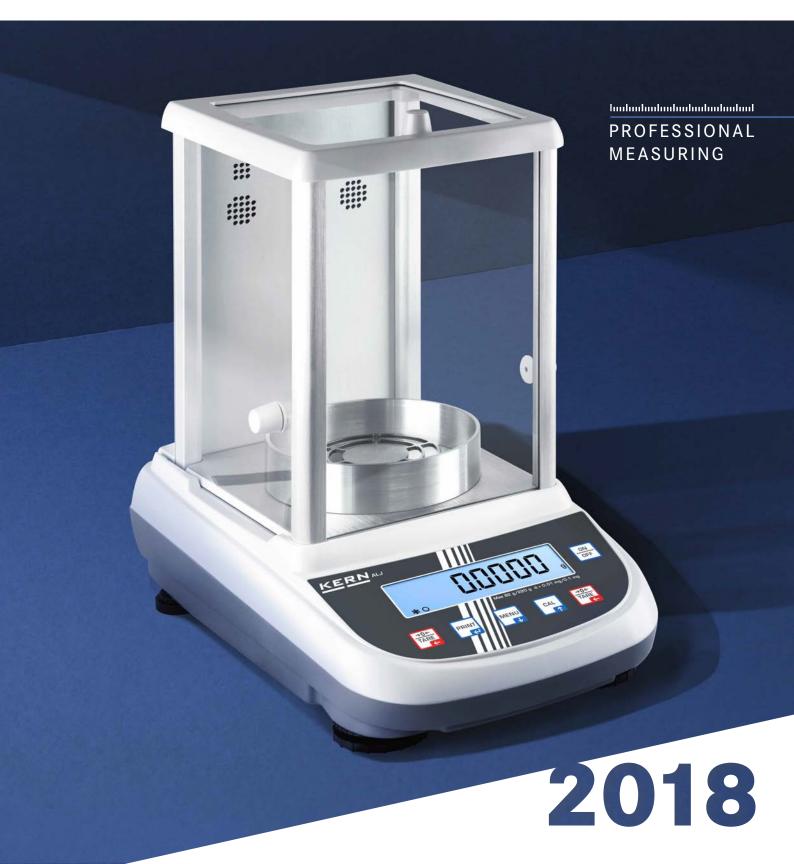


ANALYTICAL BALANCES



KERN Pictograms



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 CAL EXT accuracy. External adjusting weight



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. For details see page 191



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, USB PC or other peripherals



Bluetooth* data interface:

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



WLAN data interface:

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



Control outputs (optocoupler, digital I/O):

To connect relays, signal lamps, valves, etc.



Interface for second balance:

For direct connection of a second DUAL balance



Network interface:

For connecting the scale to an Ethernet LAN network



evaluation unit using an integrated



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 serial number, user ID, weight, date and time, regardless of a printer connection



GLP/ISO log:

With weight, date and time. Only with PRINTER KERN printers, see page 154/155



RECIPE

RECIPE

RECIPE

Recipe level A:

Recipe level B:

Recipe level C:

or barcode recognition

Totalising level A:

can be printed out

printed out

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

The weights of the recipe ingredients

Internal memory for complete recipes

ingredients. User guidance through

Internal memory for complete recipes

ingredients. User guidance through

with name and target value of the recipe

display, multiplier function, adjustment of recipe when dosages are exceeded

with name and target value of the recipe

can be added together and the

total weight of the recipe can be





Battery operation:

Suspended weighing:

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

Load support with hook on the underside



UNDER

BATT

Rechargeable battery pack:

Rechargeable set



Universal mains adapter: with universal input and optional input socket adapters for

A) EU, GB B) EU, GB, CH, USA C) EU, GB, CH, USA, AUS



Mains adapter:

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



available



Power supply:

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



Percentage determination:

The weights of similar items can

be added together and the total

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





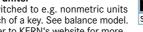
Weighing principle: Electromagnetic force compensation

Coil inside a permanent magnet. For the most accurate weighings



Weighing units:

Can be switched to e.g. nonmetric units at the touch of a key. See balance model. Please refer to KERN's website for more details





Weighing principle: Single cell technology

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



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



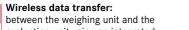
Verification possible:

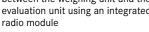
The time required for verification is +3 DAYS specified in the pictogram



DAkkS calibration possible (DKD):

The time required for DAkkS calibration +3 DAYS is shown in days in the pictogram







Hold function:

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



Package shipment:

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



Protection against dust and water splashes IPxx:

The type of protection is shown in the pictogram. For details see page 58



Pallet shipment:

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



Stainless steel:

The balance is protected against corrosion

KERN - measuring technology and testing services from a single source











Balances & Test service catalogue

Provides a complete overview of the KERN line of balances, test weights, and services such as verification, calibration, etc.

