

Deadweight Tester LDW 1000
Pressure Balance - Primary Standard for Pressure

- Ranges 0.2...60 bar, 1...250 bar, 2...600 bar, 2...1000 bar
2.9...1,000 psi, 14.5...5,000 psi, 29...10,000 psi, 29...15,000 psi
- Accuracy (total uncertainty of measurement) $\pm 0.025\%$ of measured value
- Self-sustaining complete system, also suitable for on-site measurements / calibrations
- Including Certificate of Calibration, traceable to National Standard (optional: DKD certification)



Deadweight Tester (Pressure Balances) are the most accurate instruments for the calibration of electronic or mechanical pressure measuring instruments. The direct measurement of pressure, according to its definition as a quotient of force and area, and the use of high-quality materials result in small uncertainties of measurement and an excellent long-term stability of five years. For these reasons, deadweight testers have already been used in calibration laboratories of industry, national institutes and research labs for many years.

Due to the integrated pressure generation and the purely mechanical measurement principle, the **LDW 10000** deadweight testers are ideally suited for on-site use as well as service and maintenance purposes.

The core of the **LDW 1000** is a piston-/cylinder system of tungsten carbide. Besides this high-quality material, which primarily stands out for its small temperature coefficient, the workmanship of the system is a measure of the final accuracy of the pressure balance. Several refinement processes ensure a high-quality and even surface with small grabs of only a few micrometer.

In order to generate the individual test points, the piston-/cylinder system is weighted with mass-loads, which are also calibrated and specially adapted to the respective application. The pressure is set via an integrated spindle pump. For fine adjustment an adjustable volume variator is supplied. The weight applied is proportional to the desired pressure and provided by using optimally graduated weights. As soon as the measuring system reaches equilibrium, there is a balance of forces between pressure and wheel weights. Due to the excellent quality of the system this pressure remains stable over several minutes, so that for instance adjustments of your device under test can be carried out without any problems.

Intelligent Calibration Module type IKM

Especially when highly accurate measuring values with uncertainties of measurement of 0.025% are required, complicated mathematic calculations and corrections used to be necessary. With this optional addition to the system all critical ambient parameters are registered and automatically corrected. Furthermore, a calibrator function for pressure transmitters is integrated, so that a voltage can be supplied to the sensor and the sensors signals can be measured without any problem. See *datasheet "IKM"*.

**More optional Accessories:**

- Set of trim-masses for generating intermediate values (Weights 1 mg to 50 g)
- Oxytester (Purifier) for measuring instruments where the filling medium should not come into contact with the pressure balance
- Dirt trap for test objects that are very dirty in order to avoid the penetration of dirt particles into the deadweight tester
- Set of adapters in a tool case with 5 most commonly used threaded adapters and a spanner (flats 32 and flats 14).

Included in standard Supply:

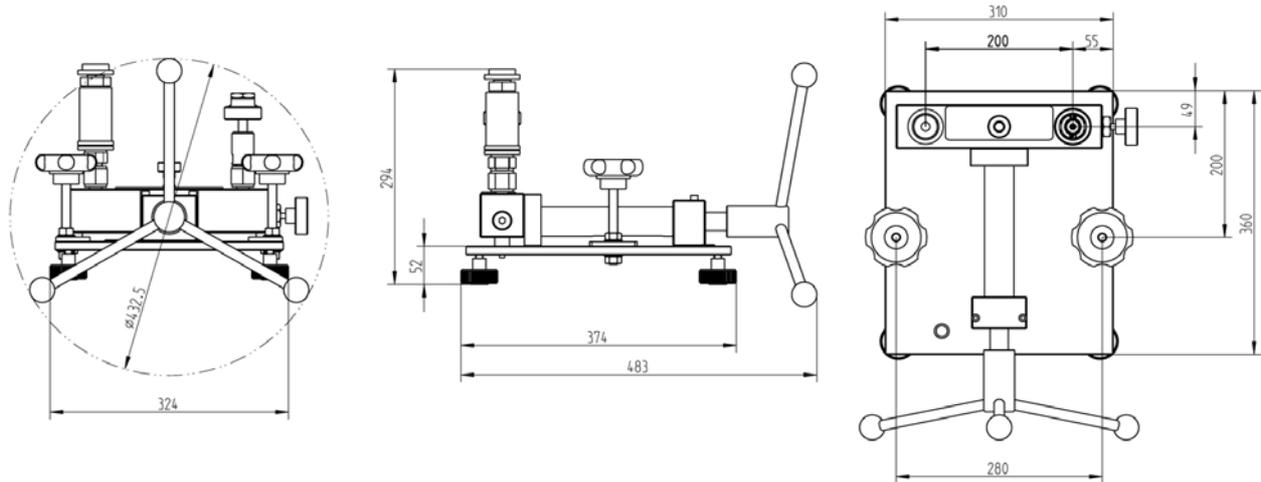
- Basement with adjustable feet and water level
- Spindle pump and volume variator
- Clamp for specimens
- One piston-/cylinder system
- Set of st.st. weights
- 1 litre special oil
- Operating Manual
- Calibration Certificate (optional: DKD)

**DRUCK & TEMPERATUR Leitenberger GmbH**

Bahnhofstr. 33 • D-72138 Kirchentellinsfurt • Germany

Tel.: +49 - 71 21 - 9 09 20 - 0 • Fax: +49 - 71 21 - 9 09 20 - 99

E-Mail: DT-Export@Leitenberger.de • <http://www.druck-temperatur.de>

Dimensions in mm

The **mass set** is supplied without wooden case. The weights can be placed on the deadweight tester's base plate (see product image on page 1).

The range 1000 bar / 15,000 psi is supplied with an "extended mass set". This additional weights are supplied in a wooden case.

Available Pressure Ranges:**LDW 1000**

suitable for operating fluid CPB5000-FLUID (1 L included)
(for other media available on request)

Range [bar]	Range [psi]
0.2 ... 60	2.9 ... 1,000
1 ... 250	14.5 ... 5,000
2 ... 600	29 ... 10,000
2 ... 1000	29 ... 15,000

Accuracy (uncertainty):

The accuracy is characterised by the deviation span, which is the sum of the systematic error and the uncertainties of measurement. Long term stability is not taken into account. Please note that corrections might be required if the instrument is used without the optional Intelligent Calibration Module IKM - see operating manual.

Other Models:

Pneumatic models (up to 100 bar) and hydraulic models (up to 1000 bar)

CPB 5000 ($\pm 0.015\%$ of reading and $\pm 0.008\%$ of reading) - see *datasheet CPB5000*

For high pressure up to 4000 bar / 60000 psi:

CPB 5000-HP - see *datasheet CPB5000-HP*

For differential pressure calibration:

CPB5000-DP - see *datasheet CPB5000-DP*



DRUCK & TEMPERATUR Leitenberger GmbH

Bahnhofstr. 33 • D-72138 Kirchentellinsfurt • Germany

Tel.: +49 - 71 21 - 9 09 20 - 0 • Fax: +49 - 71 21 - 9 09 20 - 99

E-Mail: DT-Export@Leitenberger.de • <http://www.druck-temperatur.de>

