

TRADITION AND INNOVATION – 169 YEARS OF KERN

Independent and family-run, KERN is already in its 6th generation and is synonymous with quality and reliability in customer service.

FAST

- 24 hours delivery service – order today, on its way tomorrow
- Sales & service hotline from 8:00 am to 6:00 pm

COMPETENT

- DKD accreditation (DIN EN ISO/IEC 17025)
- QM system (DIN EN ISO 9001:2008)
- Initial verification by the manufacturer (2009/23/ECC)
- Medical (DIN EN ISO 13485 & 93/42/EWG)

RELIABLE

- 2+ years warranty
- Precision in weighing technology for the last 169 years

DIVERSE

- One-stop shopping: from pocket balances through to floor scales – everything from one supplier
- Find the balance you want in no time with the „Balance Quick-Finder“



KERN – Professional measuring.

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DKD CALIBRATION SERVICE



GB

2013

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The **DKD = Deutscher Kalibrierdienst** (German Calibration Service) is responsible for measuring „correctly“ in accordance with legally binding international standards. It is part of DAkkS = Deutsche Akkreditierungsstelle (German accreditation organisation) which was founded in Germany. The basis is the European range of standards DIN EN ISO/IEC 17 000 for conformity assessment, in particular the accreditation standard 17 025, which governs the organisation of a calibration laboratory, as well as basic metrological technical requirements.

Only an accredited calibration laboratory can issue DKD calibration certificates. This defines not only the measuring method, but also gives information on tracing the test means to a national standard and the relevant measuring uncertainty is given.



You are certified to ...
ISO 9001, QS 9000, GLP, GMP, TS16949



You need ...
to control your measuring equipment



Our solution ...
DKD calibration certificate (Traceability, Measuring uncertainty, Internationally recognised)

KERN – Precision is our business

The KERN DKD calibration laboratory for electronic balances and weights has been accredited by DKD since 1994 and today is one of the most modern and best-equipped DKD calibration laboratories for balances, test weights and force-measurement in Europe.

Thanks to the high level of automation, we can carry out DKD calibration of balances, test weights and force-measuring devices 24 hours a day, 7 days a week.

Do you have any further requests or questions on this matter? We would be pleased to help you further, or why not visit us on the web.

Range of services:

- DKD calibration of balances with a maximum load of up to 6000 kg
- DKD calibration of weights in the range of 1 mg – 6000 kg

F2, M1, M2 and M3.

DKD calibration

Why? DKD calibration is always necessary when checking equipment (balance or test weight) is to be used in a QM process (e.g. to ISO 9000ff, GS 9000, TS 16949, VDA 6.1, FDA, GLP, GMP, ...)

What? Any checking equipment in proper condition can be DKD calibrated.

How? Determination of accuracy throughout the world by a laboratory which is accredited to DIN EN ISO 17025. Traceability to internationally recognised standards.

- Database supported management of checking equipment and reminder
- In combination with periodic recalibration we can offer you a wide range of further services:
 - Reconditioning of weights, e.g. cast weights (sand blasting, painting, adjustment,...)
 - Collection service with special transport packaging, even for heavy weights
 - Volume determination for weights of accuracy class E1
 - Measuring of sensitivity (magnetic characteristics)
- Calibration of force-measuring devices
- DKD calibration certificates in the following languages
D, GB, F, I, E, NL, PL

The DKD calibration certificate confirms both the measurement characteristics of the checking equipment and the general requirements for the control of checking equipment.

Where? Internationally recognised – this is monitored by ILAC (International Laboratory Accreditation Cooperation) and in Germany, for example the DKD (German calibration service)

When? The operator controls the use of checking equipment and periodic recalibration time intervals themselves

DKD calibration certificate for balances (extract) Further details on the internet

DEUTSCHER KALIBRIERDIENST DKD
Kalibrierlaboratorium / Calibration laboratory

Akkreditiert durch die / accredited by the
Akkreditierungsstelle des Deutschen Kalibrierdienstes

KERN
WAAGEN - GEWICHTE - BALANCES - WEIGHTS
KERN & Sohn GmbH
Älteste europäische Feinwaagen und Gewichtefabrik seit 1844
Oldest European Manufacturer of Precision Balances since 1844

