Micro Calibration baths

Type: CCB91

Description

The new tecsis micro calibration baths form the ideal addition to the serie CCB91 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.

The CCB91 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.

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

Ranges

The CB 91 micro calibration baths are manufactured for two ranges, for the temperature range from -30 °C to +225 °C

- CCB91X999001 for -30 °C to +165 °C
- CCB91X999002 for 40 °C to 225 °C

Applications

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

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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 CCB91X999001
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 CCB91X999002
Temperature range from 40 °C to 225 °C
The CCB91X999002 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.

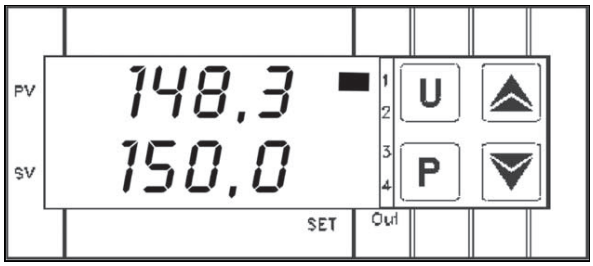
Apart from its short heating and cooling times, this bath is notable for its low weight and compact design. This allows it to be used in the widest of industrial applications.

Technical data

Models	CCB91X999001	CCB91X999002
Temperature range	-30°C ... +165°C	40 °C ... 225°C
Accuracy	0,2 K	0,3 K
Stability	+/- 0,05 K	+/- 0,05 K
Display resolution	0,1 °C	0,1°C
Heat-up time	30 min from 20°C auf 160°C	20 min from 20°C auf 225°C
Cool down time	30 min from +20°C auf –20°C	30 min from 225 auf 50°C
Capacity	approx. 0,6 Litre	approx. 0,6 litre
Tank dimensions	60 x 165 mm	60 x 165 mm
Immersion depth	150 mm	150 mm
Digital interface	RS-485	RS-485
Power supply	100 ... 240 V, 50/60 Hz	230 V, 50/60 Hz (115 V, 50/60 Hz)
Power consumption	375 VA	1000 VA
Power supply cable	for Europe, 230 V	for Europe, 230 V
Dimensions, H x D x W	215 x 305 x 425 mm	150 x 270 x 400 mm
Mass	12 kg	7,9 kg

Accessories

Models	CCB91X999001	CCB91X999002
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 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

Subject of technical changes