

nano



direct expansion refrigerated air dryers

flow capacity: 10 to 4200 scfm (17 to 7140 Nm³/hr)

"We purchased a nano DXR and we are happy with the i

parts manufacturer - southeastern US

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 vapor. This vapor can condense into liquid water throughout your compressed air system as the pressure and temperature of the compressed air changes.

simple reliability

The DXR dryers are designed for constant operation continually giving you dry air.

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R when our old dryer failed installation.”

nano R⁴ DXR direct expansion refrigerated air dryers

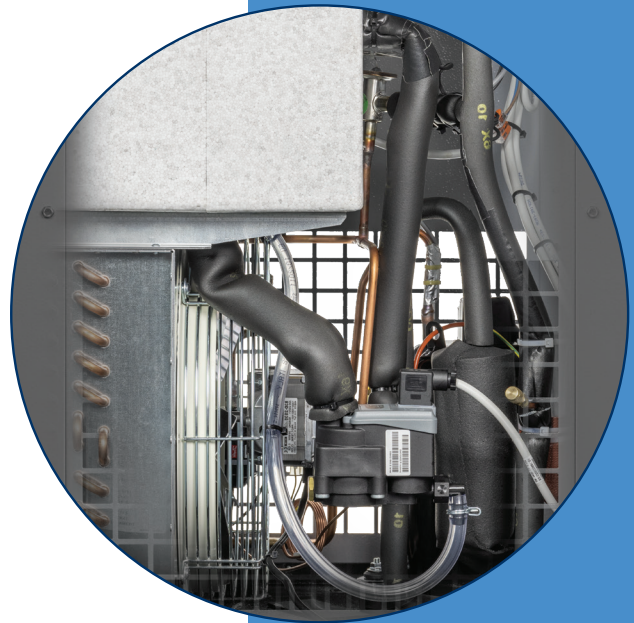
- simple, easy installation
- clean, dry compressed air at ISO class 4, 5 or 6 as necessary
- steady, guaranteed dew point
- low pressure drop
- zero air loss drain effectively removes water without air loss



BENEFITS

optimum energy efficiency and consistent dew point

- aluminum block heat exchanger with integrated water separator and air-to-air heat exchanger ensures maximum cooling efficiency
- integrated water separator provides low and consistent pressure dew point
- zero air loss drain effectively removes water without air loss



capillary tube and hot gas bypass

- self-regulating providing reliability and low maintenance with less components than more complex ranges

space saving design

- fully packaged into a simple compact design, DXR will fit into the smallest spaces

