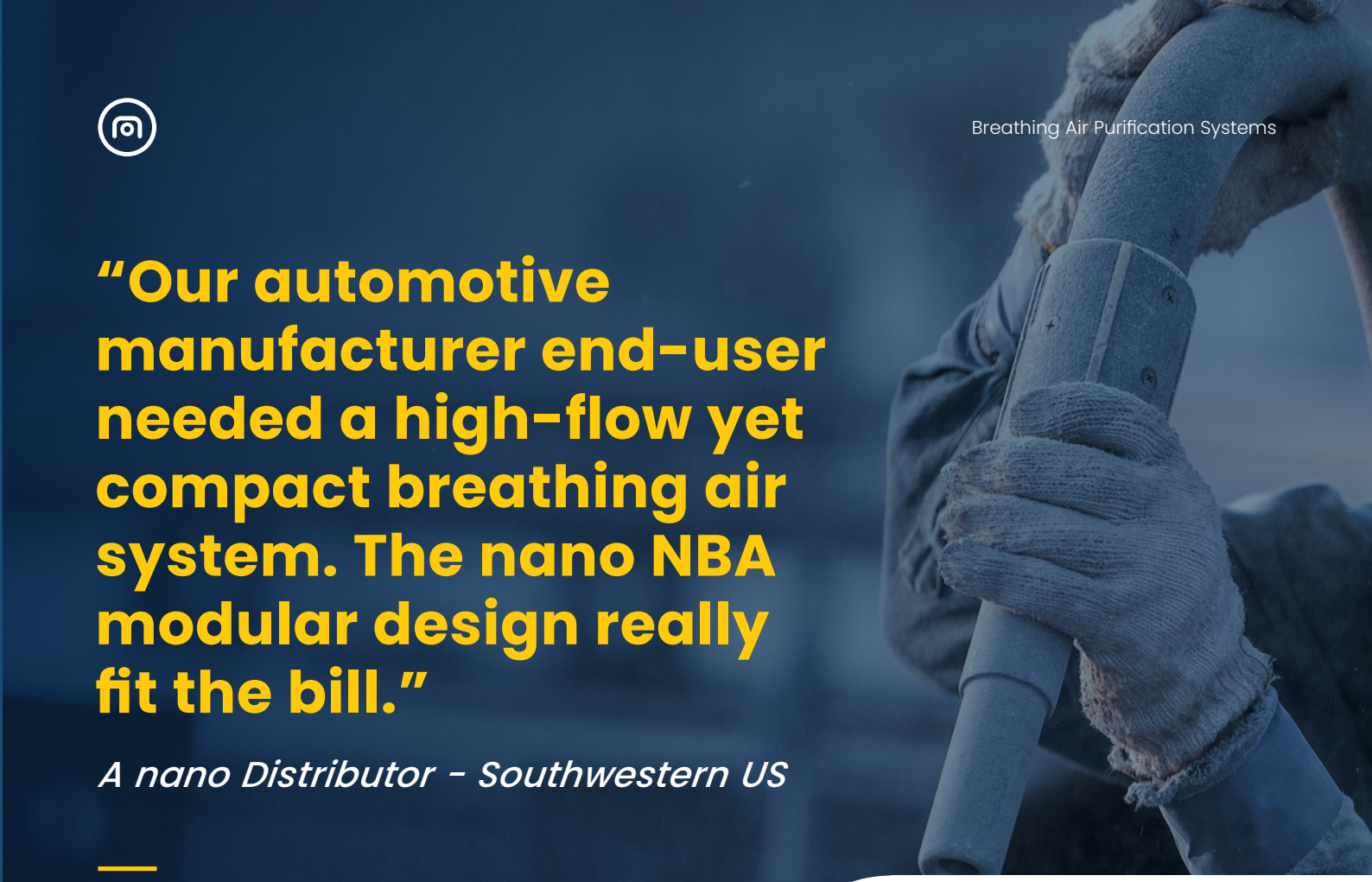
Breathing Air Purification Systems

FLOW CAPACITY: 13 to 1101 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.

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

With nano’s range of NBA 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.
- Carbon monoxide (CO) and carbon dioxide (CO_2) reduction to applicable standards, because nothing matters more than the air you breathe.

