

Overheating caused by too high boost temperature or minimum power

The controller may be operating according to its settings

Overheating does not always mean a controller failure. If automatic-control parameters are set too aggressively, the controller may follow the programmed commands exactly and the temperature may still exceed the expected value.

Boost temperature

In controllers that provide a boost-temperature parameter, a value that is too high can cause operation at elevated power for too long or a transition to gentle temperature holding too late. With a powerful heater and high thermal inertia, the effect will be particularly visible.

Minimum power

If minimum power is set too high, after reaching the temperature the controller may be unable to reduce power sufficiently. The system continues to receive more energy than it loses to the surroundings, so the temperature slowly rises.

How to correct the settings

Reduce one parameter at a time and observe a complete heating cycle. Start with a reasonably low minimum power and then adjust the boost so that the controller reduces power early enough. Do not compensate for a poor probe location with more aggressive settings.