Breathing Air Purification Systems

FLOW CAPACITY: 6 to 486 scfm

"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.

The air around us may look clean, but compressed air can contain hidden dangers such as carbon monoxide (CO), carbon dioxide (CO_2), oil vapor, moisture, and particulates that put workers at serious risk.

With nano's range of breathing air purification systems, workers and employers can trust they are delivering and receiving safe, high-quality air at all times.

Clean breathing air is not just a requirement, it is essential to worker survival and operational efficiency.

nano B[1] Breathing Air Purification Systems

- Clean, reliable and safe supply of breathable air that meets or exceeds global standards.
- Plug and play systems for multiple users
- Stationary or portable systems available
- Carbon monoxide (CO) and carbon dioxide (CO_2) reduction to global standards, because nothing matters more than the air you breathe.

CO_2 reduction available on NBA models only.

Global Standards

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

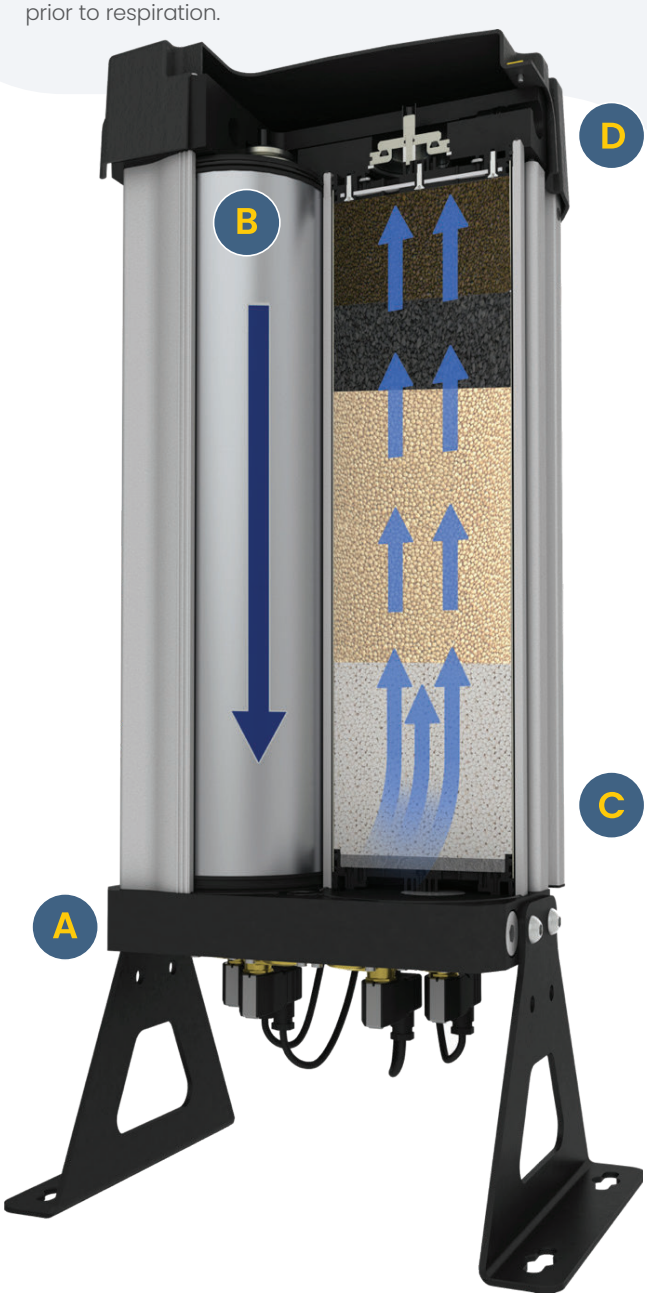
Standard	United States	Canada	UK & Europe
Standard	CGA G-7.1 OSHA Grade D	CSA Z180.1-19	EN12021
Maximum Dew Point	Varies By Application	5°C Below Lowest System Temperature	-23°F
Maximum Oil Content	5 mg/m^3	1 mg/m^3	0.01 mg/m^3
Odor & Taste	No Pronounced Odor	No Pronounced Odor	No Pronounced Odor
Allowable O_2 Range	19.5 to 23.5%	20 to 22%	21 to ±1%
Maximum CO Level	10 ppm	< 5 ppm	< 5 ppm
Maximum CO_2 Level	1000 ppm	< 600 ppm	< 500 ppm

How it works

While many breathing air applications may require only the removal of particulate, oil, odour 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 NBA 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, 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 a nano 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 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 1 and 0.01 micron high efficiency coalescing filters with automatic condensate drains, a 4-layer, mixed bed to reduce CO and CO_2 levels and an integral 1 micron particulate after filter.

- Wide range of flow rates
- For multiple users
- Adjustable pressure regulators
- CO monitor
- 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.

Benefits

Portable Breathing Air Cases

- For users who need a robust, compact, and water-resistant breathable air filtration system that goes anywhere.
- Includes an adjustable pressure regulator and carbon monoxide (CO) monitor to ensure safe and reliable operation.
- Independently validated systems provide breathing air to stringent international standards for breathing air including OSHA Grade D & CGA7.1 (US) and CSA Z180.1-19 (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 carbo monoxide (CO) monitor to ensure safe and reliable operation.
- Independently validated systems provide breathing air to stringent international standards for breathing air including OSHA (US) and CSA Z180.1-19 (Canada).

