

# Breathing and Medical Air Purification Packages



## The need for clean, pure, compressed breathing air

The ambient air that enters the compressor in a compressed air system can be loaded with impurities such as particles, liquids (oil and water) and harmful gases such as carbon monoxide. During the compression process, this level of contamination may be further increased in the air stream and therefore without suitable treatment can pose severe health risks if it is used for breathing air in medical and industrial applications.

To safeguard the health of users of breathing and medical air, regulatory standards have been adopted worldwide to define the quality of breathing air that is required.

## The Solution

To ensure that breathing air is consistently delivered to a high level of purity from a compressed air system, Walker Filtration has designed a range of breathing air packages which comply with international breathing and medical air standards.

A major feature of the package is the capability to control carbon monoxide, which is one of the most common life threatening gases.

## Key Features / Benefits

### Designed to comply with international breathing and medical air standards

This range of breathing and medical air purification packages conform to international breathing air standards and the European Pharmacopoeia medical air standard.

### Flexible solution

A standard range of breathing air packages from 42 Nm<sup>3</sup>/hr (25 SCFM) – 297 Nm<sup>3</sup>/hr (175 SCFM).

Larger flow capacities and duplex systems are available upon request.

### Simple to install

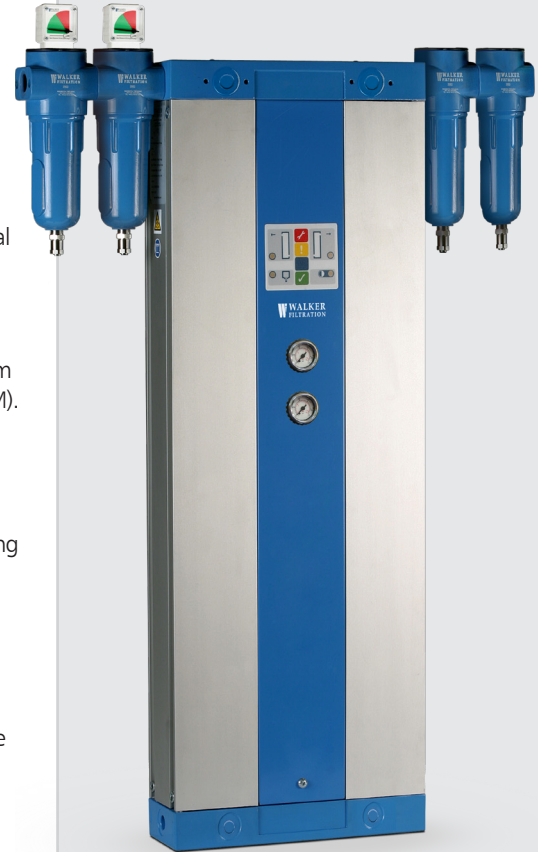
Compact integrated design enables the breathing air packages to be installed in confined areas.

### Optimised performance

The desiccant based purifier utilised within the package is electronically controlled and equipped with a remote alarm monitoring function. In addition, the service status can be monitored using the built-in LED display.

### Easy and efficient servicing

Pureflow desiccant and catalyst purifiers are both cartridge based which enables simple, time efficient replacement when compared to traditional loose filled vessels.



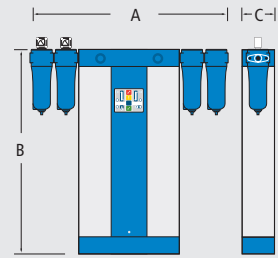
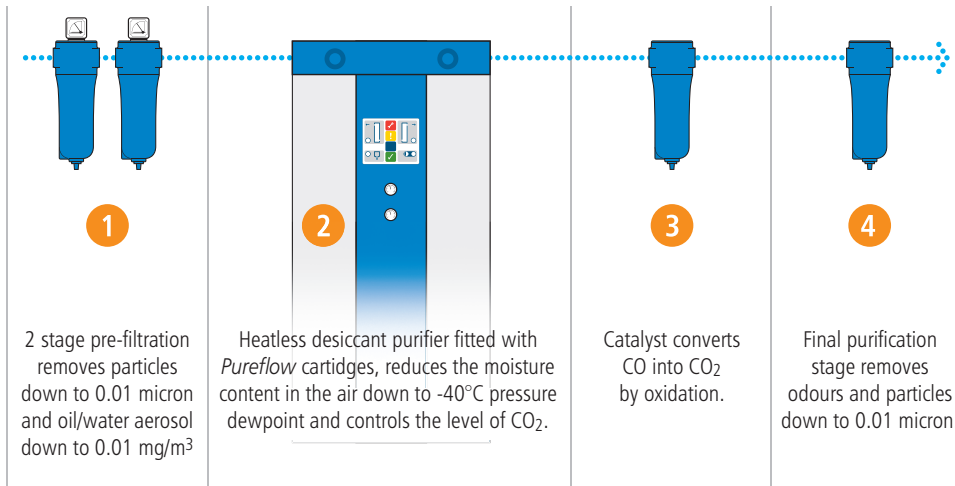
## International Breathing and Medical Air Standards