Deutscher Kalibrierdienst
DKD-K-11801

Kalibrierschein
Calibration Certificate

Kalibrierzeichen
Calibration mark

B-60
DKD-K-11801
10-01

Gegenstand
Object

Präzisionswaage
Precision Balance

Hersteller
Manufacturer

KERN & Sohn GmbH
Ziegelei 1
72336 Balingen
GERMANY

Typ
Type

PBJ 620-3M

Fabrikate/Serien-Nr.
Serial number

W1012345

Auftraggeber
Customer

Max Mustermann GmbH
Teststr. 1
42446 Musterstadt

Dieser Kalibrierschein dokumentiert die Rückführung auf nationale Normale zur Darstellung der Einheiten in Übereinstimmung mit dem Internationalen Einheitensystem (SI). Der DKD ist Unterzeichner der multilateralen Übereinkommen der European co-operation for Accreditation (EA) und der International Laboratory Accreditation Cooperation (ILAC) zur gegenseitigen Anerkennung der Kalibrierscheine. Für die Einhaltung einer angemessenen Frist zur Wiederholung der Kalibrierung ist der Benutzer verantwortlich.

This calibration certificate documents the

Messergebnisse / Measurement results

1. Wiederholbarkeit / Repeatability

Messung Measurement	Prüflast Load	Waagenanzeige Indication
No. 1	500 g	499,999 g
No. 2	500 g	499,999 g
No. 3	500 g	500,000 g
No. 4	500 g	500,000 g
No. 5	500 g	500,000 g

Standardabweichung: $s = 0,0006$ g
Standard deviation:

2. Richtigkeit / Linearity

Prüflast Load	Waagenanzeige Indication
100 g	100,000 g
200 g	200,000 g
300 g	300,001 g
500 g	500,000 g
600 g	600,001 g

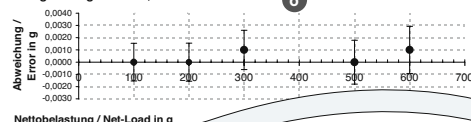
3. Außermittige Belastung / Eccentricity

Position Position	Prüflast Load	Waagenanzeige Indication
No. 1	500 g	500,000 g
No. 2	500 g	499,999 g
No. 3	500 g	500,001 g
No. 4	500 g	500,001 g
No. 5	500 g	500,001 g

Messunsicherheit U / Measuring uncertainty U

Last Load	Abweichung Error	Erweiterungs- faktor k Coverage factor	Unsicherheit Uncertainty	relative Unsicherheit Rel. uncertainty
100 g	0,000 g	2,38	0,0016 g	0,00154 %
200 g	0,000 g	2,32	0,0016 g	0,00078 %
300 g	0,001 g	2,24	0,0017 g	0,00053 %
500 g	0,000 g	2,12	0,0018 g	0,00036 %
600 g	0,001 g	2,08	0,0020 g	0,00032 %

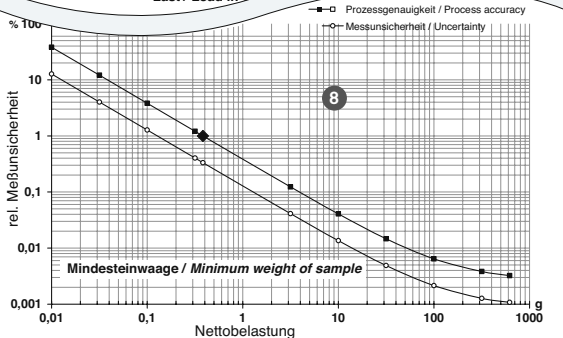
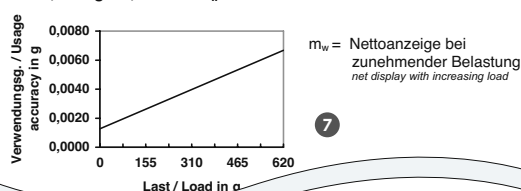
Darstellung im Diagramm / Representation as chart:



Verwendungsgenauigkeit G / Usage accuracy G

Diagramm der Verwendungsgenauigkeit / Graph of usage accuracy:

$$G = 0,0013 \text{ g} + 8,72 \cdot 10^{-6} \cdot m_w$$



The advantages of using KERN in-house calibration

You send your balance to us.

To be recommended with new equipment and for balances which can be transported economically, as the travel costs for on-site calibration are then not applicable.

The advantages of using KERN on-site calibration

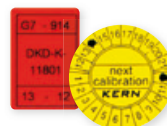
We visit you.

In Germany, KERN has access to a comprehensive network of employees at the KERN DKD calibration laboratory, who can carry out on-site calibration of scales up to 6000 kg.

The calibration service is **independent of the brand**.

Preliminary maintenance work by agreement.

Prices for on-site calibration on request.



