



## breathing air systems

flow capacity: 14 - 486 scfm

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Leading edge technology and more than 100 years of **experience**...nano-purification solutions, your world-class provider of state-of-the-art compressed air and gas solutions to industry.

Our commitment at n-psi 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. n-psi realize that world-class customer **service** is the most important component to any successful business.

Experience. Customer. Service...**n-psi**



### clean and safe

Many commercial and industrial processes can introduce contaminants into the air which threaten the health and safety of employees. It is important to choose a breathing air system that is safe, reliable, and high quality - yet cost effective to own and operate.

n-psi recognizes the importance of meeting international breathing air quality standards and protecting employees from hazardous environments. We have developed the B<sup>1</sup> breathing air systems to meet and exceed global standards for breathing air quality in a comprehensive package with reliable performance.



### 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<sup>1</sup> breathing air systems are manufactured in a state of the art facility to the highest standards of build quality to ensure reliability and high levels of performance.

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<sub>2</sub> or CO may be present in dangerous levels, both filtration and purification are required.

nano-purification solutions is a leading manufacturer of breathing air products and has the experience to recommend, provide and support your breathing air system, whether you need a portable case, wall mounted panel or a complete modular purification system.

The nano B<sup>1</sup> breathing air systems use the latest technology to provide clean, reliable and safe breathing air that meets or exceeds global standards. Contact us today and let our technical support department help you choose the breathing air system that best fits your needs.



**reliability is built in...** and backed by a 2 year warranty

## global breathing air quality standards

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

	United States	Canada	UK & Europe
standard	CGA7.1 OSHA Grade D	CAN3-Z180.1-M85	EN12021
maximum dew point	varies by application	5°C below lowest system temperature	-23°F (-31°C)
maximum oil content	5 mg/m <sup>3</sup>	1mg/m <sup>3</sup>	0.01 mg/m <sup>3</sup>
odor & taste	no pronounced odor	no pronounced odor	no pronounced odor
allowable O <sub>2</sub> range	19.5 to 23.5%	20 to 22%	21% ± 1%
maximum CO level	10 ppm	< 5 ppm	< 5 ppm
maximum CO <sub>2</sub> level	1000 ppm	< 600 ppm	< 500 ppm

*if there is a known presence of harmful gases, please consult n-psi prior to selecting a breathing air product*



The nano BAC portable breathing air case is the solution for one or multiple users who need a robust, go anywhere breathable air filtration system.

With maximum flow rates of either 50 scfm or 100 scfm, the impact and water resistant case houses a nano F<sup>1</sup> NWS water separator, an M01 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.

All BAC cases include an adjustable pressure regulator and Carbon Monoxide (CO) monitor\* to ensure safe and reliable operation.

- portable, impact and water resistant case
- 50 or 100 scfm maximum flow rates
- four outlet connections for multiple users
- adjustable pressure regulator
- integral CO monitor\*
- complies with OSHA Grade D (US) and CAN3-Z180.1-M85 (Canada) breathing air standards



## wall mounted breathing air panels

The nano BAP breathing air panel is the optimum solution for one or more users who require a convenient, high quality breathable air filtration system but don't require the portability of a case. This easy to install panel can be mounted to a wall, skid or any location that requires breathing air on a regular basis, such as a blasting or paint booth, a confined space, a hazardous area or a tank cleaning location.

As with the portable case, the BAP panels include a nano F<sup>1</sup> NWS water separator, an M01 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.

- wall or skid mountable
- 50, 100 or 175 scfm flow rates available
- multiple outlet connections for multiple users
- adjustable pressure regulator
- integral CO monitor\*
- complies with OSHA Grade D (US) and CAN3-Z180.1-M85 (Canada) breathing air standards





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 ( $\text{CO}_2$ ) 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  $\text{CO}_2$  in the air, it is imperative they are reduced to safe levels for breathing.

These critical applications call for the nano modular NBA breathing air purifier. The NBA purifiers start by filtering the air using an M1 1.0 micron pre-filter and an M01 0.01 micron high-efficiency coalescing pre-filter. However, the NBA then also removes CO and  $\text{CO}_2$  using a 4-layer, mixed bed cartridge in aluminum extruded vessels.

The new B<sup>1</sup> breathing air purifier systems are based on the tested and proven nano D<sup>1|2|3</sup> modular dryers but employ a unique split cartridge system to completely treat the air prior to respiration.

The first stage of the cartridge removes water vapor to  $-40^\circ\text{F}/\text{C}$  pressure dew point and polishes  $\text{CO}_2$  using a novel activated alumina and 13X molecular sieve mix. The second stage utilizes activated carbon to remove hydrocarbons, odor and taste. Finally, the last stage of the cartridge employs Carulite to convert CO to  $\text{CO}_2$ . All materials are kept in place with an integrated 1.0 micron particulate after filter so the delivered air is free of any harmful gases, odors or particulate. These innovative cartridges are quick and easy to replace minimizing maintenance requirements.

