



nano

open-frame refrigerated process dryers

flow capacity: 1250 to 7500 scfm (2124 to 12,742 Nm³/hr)

“The unique stacked heat exchanger on the STR-7500 gives us excellent dew point performance and low pressure drop all in a space-saving package.”

a loyal distributor - southeastern US

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

Ambient air contains high levels of moisture, dust, hydrocarbons and other contaminants are concentrated and, 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 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 will continuously condense into liquid water throughout your compressed air system as the pressure and temperature of the compressed air changes.

nano R³ STR refrigerated process dryers

- ISO class 4, 5 or 6 compressed air
- robust shell and finned tube, dual action heat exchanger
- lowest pressure drop
- steady, reliable pressure dew point
- space-saving design with open-frame concept

unique heat exchanger

nano's shell and finned tube heat exchanger condenses moisture and removes immediately - no water separator necessary.



BENEFITS

super low pressure drop

- shell and finned tube, dual action heat exchangers
- no centrifugal separators required
- best dew point and lowest pressure drop in the industry
- no multiple heat exchangers means fewer leak points
- field-serviceable



design quality

- outlet air pressure, refrigerant suction pressure and inlet air temperature gauges are clearly visible for ease of monitoring
- easy to use control panel features power on/off and alarm lights for easy troubleshooting
- scroll or semi-hermetic reciprocating compressors
- air- or water-cooled products available
- remote condensers available

environmentally friendly

- R404A or R407C refrigerant (dependent on model)

easy to install

- skid-mounted systems
- pre- and after-filter packages available
- plug and play

