
Cabiya Distributor Corp.

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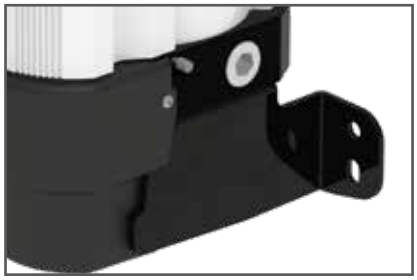
# breathing air purification modules

## FEATURES

- simple, reliable replacement purifier modules for existing breathing air systems
- reduce expense of maintaining an obsolete breathing air purifiers
- 5 models with rated flows from 30 to 960 scfm
- free standing purifiers are compact, simple to operate, easy to install and provide reliable long-term performance in a state of the art design
- cartridges include an inlet diffuser, a mixed bed purifier to remove odor, taste and carbon monoxide (CO) and a F[1] 1.0 micron particulate outlet filter for long service life with minimum maintenance
- corrosion resistant extruded aluminum design and optional CO monitor
- applications include abrasives blasting, paint and finishing, confined spaces and hazardous locations

### optimum flexibility

requires no power, needs no controls and can be either floor or wall mounted [(1)] for optimum installation flexibility



### multi-stage cartridges

unique multi-stage cartridges are pre-measured and snow storm filled for easy maintenance and long life

# SPECIFICATIONS

| model | inlet & outlet | rated flow [1] | | dimensions (inches) | | | approx. weight | service kit [2] | |
|---|---|---|---|---|---|---|---|---|---|
| | NPT (f) | scfm | $Nm^3/h$ | A | B | C | lbs | part no. | qty |
| NBM 030 | ½" | 30 | 51 | 10.4 | 8.3 | 24.6 | 27 | NBM SK 030 | 1 |
| NBM 120 | 1" | 120 | 203 | 17.3 | 9.7 | 24.6 | 84 | NBM SK 120 | 1 |
| NBM 240 | 1" | 240 | 407 | 17.3 | 15.0 | 31.7 | 100 | NBM SK 240 | 1 |
| NBM 480 | 2" | 480 | 815 | 15.7 | 22.6 | 34.3 | 227 | NBM SK 240 | 2 |
| NBM 720 | 2 ½" | 720 | 1223 | 15.7 | 21.7 | 34.3 | 313 | NBM SK 240 | 3 |
| NBM 960 | 2 ½" | 960 | 1630 | 15.7 | 28.3 | 34.3 | 397 | NBM SK 240 | 4 |

| specifications | |
|---|---|
| maximum working pressure | 232 psig |
| recommended operating temperature range | 35 to 86°F |
| maximum design temperature | 122°F |
| estimated cartridge life | 8000 hours [3] |

| inlet air quality requirements [4] | |
|---|---|
| maximum particulate size | 0.5 micron |
| minimum pressure dew point | -40°F pdp |
| maximum oil content | 0.01 ppm |
| maximum CO content | 50 ppm |
| maximum $CO_2$ content | 500 ppm |

| performance | |
|---|---|
| maximum outlet air CO content | 5 ppm |

(1) at inlet conditions of 100 psig and 77°F, and 100°F ambient temperature. For all other operating conditions contact support@n-psi.com for sizing assistance

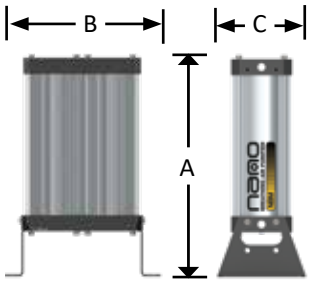
(2) includes purification cartridges (including integral inlet diffusers and outlet particulate filters) and all o-rings

(3) provided as an estimate only. Cartridges must be replaced as required to maintain adequate breathing air quality in accordance with all applicable codes and regulations

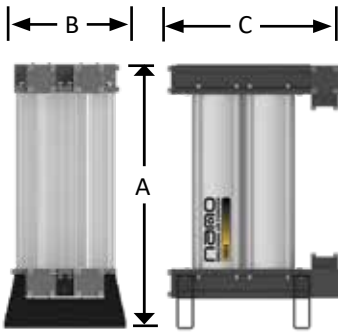
(4) if the air doesn't meet these conditions, contact support@n-psi.com to confirm the additional treatment required

(5) models NBM 120 & NBM 240 can be wall mounted (separate wall mounting kit required)

(6) technical specifications subject to change without notice. Direct inquiries to support@n-psi.com or contact 704.897.2182




NBM 030 to 240




NBM 480 to 960


publication ref. n-psi-B1-NBM 2022-01-us

nano




# breathing air purification systems

flow capacity: 6 to 486 scfm (10 to 825 $Nm^3/hr$)

# “Our automotive manufacturer end-user needed a high-flow yet compact breathing air system. The nano NBA modular design really fit the bill.”

*a nano distributor - southwestern US*

In industry, there is perhaps no more critical use of compressed air than for breathing. Whether blasting with fine abrasives, cleaning tanks in hazardous locations or applying finishes to consumer products, high quality breathable compressed air is an absolute necessity to ensure the safety of the user.

If the compressed air is of sufficiently high quality and free of harmful gases, a filtration system to remove particulate, oil, odor and taste may be used in conjunction with a carbon monoxide (CO) monitor. These systems are available at a lower initial investment and meet many breathing air standards. If however, gases such as $CO_2$ or CO may be present in dangerous levels, both filtration and purification is required.

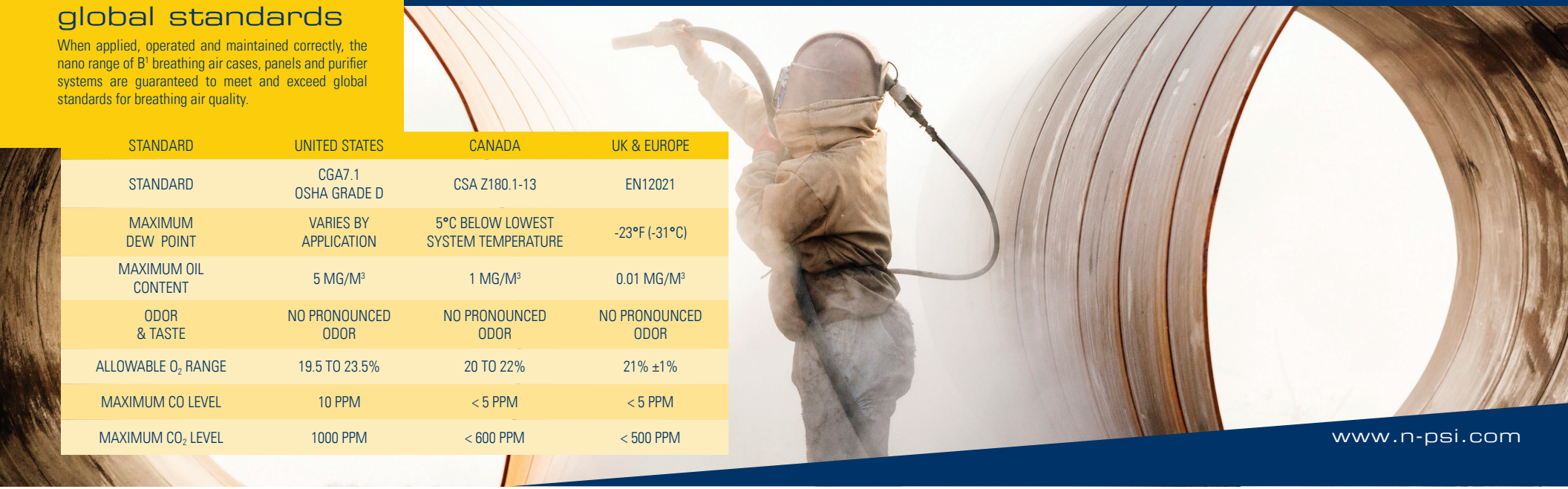
## nano B[1] breathing air purification systems

- clean, reliable and safe supply of breathable air that meets or exceeds global standards
- stationary or portable systems
- plug and play systems for 2+ users
- carbon monoxide (CO) monitor to ensure safe and reliable operation included as standard on all units; carbon dioxide ($CO_2$) scrubber also included on NBA models

## global standards

When applied, operated and maintained correctly, the nano range of B[1] breathing air cases, panels and purifier systems are guaranteed to meet and exceed global standards for breathing air quality.

| STANDARD | UNITED STATES | CANADA | UK & EUROPE |
|---|---|---|---|
| STANDARD | CGA7.1<br>OSHA GRADE D | CSA Z180.1-13 | EN12021 |
| MAXIMUM<br>DEW POINT | VARIES BY<br>APPLICATION | 5°C BELOW LOWEST<br>SYSTEM TEMPERATURE | -23°F (-31°C) |
| MAXIMUM OIL<br>CONTENT | 5 MG/M³ | 1 MG/M³ | 0.01 MG/M³ |
| ODOR<br>& TASTE | NO PRONOUNCED<br>ODOR | NO PRONOUNCED<br>ODOR | NO PRONOUNCED<br>ODOR |
| ALLOWABLE $O_2$ RANGE | 19.5 TO 23.5% | 20 TO 22% | 21% ±1% |
| MAXIMUM CO LEVEL | 10 PPM | < 5 PPM | < 5 PPM |
| MAXIMUM $CO_2$ LEVEL | 1000 PPM | < 600 PPM | < 500 PPM |



www.n-psi.com

# BENEFITS

## portable breathing air cases

- for users who need a robust, impact and water resistant go anywhere breathable air filtration system
- includes an adjustable pressure regulator and carbon monoxide (CO) monitor to ensure safe and reliable operation
- complies with OSHA Grade D (US) and CSA Z180.1-13 (Canada) breathing air standards


## wall mounted breathing air panels

- for one or more users who require high quality breathable air filtration system without portability requirements
- easy to install panel can be mounted to wall, skid or any location such as blasting or paint booth, a confined space, a hazardous area or a tank cleaning location
- includes an adjustable pressure regulator and carbon monoxide (CO) monitor to ensure safe and reliable operation
- complies with OSHA Grade D (US) and CSA Z180.1-13 (Canada) breathing air standards

## modular breathing air purifier system

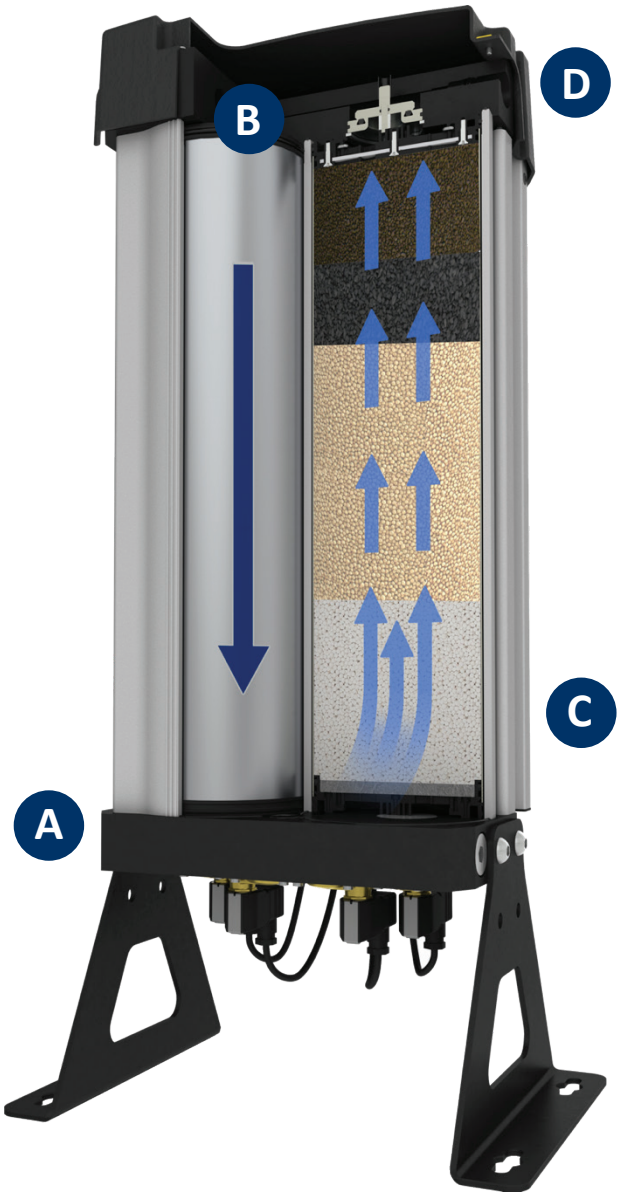
- for CO removal and $CO_2$ removal (CO monitor included as standard and shipped loose)
- all-in-one package including mixed bed NBA cartridges
- complies with OSHA Grade D (US) and CSA Z180.1-13 (Canada) breathing air standards

# HOW IT WORKS

While many breathing air applications may require only the removal of particulate, oil, odor and taste, others may also require the removal of hazardous gases.

Carbon Dioxide ($CO_2$) and Carbon Monoxide (CO) are odorless, tasteless gases that can be harmful or even lethal if inhaled - especially in high concentrations. If there is the potential for high levels of CO or $CO_2$ in the air, it is imperative they are reduced to safe levels for breathing.

The nano modular breathing air purification systems are based on the tested and proven nano D[1|2|3] modular dryers but employ a unique split cartridge system to completely treat the air prior to respiration.

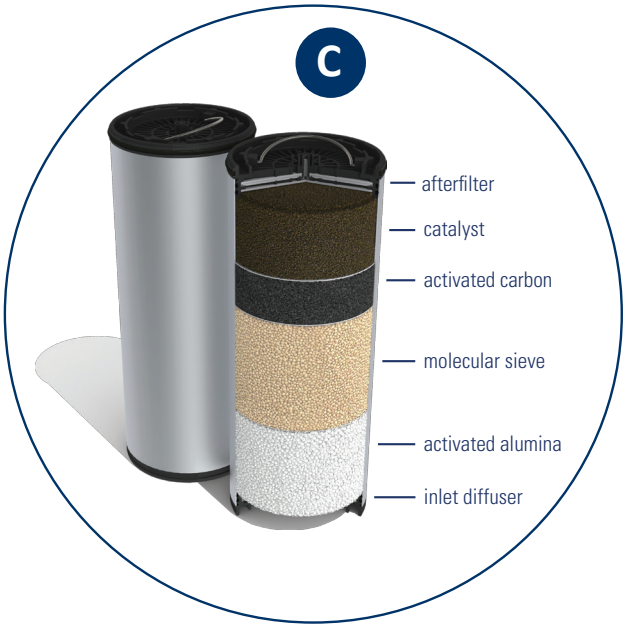



**A** clean, filtered compressed air enters the inlet into NBA unit where the inlet valves direct the flow to either the left or right column sets

**B** after passing through the inlet valve, the compressed air enters one side of the manifold under the extruded columns

**C** the compressed air then flows up through the mixed bed cartridges where the air is dried to -40°F (-40°C), existing $CO_2$ is scrubbed, taste and smell are removed and deadly CO is changed through a catalytic process to less hazardous $CO_2$

**D** the clean, dry, breathable air flows through a final filter and exits through the outlet



# FEATURES

## portable breathing air cases

Case houses nano F[1] water separator and 0.01 micron coalescing filter with automatic condensate drains and an AC activated carbon adsorber to remove moisture, oil aerosols, odors and taste to 0.003 ppm all in one simple, portable package.

- 50 or 100 scfm flow rates
- four outlet connections for multiple users
- adjustable pressure regulators
- integral CO monitor

## wall mounted breathing air panels

Panel includes a nano F[1] water separator and 0.01 micron coalescing filter with automatic condensate drains and an AC activated carbon adsorber to remove moisture, oil aerosols, odors and taste to 0.003 ppm.

- 50, 100 or 175 scfm flow rates
- multiple outlet connections for multiple users
- adjustable pressure regulators
- integral CO monitor


## modular systems

Modular systems include nano F[1] 1 and 0.01 micron high-efficiency coalescing filters with automatic condensate drains, a 4-layer, mixed bed to remove CO and scrub $CO_2$ and an integral 1 micron particulate after filter.

- wide range of flow rates
- for multiple users
- adjustable pressure regulators
- CO monitor (shipped loose)
- tower pressure gauges
- dew point demand switching energy savings optional

## accessories & options

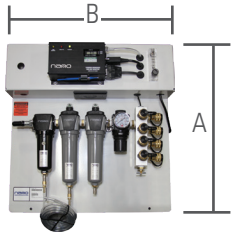
Customize your breathing air system with upgrades including remote audible and visual alarms, free-standing CO monitors and test, calibration and service kits to keep your products working at their optimum level of performance.

# SPECIFICATIONS

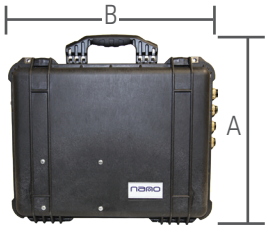
| model | inlet connection | | | outlet connection(s) | | | flow (scfm) [4] | | dimensions (inches) | | | approx. weight |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | size | type | qty | size | type | qty | inlet | outlet | A | B | C | lbs |
| breathing air panels | | | | | | | | | | | | |
| BAP 050 CP N | ½" | NPT(F) | 1 | ⅜" | NPT(F) | 4 | 50 | 50 | 23 | 22 | 8 | 28 |
| BAP 050 CP H | ½" | NPT(F) | 1 | ¼" | Hansen [1] | 4 | 50 | 50 | 23 | 22 | 8 | 28 |
| BAP 050 CP S | ½" | NPT(F) | 1 | ¼" | Schrader [1] | 4 | 50 | 50 | 23 | 22 | 8 | 28 |
| BAP 100 CP N | ¾" | NPT(F) | 1 | ⅜" | NPT(F) | 4 | 100 | 100 | 23 | 22 | 8 | 40 |
| BAP 100 CP H | ¾" | NPT(F) | 1 | ¼" | Hansen [1] | 4 | 100 | 100 | 23 | 22 | 8 | 40 |
| BAP 100 CP S | ¾" | NPT(F) | 1 | ¼" | Schrader [1] | 4 | 100 | 100 | 23 | 22 | 8 | 40 |
| BAP 175 CP N | ¾" | NPT(F) | 1 | ⅜" | NPT(F) | 6 | 175 | 175 | 23 | 22 | 8 | 45 |
| BAP 175 CP H | ¾" | NPT(F) | 1 | ¼" | Hansen [1] | 6 | 175 | 175 | 23 | 22 | 8 | 45 |
| BAP 175 CP S | ¾" | NPT(F) | 1 | ¼" | Schrader [1] | 6 | 175 | 175 | 23 | 22 | 8 | 45 |
| portable breathing air cases | | | | | | | | | | | | |
| BAC 050 CP N | ½" | NPT(F) | 1 | ⅜" | NPT(F) | 4 | 50 | 50 | 17 | 24 | 8.5 | 28 |
| BAC 050 CP H | ½" | NPT(F) | 1 | ¼" | Hansen [1] | 4 | 50 | 50 | 17 | 24 | 8.5 | 28 |
| BAC 050 CP S | ½" | NPT(F) | 1 | ¼" | Schrader [1] | 4 | 50 | 50 | 17 | 24 | 8.5 | 28 |
| BAC 100 CP N | ½" | NPT(F) | 1 | ⅜" | NPT(F) | 4 | 100 | 100 | 21 | 27 | 9 | 40 |
| BAC 100 CP H | ½" | NPT(F) | 1 | ¼" | Hansen [1] | 4 | 100 | 100 | 21 | 27 | 9 | 40 |
| BAC 100 CP S | ½" | NPT(F) | 1 | ¼" | Schrader [1] | 4 | 100 | 100 | 21 | 27 | 9 | 40 |
| modular breathing air purifier systems | | | | | | | | | | | | |
| NBA 030 | 3/8" | PTC [2] | 1 | 3/8" | PTC [2] | 1 | 8 | 6 | 25.5 | 10.3 | 8.7 | 20 |
| NBA 040 | 3/8" | PTC [2] | 1 | 3/8" | PTC [2] | 1 | 12 | 9 | 35 | 10.3 | 13 | 20 |
| NBA 050 | 3/8" | PTC [2] | 1 | 3/8" | PTC [2] | 1 | 20 | 15 | 47 | 10.3 | 13 | 30 |
| NBA 070 | 1" | NPT(F) | 1 | 1" | NPT(F) | 1 | 35 | 26 | 29.9 | 16.8 | 11.1 | 88 |
| NBA 090 | 1" | NPT(F) | 1 | 1" | NPT(F) | 1 | 55 | 41 | 35.9 | 16.8 | 11.1 | 119 |
| NBA 110 | 1" | NPT(F) | 1 | 1" | NPT(F) | 1 | 87 | 65 | 49 | 16.8 | 11.1 | 172 |
| NBA 120 | 1" | NPT(F) | 1 | 1" | NPT(F) | 1 | 108 | 81 | 59 | 16.8 | 11.1 | 209 |
| NBA 2110 | 2" | NPT(F) | 1 | 2" | NPT(F) | 1 | 172 | 129 | 50.5 | 15.7 | 26.8 | 214 |
| NBA 2120 | 2" | NPT(F) | 1 | 2" | NPT(F) | 1 | 216 | 162 | 60.4 | 15.7 | 26.8 | 394 |
| NBA 3120 | 2" | NPT(F) | 1 | 2" | NPT(F) | 1 | 324 | 243 | 74.1 | 15.7 | 33.4 | 548 |
| NBA 4120 | 2 ½" | NPT(F) | 1 | 2 ½" | NPT(F) | 1 | 432 | 324 | 74.1 | 15.7 | 40 | 729 |
| NBA 6120 | 2 ½" | NPT(F) | 1 | 2 ½" | NPT(F) | 1 | 648 | 486 | 60.4 | 15.7 | 53.2 | 967 |

| specifications | BAP panels | BAC cases | NBA 030 to 050 | NBA 070 to 120 | NBA 2110 to 6120 |
|---|---|---|---|---|---|
| operating pressure range | 15 to 150 psig | 15 to 150 psig | 58 to 232 psig | 87 to 232 psig | 87 to 145 psig |
| recommended operating temperature range | 35 to 86°F | 35 to 86°F | 35 to 95°F | 35 to 95°F | 50 to 86°F |

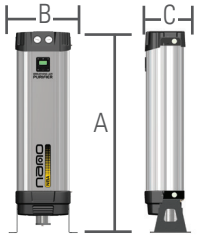
(1) female style coupling (2) PTC = push to connect fittings (3) contact support@n-psi.com for higher pressures or flows
(4) flow rates based on 100 psig and 86°F inlet temperature (5) contacts support@n-psi.com for intrinsically safe, integrated CO & $O_2$ monitoring or any options or equipment not listed
(6) quick-disconnect fittings for use in compressed breathing air systems shall be selected to prevent accidental connection to other sources of compressed air
(6) technical specifications subject to change without notice. Direct inquiries to support@n-psi.com or contact 704.897.2182



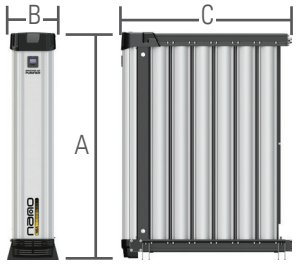
BAP 050 to BAP 175 CP



BAC 050 to BAC 100 CP



NBA 030 to NBA 120



NBA 2110 to NBA 6120

# water separators

## FEATURES

- eliminate corrosion, damage to tools and machinery downtime with efficient bulk water removal
- eliminate 99% of liquids in your compressed air or gas system improving your processes and reducing costly downtime
- 14 models with connections from 1/8"to 4" Flg and rated flows from 6 to 3000 scfm
- perfectly suited for variable speed compressors
- housing manufactured from die cast aluminum and polyester powder coated for optimum corrosion protection for the most demanding applications
- manufactured in an ISO 9001 approved facility and tested in accordance with ISO 12500-4
- applications include electronics, instrumentation, laboratories, automotive, robotics, oil and gas, paint applications and pneumatic conveying

### unique vanes

engineered using the latest computational fluid dynamic software to optimize liquid removal efficiency

### vortex arrester

ensures that the separated liquid cannot re-enter the air or gas stream greatly improving drainage

# SPECIFICATIONS

| separator model | inlet & outlet | rated flow [1] | | dimensions (inches) | | | | | approx. weight |
|---|---|---|---|---|---|---|---|---|---|
| | NPT/Flg | scfm | $Nm^3/h$ | A | B | C | D | E | lbs |
| GF 0006 WS | 1/8" | 6 | 10 | 1.97 | 0.67 | 6.18 | 1.10 | 2.36 | 0.6 |
| GF 0015 WS | ¼" | 15 | 25 | 1.97 | 0.67 | 6.18 | 1.10 | 2.36 | 0.6 |
| GF 0025 WS | ¼" | 25 | 42 | 2.76 | 0.95 | 9.09 | 1.10 | 2.76 | 1.3 |
| GF 0035 WS | 3/8" | 35 | 60 | 2.76 | 0.95 | 9.09 | 1.10 | 2.76 | 1.3 |
| GF 0050 WS | ½" | 50 | 85 | 2.76 | 0.95 | 9.09 | 1.10 | 2.76 | 1.3 |
| GF 0070 WS | ½" | 70 | 119 | 5.00 | 1.26 | 9.09 | 1.18 | 3.15 | 3.7 |
| GF 0125 WS | ¾" | 125 | 213 | 5.00 | 1.26 | 11.22 | 1.18 | 3.15 | 4.4 |
| GF 0175 WS | 1" | 175 | 298 | 5.00 | 1.26 | 11.22 | 1.18 | 3.15 | 4.4 |
| GF 0280 WS | 1 ¼" | 280 | 476 | 5.51 | 1.58 | 18.70 | 1.18 | 3.15 | 6.6 |
| GF 0325 WS | 1 ½" | 325 | 553 | 5.51 | 1.58 | 18.70 | 1.18 | 3.15 | 6.6 |
| GF 0700 WS | 2" | 700 | 1190 | 6.69 | 2.09 | 20.00 | 1.18 | 3.94 | 12.1 |
| GF 0850 WS | 2 ½" | 850 | 1445 | 8.66 | 2.76 | 16.26 | 1.18 | 3.94 | 23.1 |
| GF 1500 WS | 3" | 1500 | 2550 | 8.66 | 2.76 | 16.26 | 1.18 | 3.94 | 27.6 |
| NFE 3000 WS-ND | 4" Flg | 3000 | 5097 | 18.00 | 4.57 | 25.59 | 11.81 | 13.50 | 64.6 |

| specifications | 0006 to 0050 WS | 0070 too 1500 WS | NFE 3000 WS-ND |
|---|---|---|---|
| recommended operating temperature range | 35 to 176°F | 35 to 176°F | 35 to 176°F |
| design operating temperature range | 35 to 176°F | 35 to 176°F | 35 to 176°F |
| design operating pressure range | 0 to 232 psig | 22 to 232 psig [2] | 22 to 232 psig |
| condensate drain (included) [3] | GFDK 0050 | GFDK 1500 | - |

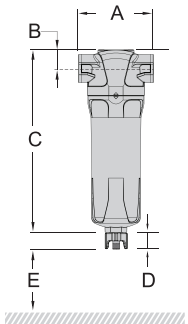
| pressure correction factors | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| operating pressure (psig) | 58 | 72 | 87 | 100 | 115 | 145 | 174 | 203 | 232 |
| correction factor | 0.76 | 0.84 | 0.92 | 1.00 | 1.07 | 1.19 | 1.31 | 1.41 | 1.51 |

(1) at 100 psig. For all other pressures, refer to the pressure correction factors above

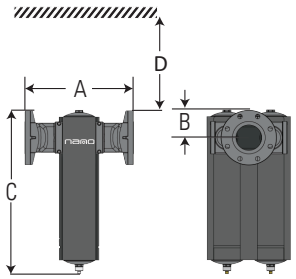
(2) for pressures below 22 psig order with an GFDK 0050 condensate drain

(3) models NF 0006 to 1500 WS are supplied with an automatic float drain. When high liquid loads are anticipated we recommend installing a high capacity external condensate drain. Contact support@n-psi.com for available options

(4) technical specifications subject to change without notice. Direct inquiries to support@n-psi.com or contact 704.897.2182




GF 0006 WS to GF 1500 WS




NFE 3000 WS

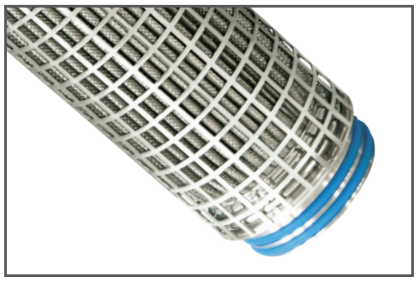
# culinary steam filters

## FEATURES

- stainless steel culinary steam filters designed to provide culinary grade steam to the food and beverage industry
- high efficiency and low pressure drop provides efficient, cost effective performance exceeding 3A culinary specifications
- encompasses 10 models with connections from ¼" to 3" NPT and rated flows from 75 to 4250 lbs/hr
- all materials conform to FDA regulations for direct food contact
- ideally suited for removing contaminants from steam used in food and beverage processing
- applications include food processing, beverage, dairy, biotechnology and aseptic processing

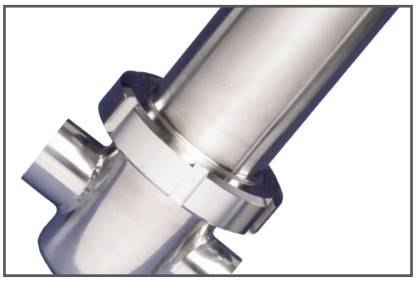
### 100% integrity tested

pleated stainless steel elements incorporate positive double o-ring click-lock seal



### SS housings

fabricated from polished 304 or 316 stainless steel for critical air and gas applications



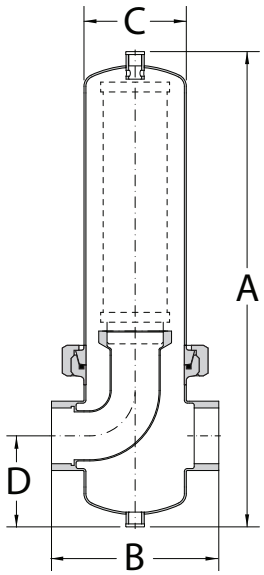
# SPECIFICATIONS

| filter model | inlet & outlet | rated flow [1] | dimensions (inches) | | | | approx. weight | replacement element |
|---|---|---|---|---|---|---|---|---|
| | NPT (F) | lbs/hr | A | B [2] | C | D | lbs | |
| PF 0050 SP-N | ¼" | 75 | 9.45 | 4.14 | 2.76 | 2.24 | 4.2 | E 102 SP |
| PF 0065 SP-N | ⅜" | 100 | 9.45 | 4.14 | 2.76 | 2.24 | 4.4 | E 102 SP |
| PF 0085 SP-N | ½" | 125 | 9.45 | 4.25 | 2.76 | 2.24 | 4.6 | E 102 SP |
| PF 0120 SP-N | ¾" | 300 | 9.45 | 4.92 | 2.76 | 2.24 | 5.1 | E 102 SP |
| PF 0170 SP-N | 1" | 500 | 11.40 | 4.92 | 3.35 | 2.78 | 7.3 | E 105 SP |
| PF 0295 SP-N | 1 ½" | 950 | 12.70 | 5.51 | 3.35 | 3.49 | 11.4 | E 105 SP |
| PF 0460 SP-N | 2" | 1500 | 19.02 | 6.70 | 4.10 | 3.64 | 12.1 | E 110 SP |
| PF 0680 SP-N | 2" | 2100 | 29.37 | 6.70 | 4.10 | 3.64 | 15.0 | E 120 SP |
| PF 0850 SP-N | 2 ½" | 2600 | 29.53 | 7.17 | 4.10 | 3.80 | 15.2 | E 120 SP |
| PF 1150 SP-N | 3" | 4250 | 40.04 | 7.17 | 4.10 | 3.96 | 19.4 | E 130 SP |

| specifications | standard | optional |
|---|---|---|
| design operating pressure range | 0 to 232 psig | - |
| inlet & outlet connections | NPT (F) | tri-clamp sanitary |
| drain & vent connections | ¼" BSPP | - |
| filter housing material | 1.4301 quality 304 stainless steel | 1.4404 quality 316L stainless steel |
| filter housing polishing | passivated & polished to grade Ra <1.6 um | - |
| filter housing seals | aspetic EPDM | consult factory |

| element performance | |
|---|---|
| particle removal | 1 micron |
| particle removal efficiency | 99% |
| continuous operating temperature | 212 to 392°F |
| media material | pleated 304 stainless steel mesh |
| media support & endcap material | 304 stainless steel |
| element to housing connection | positive click lock with dual EPDM o-rings |
| differential pressure - clean | 1.0 psid |

| pressure correction factors | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| operating pressure (psia) | 15 | 30 | 45 | 60 | 75 | 90 | 100 | 125 |
| correction factor | 0.04 | 0.20 | 0.36 | 0.52 | 0.68 | 0.84 | 1.00 | 1.20 |




(1) at 100 psia and 80 ft/sec flow velocity. For all other pressures, refer to the correction factors above
(2) +/- 0.118"
(3) steam flow from outside to inside
(4) technical specifications subject to change without notice. Direct inquiries to support@n-psi.com or contact 704.897.2182

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publication ref. n-psi-P1-SP2020-02-us

# filter heater packages

## FEATURES

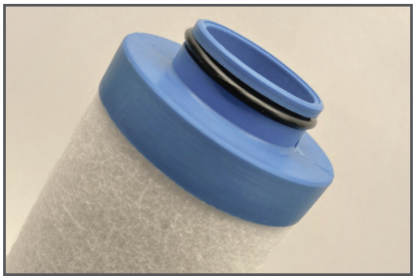
- specifically designed for both industrial and breathing air applications providing efficient filtration and precise temperature control between 68°F and 248°F
- uses open wound heating coil and high accuracy output temperature sensor to react quickly to changes in pressure and flow ensuring a consistent temperature across a wide range of operating conditions
- compact solid state temperature controller monitors the exact outlet temperature using a bi-metallic thermometer and displays the results on an optional temperature gauge
- fast response to flow and temperature variations
- applications include breathing air, manufacturing and military


### modular housing design

filter design allows for additional filtration stages and temperature gauge

### 0.01 micron filtration

available with or without pre-filtration to ensure process air is treated prior to entering the heater



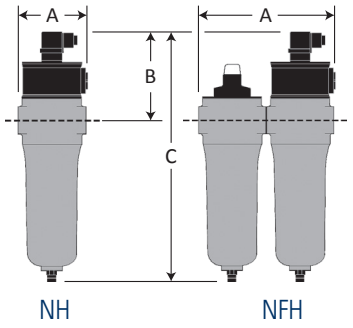
# SPECIFICATIONS

| model | inlet & outlet | rated flow (1) | | supply voltage | dimensions (inches) | | | approx. weight | replacement element |
|---|---|---|---|---|---|---|---|---|---|
| | NPT | scfm | Nm³/h | 1Ph/50-60Hz | A | B | C | lbs | |
| heater | | | | | | | | | |
| NH 27 A1 | ⅜" | 27 | 46 | 115 VAC | 3.5 | 5.1 | 13.3 | 2.2 | - |
| NH 27 A2 | ⅜" | 27 | 46 | 230 VAC | 3.5 | 5.1 | 13.3 | 2.2 | - |
| NH 27 B1 | ½" | 27 | 46 | 115 VAC | 3.5 | 5.1 | 13.3 | 2.2 | - |
| NH 27 B2 | ½" | 27 | 46 | 230 VAC | 3.5 | 5.1 | 13.3 | 2.2 | - |
| heater + temperature gauge | | | | | | | | | |
| NTH 27 A1 | ⅜" | 27 | 46 | 115 VAC | 6.9 | 5.1 | 13.3 | 2.9 | - |
| NTH 27 A2 | ⅜" | 27 | 46 | 230 VAC | 6.9 | 5.1 | 13.3 | 2.9 | - |
| NTH 27 B1 | ½" | 27 | 46 | 115 VAC | 6.9 | 5.1 | 13.3 | 2.9 | - |
| NTH 27 B2 | ½" | 27 | 46 | 230 VAC | 6.9 | 5.1 | 13.3 | 2.9 | - |
| filter + heater | | | | | | | | | |
| NFH 27 A1 | ⅜" | 27 | 46 | 115 VAC | 5.4 | 5.1 | 13.3 | 5.0 | E 27 M01 |
| NFH 27 A2 | ⅜" | 27 | 46 | 230 VAC | 5.4 | 5.1 | 13.3 | 5.0 | E 27 M01 |
| NFH 27 B1 | ½" | 27 | 46 | 115 VAC | 5.4 | 5.1 | 13.3 | 5.0 | E 27 M01 |
| NFH 27 B2 | ½" | 27 | 46 | 230 VAC | 5.4 | 5.1 | 13.3 | 5.0 | E 27 M01 |
| filter + heater + temperature gauge | | | | | | | | | |
| NFTH 27 A1 | ⅜" | 27 | 46 | 115 VAC | 8.9 | 5.1 | 13.3 | 5.8 | E 27 M01 |
| NFTH 27 A2 | ⅜" | 27 | 46 | 230 VAC | 8.9 | 5.1 | 13.3 | 5.8 | E 27 M01 |
| NFTH 27 B1 | ½" | 27 | 46 | 115 VAC | 8.9 | 5.1 | 13.3 | 5.8 | E 27 M01 |
| NFTH 27 B2 | ½" | 27 | 46 | 230 VAC | 8.9 | 5.1 | 13.3 | 5.8 | E 27 M01 |

