On-site industrial gases

Nitrogen & oxygen generators

A secure supply of nitrogen and oxygen

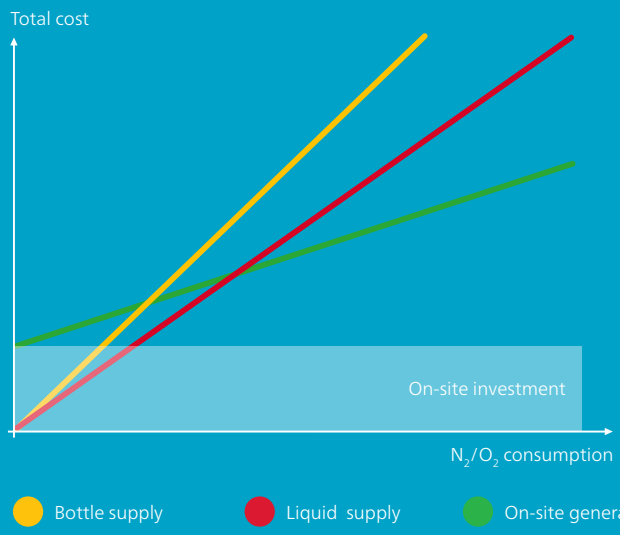
Whether your company is specialized in chemical manufacturing, electronics, laser cutting or food and beverage, a dependable supply of industrial gas is crucial. Compared to the on-demand delivery of gas bottles or tanks, on-site production of gas offers a wealth of advantages ranging from cost savings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

On-site vs. liquid or bottled gas

- 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.

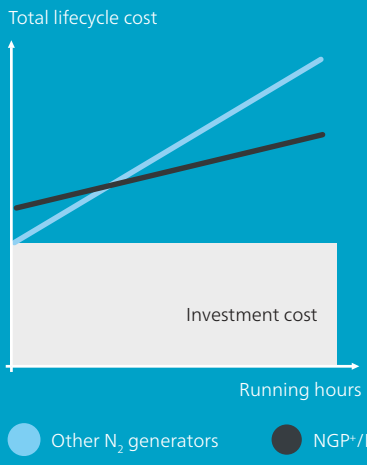
Liquid/bottled gas	On-site generation
Lease tank	Capital
N_2	Energy
Transport	Maintenance
0.1-0.8 EUR/m³(*)	**0.02-0.15 EUR/m³(**)**
N_2: 99.999%	N_2: 95-99.999%

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



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.



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.

New generation membrane & PSA generators will change the market

Atlas Copco's latest membrane and 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/NGM range has the lowest investment cost.
However, with increasing running time, you are better advised to switch to the NGP+/NGM+ range to reduce energy costs.

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:
Compact all-in-one N_2 supply

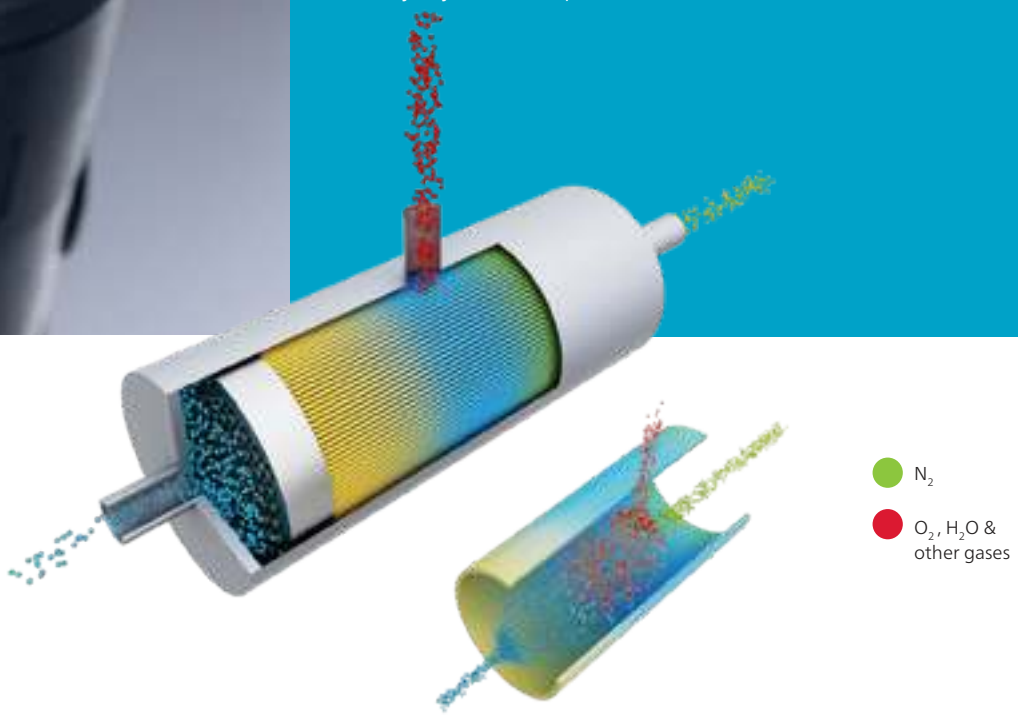
Atlas Copco NGM/NGM+/NGMs nitrogen generators utilize proprietary membrane separation technology. The membrane separates compressed air into two streams: one is 95-99.9% pure nitrogen, and the other is oxygen enriched with carbon dioxide and other gases.

