Manufacturing Forward

MCY SERIES
THERMAL MASS/CYCLING
AIR DRYERS

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Manufacturing Forward

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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 140 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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THERMAL MASS/CYCLING

Compressed Air Dryers

kW-CY CONTROLLER

Digital Controller with New Features

CAGI
Compressed Air & Gas Institute
www.cagi.org
PERFORMANCE
VERIFICATION
PROGRAM

MCY SERIES THERMAL MASS/CYCLING AIR DRYERS

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 product.

Applications

Mikropor provides an entire range of products for filtration and air purification applications to fit various market requirements (ISO 8573.1: 2010 standard). Applications include: Food production, dairies, breweries, 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 industries

ISO International Organization for Standardization

CLASS 0 ISO 8573-1

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. This perfect insulation philosophy continues to the refrigeration circuit side also. Superior insulation and oversized condensers (for ultra-high ambient temperatures) enable the MCY Series Dryers to offer continuous air quality.

Mikropor MCY Series Cycling air dryers supply constant dewpoint at all flow ranges.

MCY SERIES THERMAL MASS/CYCLING AIR DRYERS

Compact Design

MCY 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 transportation.

kW Saver

MCY Advantage

- Best-in-class low package pressure drop saves energy consumption from the supplying air compressor.
- Thermal mass technology offers stable pressure dewpoint at varying loads.
- Mikropor state of the art "3 in 1" cast aluminium heat exchanger provides unmatched longevity & cooling.
- Glycol cooling components are all stainless steel.
- 150 F Max inlet temp design max air flow.

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 high heat areas.

MCY SERIES THERMAL MASS/CYCLING AIR DRYERS

Mikropor Advanced “3 in 1” Heat Exchanger

5 YEAR WARRANTY on Heat Exchangers!!!

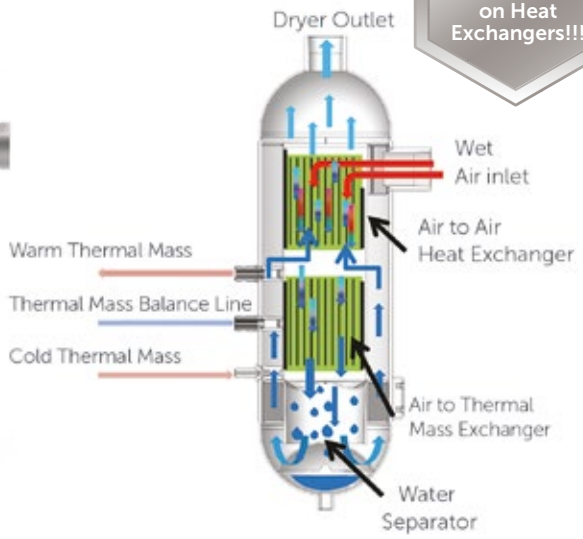
Thermally Optimized Encapsulated Design

- Air to Air Exchanger
- Thermal Mass to Air Exchanger
- Multistage Moisture Separation

High Strength Aluminium Design

Large Surface Area for Heat Transfer

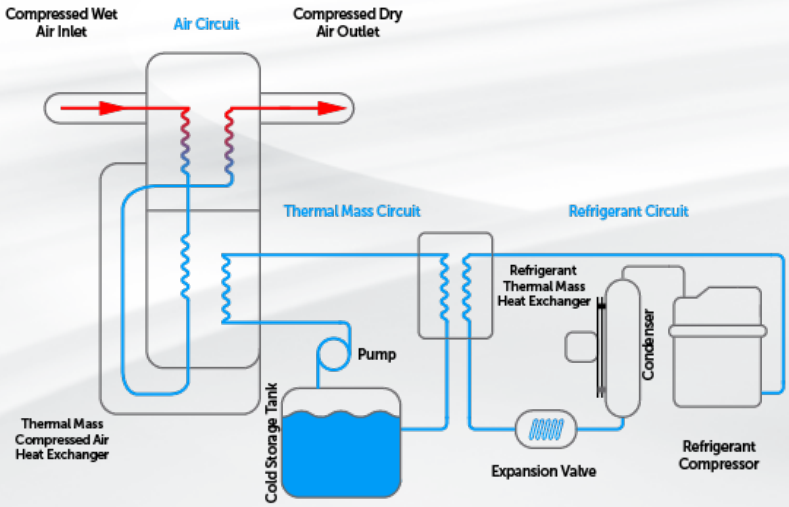
Robust Cylindrical Casing



Scroll Refrigerant Compressors:

- Have fewer moving parts
- Offer smoother and quieter operation
- And are more reliable and more efficient than reciprocating types.

