

## Issue no. 03/2021

Special considerations when working with Visco® fans and clutches (CFF and CFC model)

*Before installing Visco® fans and clutches, it is essential to ensure that the components have been properly stored and transported.*

There are two types of radiator fan: fans with an electric motor and Visco® fans driven directly from the internal combustion engine. Today, Visco® fans are mainly used in commercial vehicles.

### Principle of operation

At the heart of these fans is the Visco® clutch, which uses a fluid to transmit torque from the drive shaft to the fan. It is continuously variable and wear-free. The clutch housing consists of a working chamber and a reservoir chamber that is filled with a defined quantity of silicone oil. A bimetallic spring or electronic valve regulates the amount of fluid that can flow from the reservoir to the working chamber depending on the coolant temperature. At higher temperatures—when there is also a greater need for cooling—more silicone oil flows into the working chamber. As the oil flow increases, so too does the drive torque transmitted, and thus the speed of the fan.

### Storage

Visco® clutches must be transported and stored in the correct position, which may vary depending on the model and control system. The top is indicated on the packaging by arrows pointing upward and the words “THIS END UP.” Visco® fans that have been removed should, if possible, be stored upright in the installation position and secured so they don't fall over. Incorrect storage may lead to oil leakage from the clutch, which can cause irreparable damage.



Figure 1: The transport and storage position varies depending on the model and control system. The labeling on the packaging is binding.



Figure 2: Correct storage position of a bimetallic Visco® clutch (according to packaging label with bimetallic strip facing upward)

### Important!

Traces of oil on the clutch or packaging are a clear indication of improper transport or storage. These Visco® fans and clutches must not be installed, as the fan may malfunction or fail due to lack of oil. It isn't possible to top up the oil in Visco® clutches; the entire component must be replaced.