Instant supply of nitrogen between 95% and 99.9%

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 large amount of fibers 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 -50°C (-58°F).



PSA: Reliable and proven

Based on Pressure Swing Adsorption (PSA) technology, Atlas Copco's NGP/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/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.

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.

- 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

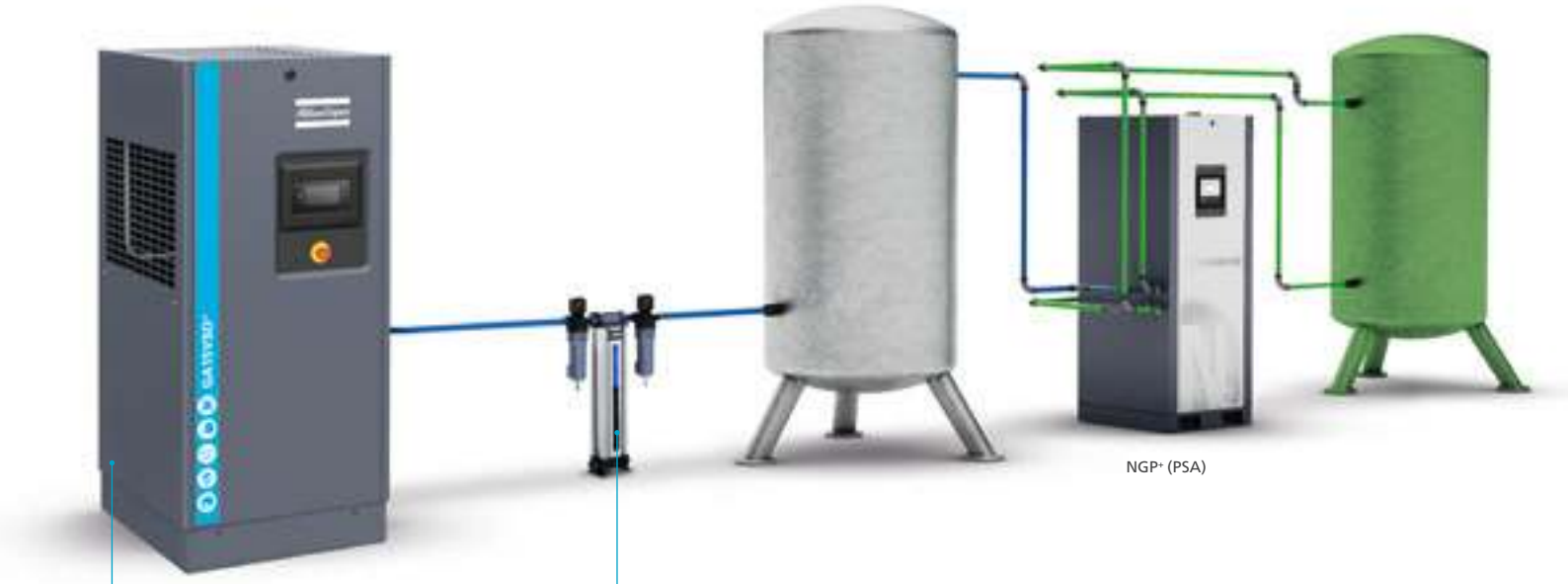
Total solutions from Atlas Copco

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.

High quality compressed air

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

Typical installation: compressor with integrated dryer, pre-filter UD+, Active Carbon Tower QDT, dust filter, receiver, NGP+ nitrogen PSA generator, receiver.



