

# Atlas Copco

On-site Industrial Gases

Nitrogen & Oxygen Generators



*Sustainable Productivity*





# A secure supply of nitrogen and oxygen

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. This is exactly what Atlas Copco provides. Our advanced nitrogen and oxygen generators offer you the ultimate solution: flexible on-site production of industrial gas at the lowest possible cost.



## BENEFITS OF ON-SITE NITROGEN AND OXYGEN

- Your own independent supply of industrial gas.
- 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.





## MEETING ANY NEED

Atlas Copco's nitrogen and oxygen generators offer a cost-effective means for on-site gas generation. Including models sized for a wide range of flow rates and product purities, these generators are renowned for their exceptional versatility and efficiency. Generators based on both Pressure Swing Absorption (PSA) and membrane technologies are available.

## WIDE RANGE OF APPLICATIONS

- Food & beverage (storage & packaging).
- Pharmaceutical applications.
- Plastic injection molding.
- Electronics.
- Laser cutting.
- Semiconductor manufacturing.
- Chemical applications.
- Metal heat treatment.
- Cable & optical fiber industries.
- Glass industries.
- Fire prevention.
- Aquaculture.

# Membrane: Efficient all-in-one N<sub>2</sub> supply

Atlas Copco NGM Nitrogen Generators utilize proprietary membrane separation technology. The membrane separates compressed air into two streams: one is 95-99% pure nitrogen, and the other is oxygen enriched with carbon dioxide and other gases.

## INSTANT SUPPLY OF NITROGEN BETWEEN 95% AND 99%

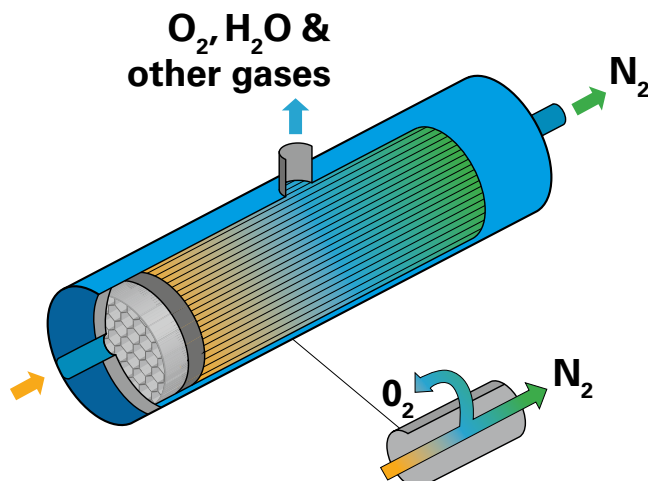
The generator separates air into component gases by passing inexpensive compressed air through semi-permeable membranes consisting of bundles of individual hollow fibers. Each fiber has a perfectly circular cross-section and a uniform bore through its center.

Because the fibers are so small, a great many can be packed into a limited space, providing an extremely large membrane surface area that can produce a relatively high volume product stream.

## OUTSTANDINGLY DRY NITROGEN

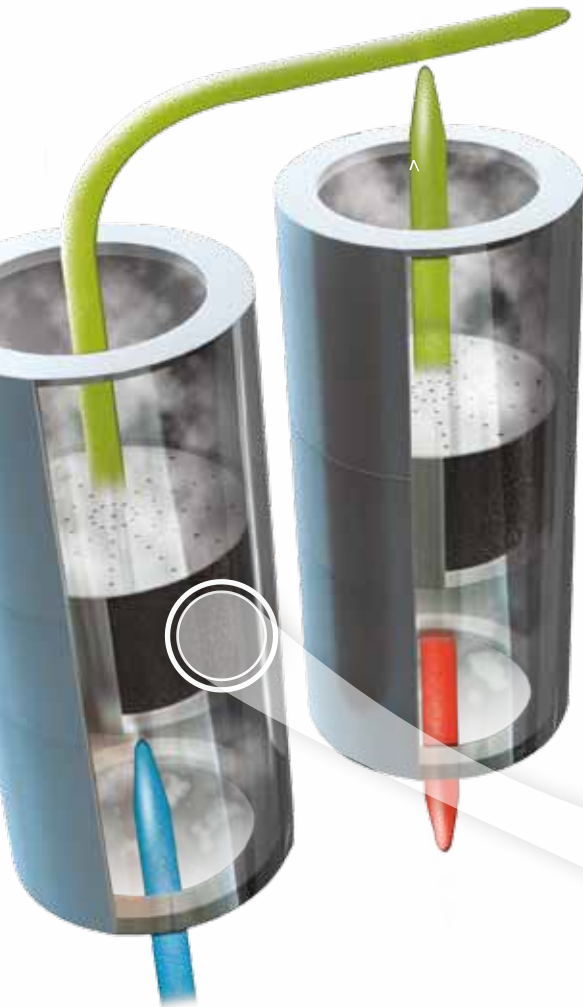
Compressed air is introduced into the center of the fibers at one end of the module and contacts the membrane as it flows through the fiber bores. Oxygen, water vapor and other trace gases easily permeate the membrane fiber and are discharged through

