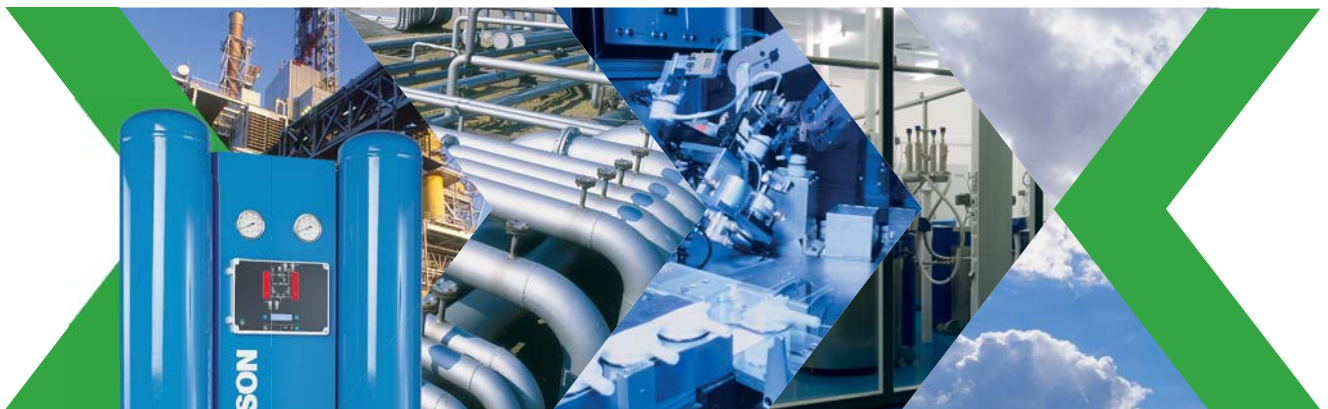


Adsorption dryers

DKC Series | HHL Series | HHS Series



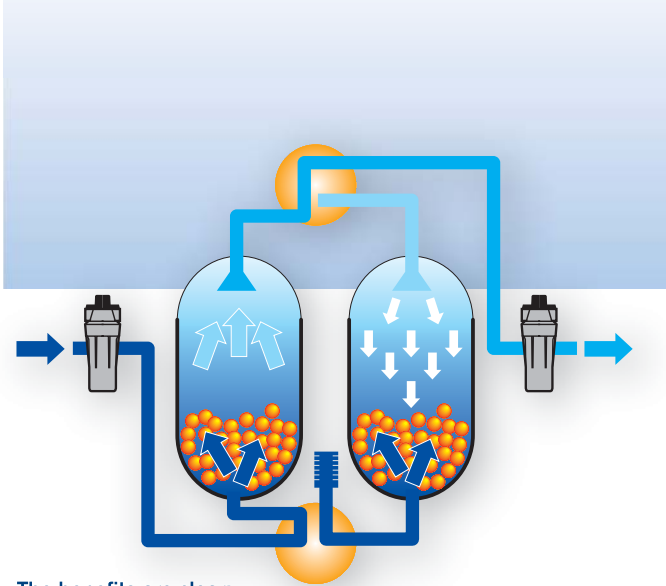
Heatless regenerative adsorption dryers

Adsorption dryers are used wherever compressed air or gas needs to be dried to a pressure dew point of -20°C , -40°C or, optionally, -70°C . In addition to the specific application, the size of the adsorption dryer is primarily determined by the medium, flow rate, operating pressure, inlet temperature and the required pressure dew point.

HANKISON heatless regenerative adsorption dryers are suitable for flow rates from $9\text{ m}^3/\text{h}$ to $9,300\text{ m}^3/\text{h}$.

All HANKISON adsorption dryers in the DKC, HHL and HHS series use activated alumina as a desiccant, which adsorbs water without changing its form or properties. Molecules with higher polarity are particularly strongly adsorbed and since water has a very high polarity, activated alumina is excellently suited for use as a desiccant. Owing to its very good chemical stability, activated alumina is also resistant to liquid water.

The flow of compressed air enters the adsorption dryer from below. The adsorber removes the moisture contained in the compressed air, which then exits via the top of the tower. Adsorption dryers usually comprise two desiccant towers, one of which adsorbs moisture while the other regenerates.



The benefits are clear:

- Low investment and maintenance costs
- Easy installation and operation
- Compact and space-saving
- Constant pressure dew point
- Guaranteed reliability

X-DRAIN®

For safe removal of condensate, HANKISON employs an electronically level-controlled X-DRAIN®. Available as an Option. More information in the X-DRAIN® information sheet and the Price List.



