

Adsorber BD-D

Section 1: Manufacturer's details

Giebel FilTec GmbH,
Carl-Zeiss-Str. 5,
74626 Bretzfeld,
Germany
Tel. +49 79 46 94 44 01 0
E-Mail info@gf-dry.com



Section 2: Product overview



Sizes	
Size 1	BD-D 1M / BD-D 1L
Size 2	BD-D 2M / BD-D 2L
Size 3	BD-D 3M

Materials Used

Acrylic glass, polyamide (PA), FKM, Silicagel Orange-Green

REACH Notice

No ingredients subject to disclosure according to Regulation (EC) No. 1907/2006.

Section 3: Construction and materials

Use	Disposable
Housing Material	Acrylic glass, PA
Adsorbents	Silicagel Orange-Green
Particle filters	Filter element with 3 µm separation efficiency
Sealant	FKM
Operating temperature	-40°C - +80°C
Connection	BSP / NPT

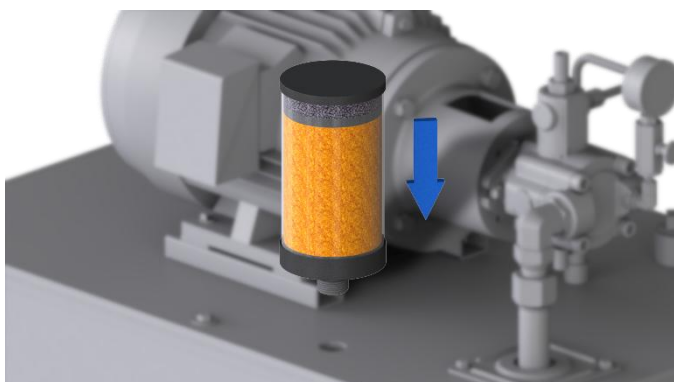
Section 4: Specifications



	BD-D 1M	BD-D 1L	BD-D 2M	BD-D 2L	BD-D 3M
Total weight [kg]	0,2	0,3	0,7	1,0	1,4
Adsorbent [kg]	0,08	0,15	0,3	0,5	0,8
Color Changing Capacity [ml]	28	53	120	200	320
Height [mm]	84	128	152	210	226
Case diameter [mm]	60	60	90	90	110
Screw-in diameter [mm]	63	63	94	94	114
Connection	BSP, NPT	BSP, NPT	BSP, NPT	BSP, NPT	BSP, NPT
Valves [IN-OUT]	0 – 0	0 – 0	0 – 0	0 – 0	0 – 0

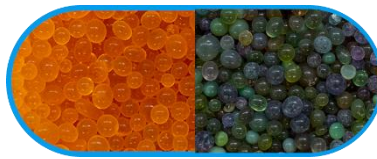
Section 5: Installation and commissioning

1. Remove any existing protective caps on the bottom of the adsorber.
2. Screw the adsorber to the system.
The torque should be 5 Nm and should not exceed 10 Nm. "Tangible"



Section 6: Maintenance

Adsorbers of the BD-D series are not maintained, but completely replaced.



0 % → 100 %

If the color of the Silicagel has completely changed due to the color indicator used, the adsorber must be replaced.

1. Unscrew the adsorber from the system and discard it.
2. Screw a new adsorber onto the system.

Section 7: Spare parts and storage

If the disposable adsorber is completely saturated, it must be replaced with a new adsorber.



Adsorber

- Silicagel
- Filter element
- Seal

*Pre-assembled in
the housing and
packed airtight.*

Ordering spare parts

To ensure that the adsorber and thus the system are always ready for operation, make sure that a spare adsorber is always in stock.

The time it takes to achieve a complete color change and thus the service life of the adsorber depends on several factors:

- Number and duration of flow and load intervals.
- Air volume flow and flow velocity, relative humidity of the ambient air.
- Temperature of the ambient air and the medium to be ventilated.



Storage of adsorbers

This product can be stored in a dark and dry environment for up to two years. Storage temperatures should be between -10° and 30°C.

Section 8: Disposal

At the end of its useful life, the device must be disposed of in accordance with the relevant legal requirements.

The fully loaded adsorber can be disposed of in household waste.

Silicagel is not classified as a hazardous substance in accordance with European Union legislation (Regulation EC No. 1272/2008). It is not subject to any labelling requirement according to EC Directive (67/548/EEC or 1999/45/EC). Silicagel is not classified as a substance hazardous to health or the environment.

Section 9: Risk and hazard analysis

1. Humid air flows into the system

Porous seals

At the porous points, moist air can flow into the adsorber or into the system. As a result, complete drying is not possible and moist air enters the system.

Saturated desiccant

When the desiccant is saturated, it can no longer absorb moisture. As a result, moist air enters the system.

Air flow rate too high

If the air flow rate is too high, the contact time between moist air and desiccant is too short. This allows moist air to flow into the system.

Oil on the desiccant

If too many oil particles enter the adsorber, the oil particles close the pores of the desiccant and thus prevent adsorption.



Ambient temperature too high

If the ambient temperature exceeds 80°C, the binding forces in the desiccant decrease. As a result, the incoming ambient air is only dried to a limited extent.

2. A positive or negative pressure builds up in the system

Air flow rate too high

Too high an air flow rate can lead to positive or negative pressure in the system.

Dirty filter element

The filter unit can become clogged by dirt particles and thus build up pressure in the system.

Oil on the desiccant

If oil particles get into the adsorber, the spaces in the filling can fill with oil and the filling can stick together. This can lead to a build-up of pressure in the system.

3. An adsorber is damaged

Material Resistance

When choosing an adsorber, environmental and operating conditions should be taken into account. An aggressive environment or liquid in the container can damage the adsorber.

Temperature range

The ambient and operating temperatures should not exceed or fall below the specified range, otherwise the adsorber may be damaged.

Improper handling

Incorrect or improper handling can damage the adsorber. Please refer to the recommended installation.

Strong vibrations

Strong vibrations from the system can damage the adsorber.

Pressure range of the system

The adsorber should not be exposed to positive or negative pressure above 0.5 bar, otherwise the housing may be damaged.

Cleaning the adsorber

For the external cleaning of the adsorber, it is recommended to use a mild soap in combination with water. The use of brake cleaner damages the adsorber and does not constitute a reason for complaint.

Section 10: Maintenance schedule

1. Check seals for wear

Control The O-ring installed on the adsorber must be checked for perfect condition. For this purpose, the seal at the connection should be checked for brittleness.

Cycle Half-yearly

Measures In case of existing damage, a new O-ring or adsorber should be used.

2. Visual inspection of desiccant

Control The load status of the desiccant must be determined by visual inspection of the adsorber. The color orange indicates that the silica gel can still absorb water and the air is dehumidified. When the desiccant is completely saturated, the colour changes to green or colourless.

If there are oil particles on the desiccant, they close the pores and the adsorption capacity is reduced. As a result, the desiccant discolours more slowly and unevenly

Cycle Half-yearly

Measures If the desiccant is contaminated or damaged by oil, a new adsorber with fresh desiccant should be used.

3. Visual inspection of the adsorber

Examination The adsorber, including the compound, must be visually inspected for damage. Damage may occur due to various environmental or operating conditions.

Cycle annual

Measures If the adsorber is damaged, it must be completely replaced to ensure full functionality.