



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.

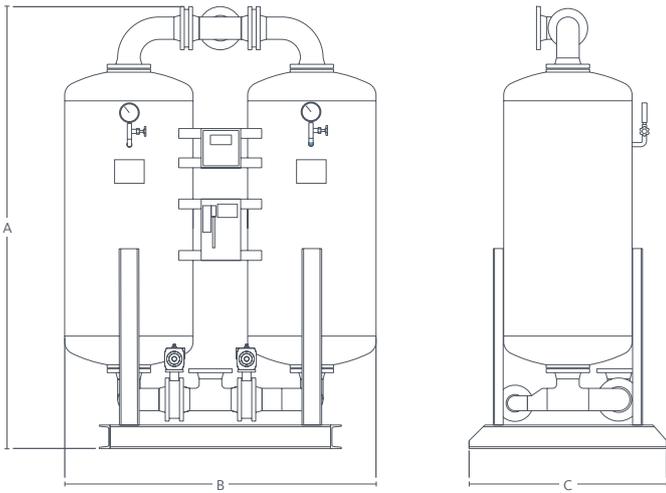
- › **Efficient control**
- › **Fail-safe**
- › **Practice-oriented**
- › **Easy to service**
- › **Sturdy and safe**



Better through Responsibility



DRYPOINT® HL



HEATLESS

| 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 m ³ /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 |

| 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 (m ³ /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

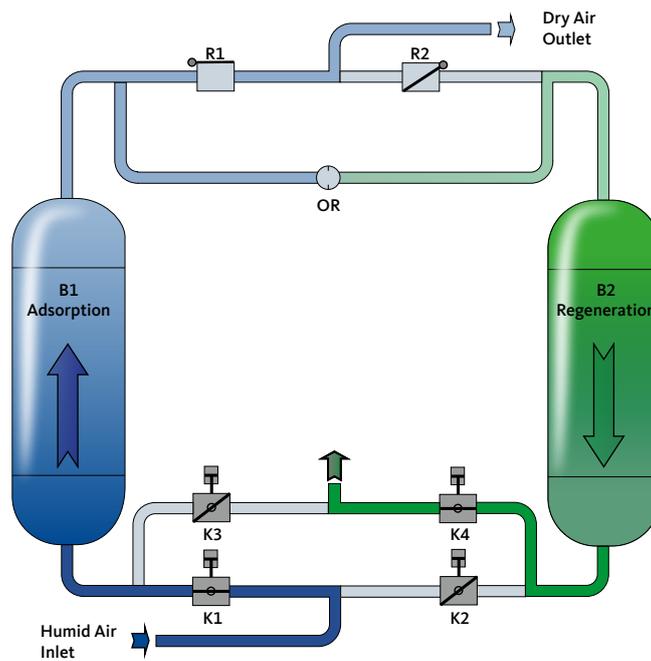
The moist compressed air flows into the system through the valve **K1** and into the adsorption vessel **B1**. The flow distributor ensures an even distribution of the moist compressed air. The moisture will be absorbed by the desiccant during the through flow process. The dried compressed air passes 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.

Visit us at



BEKO TECHNOLOGIES GMBH
Im Taubental 7 | D-41468 Neuss

Tel. +49 2131 988 - 1000
info@beko-technologies.com
www.beko-technologies.com



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