

# Temperature dry-well calibrator Model CTD9100-1100

WIKA data sheet CT 41.29



## Applications

- Testing and calibration of temperature measuring instruments
- Reference instrument for works laboratories for the calibration of thermometers
- Also suitable for on-site use

## Special features

- High accuracy and stability at high temperatures
- Temperature range: 200 ... 1,100 °C
- Possibility to check temperature switches
- Low weight and compact design
- Simple operation



Temperature dry-well calibrator model CTD9100-1100

## Description

### Versatile in application

Nowadays, fast and simple testing of thermometers is a "must" when it comes to the operational safety of machines and plants.

The portable calibrators of the CTD9100 family are particularly suited for on-site calibrations and extremely user-friendly. Due to their compact design and their low weight, the instruments can be taken and used almost anywhere.

The new instrument concept brings together a stable heat source with an intelligent air cooling system, which easily keeps the temperature low in the upper part of the calibrator. This enables industrial temperature probes to be calibrated even more efficiently, without overheating the process head or the handgrip of the thermometer. Regular monitoring of temperature probes helps to recognise failures promptly and shorten downtimes.

### Easy to use

The temperature dry-well calibrators of the CTD9100 series work with temperature-controlled metal blocks and interchangeable inserts.

The calibration temperature, adjusted simply using two buttons on the controller, can be very quickly controlled. The actual temperature of the heating block is displayed on a large, 2-line, high-contrast LC display. Thus reading errors are virtually eliminated.

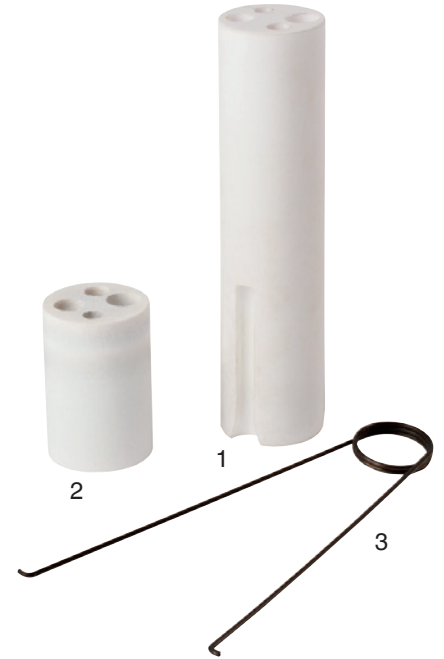
Thermometers with different diameters can be fitted into the calibrator using inserts, drilled to suit. A new block design, with improved temperature homogeneity at the calibrator's lower range, leads to smaller measurement uncertainties.

<b>Specifications</b>		<b>Model CTD9100-1100</b>
Temperature range	200 ... 1,100 °C	
Accuracy <sup>1)</sup>	±3 K	
Stability <sup>2)</sup>	±0.4 K at 1,000 °C	
Axial homogeneity <sup>3)</sup>	±0.4 °C, 60 mm from bottom at 1,000 °C	
Radial homogeneity <sup>4)</sup>	±0.4 °C, 40 mm from bottom at 1,000 °C	
Display resolution	0.1 °C / 0.01 °C	
Heating time	50 min	
Cooling time <sup>5)</sup>	150 min	
Stabilisation time <sup>6)</sup>	25 min. at 700 °C	
Immersion depth	175 mm	
Sleeve material	Ceramic	
Immersion depth sleeve	155 mm	
Insert dimensions	Ø 42.5 x 175 mm	
Insulator dimensions	Ø 42.5 x 65 mm	
<b>Voltage supply</b>		
Power supply	AC 230 V, 50/60 Hz or AC 110 V, 50/60 Hz	
Power consumption	950 W	
<b>Communication</b>		
Interface	RS-232	
<b>Case</b>		
Dimensions	170 x 390 x 330 mm (W x H x D)	
Weight	12 kg	
<p>1) Is defined as the measuring deviation between the measured value and the reference value.  2) Maximum temperature difference at a stable temperature over 30 minutes.  3) Maximum temperature difference at 40 mm above the bottom.  4) Maximum temperature difference between the bores (all thermometers inserted to the same depth).  5) from 1,100 °C to 200 °C  6) Time before reaching a stable value.</p>		
<p>The measurement uncertainty is defined as the total measurement uncertainty (k = 2), which contains the following shares: accuracy, measurement uncertainty of reference, stability and homogeneity.</p>		
<b>CE conformity, approvals, certificates</b>		
<b>CE conformity</b>		
EMC directive	2004/108/EC, EN 61000-6-2, interference immunity for industrial environments and EN 61000-6-3, emitted interference for residential, commercial and light-industrial environments	
Low voltage directive	2006/95/EC, EN 61010-1 and EN 61010-2-10, safety requirements for electrical equipment for measurement, control and laboratory use	
<b>Approvals</b>		
GOST	Metrology/measurement technology, Russia	
<b>Certificate</b>		
Calibration	Standard: 3.1 calibration certificate per DIN EN 10204 Option: DKD/DAkkS calibration certificate	
Recommended recalibration interval	1 year (dependent on conditions of use)	