Recalibration

- The recalibration schedule depends on the frequency of use, the conditions of use and the safety requirements.
- We would recommend that you recalibrate your test weights every 6 months if they are used intensively, and every 12 months with normal use.

Initial calibration and recalibration of scales at the KERN factory	KERN
Weighing range	
Analytical balances	
Max ≤ 5 kg	963-101
Max ≤ 5 kg	963-102
Precision balances/Industrial scales	
Max ≤ 5 kg	963-127
Max > 5 kg - 50 kg	963-128
Max > 50 kg - 350 kg	963-129
Max > 350 kg - 1500 kg	963-130
Max > 1500 kg - 2900 kg*	963-131
Max > 2900 kg - 6000 kg*	963-132
Preparation for recalibration (cleaning, adjustment, function test)	969-003R
Additional services:	
Minimum weight of sample (for details see internet)	969-103
DKD Express service with delivery time 48 hours (only on initial purchase, details see p. 156)	962-116
Express shipping: Express supplement for guaranteed delivery on the next working day (if ready for shipment before 12:00 noon)	

*floor scales only. Please ask for further details.

- Official document
- Item to be calibrated
- Traceability, see page 159
- Identification/Applicant
- Metrological component
- Measuring uncertainty, see page 159
- Usage accuracy, see page 159
- Minimum weight of sample

DKD calibration certificate for test weights (extract)

Further details on the internet

DEUTSCHER KALIBRIERDIENST DKD

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Akkreditiert durch die / accredited by the
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KERN
WAAGEN · GEWICHTE · BALANCES · WEIGHTS
KERN & Sohn GmbH

Älteste europäische Feinwaagen und Gewichtfabrik seit 1844
Oldest European Manufacturer of Precision Balances since 1844

Kalibrierschein
Calibration certificate

Kalibrierzeichen
Calibration mark

Gegenstand
Object

Hersteller
Manufacturer

Typ
Type

Fabrikat-/Serien-Nr.
Serial number

Auftraggeber
Customer

Gewichtssatz, 1 mg - 500 g
Klasse E2
Set of weights, 1 mg - 500 g
Class E2

KERN & Sohn GmbH
Ziegelei 1
D-72336 Balingen
Germany
313-054
G123456789
Max Mustermann GmbH
Teststr. 1
42446 Musterstadt
Deutschland

Dieser Kalibrierschein dokumentiert die Rückführung auf nationale Normale zur Darstellung der Einheiten in Übereinstimmung mit dem Internationalen Einheitensystem (SI).
Der DKD ist Unterzeichner der multilateralen Übereinkommen der European cooperation for Accreditation (EA) und der International Laboratory Accreditation Cooperation (ILAC) zur gegenseitigen Anerkennung der Kalibrierscheine.
Für die Einhaltung einer angemessenen Frist zur Wiederholung der Kalibrierung ist der Benutzer verantwortlich.

This calibration certificate documents the traceability to national standards, which realize the units of measurement according to the

G1-236
DKD-K-11801
10-02

Umgebungsbedingungen:
Ambient conditions:

Die Kalibrierung wurde bei folgenden Umgebungsbedingungen ausgeführt:
The calibration was carried out under the following ambient conditions:

	von from	bis to
Temperatur / °C temperature	24,0	24,9
rel. Luftfeuchte / % relative humidity	49,3	52,4
Luftdruck / mbar air pressure	952,3	953,7

Material / Angenommene Dichte:
Material / Assumed density:

Nennwert nominal value	Dichte density	Unsicherheit uncertainty	Material material	Form shape
1 mg - 5 mg	2700 kg/m³	130 kg/m³	Aluminium	Plättchen Flat sheet
10 mg - 500 mg	8600 kg/m³	170 kg/m³	Neusilber German silver	Plättchen Flat sheet
1 g - 500 g	8000 kg/m³	100 kg/m³	Edelstahl Stainless steel	Knopf Cylindrical form

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Akkreditierungsstelle des Deutschen Kalibrierdienstes

Seite 5 zum Kalibrierschein vom 19.01.2011
Page 5 of the calibration certificate dated

Messergebnisse:
Measurement results:

Nennwert nominal value	Kennzeichnung marking	konventioneller Wägewert conventional mass	Unsicherheit uncertainty	Fehlergrenze max. perm. error	Klasse* class*
1 mg		1 mg - 0,002 mg	0,002 mg	± 0,006 mg	E2 ✓
2 mg		2 mg + 0,001 mg	0,002 mg	± 0,006 mg	E2 ✓
2 mg	*	2 mg - 0,002 mg	0,002 mg	± 0,006 mg	E2 ✓
5 mg		5 mg - 0,001 mg	0,003 mg	± 0,006 mg	E2 ✓
10 mg		10 mg + 0,000 mg	0,003 mg	± 0,008 mg	E2 ✓
20 mg		20 mg - 0,002 mg	0,003 mg	± 0,010 mg	E2 ✓
20 mg	*	20 mg + 0,006 mg	0,003 mg	± 0,010 mg	E2 ✓
50 mg		50 mg - 0,007 mg	0,004 mg	± 0,012 mg	E2 ✓
100 mg		100 mg - 0,000 mg	0,005 mg	± 0,016 mg	E2 ✓
200 mg		200 mg + 0,003 mg	0,007 mg	± 0,020 mg	E2 ✓
200 mg	*	200 mg + 0,007 mg	0,007 mg	± 0,020 mg	E2 ✓
500 mg		500 mg + 0,007 mg	0,008 mg	± 0,025 mg	E2 ✓
1 g		1 g - 0,008 mg	0,010 mg	± 0,03 mg	E2 ✓
2 g		2 g + 0,015 mg	0,013 mg	± 0,04 mg	E2 ✓
2 g	*	2 g + 0,012 mg	0,013 mg	± 0,04 mg	E2 ✓
5 g		5 g + 0,005 mg	0,017 mg	± 0,05 mg	E2 ✓
10 g		10 g - 0,005 mg	0,020 mg	± 0,06 mg	E2 ✓
20 g		20 g - 0,043 mg	0,027 mg	± 0,08 mg	E2 ✓
20 g	*	20 g - 0,019 mg	0,027 mg	± 0,08 mg	E2 ✓
50 g		50 g - 0,00 mg	0,03 mg	± 0,10 mg	E2 ✓
100 g		100 g - 0,03 mg	0,05 mg	± 0,16 mg	E2 ✓
200 g		200 g - 0,03 mg	0,10 mg	± 0,3 mg	E2 ✓
200 g	*	200 g - 0,08 mg	0,10 mg	± 0,3 mg	E2 ✓
500 g		500 g - 0,39 mg	0,27 mg	± 0,8 mg	E2 ✓

➔ For more information on this subject, please see our KERN DKD calibration service brochure - just request your free copy.



Calibration of test weights

Calibrated measuring equipment requires calibrated checking equipment. For balances, these are calibrated test weights, also called "standard weights".

We calibrate test weights...

- in all cases with permissible error limits E1-M according OIML R111-2004 (for tolerance tables, see page 135), in sizes 1 mg to 500 kg.
- with free nominal value
- Newtons (N)
- independent of design (special designs)

The advantages of using KERN in-house calibration

You send your test weights to us.

- Excellent price performance ratio
- The quickest process time
 - standard DKD service: 4 working days
 - DKD Express service: 48 hours (new weights)
- The most modern calibration methods with robot controlled comparators) allow the most accurate calibration results and fastest throughput time
- KERN DKD calibration certificates are internationally recognised
- **A calibration service which is independent of the brand**
- KERN also reconditions existing customer weights (e.g. cleaning or readjustment)
- On request, with our parcel service, we can also provide a pick-up and collection service

The advantages of using KERN on-site calibration

We would be pleased to visit you within Germany and carry out the calibration of your reference standards to OIML classes M1 to M3, 10 to 50 kg with permissible error limits, using our mobile MACOS system. Minimized downtime of your checking equipment and direct contact with our expert are the major benefits of this service. Price on request.

Recalibration

- The recalibration schedule depends on the frequency of use, the conditions of use and the safety requirements.
- In terms of standardisation, no particular recalibration interval is specified.
- We would recommend that you recalibrate your test weights every 6 months if they are used intensively, and every 12 months with normal use.
- We would be pleased to monitor your recalibration schedule

- 1 Official document
- 2 Item to be calibrated
- 3 Traceability, see page 159
- 4 Identification/Applicant
- 5 Environmental conditions
- 6 Metrological component
- 7 Conventional mass
- 8 Measuring uncertainty, see page 159

