Temperature dry-well calibrator
Model CTD9100-1100

for further approvals
see page 3

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 [392 ... 2,012 °F]
- 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 hand grip 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.

Data sheets showing similar products:
Temperature dry-well calibrator; models CTD9100-COOL, CTD9100-165, CTD9100-450, CTD9100-650 ; see data sheet CT 41.28
Temperature dry-well calibrator; model CTD9100-ZERO; see data sheet CT 41.30
Temperature dry-well calibrator; model CTD9100-375; see data sheet CT 41.32
Temperature dry-well calibrator; models CTD9300-165 and CTD9300-650; see data sheet CT 41.38
Multi-function temperature calibrator; model CTM9100-150; see data sheet CT 41.40

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Specifications

Model CTD9100-1100	
Indication	
Display	2-line LC display 20 ch x lines (3.2 x 5.5 in) with backlighting
Temperature range	200 … 1,100 °C [392 ... 2,012 °F]
Accuracy [1]	±3 K
Stability [2]	±0,4 K at 1,000 °C [2,012 °F]
Display resolution	0.01 °C up to 999 °C, then 0.1 °C [0.01 up to 1,830 °F, then 0.1]
Temperature distribution	
Axial homogeneity [3]	dependent on temperature, temperature probes and their quantity
Radial homogeneity [4]	dependent on temperature, temperature probes and their quantity
Temperature control	
Heating time	approx. 50 min (approx. 18 °C/min) from 20 °C to 900 °C [from 68 °F to 1,652 °F]
Cooling time	approx. 150 min from 1,100 °C to 200 °C [from 2,012 °F to 392 °F]
Stabilisation time [5]	dependent on temperature and temperature probe
Temperature block	
Dimensions (D x H)	Ø 44 x 300 mm [Ø 1.73 x 11.81 in]
Block depth	175 mm [6.89 in]
Insert	
Immersion depth	155 mm [6.10 in]
Insert dimensions	Ø 42.5 x 175 mm [Ø 1.67 x 6.89 in]
Insulator dimensions	Ø 42.5 x 65 mm [Ø 1.67 x 2.56 in]
Insert material	Ceramic
Voltage supply	
Power supply	AC 230 V, 50/60 Hz or AC 110 V, 50/60 Hz
Power consumption	950 VA
Fuse	6.3 A slow blow fuse
Power cord	AC 230 V; for Europe
Communication	
Interface	RS-232
Case	
Dimensions (W x D x H)	170 x 390 x 330 mm [6.69 x 15.35 x 12.99 in]
Weight	12 kg [26.46 lbs]

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 [1.57 in] above the bottom.
4) Maximum temperature difference between the bores (all thermometers inserted to the same depth).
5) Time before reaching a stable value.

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.

Approvals

Logo	Description	Country
CE	**EU declaration of conformity** ■ EMC directive 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 EN 61010, EN 61010-1 and EN 61010-2-10, safety requirements for electrical equipment for measurement, control and laboratory use ■ RoHS directive	European Union
	GOST (option) Metrology, measurement technology	Russia
	KazInMetr (option) Metrology, measurement technology	Kazakhstan
-	**MTSCHS (option)** Permission for commissioning	Kazakhstan
	BelGIM (option) Metrology, measurement technology	Belarus

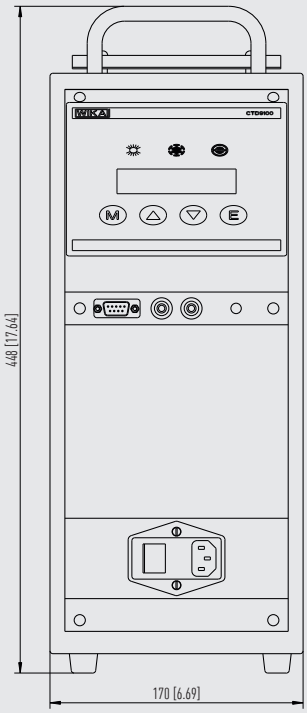
Certificates

Certificate	
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)