a permeate port while the nitrogen is contained within the membrane and flows through the outlet port. Since water vapor permeates through the membrane as well, the nitrogen gas stream is very dry, with dewpoints as low as -40°C (-40°F).







# PSA: Reliable and proven

Based on Pressure Swing Adsorption (PSA) technology, Atlas Copco's NGP Nitrogen Generators and OGP Oxygen Generators provide a continuous flow of nitrogen and oxygen at desired purity.



## HIGH PURITY NITROGEN SUPPLY UP TO 99.999%

Atlas Copco's NGP Nitrogen Generators use Pressure Swing Adsorption technology to isolate nitrogen molecules from other molecules in compressed air. Oxygen, CO<sub>2</sub>, water vapor and other gases are adsorbed. The result is virtually pure nitrogen at the outlet of the generator. The NGP Series is a very cost-efficient source of nitrogen used in various industries like food and beverage, metal processing, electronics, and many others.

-  Clean and dry compressed air (pressurized)
-  Nitrogen gas (pressurized)
-  Oxygen exhaust (depressurized)
-  Adsorbent



1. Adsorbent.
2. Nitrogen (or oxygen) molecules trapped in the adsorbent.
3. Oxygen (or nitrogen) molecules passing through.

## FOR ALL YOUR OXYGEN NEEDS

The OGP Oxygen Generator works in a similar way, using Pressure Swing Adsorption technology to isolate oxygen molecules from other molecules in compressed air to leave high purity oxygen at the outlet of the generator. The OGP Series provides cost-efficient oxygen for applications such as waste water treatment, ozone production, health care, and the glass industry.

# Total solutions from Atlas Copco

With a full range of nitrogen and oxygen generators to choose from, Atlas Copco brings you the right supply of nitrogen and oxygen to meet your specific needs and optimize your production process at the same time.

## A UNIQUE OFFER

On-site nitrogen and oxygen generation requires the most reliable and efficient compressed air solution. Drawing on vast experience, Atlas Copco has been leading the industry in compressed air technology for decades. From advanced compressors and quality air

solutions over a complete range of nitrogen and oxygen generators to aftermarket and financing services, Atlas Copco brings you its world-class expertise in a unique offer.



Typical installation: compressor with integrated dryer, receiver, NGM nitrogen generator, receiver.



## OIL-FREE COMPRESSORS

Atlas Copco, pioneer in the development of oil-free air technology, offers a full range of premium compressors delivering 100% oil-free, clean air to protect the membrane or absorbent in nitrogen generators. There is no need for extra filtration, making sure the pressure drop is kept to a minimum.



## OIL-INJECTED COMPRESSORS

Integrated onto the production floor, Atlas Copco's oil-injected compressors provide a dependable flow of compressed air directly to the point of use. Built to perform in harsh environments, Atlas Copco compressors keep your production running smoothly and reliably: a very economical solution in combination with nitrogen and oxygen generators.



## AIR TREATMENT

Atlas Copco has innovatively developed and improved air compression and drying techniques. Whatever your installation, application or quality requirements, Atlas Copco can offer the right air treatment solution, such as dryers (desiccant, reffridgerant, membrane) and filters (coalescing, particle, active carbon).



NGP (PSA)

*Typical installation: compressor with integrated dryer, pre-filters, Active Carbon Tower ODT, receiver, NGP nitrogen PSA generator, after-filter, receiver.*

# NGM nitrogen generators

Based on innovative membrane technology, Atlas Copco's NGM Nitrogen Generators are flexible enough to adapt to your specific applications. And with low operating costs they offer an excellent return on investment.

