

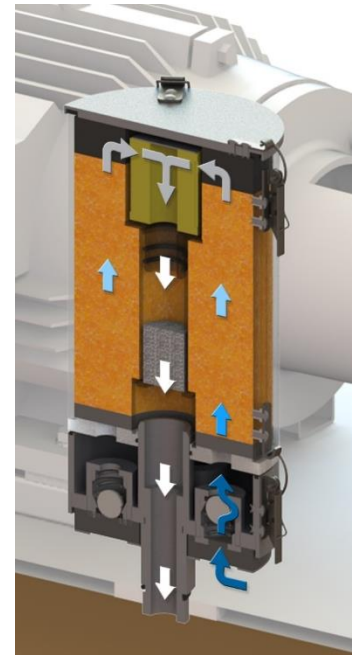


Question of the month - December 2019

How can I check if my adsorber is working?

Adsorber function

A silica gel filter dries the air flowing through and absorbs the water to a minimal residual value. The air must flow through the adsorber or have contact with the desiccant through openings. This changes color to a dark blue-green with the load.



Reasons for missing color change

If an adsorber is mounted on the system for a long period of time without changing the color of the silica gel, there can be several reasons.

1. The system has "no" pendulum volume. That no or hardly any air is exchanged with the surroundings. This happens with circulating oil lubrication or systems with synchronized cylinders. The amount pumped out of the tank comes back into the tank at the same time.

This means that no air is drawn in and there is no contact between silica gel and air humidity in an adsorber with valves.





Days for test	Breather with holes	Breather with valves
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0 days



50 days

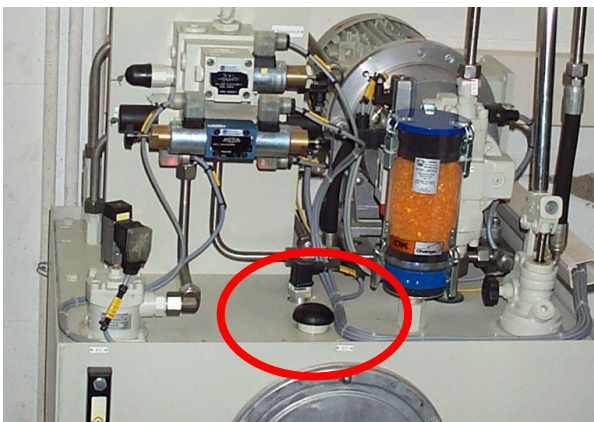


The figure shows that an adsorber with valves and a lack of air flow has no discoloration and no water absorption.

2. System has no air exchange. This is often the case with gearboxes if they have only a very small air cushion, are shielded from external weather conditions or are only very rarely in operation.

An example of this are gearboxes for weir systems of the water shipping authorities.

Here, too, valves have a positive influence on the maintenance interval and the water entry into the adsorber.



3. Air does not flow through the adsorber. If there is an opening in the system through which the air can be drawn in, it is not dried. The air thus bypasses the adsorber. This does not absorb water and remains new for a longer period.



4. Adsorber, or the desiccant are oiled. Silica gel loaded with oil has lost the ability to adsorb water. The pores are impregnated and therefore closed. The color change takes place only partially, with a considerable delay and with a different color.

Review options

Basically, when using an adsorber: "Only change when the fill is completely discolored!" However, due to the points mentioned, there may be a late or no change in color. In order to still ensure that the adsorber protects the system, the following can be done:

Check the free movement in the adsorber by "blowing". The differential pressure of an adsorber is minimal. The air flows through the adsorber, where it is "blown" through the connection. If a higher pressure is necessary, the adsorber is glued (possibly with oil) and must be replaced.

Weigh and compare adsorber. The weights of all adsorbers can be found in the instructions, data sheets and on the Internet. If there is a difference between the target and actual weight, a foreign substance (e.g. oil) could be present in the adsorber.

Send adsorber to GIEBEL FilTec and have it checked. Of course, every adsorber can be sent directly to us. We check the adsorber, regenerate the silica gel and can use it to determine whether foreign substances have been absorbed and the status of the adsorber.

Recommendation: It makes sense to replace an adsorber (or spare parts package) after two years at the latest. This ensures safe use of the adsorber and protection of the system!