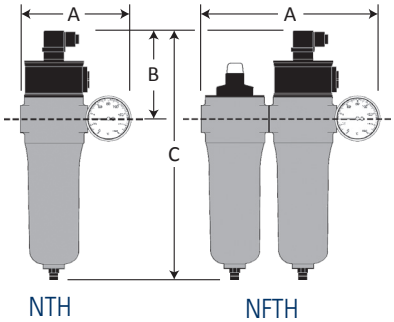
| specifications | |
|---|---|
| minimum operating flow | 1.7 scfm |
| design operating pressure | 22 to 232 psig |
| automatic float drain (filter) | NDK 0050 |
| semi-automatic drain (heater) | NSDK 175 |
| power rating | 1.5 kW |
| input temperature range | -4 to 248°F |
| controlled output temperature range | 60 to 248°F |
| electrical connection | DIN |

| element performance (2) | M01 |
|---|---|
| maximum particle size (ISO class) (3) | 1 |
| maximum oil content (ISO class) (3) | 0.1 |
| particle removal | 0.01 micron |
| max oil carry over at 68°F | 0.01 ppm or mg/m³ |
| recommended operating temperature range | 35 to 212°F |
| design operating temperature range | 35 to 248°F |
| maximum element life | 12 months or 8000 hours |

| pressure correction factors | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| operating pressure (psig) | 60 | 70 | 85 | 100 | 115 | 145 | 175 | 205 | 232 |
| correction factor | 0.76 | 0.84 | 0.92 | 1.00 | 1.07 | 1.19 | 1.31 | 1.41 | 1.51 |




NH NFH




NTH NFTH

(1) at 100 psig. For all other pressures, refer to the pressure correction factors above

(2) applies to filter & heater packages (NFH & NFTH) only. Filters are required for all applications containing liquids or aerosols

(3) per ISO 8573.1:2001 (E)

(4) when used in breathing air application, product is to be installed downstream of a suitable breathing air purifier (consult nano). Product does not remove gases such as CO or $CO_2$

(5) technical specifications subject to change without notice. Direct inquiries to support@n-psi.com or contact 704.897.2182

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publication ref. n-psi-F5-HEATER2021-00-us

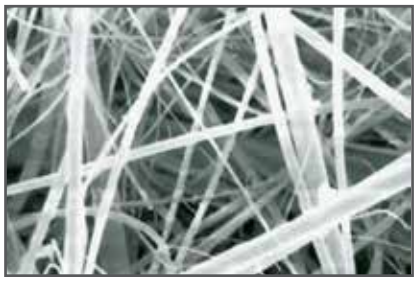
# high capacity flanged filters

## FEATURES

- provide reliable and efficient liquid and particulate removal with low pressure drop for high flow industrial applications
- encompasses 17 models with ANSI flanged connections from 4 to 10" and rated flows from 1410 to 10,230 scfm
- choose from 4 different element grades including 1, 0.01 micron, 0.003 ppm activated carbon and 1 micron high temperature micron coalescing and/or dust filtration
- available in two flow configurations to fit every application
- fabricated from high quality carbon steel
- externally primed and powder coated for optimum corrosion resistance; 3-part epoxy finish available as option
- built in accordance with ASME VIII with U-Stamp and CRN number (CRN standard on Z-flow; optional on T-flow)
- manufactured in an ISO 9001 approved facility and tested in accordance with ISO 12500
- high pressure and stainless steel options available
- applications include chemical, food and beverage, manufacturing, military and oil and gas


### proprietary media technology

hydrophobic and oleophobic borosilicate glass microfiber media repels oil and water for lower differential pressure



### element design

outer drainage layer compatible with synthetic lubricants and prevents oil carry over

# SPECIFICATIONS

| filter model | inlet & outlet | rated flow [1] | | dimensions (inches) | | | | | approx. weight | replacement element | qty |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | flange | scfm | Nm³/h | A | B | C | D | E | lbs | | |
| NFZ (Z flow) | | | | | | | | | | | |
| NFZ 2500 (grade) | 4" | 2500 | 4248 | 21.0 | 10.8 | 12.4 | 54.7 | 30.0 | 340 | E 0853 (grade)-AL | 3 |
| NFZ 3000 (grade) | 4" | 3000 | 5097 | 21.0 | 10.8 | 12.4 | 54.7 | 30.0 | 340 | E 0853 (grade)-AL | 4 |
| NFZ 3500 (grade) | 6" | 3500 | 5947 | 21.0 | 10.8 | 13.9 | 58.7 | 30.0 | 370 | E 0853 (grade)-AL | 4 |
| NFZ 4000 (grade) | 6" | 4000 | 6796 | 23.0 | 12.8 | 16.8 | 61.4 | 30.0 | 410 | E 0853 (grade)-AL | 5 |
| NFZ 5000 (grade) | 6" | 5000 | 8495 | 24.3 | 14.0 | 17.4 | 62.0 | 30.0 | 460 | E 0853 (grade)-AL | 6 |
| NFZ 6000 (grade) | 6" | 6000 | 10194 | 24.3 | 14.0 | 17.4 | 62.0 | 30.0 | 460 | E 0853 (grade)-AL | 7 |
| NFZ 7500 (grade) | 8" | 7500 | 12743 | 28.3 | 18.0 | 19.9 | 69.4 | 30.0 | 560 | E 0853 (grade)-AL | 9 |
| NFZ 8500 (grade) | 8" | 8500 | 14442 | 28.3 | 18.0 | 19.9 | 69.4 | 30.0 | 560 | E 0853 (grade)-AL | 10 |
| NFZ 10000 (grade) | 10" | 10000 | 16990 | 28.3 | 18.0 | 17.8 | 70.1 | 30.0 | 640 | E 0853 (grade)-AL | 12 |
| NFT (T flow) | | | | | | | | | | | |
| NFT 1700 (grade) | 4" | 1700 | 2888 | 21.0 | 10.8 | 11.5 | 49.0 | 30.0 | 330 | E 0853 (grade)-AL | 2 |
| NFT 2500 (grade) | 4" | 2500 | 4248 | 21.0 | 10.8 | 8.8 | 49.0 | 30.0 | 330 | E 0853 (grade)-AL | 3 |
| NFT 3500 (grade) | 6" | 3500 | 5947 | 23.0 | 12.8 | 12.8 | 55.4 | 30.0 | 360 | E 0853 (grade)-AL | 4 |
| NFT 4000 (grade) | 6" | 4000 | 6796 | 23.0 | 12.8 | 12.9 | 55.4 | 30.0 | 360 | E 0853 (grade)-AL | 5 |
| NFT 5000 (grade) | 6" | 5000 | 8495 | 24.3 | 14.0 | 13.4 | 53.7 | 30.0 | 410 | E 0853 (grade)-AL | 6 |
| NFT 7000 (grade) | 8" | 7000 | 11893 | 28.3 | 18.0 | 15.8 | 57.4 | 30.0 | 500 | E 0853 (grade)-AL | 8 |
| NFT 8500 (grade) | 8" | 8500 | 14442 | 28.3 | 18.0 | 15.8 | 63.3 | 30.0 | 500 | E 0853 (grade)-AL | 10 |
| NFT 10000 (grade) | 10" | 10000 | 16990 | 28.3 | 18.0 | 14.1 | 55.4 | 30.0 | 625 | E 0853 (grade)-AL | 12 |

| specifications | NFZ | NFT |
|---|---|---|
| design operating pressure range | 0 to 150 psig | 0 to 150 psig |
| condensate drain (included) | automatic float | automatic float |
| ASME VIII & U stamp | standard | standard |
| Canadian Registration Number | standard | optional |

| element performance | M1 | M1 HT | M01 | AC |
|---|---|---|---|---|
| maximum particle size (ISO Class) [2] | 2 | 2 | 1 | - |
| maximum oil content (ISO Class) [2] | 2 | 2 | 1 | 1 |
| particle removal (microns) | 1 | 1 | 0.01 | - |
| maximum oil carry over at 68°F (ppm or mg/m³) | 0.1 | 0.1 | 0.01 | 0.003 |
| recommended operating temperature range | 35 to 212°F | 35 to 450°F | 35 to 212°F | 35 to 77°F |
| design operating temperature range | 35 to 248°F | 35 to 450°F | 35 to 248°F | 35 to 122°F |

| pressure correction factors | | | | | | |
|---|---|---|---|---|---|---|
| operating pressure (psig) | 60 | 70 | 85 | 100 | 115 | 145 |
| correction factor | 0.76 | 0.84 | 0.92 | 1.00 | 1.07 | 1.19 |

NZT

NFT

(1) at 100 psig. For all other pressures, refer to the pressure correction factor table above
(2) per ISO 8573.0:2010
(3) for coalescing inlet is at bottom, outlet at top. For particulate, inlet is at top, outlet at bottom
(4) install with air flow from inside to outside for coalescing filtration and from outside to inside for dry particulate filtration
(5) differential pressure gauge indicators and external float drains are fitted to all models (except AC grade elements and high temperature applications
(6) technical specifications subject to change without notice. Direct inquiries to support@n-psi.com or contact 704.897.2182

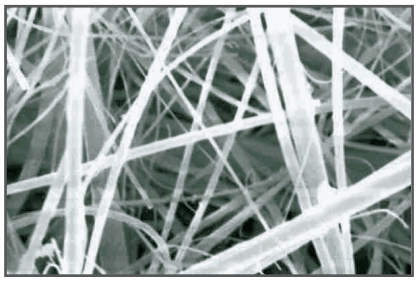
# high temperature dust filters

## FEATURES


- high quality die cast aluminum filter rated to 450°F for high temperature particulate removal in high temperature compressed air
- 11 models with flow rates from 15 to 1600 scfm
- provided with a 1 micron dry particulate element
- manufactured from machined and die cast aluminum and polyester powder coated for optimum corrosion protection
- innovative push-fit element design with dual o-ring seal to ensure optimum sealing and mechanical strength
- designed for the unique demands of high temperature applications including downstream of an externally heated or blower purge desiccant air dryer
- custom engineered filter media is designed to handle the heat while providing high efficiency filtration with minimal pressure drop
- manufactured in an ISO 9001 approved facility and tested in accordance with ISO 12500
- CRN approved
- applications include chemical, food and beverage, manufacturing, military and oil and gas

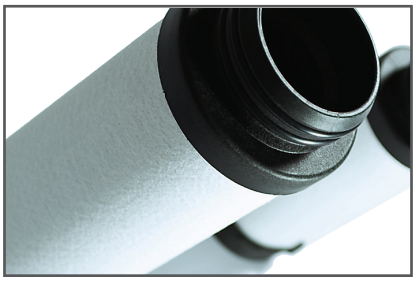
### proprietary media technology

hydrophobic and oleophobic borosilicate glass microfiber media repels oil and water for lower differential pressure



### element design

robust design includes aluminum end caps, stainless steel cylinder and silicone o-rings

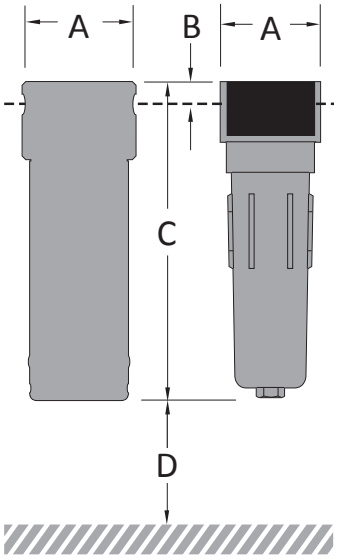


# SPECIFICATIONS

| filter model | inlet & outlet | rated flow (1) | | dimensions (inches) | | | | approx. weight | replacement element |
|---|---|---|---|---|---|---|---|---|---|
| | NPT | scfm | $Nm^3/h$ | A | B | C | D | lbs | |
| NHT 0015 M1 | ¼" | 15 | 26 | 2.48 | 0.55 | 5.71 | 1.97 | 1.3 | EHT 0015 M1 |
| NHT 0030 M1 | ⅜" | 30 | 51 | 2.48 | 0.55 | 6.89 | 1.97 | 1.5 | EHT 0030 M1 |
| NHT 0065 M1 | ½" | 65 | 111 | 4.33 | 1.50 | 10.75 | 5.91 | 6.8 | EHT 0065 M1 |
| NHT 0075 M1 | ¾" | 75 | 128 | 4.33 | 1.50 | 10.75 | 5.91 | 6.9 | EHT 0075 M1 |
| NHT 0150 M1 | 1" | 150 | 255 | 4.33 | 1.50 | 14.09 | 5.91 | 8.3 | EHT 0150 M1 |
| NHT 0300 M1 | 1½" | 300 | 510 | 5.75 | 2.01 | 19.29 | 6.69 | 17.9 | EHT 0300 M1 |
| NHT 0450 M1 | 2" | 450 | 765 | 5.75 | 2.01 | 19.29 | 6.69 | 17.4 | EHT 0450 M1 |
| NHT 0650 M1 | 2" | 650 | 1105 | 5.75 | 2.01 | 27.05 | 6.69 | 23.2 | EHT 0650 M1 |
| NHT 1000 M1 | 3" | 1000 | 1700 | 9.06 | 2.68 | 28.43 | 7.01 | 41.1 | EHT 1000 M1 |
| NHT 1250 M1 | 3" | 1250 | 2125 | 9.06 | 2.68 | 33.23 | 7.01 | 44.5 | EHT 1250 M1 |
| NHT 1600 M1 | 3" | 1600 | 2720 | 9.06 | 2.68 | 39.06 | 7.01 | 49.0 | EHT 1600 M1 |

| specifications | |
|---|---|
| design operating pressure range | 0 to 150 psig |
| condensate drain (included) | manual ball valve |
| filter housing material | machined & die cast aluminum |

| element performance | M1 |
|---|---|
| particle removal | 1 micron |
| design operating temperature range | 35 to 450°F |
| pressure drop - clean | 1.1 psid |
| pressure drop - recommended replacement (2) | 5.0 psid |
| flow direction through element | outside to inside |
| maximum element life | 12 months or 8000 hours |




| pressure correction factors | | | | | | |
|---|---|---|---|---|---|---|
| operating pressure (psig) | 60 | 70 | 85 | 100 | 115 | 145 |
| correction factor | 0.76 | 0.84 | 0.92 | 1.00 | 1.07 | 1.19 |

(1) at 100 psig. For all other pressures, refer to the pressure correction factor table above
(2) differential pressure indicator not included
(3) filters are intended for dry particulate filtration only
(4) technical specifications subject to change without notice. Direct inquiries to support@n-psi.com or contact 704.897.2182

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publication ref. n-psi-F3- NHT2020-04-us

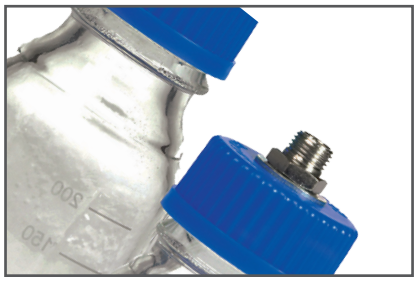
# medical vacuum filters

## FEATURES

- designed to eliminate solid, liquid and bacterial contamination from medical vacuum systems
- meets ISO 7396-1, HTM 02-01 and 2018 revision of NFPA 99 (5.1.3.7.4)
- 17 models with connections from ¼" to 3" NPT and rated flows from 2 to 156 scfm
- modular design allows close coupling of filters to simplify installation and maintenance
- housing manufactured from cast aluminum alloy providing enhanced strength and feature an E-Coat™ finish for optimum corrosion protection
- unique design provides maximum filtration performance while minimizing pressure drop for optimum energy efficiency
- drop fit element engages the bowl to prevent vibration, improving stability and drainage
- applications include dental, medical and veterinary

### complete package

manual valve and sterilizable glass drain flask are included as standard



### unique element design

constructed with an oleophobic borosilicate microfiber media with an open cell reticulated foam prefilter

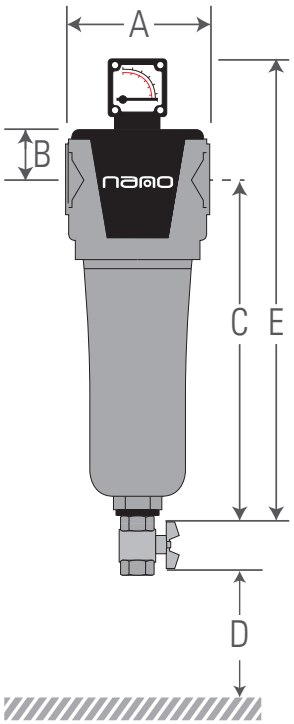
# SPECIFICATIONS

| filter model | inlet & outlet [1] | exhaust flow rate (vacuum displacement) [2] | | dimensions (inches) | | | | | approx. weight | replacement element kit |
|---|---|---|---|---|---|---|---|---|---|---|
| | NPT | scfm | $Nm^3/h$ | A | B | C | D | E | lbs | |
| NMV 0025 | ¼″ | 2.1 | 3.5 | 2.76 | 0.98 | 6.65 | 3.00 | 9.29 | 1.3 | E 0025 MV |
| NMV 0035 | ⅜″ | 2.9 | 5.0 | 2.76 | 0.98 | 6.65 | 3.00 | 9.29 | 1.3 | E 0035 MV |
| NMV 0050 | ½″ | 4.1 | 7.0 | 2.76 | 0.98 | 8.31 | 3.00 | 10.93 | 1.5 | E 0050 MV |
| NMV 0070 | ½″ | 7.1 | 12 | 3.94 | 1.34 | 9.69 | 3.00 | 13.82 | 3.5 | E 0090 MV |
| NMV 0085 | ¾″ | 8.8 | 15 | 3.94 | 1.34 | 9.69 | 3.00 | 13.82 | 3.5 | E 0090 MV |
| NMV 0125 | ¾″ | 14.7 | 25 | 3.94 | 1.34 | 14.41 | 3.00 | 18.55 | 4.4 | E 0135 MV |
| NMV 0135 | 1″ | 19.4 | 33 | 3.94 | 1.34 | 14.41 | 3.00 | 18.55 | 4.4 | E 0135 MV |
| NMV 0175 | 1″ | 26.5 | 45 | 3.94 | 1.34 | 14.41 | 3.00 | 18.55 | 4.4 | E 0175 MV |
| NMV 0280 | 1 ¼″ | 35.3 | 60 | 4.80 | 1.65 | 16.50 | 3.00 | 20.97 | 6.2 | E 0325 MV |
| NMV 0325 | 1 ½″ | 41.2 | 70 | 4.80 | 1.65 | 16.50 | 3.00 | 20.97 | 6.2 | E 0325 MV |
| NMV 0400 | 1 ½″ | 55.9 | 95 | 5.75 | 2.05 | 17.01 | 3.00 | 21.85 | 9.2 | E 0450 MV |
| NMV 0450 | 2″ | 70.6 | 120 | 5.75 | 2.05 | 17.01 | 3.00 | 21.85 | 9.2 | E 0450 MV |
| NMV 0700 | 2″ | 103 | 175 | 5.75 | 2.05 | 29.06 | 3.00 | 33.91 | 13.9 | E 0700 MV |
| NMV 0850 | 2 ½″ | 112 | 190 | 8.27 | 2.64 | 20.94 | 3.00 | 26.38 | 18.7 | E 1000 MV |
| NMV 1000 | 3″ | 118 | 200 | 8.27 | 2.64 | 20.94 | 3.00 | 26.38 | 18.7 | E 1000 MV |
| NMV 1250 | 3″ | 132 | 225 | 8.27 | 2.64 | 29.53 | 3.00 | 34.96 | 23.1 | E 1250 MV |
| NMV 1500 | 3″ | 156 | 265 | 8.27 | 2.64 | 35.75 | 3.00 | 41.18 | 26.4 | E 1500 MV |

| specifications | NMV 0025 TO 0050 | NMV 0070 TO 1500 |
|---|---|---|
| vacuum indicator/gauge | NDV 50 | NDV 1500 |
| condensate drain (included) [3] | MLF 100 | MLF 250 |
| design operating pressure range | full vacuum to 7 psig | |
| filter housing material | cast aluminum with E-Coat™ & powder top coat finish | |

| element performance | MV |
|---|---|
| DOP particle removal efficiency [4] | > 99.995% |
| pressure drop - clean | 0.44 psid |
| pressure drop - recommended replacement | 1.5 psid |
| design operating temperature range | 35 to 140°F |
| flow direction through element | outside to inside |
| maximum element life | 6 months or 1000 hours |

| vacuum correction factors | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| operating vacuum (psia) | 14.7 | 13.0 | 11.6 | 10.2 | 8.7 | 7.3 | 5.8 | 3.3 | 2.9 |
| operating vacuum (inch Hg) | 29.9 | 26.6 | 23.6 | 20.7 | 17.7 | 14.8 | 11.8 | 8.9 | 5.9 |
| operating vacuum (mbar abs) | atm | 900 | 800 | 700 | 600 | 500 | 400 | 300 | 200 |
| operating vacuum (Torr) | 760 | 675 | 600 | 525 | 450 | 375 | 300 | 225 | 150 |
| correction factor | 1.00 | 0.93 | 0.86 | 0.79 | 0.71 | 0.64 | 0.57 | 0.50 | 0.43 |




(1) inlet and outlet connections are NPT threaded to ANSI B2.1
(2) free air conditions when operating at atmospheric pressure. For vacuums refer to the vacuum correction factor table above
(3) includes manual valve and sterilizable glass drain flask
(4) as specified in HTM 02-01 medical gas pipeline systems
(5) technical specifications subject to change without notice. Direct inquiries to support@n-psi.com or contact 704.897.2182

MEMBER OF CAGI Compressed Air & Gas Institute


publication ref. n-psi-F1-NMV2020-04-US

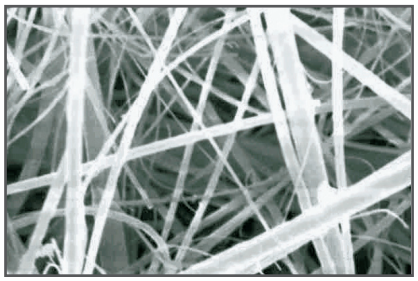
# mid pressure aluminum filters

## FEATURES

- unique range of up to 725 psig die cast aluminum filters for high pressure applications
- 9 models in 3 different housings up to 1600 scfm
- choose from 6 different element grades including water separators, 25, 5, 1 and 0.01 micron coalescing and/or dust filtration and activated carbon
- manufactured from machined and die cast aluminum
- E-Coat™ optimum corrosion protection provided by an internal and external epoxy powder coating followed by an external tough polyester powder coat finish
- innovative push-fit element design with dual o-ring seal to ensure optimum sealing and mechanical strength
- manufactured in an ISO 9001 approved facility and tested in accordance with ISO 8573-1:2010
- includes a hydrostatic test certificate and serial number for complete traceability
- CRN and ASME approved
- applications include PET bottle manufacturing, offshore instrumentation, medical and heavy industrial

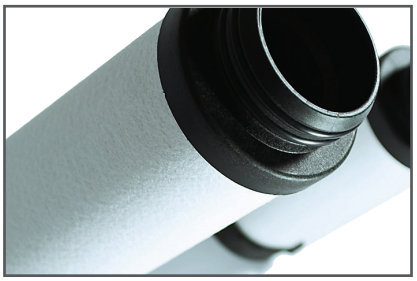

### proprietary media technology

hydrophobic and oleophobic borosilicate glass microfiber media repels oil and water for lower differential pressure



### element design

robust design with internal/external stainless steel support cores and glass filled nylon end caps



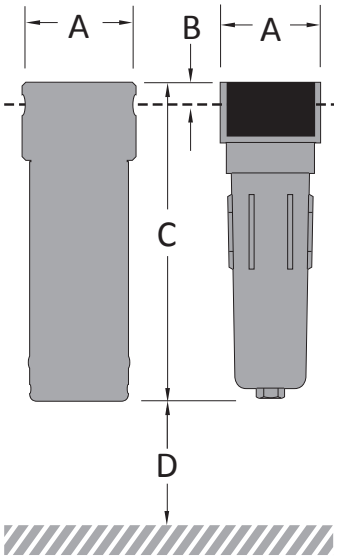
# SPECIFICATIONS

| filter model | inlet & outlet | rated flow (1) | | dimensions (inches) | | | | approx. weight | replacement element |
|---|---|---|---|---|---|---|---|---|---|
| | NPT | scfm | Nm³/h | A | B | C | D | lbs | |
| N50A 0094 (grade) | ¼" | 94 | 160 | 2.48 | 0.55 | 5.71 | 1.97 | 1.3 | E50HP 0094 (grade) |
| N50A 0147 (grade) | ⅜" | 147 | 250 | 2.48 | 0.55 | 6.89 | 1.97 | 1.4 | E50HP 0147 (grade) |
| N50A 0265 (grade) | ½" | 265 | 450 | 4.33 | 1.50 | 10.75 | 5.91 | 6.2 | E50HP 0265 (grade) |
| N50A 0324 (grade) | ¾" | 324 | 550 | 4.33 | 1.50 | 10.75 | 5.91 | 6.1 | E50HP 0324 (grade) |
| N50A 0492 (grade) | 1" | 492 | 835 | 4.33 | 1.50 | 14.09 | 5.91 | 7.4 | E50HP 0492 (grade) |
| N50A 0736 (grade) | 1½" | 736 | 1250 | 5.75 | 2.01 | 19.29 | 6.69 | 16.3 | E50HP 0736 (grade) |
| N50A 1015 (grade) | 1½" | 1015 | 1725 | 5.75 | 2.01 | 19.29 | 6.69 | 16.3 | E50HP 1132 (grade) |
| N50A 1132 (grade) | 2" | 1132 | 1925 | 5.75 | 2.01 | 19.29 | 6.69 | 15.8 | E50HP 1132 (grade) |
| N50A 1882 (grade) | 2" | 1882 | 3200 | 5.75 | 2.01 | 27.05 | 6.69 | 21.9 | E50HP 1882 (grade) |

| specifications | |
|---|---|
| design operating pressure range (1) | 0 to 725 psig |
| condensate drain (included) | manual ball valve |
| filter housing material | machined & die cast aluminum |

| element performance | WS | M25 | M5 | M1 | M01 | AC |
|---|---|---|---|---|---|---|
| particle removal (microns) | - | 25 | 5 | 1 | 0.01 | - |
| max oil carry over at 68°F (ppm or mg/m³) | 25 | 10 | 5 | 0.1 | 0.01 | 0.003 |
| recommended operating temp range | 35 to 212°F | 35 to 212°F | 35 to 212°F | 35 to 212°F | 35 to 212°F | 35 to 77°F |
| design operating temperature range | 35 to 248°F | 35 to 248°F | 35 to 248°F | 35 to 248°F | 35 to 248°F | 35 to 122°F |

| pressure correction factors | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| operating pressure (psig) | 60 | 90 | 120 | 150 | 220 | 290 | 435 | 580 | 640 | 725 |
| correction factors for models N50A 0094 to 0492 | 0.14 | 0.22 | 0.28 | 0.34 | 0.47 | 0.56 | 0.70 | 0.85 | - | 1.00 |
| correction factors for models N50A 0736 to 1882 | 0.17 | 0.24 | 0.31 | 0.38 | 0.51 | 0.62 | 0.79 | 0.94 | 1.00 | - |




(1) ¼" to 1" NPT maximum design operating pressure 725 psig at 248°F with full CRN certification. Other connections 580 psig at 248°F with full CRN certification, 640 psig at 248°F with no CRN certification. For all other pressures, refer to the pressure correction factor table above

(2) differential pressure indicator not included

(3) install with air flow from inside to outside for coalescing and from outside to inside for dry dust filtration

(4) technical specifications subject to change without notice. Direct inquiries to support@n-psi.com or contact 704.897.2182

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publication ref. n-psi-F3-N50A2020-04-us

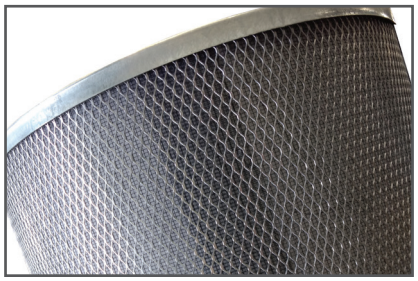
# mist eliminators

## FEATURES

- achieves same high efficiency filtration as conventional downstream filters with a service life of 10+ years
- pleated glass microfiber coalescing media is 99.97% efficient with a particle removal down to 0.3 micron including coalesced liquid water and oil
- typically located after an oil lubricated compressor to provide optimum protection in the result of a catastrophic failure of the compressor's air/oil separator
- high efficiency and initial low pressure drop of less than 0.5 psig means units are utility rebate-friendly due to pleated media design v. conventional wrapped elements
- heavy duty pressure vessel built in accordance with latest edition of VIII Div 1 ASME Code
- external powder epoxy coated as standard
- zero air loss drain (shipped loose)
- serviceability without inlet & outlet disruption
- automatic drain vent ports and safety valve port included as standard
- applications include industrial, automotive and food and beverage

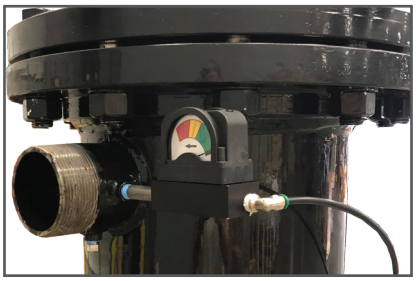

### element reinforcement

reinforced with epoxy coated steel wire and epoxy potting compound with perforated steel for additional support



### DPG as standard

differential pressure gauge mounted and piped for ease of trouble shooting

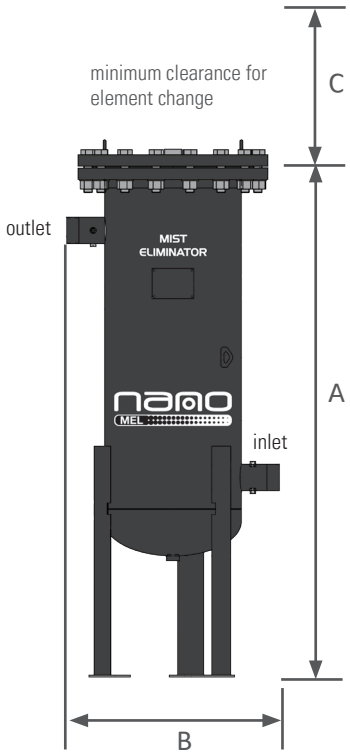


# SPECIFICATIONS

| filter model | inlet & outlet | rated flow (1) | | dimensions (inches) | | | approx. weight | replacement element |
|---|---|---|---|---|---|---|---|---|
| | NPT/Flg | scfm | $Nm^3/h$ | A | B | C | lbs | |
| MEL 0250 | 2" | 250 | 425 | 54 | 20 | 15.5 | 336 | E 0250 |
| MEL 0500 | 3" | 500 | 850 | 61 | 20 | 22 | 359 | E 0500 |
| MEL 1000 | 3" | 1000 | 1699 | 69 | 28 | 22.5 | 620 | E 1000 |
| MEL 1250 | 3" Flg | 1250 | 2124 | 71 | 28 | 22.5 | 654 | E 1250 |
| MEL 1500 | 4" Flg | 1500 | 2549 | 71 | 28 | 22.5 | 662 | E 1500 |
| MEL 3000 | 4" Flg | 3000 | 5097 | 84 | 36 | 29.5 | 1161 | E 3000 |
| MEL 5000 | 6" Flg | 5000 | 8495 | 90 | 42 | 29.5 | 2378 | E 5000 |

| specifications | |
|---|---|
| recommended operating temperature range | 68 to 180°F |
| design operating temperature range | 35 to 248°F |
| design operating pressure range | 20 to 150 psig |
| initial differential pressure | less than 0.5 psig |
| recommended pressure differential for element change | 1.0 psid |
| filtration performance | 0.3 micron @ 99.97% efficiency |
| ISO air quality class (solids, water, oil) | ISO Class 2.7.3 |

| pressure correction factors | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| operating pressure (psig) | 20 | 30 | 40 | 60 | 80 | 100 | 120 | 150 |
| correction factor | 0.35 | 0.44 | 0.54 | 0.70 | 0.84 | 1.00 | 1.10 | 1.25 |




(1) at 100 psig. For all other pressures, refer to the pressure correction factors above
(2) for condensate drain options, consult nano
(3) technical specifications subject to change without notice. Direct inquiries to support@n-psi.com or contact 704.897.2182

MEMBER OF CAGI Compressed Air & Gas Institute


publication ref. n-psi-F6-MEL2020-02-us

# performance validated compressed air & gas filters

## FEATURES

- advanced filter design to optimize flow capabilities, significantly reducing differential pressure and thus increasing energy efficiency
- utilizes a new deep pleated media technology across the range, combined with a custom-engineered anti re-entrainment layer for exceptional oil coalescing performance
- 18 models with connections from 1/8"to 3" NPT and rated flows from 6 to 1500 scfm
- extremely low pressure drop across the range (<125 mbar)
- tested and validated in accordance with ISO 12500-1 & ISO 8573.1:2010
- both housings and elements are manufactured using on the highest quality materials to provide optimum performance and improved efficiencies
- guaranteed safe housing closure with single start, fixed thread engagement stop and lock indication arrows to prevent over tightening ensuring effective sealing
- externally accessible float drain supplied as standard

### easy to use elements

push fit elements perfect sealing within filter housing; color coded end caps for quick and simple grade identification

### deep-pleated media

delivers exceptional particulate retention and oil aerosol removal while significantly reducing pressure losses