The nano NBA is on the leading edge of breathing air technology, meeting and exceeding the most stringent global breathing air standards in a simple, reliable and cost effective design.

## accessories & options

nano-purification solutions has a wide range of options and upgrades to customize your B<sup>1</sup> breathing air system including remote audible and visual alarms, free-standing CO monitors and all of the test kits, calibration kits and service kits you need to keep your B<sup>1</sup> products working at their optimum level of performance.



remote audible & strobe alarms



stand alone CO & O<sub>2</sub> monitors



4-layer mixed bed cartridge

model	inlet connection			outlet connection(s)			flow (scfm)		dimensions (inches)			approx. weight
	size	type	qty	size	type	qty	inlet	outlet	height	width	depth	lbs
<b>breathing air panels</b>												
BAP 050 CP N	½"	NPT(F)	1	¾"	NPT(F)	4	50	50	23	22	8.0	28
BAP 050 CP H	½"	NPT(F)	1	¼"	Hansen <sup>(1)</sup>	4	50	50	23	22	8.0	28
BAP 050 CP S	½"	NPT(F)	1	¼"	Schrader <sup>(1)</sup>	4	50	50	23	22	8.0	28
BAP 100 CP N	¾"	NPT(F)	1	¾"	NPT(F)	4	100	100	23	22	8.0	40
BAP 100 CP H	¾"	NPT(F)	1	¼"	Hansen <sup>(1)</sup>	4	100	100	23	22	8.0	40
BAP 100 CP S	¾"	NPT(F)	1	¼"	Schrader <sup>(1)</sup>	4	100	100	23	22	8.0	40
BAP 175 CP N	¾"	NPT(F)	1	¾"	NPT(F)	6	175	175	23	22	8.0	45
BAP 175 CP H	¾"	NPT(F)	1	¼"	Hansen <sup>(1)</sup>	6	175	175	23	22	8.0	45
BAP 175 CP S	¾"	NPT(F)	1	¼"	Schrader <sup>(1)</sup>	6	175	175	23	22	8.0	45
<b>portable breathing air cases</b>												
BAC 050 CP N	½"	NPT(F)	1	¾"	NPT(F)	4	50	50	17	24	8.5	28
BAC 050 CP H	½"	NPT(F)	1	¼"	Hansen <sup>(1)</sup>	4	50	50	17	24	8.5	28
BAC 050 CP S	½"	NPT(F)	1	¼"	Schrader <sup>(1)</sup>	4	50	50	17	24	8.5	28
BAC 100 CP N	½"	NPT(F)	1	¾"	NPT(F)	4	100	100	21	27	9.0	40
BAC 100 CP H	½"	NPT(F)	1	¼"	Hansen <sup>(1)</sup>	4	100	100	21	27	9.0	40
BAC 100 CP S	½"	NPT(F)	1	¼"	Schrader <sup>(1)</sup>	4	100	100	21	27	9.0	40
<b>modular breathing air purifier systems</b>												
NBA 050	½"	PTC <sup>(2)</sup>	1	½"	PTC <sup>(2)</sup>	1	19	14	43	9	13	43
NBA-070	1"	NPT(F)	1	1"	NPT(F)	1	35	26	30	17	13	88
NBA-090	1"	NPT(F)	1	1"	NPT(F)	1	55	41	36	17	13	119
NBA 110	1"	NPT(F)	1	1"	NPT(F)	1	87	65	49	17	13	172
NBA 120	1"	NPT(F)	1	1"	NPT(F)	1	108	81	59	17	13	209
NBA 2110	2"	NPT(F)	1	2"	NPT(F)	1	172	129	48	12	27	366
NBA 2120	2"	NPT(F)	1	2"	NPT(F)	1	216	162	58	12	27	441
NBA 3120	2"	NPT(F)	1	2"	NPT(F)	1	324	243	58	12	31	600
NBA 4120	2 ½"	NPT(F)	1	2 ½"	NPT(F)	1	432	324	58	12	37	800
NBA 6120	2 ½"	NPT(F)	1	2 ½"	NPT(F)	1	648	486	58	12	51	1155
<b>specifications</b>												
			<b>BAP Panels</b>			<b>BAC Cases</b>			<b>NBA 050 to 120</b>		<b>NBA 2120 to 6120</b>	
operating pressure range			15 to 150 psig			15 to 150 psig			58 to 232 psig		58 to 145 psig <sup>(3)</sup>	
recommended operating temp range			35 to 86°F			35 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

- contact support@n-psi.com for intrinsically safe, integrated CO & O<sub>2</sub> monitoring or any options or equipment not listed
- quick-disconnect fittings for use in compressed breathing air systems shall be selected to prevent accidental connection to other sources of compressed gases



BAP 050 - 175 CP



BAC 050 - 100 CP



NBA 050 - 120



NBA 2110 - 6120

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