




# 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.

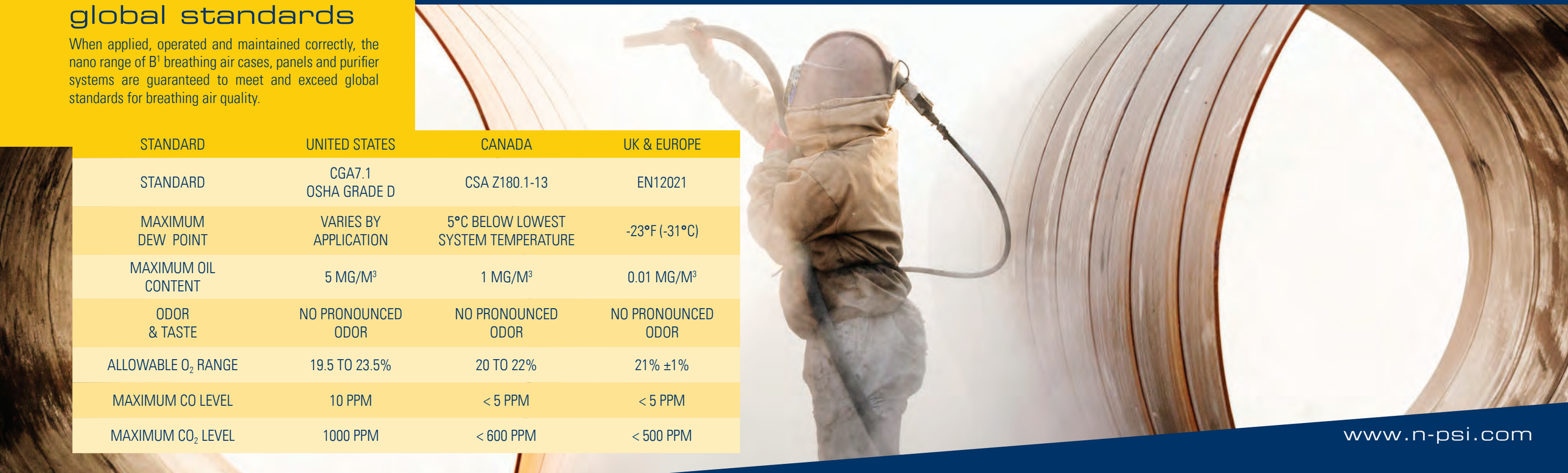
## nano $B^1$ breathing air purification systems

- 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/$M^3$ | 1 MG/$M^3$ | 0.01 MG/$M^3$ |
| 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 |



# 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

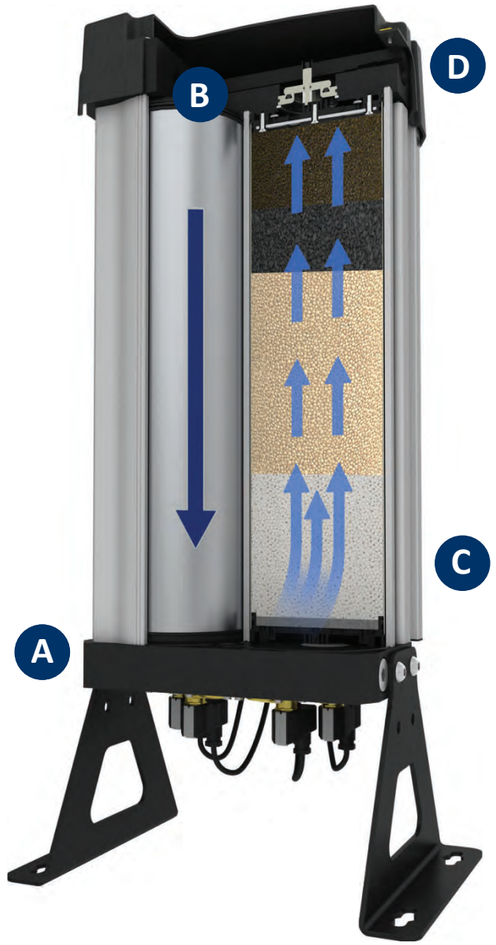
- for CO removal and $CO_2$ removal (CO monitor included as standard and shipped loose)
- all-in-one package including mixed bed NBA cartridges
- complies with OSHA Grade D (US) and CSA Z180.1-13 (Canada) breathing air standards

# 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

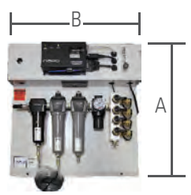
Customize your breathing air system with upgrades including remote audible and visual alarms, free-standing CO monitors and test, calibration and service kits to keep your products working at their optimum level of performance.