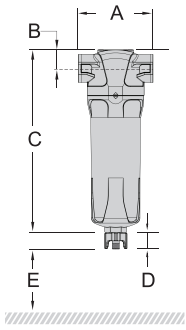
# SPECIFICATIONS

| filter model | inlet & outlet | rated flow [1] | | dimensions (inches) | | | | | approx. weight |
|---|---|---|---|---|---|---|---|---|---|
| | NPT/Flg | scfm | $Nm^3/h$ | A | B | C [2] | D | E | lbs |
| GF 0006 (grade) | 1/8" | 6 | 10 | 1.97 | 0.67 | 6.18 | 1.10 | 10.5 | 0.6 |
| GF 0015 (grade) | ¼" | 15 | 25 | 1.97 | 0.67 | 6.18 | 1.10 | 10.5 | 0.6 |
| GF 0025 (grade) | ¼" | 25 | 42 | 2.76 | 0.95 | 9.09 | 1.10 | 13.4 | 1.3 |
| GF 0032 (grade) | 3/8" | 32 | 54 | 2.76 | 0.95 | 9.09 | 1.10 | 13.4 | 1.3 |
| GF 0050 (grade) | ½" | 50 | 85 | 2.76 | 0.95 | 9.09 | 1.10 | 13.4 | 1.3 |
| GF 0070 (grade) | ½" | 70 | 119 | 5.00 | 1.26 | 11.22 | 1.18 | 15.6 | 3.7 |
| GF 0085 (grade) | ¾" | 85 | 145 | 5.00 | 1.26 | 11.22 | 1.18 | 15.6 | 3.7 |
| GF 0105 (grade) | 1" | 105 | 178 | 5.00 | 1.26 | 11.22 | 1.18 | 15.6 | 3.7 |
| GF 0125 (grade) | ¾" | 125 | 212 | 5.00 | 1.26 | 14.61 | 1.18 | 19.0 | 4.4 |
| GF 0175 (grade) | 1" | 175 | 298 | 5.00 | 1.26 | 14.61 | 1.18 | 19.0 | 4.4 |
| GF 0280 (grade) | 1 ¼" | 280 | 476 | 5.51 | 1.58 | 18.70 | 1.18 | 23.1 | 6.6 |
| GF 0325 (grade) | 1 ½" | 325 | 553 | 5.51 | 1.58 | 18.70 | 1.18 | 23.1 | 6.6 |
| GF 0450 (grade) | 2" | 450 | 765 | 6.69 | 2.09 | 20.00 | 1.18 | 24.4 | 10.8 |
| GF 0700 (grade) | 2" | 700 | 1190 | 6.69 | 2.09 | 27.87 | 1.18 | 32.2 | 12.1 |
| GF 0850 (grade) | 2 ½" | 850 | 1445 | 8.66 | 2.76 | 28.98 | 1.18 | 33.4 | 23.1 |
| GF 0900 (grade) | 3" | 900 | 1530 | 8.66 | 2.76 | 28.98 | 1.18 | 33.4 | 23.1 |
| GF 1250 (grade) | 3" | 1250 | 2125 | 8.66 | 2.76 | 33.74 | 1.18 | 38.1 | 25.4 |
| GF 1500 (grade) | 3" | 1500 | 2550 | 8.66 | 2.76 | 39.57 | 1.18 | 43.9 | 27.6 |

| specifications | 0006 to 0015 | 0025 to 0050 | 0070 too 1500 |
|---|---|---|---|
| design operating pressure range | 0 to 232 psig | 0 to 232 psig | 22 to 232 psig [3] |
| automatic float drain [4] | GFDK 0050 | GFDK 0050 | GFDK 1500 |
| differential pressure indicator | - | GFDP 1500 | GFDK 1500 |
| differential pressure indicator | - | GFDP 0050 | - |

| specifications | M1 | M01 | AC |
|---|---|---|---|
| maximum particle size (ISO class) [5] | 3 | 1 | - |
| maximum oil content (ISO class) [5] | 3 | 2 | 1 |
| particle removal (microns) | 1 | 0.01 | - |
| max oil carry over at 68°F (ppm or $mg/m^3$) | 0.3 | 0.01 | 0.003 |
| design operating temperature range (°F) | 32 to 176 | 32 to 176 | 32 to 122 |

| pressure correction factors | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| operating pressure (psig) | 58 | 72 | 87 | 100 | 115 | 145 | 174 | 203 | 232 |
| correction factor | 0.76 | 0.84 | 0.92 | 1.00 | 1.07 | 1.19 | 1.31 | 1.41 | 1.51 |




GF 0006 (grade) to GF 1500 (grade)

(1) at 100 psig. For all other pressures, refer to the pressure correction factors above

(2) differential pressure indicator adds 1.65" to height. Differential pressure gauge adds 2.8" to height

(3) for pressure below 22 psig, order with a GFDK 0050 for models GF 0070 to 1500. For pressures up to 300 psi use manual drain valve

(4) all filters are supplied with an automatic float drain. When high liquid loads are anticipated we recommend installing a high capacity external condensate drain. Contact support@n-psi.com for available options

(5) per ISO 8573.1:2010

(6) technical specifications subject to change without notice. Direct inquiries to support@n-psi.com or contact 704.897.2182

MEMBER OF CAGI Compressed Air & Gas Institute


publication ref. n-psi-F1.1-GF2022-02-us

# stainless steel high pressure filters

## FEATURES

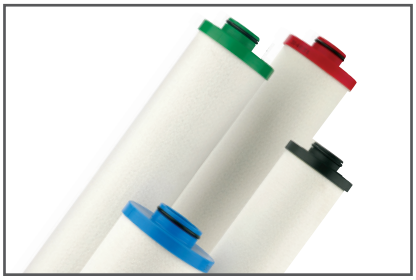
- comprehensive range of stainless steel filters ideal for a wide variety of high pressure applications
- manufactured from high grade 316 stainless steel
- 21 models across 3 pressure ranges offering flows up to 2000 scfm and pressure ratings up to 5000 psig
- choose from 5 different element grades including 25, 5, 1 and 0.01 micron coalescing and/or dust filtration and activated carbon plus a water separator option
- the 725 psig range incorporates an innovative push-fit element design to ensure optimum sealing and mechanical strength
- the 1450 and 5000 psig ranges incorporate elements with corrosion resistant stainless steel end caps
- custom engineered filter media designed to provide low air velocity preventing oil carry over for high efficiency filtration with minimal pressure drop
- manufactured in an ISO 9001 approved facility and tested in accordance with ISO 8573.1:2010
- applications include chemical, food and beverage, manufacturing, military, oil and gas and pharmaceuticals

### condensate drain options

select from stainless steel manual drains or stainless steel timed solenoid drains to suit your requirement

### element design

725 psig range element end caps are color coded for easy identification; 1450 and 5000 psig ends caps are stainless steel



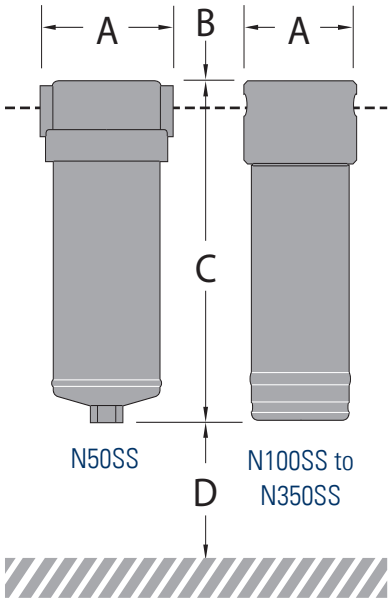
# SPECIFICATIONS

| filter model | inlet & outlet | rated flow (1) | | dimensions (inches) | | | | approx. weight | replacement element |
|---|---|---|---|---|---|---|---|---|---|
| | NPT | scfm | Nm³/h | A | B | C | D | lbs | |
| **N50SS (725 psig)** | | | | | | | | | |
| N50SS 0060 (grade) | ¼" | 60 | 100 | 3.35 | 0.71 | 6.69 | 2.95 | 3.7 | E50SS 0060 (grade) |
| N50SS 0120 (grade) | ⅜" | 120 | 200 | 3.35 | 0.71 | 8.07 | 3.94 | 4.4 | E50SS 0120 (grade) |
| N50SS 0200 (grade) | ½" | 200 | 340 | 3.35 | 0.71 | 10.04 | 3.94 | 4.8 | E50SS 0200 (grade) |
| N50SS 0300 (grade) | ¾" | 300 | 500 | 4.33 | 1.06 | 10.63 | 5.91 | 8.8 | E50SS 0300 (grade) |
| N50SS 0600 (grade) | 1" | 600 | 1000 | 4.33 | 1.06 | 16.54 | 11.81 | 11.0 | E50SS 0600 (grade) |
| N50SS 1000 (grade) | 1½" | 1000 | 1700 | 5.91 | 1.77 | 20.67 | 11.81 | 33.0 | E50SS 1200 (grade) |
| N50SS 1200 (grade) | 2" | 1200 | 2040 | 5.91 | 1.77 | 20.67 | 11.81 | 33.0 | E50SS 1200 (grade) |
| N50SS 2000 (grade) | 2" | 2000 | 3400 | 5.91 | 1.77 | 32.48 | 19.69 | 46.2 | E50SS 2000 (grade) |
| **N100SS (1450 psig)** | | | | | | | | | |
| N100SS 0060 (grade) | ¼" | 60 | 100 | 2.56 | 0.79 | 5.31 | 2.76 | 7.0 | E100SS 0060 (grade) |
| N100SS 0185 (grade) | ½" | 185 | 315 | 2.56 | 0.79 | 9.84 | 7.09 | 12.3 | E100SS 0185 (grade) |
| N100SS 0270 (grade) | ¾" | 270 | 460 | 3.15 | 0.98 | 10.83 | 9.84 | 13.4 | E100SS 0270 (grade) |
| N100SS 0400 (grade) | 1" | 400 | 680 | 5.31 | 1.02 | 10.43 | 11.81 | 23.1 | E100SS 0400 (grade) |
| N100SS 0700 (grade) | 1" | 700 | 1200 | 5.31 | 1.02 | 16.49 | 11.81 | 32.3 | E100SS 0700 (grade) |
| N100SS 1000 (grade) | 1½" | 1000 | 1700 | 5.91 | 1.77 | 20.67 | 11.81 | 48.4 | E100SS 1000 (grade) |
| N100SS 2000 (grade) | 2" | 2000 | 3400 | 5.91 | 1.77 | 32.48 | 19.69 | 61.6 | E100SS 2000 (grade) |
| **N350SS (5000 psig)** | | | | | | | | | |
| N350SS 0028 (grade) | ¼" | 28 | 48 | 1.61 | 0.39 | 4.06 | 2.36 | 3.5 | E350SS 0028 (grade) |
| N350SS 0067 (grade) | ¼" | 67 | 111 | 2.56 | 0.79 | 5.31 | 2.76 | 7.0 | E350SS 0067 (grade) |
| N350SS 0150 (grade) | ½" | 150 | 255 | 3.15 | 0.79 | 8.27 | 5.91 | 12.32 | E350SS 0150 (grade) |
| N350SS 0300 (grade) | ¾" | 300 | 510 | 3.15 | 0.98 | 11.02 | 5.91 | 13.42 | E350SS 0300 (grade) |
| N350SS 0445 (grade) | 1" | 445 | 750 | 5.91 | 1.38 | 12.99 | 7.87 | 31.9 | E350SS 0445 (grade) |
| N350SS 0775 (grade) | 1" | 775 | 1330 | 5.91 | 1.38 | 18.90 | 11.81 | 38.3 | E350SS 0775 (grade) |

| specifications | N50SS | N100SS | N350SS |
|---|---|---|---|
| design operating pressure range | 0 to 725 psig | 0 to 1450 psig | 0 to 5000 psig |
| condensate drain (included) | manual ball valve | | |
| filter housing material | 316 stainless steel | | |

| element performance | WS (2) | M25 | M5 | M1 | M01 | AC |
|---|---|---|---|---|---|---|
| particle removal (microns) | - | 25 | 5 | 1 | 0.01 | - |
| max oil carry over at 68°F (ppm or mg/m³) | 25 | 10 | 5 | 0.1 | 0.01 | 0.003 |
| recommended operating temp range | 35 to 212°F | 35 to 212°F | 35 to 212°F | 35 to 212°F | 35 to 212°F | 35 to 77°F |
| design operating temperature range | 35 to 248°F | 35 to 248°F | 35 to 248°F | 35 to 248°F | 35 to 248°F | 35 to 122°F |

| pressure correction factors | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| N50SS (725 psig) | | | | | | | | | |
| operating pressure (psig) | 60 | 90 | 120 | 150 | 220 | 290 | 435 | 580 | 725 |
| correction factor | 0.14 | 0.22 | 0.28 | 0.34 | 0.47 | 0.56 | 0.70 | 0.85 | 1.00 |
| N100SS (1450 psig) | | | | | | | | | |
| operating pressure (psig) | 290 | 435 | 580 | 725 | 870 | 1015 | 1160 | 1305 | 1450 |
| correction factor | 0.45 | 0.57 | 0.68 | 0.80 | 0.84 | 0.88 | 0.92 | 0.96 | 1.00 |
| N350SS (5000 psig) | | | | | | | | | |
| operating pressure (psig) | 725 | 1450 | 2175 | 2900 | 3625 | 4350 | 5000 | | |
| correction factor | 0.73 | 0.78 | 0.82 | 0.87 | 0.91 | 0.96 | 1.00 | | |




(1) at 725, 1450 or 5000 psig as applicable. For all other pressures, refer to the pressure correction factor table above

(2) not available for models N50SS 0060, N50SS 2000, N100SS 0700, N100SS 1000, N350SS 0150, N350SS 0300, N350SS 0445 and N350SS 0775

(3) install with air flow from inside to outside for coalescing and from outside to inside for dry dust filtration

(4) differential pressure indicator not included

(5) technical specifications subject to change without notice. Direct inquiries to support@n-psi.com or contact 704.897.2182

MEMBER OF CAGI Compressed Air & Gas Institute


publication ref. n-psi-F4-HPSS2020-02-us

# stainless steel industrial filters

## FEATURES

- high efficiency stainless steel industrial filters for critical process applications and caustic environments
- high efficiency and low pressure drop
- encompasses 10 models with connections from ¼" to 3" NPT and rated flows from 50 to 1150 scfm
- choice of adsorbing, coalescing and particulate elements
- specifically designed for the efficient and effective removal of contaminants
- ideally suited for process applications such as food and beverage facilities with washdown requirements
- interchangeable borosilicate microfiber elements
- applications include high tech manufacturing, food processing, beverage, oil and gas, chemical and military

### unique elements

incorporate stainless steel support media and a positive double o-ring click-lock seal to ensure optimal filtration integrity

### SS housings

fabricated from polished 304 or 316 stainless steel for critical air and gas applications

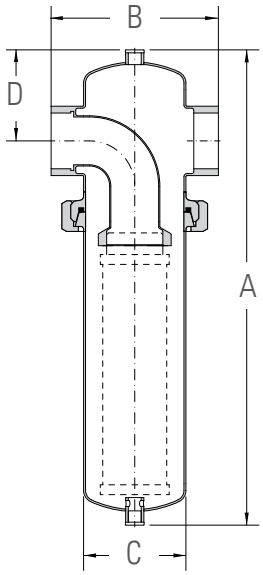
# SPECIFICATIONS

| filter model | inlet & outlet | rated flow (1) | | dimensions (inches) | | | | approx. weight | replacement element |
|---|---|---|---|---|---|---|---|---|---|
| | NPT | scfm | Nm³/h | A | B (2) | C | D | lbs | |
| PF 0050 (grade) -N | ¼" | 50 | 85 | 9.45 | 4.14 | 2.76 | 2.24 | 4.2 | E 102 (grade) |
| PF 0065 (grade) -N | ⅜" | 65 | 110 | 9.45 | 4.14 | 2.76 | 2.24 | 4.4 | E 102 (grade) |
| PF 0085 (grade) -N | ½" | 85 | 144 | 9.45 | 4.25 | 2.76 | 2.24 | 4.6 | E 102 (grade) |
| PF 0120 (grade) -N | ¾" | 120 | 204 | 9.45 | 4.92 | 2.76 | 2.24 | 5.1 | E 102 (grade) |
| PF 0170 (grade) -N | 1" | 170 | 289 | 11.40 | 4.92 | 3.35 | 2.78 | 7.3 | E 105 (grade) |
| PF 0295 (grade) -N | 1 ½" | 295 | 501 | 12.70 | 5.51 | 3.35 | 3.49 | 11.4 | E 105 (grade) |
| PF 0460 (grade) -N | 2" | 460 | 782 | 19.02 | 6.70 | 4.10 | 3.64 | 12.1 | E 110 (grade) |
| PF 0680 (grade) -N | 2" | 680 | 1156 | 29.37 | 6.70 | 4.10 | 3.64 | 15.0 | E 120 (grade) |
| PF 0850 (grade) -N | 2 ½" | 850 | 1444 | 29.53 | 7.17 | 4.10 | 3.80 | 15.2 | E 120 (grade) |
| PF 1150 (grade) -N | 3" | 1150 | 1150 | 40.04 | 7.17 | 4.10 | 3.96 | 19.4 | E 130 (grade) |

| specifications | standard | optional |
|---|---|---|
| design operating pressure range | 0 to 232 psig | - |
| inlet & outlet connections | NPT (F) | tri-clamp sanitary |
| drain & vent connections | ¼" BSPP | - |
| differential pressure indicator / gauge | - | on request |
| filter housing material | 1.4301 quality 304 stainless steel | 1.4404 quality 316L stainless steel |

| element performance | M1 | M01 | AC |
|---|---|---|---|
| maximum particle size (ISO Class) (3) | 2 | 1 | - |
| maximum oil content (ISO Class) (3) | 2 | 1 | 1 |
| particle removal (microns) | 1 | 0.01 | - |
| max oil carry over at 68°F (ppm or mg/m³) | 0.1 | 0.01 | 0.003 |
| oil removal efficiency at 68°F | >99.99% | >99.999% | - |
| recommended operating temp range | 35 to 212°F | 35 to 212°F | 35 to 77°F |
| design operating temperature range | 35 to 248°F | 35 to 248°F | 35 to 122°F |
| pressure drop-clean | 1.0 psid | 1.5 psid | 1.85 psid |
| maximum element life | 12 months or 8000 hours | | 6 months or 1000 hrs |

| pressure correction factors | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| operating pressure (psig) | 60 | 70 | 85 | 100 | 115 | 145 | 175 | 205 | 232 |
| correction factor | 0.76 | 0.84 | 0.92 | 1.00 | 1.07 | 1.19 | 1.31 | 1.41 | 1.51 |

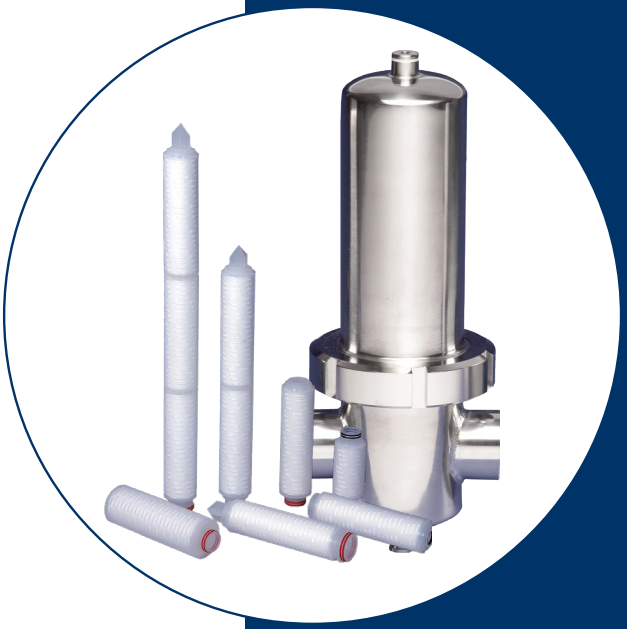



(1) at 100 psig. For all other pressures, refer to the pressure correction factors above
(2) +/- 0.118"
(3) per ISO 8573-1:2010
(4) install with air flow from inside to outside for coalescing and from outside to inside for dry dust filtration
(5) technical specifications subject to change without notice. Direct inquiries to support@n-psi.com or contact 704.897.2182

# sterile air depth filters

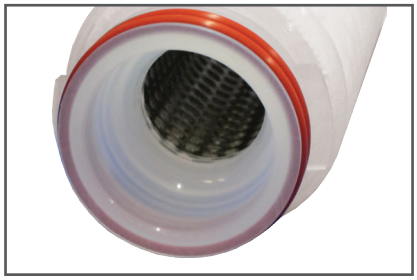
## FEATURES

- stainless steel process filters for bio-burden reduction in compressed air and gas
- high efficiency and low pressure drop
- provide efficient, cost effective performance for bio-burden reduction in compressed air or gas prior to incidental product contact
- encompasses 10 models with connections from ¼" to 3" NPT and rated flows from 50 to 1150 scfm
- specifically designed for particulate and bacteria retention in sterile environments
- exceeds Safe Quality Food (SQF) Air Quality Standard
- ideally suited for process applications such as food and beverage facilities with wash down requirements
- applications include food processing, beverage, dairy, biotechnology, hospitals and packaging industry



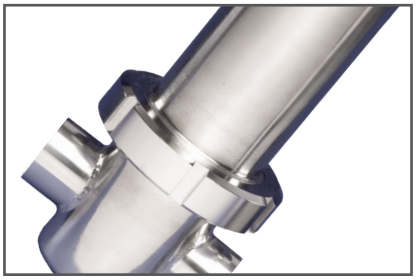
### 100% integrity tested

non-woven depth pleated polypropylene elements incorporate a positive double o-ring click-lock seal



### SS housings

fabricated from polished 304 or 316 stainless steel for critical air and gas applications



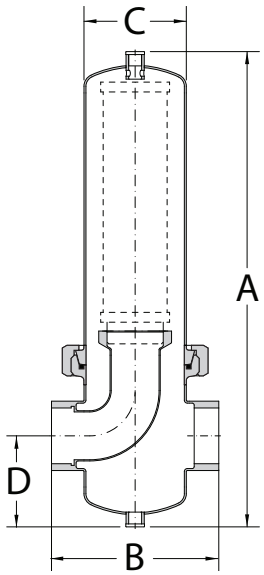
# SPECIFICATIONS

| filter model | inlet & outlet | rated flow [1] | | dimensions (inches) | | | | approx. weight | replacement element |
|---|---|---|---|---|---|---|---|---|---|
| | NPT | scfm | $Nm^3/h$ | A | B [2] | C | D | lbs | |
| PF 0050 SD-N | ¼" | 50 | 85 | 9.45 | 4.14 | 2.76 | 2.24 | 4.2 | E 102 SD |
| PF 0065 SD-N | ⅜" | 65 | 110 | 9.45 | 4.14 | 2.76 | 2.24 | 4.4 | E 102 SD |
| PF 0085 SD-N | ½" | 85 | 144 | 9.45 | 4.25 | 2.76 | 2.24 | 4.6 | E 102 SD |
| PF 0120 SD-N | ¾" | 120 | 204 | 9.45 | 4.92 | 2.76 | 2.24 | 5.1 | E 102 SD |
| PF 0170 SD-N | 1" | 170 | 289 | 11.40 | 4.92 | 3.35 | 2.78 | 7.3 | E 105 SD |
| PF 0295 SD-N | 1 ½" | 295 | 501 | 12.70 | 5.51 | 3.35 | 3.49 | 11.4 | E 105 SD |
| PF 0460 SD-N | 2" | 460 | 782 | 19.02 | 6.70 | 4.10 | 3.64 | 12.1 | E 110 SD |
| PF 0680 SD-N | 2" | 680 | 1156 | 29.37 | 6.70 | 4.10 | 3.64 | 15.0 | E 120 SD |
| PF 0850 SD-N | 2 ½" | 850 | 1444 | 29.53 | 7.17 | 4.10 | 3.80 | 15.2 | E 120 SD |
| PF 1150 SD-N | 3" | 1150 | 1954 | 40.04 | 7.17 | 4.10 | 3.96 | 19.4 | E 130 SD |

| specifications | standard | optional |
|---|---|---|
| design operating pressure range | 0 to 232 psig | - |
| inlet & outlet connections | NPT (F) | tri-clamp sanitary |
| drain & vent connections | ¼" BSPP | - |
| filter housing material | 1.4301 quality 304 stainless steel | 1.4404 quality 316L stainless steel |
| filter housing polishing | passivated & polished to grade Ra <1.6 um | - |
| filter housing seals | aseptic EPDM | consult factory |

| element performance | |
|---|---|
| particle removal (at 100% pleated depth PP) | 0.01 micron |
| continuous operating temperature range | 35 to 120°F |
| maximum sterilizing temperature [3] | 257°F |
| media material | polypropylene [4] |
| media support & end cap material | polypropylene |
| element to housing connection | positive click lock with dual silicone o-rings |

| pressure correction factors | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| operating pressure (psig) | 60 | 70 | 85 | 100 | 115 | 145 | 175 | 205 | 232 |
| correction factor | 0.76 | 0.84 | 0.92 | 1.00 | 1.07 | 1.19 | 1.31 | 1.41 | 1.51 |



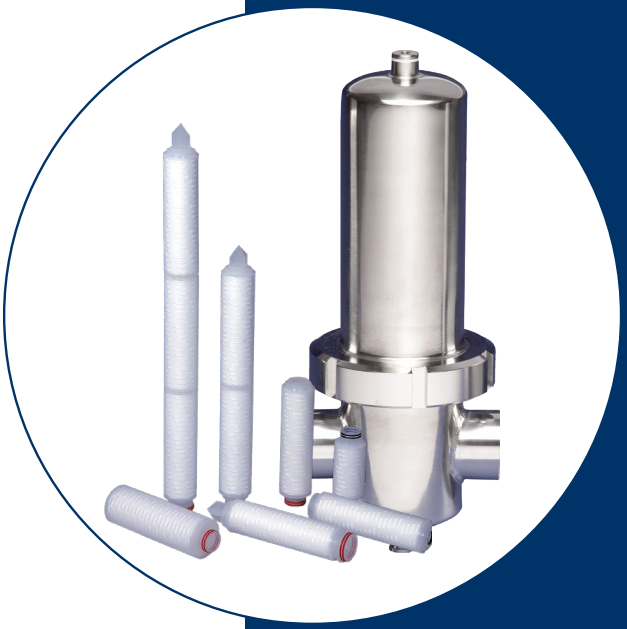

(1) at 100 psig. For all other pressures, refer to the pressure correction factors above
(2) +/- 0.118"
(3) at 30 psia for 20 minutes. Applies to element only
(4) hydrophobic graded porosity non-woven depth pleated
(5) validation documents available upon request
(6) not for use in air or gas streams containing water or oil
(7) all materials conform to 21CFR Part 177 of the US code of Federal Regulations and USP Class VI Biological test for plastics
(8) air flow from outside to inside
(9) technical specifications subject to change without notice. Direct inquiries to support@n-psi.com or contact 704.897.2182


publication ref. n-psi-P1-SD2020-02-us

# sterile air membrane filters

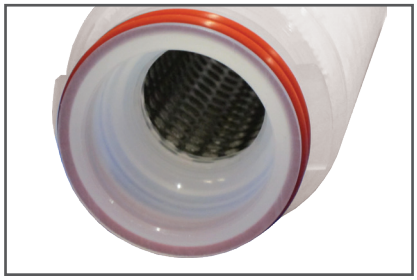
## FEATURES

- pharmaceutical grade process filters for critical processes requiring integrity validation
- high efficiency and low pressure drop
- provide effective performance for absolute validated filtration in compressed air or gas prior to incidental product contact.
- encompasses 10 models with connections from ¼" to 3" NPT and rated flows from 40 to 702 scfm
- specifically designed to absolute particulate and bacteria retention in sterile environments
- exceeds Safe Quality Food (SQF) Air Quality Standard
- ideally suited for pharmaceutical protocols where documentation and integrity are critical
- applications include pharmaceuticals, biotechnology, food processing, beverage, dairy and hospitals



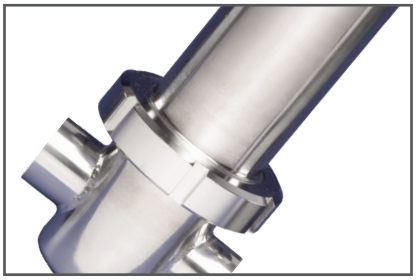
### PTFE membrane filtration

housed in a polypropylene element incorporates a positive double o-ring click-lock seal and is 100% integrity tested



### SS housings

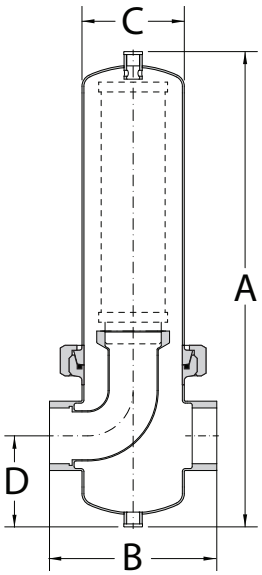
fabricated from polished 304 or 316 stainless steel for critical air and gas applications



# SPECIFICATIONS

| filter model | inlet & outlet | rated flow (1) | | dimensions (inches) | | | | approx. weight | replacement element |
|---|---|---|---|---|---|---|---|---|---|
| | NPT | scfm | Nm³/h | A | B (2) | C | D | lbs | |
| PF 0050 SM-N | ¼" | 40 | 68 | 9.45 | 4.14 | 2.76 | 2.24 | 4.2 | E 102 SM |
| PF 0065 SM-N | ⅜" | 50 | 85 | 9.45 | 4.14 | 2.76 | 2.24 | 4.4 | E 102 SM |
| PF 0085 SM-N | ½" | 55 | 93 | 9.45 | 4.25 | 2.76 | 2.24 | 4.6 | E 102 SM |
| PF 0120 SM-N | ¾" | 60 | 102 | 9.45 | 4.92 | 2.76 | 2.24 | 5.1 | E 102 SM |
| PF 0170 SM-N | 1" | 102 | 173 | 11.40 | 4.92 | 3.35 | 2.78 | 7.3 | E 105 SM |
| PF 0295 SM-N | 1 ½" | 118 | 201 | 12.70 | 5.51 | 3.35 | 3.49 | 11.4 | E 105 SM |
| PF 0460 SM-N | 2" | 235 | 399 | 19.02 | 6.70 | 4.10 | 3.64 | 12.1 | E 110 SM |
| PF 0680 SM-N | 2" | 435 | 739 | 29.37 | 6.70 | 4.10 | 3.64 | 15.0 | E 120 SM |
| PF 0850 SM-N | 2 ½" | 468 | 795 | 29.53 | 7.17 | 4.10 | 3.80 | 15.2 | E 120 SM |
| PF 1150 SM-N | 3" | 702 | 1193 | 40.04 | 7.17 | 4.10 | 3.96 | 19.4 | E 130 SM |

| specifications | standard | optional |
|---|---|---|
| design operating pressure range | 0 to 232 psig | - |
| inlet & outlet connections | NPT (F) | tri-clamp sanitary |
| drain & vent connections | ¼" BSPP | - |
| filter housing material | 1.4301 quality 304 stainless steel | 1.4404 quality 316L stainless steel |
| filter housing polishing | passivated & polished to grade Ra <1.6 um | - |
| filter housing seals | aseptic EPDM | consult factory |




| element performance | |
|---|---|
| particle removal (at 100% PTFE membrane) | 0.01 micron |
| continuous operating temperature range | 35 to 140°F |
| maximum sterilizing temperature (3) | 257°F |
| media material | hydrophobic PTFE membrane |
| media support & end cap material | polypropylene |
| element to housing connection | positive click lock with dual silicone o-rings |

| pressure correction factors | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| operating pressure (psig) | 60 | 70 | 85 | 100 | 115 | 145 | 175 | 205 | 232 |
| correction factor | 0.76 | 0.84 | 0.92 | 1.00 | 1.07 | 1.19 | 1.31 | 1.41 | 1.51 |

(1) at 100 psig. For all other pressures, refer to the pressure correction factors above
(2) +/- 0.118"
(3) at 30 psia for 20 minutes. Apples to element only
(4) validation documents available upon request
(5) not for use in air or gas streams containing water or oil
(6) all materials conform to 21CFR Part 177 of the US code of Federal Regulations and USP Class VI Biological test for plastics
(7) air flow from outside to inside
(8) technical specifications subject to change without notice. Direct inquiries to support@n-psi.com or contact 704.897.2182


publication ref. n-psi-P1-SM2020-02-us

# vacuum pump protection filters

## FEATURES

- designed to protect vacuum pumps from both solid and liquid contamination
- 16 models with connections from 3/8" to 3" NPT and rated flows from 4 to 288 scfm
- modular design allows close coupling of filters to simplify installation and maintenance
- housing manufactured from cast aluminum alloy providing enhanced strength and feature an E-Coat™ finish for optimum corrosion protection
- minimizes pressure drop for optimum energy efficiency
- applications include chemical, dental, food & beverage, laboratories, manufacturing, medical, packaging, paint applications, pharmaceutical pneumatic conveying and printing and paper

### proprietary media technology

oleophobic borosilicate glass microfiber media provides exceptional dirt holding and drainage capabilities with a low dP

### accessories

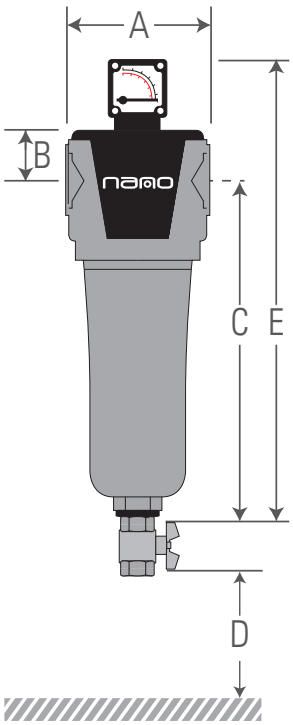
manual valve as standard and drain flask available as option

# SPECIFICATIONS

| filter model | inlet & outlet [1] | exhaust flow rate (vacuum displacement) [2] | | dimensions (inches) | | | | | approx. weight | replacement element |
|---|---|---|---|---|---|---|---|---|---|---|
| | NPT/Flg | scfm | $Nm^3/h$ | A | B | C | D | E | lbs | |
| NPP 0035 (grade) | 3/8" | 4.1 | 7 | 2.76 | 0.98 | 6.65 | 3.00 | 9.29 | 1.3 | E 0035 (grade) |
| NPP 0050 (grade) | ½" | 6.5 | 11 | 2.76 | 0.98 | 8.31 | 3.00 | 10.93 | 1.5 | E 0050 (grade) |
| NPP 0070 (grade) | ½" | 11.8 | 20 | 3.94 | 1.34 | 9.69 | 3.00 | 13.82 | 3.5 | E 0090 (grade) |
| NPP 0085 (grade) | ¾" | 14.7 | 25 | 3.94 | 1.34 | 9.69 | 3.00 | 13.82 | 3.5 | E 0090 (grade) |
| NPP 0125 (grade) | ¾" | 20.6 | 35 | 3.94 | 1.34 | 14.41 | 3.00 | 18.55 | 4.4 | E 0135 (grade) |
| NPP 0135 (grade) | 1" | 23.5 | 40 | 3.94 | 1.34 | 14.41 | 3.00 | 18.55 | 4.4 | E 0135 (grade) |
| NPP 0175 (grade) | 1" | 29.4 | 50 | 3.94 | 1.34 | 14.41 | 3.00 | 18.55 | 4.4 | E 0175 (grade) |
| NPP 0280 (grade) | 1 ¼" | 44.1 | 75 | 4.80 | 1.65 | 16.50 | 3.00 | 20.97 | 6.2 | E 0325 (grade) |
| NPP 0325 (grade) | 1 ½" | 50 | 85 | 4.80 | 1.65 | 16.50 | 3.00 | 20.97 | 6.2 | E 0325 (grade) |
| NPP 0400 (grade) | 1 ½" | 59 | 100 | 5.75 | 2.05 | 17.01 | 3.00 | 21.85 | 9.2 | E 0450 (grade) |
| NPP 0450 (grade) | 2" | 67.5 | 115 | 5.75 | 2.05 | 17.01 | 3.00 | 21.85 | 9.2 | E 0450 (grade) |
| NPP 0700 (grade) | 2" | 106 | 180 | 5.75 | 2.05 | 29.06 | 3.00 | 33.91 | 13.9 | E 0700 (grade) |
| NPP 0850 (grade) | 2 ½" | 118 | 200 | 8.27 | 2.64 | 20.94 | 3.00 | 26.38 | 18.7 | E 1000 (grade) |
| NPP 1000 (grade) | 3" | 138 | 235 | 8.27 | 2.64 | 20.94 | 3.00 | 26.38 | 18.7 | E 1000 (grade) |
| NPP 1250 (grade) | 3" | 212 | 360 | 8.27 | 2.64 | 29.53 | 3.00 | 34.96 | 23.1 | E 1250 (grade) |
| NPP 1500 (grade) | 3" | 288 | 490 | 8.27 | 2.64 | 35.75 | 3.00 | 41.18 | 26.4 | E 1500 (grade) |

| specifications | NPP 0035 to 0050 | NPP 0070 to 1500 |
|---|---|---|
| vacuum indicator/gauge | NDV 50 | NDV 1500 |
| design operating pressure range | full vacuum to 232 psig | |
| condensate drain (included) [3] | manual valve | |
| filter housing material | cast aluminum with E-Coat™ & powder top coat finish | |

| element performance | PP5 | PP1 |
|---|---|---|
| particle removal | 5 micron | 1 micron |
| maximum oil carryover at 68°F (ppm or $mg/m^3$) | 1 $mg/m^3$ | 1 $mg/m^3$ |
| pressure drop - clean | 0.3 psid | 0.6 psid |
| pressure drop - recommended replacement | 1.5 psid | 1.5 psid |
| recommended operating temperature range | 35 to 212°F | |
| design operating temperature range | 35 to 248°F | |
| flow direction through element | outside to inside | |
| maximum element life | 12 months or 8000 hours | |




| pressure correction factors | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| operating pressure (psia) | 14.7 | 13.0 | 11.6 | 10.2 | 8.7 | 7.3 | 5.8 | 3.3 | 2.9 |
| operating pressure (inch Hg) | 29.9 | 26.6 | 23.6 | 20.7 | 17.7 | 14.8 | 11.8 | 8.9 | 5.9 |
| operating pressure (mbar abs) | atm | 900 | 800 | 700 | 600 | 500 | 400 | 300 | 200 |
| operating pressure (Torr) | 760 | 675 | 600 | 525 | 450 | 375 | 300 | 225 | 150 |
| correction factor | 1.00 | 0.93 | 0.86 | 0.79 | 0.71 | 0.64 | 0.57 | 0.50 | 0.43 |

(1) inlet and outlet connections are NPT threaded to ANSI B2.1

(2) free air conditions when operating at atmospheric pressure. For vacuums refer to the vacuum correction factor table above

(3) models NPP 0070 to NPP 1500 can be adapted to use ¼" drains with a reducer. Drain flasks are available for liquid collection for vacuum (or atmospheric pressure) applications only

(4) technical specifications subject to change without notice. Direct inquiries to support@n-psi.com or contact 704.897.2182

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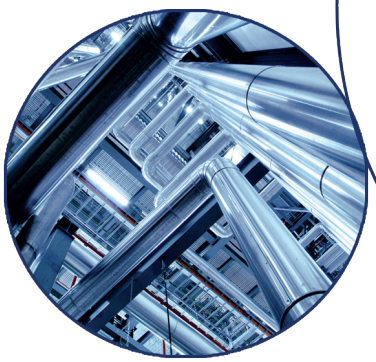
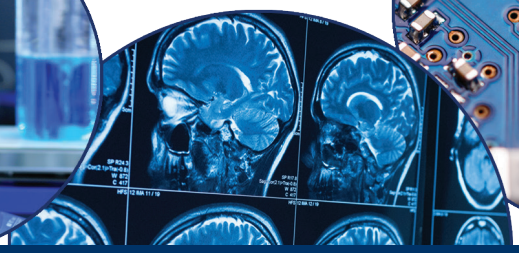
publication ref. n-psi-F1-NPP2021-02-US

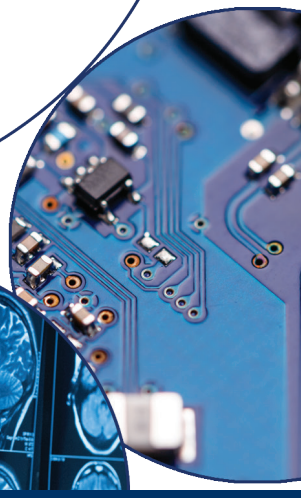
nano

aircel









# twin tower desiccant compressed air dryers

flow capacity: 100 to 6,000 scfm (170 to 10,140 $Nm^3/hr$)

# “We needed special options on our desiccant dryer. nano helped guide us to make informed decisions and built the perfect dryer for our company.”

