

## Heatless Desiccant Air Dryers

Mikropor MHL Series Heatless Desiccant Air Dryers provide constant -40°F (standard) or -94°F (optional) pressure 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 MHL Series Heatless Air Dryers to keep the air stream clean and maintain the integrity of the desiccant medium. A very reliable electronic controller is incorporated so the dryer operates perfectly through the service life of the dryer.

MHL Heatless Desiccant Dryers are equipped with robust valves and high quality desiccants in order to assure performance and provide the lowest pressure drops available in the market.



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

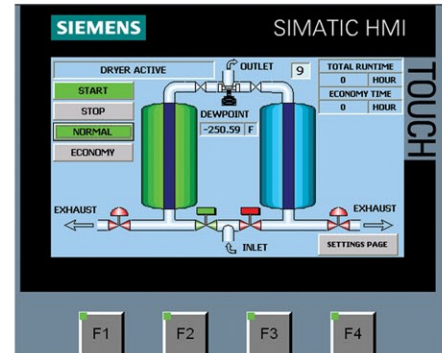


## Principle of Operation

The twin tower design allows for continuous adsorption of water vapor from compressed air by using the hygroscopic 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 super - dry air from the outlet at near atmospheric pressure. The purge flow rate is adjustable to suit the specific outlet conditions (desired dewpoint) The super dry air flows in a counter direction through the wet bed, sweeping all the water vapour previously absorbed by the desiccant. MHL Series electronic controls ensure 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 take place. Purge flow and de-pressurization are in downward direction, counter flow to the drying air flow.

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### PLC is standard

MHL Series Desiccant Dryers have an extremely reliable electronic controller for optimal performance over the lifetime of the dryers. The touch screen PLC is capable of showing the cycles as well as the valves which operate on in real time graphically in addition to showing dewpoint. The user friendly multi-lingual PLC. PLC helps end users understand the operation system and issues easily.

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### Activated Alumina

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



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## Technical Specifications

Model	Connection Size (NPT)	Inlet Flow Rate (scfm)	Voltage	Max. working pressure (psi)	Pressure Drop (psi)	Dimensions (inch)			Weight (lb)
						Length	Width	Height	
MHL 300	1 1/2"	300	115/1/60	200	≤ 2	40	24	87	1200
MHL 400	1 1/2"	400	115/1/60	200	≤ 2	46	26	88	1350
MHL 500	2"	500	115/1/60	200	≤ 2	46	26	88	1460
MHL 600	2"	600	115/1/60	200	≤ 2	46	26	88	1790
MHL 800	3"	800	115/1/60	200	≤ 2	55	48	105	2150
MHL 1000	3"	1000	115/1/60	200	≤ 2	55	48	105	2960
MHL 1250	3"	1250	115/1/60	200	≤ 2	60	50	109	3470
MHL 1500	3"	1500	115/1/60	200	≤ 2	60	50	109	4180
MHL 2000	3"	2000	115/1/60	200	≤ 2	70	62	115	4980
MHL 2500	4"	2500	115/1/60	200	≤ 2	70	62	115	5800
MHL 3000	4"	3000	115/1/60	200	≤ 2	80	70	120	6400
MHL 4000	6"	4000	115/1/60	200	≤ 2	90	80	122	9100
MHL 5000	6"	5000	115/1/60	200	≤ 2	98	86	120	11800

EFFICIENCY RATING	X PRE FILTER	Y PRE FILTER	P AFTER FILTER	For special requirements please contact our Technical Department
		1 micron particle removal and 0.5 mg/m <sup>3</sup> oil removal	0.01 micron particle removal and 0.01 mg/m <sup>3</sup> oil removal	

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### Correction Factor

Pressure (psi)	50	60	70	80	90	100	110	120	130	140	150	175	200
Factor Pressure F1	0.56	0.65	0.74	0.83	0.91	1	1.06	1.08	1.12	1.16	1.2	1.29	1.37
Inlet Temperature (°F)	70	80	90	100	105	110	115	120	-	-	-	-	-
Factor Inlet F2	1.12	1.09	1.06	1	0.93	0.86	0.8	0.75	-	-	-	-	-

Pressure dewpoint	-40 °F -94 °F /(optional)
Nominal inlet temperature	100°F
Nominal working pressure	100 psi
Maximum inlet temperature	120°F
Maximum working pressure	200 psi
Maximum ambient temperature	120°F

All desiccant dryers are designed according to Pneurop conditions as per ISO7183

#### Correction Sample:

If a compressor delivers 500 scfm at 120 psi pressure and 120°F inlet temperatures please choose your dryer as follows;  $500 / 1.08 / 0.75 = 617$  scfm  
The correct Dryer for this is MHL 600

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