DKC Series adsorption dryers

For flow rates from $9\text{ m}^3/\text{h}$ – $45\text{ m}^3/\text{h}$

The HANKISON DKC Series adsorption dryer has a compact design, which makes it suitable for wall mounting and is very easy to operate. The upstream and downstream filters included in the package can also be supplemented by an optional filter monitor for differential pressure monitoring. HANKISON recommends installing an electronic level-controlled X-DRAIN® Series condensate drain on the upstream filter.

The adsorption dryer can be operated in either a 10 minute cycle (for a pressure dew point of -40°C) or a 4 minute cycle (for a pressure dew point of -70°C).



HHL/HHS Series adsorption dryers

For flow rates from $90\text{ m}^3/\text{h}$ – $9,000\text{ m}^3/\text{h}$

The heatless regenerative adsorption dryers in the HHL Series are equipped with level 1 control as standard and operate in a 10 minute cycle with a pressure dew point of -40°C .

HANKISON HHL Series adsorption dryers can be individually set to a specific pressure dew point.

- **4 minute cycle**
For a pressure dew point of -70°C , inlet temperature $+35^{\circ}\text{C}$
- **10 minute cycle**
For a pressure dew point of -40°C , inlet temperature $+35^{\circ}\text{C}$
- **16 minute cycle**
For a pressure dew point of -20°C , inlet temperature $+35^{\circ}\text{C}$
- **24 minute cycle**
For a pressure dew point of $+3^{\circ}\text{C}$, inlet temperature $+35^{\circ}\text{C}$



Key features of the HHL/HHS Series

- Space-saving, integrated pre-filter and dust filter are included in the delivery
- Compact design
- Extended contact between compressed air and desiccant for a guaranteed pressure dew point
- Particularly easy to service: desiccant can be active for an extremely long period (up to 5 years)
- Moisture indicator changes colour to signal an increase in the pressure dew point at the dryer outlet
- HHL Series comes with Level 1 controller as standard
- Optional Level 2 controller for energy savings
- Easy operation
- Pressure indicator for tower pressure
- Front-mounted operator panel
- Fully assembled with the necessary pipes and electrical wiring – ready for use

Advantages of the HHS Series

- Fully encased design up to model HHS 800
- Level 2 controller included as standard to enable load-dependent control with direct energy savings
- X-DRAIN® Series electronic level-controlled condensate drain as standard
- Filter monitors for differential pressure monitoring

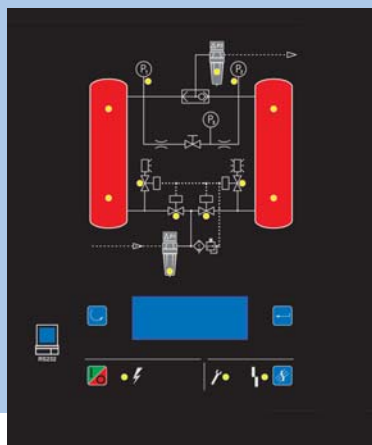


The Level 2 controller

The Level 2 controller enables a significant reduction in the purge air volume required at reduced loads. The level of purge air used is automatically reconciled with the system requirements, which results in very high energy savings.

Easy to use

- Safe and reliable control of the adsorption and regeneration phases
- Electronic level-controlled X-DRAIN® condensate drain and filter monitor as standard



Benefits

- Measurement of temperature profile through the adsorption heat generated and control of the regeneration phases
- Selection of 4 operating modes / pressure dew points -70 °C, -40 °C, -20 °C, +3 °C
- Demand-driven SensaTherm operation for -40 °C, -20 °C and +3 °C
- Alarm and maintenance notifications with group error contact
- LEDs to indicate operating mode, tower status, valve status and vessel pressure
- Alarm LED for tower switching errors, condensate drain faults
- Electronic display provides information on energy savings, the regeneration process and upcoming maintenance intervals
- RS-232 interface as standard (optional for HHL)

Model	Capacity [m³/h]	Max. operating pressure [bar.g]	Weight [kg]	Dimensions (HxWxD) [mm]	Connection [R]	Upstream filter	Dust filter
DKC 9	9	10	29	775 x 516 x 157	3/8"	HF5-12	HF6-12
DKC 17	17	10	37	775 x 516 x 157	3/8"	HF5-12	HF6-12
DKC 25	25	10	51	775 x 516 x 157	3/8"	HF5-12	HF6-12
DKC 35	35	10	69	775 x 669 x 208	3/8"	HF5-12	HF6-12
DKC 45	45	10	71	775 x 669 x 208	1/2"	HF5-16	HF6-16

Performance data in accordance with DIN/ISO 7183, based on an inlet pressure of 7 bar.g and +35 °C inlet temperature with a pressure dew point of -40 °C.