easy to install

- plug and play design concept



robust construction

- powder coated galvanized steel panels are corrosion resistant

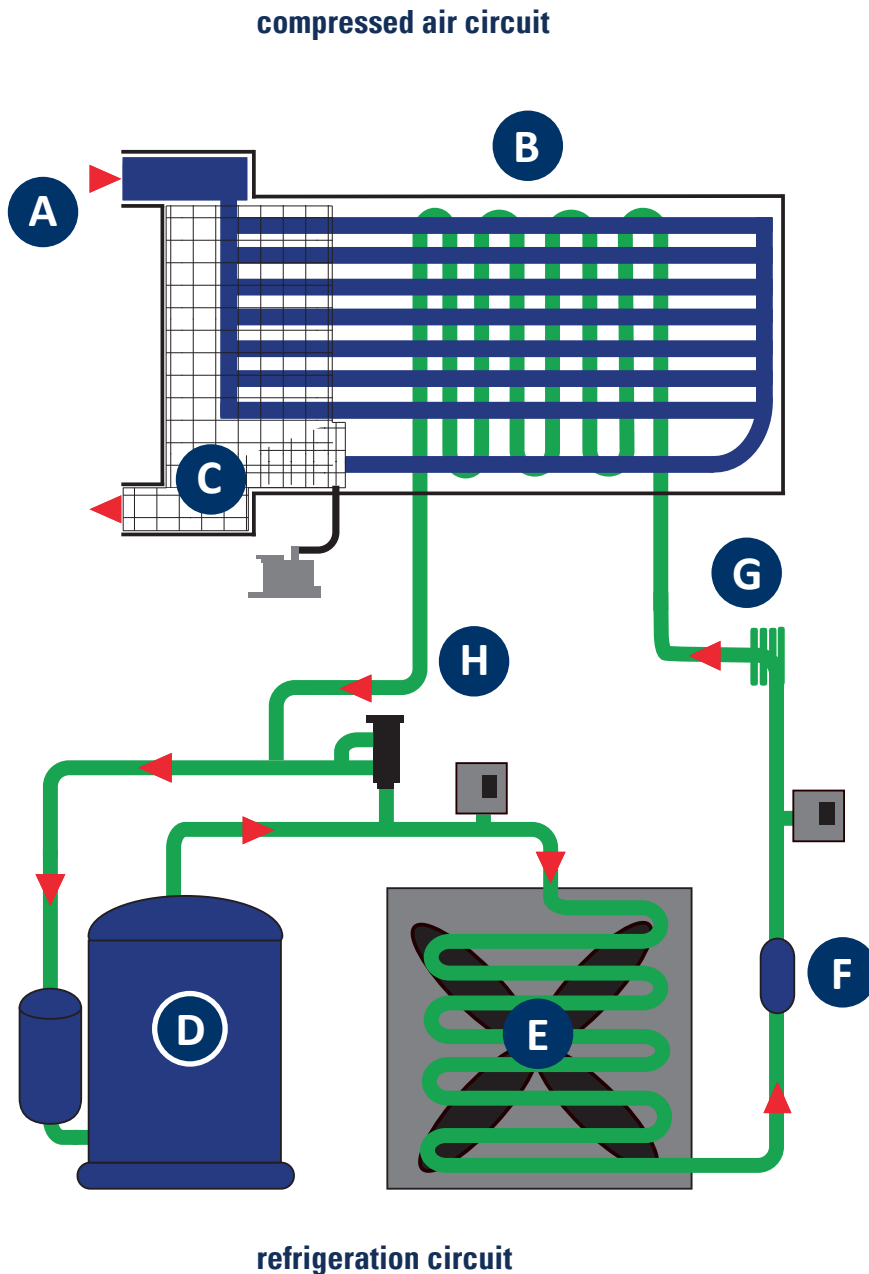
environmentally friendly

- R513A or R410A refrigerant



HOW IT WORKS

A DXR direct expansion refrigerated air dryer uses a refrigerant circuit and heat exchanger(s) to pre-cool air, refrigerate it to condense out moisture vapor, and then re-heats the air to prevent pipe sweating downstream.



hot, moist compressed air enters the pre-cooler section of the 3 in 1 heat exchanger where it is pre-cooled by the exiting dry air

precooled compressed air then enters the air to refrigerant evaporator where it reaches its coldest point and achieves its lowest dew point

condensed moisture is being removed by an integrated moisture separator and zero air loss condensate drain prior to reentering the air to air heat exchanger where incoming hot air reheats the exiting cold compressed air

the refrigerant compressor pressurizes the returning refrigerant gas

an air cooled condenser removes the heat from the refrigerant and condenses it back to a liquid state

the refrigerant filter ensures that there is no water or particulate circulating through the system

the DXR uses a capillary tube for expanding the refrigerant. Having no moving parts ensures the reliability of the system

a hot gas bypass is used to ensure the optimal temperature is maintained in the heat exchanger preventing freezing and ice formation in the unit

FEATURES

user friendly digital controller

- displays outlet dew point
- alarms contacts on models DXR 0050 to DXR 4200
- remote start stop on models DXR 0325 to DXR 4200
- automatic restart after power loss
- service reminder alarm

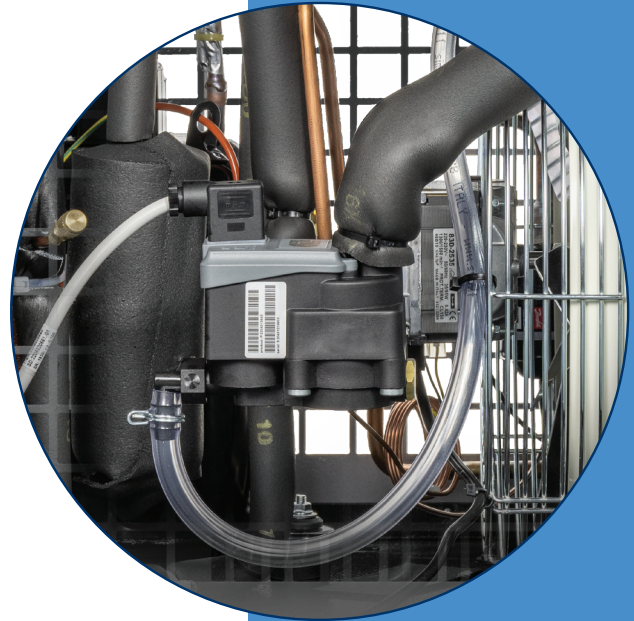


energy efficient aluminum block heat exchanger

- combined air-to-air and air-to-refrigerant heat exchanger design
- fully insulated for thermal efficiency
- integrated water separator

zero air loss drain

- energy savings drain included on all models
- prevents the loss of valuable compressed air



hot gas bypass valve

- ensures stable pressure dew point and eliminates the possibility of condensate freezing

performance validated filtration

- pre and after filter filter packages available to provide additional energy savings and improved air quality

robust and reliable refrigeration system

- low GWP refrigerants - R513A and R410A
- hot gas bypass valve
- crank case heater included for DXR 1600 to DXR 4200



