

INSTRUCTIONS FOR PREVENTING EXCESSIVE TEMPERATURE

e.g. KTS & STS



Necessity of air-conditioning an enclosure

Optimal climate conditions make sure that every sensitive component is working reliably and is protected against excessive temperature, freeze, and condensation. For the user, it is necessary to provide suitable environmental conditions for the components in the enclosure and to ensure the optimal temperature range for the electric components.

A high ambient temperature reduces the lifetime of electric components and products. The heat inside enclosures can be prevented by the installation of STEGO filter fans. These filter fans are controlled by thermostats like KTS or STS.



STEGO Filter Fan Plus

Temperature setting of thermostats

Mechanic thermostats are working with a so-called bimetal-switch, which is changing its shape depending on certain temperatures. This induces that an electrical contact is closing (or opening). KTS and STS are so-called closer: If the temperature is exceeding the set temperature, the contact is closing and the ventilation unit starts to rotate. In result, the temperature on the setting dial is the switch-on temperature of the heater.

The ventilation unit switches on when reaching the set temperature!

The filter fans provide the enclosure with ambient air until the switch-off temperature has been reached. This is the result of the consideration of the switch temperature difference and the tolerance. The switch temperature difference is - as the name suggests - the difference between the switch-on and the switch-off temperature (KTS: 7 K / STS: 4 K). The tolerance is the inaccuracy which is unavoidable for mechanical components (KTS: ± 4 K / STS: ± 3 K).

Thus, the switch-on temperature is the switch-off temperature (set temperature) minus the switch temperature and the tolerance!

Switch-off temperature = set temperature – switch temperature difference – tolerance

Calculation example for the KTS

Switch temperature difference: 7 K

Tolerance: ± 4 K

Temperatures above 40°C should be avoided – this value must be set on the setting dial:

The switch-on temperature comply with the set temperature.

The filter fans ensure a cooling until a temperature of

40°C - 7 K \pm 4 K = **33°C** is reached.



Calculation example for the STS

Switch temperature difference: 4 K

Tolerance: ± 3 K

Temperatures above 40°C should be avoided – this value must be set on the setting dial:

The switch-on temperature comply with the set temperature.

The filter fans ensure a cooling until a temperature of

40°C - 4 K \pm 3 K = **36°C** is reached.



For precision cooling our STEGOJET is almost the best solution. It enables precise cooling of heat sources and the air flow prevents formation of heat pockets. Its design offers a maximum rotation range with an air output in any direction.

