

Test weights

Weights yesterday and today

Weights have always been used to carry out weighing procedures. This original purpose has almost disappeared. Today, weights are used almost exclusively for adjusting and testing = calibration of electronic balances. We therefore call them "Test weights" as this is their purpose of use.

Adjustment or calibration?

► **Adjusting** a balance means that you are intervening in the weighing system, to make sure that the display is set to show the correct nominal value. With ► **calibration** on the other hand, there is no intervention, you are testing whether the display is correct and documenting any deviation.

Testing, the right way!

The internationally valid OIML norm R111:2004 classifies test weights hierarchically in accuracy classes, where E1 is the most accurate and M3 is the least accurate weight class. With KERN you get the whole test weight range in all OIML accuracy classes E1, E2, F1, F2, M1, M2, M3.







As the appropriate test weight is only classed as checking equipment according to ► **ISO 9000ff** if it has the relevant proof of accuracy, all KERN test weights come with an appropriate ► **DAkKS-calibration certificate**. For further details, see the calibration service section on page 182.

KERN offers you the appropriate test weight package for your balance, consisting of the test weight, box and DAkKS-calibration certificate, as proof of its accuracy. The best pre-requisite for proper balance calibration.

► **See the glossary on page 191–193**

Test weights: classes of accuracy E, F, M and their general relation to the types of balances:

- E1 Test weights for customers who require a high degree of accuracy for the most demanding applications. For high-resolution balances with $d > 1,000,000$ Use recommended with DAkKS calibration certificate only.
- E2 Most accurate test weights for high resolution analytical balances of verification class I $\geq 100,000$ e
- F1 Test weights for analytical balances/precision balances for verification class I/II $\leq 100,000$ e
- F2 Test weights for precision balances of verification class II $\leq 30,000$ e
- M1 Test weights for industrial and commercial scales of verification class III $\leq 10,000$ e

KERN DAkKS delivery times & shipping type	Total weight ≤ 40 kg (gross weight, incl. packaging)	Total weight > 40 kg (gross weight, incl. packaging)
DAkKS standard service Class E2 – M3	 4 DAYS	 4 DAYS
DAkKS standard service Class E1, 1 mg – 500 mg and recalibration 1 g – 10 kg with a known volume	 10 DAYS	 10 DAYS
Class E1, ≥ 1 g, incl. volume determination (new weights)	 15 DAYS	 15 DAYS
Special weights, Newton weights, heavy duty weights, weight carriers, wooden boxes for individual weight sets etc. (e.g. 334-14 1ff, 347-14 1ff, 346-8 1ff, 315-040-100ff, 335-040-200ff)	on request	

Selection of the appropriate test weight for your balance

Correctly selected test weights with DAkkS calibration certificate are the pre-requisite for ensuring that your balances are not only correctly adjusted, but also correctly calibrated. Scheduled testing of your balances with such test weights helps to guarantee your quality requirements and to maintain your quality targets.

Here's how you find the right test weight for your balance:

A balance can never be more accurate than the test weight used to adjust it, it all depends on its tolerance.

Accuracy of the test weight: Should correspond to the readout [d] of the balance, or rather be better.

Nominal weight value: This is shown in adjust mode "CAL" in the balance display. Given a choice, the heaviest weight is the most suitable for accurate measurement.

Once accuracy and nominal weight value are specified, the suitable test weight is selected according to the tolerances "Tol" of the individual accuracy classes E2 - M3, see column "Tol ± mg" at the respective weight and table at page 164.

Example:

Balance with weighing range [Max] 2000 g = 2 kg and readout [d] = 0,01 g = 10 mg

- The accuracy of the required test weight is determined by readout [d]: max. tolerance ± 10 mg.
- Displayed weight size on "CAL" mode: 1000 g or 2000 g. The required test weight has a 2 kg weight size.
- Suitable test weights with ± 10 mg tolerance and 2 kg weight size, can be found in accuracy class F1. KERN-No 327-72, see page 169.

Exception, analytical balances (readout [d] ≤ 0,1 mg):

E1 test weights are recommended. Depending on the safety requirements, E2 test weights with a DAkkS calibration certificate will also be sufficient.