*a parts manufacturer - southwestern US*

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

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 condenses into liquid water throughout your compressed air system as the pressure and temperature of the compressed air changes.

## nano $D^5$ aircel brand twin tower desiccant compressed air dryers

- removal of water vapor by lowering the pressure dew point of your compressed air stream to -40°F/°C (-94°F/-70°C optional on HLA range) to ensure a continuous supply of dry air
- low pressure drop and consistent dew point performance
- designed for the most demanding applications
- flexibility to build a complete compressed air solution to match the requirements of the customer

aircel

## brand of choice

Acquired by nano-purification solutions in 2022, the aircel brand is widely recognized for twin tower desiccant dryer engineering and manufacturing excellence. Made in the USA, aircel is the brand of choice for pressure swing adsorption twin tower drying applications.

# WHICH DRYER IS RIGHT FOR YOU

## HLA heatless

use expanded dry purge air to regenerate desiccant beds

- lowest initial investment
- require the most purge air at 15%
- -40°F/°C dew point as standard for ISO class 2 applications
- -94°F/-70°C dew point available as option for ISO class 1 applications

## AEHD externally heated

use an electric heater to heat the dry purge air to regenerate the desiccant beds

- mid-priced initial investment
- excellent ROI
- use less purge air than heatless at approximately 6-8%
- -40°F/°C dew point as standard for ISO class 2 applications

## ABP blower purge

use a combination of an ambient blower and heater followed by dry purge air to regenerate the desiccant beds

- higher initial investment
- fastest ROI
- further reduces (or even eliminates) purge air usage to approximately 0-2% averaged over 4-hour cycle for dry air cooling
- dry air cooling can be turned off allowing zero air loss operation
- -40°F/°C dew point as standard for ISO class 2 applications

# HOW IT WORKS

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 or in standby.

The nano $D^5$ aircel branded twin tower desiccant dryers remove moisture from your compressed air system in the same way and to the same exacting standards of performance and reliability. The difference is how they regenerate and the amount of compressed air and/or power required to do so.

### HLA 100 to HLA 800 Heatless Range

**A** 0.01 micron pre-filter removes all particulate, liquid water and oil aerosols to 0.01 ppm

**B** clean, saturated air enters the inlet valve which directs it to one of the desiccant towers

**C** compressed air travels through tower A for 5 minutes and moisture vapor is adsorbed to -40°F/°C pdp or better

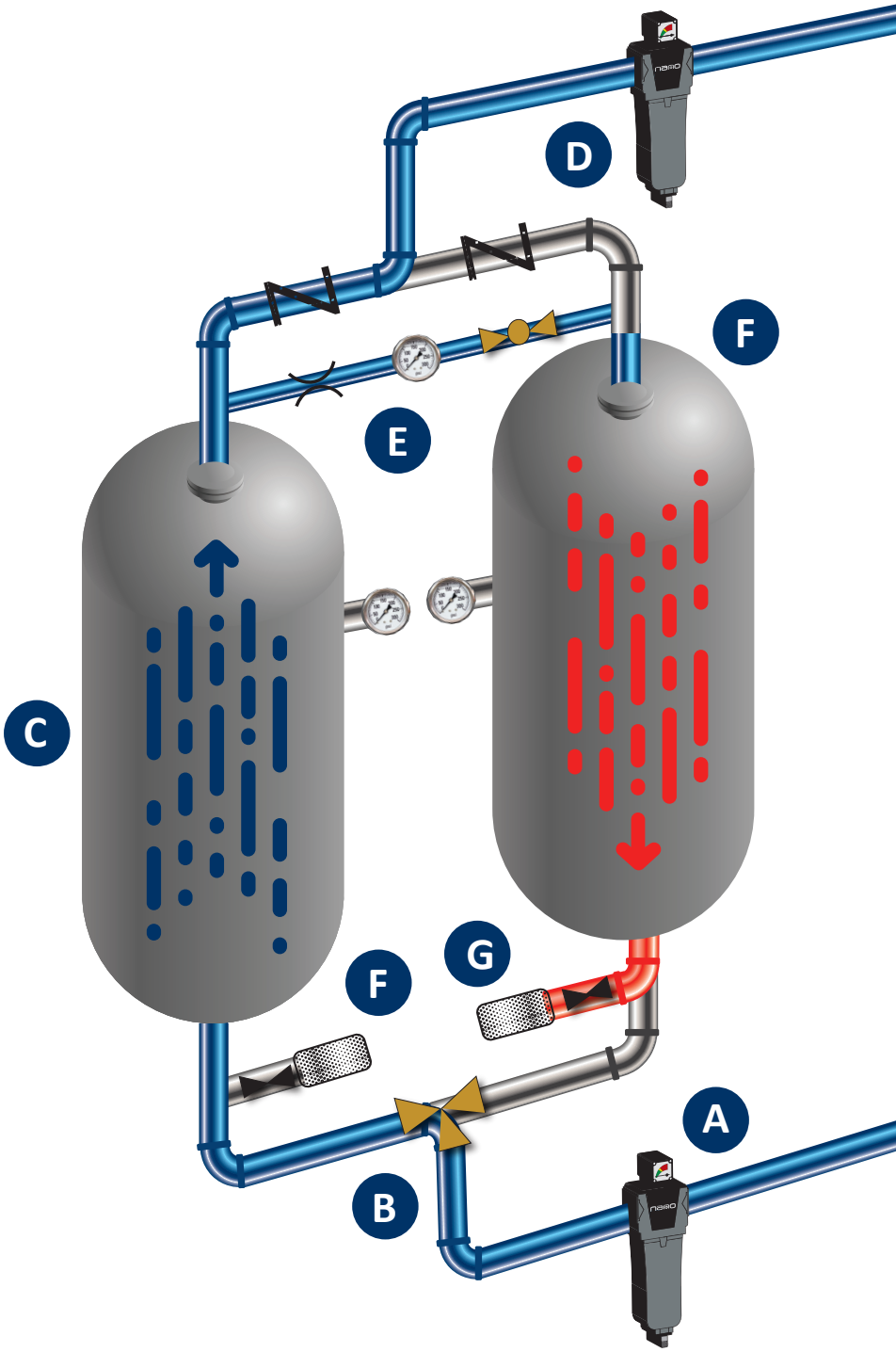
**D** a final filter removes particulate to 1.0 micron or better

**E** ~15% purge air expands through an orifice and regenerates tower B (HLA)

**F** after 3.5 minutes, the purge exhaust valve closes and tower B repressurizes and is ready for adsorption to begin

**G** at the 5-minute mark (fixed cycle), tower A exhaust valve opens to regenerate. A PLC controls all operations

**H** compressed air is expensive but nano dryers can be fitted with an energy savings device to save air and save money. By measuring actual pressure dew point, the PLC will extend the dryer cycle reducing compressor energy, wasted purge air and valve wear and tear



# FEATURES

## PLC controlled operation

- the dryer is operated by a robust and reliable PLC control system offering valuable features including 'power on', 'hours run' and 'service required indicators'
- memory retention built into the PLC enables the controller to pick up where it left off in the drying cycle, ensuring consistently clean and dry air downstream
- compressor synchronization is a standard energy saving feature on HLA range which starts and stops the dryer with a signal from the compressor to eliminate purge loss when drying is not required
- NEMA 4 control panel

## low noise exhaust mufflers

- specifically designed to minimize the noise of depressurization and purge exhaust
- high flow design improves regeneration

## low watt density heater (AEHD & ABP ranges)

- regeneration circuit is fully insulated for maximum efficiency
- specifically designed for a long and dependable operating life in harsh industrial environments

## secondary heater contactor (AEHD & ABP ranges)

- provides protection against overheating in the event of a primary contactor failure

## regenerative blower (ABP range)

- utilizes atmospheric air for regeneration
- easy maintenance and a rugged construction with TEFC premium motor that includes filtered air intake
- vortex regenerative blower (models 2500 scfm and below); centrifugal blower (models 3000 scfm and larger)


# FEATURES

## pneumatically operated 3-way valves

- three-way valves with stainless steel internals and Teflon® seats ensure reliable field proven performance
- used for inlet valves on models HLA 100 to HLA 800

## high performance butterfly valves

- pneumatic actuators ensure precise proportional control and a bubble tight seal; no soft seals
- rugged stainless steel disk and Teflon® seats combined with a low pressure drop design
- used for inlet valves on models 1000 scfm and larger for HLA and AEHD ranges; 800 scfm and larger for ABP range

## stainless steel spring check valves

- metal on metal seats for reliable operation, even high temperature operation
- provide worry-free operation and minimal maintenance

## parallel cooling mode (ABP range)

- features a unique Parallel Cooling Mode to further reduce the heat and dew point spike prior to tower switch over. During the parallel cooling mode, both inlet valves are open and divert half-load to each tower, further cooling the previously regenerated desiccant bed with a larger volume of air.
- maximum savings with accurate dew point control

## high quality construction

- ASME coded pressure vessels
- UL/cUL compliant
- activated alumina desiccant made in the USA
- lifting lugs and/or fork lift pockets on all products

# UPGRADE

## energy saving dew point control option

- STANDARD on AEHD and ABP ranges
- with this option, a dew point sensor is incorporated into the dryer providing the ultimate in energy and power savings
- outlet dew point is constantly monitored allowing the cycle time to be adjusted depending on the actual moisture load saving valuable purge air on all styles of dryers
- saves additional energy on heated dryers by reducing heater on-time and blower run-time
- the -ES option reduces valve actuation


## validated compressed air filter packages

- nano pre and after filtration packages standard on AEHD and ABP ranges; HLA range optional
- nano $F^2$ flanged filters used on models above 1500 scfm
- 3-valve bypass available for single pre- and after-filter packages

## other options include

- low ambient kits for outdoor environments
- special paint finishes
- enhanced corrosion allowances for harsh ambient conditions
- NEMA 7 explosion-proof designs
- rental packages with air driven controls and after cooler available
- custom designs to comply with specifications welcome

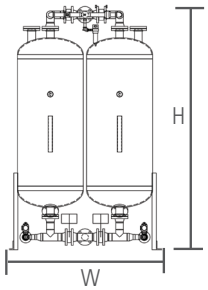
# HLA HEATLESS SPECIFICATIONS

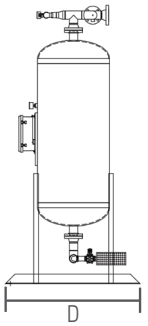
| dryer model | inlet & outlet [1] | rated flow [2] | | dimensions (inches) | | | approx. weight [3] | recommended filtration [4] | |
|---|---|---|---|---|---|---|---|---|---|
| | NPT (F) / Flg | scfm | Nm³/h | W | D | H | lbs | pre filter | after filter |
| HLA 100 | 1" | 100 | 170 | 38 | 31 | 88 | 300 | GF0105M01 | GF0105M1 |
| HLA 150 | 1" | 150 | 255 | 40 | 32 | 89 | 415 | GF0175M01 | GF0175M1 |
| HLA 200 | 1 ½" | 200 | 340 | 41 | 31 | 90 | 540 | GF0325M01 | GF0325M1 |
| HLA 250 | 1 ½" | 250 | 425 | 43 | 32 | 87 | 590 | GF0325M01 | GF0325M1 |
| HLA 350 | 1 ½" | 350 | 595 | 45 | 33 | 88 | 735 | GF0450M01 | GF0450M1 |
| HLA 500 | 2" | 500 | 850 | 47 | 41 | 89 | 1100 | GF0700M01 | GF0700M1 |
| HLA 650 | 2" | 650 | 1150 | 51 | 43 | 89 | 1600 | GF0700M01 | GF0700M1 |
| HLA 800 | 2 ½"" | 800 | 1359 | 51 | 43 | 89 | 2000 | GF0850M01 | GF0850M1 |
| HLA 1000 | 3" | 1000 | 1699 | 74 | 53 | 97 | 2650 | GF1250M01 | GF1250M1 |
| HLA 1250 | 3" | 1250 | 2124 | 74 | 56 | 112 | 3000 | GF1250M01 | GF1250M1 |
| HLA 1500 | 3" | 1500 | 2549 | 83 | 74 | 112 | 3500 | GF1500M01 | GF1500M1 |
| HLA 2000 | 4" | 2000 | 3398 | 111 | 78 | 112 | 4600 | NFZ2500M01 | NFZ2500M1 |
| HLA 2500 | 4" | 2500 | 4247 | 123 | 81 | 112 | 5100 | NFZ2500M01 | NFZ2500M1 |
| HLA 3000 | 4" | 3000 | 5097 | 129 | 90 | 112 | 6500 | NFZ3500M01 | NFZ3500M1 |

| specifications | standard | optional |
|---|---|---|
| maximum particle size (ISO class) [5] | class 2 (1 micron) | class 1 (0.01 micron) |
| maximum water content (ISO class) [5] | class 2 (-40°F pdp) | class 1 (-94°F pdp) |
| minimum/ design /maximum operating pressure range [6] | 80 psig / 100 psig / 150 psig | - |
| minimum / design/ maximum ambient temperature | 38°F / 100°F / 120°F | - |
| minimum / design / maximum inlet temperature | 38°F / 100°F/ 120°F | - |
| power supply requirements | 115V/1Ph/60Hz | 230V/1Ph/60Hz & 12 VDC |

| pressure correction factors [7] | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| operating pressure (psig) | 60 | 70 | 80 | 90 | 100 | 110 | 130 | 140 | 150 |
| correction factor | 0.65 | 0.74 | 0.83 | 0.91 | 1.00 | 1.04 | 1.12 | 1.16 | 1.20 |

| temperature correction factors [7] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| inlet temperature (°F) | 70 | 80 | 90 | 100 | 105 | 110 | 115 | 120 |
| correction factor | 1.12 | 1.10 | 1.06 | 1.00 | 0.93 | 0.86 | 0.80 | 0.75 |




(1) 3" and below are NPT(F) threaded. 4" and above are flanged. All units with 3" piping and above will be ANSI welded pipe
(2) in compliance with ADF 100 specifications for compressed air dryers: Inlet temperature: 100°F, ambient temperature: 100°F, inlet pressure dew point: -40°F. For all other conditions refer to the correction factors or contact support@nano-purification.com
(3) approx. weight for all models does not include desiccant installed
(4) recommended for all applications. Add -F2 suffix to dryer model for factory mounted filtration
(5) per ISO 8573.1:2010
(6) maximum working pressure for all models is 150 psig. For higher pressures, contact support@nano-purification.com
(7) be used as a rough guide only. All applications should be confirmed by nano. Contact nano for sizing assistance
(8) all models are UL/cUL compliant
(9) all models have ASME coded pressure vessels. For other approvals, consult support@nano-purification.com
(10) for sizes above 3000 scfm and pressure below 60 psig, please contact support@nano-purification.com
(11) technical specifications subject to change without notice. Direct inquiries to support@nano-purification.com or contact 704.897.2182

# AEHD EXTERNALLY HEATED SPECIFICATIONS

| dryer model | inlet & outlet [1] | rated flow [2] | | heater | | dimensions (inches) | | approx. weight [3] | included filtration [4] | |
|---|---|---|---|---|---|---|---|---|---|---|
| | NPT (F) / Flg | scfm | $Nm^3/h$ | kW | W | D | H | lbs | pre filter | after filter |
| AEHD 150 | 1" | 150 | 254 | 2.5 | 36 | 58 | 77 | 1000 | GF0175M01 | NHT0150M1 |
| AEHD 250 | 1 ½" | 250 | 423 | 3.75 | 44 | 58 | 87 | 1500 | GF0325M01 | NHT0300M1 |
| AEHD 350 | 2" | 350 | 592 | 6 | 53 | 62 | 87 | 2000 | GF0450M01 | NHT0450M1 |
| AEHD 500 | 2" | 500 | 845 | 7 | 53 | 66 | 87 | 2300 | GF0700M01 | NHT0650M1 |
| AEHD 750 | 2" | 750 | 1268 | 11 | 53 | 70 | 89 | 2700 | GF0850M01 | NHT1000M1 |
| AEHD 1000 | 3" | 1000 | 1690 | 15 | 68 | 80 | 92 | 4100 | GF1250M01 | NHT1000M1 |
| AEHD 1250 | 3" | 1250 | 2113 | 18 | 68 | 85 | 97 | 4900 | GF1250M01 | NHT1250M1 |
| AEHD 1400 | 3" | 1400 | 2366 | 22 | 68 | 85 | 97 | 5200 | GF1500M01 | NHT1600M1 |
| AEHD 1600 | 4" | 1600 | 2704 | 27 | 73 | 85 | 99 | 7200 | NFZ2500M01 | NHT1600M1 |
| AEHD 2000 | 4" | 2000 | 3380 | 32.5 | 91 | 94 | 109 | 7800 | NFZ2500M01 | NFZ2500M1HT |
| AEHD 2500 | 4" | 2500 | 4225 | 37 | 94 | 94 | 109 | 9500 | NFZ2500M01 | NFZ2500M1HT |
| AEHD 3000 | 6" | 3000 | 5070 | 45 | 113 | 113 | 119 | 11500 | NFZ3500M01 | NFZ3500M1HT |

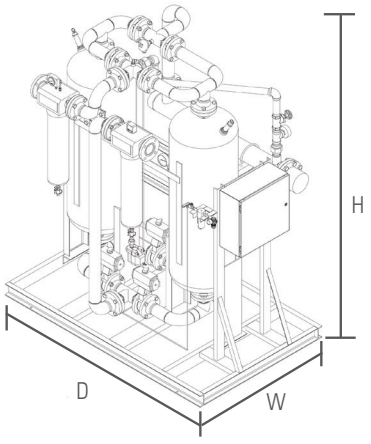
| specifications | standard | optional |
|---|---|---|
| maximum particle size (ISO class) [5] | class 2 (1 micron) | class 1 (0.01 micron) |
| maximum water content (ISO class) [5] | class 2 (-40°F pdp) | - |
| minimum/ design /maximum operating pressure range [6] | 60 psig / 100 psig / 150 psig | 58 to 250 psig |
| minimum / design/ maximum ambient temperature | 38°F / 100°F / 120°F | - |
| minimum / design / maximum inlet temperature | 38°F / 100°F/ 120°F | - |
| power supply requirements | 460VAC/60Hz | - |

## pressure correction factors [7]

| operating pressure (psig) | 60 | 70 | 80 | 90 | 100 | 110 | 130 | 140 | 150 |
|---|---|---|---|---|---|---|---|---|---|
| correction factor | 0.65 | 0.73 | 0.82 | 0.91 | 1.00 | 1.09 | 1.27 | 1.35 | 1.44 |

## temperature correction factors [7]

| inlet temperature (°F) | 70 | 80 | 90 | 100 | 105 | 110 | 115 | 120 |
|---|---|---|---|---|---|---|---|---|
| correction factor | 1.20 | 1.15 | 1.10 | 1.00 | 0.90 | 0.80 | 0.70 | 0.60 |




(1) 2" and below are NPT(F) threaded. 3" and above are flanged. All units with 3" piping and above will be ANSI welded pipe
(2) in compliance with ADF 100 specifications for compressed air dryers: Inlet temperature: 100°F, ambient temperature: 100°F, inlet pressure dew point: -40°F. For all other conditions refer to the correction factors or contact support@nano-purification.com
(3) approx. weight for all models includes desiccant; units 2500 scfm and above desiccant is shipped loose
(4) pre and after filters mounted on dryer as standard
(5) per ISO 8573.1:2010
(6) maximum working pressure for all models is 150 psig. For higher pressures, contact support@nano-purification.com
(7) be used as a rough guide only. All applications should be confirmed by nano. Contact nano for sizing assistance
(8) all models are UL/cUL compliant
(9) all models have ASME coded pressure vessels. For other approvals, consult support@nano-purification.com
(10) technical specifications subject to change without notice. Direct inquiries to support@nano-purification.com or contact 704.897.2182

# ABP BLOWER PURGE SPECIFICATIONS

| dryer model | inlet & outlet [1] | rated flow [2] | | heater | blower | | dimensions (inches) | | approx. weight [3] | included filtration [4] | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Flg | scfm | $Nm^3/h$ | kW | hp | W | D | H | lbs | pre filter | after filter |
| ABP 800 | 3" | 800 | 1352 | 18 | 5 | 60 | 87 | 100 | 3600 | GF0850M01 | NHT1000M1 |
| ABP 1000 | 3" | 1000 | 1690 | 22 | 5 | 60 | 90 | 100 | 4500 | GF1250M01 | NHT1000M1 |
| ABP 1200 | 3" | 1200 | 2028 | 27 | 7.5 | 61 | 98 | 105 | 5400 | GF1250M01 | NHT1250M1 |
| ABP 1400 | 3" | 1400 | 2366 | 32.5 | 10 | 70 | 105 | 106 | 6800 | GF1500M01 | NHT1600M1 |
| ABP 1600 | 4" | 1600 | 2704 | 37 | 10 | 81 | 106 | 107 | 7500 | NFZ2500M01 | NHT1600M1 |
| ABP 2000 | 4" | 2000 | 3380 | 45 | 10 | 81 | 106 | 116 | 9000 | NFZ2500M01 | NFZ2500M1HT |
| ABP 2500 | 4" | 2500 | 4225 | 52 | 15 | 83 | 128 | 116 | 10700 | NFZ2500M01 | NFZ2500M1HT |
| ABP 3000 | 6" | 3000 | 5070 | 64 | 15 | 111 | 131 | 127 | 13400 | NFZ3500M01 | NFZ3500M1HT |
| ABP 3500 | 6" | 3500 | 5915 | 78 | 15 | 105 | 134 | 120 | 15600 | NFZ3500M01 | NFZ3500M1HT |
| ABP 4000 | 6" | 4000 | 6760 | 90 | 15 | 106 | 147 | 128 | 17900 | NFZ4000M01 | NFZ4000M1HT |
| ABP 5000 | 6" | 5000 | 8450 | 110 | 20 | 109 | 163 | 138 | 22300 | NFZ5000M01 | NFZ5000M1HT |
| ABP 6000 | 8" | 6000 | 10140 | 120 | 25 | 118 | 169 | 147 | 26800 | NFZ7500M01 | NFZ7500M1HT |

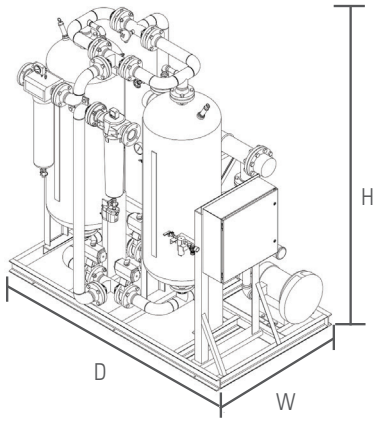
| specifications | standard | optional |
|---|---|---|
| maximum particle size (ISO class) [5] | class 2 (1 micron) | class 1 (0.01 micron) |
| maximum water content (ISO class) [5] | class 2 (-40°F pdp) | - |
| minimum/ design /maximum operating pressure range [6] | 60 psig / 100 psig / 150 psig | 58 to 250 psig |
| minimum / design/ maximum ambient temperature | 38°F / 100°F / 120°F | - |
| minimum / design / maximum inlet temperature | 38°F / 100°F/ 120°F | - |
| power supply requirements | 460VAC/60Hz | - |

## pressure correction factors [7]

| operating pressure (psig) | 60 | 70 | 80 | 90 | 100 | 110 | 130 | 140 | 150 |
|---|---|---|---|---|---|---|---|---|---|
| correction factor | 0.65 | 0.73 | 0.82 | 0.91 | 1.00 | 1.09 | 1.27 | 1.35 | 1.44 |

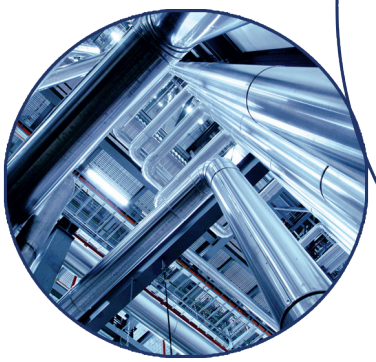
## temperature correction factors [7]

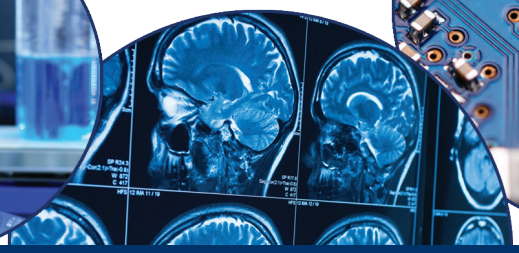
| inlet temperature (°F) | 70 | 80 | 90 | 100 | 105 | 110 | 115 | 120 |
|---|---|---|---|---|---|---|---|---|
| correction factor | 1.20 | 1.15 | 1.10 | 1.00 | 0.90 | 0.80 | 0.70 | 0.60 |

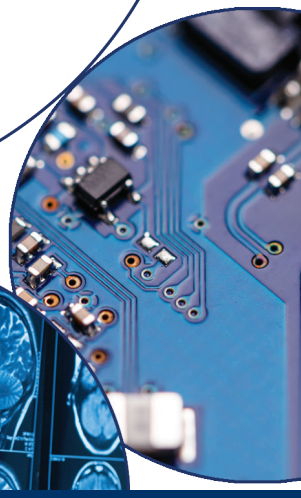



(1) all units are flanged, ANSI welded pipe
(2) in compliance with ADF 100 specifications for compressed air dryers: Inlet temperature: 100°F, ambient temperature: 100°F, inlet pressure dew point: -40°F. For all other conditions refer to the correction factors or contact support@nano-purification.com
(3) approx. weight for all models includes desiccant; units 2500 scfm and above desiccant is shipped loose
(4) pre and after filters mounted on dryer as standard
(5) per ISO 8573.1:2010
(6) maximum working pressure for all models is 150 psig. For higher pressures, contact support@nano-purification.com
(7) be used as a rough guide only. All applications should be confirmed by nano. Contact nano for sizing assistance
(8) all models are UL/cUL compliant
(9) all models have ASME coded pressure vessels. For other approvals, consult support@nano-purification.com
(10) technical specifications subject to change without notice. Direct inquiries to support@nano-purification.com or contact 704.897.2182









# membrane compressed air dryers

flow capacity: 3.2 to 74.2 scfm (5.5 to 126 $Nm^3/hr$)

# “Class 4 air is acceptable for 95% of our plant, but a few processes needed drier air. The M¹ is the perfect solution.”

*a research laboratory - southwestern US*

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

Ambient air contains high levels of moisture, dust, hydrocarbons and other contaminants and, when left untreated, the results can be corrosion, bacteria, mold growth and freezing water 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 condenses into liquid water throughout your compressed air system as the pressure and temperature of the compressed air changes.

## nano M¹ membrane compressed air dryers

- removal of water vapor by lowering the pressure dew point of your compressed air stream from 100°F to 55°F to ensure a continuous supply of dry air
- low pressure drop and reduced purge air use lower the costs of producing dry air
- designed for the most demanding applications the M¹ membrane dryer is suitable for a broad range of installations and operating conditions

## technologically advanced

# BENEFITS

## energy efficient

- designed for minimal pressure drop and optimized for the highest drying efficiency

## choice of performance

- with seven model sizes and two grades of membrane available,the M[1] membrane dryer has a wide performance range to offer you the exact level of dry air required to meet your needs

## designed for demanding applications

- provides clean, dry compressed air in environments with strict safety or environmental requirements such as low flow environments, noise and corrosion sensitive areas, areas without electrical supply and locations with explosion proof requirements.
- the perfect design for environments with space restrictions, widely fluctuating temperatures or high vibration areas

## easy to install

- with 2 grades of inlet filtrations included and multiple installation orientation possibilities the M[1] is ready for your installation

## safe & reliable

- requiring no electrical power for operation, the M[1] membrane dryer is suitable for installation in hazardous areas

## easy to maintain

- with no moving or wearing parts the M[1] membrane dryer only requires that the inlet filters be serviced over its life

# HOW IT WORKS

A membrane compressed air dryer consists of thousands of hollow fibers sealed inside a hollow tube. The membranes have an innovative surface coating that allows for water to permeate through the fibers while the compressed air remains. The air stream is consequently dried because the water escapes. This dry air will have a dew point that is lowered up to 100°F compared to the original membrane dryer inlet dew point conditions. The membrane is able to work continuously by using a portion of the dried air to purge the moisture removed out of the system through the exhaust vents.

