



BPD & EHD
HEATED REGENERATIVE DESICCANT DRYERS

Heated Dryer Performance Advantage

In today's demanding industrial environment, where moisture can wreak havoc on equipment and processes, it is crucial to invest in cutting-edge technology that safeguards your operations. **That's where Next Air & Gas Heated Regenerative Desiccant Dryers come in.**

Designed with globality in mind and built to excel, our regenerative dryers are the ultimate solution for moisture control in compressed air systems. Whether you operate in manufacturing, food processing, pharmaceuticals, or any other industry relying on compressed air, our dryers provide a vital shield against the damaging effects of moisture.

Our dryer series uses fully pneumatic stainless steel actuator valves rather than dated shuttle valves. This allows for independence of flow and pressure. With some dryers being only region-specific, we made sure that all dryers produced by Next Air & Gas are certified with ASME, CRN, UL, and CUL certification. With industry standards of design pressure being up to 150 psig, we thought it best to invest in the technical advantages and manufacture our pressure vessels to run at 200 psig (80–1,600 CFM) as standard.

Investing in our compressed air desiccant air dryers means investing in reliability, productivity, and peace of mind. With our expertise and commitment to excellence, we provide you with the tools to achieve superior air quality and protect your valuable equipment and processes.



BPD Blower Purge Dryer

Why Dry Air?

To be used in industrial processes, compressed air must be clean and dry. Atmospheric air contains many contaminants such as dust particles, water vapor, oil, and other impurities. As air is compressed, these contaminants become more concentrated, causing a variety of problems, including equipment wear, increased maintenance, lower production efficiency, pipe and line corrosion, and other expensive headaches.

In some industries, even the smallest contaminants in compressed air can cause production problems or errors that cost thousands of dollars to correct. So dry air is absolutely critical in a modern factory.

Next Air & Gas is dedicated to creating the systems needed to dry air so that your production is maximized and your costs are dramatically reduced.

Standard Features

- State-of-the-art PLC controller with color touch screen HMI
- High-quality, direct drive, oil-free regenerative blower (BPD Series only)
- Low watt/density heater
- High-performance, non-lubricated pneumatic butterfly valve (800 cfm & up)
- High-quality, non-lubricated pneumatic piston valve (200–600 cfm)
- State-of-the-art, flow activated, high-temperature check valve (800 cfm & up)
- Fail-safe design in case of power failure
- Stainless steel inlet/outlet diffuser
- Desiccant towers designed and constructed in accordance with ASME and CRN code
- Pressure vessels feature 200 psig (up to 1500 cfm) and 150 psig (2000 cfm & up)
- NEMA 12 Enclosure
- UL/CUL certified electrical panels
- Visual alarm status
- Full charge of desiccant (2000 cfm & up shipped separately)
- ASME and CRN certified safety relief valve for each pressure vessel
- Highest quality domestically manufactured desiccant
- Dryer hour meter
- Dryer service hour meter with alarm and re-set
- Dryer common alarm with history
- Dryer backup heatless mode in case of emergency
- Dryer heater backup safety contactor with MSP switch
- Failure-to-switch alarm in case of valve or pressure failure
- 460 volts, 3 phase 60 Hz control power
- Fully field-adjustable heater temperature setpoints

Optional Features

- Filtration Package
 - Mounted Pre & After Filter
 - Mounted Pre & After Filter with 3-valve Bypass
 - Mounted Dual Pre & After Filters with 9-valve Bypass
- Energy save demand cycle control with digital dew point display and adjustable set point
- Tank insulation with safety jacket
- Visual moisture indicator
- Stainless steel control air tubing
- NEMA-4X (stainless steel) electrical enclosure
- Low ambient package
- Control Power 400-380/3/50 575/3/60

Consult the factory for additional options

Principle of Desiccant Operation

Next Air & Gas offers two types of heated regenerative desiccant dryers: Blower Purge (BPD) models and External Heater (EHD) models.

In Blower Purge models, an automatic system using a centrifugal blower and a high-efficiency heater pulls in ambient air and passes it through the heater. This eliminates the need to use valuable compressed dry air for desiccant regeneration. Instead, more compressed air goes to plant operations. The hot air stream from the blower flows opposite to the drying flow direction. Hot air above 400° F regenerates the moisture-laden desiccant bed and strips it completely of moisture. Our advanced control system monitors the dewpoint and adjusts the heating/regeneration accordingly, thereby providing significant energy savings. The heater circuit is completely insulated, ensuring maximum heating efficiency.

In External Heater models, purge air is heated then passed over the bed to regenerate it. These are custom designed products, and we provide design and engineering assistance as needed to manufacture these unique systems. Should you need guidance determining which type of dryer works best for your operation, our experts are happy to analyze and make recommendations.



