

**D-Series<sup>4</sup>**  
high pressure twin tower desiccant  
compressed air dryers  
flow capacity: 42 - 918 scfm (72 - 1,560 Nm<sup>3</sup>/hr)

**D<sup>4</sup>**

# nano D-Series<sup>4</sup> high pressure compressed air dryers

The advanced D-Series<sup>4</sup> DHP high pressure twin tower desiccant compressed air dryer combines reliable field proven components and a cost effective design with 21<sup>st</sup> century 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

- The fixed orifice is dependable and trouble-free and the optional Energy Saver dew point demand control system allows the flexibility to dial your dew point performance.
- Advanced C1 controls allow you to monitor the operation of the dryer through an easy to read two line clear text display.

## unique features

- A high quality, molecular sieve desiccant bed is used to ensure consistent dew point performance and long media life.
- Includes a 0.01 micron high efficiency coalescing pre filter and a 1 micron particulate after filter mounted to the dryer. Filters are connected using high pressure 316 stainless steel pipe work and fittings, minimizing installation time and costs.

## high quality construction

- Rugged field proven anodized aluminum valve blocks eliminate leak paths and minimize pressure loss.
- Primed and acrylic resin coated external surfaces for optimum corrosion protection.

## cost effective design

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

## customized to meet your needs

- At nano we understand every customer and every application is different. For this reason, we provide a wide range of available options to customize your dryer to your specific needs.



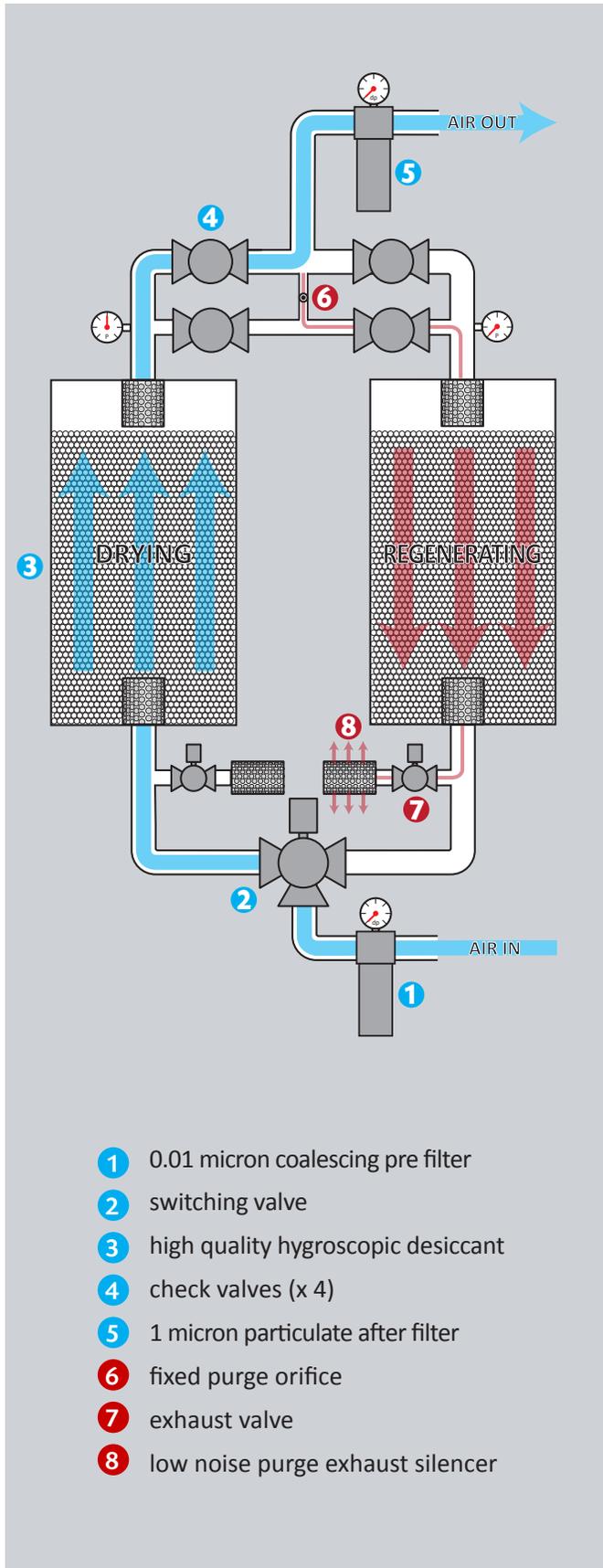
## advanced C1 controls

A powerful controller monitors and controls each D-Series<sup>4</sup> high pressure desiccant air dryer. The system monitors multiple inputs, showing pertinent data on the two line clear text display and controlling the fully automated drying and regeneration cycles. Input is via three buttons on the front of the NEMA-4X corrosion resistant enclosure.

An energy saving compressor synchronization contact is provided to stop the dryer from cycling when the compressor is not operating.

**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 on the panel, a 4-20mA signal for remote monitoring and a high dew point alarm.





The advanced nano D-Series<sup>4</sup> high pressure compressed air dryers use the pressure swing adsorption principle to efficiently dry compressed air.

Incoming wet air passes through a high efficiency coalescing filter which removes particulate and aerosols down to 0.01 micron with greater than 99.9999% efficiency. The air is then directed to one of the two media vessels where water vapor is adsorbed by a two layer desiccant bed. The dry air then passes through the outlet check valve and a 1 micron particulate after filter to remove any media dust it may have collected.

