



MOG SERIES PSA OXYGEN GENERATORS

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.

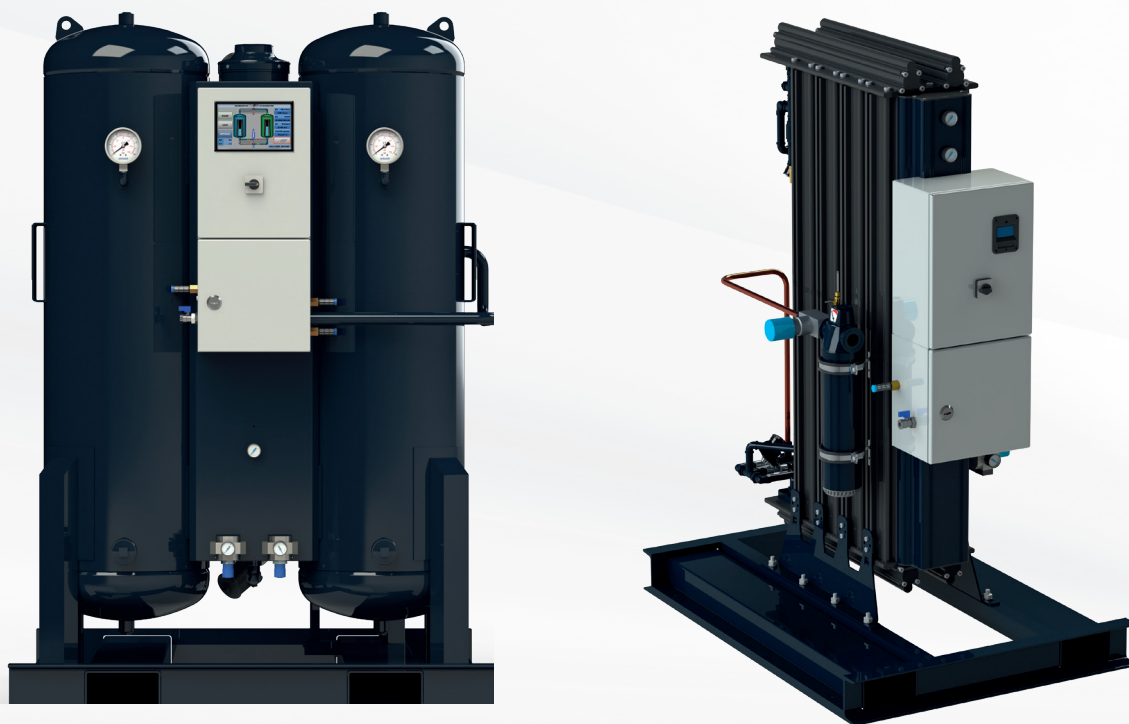
By closely following the latest developments in technology, Mikropor’s “Best in Class” products and solutions are appreciated by customers in more than 100 countries.

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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(Capacity 0.12 SCFM - 142 SCFM; Purity 90-95%)

Mikropor Oxygen Generators are a Pressure Swing Adsorption (PSA) system supplying pure oxygen to the airline. Zeolite Molecular Sieve (ZMS), an effective adsorbent, separates oxygen and other molecules like nitrogen gas and water molecules in the dry air. Non-oxygen molecules are adsorbed by ZMS under constant pressure, so oxygen is produced.

Working Principle

Mikropor Oxygen Generators are two-bed PSA systems filled with ZMS adsorbers. Including filters, a pressure regulator, valves and assemblies; the oxygen generation process is mainly the separation of oxygen and nitrogen from the clean and dry air. In a bed, zeolite adsorbs non-oxygen molecules such as nitrogen gas and hydrocarbon molecules in the dry air and, at that moment, the regeneration cycle begins in an other bed. Pure oxygen is stored in the special buffer tank. The system provides to the user uninterrupted oxygen up to 95% purity.

