Drying | DRYPOINT® HL

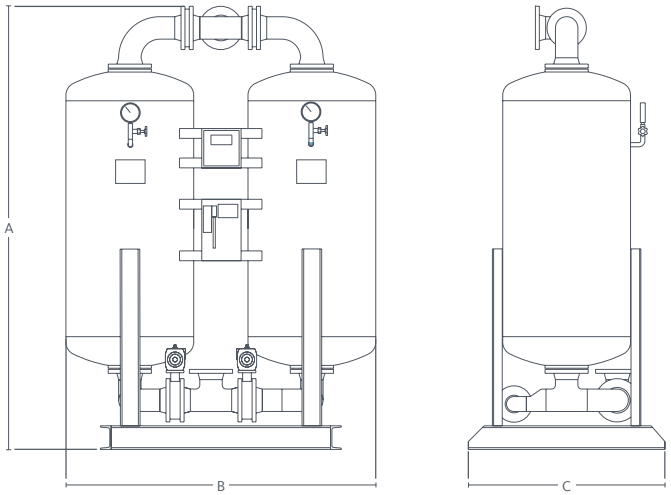
Cold Regenerating Adsorption Dryer. DRYPOINT® HL

The compact cold-regenerating DRYPOINT® HL adsorption dryer removes moisture from the compressed air to a pressure dew point of -40°C (optional -70°C). It comes with an efficient compressor synchronisation control as standard. For even greater energy efficiency, the system can be equipped with an optional dew point control.

- **Efficient control**
- **Fail-safe**
- **Practice-oriented**
- **Easy to service**
- **Sturdy and safe**

Better through Responsibility

DRYPOINT® HL



Operating conditions	
Pressure dew point standard setting (outlet)	-40 °C
Optional pressure dew point	–70 °C (on request)
Min. ... max. Air inlet temperature	5 ... 50 °C
Min. ... max. ambient temperature	5 ... 50 °C
Electrical power supply* (HL 1250 – HL 8200)	85 ... 264 VAC; 50 ... 60 Hz
Maximum operating pressure	10 bar [g], 16 bar [g] option

Reference conditions according to DIN / ISO 7183	
Medium	Compressed air
Volume flow rate in m³/h relative to	20 °C (1 bar [g])
Operating pressure (p_1)	7 bar [g]
Compressed air inlet temperature (t_1)	35 °C
Inlet humidity	saturated

HEATLESS

DRYPOINT®	HL 1250	HL 1550	HL 1700	HL 2000	HL 2300	HL 2600	HL 2900	HL 3400	HL 4200	HL 5000	HL 6000	HL 7000	HL 8200
Connection	DN65	DN65	DN80	DN80	DN100	DN100	DN100	DN100	DN150	DN150	DN150	DN150	DN150
Volume flow rate (m³/h)*	1250	1550	1700	2000	2300	2600	2900	3400	4200	5000	6000	7000	8200
Dimensions													
A (mm)	2260	2270	2335	2450	2470	2490	2510	2532	2810	2850	2890	2950	2990
B (mm)	1420	1470	1650	1750	1800	1850	1900	2000	1950	2050	2150	2250	2990
C (mm)	900	1000	1000	1100	1100	1200	1200	1300	1300	1300	1400	1500	1600
Weight (kg)	920	1100	1220	1400	1600	1800	2000	2250	2700	3100	3650	4000	4600

Dew point control see DRYPOINT® AC 205 – AC 295: Accessories
Volume flow rate data for DTP – -40 °C. Available on request for DTP –70 °C.
* Higher nominal capacities on request.

