Nitrogen generators

NGP/NGP+ series



Wide range of applications

Atlas Copco's NGP nitrogen generators are easy to install and use. They offer the required purity with a high flow capacity, making them suitable for a range of applications.



Food & beverage

Modified atmosphere is the practice of modifying the composition of the internal atmosphere of a package to improve the shelf life. This is commonly used in food or drug packaging. The modification process often tries to lower the amount of oxygen (O_2), moving it from 20.9% to 0%, to slow down the growth of aerobic organisms and the speed of oxidation reactions that might take place in food and beverage products.

Metal heat treatment

Many applications of the metal industry require a protective atmosphere to prevent oxidation and decarburization of the surface to achieve the required quality.





Fire prevention

Nitrogen is the gas of choice to displace oxygen and prevent explosions. It is mainly used to flush piping system and blanketing of stored explosive or flammable products. The result is safety, reliability and protection from corruption through oxidation.



A secure supply of nitrogen

Whether your company is specialized in chemical manufacturing, electronics, laser cutting or food and beverage, a dependable supply of industrial gas is crucial. Compared to the on-demand delivery of gas bottles or tanks, on-site production of gas offers a wealth of advantages ranging from cost savings to continuous availability. Atlas Copco's advanced nitrogen generators offer you the ultimate solution: flexible on-site production of nitrogen at the lowest possible cost.

Liquid/bottled gas	On-site generation
Lease tank	Capital
N_2	Energy
Transport	Maintenance
0.1-0.8 EUR/m³(*)	0.02-0.15 EUR/m³(**)
N_2: 99.999%	N_2: 95-99.999%

(*) Industry average, other price settings might apply.
(**) Depending on purity and electricity cost.

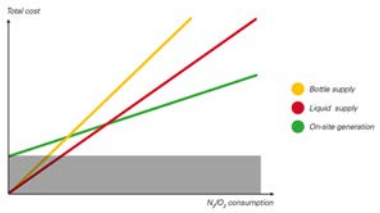
On-site vs. liquid or bottled gas

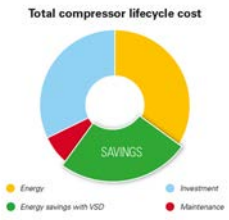
Your own independent supply of nitrogen.

- Non-stop availability: 24 hours a day, 7 days a week.
- Significant economies of scale and lower operational costs: no rental charges, transport expenses and bulk user evaporation losses.
- No safety hazards when handling high-pressure cylinders.
- Easy integration within existing compressed air installations.

High reliability

- Proven technology: simple, reliable and durable.
- The exact purity your application demands.
- Low operating costs for extra cost-efficiency.
- World-class expertise in a unique market offer from compressed air to gas.





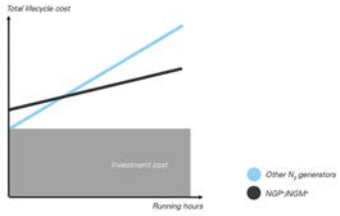
New generation PSA generators will change the market

Atlas Copco's latest PSA generators extend the advantages of the current range. Total lifecycle cost consists of the initial investment cost of the on-site installation, the service cost, and the energy cost. The NGP range has the lowest investment cost. However, with increasing running time, you are better advised to switch to the NGP+ range to reduce energy costs.

Total lifecycle cost

With an air factor* of 1.8 (at 95%) to 5.5 (at 99.999%) and a special cycle time modulation algorithm, the running cost of the new NGP^{+} can be reduced by 50%, compared to other N_2 generators.

** The air factor is calculated by dividing the inlet air your system needs by the amount of N_2 it produces. The lower the air factor, the more efficient your nitrogen generation.*





NGP+



1. Self-protective monitoring of the feed air quality

- Temperature.
- Pressure.
- Pressure dewpoint.
- Automatic feed air blow-off in case of contamination.

2. Automatic start-up

- Minimum pressure valve with bypass nozzle for fast start-up.
- Eliminates risk of overflow and CMS damage.



3. Highest quality adsorbent/CMS

- High density due to packed bed technology.
- Top/bottom equalization.
- Protected by dedicated pressure sensor.
- Low air consumption.



