Manufacturing Forward

MK-US-PRO SERIES
DIGITAL CYCLING - INTEGRATED FILTRATION

mikropor

www.mikroporamerica.com

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.

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Key Features

- 10 years warranty on Aluminum Heat Exchanger.
- Wide Range of Capacities: The MK-US-PRO series caters to diverse needs with models ranging from MK-US-PRO 10 to MK-US-PRO 5000, supporting air flow capacities from 10 scfm to 5000 scfm.
- Integrated Filtration
- Advanced, Digital Control System
- Comply with the ISO 7183 Standard
- Fully Hermetic and contains greenhouse gas covered by the Kyoto Protocol
- Low GWP Refrigerant, R513a (631)
- Electronic Zero Loss Drain (Optional for Monophase Units, Standard for Triphase Units)

Advantages

- New Technology, Aluminum Microchannel Refrigerant Condenser
- Low pressure drop ensures reduced compressor power consumption
- Quick start and reaction time provides additional production time
- Every dryer is specially designed with the right components to consume the lowest energy
- Highly energy efficient and environmentally friendly Next Generation R513a refrigerant is available across all models
- Fully hermetic design
- A state-of-the-art heat exchanger design provides the highest cost saving in the industry
- Pressure switches control the condenser's fan motor for saving energy and letting the system operate at desired conditions

Applications

Mikropor provides an entire range of products for filtration and air purification applications at a cost effective price.

Applications Include

Food production, dairies, breweries, clean conveying air, chemical plants, pure air and cleanroom technology, pharmaceutical industry, weaving machines, photo labs, paint spraying, powder coating, packaging, control and instrument air, sand and/or shot blasting, general air works, microchip production, optics, process air as well as many other markets.

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The MK-US-PRO Series Refrigerant Circuit and Insulation

MikroporRefrigeratedAirDryersare engineered to deliver superior performance by employing R513a, an environmentally responsible refrigerant that operates efficiently under both low and high temperature conditions. With low system pressure, the service life of the compressor is significantly extended. Mikropor's advanced design integrates oversized condensers, enhanced heat exchangers, and an exceptional no-loss insulation system, ensuring consistent dew point levels even under extreme ambient conditions. Mikropor Refrigerated Air Dryers offer the highest technology with its custom solutions.

Digi-Pro Digital Controller

- Digitaldewpointmonitoring
- Energy-saving mode display
- Periodic maintenance interval display
- Status report
- Hours run meter
- Fahrenheit and Celsius selection

ESD Digital Controller

- EnergySaving:Automatically shuts down and significantly reducing energy consumption
- Monitoring Capability
- Advanced Alarm Functions
- Troubleshooting Assistance
- Efficiency Optimization

Electrical Components Are Isolated from the Refrigeration Circuit

In Mikropor dryers, electrical wiring is physically separated from the refrigeration section, ensuring enhanced safety and ease of service. The electrical box is externally mounted and accessible without opening the dryer panels. This design eliminates the need to interfere with the refrigeration circuit during electrical maintenance, allowing for faster and safer service operations.

