



D-Series⁵
twin tower desiccant
compressed air dryers

D⁵

nano D-Series⁵ twin tower air dryers

Ambient air contains high levels of moisture, dust, hydrocarbons and other contaminants. Under pressure these contaminants are concentrated to harmful proportions. When left untreated the results are corrosion, bacteria, mold growth and freezing within your compressed air lines. This contamination causes damage to downstream equipment, leading to increasing 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 vapor. This vapor will continuously condense into liquid water throughout your compressed air systems as the pressure and temperature of the compressed air changes.

The nano D-Series⁵ twin tower desiccant air dryers are designed to remove water vapor, lowering the pressure dew point of your compressed air stream to -40°C or even -70°C. No liquid water or ice crystals will form even if the temperature of the compressed air falls to 40 degrees below zero!

Designed for the most demanding applications, the nano D-Series⁵ twin tower desiccant air dryers are your solution for continuous and uninterrupted clean dry air.



Reliability is built in... and backed by our 2 year warranty on inlet and purge exhaust valves and 2 year heater warranty⁽¹⁾

which dryer is right for you?

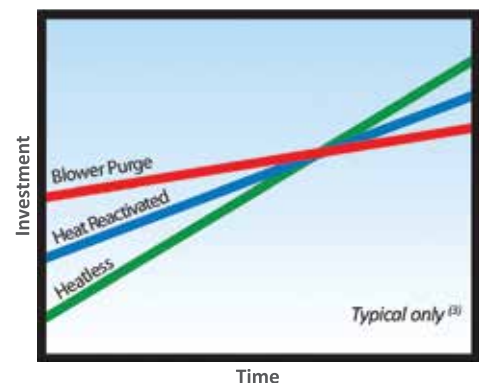
In a twin tower desiccant air dryer, one tower is on-line drying the compressed air while the other is off-line regenerating, which means it is eliminating the water vapor it has collected so it can be used to dry again. The two towers switch back and forth so one is always drying while the other is regenerating.

All nano D-Series⁵ twin tower desiccant dryers remove moisture from your compressed air in the same way and to the same exacting standards of performance and reliability. The difference is in how they regenerate and the amount of compressed air and/or power required to do so.

Which dryer to select for a given application is a function of several factors including: initial dryer investment, the cost of operating the dryer and air system capacity. Each of these needs to be considered to ensure the right dryer choice is made.

- **Heatless dryers** use expanded dry “purge” air to regenerate the off-line bed. They require the lowest initial investment but require the most purge air⁽²⁾.
- **Eternally heat reactivated** dryers use an electric heater to heat the dry purge air increasing the dryer’s efficiency. They require a higher initial investment although use less purge air than heatless dryers⁽²⁾.
- **Blower purge** dryers use an electric heater and a blower to provide heated ambient air for regeneration. They require the highest initial investment although can use little to no purge air⁽²⁾. less purge air than heatless dryers⁽²⁾.

We take pride in our ability to air treatment needs. Contact support@n-psi.com for help choosing the best D-Series⁵ dryer for your application.



(1) When purchased with recommended pre-filtration.

(2) Heatless dryers require 15% purge. Externally heat reactivated dryers req for dry airuire 8% purge. Blower purge dryers require 2% purge (averaged over 4-hour cycle) for dry air cooling, however dry air cooling can be turned off allowing zero air loss operation. Values are approximate and are a percentage of the maximum rated inlet flow.

(3) Results will vary with operating conditions. Contact support@n-psi.com to determine which dryer is the most cost effective option for your application.

D-Series⁵ heatless desiccant air dryers

The advanced D-Series⁵ AHL heatless desiccant dryer combines reliable field proven components and a cost effective design with 21st century PLC controls and a digital user interface. For clean dry air, there is no better, more dependable, easier to use twin tower dryer available on the market today.

flexible & functional

- Field adjustable cycle timing and purge control lets you maximize performance at any operating conditions.
- Advanced PLC controls allow you to monitor the operation of the dryer through an easy to read digital display.

unique features

- The purge adjustments valve with visual setting indication allows precision adjustments to the purge flow.
- A blend of up to three different desiccants are used in specialty applications to ensure consistent dew point performance.

high quality construction

- Rugged field proven valves with stainless steel internals and Teflon[®] seats for long life and minimum maintenance.
- Primed and epoxy coated external surfaces for optimum corrosion protection.

cost effective design

- Efficient nano pre and after filters combine with high quality desiccant for low pressure drop and consistent dew point performance.

customized to meet your needs

- At nano we understand that every customer and every application is different. That is why we provide a wide range of available options to customize your dryer to your specific needs.

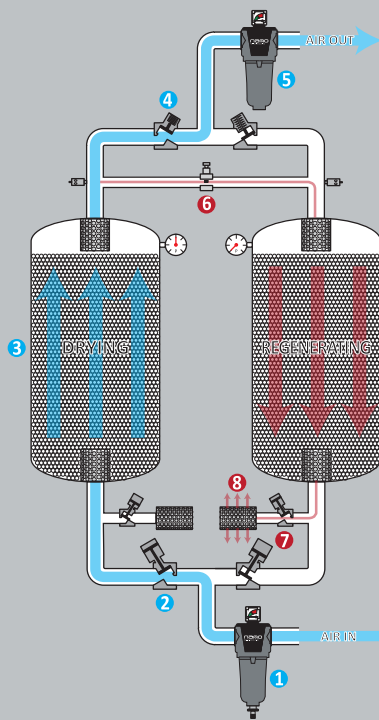


advanced PLC controls

A powerful programmable logic controller monitors and controls each D-Series⁵ heatless desiccant air dryer. The system monitors multiple inputs, showing pertinent data on the digital displays and controlling the fully automated drying and regeneration cycles.

