

## Micro calibration bath Models CTB9100-165, CTB9100-225

WIKA data sheet CT46.30

### Applications

- Calibration in the pharmaceutical and food industries
- On-site calibration of short temperature sensors
- Simultaneous calibration of several sensors

### Special features

- Two ranges: -35 ... +165 °C and 40 ... 225 °C
- Large tank from Ø 60 x 150 mm free depth
- Short reaction time of bath temperature
- Continuously adjustable stirrer



Micro calibration bath model CTB9100-225

### Description

#### Range of applications

The new WIKA micro calibration baths form the ideal addition to the series CTD9100 and CTD9300 temperature dry well calibrators.

Because of their small insertion depth and the resulting stem conduction error, short sensors suffer a marked increase in their measurement uncertainty with temperature dry well calibrators. Even if one compares the test specimens with an external reference thermometer, they might not be correspondingly short. Once the immersion depth falls below 70 mm, then a micro bath is preferable to a dry well calibrator in all instances.

If several sensors are to be calibrated simultaneously, the micro bath also offers advantages: Thermometers of different stem diameters can be calibrated together without having to have close-fitting inserts beforehand.

This is in particular useful with on-site calibrations, where there is a wide variety of test specimen types and their stem diameters are not known.

#### For temperature range from -35 ... +225 °C

The CTB9100 micro calibration baths are manufactured for two ranges:

- CTB9100-165 for -35 ... +165 °C
- CTB9100-225 for 40 ... 225 °C

Typically, these instruments are used in the pharmaceutical industry and the food industry, in particular for on-site calibrations.

#### Easy to use

The CTB9100 series micro calibration baths are based around temperature-controlled liquid tanks with a usable work area of Ø 60 x 150 mm deep.

The calibration temperature can be adjusted simply via two keys on the controller and thus can be controlled very quickly. The actual and set temperatures are displayed simultaneously on a large, 4-digit, high-contrast LED screen. Thus reading errors are virtually eliminated. The maximum depth of 150 mm for the test specimens reduces the stem conduction errors and thus leads to smaller measurement uncertainties.

# Micro calibration baths model CTB9100

Two instruments for one temperature range  
from -35 ... +225 °C

## Control elements of the micro calibration baths

The calibrator's temperature controller is found on the front panel:

- Set and actual temperatures can be displayed concurrently with an accuracy of 0.1 K.
- Up to four frequently used set points can be stored in the instrument memory.
- Individual temperatures can be adjusted simply using the two arrow buttons on the controller.
- Potentiometer for continuous stir speed adjustment

The tank is fitted with a removable basket, which protects the magnetic stirrer coming into contact with the test specimens. The mains connection socket, power switch and fuse holders are found on the underside of the instrument, to the centre and front.



## Model CTB9100-165

### Temperature range from -35 ... +165 °C

This micro calibration bath is an efficient tool for thermometer calibration. It uses Peltier cooling and can therefore achieve inspection temperatures below ambient.

New multi-stage Peltier elements guarantee good long-term stability and high reliability within the entire working range. Due to its capacity for active cooling, it is often used in the bio, pharmaceutical and food industries.



## Model CTB9100-225

### Temperature range from 40 ... 225 °C

The CTB9100-225 is used in the medium temperature range up to 225 °C. It generates its temperature through electrical resistance heating. For cooling, the fan operates at its maximum setting. This way it is possible to cool from 225 °C to 50 °C within a mere 30 minutes.

Apart from its short heating and cooling times, this bath is notable for its low weight and compact design. This allows it to be used in the widest of industrial applications.

