


mikropor



MK-US-PRO SERIES DIGITAL CYCLING - INTEGRATED FILTRATION



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 up to 2350 scfm
-  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 most efficient components to consume the lowest energy
-  Highly energy efficient and environmentally friendly Next Generation R513a refrigerant is standard across all models
-  Fully hermetic design
-  A state-of-the-art heat exchanger design provides the highest cost saving in the industry due to the lowest differential pressure.
-  Pressure switches control the condenser's fan motor for saving energy and letting the system operate at various 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

Mikropor Refrigerated Air Dryers are 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

- Digital dew point monitoring
- Energy-saving mode display
- Periodic maintenance interval display
- Status report
- Hours run meter
- Fahrenheit and Celsius selection



ESD Digital Controller

- Energy Saving: Automatically shuts down and dryer when not in use significantly reducing energy consumption
- Monitoring Capability
- Advanced Alarm Functions
- Troubleshooting Assistance
- Efficiency Optimization
- Modbus RS485 Ready



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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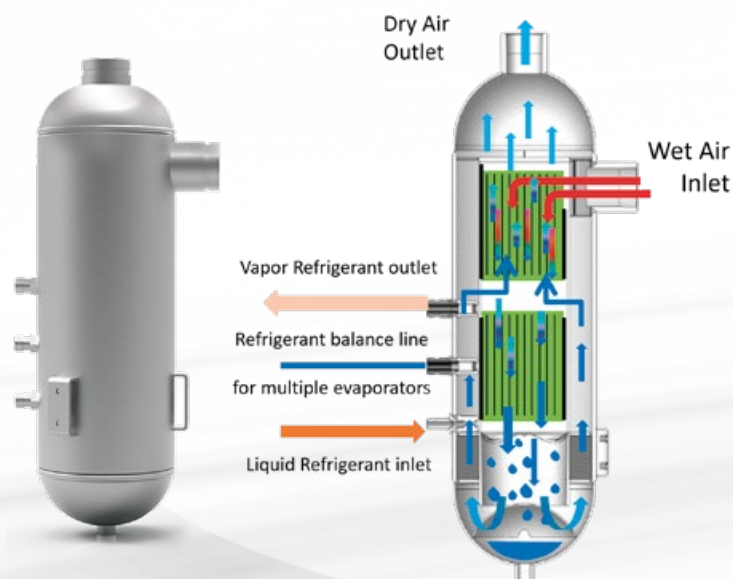
Sealed for Performance – Hermetic Design Excellence

Mikropor Dryers are built with a fully hermetically sealed design refrigeration system, 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 most demanding conditions.



Aluminum Plate Heat Exchanger

The system features a very low pressure 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 and designed to work efficiently at all loads.



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.

The microchannel condenser offers the best efficiency in its class.

The dryer enclosure also includes a removable-washable air flow filter panel to better protect the condenser.



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Zero Clearance Compressed Air Filters with High Performance Elements

Integrated Dual-Element Filtration System for Maximum Air Purity

Mikropor Refrigerated Air Dryers up to 2350 scfm 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 MZL Series Zero 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;

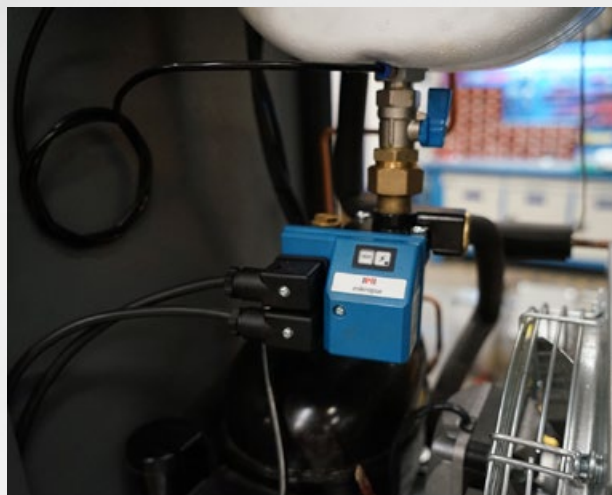
If an air compressor delivers 180 scfm at 150 psi, the dryer inlet temperature is 130°F and ambient temperature is 115°F. Please choose your Dryer Model as follows; $180 / 1.16 / 0.50 / 0.80 = 388$ scfm Dryer Model for this application is MK-US-PRO 425

