mikropor

MK Series

Digital Cycling Compressed Air Dryers

New Digi-Pro Digital Controller with New Features

www.mikroporamerica.com

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Mikropor Air Quality Focus

Mikropor knows the importance of high quality compressed air and provides customers with the highest quality air possible. Using clean, dry air is extremely important for most air powered applications. Moisture or contamination in the air from the compressor discharge will result in many complications to production equipment. These complications will decrease productivity and may affect the production quality of final products.

Applications

Mikropor provides an entire range of products for filtration and air purification applications to fit various market requirements (ISO 8573 Standards). Food production, pharmaceuticals, dairies, breweries, clean conveying air, chemical plants, pure air and clean room 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.

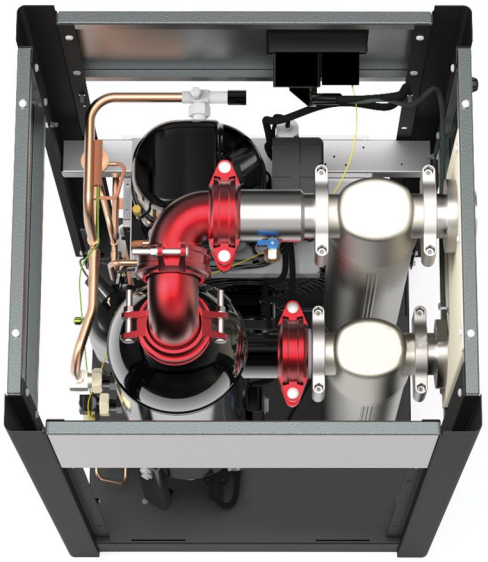
The Refrigerant Circuit and Insulation

Mikropor exclusively uses environmentally friendly R134a refrigerant gas in the dryers. This refrigerant is suitable for both low and high temperature applications. R-134a has excellent thermodynamic properties and can operate at very low pressure compared to other refrigerants.
This will in turn increase the refrigerant compressor's service life. With R-134a Mikropor dryers can operate at very high ambient temperatures. Mikropor engineers add extra capability to the heat exchangers with a superior no loss insulation system. Mikropor MK Series Digital Cycling air dryers supply constant dewpoint at all flow ranges.
This perfect insulation philosophy continues to the refrigeration circuit side also. Superior insulation and oversized condensers (for ultra-high ambient temperatures) enable the MK Series Dryers to offer continuous air quality.

Compact Design

MK Series

MK Series air dryers are highly reliable,efficient, have small space requirements and offer low cost ownership. Integration of pre / post filtration within the dryer cabinet saves labor time, installation cost and valued production space. The compact size also offers flexibility and economy during transporation.



Advantages

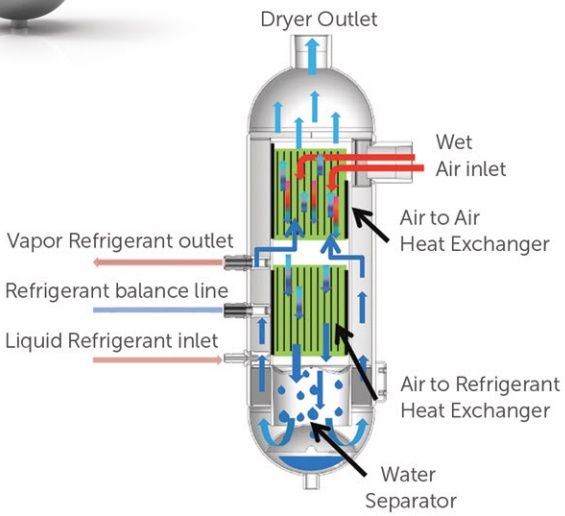
- Low pressure drop saves compressor energy consumption.
- Quick start and reaction time ensures production uptime.
- Highly energy-efficient R134a refrigerant is standard across all models.
- A state of the art Mikropor "3 in 1" heat exchanger design provides the unmatched longevity and efficiency of cooling.
- Best in class refrigerant compressors consume less energy.
- Cycle logic of the condenser's fan motor enables further energy savings.

SAFETY - Electrical cabinet isolation

- Electrical Panel separated from service areas of the dryer.
- Minimization of electrical components from refrigerant side of dryer.
- Electrical controls access without exposure to high heat areas.

Mikropor Advanced "3 in 1" Heat Exchanger

- Thermally Optimized Encapsulated Design
  - Air to Air Exchanger
  - Refrigerant to Air Exchanger
  - Multi Stage Moisture Separation
  - High Strength Aluminum Design
- Large Surface Area for Heat Transfer
- Robust Cylindrical Casing



Scroll Compressors

Scroll Compressors are energy efficient and strong against liquid shocks. For maximum energy savings, scroll compressors are used in larger models.