NGP+ (PSA)

Oil-injected compressors

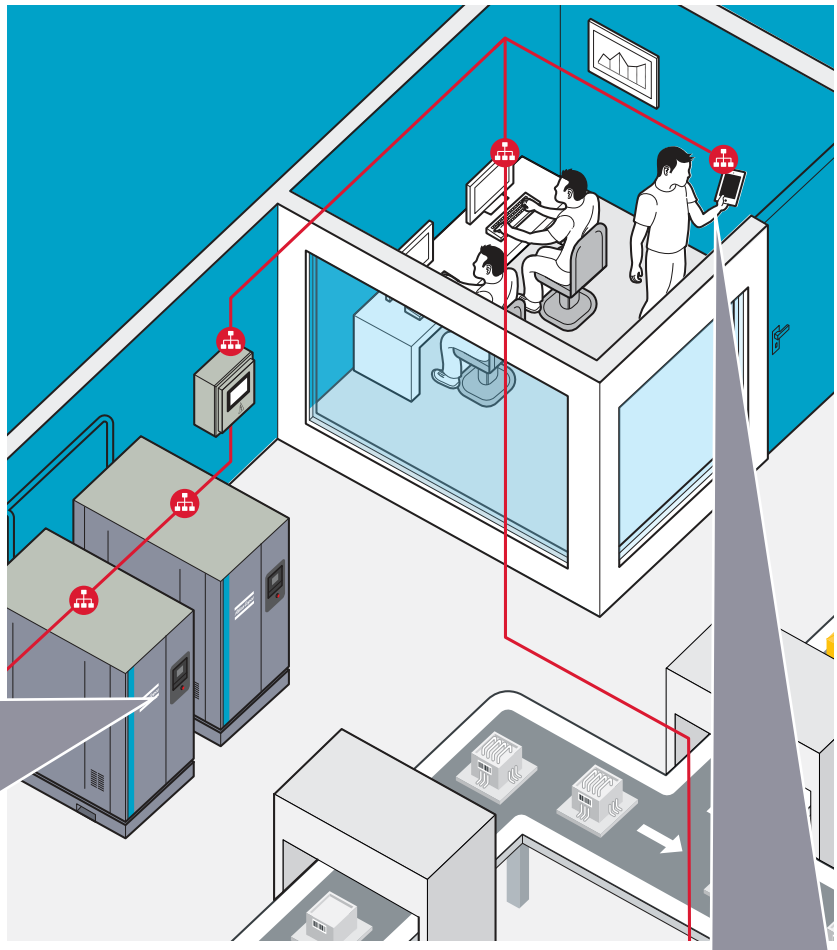
Integrated onto the production floor, Atlas Copco's oil-injected compressors provide a dependable flow of compressed air directly to the point of use. The GA range even comes with integrated dryer for high quality air. Built to perform in harsh environments, Atlas Copco compressors keep your production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

Air treatment

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

Advanced monitoring, control & connectivity

Do you operate a smart factory or Industry 4.0 production environment? Atlas Copco's nitrogen and oxygen generators will fit right in. Their advanced monitoring, control and connectivity features allow you to optimize performance and efficiency.



Control

The Elektronikon® operating system gives you numerous control and monitoring options to optimize compressor performance.

Connect

SMARTLINK*: Data Monitoring Program

- Remote monitoring system that helps you optimize your compressed air system and save energy and costs.
- Provides a complete insight in your compressed air network.
- Anticipates potential problems by warning you upfront.

* Please contact your local sales representative for more information.

Always at your service

Atlas Copco is a truly global organization with support available in more than 160 countries. As a result, one of our 4850 field service engineers is never far away. We pride ourselves on the swift assistance that keeps your Atlas Copco nitrogen and oxygen system performing reliably and efficiently.

Service plan

Our service plans keep your Atlas Copco nitrogen and oxygen system 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.

Membrane nitrogen generators (NGM, NGM+, NGMs)

Based on innovative membrane technology, Atlas Copco's membrane 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

- Requires only a supply of dry compressed air.
- 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.

Desired purity

- Nitrogen supply according to your need: from 5% to 0.1% oxygen content.
- Very easy to set up the device for other purity levels.

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.

Long lifetime

- No aging.
- No heater.
- Lasting performance.

NGMs: efficiency in low flow nitrogen generation

If you don't need a generator with a high nitrogen flow and purity, the NGMs is your perfect solution. It meets your specific requirements with Atlas Copco quality, high efficiency, little maintenance and zero operational costs.