4. User-friendly monitoring system

- Interface available in 32 languages
- Comprehensive maintenance display

5. The most complete scope of supply

- Nitrogen flow meter as standard.
- Zirconia oxygen sensor with a long lifetime.
- Nitrogen pressure dewpoint sensor available as an option.



6. Outlet pressure reducing valve

Exceptional reliability

Premium energy efficiency

Air factor (air-to-nitrogen ratio) up to 1.8

The ultimate energy saver

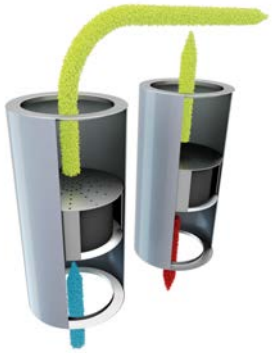
- Stand-by mode in case no nitrogen is consumed.
- Cycle time modulation algorithm = extended cycle time at low nitrogen demand = reduced air consumption at low nitrogen demand.

Stable purity

- Automatically regulates to the requested nitrogen pressure and purity.
- Extremely easy to change purity.
- Off-spec nitrogen flushing.

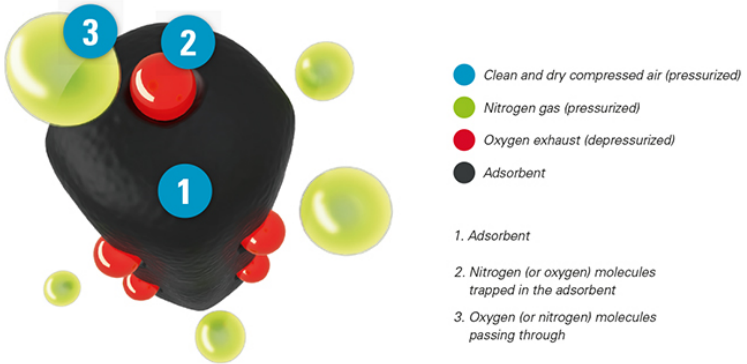
PSA: reliable and proven

Based on Pressure Swing Adsorption (PSA) technology, Atlas Copco's NGP/NGP+ nitrogen generators provide a continuous flow of nitrogen at desired purity.



High purity nitrogen supply up to 99.999%

Atlas Copco's NGP/NGP+ nitrogen generators use Pressure Swing Adsorption technology to isolate nitrogen molecules from other molecules in compressed air. Oxygen, CO_2, water vapor and other gases are adsorbed. The result is virtually pure nitrogen at the outlet of the generator. The NGP/NGP+ Series is a very cost-efficient source of nitrogen used in various industries like food and beverage, metal processing, electronics, and many others.



Monitoring and control

How to get the most from the least

Elektronikon® MK5 Graphic

The Elektronikon® unit controller is specially designed to maximize the performance of your compressors and air treatment equipment under a variety of conditions. Our solutions provide you with key benefits such as increased energy efficiency, lower energy consumption, reduced maintenance times and less stress… less stress for both you and your entire air system.



Intelligence is part of the package

High resolution color display gives you an easy to understand readout of the equipment's running conditions.

- Clear icons and intuitive navigation provides you fast access to all of the important settings and data.
- Monitoring of the equipment running conditions and maintenance status; bringing this information to your attention when needed.
- Operation of the equipment to deliver specifically and reliably to your compressed air needs.
- Built in remote control and notifications functions provided as standard, including simple to use ethernet based communication.
- Support for 31 different languages, including character based languages.

Online monitoring

Monitor your equipment over the ethernet with the Elektronikon® unit controller. Monitoring features include warning indications, equipment shut-down and maintenance scheduling. An Atlas Copco App is available for iPhone/Android phones as well as iPad and Android tablets. It allows fingertip monitoring of your compressed air system through your own secured network.



SMARTLINK

Monitor your compressed air installation with SMARTLINK

Knowing the status of your compressed air equipment at all times is the surest way to achieve optimal efficiency and maximum availability.

Go for energy efficiency

Customized reports on the energy efficiency of your compressor room.

Increase uptime

All components are replaced on time, ensuring maximum uptime.

