
# MHL SERIES
# HEATLESS DESICCANT AIR DRYERS

mikropor

www.mikroporamerica.com

Manufacturing Forward

mikropor

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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# MHL SERIES HEATLESS DESICCANT AIR DRYERS

Mikropor MHL Heatless Desiccant Air Dryers provide constant -40°F (-100°F Optional) pressurize dew point. These dryers are designed to supply clean and very dry compressed air for critical applications. Pre-filters and after-filters are standard on all Mikropor Heatless Air Dryers to keep the air stream clean and maintain the integrity of the desiccant medium. A very reliable electronic controller is utilised so the dryer operates perfectly through its service life. MHL Series Heatless Desiccant Dryers are equipped with special valves and high quality desiccants in order to assure performance and provide the lowest pressure drops available in the market.

## Principle of Operation

The twin tower design allows for continuous adsorption of water vapor from compressed air by using the desiccant with high crush strength and a high surface/volume ratio. Drying is accomplished by passing compressed air through one desiccant bed adsorbing moisture while the other is being simultaneously regenerated with the expanded purge air.

Regeneration of desiccant is accomplished without the use of heat. The wet bed is dried by diverting a small portion of the dry air from the outlet at near atmospheric pressure. The purge flow rate is adjustable to suit the specific outlet conditions (desired dew point). The dry air flows in a counter direction through the wet bed, sweeping all the water vapor previously absorbed by the desiccant. MHL dryers ensures pressure equalization in the twin towers prior to switching.

This prevents line surge and minimizes desiccant attrition. The tower being reactivated will be gradually re-pressurized at the end of its reactivation cycle before switch over takes place. Purge flow and de-pressurization are in downward direction, counter to the drying air flow.

## This saves ENERGY and helps the world become more "GREEN"

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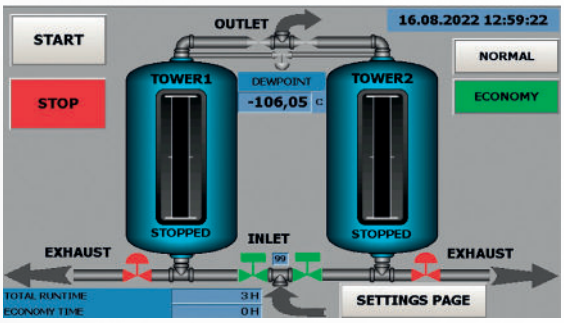



HMI Touch Screen PLC

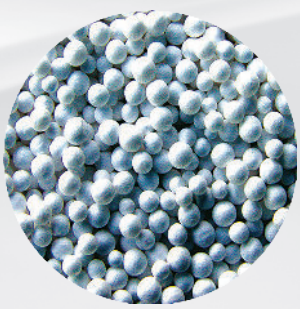
## PLC is Standard

The standard controller of the series with capable of displaying PSA working parameters. The touch screen HMI, is capable of displaying the cycles as well as the valves as they operate in real-time. This is also capable of showing dew points. User-friendly multi-lingual HMI helps the end users understand the system's operation and identify any issues easily.

## Correction Factor for MDA Series

| Pressure (psig) | Factor Pressure F1 | Inlet Temperature (°F) | Factor Inlet F2 |
|---|---|---|---|
| 50 | 0.56 | 70 | 1.16 |
| 60 | 0.65 | 80 | 1.11 |
| 70 | 0.74 | 90 | 1.06 |
| 80 | 0.83 | 100 | 1 |
| 90 | 0.91 | 105 | 0.9 |
| 100 | 1 | 110 | 0.86 |
| 110 | 1.06 | 115 | 0.7 |
| 120 | 1.08 | 120 | 0.6 |
| 130 | 1.12 | - | - |
| 140 | 1.16 | - | - |
| 150 | 1.2 | - | - |
| 175 | 1.29 | - | - |
| 200 | 1.37 | - | - |

All desiccant dryers are designed according to Pneurop conditions as per ISO 7183.



## Activated Alumina

In order to achieve consistent dew point, Mikropor uses a mixture of adsorption media in its heatless range of desiccant dryers. Acitvated Alumina and Molecular Sieve are used in varying ratios depending on the application.