Recalibration price of test weights

Class acc. → OIML R111-2004	E1 with volume determination		E1 without volume determination		E2		F1 / F2 * only F2		M1 / M2 / M3	
Weight value: ↓	KERN		KERN		KERN		KERN		KERN	
1 mg	-		962-251R		962-351R		962-451R		962-651R	
2 mg	-		962-252R		962-352R		962-452R		962-652R	
5 mg	-		962-253R		962-353R		962-453R		962-653R	
10 mg	-		962-254R		962-354R		962-454R		962-654R	
20 mg	-		962-255R		962-355R		962-455R		962-655R	
50 mg	-		962-256R		962-356R		962-456R		962-656R	
100 mg	-		962-257R		962-357R		962-457R		962-657R	
200 mg	-		962-258R		962-358R		962-458R		962-658R	
500 mg	-		962-259R		962-359R		962-459R		962-659R	
1 g	963-231		962-231R		962-331R		962-431R		962-631R	
2 g	963-232		962-232R		962-332R		962-432R		962-632R	
5 g	963-233		962-233R		962-333R		962-433R		962-633R	
10 g	963-234		962-234R		962-334R		962-434R		962-634R	
20 g	963-235		962-235R		962-335R		962-435R		962-635R	
50 g	963-236		962-236R		962-336R		962-436R		962-636R	
100 g	963-237		962-237R		962-337R		962-437R		962-637R	
200 g	963-238		962-238R		962-338R		962-438R		962-638R	
500 g	963-239		962-239R		962-339R		962-439R		962-639R	
1 kg	963-241		962-241R		962-341R		962-441R		962-641R	
2 kg	963-242		962-242R		962-342R		962-442R		962-642R	
5 kg	963-243		962-243R		962-343R		962-443R		962-643R	
10 kg	963-244		962-244R		962-344R		962-444R		962-644R	
20 kg	963-245		962-245R		962-345R		962-445R		962-645R	
50 kg	963-246		962-246R		962-346R		962-446R		962-646R	
100 kg	-		-		-		962-591R*		962-691R	
200 kg	-		-		-		962-592R*		962-692R	
500 kg	-		-		-		962-593R*		962-693R	
1 mg - 500 mg	-		962-250R		962-350R		962-450R		962-650R	
1 mg - 50 g	963-201		962-201R		962-301R		962-401R		962-601R	
1 mg - 100 g	963-202		962-202R		962-302R		962-402R		962-602R	
1 mg - 200 g	963-203		962-203R		962-303R		962-403R		962-603R	
1 mg - 500 g	963-204		962-204R		962-304R		962-404R		962-604R	
1 mg - 1 kg	963-205		962-205R		962-305R		962-405R		962-605R	
1 mg - 2 kg	963-206		962-206R		962-306R		962-406R		962-606R	
1 mg - 5 kg	963-207		962-207R		962-307R		962-407R		962-607R	
1 mg - 10 kg	963-208		962-208R		962-308R		962-408R		962-608R	
1 g - 50 g	963-215		962-215R		962-315R		962-415R		962-615R	
1 g - 100 g	963-216		962-216R		962-316R		962-416R		962-616R	
1 g - 200 g	963-217		962-217R		962-317R		962-417R		962-617R	
1 g - 500 g	963-218		962-218R		962-318R		962-418R		962-618R	
1 g - 1 kg	963-219		962-219R		962-319R		962-419R		962-619R	
1 g - 2 kg	963-220		962-220R		962-320R		962-420R		962-620R	
1 g - 5 kg	963-221		962-221R		962-321R		962-421R		962-621R	
1 g - 10 kg	963-222R		962-222R		962-322R		962-422R		962-622R	

Additional costs for preparation, overhaul and adjustment before the calibration	KERN
Preparation of weights (e.g. cleaning, etc.)	
Single weight	969-001R
Weight set	969-002R
Subsequent services are carried out after confirmation	
Continued overhaul of weights (e.g. wet-cleaning, markings, repair, special packaging, adjustment E1, E2 ...)	969-005R
Adjustment, per weight (only available for weights with adjustment chamber (F1-M3))	969-010R
Second calibration after adjustment or substitution, per weight	
Class E1	969-210R
Class E1 incl. volume determination	969-211R
Class E2	969-310R
Class F1/F2	969-410R
Class M1-M3	969-610R
Testing of magnetic properties according to OIML R111-2004, per weight	972-000

KERN DKD-Express Service	
DKD standard service Class E2-M3	4 working days
DKD standard service Class E1, 1mg-500mg, and recalibration 1g-10kg with a known volume	15 working days
Class E1, 1g-1kg, incl. volume determination	25 working days
Class E1, ≥ 2kg, incl. volume determination	40 working days

