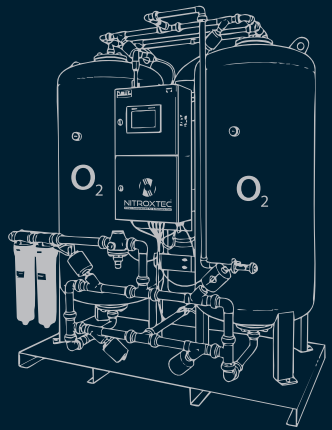
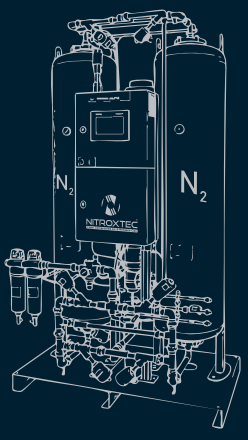
NITROXTEC®

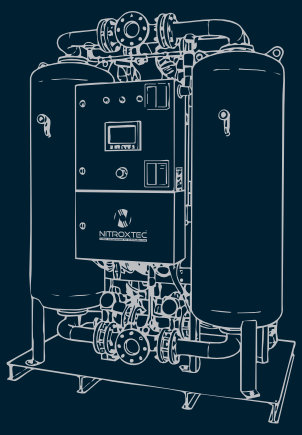
Clean Compressed Air & Reliable Gas

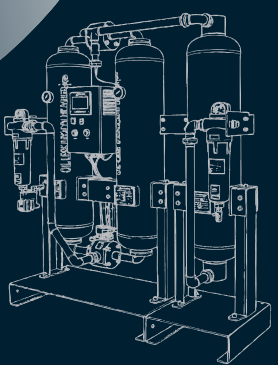
# GENERAL CATALOG

## 2026/2027





# Compressed Air Treatment

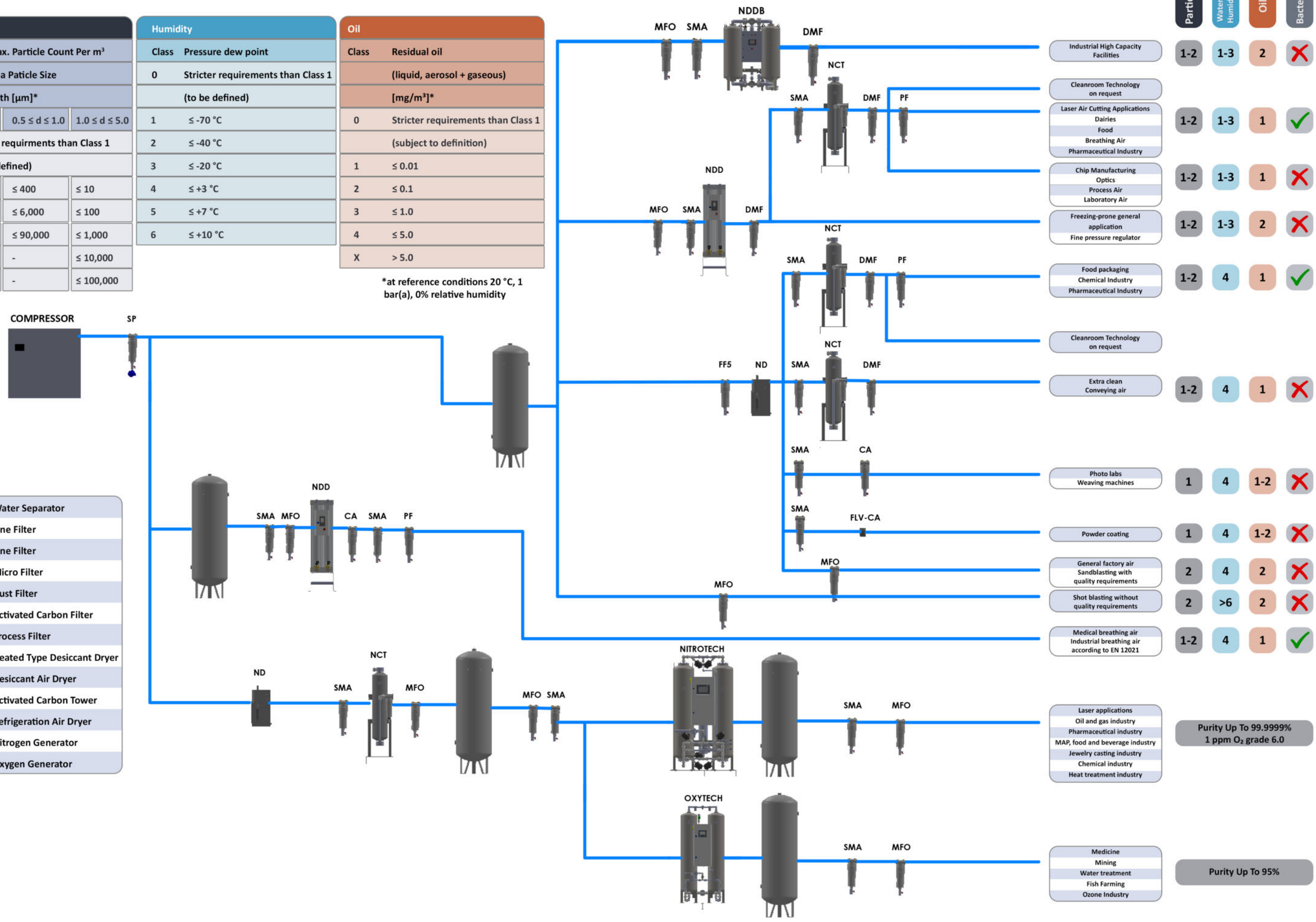
## Compressed Air Quality Classes according to ISO 8573-1:2010

| Solids/Dusts | | | |
|---|---|---|---|
| Class | Max. Particle Count Per m³ | | |
| | Of a Paticle Size | | |
| SMA / MFO | With [µm]* | | |
| | 0.1 ≤ d ≤ 0.5 | 0.5 ≤ d ≤ 1.0 | 1.0 ≤ d ≤ 5.0 |
| 0 | Stricter requirments than Class 1 | | |
| | (to be defined) | | |
| 1 | ≤ 20,000 | ≤ 400 | ≤ 10 |
| 2 | ≤ 400,000 | ≤ 6,000 | ≤ 100 |
| 3 | - | ≤ 90,000 | ≤ 1,000 |
| 4 | - | - | ≤ 10,000 |
| 5 | - | - | ≤ 100,000 |

| Humidity | |
|---|---|
| Class | Pressure dew point |
| 0 | Stricter requirements than Class 1 |
| | (to be defined) |
| 1 | ≤ -70 °C |
| 2 | ≤ -40 °C |
| 3 | ≤ -20 °C |
| 4 | ≤ +3 °C |
| 5 | ≤ +7 °C |
| 6 | ≤ +10 °C |

| Oil | |
|---|---|
| Class | Residual oil |
| | (liquid, aerosol + gaseous) |
| | [mg/m³]* |
| 0 | Stricter requirements than Class 1 |
| | (subject to definition) |
| 1 | ≤ 0.01 |
| 2 | ≤ 0.1 |
| 3 | ≤ 1.0 |
| 4 | ≤ 5.0 |
| X | > 5.0 |

*at reference conditions 20 °C, 1 bar(a), 0% relative humidity




| | |
|---|---|
| SP | Water Separator |
| FF5 | Fine Filter |
| FLV-CA | Fine Filter |
| SMA / MFO | Micro Filter |
| DSF / DMF | Dust Filter |
| CA | Activated Carbon Filter |
| PF | Process Filter |
| NDDB | Heated Type Desiccant Dryer |
| NDD | Desiccant Air Dryer |
| NCT | Activated Carbon Tower |
| ND | Refrigeration Air Dryer |
| NITROTECH | Nitrogen Generator |
| OXYTECH | Oxygen Generator |

# ABOUT NITROXTEC

NITROXTEC Endüstriyel Makina Basınçlı Hava ve Gaz Çözümleri Sanayi Ticaret Ltd. Şti.

NITROXTEC, with over 14 years of experience, knowledge, and training, was established to produce the highest quality and most efficient gas machinery and air system solutions for the world.

Our company provides services to its customers by manufacturing the most cost-effective, highest-performing, and most efficient products in its production facilities without compromising quality.

Through the solutions offered at our production facilities, we ensure the highest level of customer satisfaction.

The source of our success and the solutions we offer to the industry lies in the value we place on our colleagues and business partners.

NITROXTEC aims to produce sustainable solutions in industrial air and gas systems with a vision of quality and efficiency.


# TÜRKİYE'S PRIDE, THE WORLD'S CHOICE: NITROXTEC!

EXPORTED TO 40 COUNTRIES

Our high-quality products, proudly manufactured in Türkiye. They are used in industrial facilities in more than 40 countries.

We aim to increase our customers' productivity by guaranteeing maximum performance while minimizing maintenance and service costs.

# NITROXTEC

1

INTELLIGENT TECHNOLOGY

2

EFFICIENT PRODUCTION

3

SUSTAINABLE

4

LOW COST

5

ENVIRONMENTALLY FRIENDLY

6

INNOVATION

7

ECONOMIC

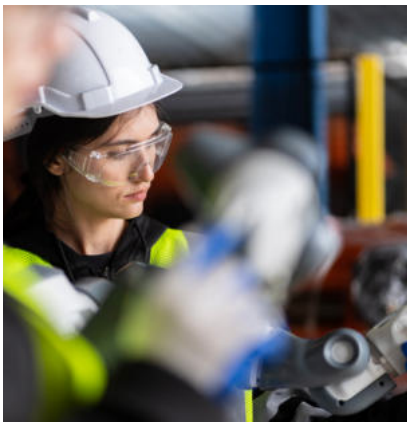
## QUALITY COMMITMENT

Quality and efficiency are why our customers and business partners choose us. Our principle is not only domestic and national production, but also high-quality domestic and national production.

# NITROXTEC VALUES

## Vision

To be the globally preferred technology partner for industrial air and gas solutions—recognized for reliability, competitiveness, and commitment to sustainable innovation that creates value for stakeholders while respecting people and the environment.



## Mission

To strengthen our customers' competitive advantage by delivering innovative, high-value gas generation systems that eliminate external dependency, support domestic production, and maximize operational efficiency through advanced engineering and reliable technology.

## POWER IN PRODUCTION, TRUST IN TECHNOLOGY

# PRODUCT INDEX

# Nitrogen Generators

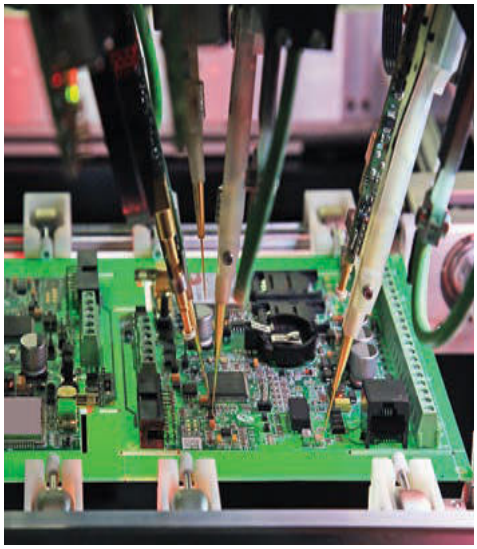
## INDUSTRY APPLICATIONS

- Chemical Industry
- Food Industry
- Laser Cutting Industry
- Additive Manufacturing (3D Laser Metal Printing – DMLS Applications)
- Heat Treatment Industry
- Wire and Cable Industry
- Electronics Industry
- Vegetable Oil Industry
- Aviation Industry
- Maritime Industry
- Mining Industry
- Energy Industry
- Plastic Injection Industry
- Pharmaceutical Industry
- Electrostatic Powder Coating Facilities
- MAP Food Packaging Applications
- Laser Welding Machines
- Aluminum Casting and Extrusion Industry
- Jewelry Casting Industry
- Aromatic Oils and Fragrance Industry
- Autoclave Systems for Composite Material Manufacturing in the Aerospace Industry








# Modular Nitrogen Generators

## Flexibility, Compactness, and Energy Efficiency Combined in Nitrogen Production.

NITROXTEC modular nitrogen generators offer businesses on-site, sustainable, and economical nitrogen production with their compact design, weld-free structure, and energy efficiency. They eliminate the need for gas cylinders or liquid nitrogen supply, enabling 24/7 uninterrupted high-purity nitrogen production.

## Modular Nitrogen Generators

NITROXTEC's modular generators with advanced PSA (Pressure Swing Adsorption) technology offer adjustable high-purity nitrogen production up to 99.9999% in a compact structure that saves space. The weld-free modular body design eliminates the need for weld testing, simplifies maintenance, and extends system life.

Thanks to its modular architecture, capacity can be easily expanded to match growing production needs. Ideal for food packaging, pharmaceutical, electronics, laser cutting, and chemical applications.


## OPERATING PRINCIPLE

Modular nitrogen generators process compressed air with PSA technology, adsorbing oxygen and other gases, allowing only nitrogen gas to pass through. The produced high-purity nitrogen is delivered to the system at a constant flow rate. Low operating costs are achieved through minimal air consumption and energy-efficient design. The modular architecture allows seamless expansion—simply add new units when capacity needs increase, without modifying existing infrastructure.

## Advantages

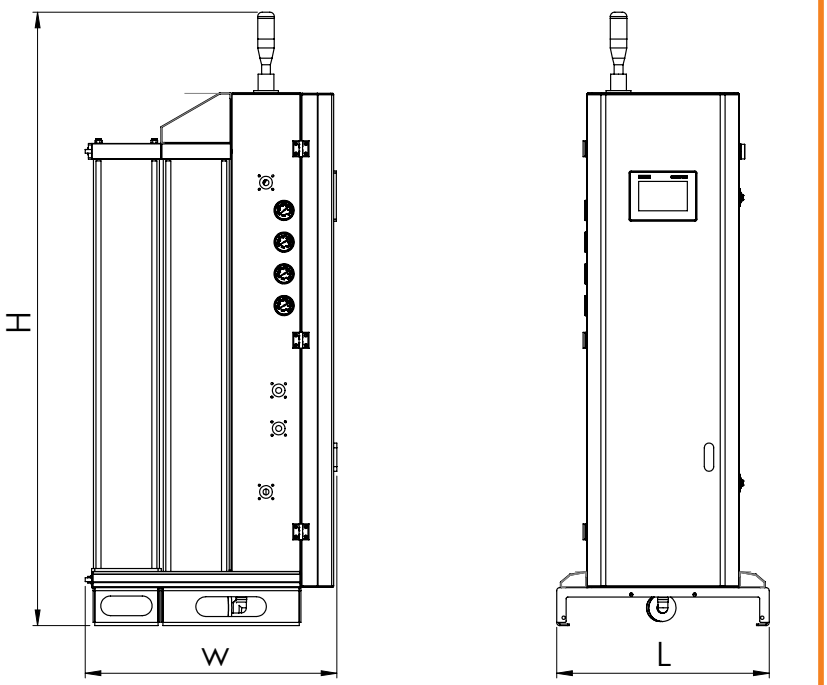
- Adjustable nitrogen production up to 99.9999% (1 ppm $O_2$ grade 6.0)
- Modular and expandable architecture – system grows as production increases
- Minimum energy consumption with low air/nitrogen ratio
- Compact and space-saving structure
- Weld-free design – no weld testing required, low service cost
- 24/7 uninterrupted nitrogen flow
- Easy installation – quick commissioning on-site (plug & start)
- Operational independence – no need for gas delivery
- Low total cost of ownership – energy, maintenance, and transportation savings
- Environmentally friendly solution – on-site production reduces carbon footprint

## Application Areas

- **Food and Beverage** – Extends shelf life with MAP (Modified Atmosphere Packaging)
- **Electronics Manufacturing** – Use of pure nitrogen in soldering and reflow ovens
- **Pharmacy & Laboratories** – Provides an oxygen-free and inert environment
- **Laser Cutting** – Clean cuts on stainless steel and sensitive materials
- **Chemical and Industrial Processes** – Inerting, discharging, and filling processes

# Technical Specifications

| Model | Dimensions "mm" | | | Weight Kg | Air Intake Connections (BSP Thread Size) | Electrical Power |
|---|---|---|---|---|---|---|
| | Length | Width | Height | | | |
| MNT-01 | 450 | 405 | 1120 | 110 | 1/2" | 110-230 V AC 50-60 Hz 150 W |
| MNT-02 | 450 | 560 | 1520 | 200 | 1/2" | 110-230 V AC 50-60 Hz 150 W |
| MNT-03 | 450 | 715 | 1520 | 208 | 1/2" | 110-230 V AC 50-60 Hz 150 W |
| MNT-04 | 450 | 870 | 1520 | 259 | 3/4" | 110-230 V AC 50-60 Hz 150 W |
| MNT-05 | 670 | 790 | 1750 | 289 | 1" | 110-230 V AC 50-60 Hz 150 W |
| MNT-06 | 670 | 1010 | 1750 | 330 | 1" | 110-230 V AC 50-60 Hz 150 W |
| MNT-07 | 670 | 1230 | 1750 | 400 | 1" | 110-230 V AC 50-60 Hz 150 W |
| MNT-08 | 670 | 1450 | 1750 | 470 | 1" | 110-230 V AC 50-60 Hz 150 W |
| MNT-09 | 670 | 1670 | 1750 | 540 | 1 1/2" | 110-230 V AC 50-60 Hz 150 W |
| MNT-10 | 670 | 1890 | 1750 | 620 | 1 1/2" | 110-230 V AC 50-60 Hz 150 W |
| MNT-11 | 670 | 2110 | 1750 | 700 | 1 1/2" | 110-230 V AC 50-60 Hz 150 W |




## Industry-Specific Solutions

The nitrogen requirements of each industry differ. The NITROXTEC engineering team designs and integrates systems tailored to your production line's specific flow rate, pressure, and purity requirements. With our weld-free, modular, and intelligent system architecture, we deliver long-lasting, safe, and high-performance solutions.

# Nitrogen Production (Nm³/Hour)

| Model | %95 | %96 | %97 | %98 | %99 | %99.5 | %99.9 | %99.95 | %99.99 | %99.995 | %99.999 | %99.9995 | %99.9999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MNT-01 | 10.00 | 8.90 | 7.90 | 6.90 | 5.25 | 4.25 | 2.95 | 2.50 | 2.00 | 1.45 | 01.05 | 0.95 | 0.65 |
| MNT-02 | 19.75 | 17.75 | 15.75 | 13.75 | 10.50 | 8.50 | 5.90 | 5.00 | 4.00 | 2.90 | 2.15 | 1.90 | 1.25 |
| MNT-03 | 39.50 | 35.50 | 32.00 | 27.50 | 21.00 | 17.00 | 11.75 | 10.00 | 8.00 | 5.75 | 4.40 | 3.75 | 2.65 |
| MNT-04 | 59.25 | 53.25 | 47.25 | 41.25 | 31.50 | 25.50 | 17.65 | 15.00 | 12.00 | 8.65 | 6.40 | 5.65 | 4.00 |
| MNT-05 | 79.00 | 71.00 | 63.00 | 55.00 | 42.00 | 34.00 | 23.50 | 20.00 | 16.00 | 11.50 | 8.50 | 7.50 | 5.65 |
| MNT-06 | 98.75 | 88.75 | 78.75 | 68.75 | 52.50 | 42.50 | 29.40 | 25.00 | 20.00 | 14.40 | 10.65 | 9.40 | 7.50 |
| MNT-07 | 138.25 | 124.25 | 110.75 | 96.25 | 73.50 | 59.50 | 41.15 | 35.00 | 28.00 | 20.25 | 15.00 | 13.15 | 10.15 |
| MNT-08 | 177.65 | 159.75 | 142.75 | 123.75 | 94.50 | 76.50 | 52.90 | 45.00 | 36.00 | 25.90 | 20.00 | 16.90 | 13.75 |
| MNT-09 | 217.15 | 195.25 | 174.75 | 151.25 | 115.50 | 93.50 | 64.65 | 55.00 | 44.00 | 31.65 | 25.00 | 20.65 | 16.25 |
| MNT-10 | 256.50 | 230.75 | 206.75 | 178.75 | 136.75 | 110.50 | 76.40 | 65.00 | 52.00 | 37.40 | 30.00 | 24.40 | 18.75 |
| MNT-11 | 295.90 | 266.25 | 238.75 | 206.25 | 157.75 | 127.50 | 88.00 | 75.00 | 60.00 | 43.15 | 35.00 | 28.15 | 22.50 |

| Compressed Air Inlet 7 Bar G | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PURITY | 95% | 96% | 97% | 98% | 99% | 99.5% | 99.9% | 99.95% | 99.99% | 99.995% | 99.999% | 99.9995% | 99.9999% |
| $O_2$ | 5% | 4% | 3% | 2% | 1% | 0.5% | 1000ppm | 500ppm | 100ppm | 50ppm | 10ppm | 5ppm | 1 ppm |
| AIR / GAS Ratio | 1.8 | 2 | 2.1 | 2.3 | 2.5 | 2.6 | 3.2 | 3.5 | 3.9 | 4.5 | 5.2 | 7.5 | 8.5 |
| Ambient Temperature +25°C | | | | | | | Inlet Air Dew Point +3°C | | | | | | |

| Air Inlet Temperature Correction Factors | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 5 °C | 10 °C | 15 °C | 20 °C | 25 °C | 30 °C | 35 °C | 40 °C | 45 °C | 50 °C |
| 0.85 | 1.03 | 1.02 | 1 | 1 | 0.93 | 0.87 | 0.72 | 0.6 | 0.52 |

| Inlet Pressure Air Correction Factors | | | | | | |
|---|---|---|---|---|---|---|
| 5 BAR | 6 BAR | 7 BAR | 8 BAR | 9 BAR | 10 BAR | 11 BAR |
| 0.78 | 0.91 | 1 | 01.05 | 1.13 | 1.19 | 1.22 |

