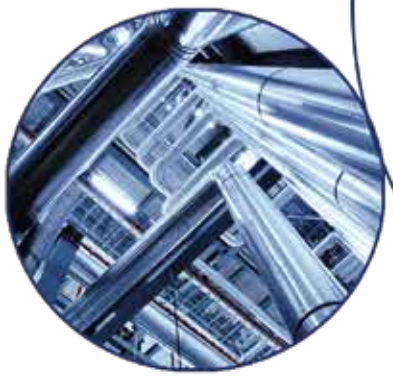
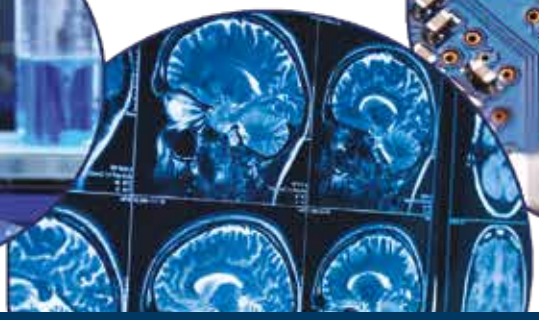




ultra-high purity modular desiccant air dryers

flow capacity: 5.1 to 1886 Nm^3/hr (3 to 1110 scfm)

“By installing multiple ND
able to better manage our fl
continuing to provide the r

Food manufacturing facility - Eastern Canada

Clean, dry compressed air is essential in every efficient and profitable manufacturing operation worldwide.

Ambient air contains high levels of moisture, dust, hydrocarbons and other contaminants and, when left untreated, the results are corrosion, bacteria, mold growth and freezing within your compressed air lines. This contamination can cause damage to downstream equipment and lead to increased maintenance, downtime and product spoilage.

While compressed air filters will remove solid particulate, liquids and aerosols, they cannot remove the moisture that remains in the form of vapour. This vapour can condense into liquid water throughout your compressed air system as the pressure and temperature of the compressed air changes.

Multi-Bank Design

The unique multi-bank design enables additional dryers to be added in the future as demand increases and provides redundancy for ease of maintenance. Your nano modular desiccant air dryer can grow with your company.

L dryer modules, we were uctuations in demand, while required dew point.”

nano D[1|2|3] Modular Desiccant compressed air dryers

- Removal of water vapour by lowering the pressure dew point of your compressed air stream to -40°C/-70°C optional) to ensure a continuous supply of dry air
- Low pressure drop and consistent dew point performance
- Modular design allows installation in spaces too small for a traditional dryer
- Premium controller option
- Ease of service with patented, pre-assembled snowstorm filled desiccant and built in after filter cartridges on D^1 and D^2 ranges
- Low noise during the exhaust and regeneration cycle
- Energy saving option available
- Many other options available to suit your installation.

www.nano-purification.com

BENEFITS

Complete range to suit any requirement

- 20 models available with flow rates from 5.1 to 1886 Nm^3/h
- Designed for use in compressor room, point of application or integrated into original equipment

Guaranteed Performance

- In accordance with ISO 8573.1:2010, Class 2 dirt (1 micron) and Class 2 water (-40°C pressure dew point). Class 1 water (-70°C) as an option.

Easy to install space Saving Design

- The compact design allows installation in spaces too small for a traditional design
- Easy to install & ready for use, the D^1 includes brackets for either, D^2 require an additional mounting kit for either floor or wall mounting.

Simplicity of Service

- Patented, pre-assembled snowstorm filled desiccant cartridges (D^1 & D^2) can be serviced in less than 15 minutes.
- Snowstorm filled columns with a built in 1 micron after filter (D^3)

High Quality Construction

- 100% tested for leaks, proper operation and dew point performance

Warranty

- Back by a 5 year product warranty with addition of Energy Saving Dew Point Control (-ES)

HOW IT WORKS

The nano D[1|2|3] modular desiccant air dryers use the pressure swing adsorption principle to efficiently dry compressed air. They use a heatless twin tower configuration housed in a modular design. Each column contains a unique (and patented) desiccant cartridge which incorporates an inlet water separator (D[1] only) and outlet filtration.

A 0.01 Micron pre-filter (external) removes all particulate, liquid water and oil aerosols to 0.01 ppm.

