

Analytical balance KERN ABP



2 KERN ABP 100-5DM with optional ionisor

Premium analytical balance with the latest Single-Cell Generation for extremely rapid, stable weighing results - now also as a version with automatic sliding doors



1 The internal draft shield minimises the effect of currents of air in the weighing chamber and therefore significantly improves the stabilisation time and repeatability.



2 Draft shield rear panel with integrated ionisor, which can be fitted in place of the existing glass rear panel of the draft shield



GLP/ISO record keeping, professional, detailed GLP Protocol, so that the balance is completely compliant with the relevant standard requirements in accordance with ISO, GLP and GMP

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Features

- NEW: KERN ABP-A: with 3 automatic sliding doors, which can be opened and closed using sensors, and integrated ioniser as standard. Thanks to the Memory Function, the balance stores how far the sliding doors have been opened. This prevents contamination and accelerates processes. Touching the sliding doors “gently” activates the push function and the doors open and shut automatically. The adjustable internal draft shield guarantees maximum stability of the weight readings
- This new generation of analytical balances combines the highest level of precision with large weighing ranges. Thanks to the new Single-Cell Generation, the weighing result is displayed in a fraction of the time with comparable models. Together with the intuitively structured menu, this means that you can work efficiently and rapidly
- Navigation pad for super quick navigating through the menus
- Automatic internal adjustment in the case of a change in temperature $\geq 1\text{ }^{\circ}\text{C}$ or timecontrolled every 4 h, guarantees high degree of accuracy and makes the balance independent of its location of use
- The Minimum weight of sample can be manually stored in the device or automatically calculated. For weighings below this value, the balance issues a warning message
- Dosage aid: High stability mode and other filter settings can be selected
- Simple recipe weighing and documenting with a combined tare/print function. In addition, the ingredients for the recipe are numbered automatically and printed out with their corresponding number and nominal weight
- Individual user settings can be stored for up to 10 users: user name/number (can be printed out or added to the record for each process), password, menu language, user profiles, accessing user settings via barcode, additional guest mode for users who are not logged in, authorizations, e.g.

- B. balance adjustment, changing settings or conditioning or modification of a recipe only by the authorized person & performing the formulation by the user
- RS-232 data interfaces and USB (device) for transferring weighing data and USB (host) to connect a USB keyboard for easy capture of item numbers, recipes, for easier navigation within the menu etc.
- U.S. FDA 21 Part 11: assists you in data integrity in accordance with U.S. FDA 21 Part 11 (for example weighing result, sample ID, user name, scales ID, ...)
- Menu languages DE, EN
- Automatic data output to the PC/printer each time the balance is steady
- Large glass draught shield with 3 sliding doors for easy access to the items being weighed
- [d] = 0,01 mg: Multi-function weighing plate included with delivery, minimises the effect of currents of air in the weighing chamber and therefore significantly improves the stabilisation time and repeatability. In addition samples, sample paper, PCR containers, micro centrifuge tubes and many other items which protrude can be easily fixed in place and weighed easily
- Protective working cover included with delivery

Technical data

- Luminescent OLED display, digit height 12 mm, bright with high contrast, for easy reading of the weight, even in poor lighting conditions
- Dimensions weighing surface \varnothing 91 mm, stainless steel
- Weighing space WxDxH 166x156x220 mm
- Overall dimensions WxDxH 213x433x344 mm
- Net weight approx. 8 kg
- Permissible ambient temperature 10 $^{\circ}\text{C}$ /30 $^{\circ}\text{C}$

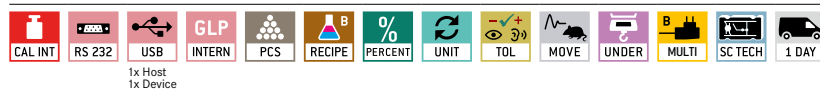
Accessories

- Protective working cover, scope of delivery 5 items, KERN YBA-A06S05
- Set for density determination of liquids and solids with density $\leq/\geq 1$, the density is indicated directly on the display, KERN YDB-03
- Internal windbreak plate made of glass, KERN ABP-A02
- Draft shield rear panel with integrated ionizer to neutralise electrostatic charge. Is fitted in place of the existing glass rear panel of the draft shield. Suitable for all models in the range, please order at the time you order your balance, the scope of delivery is the rear panel, ionizer, Universal plug-in power supply. Factory Option, KERN ABP-A01
- USB barcode scanner, hand-held version, dimensions WxDxH 152x84x63 mm, KERN PET-A09
- Minimum weight of sample, smallest weight to be weighed, depending on the required process accuracy, only in combination with a DAkkS calibration certificate, KERN 969-103
- Equipment qualification: compliant qualification concept which includes the following validation services, Installation Qualification (IQ), Operating Qualification (OQ)

Single-cell advanced technology:

- **Fully automatic manufactured weighing cell from one piece of material**
- **Stable temperature behaviour**
- **Short stabilisation time:** steady weight values within approx. 2 s (models with [d] = 0,1 mg), approx. 8 s (models with [d] = 0,01 mg, 0,01 | 0,1 mg) under laboratory conditions
- **Shock proof construction**
- **High corner load performance**