# Technical Specifications

| Component | Brand / Model | Explanation | IP Protection Class |
|---|---|---|---|
| Touch Control Panel | SIMATIC HMI MTP 7"/4" | 7"/4" widescreen TFT panel, touchscreen operation | Front:IP65 Rear: IP20 |
| Oxygen Sensor | NTRON SENZTX TX-100 | Long-life $O_2$ sensor with zirconium technology | IP66 |
| Piping and Fittings | 304 Stainless Steel | All fittings are made of stainless steel (AISI 304). | – |
| Piston Valve | SMC SS316L | 316L stainless steel with threaded connection, long life | IP67 |
| Pneumatic Components | FESTO & SMC | Solenoid valves, FRL units, pipes and connections | IP65 |
| Flowmeter (Optional) | SMC | Flow measurement module with digital display and integrated sensor | IP65 |
| Dew Point Meter (Optional) | SUTO | Provides humidity and temperature measurements in accordance with ISO 8573-1/2/3. | ISO 8573-1/2/3 |
| Nitrogen Purity Control Valve | FESTO & SMC | It delivers pure nitrogen to the line and discharges or recycles low purity nitrogen. | IP65 |

| Feature | Explanation |
|---|---|
| 95% – 99.9999% Purity Value | Provides safe and consistent nitrogen levels for a wide range of industrial applications. |
| Wide Capacity Range (0.5 – 10000 $Nm^3$/hour) | It offers tailored solutions from small workshops to large-scale industrial facilities. |
| Fully Automatic Operation | Automatic start/stop function ensures efficient nitrogen use and 24/7 availability. |
| Touch Control Panel | It provides operational transparency through live monitoring, data logging and user-friendly interface. |
| Remote Access & Modbus TCP/IP | Offers online monitoring and system integration with SCADA or PLC. |
| ISO 8573–1:2010 Class 2.4.1 Compliance | Provides high quality supply air for stable and efficient PSA operation. |
| Maintenance-Free Exhaust System | Long-life European-made valves and exhaust components minimize maintenance. |
| Optional VPSA & Cryogenic Systems | Offers extended configurations for higher purity or large-scale applications. |
| Panel Protection Class | IP55 class external protection panel |
| Low Air Consumption / High Efficiency | Low air consumption with CMS technology |
| Compressor Compatibility | High flow rate with small capacity compressors |
| Stainless Piping & Filter | AISI 304 stainless steel lines & filters |
| Piston Pneumatic Valves | Long-lasting, leak-proof piston valve system |
| Weldless Design | No weld testing required. |

| Nitrogen Generator Inlet Air Technical Specifications | |
|---|---|
| Maximum Working Pressure | 10 bar (g) |
| Working Temperature | 5-45°C |
| Minimum Inlet Pressure | 4,5 bar (g) |
| Maximum Dew Point | +3°C |
| Iso Standard For Air Quality | ISO 8573.1:2010.2.4.1 |

**EXPANDABLE CAPACITY**

**MODULAR STRUCTURE**

**NITROGEN GAS GENERATOR**

# NITROGEN GENERATORS



## Produce Your Own Nitrogen in Your Own Facility

With its proven PSA (Pressure Swing Adsorption) technology, the NITROXTEC Nitrogen Generator delivers 24/7 uninterrupted nitrogen production with exceptional purity up to 99.9999% (6.0 grade). Designed for reliability and efficiency, it provides consistent high-purity nitrogen tailored to your specific process requirements, eliminating the need for gas cylinders or liquid nitrogen supply. Reduce costs, increase independence, and ensure continuous nitrogen availability for your operations.

## Nitrogen Generators

NITROXTEC PSA Nitrogen Generators provide on-site nitrogen production ranging from 95% to 99.9999% (1 ppm) purity using advanced Pressure Swing Adsorption (PSA) technology with carbon molecular sieve (CMS). Thanks to the dual-tower structure, the system operates continuously, nitrogen production is uninterrupted, and gas quality is stable.

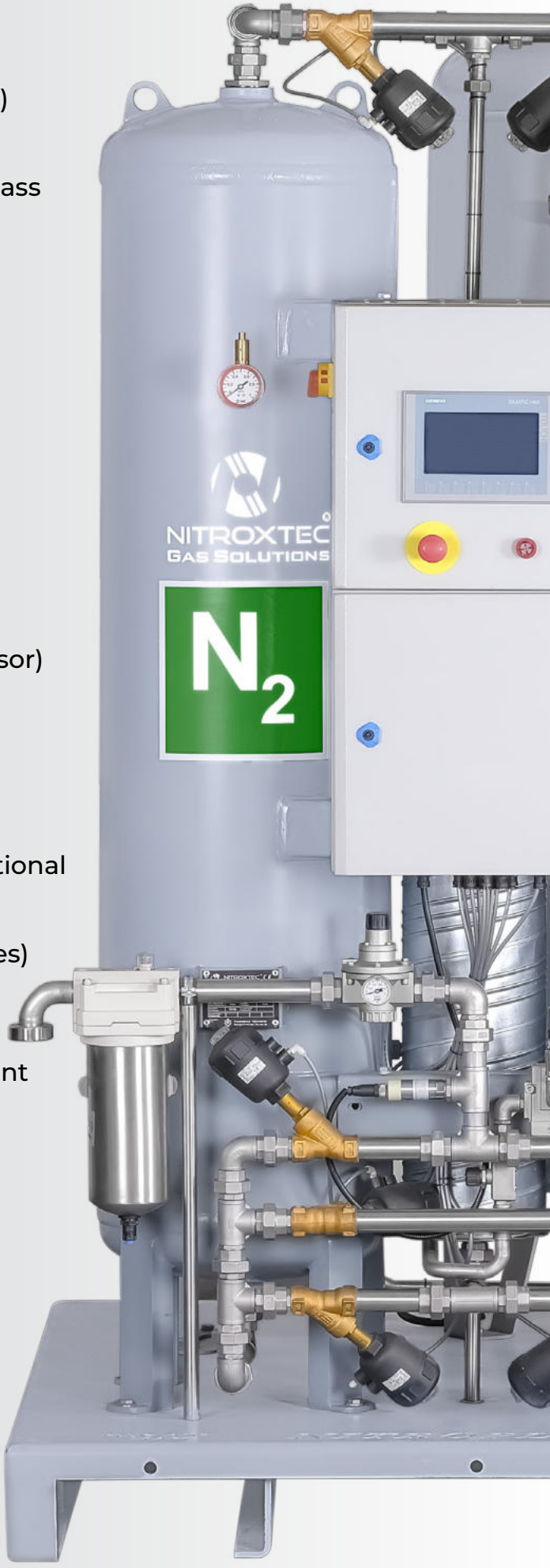
Nitrogen makes up 78% of air; the system separates nitrogen from oxygen and other gases to produce high-purity nitrogen suitable for sensitive applications. All generators are equipped with purity level monitoring sensors and automatic control infrastructure. The system is built with an automatic control system that will not store nitrogen gas in the tank until it reaches the target purity value after precise real-time measurement with a zirconium sensor. This ensures that the purity of the produced gas is always under control.

## OPERATING PRINCIPLE

The system operates alternately with two CMS tanks. While one tower fed with compressed air adsorbs oxygen, the other is in the regeneration cycle. The process is managed by automatic control and is equipped with long-life CMS suitable for millions of cycles. The produced nitrogen is delivered at an adjustable distribution pressure between 4–8 bar(g) (Optional: Up to 300 Bar with booster).

# Advantages

- 95% – 99.9999% purity range (1 ppm $O_2$ grade 6.0)
- Minimum Air Consumption Maximum Nitrogen Production with the Lowest Air Gas Ratio in Its Class
- Solutions up to 0.5 – 10000 $Nm^3$/hour capacity
- Continuous, 24/7 operation principle
- Uninterrupted production with dual-tower PSA technology
- Maximum efficiency with low compressed air consumption
- Low operating and maintenance costs
- Live monitoring and recording via touchscreen
- Automatic purity control (Zirconium Dioxide sensor)
- Remote data access and SCADA integration via Modbus TCP/IP
- Industry 4.0 compatible control system
- Remote control and monitoring on demand (optional online access)
- Fast commissioning (nominal purity in 10 minutes)
- Expandable modular design
- Eco-friendly solution that reduces carbon footprint
- Eliminates tubes or liquid nitrogen filter.

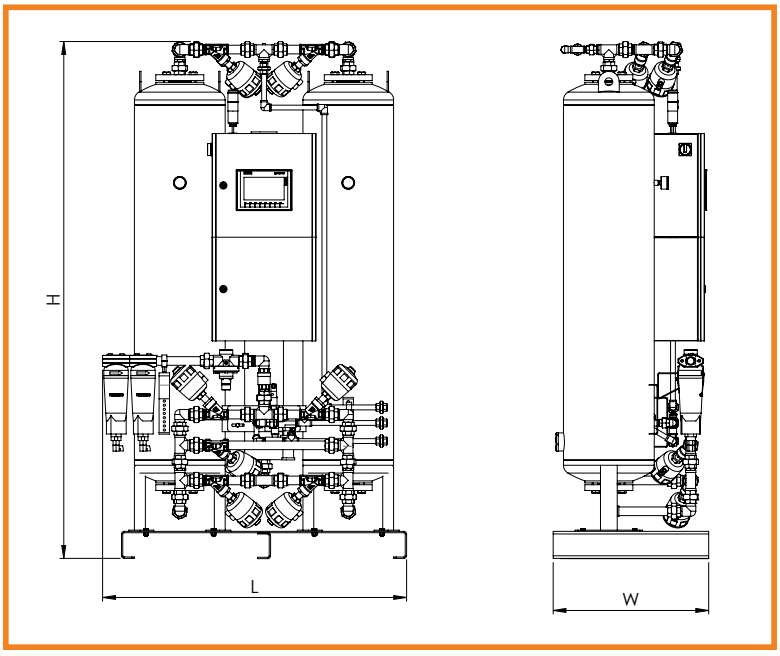



# Application Areas

- **Food and Beverage –** Extends shelf life with MAP (Modified Atmosphere Packaging)
- **Electronics Manufacturing**
Use of pure nitrogen in soldering and reflow furnaces
- **Pharmacy & Laboratories**
Provides an oxygen-free and inert environment
- **Chemical and Industrial Processes**
Inerting, discharging, and filling processes
- **Laser Cutting**
Clean cuts on stainless steel and sensitive materials

# Technical Specifications

| Model | Dimensions "mm" | | | Weight Kg | Air Intake Connections (BSP Thread Size) | Electrical Power |
|---|---|---|---|---|---|---|
| | Length | Width | Height | | | |
| NT-01 | 610 | 540 | 1170 | 95 | 1/2" | 110-230 V AC 50-60 Hz 150 W |
| NT-02 | 610 | 650 | 1310 | 165 | 1/2" | 110-230 V AC 50-60 Hz 150 W |
| NT-03 | 610 | 650 | 1720 | 235 | 1/2" | 110-230 V AC 50-60 Hz 150 W |
| NT-04 | 910 | 680 | 1640 | 266 | 1/2" | 110-230 V AC 50-60 Hz 150 W |
| NT-05 | 910 | 680 | 1760 | 300 | 3/4" | 110-230 V AC 50-60 Hz 150 W |
| NT-06 | 1100 | 600 | 1800 | 400 | 1" | 110-230 V AC 50-60 Hz 150 W |
| NT-07 | 1200 | 650 | 2000 | 500 | 1" | 110-230 V AC 50-60 Hz 150 W |
| NT-08 | 1300 | 700 | 1960 | 609 | 1" | 110-230 V AC 50-60 Hz 150 W |
| NT-09 | 1300 | 700 | 2150 | 700 | 1 1/2" | 110-230 V AC 50-60 Hz 150 W |
| NT-10 | 1350 | 700 | 2100 | 800 | 1 1/2" | 110-230 V AC 50-60 Hz 150 W |
| NT-11 | 1450 | 750 | 2000 | 900 | 1 1/2" | 110-230 V AC 50-60 Hz 150 W |
| NT-12 | 1450 | 750 | 2200 | 1100 | 1 1/2" | 110-230 V AC 50-60 Hz 150 W |
| NT-13 | 1580 | 880 | 2100 | 1350 | 1 1/2" | 110-230 V AC 50-60 Hz 150 W |
| NT-14 | 1450 | 830 | 2250 | 1600 | 1 1/2" | 110-230 V AC 50-60 Hz 150 W |
| NT-15 | 1600 | 1230 | 2360 | 2000 | 2" | 110-230 V AC 50-60 Hz 150 W |
| NT-16 | 2000 | 1100 | 2400 | 2300 | 2" | 110-230 V AC 50-60 Hz 150 W |
| NT-17 | 2000 | 1420 | 2440 | 2800 | 2" | 110-230 V AC 50-60 Hz 150 W |
| NT-18 | 2200 | 1500 | 2500 | 3400 | 2 1/2" | 110-230 V AC 50-60 Hz 150 W |
| NT-19 | 1600 | 2000 | 2360 | 4200 | 2 1/2" | 110-230 V AC 50-60 Hz 150 W |
| NT-20 | 2000 | 2100 | 2270 | 4800 | 3" | 110-230 V AC 50-60 Hz 150 W |
| NT-21 | 2000 | 2400 | 2310 | 5500 | 3" | 110-230 V AC 50-60 Hz 150 W |
| NT-22 | 2000 | 2400 | 2440 | 6000 | 3" | 110-230 V AC 50-60 Hz 150 W |
| NT-23 | 2230 | 2450 | 2520 | 7000 | 3" | 110-230 V AC 50-60 Hz 150 W |




## Flexible Solutions for Your Industry

NITROXTEC's engineering team offers integrated solutions by customizing systems tailored to your specific industry's needs, including flow, pressure, and purity. This ensures uninterrupted, efficient, and reliable nitrogen supply throughout your production process.

# Nitrogen Production ($Nm^3$/Hour)

| Model | %95 | %96 | %97 | %98 | %99 | %99.5 | %99.9 | %99.95 | %99.99 | %99.995 | %99.999 | %99.9995 | %99.9999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NT-01 | 10.00 | 8.90 | 7.90 | 6.90 | 5.25 | 4.25 | 2.95 | 2.50 | 2.00 | 1.45 | 01.05 | 0.95 | 0.65 |
| NT-02 | 19.75 | 17.75 | 15.75 | 13.75 | 10.50 | 8.50 | 5.90 | 5.00 | 4.00 | 2.90 | 2.15 | 1.90 | 1.25 |
| NT-03 | 39.50 | 35.50 | 32.00 | 27.50 | 21.00 | 17.00 | 11.75 | 10.00 | 8.00 | 5.75 | 4.40 | 3.75 | 2.65 |
| NT-04 | 59.25 | 53.25 | 47.25 | 41.25 | 31.50 | 25.50 | 17.65 | 15.00 | 12.00 | 8.65 | 6.40 | 5.65 | 4.00 |
| NT-05 | 79.00 | 71.00 | 63.00 | 55.00 | 42.00 | 34.00 | 23.50 | 20.00 | 16.00 | 11.50 | 8.50 | 7.50 | 5.65 |
| NT-06 | 98.75 | 88.75 | 78.75 | 68.75 | 52.50 | 42.50 | 29.40 | 25.00 | 20.00 | 14.40 | 10.65 | 9.40 | 7.50 |
| NT-07 | 138.25 | 124.25 | 110.75 | 96.25 | 73.50 | 59.50 | 41.15 | 35.00 | 28.00 | 20.25 | 15.00 | 13.15 | 10.15 |
| NT-08 | 177.65 | 159.75 | 142.75 | 123.75 | 94.50 | 76.50 | 52.90 | 45.00 | 36.00 | 25.90 | 20.00 | 16.90 | 13.75 |
| NT-09 | 217.15 | 195.25 | 174.75 | 151.25 | 115.50 | 93.50 | 64.65 | 55.00 | 44.00 | 31.65 | 25.00 | 20.65 | 16.25 |
| NT-10 | 256.50 | 230.75 | 206.75 | 178.75 | 136.75 | 110.50 | 76.40 | 65.00 | 52.00 | 37.40 | 30.00 | 24.40 | 18.75 |
| NT-11 | 295.90 | 266.25 | 238.75 | 206.25 | 157.75 | 127.50 | 88.00 | 75.00 | 60.00 | 43.15 | 35.00 | 28.15 | 22.50 |
| NT-12 | 335.25 | 303.00 | 270.75 | 233.75 | 178.75 | 144.50 | 99.25 | 85.00 | 68.00 | 48.90 | 40.00 | 31.90 | 26.25 |
| NT-13 | 434.00 | 390.50 | 349.50 | 302.50 | 231.25 | 187.00 | 128.65 | 110.00 | 88.00 | 63.25 | 50.65 | 41.25 | 33.75 |
| NT-14 | 572.25 | 514.75 | 460.25 | 398.75 | 304.75 | 246.50 | 169.75 | 145.00 | 116.00 | 77.65 | 65.65 | 54.40 | 43.75 |
| NT-15 | 749.90 | 674.50 | 603.00 | 522.50 | 399.25 | 323.00 | 222.65 | 190.00 | 152.00 | 103.50 | 85.65 | 71.25 | 56.25 |
| NT-16 | 927.65 | 834.25 | 745.75 | 646.25 | 493.75 | 399.50 | 275.50 | 235.00 | 188.00 | 129.40 | 105.65 | 88.15 | 68.75 |
| NT-17 | 1105.15 | 994.00 | 888.50 | 770.00 | 588.25 | 476.00 | 328.40 | 280.00 | 224.00 | 155.25 | 125.65 | 105.00 | 80.00 |
| NT-18 | 1282.75 | 1153.75 | 1031.25 | 893.75 | 682.75 | 552.50 | 381.25 | 325.00 | 260.00 | 181.15 | 145.65 | 121.90 | 92.50 |
| NT-19 | 1460.40 | 1313.50 | 1174.00 | 1017.50 | 777.25 | 628.75 | 434.15 | 370.00 | 296.00 | 207.00 | 165.65 | 138.75 | 105.00 |
| NT-20 | 1677.50 | 1508.75 | 1348.75 | 1168.75 | 892.75 | 722.50 | 498.75 | 425.00 | 340.00 | 238.40 | 190.65 | 159.40 | 120.00 |
| NT-21 | 1934.00 | 1739.50 | 1555.50 | 1375.00 | 1029.50 | 830.50 | 586.75 | 490.00 | 392.00 | 281.75 | 225.65 | 187.50 | 141.25 |
| NT-22 | 2250.00 | 2000.00 | 1762.25 | 1581.25 | 1166.25 | 943.50 | 674.75 | 555.00 | 444.00 | 324.90 | 260.65 | 215.65 | 161.25 |
| NT-23 | 2625.00 | 2250.00 | 1969.00 | 1787.50 | 1303.00 | 1054.00 | 762.75 | 620.00 | 496.00 | 368.00 | 295.65 | 243.15 | 181.25 |

| Pressurised Air Inlet 7 Bar G | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Purity | 95% | 96% | 97% | 98% | 99% | 99.5% | 99.9% | 99.95% | 99.99% | 99.995% | 99.999% | 99.9995% | 99.9999% |
| $O_2$ | 5% | 4% | 3% | 2% | 1% | 0.5% | 1000ppm | 500ppm | 100ppm | 50ppm | 10ppm | 5ppm | 1ppm |
| Air/Gas Ratio | 1.8 | 2 | 2.1 | 2.3 | 2.5 | 2.6 | 3.2 | 3.5 | 3.9 | 4.5 | 5.2 | 7.5 | 8.5 |
| Ambient Temperature +25°C | | | | | | | Inlet Air Dew Point +3°C | | | | | | |

| Air Inlet Temperature Correction Factors | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 5 °C | 10 °C | 15 °C | 20 °C | 25 °C | 30 °C | 35 °C | 40 °C | 45 °C | 50 °C |
| 0.85 | 1.03 | 1.02 | 1 | 1 | 0.93 | 0.87 | 0.72 | 0.6 | 0.52 |

| Inlet Pressure Air Correction Factors | | | | | | |
|---|---|---|---|---|---|---|
| 5 BAR | 6 BAR | 7 BAR | 8 BAR | 9 BAR | 10 BAR | 11 BAR |
| 0.78 | 0.91 | 1 | 01.05 | 1.13 | 1.19 | 1.22 |

# Hardware Features and Options

| Component | Brand / Model | Explanation | IP Protection Class |
|---|---|---|---|
| Touch Control Panel | SIMATIC HMI MTP 7"/4" | 7"/4" widescreen TFT panel, touch-screen operation | Front: IP65 Rear: IP20 |
| Oxygen Sensor | NTRON SENZTX TX-100 | Zirconium technology, long-life $O_2$ sensor | IP66 |
| Piping and Fittings | 304 Stainless Steel | All fittings are made of stainless steel (AISI 304). | – |
| Piston Valve | SMC SS316L | 316L stainless steel with threaded connections, long-lasting | IP67 |
| Pneumatic Components | FESTO or SMC | Solenoid valves, FRL units, pipes and connections | IP65 |
| Flowmeter (Optional) | SMC | Flow measurement module with digital display and integrated sensor | IP65 |
| Dew Point Meter (Optional) | SUTO | Provides humidity and temperature measurements in accordance with ISO 8573-1/2/3 | ISO 8573-1/2/3 |
| Nitrogen Purity Control Valve | FESTO or SMC | Delivers pure nitrogen to the line, discharges or recycles low purity | IP65 |

| Nitrogen Generator Inlet Air Technical Specifications | |
|---|---|
| Maximum Working Pressure | 10 bar (g) |
| Working Temperature | 5-45°C |
| Minimum Inlet Pressure | 4,5 bar (g) |
| Maximum Dew Point | +3°C |
| ISO Standard For Air Quality | ISO 8573.1:2010.2.4.1 |

| Feature | Explanation |
|---|---|
| 95% – 99.9999% Purity Value | Provides safe and consistent nitrogen levels for a wide range of industrial applications. |
| Wide Capacity Range (0.5 – 10000 $Nm^3$/hour) | It offers tailored solutions from small workshops to large-scale industrial facilities. |
| Fully Automatic Operation | Automatic start/stop function ensures efficient nitrogen usage and 24/7 availability. |
| Touch Control Panel | It provides operational transparency through live monitoring, data logging and user-friendly interface. |
| Remote Access & Modbus TCP/IP | It offers online monitoring and system integration options with SCADA or PLC. |
| ISO 8573–1:2010 Class 2.4.1 Compliance | Provides high quality supply air for stable and efficient PSA operation. |
| Maintenance-Free Exhaust System | Long-lasting European-made valves and exhaust components minimize maintenance needs. |
| Optional VPSA & Cryogenic Systems | Offers extended configurations for higher purity or large-scale applications. |
| Panel Protection Class | IP55 class external protection panel |
| Low Air Consumption / High Efficiency | Low air consumption with CMS technology |
| Compressor Compatibility | High flow rate with small capacity compressors |
| Stainless Piping & Filter | AISI 304 stainless steel lines & filters |
| Piston Pneumatic Valves | Long-lasting, leak-proof piston valve system |

# Nitrogen Generator Installation Diagram

## 8 Bar Nitrogen Generator Installation Diagram


## 40 Bar Nitrogen Generator Installation Diagram


## 230 Bar Nitrogen Generator Installation Diagram

# MEMBRANE NITROGEN GENERATORS

## Why Choose NITROXTEC Membrane Nitrogen Generators?

### 1. High-Efficiency Separation
Thanks to patented membrane technology, a constant nitrogen purity of 90% to 99.5% is achieved with minimal energy consumption.