Correction factors for varying operating pressures in bar

Minimum inlet pressure kgf/cm²	3	4	5	6	7	8	9	10
Correction factor	0,25	0,39	0,56	0,77	1	1,13	1,25	1,38

Operating conditions

Pressure dew point standard setting (outlet)	-40 °C
Min./max. inlet temperature	+2 °C / +50 °C
Min./max. ambient temperature	+2° C / +45° C
Inlet filter	0,01 µm
Outlet filter	1 µm
Mains voltage/frequency	230V/50Hz 230V/60Hz
Protection class	IP 23
Desiccant	Activated alumina

Complete treatment unit, comprising pre-filter, heatless regenerative adsorption dryer and dust filter, ready for connection and operation.

Model	Capacity [m³/h]	Max. operating pressure [bar.g]	Weight [kg]	Dimensions (HxWxD) [mm]	Connection [R/DN]
HHL 91	90	16	165	1920 x 750 x 750	R 1/2"
HHL 141	140	16	210	1920 x 750 x 750	R 3/4"
HHL 271	270	16	310	1950 x 1150 x 750	R 1"
HHL 351	350	16	310	1950 x 1150 x 750	R 1"
HHL 521	520	16	460	1965 x 1150 x 750	R 1 1/2"
HHL 681	680	16	550	1965 x 1150 x 750	R 1 1/2"
HHL 901	900	16	615	1965 x 1150 x 750	R 2"
HHL 1051	1050	10	1000	1930 x 1500 x 1300	DN 80
HHL 1351	1350	10	1225	1950 x 1500 x 1400	DN 80
HHL 1651	1650	10	1570	2070 x 1500 x 1450	DN 80
HHL 1951	1950	10	1650	2090 x 1500 x 1500	DN 80
HHL 2351	2350	10	1930	2190 x 1500 x 1700	DN 100
HHL 2700	2700	10	2300	2220 x 1700 x 1750	DN 100
HHL 3600	3600	10	2315	2300 x 1950 x 1900	DN 100
HHL 5201	5200	10	3860	2500 x 2400 x 2040	DN 100
HHL 7101	7100	10	4500	2610 x 2690 x 2300	DN 150
HHL 9001	9000	10	5445	2510 x 2820 x 2560	DN 150

Note
Special acceptance measures such as ABS, DNV, LRS, GL, ASME, ASME U Stamp etc. upon request.

Technical changes reserved

Model	Capacity [m³/h]	Max. operating pressure [bar.g]	Weight [kg]	Dimensions (HxWxD) [mm]	Connection [R/DN]
HHS 91	90	16	202	1920 x 750 x 750	R 1/2"
HHS 141	140	16	247	1920 x 750 x 750	R 3/4"
HHS 271	270	16	354	1950 x 1150 x 750	R 1"
HHS 351	350	16	354	1950 x 1150 x 750	R 1"
HHS 521	520	16	504	1965 x 1150 x 750	R 1 1/2"
HHS 681	680	16	594	1965 x 1150 x 750	R 1 1/2"
HHS 901	900	16	659	1965 x 1150 x 750	R 2"

Performance data in accordance with DIN/ISO 7183, based on an inlet pressure of 7 bar.g and +35 °C inlet temperature with a pressure dew point of -40 °C.

Correction factor for varying operating pressures:

Operating pressure bar	5	5,5	6	7	8	9	10	11	12	13	14	15	16
Correction factor	0,75	0,81	0,88	1	1,06	1,12	1,17	1,22	1,27	1,32	1,37	1,41	1,46

Correction factor for varying inlet temperatures

Inlet temperature	+38°C	+40°C	+43°C	+46°C	+49°C	+51°C
Correction factor	0,98	0,96	0,93	0,89	0,85	0,81

Operating conditions

Pressure dew point standard setting (outlet)	-40° C
Min./max. inlet temperature +2° C / +50° C
Min./max. ambient temperature +2° C / +45° C
Inlet filter 0,01 µm
Outlet filter 1 µm

Complete treatment unit, comprising prefilter, heatless regenerative adsorption dryer and dust filter, ready for connection and operation.

HHL 1051 - HHL 9001 16 bar version upon request

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