

## Heatless Adsorption Air Dryers

# HDA US Series

HDA US / 300 / 400 / 500 / 600 / 700 / 800 / 1000 / 1250 /  
1500 / 200 / 2500 / 300 / 4000 / 4500 / 5000 / 6000

**hertz**<sup>®</sup>  
KOMPRESSOREN



Hertz HDA US Heatless Desiccant Air Dryers provide constant -40 °F pressure dew point. These dryers are designed to supply clean and very dry compressed air for critical applications. Pre-filters and after-filters are supplied along with Hertz Heatless Air Dryers to keep the air stream clean and maintain the integrity of the desiccant medium. A very reliable electronic controller makes sure that the dryer operates perfectly all through the service life of the dryer.

HDA US Heatless Desiccant Dryers are equipped with very special valves and desiccants in order to perform very well and have one of the lowest pressure drops available in the Market.

### HERTZ HDA US HEATLESS DESICCANT AIR DRYERS 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.

HDA US 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 repressurized at the end of its reactivation cycle before switchover take place. Purge flow and de-pressurization are in downward direction, counter flow to the drying air flow.

### PLC IS STANDARD

HDA US Desiccant Dryers has a very reliable electronic controller makes sure that the dryer operates perfectly all through the servicelife of the dryer. Touch screen PLC is capable of showing the cycles as well as the valves which operate on real time. It also shows the dew point (if applicable).

User friendly multi-lingual PLC helps the end users understand the operation system any field issues easily.

### ACTIVATED ALUMINA

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



Nominal Inlet temperature	100 °F
Nominal Working pressure	100 psi
Maximum working pressure	200 psi
Maximum ambient temperature	120 °F
Maximum inlet temperature	120 °F
Pressure Dew Point	-40 °F -94 °F (optional)

# SPECIFICATIONS

Model	Capacity**		Connection Size	Voltage	Max. Working Pressure	Max. Ambient Temp.	Max. Inlet Temp.	Included Filter and Type	Dimensions (in.)			Weight (lbs)
	m <sup>3</sup> /min	cfm							Length	Width	Height	
HDA US 300	8.50	300	1 1/2" NPT	115V-1-60 Hz	200	120	120	HGO US 350 MX+MY+MP	40	24	87	1200
HDA US 400	11.3	400	1 1/2" NPT	115V-1-60 Hz	200	120	120	HGO US 500 MX+MY+MP	46	26	88	1350
HDA US 500	14.2	500	2" NPT	115V-1-60 Hz.	200	120	120	HGO US 500 MX+MY+MP	46	26	88	1460
HDA US 600	17.0	600	2" NPT	115V-1-60 Hz	200	120	120	HGO US 700 MX+MY+MP	46	26	88	1790
HDA US 700	19.8	700	3" ANSI B16.5	115V-1-60 Hz	200	120	120	HGO US 1100 MX+MY+MP	C/F	C/F	C/F	C/F
HDA US 800	22.7	800	3" ANSI B16.5	115V-1-60 Hz.	200	120	120	HGO US 1100 MX+MY+MP	55	48	105	2150
HDA US 1000	28.3	1000	3" ANSI B16.5	115V-1-60 Hz.	200	120	120	HGO US 1100 MX+MY+MP	55	48	105	2960
HDA US 1250	35.4	1250	3" ANSI B16.5	115V-1-60 Hz	200	120	120	HGO US 1300 MX+MY+MP	60	50	109	3470
HDA US 1500	42.5	1500	3" ANSI B16.5	115V-1-60 Hz	200	120	120	HGO US 1600 MX+MY+MP	60	50	109	4180
HDA US 2000	56.6	2000	4" ANSI B16.5	115V-1-60 Hz	200	120	120	HF US 1900 MX+MY+MP	70	62	115	4980
HDA US 2500	70.8	2500	4" ANSI B16.5	115V-1-60 Hz	200	120	120	HF US 2500 MX+MY+MP	70	62	115	5800
HDA US 3000	85.0	3000	6" ANSI B16.5	115V-1-60 Hz	200	120	120	HF US 3800 MX+MY+MP	80	70	120	6400
HDA US 4000	113.3	4000	6" ANSI B16.5	115V-1-60 Hz	200	120	120	HF US 3800 MX+MY+MP	90	80	122	9100
HDA US 4500	127.4	4500	6" ANSI B16.5	115V-1-60 Hz	200	120	120	HF US 5000 MX+MY+MP	C/F	C/F	C/F	C/F
HDA US 5000	141.6	5000	6" ANSI B16.5	115V-1-60 Hz	200	120	120	HF US 5000 MX+MY+MP	98	86	120	11800
HDA US 6000	169.9	6000	8" ANSI B16.5	115V-1-60 Hz	200	120	120	HF US 6000 MX+MY+MP	C/F	C/F	C/F	C/F

\* HERTZ KOMPRESSOREN reserves its rights to change the specifications without any prior notice.

\*\* Dryer ratings at the following inlet conditions to the dryer (as per ISO 7183, Table 2, Option A2 and CAGI): Inlet Compressed Air Temperature: 100°F, Inlet Compressed Air Pressure: 100 psig, Max. Ambient Air Temperature: 100 °F, Inlet Compressed Air Relative Humidity 100% (Saturated)

### X PRE FILTER


Efficiency rating:  
1 Micron particle removal & 0.5mg/m<sup>3</sup> oil removal

### Y PRE FILTER

Efficiency rating:  
0.01 Micron particle removal & 0.01mg/m<sup>3</sup> oil removal

### P PRE FILTER

Efficiency rating:  
5 Micron particle removal (removes desiccant particles after the dryer)

 For special requirements please contact Hertz technical department

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

### 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	-	-	-	-	-

### Correction Sample:

If a compressor delivers 600 cfm at 90 psi pressure and 115 °F inlet temperature please choose your dryer as follow: 600 cfm / 0.91/ 0.80 = 824 cfm the correct dryer for this is HDA US 1000.