573-1: 2010 Class 2.2.2 (2.2.1 with high oil vapor content)
Inlet Air Pressure Range	73-189 psi g / 5 - 13 bar g

Environmental Parameters

Ambient Temp.	41-122˚F / 5 - 50˚C
Humidity	50% @ 22˚F / 104˚C (80% @ MAX @ 88˚F / 31˚C)
IP Rating	IP20 / NEMA 1
Pollution Degree	2
Installation Category	II
Altitude	< 6562 ft / 2000 m
Noise	<80 dB (A)

Electrical Parameters

Generator Supply	100 - 240 +/- 10% Vac 50/60Hz
Generator Power	55 W
Fuse	3.15 A (Anti Surge [T], 250v, 5 x 20mm HBC, Breaking Capacity 1500A @ 250v, IEC 60127, UL R/C Fuse)

Port Connections

Air Inlet	1" NPT
N2 Outlet to Buffer	1" NPT
N2 Inlet from Buffer	1/2" NPT
N2 Outlet	1/2" NPT

Weights and Dimensions

Model	Height		Width		Depth		Weight	
	mm	in	mm	in	mm	in	Kg	lbs
N2-20P	1894	74.6	550	21.7	881	34.7	299	659
N2-25P					1050	41.3	384	847
N2-35P					1219	48	469	1034
N2-45P					1388	54.6	553	1219
N2-55P					1557	61.3	638	1407
N2-60P					1726	68	722	1592
N2-65P					1895	74.6	807	1779
N2-75P					2064	81.3	892	1967
N2-80P					2233	87.9	976	2152

Packed Weights and Dimensions

Model	Height		Width		Depth		Weight	
	mm	in	mm	in	mm	in	Kg	lbs
N2-20P	729	28.7	2000	78.7	1090	42.9	398	878
N2-25P					1260	49.6	495	1092
N2-35P					1430	56.3	580	1280
N2-45P					1600	63.0	686	1513
N2-55P	832	32.8			1770	69.7	782	1725
N2-60P					1935	76.2	897	1978
N2-65P					2100	82.7	997	2199
N2-75P					2275	89.6	1093	2411
N2-80P					2445	96.3	1186	2616

Parker Filtration Group

Aerospace Filtration Division
Greensboro, North Carolina
336 668 4444

Bioscience & Water Filtration Division
Bioscience Filtration
Oxnard, California
877 784 2234

Water Purification
Carson, California
310 608 5600

Engine Mobile Aftermarket Division
Kearney, Nebraska
308 234 1951

Engine Mobile Original Equipment Division
Modesto, California
209 521 7860

HVAC Filtration Division
Jeffersonville, Indiana
866 247 4827

Hydraulic & Fuel Filtration Division
Metamora, Ohio
419 644 4311

Industrial Gas Filtration & Generation Division
Lancaster, NY
800 343 4048

Industrial Process Filtration Division
Mineral Wells, Texas
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BRO-AGS-LCMS-REVG_082022

State of California ONLY
WARNING: Proposition 65
The products described herein can expose you to chemicals known to the State of California to cause cancer or reproductive harm.
For more information: www.P65Warnings.ca.gov