

Rethink. Reverse!

The innovative reversible fan.
The original from **CLEANFIX**.



www.cleanfix.org

CLEANFIX[®]

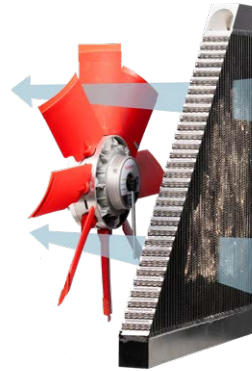
invented & made by Hägele

Clean coolers

save time and fuel

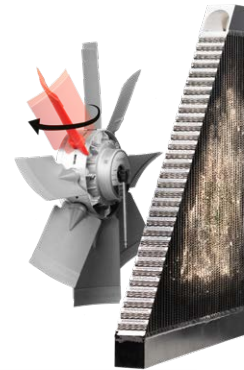
Efficient cooling

Cleanfix reversible fans adapt to the cooling requirements of the machine. This reduces the power consumption of the fan.



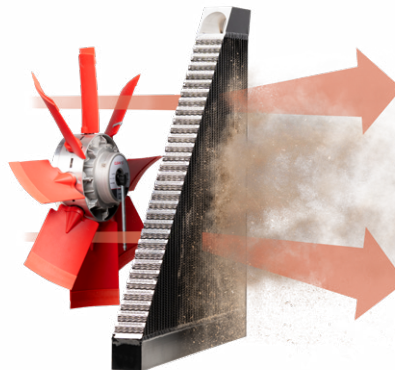
Convenient reversal

At the push of a button, the reversal of the blades to the cleaning mode is activated during work operation and at full speed.



Powerful cleaning

The optimal alignment of the blade profile ensures high airflow and strong cleaning pressure. Only this technology cleans your cooler effectively.





All advantages at a glance



Powerful cleaning

The Cleanfix reversible fans automatically blow dirt out of the cooler at a configurable time interval.



Increased productivity

The Cleanfix reversible fans clean at full speed without interruption of work.



Optimized cooling

The Cleanfix reversible fans adapt their blade angle to the cooling requirements.



Less downtime

The Cleanfix reversible fans lengthen the maintenance and cleaning intervals.



Fuel savings

The Cleanfix reversible fans keep radiators clean and save up to 4 kW compared with dirty radiators.



For any application the appropriate control



Valve Unit 4.0

Unit consisting of valve and timer. It is connected to an existing hydraulic or pneumatic system in the machine.



Control Unit 4.0

Unit consisting of valve, timer and compressor. This pneumatic system does not require a hydraulic or compressed air system in the machine.



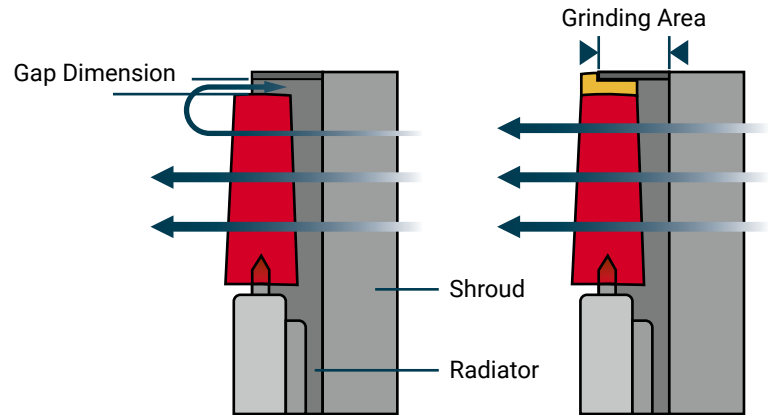
E-BOX 4.0

Unit consisting of valve, timer and compressor. The components are protected by a high-quality box that protects against dust, moisture and vibrations.

