

The fastest Temperature Calibrators in the World

Most temperature sensors used in industry and research must be calibrated before use and after a prescribed period of time. Particularly portable temperature control devices are suitable for this purpose, as they can often perform both heating and cooling functions. Due to their low (thermal) mass, they can also be controlled relatively quickly to the desired calibration temperature.

From an economic point of view - machine downtimes cost a lot of money - a shortest possible calibration time is desirable. Our revolutionary model-based state control and unique hybrid technology have allowed us to achieve superior calibration times. The latest generation of calibrators from SIKA is up to 50% faster than the competition.

Model-based state control

„A thermometer is calibrated after reaching the thermal equilibrium of both the temperat-

ure control unit and the thermometer itself.“ - As far as the guideline DKD R 5-1. Based on this guideline, the revolutionary model-based state control was developed.

The development of the latest generation of temperature calibrators incorporates experience and knowledge from the aerospace industry. In contrast to the functionality of conventional calibrators, the properties of the device under test are virtually modeled in the new devices of the TP Premium series. A special control algorithm achieves a significantly shorter stabilization time and, in the case of portable calibrators, a unique temperature stability in the millikelvin range.

By quickly reaching the temperature stability, the waiting times until the start of a calibration process are reduced significantly.



Unique hybrid technology

Typically, temperature calibrators are subdivided into heaters and cooling / heating devices.

Heaters are operated with resistance heating with excellent heating power. In the case of the cooling / heating devices, the temperatures are generated by using Peltier elements. These elements use the Seebeck effect (or thermoelectric effect) and are thus able to both cool and to heat by changing the direction of the current.

With our cooling / heating units, we now combine the advantages of both technologies with our unique hybrid technology. In the new TP 37200E.2, we combine high-performance resistance heating with Peltier elements, which have been specially optimized for the cooling process. This makes it possible for us to generate high temperatures extremely fast and still reach temperatures of up to -55 °C.

Easy handling

The operation of the SIKA Premium temperature calibrators is intuitive and user-friendly. Its robust 7" touchscreen allows you to capture all the important functions at a glance.

Extensive calibration tasks can be created and managed with just a few simple steps. This saves time and makes it possible to carry out even complex tasks in a few simple steps.

Impact on practice

By using a new temperature calibrator of the TP Premium series, waiting times until the start of the calibration process and the calibration times can be reduced by up to 50%.

„Time is money“ - Shorter calibration times mean shorter machine downtime. Significant cost savings are possible through the use of the new premium temperature calibrators.

Dry-Block Temperature Calibrators Series TP 37



TP 37200E.2i

The fastest calibrator in the world thanks to hybrid technology and patented state control. Calibration with temperatures from -55...200 °C.



TP 37450E.2i

New temperature range from room temperature to 450 °C and huge calibration volume of Ø 60x150 mm. Revolutionary fan system.

Multi-Function Temperature Calibrators Series TP 3M



TP 3M165E.2i

Switch between four different calibration functions in just a few simple steps. Temperature range from -35...165 °C.



TP 3M255E.2i

Dry block, calibration bath, infrared and surface calibration in one device. Temperature ranges from room temperature to 255 °C.



TP Premium Temperature Calibrators

Multi-function

→ Easy switching between

- Dry-block function
- Calibration bath function
- Infrared function
- Surface function

Your advantage:

- Universal use
- A multi-function calibrator can replace up to four normal devices

Modern operating concept

→ Intuitive operation of the calibration functions

→ Easy management of calibration data on the calibrator

→ High robustness

Your advantage:

- Fast calibrator setup
- All functions at a glance

Practical accessories e.g. webcam

→ Enables automatic calibration with camera

Your advantage:

- Test points are approached without waiting times
- During the calibration process, the user is free to carry out other tasks

LAN / WiFi connection

→ Data exchange between calibrator and terminal (e.g., PC)

→ Barrier-free remote access to data and operations without software driver installation (web application)

Your advantage:

- Simple calibrator setup with specific calibration tasks
- Monitoring of calibration jobs is no longer tied to a specific location

State control

→ Model-based multi-variable control system with predictive temperature control

Your advantage:

- Fastest stabilization times on the market
- Unique control stabilities in the mK range

Calibration tasks

→ Creation of calibration tasks that can be reused at any time

Your advantage:

- Efficient calibration
- Simplified handling, even with complex calibration procedures

Integrated measuring instrument

→ Calibration of temperature sensors without an additional measuring instrument

→ Calibrate multiple sensors simultaneously

Your advantage:

- Simplify your workflows
- Fully automatic calibration and certificate generation

Bootloader

→ Enables software expansion of the calibrator

Your advantage:

- Easy software updates on site
- Future-proof

