

Controller continues heating after reaching the temperature - thermal inertia and probe position

Why does the temperature keep rising?

Switching the heater off or reducing its power does not stop the temperature from rising immediately. The hot heater, vessel walls, water, load or smoker components continue to release stored heat. This is the thermal inertia of the system. The higher the heater power and the smaller the heated object, the more visible the overshoot may be.

Check the probe position

The controller reacts to the temperature exactly where the probe is located. If the probe is too close to a cold product, at a cold-air inlet, or in an area with poor circulation, the controller may "see" a lower temperature than in the hottest part of the device and continue heating for too long.

What should be done?

First check the probe installation. Then reduce heating power near the set temperature if the controller provides such settings. With a very powerful heater it may be necessary to limit maximum power or switch to reduced heating earlier. Regulation should not be judged from one momentary value after the first heat-up.