### 2. Instant Start-Up
Nitrogen production can be achieved at any time, without preheating or cycle delays.

### 3. Energy Savings
Optimized membranes reduce compressed air consumption by 30% compared to competing systems.

### 4. No Chemicals or Adsorbents
An environmentally friendly process that produces no consumables or hazardous waste.

### 5. Compact and Modular Design
Space-saving with horizontal or vertical installation options.

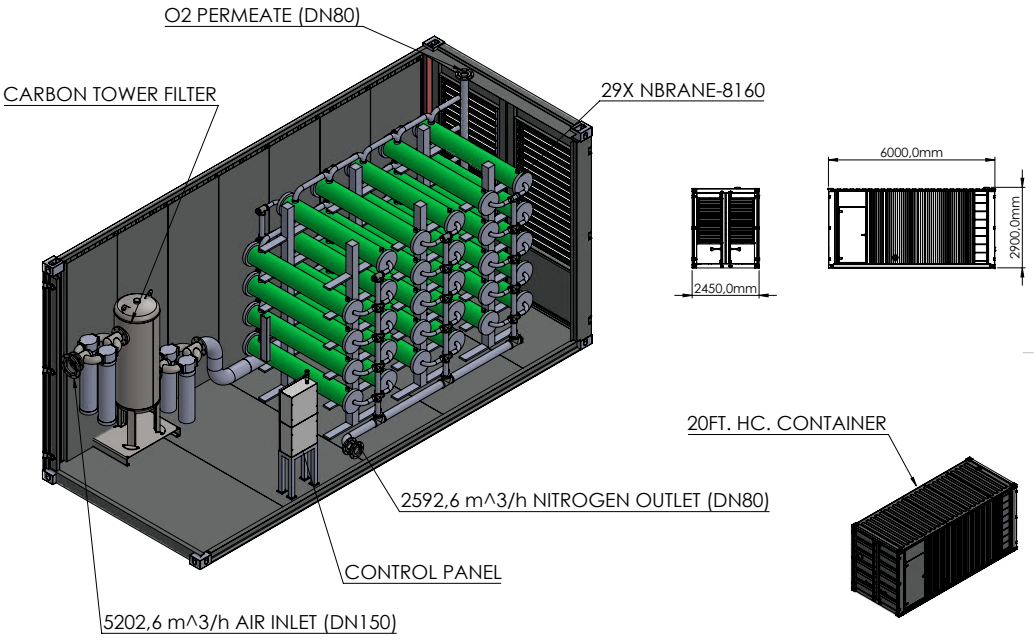
### 6. Durability
Made of stainless steel or aluminum for use in harsh environments.

### 7. Quiet Operation
Ideal for noise-sensitive areas such as laboratories and hospitals.

### 8. Low Operating Costs
Provides savings of up to 50% compared to liquid nitrogen and PSA systems.

### 9. Custom Solutions
Custom system designs are available for small-scale laboratories to large industrial facilities.

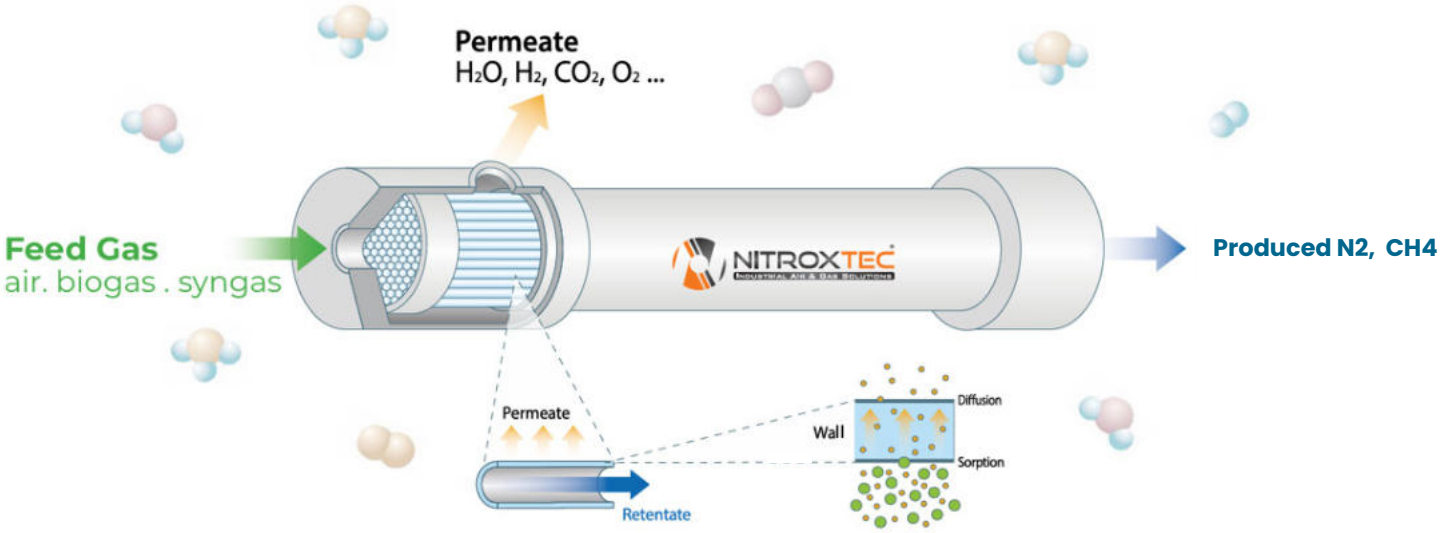
### 10. Global Support
24/7 technical support and maintenance programs are available.



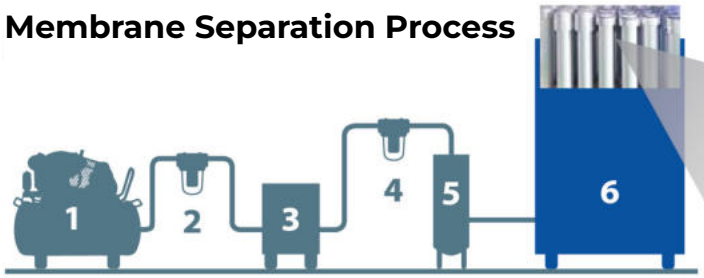

## NITROXTEC MEMBRANE NITROGEN GENERATORS: ON-DEMAND, HIGH-PURITY INDUSTRIAL GAS

NITROXTEC Membrane Nitrogen Generators are an economical, energy-efficient and maintenance-free solution for on-site nitrogen production.

# NITROXTEC Membrane Operating Principle




**Membrane Separation Process**





1. Compressor
2. Water Separator
3. Dryer
4. Particles Filter
5. Activated Carbon Filter
6. Membrane Module

# Technical Specifications

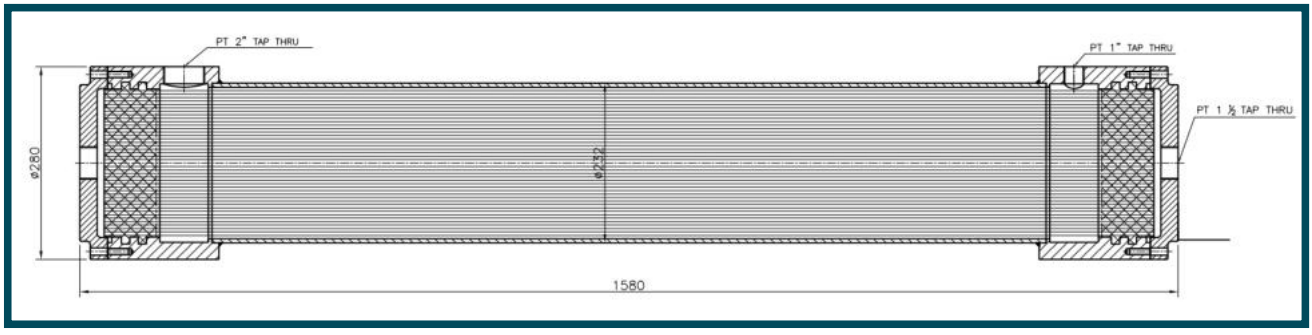
| Model | Flow rate ($Nm^3$/ hour) | Purity (%) | Maximum Pressure (bar) | Connection | Dimensions (L×W×H, mm) |
|---|---|---|---|---|---|
| NBRANE-50 | 50 | 95–99.5 | 10 | 1/2" FNPT | 600×400×500 |
| NBRANE-200 | 200 | 95–99.5 | 10 | 1" FNPT | 800×500×600 |
| NBRANE-1000 | 1000 | 95–99.5 | 16 | 2" Flange | 1200×800×1000 |
| Customizable | up to 5000 | Customizable | up to 25 | Customizable | Customizable |

# Technology Comparison

| Method | Membrane (NITROXTEC) | PSA (NITROXTEC) | Cryogenic |
|---|---|---|---|
| Purity | 90–99.5% | 95–99.9999% | 99.999%+ |
| Energy Consumption | Low | Middle | High |
| Area Covered | Small | Middle | Large |
| Maintenance | Low | Middle | High |
| The Most Suitable | Medium purity, mobile needs | High purity | Ultra-high purity |

# NO MORE WAITING

## INSTANT NITROGEN, MINIMUM CONSUMPTION




# APPLICATION AREAS

- **Marine and offshore applications**
  Preferred due to compact footprint, no moving parts, and ability to operate continuously in harsh environments.
- **Chemical and petrochemical processes**
  Used for inert atmospheres in reactors, vessels, and transfer lines where ultra-high purity nitrogen is not necessary.
- **Tank blanketing and inerting**
  Protects fuels, oils, chemicals, and solvents from oxidation, moisture ingress, and contamination.
- **Oil & gas industry**
  Applied for pipeline purging, well servicing, pressure testing, pigging operations, and offshore platforms where compact and rugged systems are required. Designed to operate reliably at high temperatures and under harsh conditions.

# CONTAINER TYPE NITROGEN GENERATION SYSTEM


## CONTAINER NITROGEN GENERATION SYSTEMS

NITROXTEC Container-Type Nitrogen Generators are complete plug-and-start systems housed in weather-resistant ISO standard shipping containers (10', 20', or 40'). Using PSA technology, they produce nitrogen with purity up to 99.9999% and can be operational in simple steps. All you need to do is connect power and pipelines to start producing nitrogen on-site, eliminating dependence on external suppliers.

**Produce High Purity Nitrogen, Anywhere, Anytime and Instantly.**

Each system includes a screw air compressor, air dryer, filtration group, PSA unit, CMS media, and buffer tank—all integrated within an IP65-rated enclosure. Using Pressure Swing Adsorption (PSA) technology, the system separates oxygen and other gases from ambient air to produce high-purity nitrogen ranging from 95% to 99.9999% (1 ppm $O_2$).

The system features a fully automatic PLC control panel with touchscreen interface and Modbus TCP/IP SCADA integration. Optional climate control (heating/air conditioning) enables stable operation from -10°C to +50°C, while remote access and advanced monitoring features allow efficient management both on-site and remotely.

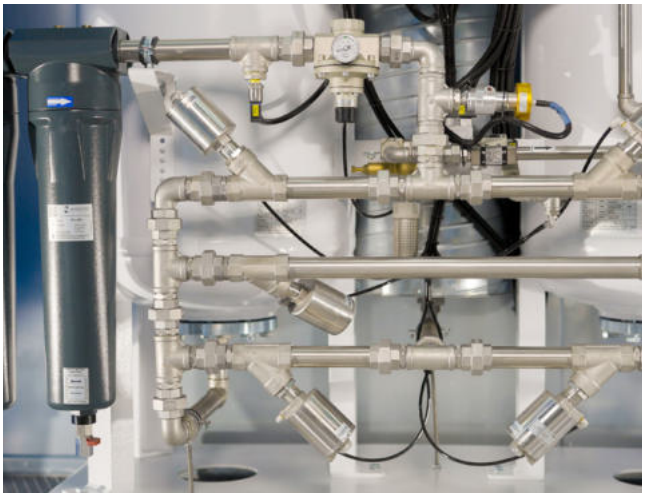
## OPERATING PRINCIPLE

The system, which works on the PSA principle, adsorbs the oxygen in the compressed air through a carbon molecular sieve (CMS), while nitrogen gas is released. All equipment in the container works in an integrated manner; the system can be commissioned quickly with just a power connection. Production can be customized according to the desired capacity and pressure.

# Nitrogen Systems With Container

# %99.9999

# Produce Pure Nitrogen Gas!





## Advantages

- Nitrogen production with 95% to 99.9999% purity (1 ppm $O_2$ grade 6.0)
- Adjustable output pressure between 7 and 10 bar
- Entire system in a single cabinet – compressor, dryer, filter, PSA, and tank
- IP65 outdoor protection, insulated, and robust construction
- Climate control with optional air conditioner or heater
- Instant start-up with electrical connection no field installation required
- User-friendly interface with touchscreen HMI
- Fully automatic control system with minimal operator requirements
- Easy integration with SCADA systems (Modbus TCP/IP)
- Optional remote monitoring and management (HUBBOX supported)
- Low-maintenance and long-lasting CMS adsorbents
- Generate your own nitrogen without needing an external gas supply
- Ideal mobile solution for construction sites, temporary facilities, and remote industrial sites

## Applications

**• Construction and Remote Industrial Sites**
Reliable nitrogen source without external supply chain dependency

**• Food Packaging and Processing**
High-purity nitrogen for modified atmosphere packaging

**• Laser Cutting and Metalworking**
Constant nitrogen flow for cutting operations up to 300 bar (with booster)

**• Electronics and Semiconductor**
Inert gas atmosphere for SMT lines and PCB manufacturing

**• Oil and Gas/Petrochemical Plants**
On-site nitrogen for blanketing, purging, and safety applications

**• Gas Cylinder Filling Stations**
Mobile filling unit for industrial-grade nitrogen dispensing

# SUSTAINABLE HIGH PERFORMANCE

NITROXTEC Containerized Nitrogen Generation Systems are designed for performance, portability, and precision.

They offer industrial sectors the ability to generate their own nitrogen gas whenever and wherever they need it.


# Technical Specifications

| Feature | Explanation |
|---|---|
| Nitrogen Purity | %95 – %99,9999 (1 ppm $O_2$ grade 6.0) |
| Capacity Range | Customizable upon request |
| Outlet Pressure | 7 – 10 bar adjustable (Optional: Up to 300 Bar with booster). |
| Air Quality Standard | ISO 8573-1:2010 Class 2.4.1 |
| Protection Class | IP65 – insulated outer cabinet |
| Control Panel | Fully automatic system with touch screen |
| Remote Monitoring (Option) | HUBBOX – 2FA supported with encrypted access |
| Energy Supply | Adjustable according to customer demand |
| Air Conditioning (Option) | Heating and/or cooling system can be integrated |

# DEOXY NITROGEN PURIFICATION UNITS


## Take Your Own Nitrogen to Ultra Purity

Elevate Your Nitrogen to Ultra-Purity. The NITROXTEC Deoxy Purification Unit boosts the 99.9% pure nitrogen from your PSA generator to 99.9999% (1 ppm $O_2$) to deliver ultra-high purity, dry, and oxygen-free nitrogen. With its compact structure, low energy consumption, and intelligent automation system, it provides safe, economical, and uninterrupted gas supply for your processes.

NITROXTEC Deoxy systems purify nitrogen gas from PSA generators through a special catalytic reaction and achieve ultra-high purity. In this process, nitrogen gas is mixed with a precise amount of hydrogen, and the oxygen molecules within it are converted into water with the help of a palladium-coated alumina catalyst. The water vapor generated is completely removed in the integrated desiccant dryer, resulting in dry, ultra-pure nitrogen gas at 1 ppm $O_2$ at the outlet.
The automatic control system optimizes hydrogen consumption while ensuring production continuity and maximum efficiency. It can be easily integrated into existing NITROXTEC or other brands of PSA generator systems.

## OPERATING PRINCIPLE

The deoxy device increases the purity of the existing nitrogen gas with a purity of 99.9% from the PSA generator by mixing it with a precise amount of hydrogen in the Deoxy Unit. The gas stream passes through the palladium-coated alumina catalyst bed, where it converts oxygen molecules into water vapor. This moisture is completely removed by passing it through the integrated desiccant dryer. The entire process is controlled by an automated PLC system that manages hydrogen dosing and drying efficiency.

NITROGEN GAS

# ADVANTAGES

- 99.9999% ((1 ppm $O_2$ grade 6.0)) ultra-high purity nitrogen production
- Full drying process with integrated desiccant dryer
- Optimized hydrogen use with intelligent automation system
- Compact and modular design saves space
- Easy integration into existing PSA systems
- Continuous and uninterrupted flow of ultrapure nitrogen
- Low energy consumption and low operating cost
- Full compliance with ISO 8573.1:2010 Class 2.4.1 air quality standard
- Minimal maintenance and high reliability

**Advanced Nitrogen Purification**

## Ultra-Purity Nitrogen! The Meeting Point of Perfection.

In processes where every ppm counts, ensure reliable nitrogen production with 99.9999% purity using the NITROXTEC Deoxy Purification Unit. Guarantee quality with NITROXTEC wherever industrial precision is required.

# DEOXY NITROGEN PURIFICATION UNITS


## Application Areas

- Semiconductor & Microelectronics Manufacturing – prevents oxidation
- Metal Heat Treatment – provides an inert atmosphere
- Pharmaceutical and Sterile Manufacturing – oxygen-free environment guarantee
- Laser Cutting Stainless Steel prevents discoloration and oxidation
- Modified Atmosphere Packaging (MAP) – preserves freshness and shelf life

## Nitrogen Production (Nm³/Hour)

| Model | Input Purity 99.5% | Input Purity 99.9% |
|---|---|---|
| | %99,999 (5,0) (10 ppm $O_2$) | %99,9995 - %99,9999 (5,5 - 6,0) (5-1 ppm $O_2$) |
| Deoxy 01 | 3.4 | 2.35 |
| Deoxy 02 | 6.8 | 4.7 |
| Deoxy 03 | 13.6 | 9.4 |
| Deoxy 04 | 20.4 | 14.1 |
| Deoxy 05 | 27.2 | 18.8 |
| Deoxy 06 | 34 | 23.5 |
| Deoxy 07 | 47.6 | 32.9 |
| Deoxy 08 | 61.2 | 42.3 |
| Deoxy 09 | 74.8 | 51.7 |
| Deoxy 10 | 88.4 | 61.1 |
| Deoxy 11 | 102 | 70.4 |
| Deoxy 12 | 115.6 | 79.4 |
| Deoxy 13 | 149.6 | 102.9 |
| Deoxy 14 | 197.2 | 135.8 |
| Deoxy 15 | 258.4 | 178.1 |
| Deoxy 16 | 319.6 | 220.4 |
| Deoxy 17 | 380.8 | 262.7 |
| Deoxy 18 | 442 | 305 |
| Deoxy 19 | 503 | 347.3 |
| Deoxy 20 | 578 | 399 |
| Deoxy 21 | 664.4 | 469.4 |
| Deoxy 22 | 754.8 | 539.8 |
| Deoxy 23 | 843.2 | 610.2 |

# OXYGEN GENERATORS

## INDUSTRY APPLICATIONS

- Medical Applications
- Glass Manufacturing
- Mining
- Metal Industry
- Ozone Industry
- Wastewater Treatment
- Fish Farming
- Stone Wool – Glass Wool Industry

# MODULAR OXYGEN GENERATORS

## Modular Structure, Uninterrupted Oxygen Power.

NITROXTEC Modular Oxygen Generators enable on-site oxygen production at 90–95% purity with their energy-efficient compact design and advanced PSA technology. They eliminate dependence on bottled or liquid oxygen supply. With easy installation, low maintenance requirements, and expandable modular structure, they offer sustainable solutions to many sectors.

