



MBS SERIES BREATHING AIR SYSTEM

Manufacturing Forward





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.

www.mikroporamerica.com

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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.

- OSHA 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

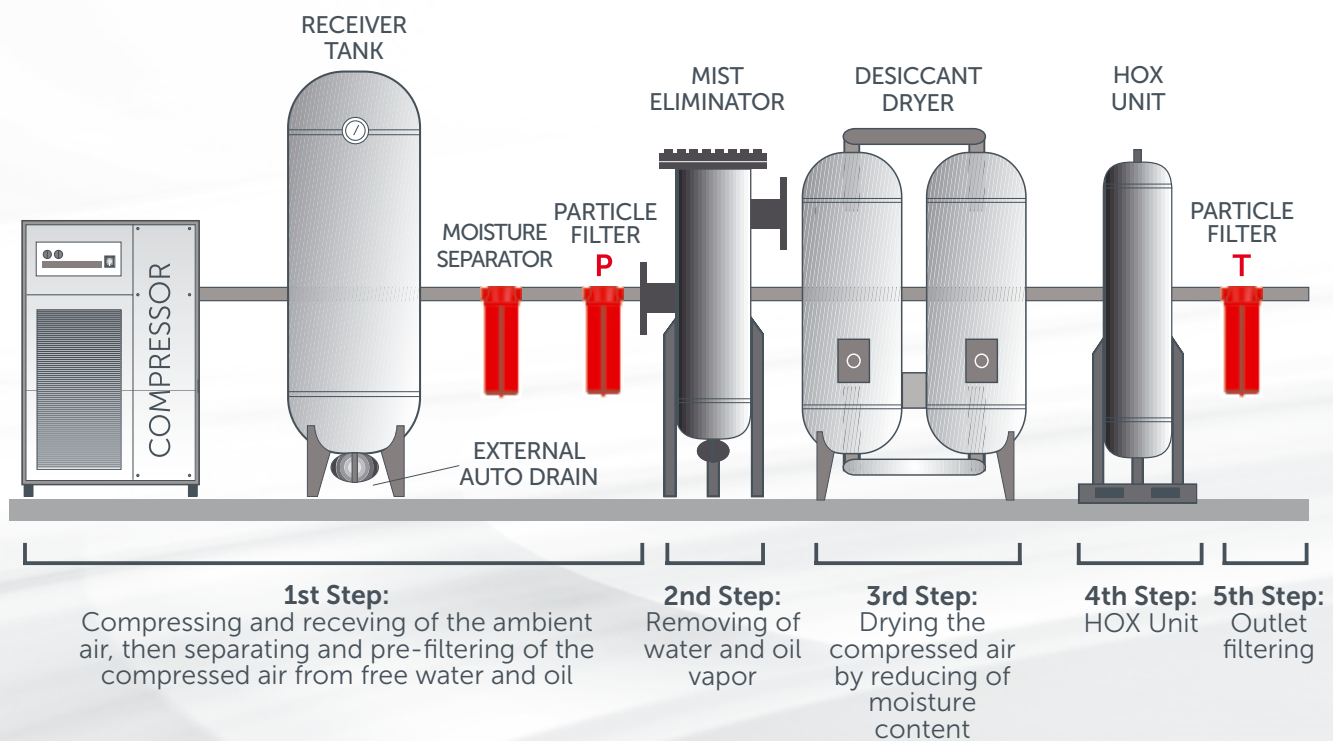
1st Step: The liquid water and oil in the compressed air are separated with help of the moisture separator. The particles (<5 micron) in the compressed air are eliminated by particle filter.

2nd Step: Removing water and oil vapour down to 0,01 mg/m³ with Mikropor Mist Eliminator

3rd Step: Reducing with a heatless desiccant dryer of moisture content to a pressure dew point of -40°C / -40°F, removing any risk of condensation, bacteria, and mold growth.

4th Step: In HOX Unit, oil vapour and odour are eliminated down to 0,003 ppm, and CO gas in the air is converted to CO₂ in the unit.

5th Step: Removal of the remaining dust particles.



