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ENERGIES

**Equilibrium in Technology**

## **AUTOMATIC CLEANING SYSTEM**

# **CLEANING SYSTEM**

Fully automatic rotor cleaning system for heat exchangers used in a heavily polluted environment.

During the rotary heat exchanger operation, even with the use of a top quality filtration, the rotor channels are subject to gradual silting (dust, impurities, grease, sticky aerosols etc.). Such contamination contributes to reduction of exchanger output, increase of pressure loss and in extreme cases even to rotor failure. For rotary heat exchangers operated in a strongly polluted areas (such as paint shops, rubber or heavy industry), KASTT offers a fully automatic rotor cleaning system.



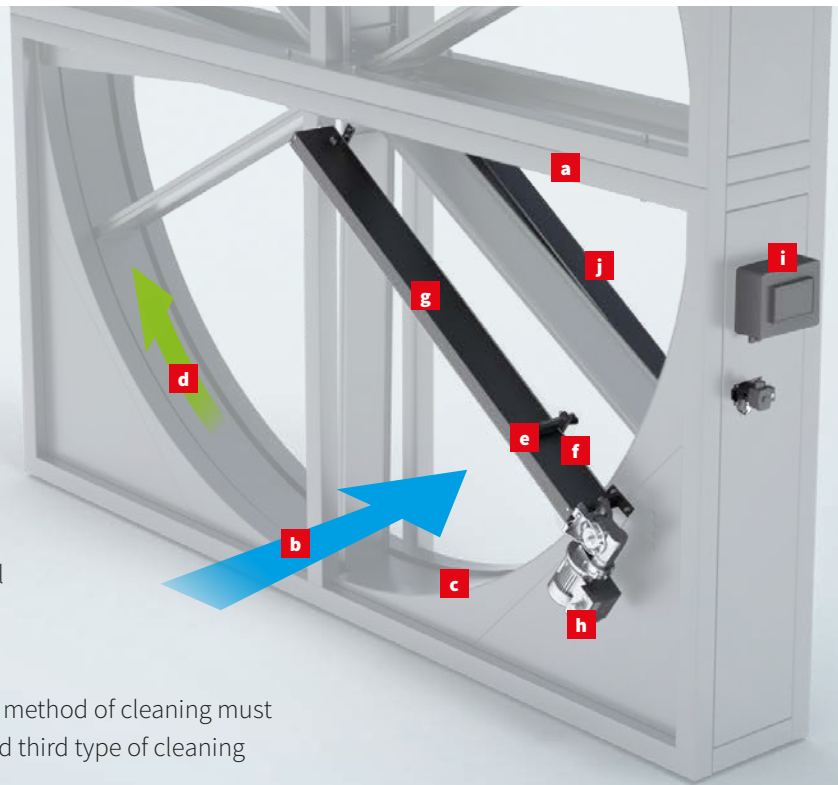
### **Key benefits**

- Rotor cleaning at air-handling unit operation
- Fully automatic cleaning process
- Automatic system activation (no operator needed)
- Variable location of cleaning unit
- Adjustable rotor cleaning intensity

## Cleaning unit location

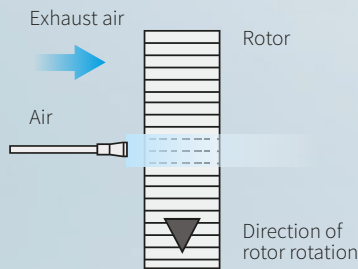
Mechanical part of the system is located in front of the rotor, in the exhaust air channel, at the angle of approx. 30° from the dividing plane. Behind the rotor, there is a draining channel right against the nozzles to catch the contaminated waste water.

- |                                      |                           |
|--------------------------------------|---------------------------|
| <b>a</b> Dividing plane              | <b>f</b> Compressed air   |
| <b>b</b> Exhaust air                 | <b>g</b> Shift            |
| <b>c</b> Rotor                       | <b>h</b> Shift motor      |
| <b>d</b> Direction of rotor rotation | <b>i</b> Control unit     |
| <b>e</b> Water                       | <b>j</b> Draining channel |



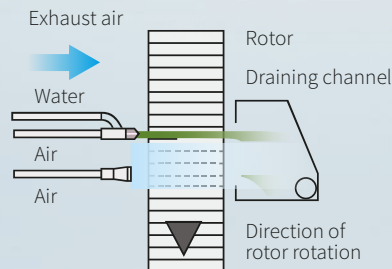
## Rotor cleaning principle

Based on the type of contamination, the appropriate method of cleaning must be selected. Compressed air is used in the second and third type of cleaning for final drying of rotor after water application.



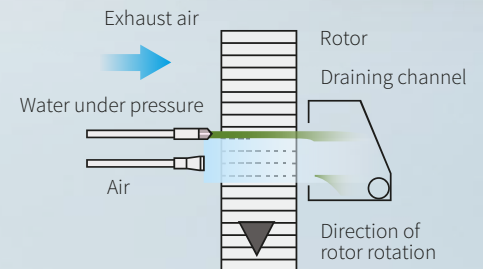
### 1. Cleaning by compressed air

- suitable for rotors contaminated by dry dust or tack-free impurities



### 2. Cleaning by water - air mixing nozzle and by compressed air

- suitable for rotors mainly contaminated by sticky impurities



### 3. Cleaning by hot or cold power water (under pressure) and compressed air

- for rotors contaminated by fat and grease

## Cleaning cycle control methods

The system may be supplied without control or with an independent automatic control of KASTT.

**Without control** – this version is suitable for integration into the control system of air-handling unit that will control the cleaning functions.

**Automatic control** – the system is either started manually by operator who presses the button on the control panel or it is incorporated into a complex M&C (measurement & control) system. The rotary heat exchanger is fitted

by pressure sensors and the rotor cleaning is initiated automatically at the predefined level of pressure loss by opening the valves with compressed air and water. A cart with nozzles is shifting with each rotor turn. At the same time the control unit slows down the rotor revolutions to reach the optimum speed for cleaning. After the complete shift the valve with water closes and then the final drying by compressed air is carried out. Then, as soon as the terminal position is reached, the compressed air valve is closed and the unit switches to „ready“ state. The control unit of KASTT is located in a separate plastic box.



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