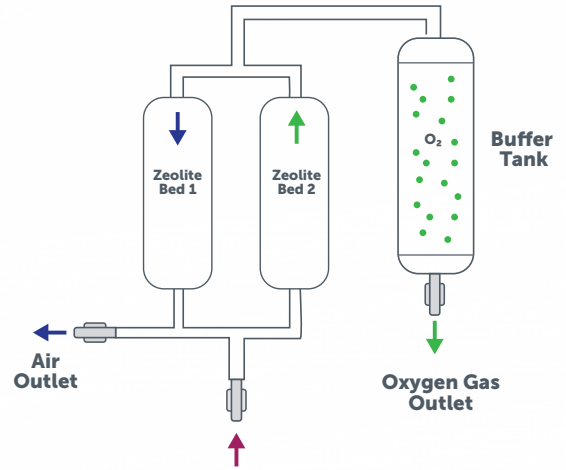


In order to achieve high purity oxygen production special zeolite granules are used. Zeolite, a microporous aluminosilicate mineral, is used as a molecular sieve and as an adsorbent of a wide variety of molecules.

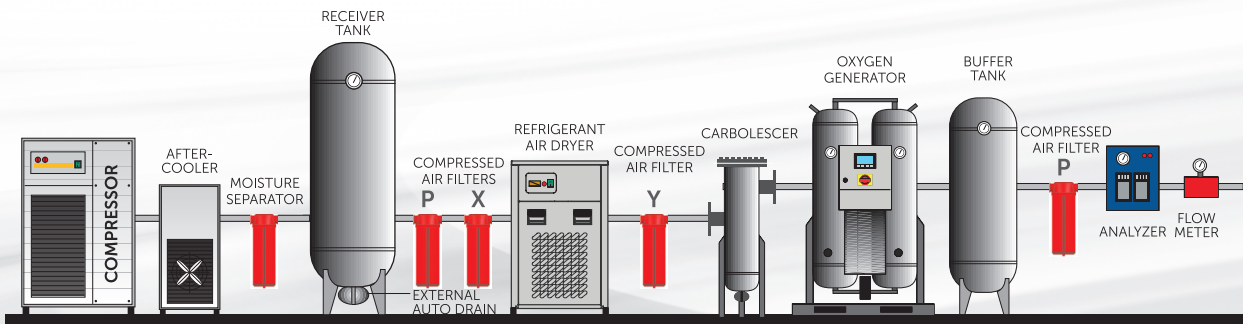
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Oxygen generation by utilising PSA technology follows these steps:

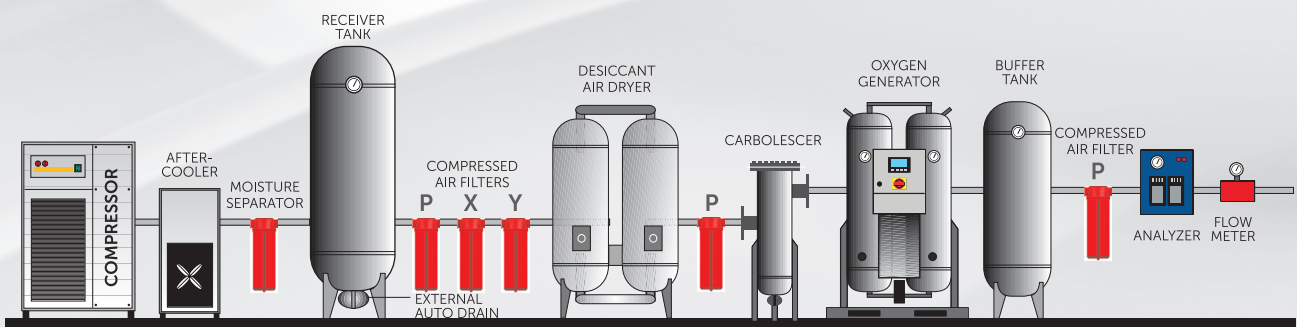
- **Pressurization:** Air is compressed to the tank to get the desired level of oxygen.
- **Adsorption:** Zeolite molecular sieve lets the oxygen flows and holds the other molecules at high pressure.
- **Regeneration:** The pressure of the tank is reduced. In that way, saturated zeolite molecules can be reused again.
- **Pressure Equalization:** After the regeneration cycle pressure valve is opened and pressure equalization of the two tanks is started to minimize the energy loss.