**A** after being purified by the included inlet filters the wet air enters the bottom endcap through one of the (2) available inlet connections

**B** air then travels through the membrane bundle

**C** as wet compressed air passes through the membrane bundle, water vapor permeates through the membrane wall while the air remains inside the membrane tubes

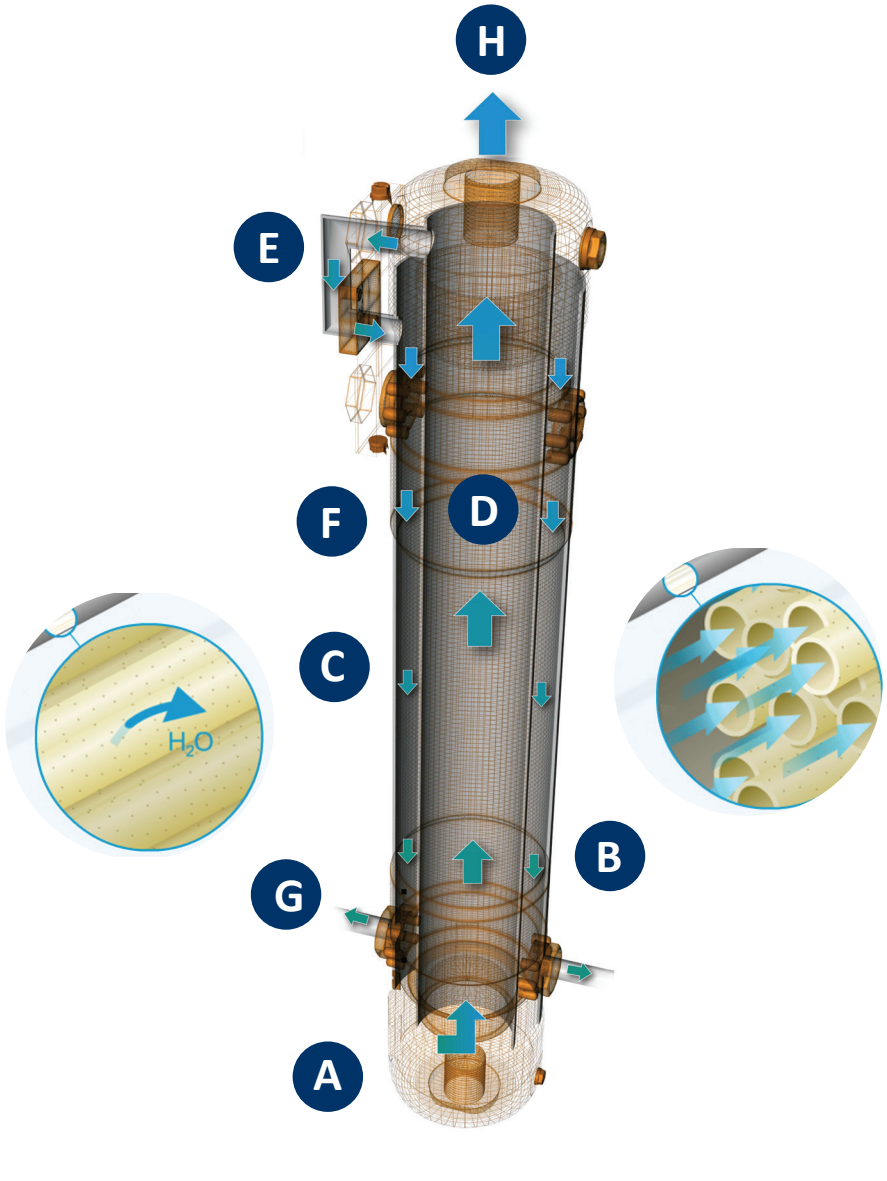
**D** the straight path though the tubes ensures a minimal pressure drop and proprietary membrane coating minimizes air leakages

**E** as the dry air exits the membrane tube bundle a small portion of the air is used to purge the water from the membrane

**F** the purge air passes by the outside of the membrane tubes removing the moisture

**G** the wet purge air then exits the dryer through the 2 exhaust vents

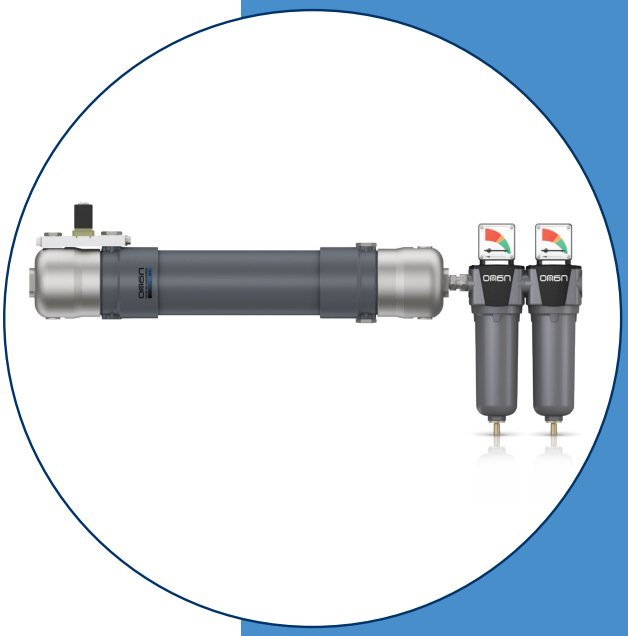
**H** dry air ready for use



# FEATURES

## full range gives you exact air type required

- the 55F range ensures suppression of 55°F, producing an outlet air dew point of 40°F which is similar to refrigerated air dryers at reference conditions
- for even dryer air the 100F range lowers the inlet dew point by 100°F, producing sub freezing pressure dew points at the reference conditions



## advanced fiber technology

- thousands of hollow fibers with a unique inner coating increases separation efficiency between the water vapor and air, giving unprecedented low air leakage and lowest purge air loss

## optimal inlet air quality

- two pre-filters with all interconnection components included as standard

## versatile for maximum flexibility

- inlet and outlet caps allow filters and dryer to be mounted horizontally or vertically

## requires no electrical power

- can be easily installed in remote or mobile applications
- the product can be installed in areas with hazardous classifications

## options

- purge air stop saves purge when no air consumption is present
- wall mounting kits for ease of installation

# SPECIFICATIONS

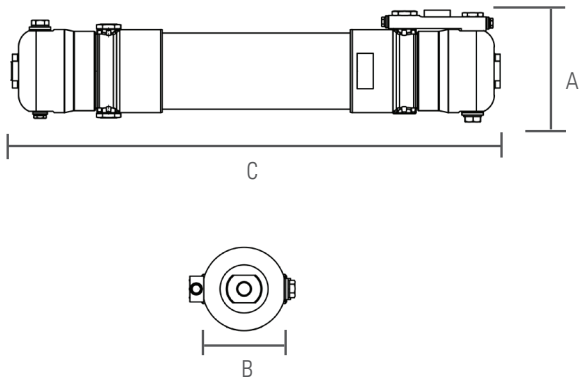
| dryer model | pressure dew point suppression | inlet & outlet | rated flow [1] | | dimensions (inches) | | | approx. weight | filtration [2] |
|---|---|---|---|---|---|---|---|---|---|
| | °F | NPT (F) | scfm | $Nm^3/h$ | A | B | C | lbs | pre filters |
| DHM 0005 55F | 57.6 | ½" | 6.4 | 10.8 | 5.8 | 2.2 | 20.9 | 6.6 | NF 0050 M1/M01 |
| DHM 0010 55F | 57.6 | ½" | 10.6 | 18 | 5.8 | 2.2 | 20.9 | 6.6 | NF 0050 M1/M01 |
| DHM 0020 55F | 57.6 | ½" | 19.1 | 32.4 | 6.8 | 3.1 | 28.9 | 8.8 | NF 0050 M1/M01 |
| DHM 0030 55F | 57.6 | ½" | 29.7 | 50.4 | 6.8 | 3.1 | 28.9 | 9.3 | NF 0050 M1/M01 |
| DHM 0040 55F | 57.6 | ½" | 40.3 | 68.4 | 7.6 | 3.9 | 27.9 | 11.7 | NF 0050 M1/M01 |
| DHM 0050 55F | 57.6 | ½" | 53 | 90 | 7.6 | 3.9 | 27.9 | 12.6 | NF 0050 M1/M01 |
| DHM 0075 55F | 57.6 | ½" | 74.2 | 126 | 8.6 | 4.9 | 28.8 | 17.4 | NF 0070 M1/M01 |
| DHM 0003 100F | 99 | ½" | 3.2 | 5.4 | 5.8 | 2.2 | 28.1 | 6.6 | NF 0050 M1/M01 |
| DHM 0007 100F | 99 | ½" | 7.4 | 12.6 | 5.8 | 2.2 | 40.2 | 7.1 | NF 0050 M1/M01 |
| DHM 0013 100F | 99 | ½" | 12.7 | 21.6 | 6.8 | 3.1 | 42.4 | 10.4 | NF 0050 M1/M01 |
| DHM 0019 100F | 99 | ½" | 19.1 | 32.4 | 6.8 | 3.1 | 42.4 | 10.4 | NF 0050 M1/M01 |
| DHM 0028 100F | 99 | ½" | 27.5 | 46.8 | 7.6 | 3.9 | 42.4 | 13.4 | NF 0050 M1/M01 |
| DHM 0036 100F | 99 | ½" | 36 | 61.2 | 7.6 | 3.9 | 42.4 | 13.4 | NF 0050 M1/M01 |
| DHM 0055 100F | 99 | ½" | 55.1 | 93.6 | 8.6 | 4.9 | 43.8 | 21.4 | NF 0070 M1/M01 |

| specifications | standard |
|---|---|
| minimum / maximum operating pressure range | 53 to 203 psig |
| minimum / maximum ambient temperature | 33.8 to 150.8°F |
| minimum / maximum inlet temperature | 33.8 to 150.8°F |

(1) rated flow capacity: compressed air dryer inlet: 101.5 psig and 95°F; ambient air temperature: 77°F: 100% RH. For all other conditions consult sizing program or contact support@n-psi.com

(2) dryer includes M1 and M01 pre filters as standard (shipped loose with mounting fittings)

(3) technical specifications subject to change without notice. Direct inquiries to support@n-psi.com or contact 704.897.2182



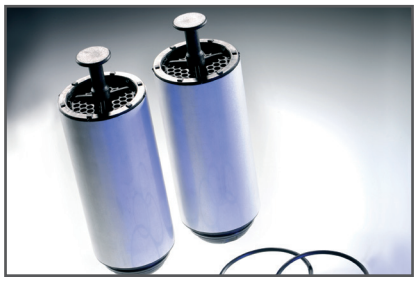
# $CO_2$ removal adsorption dryer

## FEATURES


- generate your own supply of purge gas in-house via connection of dryer to your existing compressed air system to deliver clean, dry and $CO_2$ free purge gas without any of the hassle of traditional cylinders
- constant supply of high air purity eliminates interruption of analyses to change cylinders, reduces instrument recalibration and safety concerns associated with high pressure oxygen and nitrogen cylinders
- lower running costs vs cylinder rental or purchase
- 7 models with rated flows from 1.5 to 120 l/m
- developed for laboratories, units require no bench space, can be wall mounted and ensure quiet operation with a novel exhaust silencer
- uses pressure swing adsorption (PSA) technology featuring automatic regeneration and advanced purification cartridges with snowstorm filled adsorbent containing integrated 1.0 micron post filtration with an additional nano F[1] high efficiency prefilter rated for 0.01 micron and 0.01 ppm oil carryover provides totally clean, dry air with a $CO_2$ level of less than 1 ppm
- laboratory applications include FTIR purge, TOC purge, NMR, GC flame gas and laser purging

### easy to maintain

less than 15 minutes required for maintenance due to unique factory built filtration and adsorption cartridges



### ease of use

PLC controller with clear text display as standard, compact, simple to install and maintain

# SPECIFICATIONS

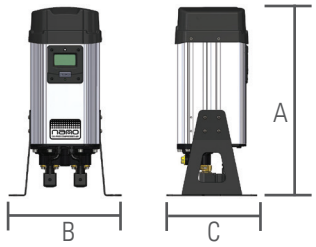
| model | inlet & outlet [1] | inlet air flow [2] | | outlet gas flow [2] | | dimensions (inches) | | | approx. weight | included pre-filtration [3] | optional pre-filtration [4] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | NPT (f) | $ft^3/h$ | l/m | $ft^3/h$ | l/m | A | B | C | lbs | | |
| NDC 015-F | 3/8" PTC | 5.3 | 2.5 | 3.2 | 1.5 | 17.3 | 10.4 | 8.7 | 18.2 | NF0025M01 | NF0025AC |
| NDC 050-F | 3/8" PTC | 17.6 | 8.3 | 10.6 | 5.0 | 17.3 | 10.4 | 8.7 | 18.2 | NF0025M01 | NF0025AC |
| NDC 140-F | 3/8" PTC | 53 | 25 | 32 | 15 | 17.3 | 10.4 | 8.7 | 18.2 | NF0025M01 | NF0025AC |
| NDC 300-F | 3/8" PTC | 106 | 50 | 64 | 30 | 25.6 | 10.4 | 8.7 | 28.2 | NF0025M01 | NF0025AC |
| NDC 600-F | ½" PTC | 212 | 100 | 127 | 60 | 46.8 | 10.4 | 13.0 | 42.5 | NF0030M01 | NF0030AC |
| NDC 900-F | 1" | 318 | 150 | 191 | 90 | 29.3 | 16.8 | 11.1 | 100 | NF0090M01 | NF0090AC |
| NDC 1200-F | 1" | 424 | 200 | 254 | 120 | 29.3 | 16.8 | 11.1 | 100 | NF0090M01 | NF0090AC |

| specifications | NDC 015-F to NDC 300-F | NDC 600-F to NDC 1200-F |
|---|---|---|
| design operating pressure range | 58 to 145 psig | 58 to 174 psig |
| recommended operating temperature range | 59 to 86°F | |
| power supply requirements | 50 or 60 Hz, 100 to 240 VAC | |
| maximum noise level (during depressurization) | 60 dBa | |

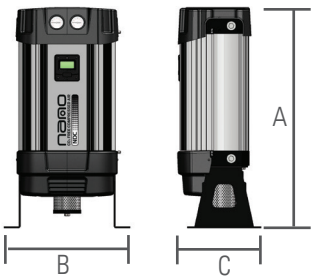
| outlet gas quality | standard | optional |
|---|---|---|
| maximum $CO_2$ content | 1 ppm | - |
| maximum pressure dew point | -94°F | - |
| maximum particulate size | 1 micron | 0.01 micron [5] |
| maximum oil content | - | 0.003 ppm [4] |

| pressure correction factors [6] | | | | | |
|---|---|---|---|---|---|
| inlet air pressure (psig) | 87 | 102 | 116 | 131 | 145 |
| correction factor | 0.88 | 1.00 | 1.13 | 1.25 | 1.38 |

| temperature correction factors [6] | | | | |
|---|---|---|---|---|
| inlet air temperature (°F) | 59 | 68 | 77 | 86 |
| correction factor | 1.00 | 1.00 | 0.90 | 0.90 |



NDC 015 to NDC 600



NDC 900 & NDC 1200

(1) NDC 015 to NDC 600 have push to connect fittings on the inlet and outlet. All other models have NPT threaded connections
(2) at 100 psig inlet pressure and 68°F and up to 375 ppm $CO_2$. For outlet flow at all other conditions contact support@n-psi.com
(3) includes a nano M01 high efficiency coalescing prefilter as standard
(4) optional AC activated carbon filter at the inlet for the removal of hydrocarbon vapors
(5) optional 0.01 micron post filter (M01)
(6) to be used as a rough guide only. All applications should be confirmed by nano. Contact support@n-psi.com for further assistance
(7) NDC 900 to NDC 1200 - noise level is 80 dBa
(8) technical specifications subject to change without notice. Direct inquiries to support@n-psi.com or contact 704.897.2182

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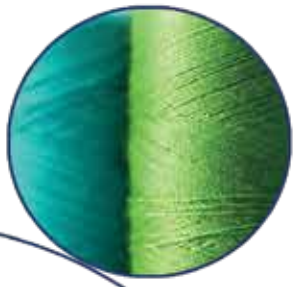
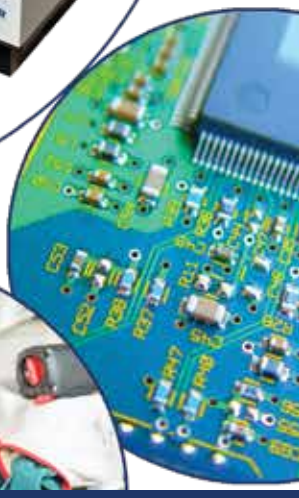
publication ref. n-psi-L1-2022-00-us



# cycling refrigerated air dryers

flow capacity: 20 to 2000 scfm (32 to 3210 $Nm^3/hr$)

# “We purchased a nano NXC 1050 because I trust my distributor to sell me a product which will provide clean, dry air efficiently and be serviceable for the long term.”

*aerospace manufacturer - western US*

Refrigerated dryers must be sized to handle the worst case operating conditions-the highest flow rate and highest inlet temperature on the hottest day of the year. The power consumption needed to operate at worst case conditions is far greater than the typical requirement. Non-cycling dryers operate at 100% power consumption, regardless of conditions or demand.  But, the R[1] NXC range takes power savings to the next level.

## nano R[1] NXC cycling refrigerated air dryers

- clean, dry compressed air at ISO class 4, 5 or 6 as necessary
- saves energy by matching power to actual demand and conditions
- lowest pressure drop
- steady, reliable pressure dew point
- rebate-friendly

## cycling technology

NXC dryers save money when they're running full load and save money when they're not.  To find out how much you can save, ask nano for a simple power study!

## saves money

In most applications, the air flow varies significantly throughout the day reaching peak demand only for a very short time. Often times, demand can be close to zero overnight or during breaks.  The NXC matches its power consumption to the air flow demand providing optimal energy savings. (example shown to right)

*at 0.08 per kWh for a plant running 24/7, the NXC dryer saves the company nearly $500 in electrical costs annually. A similarly installed 500 scfm dryer would save over $1,000 annually.

| dryer used | electrical consumption | actual air flow |
|---|---|---|
| thermal mass | 0.96 kW | 150 scfm |
| direct expansion | 0.96 kW | 150 scfm |

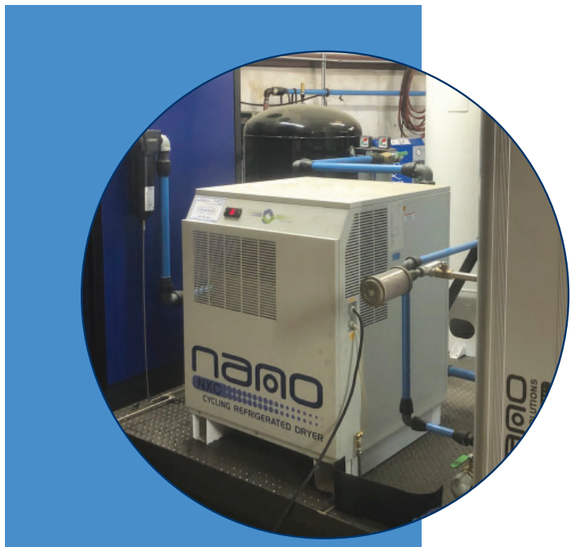
energy consumption according to air flow variations during the day

| working | duration | non-cycling | thermal mass |
|---|---|---|---|
| 100% | 0.5 hours | 0.48 kWh | 0.48 kWh |
| 75% | 1.5 hours | 1.44 kWh | 1.08 KWh |
| 50% | 5.0 hours | 4.80 kWh | 2.40 kWh |
| 25% | 3.0 hours | 2.88 kWh | 0.72 kWh |
| 0% | 14.0 hours | 13.44 kWh | 0.00 kWh |
| daily total | 24.0 hours | 23.04 kWh | 4.68 kWh |

# BENEFITS

## consistent dew point & low pressure drop

- patented heat exchanger comprised of separate air to air exchanger and an air to refrigerant exchanger immersed in an environmentally friendly and highly efficient silica dry thermal mass. Unique combination provides the best dew point performance, the fastest response times if demand increases suddenly and the lowest power consumption across the entire spectrum of operation


## optimum energy efficiency

- lower electrical consumption from 0% to 100% duty cycle and low pressure drop

## space saving design

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

## easy to install

- thanks to the silica dry mass, no overnight precooling of thermal mass is required

## robust construction

- powder coated galvanized steel panels are corrosion resistant

## total accessibility

- all panels can be removed to facilitate maintenance

## environmentally friendly

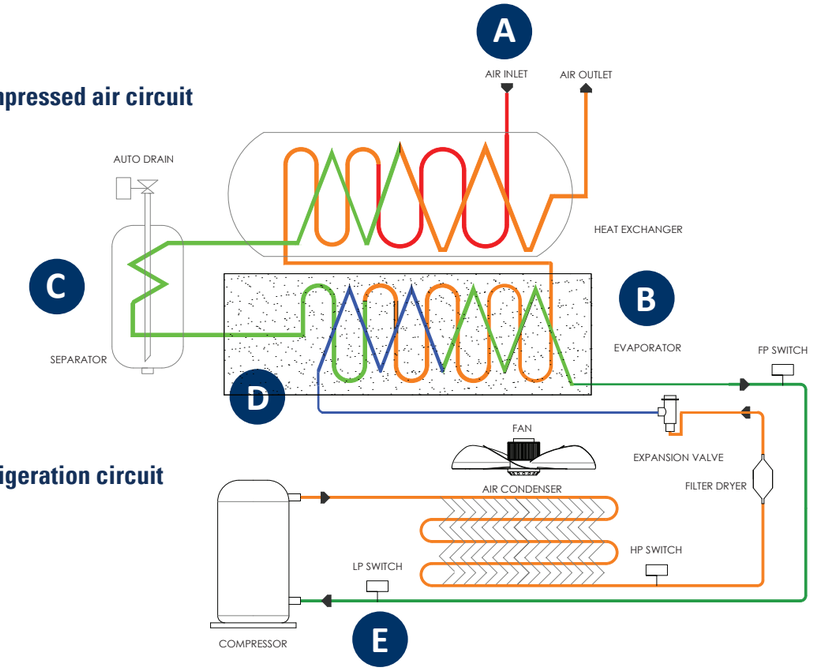
- R134a or R407C refrigerant and non-toxic silica dry mass utilized in all models


# HOW IT WORKS

Unlike direct expansion dryers which run continuously, when the NXC's silica dry thermal mass reaches a set temperature, the compressor stops or cycles off but continues to provide clean and dry compressed air to your process. The thermal mass stores the cold energy and keeps the dew point at the desired temperature. Once the temperature of the dry thermal mass begins to rise, the refrigerant compressor cycles on.

Dryer demand is a function of both required air flow and ambient conditions. Unless both of these variables are at their maximums at the same time, there are energy savings to be had. The R[1] takes advantage of this savings opportunity by significantly reducing power consumption to match actual demand.

**compressed air circuit**




**refrigeration circuit**

**A** hot, moist compressed air enters the separate air to air heat exchanger where it is precooled

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

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

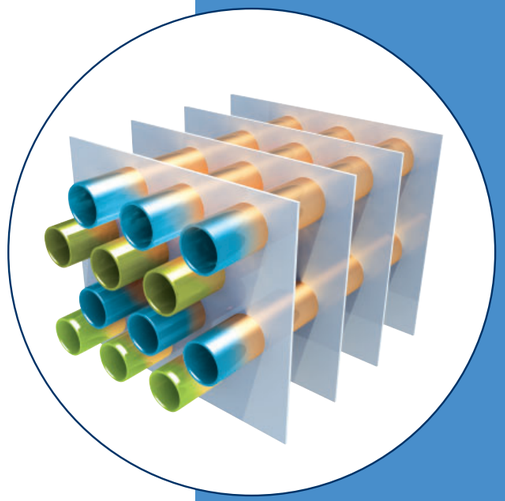
**D** the refrigerant comes into contact with both the silica dry mass and the compressed air inside the air to refrigerant evaporator

**E** if demand drops and compressed air flow rate is reduced, the refrigerant compressor cycles off and the silica dry mass is employed to continue drying the air. THIS is dual transfer technology (DTT)

# FEATURES

## dual transfer technology (DTT)

- utilized by NXC unique dry thermal mass saving energy and money which treats the compressed air according to actual air flow
- direct transfer: cold refrigerant comes into direct contact with the compressed air through the unique patented copper/aluminum heat exchanger making for the most efficient cooling method during periods of high air usage
- indirect transfer: excess refrigerant cools down the unique dry thermal mass allowing the compressor to cycle off during periods of lower compressed air consumption. This cycling feature ensures excellent dew point performance and low power consumption



## energy efficient and reliable rotary scroll compressors

- efficient and reliable service

## simple to use CAREL® digital microprocessor

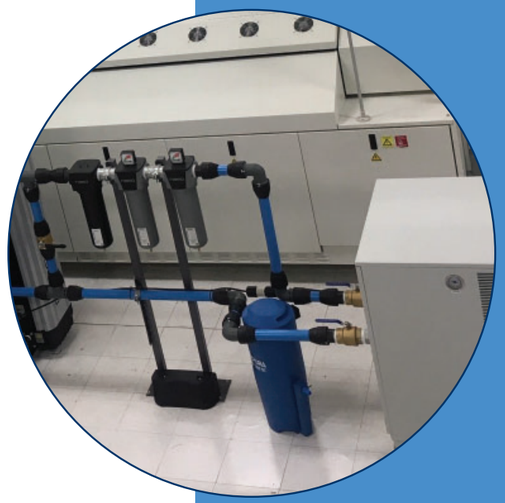
- features dew point temperature

## standard refrigerant gauge

- located on side of dryer cabinet for ease of troubleshooting

## timer drain

- robust, reliable and fully adjustable timer drain standard on all models



## performance validated filtration

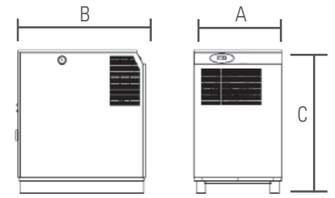
- pre- and after-filter filter packages available to provide additional energy savings and improved air quality

## water-cooled condensers - optional

# SPECIFICATIONS

| dryer model | inlet & outlet (1) | rated flow (2) | | absorbed power (3) | dimensions (inches) | | | approx. weight | power supply (V/Ph/60Hz) (4) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | NPT/Flg | scfm | $Nm^3/h$ | kW | A | B | C | lbs | 115/1 | 230/1 | 460/3 |
| NXC 0020 | ½" | 20 | 32 | 0.23 | 17 | 16 | 22 | 82 | • | | |
| NXC 0030 | ¾" | 30 | 48 | 0.24 | 18 | 18 | 26 | 106 | • | | |
| NXC 0045 | ¾" | 45 | 72 | 0.25 | 18 | 18 | 26 | 112 | • | | |
| NXC 0065 | 1" | 65 | 104 | 0.47 | 23 | 21 | 30 | 196 | • | | |
| NXC 0090 | 1" | 90 | 144 | 0.49 | 23 | 21 | 30 | 201 | • | | |
| NXC 0110 | 1" | 110 | 177 | 0.51 | 23 | 21 | 30 | 205 | • | | |
| NXC 0130 | 1 ½" | 130 | 209 | 0.97 | 29 | 24 | 37 | 291 | • | | |
| NXC 0165 | 1 ½" | 165 | 265 | 1.02 | 29 | 24 | 37 | 302 | • | | |
| (Models NXC 0020 to NXC 0165: UL STD 60335-1 & 60335-2-40 / CSA STD C22.2) | | | | | | | | | | | |
| NXC 0200 | 2" | 200 | 321 | 1.41 | 29 | 30 | 39 | 386 | | • | • |
| NXC 0265 | 2" | 265 | 425 | 1.41 | 29 | 30 | 39 | 386 | | • | • |
| NXC 0325 | 2" | 325 | 522 | 1.47 | 29 | 30 | 39 | 397 | | • | • |
| NXC 0400 | 2" | 400 | 642 | 1.52 | 29 | 30 | 39 | 408 | | • | • |
| NXC 0500 | 2 ½" | 500 | 803 | 2.50 | 29 | 42 | 47 | 539 | | | • |
| NXC 0650 | 3" | 650 | 1043 | 3.46 | 29 | 61 | 59 | 961 | | | • |
| NXC 0850 | 3" | 850 | 1364 | 3.60 | 29 | 61 | 59 | 992 | | | • |
| NXC 1050 | 3" | 1050 | 1685 | 5.00 | 44 | 56 | 59 | 1159 | | | • |
| NXC 1300 | 3" | 1300 | 2087 | 5.15 | 44 | 56 | 59 | 1195 | | | • |
| NXC 1600 | 4" Flg | 1600 | 2568 | 6.90 | 44 | 74 | 59 | 1586 | | | • |
| NXC 2000 | 4" Flg | 2000 | 3210 | 7.20 | 44 | 74 | 59 | 1635 | | | • |

| specifications | |
|---|---|
| design operating pressure range | 0 to 232 psig |
| maximum inlet temperature | 158°F |
| maximum ambient temperature | 110°F to 122°F depending on refrigerant (contact nano support for details) |



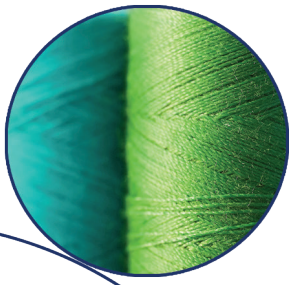

| pressure correction factors (5) | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| operating pressure (psig) | 58 | 72 | 87 | 100 | 115 | 130 | 145 | 160 | 175 | 190 | 204 | 218 | 232 |
| correction factor | 0.75 | 0.84 | 0.92 | 1.00 | 1.06 | 1.08 | 1.11 | 1.15 | 1.18 | 1.19 | 1.21 | 1.23 | 1.26 |

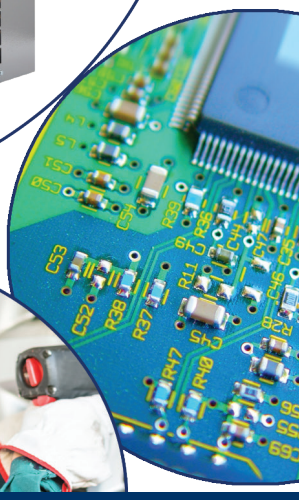
| inlet temperature correction factors (5) | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| inlet air temperature (°F) | 85 | 90 | 95 | 100 | 105 | 110 | 115 | 120 | 125 | 130 | 135 | 140 | 145 | 150 | 155 |
| correction factor | 1.29 | 1.21 | 1.11 | 1.00 | 0.93 | 0.80 | 0.72 | 0.65 | 0.57 | 0.53 | 0.50 | 0.46 | 0.43 | 0.41 | 0.38 |

| ambient temperature correction factors (5) | | | | | | |
|---|---|---|---|---|---|---|
| inlet temperature (°F) | 70 | 80 | 90 | 100 | 105 | 110 |
| correction factor | 1.18 | 1.16 | 1.07 | 1.00 | 0.96 | 0.89 |

(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 460/3/60 power supply (as applicable). For absorbed power at other voltages or conditions, contact support@n-psi.com
(4) specify voltage requirements when ordering. For 575V applications, Contact support@n-psi.com for assistance
(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) Intertek UL/CSA 22.2 approval (models NXC 0020 to NXC 0165)
(7) 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



# direct expansion refrigerated air dryers

flow capacity: 10 to 4200 scfm (17 to 7140 $Nm^3/hr$)

# “We purchased a nano DXR when our old dryer failed and we are happy with the installation.”

*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.

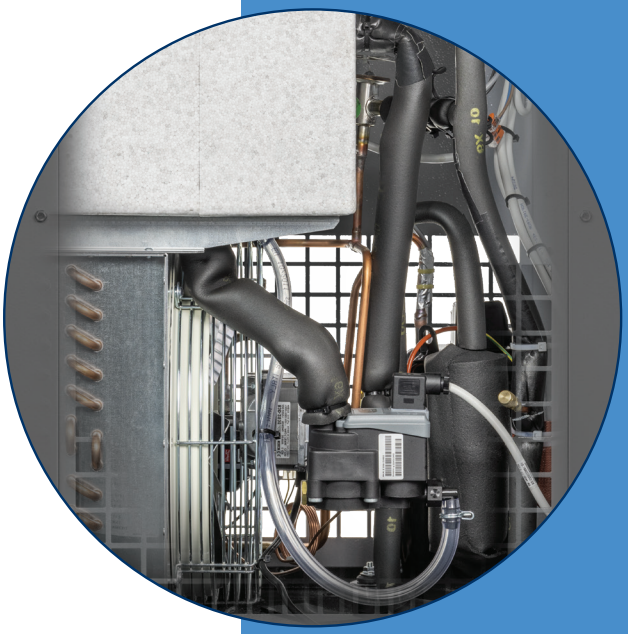
## nano $R^4$ DXR direct expansion refrigerated air dryers

- 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

## simple reliability

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

# 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

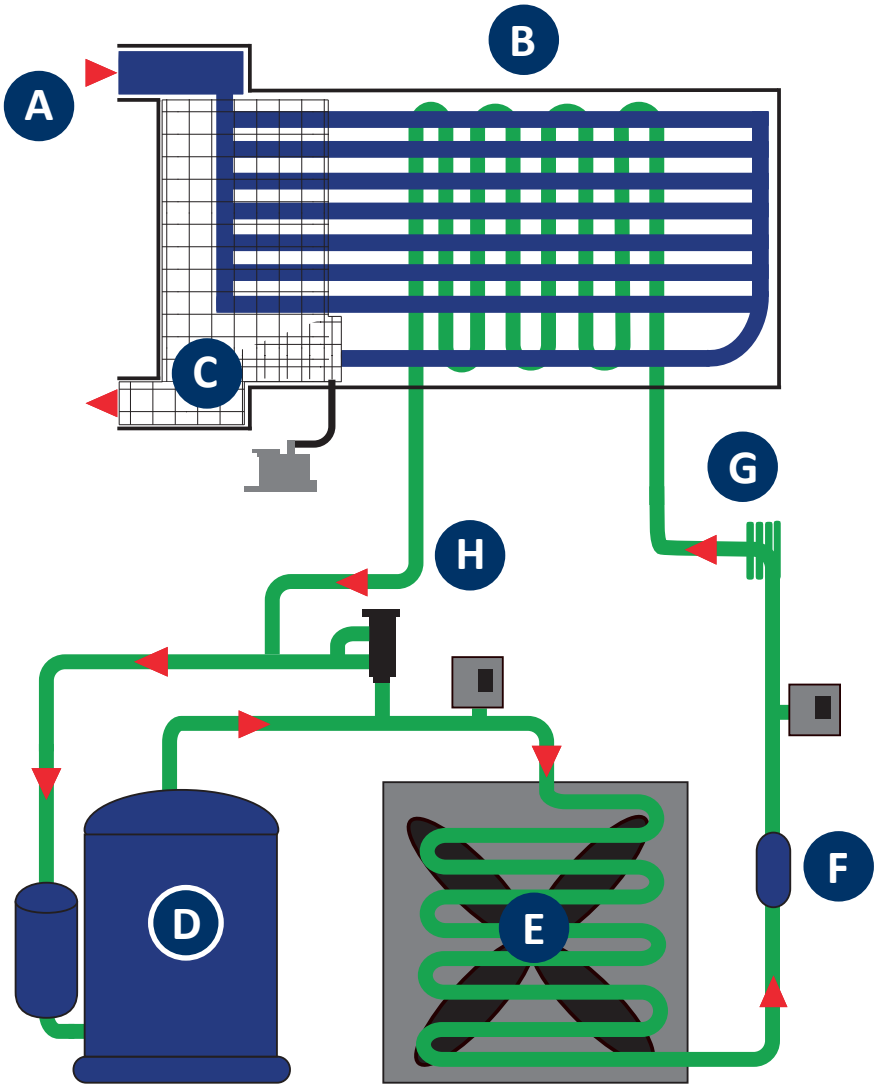
## environmentally friendly

- 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.