Simultaneously, a small amount of the dry air (approximately 5% of the rated flow) is expanded to atmospheric pressure across an orifice and passed backwards through the off line desiccant bed for regeneration. Regeneration air is exhausted to atmosphere through a silencer.

The entire dryer operation is controlled by the advanced C1 controller which switches the flow from one vessel to the other every 10 minutes or as directed by the optional dew point demand system.

## options & accessories

### remote monitoring system

Sends text messages or emails to up to six different mobile devices in the event of an alarm.

### outlet pressure valve

Builds up pressure within the dryer during start up to prevent damage from high flow velocities.

### differential pressure alarm contacts

Provides a remote alarm signal for differential pressure across the pre or after filters.



Rugged and reliable control valves



Optional dew point demand system

# sizing & specifications

Dryer Model	Inlet & Outlet		Rated Flow <sup>(1)</sup>		Dimensions (inches)			Approx. Weight
	NPT	scfm	Nm <sup>3</sup> /h	A	B	C	lbs	
<b>DHP /100 (1450 psig)</b>								
DHP5/100	½"	42	72	45.5	25.0	15.8	220	
DHP9/100	½"	51	87	47.5	25.0	15.8	243	
DHP12/100	½"	90	153	48.0	27.0	15.8	254	
DHP24/100	¾"	167	283	53.2	29.1	15.8	317	
DHP37/100	¾"	252	429	16.2	31.9	15.8	441	
DHP58/100	¾"	442	750	67.3	34.3	15.8	606	
<b>DHP /250 (3625 psig)</b>								
DHP5/250	½"	68	115	45.5	25.0	15.8	243	
DHP9/250	½"	82	140	47.5	25.0	15.8	254	
DHP12/250	½"	159	270	48.0	27.0	15.8	291	
DHP24/250	¾"	294	500	53.2	29.1	15.8	430	
DHP37/250	¾"	471	800	16.2	31.9	15.8	540	
DHP58/250	¾"	824	1400	67.3	34.3	15.8	827	
<b>DHP /350 (5075 psig)</b>								
DHP5/350	½"	88	150	45.5	25.0	15.8	243	
DHP9/350	½"	106	180	47.5	25.0	15.8	254	
DHP12/350	½"	177	300	48.0	27.0	15.8	320	
DHP24/350	¾"	309	525	53.2	29.1	15.8	496	
DHP37/350	¾"	500	850	16.2	31.9	15.8	617	
DHP58/350	¾"	918	1560	67.3	34.3	15.8	915	

specifications	DHP /100	DHP /250	DHP /350
minimum operating pressure	435 psig	435 psig	435 psig
maximum operating pressure	1450 psig	3625 psig	5075 psig
maximum particle size (ISO Class) <sup>(2)</sup>		Class 2 (1 micron)	
maximum water content (ISO Class) <sup>(2)</sup>		Class 2 (-40°F pdp) <sup>(3)</sup>	
maximum oil content (ISO Class) <sup>(2)</sup>		Class 1 (0.01 mg/m <sup>3</sup> )	
recommended operating temp range		40 to 100°F	
design operating temperature range		35 to 140°F	
power supply requirements		120 & 240 VAC, 50/60 Hz <sup>(4)</sup>	
power consumption		< 50 W	
control panel protection		NEMA -4X	
valve switching power (per valve)		80 VA	

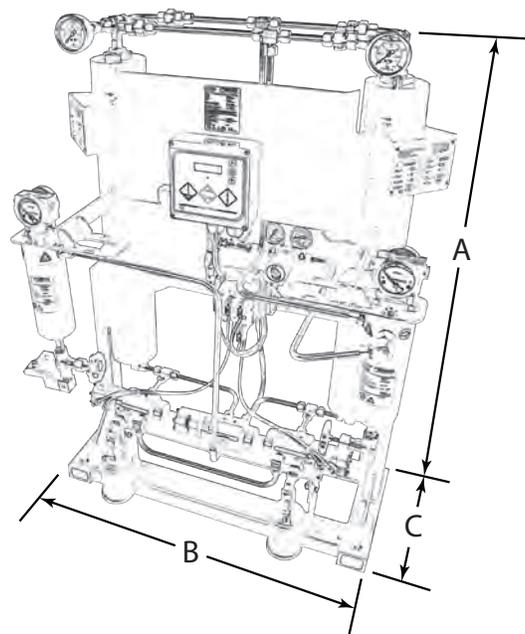
materials of construction	
vessels	carbon steel
frame & supports	carbon steel
valve block housing	anodized aluminum
valve seats	stainless steel & brass
pipings & fittings	316 stainless steel
media	80% 4A molecular sieve, 20% WS silica gel

(1) At an inlet temperature of 95°F, an inlet pressure of 1450, 3625 or 5075 psig (as applicable), and a -40°F outlet dew point. For all other operating conditions contact support@n-psi.com for sizing assistance.

(2) Per ISO 8573.1:2001 (E).

(3) ISO class 2 (-40°F outlet pressure dew point) is provided as standard. -13°F or -67°F outlet pressure dew points are available as an option.

(4) 24VDC available as an option.



Experience. Customer. Service...n-psi

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