Approvals and certificates, see website

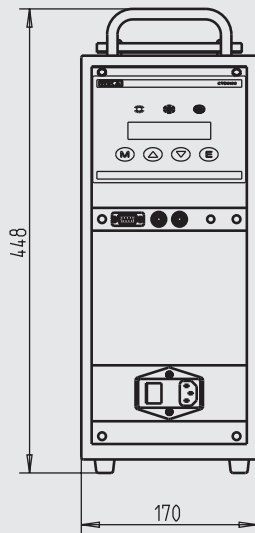
## Inserts

1. The ceramic insert has several bores into which the thermometer probes being calibrated and one of the additional customer reference thermometers, for comparative calibration, can be inserted. The block is either heated or cooled to the desired calibration temperature. Once a stable temperature has been reached, the temperature probes to be calibrated can be compared with the reference thermometer. The documentation of this comparison represents the calibration.
2. The ceramic insulator is fitted onto the insert and its bores are aligned with respect to the insert. This prevents the handgrip or process head of the thermometers from overheating.
3. Replacement tools for removing or placing the ceramic insert. The insert must be aligned in such a way, so that the grooves sit directly over the controlling and monitoring thermometers.

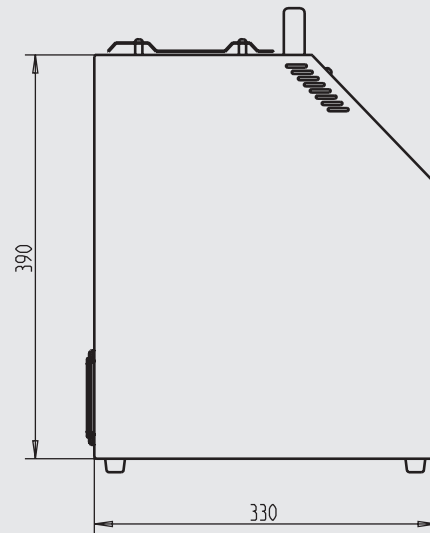


## Dimensions in mm

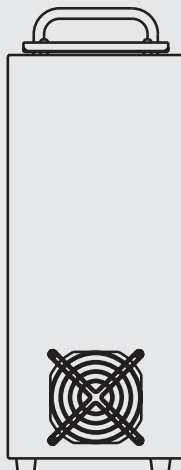
Front view



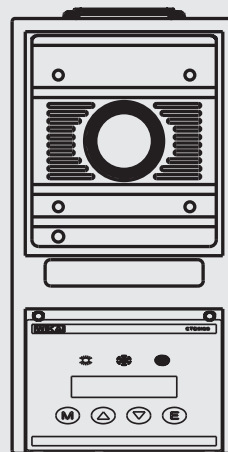
Side view



Rear view



Top view



## Scope of delivery

- Temperature dry-well calibrator model CTD9100-1100
- Power cord, 1.5 m with safety plug
- Insert with four bores: 7 mm, 9 mm, 11 mm and 13.5 mm
- Drilled ceramic top insulator
- Replacement tools
- Connection cable
- Operating instructions
- 3.1 calibration certificate per DIN EN 10204

## Options

- DKD/DAkkS calibration certificate

## Accessories

- Inserts, undrilled and drilled to specification
- Transport case
- Power cord for Switzerland
- Power cord for USA/Canada
- Power cord for UK

## Ordering information

Model / Power supply / Calibration / Transport case / Power cord / Additional ordering information

© 2010 WIKA Alexander Wiegand SE & Co. KG, all rights reserved.  
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.



**WIKAL Alexander Wiegand SE & Co. KG**  
Alexander-Wiegand-Straße 30  
63911 Klingenberg/Germany  
Tel. +49 9372 132-0  
Fax +49 9372 132-406  
info@wika.de  
www.wika.de