**compressed air circuit**




**refrigeration circuit**

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

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

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 **C**

the refrigerant compressor pressurizes the returning refrigerant gas **D**

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

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

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

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 **H**

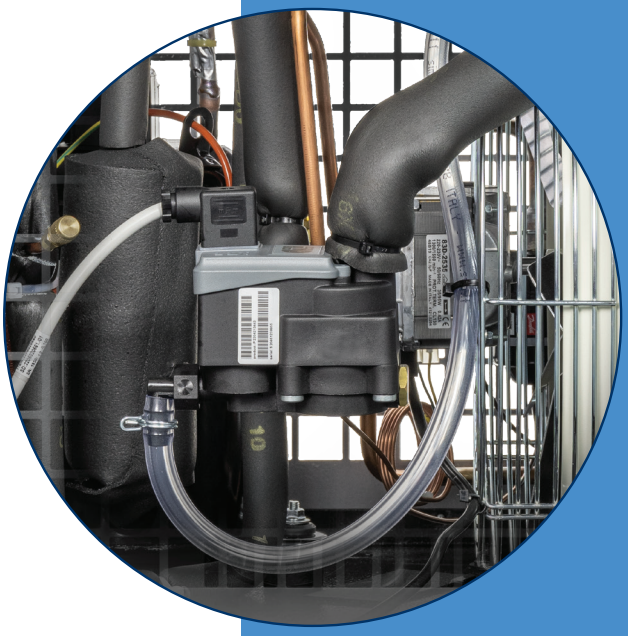
# FEATURES

## 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

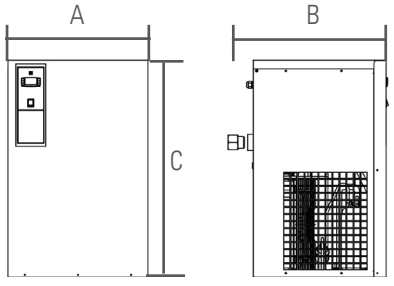
| dryer model | inlet & outlet [1] | rated flow [2] | | absorbed power [3] | dimensions (inches) | | | approx. weight | power supply (V/Ph/60Hz) [4] | | | | refrigerant |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NPT /Flg | scfm | $Nm^3/h$ | kW | A | B | C | lbs | 115/1 | 230/1 | 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 ½" (F) | 500 | 850 | 3.2 | 32 | 41 | 38 | 364 | | | • | | R410A |
| DXR 0600 NA | 2 ½" (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 | 104 | 114 |
| correction factor | 1.19 | 1.19 | 1.07 | 1.00 | 0.90 | 0.75 |




(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

# modular high pressure heatless desiccant dryer

## FEATURES

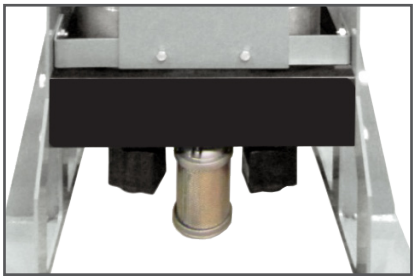
- removal of water vapor from your compressed air stream to -40°F (-4°F and -67°F optional) to ensure a continuous supply of dry air in high pressure applications
- 18 models from 77 to 942 scfm and operating pressures of 1450 or 5075 psig
- seamless stainless steel design provides maximum corrosion resistance and highest safety standards
- advanced controller monitors and controls the fully automated drying and regeneration cycles
- high pressure filtration connected with high pressure 316 stainless steel pipe work and fittings included as standard (0.01 micron pre filter and 1 micron after filter)
- high quality 2-layer desiccant bed for stable drying and extended desiccant service life
- rugged and reliable control valves provide flow capacity and designed for durability, ease of maintenance and long service life
- easy maintenance
- applications include electronics, marine and offshore, military, chemical manufacturing, aerospace, CNG & biogas

### dew point control option

energy savings dew point control continually monitors outlet dew point for maximum energy savings

### individual valve control

fully integrated, leak-free valve blocks with fully accessible switch over valves in the lower manifold

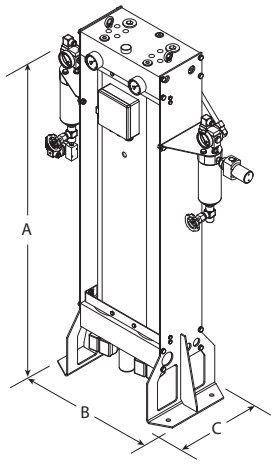


# SPECIFICATIONS

| dryer model | inlet & outlet | rated flow [1] | | dimensions (inches) | | | approx. weight |
|---|---|---|---|---|---|---|---|
| | NPT | scfm | $Nm^3/h$ | A | B | C | lbs |
| DHC / 100 (1450 psig) | | | | | | | |
| DHC8/100 | ½" | 77 | 130 | 40.9 | 30.7 | 14.5 | 187 |
| DHC13/100 | ½" | 115 | 195 | 46.8 | 30.7 | 14.5 | 212 |
| DHC18/100 | ½" | 159 | 270 | 52.7 | 30.7 | 14.5 | 240 |
| DHC26/100 | ½" | 203 | 345 | 58.6 | 30.7 | 14.5 | 269 |
| DHC31/100 | ½" | 250 | 425 | 68.5 | 30.7 | 14.5 | 295 |
| DHC41/100 | ¾" | 333 | 565 | 66.9 | 33.4 | 14.5 | 346 |
| DHC52/100 | ¾" | 394 | 670 | 74.8 | 33.4 | 14.5 | 379 |
| DHC59/100 | ¾" | 447 | 760 | 82.6 | 33.4 | 14.5 | 425 |
| DHC66/100 | ¾" | 486 | 825 | 92.5 | 33.4 | 14.5 | 481 |
| DHC / 350 (5075 psig) | | | | | | | |
| DHC8/350 | ½" | 132 | 132 | 40.9 | 30.7 | 14.5 | 287 |
| DHC13/100 | ½" | 206 | 350 | 46.8 | 30.7 | 14.5 | 333 |
| DHC18/100 | ½" | 283 | 480 | 52.7 | 30.7 | 14.5 | 390 |
| DHC26/100 | ½" | 365 | 620 | 58.6 | 30.7 | 14.5 | 461 |
| DHC31/100 | ½" | 441 | 750 | 68.5 | 30.7 | 14.5 | 523 |
| DHC41/100 | ¾" | 647 | 110 | 66.9 | 33.4 | 14.5 | 626 |
| DHC52/100 | ¾" | 765 | 1300 | 74.8 | 33.4 | 14.5 | 692 |
| DHC59/100 | ¾" | 868 | 1475 | 82.6 | 33.4 | 14.5 | 785 |
| DHC66/100 | ¾" | 942 | 1600 | 92.5 | 33.4 | 14.5 | 875 |

| specifications | standard | option |
|---|---|---|
| maximum particle size (ISO class) [2] | class 2 (1 micron) | class 1 (0.01 micron) |
| maximum water content (ISO class) [2] | class 2 (-40°F) [3] | - |
| maximum oil content (ISO class) [2] | class 1 (0.01 $mg/m^3$) | - |
| minimum operating pressure | 435 psig (DHC/100) / 1450 psig (DHC/350) | - |
| maximum operating pressure | 1450 psig (DHC/100) / 5075 (DHC/350) | - |
| recommended operating temperature range | 50 to 100°F | - |
| design operating temperature range | 35 to 140°F | - |
| power supply requirements | 120 & 240 VAC, 50/60 Hz [4] | - |
| power consumption | <50 W | - |
| control panel protection | IP 65 (NEMA 4X) | - |
| valve switching power (per valve) | 80 VA | - |

| material of construction | |
|---|---|
| vessels | 304 stainless steel |
| frame & supports | carbon steel |
| valve block housing | anodized aluminum |
| valve seats | stainless steel & brass |
| piping & fittings | 316 stainless steel |
| media | 80% 4A molecular sieve, 20% WS silica gel |




(1) at an outlet temperature of 95°F, an inlet pressure of 1450 or 5075 psig (as applicable) and -40°F outlet dew point. For all other operating conditions, contact support@n-psi.com for sizing assistance
(2) per ISO 8573.1:2010
(3) ISO class 2 (-40°F outlet pressure dew point) is provided as standard. -4°F or -67°F outlet pressure dew point are available as an option
(4) 24VDC available as an option
(5) technical specifications subject to change without notice. Direct inquiries to support@n-psi.com or contact 704.897.2182

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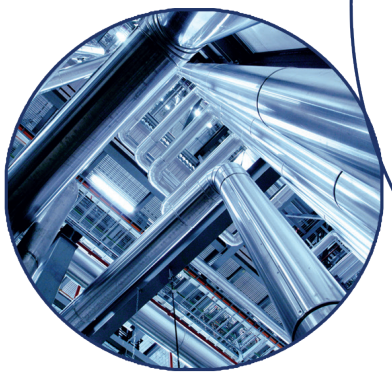
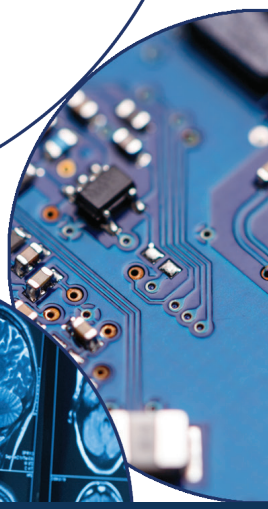




# ultra-high purity modular desiccant air dryers

flow capacity: 3 to 1110 scfm (5 to 1900 $Nm^3/hr$)

# “By installing multiple NDL dryer modules, we were able to better manage our fluctuations in demand, while continuing to provide the required dew point.”

*Food manufacturing facility - Eastern Canada*

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

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.

## nano $D^{1|2|3}$ modular desiccant compressed air dryers

- removal of water vapor by lowering the pressure dew point of your compressed air stream to -40°F/-94°F optional) to ensure a continuous supply of dry air
- low pressure drop and consistent dew point performance
- modular design allows installation in spaces too small for a traditional dryer
- premium controller option
- ease of service with patented, pre-assembled snowstorm filled desiccant and built in after filter cartridges on $D^1$ and $D^2$ ranges
- low noise during the exhaust and regeneration cycle
- energy saving option available
- many other options available to suit your installation

## Multi-Bank Design

The unique multi-bank design enables additional dryers to be added in the future as demand increases and provides redundancy for ease of maintenance. Your nano modular desiccant air dryer can grow with your company.

# BENEFITS

## complete range to suit any requirement

- 20 models available with flow rates from 3 to 1100 scfm
- designed for use in compressor room, point of application or integrated into original equipment

## guaranteed performance

- in accordance with ISO 8573.1:2010, Class 2 dirt (1 micron) and Class 2 water (-40°F pressure dew point). Class 1 water (-94°F) as an option

## simplicity of service

- patented, pre-assembled snowstorm filled desiccant and built in after filter cartridges ($D^1$ & $D^2$) can be serviced in less than 15 minutes.
- snowstorm filled columns with a built in 1 micron after filter ($D^3$)

## high quality construction

- 100% tested for leaks, proper operation and dew point performance

## warranty

- back by a 5 year product warranty with addition of Energy Saving Dew Point Control (-ES)

## easy to install space saving design

- the compact design allows installation in spaces too small for a traditional design
- easy to install & ready for use, the $D^2$ packages include mounting brackets for either floor or wall mounting (option for $D^2$)

# HOW IT WORKS

The nano $D^{1|2|3}$ modular desiccant air dryers use the pressure swing adsorption principle to efficiently dry compressed air. They use a heatless twin tower configuration housed in a modular design. Each column contains a unique (and patented) desiccant cartridge which incorporates an inlet water separator ($D^1$ only) and outlet filtration.

- **A** 0.01 micron pre-filter removes all particulate, liquid water and oil aerosols to 0.01 ppm.
- **B** clean, saturated air enters the dryer is a directed into column A
- **C** compressed air travels through tower A for 2 minutes and moisture vapor is adsorbed to -40°F pdp or better
- **D** a final built-in filter removes particulate to 1.0 micron or better
- **E** ~20% purge air expands through an orifice and regenerates tower B
- **F** after 30 seconds, the purge exhaust valve closes and tower B repressurizes and is ready for adsorption to begin
- **G** at the 2-minute mark (fixed cycle), tower A exhaust valve opens to regenerate. A PLC controls all operations
- **H** compressed air is expensive but nano dryers can be fitted with an energy savings device to save air and save money. By measuring actual pressure dew point, the PLC will extend the dryer cycle reducing compressor energy, wasted purge air and valve wear and tear

# UPGRADE

## energy saving dew point control option

- with this option, a dew point sensor is incorporated into the dryer providing the ultimate in energy and power savings
- outlet dew point is constantly monitored allowing the cycle time to be adjusted depending on the actual moisture load saving valuable purge air on all styles of dryers
- easily field retrofit; includes dew point display
- the -ES option reduces valve actuation, increases service life and includes an extended 5-year valve warranty


## other options include

- 232 psig (MAWP) for higher pressure applications
- pneumatic controls for safe operation in any classified operation are necessary, or remote locations where power is either limited or unavailable (available in $D^2$ and $D^3$ ranges)

# FEATURES

## reliable high performance valves

- inlet, exhaust and outlet air are controlled using coaxial flow valves ($D^3$) integrated into the upper and lower manifolds provide unrestricted flow capacity and designed for durability, ease of maintenance and long service life
- NDL 010 to NDL 050 use integrated check valves and two pilot operated solenoid valves for proven performance and reliability
- NDL 060 to NDL 130 use four pilot operated solenoid valves

## patented combined filter & desiccant cartridges

- high density snowstorm filled desiccant provides maximum adsorption capacity and built in inlet water separator ($D^2$) only eliminates the cost and pressure drop of installing a separate inlet filter in small oil-free compressor applications
- built in outlet filtration to eliminate the cost, pressure drop and maintenance associated with a separate after filter
- easy to replace cartridges simplify maintenance requirements (models NDL 010 to NDL 130)

## PLC controlled

- operated by a robust and reliable PLC control system offering valuable features including 'power on', 'hours run' and 'service required' indicators memory retention built into the PLC enables the controller to pick up where it left off in the drying cycle, ensuring consistently clean, dry air downstream


## floor or wall mounted

- can be floor or wall mounted - simply by rotating the feet 90 (standard on $D^1$, optional on $D^2$)

## unique exhaust air silencers

- significantly reduces noise level during depressurization and purge cycles

## constant flow and pressure

- pressure is equalized before switching columns to ensure uninterrupted compressed air and consistent air pressure. equalization also ensures long desiccant life due to minimized desiccant attrition

## tower gauges

- standard on models NDL 060 and larger

## performance validated filtration

- separate GF 0.01 micron pre filter (shipped loose) and a built in 1.0 micron after filter included as standard

## maximum corrosion protection

- high tensile aluminum columns are alocrom protected then externally powder coated to provide maximum protection for corrosive environments

# SPECIFICATIONS

| dryer model | inlet & outlet [1] | rated flow [2] | | dimensions (inches) | | | approx. weight | filtration [3] | |
|---|---|---|---|---|---|---|---|---|---|
| | NPT (F) | scfm | $Nm^3/h$ | A | B | C | lbs | pre filter | after filter |
| NDL 010 | ⅜" | 3 | 5.1 | 17.3 | 10.4 | 8.7 | 19.8 | GF 0006 M01 | integrated |
| NDL 020 | ⅜" | 5 | 8.5 | 17.3 | 10.4 | 8.7 | 19.8 | GF 0006 M01 | integrated |
| NDL 030 | ⅜" | 10 | 17 | 25.6 | 10.4 | 8.7 | 29.8 | GF 0015 M01 | integrated |
| NDL 040 | ⅜" | 15 | 25.5 | 35.0 | 10.4 | 13.0 | 40.8 | GF 0015 M01 | integrated |
| NDL 050 | ½" | 20 | 34 | 46.8 | 10.4 | 13.0 | 56.2 | GF 0025 M01 | integrated |
| NDL 060 | 1" | 34 | 58 | 29.2 | 16.8 | 11.1 | 88 | GF 0105 M01 | integrated |
| NDL 070 | 1" | 41 | 70 | 29.2 | 16.8 | 11.1 | 88 | GF 0105 M01 | integrated |
| NDL 080 | 1" | 53 | 90 | 36.3 | 16.8 | 11.1 | 119 | GF 0105 M01 | integrated |
| NDL 090 | 1" | 66 | 112 | 36.3 | 16.8 | 11.1 | 119 | GF 0105 M01 | integrated |
| NDL 100 | 1" | 88 | 150 | 43.2 | 16.8 | 11.1 | 141 | GF 0105 M01 | integrated |
| NDL 110 | 1" | 106 | 180 | 49.1 | 16.8 | 11.1 | 167 | GF 0175 M01 | integrated |
| NDL 120 | 1" | 132 | 224 | 58.9 | 16.8 | 11.1 | 200 | GF 0175 M01 | integrated |
| NDL 130 | 1" | 177 | 301 | 72.7 | 16.8 | 11.1 | 247 | GF 0175 M01 | integrated |
| NDL 2110 | 2" | 212 | 360 | 50.5 | 15.7 | 26.8 | 214 | GF 0450 M01 | integrated |
| NDL 2120 | 2" | 276 | 469 | 60.4 | 15.7 | 26.8 | 394 | GF 0450 M01 | integrated |
| NDL 2130 | 2" | 400 | 680 | 74.1 | 15.7 | 26.8 | 575 | GF 0450 M01 | integrated |
| NDL 3130 | 2" | 560 | 951 | 74.1 | 15.7 | 33.4 | 548 | GF 0700 M01 | integrated |
| NDL 4130 | 2 ½" | 750 | 1274 | 74.1 | 15.7 | 40.0 | 729 | GF 0850 M01 | integrated |
| NDL 6120 | 2 ½" | 828 | 1407 | 60.4 | 15.7 | 53.2 | 967 | GF 0850 M01 | integrated |
| NDL 6130 | 2 ½" | 1110 | 1886 | 73.7 | 15.7 | 53.3 | 1373 | GF 1250 M01 | integrated |

| specifications | standard | optional |
|---|---|---|
| maximum particle size (ISO class) [4] | class 2 (1 micron) | class 1 (0.01 micron) [5] |
| maximum water content (ISO class) [4] | class 2 (-40°F pdp) | class 1 (-94°F pdp) |
| minimum operating pressure | 58 psig | - |
| maximum operating pressure | NDL 010 to 130 are 232 psig (MAWP) as standard<br>NDL 2110 to 6130 are 145 psig (MAWP) as standard | 232 psig (MAWP)<br>for NDL 2110 to 6130 |
| recommended operating temperature range | 34 to 100°F | - |
| design operating temperature range | 34 to 122°F | - |
| power supply requirements | 85 to 264V AC 50/60 Hz | 24 VDC |

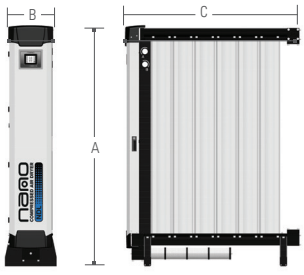
| pressure correction factors [6] | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| operating pressure (psig) | 60 | 75 | 90 | 100 | 115 | 130 | 145 | 160 | 175 | 190 | 205 | 232 |
| correction factor | 0.63 | 0.75 | 0.88 | 1.00 | 1.13 | 1.25 | 1.38 | 1.50 | 1.63 | 1.75 | 1.88 | 2.13 |

| temperature correction factors [6] | | | | | | |
|---|---|---|---|---|---|---|
| inlet temperature (°F) | 77 | 86 | 95 | 104 | 113 | 122 |
| correction factor | 1.00 | 0.98 | 0.95 | 0.9 | 0.8 | 0.7 |

| pressure dew point correction factors [6] | | |
|---|---|---|
| pressure dew point (°F) | -40 | -94 |
| correction factor | 1.00 | 0.70 |

(1) NDL 010 to NDL 050 have push to connect fittings on the inlet and outlet. All other models have NPT(F) threaded connections
(2) at inlet conditions of 100 psig and 100°F and a -40°F outlet pressure dew point. For all other conditions refer to the correction factors above
(3 dryer includes a separate M01 grade pre filter (shipped loose) and a built in 1 micron after filter
(4) per ISO 8573:1:2010 (E)
(5) with separate M01 grade after filter
(6) to be used as a rough guide only. All applications should be confirmed by nano. Contact support@nano-purification.com
(8) technical specifications subject to change without notice. Direct inquiries to support@nano-purification.com or contact 704.897.2182

NDL 010 to NDL 130



NDL 2110 to NDL 6130

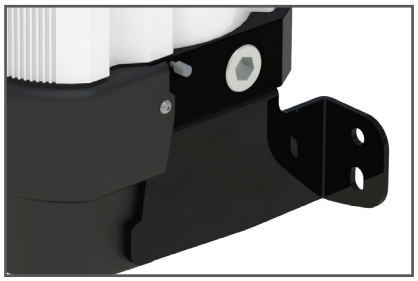
# ultra-high purity pneumatic compressed air dryers

## FEATURES


- pneumatically-controlled to operate safely and efficiently in the most challenging environments
- suitable for use in any classified location where NEMA 7 explosion-proof controls are necessary or remote locations where power is either limited or unavailable
- delivers compressed air purity in accordance with ISO 8573.1:2010, Class 2 dirt (1 micron) and Class 2 water (-40°F pdp) with pneumatic controls
- features lower life cycle costs, low energy costs and simplified maintenance
- 0.01 micron pre filter and integral 1.0 micron after filter included as standard
- quiet depressurization from unique exhaust air silencers significantly reduce noise levels
- 100% tested for leaks, proper operation and dew point performance
- compact design allows installation in spaces too small for a traditional dryer
- convenient service kits for easy and efficient maintenance
- applications include oil & gas rigs, land-based drilling rigs, lumber mills and explosion-proof areas

### optimum flexibility

easy to install and ready to use, $D^2$ units can be either floor or wall mounted [(1)] for optimum installation flexibility



### easy to maintain

$D^2$ units contain patented, combined filter and snowstorm filled desiccant cartridges; servicing in less than 15 minutes

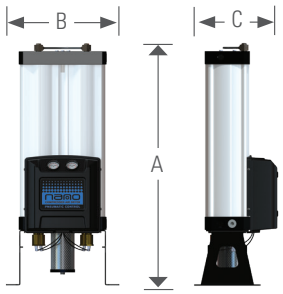
# SPECIFICATIONS

| model | inlet & outlet [1] | rated flow [2] | | dimensions (inches) | | | approx. weight |
|---|---|---|---|---|---|---|---|
| | NPT (f) | scfm | Nm³/h | A | B | C | lbs |
| D² | | | | | | | |
| NDL 060-F-PNU | 1" | 34 | 58 | 28.9 | 16.7 | 12.4 | 97 |
| NDL 070-F-PNU | 1" | 41 | 70 | 28.9 | 16.7 | 12.4 | 97 |
| NDL 080-F-PNU | 1" | 53 | 90 | 36.0 | 16.7 | 12.4 | 119 |
| NDL 090-F-PNU | 1" | 66 | 112 | 36.0 | 16.7 | 12.4 | 119 |
| NDL 100-F-PNU | 1" | 88 | 150 | 42.9 | 16.7 | 12.4 | 141 |
| NDL 110-F-PNU | 1" | 106 | 180 | 48.8 | 16.7 | 12.4 | 169 |
| NDL 120-F-PNU | 1" | 132 | 224 | 58.6 | 16.7 | 12.4 | 196 |
| NDL 130-F-PNU | 1" | 177 | 301 | 72.4 | 16.7 | 12.4 | 240 |
| D³ | | | | | | | |
| NDL 2110-F-PNU | 2" | 212 | 360 | 49.1 | 15.7 | 25.6 | 366 |
| NDL 2120-F-PNU | 2" | 276 | 469 | 59.0 | 15.7 | 25.6 | 441 |
| NDL 2130-F-PNU | 2" | 400 | 680 | 72.7 | 15.7 | 25.6 | 547 |
| NDL 3130-F-PNU | 2" | 560 | 951 | 72.7 | 15.7 | 32.2 | 778 |
| NDL 4130-F-PNU | 2 ½" | 750 | 1274 | 72.7 | 15.7 | 38.8 | 1010 |
| NDL 6120-F-PNU | 2 ½" | 828 | 1407 | 59.0 | 15.7 | 52.0 | 1155 |
| NDL 6130-F-PNU | 2 ½" | 1110 | 1886 | 72.7 | 15.7 | 52.0 | 1473 |

| specifications | standard | optional |
|---|---|---|
| maximum particle size (ISO class) [3] | class 2 (1 micron) | class 1 (0.01 micron) [4] |
| maximum water content (ISO class) [3] | class 2 (-40°F pdp) | - |
| minimum operating pressure | 58 psig | - |
| maximum operating pressure | 145 / 232 psig [5] | - |
| recommended operating temperature range | 34 to 100°F | - |
| design operating temperature range | 34 to 122°F | - |

| pressure correction factors [6] | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| inlet air pressure (psig) | 60 | 75 | 90 | 100 | 115 | 130 | 145 | 160 | 175 | 190 | 205 | 232 |
| correction factor | 0.63 | 0.75 | 0.88 | 1.00 | 1.13 | 1.25 | 1.38 | 1.50 | 1.63 | 1.75 | 1.88 | 2.13 |

| temperature correction factors [6] | | | | | |
|---|---|---|---|---|---|
| inlet air temperature (°F) | 75 | 100 | 104 | 113 | 122 |
| correction factor | 1.00 | 0.96 | 0.96 | 0.88 | 0.73 |



NDL 060-F-PNU to NDL 130-F-PNU

NDL 2110-F-PNU to NDL 6130-F-PNU

(1) NPT(F) threaded connections on the inlet and outlet

(2) at inlet conditions of 100 psig and 100°F and a -40°F outlet pressure dew point. For all other operating conditions refer to the correction factors above

(3) per ISO 8573.1:2010 (E)

(4) with separate M01 grade after filter

(5) maximum operating pressure of 232 psig for NDL 060-F-PNU to NDL 130-F-PNU and 145 psig for NDL 2110-F-PNU to NDL 6130-F-PNU

(6) to be used as a rough guide only. All applications should be confirmed by nano. Contact support@n-psi.com

(7) technical specifications subject to change without notice. Direct inquiries to support@n-psi.com or contact 704.897.2182

MEMBER OF CAGI Compressed Air & Gas Institute


publication ref. n-psi-D23-PNEUMATIC2022-01-us

# high temperature direct expansion dryers

## FEATURES

- specifically designed oversized refrigeration circuit provides clean, dry compressed air in unique demands of high temperature applications
- 1 micron coalescing inlet filter provided as a standard option
- integrated pre-cooler, the HTR range allows for 50°F outlet dew points even with inlet temperatures as high as 180°F
- corrosion resistant powder coated steel panels for harsh environments
- easy installation and start-up
- automatic expansion valve ensures stable dew point performance even in changing ambient conditions
- energy efficient and extremely reliable zero air loss drain as standard
- applications include manufacturing, paint and coatings, machine tools and blasting


### SS heat exchanger

patented design, corrosion resistant construction and integrated moisture separator

### the data you need

digital display with high/low dew point indicator and service reminder

# SPECIFICATIONS

| dryer model | inlet & outlet | rated flow (1) | | absorbed power (2) | dimensions (inches) | | | approx. weight | power supply (V/Ph/60Hz) | pre filter (optional) |
|---|---|---|---|---|---|---|---|---|---|---|
| | NPT | scfm | $Nm^3/h$ | kW | A | B | C | lbs | 115/1 | |
| HTR 0025 | ¾" (M) | 25 | 42 | 0.47 | 13.8 | 19.1 | 14.9 | 57 | • | NF 0030 M1 |
| HTR 0050 | ½" (F) | 50 | 85 | 1 | 18.1 | 31 | 22.6 | 108 | • | NF 0050 M1 |
| HTR 0075 | ¾" (F) | 75 | 127 | 2.02 | 18.1 | 31 | 22.6 | 168 | • | NF 0085 M1 |
| HTR 0100 | 1" (F) | 100 | 170 | 1.93 | 18.1 | 41 | 22.6 | 231 | • | NF 0085 M1 |
| HTR 0125 | 1" (F) | 125 | 212 | 2.4 | 18.1 | 41 | 22.6 | 236 | • | NF 0135 M1 |

| specifications | |
|---|---|
| design operating pressure range | 0 to 232 psig |
| maximum inlet temperature | 180°F |
| maximum ambient temperature | 120°F |
| inlet filter (optional) | M1 (1 micron) |
| condensate drain (included) | zero air loss |

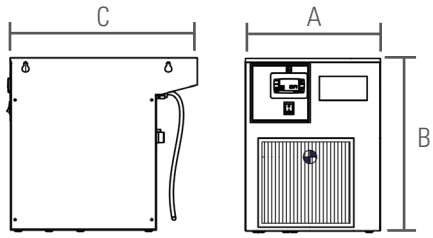
(1) rated flow capacity: at 125 psig & 180°F inlet conditions, 95°F ambient and a 50°F outlet pressure dew point. For all other conditions, contact support@n-psi.com

(2) including cooling fan, at max conditions. For absorbed power at other voltages or conditions, contact support@n-psi.com

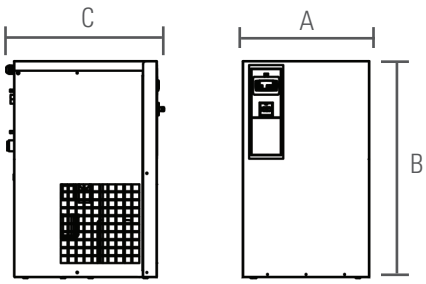
(3) HTR0025 & HTR0050 models include a 10-foot power cord and plug; HTR0075 to HTR0125 models include a 10-foot power cord terminating in leads

(4) grade M01 (0.01 micron) after filter available as an option

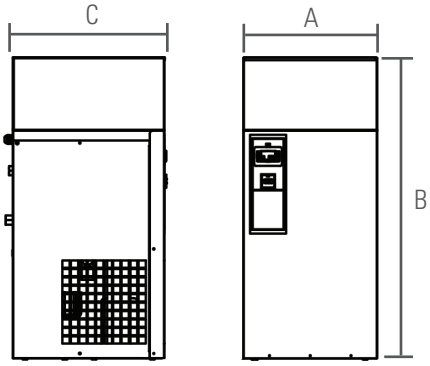
(5) technical specifications subject to change without notice. Direct inquiries to support@n-psi.com or contact 704.897.2182




HTR 0025




HTR 0050 to HTR 0075




HTR 0100 to HTR 0125

Intertek 5011024

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publication ref. n-psi-R2-HTR2022-00-us

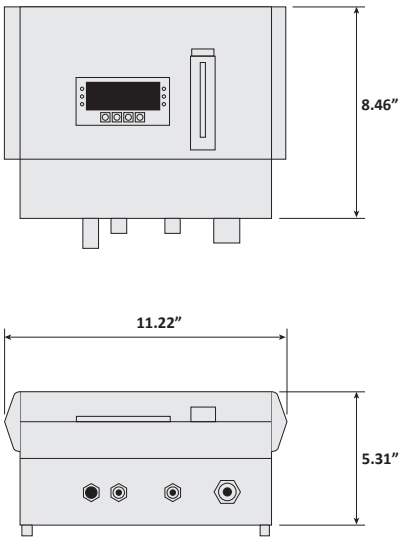
# portable dew point monitor

## FEATURES

- provides accurate, stable dew point or moisture measurements where and when you need it - reliably and cost effectively
- for measuring dew point or moisture content in compressed air and gases
- self contained with integrated filtration and flow control
- compact, lightweight and easy to use
- with a range of -148°F to 68°F (or 3000 ppmv), the ceramic hygrometer probe responds to changes in moisture content, displaying it on the LED display and transmitting it remotely via a 4 to 20 mA signal
- completely contained within a rugged polycarbonate NEMA 4X enclosure
- unit is portable or can be easily wall mounted for permanent installations
- includes quick connect inlet and outlet connections for easy installation, an integral 0.3 micron filter, a flow meter and two programmable alarm relays
- applications include troubleshooting, air audits, performance validation and system calibration

# SPECIFICATIONS

| specifications | |
|---|---|
| standard measurement range | -148°F to 68°F (-100°C to 20°C) or 3000 ppmv (1) |
| accuracy | ± 3.6°F (± 2°C) of dew point |
| operating temperature range | 23°F to 122°F (-5°C to 50°C) |
| storage temperature | -40°F to 167°F (-40°C to 75°C) |
| output | 4-20 mA (maximum load resistance 500 Ω) |
| alarm | 2 volt free contacts (3 A @ 240V) |
| user interface | front panel configuration of alarm points |
| display | 4 digit ¾" (20 mm) red LED |
| power supply | 85 to 265 VAC, 50 or 60 Hz |
| ingress protection | NEMA 4X (IP65) |
| power cord | 6.5 ft (2 m) power cord provided |
| maximum pressure | 145 psig (1 MPa/10 barg) (2) |
| sample flow rate | 2.1 to 10.5 scfh (1 to 5 L/min) |
| filtration | 99.5% removal efficiency at 0.3 micron |
| connections | 6 mm OD quick connect tube fittings |
| sensor guard | sintered HDPE |
| protective case | polycarbonate |
| internal tubing | PTFE |
| warranty | 1 year |




(1) choice of dew point or ppmv must be specified at time of orde. Non standard dew point ranges available on request
(2) higher pressure options available on request
(3) technical specifications subject to change without notice. Direct inquiries to support@n-psi.com or contact 704.897.2182

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publication ref. n-psi-PDM-2021-00-us

# PFC pressure flow controller


## FEATURES

- responds to usage fluctuations by automatically increasing or decreasing the size of the flow control valve orifice
- precisely regulates the low side compressed air system pressure to a field adjustable set pressure supplying a constant low side pressure within 1-2 psig of your set point
- automatically allows for periods of stored higher pressure compressed air from the upstream receiver tank(s) which averages out compressed air usage
- enables the compressed air system to be operated with minimal compressor hp allowing the compressor to no longer provide maximum flow at peak usage periods but maintain flow equal to average usage
- requires only a single control valve and single pressure input signal
- systems complete with pilot air filter, pressure gauges, drain port, bypass piping and valves for installation in either new or existing systems
- reduces the surge of power required to meet increased demands

### saves energy costs

minimizes the need to keep compressors running constantly; reduces system air losses due to air leaks

### improves plant operations

can be used alone or as an integral part of a comprehensive compressed air management system

# SPECIFICATIONS

| model | maximum | minimum | inlet & outlet connections | dimensions (inches) | | approx weight |
|---|---|---|---|---|---|---|
| | scfm | scfm | flange | A | B | lbs |
| PFC-30 | 1000 | 200 | 3" | 33 1/8 | 35 5/8 | 175 |
| PFC-40 | 2000 | 400 | 4" | 41 1/2 | 36 3/4 | 250 |
| PFC-60 | 4000 | 800 | 6" | 45 1/2 | 42 1/2 | 400 |
| PFC-80 | 8000 | 1600 | 8" | 55 1/4 | 50 1/8 | 650 |
| PFC-100 | 12500 | 2500 | 10" | 64 5/8 | 61 1/8 | 1150 |

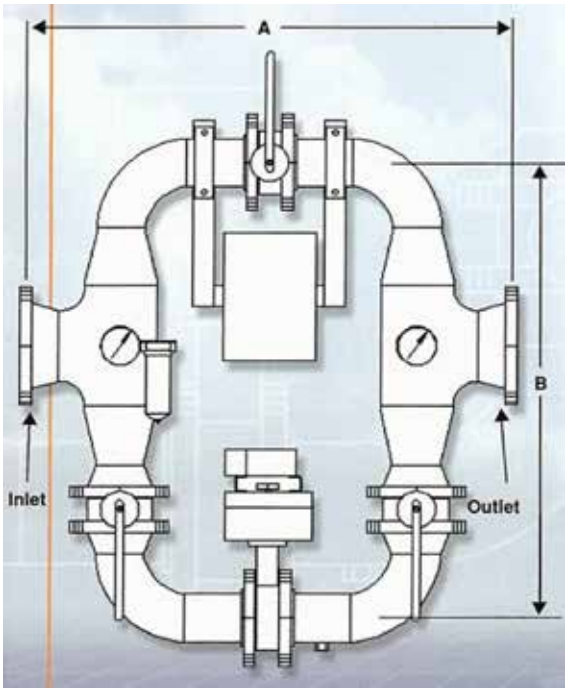
(1) maximum inlet pressure: 150 psig
(2) consult factory for higher pressure applications
(3) technical specifications subject to change without notice. Direct inquiries to support@n-psi.com or contact 704.897.2182

## standard features

- flow control valve and positioner with visual indicator and fail-to-open actuator
- 4-20 mA pressure transducer
- process controller with visual downline and set point pressure display
- same sized inlet and outlet connections
- three-valve bypass
- high and low side pressure gauges
- pilot air filter with automatic drain valve
- condensate drain port
- NEMA 4 enclosure
- voltage: 115/60/1

## optional features

- full flow check valve
- remote mount control box with 20' sheathed wire
- RS 232/485 output
- 4-20 or 0-20 mA output
- 0-5, 1-5, or 0-10 VDC output
- pressure variance alarm
- fail-to-close actuator
- zero air loss drain valve
- backup flow control valve with bypass valves



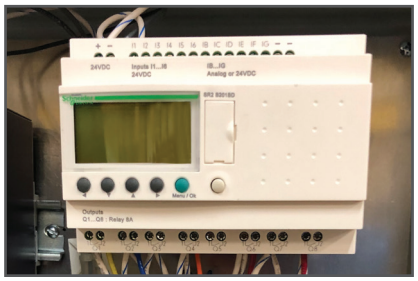
# rental dryer packages

## FEATURES

- clean, dry compressed air in one complete portable package
  - ① air-cooled air motor driven aftercooler reduces hot air temperature to within 5 degrees of ambient temperature
  - ② high efficiency F1 water separator with automatic drain for removal of bulk water and liquid oil condensed out of air stream by the aftercooler
  - ③ F1 high efficiency F1 coalescing pre-filters (0.01 micron) with automatic drain
  - ④ high performance twin tower heatless desiccant dryer removes water vapor using pressure swing adsorption technique down to -40°F/°C dew point for ISO class 2 applications
    - ASME coded pressure vessels
    - UL/cUL compliant
  - ⑤ F1 high efficiency particulate after filters (1.0 micron) for removal of desiccant dust and particulate at point of use
- skid mounted for ease of transport
- built for outdoor service to withstand harsh environments
- applications include petrochemical, pipeline companies, painting/blasting, re-rent and maintenance turnaround

### PLC controlled operation

dryer is operated by a robust and reliable PLC system housed in a NEMA4x control panel



### valves

pneumatically actuated high-performance butterfly valves for the highest reliability

# SPECIFICATIONS

| dryer model | inlet & outlet [1] | rated flow [2] | | dimensions | | | approx. weight [3] | filtration [4] | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | NPT (F) / Flg | scfm | $Nm^3/h$ | W | D | H | lbs | water separator | pre filter | after filter |
| HLA 1300-F2-RENTAL | 3" | 1300 | 2208 | 61 | 98 | 94 | 4350 | NF 1500 WS | NF 1500 M01 | NF 1500 M1 |
| HLA 1500-F2-RENTAL | 3" | 1500 | 2548 | 96 | 98 | 89.1 | 4850 | NF 1500 WS | NF 1500 M01 | NF 1500 M1 |
| HLA 3800-F2-RENTAL | 6" | 3800 | 6456 | 154.5 | 96 | 98.3 | 11,000 | AFE4000WS | NFZ 3000 M01 | NFZ 3000 M1 |

| specifications | standard | optional |
|---|---|---|
| maximum particle size (ISO class) [5] | class 2 (1 micron) | class 1 (0.01 micron) |
| maximum water content (ISO class) [5] | class 2 (-40°F pdp) | class 1 (-94°F pdp) |
| minimum/ design /maximum operating pressure range [6] | 70 psig / 100 psig / 150 psig | - |
| minimum / design/ maximum ambient temperature | 38°F / 100°F / 120°F | - |
| minimum / design / maximum inlet temperature | 38°F / 100°F/ 120°F | - |
| power supply requirements | 115V/1Ph/60Hz | 230V/1Ph/60Hz & 12 VDC |

| pressure correction factors [7] | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| operating pressure (psig) | 60 | 70 | 80 | 90 | 100 | 110 | 130 | 140 | 150 |
| correction factor | 0.65 | 0.74 | 0.83 | 0.91 | 1.00 | 1.04 | 1.12 | 1.16 | 1.20 |

| temperature correction factors [7] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| inlet temperature (°F) | 70 | 80 | 90 | 100 | 105 | 110 | 115 | 120 |
| correction factor | 1.12 | 1.10 | 1.06 | 1.00 | 0.93 | 0.86 | 0.80 | 0.75 |

