



MWOS SERIES OIL-WATER SEPARATOR UNITS

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.

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A compressed air system can be considered as the fourth-biggest energy source after water, gas, and electricity. The efficient way of storing and transmitting energy makes compressed air usages highlighted. Oil is used in most compressed air systems to dissipate the heat of compression, lubricate rotors and rotor bearings, and seal the edge between the rotor and the compressor casing. For that reason, there is so much oil content in the drain of the compressor. In addition to oil, other contaminants are also included the water while the air is pressurized and produces compressor condensate. This condensate mixture is defined as a highly harmful industrial waste. One liter of oil can contaminate one million liters of water. For that reason, it is forbidden to drain this condensate without any oil removal system. Also, most of the countries put restrictive laws about the thresholds of oil content in the drains. Consequently, the separation of oil is a must for protecting the environment and for obeying the laws.

Mikropor MWOS Series Oil-Water Separator Units supply you to separate oil content in the drain according to ISO 14000 standards reliably and cost-effectively. Approximately 3000 to 500 ppm range of oil content can be decreased to 10 ppm. Also, it has a user-friendly installation and maintenance procedure that minimized the downtime of the machine.



Features

- Low carbon footprint
- Eco-friendly drain according to ISO 14000
- Low weight and easy installation
- The indicator that shows overload of the flow
- User-friendly maintenance procedure
- Ware resistant multiple inlet ports
- Oil storage box that obeys environmental regulation of oil collection (for MWOS-37 and above models)
- Filtering system that prevents particles to enter the system from the environment



Oil Types	Separator Compatibility
Mineral Oil	✓
Synthetic Oil	✓



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Working Principle of MWOS-11 Model

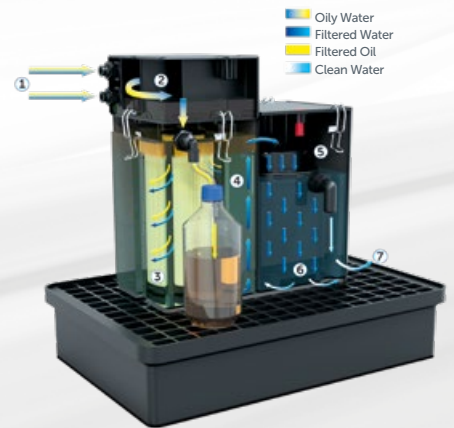
- MWOS-11 has been designed to separate and clean the oil-water condensate from the compressor system. The unit consists of inlet and outlet ports, special material, bulk oil removal shred, and anti-siphon venting port.
- The oily water entering from the inlet is degreased by the bulk oil removal shred and special material, respectively.
- The clean water accumulating inside the unit is discharged from the outlet port by passing through the discharge pipe accordance with the anti-siphon vent.

* Please note that the MWOS-11 Model Unit is a single-use product.



Working Principle of MWOS-37 and MWOS-55 Models

1. The condensate goes through the depressurization chamber to condensate liquid pressure reach the atmospheric level for protecting the Mikro-Sep from high pressure.
2. The condensate goes inside the Mikro-Sep (separator element) and most of the oil is removed in this step. In that part, the oil concentration is decreased to significant ranges. The filtered oil-water condensate is started to collect at a specific level at the outside of the Mikro-Sep. The water stays at the bottom of the box which is much cleaner due to the density differences between water and oil. At a specific level, oil continues to collect top of the liquid and drained safely through the oil outlet.
3. The gradually cleaned condensate is transferred to the bottom of the box and directed through a channel for another separation step.
4. The special Mikro-X-Tex material is reduced the remaining oil content from gradually cleaned oil-water condensate.
5. The consecutively purified oil-water mixture is finally passed through the Mikro-Carb unit that reduces the remaining oil concentration to below 10 ppm. The oil content of the liquid is approximately reached <10 ppm which is acceptable bylaws.
6. Lastly, the purified water is discharged from the MWOS unit and can be allowed to flow into the drains that complies fully with the legal standards.



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Working Principle of MWOS-110 to MWOS-250 Models

1. The condensate goes through the depressurization chamber to condensate liquid pressure to reach the atmospheric level to protect the components from high pressure.
2. Through solenoid valves in the unit, condensate is distributed to multiple separation units equally and respectively. The condensate goes inside the multiple Mikro-Seps (separator elements) and most of the oil is removed by the coalescing method in this step. In that part, the oil concentration is decreased to significant ranges. The separated oil-water condensate started to collect at a specific level outside of the Mikro-Sep. The water stays at the bottom of the liquid phase, which is much cleaner due to the density differences between water and oil. Oil continues to collect on top of the liquid at a specific level. After that, all of the oil is drained safely through the single oil outlet.
3. The gradually cleaned condensate is transferred to the bottom of the box and directed through a channel at the deepest point for another separation step.
4. The special Mikro-X-Tex material reduces the remaining oil content from gradually cleaned oil-water condensate by the adsorption method.
5. The consecutively purified oil-water mixture is finally passed through the Mikro-Carb unit which reduces the remaining oil concentration to below 10 ppm. The oil content of the liquid is approximately reached <10 ppm which is acceptable bylaws.
6. Lastly, the purified water is discharged from the single outlet port of the MWOS unit and can be allowed to flow into the drains that comply fully with the legal standards.



Technical Specifications

Model	Compressor Capacity (m ³ /min)	Oil Concentration at the Outlet of MWOS	Dimension*		
			Length (mm)	Width (mm)	Height (mm)
MWOS-11	1.7	< 10 ppm	140	139	246
MWOS-37	7	< 10 ppm	479	313	383
MWOS-55	11	< 10 ppm	492	316	487
MWOS-110	22	< 10 ppm	-	-	-
MWOS-160	33	< 10 ppm	-	-	-
MWOS-200	44	< 10 ppm	-	-	-
MWOS-250	55	< 10 ppm	-	-	-

* Reference Conditions: Air Inlet Temp. 25°C, Relative Air Humidity 60%

* The dimension data includes the accessories. Please contact the technical teams for more data.

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