ZAN-TECH®

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HL MINI SERIES

DESICCANT AIR DRYERS.

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Compressed Air Questions And Answers

Why is compressed air wet?

The atmosphere contains water vapour and during the process of compression, the water vapour is concentrated to +- 7 times that of the surrounding air. So if the air contains 30% humidity, after compression the air would effectively be 210% humid. As the air can only be 100% humid when fully saturated, the excess water vapour condenses into a liquid. (condensate)
Water traps, filters and condensate drains catch and remove the bulk liquid after the compressor, but the air would still be 100% humid. i.e. Saturated with vapour.

Why does further condensation occur in the plant?

Warm air holds more water vapour than cool air.
If the air leaves the compressor room at 40 deg C, the air would hold 51 g/m^3 of water vapour.
If the compressed air cools in the plant to say 30 deg C, at this temperature the air can only hold 30.4 g/m^3 of water in vapour. This would result in 20.6 g/m^3 of water condensing into the air lines.

The Solution

The HL Mini Series desiccant dryers are a point of use, dryers that can be installed anywhere in the plant to produce perfectly clean dry air. (ISO Calss 2 quality)

- Stainless Steel brackets for easy installation and wall mounting.
- 220 volt with very low power consumption.
- Includes pre and post filters.
- Reduces dew point of compressed air to a -40 deg C PDP.
- Low maintenance and running costs.

PRE & POST FILTERS INCLUDED

AUTOMATIC CONDENSATE DRAIN

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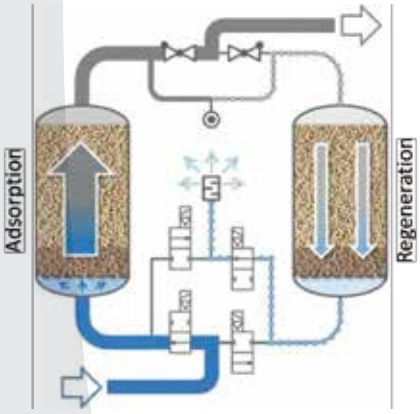
Operating Principle

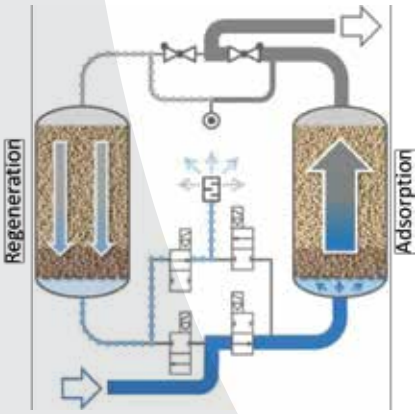


Adsorption:

The wet compressed air first passes through a 0,01 micron filter to remove bulk condensate and dirt particles, before entering the desiccant vessel.

The inlet valve then directs the saturated air through one of the two desiccant vessels. The water vapour is then absorbed into a high quality desiccant material.

The ultra-dry air leaving the desiccant tower is passed through the post filter to ensure that no desiccant dust is carried into the airlines.



Regeneration:

A small portion of the dry air is redirected through the vessel that is being regenerated. The super dry air evaporates out the moisture from the desiccant beads as it vents to atmosphere.

After 5 minutes the vessels changeover and the regenerated vessel now becomes the Adsorbtion vessel.

Operating Principle

For all small point of use applications where high quality compresses air is needed such as:

- Instumentation
- Pharmaceutical
- Laboratory
- Spray painting
- Dentistry
- Packing machines
- Pneumatic Actuators
- Cooling Instrumentation cabinets

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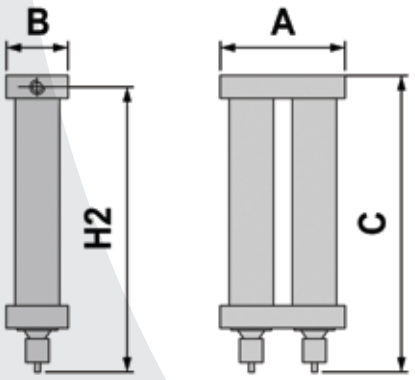
Air Dryer Sizing

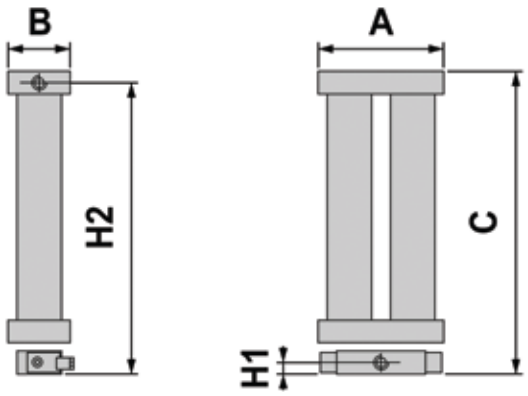
The flow rates below are for a standard operating condition of 35 deg C inlet at 7 bar.
If larger flow rates are required, please see our HL Series brochure.

	Flow-rate			Max Pressure	Connections	Dimensions			Weight
Model	l/min	m3/h	CFM	Bar	BSP	A	B	C	
HL 0003	30	1,8	1	10	1/4"	110	50	375	2
HL S012	120	7,0	4	10	1/4"	170	70	530	5,6
HL 0030	300	18,0	11	10	3/8" & 1/4"	218	100	575	10,5

HL 0003 - HL S012



HL 0030



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