(1) 3" are NPT(F) threaded. 6" are flanged. All units with 3" piping and above will be ANSI welded pipe
(2) in compliance with ADF 100 specifications for compressed air dryers: Inlet temperature: 100°F, ambient temperature: 100°F, inlet pressure dew point: -40°F. For all other conditions refer to the correction factors or contact support@n-psi.com
(3) approx. weight for all models does not include desiccant installed
(4) includes water separator, pre and after filters mounted on the dryers
(5) per ISO 8573.1:2010
(6) maximum working pressure for all models is 150 psig. For higher pressures, contact support@n-psi.com
(7) be used as a rough guide only. All applications should be confirmed by nano. Contact nano for sizing assistance
(8) all models are UL/cUL compliant
(9) all models have ASME coded pressure vessels. For other approvals, consult support@n-psi.com
(10) for other flow rates and pressure please contact support@n-psi.com
(11) technical specifications subject to change without notice. Direct inquiries to support@n-psi.com or contact 704.897.2182

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publication ref. n-psi-D5- RENTAL2021-00-us

# twin tower high pressure heatless desiccant dryer

## FEATURES

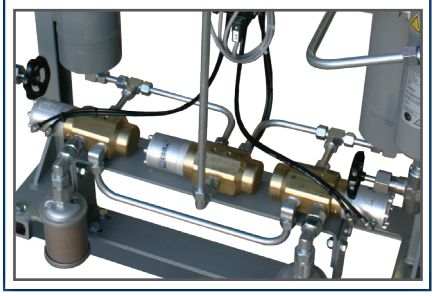
- removal of water vapor from your compressed air stream to -40°F (-4°F and -67°F optional) to ensure a continuous supply of dry air in high pressure applications
- 18 models from 42 to 918 scfm and operating pressures of 1450, 3625 or 5075 psig
- welded, coated steel twin tower design with high-quality, durable coating meets the highest safety standards
- advanced controller monitors and controls the fully automated drying and regeneration cycles
- high pressure filtration connected with high pressure 316 stainless steel pipe work and fittings included as standard (0.01 micron pre filter and 1 micron after filter)
- high quality 2-layer desiccant bed for stable drying and extended desiccant service life
- rugged and reliable control valves provide flow capacity and designed for durability, ease of maintenance and long service life
- easy maintenance
- applications include electronics, marine and offshore, military, chemical manufacturing, aerospace, CNG & biogas

### dew point control option

energy savings dew point control continually monitors outlet dew point for maximum energy savings

### individual valve control

provides a reliable compressed air supply with no pressure peaks during switch over

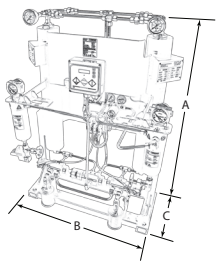


# SPECIFICATIONS

| dryer model | inlet & outlet | rated flow [1] | | dimensions (inches) | | | approx. weight |
|---|---|---|---|---|---|---|---|
| | NPT | scfm | $Nm^3/h$ | A | B | C | lbs |
| DHP / 100 (1450 psig) | | | | | | | |
| DHP5/100 | ½" | 42 | 72 | 45.4 | 25.0 | 15.7 | 220 |
| DHP9/100 | ½" | 51 | 87 | 47.4 | 25.0 | 15.7 | 243 |
| DHP12/100 | ½" | 90 | 153 | 48.0 | 26.9 | 15.7 | 254 |
| DHP24/100 | ¾" | 167 | 283 | 53.1 | 29.1 | 17.7 | 317 |
| DHP37/100 | ¾" | 252 | 429 | 55.5 | 31.8 | 17.7 | 441 |
| DHP58/100 | ¾" | 442 | 750 | 67.3 | 34.2 | 17.7 | 606 |
| DHP / 250 (3625 psig) | | | | | | | |
| DHP5/250 | ½" | 68 | 115 | 45.4 | 25.0 | 15.7 | 243 |
| DHP9/250 | ½" | 82 | 140 | 47.4 | 25.0 | 15.7 | 254 |
| DHP12/250 | ½" | 159 | 270 | 48.0 | 26.9 | 15.7 | 291 |
| DHP24/250 | ¾" | 294 | 500 | 53.1 | 29.1 | 17.7 | 430 |
| DHP37/250 | ¾" | 471 | 800 | 55.5 | 31.8 | 17.7 | 540 |
| DHP58/25 | ¾" | 824 | 1400 | 67.3 | 34.2 | 17.7 | 827 |
| DHP / 350 (5075 psig) | | | | | | | |
| DHP5/350 | ½" | 88 | 150 | 45.4 | 25.0 | 15.7 | 243 |
| DHP9/350 | ½" | 106 | 180 | 47.4 | 25.0 | 15.7 | 254 |
| DHP12/350 | ½" | 177 | 300 | 48.0 | 26.9 | 15.7 | 320 |
| DHP24/350 | ¾" | 309 | 525 | 53.1 | 29.1 | 17.7 | 496 |
| DHP37/350 | ¾" | 500 | 850 | 55.5 | 31.8 | 17.7 | 617 |
| DHP58/350 | ¾" | 918 | 1560 | 67.3 | 34.2 | 17.7 | 915 |

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

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




(1) at an outlet temperature of 95°F, an inlet pressure of 1450, 3625 or 5075 psig (as applicable) and -40°F outlet dew point. For all other operating conditions, contact support@n-psi.com for sizing assistance
(2) per ISO 8573.1:2010
(3) ISO class 2 (-40°F outlet pressure dew point) is provided as standard. -4°F or -67°F outlet pressure dew point are available as an option
(4) 24VDC available as option
(5) technical specifications subject to change without notice. Direct inquiries to support@n-psi.com or contact 704.897.2182

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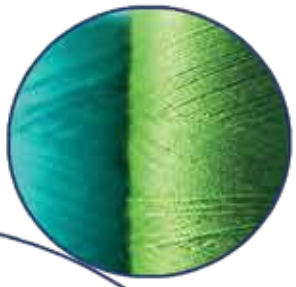
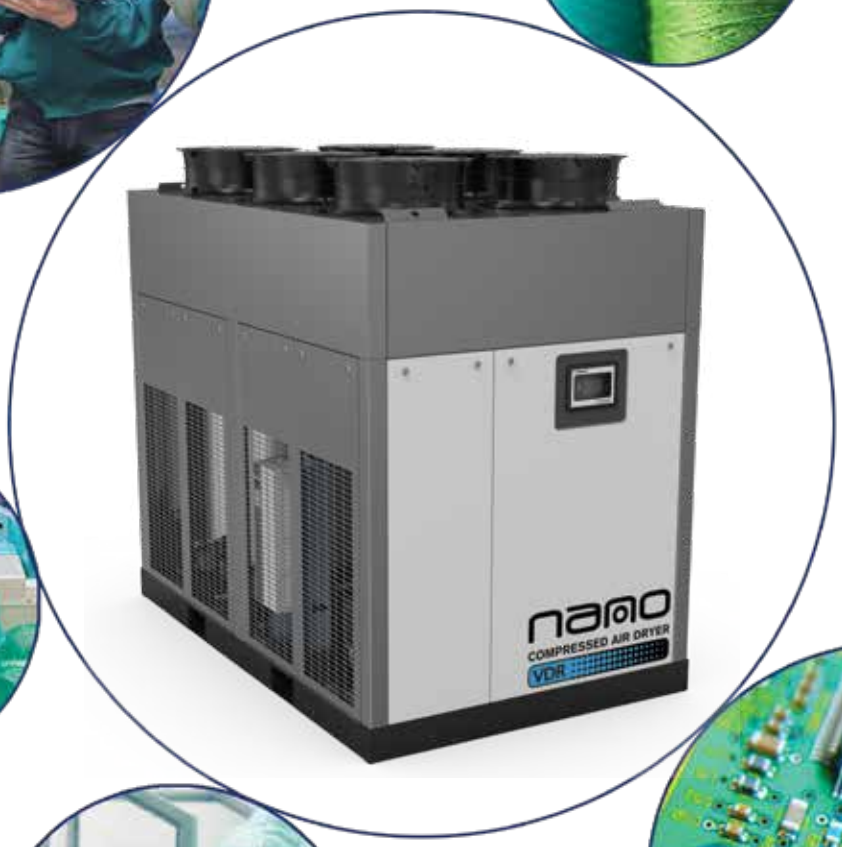
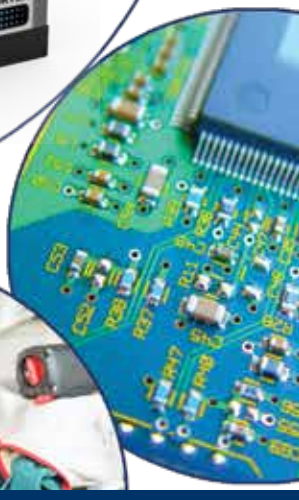
publication ref. n-psi-D4-DHP2022-00-us







# variable speed cycling refrigerated air dryers

flow capacity: 2650 to 8475 scfm (4500 to 14400 $Nm^3/hr$)

# “The VDR was the most efficient option available and eligible for rebates from our power company.”

*industrial manufacturer - eastern US*

In order to provide dry air under variable operating conditions refrigerated air dryers should be sized to handle their worst-case operating conditions - which means the maximum system flow at the highest inlet temperature on the hottest day of the year. This leads to the dryer being oversized when it is operating at more typical conditions leading to a far great power consumption. Non-cycling dryers operate at 100% power consumption, regardless of conditions or demand and other cycling dryer technology can provide some savings but the R$^6$ VDR range takes power savings to the next level.

## nano R$^6$ VDR variable speed refrigerated air dryers

- clean, dry compressed air at ISO class 4, 5 or 6 as necessary
- saves energy by reducing refrigerant compressor speeds during reduced flow and under low temperature conditions
- lowest pressure drop
- steady, reliable pressure dew point
- rebate-friendly

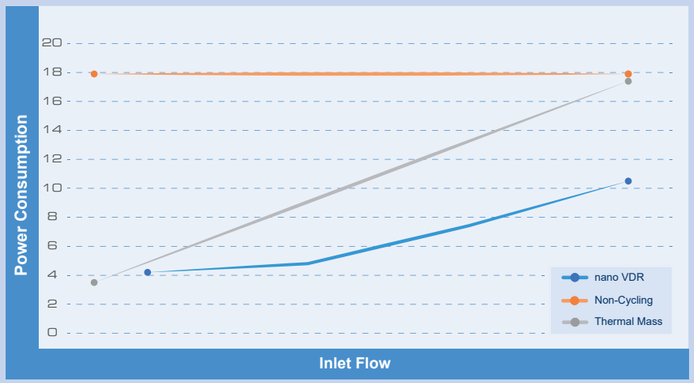
## variable speed cycling technology

Variable speed cycling dryers save money when they're running full load and save money when they're not. To find out how much you can save, ask nano for a simple power study!

## saves money

In most applications, the air flow varies significantly throughout the day reaching peak demand only for a very short time. Often this demand can be close to zero overnight or during breaks. The VDR matches its power consumption to the air flow demand providing optimal energy savings vs other refrigeration dryer technologies. (example shown to right)

*For a 2650 scfm application with an electricity cost of $0.10 per kWh for a plant running 24/7, the VDR dryer saves the company $13750 in electrical costs annually versus a direct expansion dryer or $1166 versus a thermal mass dryer.




| dryer used | electrical consumption | actual air flow |
|---|---|---|
| VDR | 10.5 kW | 2650 scfm |
| thermal mass | 17.4 kW | 2650 scfm |
| direct expansion | 17.9 kW | 2650 scfm |

| working | duration | VDR | thermal mass | direct expansion |
|---|---|---|---|---|
| 100% | 0.5 hours | 5.3 kWh | 8.7 kWh | 9 kWh |
| 75% | 1.5 hours | 11.2 kWh | 19.6k kWh | 26.9 kWh |
| 50% | 5.0 hours | 23.9 kWh | 43.5 kWh | 89.5 kWh |
| 25% | 3.0 hours | 12.6 kWh | 13.1 kWh | 53.7 kWh |
| 0% | 14.0 hours | 0 kWh | 0 kWh | 250.6 kWh |
| daily total | 24.0 hours | 52.9 kWh | 84.8 kWh | 429.6 kWh |
| annual running costs | | $1930 | $3096 | $15,680 |
| VDR annual savings | | - | $1166 | $13,750 |

# BENEFITS

## consistent dew point & low pressure drop

- heat exchanger with integrated water separator with unique design reduces pressure drop and adds to the high performance of the dryer, providing full protection against air condensation. No water in your compressed air system means extended life for your equipment


## optimum energy efficiency

- lower electrical consumption from 0% to 100% duty cycle and low pressure drop

## easy to install space saving design

- thanks to the small footprint and its “all in one design” the VDR dryer is delivered ready for use and its installation is straightforward, minimizing costs and downtime

## verified performance

- designed in-house and tested according to ISO 7183:2007

## robust construction

- powder coated steel panels are corrosion resistant

## total accessibility

- all panels can be removed to facilitate maintenance

## environmentally friendly

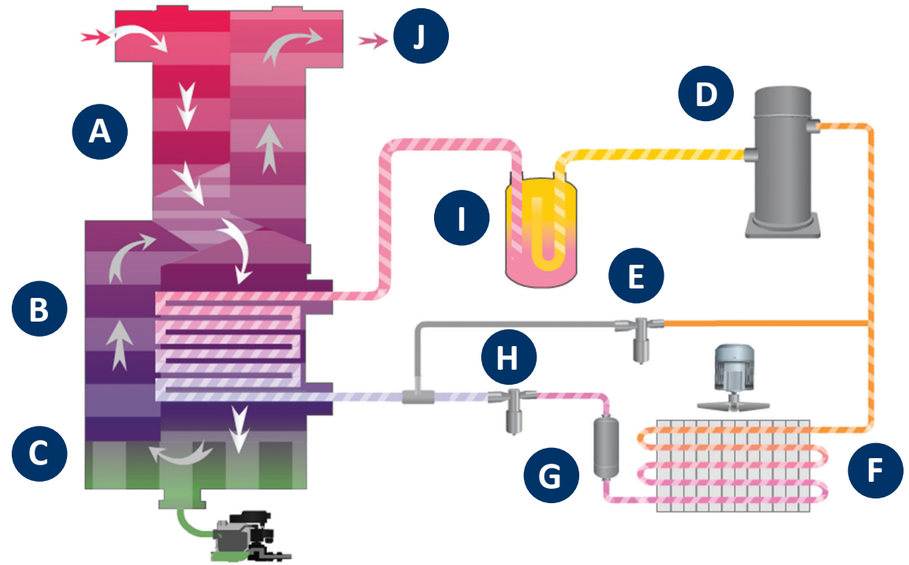
- by using R410A refrigerant the nano VDR dryers are impressively efficient not only in terms of power consumption, but also in terms of environmentally friendliness. In addition to zero ozone depletion, the low amount of the R410A refrigerant results in ultimately low CO2 equivalent making VDR dryers one the most ecological refrigerant solution available on the market today


# HOW IT WORKS

A refrigerant dryer uses a refrigerant circuit and heat exchangers to cool compressed air so that it condenses the moisture in the air. They can provide a pressure dew point (PDP) as low as +37.4°F and consume no compressed air in the process.

Unlike direct expansion dryers which run continuously at full speed, the nano VDR's variable speed refrigeration compressors only run at the speed required to dry your process air to the dew point set point of the dryer.

Dryer demand is a function of both required air flow and ambient conditions. Unless both of these variables are at their maximums at the same time, there are energy savings to the had. The R6 takes advantage of this savings opportunity by significantly reducing power consumption to match actual demand.




**A** hot, moist compressed air enters the separate air to air heat exchanger where it is precooled

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

**C** the moisture is collected by the integrated water separator and evacuated by the electronic zero loss drain

**D** variable speed refrigerant compressor increases the refrigerant pressure while matching the flow rate to the dryer load

**E** electronic hot gas bypass valve allows for precise dew point control

**F** condenser coverts the high pressure refrigerant to a liquid (air cooled shown)

**G** refrigerant filter protects the entire system from water and solid particles

**H** electronic thermostatic expansion valve reduces the refrigerant temperature

**I** separator prevents any liquified refrigerant from entering the compressor

**J** outlet flow switch stops the refrigeration circuit when no air flow is detected

# FEATURES

## high efficiency heat exchanger

- aluminum block heat exchanger provides optimal heat transfer leading to reduced energy consumption from refrigerant compressor
- built in high efficiency water separator prevents condense water from leaving the heat exchanger
- completely insulated to reduce thermal leakages
- enhanced air to air section means more heat is taken from the compressed air before it enters the refrigerant evaporator so a lower energy refrigerant compressor can be used to dry the air

## energy efficient and reliable rotary scroll compressors

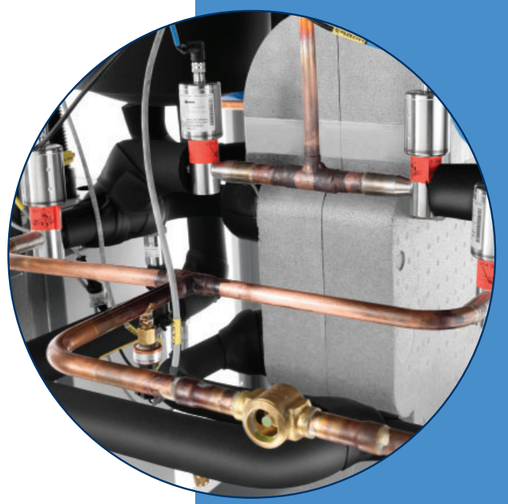
- sized for optimal performance across the full range of operational conditions it consumes an average of 30% less power than the reciprocating technology refrigerant compressors

## simple to use nanoVision[01] digital microprocessor

- for complete control and operation of the unit. Provides unit performance details and sensor readouts.

## electronic valves

- compared to traditional mechanical type or solenoid valves, the VDR utilizes electronic hot gas by pass and thermal expansion valves providing a new level of reliability and regulation efficiency. Smooth modular regulation results in significant increase of the valve's life time and provide the most efficient unit regulation and dew point stability.



## zero air loss drain

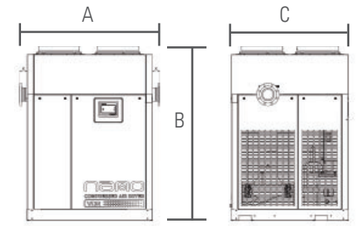
- dedicated drain with each heat exchanger

## performance validated filtration

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

# SPECIFICATIONS

| dryer model | inlet & outlet | rated flow (1) | | absorbed power (2) | dimensions (inches) | | | | approx. weight | power supply |
|---|---|---|---|---|---|---|---|---|---|---|
| | Flg | scfm | Nm³/h | kW | A | B | C | X (3) | lbs | 460/60/3 |
| air-cooled | | | | | | | | | | |
| VDR 2600A | 6" | 2600 | 4417 | 9.9 | 62.2 | 90.4 | 58 | 5 | 1940 | • |
| VDR 3105A | 6" | 3150 | 5352 | 10.5 | 62.2 | 90.4 | 58 | 5 | 2061 | • |
| VDR 3700A | 6" | 3700 | 6286 | 11.3 | 62.2 | 90.4 | 58 | 5 | 2172 | • |
| VDR 4200A | 6" | 4200 | 7136 | 14.2 | 62.2 | 90.4 | 58 | 5 | 2183 | • |
| VDR 5050A | 6" | 5050 | 8580 | 19.1 | 62.2 | 90.4 | 58 | 5 | 2183 | • |
| VDR 6350A | 8" | 6350 | 10789 | 23.9 | 62.2 | 90.4 | 98.5 | 6 | 3726 | • |
| VDR 8450A | 8" | 8450 | 14357 | 28.1 | 62.2 | 90.4 | 98.5 | 6 | 4012 | • |
| water-cooled | | | | | | | | | | |
| VDR 2600W | 6" | 2600 | 4417 | 6.1 | 62.2 | 67.9 | 58 | 5 | 1764 | • |
| VDR 3105W | 6" | 3150 | 5352 | 6.6 | 62.2 | 67.9 | 58 | 5 | 1797 | • |
| VDR 3700W | 6" | 3700 | 6286 | 7.5 | 62.2 | 67.9 | 58 | 5 | 1885 | • |
| VDR 4200W | 6" | 4200 | 7136 | 8.3 | 62.2 | 67.9 | 58 | 5 | 1907 | • |
| VDR 5050W | 6" | 5050 | 8580 | 12.8 | 62.2 | 67.9 | 58 | 5 | 1918 | • |
| VDR 6350W | 8" | 6350 | 10789 | 14.4 | 62.2 | 68.3 | 98.5 | 6 | 3109 | • |
| VDR 8450W | 8" | 8450 | 14357 | 19.7 | 62.2 | 68.3 | 98.5 | 6 | 3395 | • |




| specifications | |
|---|---|
| design operating pressure range | 30 to 203 psig |
| maximum inlet temperature | 158°F |
| design ambient temperature | 45 to 114.8°F |

| pressure correction factors (4) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| operating pressure (psig) | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 150 | 175 | 200 |
| correction factor | 0.81 | 0.87 | 0.93 | 1.00 | 1.03 | 1.08 | 1.12 | 1.19 | 1.26 | 1.30 |

| inlet temperature correction factors (4) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| inlet air temperature (°F) | 85 | 90 | 95 | 100 | 105 | 110 | 115 | 120 | 125 | 130 | 140 |
| correction factor | 1.22 | 1.15 | 1.07 | 1.00 | 0.93 | 0.84 | 0.77 | 0.70 | 0.63 | 0.55 | 0.41 |

| ambient temperature correction factors (4) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| ambient temperature (°F) | 70 | 80 | 90 | 100 | 105 | 110 | 115 | 120 |
| correction factor | 1.26 | 1.18 | 1.08 | 1.00 | 0.95 | 0.90 | 0.87 | 0.82 |

(1) 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

(2) nominal absorbed power at rated operating conditions using 460/3/60

(3) X = flang standoff distance - see drawings for specific flange positions

(4) 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

(5) technical specifications subject to change without notice. Direct inquiries to support@n-psi.com or contact 704.897.2182

# condensate drains

## FEATURES

- comprehensive range of timed solenoid, automatic float and zero air loss condensate drains to protect your downstream equipment from harmful liquid condensate
- designed to support virtually any industrial compressed air and gas application
- range consists of more than 50 condensate drain options in 4 different voltages, 3 different materials ranging from ¼" to ½" NPT connections
- low, medium and high pressure options up to 6000 psig inlet pressure
- applications include manufacturing, automotive, oil and gas, paint applications and pneumatic conveying

NPTD premium timed drain

### NETD economy timed low flow

### NED automatic float

### NHD heated zero air loss

### NMD magnetic zero air loss

### NED-LC level controlled zero air loss

### NHPTD high pressure timed solenoid

# SPECIFICATIONS

| drain model | inlet | outlet | pressure rating | supply voltage |
|---|---|---|---|---|
| | NPT | NPT | psig | 1ph/60hz |
| **NETD ECONOMY TIMED SOLENOID (LOW FLOW)** | | | | |
| NETD 14 115 | ½" (m) | ¼" (f) | 230 | 115V |
| NETD 14 230 | ½" (m) | ¼" (f) | 230 | 230V |
| NETD 38 115 | ½" (m) | 3/8" (f) | 230 | 115V |
| NETD 38 230 | ½" (m) | 3/8" (f) | 230 | 230V |
| NETD 12 115 | ½" (m) | ½" (f) | 230 | 115V |
| NETD 12 230 | ½" (m) | ½" (f) | 230 | 230V |
| **NPTD PREMIUM TIMED SOLENOID (BRASS)** | | | | |
| NPTD 12 115B | ½" (m) (1) | ½" (f) | 230 | 115V |
| NPTD 12 230B | ½" (m) (1) | ½" (f) | 230 | 230V |
| NPTD 12 24A B | ½" (m) (1) | ½" (f) | 230 | 24 VAC |
| NPTD 12 24D B | ½" (m) (1) | ½" (f) | 230 | 24 VDC |
| **NPTD PREMIUM TIMED SOLENOID (SS)** | | | | |
| NPTD 14 115 S | ¼" (f) | ¼" (f) | 230 | 115V |
| NPTD 14 230 S | ¼" (f) | ¼" (f) | 230 | 230V |
| NPTD 38 115 S | 3/8" (f) | 3/8" (f) | 230 | 115V |
| NPTD 38 230 S | 3/8" (f) | 3/8" (f) | 230 | 230V |
| NPTD 12 115 S | ½" (f) | ½" (f) | 230 | 115V |
| NPTD 12 230 S | ½" (f) | ½" (f) | 230 | 230V |
| **NED AUTOMATIC FLOAT** | | | | |
| NED 12 | ½" (f) | ½" (f) | 290 | - |
| **NMD MAGNETIC ZERO AIR LOSS** | | | | |
| NMD 6 | ½" (f) | 1/8" (f) | 230 | - |
| NMD 12 | ½" (f) | 1/8" (f) | 230 | - |
| **TD PNEUMATIC ZERO AIR LOSS** | | | | |
| TD 3000 | ½" (f) x3 | ¼" (f) | 230 | - |
| **NHD HEATED ZERO AIR LOSS** | | | | |
| NHD 12 | ½" (f) | ¼" (f) | 230 | 115V |

| drain model | inlet | outlet | pressure rating | supply voltage |
|---|---|---|---|---|
| | NPT | NPT | psig | 1ph/60hz |
| **NED-LC LEVEL CONTROLLED ZERO AIR LOSS** | | | | |
| NED 4L N12 115 | ½" (m) | 3/8" (f) | 230 | 115V |
| NED 8LC N12 115 | ½" (f) x2 | 3/8" (f) | 230 | 115V |
| NED 16LC N12 115 | ½" (f) x2 | 3/8" (f) | 230 | 115V |
| NED 40LC N12 115 | ½" (f) x2 | 3/8" (f) | 230 | 115V |
| NED 160LC N12 115 | ½" (G) x2 | 3/8" (f) | 230 | 115V |
| **NHPTD HIGH PRESSURE TIMED SOLENOID (BRASS)** | | | | |
| NHPTD 14 115 600 B | ¼" (f) | ¼" (f) | 600 | 115V |
| NHPTD 14 230 600 B | ¼" (f) | ¼" (f) | 600 | 230V |
| NHPTD 12 115 600 B | ½" (f) | ½" (f) | 600 | 115V |
| NHPTD 12 230 600 B | ½" (f) | ½" (f) | 600 | 230V |
| NHPTD 14 115 1200 B | ¼" (f) | ¼" (f) | 1200 | 115V |
| NHPTD 14 230 1200 B | ¼" (f) | ¼" (f) | 1200 | 230V |
| NHPTD 12 115 1200 B | ½" (f) | ½" (f) | 1200 | 115V |
| NHPTD 12 230 1200 B | ½" (f) | ½" (f) | 1200 | 230V |
| NHPTD 14 115 3625 B | ¼" (f) | ¼" (f) | 3625 | 115V |
| NHPTD 14 230 3625 B | ¼" (f) | ¼" (f) | 3625 | 230V |
| **NHPTD HIGH PRESSURE TIMED SOLENOID (SS)** | | | | |
| NHPTD 14 115 600 S | ¼" (f) | ¼" (f) | 600 | 115V |
| NHPTD 14 230 600 S | ¼" (f) | ¼" (f) | 600 | 230V |
| NHPTD 12 115 600 S | ½" (f) | ½" (f) | 600 | 115V |
| NHPTD 12 230 600 S | ½" (f) | ½" (f) | 600 | 230V |
| NHPTD 14 115 1200 S | ¼" (f) | ¼" (f) | 1200 | 115V |
| NHPTD 14 230 1200S | ¼" (f) | ¼" (f) | 1200 | 230V |
| NHPTD 12 115 1200 S | ½" (f) | ½" (f) | 1200 | 115V |
| NHPTD 12 230 1200 S | ½" (f) | ½" (f) | 1200 | 230V |
| NHPTD 14 115 3625 S | ¼" (f) | ¼" (f) | 3625 | 115V |
| NHPTD 14 230 3625 S | ¼" (f) | ¼" (f) | 3625 | 230V |
| NHPTD 14 115 5000 S | ¼" (f) | ¼" (f) | 5000 | 115V |
| NHPTD 14 230 5000 S | ¼" (f) | ¼" (f) | 5000 | 230V |
| NHPTD 14 115 6000 S | ¼" (f) | ¼" (f) | 6000 | 115V |
| NHPTD 14 230 6000S | ¼" (f) | ¼" (f) | 6000 | 230V |

| specifications | NETD low flow | NPTD brass | NPTD stainless | NED | NMD | TD | NED-LC | NHPTD brass | NHPTD stainless |
|---|---|---|---|---|---|---|---|---|---|
| material of construction | brass | brass | stainless | aluminum | aluminum | aluminum | aluminum (3) | brass | stainless |
| isolation valve | mounted | integral | - | - | - | - | - | - | - |
| strainer | mounted | integral | - | - | - | integral | intregral | - | - |
| timer | economy | premium | premium | - | - | - | - | premium | premium |
| anti air lock connector | - | - | - | included | included | - | - | - | - |
| 6 ft power cord | included | included(4) | included | - | - | - | included | included | included |

(1) inlet connection fits both ½" (f) and ¼" (m) threads

(2) the NMD 6 is a smaller, more compact version of the NMD 12 and is painted black

(3) NED4L is made from glass reinforced plastic. All other NED-LC models are aluminum

(4) 115V and 230V models only. 24V models include unwired DIN connector

(5) technical specifications subject to change without notice. Direct inquiries to support@n-psi.com or contact 704.897.2182


nano

# SEPURA™ STERLING oil water separators

flow capacity: 60 to 7000 scfm (102 to 11900 $Nm^3/hr$)

# “The Sepura™ condensate separator was easy to install and has worked perfectly. A truly simple yet highly efficient design which hasn't missed a beat.”

***a nano distributor - southeastern US***

A typical compressed air and gas system can produce thousands of gallons of condensate per year. This condensate may be as much as 99.9% pure water - so why pay thousands of dollars per year to dispose of water when you can clean it simply and effectively and pour it down the drain? The nano Sepura™ range of oil water separators removes the oil from the water in your condensate so you can dispose of it cleanly and safely directly into your sanitary sewer, drastically reducing your condensate disposal costs.

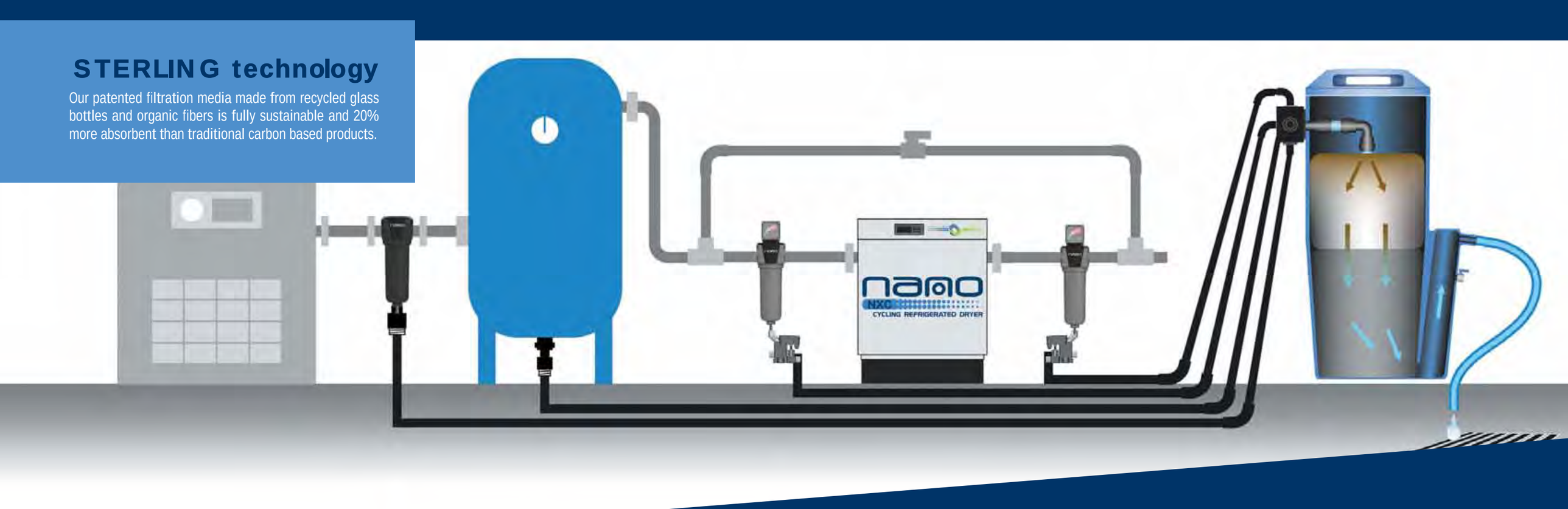
## nano S$^{1}$ Sepura™ STERLING oil water separators

DIBt APPROVED Z-83.5-57

- comprehensive range of low, mid and high capacity separators
- innovative, cost-effective treatment of air compressor condensate
- revoluntionary patented STERLING filtration media
- outlet quality discharge down to 5 ppmv

## STERLING technology

Our patented filtration media made from recycled glass bottles and organic fibers is fully sustainable and 20% more absorbent than traditional carbon based products.



# BENEFITS

## complete range to suit any requirement

- 9 models available with flow rates from 60 to 7000 scfm

## guaranteed performance

- long media life and outlet concentrations as low as 5 ppmv even with synthetic compressor lubricants*

## easy to size

- size your unit according to your air flow

## easy to maintain

- service intervals from 6 months to up to 24 months with a no-tools needed, quick release lid for easy access. No settling tank to empty and clean, no pre-soaking of media. Media removal in less than 15 minutes with no oil collection container to dump and clean

## easy to install

- turn-key, small footprint package with no-pre soaking of media

## robust construction

- rugged one-pieced molded unit is free standing, tolerant of uneven floors, virtually leakproof and economical

## environmentally friendly

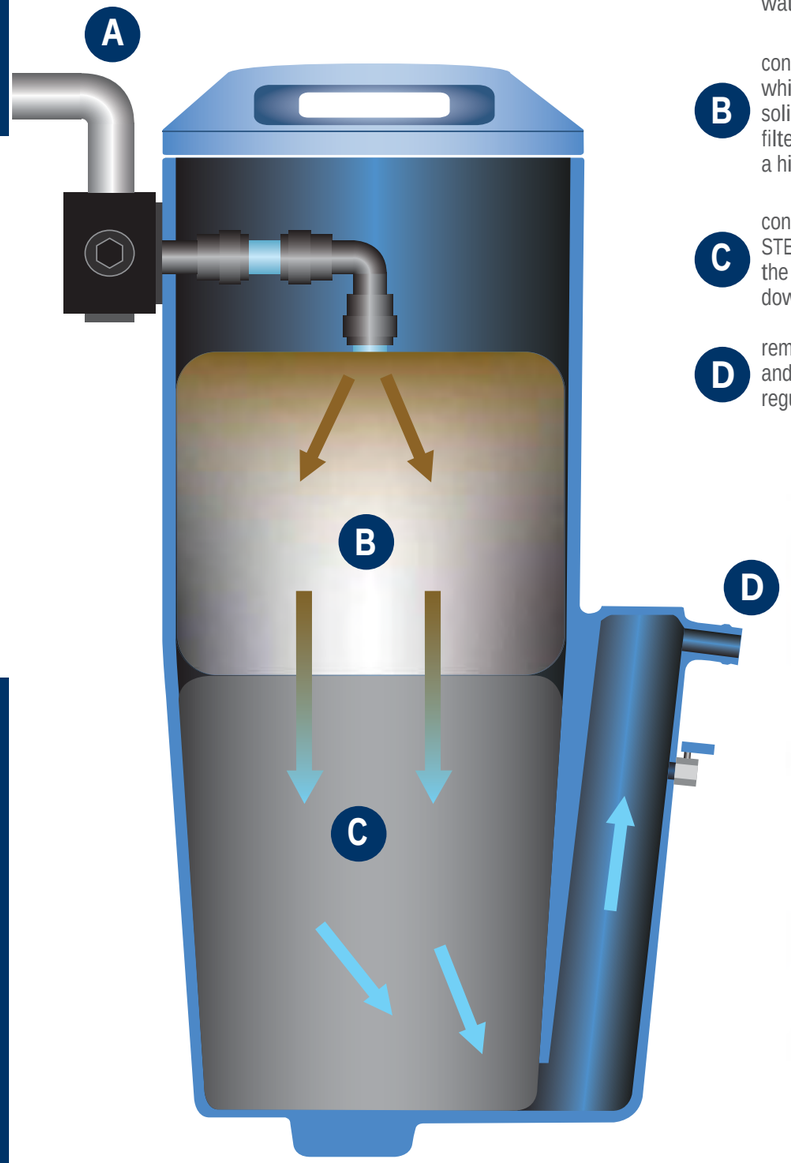
- STERLING media is made from 100% recycled materials using environmentally sustainable manufacturing techniques plus separating your condensate is good for the environment

## warranty

- peace of mind - models SEP 120 ST through SEP 2500 ST come standard with a 10 year warranty (conditions apply)

# HOW IT WORKS

The nano Sepura™ range of oil water separators use a technologically advanced proprietary filtration media to separate oil from water in the condensate discharged from compressed air systems. This non-carbon based and 100% recycled media actively absorbs oil while repelling water resulting in clean condensate that can be disposed of cleanly and inexpensively.