ES Energy Saving Option - The optional “ES” dew point demand system uses a reliable precision hygrometer to continually monitor the outlet dew point and extend the cycle for maximum energy savings. Includes real time outlet dew point indication and high dew point alarm.





- 1 nano F-Series¹ M01 coalescing pre-filter
- 2 inlet switching valve
- 3 high quality hygroscopic desiccant
- 4 spring loaded outlet check valve
- 5 nano F-Series¹ M1 particulate after filter
- 6 adjustable bi-directional purge valve
- 7 angle body piston exhaust valve
- 8 low noise purge exhaust silencer

high performance butterfly valves

- Pneumatic actuators ensure precise proportional control and a bubble tight seal.
- Rugged stainless steel disk construction and Teflon® seats combined with a low pressure drop design.



stainless steel check valves

- Stainless steel spring return check valves provide worry-free operation and minimal maintenance.



low noise exhaust mufflers

- These specially designed exhaust mufflers minimize the noise of depressurization and purge exhaust while also minimizing back pressure.
- The high flow design reduces blockage extending service life.



High capacity fabricated flanged filters



Ultra-high purity modular compressed air dryers



Performance validated F¹ filtration provides additional energy savings and improved air quality

sizing & specifications

Dryer Model	Inlet & Outlet	Rated Flow ⁽¹⁾	Dimensions (mm)			Approx. Weight
	DN	m ³ /h	Width	Depth	Height	kg
AHL Heatless						
AHL 40	DN40	390	1300	650	1950	450
AHL 50	DN50	520	1300	700	1950	490
AHL 75	DN50	660	1500	700	2100	550
AHL 100	DN50	780	1500	700	2200	660
AHL 125	DN65	1020	1500	700	2500	880
AHL 150	DN65	1380	1600	850	2500	980
AHL 175	DN65	1620	1600	850	2500	1150
AHL 250	DN80	2040	1850	950	2500	1500
AHL 300	DN80	2700	2100	950	2700	1550
AHL 400	DN100	3300	2100	1000	2700	1670
AHL 600	DN100	3900	2300	1110	2700	2150
AHL 700	DN125	5100	2500	1200	3000	2650
AHL 1000	DN150	6600	2600	1300	3000	3100
AEX Externally Heat Reactivated						
AEX 50	DN40	408	1170	720	2300	450
AEX 75	DN40	510	1190	750	2050	470
AEX 100	DN50	660	1280	760	2520	610
AEX 125	DN50	780	1500	780	1990	660
AEX 150	DN50	1020	1500	790	2340	710
AEX 175	DN65	1380	1630	980	2300	900
AEX 250	DN65	1620	1630	980	2500	980
AEX 300	DN80	2040	1860	900	2310	1250
AEX 400	DN80	2700	1860	900	2740	1510
AEX 600	DN80	3300	1990	950	2740	1750
AEX 700	DN100	3900	1990	950	2910	2000
AEX 1000	DN125	4500	2200	1000	2880	2260
AEX 1250	DN125	5100	2200	1000	2980	2500
AEX 1500	DN125	5700	2400	1000	2980	2900
ABP Blower Purge						
ABP 100	DN50	650	1620	1410	2250	700
ABP 125	DN50	830	1620	1410	2280	880
ABP 150	DN80	1230	1720	1480	2680	1100
ABP 200	DN80	1540	1820	1520	2680	1400
ABP 300	DN80	2140	2000	1600	2750	1900
ABP 350	DN100	2470	2100	1650	2750	2100
ABP 400	DN100	2990	2300	1720	2850	2300
ABP 500	DN100	3800	2500	1820	2900	2900
ABP 600	DN150	4300	2800	1880	3000	4000
ABP 750	DN150	4980	3000	1950	3200	4300
ABP 850	DN150	5390	3200	1950	3200	4500
ABP 950	DN150	6540	3800	2100	3500	5300
ABP 1200	DN150	7220	4000	2100	3500	6000
ABP 1300	DN200	8620	4100	2400	3600	7000
ABP 1400	DN200	9400	4200	2500	3700	8000
ABP 1500	DN200	11100	4300	2700	3800	950
ABP 2000	DN200	12800	4400	2800	3800	11500

specifications	AHL	AEX	ABP	Options
maximum particle size (ISO Class)	Class 2 (1 micron)	Class 2 (1 micron)	Class 2 (1 micron)	Class 1 (0.01 micron)
maximum water content (ISO Class)	Class 2 (-40°C pdp)	Class 2 (-40°C pdp)	Class 2 (-40°C pdp)	Class 1 (-70°C pdp)
power supply requirements	220V / 1Ph / 50 - 60 Hz	400 - 440V / 3Ph / 50 - 60 Hz	400 - 440V / 3Ph / 50 - 60 Hz	Consult Factory

pressure correction factors ⁽²⁾								
inlet air pressure (barg)	5	6	7	8	9	10	11	12
correction factor	0.67	0.84	1	1.13	1.25	1.33	1.48	1.55
inlet temperature factors ⁽²⁾								
inlet air temperature (°C)	25	30	35	40	45	50		
correction factor	1.0	1.0	1.0	0.97	0.87	0.8		

- (1) An an inlet conditions of 7 barg and 35°C.
For all other inlet conditions refer to the correction factors to the left.
- (2) To be used as a rough guide only. All applications should be confirmed by factory.

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