MEDICAL OXYGEN GENERATION SYSTEMS

ON2Quest
SUSTAINABLE GAS GENERATION & PURIFICATION

BREATHE BEYOND BOUNDARIES: BREATHE INNOVATION

OXYGEN O_2

MEDICAL OXYGEN GENERATION SYSTEMS

ON2Quest's medical oxygen generation systems are cutting-edge and innovative solutions designed to provide a reliable and efficient source of medical-grade oxygen. These systems are engineered with the latest technology to meet the stringent requirements of healthcare facilities, ensuring a constant and on-demand supply of oxygen for patients in need.

THE EQUIPMENT

The compact and user-friendly design of ON2Quest systems makes them suitable for various healthcare settings, from hospitals to clinics and even offsite environments for emergency response missions. Their modular construction allows for scalability, ensuring that the systems can be customised to meet the specific oxygen demands of different facilities.

Efficiency and cost-effectiveness are at the core of ON2Quest medical oxygen generation systems. By eliminating the need for traditional oxygen cylinder or liquid deliveries and storage, these systems reduce operational costs and logistical challenges. The automated features further contribute to ease of use, allowing healthcare professionals to focus on patient care without the concerns of oxygen supply interruptions.

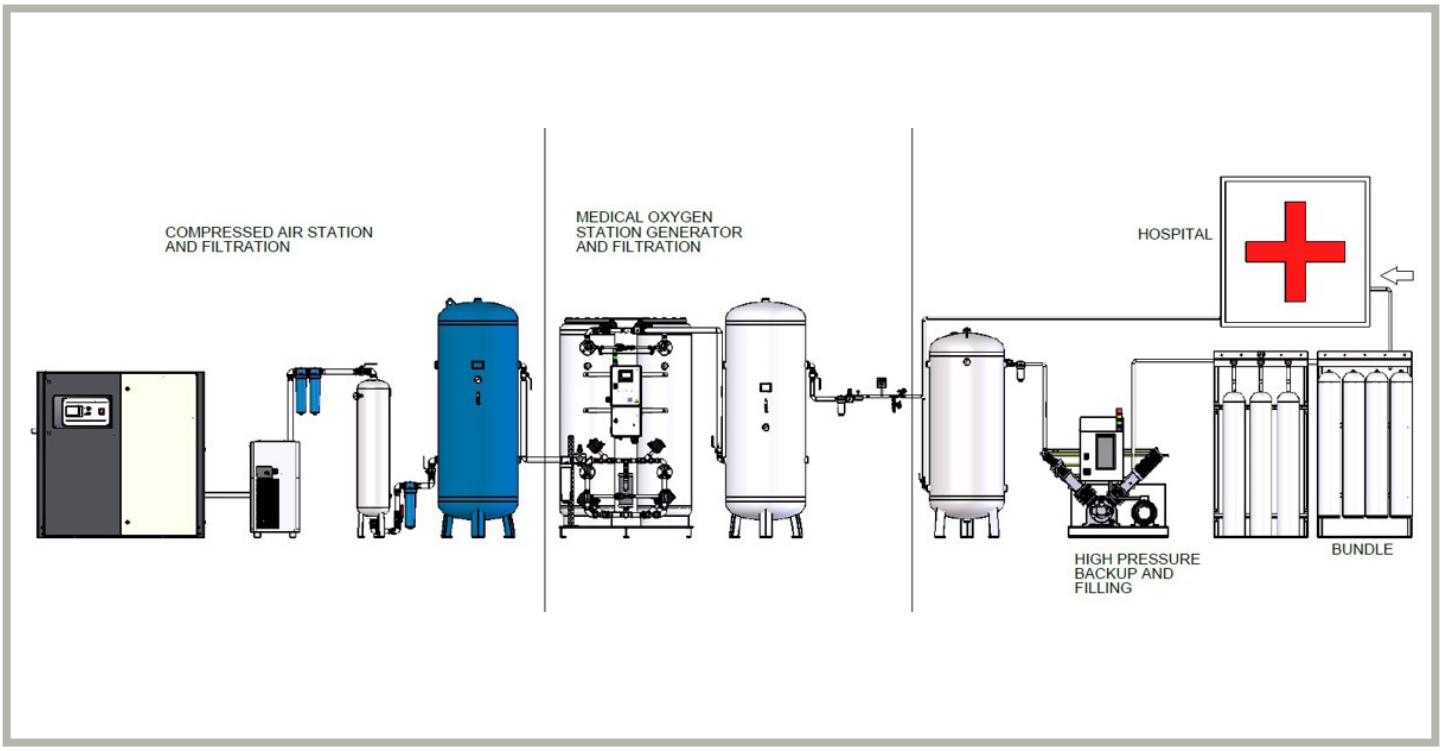
QUALITY CERTIFICATIONS

QUALITY CE CERTIFICATE

ISO 13485

CERTIFIED ISO 9001 GUARANTEE

TYPICAL INSTALLATION



STATIONARY SYSTEMS

Stationary systems are designed to replace cylinder or liquid supplied oxygen for medical purposes. The systems are based on medically certified pressure swing adsoprtion technology (PSA) from Oxysystems. These modules serve numerous reputable customers and organisations worldwide, including healthcare facilities and veterinary clinics. The PSAs are integrated with other high-class components for compression, gas preparation, storage, and if necessary, cylinder filling equipment.

