Heatless Adsorption Air Dryers

HDA Series

HDA 130 / 185 / 250 / 300 / 360 / 440 / 575 / 680 / 850 1000 / 1250 / 1500 / 1800 / 2200 / 2700 / 3200 / 3600 / 4400 / 5000 / 6300 / 7200 / 8800 / 10800

HEATLESS DESICCANT TYPE HDA COMPRESSED AIR DRYERS

Hertz HDA Heatless Desiccant Air Dryers provide constant -40 °C 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.

HERTZ HDA 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 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 switchover take place. Purge flow and de-pressurization are in downward direction, counter flow to the drying air flow.

PLC CONTROLLER

HDA 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-langual 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.

OPTIONS

- - 70 °C pressure dew point
- Dew point monitoring and control
- 16 & 40 bar operation

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SPECIFICATIONS

hertz® KOMPRESSOREN

Model	Capacity*		Connection Size	Voltage	Maximum Working Pressure	Maximum Ambient Temperature	Maximum Inlet Temperature	Included Filter and Type	Dimensions (mm)			Weight
	m³/min	cfm			bar	°C	°C		Length	Width	Height	Kg
HDA 130	2,17	77	G 1"	230V-1-50/60Hz	10	50	50	HGKO 150 MX+MY+MP	814	600	1312	160
HDA 185	3,08	109	G 1"	230V-1-50/60Hz	10	50	50	HGKO 200 MX+MY+MP	806	600	1566	180
HDA 250	4,17	147	G 1"	230V-1-50/60Hz	10	50	50	HGKO 250 MX+MY+MP	772	760	1580	200
HDA 300	5,00	177	G 1 ½"	230V-1-50/60Hz	10	50	50	HGKO 300 MX+MY+MP	900	690	1558	250
HDA 360	6,00	212	G 1 ½"	230V-1-50/60Hz	10	50	50	HGKO 500 MX+MY+MP	900	690	1558	250
HDA 440	7,33	259	G 1 ½"	230V-1-50/60Hz	10	50	50	HGKO 500 MX+MY+MP	900	698	1759	340
HDA 575	9,58	338	G 1 ½"	230V-1-50/60Hz	10	50	50	HGKO 600 MX+MY+MP	900	680	1991	500
HDA 680	11,3	400	G 2"	230V-1-50/60Hz	10	50	50	HGKO 851 MX+MY+MP	960	680	2216	535
HDA 850	14,2	500	G 2"	230V-1-50/60Hz	10	50	50	HGKO 851 MX+MY+MP	1016	857	2277	750
HDA 1000	16,7	589	G 2"	230V-1-50/60Hz	10	50	50	HGKO 1210 MX+MY+MP	1075	1010	2386	755
HDA 1250	20,8	736	DN 80	230V-1-50/60Hz	10	50	50	HGKO 1820 MX+MY+MP	1294	1100	2413	1000
HDA 1500	25,0	883	DN 80	230V-1-50/60Hz	10	50	50	HGKO 1820 MX+MY+MP	1300	1010	2547	1050
HDA 1800	30,0	1059	DN 80	230V-1-50/60Hz	10	50	50	HGKO 1820 MX+MY+MP	1513	1110	2479	1215
HDA 2200	36,7	1295	DN 80	230V-1-50/60Hz	10	50	50	HGKO 2220 MX+MY+MP	1460	1110	2793	1550
HDA 2700	45,0	1589	DN 80	230V-1-50/60Hz	10	50	50	HGKO 2700 MX+MY+MP	1533	1252	2831	1890
HDA 3200	53,3	1883	DN 100	230V-1-50/60Hz	10	50	50	HF 3200 MX-+MY+MP	1653	1212	3054	2240
HDA 3600	60,0	2119	DN 100	230V-1-50/60Hz	10	50	50	HF 4300 MX-+MY+MP	1653	1210	3268	2330
HDA 4400	73,3	2590	DN 100	230V-1-50/60Hz	10	50	50	HF 4300 MX-+MY+MP	1905	1535	2910	3000
HDA 5000	83,3	2943	DN 150	230V-1-50/60Hz	10	50	50	HF 6500 MX-+MY+MP	1843	1714	3382	3180
HDA 6300	105,0	3708	DN 150	230V-1-50/60Hz	10	50	50	HF 6500 MX-+MY+MP	2114	1693	3328	3450
HDA 7200	120,0	4238	DN 150	230V-1-50/60Hz	10	50	50	HF 8500 MX-+MY+MP	2518	1795	3047	3600
HDA 8800	146,7	5179	DN 150	230V-1-50/60Hz	10	50	50	HF 8500 MX-+MY+MP	2518	1795	3341	3850
HDA 10800	180,0	6357	DN 200	230V-1-50/60Hz	10	50	50	HF 11000 MX-+MY+MP	2583	1875	3747	4200

- HERTZ KOMPRESSOREN reserves its rights to change the specifications without any prior nitice.
* Capacity is given at atmospheric pressure at 20 °C (ISO 1217) in accordance with norms ISO 7183-8573-1 and Pneurop 6611- Class 2 @ 7 bar, 35 °C inlet.

PRE FILTER (X)
Efficiency rating: 1 Micron particle removal & 0.5mg/m³ oil removal

FINE FILTER (Y)
Efficiency rating: 0.01 Micron particle removal & 0.01mg/m³ oil removal

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

ACTIVATED CARBON FILTER (A)
Efficiency rating: 0.01 Micron particle removal & 0.003 mg/m³ oil removal

CORRECTION FACTORS FOR HDA DRYERS

Bar	4.5	5	6	7	8	9	10
	0,69	0,75	0,88	1	1,12	1,25	1,37
Inlet Temp. °C	20	25	30	35	40	45	50
	1	1	1	1	0,80	0,73	0,59

HDA Dryer Sizing Example;

If a compressor delivers 10 m³/min at 6 bar, the dryer inlet temperature is 40 °C. please choose your dryer as follows;

Dryer Capacity = 10 / 0,88 / 0,80 = 14,2 m³/min

The correct dryer model for this application is HDA 850.

Downstream Brochure EN REV.01

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