## Ready to use

- Robust design.
- No specialist installation or commissioning.
- Fitted with pre-filtration, pressure gauges and flow meter to ensure accurate system monitoring at all times.

## Cost savings

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

## Exceptional convenience

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

## All-in-one

- Fully integrated package.
- Filters and oxygen sensor as standard.

## High flow capacity

Ideal for applications such as fire prevention, tire inflation, oil & gas, marine, packaging and many more.





# NGP (nitrogen) & OGP (oxygen)

Atlas Copco's NGP and OGP nitrogen and oxygen 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.

## High flow capacity

The wide product range and gas flows exceeding 2,000 Nm<sup>3</sup>/h (NGP) make these generators ideal for a variety of demanding applications.

## 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: nitrogen concentrations from 95% to 99.999%.
- OGP: oxygen concentrations from 90% to 95%.

## 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.

## Cost savings

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



# Superior monitoring and control

You can rely on Atlas Copco's nitrogen and oxygen generators to perform efficiently day in, day out. To guarantee maximum uptime, continuous surveillance is a must.



## PEACE OF MIND

By properly monitoring your nitrogen/oxygen system you cannot only decrease downtime but also save energy and reduce maintenance. The nitrogen and oxygen generators come with the following advanced control unit:

- 4-inch touch screen.
- 2 analogue parameters (Purity & Pressure), with the opportunity to expand with more analogue components.
- User-friendly interface with six buttons (home, operation, process, log view, settings & alarm).
- Visual Alarm indication and service alarm in all screens.
- Alarm log with date, time and information.
- 'Run time' and countdown to service.
- Password protected operation parameters.
- Graphic log view on analogue parameters.
- Process illustration with valve cycle indication, graph showing pressure and current operation values.
- Remote control and connectivity functions.

# Your one-stop shop for O<sub>2</sub> and N<sub>2</sub>

From custom designed equipment to rental contracts, and from financing solutions to service kits, Atlas Copco is your one-stop global shop for all your compressed air, nitrogen and oxygen requirements.

## **CUSTOMDesign**

Atlas Copco's CustomDesign provides bespoke compressors and systems to operate, often in remote locations, at extreme temperatures or in harsh environments. These teams draw on over 100 years of compressor development geared to creating efficient, innovative and value-packed products.



## **RENT YOUR EQUIPMENT**

Atlas Copco Specialty Rental offers the largest fleet of 100% oil-free diesel and electric compressors in the world. In addition you can rent a wide range of

generators as well as nitrogen and oxygen equipment to meet your requirements.

## **SINGLE SOURCE SPARE PARTS**

From now on you can rely on one single source for all your spare parts. When installed by an Atlas Copco technician, his experience and training will keep

downtime to the minimum and ensure your equipment is kept in top condition.

## **CUSTOMER FINANCING SOLUTION**

Offering a one-stop solution, Atlas Copco Customer Finance makes it easier for you to complete your investment in Atlas Copco equipment. We provide

competitive rates and the possibility to choose from flexible solutions to suit your needs.

## **IDEAL FOR A WIDE RANGE OF APPLICATIONS**

- Marine
- Oil and gas
- Power generation
- Food



# Options

Some applications may require or benefit from additional options and more refined control and nitrogen/oxygen treatment systems. To meet these needs, Atlas Copco has developed options and easily integrated compatible equipment providing the lowest cost nitrogen and oxygen generation.

## NGM SERIES

- Permeate vent kit.
- Oil indicator.
- PDP sensor.
- Flow sensor.



## NGP SERIES

- N<sub>2</sub> flow meter.
- Inlet PDP measurement/alarm.

## OGP SERIES

- O<sub>2</sub> flow meter.
- Inlet PDP measurement/alarm.