**A** condensate from compressors, refrigerated dryers, coolers, filters or any other drain points are piped directly to the Sepura™ oil water separator

**B** condensate passes through the primary filter which depressurizes the condensate, traps solid particles protecting the secondary filter and catches bulk hydrocarbons within a high capacity oil absorbent

**C** condensate passes through a deep bed of STERLING filtration media which absorbs the oil providing outlet oil concentrations down to 5 ppmv or less

**D** remaining water can be disposed of safely and in compliance with environmental regulations


**model SEP 60 ST disposable separator**

# FEATURES

## patented STERLING media

- advanced STERLING filtration media attracts oil and repels water while providing long media life
- polishes condensate to outlet concentrations as low as 5 ppmv even with synthetic compressor lubricants*
- all without the size, weight and mess of a settling tank, bags of activated carbon or external oil collection container

## service life indicator

- activated in seconds by the installing service engineer
- gives a time based visual indication of the service interval, up to one full year
- fresh indicator set is provided with each new service kit ensuring the feature is available for retrofit to older installed SEPURA™ or other makes of separators

## multi-port kit

- optional kit allows for increase of number of inlet ports on your SEPURA™ unit
- space saving benefit diminishes the need for multiple units by connecting multiple devices to one single oil water separator

## wall mounting brackets

- optional for models SEP 120 ST & SEP 360 ST
- alllows for smaller units to be raised off the ground to free up valuable floor space and less chance of damage to unit
- an easier height to take test samples and a tidier workspace

## test point

- simple test kit is supplied as standard
- for quick outlet cloudiness test to ensure ppm limit for your region is being met

## DIBt approval

- approved by the DIBt (German Institute for Construction Technology)
- meets or exceeds the most rigorous clean water standards by a world renowned global organization

## alternative media kits

- stop wasting time and money on replacement carbon bags
- purchase nano STERLING media replacement kits to fit virtually all brands of oil water separators

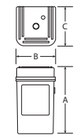


# SPECIFICATIONS

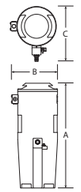
| separator model | inlet | outlet | flow (scfm) [2] | | dimensions (inches) | | | approx. weight | wall mounting bracket | replacement media kit |
|---|---|---|---|---|---|---|---|---|---|---|
| | NPT/PTC | NPT/PTC | scfm | Nm³/h | A | B | C | (lbs) | part no | part no |
| SEP 60 ST | ¼" (x1) [1] | ⅜" (x1) [1] | 60 | 102 | 9.4 | 5.5 | 5.5 | 2.9 | included | SEP 60 ST |
| SEP 120 ST | ½" (x4) | ¾" (x1) | 120 | 204 | 19.7 | 8.5 | 10.1 | 6.0 | 120 WMK | SEP 120 MRK |
| SEP 360 ST | ½" (x4) | ¾" (x1) | 360 | 612 | 25.8 | 13.6 | 11.1 | 7.9 | 360 WMK | SEP 360 MRK |
| SEP 900 ST | ½" (x4) | ¾" (x1) | 900 | 1529 | 38.9 | 17.0 | 19.5 | 32.6 | - | SEP 900 MRK |
| SEP 1250 ST | ½" (x4) | ¾" (x1) | 1250 | 2124 | 38.9 | 19.1 | 19.5 | 45.0 | - | SEP 1250 MRK |
| SEP 1800 ST | ½' (x8) | ¾" (x1) | 1800 | 3058 | 38.9 | 38.9 | 20.5 | 69.0 | - | SEP 1800 MRK |
| SEP 2500 ST | ½' (x8) | ¾" (x1) | 2500 | 4248 | 38.9 | 43.2 | 21.5 | 95.0 | - | SEP 2500 MRK |
| SEP 3500 ST | ¾" (x2) | ¾" (x1) | 3500 | 5947 | 39.4 | 39.4 | 27.6 | 319.0 | - | SEP 3500 MRK |
| SEP 7000 ST | ¾" (x2) | ¾" (x1) | 7000 | 11893 | 39.4 | 43.3 | 43.3 | 467.0 | - | SEP 7000 MRK |

| specifications | SEP 60 ST | SEP 120 ST to SEP 2500 ST | SEP 3500 ST | SEP 7000 ST |
|---|---|---|---|---|
| expected media life [3] | 8000 hours @ 30 cfm<br>4000 hours @ 60 cfm | 4000 hours | 16000 hours @ 3500 cfm<br>8000 hours @ 5000 cfm | 16000 hours @ 7000 cfm<br>8000 hours @ 10000 cfm |
| maximum oil carry over | < 20 ppm | < 20 ppm | < 20 ppm | < 20 ppm |
| warranty | 1 year | 10 years | 2 years | 2 years |
| max condensate inlet pressure | 232 psig | 232 psig | 232 psig | 232 psig |
| inlet condensate temperature range | 35 to 110°F | 35 to 110°F | 35 to 110°F | 35 to 110°F |

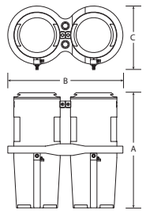
(1) inlet and outlet connections on the SEP 60 ST are (PTC) push to connect. All other models are threaded
(2) sizing assumes an oil flooded compressor using mineral or synthetic lubricant with a maximum oil carry-over of 5 mg/m³ or less
(3) media life decreases with increased condensate flow. For media life estimates at other flow rates contact support@n-psi.com
(4) *for use with PAG compressor lubricants contact nano technical support at support@n-psi.com
(5 technical specifications subject to change without notice. Direct inquiries to support@n-psi.com or contact 704.897.2182



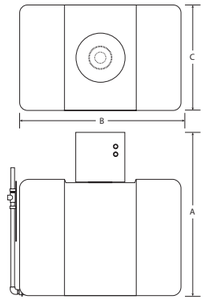

**SEP 60 ST**




**SEP 120 to 1250 ST**




**SEP 1800 & 2500 ST**




**SEP 3500 & 7000 ST**

**the disposable SEP 60 ST:**
perfect for small applications

**SEP 120 to 1250 ST:**
simply clean condensate

**SEP 1800 & 2500 ST:**
innovative & cost effective

**SEP 3500 & 7000 ST:**
built for high condensate flow

# 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.

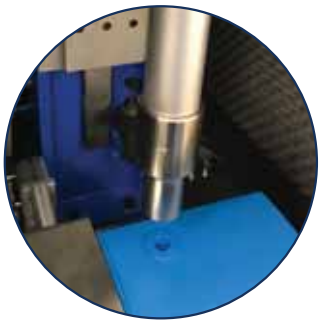
A wealth of experience and leading edge products are only part of the equation. nano recognize that world-class customer *service* is the most important component to any successful business.

## 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 S[1] SEPURA™ range of oil water separators 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.

CAGI

# installation manual
# SEPURA™ WMB
# wall mounting brackets
# for SEP 120 & SEP 360 units


## Useful wall mounting brackets that allow smaller units be raised off the floor for convenience.

benefits of wall mounted units:

- free up valuable floor space
- less chance of damage from machinery
- easier height to take test samples from
- tidier workspace

The SEPURA™ WMB comes in two sizes to fit our SEP 120 and SEP 360 units.


easy install

## Before installing the WMB (Wall Mounting Bracket), please read the following guidelines.

- Find the optimum location for the installation. It is important the chosen anchor point can safely support 15.5 lb WMB120 and/or 37.5 lb WMB360.
- Ensure that the chosen position will allow safe maintenance, servicing & weekly water testing access
- Safely fix the WMB, plumb, level, square & true to the anchor point using the correct fittings in all 4 fixing holes provided specific to the installation requirements.
- All WMB installations must comply to Health & Safety Legislation and/or Regulations.

**NOTE: nano does not supply fixings for the WMB with each kit. It is your responsibility to use appropriate fixings for the surface that you wish to attach it to. nano is not responsible for any accidental or performance issues arising from fxing of the WMB unit.**

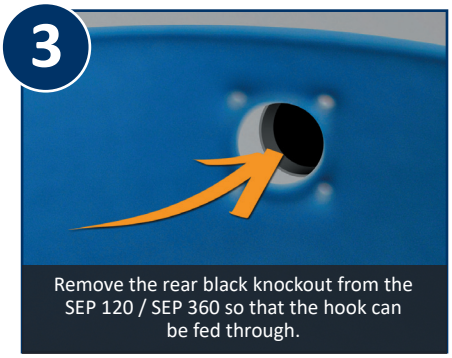
**1**

Secure the WMB to the wall/flat surface using suitable fixings (see NOTE above).

**2**

Replace the foam ring back over the hook that will form a seal with the unit when in place.

**3**



Remove the rear black knockout from the SEP 120 / SEP 360 so that the hook can be fed through.

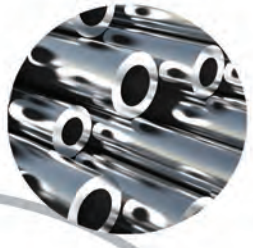
**4**

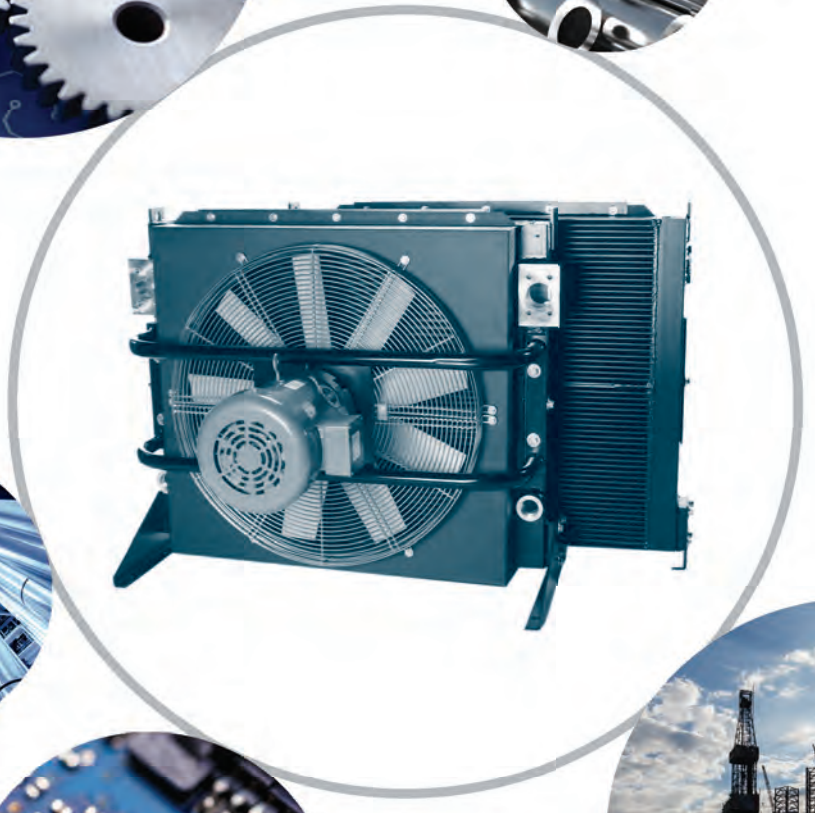
Feed the wall hook through the hole in the rear of the unit and gently lower down onto the support feet.

### optional fixings supplied:

Easy Hook
Allows the unit to be lifted on and off quickly

**Secure Fix**
Prevents tampering or quick removal





# X[1] X-AOC combination aftercooler/oil cooler

horsepower: 5 to 500

# X-AOC combination aftercooler / oil cooler

horsepower: 5 to 500

X1

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.

Experience. Customer. Service... **nano**

## clean and dry

Clean and dry compressed air is essential in every efficient and profitable manufacturing and process operation worldwide. nano's vast experience includes food, beverage, chemical, laboratory, medical and natural gas applications.

nano understand your needs and has created the nano $X^1$ range of high performance aftercooler products to ensure the performance and energy efficiency of downstream compressed air treatment equipment at an affordable price with unrivaled reliability.

## 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 $X^1$ range of aftercoolers are manufactured in a state-of-the-art facility to the highest standards of build quality to ensure equipment reliability and high levels of performance.

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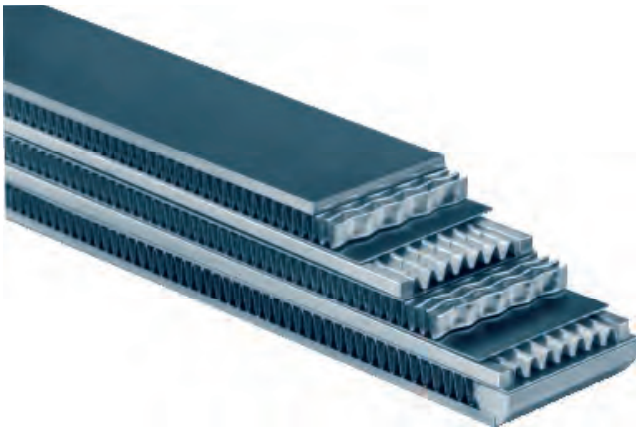
# X[1] X-AOC combination aftercooler / oil cooler



- advanced technology designs
- up to 60% smaller than conventional fin and tube designs
- rugged bar & plate designs
- reduced air side fouling
- competitive prices
- shipments available from stock

## specifications

| aftercooler specifications | |
|---|---|
| maximum working pressure (psi) | 250 |
| maximum working temperature (°F) | 250 |
| cooler material | aluminum |
| shroud material | powder painted steel |
| fan guard material | zinc plated steel |
| fan blade material | polypropylene blades / aluminum hub |
| mounting brackets | powder painted steel |

## ordering information

### aftercoolers

| SERIES | MODEL SIZE | MOTOR CODE | OPTIONS |
|---|---|---|---|
| X-AOC | 8 to 500 | ***-1*** single phase<br>***-3*** three phase<br>***-3L*** three phase, low noise<br>***-575*** 575 volt<br>***-3EXP*** explosion proof<br>***-0*** no motor | ***-R*** reversed air flow<br>***-AD*** SAE to NPT adapters<br>***- F*** foam filter<br>***-H*** heresite |

# performance

The X-AOC series is a complete aftercooler and oil cooler package designed to work on most models of rotary air compressors. To select the appropriate model, simply determine compressor horsepower, and select the model from the chart.

**rotary compressor**

| air compressor horsepower | recommended X-AOC model [1] |
|---|---|
| 5 - 7.5 hp | X-AOC8 |
| 10 - 15 hp | X-AOC15 |
| 20 - 30 hp | X-AOC30 |
| 40 hp | X-AOC40 |
| 50 -75 hp | X-AOC75 |
| 100 - 125 hp | X-AOC125 |
| 150 -175 hp | X-AOC175 |
| 200 -250 hp | X-AOC250 |
| 300 -350 hp | X-AOC350 |

*(1) for low noise and 2 stage compressors please consult factory for sizing assistance*

## sizing notes

***recommendations are based on the following:***

**heat removal**
oil cooler = compressor horsepower x 1.15 (motor service factor) x .83 (this assumes 83% of input horsepower is rejected to heat)

aftercooler = compressor horsepower x 1.15 (motor service factor) x .17 (this assumes 17% of input horsepower is rejected to heat)

**temperatures**
ambient air temperature + 100°F = compressed oil outlet temperature

ambient air temperature + 15°F = compressed air outlet temperature

**flows**
horsepower x .25 + 2-5 GPM (bearing oil cooling) = oil flow

compressor horsepower x 4.5 + scfm air flow

# electrical motor data

| model | HP RPM | motor frame | single phase | | | three phase | | |
|---|---|---|---|---|---|---|---|---|
| | | | voltage | Hz | full load amps 230 V | voltage | Hz | full load amps 230V |
| X-AOC8 | ⅓ 3250 | IEC 63 | 115/230 | 60 | 2.6 | 208-230/460<br>200/220<br>380/440 | 60<br>50<br>50 | 1.2 |
| X-AOC15 | ½ 3250 | IEC 71 | 115/230 | 60 | 3.4 | 208-230/460<br>200/220<br>380/440 | 60<br>50<br>50 | 1.2 |
| X-AOC30 | ½ 1725 | NEMA 56C | 115-208/230 | 60 | 4.4 | 208-230/460<br>190/200 208/220<br>380/400 416/440 | 60<br>50<br>50 | 2.0 |
| X-AOC40 | 1 1725 | NEMA 56C | 115-208/230 | 60 | 6.4 | 208/230/460<br>190/200 208/220<br>380/400 416/440 | 60<br>50<br>50 | 3.4 |
| X-AOC75 | 2 1725 | NEMA 56C | 115/230 | 60 | 10 | 208-230/460<br>190/200 208<br>380/400 416 | 60<br>50<br>50 | 6.5 |
| X-AOC125 | 5 1725 | NEMA 184TC | 230 | 60 | 23 | 208-230/460<br>190/200 208<br>380/400 416 | 60<br>50<br>50 | 13.4 |
| X-AOC175 | 7½ 1725 | NEMA 213TC | CF | CF | CF | 208-230/460<br>190/200 208<br>380/400 416 | 60<br>50<br>50 | 19.2 |
| X-AOC250 | 7½ 1725 | NEMA 213TC | CF | CF | CF | 208-230/460<br>190/200 208<br>380/400 416 | 60<br>50<br>50 | 19.2 |
| X-AOC350 | 10 1725 | NEMA 215TC | CF | CF | CF | 208-230/460<br>190/200 208<br>380/400 416 | 60<br>50<br>50 | 26.0 |

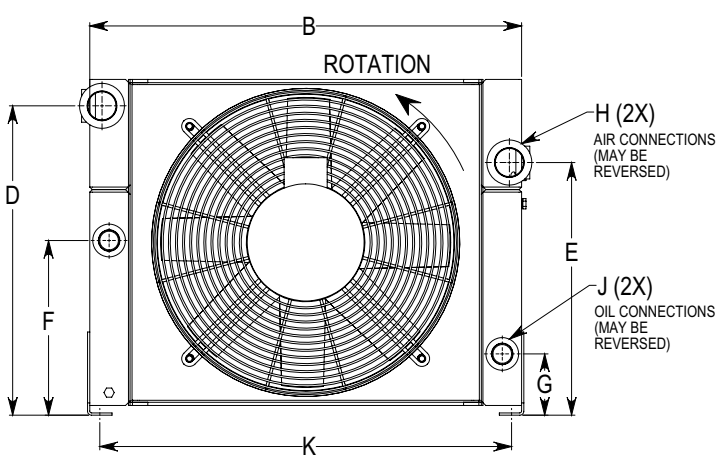
*(1) electric motors are totally enclosed and are not thermally protected*
*(2) actual rating may vary with motor brand. Check motor nameplate for actual rating*
*(3) motor RPM is reduced b y 1/6 for 50 Hz service*

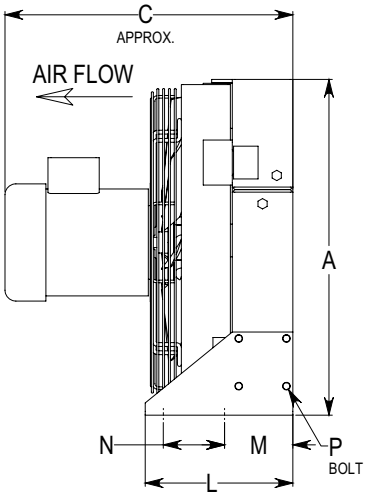
# dimensions

## aftercoolers

| model number | A | B | C | D | E | F | G | H (1) | J (1) | K | L | M | N | approx. weight (lbs) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | net | shipping |
| X-AOC8 | 12.52 | 15.75 | 14.72 | 11.06 | 11.06 | 6.85 | 3.35 | 1” | ½” | 14.53 | 7.36 | 3.07 | M8X10 | 20 | 40 |
| X-AOC15 | 16.25 | 19.88 | 16.69 | 14.80 | 13.62 | 10.47 | 3.50 | 1” | 1” | 18.58 | 7.36 | 3.07 | M8X10 | 50 | 60 |
| X-AOC30 | 20.63 | 26.36 | 17.75 | 18.86 | 15.55 | 10.67 | 3.86 | 1½” | 1” | 25.20 | 9.02 | 3.74 | M10X15 | 100 | 145 |
| X-AOC40 | 22.52 | 30.31 | 18.74 | 20.67 | 17.09 | 13.70 | 5.79 | 1½” | 1¼” | 25.09 | 9.02 | 3.74 | M10X15 | 130 | 170 |
| X-AOC75 | 26.19 | 37.00 | 22.60 | 25.79 | 21.69 | 13.50 | 8.35 | 2” | 1¼” | 37.48 | 15.47 | 7.87 | M12X20 | 200 | 250 |
| X-AOC125 | 37.32 | 40.94 | 24.76 | 31.10 | 31.10 | 10.12 | 4.29 | 2” | 1½” | 41.42 | 15.47 | 7.87 | M12X20 | 300 | 350 |
| X-AOC175 | 38.98 | 42.91 | 29.84 | 30.87 | 30.87 | 9.29 | 9.29 | 2½” (2) | 2” | 43.39 | 15.47 | 7.87 | M12X20 | 400 | 460 |
| X-AOC250 | 45.43 | 48.82 | 30.28 | 37.87 | 34.88 | 12.48 | 9.37 | 3” (2) | 2½” | 49.29 | 15.47 | 7.87 | M12X20 | 530 | 600 |
| X-AOC350 | 57.87 | 52.76 | 32.48 | 51.97 | 43.86 | 17.72 | 17.72 | 3” (2) | 2½” | 20.55 | 20.00 | 10.00 | ¾-10 1½ | 755 | 840 |

*(1) NPT*
*(2) SAE 4-bolt flanges may converted to NPT by adding “-AD” to the end of the model code*
*(4) dimensions shown in inches*
*(5) we reserve the right to make reasonable changes without notice*

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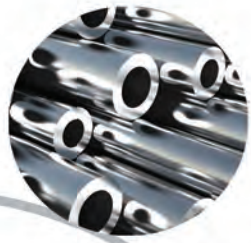

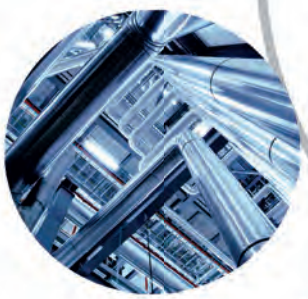

# X[1]
# X-CC compressed air aftercoolers

flow capacity: 100 - 3500 scfm (170 - 5947 Nm³/hr)

# X-CC compressed air aftercoolers

flow capacity: 100 - 3500 scfm (170 - 5947 $Nm^3/hr$)

X1

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.

Experience. Customer. Service... **nano**

## clean and dry

Clean and dry compressed air is essential in every efficient and profitable manufacturing and process operation worldwide. nano's vast experience includes food, beverage, chemical, laboratory, medical and natural gas applications.

nano understand your needs and has created the nano $X^1$ range of high performance aftercooler products to ensure the performance and energy efficiency of downstream compressed air treatment equipment at an affordable price with unrivaled reliability.

## 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 $X^1$ range of aftercoolers are manufactured in a state-of-the-art facility to the highest standards of build quality to ensure equipment reliability and high levels of performance.

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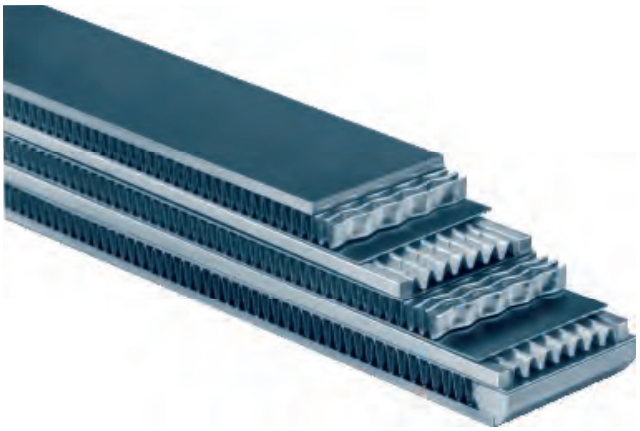
# X[1] X-CC compressed air aftercoolers



- advanced technology designs
- up to 60% smaller than conventional fin and tube designs
- rugged bar & plate designs
- reduced air side fouling
- competitive prices
- shipments available from stock

## specifications

| aftercooler specifications | |
|---|---|
| maximum working pressure (psi) | 250 |
| maximum working temperature (°F) | 250 |
| cooler material | aluminum |
| shroud material | powder painted steel |
| fan guard material | zinc plated steel |
| fan blade material | polypropylene blades / aluminum hub |
| mounting brackets | powder painted steel |

| moisture separator specifications | NWS 0175 to 1500 |
|---|---|
| recommended operating temperature range (°F) | 35 to 176 |
| design operating temperature range (°F) | 35 to 176 |
| design operating pressure range (psig) | 22 to 232 |
| condensate drain (included) | NDK 1500 |

## ordering information

### aftercoolers

| SERIES | MODEL SIZE | MOTOR CODE | OPTIONS |
|---|---|---|---|
| X-CC | 100 to 5000 | ***-1*** single phase<br>***-3*** three phase<br>***-3L*** three phase, low noise<br>***-575*** 575 volt<br>***-3EXP*** explosion proof<br>***-0*** no motor<br>***-2*** air | ***-R*** reversed air flow<br>***-AD*** SAE to NPT adapters<br>***- F*** foam filter<br>***-H*** heresite |

### moisture separators

| SERIES | MODEL SIZE | OPTIONS |
|---|---|---|
| NF | 175 to 5000 | ***-(blank)*** float drain included<br>***-ND*** no drain included |

# performance

The X-CC series is a complete aftercooler package designed to work on most models of rotary and piston air compressors. To select the appropriate model, simply determine compressor horsepower, and select the model from the chart.

## rotary compressor

| air compressor horsepower | internal air flow [1] maximum cfm | recommended X-CC model [3] |
|---|---|---|
| 20 hp | 113 | X-CC100 |
| 25 - 40 hp | 245 | X-CC200 |
| 50 - 75 hp | 539 | X-CC450 |
| 100 - 125 hp | 785 | X-CC600 |
| 150 - 200 hp | 1569 | X-CC1000 |
| 225 - 350 hp | 2300 | X-CC1600 |
| 400 - 500 hp | 3016 | X-CC2000 |
| 550 - 700 hp | 4316 | X-CC2500 |
| 750 - 1000 hp | 4800 | X-CC3500 |

## piston compressor

| air compressor horsepower | internal air flow [2] maximum cfm | recommended X-CC model [3] |
|---|---|---|
| 20 hp | 83 | X-CC100 |
| 25 - 30 hp | 181 | X-CC200 |
| 40 - 70 hp | 432 | X-CC450 |
| 75 - 100 hp | 638 | X-CC600 |
| 125 - 200 hp | 1256 | X-CC1000 |
| 225 - 300 hp | 2133 | X-CC1600 |
| 350 - 400 hp | 3400 | X-CC2000 |
| 500 - 600 hp | 4458 | X-CC2500 |
| 700 - 850 hp | 4800 | X-CC3500 |

*(1) based on 200°F from compressor*
*(2) based on 250°F from compressor*
*(3) consult factory for low noise option sizing*

### sizing notes

***recommendations are based on the following:***

**heat removal**
aftercooler = compressor horsepower x 1.15 (motor service factor) x .17 (this assumes 17% of input horsepower is rejected to heat)

**15°F approach temperature**
compressor air outlet temperature - ambient air temperature

**temperatures**
ambient air temperature + 15°F = compressed air outlet temperature

**flows**
compressor horsepower x 4.5 = scfm flow

*all flow rates are based on less than a 4 psi pressure drop @ 100 psi operating and 100°F ambient and 50% relative humidity*

# moisture separators

| aftercooler | separator | series maximum capacity |
|---|---|---|
| X-CC100 | NF 0175 WS | X-CC100 |
| X-CC200 | NF 0325 WS | X-CC200 |
| X-CC450 | NF 0700 WS | X-CC450 |
| X-CC600 | NF 0700 WS | X-CC600 |
| X-CC1000 | NF 1250 WS | X-CC1000 |
| X-CC1600 | NF 1500 WS | X-CC1600 |
| X-CC2000 | NFE 3000 WS-ND | X-CC2000 |
| X-CC2500 | NFE 3000 WS-ND | X-CC2500 |
| X-CC3500 | NFE 3000 WS-ND | X-CC3500 |

*Pressure drop is 1.0 psi at the above flow rates.*

# electrical motor data

| model | HP RPM | motor frame | single phase | | | three phase | | |
|---|---|---|---|---|---|---|---|---|
| | | | voltage | Hz | full load amps 230 V | voltage | Hz | full load amps 230V |
| X-CC100 | ⅓ 3450 | IEC 63 | 115/230 | 60 | 2.6 | 208-230/460<br>190/380 | 60<br>50 | 1.1 |
| X-CC200 | ½ 3450 | IEC 71 | 115/230 | 60 | 3.5 | 208-230/460<br>190/380 | 60<br>50 | 1.6 |
| X-CC450 | ½ 1725 | NEMA 56C | 115-230/460 | 60 | 4.0 | 208-230/460 | 60* | 2.0 |
| X-CC600 | 1 1725 | NEMA 56C | 115-230/460 | 60 | 6.4 | 208/230/460 | 60* | 3.8 |
| X-CC1000 | 2 1725 | NEMA 56C | 115/230 | 60 | 9.2 | 208-230/460 | 60* | 6.2 |
| X-CC1600 | 5 1725 | NEMA 184TC | 230 | 60 | 23 | 208-230/460 | 60* | 13.2 |
| X-CC2000 | 7½ 1725 | NEMA 213TC | CF | CF | CF | 208-230/460 | 60* | 19.6 |
| X-CC2500 | 7½ 1725 | NEMA 213TC | CF | CF | CF | 208-230/460 | 60* | 19.6 |
| X-CC3500 | 10 1725 | NEMA 213TC | CF | CF | CF | 208-230/460 | 60* | 26.0 |

*(1) electric motors are vb and are not thermally protected*
*(2) actual rating may vary with motor brand. Check motor nameplate for actual rating*
*(3) motor RPM is reduced b y 1/6 for 50 Hz service*
*(4) -3 phase motor available is 50 Hz*

# air motor data

| model number | air pressure to motor (PSI) | motor air consumption (CFM) | air motor connection size | fan RPM |
|---|---|---|---|---|
| X-CC100 | 30 | 10 | ¼" NPT | 3450 |
| X-CC200 | 60 | 17 | ¼" NPT | 3450 |
| X-CC450 | 40 | 25 | ¼" NPT | 1725 |
| X-CC600 | 40 | 25 | ¼" NPT | 1725 |
| X-CC1000 | 60 | 70 | ½" NPT | 1725 |
| X-CC1600 | 60 | 150 | 1¼" NPT | 1725 |
| X-CC2000 | 80 | 200 | 1¼" NPT | 1725 |
| X-CC2500 | 80 | 200 | 1¼" NPT | 1725 |
| X-CC3500 | 100 | 240 | 1¼" NPT | 1725 |

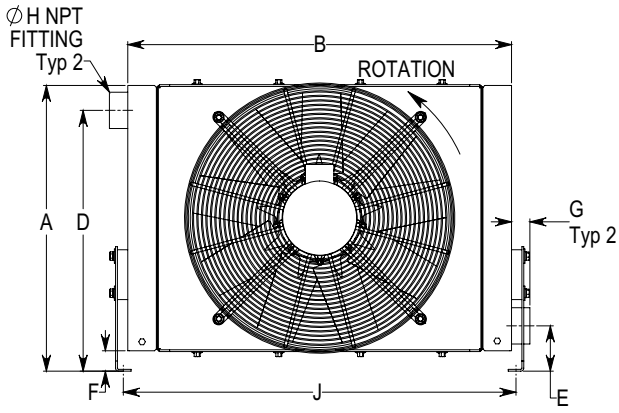
*(1) air pressure to motor MUST be regulated and lubricated*
*(2) DO NOT EXCEED fan RPM listed above*
*(3) mufflers are included with all motors*

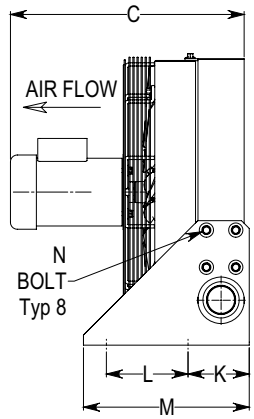
# dimensions

## aftercoolers

| model number | A | B | C [1] | D | E | F | G | H [2] | J | K | L | M | N | approx. weight (lbs) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | net | shipping |
| X-CC100 | 12.56 | 16.22 | 14.96 | 10.79 | 2.52 | 0.75 | 1.02 | 1” | 14.72 | 3.94 | 3.50 | 8.19 | M8x10 | 30 | 40 |
| X-CC200 | 16.30 | 19.88 | 11.46 | 14.53 | 2.52 | 0.75 | 1.77 | 1½” | 18.66 | 3.94 | 3.50 | 8.19 | M8x10 | 50 | 60 |
| X-CC450 | 20.98 | 26.38 | 12.83 | 18.82 | 3.15 | 0.98 | 1.77 | 2” | 25.20 | 4.92 | 4.53 | 10.98 | M10x20 | 95 | 137 |
| X-CC600 | 23.19 | 30.31 | 18.74 | 21.02 | 3.15 | 0.98 | 1.77 | 2” | 29.13 | 4.92 | 4.53 | 10.98 | M10x15 | 125 | 163 |
| X-CC1000 | 27.56 | 37.01 | 22.56 | 25.16 | 4.37 | 1.89 | 1.77 | 2½” | 37.87 | 5.91 | 7.87 | 15.98 | M12x20 | 195 | 240 |
| X-CC1600 | 37.32 | 43.86 | 23.62 | 30.79 | 4.29 | 1.89 | 1.77 | 3” | 41.73 | 5.91 | 7.87 | 15.98 | M12x20 | 296 | 350 |
| X-CC2000 | 38.98 | 42.91 | 29.80 | 30.59 | 10.98 | 2.13 | 1.77 | 4” | 43.62 | 5.39 | 7.87 | 15.47 | M12x20 | 320 | 380 |
| X-CC2500 | 45.43 | 48.82 | 30.26 | 34.33 | 11.65 | 1.65 | 1.77 | 4” | 49.51 | 5.39 | 7.87 | 16.00 | M12x20 | 440 | 505 |
| X-CC3500 | 57.87 | 52.76 | 30.55 | 43.98 | 17.56 | 3.35 | 2.00 | 4”[3] | 50.55 | 7.80 | 20.00 | 20.00 | ¾”x1-1½” | 550 | 645 |

*(1) approximate*
*(2) NPT*
*(3) SAE 4-bolt flanges may converted to NPT by adding “-AD” to the end of the model code*
*(4) dimensions shown in inches*
*(5) we reserve the right to make reasonable changes without notice*

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publication reference n-psi-X-CC-02-us