# SPECIFICATIONS

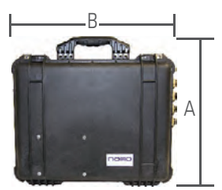
| model | inlet connection | | | outlet connection(s) | | | flow (scfm) [4] | | dimensions (inches) | | | approx. weight |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | size | type | qty | size | type | qty | inlet | outlet | A | B | C | lbs |
| breathing air panels | | | | | | | | | | | | |
| 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 | ⅜" | PTC [2] | 1 | ⅜" | PTC [2] | 1 | 8 | 6 | 25.6 | 10.4 | 8.7 | 30 |
| NBA 050 | ½" | PTC [2] | 1 | ½" | PTC [2] | 1 | 19 | 14 | 46.8 | 10.4 | 13 | 56 |
| NBA 070 | 1" | NPT(F) | 1 | 1" | NPT(F) | 1 | 34 | 26 | 29.2 | 16.8 | 11.1 | 88 |
| NBA 090 | 1" | NPT(F) | 1 | 1" | NPT(F) | 1 | 54 | 36.3 | 41 | 16.8 | 11.1 | 119 |
| NBA 110 | 1" | NPT(F) | 1 | 1" | NPT(F) | 1 | 86 | 49.1 | 65 | 16.8 | 11.1 | 167 |
| NBA 120 | 1" | NPT(F) | 1 | 1" | NPT(F) | 1 | 108 | 81 | 58.9 | 16.8 | 11.1 | 200 |
| NBA 2110 | 2" | NPT(F) | 1 | 2" | NPT(F) | 1 | 172 | 129 | 51.5 | 15.75 | 24.3 | 264 |
| NBA 2120 | 2" | NPT(F) | 1 | 2" | NPT(F) | 1 | 216 | 162 | 60.6 | 15.75 | 24.3 | 493 |
| NBA 3120 | 2" | NPT(F) | 1 | 2" | NPT(F) | 1 | 324 | 243 | 60.6 | 15.75 | 31.1 | 661 |
| NBA 4120 | 2 ½" | NPT(F) | 1 | 2 ½" | NPT(F) | 1 | 432 | 324 | 60.6 | 15.75 | 38.1 | 838 |
| NBA 6120 | 2 ½" | NPT(F) | 1 | 2 ½" | NPT(F) | 1 | 648 | 486 | 60.6 | 15.75 | 50.8 | 1036 |

| specifications | BAP panels | BAC cases | NBA 030 to 050 | NBA 070 to 120 | NBA 2110 to 6120 |
|---|---|---|---|---|---|
| operating pressure range (for United States) | 15 to 150 psig | 15 to 150 psig | 87 to 232 psig | 87 to 232 psig | 87 to 145 psig |
| operating pressure range (for Canada) | 15 to 150 psig | 150 to 150 psig | 87 to 101 psig | 87 to 232 psig | 87 to 145 psig |
| recommended operating temperature range | 35 to 86°F | 35 to 86°F | 50 to 86°F | 50 to 86°F | 50 to 86°F |

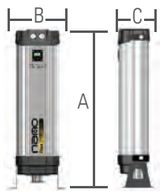
(1) female style coupling (2) PTC = push to connect fittings (3) contact support@n-psi.com for higher pressures or flows
(4) flow rates based on 100 psig and 86°F inlet temperature (5) contacts support@n-psi.com for intrinsically safe, integrated CO & $O_2$ monitoring or any options or equipment not 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



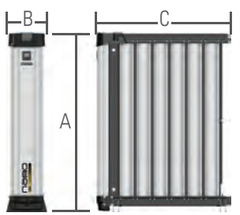
BAP 050 - 175 CP



BAC 050 - 100 CP



NBA 030 - 120



NBA 2110 - 6120

www.n-psi.com

# EXPERIENCE. CUSTOMER. SERVICE.

Leading edge technology and hundreds of years of *experience*. . .nano-purification solutions, your world-class manufacturer of state-of-the-art compressed air and gas solutions to industry.

Our commitment at nano is to work alongside our *customers* and provide unique solutions with the highest quality products to solve your specific challenges.

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

## DESIGN

Our experienced team of design engineers are always looking for new and unique technologies and products to bring you the highest level of performance and lowest overall operating cost.

## RESEARCH & DEVELOPMENT

Our R&D team endeavor to provide solutions that go beyond developing an existing product. They are continually researching new technologies which can provide unique advantages over competitive offerings.

## MANUFACTURE

Always reliable, nano B[1] breathing air systems are manufactured and tested in our state-of-the-art facility to the highest standards of build quality to ensure equipment reliability and high levels of performance.

## ENVIRONMENTALLY FRIENDLY

Through both product development and manufacturing, we strive to produce high quality products compliant to both local and global environmental legislation. Reduction of carbon footprint through energy saving products and use of environmentally friendly components are our commitment to you.



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united states

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united states

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