

## Portable low-pressure controller Model CPC2000



WIKA data sheet CT 27.51

### Applications

- Mobile calibration of low-pressure measuring instruments
- Supply of very low positive or negative pressures
- Accurate measurement of small gauge pressures or differential pressures

### Special features

- Pressure ranges: 1 ... 1,000 mbar
- Accuracy: to 0.1 % FS
- Integrated, automatic pressure generation
- Portable, also usable without power supply unit due to Li-Ion battery
- Simple operation



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### Description

#### Application

The main applications for this instrument are in the areas of heating, ventilation, air conditioning, filtration, clean room, and medical technology as a calibrator or as highly-accurate measurement equipment and/or precise pressure transducer.

#### Functionality

The model CPC2000 low-pressure controller is a mains or battery-operated pressure controller with internal, automatic pressure generation and pressure reference. The pressure generation is achieved using an integrated, electric pump, which makes a positive and/or negative pressure available on both the tube connections. As soon as the instrument is switched on, a zero-point adjustment is automatically carried out, so that a zero-point drift is eliminated.

The subsequent preparation of a calibration requires only a few settings. First, using the MENU button, select one of the stored pressure units and the variable pressure change step in the range of 0 ... 50 %.

Then, once the full scale has been entered in Control Mode, the pressure can be easily increased or decreased by the defined level using the navigation buttons. To check whether the calibration assembly or the test item has a leak, the LEAK button can be used. With this, the pressure is locked into the test assembly and any pressure drop there might be, as well as the time this takes, is measured and displayed.

#### Interface

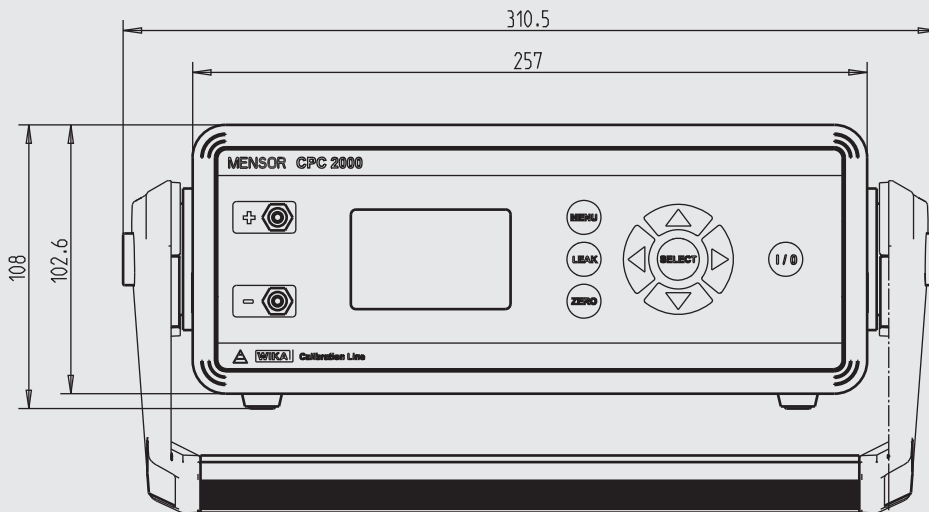
The instrument has an RS-232 and USB interface, enabling communication and data exchange with a PC.

#### Calibration certificate

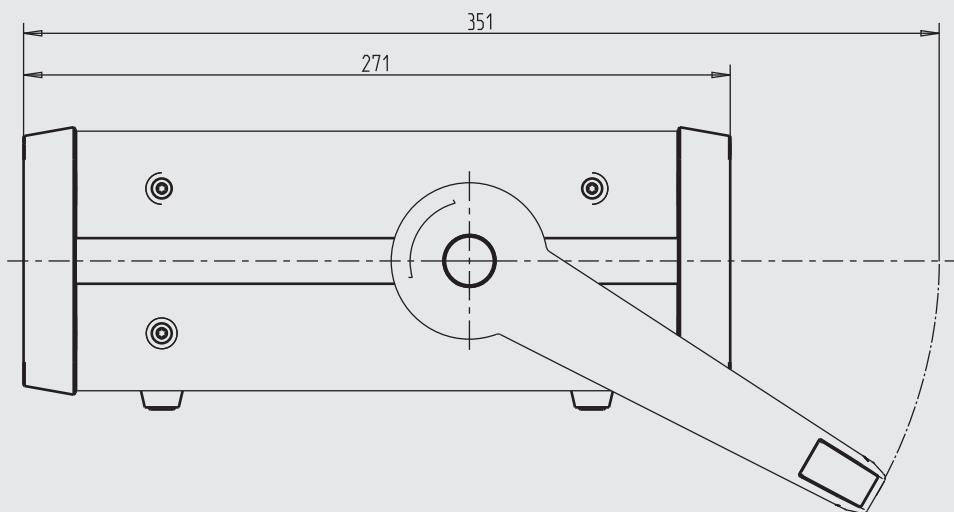
The accuracy of the instrument is certified by a factory calibration certificate. On request, we can provide a DKD/DAKKS calibration certificate for this instrument.