## Modular Oxygen Generators

NITROXTEC's modular PSA oxygen generators produce high-purity oxygen in the 90%–95% range by separating nitrogen from compressed air through zeolite-filled towers. The modular architecture provides ease of assembly, reduces maintenance costs and allows seamless expansion simply add new units when capacity needs increase, without modifying or need to use welding on the existing infrastructure. Fully automatic operating principle, touchscreen user interface, and support for integration into SCADA systems with Modbus TCP/IP protocol. It is designed in accordance with ISO 8573.1:2010 Class 2.4.1 air quality standard and is safely used in many areas such as industrial, medical, environmental, and aquaculture.


## OPERATING PRINCIPLE

The system operating with PSA technology directs compressed air to a dual-tower structure filled with zeolite. The zeolite material holds nitrogen molecules while allowing oxygen to pass through. The towers operate alternately, providing continuous oxygen production. Each module can operate independently; it is expandable according to capacity needs. Due to its intelligent control system, oxygen production is automatically optimized according to demand.

# Advantages

- High-efficiency oxygen production at 90 – 95% purity
- Modular capacity in the range of 0.5 – 385 $Nm^3$/hour
- Compact design that maximizes floor space
- Weld-free design – no weld testing required
- 24/7 uninterrupted and reliable oxygen flow
- Low energy consumption and operating cost
- Fully automatic start/stop feature
- Touchscreen control panel – live monitoring and data recording
- Easy integration into factory automation with Modbus TCP/IP
- Remote access and control capability (optional)
- European-origin long-life valve and exhaust system
- ISO 8573.1:2010 Class 2.4.1 air quality compliance

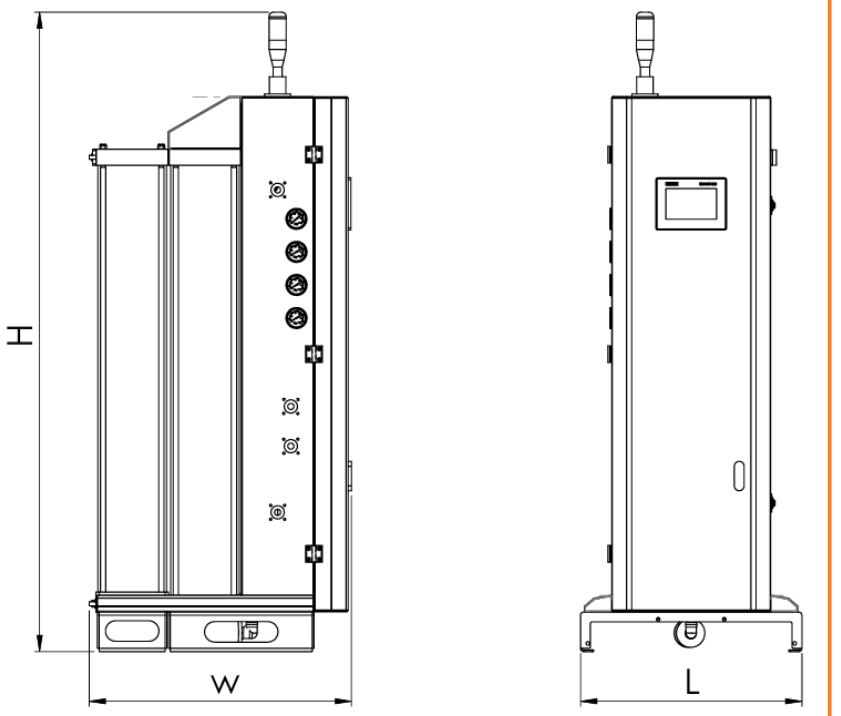
## Efficient, Modular, and Easy-to-Maintain Oxygen Production On Site.

NITROXTEC Modular Oxygen Generators are a long-lasting, low-cost, and flexible oxygen production solution with their design that does not require weld testing and intelligent automation features. As your production needs grow, your system can grow too.

# Technical Specifications

| Model | Dimensions "mm" | | | Weight Kg | Air Intake Connections (BSP Thread Size) | Electric Power |
|---|---|---|---|---|---|---|
| | Length | Width | Height | | | |
| MNOX - 01 | 450 | 405 | 1120 | 110 | 1/2" | 110-230 V AC 50-60 Hz 150 W |
| MNOX - 02 | 450 | 560 | 1520 | 200 | 1/2" | 110-230 V AC 50-60 Hz 150 W |
| MNOX - 03 | 450 | 715 | 1520 | 208 | 1/2" | 110-230 V AC 50-60 Hz 150 W |
| MNOX - 04 | 450 | 870 | 1520 | 259 | 3/4" | 110-230 V AC 50-60 Hz 150 W |
| MNOX - 05 | 670 | 790 | 1750 | 289 | 1" | 110-230 V AC 50-60 Hz 150 W |
| MNOX - 06 | 670 | 1010 | 1750 | 330 | 1" | 110-230 V AC 50-60 Hz 150 W |
| MNOX - 07 | 670 | 1230 | 1750 | 400 | 1" | 110-230 V AC 50-60 Hz 150 W |
| MNOX - 08 | 670 | 1450 | 1750 | 470 | 1" | 110-230 V AC 50-60 Hz 150 W |
| MNOX - 09 | 670 | 1670 | 1750 | 540 | 1 1/2" | 110-230 V AC 50-60 Hz 150 W |
| MNOX - 10 | 670 | 1890 | 1750 | 620 | 1 1/2" | 110-230 V AC 50-60 Hz 150 W |
| MNOX - 11 | 670 | 2110 | 1750 | 700 | 1 1/2" | 110-230 V AC 50-60 Hz 150 W |

# HIGH PURITY
# Zero Supply Chain Risk




## Oxygen Generators

PSA technology is used to separate oxygen gas from compressed air. Thanks to PSA technology, it enables the production of oxygen gas with a purity range of 90% – 95% at capacities of 0.5 – 385 $Nm^3/h$. Instead of buying an oxygen cylinder, why not produce oxygen gas on-site at low cost? Nitroplace oxygen generators have the modern technology needed to produce oxygen gas. Our Nitroplace oxygen generators are a reliable, sustainable, and cost-effective source of oxygen gas thanks to modern PSA technology.

# Oxygen Production (Nm³/Hour)

| Model | %90 | %93 | %95 |
|---|---|---|---|
| MNOX - 01 | 0.6 | 0.6 | 0.5 |
| MNOX - 02 | 1.2 | 1.1 | 1.0 |
| MNOX - 03 | 2.4 | 2.3 | 2.0 |
| MNOX - 04 | 3.6 | 3.4 | 3.0 |
| MNOX - 05 | 7.0 | 6.0 | 5.0 |
| MNOX - 06 | 8.9 | 8.1 | 7.1 |
| MNOX - 07 | 10.0 | 9.0 | 8.0 |
| MNOX - 08 | 12.0 | 11.0 | 10.0 |
| MNOX - 09 | 14.5 | 13.2 | 12.0 |
| MNOX - 10 | 16.0 | 14.0 | 13.0 |
| MNOX - 11 | 18.8 | 16.8 | 15.5 |

| Compressed Air Inlet 7 Bar G | | | |
|---|---|---|---|
| Purity | 90% | 93% | 95% |
| Air/Gas Ratio | 9 | 10 | 11 |

| Air Inlet Temperature Correction Factors | | | | | | | |
|---|---|---|---|---|---|---|---|
| 5 °C | 10 °C | 15 °C | 20 °C | 25 °C | 30 °C | 35 °C | 40 °C |
| 0.95 | 1.03 | 1.02 | 1 | 1 | 0.92 | 0.81 | 0.7 |

| Inlet Pressure Air Correction Factors | | | |
|---|---|---|---|
| 4 BAR | 5 BAR | 6 BAR | 7 BAR |
| 0.75 | 0.9 | 1 | 1 |



# System Features

| Feature | Explanation |
|---|---|
| 90%–95% Purity Value | Provides a safe and consistent oxygen level for a wide range of industrial and medical applications. |
| Wide Capacity Range (0.5 – 385 $Nm^3$/hour) | Offers customized solutions from small laboratories to large-scale industrial facilities. |
| Fully Automatic Operation | The automatic start/stop function ensures efficient oxygen usage and 24/7 availability. |
| Touchscreen Control Panel | Live monitoring, data recording, and a user-friendly interface ensure operational transparency. |
| Remote Access & Modbus TCP/IP | Offers online monitoring and system integration options with SCADA or PLC. |
| ISO 8573–1:2010 Class 2.4.1 Compliance | Provides high-quality feed air for stable and efficient PSA operation. |
| Maintenance-Free Exhaust System | Long-lasting European-made valves and exhaust components minimize maintenance needs. |
| Optional VPSA & Cryogenic Systems | Offers extended configurations for higher purity or large-scale applications. |
| Panel Protection Class | IP55 class outdoor protection panel |
| Low Air Consumption / High Efficiency | Low air consumption with Zeolite technology |
| Compressor Compatibility | High flow rate with small capacity compressors |
| Stainless Steel Piping & Filter | AISI 304 stainless steel lines & filters |
| Piston Pneumatic Valves | Long-lasting, leak-proof piston valve system |
| Weldless Design | No weld testing required. |

# Technical Specifications

| Component | Brand / Model | Explanation | IP Protection Class |
|---|---|---|---|
| Touchscreen Control Panel | SIMATIC HMI MTP 7"/4" | 7"/4" wide-screen TFT panel, touchscreen operation | Front: IP65 Rear: IP20 |
| Oxygen Sensor | NTRON SENZTX TX-100 | Touchscreen operation | IP66 |
| Piping and Connection Elements | 304 Stainless Steel | All connecting parts are made of stainless steel (AISI 304) | – |
| Elements | SMC SS316L | Gear-connected 316L stainless steel, long-lasting | IP67 |
| Pneumatic Components | FESTO or SMC | Solenoid valves, FRL units, pipes and fittings | IP65 |
| Flowmeter (Optional) | SMC | Digital display, integrated sensor flow measurement module | IP65 |
| Dew Point Measurer (Optional) | SUTO | Compliant with ISO 8573-1/2/3, provides humidity and temperature measurement | ISO 8573-1/2/3 |

# OXYGEN GENERATORS


## Produce Your Own Oxygen, Reduce Your Costs.

NITROXTEC Oxygen Generators provide on-site oxygen production at 90–95% purity using compressed air. With PSA technology, these systems eliminate external dependence, decrease operating costs, and guarantee uninterrupted oxygen supply.
With wide capacity options and fully automatic operation, they offer a reliable and sustainable solution for modern production facilities.

NITROXTEC Twin Tower PSA Oxygen Generators produce oxygen in the 90% – 95% purity range with a cyclic operating principle. The system consists of two tanks filled with zeolite, one performing adsorption while the other is in regeneration. This ensures uninterrupted production. The capacity range is between 0.5 and 385 $Nm^3$/hour, with an adaptable structure from small laboratories to large industrial facilities.

All generators are designed in accordance with ISO 8573.1:2010 Class 2.4.1 air quality standard and equipped with European-origin long-life valve/exhaust systems. It offers a user-friendly interface with a touchscreen control panel; the system also has Modbus TCP/IP support for remote access and SCADA integration.

## OPERATING PRINCIPLE

The system compresses ambient air and directs it to two zeolite-filled towers. The zeolite material holds nitrogen molecules while allowing oxygen gas to pass freely and collect in the product line. The towers operate sequentially; one performs adsorption while the other is in the regeneration cycle. Oxygen purity is instantly controlled by the PSA process, and the system automatically activates and deactivates according to demand. This ensures efficient and stable production with low energy consumption.

# Advantages

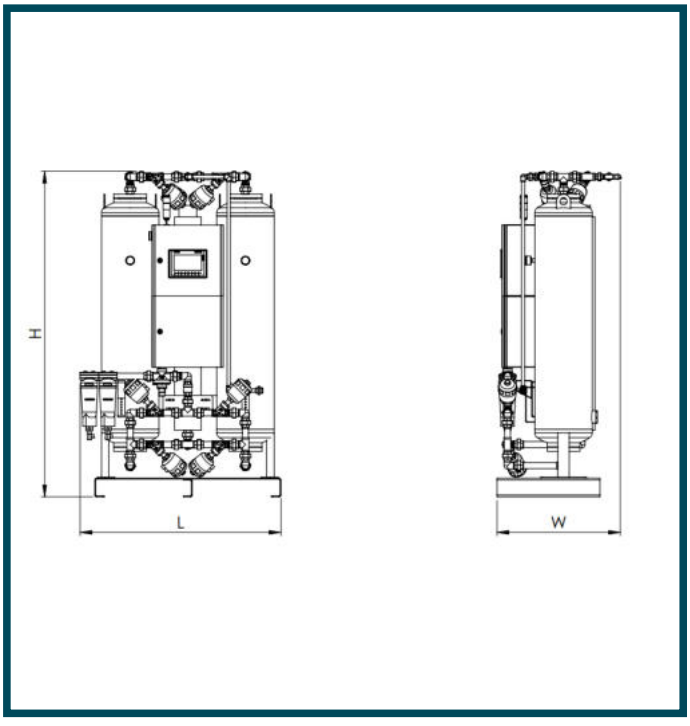
- 90% – 95% oxygen purity
- 0.5 – 385 $Nm^3$/hour capacity range
- Fully automatic operation energy savings with start/stop feature
- Touchscreen – live monitoring, data recording, and user-friendly interface
- SCADA/PLC integration with Modbus TCP/IP protocol
- Remote monitoring and control support (optional online access)
- Full compliance with ISO 8573.1:2010 Class 2.4.1 air quality standard
- Maintenance-free exhaust system and long-life valve group
- Expandable structure with VPSA and cryogenic system alternatives
- 24/7 continuous and reliable oxygen supply

## Custom Oxygen Solutions for Your Business

NITROXTEC oxygen generators can be customized to meet the specific needs of your facility. Whether your goal is energy savings or uninterrupted oxygen supply, our engineering team is here to support you with reliable and efficient system solutions tailored to your requirements.

# Technical Specifications

| Model | Dimensions "mm" | | | Weight Kg | Air Inlet Connections (BSP Thread Size) | Electric Power |
|---|---|---|---|---|---|---|
| | Length | Width | Height | | | |
| Oxytech - 01 | 610 | 540 | 1170 | 85 | 1/2" | 110-230 V AC 50-60 Hz 150 W |
| Oxytech - 02 | 610 | 540 | 1310 | 140 | 1/2" | 110-230 V AC 50-60 Hz 150 W |
| Oxytech - 03 | 610 | 540 | 1720 | 200 | 1/2" | 110-230 V AC 50-60 Hz 150 W |
| Oxytech - 04 | 780 | 550 | 1640 | 220 | 1/2" | 110-230 V AC 50-60 Hz 150 W |
| Oxytech - 05 | 830 | 550 | 1770 | 300 | 1/2" | 110-230 V AC 50-60 Hz 150 W |
| Oxytech - 06 | 1100 | 600 | 1800 | 400 | 1/2" | 110-230 V AC 50-60 Hz 150 W |
| Oxytech - 07 | 1200 | 650 | 2000 | 500 | 3/4" | 110-230 V AC 50-60 Hz 150 W |
| Oxytech - 08 | 1300 | 700 | 1960 | 609 | 1" | 110-230 V AC 50-60 Hz 150 W |
| Oxytech - 09 | 1300 | 700 | 2150 | 700 | 1" | 110-230 V AC 50-60 Hz 150 W |
| Oxytech - 10 | 1350 | 700 | 2100 | 800 | 1" | 110-230 V AC 50-60 Hz 150 W |
| Oxytech - 11 | 1450 | 750 | 2000 | 900 | 1" | 110-230 V AC 50-60 Hz 150 W |
| Oxytech - 12 | 1450 | 750 | 2200 | 1100 | 1" | 110-230 V AC 50-60 Hz 150 W |
| Oxytech - 13 | 1580 | 880 | 2100 | 1350 | 1" | 110-230 V AC 50-60 Hz 150 W |
| Oxytech - 14 | 1450 | 830 | 2250 | 1600 | 1 1/2" | 110-230 V AC 50-60 Hz 150 W |
| Oxytech - 15 | 1600 | 1230 | 2360 | 2000 | 1 1/2" | 110-230 V AC 50-60 Hz 150 W |
| Oxytech - 16 | 2000 | 1100 | 2400 | 2300 | 1 1/2" | 110-230 V AC 50-60 Hz 150 W |
| Oxytech - 17 | 2000 | 1420 | 2440 | 2400 | 2" | 110-230 V AC 50-60 Hz 150 W |
| Oxytech - 18 | 2200 | 1500 | 2500 | 3400 | 2" | 110-230 V AC 50-60 Hz 150 W |
| Oxytech - 19 | 1600 | 2000 | 2360 | 4200 | 2" | 110-230 V AC 50-60 Hz 150 W |
| Oxytech - 20 | 2000 | 2100 | 2270 | 4800 | 3" | 110-230 V AC 50-60 Hz 150 W |
| Oxytech - 21 | 2000 | 2400 | 2310 | 5500 | 3" | 110-230 V AC 50-60 Hz 150 W |
| Oxytech - 22 | 2000 | 2400 | 2440 | 6000 | 3" | 110-230 V AC 50-60 Hz 150 W |
| Oxytech - 23 | 2230 | 2450 | 2520 | 7000 | 3" | 110-230 V AC 50-60 Hz 150 W |
| Oxytech - 24 | 2200 | 3300 | 2400 | 10000 | DN 100 | 110-230 V AC 50-60 Hz 150 W |
| Oxytech - 25 | 2200 | 4500 | 2500 | 12000 | DN 100 | 110-230 V AC 50-60 Hz 150 W |
| Oxytech - 26 | 2200 | 7000 | 2500 | 20000 | DN 150 | 110-230 V AC 50-60 Hz 150 W |
| Ambient Temperature +25°C | Inlet Air Dew Point +3°C | | | | | |




# Oxygen Production (Nm³/Hour)

| Model | 90% | 93% | 95% |
|---|---|---|---|
| Oxytech - 01 | 0.70 | 0.60 | 0.50 |
| Oxytech - 02 | 1.20 | 1.10 | 1.00 |
| Oxytech - 03 | 2.40 | 2.30 | 2.00 |
| Oxytech - 04 | 3.60 | 3.40 | 3.00 |
| Oxytech - 05 | 7.00 | 6.00 | 5.00 |
| Oxytech - 06 | 8.90 | 8.10 | 7.10 |
| Oxytech - 07 | 10.00 | 9.00 | 8.00 |
| Oxytech - 08 | 12.00 | 11.00 | 10.00 |
| Oxytech - 09 | 14.50 | 13.20 | 12.00 |
| Oxytech - 10 | 16.00 | 14.00 | 13.00 |
| Oxytech - 11 | 18.80 | 16.80 | 15.50 |
| Oxytech - 12 | 25.00 | 23.00 | 21.00 |
| Oxytech - 13 | 29.00 | 26.00 | 24.00 |
| Oxytech - 14 | 39.00 | 34.00 | 30.00 |
| Oxytech - 15 | 46.00 | 41.00 | 35.00 |
| Oxytech - 16 | 52.00 | 47.00 | 42.00 |
| Oxytech - 17 | 63.00 | 57.00 | 50.00 |
| Oxytech - 18 | 80.00 | 72.00 | 65.00 |
| Oxytech - 19 | 90.00 | 88.00 | 72.00 |
| Oxytech - 20 | 104.00 | 95.00 | 87.00 |
| Oxytech - 21 | 137.00 | 125.00 | 107.00 |
| Oxytech - 22 | 153.00 | 139.00 | 127.00 |
| Oxytech - 23 | 192.00 | 175.00 | 160.00 |
| Oxytech - 24 | 241.00 | 220.00 | 200.00 |
| Oxytech - 25 | 290.00 | 264.00 | 240.00 |
| Oxytech - 26 | 385.00 | 350.00 | 320.00 |

| Inlet Pressure Air Correction Factors | | | |
|---|---|---|---|
| 4 BAR | 5 BAR | 6 BAR | 7 BAR |
| 0.75 | 0.9 | 1 | 1 |

| Air Inlet Temperature Correction Factors | | | | | | | |
|---|---|---|---|---|---|---|---|
| 5 °C | 10 °C | 15 °C | 20 °C | 25 °C | 30 °C | 35 °C | 40 °C |
| 0.95 | 1.03 | 1.02 | 1 | 1 | 0.92 | 0.81 | 0.7 |

| Pressurized Air Inlet 7 Bar G | | | |
|---|---|---|---|
| Purity | 90% | 93% | 95% |
| Air/Gas Ratio | 9 | 10 | 11 |