B Clean, saturated air enters the dryer is a directed into Column A

C Compressed air travels through Column A for 2 minutes and moisture vapor is adsorbed to -40°c pdp or better

D A final built-in filter removes particulate to 1.0 Micron or better

E ~20% Purge air expands through an orifice and regenerates Column B

F After 30 seconds, the purge exhaust valve closes and Column B repressurizes and is ready for adsorption to begin

G At the 2-minute mark (fixed cycle), Column A exhaust valve opens to regenerate. A PLC controls all operations

H Compressed air is expensive but nano dryers can be fitted with an energy savings device to save air and save money. By measuring actual pressure dew point, the plc will extend the dryer cycle reducing compressor energy, wasted purge air and valve wear and tear

OPTIONAL UPGRADES

Energy Saving Dew Point Control

- With this option, a dew point sensor and display is incorporated into the dryer providing the ultimate in energy and power savings
- Outlet dew point is constantly monitored allowing the cycle time to be adjusted depending on the actual moisture load saving valuable purge air on all styles of dryers.
- Easily field retrofit.

HMI Communications Upgrade

- An electronics upgrade with the latest colour HMI display allows multilingual access to Modbus TCP communication, web portal monitoring, real time dewpoint display and a host of other functions such as manual valve operation for troubleshooting, service details and remote start/stop activation.

Other

- 16 barg (MAWP) for higher pressure applications
- Pneumatic controls; for safe operation, in remote locations where power is either limited or unavailable (available in D[2] and D[3] ranges)

FEATURES

Reliable High Performance Valves

- NDL 060 to NDL 130 use four pilot operated solenoid valves
- NDL 010 to NDL 050 use integrated check valves and two pilot operated solenoid valves for proven performance and reliability
- NDL-2110 to NDL-6130, Inlet, exhaust and outlet air are controlled using coaxial flow valves (D^3) integrated into the upper and lower manifolds provide unrestricted flow capacity and designed for durability, ease of maintenance and long service life

Patented Combined Filter & Desiccant Cartridges

- High density snowstorm filled desiccant provides maximum adsorption capacity and built in inlet water separator (D^1) only eliminates the cost and pressure drop of installing a separate inlet filter in small oil-free compressor applications.
- Built in outlet filtration to eliminate the cost, pressure drop and maintenance associated with a separate after filter.
- Easy to replace cartridges simplify maintenance requirements (models NDL 010 to NDL 130).

PLC Controlled

- Operated by a robust and reliable plc control system offering valuable features including 'power on', 'hours run' and 'service required' indicators memory retention built into the plc enables the controller to pick up where it left off in the drying cycle, ensuring consistently clean, dry air downstream.

Floor or Wall Mounted

- Can be floor or wall mounted - simply by rotating the feet 90 (standard on D^1, optional on D^2)

Unique Exhaust Air Silencers

- Significantly reduces noise level during depressurization and purge cycles

Constant Flow and Pressure

- Pressure is equalized before switching columns to ensure uninterrupted compressed air and consistent air pressure. Equalization also ensures long desiccant life due to minimized desiccant attrition.

Tower Gauges

- Standard on models NDL 060 and larger.

Performance Validated Filtration

- Separate gf 0.01 Micron pre filter (shipped loose) and a built in 1.0 Micron after filter included as standard.

Maximum Corrosion Protection

- High tensile aluminium columns are alocrom protected then externally powder coated to provide maximum protection for corrosive environments

SPECIFICATIONS

Dryer Model	Inlet & Outlet [1]	Rated Flow [2]		Dimensions (mm)			Approx. Weight	Filtration [3]	
	BSSP	Nm^3/h	scfm	A	B	C	kgs	Pre Filter	After Filter
NDL 010	3/8"	5.1	3	439	222	220	9.0	GFNB 0006 M01	integrated
NDL 020	3/8"	8.5	5	439	222	220	9.0	GFNB 0006 M01	integrated
NDL 030	3/8"	17	10	649	222	220	13.5	GFNB 0015 M01	integrated
NDL 040	3/8"	25.5	15	899	330	280	18.5	GFNB 0015 M01	integrated
NDL 050	½"	34	20	1199	330	280	25.5	GFNB 0025 M01	integrated
NDL 060	1"	58	34	743	426	283	47	GFNB 0050 M01	integrated
NDL 070	1"	58	41	743	426	283	47	GFNB 0050 M01	integrated
NDL 080	1"	90	53	923	426	283	58	GFNB 0070 M01	integrated
NDL 090	1"	112	66	923	426	283	58	GFNB 0070 M01	integrated
NDL 100	1"	150	88	1098	426	283	71	GFNB 0105 M01	integrated
NDL 110	1"	180	106	1248	426	283	83	GFNB 0125 M01	integrated
NDL 120	1"	224	132	1498	426	283	96	GFNB 0175 M01	integrated
NDL 130	1"	301	177	1848	426	283	118	GFNB 0175 M01	integrated
NDL 2110	2"	360	212	1271	400	682	97	GFNB 0280 M01	-
NDL 2120	2"	469	276	1521	400	682	179	GFNB 0280 M01	-
NDL 2130	2"	680	400	1871	400	682	261	GFNB 0450 M01	-
NDL 3130	2"	951	560	1871	400	850	249	GFNB 0700 M01	-
NDL 4130	2 ½"	1274	750	1871	400	1018	331	GFNB 0850 M01	-
NDL 6120	2 ½"	1407	828	1521	400	1354	439	GFNB 0850 M01	-
NDL 6130	2 ½"	1886	1110	1871	400	1354	623	GFNB 1250 M01	-