The systems are skid-mounted and plug and play. Quality and flow measurement is provided as part of the total system and the user-friendly interface allows the operator to always have accurate information on the available quantity and quality of oxygen.

Standardised skids offer a guaranteed stable supply of oxygen with purity ranges from 92% to 95% and flow rates between 0.5 Nm^3/h and 400 Nm^3/h.

OXYGEN GENERATOR

Oxygen specifications	
Purity range [%]	92 - 95
Max. operating pressure [bar(g)]	6
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

GENERATION SYSTEMS

Purity	92%	93%	94%	95%
OQ-1	NA	0.75	0.72	0.69
OQ-2	NA	1.71	1.65	1.57
OQ-3	NA	2.45	2.35	2.27
OQ-4	NA	3.49	3.37	3.23
OQ-5	5.4	5.3	4.7	4.4
OQ-6	6.7	6.4	6.2	5.8
OQ-12	13.4	12.3	11.7	10.9
OQ-16	22.1	21.0	20.0	19.0
OQ-25	27.4	26.8	26.2	24.6
OQ-38	40.9	40.1	39.3	36.8
OQ-46	51.4	48.9	46.4	43.8
OQ-63	71.0	66.9	62.7	58.6

Purity	92%	93%	94%	95%
OQ-73	82.3	77.1	72.0	66.9
OQ-93-II	102.9	97.8	92.8	87.7
OQ-127-II	142.0	133.8	125.5	117.3
OQ-146-II	164.6	154.4	144.1	133.8
OQ-127-II-SKID	142.0	133.8	125.5	117.3
OQ-146-II-SKID	164.6	154.4	144.1	133.8
OQ-190-III-SKID	213.0	200.7	188.3	174.0
OQ-219-III-SKID	247.0	231.6	216.1	200.7
OQ-254-IV-SKID	284.0	267.6	251.1	234.6
OQ-293-IV-SKID	329.3	308.7	288.2	267.6
OQ-306-V-SKID	341.5	322.8	299.4	280.7
OQ-366-V-SKID	411.7	385.9	360.2	334.5

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

TRANSPORTABLE SYSTEMS

Transportable systems offer the same functionalities as stationary systems in a smaller capacity and more compact form which addresses the need for mobility and adaptability in various scenarios such as disaster relief and search and rescue missions. The unique design facilitates easy transportation of the system in four modules, which can be easily connected and operated as an integrated system in remote locations or decentralised settings.

Each module is manageable by a team of four individuals, enhancing the flexibility and ease of deployment. Alternatively, if manpower is limited, these modules can also be transported by using a forklift. These methods of transport capabilities ensure that the modules are efficiently relocated to meet the rapid and evolving operational requirements.

GAS PREPARATION & GENERATION

OXYPREP	
Working pressure	6 - 8 bar(g)
Nominal voltage	3 x 400 V, 50 Hz
Capacity @ 6 bar	235 ℓ/min
Rated current	5.8 A
Motor power	2.2 kW
Air tank volume	50 ℓ
Noise level @ 5 bar(g)	56 dB
Compressor	Oil free, 4 cylinders
Adsorption dryer	PDT of -20 ^{0}C @ 7 bar(g)
Weight	150 kg

OXYMOBILE	
Oxygen purity	93% +/- 1%
Outlet pressure	4 bar(g)
Flow	26 ℓ/min
Compressed air	310 ℓ/min @ 6 bar(g) (F.A.D.)
Weight	150 kg
O_2 tank	50 ℓ
Filters pack	
Medical sterile filter	

CYLINDER FILLING

OXYFILL	
Flow	23 ℓ/min
Pressure	200 bar(g)
Inlet pressure	4 bar(g)
Weight	150 kg
Nominal voltage	230V, 50Hz
Motor power	1.1 kW
Oil free design	

FILLING RATE AT 200 BAR	
5 ℓ	43 min
10 ℓ	86 min
20 ℓ	180 min

Notes:
1. The complete system operates in ambient conditions of up to 40 ^{0}C, humidity of up to 85% and elevation of 2,000 meters above sea level.
2. Total power consumption of the complete system is 5.5 kW/h.

KEY BENEFITS

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.

COST SAVING
- Eliminate costs associated with trucked delivery.
- No losses caused by evaporation or transfilling of liquid supply.
- No losses from gas cylinder swopping.
- 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.

KEY FEATURES

1 PURITY LEVEL ASSESSMENT
Continuously checks oxygen purity for medical standards compliance.

2 AUTO PURITY CONTROL
Automatically adjusts the process to maintain consistent purity.

3 PRECISE FLOW MANAGEMENT
Allows adjustable oxygen flow rates for precise delivery.

4 EXTRA QUIET OPERATION
Operates silently in healthcare and military settings.

5 PRECISE FLOW MANAGEMENT
Allows adjustable oxygen flow rates for precise delivery.

6 INTELLIGENT AUTO SHUTDOWN
Safely shuts down in case of anomalies or malfunctions.

APPLICATIONS


HOSPITALS


VETERINARY CLINICS


FIELD HOSPITALS


DISASTER RELIEF


SEARCH AND RESCUE


MILITARY OUTFIELD

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