PSA nitrogen and oxygen generators (NGP, NGP+, OGP)

Atlas Copco's NGP, 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 3,000 Nm^3/h (NGP/NGP+) make these generators ideal for a variety of demanding applications.

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.

Desired purity

- NGP/NGP+: nitrogen concentrations from 95% to 99.999%.
- OGP: oxygen concentrations from 90% to 95%.

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.

Cost savings

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

New generation NGP+ nitrogen generators

1
Self-protective monitoring of the feed air quality

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

2
Premium energy efficiency

Air factor (air-to-nitrogen ratio) from 1.8 (95% N_2)
to 5.5 (99.999% N_2).

3
Automatic start-up

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

4
Highest quality CMS

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

9
The most complete scope of supply

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

8
Self-regulation and stable purity

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

7
Control and monitoring

- Remote start-stop.
- Modbus, Profibus and Ethernet.
- **SMART**LINK.

6
Back flow pressurization

- In the pressurization phase nitrogen is used instead of air.
- No oxygen contamination of the CMS before adsorption phase starts.

5
The ultimate energy saver

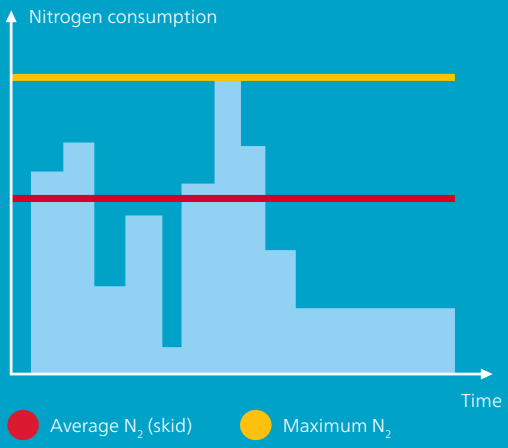
- Stand-by mode in case no nitrogen is consumed.
- Cycle time modulation algorithm = extended cycle time at low nitrogen demand = reduced air consumption at low nitrogen demand.

All-in-one high pressure nitrogen skid

The latest addition to Atlas Copco's specially developed equipment is the all-in-one high pressure nitrogen skid, a true alternative for liquid nitrogen or bottles. Combining a small footprint, easy installation, high reliability and supreme energy efficiency, this unique nitrogen skid truly stands out.

Ideal for a fluctuating nitrogen demand

This innovative nitrogen skid lets you store nitrogen at 40 bar for direct use or 300 bar for bottling. This allows you to base your production on your average nitrogen consumption rather than have your maximum capacity available at all times. This saves initial investment cost and drastically reduces your operating costs.



The all-in-one solution

All nitrogen skid components are built to Atlas Copco quality and efficiency standards. They are tested for optimal performance and reliability.

Laser cutting

Laser cutting requires a reliable supply of high pressure nitrogen. With its energy efficiency, ease of use and small footprint, the Atlas Copco 300-bar nitrogen skid is the ideal solution.

Technical specifications NGM series

TYPE		Nitrogen purity			Dimensions (W x D x H)		Weight	
		95%	96%	97%	mm	in	kg	lbs
NGMs 1	FND Nm^3/h	4.6	3.9	3.2	560 x 285 x 1150	22 x 11 x 45	56	123
	FND scfm	2.75	2.3	1.9				
	SCFH	165	140	115				
	Air factor	2	2.2	2.4				
NGMs 2	FND Nm^3/h	9.6	7.9	6.5	560 x 285 x 1150	22 x 11 x 45	59	130
	FND scfm	5.7	4.7	3.9				
	SCFH	345	284	233.5				
	Air factor	2	2.2	2.4				
NGMs 3	FND Nm^3/h	14	11.8	9.7	560 x 285 x 1150	22 x 11 x 45	62	136
	FND scfm	8.4	7.1	5.8				
	SCFH	503	424	348				
	Air factor	2	2.2	2.4				
NGM 1	FND Nm^3/h	11.9	9.7	7.6	820 x 772 x 2090	32.3 x 30.4 x 82.3	259	571
	FND scfm	6.9	5.7	4.4				
	Air factor	2.6	3	3.5				
NGM 2	FND Nm^3/h	24.1	19.4	15.1	820 x 772 x 2090	32.3 x 30.4 x 82.3	268	591
	FND scfm	14.1	11.3	8.8				
	Air factor	2.6	3	3.5				
NGM 3	FND Nm^3/h	42.1	34.6	27.4	820 x 772 x 2090	32.3 x 30.4 x 82.3	285	628
	FND scfm	24.6	20.2	16.0				
	Air factor	2.6	3	3.5				
NGM 4	FND Nm^3/h	83.9	69.5	54.7	820 x 1470 x 2090	32.3 x 57.9 x 82.3	445	981
	FND scfm	48.9	40.5	31.9				
	Air factor	2.6	3	3.5				
NGM 5	FND Nm^3/h	126.0	104.0	82.1	820 x 1470 x 2090	32.3 x 57.9 x 82.3	497	1096
	FND scfm	73.5	60.7	47.9				
	Air factor	2.6	3	3.5				
NGM 6	FND Nm^3/h	168.1	138.6	109.1	820 x 1470 x 2090	32.3 x 57.9 x 82.3	535	1179
	FND scfm	98.1	80.9	63.6				
	Air factor	2.6	3	3.5				
NGM 7	FND Nm^3/h	209.9	173.2	136.4	820 x 1470 x 2090	32.3 x 57.9 x 82.3	571	1259
	FND scfm	122.4	101.0	79.6				
	Air factor	2.6	3	3.5				