Medical scales catalogue

Complete line of medical scales, from infant scales to patient scales, chair scales and adiposity scales, as well as hand grip dynamometers, chemist's balances and veterinary scales.

Microscopes & refractometers catalogue

Extensive range in the area of optical instruments, such as, for example, biological microscopes, stereo microscopes, metallurgical microscopes, polarisation microscopes as well as analogue and digital refractometers.

SAUTER measuring equipment catalogue

Test instruments for industry and commerce, such as force, coating thickness, material thickness and calibration service.

DAkkS calibration service brochure

Detailed information on topics pertaining to the calibration and verification of balances, test weights, and force measuring devices.

Your advantages

fast

- 24 hours delivery service for products in stock – ordered today, on its way tomorrow
- Sales & service hotline available from 8:00 am to 6:00 pm

reliable

- Up to 3 years warranty
- Precision in weighing technology for more than 170 years

competent

- DAkkS accreditation DIN EN ISO/IEC 17025
- Certified QM system DIN EN ISO 9001
- Authorisation for initial verification by the manufacturer 2014/31/EU
- Medical certifications DIN EN ISO 13485 and 93/42/EEC

versatile

- One-stop shopping: from pocket balances through to 15 t crane balance – everything from one supplier
- Find the product you want at lightning speed with the "Balance Quick-Finder" at www.kern-sohn.com



Order hotline

+49[0]7433 9933-0



Service hotline

+49[0]7433 9933-199



Calibration hotline

+49[0]7433 9933-196



Our team of consultants will assist you

from Monday to Friday from 8:00 am to 6:00 pm



Online Shop

www.kern-sohn.com



E-mail order

info@kern-sohn.com



Fax order

+49[0]7433 9933-146



www.kern-sohn.com

Information on current product availability, product data sheets, user instructions, useful knowledge, technical glossary, images and much for you to download, practical topic areas, which will guide you to the right product in your industry as well as a clever test weight and balance search engine.

04

Analytical balances

Read- out	Weighing range	Model	Price excl. of VAT	Page		M	CAL INT	I	MEMORY		. ARA .	RECIPE
d]	[Max]		ex works		DAYS	Ш	CALINT	CAL EXT	MEMURY	ALIBI	RS 232	RECIP
ng	g	KERN	€		F	or an ex	planatio	n on the	pictos,	see the	front fla	p
0,01	101	ABT 100-5NM	1980,-	39	1	0	•				•	•
0,01 0,1	42 120	ABT 120-5DNM	2120,-	39	1	0	•				•	•
0,01 0,1	82 220	ALJ 200-5DA	1750,-	37	1		•				•	•
0,01 0,1	82 220	ABT 220-5DNM	2320,-	39	1	0	•				•	•
0,1	82	ABS 80-4N	960,-	38	1			•			0	•
0,1	82	ABJ 80-4NM	1040,-	38	1	0	•				0	•
0,1	120	ADB 600-C3 ♥	610,-	35	1			•			•	
0,1	120	ADB 100-4	620,-	35	1			•			•	
0,1	120	ABS 120-4N	1020,-	38	1						0	•
0,1	120	ABJ 120-4NM	1070,-	38	1	0	•	•			0	•
0,1	120	ABT 120-4NM	1470,-	39	1	0	•				•	•
0,1	160	ALS 160-4A	930,-	37	1			•			•	•
0,1	160	ALJ 160-4A	1030,-	37	1		•				•	•
0,1	160	ALJ 160-4AM	1050,-	37	1	0	•				•	•
0,1	210	ADB 200-4	640,-	35	1			•			•	
0,1	220	ABS 220-4N	1070,-	38	1			•			0	•
0,1	220	ABJ 220-4NM	1160,-	38	1	0	•				0	•
0,1	220	ABT 220-4NM	1770,-	39	1	0	•				•	•
0,1	250	ALS 250-4A	980,-	37	1			•			•	•
0,1	250	ALJ 250-4A	1060,-	37	1		•				•	•
0,1	250	ALJ 250-4AM	1090,-	37	1	0	•				•	•
0,1	310	ALJ 310-4A	1190,-	37	1		•	_			•	•
0,1	320	ABS 320-4N	1230,-	38	1		_	•			0	•
0,1	320	ABJ 320-4NM	1330,-	38	1	0	•				0	•
0,1	320 510	ABT 320-4NM ALJ 500-4A	1970,- 1950,-	39 37	1	0	•				•	•