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## Technical Specifications

| Model | Capacity (scfm) | Connection Size | Max. Working Pressure (psig) | Pressure Drop (psig) | Voltage | Average Power (kW) | Dimensions* | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Length (in) | Width (in) | Height (in) |
| MHL 80 | 80 | 1" | 200 | ≤1.9 | 110-240V/1Ph/50-60Hz | <0.1 | 36 | 40 | 59 |
| MHL 100 | 100 | 1" | 200 | ≤1.9 | 110-240V/1Ph/50-60Hz | <0.1 | 36 | 40 | 69 |
| MHL 150 | 150 | 1 1/4" NPT | 200 | ≤1.9 | 110-240V/1Ph/50-60Hz | <0.1 | 36 | 40 | 66 |
| MHL 200 | 200 | 1 1/4" NPT | 200 | ≤1.9 | 110-240V/1Ph/50-60Hz | <0.1 | 41 | 40 | 64 |
| MHL 250 | 250 | 1 1/2" NPT | 200 | ≤1.9 | 110-240V/1Ph/50-60Hz | <0.1 | 41 | 42 | 74 |
| MHL 300 | 300 | 1 1/2" NPT | 200 | ≤1.9 | 110-240V/1Ph/50-60Hz | <0.1 | 41 | 42 | 83 |
| MHL 400 | 400 | 1 1/2" NPT | 200 | ≤1.9 | 110-240V/1Ph/50-60Hz | <0.1 | 45 | 47 | 89 |
| MHL 500 | 500 | 2" NPT | 200 | ≤1.9 | 110-240V/1Ph/50-60Hz | <0.1 | 58 | 71 | 94 |
| MHL 600 | 600 | 2" NPT | 200 | ≤1.9 | 110-240V/1Ph/50-60Hz | <0.1 | 53 | 51 | 97 |
| MHL 800 | 800 | 3" NPT | 200 | ≤1.9 | 110-240V/1Ph/50-60Hz | <0.1 | 55 | 56 | 101 |
| MHL 1000 | 1000 | 3" NPT | 200 | ≤1.9 | 110-240V/1Ph/50-60Hz | <0.1 | 59 | 56 | 98 |
| MHL 1250 | 1250 | 3" 150# FLG | 200 | ≤1.9 | 110-240V/1Ph/50-60Hz | <0.1 | 65 | 56 | 100 |
| MHL 1500 | 1500 | 3" NPT | 200 | ≤1.9 | 110-240V/1Ph/50-60Hz | <0.1 | 85 | 67 | 91 |
| MHL 2000 | 2000 | 4" 150# FLG | 200 | ≤1.9 | 110-240V/1Ph/50-60Hz | <0.1 | 85 | 71 | 105 |
| MHL 2500 | 2500 | 4" 150# FLG | 200 | ≤1.9 | 110-240V/1Ph/50-60Hz | <0.1 | 83 | 71 | 119 |
| MHL 3000 | 3000 | 4" 150# FLG | 200 | ≤1.9 | 110-240V/1Ph/50-60Hz | <0.1 | 83 | 71 | 131 |
| MHL 4000 | 4000 | 6" 150# FLG | 200 | ≤1.9 | 110-240V/1Ph/50-60Hz | <0.1 | 134 | 107 | 120 |
| MHL 5000 | 5000 | 6" 150# FLG | 200 | ≤1.9 | 110-240V/1Ph/50-60Hz | <0.1 | 145 | 110 | 132 |
| MHL 6000 | 6000 | 8" 150# FLG | 200 | ≤1.9 | 110-240V/1Ph/50-60Hz | <0.1 | 166 | 136 | 153 |

Given flows are at 100 psig pressure with reference to 68°F and 14 psig atmospheric air suction as per ISO 7183.

*Design dimensions and weight information may vary upon request. Please contact Mikropor technical team for more information.

| Efficiency Rating | X Pre-Filter | Y Pre-Filter | P After Filter |
|---|---|---|---|
| | 1 micron particle removal and 0.1 ppm oil removal | 0.01 micron particle removal and 0.1 ppm oil removal | 5 micron particle removal (removes desiccant particles after the dryer) |

| Pressure Dew Point | Nominal Inlet Temperature | Nominal Working Pressure | Maximum Inlet Temperature | Maximum Working Pressure | Maximum Ambient Temperature |
|---|---|---|---|---|---|
| -40°F / -100°F (optional) | 100°F | 100 psig | 120°F | 200 psig | 120°F |

*For special requirements please contact the technical teams.

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