STANDARD AIR LINE DESIGN



PREMIUM AIR LINE DESIGN



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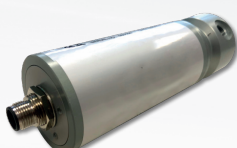
Standard Features

- Oxygen Tanks
- Silencer
- HMI Color Touch Screen PLC
- Pressure Transmitter
- Particle Filter*
- Tank Manometers
- ECO Mode
- Valve Control Regulator
- Piston Valves
- Carbolescer
- Flowmeter
- Oxygen Analyzer

* Replace filter elements periodically, and get normal service for the compressor.



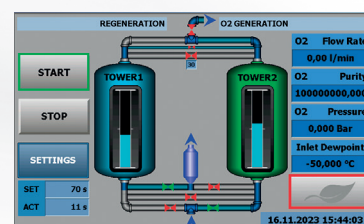
Long Life Valve



Oxygen Analyzer



Flow Meter



Touch Screen PLC

Advantages

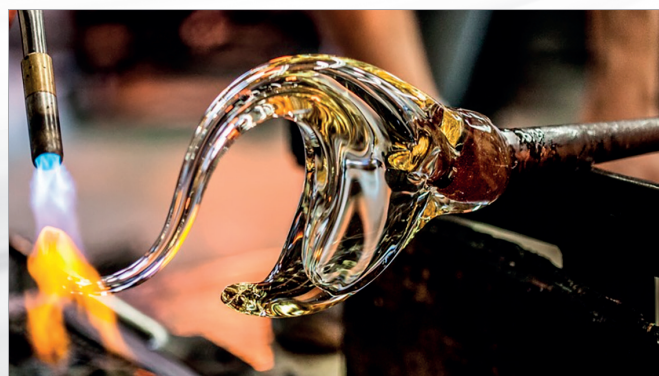
- On-demand oxygen gas production at high-capacity and purity values (90-95%) upon customer request
- Quick starting
- Highly minimized noise levels at the outlet
- A long lifetime of the special zeolite granules
- Minimum maintenance cost

Optional Features

- Mini PLC
- Dew Point Sensor
- Oil Indicator

Applications

- Medical Industry
- Metal Industry
- Ozone Systems
- Glass Industry
- Mining Process
- Laboratories
- Fishing Farms
- Paper Industry
- Industrial Ovens



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Correction Factor

To determine the oxygen generator model in the reference conditions, divide the oxygen flow rate to the related factors value.

$$\text{Correct Model} = (\text{Oxygen Flow Rate}) / (F1) / (F2)$$

Inlet Temp. (°F)	F1	Inlet Pressure (psig)	F2
50	1	87	1
59	1	94	1
68	1	100	1
77	1	108	1
86	0.91	115	1.05
95	0.82	123	1.11
104	0.74	130	1.17
113	0.6	138	1.25
—	—	145	1.33

NOMINAL CONDITIONS

Ambient Temperature	68°F
Ambient Pressure	15 psig
Inlet Temperature	68°F
Inlet Pressure	108 psig
Unit Outlet Oxygen Purity	90-95%
Compressed Air Inlet Quality	ISO 8573-1Class1-4-1
Max. Compressed Air Inlet Temperature	113°F
Max. Ambient Temperature	113°F
Min. Compressed Air Inlet Temperature	41°F
Min. Ambient Temperature	32°F
Min. Compressed Air Inlet Pressure	58 psig
Max. Compressed Air Inlet Pressure	145 psig
Pressure Dew Point	≤38°F