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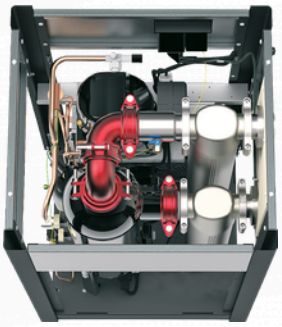
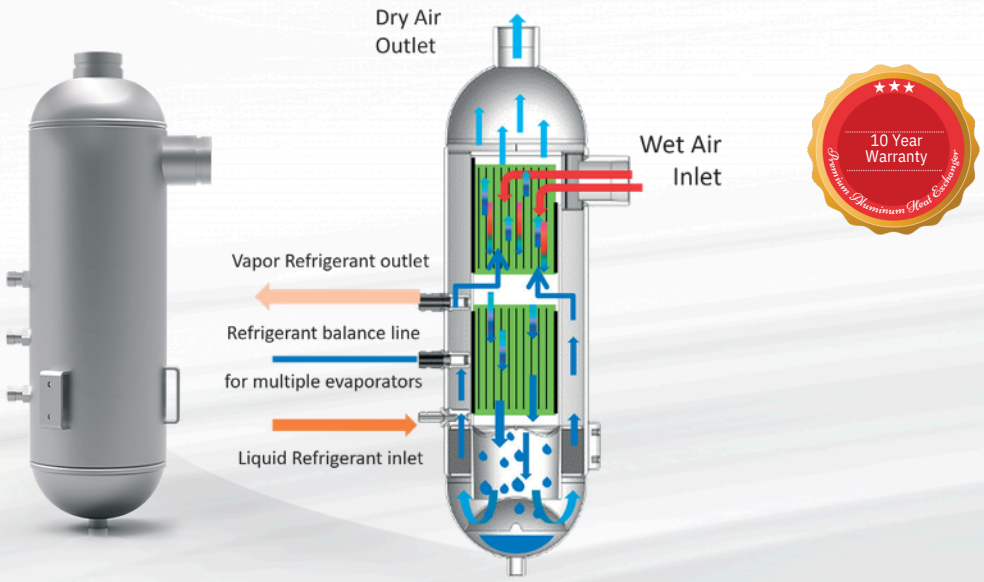
Sealed for Performance – Hermetic Design Excellence

Mikropor Dryers are built with a fully hermetic design, providing complete protection against external contaminants. The sealed refrigeration circuit ensures maximum reliability, zero leakage, and virtually no maintenance requirements. This closed system extends the service life of internal components while guaranteeing stable, energy-efficient performance even under the most demanding conditions.



Aluminum Plate Heat Exchanger

Thesystem featuresavery lowpressure drop and utilizes thin aluminum plates with a high heat transfer surface area for maximum efficiency. Its external thick cylindrical wall provides structural strength, while the integrated water separator is optimized to deliver the best performance.



New Technology, Aluminum Microchannel Refrigerant Condenser

The system is designed to minimize energy loss through low pressure drop and offers high heat transfer capacity for efficient operation. Its surface coating provides protection against corrosive environments, ensuring long-term durability. Additionally, it requires less refrigerant gas and is resistant to galvanic reactions and corrosion.

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Zero Clearance Compressed Air Filters with High Performance Elements

IntegratedDual-Element Filtration SystemforMaximum Air Purity

All Mikropor Refrigerated Air Dryers are equipped with a standard Compressed Air Filter Kit, including two high-performance coalescing filters:

X Element: Removes water and particles down to 1 micron

Y Element: Removes oil aerosols down to 0.01 ppm

The zero-clearance design allows element replacement in minutes. Developed with field feedback, this service-friendly design ensures reliable performance until the next maintenance.

Electronic Zero Loss Drain

The Mikropor MZLSeriesZero Loss Condensate Drains are designed for zero loss of compressed air thus eliminating excess amount of compressed air waste. The MZL Series have digital control features that provides alarms when drain is clogged and to alert the user when regular maintenance is required unlike standard mechanical drains. The MZL Series is also extremely easy to Troubleshoot if a problem arises.

Zero Loss Drain

MK-US-PRO Series - Correction Factors

Inlet Temperature (°F)	F1	Ambient Temperature (°F)	F2	Pressure (psi)	F3
85	1.20	60	1.12	50	0.75
90	1.14	80	1.08	60	0.77
95	1.08	90	1.06	75	0.85
100	1	100	1	100	1
110	0.75	105	0.96	115	1.06
120	0.60	110	0.90	125	1.10
130	0.50	115	0.80	150	1.16
140	0.45	120	0.65	175	1.25
150	0.35			200	1.30
				230	1.35

Example for Choosing the Correct Dryer;

If anair compressordelivers 180scfmat150 psi,the dryer inlet temperature is 130°F and ambient temperature is 115°F. Please choose your Dryer Model as follows; 180 / 1.16 / 0.50 / 0.80 = 388 scfm Dryer Model for this application is MK-US-PRO 425