From brass to stainless steel - the right test weight for every situation



Test weight →	Cylindrical shape with lifting knob, polished stainless steel	Compact shape with carrying grip, polished stainless steel	Cylindrical shape with lifting knob, polished stainless steel or nickelplated and polished brass	Compact shape with carrying grip, finely turned stainless steel	Cylindrical shape with lifting knob, finely turned stainless steel	Cylindrical shape with lifting knob, finely turned brass
Features ↓						
Conforms to OIML:R111	yes	yes	yes	no	yes	yes
Available classes	E1, E2	E2, F1	F1	adjusted to F1 error limit class	F2, M1	M1, M2, M3
Upper surface	polished	polished	polished	finely turned	finely turned	finely turned
Material	Stainless steel	Stainless steel	Stainless steel or nickel-plated brass	Stainless steel	Stainless steel	Brass
Adjusting cavity	no	no	yes	yes, from 20 g	yes, from 20 g	yes, from 20 g
Marking (Milligram weights, generally none)	no	E2: None F1: Nominal value, etched	Nominal value, etched	Nominal value, etched	F2: Class + nominal value, etched; M1: Class + nominal value, adopted	Class + nominal value, adopted
Verification possible	yes	yes	yes	no	yes	yes, M1 only
Checking equipment for verification purposes	approved	approved	approved	not approved	approved	approved, M1 only
Ideal as checking equipment in QM systems (e.g. ISO 9000 ff)	yes	yes	yes	yes	yes	yes
Benefits	<ul style="list-style-type: none"> • High-quality test weight for analytical and precision balances • Highly-refined surface • Ideal shape of the top for good grip 	<ul style="list-style-type: none"> • Affordable test weight for analytical and precision balances • Highly refined surface 	<ul style="list-style-type: none"> • Ideal, high-quality test weight for precision balances • Ideal shape of the top for good grip 	<ul style="list-style-type: none"> • Affordable test weight for in-house checking of precision balances 	<ul style="list-style-type: none"> • Ideal test weight for commercial and industrial scales • Ideal shape of the top for good grip 	<ul style="list-style-type: none"> • Affordable test weight for commercial and industrial scales • Ideal shape of the top for good grip

The key points from the OIML norm R111:2004

OIML (Organisation Internationale de Metrologie Legale) has established the exact metrological requirements for weights in verified applications in approx. 100 states all over the world. The OIML recommendation R111 (2004 Edition) for weights relates to sizes 1 mg – 5000 kg. Statements are made on the accuracy, materials, geometric shape, marking and storage of the weights.

Error limits for weights of classes E1 to M3

The error limit classes are in fixed hierarchical levels in the proportion of 1:3, where E1 is the most accurate and M3 is the least accurate weight class. When testing weights with other weights, the correct test class is the next highest class.

Error limit classes (= tolerances)

The values given in the table below (tolerances ± ... mg) are the respective permitted fabrication tolerances. They are to be equal to the ► **measuring uncertainty** of the weight, if no ► **DAkkS calibration certificate** is available.

Conventional mass

The problem is the air buoyancy, which makes the weight appear lighter. In order to avoid this “distortion” in daily use, all weights are adjusted to the unit specifications as given in R111, e.g. it is accepted that: material density of the weights is 8000 kg/m³, air density is 1.2 kg/m³ and measuring temperature is 20 °C.

KERN test weights: Unless otherwise specified, they conform to OIML R111:2004 in every detail.

