MBS SERIES
BREATHING AIR SYSTEM

mikropor

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Manufacturing Forward

mikropor

Mikropor began its journey in 1987 with a passion to create "Tomorrow's Technology" and has become one of the leading manufacturers of atmospheric air filtration solutions and compressed air treatment systems for a variety of industries.

By closely following the latest developments in technology, Mikropor's "Best in Class" products and solutions are appreciated by customers in more than 150 countries.

The company's sustainable growth has been provided by its passion for innovation and commitment to quality, as well as its dedication to technology. Mikropor is an environmentally conscious company that values people, while developing products that extend the needs and expectations of customers.

With this mission, Mikropor continues to become one of the most recognized brands in the world by expanding its global penetration in the field of technological filtration and contributes to a healthier planet.

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High-quality compressed air is very important for many industries, it has a vital role in breathing air applications. Mikropor breathing air purifiers are designed to eliminate hazardous substances in the air conforming to related standards. (Mikropor breathing air purifiers are designed to protection against a range of contaminants that may be present in a compressed air fed breathing air system.)

Why Should Purify Compressed Air?

In systems using compressed air, the ambient air is fed to the compressor. Compressed ambient air will remain in the system as long as the incoming air polluting components are not removed.

Where Would You Use Breathing Air Purifier?

Hazardous air pollutants can be released to environment with different applications in different industries. In these industries it is important to eliminate these air pollutants.

Application Areas

- Shot-blasting
- Spray painting
- Tunnelling
- Confined spaces
- Welding
- Asbestos removal
- Tank cleaning
- Pharmaceutical manufacturing
- High-pressure cylinder filling
- Hospitals

International Breathing Air Standards

The atmospheric air that we breathe is composed of approximately 78 percent nitrogen, 21 percent oxygen, 1 percent argon, and many other trace components. Standards including the allowable limits of the specification for each component for breathing air.

Mikropor production breathing air purifiers comply with international standards.

- OHSA Grade D
- NFPA-99
- CSA Z180.1-00
- CGA G7.1-1997
- EN 12021
- BS 4275
- European Pharmacopoeia
- EN ISO 7396-1:2016
- ISO 14971

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Working Principle

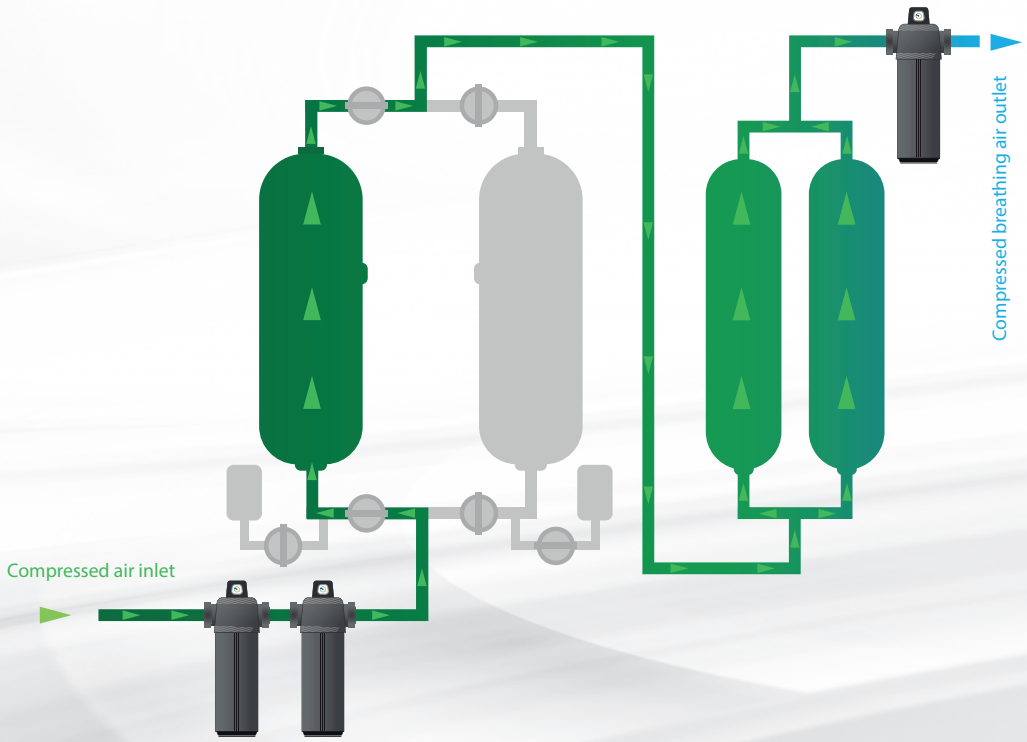
1. Filters: pre- and fine-coalescing filters remove free water and particles down to 1 micron and eliminate oil droplets down to 0.01 ppm

2. Desiccant Dryer: A heatless desiccant dryer reduces moisture content to a pressure dew point of -40°C / -40°F, removing any risk of condensation, bacteria and mold growth.