Maximum performance for every machine

Flex-Tips

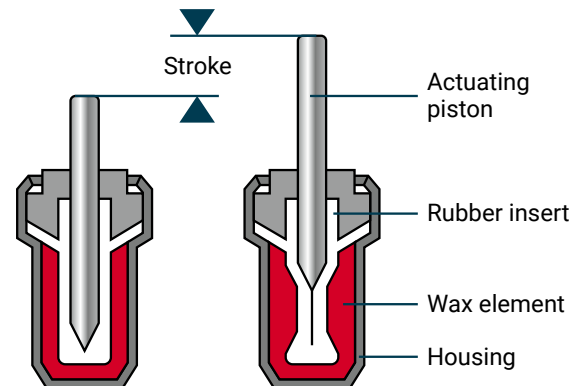
Fans have one problem in common: the blades need to be positioned at a certain distance from the shroud to function properly. The turbulence generated in that area increases the resistance for the fan.



However, this distance can be minimized by using our Flex-Tips. The flexible blade extensions, made from high-performance plastic, automatically adjust to fit any shroud. This leads to fuel savings, enhanced performance, and reduced noise.

Thermal actuators

The thermal actuators ensure the blade angle is adjusted as needed. The wax-filled components react to differences in temperature. In a fixed temperature range, the wax expands, moving a small piston that adjusts the angle of attack of the blade from flat to steep. All blades are connected via a single piston to ensure synchronized movement.



Customized blade sizes

The Cleanfix reversible fan is known for its versatility and different blade sizes, making it suitable for use in agriculture, construction, waste management, forestry, and rail transport. It fits practically every machine, optimizing flexibility, saving time, and boosting efficiency – from small to large machines.



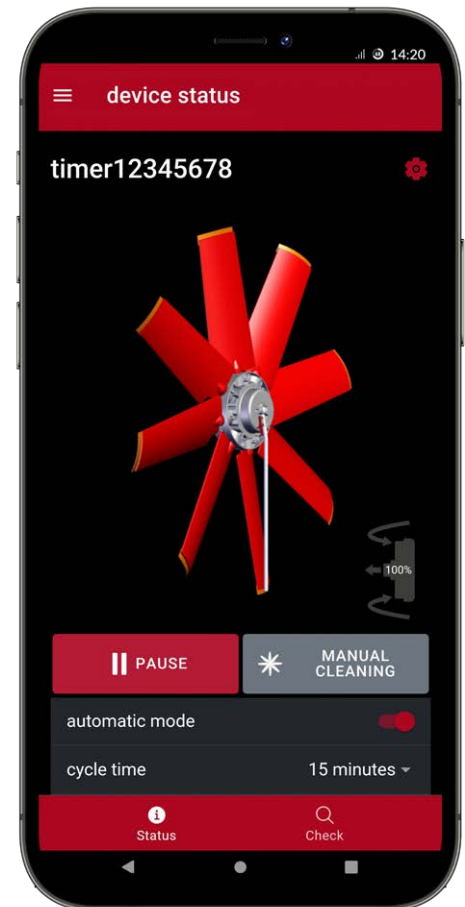
Simply digital

with the CLEANFIX control app

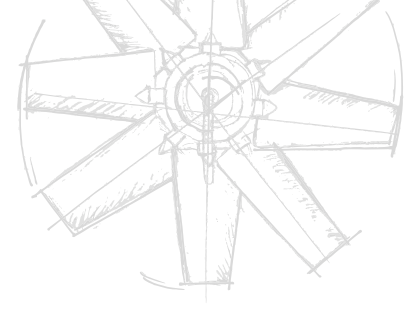
With the CLEANFIX control app, handling the reversible fan is now even more convenient. Quick and simple connection with Bluetooth. With this app you can use all compact and easy manageable new functions. So you always have full control over your fan.