Easy Service

Easy access in to the cooling components in seconds by the help of "easy lift" panels with integrated finger slots . Simplifies service access with quick access by technicians (no screws / fasteners to remove)

AIR DRYER

MK Series Air Dryer Features

- High Efficiency
- Eco Mode Digital Cycling
- Very Low Pressure Drop
- Designed for extreme tropical conditions
- 140°F Max Inlet Temp Design @ Max Flow

Digi-Pro Digital Controller (10 scfm to 425 scfm units)

Mikropor MK Series air dryers incorporate our exclusive Digi-Pro series controller. The Digi-Pro series controllers have outstanding technology for both functionality and durability in addition to visual appeal. The new controller design offers ease of adjustment with one finger, with accurate digital dew point display in addition to coded alarm monitoring of the dryer.

The Refrigerant Circuit Pressure Gauges

MK Series Dryers are Service Friendly. The suction and discharge pressure gauges are already hooked up on the refrigerant circuit of MK Series Dryers.

Digital controller with embedded features,

- Digital dew point monitoring
- Energy-saving "Eco Mode" display
- Periodic maintenance interval display
- Status report
- Hours run meter
- Fahrenheit and Centigrade selection

ESD Digital Controller (550 scfm to 5000 scfm units)

Mikropor MK Series Air dryers of larger capacity feature the feature rich ESD Digital controller.. With the help of the highly engineered ESD Digital Controls on the MK Series Cycling Air dryers will reduce your energy consumption. The ESD interface assists the users to monitor many useful parameters on the dryer and guides them to troubleshoot any problem very easily. During the nights, weekends and holidays many companies do not stop their dryers although the compressors may be stopped. The ESD Digital Controller saves huge amounts of money by simply shutting the dryer down automatically when it is not in use.

COMPACT DESIGN

Grooved couplings and fittings

The compressed air circuit utilizes grooved couplings and fittings to ensure a positive connection without leaks.
These couplings assist the service technician to dismantle and assemble pipes easily and quickly.

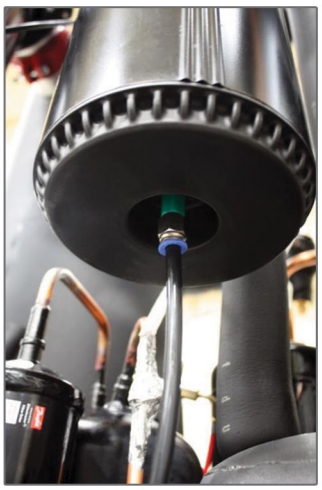
Service Safety

The GO Series Filter integration features an auto drain with manual valves.
Manual valves allow the system to be depressurized safely when service is needed.

Zero Clearance Compressed Air Filters with High Performance Elements

Mikropor GO Series compressed air filters are an MK Series dryer standard. The X Pre-Filter coalescing filter for water removal) is used for up to 1 micron particles and the Y Post-Filter (coalescing filter for oil removal) is used to remove oil down to 0.01 ppm
Listening to customer needs our engineers created a service friendly design. The Zero clearance design helps service technicians to replace the element in just a few minutes.
The MK Series dryer/filter combination has 2 elements, 2 automatic drains and 2 viton o-rings to ensure operation of the dryers at its best performance until the next planned maintenance.

Easy Service



Process Air Quality Protection

Pressure drop is a large concern in compressed air. In many applications high pressure drops will cause a decrease in the pressure at the point of use relating to machines or processes not operating correctly. Presence of dirt particles and oil in the compressed air system may result in filter blockage. It is important for the end users and service technicians to recognize if there is a problem in the system. The performance of the filters directly affects the pressure drop and system performance. Therefore, it is very important that the filter elements are changed at the filter service time. MK Series Digital Controls feature an alarm / warning indicating the appropriate time to change the filter elements. When the indication should occur, the element change will assist to avoid loss of performance and pressure drop.