Technical Specifications

Model	Free Oxygen Delivery @ Following Purity Level (scfm)			Carbolescer Models	Connection Sizes		Recommended Buffer Tank Volume (gal)	Particle Filter Models
	90%	93%	95%		Air Inlet	Oxygen Outlet	For 90% Purity	
MOG-25-US	0.15	0.13	0.13	G- 100 ELM-C-US	1/2" NPT	1/2" NPT	1	GON-US-20
MOG-40-US	0.25	0.22	0.21	G- 100 ELM-C-US	1/2" NPT	1/2" NPT	2	GON-US-20
MOG-70-US	0.45	0.40	0.38	G- 100 ELM-C-US	1/2" NPT	1/2" NPT	4	GON-US-20
MOG-120-US	0.76	0.68	0.64	G- 100 ELM-C-US	1/2" NPT	1/2" NPT	8	GON-US-20
MOG-140-US	0.92	0.82	0.77	G- 100 ELM-C-US	1/2" NPT	1/2" NPT	9	GON-US-20
MOG-175-US	1.15	1.03	0.96	G- 100 ELM-C-US	1/2" NPT	1/2" NPT	11	GON-US-20
MOG-240-US	1.53	1.37	1.28	G- 100 ELM-C-US	1/2" NPT	1/2" NPT	15	GON-US-20
MOG-380-US	2.46	2.20	2.06	G- 200 ELM-C-US	1" NPT	1/2" NPT	25	GON-US-20
MOG-530-US	3.43	3.07	2.87	G- 250 ELM-C-US	1" NPT	1/2" NPT	34	GON-US-20
MOG-660-US	4.31	3.86	3.61	G- 300 ELM-C-US	1 1/2" NPT	1/2" NPT	43	GON-US-20
MOG-800-US	5.28	4.72	4.42	G- 500 ELM-C-US	1 1/2" NPT	1/2" NPT	53	GON-US-20
MOG-970-US	6.34	5.67	5.30	G- 600 ELM-C-US	1 1/2" NPT	1/2" NPT	63	GON-US-20
MOG-1210-US	7.92	7.09	6.63	G- 850 ELM-C-US	1 1/2" NPT	1/2" NPT	79	GON-US-20
MOG-1900-US	12.46	11.14	10.42	ELM- 150 -C-US	2" FLG	1/2" NPT	124	GON-US-20
MOG-2310-US	15.15	13.55	12.67	ELM- 300 -C-US	2" FLG	1/2" NPT	151	GON-US-20
MOG-2850-US	18.51	16.56	15.49	ELM- 300 -C-US	2" FLG	1/2" NPT	184	GON-US-20
MOG-3810-US	25.03	22.39	20.94	ELM- 300 -C-US	2" FLG	1/2" NPT	249	GON-US-32
MOG-4440-US	29.19	26.11	24.42	ELM- 600 -C-US	2" FLG	1/2" NPT	291	GON-US-32
MOG-5350-US	35.00	31.30	29.28	ELM- 600 -C-US	2" FLG	1/2" NPT	348	GON-US-40
MOG-6570-US	43.17	38.60	36.11	ELM- 600 -C-US	2" FLG	1/2" NPT	430	GON-US-60
MOG-7700-US	50.59	45.24	42.32	ELM- 600 -C-US	2" FLG	1/2" NPT	504	GON-US-60
MOG-9050-US	59.33	53.05	49.63	ELM- 800 -C-US	3" FLG	3/4" NPT	591	GON-US-90
MOG-13200-US	86.68	77.51	72.51	ELM- 1200 -C-US	3" FLG	3/4" NPT	863	GON-US-90
MOG-15700-US	103.12	92.22	86.27	ELM- 1200 -C-US	3" FLG	3/4" NPT	1026	GON-US-130
MOG-17700-US	115.83	103.58	96.89	ELM- 1600 -C-US	3" FLG	1" NPT	1153	GON-US-130
MOG-21600-US	141.48	126.52	118.36	ELM- 1600 -C-US	3" FLG	1 1/2" NPT	1408	GON-US-175

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