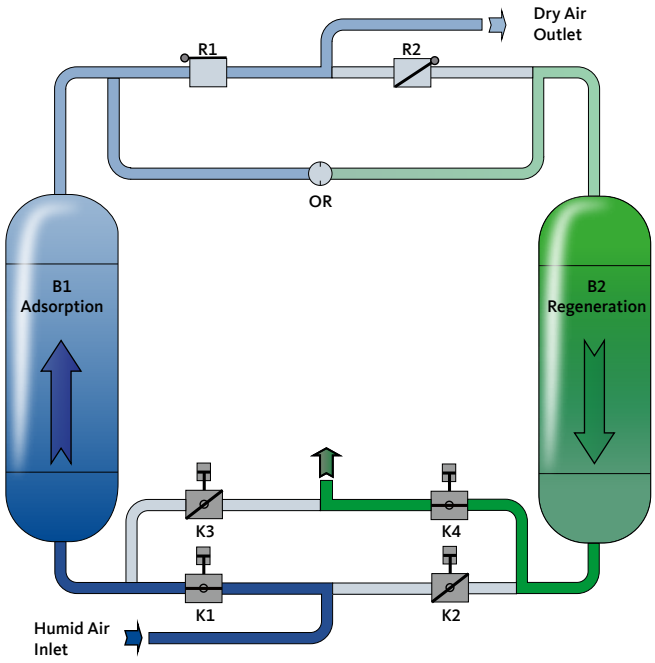
Correction factor													
bar [g]	4	5	6	7	8	9	10	11	12	13	14	15	16
Correction factor 35 °C	0.63	0.75	0.88	1	1.13	1.25	1.38	1.5	1.63	1.75	1.88	2	2.12
Correction factor 40 °C	0.55	0.66	0.77	0.88	0.99	1.1	1.21	1.32	1.43	1.54	1.65	1.76	1.87
Correction factor 45 °C	0.42	0.5	0.59	0.67	0.76	0.84	0.92	1.01	1.09	1.17	1.26	1.34	1.42
Correction factor 50 °C	0.35	0.41	0.48	0.55	0.62	0.69	0.76	0.83	0.9	0.96	1.03	1.1	1.17

Adsorption stage

The moist compressed air flows into the system through the valve **K1** and into the adsorption vessel **B1**. The flow distributor ensures an even distribution of the moist compressed air. The moisture will be absorbed by the desiccant during the through flow process. The dried compressed air passes through the outlet valve **R1** and the system outlet to the consumer positions. The adsorption process ends based on either the time or dew point (option). Adsorption takes place from the bottom to the top.

Regeneration stage

Whilst the compressed air is being dried in the adsorption vessel **B1**, the adsorption vessel **B2** that has just been saturated with moisture is regenerated. The dried compressed air partial flow that is diverted for regeneration is relieved to atmospheric pressure via the regeneration orifice **OR**. The large-scale regeneration air flow flows through the adsorption vessel **B2** to be regenerated from top to bottom.The moisture stored in the desiccant is hereby desorbed and routed off into the atmosphere with the air flow through the regeneration vessel **K4**. Regeneration takes place in the opposite direction to adsorption from the bottom to the top.



Standby stage (only for plants with a load-dependent control)

If the adsorption stage is monitored via a dew point dependent control system (**optional**). Then the duration of the standby stage is dependent on the loading status of the adsorption vessel (in this case **B1**). The switch over process will be only be initiated when there is an increase in the pressure condensation point. If the system is operated in the "time-dependent switch over" mode, then the initiation of the switching over process will be executed when the set cycle time has expired.

Switching Over Procedure

At the end of the regeneration stage, the system switches over to the regenerated adsorption vessel (**in this case B2**) in the following steps:

- **The regeneration vessel (in this case K4) on the regenerated adsorption vessel (in this case B2) is closed**
- **Pressure is built up through the regeneration orifice OR**
- **The inlet valve (in this case K2) is opened**
- **The outlet valve (in this case K1) is closed**
- **The regeneration valve (in this case K3) is opened**

The vessel saturated with moisture **B1** is now in the desorption stage while the adsorption vessel **B2** is responsible for drying the compressed air.

Do you have questions about the best way of processing your compressed air?

We have the answers! We offer efficient solutions for any type of processing chain. Please contact us with your queries. We would be delighted to tell you more about our condensate treatment, filtration, drying, measuring and process technology, and our comprehensive services.

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