# Hardware and Options

| Component | Brand / Model | Explanation | IP Protection Class |
|---|---|---|---|
| Touchscreen Control Panel | SIMATIC HMI MTP 7"/4" | 7"/4" wide-screen TFT panel, touchscreen operation | Front: IP65 Rear: IP20 |
| Oxygen Sensor | NTRON SENZTX TX-100 | Zirconium technology, long-lasting $O_2$ sensor | IP66 |
| Piping and Connection Elements | 304 Stainless Steel | All connecting parts are made of stainless steel. (AISI 304) | – |
| Piston Valve | SMC SS316L | Gear-connected 316L stainless steel, long-lasting | IP67 |
| Pneumatic Components | FESTO or SMC | Solenoid valves, FRL units, pipes, and fittings | IP65 |
| Flowmeter (Optional) | SMC | Digital display, integrated sensor flow measurement module | IP65 |
| Dew Point Meter (Optional) | SUTO | Provides humidity and temperature measurement in accordance with ISO 8573-1/2/3 | ISO 8573-1/2/3 |

| Technical Specifications of Oxygen Generator Inlet Air | |
|---|---|
| Maximum working pressure | 10 bar (g) |
| Operating temperature | 5-45°C |
| Minimum inlet pressure | 4,5 bar (g) |
| Maximum Dew point | +3°C |
| Air quality ISO standard | ISO 8573.1:2010.2.4.1 |

# System Features

| Feature | Explanation |
|---|---|
| 90–95% Oxygen Purity | Provides a safe and consistent oxygen level for a wide range of industrial and medical applications. |
| Wide Capacity Range (0.5 – 385 $Nm^3$/hour) | Offers customized solutions ranging from small laboratories to large-scale industrial facilities. |
| Fully Automatic Operation | The automatic start/stop function ensures efficient oxygen usage and 24/7 availability. |
| Touchscreen Control Panel | Live monitoring, data recording, and a user-friendly interface ensure operational transparency. |
| Remote Access & Modbus TCP/IP | Offers online monitoring and system integration options with SCADA or PLC. |
| ISO 8573–1:2010 Class 2.4.1 Compliance | Provides high-quality feed air for reliable and efficient PSA operation. |
| Maintenance-Free Exhaust System | Long-lasting European-made valves and exhaust components minimize maintenance needs. |
| Optional VPSA & Cryogenic Systems | Offers extended configurations for higher purity or large-scale applications. |
| Panel Protection Class | IP55 class external protection panel |
| Low Air Consumption / High Efficiency | Low air consumption with Zeolite technology |
| Compressor Compatibility | High flow rate with small capacity compressors |
| Stainless Steel Piping & Filter | AISI 304 stainless steel lines & filters |
| Piston Pneumatic Valves | Long-lasting, leak-proof piston valve system |

# Oxygen Generator Installation Diagram

## 6 Bar Oxygen Generator Installation Diagram


## 200 Bar Oxygen Generator Installation Diagram


# CONTAINER TYPE OXYGEN GENERATION SYSTEM

## On-site, Mobile and Uninterrupted Oxygen Production.

NITROXTEC Container-Type Oxygen Generators are complete plug-and-start systems housed in weather-resistant ISO standard shipping containers (10', 20', or 40'). Using PSA technology, they produce 90–95% pure oxygen and can be operational within simple steps. All you need to do is connect power and pipelines to start producing oxygen on-site, eliminating dependence on external suppliers.

## Container Type Oxygen Generation Systems

Each system includes a screw air compressor, air dryer, filtration group, oxygen generator, buffer tank, and fully automatic PLC-based touchscreen control—all integrated within an IP65-rated enclosure. Optional climate control enables stable operation from -10°C to +50°C, while advanced monitoring features including remote access, Modbus TCP/IP integration, and data logging allow efficient management both on-site and remotely.


## OPERATING PRINCIPLE

The system compresses ambient air and directs it to two zeolite-filled PSA towers. The zeolite molecular sieve holds nitrogen, allowing oxygen to pass through. The towers operate sequentially, maintaining the regeneration and adsorption cycle. The production is continuously monitored with a fully automatic control system, and the system optimizes operation according to demand. As a result, uninterrupted, efficient, and low-cost oxygen production is provided.

# Advantages

- Oxygen production at 90 – 95% purity
- Customizable capacity in the range of 1 – 100 $Nm^3$/hour
- Adjustable outlet pressure between 4 – 10 bar
- Fully automatic PLC system and touchscreen HMI interface
- IP65 outdoor protected steel container – insulated structure
- Remote access and control (HUBBOX supported – 2FA secured)
- Integration into SCADA/automation systems with Modbus TCP/IP
- Stable production with high-efficiency zeolite molecular sieve (ZMS)
- CE, PED 2014/68/EU certified safety compliance
- Optional air conditioning/heater option for climate control
- "Plug & Start" – no on-site assembly required, only power connection needed
- Much more economical than bottled or liquid oxygen solutions
- Low energy consumption, minimum maintenance requirement

# Technical Specifications

| Feature | Explanation |
|---|---|
| Oxygen Purity | %90 – %95 |
| Capacity Range | Customizable according to requirements |
| Outlet Pressure | 7-10 bar adjustable Optional: Up to 300 Bar with booster). |
| Air Quality Standard | ISO 8573-1:2010 Class 2.4.1 |
| Protection Class | IP65 – insulated outer casing |
| Control Panel | Fully automated system with touchscreen |
| Remote Monitoring (Optional) | HUBBOX – 2FA supported with encrypted access |
| Power Supply | Adjustable according to customer request |
| Air Conditioning (Optional) | Heating and/or cooling systems can be integrated |

## Reliable Oxygen Production Wherever You Need It!

Take oxygen production to the field with NITROXTEC Container-Type Oxygen Production Systems, offering a mobile, integrated, and safe solution. Wherever it's needed, the system is ready.

# Industrial Remote Access and Data Acquisition Device

## Siemens PLC HMI 7”


## Online Mobile Access

Connect to your nitrogen/oxygen generation system remotely via a secure internet connection. our advanced remote access capability enables real-time monitoring, diagnostics, and rapid problem resolution from any location.

Monitor performance parameters, adjust settings, and identify issues quickly—minimizing downtime and maximizing operational efficiency.



### Industrial Remote Access and Data Collection Device

With HUBBOX, you can directly access, monitor, and inspect in our nitrogen and oxygen gas generators anytime, anywhere from your PC and mobile. You can collect your production data from nitrogen and oxygen generator systems offline and online, and our technical team can remotely access and inspect nitrogen and oxygen generators wherever they are in the world.

Our products, offering easy and flawless access with WAN, LAN, and WiFi inputs, provide data communication with high-security SSL certificates and the most up-to-date encryption methods (ECDHE-RSA-AES256-GCM-SHA384). It uses Google Authenticator infrastructure for two-step security 2FA when accessing your systems.

# MODULAR DESICCANT AIR DRYERS

## Modular Structure Uninterrupted Dry Air Low Energy

NITROXTEC Modular Desiccant Air Dryers provide space savings with their compact and weld-free modular design, while delivering ultra-dry air with dew points of -40°C or -70°C for industrial applications. Meeting ISO 8573-1:2010 Class 2 air quality standards, these systems are the ideal solution for facilities requiring continuous and reliable drying performance.

### Modular Desiccant Air Dryers

These dryers are equipped with high-efficiency adsorbents such as activated alumina, silica gel, or molecular sieve. The towers automatically perform drying and regeneration operations alternately, ensuring 24/7 uninterrupted air supply.

The weld-free modular structure enables fast installation and low maintenance without requiring weld certification or testing. Energy-efficient operation uses only 10-15% purge air, while the user-friendly electronic control panel reduces total operating costs.

## OPERATING PRINCIPLE

Modular Desiccant Dryers operate with dual-tower adsorption technology. Moist compressed air is dried while moisture is held as it passes through the first tower filled with activated alumina or similar adsorbents. At the same time, the other tower enters regeneration with 10–15% dry air (purge air). The process automatically switches between towers with PLC control, providing uninterrupted and dry air. This cycle is optimized to preserve energy efficiency. The system can be adjusted according to need with -40 °C or -70 °C dew-point configuration customized for the user.

# Advantages

- -40 °C or -70 °C dew-point options
- Compact and modular design that does not require welding
- High-efficiency adsorbent media (activated alumina, silica gel, molecular sieve)
- Dual-tower PSA operating principle – uninterrupted drying
- Only 10–15% purge air usage – low operating cost
- Optional dew-point sensor with energy-saving mode
- Electronic control panel – alarm and performance monitoring feature
- Minimal maintenance requirement – low failure risk
- Easily scalable structure according to facility growth
- Full compliance with ISO 8573-1:2010 Class 2 air quality standard


## No Weld Test
## No Moisture
## No Worries

NITROXTEC Modular Desiccant Air Dryers provide safe, dry, and quality air even in the most challenging working conditions. With their weld-free structure, these systems with easy assembly and low maintenance meet today's needs and adapt to your future expansion plans.

# Modular Structure
# Low Energy
# Continuous Dry Air

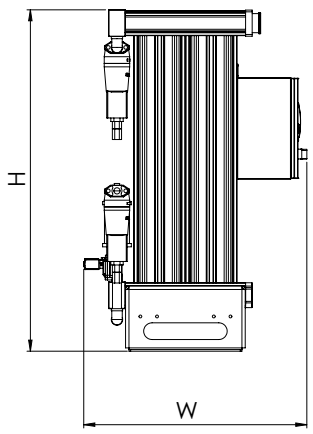
# Technical Specifications

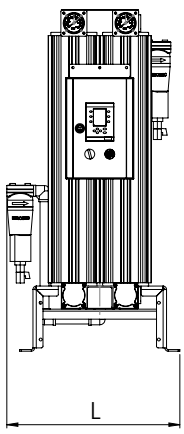
| Model | Capacity ($m^3$/minute) | Capacity ($m^3$/hour) | Air Inlet Connection | Dimensions "mm" | | | Weight Kg | Electric Power |
|---|---|---|---|---|---|---|---|---|
| | | | | Length | Width | Height | | |
| MNDD-0.3 | 0.30 | 18 | 1/2" | 500 | 300 | 360 | 23 | 110-230V AC 50-60 Hz 50W |
| MNDD-0.5 | 0.52 | 31 | 1/2" | 500 | 300 | 520 | 28 | 110-230V AC 50-60 Hz 50W |
| MNDD-0.8 | 0,80 | 48 | 1/2" | 500 | 300 | 940 | 34 | 110-230V AC 50-60 Hz 50W |
| MNDD-1 | 1,00 | 60 | 3/4" | 500 | 300 | 1100 | 39 | 110-230V AC 50-60 Hz 50W |
| MNDD-1.2 | 1.20 | 72 | 1" | 500 | 300 | 1300 | 43 | 110-230V AC 50-60 Hz 50W |
| MNDD-1.6 | 1,67 | 100 | 1" | 500 | 300 | 1620 | 51 | 110-230V AC 50-60 Hz 50W |
| MNDD-2 | 2.17 | 130 | 1" | 500 | 450 | 1100 | 62 | 110-230V AC 50-60 Hz 50W |
| MNDD-2.6 | 2,67 | 160 | 1" | 500 | 450 | 1340 | 75 | 110-230V AC 50-60 Hz 50W |
| MNDD-3.2 | 3.20 | 200 | 1" | 500 | 450 | 1620 | 94 | 110-230V AC 50-60 Hz 50W |
| MNDD-4 | 4.17 | 250 | 1 1/2" | 500 | 600 | 1340 | 113 | 110-230V AC 50-60 Hz 50W |
| MNDD-5 | 5,00 | 300 | 1 1/2" | 500 | 600 | 1620 | 132 | 110-230V AC 50-60 Hz 50W |
| MNDD-6 | 6,00 | 360 | 1 1/2" | 500 | 750 | 1500 | 160 | 110-230V AC 50-60 Hz 50W |
| MNDD-7.3 | 7,33 | 440 | 1 1/2" | 500 | 900 | 1470 | 189 | 110-230V AC 50-60 Hz 50W |
| MNDD-9 | 9,58 | 575 | 1 1/2" | 500 | 1050 | 1500 | 223 | 110-230V AC 50-60 Hz 50W |
| MNDD-11 | 11,33 | 680 | 2" | 500 | 1200 | 1550 | 269 | 110-230V AC 50-60 Hz 50W |

| Pressurized Air Inlet Temperature | | | | | | |
|---|---|---|---|---|---|---|
| Temperature (ºC) | 25 | 30 | 35 | 40 | 45 | 50 |
| Ki | 1.00 | 1.00 | 1.00 | 0.96 | 0.90 | 0.83 |

| Correction Factors at the Dryer Inlet | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P bar(g) | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| Kp | 0.75 | 0.88 | 1.00 | 1.06 | 1.12 | 1.17 | 1.22 | 1.27 | 1.32 | 1.37 | 1.41 | 1.46 |

| Example: | | | | |
|---|---|---|---|---|
| Working Pressure: | 8 bar | --> | Factor | 1.06 |
| Pressurized Air Inlet Temperature: | 40 | --> | Factor | 0.96 |




DRY

CLEAN

SAFE

# DESICCANT AIR DRYERS (HEATLESS TYPE)


## Dry Air, Clean Production.

NITROXTEC Desiccant Air Dryers safely eliminate moisture from your compressed air system, protecting your process equipment, increasing product quality, and guaranteeing production continuity. Operating with heatless regeneration technology, these systems combine low energy consumption with high performance, offering sustainable solutions for industrial businesses.

NITROXTEC Heatless Type Dryers provide ultra-dry air production at dew point values of –20 °C, –40 °C, and –70 °C with dual-tower adsorption technology. Equipped with adsorbent materials such as high-performance activated alumina, silica gel, or molecular sieve, these systems operate only with compressed air without the need for an external energy source. Due to their wide capacity range, they offer a wide application area from small workshops to large-scale industrial facilities.

The systems are produced in accordance with ISO 8573-1:2010 Class 2 air quality standard; equipped with integrated filtration, discharge systems, and electronic control panel.

## OPERATING PRINCIPLE

The system operates with two towers that alternate automatically. When compressed air passes through the adsorbent material in one tower, water vapor is captured and ultra-dry air exits the system. Simultaneously, the second tower regenerates using a small amount of purge air, ensuring continuous drying. The towers switch at preset intervals, maintaining efficient operation. This cyclic process delivers stable, reliable performance with low energy consumption.

# Maximum Efficiency

## Reliable Drying Technology

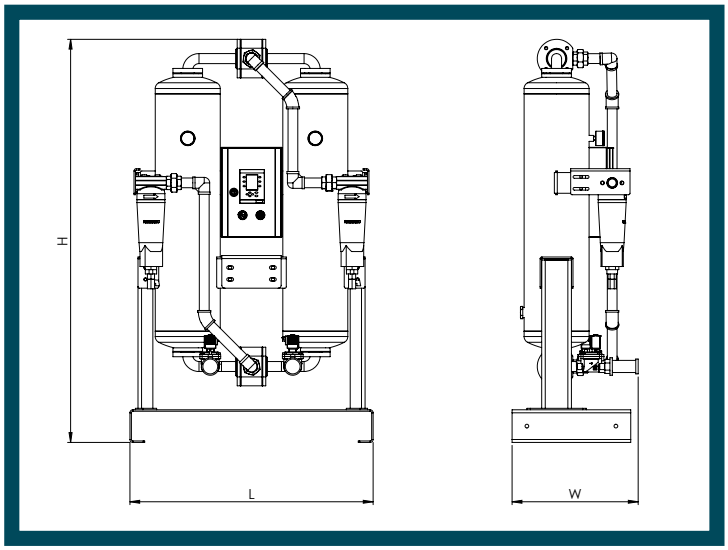

NITROXTEC Heatless Type Desiccant Dryers provide clean, dry, and reliable air to your system even in the most challenging environmental conditions with their energy-efficient structure and long-life adsorbent technology.

## Advantages

- –20 °C, –40 °C, –70 °C dew-point options
- Capacity options between 18 – 10,800 m³/hour
- Working pressure up to 4 – 16 bar and 40 bar
- Uninterrupted drying with dual-tower adsorption design
- Energy-efficient drying without external heating
- High-quality activated alumina, silica gel, and molecular sieve filling
- Low air loss and optimized regeneration system
- Electronic control panel – color screen, alarm, and data monitoring
- Optional dew-point sensor and energy-saving mode
- European-origin silent silencers and pneumatic valve systems
- Inlet/outlet filters and automatic water discharge systems
- Compact, low-maintenance structure

# Technical Specifications

| Model | Air Inlet Connection | Dimensions “mm” | | | Weight Kg | Dew Point | Electric Power |
|---|---|---|---|---|---|---|---|
| | | Length | Width | Height | | | |
| NDD - 0.3 | 1/4" | 390 | 435 | 840 | 40 | -20/-40/-70 Cdt | 110-230V AC 50-60 Hz 50 W |
| NDD - 0.5 | 1/2" | 390 | 440 | 1020 | 45 | -20/-40/-70 Cdt | 110-230V AC 50-60 Hz 50 W |
| NDD - 0.8 | 1/2" | 450 | 460 | 1075 | 50 | -20/-40/-70 Cdt | 110-230V AC 50-60 Hz 50 W |
| NDD - 1 | 1/2" | 410 | 460 | 1240 | 55 | -20/-40/-70 Cdt | 110-230V AC 50-60 Hz 50 W |
| NDD - 1.2 | 1/2" | 410 | 460 | 1340 | 65 | -20/-40/-70 Cdt | 110-230V AC 50-60 Hz 50 W |
| NDD - 1.6 | 3/4" | 440 | 530 | 1310 | 80 | -20/-40/-70 Cdt | 110-230V AC 50-60 Hz 50 W |
| NDD - 2 | 1" | 440 | 530 | 1450 | 100 | -20/-40/-70 Cdt | 110-230V AC 50-60 Hz 50 W |
| NDD - 2.6 | 1" | 800 | 500 | 1400 | 150 | -20/-40/-70 Cdt | 110-230V AC 50-60 Hz 50 W |
| NDD - 3.2 | 1" | 800 | 500 | 1525 | 165 | -20/-40/-70 Cdt | 110-230V AC 50-60 Hz 50 W |
| NDD - 4 | 1" | 800 | 500 | 1780 | 185 | -20/-40/-70 Cdt | 110-230V AC 50-60 Hz 50 W |
| NDD - 5 | 1 1/4” | 920 | 550 | 1450 | 207 | -20/-40/-70 Cdt | 110-230V AC 50-60 Hz 50 W |
| NDD - 6 | 1 1/2” | 920 | 550 | 1650 | 230 | -20/-40/-70 Cdt | 110-230V AC 50-60 Hz 50 W |
| NDD - 7.3 | 1 1/2” | 920 | 550 | 1850 | 285 | -20/-40/-70 Cdt | 110-230V AC 50-60 Hz 50 W |
| NDD - 9 | 1 1/2” | 1000 | 600 | 1800 | 335 | -20/-40/-70 Cdt | 110-230V AC 50-60 Hz 50 W |
| NDD - 11 | 2” | 1000 | 600 | 2000 | 485 | -20/-40/-70 Cdt | 110-230V AC 50-60 Hz 50 W |
| NDD - 14 | 2” | 1000 | 800 | 1900 | 520 | -20/-40/-70 Cdt | 110-230V AC 50-60 Hz 50 W |
| NDD - 16 | 2” | 1000 | 800 | 2000 | 620 | -20/-40/-70 Cdt | 110-230V AC 50-60 Hz 50 W |
| NDD - 21 | 2 1/2" | 1100 | 900 | 2000 | 780 | -20/-40/-70 Cdt | 110-230V AC 50-60 Hz 50 W |
| NDD - 25 | 2 1/2" | 1100 | 900 | 2300 | 930 | -20/-40/-70 Cdt | 110-230V AC 50-60 Hz 50 W |
| NDD - 30 | DN80 | 1300 | 950 | 2300 | 1160 | -20/-40/-70 Cdt | 110-230V AC 50-60 Hz 50 W |
| NDD - 36 | DN80 | 1400 | 1000 | 2250 | 1400 | -20/-40/-70 Cdt | 110-230V AC 50-60 Hz 50 W |
| NDD - 45 | DN80 | 1500 | 1100 | 2100 | 1700 | -20/-40/-70 Cdt | 110-230V AC 50-60 Hz 50 W |
| NDD - 53 | DN100 | 1500 | 1100 | 2300 | 2000 | -20/-40/-70 Cdt | 110-230V AC 50-60 Hz 50 W |
| NDD - 60 | DN100 | 1500 | 1100 | 2500 | 2300 | -20/-40/-70 Cdt | 110-230V AC 50-60 Hz 50 W |
| NDD - 73 | DN100 | 1750 | 1300 | 2340 | 2800 | -20/-40/-70 Cdt | 110-230V AC 50-60 Hz 50 W |
| NDD - 83 | DN150 | 1750 | 1300 | 2500 | 3150 | -20/-40/-70 Cdt | 110-230V AC 50-60 Hz 50 W |
| NDD - 105 | DN150 | 2000 | 1570 | 2200 | 4060 | -20/-40/-70 Cdt | 110-230V AC 50-60 Hz 50 W |
| NDD - 120 | DN150 | 2000 | 1570 | 2500 | 4600 | -20/-40/-70 Cdt | 110-230V AC 50-60 Hz 50 W |
| NDD - 146 | DN150 | 1700 | 2000 | 2450 | 5650 | -20/-40/-70 Cdt | 110-230V AC 50-60 Hz 50 W |
| NDD - 180 | DN200 | 1800 | 2100 | 2450 | 6900 | -20/-40/-70 Cdt | 110-230V AC 50-60 Hz 50 W |