MCY Cycling Series-Working Principle



Moisture saturated Compressed Air from the Air Compressor enters a Particulate Pre-Filter then into the Thermal Mass Dryer-Compressed Air Travels through our a Coalescing Pre Filter and then 3 in 1 Heat Exchanger.

As the compressed air passes through, it is then cooled by the cold Thermal Mass System and water vapor then condenses into liquid and is removed via the drain system.

Cold compressed air than passes by the incoming hot air to re-heat in order to prevent plant air pipes from sweating – then the dried compressed air passes through a Coalescing Post Filter and out to the customers application.

MCY SERIES THERMAL MASS/CYCLING AIR DRYERS

kW-CY Controllers (100 SCFM to 250 SCFM)

Mikropor MCY Series Air Dryers incorporate our exclusive Digi-Pro series controller. The kW-CY Digi-Pro 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.

Digital controller with embedded features

- Digital dew point monitoring
- Periodic maintenance interval display
- Status report
- Hours run meter
- Fahrenheit and Centigrade selection

Easy Service

Easy access into 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).

kW-CY ESD Controller (350 scfm to 5000 scfm units)

Mikropor MCY Series Air Dryers of larger capacity have ESD Digital Controller. With the help of the highly engineered kW-CY ESD Controller on the MCY Series Cycling Air dryers will reduce 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. kW-CY ESD Controller saves huge amounts of money by simply shutting the dryer down automatically when it is not in use.

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.

MCY SERIES THERMAL MASS/CYCLING AIR DRYERS

Service Safety

- The GO Series Filter integration features.
- Zero Loss Drain system integration features.
- Manual valves allow the system to be depressurized safety when service is needed.

- Integral zero air loss drain
- No compressed air Loss
- Low maintenance design
- Reliable
- Robust low operating cost
- Simple installation

Zero Clearance Compressed Air Filters with High Performance Elements

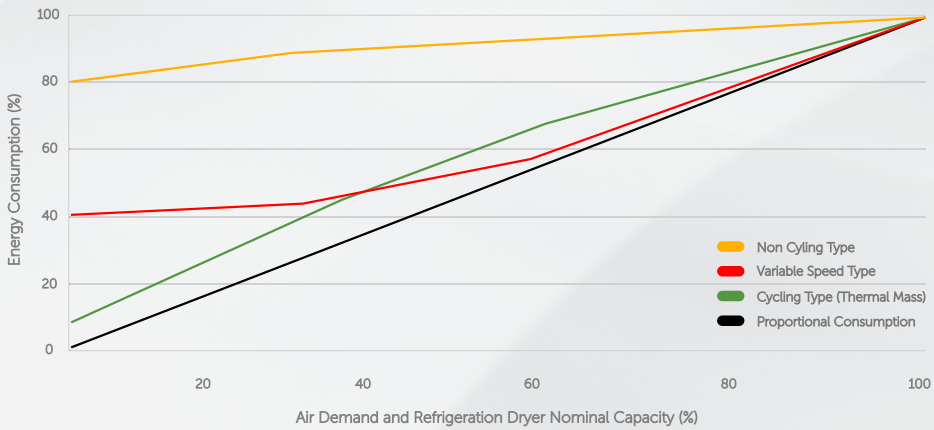
Mikropor GO Series compressed air filters are a MCY Series dryer standard. The X Pre-Filter (coalescing filter for water removal) is used for up to 1-micron particles and the Y Post Filter (coalescing filter for oil removal) is used to remove oil down to 0.01 ppm. Listening to customer needs our engineers created a service friendly design. The Zero clearance design helps service technicians to replace the element in just a few minutes.

The MCY Series dryer / filter combination has 2 elements and 2 Viton O-rings to ensure operation of the dryers at its best performance until the next planned maintenance.

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 which results the 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 drops and system performance. Therefore, it is very important that the filter elements are changed at the filter service time. MCY 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.

