

Service Bulletin

Series | General

Subject | Bleeding of heating and cooling water circuits

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Bleeding of heating and cooling water circuits

This service information serves to impart the proper bleeding of cooling and heating water systems and the correct handling of automatic bleed systems and glycol water.

1. Bleeding

Following the filling of cooling water systems the oxygen combined in the water must be discharged from the system. If the system is not bled, undesirable side-effects and damages can result:

- Problems with the cooling performance of the heat exchangers or the radiators.
- Rapid, sudden temperature increases of the media to be cooled (engine cooling water, lubricating oil and mixture) which are often difficult to explain.
- Local overheating and consequently damage to waste heat recovery boilers
- Corrosion to various non-corrosion resistant components of the system.
- Early ageing of the filled water.

In order to prevent these undesirable effects, the following procedure must be adhered to when bleeding:

1. Check admission pressure of the expansion basin.
2. Fill the respective system with the correct medium: Glycol/water, pure water with corrosion protection, treated heating water (only for heating circuits!), etc., leaving the bleeding valves open.
3. Close the valves and increase pressure up to the provided system pressure.
4. Bleeding of the newly filled system by way of hand valves or automatic bleeding systems. Switch on existing pumps for 1 to 2 minutes and bleed again.
5. Heat water for approx. ½ hour by starting the engine or the heat generator in the system, since bleeding is much improved in the hot state. After the system has been stopped for roughly 15 minutes (also the preheating pump of the engine → service selector switch to “OFF”!), renewed bleeding can commence.
6. Repeat paragraph 5 until it is ensured that no air is left in the system. Please do not forget to also bleed at the valves directly on the engine!!



Bleeding of engine cooling water:
At the highest point of the engine
cooling water- system!

Note: Should a defective bleed valve be discovered in the engine cooling water or heating water systems, it is imperative to replace this at the next opportunity to ensure proper bleeding of the system!

2. Automatic bleed system

At all container sets supplied by Jenbacher, Automatic bleed systems are attached to the desk radiators. Many heating circuits of stationary plants are also equipped with them.

Automatic bleeding systems serve for the automatic bleeding of the cooling water systems during commissioning. After commissioning, it is imperative to close these by means of the ball valve installed upstream.

- Should, for example, combustion leaks occur, for instance through inadequate sealing on the spark plug sleeve, this cannot be detected with the automatic bleed system open, since no pressure increase will occur in the system. If such a leak is detected too late, water may enter the combustion chamber!!



Automatic bleed system:
Close after comissioning!

3. Glycol water and its service life

The glycol cooling water charge of the engine cooling circuits has a limited service life, i.e. corrosion and frost protection of the charge is diminished over time.

For this reason, the cooling water charge of glycol circuits and the water of heating circuits must be subjected to regular analysis.

In this regard it is imperative to adhere to the [TA 1000-0200](#) and the appropriate frost and corrosion protection manufacturer's details.

→ Other applicable TAs: [1000-0201](#), [1000-0204](#), [1000-0207](#), [1000-0208](#)