

### Heatless Desiccant Air Dryers

Mikropor MDA Heatless Desiccant Air Dryers provide constant  $-40^{\circ}\text{C}$  (  $-70^{\circ}\text{C}$  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 Mikropor Heatless Air Dryers to keep the air stream clean and maintain the integrity of the desiccant medium. A very reliable electronic controller is design so the dryer operates perfectly through the service life of the dryer. MDA 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.

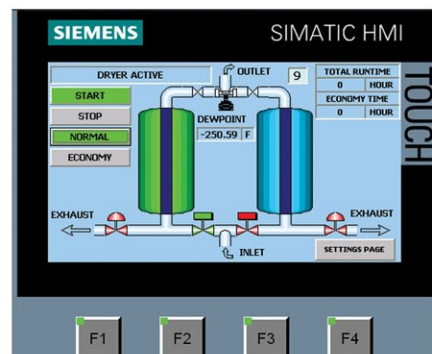


**This saves  
ENERGY  
and helps  
the world  
become  
more  
"GREEN"**



### 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. MDA 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 take place. Purge flow and de-pressurization are in downward direction, counter flow to the drying air flow.



## PLC is standard

MDA Desiccant Dryers has an extremely reliable electronic controller for optimal performance over the lifetime of the dryers. Touch screen PLC is capable of showing the cycles as well as the valves which operate in real time. This is also capable of showing dewpoint. User friendly multi-lingual PLC. PLC helps the 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.



## Technical Specifications

Model	Connection Size	Inlet Flow Rate		Voltage	Max. working pressure (bar)	Pressure Drop (mbar)	Total Weight (Packed) (Kg)	Active Alumina (Kg)	Dimensions (mm)		
		(m³/h)	(scfm)						Length	Width	Height
MDA 130	1"	130	80	230/1/50-60	10	≤ 130	160	40	600	814	1312
MDA 185	1"	185	100	230/1/50-60	10	≤ 130	180	54	600	808	1566
MDA 250	1"	250	150	230/1/50-60	10	≤ 130	200	75	760	772	1580
MDA 300	1 1/2"	300	200	230/1/50-60	10	≤ 130	250	100	690	900	1558
MDA 360	1 1/2"	360	215	230/1/50-60	10	≤ 130	250	100	690	900	1558
MDA 440	1 1/2"	440	250	230/1/50-60	10	≤ 130	340	125	698	900	1759
MDA 575	1 1/2"	575	300	230/1/50-60	10	≤ 130	500	151	680	900	1991
MDA 680	2"	680	400	230/1/50-60	10	≤ 130	535	202	680	960	2216
MDA 850	2"	850	500	230/1/50-60	10	≤ 130	750	264	857	1016	2277
MDA 1000	2"	1000	600	230/1/50-60	10	≤ 130	755	357	1010	1075	2386
MDA 1250	DN80/PN16	1250	700	230/1/50-60	10	≤ 130	1000	404	1100	1294	2413
MDA 1500	DN80/PN16	1500	800	230/1/50-60	10	≤ 130	1050	454	1010	1300	2547
MDA 1800	DN80/PN16	1800	1000	230/1/50-60	10	≤ 130	1215	566	1110	1513	2479
MDA 2200	DN80/PN16	2200	1250	230/1/50-60	10	≤ 130	1550	708	1110	1460	2793
MDA 2700	DN80/PN16	2700	1500	230/1/50-60	10	≤ 130	1890	852	1252	1533	2831
MDA 3200	DN100/PN16	3200	1750	230/1/50-60	10	≤ 130	2240	954	1212	1653	3054
MDA 3600	DN100/PN16	3600	2000	230/1/50-60	10	≤ 130	2330	1070	1210	1653	3268
MDA 4400	DN100/PN16	4400	2500	230/1/50-60	10	≤ 130	3000	1436	1535	1905	2910
MDA 5000	DN150/PN16	5000	3000	230/1/50-60	10	≤ 130	3180	1670	1714	1843	3382
MDA 6300	DN150/PN16	6300	4000	230/1/50-60	10	≤ 130	3450	2016	1693	2114	3328
MDA 7200	DN150/PN16	7200	4500	230/1/50-60	10	≤ 130	3600	2446	1795	2518	3047
MDA 8800	DN150/PN16	8800	5000	230/1/50-60	10	≤ 130	3850	2906	1795	2518	3341
MDA 10800	DN200/PN16	10800	6000	230/1/50-60	10	≤ 130	4200	3354	1875	2583	3747
MDA 12500	DN200/PN16	12500	7360	230/1/50-60	10	≤ 130	6470	3894	1935	2545	4175

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/m³ oil removal	0.01 micron particle removal and 0.01 mg/m³ oil removal	5 micron particle removal (Removes desiccant particles after the dryer)	

## Correction Factor

(Bar)	4.5	5	6	7	8	9	10	All desiccant dryers are designed according to Pneurop conditions as per ISO7183
Factor Pressure F1	0.69	0.75	0.88	1	1.12	1.25	1.37	
Inlet Temperature (°C)	20	25	30	35	40	45	50	
Factor Inlet F2	1	1	1	1	0.80	0.73	0.59	

Pressure dewpoint	-40 °C / -70 °C (optional)
Nominal inlet temperature	35 °C
Nominal working pressure	7 bar
Maximum inlet temperature	50 °C
Maximum working pressure	10 bar
Maximum ambient temperature	50 °C

## ORDERING:

If a compressor delivers 850 Nm³/h at 9 barg pressure and 45°C inlet temperatures please choose your dryer as follows;  $850/1.25/0.73 = 931 \text{ Nm}^3/\text{h}$   
The correct Dryer for this is MDA1000

Mikropor MDA Heatless Desiccant Air Dryers provide constant -40 °C (-70 °C is optional) pressure dew point. These dryers are designed to supply clean and dry compressed air for critical applications. As pre and after-filters are supplied along with Mikropor Heatless Air Dryers to keep the air stream clean and maintain the integrity of the desiccant medium.