Technical Specifications

Maximum Working Pressure : 230 psig - Maximum Ambient Temperature : 120 °F - Maximum Inlet Temperature : 140 °F

Part No	Capacity (scfm)	Voltage (Standard)	Connection Size	Pre Filter and Post Filter	Replacement Element Type	Pressure Drop (psig)	Controller Type	Dimensions (inch) Weight (lbs)			
								Width	Length	Height	Weight
MK-US-10	10	115/1/60	1/2" NPT	Included	MKO-US-27 KIT	1.5	Digi-Pro	17	16	23	71
MK-US-15	15	115/1/60	1/2" NPT	Included	MKO-US-27 KIT	1.7	Digi-Pro	17	16	23	71
MK-US-25	25	115/1/60	1/2" NPT	Included	MKO-US-27 KIT	2.8	Digi-Pro	17	16	23	71
MK-US-30	30	115/1/60	1/2" NPT	Included	MKO-US-41 KIT	2.8	Digi-Pro	17	16	23	77
MK-US-35	35	115/1/60	3/4" NPT	Included	MKO-US-90 KIT	1.2	Digi-Pro	19	18	33	113
MK-US-60	60	115/1/60	3/4" NPT	Included	MKO-US-90 KIT	1.6	Digi-Pro	19	18	33	117
MK-US-75	75	115/1/60	3/4" NPT	Included	MKO-US-90 KIT	2.3	Digi-Pro	19	18	33	121
MK-US-100	100	115/1/60	1 1/2" NPT	Included	MKO-US-300 KIT	1.6	Digi-Pro	22	20	35	172
MK-US-125	125	115/1/60	1 1/2" NPT	Included	MKO-US-300 KIT	2.2	Digi-Pro	22	20	35	183
MK-US-140	140	230/1/60	1 1/2" NPT	Included	MKO-US-300 KIT	2.8	Digi-Pro	22	20	35	190
MK-US-175	175	230/1/60	2" NPT	Included	MKO-US-500 KIT	1.6	Digi-Pro	27	26	46	352
MK-US-200	200	230/1/60	2" NPT	Included	MKO-US-700 KIT	1.9	Digi-Pro	27	26	46	363
MK-US-250	250	230/1/60	2" NPT	Included	MKO-US-700 KIT	1.6	Digi-Pro	29	38	54	450
MK-US-350	350	230/1/60	2" NPT	Included	MKO-US-700 KIT	2.6	Digi-Pro	29	38	54	485
MK-US-425	425	230/1/60	2" NPT	Included	MKO-US-700 KIT	2.9	Digi-Pro	29	38	54	506
MK-US-550	550	460/3/60	3" NPT	Included	MKO-US-1100 KIT	2.0	ESD-3	32	38	58	595
MK-US-700	700	460/3/60	3" NPT	Included	MKO-US-1100 KIT	2.5	ESD-3	32	38	58	627
MK-US-900	900	460/3/60	3" NPT	Included	MKO-US-1600 KIT	1.7	ESD-3	31	46	68	863
MK-US-1100	1100	460/3/60	3" NPT	Included	MKO-US-1600 KIT	2.2	ESD-3	31	46	68	902
MK-US-1350	1350	460/3/60	4" Flange	Not Included	Not Included	1.7	ESD-3	34	55	70	1082
MK-US-1500	1500	460/3/60	4" Flange	Not Included	Not Included	1.9	ESD-3	34	55	70	1145
MK-US-2000	2000	460/3/60	4" Flange	Not Included	Not Included	2.7	ESD-3	43	58	76	1532
MK-US-2350	2350	460/3/60	4" Flange	Not Included	Not Included	2.8	ESD-3	43	58	76	1580
MK-US-2750	2750	460/3/60	6" Flange	Not Included	Not Included	2.5	ESD-3	42	87	76	1980
MK-US-3000	3000	460/3/60	6" Flange	Not Included	Not Included	2.5	ESD-3	42	87	76	2035
MK-US-3600	3600	460/3/60	6" Flange	Not Included	Not Included	2.5	ESD-3	36	89	78	2145
MK-US-4000	4000	460/3/60	8" Flange	Not Included	Not Included	2.5	ESD-3	36	89	78	2420
MK-US-5000	5000	460/3/60	8" Flange	Not Included	Not Included	2.5	ESD-3	61	101	83	3080

Note: Different Voltage options are available.

CORRECTION FACTORS FOR MK AIR DRYERS										
Inlet Temperature (°F)	85	90	95	100	110	120	130	140	150	-
F1	1.20	1.14	1.08	1.00	0.75	0.60	0.50	0.45	0.35	-
Ambient Temperature (°F)	60	80	90	100	105	110	115	120	-	-
F2	1.12	1.08	1.06	1.00	0.96	0.90	0.80	0.65	-	-
Pressure (psi)	60	60	75	100	115	125	150	175	200	230
F3	0.75	0.77	0.85	1.00	1.06	1.10	1.16	1.25	1.30	1.35

If an air compressor delivers 180 scfm at 150 psi, the dryer inlet temperature is 130°F and ambient temperature is 115°F.
180 / 1,16/ 0,50 / 0,80 = 388 scfm
Dryer Part No for this application is MK-US-425

MEMBER OF
CAGI
Compressed Air & Gas Institute

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