## Dimensions in mm

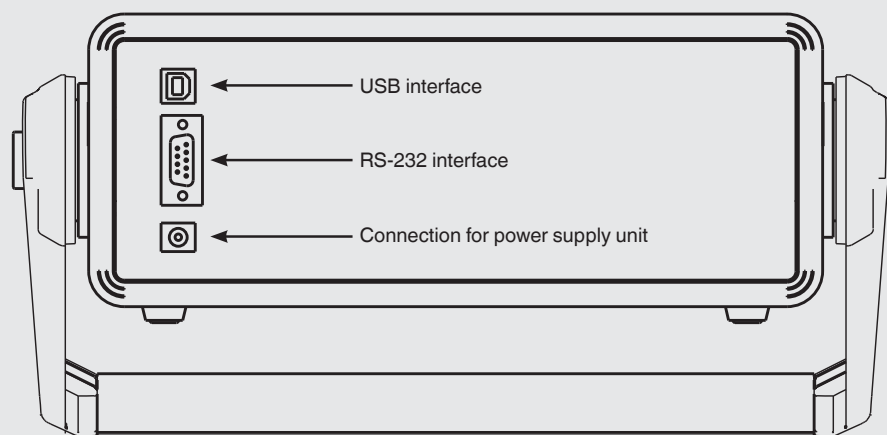
Front view



Side view



## Electrical connections on the rear



# Specifications

## Model CPC2000

### Reference pressure sensors

<b>Pressure range</b>	mbar	1	10	50	100	500	1,000
Accuracy	% FS	0.3	0.1	0.1	0.1	0.1	0.1
Type of pressure	Positive or negative gauge pressure or differential pressure						
Pressure units	Pa, kPa, hPa, bar, mbar, psi, inH <sub>2</sub> O, inHg, mmHg, Torr						

### Base instrument

#### Instrument

Instrument version	Benchtop instrument with carry handle
Dimensions	102.6 x 257 x 271 mm without carry handle
Weight	4.6 kg
Ingress protection	IP 20
Pressure generation	internal, electric pump

#### Display

Screen	backlit, multi-line graphic display
Resolution	5 (4 digits for 50/500 mbar measuring range)
Keyboard	Membrane keypad
Menu languages	German, English, Spanish and French

#### Connections

Pressure connections	6.6 x 11 (hose diameter D = 6 mm)
Wetted parts	Ni, Al, CuBe, PU

#### Voltage supply

Power supply	DC 24 V, 1 A
Power consumption	24 VA
Battery type	Li-Ion
Battery life	approx. 8 h

#### Permissible ambient conditions

Medium	Ambient air
Operating temperature	10 ... 40 °C
Storage temperature	-10 ... +70 °C
Relative humidity	30 ... 80 % r.h. (non-condensing)

#### Control parameters

Control steps	0 ... 50 % individually adjustable or 100 %
Control speed	approx. 5 s (dependent upon test volume)

#### Communication

Interface	RS-232 and USB
Response time	1 value/s
Zero-point adjustment	automatic (at definable time intervals) manual (ZERO button)

### Approvals and certificates

#### CE conformity

EMC directive	2004/108/EC, EN 61000-6-3, interference emissions for residential, commercial and light-industrial environments and EN 61000-6-2, interference immunity for industrial environments
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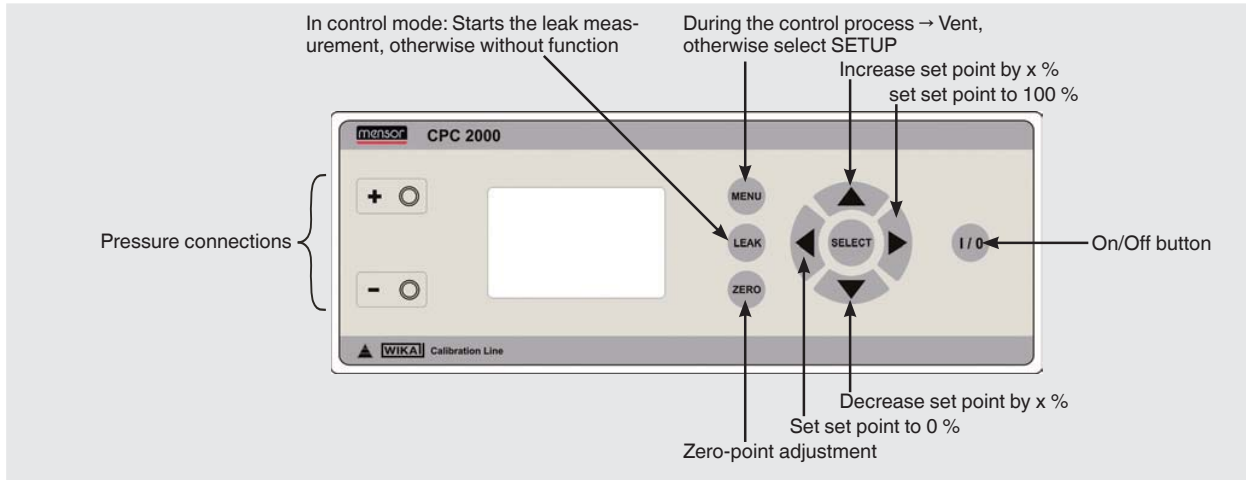
#### Certificate

Calibration <sup>1)</sup>	incl. 3.1 calibration certificate per EN 10204
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1) Calibration in a horizontal position.