Global Standards

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

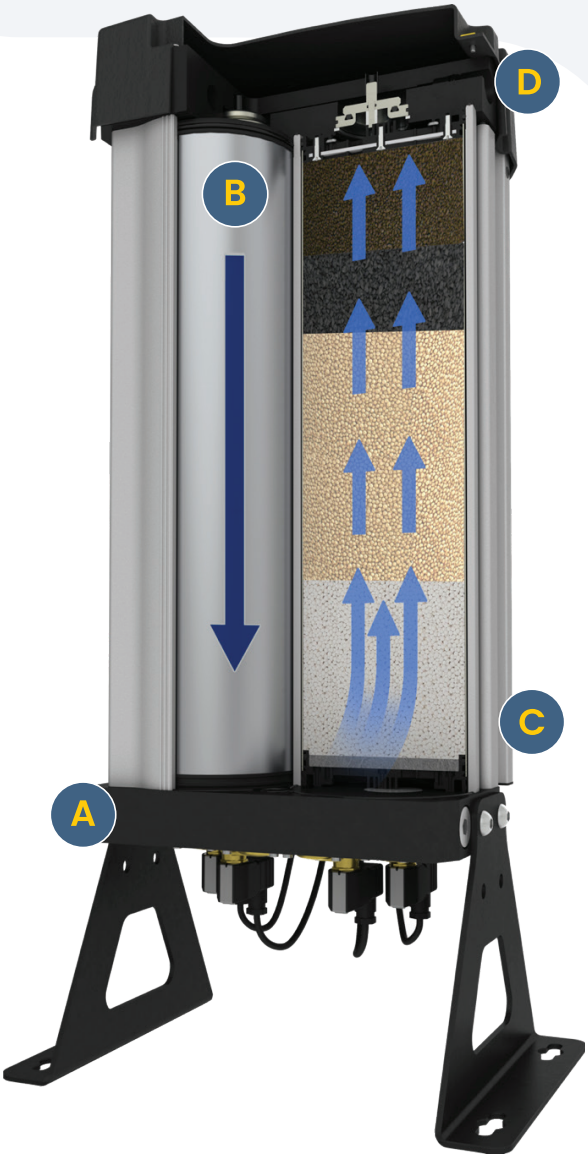
STANDARD	UK & EUROPE	UNITED STATES	CANADA
Standard	EN12021	CGA 7.1 OSHA Grade D	CSA Z180.1-13
Maximum dewpoint	-31°C	Varies by application	5°C below lowest system temperature
Maximum oil content	0.01 mg/m^3	5 mg/m^3	1 mg/m^3
Odour & taste	No pronounced odour	No pronounced odour	No pronounced odour
Allowable O_2 range	21% ±1%	19.5 to 23.5%	20 to 22%
Maximum CO level	< 5 ppm	10 ppm	< 5 ppm
Maximum CO_2 level	< 500 ppm	1000 ppm	< 600 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 odourless, 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 $D^1|D^2|D^3$ modular desiccant 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°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

Modular Systems

Modular systems contain 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 (optional)
- Tower pressure gauges
- Dew point demand switching energy savings (optional)

Accessories & Options

Customise 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.

Powered by nTech (D^2 & D^3)

Intuative. Reliable. Connected. nTech 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. Despite the small display size, the dynamic information display cycles through all relevant operational data meaning no navigation is required to view real time data. Connect nTech to a BMS and monitor product operational data (optional plug-in module required).

Benefits

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

Product Specifications

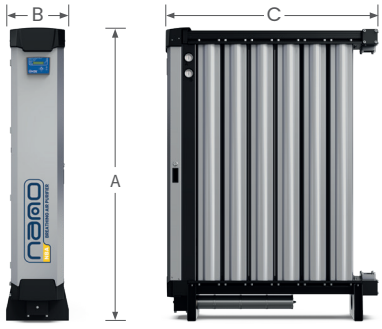
Model	Inlet Connection		Outlet Connection (s)		Flow Rate Nm³/h		Dimensions (mm)			Approx. Weight
	Size	Type	Size	Type	Inlet	Outlet	A	B	C	kg
Modular Breathing Air Purifier Systems										
NBA 030	8mm	PTC	8mm	PTC	13	10	649	263	220	12
NBA 040	8mm	PTC	8mm	PTC	20	15	873	263	280	16
NBA 050	12mm	PTC	12mm	PTC	32	24	1193	263	280	20
NBA 070N	1"	BSPP	1"	BSPP	59	44	762	426	283	40
NBA 090N	1"	BSPP	1"	BSPP	93	70	914	426	283	54
NBA 110N	1"	BSPP	1"	BSPP	148	110	1245	426	283	78
NBA 120N	1"	BSPP	1"	BSPP	183	138	1499	426	283	95
NBA 2110N	2"	BSPP	2"	BSPP	292	219	1288	400	619	166
NBA 2120N	2"	BSPP	2"	BSPP	367	275	1538	400	619	200
NBA 3120N	2"	BSPP	2"	BSPP	550	413	1538	400	787	272
NBA 4120N	2 ½"	BSPP	2 ½"	BSPP	734	550	1538	400	955	363
NBA 6120N	2 ½"	BSPP	2 ½"	BSPP	1101	826	1538	400	1291	524

Specifications	NBA 030 to NBA 120N	NBA 2110N to NBA 6120N
Operating pressure range (barg)	6 to 16	6 to 10
Recommended operating temperature range (°C)	1.5 to 30	1.5 to 30
Recommended air inlet quality	class 2	class 2
Design operating temperature range (°C)	1.5 to 30	1.5 to 30
Power supply requirements	110-240V AC 50/60Hz	110-240V AC 50/60Hz
Power rating	25W (NBA 030-050) 35W (NBA 070N-120N)	35W
Performance (2)		
Maximum water content (°C) (pdp)	-31	-31
Maximum oil content (mg/m³)	0.01	0.01
Odour + taste	none	none
O_2 range	21% ± 1%	21% ± 1%
Maximum CO content (ppm)	< 5	< 5
Maximum CO_2 content (ppm)	<500	<500

Pressure Correction Factors (3)											
Inlet air pressure (barg)	6	7	8	9	10	11	12	13	14	15	16
Correction factor	0.88	1.00	1.13	1.25	1.38	1.5	1.63	1.75	1.88	2.01	2.13

Temperature Correction Factors (3)				
Inlet air temperature (°C)	15	20	25	30
Correction factor	1.00	1.00	0.90	0.90

NBA 030 to NBA 110N



NBA 2110N to NBA 6120N

(1) NBA 030 and 040 have 8mm push to connect adapters and NBA 050 has 12mm on the 3/8" inlet and outlet. All other models have BSPP threaded connections.
(2) Air quality to BS EN 12021.2014
(3) To be used as a rough guide only. All applications should be confirmed by nano. Contact sales_uk@nano-purification.com.

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