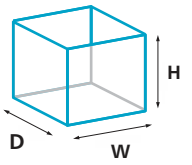
Technical specifications NGM+ series

TYPE		Nitrogen purity			Dimensions (W x D x H)		Weight	
		95%	97%	99%	mm	in	kg	lbs
NGM 1+	FND Nm^3/h	24.3	16.5	8.5	820 x 772 x 2090	32.3 x 30.4 x 82.3	259	571
	FND scfm	14.1	9.6	4.9				
	Air factor	2.2	2.7	4.2				
NGM 2+	FND Nm^3/h	48.6	33.0	17.0	820 x 772 x 2090	32.3 x 30.4 x 82.3	268	591
	FND scfm	28.3	19.2	9.9				
	Air factor	2.2	2.7	4.2				
NGM 3+	FND Nm^3/h	72.9	49.5	25.5	820 x 772 x 2090	32.3 x 30.4 x 82.3	285	628
	FND scfm	42.4	28.8	14.8				
	Air factor	2.2	2.7	4.2				
NGM 4+	FND Nm^3/h	97.2	66.0	34.0	820 x 1470 x 2090	32.3 x 57.9 x 82.3	445	981
	FND scfm	56.5	38.4	19.8				
	Air factor	2.2	2.7	4.2				
NGM 5+	FND Nm^3/h	145.8	99.0	51.0	820 x 1470 x 2090	32.3 x 57.9 x 82.3	497	1096
	FND scfm	84.8	57.6	29.7				
	Air factor	2.2	2.7	4.2				
NGM 6+	FND Nm^3/h	194.4	132.0	68.0	820 x 1470 x 2090	32.3 x 57.9 x 82.3	535	1179
	FND scfm	113.0	76.7	39.5				
	Air factor	2.2	2.7	4.2				
NGM 7+	FND Nm^3/h	243.0	165.0	85.0	820 x 1470 x 2090	32.3 x 57.9 x 82.3	571	1259
	FND scfm	141.3	65.9	49.4				
	Air factor	2.2	2.7	4.2				

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: -50°C/-58°F.
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).

NGMs performance
is based on 20°C/7 bar at membrane (1000Mbar) +/-5%.