DKD express service in 48 hours except for class E1

- Urgent order is received at KERN by 12:00 noon at the latest
- Ready for shipping at KERN on the next working day but on, at 12:00 noon
- Return by standard parcel service or express shipping
- Additional cost for DKD Express Service, for each KERN test weight KERN 962-115
- For Express shipping, see page 154

Verification prices for test weights

Class acc. → OIML R111-2004	E2 with verification certificate		F1/ F2 with verification certificate		M1/ M3 with verification certificate * only M1	
Weight value: ↓	KERN		KERN		KERN	
1 mg	952-351		952-451		952-651*	
2 mg	952-352		952-452		952-652*	
5 mg	952-353		952-453		952-653*	
10 mg	952-354		952-454		952-654*	
20 mg	952-355		952-455		952-655*	
50 mg	952-356		952-456		952-656*	
100 mg	952-357		952-457		952-657*	
200 mg	952-358		952-458		952-658*	
500 mg	952-359		952-459		952-659*	
1 g	952-331		952-431		952-631	
2 g	952-332		952-432		952-632	
5 g	952-333		952-433		952-633	
10 g	952-334		952-434		952-634	
20 g	952-335		952-435		952-635	
50 g	952-336		952-436		952-636	
100 g	952-337		952-437		952-637	
200 g	952-338		952-438		952-638	
500 g	952-339		952-439		952-639	
1 kg	952-341		952-441		952-641	
2 kg	952-342		952-442		952-642	
5 kg	952-343		952-443		952-643	
10 kg	952-344		952-444		952-644	
20 kg	952-345		952-445		952-645	
50 kg	952-346		952-446		952-646	
100 kg	-		952-591		952-691	
200 kg	-		952-592		952-692	
500 kg	-		952-593		952-693	
1 mg - 500 mg	952-350		952-450		952-650*	
1 mg - 50 g	952-301		952-401		952-601*	
1 mg - 100 g	952-302		952-402		952-602*	
1 mg - 200 g	952-303		952-403		952-603*	
1 mg - 500 g	952-304		952-404		952-604*	
1 mg - 1 kg	952-305		952-405		952-605*	
1 mg - 2 kg	952-306		952-406		952-606*	
1 mg - 5 kg	952-307		952-407		952-607*	
1 mg - 10 kg	952-308		952-408		952-608*	
1 g - 50 g	952-315		952-415		952-615	
1 g - 100 g	952-316		952-416		952-616	
1 g - 200 g	952-317		952-417		952-617	
1 g - 500 g	952-318		952-418		952-618	
1 g - 1 kg	952-319		952-419		952-619	
1 g - 2 kg	952-220		952-420		952-620	
1 g - 5 kg	952-321		952-421		952-621	
1 g - 10 kg	952-322		952-422		952-622	

KERN verification delivery times

Standard verification service Class E2-M3	6 working days
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Additional costs

for preparation, overhaul
and adjustment before
the calibration

KERN

Preparation of weights (e.g. cleaning, etc.)

Single weight 969-008R

Weight set 969-009R

Subsequent services are carried out after confirmation

Continued overhaul of weights
(e.g. wet-cleaning,
markings, repair,
special packaging,
adjustment E2 ...)

Adjustment, per weight
(only available for weights
with adjustment chamber
(F1-M3)) 969-010R

Verification after adjustment or substitution, per weight

Class E2 969-310R

Class F1/F2 969-410R

Class M1/M3 969-610R

Factory calibration certificates (ISO calibration), prices for initial calibration and recalibration

Checking equipment	DKD/ISO	KERN	
Force Gauges 300 N, 400 N, 500 N	DKD	963-161R	
force-measuring devices up to 500 N	ISO	961-161R	
force-measuring devices up to 2 KN	ISO	961-162R	
force-measuring devices up to 10 KN	ISO	961-163R	
force-measuring devices up to 14,5 KN	ISO	961-164R	
Hardness testing device in accordance with Leeb testing (Typ D)	ISO	961-131R	
Measuring devices for layer thickness 0 µm - 2000 µm (ferrous or nonferrous)	ISO	961-110R	
Measuring devices for layer thickness 0 µm - 2000 µm (ferrous or nonferrous)	ISO	961-112R	
Ultrasonic material thickness testing device 25 mm - 300 mm	ISO	961-113R	
Mechanical balances (spring balances, ...) Max. load 5 kg	ISO	961-100R	
Mechanical balances Max. load > 5 kg - 50 kg	ISO	961-101R	
Mechanical balances Max. load > 50 kg - 350 kg	ISO	961-102R	
Mechanical balances Max. load > 350 kg - 1500 kg	ISO	961-103R	