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 (NPT)	Mist Eliminator Model	Particle Filter (T) Model	T Filter Element	Max. Working Press. (psig)	Voltage	
	(m³/h)	(scfm)							
MBS 5	10	5	1/2"	G-ELM100-US	GON-US-20	MON-US-20	230	115-240V/50-60Hz	Modular
MBS 10	20	10	1/2"	G-ELM100-US	GON-US-20	MON-US-20	230	115-240V/50-60Hz	
MBS 15	25	15	1/2"	G-ELM100-US	GON-US-20	MON-US-20	230	115-240V/50-60Hz	
MBS 20	35	20	1/2"	G-ELM100-US	GON-US-20	MON-US-20	230	115-240V/50-60Hz	
MBS 25	45	25	1/2"	G-ELM150-US	GON-US-32	MON-US-32	230	115-240V/50-60Hz	
MBS 30	50	30	1/2"	G-ELM200-US	GON-US-32	MON-US-32	230	115-240V/50-60Hz	
MBS 40	70	40	1 1/2"	G-ELM250-US	GON-US-175	MON-US-175	230	115-240V/50-60Hz	
MBS 50	85	50	1 1/2"	G-ELM300-US	GON-US-175	MON-US-175	230	115-240V/50-60Hz	
MBS 60	100	60	1 1/2"	G-ELM500-US	GON-US-175	MON-US-175	230	115-240V/50-60Hz	
MBS 75	130	75	1 1/2"	G-ELM600-US	GON-US-175	MON-US-175	230	115-240V/50-60Hz	
MBS 100	170	100	1 1/2"	G-ELM851-US	GON-US-175	MON-US-175	230	115-240V/50-60Hz	
MBS 120	200	120	1 1/2"	G-ELM1210-US	GON-US-175	MON-US-175	230	115-240V/50-60Hz	
MBS 180	300	180	1 1/2"	ELM 300-US	GON-US-175	MON-US-175	230	115-240V/50-60Hz	
MBS 240	400	240	1 1/2"	ELM 300-US	GON-US-235	MON-US-235	230	115-240V/50-60Hz	Twin Tower
MBS 250	440	250	1 1/2"	ELM 300-US	GON-US-295	MON-US-295	230	115-240V/50-60Hz	
MBS 300	575	300	1 1/2"	ELM 600-US	GON-US-350	MON-US-350	230	115-240V/50-60Hz	
MBS 400	680	400	2"	ELM 600-US	GON-US-470	MON-US-470	230	115-240V/50-60Hz	
MBS 500	850	500	2"	ELM 600-US	GON-US-590	MON-US-590	230	115-240V/50-60Hz	
MBS 600	1000	600	2"	ELM 600-US	GON-US-590	MON-US-590	230	115-240V/50-60Hz	
MBS 700	1250	700	3"	ELM 800-US	GON-HC-US-910	MON-US-910	290	115-240V/50-60Hz	
MBS 800	1500	800	3"	ELM 1200-US	GON-HC-US-910	MON-US-910	290	115-240V/50-60Hz	
MBS 1000	1800	1000	3"	ELM 1200-US	GON-HC-US-1175	MON-US-1175	290	115-240V/50-60Hz	
MBS 1250	2200	1250	3"	ELM 1600-US	GON-HC-US-1600	MON-US-1600	290	115-240V/50-60Hz	

Given flows are at 100 psig pressure with reference to 68°F and 14 psi atmospheric air suction as per ISO7183.

Correction Factor for MBS

Inlet Temperature			Pressure			Contaminants	BS EN 12021:2014	European Pharmacopoeia	OHS A Grade D
(°C)	(°F)	F1	(barg)	(psig)	F2				
20	68	1	4,5	65	0,69	Water	-	67 ppm (-49°F atmospheric dew point)	-
25	77	1	5	73	0,75				
30	86	1	6	87	0,88				
35	95	1	7	100	1	Oil/Lubricant	<0,5 ppm	0,1 ppm	5 ppm
40	104	0,8	8	116	1,12	Carbon Dioxide (CO ₂)	<500 ppm	<500 ppm	<1000 ppm
45	113	0,73	9	131	1,25	Carbon Monoxide (CO)	≤ 15 ppm	<5 ppm	<10 ppm
50	122	0,59	10	145	1,25	Nitrogen Oxides (NO+NO ₂)	-	<2 ppm	-
-	-	-	11	160	1,5	Sulphur Dioxide (SO ₂)	-	<1 ppm	-
-	-	-	12	174	1,62	Oxygen (O ₂)	21 ±1%	21±1	-
-	-	-	13	189	1,74	Taste and Odor	-	Free	-
-	-	-	14	203	1,87				
-	-	-	15	218	1,99				
-	-	-	16	232	2,11				



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