Save money

Early warnings avoid breakdowns and production loss.



Evolving towards compressed air management

SMARTLINK Service

A mouse-click reveals the online service log. Get quotes for parts and additional service quickly and easily.

SMARTLINK Uptime

Uptime additionally sends you an e-mail or text message whenever a warning requires your attention.

SMARTLINK Energy

Energy gives you customized reports on the energy efficiency of your compressor room, in compliance with ISO 50001.

PSA nitrogen generators (NGP, NGP+)



High flow capacity

The wide product range and gas flows exceeding 3,000 Nm³/h (NGP/NGP+) make these generators ideal for a variety of demanding applications.

Cost savings

- Low operating expenses.
- No additional costs such as order processing, refills and delivery charges.
- Limited maintenance costs.

Ready to use

- Only requires a supply of dry compressed air.
- Plug-and-play.
- No specialist installation or commissioning.
- Fully automated and monitored including oxygen sensor as standard.
- Service-friendly.

Exceptional reliability

- Robust design.
- Continuous availability (24 hours a day, 7 days a week).
- Potential risk of production breakdown due to gas running out is eliminated.

Desired purity

NGP/NGP+: nitrogen concentrations from 95% to 99.999%.

Services

Properly caring for your air equipment lowers your operating costs and minimizes the risk for unplanned breakdowns or production stops. Atlas Copco offers energy efficiency checks, service, repairs, spare parts and maintenance plans for all air equipment. Entrust your servicing to our experts and ensure your business continues to run efficiently.

Service plan

Our service plans keep your Atlas Copco nitrogen in excellent shape.





Stand-by solutions

Atlas Copco help is available 24/7. We keep spare parts in stock so you are up and running again as quickly as possible.

Rental

Our specialty rental services meet your temporary compressed air needs. With Customer Centers strategically located around the globe, Atlas Copco Rental can provide a solution for virtually any application.



Technical Specifications NGP Series

TYPE		Nitrogen purity FND (Free Nitrogen Delivery)									Dimensions (W x D x H)		Weight	
		95%	97%	98%	99%	99.50%	99.90%	99.95%	99.99%	99.999%	mm	in	kg	lbs
NGP 420	FND scfm	580.5	454.9	371.1	311.3	251.4	167.5	122.6	83.9	36.4	1240 x 2520 x 3160	48.8 x 99.2 x 124.4	4200	9259
	FND Nm³/h	986.8	773.2	630.8	529.0	427.3	284.9	254.3	142.2	62.1				
NGP 550	FND scfm	748.1	592.6	493.9	413.0	326.2	227.5	173.7	115.0	48.5	1420 x 2880 x 3330	55.9 x 113.4 x 131.1	4900	10803
	FND Nm³/h	1271.7	1007.2	839.3	702.0	554.5	386.6	360.1	195.3	82.4				
NGP 900	FND scfm	1167.2	868.0	748.3	628.4	538.6	347.1	257.3	179.6	73.1	2480 x 2520 x 3160	97.6 x 99.2 x 124.4	8400	18519
	FND Nm³/h	1983.9	1475.2	1271.7	1068.2	915.6	590.1	534.1	305.2	124.1				
NGP 1100	FND scfm	1556.3	1197.1	957.8	808.0	658.5	418.9	305.2	227.5	77.7	2840 x 2880 x 3330	111.8 x 113.4 x 131.1	9800	21605
	FND Nm³/h	2645.1	2034.7	1627.8	1373.4	1119.1	712.2	632.8	386.6	132.3				

FOD: Free Oxygen Delivery
Reference conditions
Compressed air effective inlet pressure: 7.5 bar(g)/108 psi(g).
Oxygen outlet pressure: 5 bar(g)/72 psi(g).
Ambient air temperature: 20°C/68°F.
Pressure dewpoint inlet air: 3°C/37°F.
Pressure dewpoint oxygen: -50°C/-58°F.
Unit inlet air quality 1.4.1 according to ISO 8573-1:2010.
Minimum refrigerant dryer required to precondition inlet air.
Typical oxygen quality 1.2.1 according to ISO 8573-1:2010.