Unit shown with optional tank insulation with safety jacket.

Product Specifications

Technical Overview

Standard outlet pressure dewpoint:	-40° F
Operating voltage:	460V/3PH/60Hz
Pre-filtration grade:	0.01µm
Post-filtration grade:	1µm (high temperature)
NEMA 12 Enclosure:	Standard
ASME certified vessels:	Standard
CRN approved vessels (selected provinces):	Standard
cUL & UL control panel:	Standard
Max inlet air temperature:	120° F
Min/max ambient air temp.:	25° F/110° F (BPD) 25° F/105° F (EHD)
Min/max operating pressure:	85psig/125psig (BPD) 100psig/125psig (EHD)
Average purge air:	3%* (BPD), 7% (EHD)

* With dry air cooling activated

How to Find Air Flow Capacity

Airflow capacity =

Nominal capacity of dryer x Factor F1 x Factor F2

Example: A EHD-500 has a nominal capacity of 500 SCFM. What is the maximum allowable flow through the dryer at following operating conditions?

Air Inlet Pressure: 110 PSIG (7.6 BARG) **F1 = 1.04**
Air Inlet Temperature: 105° F (40.50° C) **F2 = 0.93**

Airflow capacity = **500 x F1 x F2**

Airflow capacity = **500 x 1.04 x 0.93 = 483.6 SCFM**

This is the maximum airflow rate that the dryer can accept under those operating conditions.

How to Select a Suitable Dryer for a Given Capacity

Minimum Std. Airflow =

Design Airflow / Factor F1 / Factor F2

Example: Given the operating parameters below, find a suitable dryer.

Design Flow Rate: 950 SCFM

Inlet Air Pressure: 110 PSIG

F1 = 1.04

Inlet Air Temperature: 105° F

F2 = 0.93

Minimum Std. Airflow = **950/1.04/0.93 = 982.22**

Therefore, the model suitable for the conditions above is EHD-1000.

Model	Inlet Flow Capacity (CFM @100 psig)	Port Size	Weight (lbs)	Dimensions (in) (W x D x H)
BPD Series Specifications				
BPD-500	500	2" NPT	2,500	71x45x92
BPD-650	650	2" NPT	2,750	71x45x92
BPD-800	800	3" FLG	4,100	93x60x95
BPD-1000	1,000	3" FLG	4,500	93x60x95
BPD-1250	1,250	3" FLG	8,200	93x60x97
BPD-1500	1,500	3" FLG	8,200	93x60x97
BPD-2000	2,000	4" FLG	9,800	106x65x114
BPD-2500	2,500	4" FLG	15,000	106x82x114
BPD-3000	3,000	6" FLG	19,000	130x82x134
BPD-3500	3,500	6" FLG	19,000	130x82x134
BPD-4000	4,000	6" FLG	28,000	130x82x134
BPD-5000	5,000	6" FLG	CF	130x82x134
BPD-6000	6,000	6" FLG	CF	CF
BPD-7000	7,000	8" FLG	CF	CF
BPD-8000	8,000	8" FLG	CF	CF
BPD-9000	9,000	10" FLG	CF	CF
BPD-10000	10,000	10" FLG	CF	CF
EHD Series Specifications				
EHD-200	200	1" NPT	950	42x38x89
EHD-250	250	1½" NPT	1,100	43x43x90
EHD-300	300	1½" NPT	1,250	43x43x90
EHD-400	400	2" NPT	1,500	47x45x92
EHD-500	500	2" NPT	1,600	47x45x92
EHD-600	600	2" NPT	2,100	47x45x92
EHD-800	800	3" FLG	2,500	80x60x92
EHD-900	900	3" FLG	2,800	80x60x95
EHD-1000	1,000	3" FLG	4,100	80x60x95
EHD-1250	1,250	3" FLG	4,700	80x60x95
EHD-1500	1,500	3" FLG	4,900	80x60x95
EHD-2000	2,000	4" FLG	5,300	85x68x113
EHD-2500	2,500	4" FLG	6,200	85x68x113
EHD-3000	3,000	6" FLG	7,600	125x82x134
EHD-3500	3,500	6" FLG	8,300	125x82x134

Capacity Correction Factors for Differing Operating Pressure

Operating Pressure	PSIG	50	60	70	80	90	100	110	120	130	140	150	175	200	225	250
Factor		0.56	0.65	0.74	0.83	0.91	1.00	1.04	1.08	1.12	1.16	1.20	1.29	1.37	1.45	1.52

Capacity Correction Factors for Differing Inlet Air Temperatures

°F	70	80	90	100	105	110	115	120
Factor	1.12	1.10	1.06	1.00	0.93	0.86	0.80	0.75