# Keyboard and display

## 1.) Keyboard description



## 2.) Possible modes and screen displays

### Measurement

The Measurement mode screen shows:

- Operating mode:** MEAS
- Pressure unit:** mbar
- Measured value:** +00.002
- Battery status:** + 0% +0.002
- Full scale:** +10.000

In Measuring mode, the pressure at the pressure ports is measured with great precision.

### Control

The Control mode screen shows:

- Operating mode:** CTRL
- Pressure unit:** mbar
- Measured value:** +04.999
- Battery status:** + 50% +5.000
- Set point in % of the full scale:** 50%
- Full scale:** +10.000

In Control mode, pressures are supplied to the pressure ports with high precision. A set-point change (in a selectable step size) is made via the / buttons.

### Leak test

The Leak test mode screen shows:

- Operating mode:** LEAK
- Pressure unit:** mbar
- Measured value:** +10.100
- Elapsed time:** 10 s
- Drop in pressure:** + 1% +0.100
- Starting value for the leakage measurement:** +10.000
- Pressure drop in % of the starting value:** 1%

In test mode, the pressure drop/time in the connected test assembly is determined.

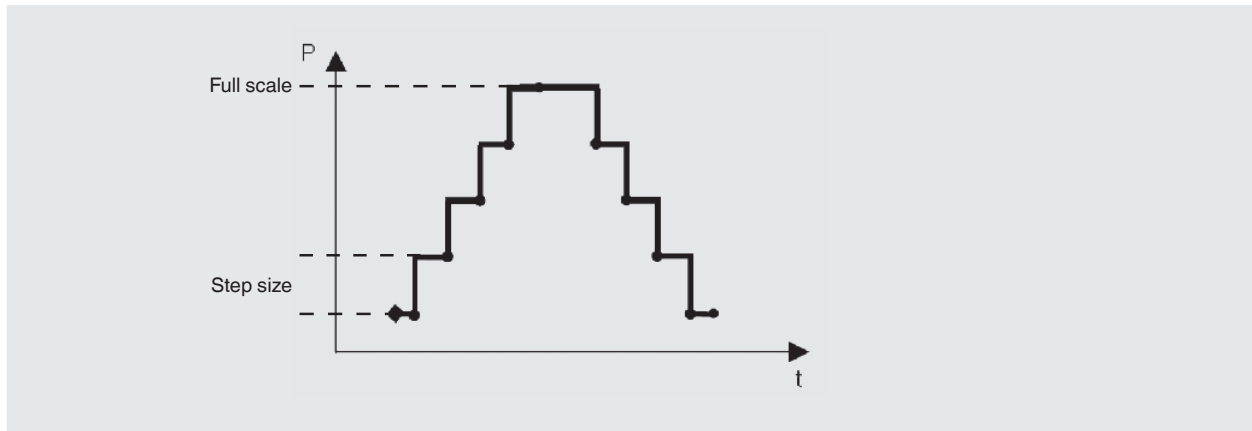
# Menu and calibration procedure

## I) General configuration via SETUP menu

### SETUP menu items

- Select **measuring range**
- Select **pressure unit** (Pa, kPa, hPa, bar, mbar, psi, inH<sub>2</sub>O, inHg, mmHg, Torr)
- **Step size, freely selectable** between 0 ... 50 % or 100 %
- Select **the operating mode** (MEAS, CTRL, AUTO)
- Select **Language** (DE, EN)
- Controller **settings** (zero-point adjustment, interface, display, auto mode, info)

## II) Calibration sequence example



### 1. Defining the calibration cycle full scale (span)

MENU	
▶BEREICH...	+10.000
EINHEIT...	mbar
SCHRITTE...	50%
MODUS.....	CTRL
SPRACHE...	DE
EINSTELLUNGEN	-->

#### To configure the full scale (span):

Select the digit via buttons

Change the digit via / buttons

### 2. Go back to the main screen and run through the calibration cycle in the defined step size (x %)

CTRL	+10.000	mbar
+04.999		
	+	50% +5.000

#### Change set point to x %

Pressure change in % via / buttons

Change pressure to 100 % via button

Change pressure back to 0 % via button

The newly-selected pressure step will be controlled immediately after the set-point change.

## Scope of delivery

- Portable low-pressure controller model CPC2000
- Power supply unit
- Operating instructions in German and English language
- 3.1 calibration certificate per DIN EN 10204

## Options

- DKD/DAkkS calibration certificate

## Accessories

- RS-232 or USB interface cable
- Robust transport case

## Ordering information

Model / Unit / Pressure range / Accuracy / Type of certificate / Power cord / Additional order information

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