STANDARD



OPTION



FACTORY



Model	Weighing capacity [Max] g	Readability [d] mg	Verification value [e] mg	Minimal load [Min] mg	Reproducibility mg	Linearity mg	Option	
							Verification	DAkkS Calibr. Certificate
KERN							MD KERN	DAkkS KERN
ABP 100-5M	135	0,01	1	1	0,05	$\pm 0,2$	965-201	963-101
ABP 200-5M	220	0,01	1	1	0,05	$\pm 0,2$	965-201	963-101
ABP 100-4M	120	0,1	1	10	0,1	$\pm 0,2$	965-201	963-101
ABP 200-4M	220	0,1	1	10	0,1	$\pm 0,2$	965-201	963-101
ABP 300-4M	320	0,1	1	10	0,2	$\pm 0,3$	965-201	963-101
Multi-division balance, with increasing or decreasing load, it switches automatically to the next largest or smallest weighing range [Max] and readout [d].								
ABP 100-5DM	52 120	0,01 0,1	1 1	1	0,02 0,1	$\pm 0,05$ 0,2	965-201	963-101
ABP 200-5DM	102 220	0,01 0,1	1 1	1	0,05 0,1	$\pm 0,1$ 0,2	965-201	963-101

Note: For applications that require verification, please order verification at the same time, initial verification at a later date is not possible.

Verification at the factory, we need to know the full address of the location of use.



Internal adjusting:

Quick setting up of the balance's accuracy with internal adjusting weight (motordriven)



Adjusting program CAL:

For quick setting up of the balance's accuracy. External adjusting weight required



Easy Touch:

Suitable for the connection, data transmission and control through PC or tablet.



Memory:

Balance memory capacity, e.g. for article data, weighing data, tare weights, PLU etc.



Alibi memory:

Secure, electronic archiving of weighing results, complying with the 2014/31/EU standard.



KERN Universal Port (KUP):

allows the connection of external KUP interface adapters, e.g. RS-232, RS-485, SB, Bluetooth, WLAN, Analogue, Ethernet etc. for the exchange of data and control commands, without installation effort



Data interface RS-232:

To connect the balance to a printer, PC or network



RS-485 data interface:

To connect the balance to a printer, PC or other peripherals. Suitable for data transfer over large distances. Network in bus topology is possible



USB data interface:

To connect the balance to a printer, PC or other peripherals



Bluetooth* data interface:

To transfer data from the balance to a printer, PC or other peripherals



WiFi data interface:

To transfer data from the balance to a printer, PC or other peripherals



Control outputs (optocoupler, digital I/O):

To connect relays, signal lamps, valves, etc.



Analogue interface:

to connect a suitable peripheral device for analogue processing of the measurements



Interface for second balance:

For direct connection of a second balance



Network interface:

For connecting the scale to an Ethernet network



KERN Communication Protocol (KCP):

It is a standardized interface command set for KERN balances and other instruments, which allows retrieving and controlling all relevant parameters and functions of the device. KERN devices featuring KCP are thus easily integrated with computers, industrial controllers and other digital systems



GLP/ISO log:

The balance displays weight, date and time, independent of a printer connection



GLP/ISO log:

With weight, date and time. Only with KERN printers.



Piece counting:

Reference quantities selectable. Display can be switched from piece to weight



Recipe level A:

The weights of the recipe ingredients can be added together and the total weight of the recipe can be printed out



Recipe level B:

Internal memory for complete recipes with name and target value of the recipe ingredients. User guidance through display



Totalising level A:

The weights of similar items can be added together and the total can be printed out



Percentage determination:

Determining the deviation in % from the target value (100 %)



Weighing units:

Can be switched to e.g. nonmetric units. See balance model. Please refer to KERN's website for more details



Weighing with tolerance range:

(Checkweighing) Upper and lower limiting can be programmed individually, e.g. for sorting and dosing. The process is supported by an audible or visual signal, see the relevant model



Hold function:

(Animal weighing program) When the weighing conditions are unstable, a stable weight is calculated as an average value



Protection against dust and water splashes IPxx:

The type of protection is shown in the pictogram.



Suspended weighing:

Load support with hook on the underside of the balance



Battery operation:

Ready for battery operation. The battery type is specified for each device



Rechargeable battery pack:

Rechargeable set



Universal plug-in power supply:

with universal input and optional input socket adapters for
A) EU, CH, GB
B) EU, CH, GB, USA
C) EU, CH, GB, USA, AUS



Plug-in power supply:

230V/50Hz in standard version for EU, CH. On request GB, USA or AUS version available



Integrated power supply unit:

Integrated in balance. 230V/50Hz standard EU. More standards e.g. GB, USA or AUS on request



Weighing principle: Strain gauges

Electrical resistor on an elastic deforming body



Weighing principle: Tuning fork

A resonating body is electromagnetically excited, causing it to oscillate



Weighing principle: Electromagnetic force compensation

Coil inside a permanent magnet. For the most accurate weighings



Weighing principle: Single cell technology:

Advanced version of the force compensation principle with the highest level of precision



Verification possible:

The time required for verification is specified in the pictogram



DAkkS calibration possible (DKD):

The time required for DAkkS calibration is shown in days in the pictogram



Factory calibration (ISO):

The time required for Factory calibration is shown in days in the pictogram



Package shipment:

The time required for internal shipping preparations is shown in days in the pictogram



Pallet shipment:

The time required for internal shipping preparations is shown in days in the pictogram



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