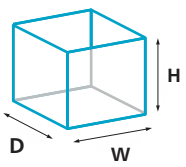


Technical specifications NGP+ series

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 8+	FND scfm	11	8.3	7.1	5.7	4.8	3.3	2.5	1.9	1.1	775 x 840 x 2015	30 x 33 x 79	276	609
	FND Nm³/h	18	14	12	9.6	8.1	5.7	4.3	3.1	1.9				
	Air factor	1.9	2.0	2.1	2.4	2.6	3.2	3.5	4.3	6.3				
NGP 10+	FND scfm	14	11	9.1	7.3	6.1	4.3	3.2	2.4	1.5	775 x 840 x 2015	30 x 33 x 79	289	637
	FND Nm³/h	23	18	15	12	10	7.3	5.5	4.0	2.5				
	Air factor	1.9	2.0	2.1	2.4	2.6	3.2	3.5	4.3	6.3				
NGP 12+	FND scfm	17	13	11	8.9	7.5	5.3	4.0	2.9	1.8	775 x 840 x 2015	30 x 33 x 79	312	688
	FND Nm³/h	29	22	19	15	13	8.9	6.7	4.9	3.0				
	Air factor	1.9	2.0	2.1	2.4	2.6	3.2	3.5	4.3	6.3				
NGP 15+	FND scfm	21	17	14	11	9.5	6.7	5.0	3.7	2.3	775 x 840 x 2015	30 x 33 x 79	335	739
	FND Nm³/h	36	28	24	19	16	11	8.5	6.3	3.8				
	Air factor	1.9	2.0	2.1	2.4	2.6	3.2	3.5	4.3	6.3				
NGP 20+	FND scfm	28	21	18	15	12	8.6	6.5	4.8	2.9	775 x 840 x 2015	30 x 33 x 79	367	809
	FND Nm³/h	47	36	31	25	21	15	11	8.1	4.9				
	Air factor	1.9	2.0	2.1	2.4	2.6	3.2	3.5	4.3	6.3				
NGP 25+	FND scfm	34	26	22	18	15	11	7.9	5.8	3.6	775 x 840 x 2015	30 x 33 x 79	410	904
	FND Nm³/h	57	44	38	30	25	18	13	9.9	6.0				
	Air factor	1.9	2.0	2.1	2.4	2.6	3.2	3.5	4.3	6.3				
NGP 30+	FND scfm	41	32	27	22	18	13	9.7	7.1	4.7	1400 x 840 x 2015	55 x 33 x 79	208	1341
	FND Nm³/h	70	54	46	37	31	22	16	12	8.0				
	Air factor	1.9	2.0	2.1	2.4	2.6	3.2	3.5	4.3	5.6				
NGP 35+	FND scfm	51	39	33	27	23	16	12	8.7	5.7	1400 x 840 x 2015	55 x 33 x 79	648	1429
	FND Nm³/h	86	66	57	46	38	27	20	15	9.7				
	Air factor	1.9	2.0	2.1	2.4	2.6	3.2	3.5	4.3	5.6				
NGP 40+	FND scfm	55	43	36	29	25	17	13	9.5	6.2	1400 x 840 x 2015	55 x 33 x 79	681	1502
	FND Nm³/h	94	72	62	50	42	29	22	16	11				
	Air factor	1.9	2.0	2.1	2.4	2.6	3.2	3.5	4.3	5.6				
NGP 50+	FND scfm	68	52	45	36	30	21	16	12	7.6	1400 x 840 x 2015	55 x 33 x 79	734	1618
	FND Nm³/h	115	89	76	61	51	36	27	20	13				
	Air factor	1.9	2.0	2.1	2.4	2.6	3.2	3.5	4.3	5.6				
NGP 60+	FND scfm	76	58	51	40	34	24	19	14	9.4	1400 x 970 x 2015	55 x 38 x 79	764	1685
	FND Nm³/h	129	99	86	68	57	41	33	24	16				
	Air factor	1.9	2.1	2.2	2.4	2.7	3.3	3.5	4.3	5.6				
NGP 70+	FND scfm	93	72	62	49	41	29	24	17	11	1400 x 970 x 2015	55 x 38 x 79	1039	2291
	FND Nm³/h	158	122	105	83	70	50	40	30	19				
	Air factor	1.9	2.1	2.2	2.4	2.7	3.3	3.5	4.3	5.6				
NGP 85+	FND scfm	-	91	72	59	51	36	29	21	13	1400 x 970 x 2015	55 x 38 x 79	1209	2666
	FND Nm³/h	-	154	122	100	87	62	49	36	23				
	Air factor	-	2.0	2.2	2.4	2.6	3.2	3.3	3.9	5.5				
NGP 100+	FND scfm	-	95	83	65	55	39	32	23	15	1400 x 970 x 2015	55 x 38 x 79	1209	2666
	FND Nm³/h	-	162	140	111	94	66	54	40	26				
	Air factor	-	2.1	2.2	2.4	2.7	3.3	3.5	4.3	5.6				
NGP 240+	FND scfm	306	248	215	176	149	106	81	62	40	2230 x 1800 x 2610	88 x 71 x 103	3200	7055
	FND Nm³/h	520	422	365	299	252	180	138	106	68				
	Air factor	1.8	2.0	2.1	2.3	2.6	3.1	3.3	4.0	5.3				
NGP 300+	FND scfm	394	320	277	227	192	137	105	80	51	2570 x 1800 x 2640	101 x 71 x 104	3800	8378
	FND Nm³/h	670	543	470	385	325	232	178	136	87				
	Air factor	1.8	2.0	2.1	2.3	2.6	3.1	3.3	4.0	5.3				
NGP 360+	FND scfm	479	388	336	275	233	166	127	97	63	2650 x 1800 x 2625	104 x 71 x 103	4800	10582
	FND Nm³/h	813	660	571	468	395	282	216	165	106				
	Air factor	1.8	2.0	2.1	2.3	2.6	3.1	3.3	4.0	5.3				
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+.



