

NITROGEN GENERATION SYSTEMS

ON2Quest
SUSTAINABLE GAS GENERATION & PURIFICATION



GENERATE SUSTAINABLY: GENERATE ON-SITE



NITROGEN GENERATION SYSTEMS

ON2Quest's nitrogen generation systems are designed to provide a reliable and efficient supply of gas by using innovative solutions through on-site pressure swing adsorption (PSA) technology. These systems are equipped with the latest advancements in technology to meet the diverse demands of industrial applications, ensuring a continuous and high-quality nitrogen supply.

THE EQUIPMENT



At the core of each integrated systems, there is a PSA concentrator designed for different operational requirements in terms of volume and product gas flow. This versatility ensures that regardless of the scale or specific requirements of the operation, ON2Quest has the ability to provide an optimal solution, catering to the needs of different manufacturing processes requiring purity levels ranging from 95% to 99.999% and flow rates between 0.5 Nm³/h and 5,000 Nm³/h.

These integrated systems include essential peripheral equipment such as air compressors, air preparation modules, buffer tanks and boosters for higher output pressures based on the preferred setups, ensuring maximum efficiency and compatibility.

Alternatively, end-users are presented with the flexibility to integrate the standalone nitrogen concentrators into their existing equipment setups. This integration eliminates the need for extensive modifications or additional investments, streamlining the process of enhancing nitrogen supply capabilities for businesses.

With a wide range of capabilities and flexible integration options, ON2Quest ensures that businesses can confidently have their nitrogen supply needs met, regardless of their specific requirements or scale of operations.

TYPICAL INSTALLATION



1. Air compressor
2. Dryer
3. Activated carbon tower
4. Air tank

5. Nitrogen generator
6. Product tank
7. Booster
8. Cylinder filling manifold

THE COMPLETE PACKAGE

By providing a complete package, ON2Quest ensures optimal system performance of the product gas quality and efficiency. From air compressors to air preparation modules and buffer tanks, each component is carefully selected to work together from a single control system, eliminating compatibility issues.

In order to still be able to meet the needs for specific end-users related to product quality, daily consumption pattern and back-up requirements, standardised systems can be cascaded easily and additional peripherals for post-purification or storage can be added.

Depending on the end-user's preference, systems can either be supplied on skids for indoor operations or as climate-controlled containers for more stringent environmental conditions.

Each integrated system is factory tested before shipping, assuring plug-and-play installation and quick deployment.

INTEGRATED SYSTEMS

SKID-MOUNTED SYSTEM



CONTAINERISED SYSTEM



UNIQUE PROPOSITION



PLUG & PLAY

No need for systems engineering, component selection, software integration, on-site construction and certification.



QUICK DEPLOYMENT

Pre-testing at the factory allows for minimal on-site installation and commissioning requirements, reducing downtime.



MODULAR APPROACH

Skid-mounted or containerised systems can be cascaded to increase security of supply and allow future expansion based on demands.



SPACE EFFICIENCY

Systems are designed to maximise space utilisation and at the same time creating a lesser need for on-site storage.



INTEGRATED QUALITY CONTROL

Inlet pressure, dew point and temperature control ensures consistent gas flow and purity.



REMOTE MONITORING

Enables real-time control and monitoring without the need for additional manpower.