COMPARE ENERGY SAVINGS



MCY SERIES THERMAL MASS/CYCLING AIR DRYERS

Technical Specifications

CORRECTION FACTORS FOR MCY AIR DRYERS								
Inlet Temperature (°F)	85	90	95	100	110	120	_	_
F1	1,2	1,14	1,08	1	0,75	0,6	0,5	0,45
Ambient Temperature (°F)	60	80	90	100	105	110	115	_
F2	1,12	1,08	1,06	1	0,96	0,9	0,8	0,65
Pressure (psig)	50	60	75	100	115	125	150	175
F3	0,75	0,77	0,85	1	1,06	1,1	1,16	1,25

Correction Sample: 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 = 390 scfm Dryer Model for this application is MCY-US-425

Model No	Air Flow Capacity (scfm)	Voltage	Connection Size	Filter Quantity and Type	Length (inch)	Width (inch)	Height (inch)	Weight (lbs)
MCY-US-100	100	115V / 1 Ph / 60 Hz	1 1/2" NPT	Integrated - GKON-405 - X / Y	26,7	25,5	48,3	196
MCY-US-125	125	115V / 1 Ph / 60 Hz	1 1/2" NPT	Integrated - GKON-405 – X / Y	26,7	25,5	48,3	209
MCY-US-140	140	230V / 1 Ph / 60 Hz	1 1/2" NPT	Integrated - GKON-405 – X / Y	26,7	25,5	48,3	220
MCY-US-175	175	230V / 1 Ph / 60 Hz	2" NPT	Integrated - GKON-805 – X / Y	33,7	28,5	59,3	392
MCY-US-200	200	230V / 1 Ph / 60 Hz	2" NPT	Integrated - GKON-805 – X / Y	33,7	28,5	59,3	406
MCY-US-250	250	230V / 1 Ph / 60 Hz	2" NPT	Integrated - GKON-805 – X / Y	32,7	28,7	69,5	428
MCY-US-350	350	460V / 3 Ph / 60 Hz	2" NPT	Integrated - GKON-1205 – X / Y	32,7	28,7	69,5	534
MCY-US-425	425	460V / 3 Ph / 60 Hz	2" NPT	Integrated - GKON-1205 – X / Y	32,7	28,7	69,5	558
MCY-US-550	550	460V / 3 Ph / 60 Hz	3" NPT	Integrated - GKON-HC-1805 – X / Y	45,3	31,5	68,5	650
MCY-US-700	700	460V / 3 Ph / 60 Hz	3" NPT	Integrated - GKON-HC-1805 – X / Y	45,3	31,5	68,5	683
MCY-US-900	900	460V / 3 Ph / 60 Hz	3" NPT	Integrated - GKON-HC-2775 – X / Y	51,8	34,6	70,5	906
MCY-US-1100	1100	460V / 3 Ph / 60 Hz	3" NPT	Integrated - GKON-HC-2775 – X / Y	51,8	34,6	70,5	976
MCY-US-1350	1350	460V / 3 Ph / 60 Hz	4" Flange	Integrated - GKO 5850 – X / Y	62,0	39,2	77,8	1581
MCY-US 1500	1500	460V / 3 Ph / 60 Hz	4" Flange	Integrated - GKO 5850 – X / Y	62,0	39,2	77,8	1636
MCY-US 2000	2000	460V / 3 Ph / 60 Hz	4" Flange	Integrated - GKO 5850 – X / Y	70,7	42,5	81,7	1916
MCY-US-2350	2350	460V / 3 Ph / 60 Hz	4" Flange	Integrated - GKO 5850 – X / Y	70,7	42,5	81,7	1973
MCY-US-2750	2750	460V / 3 Ph / 60 Hz	6" Flange	** Externally Connected - F-US 3800 X / Y	86,2	41,9	79,7	2075
MCY-US-3000	3000	460V / 3 Ph / 60 Hz	6" Flange	** Externally Connected - F-US 3800 X / Y	86,2	41,9	79,7	2123
MCY-US-3600	3600	460V / 3 Ph / 60 Hz	6" Flange	** Externally Connected - F-US 3800 X / Y	95,1	61,0	83,3	2260
MCY-US-4000	4000	460V / 3 Ph / 60 Hz	8" Flange	** Externally Connected - F-US 6500 X / Y	95,1	61,0	83,3	2562
MCY-US-5000	5000	460V / 3 Ph / 60 Hz	8" Flange	** Externally Connected - F-US 6500 X / Y	104,1	61,0	85,4	3263

** Not Included In Standard Package

Nominal Working Pressure	100 psig
Maximum Working Pressure	230 psig
Minimum Working Pressure	60 psig
Nominal Inlet Temperature	100°F
Maximum Inlet Temperature	120°F

Minimum Inlet Temperature	39°F
Nominal Ambient Temperature	100°F
Maximum Ambient Temperature	113°F
Minimum Ambient Temperature	39°F
Refrigerant	R134a

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