Operating limits
Minimum ambient temperature: 5°C/41°F.
Maximum ambient temperature: 45°C/113°F.
Maximum compressed inlet air pressure 10 bar(g)/145 psi(g).

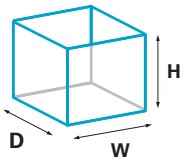


Technical Specifications NGP+ Series

TYPE		Nitrogen purity FND (Free Nitrogen Delivery)									Dimensions (W x D x H)		Weight	
		95%	97%	98%	99%	99.50%	99.90%	99.95%	99.99%	99.999%	mm	in	kg	lbs
NGP 450+	FND scfm	564	458	396	324	274	196	150	115	74	2720 x 2300 x 3020	107 x 91 x 119	6400	14110
	FND Nm³/h	959	778	673	551	466	333	255	195	125				
	Air factor	1.8	2.0	2.1	2.3	2.6	3.1	3.3	4.0	5.3				
NGP 550+	FND scfm	694	563	487	399	337	241	184	141	91	2850 x 2300 x 3050	112 x 91 x 120	7000	15432
	FND Nm³/h	1178	956	827	677	572	409	313	240	154				
	Air factor	1.8	2.0	2.1	2.3	2.6	3.1	3.3	4.0	5.3				
NGP 650+	FND scfm	811	658	569	466	394	282	216	165	106	2900 x 2300 x 3040	114 x 91 x 120	7700	16976
	FND Nm³/h	1378	1118	967	792	670	478	366	280	180				
	Air factor	1.8	2.0	2.1	2.3	2.6	3.1	3.3	4.0	5.3				
NGP 800+	FND scfm	1048	850	735	602	509	364	278	213	137	3460 x 3120 x 3970	136 x 123 x 156	10300	22708
	FND Nm³/h	1780	1444	1249	1023	865	618	473	362	232				
	Air factor	1.8	2.0	2.2	2.4	2.6	3.2	3.4	4.1	5.4				
NGP 1000+	FND scfm	1329	1078	932	764	646	461	353	270	173	3660 x 3120 x 4175	144 x 123 x 164	12000	26455
	FND Nm³/h	2258	1831	1584	1298	1097	784	600	459	295				
	Air factor	1.8	2.0	2.2	2.4	2.6	3.2	3.4	4.1	5.4				
NGP 1300+	FND scfm	1690	1371	1186	971	821	586	449	344	221	3860 x 3120 x 4405	152 x 123 x 173	14200	31306
	FND Nm³/h	2871	2329	2014	1650	1395	996	762	584	375				
	Air factor	1.8	2.0	2.2	2.4	2.6	3.2	3.4	4.1	5.4				

FND: Free Nitrogen Delivery
Reference conditions
Compressed air effective inlet pressure: 7.5 bar(g)/108 psi(g) for NGP, 7 bar(g)/102 psi(g) for NGP+.
Nitrogen outlet pressure: 6 bar(g)/87 psi(g).
Ambient air temperature: 20°C/68°F.
Pressure dewpoint inlet air: 3°C/37°F.
Pressure dewpoint nitrogen: -50°C/-58°F.
Unit inlet air quality 1.4.1 according to ISO 8573-1:2010.
Minimum refrigerant dryer required to precondition inlet air.
Typical nitrogen quality 1.2.1 according to ISO 8573-1:2010.

Operating limits
Minimum ambient temperature: 5°C/41°F.
Maximum ambient temperature: 45°C/113°F for NGP, 60°C/140°F for NGP+.
Maximum compressed inlet air pressure 10 bar(g)/145 psi(g) for NGP, 13 bar/189 psi(g) for NGP+.





Notes

COMMITTED TO SUSTAINABLE PRODUCTIVITY

We stand by our responsibilities towards our customers, towards the environment and the people around us. We make performance stand the test of time. This is what we call – Sustainable Productivity.

LLOYD'S REGISTER · LRQA

ISO 9001 · ISO 14001
OHSAS 18001
ISO 22000

Atlas Copco

2935 0718 00 © 2018, Atlas Copco Airpower NV, Belgium. All rights reserved. Designs and specifications are subject to change without notice or obligation. Read all safety instructions in the manual before usage.