SPECIFICATIONS

Output

Purity range [%] 95 - 99.999

Operating pressure range [bar(g)] 5 - 8

Compressed air requirements

Inlet air quality according to ISO8573-1 [Class] 1.4.1

Pressure dew point [°C] +3

Ambient conditions

Operating temperature [°C] 5 - 45

Electrical connection

Voltage [V] 230 or 110

Frequency [Hz] 50 or 60

Power Consumption [kW] 0.1

Technical features

Protection class [IP] 54

Noise level [dB(A)] 55 to max 85

CONCENTRATORS

MODELS

Purity	95%	99%	99.5%	99.9%	99.95%	99.99%	99.995%	99.999%	Measurements		
Residual O ₂	5%	1%	0.5%	0.1%	500ppm	100ppm	50ppm	10ppm	L	W	H
NQ-2	5.2	3.1	2.6	1.7	1.4	0.8	0.6	0.5	550	650	1460
NQ-4	14.5	7.2	6.6	4.4	3.7	2.1	1.7	1.2	550	650	1500
NQ-9	27.9	16.5	14.0	9.4	7.7	4.4	3.5	2.4	550	650	1500
NQ-15	50.5	31.5	26.0	17.5	14.4	8.1	6.5	4.6	800	620	1900
NQ-25	70.1	40.9	37.4	25.1	20.7	11.7	9.4	6.5	980	760	1848
NQ-40	135.9	83.0	68.7	46.2	38.0	21.5	17.2	12.0	1050	800	2016
NQ-60	195.5	108.6	91.2	65.2	56.5	28.7	25.6	18.8	1130	900	2170
NQ-90	309.5	178.8	139.3	99.5	86.2	43.8	39.1	28.7	1350	1050	2190
NQ-115	436.5	249.5	169.0	126.1	107.4	60.7	54.1	44.3	1550	1250	2291
NQ-160	535.2	333.0	234.5	174.9	149.0	84.2	75.1	61.5	1920	1400	2470
NQ-225	837.7	496.4	331.9	247.5	210.9	119.2	106.3	87.0	1450	2250	2493
NQ-275	1061.1	589.5	404.9	301.9	257.3	145.4	129.7	106.1	2250	1450	2908
NQ-320	1070.4	666.0	469.0	349.7	298.0	168.4	150.2	122.9	1920	2800	2470
NQ-450	1675.4	992.9	663.8	495.1	421.8	238.3	212.6	174.0	2250	2900	2495
NQ-550	2122.2	1179.0	809.7	603.9	514.5	290.7	259.4	212.2	2250	2900	2910
NQ-160X2	1070.4	666.0	469.0	349.7	298.0	168.4	150.2	122.9	4450	2438	2896
NQ-225X2	1675.4	992.9	663.8	495.1	421.8	238.3	212.6	174.0	4450	2438	2896
NQ-275X2	2122.2	1179.0	809.7	603.9	514.5	290.7	259.4	212.2	4450	2438	2896
NQ-225X3	2513.2	1489.3	995.7	742.6	632.7	357.5	319.0	261.0	6058	2438	2896
NQ-275X3	3183.3	1768.5	1214.6	905.8	771.8	436.1	389.1	318.3	6058	2438	2896
NQ-225X4	3350.9	1985.7	1327.6	990.1	843.6	476.7	425.3	348.0	6058	2438	2896
NQ-275X4	4244.4	2358.0	1619.5	1207.8	1029.0	581.5	518.8	424.4	6058	2438	2896
NQ-225X5	4188.6	2482.2	1659.5	1237.7	1054.5	595.9	531.6	435.0	6058	2438	2896
NQ-275X5	5305.6	2947.6	2024.4	1509.7	1286.3	726.9	648.5	530.6	6058	2438	2896

Notes:

1. Stated flow rates are in Nm³/hour and are for operation with reference to 20°C, 1013 mbar. Flow variance ±5%.
2. Stated measurements are in millimeters.
3. Required inlet pressure is 1-2 bar(g) above required product outlet pressure depending on the purity and vessel sizes.
4. Stated IP rating for the electrical cabinet is IP54, others available on request, contact ON2Quest sales.
5. Air and product tanks are included for skid-mounted systems.

KEY BENEFITS



COST SAVINGS

- Eliminate costs associated with trucked delivery.
- No losses caused by evaporation or transfilling of liquid supply.
- No losses from gas cylinder swapping.
- No price increase over system's life time.



ENVIRONMENTALLY FRIENDLY

- Eliminate the need for transportation, reducing associated environmental impact.
- Lower energy consumption as compared to traditional gas supply method.



ON-DEMAND SUPPLY

- Independent from third party with no waiting time.
- Mitigates risk associated with unforeseen events.
- Generate gases based on real-time demand forecasts.



PACKAGED SOLUTIONS

- Carefully designed for optimal system efficiency.
- No additional costs for installation on-site.
- Pre-tested at assembly facility for quick deployment.



RELIABILITY

- Inline monitoring of gas quality.
- Robust system design for 100% uptime.
- Possibility of cascaded systems for critical operations.



ENHANCED SAFETY

- Reduces on-site storage.
- Minimises risk associated with gas transportation and handling.

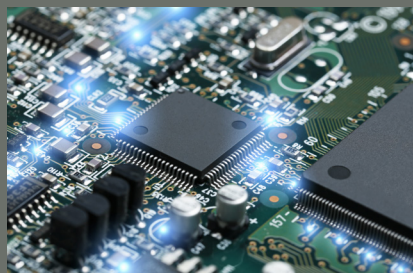
QUALITY CERTIFICATIONS



INDUSTRIES



AVIATION



ELECTRONICS



FOOD & BEVERAGE



GLASS



METAL



MINING & MINERAL PROCESSING



EUROPE

NETHERLANDS

Wiekenweg 44A | 3815 KL Amersfoort | The Netherlands

T +31 33 888 1224

E europe@on2quest.com



ASIA

SINGAPORE

8 Cleantech Loop | Blk E #06-70 CleanTech Three | Singapore 637145

T +65 6950 1488

E asia@on2quest.com

