

# nano



## breathing air purification systems

flow capacity: 6 to 486 scfm (10 to 825 Nm<sup>3</sup>/hr)

# “Our automotive manufacturing flow yet compact breathing modular design really fit th

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

## global 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.

STANDARD	UNITED STATES	CANADA	UK & EUROPE
STANDARD	CGA7.1 OSHA GRADE D	CSA Z180.1-13	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>	1 MG/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

# urer end-user needed a high- air system. The nano NBA e bill.”

## nano B<sup>1</sup> 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<sub>2</sub>) scrubber also included on NBA models



# 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
- independently validated systems provide Grade-D breathing air to stringent international standards for breathing air including EN12021 (EU & UK); OSHA (US) and CSA Z180.1-13 (Canada).



## 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
- independently validated systems provide Grade-D breathing air to stringent international standards for breathing air including EN12021 (EU & UK); OSHA (US) and CSA Z180.1-13 (Canada).

## modular breathing air purifier system

- for CO removal and CO2 removal
- all-in-one package including mixed bed NBA cartridges
- independently validated systems provide Grade-D breathing air to stringent international standards for breathing air including EN12021 (EU & UK); OSHA (US) and CSA Z180.1-13 (Canada).

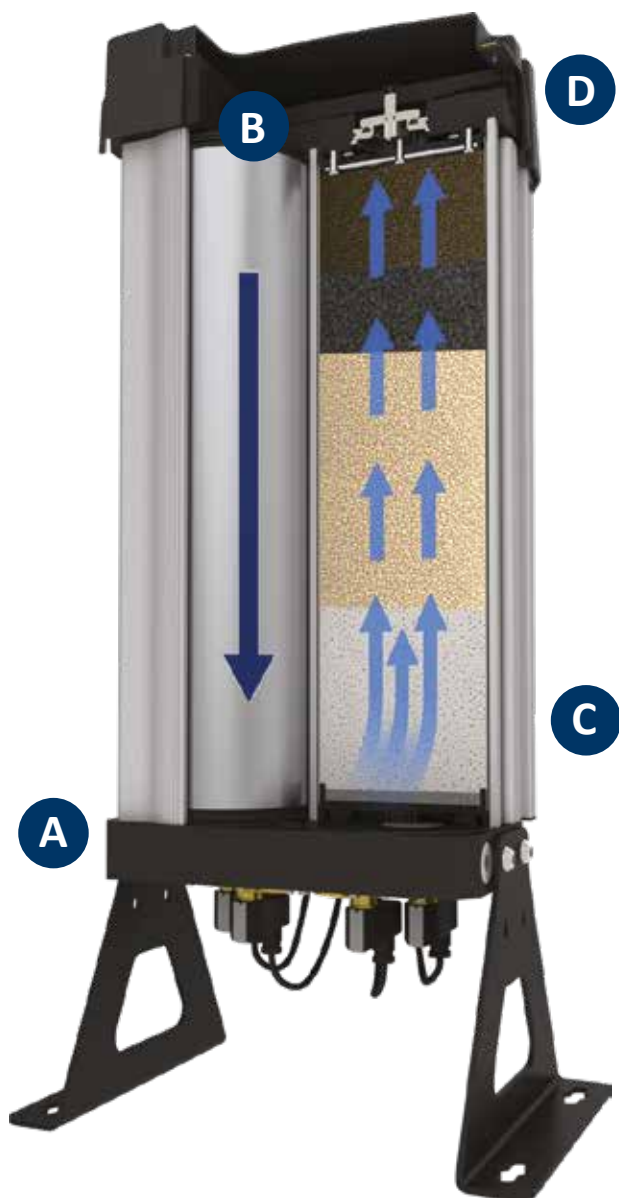


# HOW IT WORKS

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<sub>2</sub>) 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<sub>2</sub> 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<sup>1|2|3</sup> 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<sub>2</sub> is scrubbed, taste and smell are removed and deadly CO is changed through a catalytic process to less hazardous CO<sub>2</sub>
- 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<sup>1</sup> 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.

- up to 60 Nm<sup>3</sup>/hr flow rate
- four outlet connections for multiple users
- adjustable pressure regulators
- integral CO monitor



## wall mounted breathing air panels

Panel includes a nano F<sup>1</sup> 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.

- 85, 170 or 297 Nm<sup>3</sup>/hr flow rates
- multiple outlet connections for multiple users
- adjustable pressure regulators
- integral CO monitor



## modular systems

Modular systems include nano F<sup>1</sup> 1 and 0.01 micron high-efficiency coalescing filters with automatic condensate drains, a 4-layer, mixed bed to remove CO and scrub CO<sub>2</sub> and an integral 1 micron particulate after filter.

- wide range of flow rates
- for multiple users
- adjustable pressure regulators
- CO monitor (optional)
- 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.