# Clean Air

## Reliable Drying

# Technical Specifications

| Correction Factors At The Dryer Inlet | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P bar(g) | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 20 |
| Kp | 0.75 | 0.88 | 1.00 | 1.06 | 1.12 | 1.17 | 1.22 | 1.27 | 1.32 | 1.37 | 1.41 | 1.46 | 1.71 |

| Example: | | | | |
|---|---|---|---|---|
| Working Pressure: | 8 bar | --> | Factor | 1.06 |
| Pressurised Air Inlet Temperature: | 40 ºC | --> | Factor | 0.96 |

| Correction Factors at the Dryer Inlet | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P bar(g) | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 20 |
| Kp | 0.75 | 0.88 | 1.00 | 1.06 | 1.12 | 1.17 | 1.22 | 1.27 | 1.32 | 1.37 | 1.41 | 1.46 | 1.71 |

| Pressurised Air Inlet Temperature | | | | | | |
|---|---|---|---|---|---|---|
| Temperature (ºC) | 25 | 30 | 35 | 40 | 45 | 50 |
| Ki | 1.00 | 1.00 | 1.00 | 0.96 | 0.90 | 0.83 |

| Component | Brand / Model | Explanation | IP Protection Class |
|---|---|---|---|
| Touchscreen Control Panel | SIMATIC HMI MTP 7"/4" | 7"/4" wide-screen TFT panel, touchscreen operation | Front: IP65 Rear: IP20 |
| Pipe Fittings and Connectors | 304 Stainless Steel | All connecting parts are made of stainless steel (AISI 304) | – |
| Pneumatic Components | FESTO or SMC | Solenoid valves, FRL units, pipes and fittings | IP65 |
| Flowmeter (Optional) | SMC | Flow measurement module with digital display and integrated sensor | IP65 |
| Dew Point Meter (Optional) | SUTO | Provides humidity and temperature measurement in accordance with ISO 8573-1/2/3 | ISO 8573-1/2/3 |

| | |
|---|---|
| Operating Temperature | 5-45°C |
| Minimum Inlet Pressure | 4,5 bar (g) |
| Maximum Inlet Pressure | 16 bar (g) |
| Dew Point | -40°C |
| Air Quality ISO Specifications | ISO 8573-1:2010 [Class 1: Class 2] (Particles: Moisture) |



# Air Dryer Installation Diagram


# Desiccant Air Dryer Diagram Including Gas Dryer


# Dew Point
# −40 °C & −70 °C

# HEATED TYPE BLOWER DESICCANT AIR DRYERS

## High-Performance Drying with Zero Air Loss.

NITROXTEC Heated Type Blower Desiccant Air Dryers effectively remove moisture from your compressed air systems, preventing condensation, corrosion, and product deterioration. With its blower-assisted regeneration system that provides zero air loss, it offers an energy-efficient and sustainable drying solution. It is an intelligent and integrated system fully compatible with the automation infrastructure of modern facilities.

## Heated Type Blower Desiccant Air Dryers

NITROXTEC Heated Type Dryers operate on a dual-tower adsorption principle. High-efficiency silica gel columns in one tower capture moisture from compressed air, while the second tower regenerates using heated ambient air circulated by a blower. This process achieves nearly 100% air savings by eliminating the need for compressed air during regeneration.

The PLC-controlled system precisely manages dew point, regeneration, and heating cycles. Modbus TCP/IP protocol enables seamless integration with SCADA and other automation systems.

The system complies with ISO 8573-1:2010 Class 2 air quality standards and is optimized for long-term reliability.


## OPERATING PRINCIPLE

The system operates in two stages. In the first stage, moist compressed air is passed through a silica gel-filled drying tower, moisture is adsorbed, and dry air output is provided. At the same time, the second tower performs the regeneration process by heating the ambient air with a blower. Compressor air is not used for regeneration, which maximizes the air efficiency of the system. The towers automatically switch at certain intervals, ensuring continuous, uninterrupted drying.

# Intelligent, Sustainable, and Zero-Loss Drying

NITROXTEC Heated Type Blower Dryers offer future-ready technology in compressed air drying. With energy efficiency, full automation, and air-lossless regeneration features, it increases the reliability and performance of your system while reducing your operating costs.

## Advantages

- Regeneration with zero compressed air loss
- Blower + heater-assisted regeneration technology
- PLC-supported fully automatic control system
- SCADA and automation integration with Modbus TCP/IP
- Remote access and monitoring support (optional)
- Long-lasting and high-efficiency silica gel-filled towers
- European standard inlet/outlet filtration system
- Pressure-resistant and fluctuation-resistant structure
- Low energy consumption with low operating cost
- Full compliance with ISO 8573-1:2010 Class 2 air quality standard

## Hardware Features and Options

| Component | Brand / Model | Explanation | IP Protection Class |
|---|---|---|---|
| Touchscreen Control Panel | SIMATIC HMI MTP 7"/4" | 7"/4" wide-screen TFT panel, touchscreen operation | Front: IP65 Rear: IP20 |
| Piping and Fitting Components | 304 Stainless Steel | All connecting parts are made of stainless steel (AISI 304). | – |
| Pneumatic Valve | Burkert | Gear-connected 316L stainless steel, long-lasting | IP67 |
| Flowmeter (Optional) | SMC | Digital display, integrated sensor flow measurement module | IP65 |
| Dew Point Meter (Optional) | SUTO | Provides humidity and temperature measurement in accordance with ISO 8573-1/2/3 | ISO 8573-1/2/3 |

# Technical Specifications

| Model | Dimensions 'mm' | | | Weight Kg | Air Inlet Connection | Dew Point | Maximum Pressure | Average Power (kW) | Electrical Power |
|---|---|---|---|---|---|---|---|---|---|
| | Length | Width | Height | | | | | | |
| NDD/B14 | 1300 | 900 | 2200 | 885 | 2" | -40 ºC | 11 | 8.90 | 400-440V/3/ 50-60Hz |
| NDD/B16 | 1300 | 900 | 2450 | 1055 | 2" | -40 ºC | 11 | 9.00 | 400-440V/3/ 50-60Hz |
| NDD/B21 | 1450 | 1000 | 2400 | 1325 | DN65 | -40 ºC | 11 | 11.60 | 400-440V/3/ 50-60Hz |
| NDD/B25 | 1650 | 1000 | 2380 | 1580 | DN80 | -40 ºC | 11 | 11.80 | 400-440V/3/ 50-60Hz |
| NDD/B30 | 1700 | 1120 | 2280 | 1970 | DN80 | -40 ºC | 11 | 14.30 | 400-440V/3/ 50-60Hz |
| NDD/B36 | 1800 | 1230 | 2350 | 2380 | DN80 | -40 ºC | 11 | 17.00 | 400-440V/3/ 50-60Hz |
| NDD/B45 | 1900 | 1300 | 2450 | 2890 | DN80 | -40 ºC | 11 | 21.50 | 400-440V/3/ 50-60Hz |
| NDD/B53 | 2000 | 1400 | 2550 | 3400 | DN100 | -40 ºC | 11 | 21.60 | 400-440V/3/ 50-60Hz |
| NDD/B60 | 2100 | 1400 | 2500 | 3910 | DN100 | -40 ºC | 11 | 32.00 | 400-440V/3/ 50-60Hz |
| NDD/B73 | 2200 | 1500 | 2400 | 4760 | DN100 | -40 ºC | 11 | 34.90 | 400-440V/3/ 50-60Hz |
| NDD/B83 | 2200 | 1500 | 2550 | 5355 | DN125 | -40 ºC | 11 | 37.70 | 400-440V/3/ 50-60Hz |
| NDD/B105 | 2000 | 2100 | 2550 | 6900 | DN150 | -40 ºC | 11 | 49.50 | 400-440V/3/ 50-60Hz |
| NDD/B120 | 2100 | 2100 | 2500 | 7820 | DN150 | -40 ºC | 11 | 49.70 | 400-440V/3/ 50-60Hz |
| NDD/B146 | 2200 | 2600 | 2550 | 9605 | DN150 | -40 ºC | 11 | 69.90 | 400-440V/3/ 50-60Hz |
| NDD/B180 | 2200 | 2800 | 2600 | 11730 | DN200 | -40 ºC | 11 | 78.00 | 400-440V/3/ 50-60Hz |

## Production Amount ($Nm^3$/Hour)

| Model | Capacity ($m^3$/minute) | Capacity ($m^3$/hour) |
|---|---|---|
| NDD/B14 | 14.17 | 850 |
| NDD/B16 | 16.67 | 1000 |
| NDD/B21 | 20.83 | 1250 |
| NDD/B25 | 25.00 | 1500 |
| NDD/B30 | 30.00 | 1800 |
| NDD/B36 | 36.67 | 2200 |
| NDD/B45 | 45.00 | 2700 |
| NDD/B53 | 53.33 | 3200 |
| NDD/B60 | 60.00 | 3600 |
| NDD/B73 | 73.33 | 4400 |
| NDD/B83 | 83.33 | 5000 |
| NDD/B105 | 105.00 | 6300 |
| NDD/B120 | 120.00 | 7200 |
| NDD/B146 | 146.67 | 8800 |
| | | |

| Correction Factors | | | | | | |
|---|---|---|---|---|---|---|
| Pressure (bar g) | 5 | 6 | 7 | 8 | 9 | 10 |
| Factor | 0.75 | 0.88 | 1 | 1.12 | 1.25 | 1.37 |
| Temperature (ºC) | 20 | 25 | 30 | 35 | 40 | 45 |
| Factor | 1 | 1 | 1 | 1 | 0.8 | 0.73 |

# MEDIUM AND HIGH-PRESSURE DESICCANT AIR DRYERS (40–300 BAR)


### Reliable Drying at 40–300 Bar High Pressure

NITROXTEC High-Pressure Desiccant Air Dryers provide dry, clean, and reliable air for demanding high-pressure applications. These systems reach dew points of –40 °C or –70 °C at operating pressures up to 300 bar.

Heatless regeneration technology and dual-tower adsorption structure deliver continuous, energy-efficient drying with minimal operating costs

### Medium and High-Pressure Desiccant Air Dryers (40–300 Bar)

NITROXTEC's high-pressure dryer systems effectively remove moisture in industrial air lines operating at 40 to 300 bar. Towers filled with high-efficiency adsorbent materials—activated alumina, silica gel, or molecular sieve—deliver dew points as low as –40 °C or –70 °C. The heatless design features weather-resistant, durable components for reliable outdoor operation.

All systems meet ISO 8573-1:2010 Class 2 air quality standards and comply with ISO 1217 flow norms. The PLC is controlled fully automatically, with an optional dew-point sensor, and provides precise moisture control for your processes.

## OPERATING PRINCIPLE

The system pre-filters high-pressure moist air and directs it to one adsorbent-filled tower. Activated alumina, silica gel, or molecular sieve adsorbs moisture from the compressed air. Simultaneously, the second tower regenerates using a small portion of dried air. The towers alternate automatically at preset intervals. This heatless process delivers continuous, efficient drying with low energy consumption.

# Maximum Pressure, Maximum Dryness
# Maximum Confidence

Support your processes with dry and reliable air with NITROXTEC High-Pressure Desiccant Dryers. Experience an uninterrupted, clean, and efficient air drying solution in your systems up to 300 bar.

## Advantages

- High-pressure drying between 40–300 bar
- –40 °C and –70 °C dew-point options
- Dual-tower heatless adsorption design
- Low air discharge rate of 2.7% (–40 °C) and 5% (–70 °C)
- Performance optimized for 35 °C ambient temperature
- 0.1-micron inlet/outlet dust filters and 0.5 mg/m³ oil filter
- Zero-loss or time-controlled automatic discharge systems
- Optional dew-point sensor and energy-saving mode
- European-origin silent silencers and long-life valves
- Electronic control panel with live monitoring and alarm management
- Compliance with ISO 1217 flow measurement standard
- Full compliance with ISO 8573-1:2010 Class 2 air quality


## Basic Features

| Standard Accessories: PLC Electronic Control Device |
|---|
| All models zero-loss air or time-adjustable (automatic) drain water separator, 0.1-micron inlet dust filter, 0.5 mg/m³ oil filter, and 0.01-micron outlet dust filters. |
| Calculated Air Temperature: 35 °C (Correction factor) |
| Maximum Working Pressure: 300 bar. |
| Maximum Discharge Air Flow Rate: 2.7% 300 bar -40 Dew Point |
| Maximum Discharge Air Flow: 5% 300 bar -70 Dew Point |
| Pressurised Air Flow: 20 °C (1 bar free standard air) (ISO 1217) |

# Technical Specifications

| NITROXTEC 50 Bar Desiccant Air Dryers | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Model | Capacity ($m^3$/minute) | Capacity ($m^3$/hour) | Air Inlet Connection | Dimensions 'mm' | | | Weight Kg | Dew Point | Electrical Power |
| | | | | Length | Width | Height | | | |
| NDD-0.8/50BAR | 0,80 | 48 | 1/2" | 390 | 435 | 840 | 48 | -20/-40/-70 Cdt | 110-230 V AC 50-60 Hz 50 W |
| NDD-1/50BAR | 1,00 | 60 | 1/2" | 390 | 435 | 840 | 48 | -20/-40/-70 Cdt | 110-230 V AC 50-60 Hz 50 W |
| NDD- 1.2/50BAR | 1.20 | 72 | 1/2" | 390 | 440 | 1020 | 54 | -20/-40/-70 Cdt | 110-230 V AC 50-60 Hz 50 W |
| NDD- 1.6/50BAR | 1,67 | 100 | 3/4" | 390 | 440 | 1020 | 54 | -20/-40/-70 Cdt | 110-230 V AC 50-60 Hz 50 W |
| NDD-2/50BAR | 2.17 | 130 | 1" | 450 | 460 | 1075 | 60 | -20/-40/-70 Cdt | 110-230 V AC 50-60 Hz 50 W |
| NDD- 2.6/50BAR | 2,67 | 160 | 1" | 450 | 460 | 1075 | 60 | -20/-40/-70 Cdt | 110-230 V AC 50-60 Hz 50 W |
| NDD- 3.2/50BAR | 3.20 | 200 | 1" | 410 | 460 | 1240 | 66 | -20/-40/-70 Cdt | 110-230 V AC 50-60 Hz 50 W |
| NDD-4/50BAR | 4.17 | 250 | 1" | 410 | 460 | 1340 | 78 | -20/-40/-70 Cdt | 110-230 V AC 50-60 Hz 50 W |
| NDD-5/50BAR | 5,00 | 300 | 1 1/4" | 440 | 530 | 1310 | 96 | -20/-40/-70 Cdt | 110-230 V AC 50-60 Hz 50 W |
| NDD-6/50BAR | 6,00 | 360 | 1 1/2" | 440 | 530 | 1450 | 120 | -20/-40/-70 Cdt | 110-230 V AC 50-60 Hz 50 W |
| NDD- 7.3/50BAR | 7,33 | 440 | 1 1/2" | 800 | 500 | 1400 | 180 | -20/-40/-70 Cdt | 110-230 V AC 50-60 Hz 50 W |
| NDD-9/50BAR | 9,58 | 575 | 1 1/2" | 800 | 500 | 1525 | 198 | -20/-40/-70 Cdt | 110-230 V AC 50-60 Hz 50 W |
| NDD-11/50BAR | 11,33 | 680 | 2" | 800 | 500 | 1780 | 222 | -20/-40/-70 Cdt | 110-230 V AC 50-60 Hz 50 W |
| NDD-14/50BAR | 14,17 | 850 | 2" | 920 | 550 | 1450 | 248,4 | -20/-40/-70 Cdt | 110-230 V AC 50-60 Hz 50 W |
| NDD-16/50BAR | 16,67 | 1000 | 2" | 920 | 550 | 1650 | 276 | -20/-40/-70 Cdt | 110-230 V AC 50-60 Hz 50 W |
| NDD-21/50BAR | 20,83 | 1250 | 2 1/2" | 920 | 550 | 1850 | 342 | -20/-40/-70 Cdt | 110-230 V AC 50-60 Hz 50 W |
| NDD-25/50BAR | 25,00 | 1500 | 2 1/2" | 1000 | 600 | 1800 | 402 | -20/-40/-70 Cdt | 110-230 V AC 50-60 Hz 50 W |
| NDD-30/50BAR | 30,00 | 1800 | DN80 | 1000 | 600 | 2000 | 582 | -20/-40/-70 Cdt | 110-230 V AC 50-60 Hz 50 W |
| NDD-36/50BAR | 36,67 | 2200 | DN80 | 1000 | 800 | 1900 | 624 | -20/-40/-70 Cdt | 110-230 V AC 50-60 Hz 50 W |

| Temperature (°C) | 25 | 30 | 35 | 40 | 45 | 50 |
|---|---|---|---|---|---|---|
| Ki | 1.00 | 1.00 | 1.00 | 0.96 | 0.90 | 0.83 |

| Compressed Air Inlet Temperature Factors | | | | | | |
|---|---|---|---|---|---|---|
| P bar(g) | 20,00 | 25,00 | 30,00 | 35,00 | 40,00 | 50,00 |
| Kp | 0,50 | 0,63 | 0,75 | 0,88 | 1,00 | 1,25 |


# MEDIUM AND HIGH-PRESSURE OILLESS DESICCANT AIR DRYERS (40–300 BAR)

## Oilless and Perfect Dryness at 40–300 Bar.

NITROXTEC High-Pressure Oilless Desiccant Dryers are specially designed for high-pressure processes requiring ultra-clean, oilless air. Achieving –40 °C dew points and 0.003 mg/m³ residual oil content, these systems deliver ISO 8573-1:2010 Class 1: Class 2: Class 1 air quality. Ideal for critical applications in food, pharmaceuticals, electronics, and precision manufacturing.

## Oilless Air, High Pressure, Superior Performance.

NITROXTEC's high-pressure systems remove moisture and oil vapor using dual adsorbent technology activated alumina for moisture and activated carbon for oil removal. The heatless three-tower adsorption structure delivers high efficiency with minimal purge air loss and fully automatic PLC control. Silent discharge silencers and optional dew-point sensor ensure reliable, maintenance-free operation.


## OPERATING PRINCIPLE

High-pressure air from the compressor is first passed through particle and oil filters. Then moisture is held in the activated alumina twin tower, while the third activated carbon tower holds oil vapor and hydrocarbons. The towers operate alternately in a time-controlled manner, and regeneration is performed with 2.5–5% of the dried air. The entire process is automatically monitored and managed by PLC.

# Uncompromising Air Quality Even at High Pressure.

Achieve the highest standards of purity and dryness in your compressed air systems with NITROXTEC Oilless Desiccant Air Dryers. Specifically designed for your critical applications, these systems provide a continuous supply of ultra-pure, dry and oilless air at any pressure level.