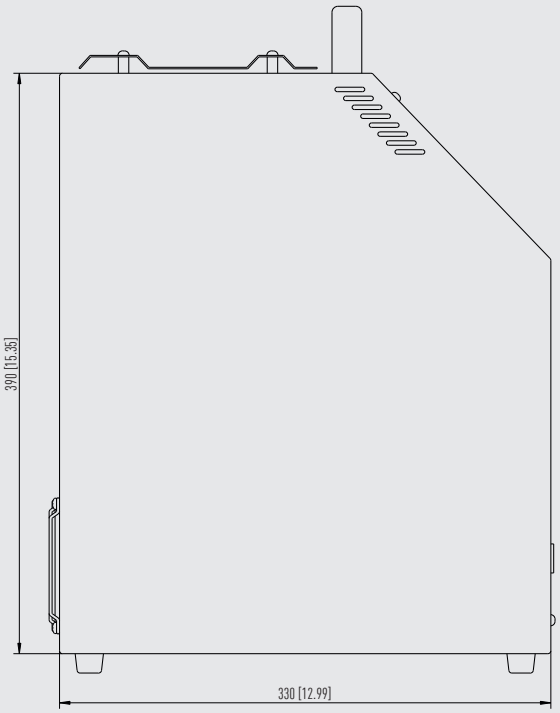
Approvals and certificates, see website

Dimensions in mm [in]

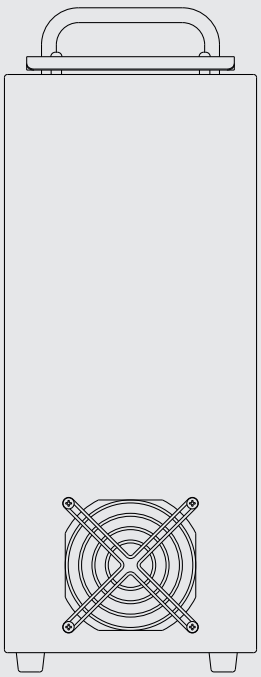
Front view



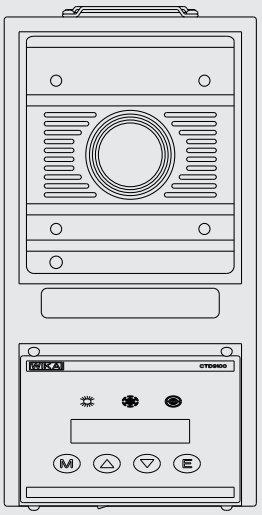
Side view (left)



Rear view



Top view

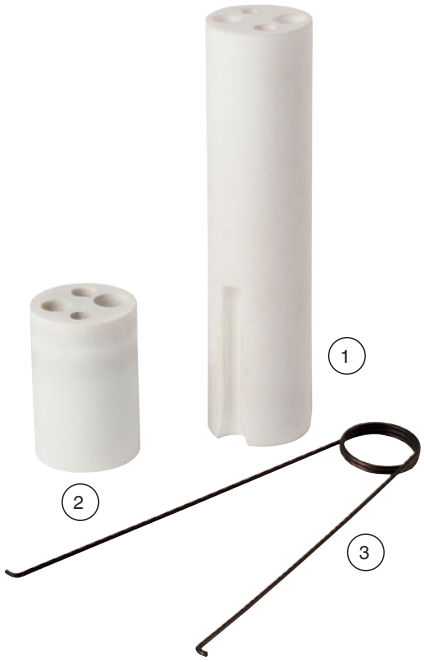


Inserts

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 hand grip 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.



Accessories

Accessories		Order code
Description		CTX-A-K9
	**Transport case**	-TB-
	**Power cord** for EU	-EU-
	for Switzerland	-CH-
	for UK	-UK-
	for USA/Canada	-US-
	**Insert replacement tool**	-RT-
Ordering information for your enquiry:		
	1. Order code: CTX-A-K9 **2. Option:**	⇓ **[ ]**

Scope of delivery

- Temperature dry-well calibrator model CTD9100-1100
- Power cord, 1.5 m [5 ft] with safety plug
- Insert with four bores: 7 mm, 9 mm, 11 mm and 13.5 mm [0.28 in, 0.35 in, 0.43 in and 0.53 in]
- Drilled ceramic top insulator
- Replacement tools
- Connection cable
- Operating instructions
- 3.1 calibration certificate per DIN EN 10204

Options

- DKD/DAkkS calibration certificate

Ordering information

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

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