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Model	Capacity (scfm)	Voltage*	Connection Size	Filter Quantity and Type	Replacement Filter Element Kit	Pressure Drop (psig)	Control Type	Dimensions		
								Length (inch)	Width (inch)	Height (inch)
MK-US-PRO 10	10	115V / 1 Ph / 60 Hz	1/2" NPT	1*GKON65X + 1*GKON65Y	MKON65 KIT	1.4	Digi-Pro	15	15	31
MK-US-PRO 15	15	115V / 1 Ph / 60 Hz	1/2" NPT	1*GKON65X + 1*GKON65Y	MKON65 KIT	1.5	Digi-Pro	15	15	31
MK-US-PRO 25	25	115V / 1 Ph / 60 Hz	1/2" NPT	1*GKON65X + 1*GKON65Y	MKON65 KIT	2.5	Digi-Pro	15	15	31
MK-US-PRO 30	30	115V / 1 Ph / 60 Hz	1/2" NPT	1*GKON65X + 1*GKON65Y	MKON65 KIT	2.5	Digi-Pro	15	15	31
MK-US-PRO 35	35	115V / 1 Ph / 60 Hz	3/4" NPT	1*GKON155X + 1*GKON155Y	MKON155 KIT	1.0	Digi-Pro	18	19	37
MK-US-PRO 60	60	115V / 1 Ph / 60 Hz	3/4" NPT	1*GKON155X + 1*GKON155Y	MKON155 KIT	1.5	Digi-Pro	18	19	37
MK-US-PRO 75	75	115V / 1 Ph / 60 Hz	3/4" NPT	1*GKON155X + 1*GKON155Y	MKON155 KIT	2.0	Digi-Pro	18	19	37
MK-US-PRO 100	100	115V / 1 Ph / 60 Hz	1 1/2" NPT	1*GKON405X + 1*GKON405Y	MKON405 KIT	1.5	Digi-Pro	22	22	38
MK-US-PRO 125	125	115V / 1 Ph / 60 Hz	1 1/2" NPT	1*GKON405X + 1*GKON405Y	MKON405 KIT	2.0	Digi-Pro	22	22	38
MK-US-PRO 140	140	230V / 1 Ph / 60 Hz	1 1/2" NPT	1*GKON405X + 1*GKON405Y	MKON405 KIT	2.5	Digi-Pro	22	22	38
MK-US-PRO 175	175	230V / 1 Ph / 60 Hz	2" NPT	1*GKON805X + 1*GKON805Y	MKON805 KIT	1.5	Digi-Pro	26	27	50
MK-US-PRO 200	200	230V / 1 Ph / 60 Hz	2" NPT	1*GKON805X + 1*GKON805Y	MKON805 KIT	1.7	Digi-Pro	26	27	50
MK-US-PRO 250	250	230V / 1 Ph / 60 Hz	2" NPT	1*GKON805X + 1*GKON805Y	MKON805 KIT	1.6	Digi-Pro	26	27	50
MK-US-PRO 350	350	230V / 1 Ph / 60 Hz	2" NPT	1*GKON1205X + 1*GKON1205Y	MKON1205 KIT	2.3	Digi-Pro	37	29	59
MK-US-PRO 425	425	230V / 1 Ph / 60 Hz	2" NPT	1*GKON1205X + 1*GKON1205Y	MKON1205 KIT	2.5	Digi-Pro	37	29	59
MK-US-PRO 550	550	460V / 3 Ph / 60 Hz	3" NPT	Integrated - GKON-HC-1805 X/Y	MKON-HC1805 KIT	1.7	ESD-3	37	31	62
MK-US-PRO 700	700	460V / 3 Ph / 60 Hz	3" NPT	Integrated - GKON-HC-1805 X/Y	MKON-HC1805 KIT	2.2	ESD-3	37	31	62
MK-US-PRO 900	900	460V / 3 Ph / 60 Hz	3" NPT	Integrated - GKON-HC-2775 X/Y	MKON-HC2775 KIT	1.5	ESD-3	46	31	73
MK-US-PRO 1100	1100	460V / 3 Ph / 60 Hz	3" NPT	Integrated - GKON-HC-2775 X/Y	MKON-HC2775 KIT	2.0	ESD-3	46	31	73
MK-US-PRO 1350	1350	460V / 3 Ph / 60 Hz	4" Flange	Integrated - GKO5850M X/Y	MKO 5850 KIT	1.7	ESD-3	62	39	80
MK-US-PRO 1500	1500	460V / 3 Ph / 60 Hz	4" Flange	Integrated - GKO5850M X/Y	MKO 5850 KIT	1.9	ESD-3	62	39	80
MK-US-PRO 2000	2000	460V / 3 Ph / 60 Hz	4" Flange	Integrated - GKO5850M X/Y	MKO 5850 KIT	2.7	ESD-3	65	42	84
MK-US-PRO 2350	2350	460V / 3 Ph / 60 Hz	4" Flange	Integrated - GKO5850M X/Y	MKO 5850 KIT	2.8	ESD-3	65	42	84
MK-US-PRO 2750	2750	460V / 3 Ph / 60 Hz	6" Flange	Externally Connected - F6500M X&Y *	Not Included	2.5	ESD-3	86	42	84
MK-US-PRO 3000	3000	460V / 3 Ph / 60 Hz	6" Flange	Externally Connected - F8500M X&Y *	Not Included	2.5	ESD-3	86	42	84
MK-US-PRO 3600	3600	460V / 3 Ph / 60 Hz	6" Flange	Externally Connected - F8500M X&Y *	Not Included	2.5	ESD-3	88	47	85
MK-US-PRO 4000	4000	460V / 3 Ph / 60 Hz	8" Flange	Externally Connected - F11000M X&Y *	Not Included	2.5	ESD-3	88	47	85
MK-US-PRO 5000	5000	460V / 3 Ph / 60 Hz	8" Flange	Externally Connected - F14000M X&Y *	Not Included	2.5	ESD-3	100	61	87

*Please contact with your responsible Sales/CRM responsible for alternative voltage options

Nominal Working Pressure:	100 psig
Maximum Working Pressure:	232 psig
Minimum Working Pressure:	58 psig
Nominal Inlet Temperature:	100°F
Maximum Inlet Temperature:	140°F
Minimum Inlet Temperature:	41°F
Nominal Ambient Temperature:	100°F
Maximum Ambient Temperature:	122°F
Minimum Ambient Temperature:	41°F
Refrigerant:	R513a



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