

## Micro Calibration Baths Models CTB9100-165 /-255

WIKA Data Sheet CT 46.30

### Applications

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

### Special Features

- Two ranges: -30 °C to +165 °C and 40 °C to 225 °C
- Large tank from Ø 60 mm x 150 mm free depth
- Short reaction time of bath temperature
- continuously adjustable stirrer



Micro calibration bath CTB9100

### 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 the temperature range from -30 °C to +225 °C

The CTB9100 micro calibration baths are manufactured for two ranges:

- CTB9100-165 for -30 °C to +165 °C
- CTB9100-225 for 40 °C to 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 mm 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 CTD9100

Two instruments for one temperature range  
from -30 °C to 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



## Model CTB9100-165

Temperature range from -30 °C to +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



## Model CTB9100-225

Temperature range from 40 °C to 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

## CTB9100-165

## CTB9100-225

Temperature range	°C	-30 ... +165	40 ... 225
Accuracy	K	0.2	0.3
Stability	K	± 0.05	± 0.05
Display resolution	°C	0.1	0.1
Heat-up time	minutes	30 from 20 °C to 160 °C	20 from 20 °C to 225 °C
Cool down time	minutes	30 from +20 °C to -20 °C	30 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
Dimensions, H x D x W	mm	215 x 305 x 425	150 x 270 x 400
Mass	kg	12	7.9

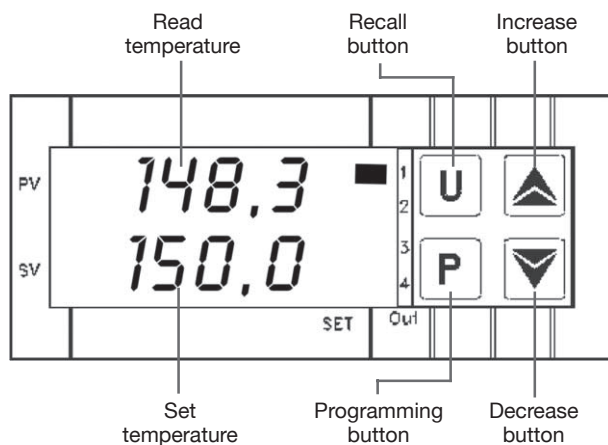
1) A 115 VAC power supply must be specified on the order, otherwise a 230 VAC one will be delivered.

## Accessories

## CTB9100-165

## CTB9100-225

Silicone oil DC 200.05: -40 ... +130 °C, FP = 133 °C	from -30 ... +130 °C performs very well	not recommended
Silicone oil DC 200.10: -35 ... +160 °C, FP = 165 °C	from -30 ... +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 200.05: 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



### Display and operation of the CTB9100 micro calibration baths

#### 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 supply

- Micro calibration bath
- Power lead 1.5 m with safety plug
- Screw cap
- Operating instructions in English or German language
- 3.1 calibration report according to DIN EN 10 204

## Options

- Instrument version for 115 VAC
- Display in Fahrenheit °F
- DKD 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
- Carry case, robust design
- Power lead for Switzerland
- Power lead for USA/Canada



Micro calibration baths CTB9100-165 and CTB9100-225

## Products and Services within our Testing and Calibration Technology Program

- DKD calibration services for pressure
- Repair of calibration units of all makes
- Portable pressure measuring devices for testing and calibration tasks
- Precision pressure measuring units and pressure controllers
- Primary standards for pressure
- Testing technology system solutions
- DKD calibration services for temperature
- Temperature dry well calibrators
- Calibration baths and furnaces
- Temperature measuring instruments for testing and calibrating tasks
- Precision thermometers
- Primary standards for temperature
- Consulting and training

Specifications and dimensions given in this leaflet represent the state of engineering at the time of printing. Modifications may take place and materials specified may be replaced by others without prior notice.



**WIKA Alexander Wiegand GmbH & Co. KG**  
Alexander-Wiegand-Straße 30  
63911 Klingenberg / Germany  
Phone (+49) 93 72/132-9986  
Fax (+49) 93 72/132-217  
E-Mail [testequip@wika.de](mailto:testequip@wika.de)  
[www.wika.de](http://www.wika.de)