3. Catalyst Section: A catalyst then converts CO into CO_2. Down to CO<5 ppm

4. Activated Carbon: remove oil vapour and odours down to 0.003 ppm

5. Particulate Filter: A bacterial filter at the outlet removes bacteria and particles that may have been introduced in the desiccant stages down to 0.01 micron.



Desiccants and Catalysts for Removal Impurities

Component	Danger	Desiccant/Catalyst
Water/Moisture	Moisture inside compressed breathing air can freeze, causing damage to the cylinder or regulator equipment. Can degrade the catalyst system filter system, reduce the lifetime of the Activated Carbon.	Activated Alumina & Molecular sieve
Hydrocarbons, Oils, and Odor	Carcinogenic and the oils may build up over time in the lungs.	Activated Carbon
Carbon Monoxide	Binds with hemoglobin in the body and disrupts the flow of oxygen to the body, resulting in death at high exposure.	H-OX Catalyst

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Technical Specifications

Model	Capacity		Connection Size	Mist Eliminator Model	Particle (T) Filter Model	T Filter Element	Max. Working Pressure (bar)	Voltage
	(m^3/h)	(scfm)						
MBS 5	10	5	1/2"	G-ELM-100	GON-35	MON35	16	115-240V/50-60Hz
MBS 10	20	10	1/2"	G-ELM-100	GON-35	MON35	16	115-240V/50-60Hz
MBS 15	25	15	1/2"	G-ELM-100	GON-35	MON35	16	115-240V/50-60Hz
MBS 20	35	20	1/2"	G-ELM-100	GON-55	MON55	16	115-240V/50-60Hz
MBS 25	45	25	1/2"	G-ELM-150	GON-55	MON55	16	115-240V/50-60Hz
MBS 30	50	30	1/2"	G-ELM-200	GON-55	MON55	16	115-240V/50-60Hz
MBS 40	70	40	1 1/2"	G-ELM-250	GON-300	MON300	16	115-240V/50-60Hz
MBS 50	85	50	1 1/2"	G-ELM-300	GON-300	MON300	16	115-240V/50-60Hz
MBS 60	100	60	1 1/2"	G-ELM-500	GON-300	MON300	16	115-240V/50-60Hz
MBS 75	130	75	1 1/2"	G-ELM-600	GON-300	MON300	16	115-240V/50-60Hz
MBS 100	170	100	1 1/2"	G-ELM-851	GON-300	MON300	16	115-240V/50-60Hz
MBS 120	200	120	1 1/2"	G-ELM-1210	GON-300	MON300	16	115-240V/50-60Hz
MBS 180	300	180	1 1/2"	ELM-300	GON-300	MON300	16	115-240V/50-60Hz
MBS 240	400	240	1 1/2"	ELM-300	GON-500	MON500	16	115-240V/50-60Hz
MBS 250	440	250	1 1/2"	ELM-300	GON-500	MON500	16	115-240V/50-60Hz
MBS 300	575	300	1 1/2"	ELM-600	GON-600	MON600	16	115-240V/50-60Hz
MBS 400	680	400	2"	ELM-600	GON-800	MON800	16	115-240V/50-60Hz
MBS 500	850	500	2"	ELM-600	GON-1000	MON1000	16	115-240V/50-60Hz
MBS 600	1000	600	2"	ELM-600	GON-1200	MON1200	16	115-240V/50-60Hz
MBS 700	1250	700	DN80	ELM-800	GON-HC-1550	MONHC1550	20	115-240V/50-60Hz
MBS 800	1500	800	DN80	ELM-1200	GON-HC-1550	MONHC1550	20	115-240V/50-60Hz
MBS 1000	1800	1000	DN80	ELM-1200	GON-HC-2000	MONHC2000	20	115-240V/50-60Hz
MBS 1250	2200	1250	DN80	ELM-1600	GON-HC-2700	MONHC2700	20	115-240V/50-60Hz

Given flows are at 7 barg pressure with reference to 20°C and 1 bar atmospheric air suction as per ISO7183.

Correction Factor for MBS

Pressure (bar)	F1	Inlet Temperature (°C)	F2
4.5	0.69	20	1
5	0.75	25	1
6	0.88	30	1
7	1	35	1
8	1.12	40	0.80
9	1.25	45	0.73
10	1.25	50	0.59
11	1.50	-	-
12	1.62	-	-
13	1.74	-	-
14	1.87	-	-
15	1.99	-	-
16	2.11	-	-

Contaminants	BS EN 12021:2014	European Pharmacopoeia	OHSA Grade D
Water	-	67 ppm (-45°C atmospheric dew point)	-
Oil/Lubricant	<0.5 mg/m^3	0.1 mg/m^3	5 mg/m^3
Carbon Dioxide (CO_2)	<500 ppm	<500 ppm	<1000 ppm
Carbon Monoxide (CO)	≤ 15 ppm	<5 ppm	<10 ppm
Nitrogen Oxides ($NO+NO_2$)	-	<2 ppm	-
Sulphur Dioxide (SO_2)	-	<1 ppm	-
Oxygen (O_2)	21 ±1%	21±1	-
Taste and Odor	-	Free	-

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