# NGM Series: Technical Specifications

NGM TYPE	Nitrogen purity			Dimensions (W x D x H)		Weight		
		95%	96%	97%	mm	in	kg	lbs
NGM 1	FND l/s	3.3	2.7	2.1	820 x 772 x 2090	32.3 x 30.4 x 82.3	259	571
	FND m <sup>3</sup> /h	11.8	9.7	7.5				
	FND cfm	6.9	5.67	4.4				
NGM 2	FND l/s	6.7	5.4	4.2	820 x 772 x 2090	32.3 x 30.4 x 82.3	268	591
	FND m <sup>3</sup> /h	24.1	19.4	15.1				
	FND cfm	14	11.3	8.8				
NGM 3	FND l/s	11.7	9.6	7.6	820 x 772 x 2090	32.3 x 30.4 x 82.3	285	628
	FND m <sup>3</sup> /h	42.1	34.5	27.3				
	FND cfm	24.5	20.1	16				
NGM 4	FND l/s	23.3	19.3	15.2	820 x 1470 x 2090	32.3 x 57.9 x 82.3	445	981
	FND m <sup>3</sup> /h	83.8	69.5	54.7				
	FND cfm	48.9	40.5	31.9				
NGM 5	FND l/s	35.0	28.9	22.8	820 x 1470 x 2090	32.3 x 57.9 x 82.3	497	1096
	FND m <sup>3</sup> /h	126	104	82				
	FND cfm	73.5	60.7	47.8				
NGM 6	FND l/s	46.7	38.5	30.3	820 x 1470 x 2090	32.3 x 57.9 x 82.3	535	1179
	FND m <sup>3</sup> /h	168	138.6	109				
	FND cfm	98	80.85	63.6				
NGM 7	FND l/s	58.3	48.1	37.9	820 x 1470 x 2090	32.3 x 57.9 x 82.3	571	1259
	FND m <sup>3</sup> /h	209.8	173.1	136.4				
	FND cfm	122.4	101	79.6				

## FND: Free Nitrogen Delivery

### Reference conditions:

Compressed air effective inlet pressure: 8 bar(g)/116 psi(g).

Nitrogen outlet pressure: 6.5 bar(g)/94 psi(g).

Ambient air temperature: 20°C/68°F

Pressure dewpoint inlet air: 3°C/37°F.

Pressure dewpoint nitrogen: -40°C/-40°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: 50°C/122°F

Maximum compressed inlet air pressure 13 bar(g)/189 psi(g).



## NGM 1-7

Please check the table above for detailed dimensions.