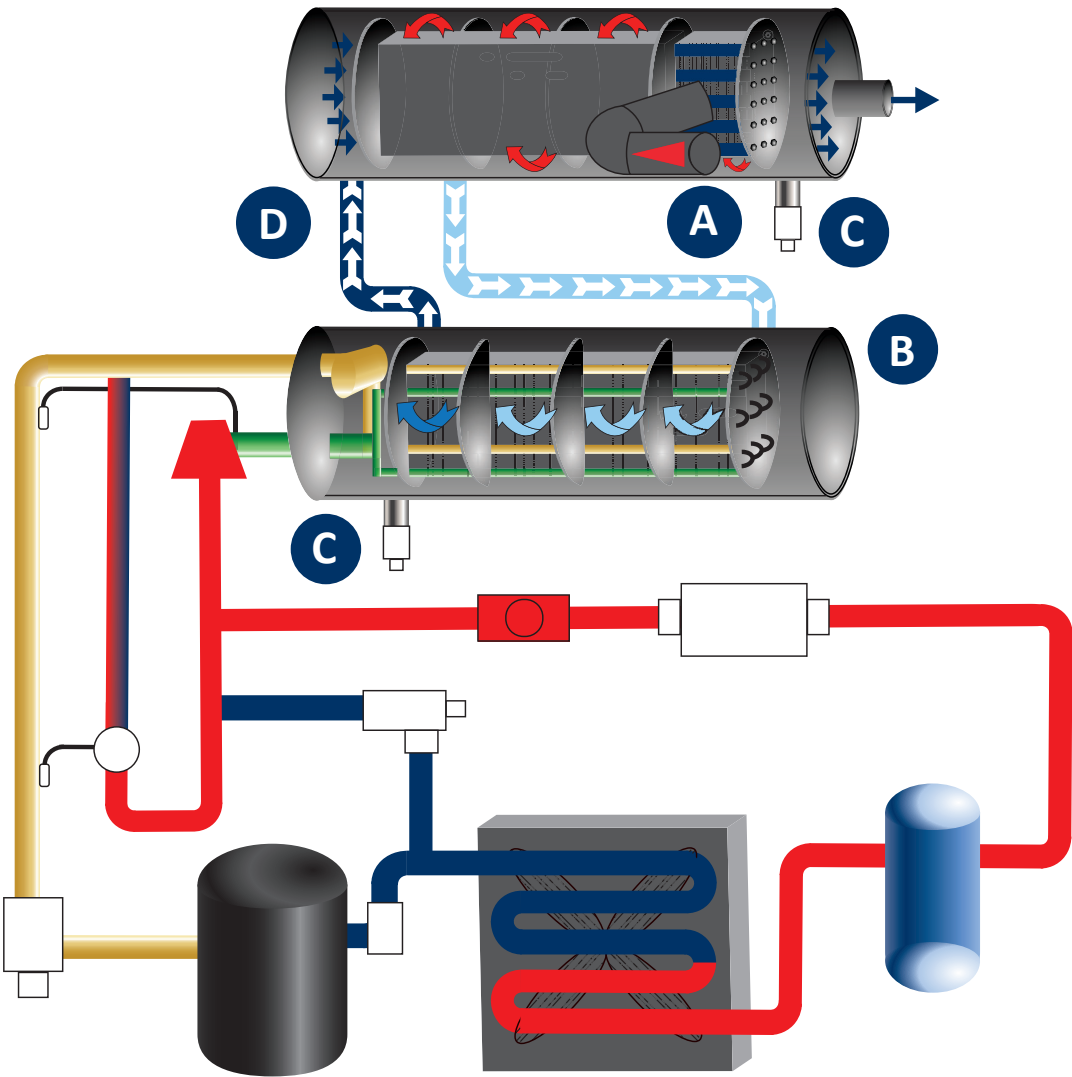
easy to maintain

- open-frame design allows for ease of maintenance
- components and manufacturing in the US for the Experience. Customer. Service. you expect from nano



HOW IT WORKS

The unique nano direct expansion, dual action, shell and finned tube heat exchangers provide very low pressure drop and superior dew point performance because of the copper tube aluminum-finned design. This design incorporates both primary and secondary heat transfer surface areas, which eliminates the need for a mechanical separator. All of this translates into one of the most efficient and cost-saving products on the market, with one of the lowest pressure drops in the industry.



A hot, wet compressed air enters the shell of the air-to-air heat exchanger. Air is cooled as it circulates around the aluminum finned copper tubes that contain cool air from the air-to-refrigerant heat exchanger

B pre-cooled compressed air then enters the shell of the air-to-refrigerant heat exchanger. It circulates around the aluminum finned copper tubes that contain cool liquid refrigerant. Compressed air temperature is again reduced as additional heat is absorbed by the cold refrigerant tubes

C as water is condensed out of the air stream, it is immediately removed from the heat exchanger via the automatic drain system

D clean, dried air is sent back through the air to air heat exchanger which is also commonly referred to as the pre-cooler/reheater since the incoming hot air now reheats the dry air going toward the plant. Reheat process prevents pipe sweat in the facility

FEATURES

shell and finned tube heat exchanger

- with dew points ranging from +35 to +45°F (2 to 7°C), our shell and finned tube heat exchanger boasts the lowest pressure drops in the industry
- built in the USA, we are so confident in its robust design, we offer a STANDARD 5-YEAR PRO-RATED HEAT EXCHANGER WARRANTY



open-frame design

- allows ease of maintenance
- finished using a durable acrylic primer and paint finish to withstand the most challenging environments



"no sweat" insulation

- all STR models are wrapped in a neoprene insulation to provide cool surfaces a barrier against unwanted moisture which could damage the piping



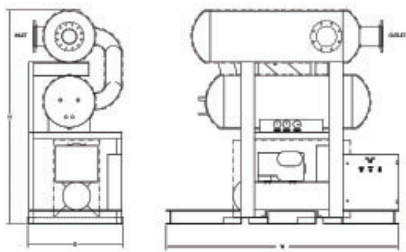
efficient & reliable compressors

- hermetic-scroll compressors and semi-hermetic reciprocating compressors are the standard
- compressors can be readily sourced at local suppliers