Technical specifications NGP series

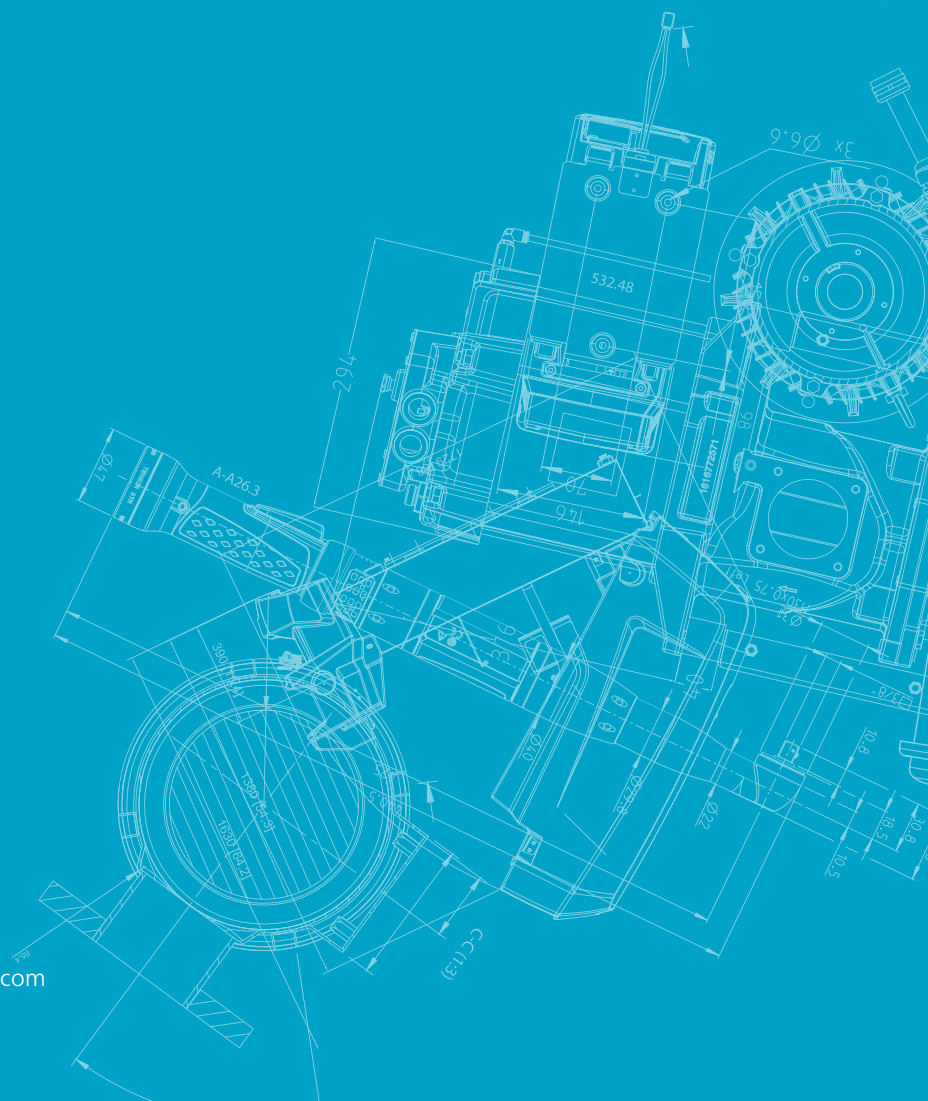
TYPE	Nitrogen purity FND (Free Nitrogen Delivery)									Dimensions (W x D x H)		Weight	
		95%	97%	98%	99%	99.50%	99.90%	99.95%	99.99%	99.999%	mm	in	kg	lbs
NGP 10	FND scfm	13.1	10.2	8.6	6.6	5.4	3.5	2.6	1.8	1.0	798 x 840 x 2022	31.4 x 33.1 x 79.6	244	538
	FND Nm^3/h	22.3	17.4	14.6	11.3	9.1	5.9	4.4	3.1	1.7				
NGP 12	FND scfm	16.9	13.2	11.1	8.5	6.9	4.5	3.4	2.3	1.3	798 x 840 x 2022	31.4 x 33.1 x 79.6	257	567
	FND Nm^3/h	28.8	22.4	18.8	14.5	11.7	7.6	5.7	3.9	2.2				
NGP 15	FND scfm	20.7	16.1	13.5	10.4	8.4	5.5	4.1	2.8	1.6	798 x 840 x 2022	31.4 x 33.1 x 79.6	270	595
	FND Nm^3/h	35.2	27.4	23.0	17.7	14.3	9.3	7.0	4.8	2.7				
NGP 20	FND scfm	26.3	20.5	17.2	13.2	10.7	6.9	5.2	3.6	2.0	798 x 840 x 2022	31.4 x 33.1 x 79.6	306	675
	FND Nm^3/h	44.7	34.9	29.3	22.5	18.2	11.8	8.9	6.1	3.4				
NGP 25	FND scfm	33.8	26.4	22.1	17.1	13.8	8.9	6.7	4.6	2.6	798 x 840 x 2022	31.4 x 33.1 x 79.6	339	747
	FND Nm^3/h	57.5	44.9	37.6	29.0	23.4	15.2	11.4	7.9	4.4				
NGP 30	FND scfm	41.3	32.3	27.0	20.9	16.8	10.9	8.2	5.7	3.1	798 x 840 x 2022	31.4 x 33.1 x 79.6	360	794
	FND Nm^3/h	70.3	54.9	46.0	35.5	28.6	18.6	14.0	9.7	5.3				
NGP 35	FND scfm	50.7	39.6	33.2	25.6	20.6	13.4	10.1	7.3	4.2	798 x 840 x 2022	31.4 x 33.1 x 79.6	599	1321
	FND Nm^3/h	86.3	67.3	56.5	43.5	35.1	22.8	17.1	12.4	7.1				
NGP 40	FND scfm	62.0	48.4	40.6	31.3	25.2	16.4	12.3	8.9	5.1	798 x 840 x 2022	31.4 x 33.1 x 79.6	627	1382