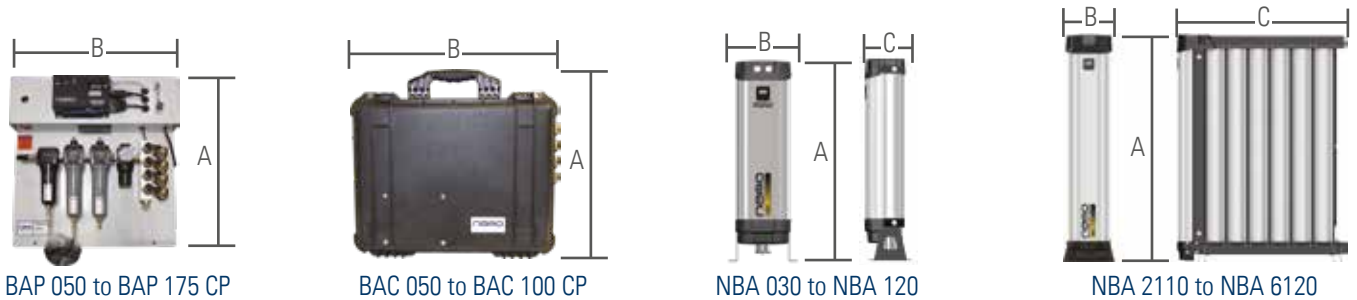


# SPECIFICATIONS

model	inlet connection			outlet connection(s)			flow (Nm <sup>3</sup> /hr) <sup>(4)</sup>		dimensions (mm)			approx. weight kgs
	size	type	qty	size	type	qty	inlet	outlet	A	B	C	
breathing air panels												
BAP 050 CP N	½"	BSPP	1	⅜"	BSPP	4	85	85	584	559	203	13
BAP 050 CP H	½"	BSPP	1	¼"	Hansen <sup>(1)</sup>	4	85	85	584	559	203	13
BAP 050 CP S	½"	BSPP	1	¼"	Schrader <sup>(1)</sup>	4	85	85	584	559	203	13
BAP 100 CP N	¾"	BSPP	1	⅜"	BSPP	4	170	170	584	559	203	18
BAP 100 CP H	¾"	BSPP	1	¼"	Hansen <sup>(1)</sup>	4	170	170	584	559	203	18
BAP 100 CP S	¾"	BSPP	1	¼"	Schrader <sup>(1)</sup>	4	170	170	584	559	203	18
BAP 175 CP N	¾"	BSPP	1	⅜"	BSPP	6	297	297	584	559	203	20
BAP 175 CP H	¾"	BSPP	1	¼"	Hansen <sup>(1)</sup>	6	297	297	584	559	203	20
BAP 175 CP S	¾"	BSPP	1	¼"	Schrader <sup>(1)</sup>	6	297	297	584	559	203	20
portable breathing air cases												
BAC 035 CP N	½"	BSPP	1	⅜"	BSPP	4	60	60	432	610	216	13
BAC 035 CP H	½"	BSPP	1	¼"	Hansen <sup>(1)</sup>	4	60	60	432	610	216	13
BAC 035 CP S	½"	BSPP	1	¼"	Schrader <sup>(1)</sup>	4	60	60	432	610	216	13
modular breathing air purifier systems												
NBA 030	8mm	PTC <sup>(2)</sup>	1	8mm	PTC <sup>(2)</sup>	1	13	10	649	263	220	12
NBA 040	8mm	PTC <sup>(2)</sup>	1	8mm	PTC <sup>(2)</sup>	1	20	15	873	263	280	16
NBA 050	12mm	PTC <sup>(2)</sup>	1	12mm	PTC <sup>(2)</sup>	1	32	24	1193	263	280	20
NBA 070	1"	BSPP	1	1"	BSPP	1	59	44	762	426	283	40
NBA 090	1"	BSPP	1	1"	BSPP	1	93	70	914	426	283	54
NBA 110	1"	BSPP	1	1"	BSPP	1	148	110	1245	426	283	78
NBA 120	1"	BSPP	1	1"	BSPP	1	183	138	1499	426	283	95
NBA 2110	2"	BSPP	1	2"	BSPP	1	292	219	1288	400	619	166
NBA 2120	2"	BSPP	1	2"	BSPP	1	367	275	1538	400	619	200
NBA 3120	2"	BSPP	1	2"	BSPP	1	550	413	1538	400	787	272
NBA 4120	2 ½"	BSPP	1	2 ½"	BSPP	1	734	550	1538	400	955	363
NBA 6120	2 ½"	BSPP	1	2 ½"	BSPP	1	1101	826	1538	400	1291	524

specifications	BAP panels	BAC cases	NBA 030 to 050	NBA 070 to 120	NBA 2110 to 6120
operating pressure range	1-10 barg	1-10 barg	6-16 barg	6-16 barg	6-10 barg
recommended operating temperature range	1.7 to 30°C	1.7 to 30°C	10 to 30°C	10 to 30°C	10 to 30°C

- (1) female style coupling (2) PTC = push to connect fittings (3) contact sales@n-psi.co.uk for higher pressures or flows  
 (4) flow rates based on 7 barg and 30°C inlet temperature (5) contact sales@n-psi.co.uk for intrinsically safe, integrated CO & O<sub>2</sub> 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 sales@n-psi.co.uk



# 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<sup>1</sup> 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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