SPECIFICATIONS

dryer model	inlet & outlet ⁽¹⁾	rated flow ⁽²⁾		pressure drop		compressor(s)		absorbed power ⁽³⁾		dimensions (inches)			approx. weight
	NPT (M) / Flg	scfm	Nm³/h	psi	qty	hp	type	kW	amps	W	D	H	lbs
STR 1250-A	3"	1250	2124	1.6	1	8	scroll	10.4	16.4	73	51	60.5	1925
STR 1500-A	3"	1500	2548	2.0	1	9	scroll	11.8	17.5	73	51	60.5	1950
STR 1500-W	3"	1500	2548	2.0	1	7.5	semi-hermetic	7.5	14.1	73	51	60.5	1950
STR 1750-A	4"	1750	2973	2.8	1	10	scroll	13.9	17.8	73	51	60.5	2075
STR 1750-W	4"	1750	2973	2.8	1	7.5	semi-hermetic	7.5	14.1	73	51	60.5	2075
STR 2000-A	4"	2000	3398	3.5	2	12	scroll	15.1	18.6	73	51	60.5	2125
STR 2000-W	4"	2250	3823	4.4	1	10	semi-hermetic	10.7	20	73	51	60.5	2250
STR 2500-A	6"	2500	4247	1.5	2	16	scroll	15.1	18.6	90	70	67.5	2800
STR 2500-W	6"	2500	4247	1.5	1	10	semi-hermetic	10.7	20	90	70	67.5	3100
STR 3200-A	6"	3200	5437	2.5	2	20	scroll	27.7	35.6	90	70	67.5	2900
STR 3200-W	6"	3200	5437	2.5	1	15	semi-hermetic	15.1	29	90	70	67.5	3200
STR 4000-A-RC	8"	4000	6796	2.8	1	28	semi-hermetic	30.5	45.8	100	41	92	3300
STR 4000-W	8"	4000	6796	2.8	1	20	semi-hermetic	20.1	53.6	100	41	92	3300
STR 5000-A-RC	8"	5000	8495	4.2	1	35	semi-hermetic	38.5	57.5	100	41	92	3600
STR 5000-W	8"	5000	8495	4.2	1	30	semi-hermetic	38.3	48.1	100	41	92	3600
STR 6250-A-RC	8"	6250	10618	4.5	1	40	semi-hermetic	44.4	65.2	100	50	104	4400
STR 6250-W	8"	6250	10618	4.5	1	35	semi-hermetic	42.3	53.2	100	50	104	4400
STR 7500-W	8"	7500	12742	6.5	1	40	semi-hermetic	37.5	79.3	100	50	104	4500

specifications	
heat exchanger type	shell and finned tube
design operating pressure	0 to 150 psig
design /maximum inlet air temperature range	100°F / 120°F
design /maximum ambient temperature range	100°F / 110°F
condenser cooling options	air-cooled (-A) or water-cooled (-W)
refrigerant type	R404A or R407C (dependent on model)
control panel enclosure	NEMA 1 ⁽⁴⁾
power supply requirements	460V/3Ph/60Hz



pressure & dew point correction factors ⁽⁵⁾								
inlet air pressure (psig)	50	100	125	150	pressure dew point (°F)	37	45	50
correction factor	0.85	1.00	1.05	1.10	correction factor	1.00	1.13	1.20

temperature correction factors ⁽⁵⁾								
inlet air temperature (°F)	90	100	110	120	ambient temperature (°F)	80	90	100
correction factor	1.20	1.00	0.80	0.70	correction factor	1.10	1.05	1.00

(1) -1250 and -1500 are NPT(M); -1750 and above are 150# ANSI Flg connections
(2) in compliance with ADF 100 specifications for compressed air dryers; inlet temperature: 100°F, ambient temperature: 100°F, inlet pressure: 100 psig, pressure dew point: 33°F to 39°F. For all other conditions refer to the correction factors above or contact support@n-psi.com
(3) nominal absorbed power at rated operating conditions using 460/3/60 power supply (as applicable). For absorbed power at other voltages or conditions, contact support@n-psi.com
(4) for NEMA12 and NEMA4 options, contact support@n-psi.com
(5) to be used as a rough guide only. All applications should be confirmed by nano sizing software. Contact support@n-psi.com for sizing assistance
(6) for larger models or 575V, contact support@n-psi.com
(7) remote condenser standard on models STR 4000-A-RC - STR 7500-A-AC
(8) lowest standard ambient condition is 50°F. Below 50°F, contact factory
(9) technical specifications subject to change without notice. Direct inquiries to support@n-psi.com or contact 704.897.2182

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 R³ range of open-frame refrigerated process dryers are manufactured 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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