The most important features:

- Quick switching between manual and automatic mode
- Possibility to pause for cleaning
- Flexible adjustment of the cycle time
- Intermediate cleaning can be started at any time via the app
- Independent function control: Automatic notification of maintenance requirements, high temperatures and defects
- Manual system check by pressing the button
- Simplified identification of spare parts
- Operation independent of driver position



Quality and progress are high on our agenda

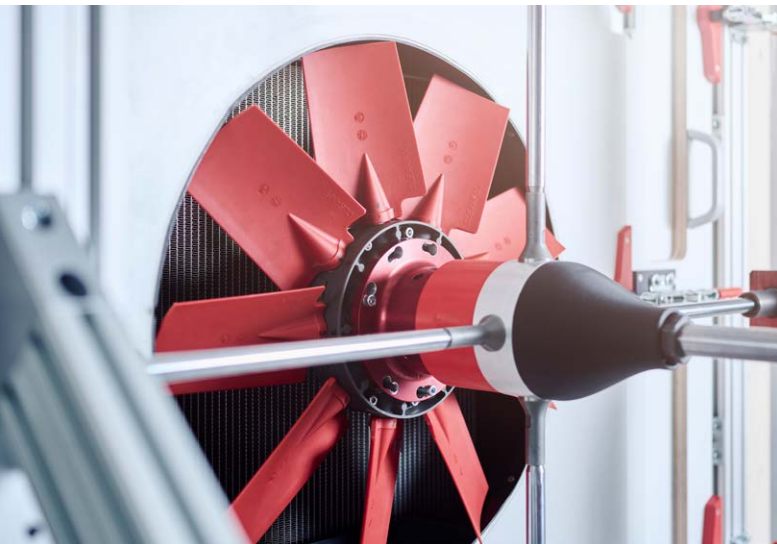


Together with our customers, we determine the precise efficiency of energy-optimized and low-noise cooling modules on our new test bench.

The **standardized suction-side test bench** is 14 m long, complies with international standards (**ISO 5801, ANSI/AMCA 210-16**) and is suitable for **axial fans with impeller diameters from 300 to 900 mm**. The test bench is able to measure not only fans and radiator packages, but **models** as well. This cuts development costs enormously, as the test bench also provides very **meaningful drag curves** for new developments that are created as scaled-down **3D prints**.

We control the air flow precisely with an **adjustable 30 kW auxiliary fan** and a **manually adjustable louver damper**. **Replaceable torque measuring shafts** ensure efficiency is precisely recorded.

Our laboratory analyzes **materials, material pairings and surface finishes**, as well as changes in materials before and after the bench test. We have efficient ways of testing your design, the material and the effect parameters even ahead of the first prototypes. So your machine gets to the market faster and better.



New challenges call for new partnerships

The mobility and machinery industry is on the brink of a paradigm shift. New drive technologies – from battery-powered to fuel cell-operated machines – call for innovative cooling solutions.

We are squaring up to these challenges by joining forces with **Ymer Technology**, a leading specialist in cooling and thermal management systems.

By combining our expertise in reversible fans and Ymer Technology's leading position in customized thermal management, we are opening up a whole new range of opportunities:

- Optimized cooling capacity for modern drive systems
- Maximum energy efficiency and adaptability
- Minimizing audible and perceptible vibrations for enhanced comfort and performance

Thermal management plays a pivotal role for the future by enhancing efficiency, boosting reliability, and extending the lifespan of machines through intelligent

control. At the same time, it optimizes aerodynamics and improves performance by directing air flow.

This partnership is set to ensure seamlessly integrated cooling and ventilation systems for maximum performance, automated cleaning for long-term efficiency, and continuous advancement through joint research and innovation.

In another partnership with **Heinzmann GmbH & Co. KG**, we are running joint tests on electric motors for our Cleanfix. Heinzmann brings to the table its years of experience and technological expertise to assess the performance and efficiency of the electric motors and optimize motor control for our fan.

As a result of this collaboration, we will be able to provide even more efficient, integrated solutions for your machines in the future.



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Please feel free to contact us if you have any questions.

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Or use our contact form.

cleanfix.org/contact



222897 (03/2025) EN