

Issue no. 04/2025

Problems with clogged heat exchangers: Four common causes

If the cabin heating does not come to temperature, this may be due to a clogged heat exchanger. To permanently remedy the problem, the cause must be eliminated.

Rust or limescale deposits are often responsible for the clogging of the radiator, especially if the cooling system either has not been filled with distilled water or too little radiator antifreeze has been added. In two other cases described below, however, clogging may occur even if the system contains the prescribed coolant mix. In such cases, problems will continue to occur even after flushing or replacing the heat exchanger.

Leaky silica gel bag

In some manufacturer's designs, the coolant expansion tank contains a bag of silica gel designed to maintain an optimal silicate level in the coolant and thus protect components from corrosion. If the bag is damaged, its contents can leak into the cooling system, potentially clogging the heat exchanger or other coolant channels. In such cases, the coolant tank must also be replaced during repairs. To prevent future issues, the tank should be regularly replaced. Alternatively,

consider using an antifreeze with silicate additives instead of a system that relies on a silica gel bag.

Flocculation in G13

G13 is a coolant antifreeze based on monoethylene glycol and glycerol. The latter is a plant-based substance that is considered environmentally friendly. One disadvantage, however, is that flocculation can occur over time—an effect that is more pronounced in diesel vehicles with an engine block made of gray cast iron. The flakes can accumulate in the heat exchanger and clog it. In most cases, flushing the cooling system and changing to another coolant (G12evo) provides a remedy; in severe cases, the heat exchanger may also have to be replaced.



Figure 1: Coolant expansion tank with silica gel bag



Figure 2: Deposits in the coolant expansion tank

Important!

Always use the prescribed coolant antifreeze mixture and only use distilled water for mixing. For vehicles filled with G13 as standard and coolant expansion tanks with silica gel bags, the tank should be replaced regularly. Alternatively, it may be worth checking whether the manufacturer has approved a conversion to an antifreeze with silicate additives (e.g. G12evo).