Modular Breathing Air Purifier System

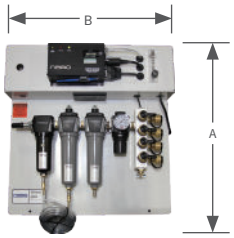
- Effectively reduces harmful carbon monoxide (CO) and carbon dioxide (CO_2) levels, protecting workers with safe, breathable air.
- All-in-one package including mixed bed NBA cartridges and CO monitor as standard.
- Independently validated systems provide breathing air to stringent international standards for breathing air including OSHA (US) and CSA Z180.1-13 (Canada).
- nTech (Models NBA 070N to 6120N) offers a simplistic icon base interface with all operations being a button press away. Check active alarms, change required setpoints, start and stop the product with dedicated buttons.

Product Specifications

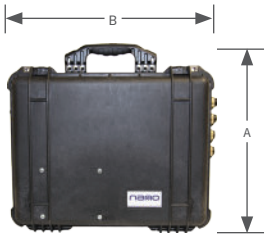
MODEL	INLET CONNECTION			OUTLET CONNECTION (1)			INLET FLOWS (5)	OUTLET FLOWS (5)	DIMENSIONS (INCHES)			APPROX. WEIGHT
	SIZE	TYPE	QTY	SIZE	TYPE	QTY	SCFM	SCFM	A	B	C	LBS
Breathing Air Panels												
BAP 050 CP N	½″	NPT(F)	1	3/8″	NPT(F)	4	50	50	23	22	8.0	28
BAP 050 CP H	½″	NPT(F)	1	¼″	Hansen (1)	4	50	50	23	22	8.0	28
BAP 050 CP S	½″	NPT(F)	1	¼″	Schrader (1)	4	50	50	23	22	8.0	28
BAP 100 CP N	¾″	NPT(F)	1	3/8″	NPT(F)	4	100	100	23	22	8.0	40
BAP 100 CP H	¾″	NPT(F)	1	¼″	Hansen (1)	4	100	100	23	22	8.0	40
BAP 100 CP S	¾″	NPT(F)	1	¼″	Schrader (1)	4	100	100	23	22	8.0	40
BAP 175 CP N	¾″	NPT(F)	1	3/8″	NPT(F)	6	175	175	23	22	8.0	45
BAP 175 CP H	¾″	NPT(F)	1	¼″	Hansen (1)	6	175	175	23	22	8.0	45
BAP 175 CP S	¾″	NPT(F)	1	¼″	Schrader (1)	6	175	175	23	22	8.0	45
Portable Breathing Air Cases												
BAC 050 CP N	½″	NPT(F)	1	3/8″	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	3/8″	NPT(F)	4	100	100	21	27	9.0	40
BAC 100 CP H	½″	NPT(F)	1	¼″	Hansen (1)	4	100	100	21	27	9.0	40
BAC 100 CP S	½″	NPT(F)	1	¼″	Schrader (1)	4	100	100	21	27	9.0	40
Modular Breathing Air Purifier Systems (4)												
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 070N	1″	NPT(F)	1	1″	NPT(F)	1	35	26	29.9	16.8	11.1	88
NBA 090N	1″	NPT(F)	1	1″	NPT(F)	1	55	41	35.9	16.8	11.1	119
NBA 110N	1″	NPT(F)	1	1″	NPT(F)	1	87	65	49	16.8	11.1	172
NBA 120N	1″	NPT(F)	1	1″	NPT(F)	1	108	81	59	16.8	11.1	209
NBA 2110N	2″	NPT(F)	1	2″	NPT(F)	1	172	129	50.5	15.7	26.8	214
NBA 2120N	2″	NPT(F)	1	2″	NPT(F)	1	216	162	60.4	15.7	26.8	394
NBA 3120N	2″	NPT(F)	1	2″	NPT(F)	1	324	243	74.1	15.7	33.4	548
NBA 4120N	2 ½″	NPT(F)	1	2 ½″	NPT(F)	1	432	324	74.1	15.7	40	729
NBA 6120N	2 ½″	NPT(F)	1	2 ½″	NPT(F)	1	648	486	60.4	15.7	53.2	967

SPECIFICATIONS	BAP	BAC	NBA 030 TO 050	NBA 070N TO 120N	NBA 2110N TO 6120N
USA operating pressure range (psig)	15 to 150	15 to 150	58 to 232	87 to 232	87 to 145 (3)
Canada operating pressure range (psig)	15 to 150	15 to 150	58 to 101	87 to 232	87 to 145 (3)
Recommended operating temp range (°F)	35 to 86	35 to 86	35 to 95	35 to 95	50 to 86

(1) Female style coupling (2) PTC = push to connect fittings (3) Contact support@airandgassolutions.com for higher pressures or flows.
(4) NBA modular breathing air purifier systems include: Grade M1 pre-filter and Grade M01 pre-filter (shipped loose), NBA purifier and CO monitor (shipped loose).
(5) Flow rates based on 100 psig and 86°F inlet temperature (6) tower pressure gauges as standard on NBA 070N and above. Applies to serial numbers 20-H-xxxx-xx and above.
• Contact support@airandgassolutions.com for intrinsically safe, integrated CO & O_2 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 gas.

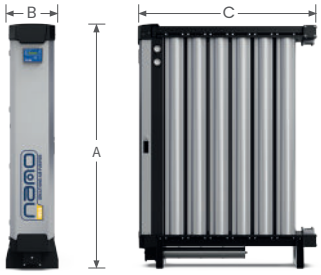


BAP 050 to BAP 175 CP



BAC 050 to BAC 100 CP

NBA 030 to NBA 120N



NBA 2110N to NBA 6120N

Experience.
Customer.
Service.

nano

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