

Exhaust air heater (Incinerator) for laboratory autoclaves (S2/S3)

In the age of **COVID-19**, the requirements for safe sterilization procedures are becoming increasingly stringent.

We, the Zirbus technology GmbH, present our innovative **exhaust air heater** for laboratory autoclaves from 150 liters chamber volume for thermal treatment of infectious exhaust air streams. The process fully complies with the requirements of **TRBA 100** and **ABAS** regulation.

The safety of the employees and the environment is our top priority. Reliable processes are required. The exhaust air treatment is one of the most important safety components in the safety laboratory, if a danger from infectious exhaust air can be assumed.

Functionality:

The exhaust air heater is integrated in the autoclave housing and is electrically heated. It is installed between the autoclave chamber and the vacuum pump. The air sucked out of the autoclave chamber as well as the steam outlet are heated to $> 350^{\circ}\text{C}$ to inactivate all organic pollutants. An integrated ball bed stores thermal energy and increases the contact surface. This ensures that air entering intermittently is safely decontaminated. The condensate remaining in the chamber is co-sterilized inline. This is temperature controlled.

Advantages:

- Permanent monitoring of process-relevant parameters.
- Complete retention/killing of infectious contaminated exhaust air.
- System ready for use at any time.
- Low maintenance. No need to change the filter again and again.
- Validatable process - absolutely safe. No unnoticed loss of function as with conventional filter systems.

Safety devices:

- Monitoring of heating power (current consumption) + heating temperatures.
- Integration of the parameters into the autoclave system control.
- Immediate alarm in case of process disturbances --> escape of contaminated exhaust air is impossible.
- Additional connection piece for direct vaporization.