HIGHfrom € 610,-**FACE** LIFT ► Large glass draught shield page 35 with 3 sliding doors ► Large weighing ranges at a top price ► Now also available as a special carat model **Christian D'Onofrio** Product specialist Analytical balances +49 [0] 7433 9933 - 147 Fax +49[0]74339933-29147 christian.donofrio@kern-sohn.com

KERN ADB













The price leader in analytical balances - now in a new compact design and with special carat model

Features

- II NEW: KERN ADB 600-C3! Compact, space-saving carat balance with a readout of 0.001 ct and a weighing range of 600 ct. The high level of accuracy saves hard cash wherever you are weighing valuable precious stones
- Large glass draught shield with 3 sliding doors for easy access to the items being weighed.
- Compact size, practical for small spaces
- · Simple and convenient 6-key operation

Technical data

- Large backlit LCD display, digit height 16 mm
- Dimensions weighing surface, stainless steel, Ø 90 mm
- · Overall dimensions (incl. draught shield) W×D×H KERN ADB: 230×310×330 mm KERN ADB-C: 230×310×230 mm
- Weighing space W×D×H KERN ADB: 170×160×205 mm KERN ADB-C: 170×160×110 mm
- · Net weight approx. 4,4 kg
- · Permissible ambient temperature 10 °C/30 °C

Accessories

- 2 loniser to neutralise electrostatic charge, KERN YBI-01A, € 940,-
- 3 Precious stones plate, aluminium with practical spout, W×D×H 83×66×23 mm, KERN AEJ-A05, € 40,-
- Weighing table to absorb vibrations and oscillations, which would otherwise distort the weighing result, KERN YPS-03, € 990,-
- · 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, € 10,-
- · Further details, plenty of further accessories and suitable printers see Accessories

STANDARD























Model	Weighing range	Readout	Readout Reproducibility Linearity		Price €	Options	
					excl. of VAT	/AT DAkkS Calibr. Certifica	
	[Max]				ex works	DKD	
KERN	g	mg	mg	mg	€	KERN	€
ADB 100-4	120	0,1	0,2	± 0,4	620,-	963-101	138,-
ADB 200-4	210	0,1	0,2	± 0,4	640,-	963-101	138,-
ADB 600-C3 ♥ ■	120 g 600 ct	0,1 mg 0,001 ct	0,2 mg 0,002 ct	± 0,4 mg 0,004 ct	610,-	963-101	138,-





■ KERN ALJ 200-5DA with optional ionisor ②, see *Accessories*

Analytical balance range with large weighing ranges – now also with EC type approval [M] or available as semi-micro analytical balance

Features

- **II NEW:** KERN ALJ 250-5DA! High-precision semi-micro analytical balance
- 2 NEW: KERN ALJ-A03! Ioniser to neutralise electrostatic charge for fixed installation in the analytical balance. This it makes for convenient handling as you no longer need a separate device. Simply enable the ioniser fan at the push of a button. Suitable for all models in this range, see accessories on the right
- KERN ALJ-A/-AM: Automatic internal adjustment in the case of a change in temperature ≥ 1,2 °C or timecontrolled every 3 h, guarantees high degree of accuracy and makes the balance independent of its location of use
- KERN ALS-A: Adjusting program CAL for quick setting of the balance accuracy using an external test weight
- Ergonomically optimised keypad for left and righthanded users
- Large glass draught shield with 3 sliding doors for easy access to the items being weighed.
- Compact size, practical for small spaces
- Protective working cover included with delivery







Technical data

- · Backlit LCD display, digit height 17 mm
- Dimensions weighing surface, stainless steel, Ø 80 mm
- Overall dimensions (incl. draught shield)
 W×D×H 210×340×330 mm
- Weighing space W×D×H 160×140×205 mm
- Net weight approx. 7 kg
- Permissible ambient temperature
 KERN ALS-A/ALJ-A/ALJ-DA: 5 °C/35 °C
 KERN ALJ-AM: 15 °C/30 °C

Accessories

- Protective working cover, scope of delivery: 5 items, KERN ALJ-A01S05, € 40,-
- Protective dust cover, KERN ABS-A08, € 30,-
- 2 Draft shield rear panel with integrated ioniser to neutralise electrostatic charge. Is fitted in place of the existing glass rear panel of the draft shield. Suitable for all models in the KERN ALS-A/ALJ-A/ALJ-AM/ALJ-DA range, please order at the time you order your balance, the scope of delivery is the rear panel, ioniser, power supply. Factory Option, KERN ALJ-A03, € 690,-
- Set for density determination of liquids and solids with density ≤/≥ 1, the density is indicated directly on the display, KERN YDB-03, € 390,-
- **4** Weighing table to absorb vibrations and oscillations, which would otherwise distort the weighing result, KERN YPS-03, € 990,-
- 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, € 10,-
- Further details, plenty of further accessories and suitable printers see Accessories