## Advantages

**0.003 mg/m³**
Residual Oil Content

- 0.003 mg/m³ outlet oil level – ISO Class 1 oilless air
- –40 °C dew-point – Class 2 moisture standard
- Low energy consumption, passive heat utilization
- Electronic HMI panel – live monitoring and alarm system
- Optional dew-point sensor with energy-saving mode
- European-origin silencer and valves
- Integrated activated alumina + activated carbon adsorption system
- Body and components compatible with 40–300 bar high pressure
- 2.5% – 5% air discharge rate (variable depending on pressure)
- ISO 8573-1:2010 [Class 1: 2: 1] (Particles: Moisture: Oil) air quality guarantee

# Technical Specifications

| Model | Capacity ($m^3$/minute) | Capacity ($m^3$/hour) | Air Inlet Connection | Dimensions 'mm' | | | Weight Kg | Dew Point |
|---|---|---|---|---|---|---|---|---|
| | | | | Length | Width | Height | | |
| NDD+CT-0.8/50BAR | 0,80 | 48 | 1/2" | 745 | 460 | 1075 | 73 | -20/-40/-70 Cdt |
| NDD+CT-1/50BAR | 1,00 | 60 | 1/2" | 745 | 460 | 1075 | 73 | -20/-40/-70 Cdt |
| NDD+CT- 1.2/50BAR | 1.20 | 72 | 1/2" | 745 | 460 | 1075 | 73 | -20/-40/-70 Cdt |
| NDD+CT- 1.6/50BAR | 1,67 | 100 | 3/4" | 745 | 460 | 1075 | 73 | -20/-40/-70 Cdt |
| NDD+CT-2/50BAR | 2.17 | 130 | 1" | 745 | 460 | 1075 | 73 | -20/-40/-70 Cdt |
| NDD+CT- 2.6/50BAR | 2,67 | 160 | 1" | 745 | 460 | 1075 | 73 | -20/-40/-70 Cdt |
| NDD+CT- 3.2/50BAR | 3.20 | 200 | 1" | 745 | 460 | 1240 | 80 | -20/-40/-70 Cdt |
| NDD+CT-4/50BAR | 4.17 | 250 | 1" | 745 | 460 | 1340 | 94 | -20/-40/-70 Cdt |
| NDD+CT-5/50BAR | 5,00 | 300 | 1 1/4" | 715 | 530 | 1310 | 116 | -20/-40/-70 Cdt |
| NDD+CT-6/50BAR | 6,00 | 360 | 1 1/2" | 715 | 530 | 1450 | 145 | -20/-40/-70 Cdt |
| NDD+CT- 7.3/50BAR | 7,33 | 440 | 1 1/2" | 1200 | 500 | 1400 | 218 | -20/-40/-70 Cdt |
| NDD+CT-9/50BAR | 9,58 | 575 | 1 1/2" | 1200 | 500 | 1525 | 290 | -20/-40/-70 Cdt |
| NDD+CT-11/50BAR | 11,33 | 680 | 2" | 1200 | 500 | 1780 | 225 | -20/-40/-70 Cdt |
| NDD+CT-14/50BAR | 14,17 | 850 | 2" | 1380 | 550 | 1450 | 268 | -20/-40/-70 Cdt |
| NDD+CT-16/50BAR | 16,67 | 1000 | 2" | 1380 | 550 | 1650 | 334 | -20/-40/-70 Cdt |
| NDD+CT-21/50BAR | 20,83 | 1250 | 2 1/2" | 1380 | 550 | 1850 | 413 | -20/-40/-70 Cdt |

| Standard Accessories: PLC Electronic Control Device |
|---|
| All models zero-loss air or time-adjustable (automatic) drain water separator, 0.1-micron inlet dust filter, 0.5 mg/$m^3$ oil filter, and 0.01-micron outlet dust filters. |
| Calculated Air Temperature: 35 °C (Correction factor) |
| Maximum Working Pressure: 300 bar. |
| Maximum Discharge Air Flow Rate: 2.7% 300 bar -40 Dew Point |
| Maximum Discharge Air Flow: 5% 300 bar -70 Dew Point |
| Pressurised Air Flow: 20 °C (1 bar free standard air) (ISO 1217) |

| Pressure Air Inlet Temperature Factors | | | | | | |
|---|---|---|---|---|---|---|
| Temperature (ºC) | 25 | 30 | 35 | 40 | 45 | 50 |
| Ki | 1.00 | 1.00 | 1.00 | 0.96 | 0.90 | 0.83 |

| Factors Affecting Compressed Air Inlet Temperature | | | | | | |
|---|---|---|---|---|---|---|
| P bar(g) | 20,00 | 25,00 | 30,00 | 35,00 | 40,00 | 50,00 |
| Kp | 0,50 | 0,63 | 0,75 | 0,88 | 1,00 | 1,25 |

# Ultra Pure

## Guaranteed Dry and Oilless Air!

# MODULAR OILLESS DESICCANT AIR DRYERS

## Modular Design, Oilless and Dry Air Guarantee.

NITROXTEC Modular Oilless Desiccant Dryers provide completely oilless and dry air to meet ISO 8573-1:2010 Class 1 oil and Class 2 moisture standards. With their compact, weld-test-free modular design and integrated activated carbon + desiccant drying system, they are the ideal solution for pharmaceutical, electronics, food, healthcare, and precision production areas.

## Modular Oilless Desiccant Air Dryers

NITROXTEC's modular desiccant dryers operate with integrated activated alumina and activated carbon absorbents. They provide 100% oilless and moisture-free compressed air. The drying process is carried out to dew points of -40 °C or -70 °C. This eliminates all risks that moisture and oil can cause in industrial processes.

The modular structure that does not require weld testing offers easy installation and maintenance on-site. The dual-tower regeneration system operates uninterruptedly. The automatic PLC control system provides maximum performance with minimum energy consumption.
It offers low operating costs with 10–15% discharge air ratio.

## OPERATING PRINCIPLE

The system operates with dual-tower adsorption technology:

1- Moisture Removal: Compressed air passes through an activated alumina-filled tower and moisture is held.
2- Oil Vapor Removal: Then the air passes through the activated carbon layer and is purified from oil vapor and hydrocarbons.

At the same time, the other tower performs the regeneration process using 10–15% dried air (purge air). The PLC-controlled system automatically times and optimizes the transition between towers. Thus, uninterrupted production of air at constant purity is provided.

# Oilless, Weldless, Trouble-Free

NITROXTEC Modular Oilless Desiccant Dryers inspire confidence in all critical applications with their compact structure, weld-free design, and two-stage high-purity drying solution. With long-lasting components, low energy consumption, and easily expandable architecture, they offer an intelligent investment for businesses.

## Advantages

### Modular and compact design for easy installation on site

- Modular and compact structure with easy on-site installation
- Weld-free design
- 0.003 mg/m³ outlet oil level – Class 1 (ISO 8573-1:2010)
- -40 °C or -70 °C dew-point options – Class 2 moisture standard
- Integrated activated carbon and desiccant adsorption system
- Uninterrupted air flow with dual-tower structure
- Energy efficient, only 10–15% discharge loss
- Electronic control panel and optional dew-point sensor
- 24/7 continuous and automatic operation
- Minimum maintenance requirement – long-lasting adsorbents

| Component | Brand / Model | Explanation | IP Protection Class |
|---|---|---|---|
| Touchscreen Control Panel | SIMATIC HMI MTP 7"/4" | 7"/4" wide-screen TFT panel, touchscreen operation | Front: IP65 Rear: IP20 |
| Piping and Connection Components | 304 Stainless Steel | All connecting parts are made of stainless steel (AISI 304). | – |
| Pneumatic Components | FESTO or SMC | Solenoid valves, FRL units, pipes and fittings | IP65 |
| Flowmeter (Optional) | SMC | Digital display, integrated sensor flow measurement module | IP65 |
| Dew Point Meter (Optional) | SUTO | Provides humidity and temperature measurement in accordance with ISO 8573-1/2/3 | ISO 8573-1/2/3 |
| Weldless design | EN 13445 | No weld testing required. | 6063-T6 |

# Technical Specifications

| Model | Capacity ($m^3$/minute) | Capacity ($m^3$/hour) | Air Inlet Connection | Dimensions 'mm' | | | Weight Kg | Electrical Power |
|---|---|---|---|---|---|---|---|---|
| | | | | Length | Width | Height | | |
| MNDD+CT-0.8 | 0,80 | 48 | 1/2" | 500 | 300 | 360 | 34 | 110-230V AC 50-60 Hz 50W |
| MNDD+CT-1 | 1,00 | 60 | 1/2" | 500 | 300 | 520 | 41 | 110-230V AC 50-60 Hz 50W |
| MNDD+CT-1.2 | 1.20 | 72 | 1/2" | 500 | 300 | 940 | 51 | 110-230V AC 50-60 Hz 50W |
| MNDD+CT-1.6 | 1,67 | 100 | 3/4" | 500 | 300 | 1100 | 58 | 110-230V AC 50-60 Hz 50W |
| MNDD+CT-2 | 2.17 | 130 | 1" | 500 | 300 | 1300 | 65 | 110-230V AC 50-60 Hz 50W |
| MNDD+CT-2.6 | 2,67 | 160 | 1" | 500 | 300 | 1620 | 76 | 110-230V AC 50-60 Hz 50W |
| MNDD+CT-3.2 | 3.20 | 200 | 1" | 500 | 450 | 1100 | 93 | 110-230V AC 50-60 Hz 50W |
| MNDD+CT-4 | 4.17 | 250 | 1" | 500 | 450 | 1340 | 113 | 110-230V AC 50-60 Hz 50W |
| MNDD+CT-5 | 5,00 | 300 | 1" | 500 | 450 | 1620 | 142 | 110-230V AC 50-60 Hz 50W |
| MNDD+CT-6 | 6,00 | 360 | 1 1/2" | 500 | 600 | 1340 | 169 | 110-230V AC 50-60 Hz 50W |
| MNDD+CT-7.3 | 7,33 | 440 | 1 1/2" | 500 | 600 | 1620 | 198 | 110-230V AC 50-60 Hz 50W |
| MNDD+CT-9 | 9,58 | 575 | 1 1/2" | 500 | 750 | 1500 | 240 | 110-230V AC 50-60 Hz 50W |
| MNDD+CT-11 | 11,33 | 680 | 1 1/2" | 500 | 900 | 1470 | 284 | 110-230V AC 50-60 Hz 50W |
| MNDD+CT-14 | 14,17 | 850 | 1 1/2" | 500 | 1050 | 1500 | 335 | 110-230V AC 50-60 Hz 50W |
| MNDD+CT-16 | 16,67 | 1000 | 2" | 500 | 1200 | 1550 | 404 | 110-230V AC 50-60 Hz 50W |

| Compressed Air Inlet Temperature | | | | | | |
|---|---|---|---|---|---|---|
| Temperature (°C) | 25 | 30 | 35 | 40 | 45 | 50 |
| Ki | 1.00 | 1.00 | 1.00 | 0.96 | 0.90 | 0.83 |

| Correction Factors at the Dryer Inlet | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P bar(g) | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| Kp | 0.75 | 0.88 | 1.00 | 1.06 | 1.12 | 1.17 | 1.22 | 1.27 | 1.32 | 1.37 | 1.41 | 1.46 |

| Example: | | | | |
|---|---|---|---|---|
| Working Pressure: | 8 bar | --> | Factor | 1.06 |
| Pressurised Air Inlet Temperature: | 40 °C | --> | Factor | 0.96 |

# OILLESS DESICCANT AIR DRYERS

## Oilless and Perfectly Dry Air

NITROXTEC Oilless Desiccant Air Dryers are specially developed for industries requiring ultra-clean air free from moisture and oil vapor. The activated carbon module integrated with the desiccant drying system delivers ISO 8573-1:2010 Class 1 oil and Class 2 moisture standard. Ideal for food, pharmaceutical, electronics, and high-precision manufacturing a pplications.

NITROXTEC's oilless desiccant air dryers operate on a two-stage filtration principle. In the first stage, activated alumina removes moisture, while in the second stage, the activated carbon module captures oil vapor and hydrocarbons. This process achieves ultra-low residual oil levels of 0.003 mg/m³ (0.003 ppm), meeting ISO 8573-1 Class 1 oilless air standards. The fully automatic PLC control system ensures energy efficiency and uninterrupted operation without user intervention.

Zero air-loss water discharge system, optional dew-point sensor and eco-mode operation, color-screen electronic control panel, and European-origin silent components ensure the system operates long-lasting, safe, and highperformance. With maximum 20 bar operating pressure support, it can be used in a wide range of applications.

## OPERATING PRINCIPLE

The system operates in two stages:

1- Moisture Removal: Compressed air passes through an activated alumina-filled tower, is purified from moisture, and a –40 °C dew point is reached.
2- Oil Vapor Removal: The dried air passes through the activated carbon module, oil and hydrocarbon vapors are held, and 0.003 mg/m³ oil level is reached.

The towers operate automatically in alternation. Regeneration is performed with only 10–15% of the dried air. The entire process is managed by a PLC control system, and energy savings are maximized.

# Uncompromising Air Quality Superior Efficiency

Take control of air quality, energy savings, and process safety with NITROXTEC Oilless Desiccant Dryers. The ideal solution provides high purity, low operating cost, and long-term performance for your critical applications


## Advantages

- 0.003 mg/m³ outlet oil amount
- ISO Class 1 oilless air
- –40 °C dew-point with Class 2 moisture standard
- Integrated activated alumina + activated carbon system structure
- Zero air-loss automatic water discharge
- Only 10–15% discharge air loss
- 24/7 uninterrupted and reliable operation
- Electronic control panel – color-screen HMI
- PLC-controlled automation – dew-point and energy management
- Optional dew-point sensor with intelligent energy saving
- Maximum 20 bar operating pressure
- European-origin pneumatic valves and silent discharge silencers
- Low maintenance requirement – long-lasting adsorbents

## System Features

| Component | Brand / Model | Explanation | IP Protection Class |
|---|---|---|---|
| Touchscreen Control Panel | SIMATIC HMI MTP 7"/4" | 7"/4" wide-screen TFT panel, touch-screen operation | Front: IP65 Rear: IP20 |
| Piping and Connecting Elements | 304 Stainless Steel | All connecting parts are made of stainless steel (AISI 304) | – |
| Pneumatic Components | FESTO or SMC | Solenoid valves, FRL units, pipes and fittings | IP65 |
| Flowmeter (Optional) | SMC | Flow measurement module with digital display and integrated sensor | IP65 |
| Dew Point Meter (Optional) | SUTO | Provides humidity and temperature measurement in accordance with ISO 8573-1/2/3 | ISO 8573-1/2/3 |

# Technical Specifications

| Model | Capacity ($m^3$/minute) | Capacity ($m^3$/hour) | Air Inlet Connection | Dimensions 'mm' | | | Weight Kg | Dew Point |
|---|---|---|---|---|---|---|---|---|
| | | | | Length | Width | Height | | |
| NDD+CT - 0.8 | 0,80 | 48 | 1/2" | 745 | 460 | 1075 | 73 | -40/-70 Cdt |
| NDD+CT - 1 | 1,00 | 60 | 1/2" | 745 | 460 | 1240 | 80 | -40/-70 Cdt |
| NDD+CT - 1.2 | 1.20 | 72 | 1/2" | 745 | 460 | 1340 | 94 | -40/-70 Cdt |
| NDD+CT - 1.6 | 1,67 | 100 | 3/4" | 715 | 530 | 1310 | 116 | -40/-70 Cdt |
| NDD+CT - 2 | 2.17 | 130 | 1" | 715 | 530 | 1450 | 145 | -40/-70 Cdt |
| NDD+CT - 2.6 | 2,67 | 160 | 1" | 1200 | 500 | 1400 | 218 | -40/-70 Cdt |
| NDD+CT - 3.2 | 3.20 | 200 | 1" | 1200 | 500 | 1525 | 290 | -40/-70 Cdt |
| NDD+CT - 4 | 4.17 | 250 | 1" | 1200 | 500 | 1780 | 225 | -40/-70 Cdt |
| NDD+CT - 5 | 5,00 | 300 | 1 1/4" | 1380 | 550 | 1450 | 268 | -40/-70 Cdt |
| NDD+CT - 6 | 6,00 | 360 | 1 1/2" | 1380 | 550 | 1650 | 334 | -40/-70 Cdt |
| NDD+CT - 7.3 | 7,33 | 440 | 1 1/2" | 1380 | 550 | 1850 | 413 | -40/-70 Cdt |
| NDD+CT - 9 | 9,58 | 575 | 1 1/2" | 1500 | 600 | 1800 | 486 | -40/-70 Cdt |
| NDD+CT - 11 | 11,33 | 680 | 2" | 1500 | 600 | 2000 | 703 | -40/-70 Cdt |
| NDD+CT - 14 | 14,17 | 850 | 2" | 1500 | 800 | 1900 | 754 | -40/-70 Cdt |
| NDD+CT - 16 | 16,67 | 1000 | 2" | 1500 | 800 | 2000 | 899 | -40/-70 Cdt |
| NDD+CT - 21 | 20,83 | 1250 | 2 1/2" | 1650 | 900 | 2000 | 1131 | -40/-70 Cdt |

| Correction Factors at the Dryer Inlet | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P bar(g) | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 20 |
| Kp | 0.75 | 0.88 | 1.00 | 1.06 | 1.12 | 1.17 | 1.22 | 1.27 | 1.32 | 1.37 | 1.41 | 1.46 | 1.71 |

| Pressurised Air Inlet Temperature | | | | | | |
|---|---|---|---|---|---|---|
| Temperature (ºC) | 25 | 30 | 35 | 40 | 45 | 50 |
| Ki | 1.00 | 1.00 | 1.00 | 0.96 | 0.90 | 0.83 |

| Example: | | | | |
|---|---|---|---|---|
| Working Pressure: | 8 bar | --> | Factor | 1.06 |
| Pressurised Air Inlet Temperature: | 40 ºC | --> | Factor | 0.96 |

| | |
|---|---|
| Operating Temperature | 5-45°C |
| Operating Temperature | 4,5 bar (g) |
| Maximum Inlet Pressure | 16 bar (g) |
| Dew Point | -40°C |
| Air Quality ISO Specifications | ISO 8573-1:2010 [Class 1 : Class 2 : Class 1] (Particles : Moisture : Oil) |

# Long-Lasting Solution

# Permanent Savings!

# MODULAR ACTIVATED CARBON TOWER FILTERS

## Modular Structure Odorless Air ISO Class 1 Purity

NITROXTEC Modular Activated Carbon Tower Filters effectively remove oil vapor, hydrocarbons, and odors from compressed air systems, meeting ISO 8573-1:2010 Class 1 air quality standards. The weld-free modular design enables easy
installation, minimal maintenance, and seamless capacity expansion.

## Modular Activated Carbon Tower Filters

High-purity activated carbon media in a compact body with integrated pre-filtration, the system removes 99.9% of oil vapor and odors. The diffuser-supported air distribution system ensures equal flow throughout the carbon bed, maximizing filtration efficiency and bed life.

The modular structure allows easy expansion to match your facility's changing needs. Weld-free construction eliminates weld testing requirements, speeding up assembly and minimizing maintenance. Silent outlet and automatic discharge system provide 24/7 reliable, uninterrupted air purification.


## OPERATING PRINCIPLE

The system prepares air from the compressor for the carbon bed by first passing it through an integrated oil and dust filter. Air is homogeneously distributed to the activated carbon bed through a specially designed diffuser system. Carbon particles adsorb oil vapor, hydrocarbons, and bad odors, providing clean and odorless air output.
Automatic discharge valves transfer accumulated condensed liquids and oils out of the system. With the optional oil indicator, the saturation status of the carbon bed can be monitored and maintenance planning can be optimized

# Advantages

- ≤ 0.003 mg/m³ outlet oil vapor – ISO 8573-1:2010 Class 1 compliance
- Weld-free, modular design – Easy installation and low maintenance
- German-origin high-performance activated carbon
- Integrated pre-filter – Protects carbon bed by filtering oil mist and particles
- Diffuser air distribution – High adsorption efficiency
- Optional oil level indicator – Real-time quality control
- Operating temperature range: 1.5 °C – 50 °C
- Configuration capability for high-pressure applications

## CLEAN AIR, MODULAR STRUCTURE

## MAXIMUM CONFIDENCE

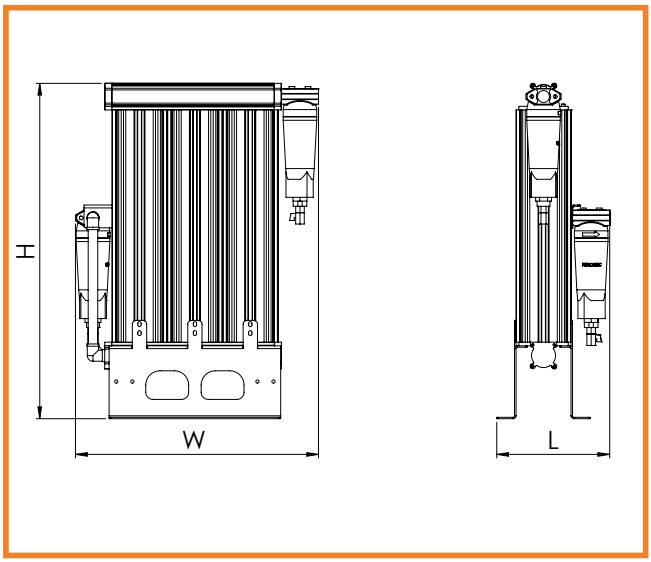

NITROXTEC Modular Activated Carbon Tower Filters are safely used in environments where hygiene and air purity are critical. Compact, silent, and requiring low maintenance, these systems offer sustainable and high-performance air purification for modern facilities.

# Technical Specifications

| Model | Capacity ($m^3$/minute) | Capacity ($m^3$/hour) | Air Inlet Connection | Dimensions 'mm' | | | Weight Kg |
|---|---|---|---|---|---|---|---|
| | | | | Length | Width | Height | |
| MNCT-0.3 | 0.30 | 18 | 1/2" | 370 | 300 | 360 | 17 |
| MNCT-0.5 | 0.52 | 31 | 1/2" | 370 | 300 | 520 | 21 |
| MNCT-0.8 | 0,80 | 48 | 1/2" | 370 | 300 | 940 | 26 |
| MNCT-1 | 1,00 | 60 | 3/4" | 370 | 300 | 1100 | 30 |
| MNCT-1.2 | 1.20 | 72 | 1" | 370 | 300 | 1300 | 34 |
| MNCT-1.6 | 1,67 | 100 | 1" | 370 | 300 | 1620 | 40 |
| MNCT-2.1 | 2.17 | 130 | 1" | 370 | 450 | 1100 | 49 |
| MNCT-2.6 | 2,67 | 160 | 1" | 370 | 450 | 1340 | 60 |
| MNCT-3.2 | 3.20 | 200 | 1" | 370 | 450 | 1620 | 76 |
| MNCT-4.1 | 4.17 | 250 | 1 1/2" | 370 | 600 | 1340 | 91 |
| MNCT-5 | 5,00 | 300 | 1 1/2" | 370 | 600 | 1620 | 107 |
| MNCT-6 | 6,00 | 360 | 1 1/2" | 370 | 750 | 1500 | 130 |
| MNCT-7.30 | 7,33 | 440 | 1 1/2" | 370 | 900 | 1470 | 154 |
| MNCT-9.50 | 9,58 | 575 | 1 1/2" | 370 | 1050 | 1500 | 182 |
| MNCT-11 | 11,33 | 680 | 2" | 370 | 1200 | 1550 | 220 |

| Pressurised Air Inlet Temperature Factors | | | | | | |
|---|---|---|---|---|---|---|
| Temperature (°C) | 25 | 30 | 35 | 40 | 45 | 50 |
| Ki | 1.00 | 1.00 | 1.00 | 0.96 | 0.90 | 0.83 |

| Correction Factors at the Dryer Inlet Kp | | | | | | |
|---|---|---|---|---|---|---|
| P bar(g) | 5 | 6 | 7 | 8 | 9 | 10 |
| Kp | 0.75 | 0.88 | 1.00 | 1.06 | 1.12 | 1.17 |
| P bar(g) | 11 | 12 | 13 | 14 | 15 | 16 |
| Kp | 1.22 | 1.27 | 1.32 | 1.37 | 1.41 | 1.46 |





## Weld-Free Design

# ACTIVATED CARBON TOWERS


## Oilless & Odorless Ultra-Clean Air

NITROXTEC Activated Carbon Towers are high-efficiency filtration systems developed to effectively eliminate oil vapor, hydrocarbons, and unwanted odors in compressed air systems, fully compliant with ISO 8573-1:2010 Class 1 oil standard. They provide ultra-clean, odorless, and safe air for precision production needs.