Component	Europe EN 12021:1999	Canada CSA Z180.1-00	Australia AS/NZS 1715:1994	European Pharmacopoeia (Air for Medical Use)	Walker Filtration BA purification packages
Nitrogen	Not specified	78 – 80%	Not specified	Not specified	
Oxygen Level	21% (±1)	20 – 22%	19.5 – 22%	20.9% (±1)	
Carbon Monoxide	15 ppm	5 ppm	10 ppm	5 ppm	< 5 ppm
Carbon Dioxide	500 ppm	500 ppm	800 ppm	500 ppm	< 500 ppm
Pressure dewpoint	5°C (41°F) below lowest ambient temperature	5°C (41°F) below lowest ambient temperature	100 mg/m <sup>3</sup>	67 ppm - 870 ppm limit for compressed air manufactured on site (-46°C atmospheric dewpoint)	16 ppm (@ 7 barg) (-57°C atmospheric dewpoint)
Oil/lubricant	0.5 mg/m <sup>3</sup>	1 mg/m <sup>3</sup>	1 mg/m <sup>3</sup>	0.1 mg/m <sup>3</sup>	0.003 mg/m <sup>3</sup>
Sulphur Dioxide	Not specified	Not specified	Not specified	1 ppm	
Nitrogen Oxides	Not specified	Not specified	Not specified	2 ppm	
Odours	Free	Free	Free	Not specified	
Methane	Not specified	5 ppm	Not specified	Not specified	
Volatile non-methane hydrocarbons	Not specified	5 ppm	Not specified	Not specified	
Volatile halogenated hydrocarbons	Not specified	5 ppm	Not specified	Not specified	

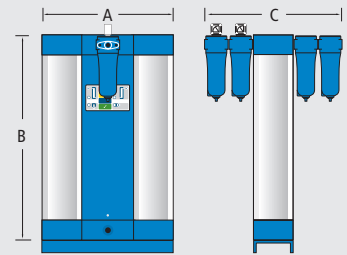


# Technical Specification

## Purification Process



BA025 to BA035



BA045 to BA175

Maximum operating pressure	16 barg	232 psig
Minimum operating pressure	4 barg	58 psig
Maximum recommended inlet temperature	50 C	122 F
Minimum inlet temperature	1.5°C	35°F
Power Supply	12VDC to 24VDC	100VAC to 240VAC

### flow rates @ 7 barg (100 psig)

model	pipe size	inlet flow rate		outlet flow rate		dimensions (mm)		
		Nm <sup>3</sup> /h	SCFM	Nm <sup>3</sup> /h	SCFM	A	B	C
BA 025	3/8	42	25	34	20	545	1045	92
BA 035	3/8	59	35	48	28	545	1440	92
BA 045	3/4	76	45	61	36	520	660	525
BA 055	3/4	93	55	75	44	520	760	525
BA 065	3/4	110	65	88	52	520	860	525
BA 085	1	144	85	116	68	520	1060	525
BA 105	1	178	105	143	84	520	1370	525
BA 135	1	229	135	184	108	520	1570	525
BA 175	1	297	175	238	140	520	1970	525

### pressure correction factors

Operating pressure barg (psig)	4 (58)	5 (72)	6 (87)	7 (100)	8 (115)	10 (145)	12 (174)	14 (203)	16 (232)
Correction factor	0.62	0.75	0.87	1.00	1.12	1.37	1.62	1.87	2.12

for maximum flow rate, multiply model flow rate by the correction factor corresponding to the pressure

### technical notes

- Breathing and medical air must be installed and maintained in accordance with local regulations and standards.