Model	Weighing	Readout	Verification	Minimal	Reproduci-	Linearity	Price €	Options				
	range		value	load	bility		excl. of VAT	Verifica	tion	DAkkS Calibr. Ce	rtificate	
	[Max]	[d]	[e]	[Min]			ex works	MI		DKD		
KERN	g	mg	mg	mg	mg	mg	€	KERN	€	KERN	€	
ALS 160-4A	160	0,1	-	-	0,1	± 0,3	930,-	-	-	963-101	138,-	
ALS 250-4A	250	0,1	-	-	0,1	± 0,3	980,-	-	-	963-101	138,-	
Note: Fo	Note: For applications that require verification, please order verificati on at the same time, initial verification at a later date is not possible.											
		Verific	ation at the fa	actory, we ne	ed to know th	e full address of	the location o	f use.				
ALJ 200-5DA	82 220	0,01 0,1	-	-	0,04 0,1	± 0,1 0,2	1750,-	-	-	963-101	138,-	
ALJ 160-4A	160	0,1	-	-	0,1	± 0,3	1030,-	-	1	963-101	138,-	
ALJ 160-4AM	160	0,1	1	10	0,2	± 0,3	1050,-	965-201	110,-	963-101	138,-	
ALJ 250-4A	250	0,1	-	-	0,1	± 0,3	1060,-	-	1	963-101	138,-	
ALJ 250-4AM	250	0,1	1	10	0,2	± 0,3	1090,-	965-201	110,-	963-101	138,-	
ALJ 310-4A	310	0,1	-	-	0,1	± 0,3	1190,-	-	1	963-101	138,-	
ALJ 500-4A	510	0,1	-	-	0,2	± 0,4	1950,-	-	-	963-101	138,-	



The bestseller in analytical balances, with high-quality single-cell weighing system, also with EC type approval [M]

Features

- · KERN ABJ-NM: Automatic internal adjustment in the case of a change in temperature ≥ 2 °C or timecontrolled every 4 h, guarantees high degree of accuracy and makes the balance independent of its location of use
- KERN ABS-N: Adjusting program CAL for quick setting of the balance accuracy using an external test weight
- 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

- Automatic data output to the PC/printer each time the balance is steady
- Identification number: 4 digits, printed on calibration protocol freely programmable
- · ABJ-NM has OIML certification
- · Protective working cover included with delivery

Technical data

- · Large LCD display, digit height 14 mm
- · Dimensions weighing surface, stainless steel, Ø 91 mm
- · Overall dimensions (incl. draught shield) W×D×H 210×340×325 mm
- Weighing space W×D×H 174×162×227 mm
- · Net weight approx. 6 kg
- · Permissible ambient temperature 10 °C/30 °C









Accessories

- · Protective working cover, scope of delivery: 5 items, KERN ACS-A02S05, € 40,-
- II Set for density determination of liquids and solids with density $\leq/\geq 1$, the density is indicated directly on the display, KERN YDB-03, € 390,-
- 2 loniser to neutralise electrostatic charge, KERN YBI-01A, € 940,-
- · Data interface RS-232, interface cable included, approx. 1,5 m, KERN ACS-A01, € 75,-
- B Weighing table to absorb vibrations and oscillations, which would otherwise distort the weighing result, KERN YPS-03, € 990,-
- 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, € 10,-
- Further details, plenty of further accessories and suitable printers see Accessories

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. 3 sec under laboratory conditions
- · Shock proof construction
- · High corner load performance



































Model	Weighing	Readout	Verification	Minimal	Reproduci-	Linearity	Price €		Options					
	range		value	load	bility		excl. of VAT	Verification		Verification DAkkS Calibr		DAkkS Calibr. Ce	Certificate	
	[Max]	[d]	[e]	[Min]			ex works	MI		DKD				
KERN	g	mg	mg	mg	mg	mg	€	KERN	€	KERN	€			
ABS 80-4N	82	0,1	-	-	0,2	± 0,3	960,- 🕛	-	-	963-101	138,-			
ABS 120-4N	120	0,1	-	-	0,2	± 0,3	1020,- 🕛	-	-	963-101	138,-			
ABS 220-4N	220	0,1	-	-	0,2	± 0,3	1070,-	-	-	963-101	138,-			
ABS 320-4N	320	0,1	-	-	0,2	± 0,3	1230,- 🕛	-	-	963-101	138,-			