Activated Carbon Tower Filters

Activated carbon tower filters with high-performance media and optimized air distribution effectively eliminate oil vapor and odor from compressed air. European-origin pre-filters first remove oil and particles, then the activated carbon bed delivers ultra-clean, odorless air.

The diffuser inlet design ensures uniform air distribution, maximizing carbon efficiency. Silent outlet system and automatic discharge valves provide low-maintenance, reliable operation. Optional oil indicator enables continuous monitoring of outlet air quality.

## OPERATING PRINCIPLE

Compressed air from the compressor passes through the pre-filter at the tower inlet, removing oil and particles. The optimized diffuser system then distributes air evenly across the activated carbon bed. Carbon particles adsorb oil vapor and hydrocarbons from the air stream. Clean, odorless air exits the system.

# GUARANTEED PURITY

## Quiet and Effective Filtration

NITROXTEC Activated Carbon Towers provide air completely purified from oil vapor and odor. With its energy-efficient, silent, durable, and maintenance-friendly structure, it guarantees the highest air quality in sensitive applications. It is a robust solution you can safely choose for critical processes.

## Advantages

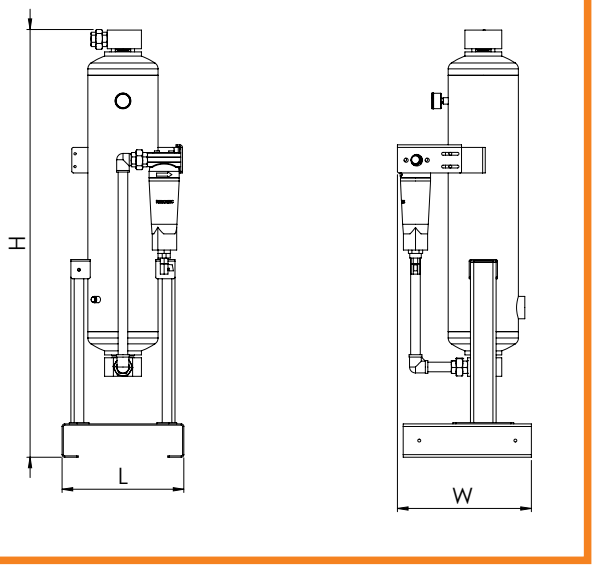
- ≤ 0.003 mg/m³ outlet oil vapor – ISO 8573-1:2010 Class 1 compliance
- German-origin high-performance activated carbon
- European standard oil and dust trap inlet filters
- Optional oil indicator – real-time monitoring
- Passive adsorption process – low energy consumption
- Sturdy and floor-mountable support-mounted body design
- Wide temperature compatibility: 1.5 °C – 50 °C

# Technical Specifications

| Model | Capacity ($m^3$/minute) | Capacity ($m^3$/hour) | Air Inlet Connection | Dimensions 'mm' | | Weight Kg 16 Bar | Weight Kg 40 Bar |
|---|---|---|---|---|---|---|---|
| | | | | Width | Height | | |
| NCT-0.3 | 0.30 | 18 | 1/4" | 270 | 690 | 10 | 15 |
| NCT-0.5 | 0.50 | 30 | 1/4" | 300 | 950 | 20 | 30 |
| NCT-0.8 | 0.80 | 48 | 1/2" | 380 | 1110 | 25 | 40 |
| NCT-1 | 1.00 | 60 | 1/2" | 385 | 1240 | 30 | 50 |
| NCT-1.2 | 1.20 | 72 | 1/2" | 400 | 1280 | 35 | 55 |
| NCT-1.6 | 1.60 | 96 | 3/4" | 440 | 1310 | 40 | 65 |
| NCT-2.1 | 2.10 | 126 | 3/4" | 430 | 1640 | 45 | 70 |
| NCT-2.6 | 2.60 | 156 | 1" | 460 | 1380 | 50 | 80 |
| NCT-3.2 | 3.20 | 192 | 1" | 480 | 1590 | 60 | 95 |
| NCT-4.1 | 4.10 | 246 | 1" | 480 | 1860 | 70 | 110 |
| NCT-5 | 5.00 | 300 | 1 1/2" | 530 | 1550 | 85 | 135 |
| NCT-6 | 6.00 | 360 | 1 1/2" | 530 | 1780 | 100 | 160 |
| NCT-7.30 | 7.33 | 439 | 1 1/2" | 610 | 1720 | 120 | 190 |
| NCT-9.50 | 9.58 | 574 | 1 1/2" | 610 | 1840 | 150 | 240 |
| NCT-11 | 11.33 | 680 | 2" | 610 | 1960 | 200 | 320 |
| NCT-14 | 14.17 | 850 | 2" | 590 | 220 | 250 | 400 |
| NCT-16 | 16.67 | 1000 | 2" | 700 | 1910 | 300 | 480 |
| NCT-20 | 20.83 | 1250 | 2" | 700 | 2110 | 370 | 600 |
| NCT-25 | 25.00 | 1500 | 2 1/2" | 740 | 2360 | 450 | 720 |
| NCT-30 | 30.00 | 180 | 3" | 740 | 2375 | 520 | 830 |
| NCT-36 | 36.67 | 2200 | DN80 | 920 | 2125 | 600 | 960 |
| NCT-45 | 45.00 | 2700 | DN80 | 740 | 2255 | 650 | 1040 |
| NCT-53 | 53.33 | 3200 | DN100 | 740 | 2250 | 750 | 1200 |
| NCT-60 | 60.00 | 3600 | DN100 | 750 | 2010 | 800 | 1280 |
| NCT-73 | 73.33 | 4400 | DN100 | 1100 | 1950 | 900 | 1440 |
| NCT-83 | 83.33 | 5000 | DN150 | 750 | 2090 | 1000 | 1600 |
| NCT-105 | 105.00 | 6300 | DN150 | 750 | 2090 | 1100 | 1760 |
| NCT-120 | 120.00 | 7200 | DN150 | 900 | 2000 | 1250 | 2000 |
| NCT-146 | 146.67 | 8800 | DN150 | 900 | 2080 | 1500 | 2400 |
| NCT-180 | 180.00 | 10800 | DN200 | 900 | 2250 | 1750 | 2800 |


| Pressurised Air Inlet Temperature Factors Ki | | | | | | |
|---|---|---|---|---|---|---|
| Temperature (ºC) | 25 | 30 | 35 | 40 | 45 | 50 |
| Ki | 1.00 | 1.00 | 1.00 | 0.96 | 0.90 | 0.83 |

| Correction Factors at the Dryer Inlet Kp | | | | | | |
|---|---|---|---|---|---|---|
| P bar(g) | 5 | 6 | 7 | 8 | 9 | 10 |
| Kp | 0.75 | 0.88 | 1.00 | 1.06 | 1.12 | 1.17 |
| P bar(g) | 11 | 12 | 13 | 14 | 15 | 16 |
| Kp | 1.22 | 1.27 | 1.32 | 1.37 | 1.41 | 1.46 |



# REFRIGERATED AIR DRYERS


## Energy-Efficient Cooling. Stable +3 °C Dew Point. Compact Design

NITROXTEC Gas Cooled Air Dryers effectively remove moisture from compressed air systems by operating with high-efficiency heat exchangers and environmentally friendly refrigerant gas. With a +3 °C dew point, they eliminate corrosion risk and safely protect system equipment.

ND Series Refrigerated Air Dryers These gas-cooled refrigeration dryers feature aluminum plate compact heat exchangers. Air first pre-cools in the air-to-air exchanger, then contacts refrigerant in the evaporator where rapid cooling condenses moisture. Automatic condensate drainage removes water from the system.

The outlet air reheats before exiting, delivering dry air at a stable +3°C dew point. Achieves ISO 8573-1:2010 Class 4 air quality. Industrial-grade construction combines low energy consumption with minimal maintenance requirements.

## OPERATING PRINCIPLE

**1- Pre-Cooling:** Hot compressed air undergoes pre-cooling by being compared with dry air at the outlet in the air-air heat exchanger.

**2- Cooling and Moisture Removal:** Air passes to the evaporator using refrigerant gas and undergoes sudden cooling, and the moisture inside condenses and separates.

**3- Condensation Discharge:** Moisture is discharged out of the system with an automatic drainage system.

**4- Outlet:** The dried air is reheated in the air-air exchanger again and sent to the final point of the line at a low dew point.

# Dry air, Low Energy, Long Life

NITROXTEC Gas Cooled Air Dryers offer a powerful and energy-efficient solution for industrial needs. With its compact design, stable dew-point control, and environmentally friendly approach, it is the ideal choice for businesses seeking confidence in air quality.

## Advantages

- +3 °C stable dew point
- Prevents condensation and corrosion
- Gas-cooled system
- Stable operation in all environments
- Aluminum plate heat exchanger
- High heat transfer, compact design
- Low pressure drop
- Maximizes compressor efficiency
- Eco-friendly refrigerant (R-134a / R-410A)
- Meets global environmental standards
- Digital control panel
- Real-time temperature, alarm
- Dew-point monitoring
- Integrated automatic drainage
- Prevents water accumulation, Cleanliness
- Long service life with minimal maintenance
- Achieves ISO 8573-1:2010 Class 4 air quality

# THE MOST EFFICIENT DRYER IN ITS CLASS

## Why NITROXTEC ND Serie Rrefrigeration Dryers?

- Reliable operation with a fixed +3°C dew point
- Quiet, compact and space-saving design
- High-quality components
- Maintain energy efficiency
- Low operating costs
- Equipment protection with automatic water drainage
- Easy installation and long service life
- ISO 8573-1:2010 compliance
- Reliability in critical applications

# Technical Specifications

| Model | Capacity ($m^3$/minute) | Capacity ($m^3$/hour) | Air Inlet Connection | Working Pressure | Dew Point | Refrigerant Gas | Electrical Power |
|---|---|---|---|---|---|---|---|
| ND 1200 | 1.2 $m^3$ | 72 $m^3$ | 1/2" | 5-16 bar | 3°C | R 404a | 220V AC 50-60 Hz |
| ND 1600 | 1.6 $m^3$ | 96 $m^3$ | 3/4" | 5-16 bar | 3°C | R 404a | 220V AC 50-60 Hz |
| ND 2200 | 2.2 $m^3$/ | 132 $m^3$ | 3/4" | 5-16 bar | 3°C | R 404a | 220V AC 50-60 Hz |
| ND 3000 | 3.0 $m^3$ | 180 $m^3$ | 1" | 5-16 bar | 3°C | R 404a | 220V AC 50-60 Hz |
| ND 3600 | 3.6 $m^3$ | 216 $m^3$ | 1" | 5-16 bar | 3°C | R 404a | 220V AC 50-60 Hz |
| ND 4500 | 4.5 $m^3$ | 270 $m^3$ | 1 1/2" | 5-16 bar | 3°C | R 404a | 220V AC 50-60 Hz |
| ND 6000 | 6.0 $m^3$ | 360 $m^3$ | 1 1/2" | 5-16 bar | 3°C | R 404a | 220V AC 50-60 Hz |
| ND 8500 | 8.5 $m^3$ | 510 $m^3$ | 2" | 5-16 bar | 3°C | R 404a | 380V AC 50-60 Hz |
| ND 10500 | 10.5 $m^3$ | 630 $m^3$ | 2" | 5-16 bar | 3°C | R 404a | 380V AC 50-60 Hz |
| ND 12000 | 12.0 $m^3$ | 720 $m^3$ | 2" | 5-16 bar | 3°C | R 404a | 380V AC 50-60 Hz |
| ND 16500 | 16.5 $m^3$ | 990 $m^3$ | 3" | 5-16 bar | 3°C | R 407c | 380V AC 50-60 Hz |
| ND 20000 | 20.0 $m^3$ | 1200 $m^3$ | 3" | 5-16 bar | 3°C | R 407c | 380V AC 50-60 Hz |
| ND 25000 | 25.0 $m^3$ | 1500 $m^3$ | 3" | 5-16 bar | 3°C | R 407c | 380V AC 50-60 Hz |
| ND 30000 | 30.0 $m^3$ | 1800 $m^3$ | 3" | 5-16 bar | 3°C | R 407c | 380V AC 50-60 Hz |
| ND 40000 | 40.0 $m^3$ | 2400 $m^3$ | DN 100 | 5-16 bar | 3°C | R 407c | 380V AC 50-60 Hz |
| ND 50000 | 50.0 $m^3$ | 3000 $m^3$ | DN 100 | 5-16 bar | 3°C | R 407c | 380V AC 50-60 Hz |
| ND 60000 | 60.0 $m^3$ | 3600 $m^3$ | DN 100 | 5-16 bar | 3°C | R 407c | 380V AC 50-60 Hz |
| ND 80000 | 80.0 $m^3$ | 4800 $m^3$ | DN 100 | 5-16 bar | 3°C | R 407c | 380V AC 50-60 Hz |
| ND 100000 | 100.0 $m^3$ | 6000 $m^3$ | DN 150 | 5-16 bar | 3°C | R 407c | 380V AC 50-60 Hz |

| Factors Affecting Compressed Air Inlet Temperature | | | | | | |
|---|---|---|---|---|---|---|
| Temperature (°C) | 5-25 | 30 | 35 | 40 | 45 | 50 |
| Ki | 1.42 | 1.15 | 1 | 0.71 | 0.62 | 0.5 |

| Correction Factors Kp at the Dryer Inlet | | | | | | |
|---|---|---|---|---|---|---|
| P bar(g) | 5 | 6 | 7 | 8 | 9 | 10 |
| Kp | 0.82 | 0.89 | 1.00 | 1.00 | 1.00 | 1.00 |

# AIR TREATMENT AND FILTRATION SYSTEMS

## High-Efficiency Filtration Reliable Air Quality Optimized Performance

NITROXTEC Air Filter Elements remove solid particles, oil aerosols, water, and vapors from compressed air syste sprotecting equipment, ensuring product quality, and maximizing system efficiency. Available in multiple filtration classes to meet ISO 8573-1:2010 standards.

### Compressed Air Filter Elements

NITROXTEC filter elements deliver high dirt holding capacity, low pressure drop, and long service life. Manufactured with high-performance materials—borosilicate microfiber, stainless steel mesh, and activated carbon these elements maintain consistent performance even in challenging industrial conditions.

All elements are designed for compatibility with both NITROXTEC filter housings and many OEM brand housings worldwide.

## FILTRATION CLASSES

**G class** is a general-purpose filter used to trap coarse contaminants such as dust, rust, and particles. Residual oil amount is not specified for this class.
**F class** acts as a fine coalescing filter and removes oil aerosols and condensate. Residual oil amount in outlet air is ≤ 0.1 mg/m³.
**S class** is a super-fine coalescing filter designed for applications requiring high-purity air. Residual oil amount is at ≤ 0.01 mg/m³ level.
**A class** is an activated carbon filter; it effectively removes oil vapor and odors. These class filters provide ≤ 0.003 mg/m³ residual oil level in outlet air.

# Filtration for Clean Air Starts at the Core

Safely protect your process, product quality, and equipment with NITROXTEC Compressed Air Filter Elements. Discover the difference of high-performance, long-lasting, and precision filtration.

## Advantages

- Multi-layer filtration technology
- Maximum dirt holding capacity
- Low differential pressure
- Reduces energy consumption
- Long service life
- Less frequent replacement
- Low operating cost
- Stainless steel inner/outer casing
- Corrosion-resistant construction
- Oil and water-repellent layers
- High performance with dense oil aerosols
- Colour-coded caps
- Easy class identification
- Installation compatibility
- Universal compatibility
- ISO 8573-1:2010 compliance
- Guaranteed air quality for solids, oil, and moisture

# Precision Filtration Flawless Process

## WHY NITROXTEC FILTER ELEMENTS?

- 100% compliance with ISO 8573-1:2010 standards
- Low operating costs with a long service life
- High compatibility with OEM brands
- Low pressure drop
- High filtration efficiency
- Environmentally friendly
- Recyclable construction

# Technical Specifications

| Model | Capacity ($m^3/h$) | Capacity (cfm) | Air Inlet Connections (BSP Thread Size) | Dimensions (mm) | Element | Product Group |
|---|---|---|---|---|---|---|
| APF23 | 35 | 21 | 1/4" | 234 x 18 x 80 x 75 | APE26 | 110 |
| APF53 | 60 | 35 | 3/8" | 234 x 18 x 80 x 75 | APE26 | 110 |
| APF63 | 60 | 35 | 1/2" | 234 x 18 x 80 x 75 | APE26 | 110 |
| APF73 | 90 | 53 | 1/2" | 234 x 18 x 80 x 75 | APE70 | 110 |
| APF79 | 120 | 71 | 1/2" | 328 x 23 x 104 x 98 | APE78 | 110 |
| APF83 | 120 | 71 | 3/4" | 328 x 23 x 104 x 98 | APE78 | 110 |
| APF93 | 250 | 147 | 3/4" | 328 x 23 x 104 x 98 | APE91 | 110 |
| APF103 | 250 | 147 | 1" | 328 x 23 x 104 x 98 | APE91 | 110 |
| APF113 | 360 | 212 | 1" | 612 x 34 x 154 x 150 | APE110 | 110 |
| APF129 | 540 | 318 | 1 1/4" | 612 x 34 x 154 x 150 | APE123 | 110 |
| APF133 | 700 | 412 | 1 1/2" | 612 x 34 x 154 x 150 | APE123 | 110 |
| APF143 | 800 | 471 | 2" | 744 x 45 x 196 x 195 | APE140 | 110 |
| APF163 | 1300 | 765 | 2" | 744 x 45 x 196 x 195 | APE160 | 110 |
| APF173 | 1500 | 883 | 2 1/2" | 732 x 56 x 215 x 210 | APE170 | 110 |
| APF193 | 2200 | 1295 | 3" | 899 x 56 x 215 x 210 | APE190 | 110 |

# Sample Order Codes

APF73 with 1 micron efficiency: APF73MFO

APFF150-04 with 0.01 micron efficiency: APFF150-04SMA

| Working Pressure (bar g) | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Factor | 0.38 | 0.50 | 0.63 | 0.75 | 0.88 | 1.00 | 1.12 | 1.25 | 1.37 | 1.49 | 1.62 | 1.74 | 1.86 | 1.98 | 2.10 |

# Example

APF79 Type Capacity at 10 bar pressure:

120 $m^3/h$ (nominal) × 1.37 (factor) = 164.4 $m^3/h$ (corrected capacity)

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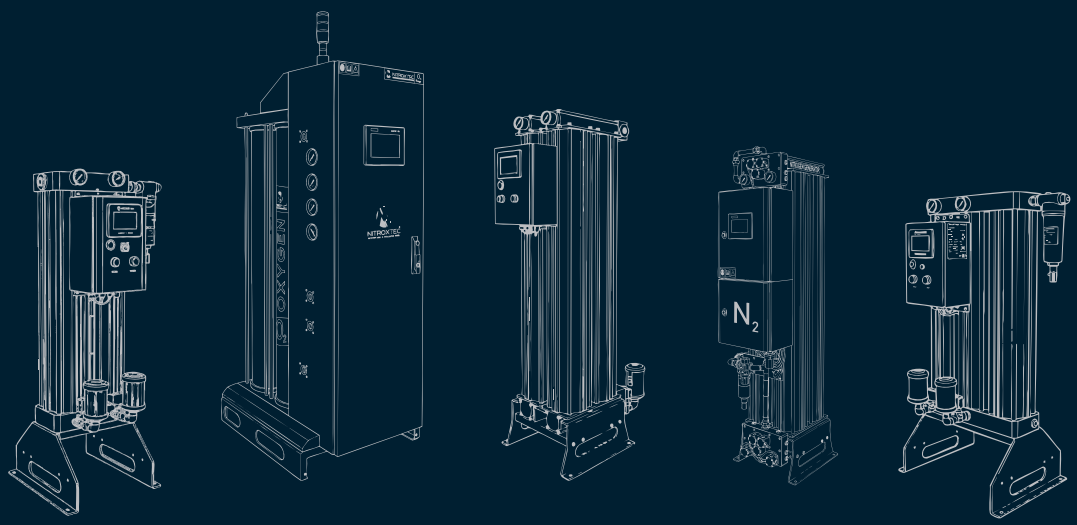


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