SPECIFICATIONS

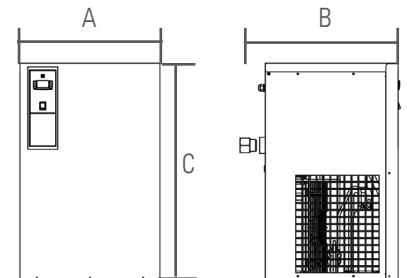
dryer model	inlet & outlet ⁽¹⁾	rated flow ⁽²⁾		absorbed power ⁽³⁾	dimensions (inches)			approx. weight	power supply (V/Ph/60Hz) ⁽⁴⁾				refrigerant
	NPT /Flg	scfm	Nm³/h	kW	A	B	C	lbs	115/1	230/1	460/3	575/3	
DXR 0010 NA	½" (M)	10	17	0.2	14	20	18	42	•				R513A
DXR 0015 NA	½" (M)	15	26	0.2	14	20	18	42	•				R513A
DXR 0020 NA	½" (M)	20	34	0.2	14	20	18	45	•				R513A
DXR 0030 NA	½" (M)	30	51	0.3	14	20	18	56	•				R513A
DXR 0050 NA	½" (M)	50	85	0.9	15	21	31	113	•				R513A
DXR 0065 NA	¾" (M)	65	111	0.9	15	21	31	113	•				R513A
DXR 0085 NA	1" (F)	85	145	1.0	19	23	32	119	•				R410A
DXR 0105 NA	1" (F)	105	179	1.0	19	23	32	119	•				R410A
DXR 0125 NA	1" (F)	125	213	1.0	19	23	32	135	•				R410A
DXR 0150 NA	1" (F)	150	255	1.5	19	23	32	146	•				R410A
DXR 0185 NA	1½" (F)	185	315	1.6	23	24	36	170		•			R410A
DXR 0230 NA	1½" (F)	230	391	2.0	23	24	36	170		•			R410A
DXR 0250 NA	1½" (F)	250	425	2.4	23	24	36	185			•		R410A
DXR 0325 NA	2" (F)	325	553	2.3	32	41	38	320			•		R410A
DXR 0400 NA	2" (F)	400	680	3.2	32	41	38	349			•		R410A
DXR 0500 NA	2" (F)	500	850	3.2	32	41	38	364			•		R410A
DXR 0600 NA	2" (F)	600	1020	4.2	32	41	38	362			•		R410A
DXR 0850 NA	3" (M)	850	1445	5.8	45	40	55	507			•	•	R410A
DXR 1050 NA	3" (M)	1050	1785	6.0	44	40	63	717			•	•	R410A
DXR 1250 NA	3" (M)	1250	2125	6.7	44	40	63	745			•	•	R410A
DXR 1600 NA	4" Flg	1600	2720	7.8	44	40	72	860			•	•	R410A
DXR 1800 NA	4" Flg	1800	3060	9.4	60	40	72	1019			•	•	R410A
DXR 2200 NA	4" Flg	2200	3740	9.5	60	40	72	1120			•	•	R410A
DXR 2400 NA	6" Flg	2400	4080	9.7	60	40	72	1120			•	•	R410A
DXR 3000 NA	6" Flg	3000	5100	11.4	78	57	72	1786			•	•	R410A
DXR 3500 NA	6" Flg	3500	5950	12.8	78	57	72	1797			•	•	R410A
DXR 4200 NA	6" Flg	4200	7140	17.1	78	57	72	1985			•	•	R410A

specifications	DXR 0010 to DXR 0030	DXR 0050 to DXR 0250	DXR 0325 to DXR 4200
design operating pressure range	60 to 232 psig	60 to 203 psig	60 to 203 psig
maximum inlet temperature	131°F	131°F	140°F
maximum ambient temperature	41 to 114.8°F	41 to 114.8°F	41 to 114.8°F

pressure correction factors ⁽⁵⁾					
operating pressure (psig)	87	100	116	145	188
correction factor	0.97	1.00	1.03	1.07	1.12

inlet temperature correction factors ⁽⁵⁾									
inlet air temperature (°F)	77	86	95	100	104	114	122	131	140
correction factor	1.22	1.16	1.11	1.00	0.93	0.75	0.65	0.50	0.40

ambient temperature correction factors ⁽⁵⁾					
inlet temperature (°F)	77	86	95	100	114
correction factor	1.19	1.19	1.07	1.00	0.90



- (1) ½" to 3" are NPT threaded connections, 4" and up are supplied with ANSI flanged connections
- (2) rated flow capacity: conditions for rating dryers are in accordance with ISO7183 (Option A2). Compressed air at dryer inlet: 100 psig (7 bar) and 100°F (38°C); ambient air temperature: 100°F (38°C); operating on 60Hz power supply
- (3) nominal absorbed power at rated operating conditions using 115/1/60 or 230/1/60 or 460/3/60 power supply (as applicable). For absorbed power at 575V or other conditions, contact support@n-psi.com
- (4) specify voltage requirements when ordering
- (5) to be used as a rough guide only. All applications should be confirmed by n-psi sizing software. Contact support@n-psi.com for sizing assistance
- (6) technical specifications subject to change without notice. Direct inquiries to support@n-psi.com or contact 704.897.2182

*2 year warranty with pre-filtration and non-corrosive piping system installed

www.n-psi.com

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 R⁴ range of direct expansion refrigerated 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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