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 us

	verification at the factory, we need to know the fair address of the location of use.													
ABJ 80-4NM	82	0,1	1	10	0,2	± 0,3	1040,- 🕛	965-201	110,-	963-101	138,-			
ABJ 120-4NM	120	0,1	1	10	0,2	± 0,3	1070,- 🕛	965-201	110,-	963-101	138,-			
ABJ 220-4NM	220	0,1	1	10	0,2	± 0,3	1160,- 🕛	965-201	110,-	963-101	138,-			
ABJ 320-4NM	320	0,1	1	10	0,2	± 0,3	1330 🕛	965-201	110,-	963-101	138,-			











The premium model with single-cell weighing system

Features

- · Automatic internal adjustment in the case of a change in temperature ≥ 0,5 °C or timecontrolled every 4 h, guarantees high degree of accuracy and makes the balance independent of its location of use
- 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
- · Identification number: 4 digits, printed on calibration protocol freely programmable
- · 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.
- · Protective working cover included with delivery

Technical data

- · Large LCD display, digit height 14 mm
- · Dimensions weighing surface, stainless steel, Ø 80 mm
- · Overall dimensions (incl. draught shield) W×D×H 217×356×338 mm
- Weighing space W×D×H 168×172×223 mm
- Net weight approx. 7 kg
- · Permissible ambient temperature 10 °C/30 °C

Accessories

- · Protective working cover, scope of delivery: 5 items, KERN ABT-A02S05, € 40,-
- Set for density determination of liquids and solids with density $\leq \geq 1$, the density is indicated directly on the display, KERN YDB-03, € 390,-
- Ioniser to neutralise electrostatic charge, KERN YBI-01A, € 940,-
- Weighing table to absorb vibrations and oscillations, which would otherwise distort the weighing result, KERN YPS-03, € 990,-
- · 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, € 10,-
- · Further details, plenty of further accessories and suitable printers see Accessories
- 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. 3 sec under laboratory conditions
- · Shock proof construction
- · High corner load performance

STANDARD

































Model	Weighing	Readout	Verification	Minimal	Reproduci-	Linearity	Price €		Options			
	range		value	load	bility		excl. of VAT	Verifica	tion DAkkS Calibr. Certif		rtificate	
	[Max]	[d]	[e]	[Min]			ex works	MI		DKD		
KERN	g	mg	mg	mg	mg	mg	€	KERN	€	KERN	€	
ABT 120-4NM	120	0,1	1	10	0,1	± 0,2	1470,- 🕛	965-201	110,-	963-101	138,-	
ABT 220-4NM	220	0,1	1	10	0,1	± 0,2	1770,-	965-201	110,-	963-101	138,-	
ABT 320-4NM	320	0,1	1	10	0,1	± 0,3	1970,- 🕛	965-201	110,-	963-101	138,-	
ART 100-5NM	101	0.01	1	1	0.05	+ 0.15	1080 -	065_201	110 -	063_101	138 -	

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.

	Dual-range balance switches automatically to the next largest weighing range [Max] and readout [d]												
ABT 120-5DNM	42 120	0,01 0,1	1	1	0,02 0,1	± 0,05 0,2	2120,-	965-201	110,-	963-101	138,-		
ABT 220-5DNM	82 220	0,01 0,1	1	1	0,05 0,1	± 0,1 0,2	2320,- 🕛	965-201	110,-	963-101	138,-		

An independent family business, KERN since already 7 generations is synonymous with quality and reliability in customer service.



KERN is founded – precision balances are produced



A proud Gottlieb Kern with his staff



Pharmaceutical balance with Aesculap



Inflation – KERN wages are paid with self printed currency



The electronic balance ousts mechanical devices



Accredited DKD laboratory (ISO 17025)



New premises in Balingen



Existing QM system certification in accordance with DIN EN ISO 9001:2000 standards



Approval for the manufacture of medical products (DIN EN 13485 and 93/42/EEC)



Authorisation for initial verification by the manufacturer (2009/23/EU)



Approval for the manufacture and sale of height rods (DIN EN 13485 and 93/42/EEC)



Verification point for non-automatic balances and test weights.

2012

New customer portal www.kern-sohn.com goes live



Expansion of the product range to include optical instruments (microscopes and refractometers)



Inauguration of Ziegelei 2.0 with computercontrolled high-bay warehouse



Come with KERN into the digital future: Expansion of the model ranges compatible with Industry 4.0, as well as the related services

KERN & SOHN GmbH Balances, Test weights, DAkkS Calibration laboratory

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