# OGP Series: Technical Specifications

OGP TYPE	Oxygen purity FOD (Free Oxygen Delivery)				Dimensions (W x D x H)		Weight	
		90%	93%	95%	mm	in	kg	lbs
OGP 2	FOD, l/s	0.6	0.5	0.4	600 x 600 x 1550	23.6 x 23.6 x 61.0	100	220
	FOD, m³/h	2.1	1.6	1.5				
	FOD cfm	1.3	1.1	0.8				
OGP 3	FOD, l/s	0.9	0.7	0.7	600 x 600 x 1600	23.6 x 23.6 x 63.0	150	331
	FOD, m³/h	3.2	2.5	2.5				
	FOD cfm	1.9	1.5	1.5				
OGP 4	FOD, l/s	1.1	1.0	0.9	600 x 600 x 1650	23.6 x 23.6 x 65.0	180	397
	FOD, m³/h	4.0	3.6	3.2				
	FOD cfm	2.3	2.1	1.9				
OGP 5	FOD, l/s	1.3	1.2	1.1	700 x 700 x 1900	27.6 x 27.6 x 74.8	230	507
	FOD, m³/h	4.7	4.3	4.0				
	FOD cfm	2.8	2.5	2.3				
OGP 6	FOD, l/s	1.8	1.6	1.5	800 x 900 x 1750	31.5 x 35.4 x 68.9	400	882
	FOD, m³/h	6.5	5.8	5.4				
	FOD cfm	3.8	3.4	3.2				
OGP 8	FOD, l/s	2.2	2.0	1.9	800 x 900 x 1750	31.5 x 35.4 x 68.9	700	1543
	FOD, m³/h	7.9	7.2	6.8				
	FOD cfm	4.7	4.2	4.0				
OGP 10	FOD, l/s	2.7	2.5	2.3	900 x 1200 x 2100	35.4 x 47.2 x 82.7	950	2094
	FOD, m³/h	9.7	9.0	8.3				
	FOD cfm	5.7	5.3	4.9				
OGP 14	FOD, l/s	4.0	3.7	3.4	900 x 1200 x 2100	35.4 x 47.2 x 82.7	950	2094
	FOD, m³/h	14.4	13.3	12.2				
	FOD cfm	8.5	7.8	7.2				
OGP 18	FOD, l/s	4.3	5.1	5.1	900 x 1300 x 2400	35.4 x 51.1 x 94.5	1150	2535
	FOD, m³/h	15.5	18.4	18.4				
	FOD cfm	9.1	10.8	10.8				
OGP 20	FOD, l/s	5.7	5.4	5.1	1000 x 1300 x 2400	39.4 x 51.1 x 94.5	1150	2535
	FOD, m³/h	20.5	19.4	18.4				
	FOD cfm	12.1	11.4	10.8				
OGP 23	FOD, l/s	6.5	5.9	5.7	1000 x 1300 x 3200	39.4 x 51.1 x 126.0	1350	2976
	FOD, m³/h	23.4	21.2	20.5				
	FOD cfm	13.8	12.5	12.1				
OGP 29	FOD, l/s	8.1	7.7	7.3	1000 x 2000 x 2500	39.4 x 78.7 x 98.4	1850	4079
	FOD, m³/h	29.2	27.7	26.3				
	FOD cfm	17.2	16.3	15.5				
OGP 35	FOD, l/s	9.8	9.2	8.8	1000 x 2000 x 2500	39.4 x 78.7 x 98.4	2150	4740
	FOD, m³/h	35.3	33.1	31.7				
	FOD cfm	20.8	19.5	18.6				
OGP 45	FOD, l/s	12.6	11.9	10.9	1000 x 2000 x 3400	39.4 x 78.7 x 134.0	3500	7716
	FOD, m³/h	45.4	42.8	39.2				
	FOD cfm	26.7	25.2	23.1				
OGP 55	FOD, l/s	15.5	14.4	13.6	1000 x 2000 x 3400	39.4 x 78.7 x 134.0	3500	7716
	FOD, m³/h	55.8	51.8	49.0				
	FOD cfm	32.8	30.5	28.8				
OGP 65	FOD, l/s	18.4	17.8	15.8	1000 x 2000 x 3400	39.4 x 78.7 x 134.0	3500	7716
	FOD, m³/h	66.2	64.1	56.9				
	FOD cfm	39.0	37.7	33.5				
OGP 84	FOD, l/s	23.7	22.0	20.6	2400 x 2200 x 3200	94.5 x 86.6 x 126.0	4200	9259
	FOD, m³/h	85.3	79.2	74.2				
	FOD cfm	50.2	46.6	43.6				
OGP 105	FOD, l/s	29.7	28.3	26.0	2400 x 2400 x 3300	94.5 x 94.5 x 130.0	4900	10803
	FOD, m³/h	106.9	101.9	93.6				
	FOD cfm	62.9	59.9	55.1				
OGP 160	FOD, l/s	43.8	43.0	39.9	4000 x 4000 x 3200	157.5 x 157.5 x 126.0	8000	17637
	FOD, m³/h	157.7	154.8	143.6				
	FOD cfm	92.8	91.1	84.5				
OGP 200	FOD, l/s	56.6	52.3	48.6	4000 x 4000 x 3300	157.5 x 157.5 x 130.0	9400	20723
	FOD, m³/h	203.8	188.3	175.0				
	FOD cfm	119.9	110.8	102.9				

**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).



**OGP 2-200**

Please check the table above for detailed dimensions.



### **Driven by innovation**

With more than 135 years of innovation and experience, Atlas Copco will deliver the products and services to help maximize your company's efficiency and productivity. As an industry leader, we are dedicated to offering high air quality at the lowest possible cost of ownership. Through continuous innovation, we strive to safeguard your bottom line and bring you peace of mind.



### **Building on interaction**

As part of our long-term relationship with our customers, we have accumulated extensive knowledge of a wide diversity of processes, needs and objectives. This gives us the flexibility to adapt and efficiently produce customized compressed air solutions that meet and exceed your expectations.



### **A committed business partner**

With a presence in over 170 countries, we will deliver high-quality customer service anywhere, anytime. Our highly skilled technicians are available 24/7 and are supported by an efficient logistics organization, ensuring fast delivery of genuine spare parts when you need them. We are committed to providing the best possible know-how and technology to help your company produce, grow, and succeed. With Atlas Copco you can rest assured that your superior productivity is our first concern!



[www.atlascopco.com/nitrogen](http://www.atlascopco.com/nitrogen)