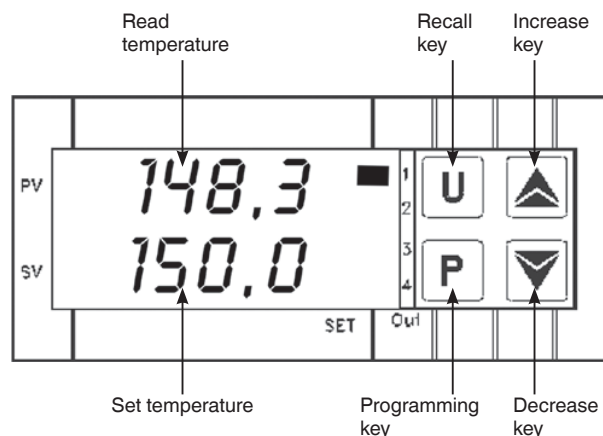
Specifications		Model CTB9100-165	Model CTB9100-225
Temperature range	°C	-35 ... +165	40 ... 225
Accuracy	K	± 0.2	± 0.3
Stability	K	± 0.05	± 0.05
Display resolution	°C	0,1	0,1
Heating time		30 min; from 20 °C to 160 °C	20 min; from 20 °C to 225 °C
Colling time		30 min; from +20 °C to -20 °C	30 min; from 225 °C to 50 °C
Capacity	litre	approx. 0.6	approx. 0.6
Tank dimensions	mm	Ø 60 x 165	Ø 60 x 165
Immersion depth	mm	150	150
Digital interface		RS-485	RS-485
Power supply	AC	100 ... 240 V, 50/60 Hz	230 V, 50/60 Hz (115 V, 50/60 Hz) <sup>1)</sup>
Power consumption	VA	375	1000
Power supply cable		for Europe, 230 V	for Europe, 230 V
EMC-directive		2004/108/EC, EN 61326 Emission (Group 1, Class B) and Immunity (industrial locations)	
Dimensions (H x D x W)	mm	215 x 305 x 425	150 x 270 x 400
Weight	kg	12	7,9

1) A AC 115 V power supply must be specified on the order, otherwise a AC 230 V one will be delivered.

Accessories	Model CTB9100-165	Model CTB9100-225
Silicone oil DC 200.05: -40 ... +130 °C, FP= 133 °C	from -35 ... +130 °C performs very well	not recommended
Silicone oil DC 200.10: -35 ... +160 °C, FP= 165 °C	from -35 ... +160 °C performs well	not recommended
Silicone oil DC 200.20: 10 ... 220 °C, FP= 230 °C	not recommended	from 40 ... 220 °C performs well
Silicone oil DC 200.50: 25 ... 250 °C, FP= 275 °C	not recommended	from 80 ... 225 °C performs well
Interface adapter: RS-485 to USB 2.0	X	X
Calibration software	X	X
Carry case	X	X
Metal screw cap	X	X
Plastic screw cap	X	X
Spare magnetic stirrer	X	X

## CTB9100 display and control panel

- Set and actual temperature are displayed concurrently on a dual LED display.
- Up to four frequently-used set points can be stored in the instrument memory.
- The U-key is used to retrieve stored set temperatures.
- The arrow keys are used to change the set temperature.
- The P-key is used to confirm the changes.



## Scope of delivery

- Micro calibration bath
- Power lead, 1.5 m with safety plug
- Screw cap
- Operating Instructions
- 3.1 calibration report per DIN EN 10204

## Options

- Instrument version for AC 115 V
- Display in Fahrenheit °F
- DKD/DAkkS calibration certificate

## Accessories

- Silicone oil in 1 litre plastic bottle
- Calibrator operating software
- Digital interface cable with integral RS-485 / USB 2.0 converter
- Magnetic stirrer and plastic or metal screw caps
- Carrying case
- Power lead for Switzerland
- Power lead for USA/Canada



### Micro calibration baths

Fig. left: Model CTB9100-165

Fig. right: Model CTB9100-225

## Products and services within our calibration technology program

- DKD/DAkkS calibration services for pressure
- Repair of calibration units of all makes
- Portable pressure measuring devices for test and calibration tasks
- Precision pressure measuring units and pressure controllers
- Primary standards for pressure
- Testing technology system solutions
- DKD/DAkkS calibration services for temperature
- Dry well temperature calibrators
- Calibration baths and furnaces
- Temperature measuring instruments for test and calibration tasks
- Precision thermometers
- Primary standards for temperature
- Consulting and seminars

The specifications given in this document represent the state of engineering at the time of publishing. We reserve the right to make modifications to the specifications and materials.