

# CalibratorUnit Model CPU 5000

WIKA Data Sheet CT 35.01

## Applications

- Used in combination with a pressure balance to determine the required mass loads
- Considers all critical parameters to improve the measuring accuracy
- Easy calibration of pressure transmitters through integrated voltage supply and multimeter function

## Special Features

- Calculation of the mass-loads incl. conversion into all common pressure units
- Self-sustaining system, PC-independent
- Automatic correction of the ambient parameters (optional)
- Consideration of the local gravity on-site.
- Retro-fitting possible for all pressure balances available on the market



CalibratorUnit CPU 5000

## Description

### CalibratorUnit - Basic package

Pressure balances are well-proven precision measuring products. Their mechanical measuring principle guarantees high accuracies.

However, in order to achieve these accuracies, corresponding corrections have to be made.

Besides the temperature of the piston cylinder the main influencing factors are the local gravity and the ambient parameters.

The basic CalibratorUnit package converts masses into the corresponding pressure value, or vice versa it calculates the mass-loads required for a specific pressure value. The conversion can be carried out in all common pressure units.

### Metrology extension

This package includes a CalibratorUnit extension with sensors to make an automatic registration of all critical

parameters and a continual updating of the calculations. Thus no additional laboratory measuring instruments such as barometers, hygrometers and thermometers are required. Furthermore the piston position can be measured contact-free and displayed by the CalibratorUnit.

### Transmitter extension

Pressure balances are frequently used for (on-site) calibrations of pressure transmitters. Using this extension no additional devices are required. The power supply for the pressure transmitters as well as the signal measurement is realised via optional special modules. Any module can also be easily retrofitted afterwards. Besides the signal the automatically converted pressure value is also shown on the display.

Specifications	Basic package	Metrology extension	Transmitter extension
Air pressure sensor			
- Measuring range		800 ... 1200 mbar absolute	
- Accuracy		0.05 % full Scale	
Piston temperature measurement			
- Measuring range		10 ... 30 °C	
- Accuracy		0.1 °C	
Ambient temperature			
- Measuring range		10 ... 30 °C	
- Accuracy		0.5 °C	
Air humidity determination			
- Measuring range		20 ... 80 %	
- Accuracy		5 %	
Determination of piston position			
- Accuracy		0.5 mm	
Signal measurement			
- Measuring range			0 ... 10 V / 0 ... 20 mA
- Accuracy			0.01 %
Dimensions			
- Width x depth x height	155 x 243 x 145 mm		
Weight	3.3 Kg		
PC communication	RS 232		

## Typical application

### Pressure balance CPB 5000

The CalibratorUnit can be combined with pressure balances of all manufactures.

The instrument has been optimised for use with the WIKA pressure balance CPB 5000.

This instrument is available in pressure ranges up to 100 bar (pneumatic) or 4,000 bar (hydraulic).

With the patented ConTect System a fast and reliable replacement of the piston cylinder system is possible as and when required.

The CPB 5000 offers high flexibility in combination with an excellent accuracy (up to 0.01%).

For further details see data sheet CT 31.01.



Pressure Balance CPB 5000 with device under test

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