	FND Nm^3/h	105.5	82.3	69.1	53.2	42.9	27.9	20.9	15.2	8.7				
NGP 50	FND scfm	67.6	52.7	44.3	34.1	27.5	17.9	13.4	9.7	5.6	798 x 840 x 2022	31.4 x 33.1 x 79.6	663	1462
	FND Nm^3/h	115.0	89.7	75.3	58.0	46.8	30.4	22.8	16.5	9.5				
NGP 60	FND scfm	82.7	52.7	44.3	34.1	27.5	17.9	13.4	9.7	5.6	798 x 840 x 2022	31.4 x 33.1 x 79.6	716	1579
	FND Nm^3/h	140.7	109.8	92.1	70.9	57.2	37.2	27.9	20.2	11.6				
NGP 70	FND scfm	93.9	71.3	60.4	51.2	41.3	26.8	19.1	13.6	8.3	798 x 840 x 2022	31.4 x 33.1 x 79.6	805	1775
	FND Nm^3/h	159.7	121.2	102.7	87.0	70.2	45.6	32.5	23.1	14.2				
NGP 85	FND scfm	-	71.3	60.4	51.2	41.3	26.8	19.1	13.6	8.3	798 x 840 x 2022	31.4 x 33.1 x 79.6	1018	2244
	FND Nm^3/h	-	148.3	125.6	106.4	85.8	55.8	39.8	28.3	17.4				
NGP 100	FND scfm	-	-	73.9	62.6	50.5	32.8	23.4	16.6	10.2	798 x 840 x 2022	31.4 x 33.1 x 79.6	1191	2626
	FND Nm^3/h	-	-	138.1	108.8	91.2	59.1	46.5	34.0	20.5				
NGP 115	FND scfm	-	-	-	64.0	53.6	34.8	27.3	20.0	12.1	798 x 840 x 2022	31.4 x 33.1 x 79.6	1191	2626
	FND Nm^3/h	-	-	-	126.5	104.2	64.7	53.0	37.7	23.3				
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 Nm^3/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 Nm^3/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 Nm^3/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 Nm^3/h	2645.1	2034.7	1627.8	1373.4	1119.1	712.2	632.8	386.6	132.3				

Technical specifications OGP series

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



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