Specifications	Standard	Optional
Maximum Particle Size (Iso Class) [4]	Class 2 (1 micron)	class 1 (0.01 micron) [5]
Maximum Water Content (Iso Class) [4]	Class 2 (-40°C pdp)	class 1 (-70°C)
Minimum Operating Pressure [6]	4 Barg	-
Maximum Operating Pressure	16 Barg (optional) [6]	-
Recommended Operating Temperature Range	1.5 to 35°C	-
Design Operating Temperature Range	1.5 to 50°C	
Power Supply Requirements	85 to 264V AC 50/60 Hz	24V DC

Pressure Correction Factors [7]

Operating Pressure (Barg)	4	5	6	7	8	9	10	11	12	13	14	16
Correction Factor	0.63	0.75	0.88	1.00	1.13	1.25	1.38	1.50	1.63	1.75	1.88	2.13

Temperature Correction Factors [7]

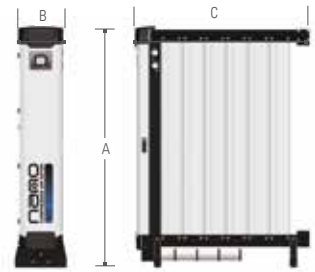
Inlet Temperature (°F)	25	30	35	40	45	50
Correction Factor	1.00	0.98	0.95	0.9	0.8	0.7

Pressure Dew Point Correction Factors [7]

Pressure Dew Point (°F)	-40	-94
Correction Factor	1.00	0.70

(1) NDL 010 to NDL 050 have push to connect fittings on the inlet and outlet. All other models have BSPP threaded connections
(2) At inlet conditions of 7 barg and 25°C and a -40°C outlet pressure dew point. For all other conditions refer to the correction factors above
(3) Dryer includes a separate M01 grade pre filter (shipped loose) and a built in 1 micron after filter
(4) Per ISO 8573:1:2010 (E)
(5) With separate M01 grade after filter
(6) Maximum operating pressure as follows: models NDL 010 to 050 are 16 barg (MAWP); models NDL 060 to 130 are 16 barg (MAWP) as standard; models NDL 2110 to 6130 are 10 barg (MAWP) as standard (optional 16 barg)
(7) To be used as a rough guide only. All applications should be confirmed by nano. Contact sales@nano-purification.com
(8) Technical specifications subject to change without notice. Direct inquiries to sales@nano-purification.com

NDL 010 to NDL 130



NDL 2110 to NDL 6130

EXPERIENCE. CUSTOMER. SERVICE.

Leading edge technology and hundreds of years of *experience*...nano-purification solutions, your world-class manufacturer of state-of-the-art compressed air and gas solutions to industry.

Our commitment at nano is to work alongside our *customers* and provide unique solutions with the highest quality products to solve your specific challenges.

A wealth of experience and leading edge products are only part of the equation. nano recognize that world-class customer *service* is the most important component to any successful business.

DESIGN

Our experienced team of design engineers are always looking for new and unique technologies and products to bring you the highest level of performance and lowest overall operating cost.

RESEARCH & DEVELOPMENT

Our R&D team endeavor to provide solutions that go beyond developing an existing product. They are continually researching new technologies which can provide unique advantages over competitive offerings.

MANUFACTURE

The reliable and energy saving nano product range of desiccant air dryers are manufactured in our state-of-the-art facility to the highest standards of build quality to ensure equipment reliability and high levels of performance.

ENVIRONMENTALLY FRIENDLY

Through both product development and manufacturing, we strive to produce high quality products compliant to both local and global environmental legislation. Reduction of carbon footprint through energy saving products and use of environmentally friendly components are our commitment to you.

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