



## Heat exchanger

### General points

The heat exchanger is installed in the heating box of the vehicle interior and has coolant flowing through it. The interior air is routed through the heat exchanger and thus heated up.

### Structure/function

Like the coolant radiator, the heat exchanger is made up of a mechanically jointed pipe/fin system. The trend is moving to all-aluminium design here, too. Coolant flows through the heat exchanger. The flow quantity is usually controlled by mechanically or electrically controlled valves. The interior air is heated up via the cooling fins (network) of the heat exchanger. The air flow produced by the interior fan or the wind blast is routed through the heat exchanger which has hot coolant flowing through it. This heats up the air which is returned to the inside of the vehicle.



All-aluminium design

### Effects of failure

A faulty or poorly working heat exchanger can become noticeable as follows:

- Poor heating performance
- Loss of coolant
- Odour build-up (sickly-sweet)
- Fogged windows
- Poor air flow

The following can be considered as possible causes:

- Poor heat exchange caused by external or internal impurities (corrosion, coolant additives, dirt, limescale deposits)
- Loss of coolant through corrosion
- Loss of coolant through leaky connections



Poor performance caused by deposits



- Soiled interior filter
- Impurity/blockage in the ventilation system (leaves)
- Faulty flap control

## Troubleshooting

Test steps towards recognising faults:

- Watch out for smells and windows fogging
- Check interior filter
- Check heat exchanger for leaks (hose connections, beading, network)
- Watch out for impurities in/discolouring of the coolant
- Check coolant flow (blockage through foreign matter, limescale deposits, corrosion)
- Measure coolant inlet and outlet temperature
- Watch for blockages/foreign matter in the ventilation system
- Check flap control (recirculated air/fresh air)