► *See the glossary, page 191–193*

Nominal value ↓	OIML R111:2004 Maximum permissible errors for weights = permissible tolerances “Tol ± mg”						
	E1	E2	F1	F2	M1	M2	M3
1 mg	± 0,003 mg	± 0,006 mg	± 0,020 mg	± 0,06 mg	± 0,20 mg	-	-
2 mg	± 0,003 mg	± 0,006 mg	± 0,020 mg	± 0,06 mg	± 0,20 mg	-	-
5 mg	± 0,003 mg	± 0,006 mg	± 0,020 mg	± 0,06 mg	± 0,20 mg	-	-
10 mg	± 0,003 mg	± 0,008 mg	± 0,025 mg	± 0,08 mg	± 0,25 mg	-	-
20 mg	± 0,003 mg	± 0,010 mg	± 0,03 mg	± 0,10 mg	± 0,3 mg	-	-
50 mg	± 0,004 mg	± 0,012 mg	± 0,04 mg	± 0,12 mg	± 0,4 mg	-	-
100 mg	± 0,005 mg	± 0,016 mg	± 0,05 mg	± 0,16 mg	± 0,5 mg	± 1,6 mg	-
200 mg	± 0,006 mg	± 0,020 mg	± 0,06 mg	± 0,20 mg	± 0,6 mg	± 2,0 mg	-
500 mg	± 0,008 mg	± 0,025 mg	± 0,08 mg	± 0,25 mg	± 0,8 mg	± 2,5 mg	-
1 g	± 0,010 mg	± 0,03 mg	± 0,10 mg	± 0,3 mg	± 1,0 mg	± 3,0 mg	± 10 mg
2 g	± 0,012 mg	± 0,04 mg	± 0,12 mg	± 0,4 mg	± 1,2 mg	± 4,0 mg	± 12 mg
5 g	± 0,016 mg	± 0,05 mg	± 0,16 mg	± 0,5 mg	± 1,6 mg	± 5,0 mg	± 16 mg
10 g	± 0,020 mg	± 0,06 mg	± 0,20 mg	± 0,6 mg	± 2,0 mg	± 6,0 mg	± 20 mg
20 g	± 0,025 mg	± 0,08 mg	± 0,25 mg	± 0,8 mg	± 2,5 mg	± 8,0 mg	± 25 mg
50 g	± 0,03 mg	± 0,10 mg	± 0,3 mg	± 1,0 mg	± 3,0 mg	± 10 mg	± 30 mg
100 g	± 0,05 mg	± 0,16 mg	± 0,5 mg	± 1,6 mg	± 5,0 mg	± 16 mg	± 50 mg
200 g	± 0,10 mg	± 0,3 mg	± 1,0 mg	± 3,0 mg	± 10 mg	± 30 mg	± 100 mg
500 g	± 0,25 mg	± 0,8 mg	± 2,5 mg	± 8,0 mg	± 25 mg	± 80 mg	± 250 mg
1 kg	± 0,5 mg	± 1,6 mg	± 5,0 mg	± 16 mg	± 50 mg	± 160 mg	± 500 mg
2 kg	± 1,0 mg	± 3,0 mg	± 10 mg	± 30 mg	± 100 mg	± 300 mg	± 1 000 mg
5 kg	± 2,5 mg	± 8,0 mg	± 25 mg	± 80 mg	± 250 mg	± 800 mg	± 2 500 mg
10 kg	± 5,0 mg	± 16 mg	± 50 mg	± 160 mg	± 500 mg	± 1 600 mg	± 5 000 mg
20 kg	± 10 mg	± 30 mg	± 100 mg	± 300 mg	± 1 000 mg	± 3 000 mg	± 10 g
50 kg	± 25 mg	± 80 mg	± 250 mg	± 800 mg	± 2 500 mg	± 8 000 mg	± 25 g
100 kg	-	± 160 mg	± 500 mg	± 1 600 mg	± 5 000 mg	± 16 g	± 50 g
200 kg	-	± 300 mg	± 1 000 mg	± 3 000 mg	± 10 g	± 30 g	± 100 g
500 kg	-	± 800 mg	± 2 500 mg	± 8 000 mg	± 25 g	± 80 g	± 250 g
1 000 kg	-	± 1 600 mg	± 5 000 mg	± 16 g	± 50 g	± 160 g	± 500 g
2 000 kg	-	-	± 10 g	± 30 g	± 100 g	± 300 g	± 1 000 g
5 000 kg	-	-	± 25 g	± 80 g	± 250 g	± 800 g	± 2 500 g

Composition table, valid for all KERN weight sets from 1 mg

Individual weights per set →	1	2	2	5	10	20	20	50	100	200	200	500	1	2	2	5	10	
Weight set ↓	mg	mg	mg	mg	mg	mg	mg	mg	mg	mg	mg	mg	g	g	g	g	g	g
1 mg – 500 mg	Total weight												1,11 g					
1 mg – 50 g													111,11 g					
1 mg – 100 g													211,11 g					
1 mg – 200 g													611,11 g					
1 mg – 500 g													1.111,11 g					
1 mg – 1 kg													2.111,11 g					
1 mg – 2 kg													6.111,11 g					
1 mg – 5 kg													11.111,11 g					
1 mg – 10 kg													21.111,11 g					

Class E1 • Milligram weights, wire shape, stainless steel



Test weight material: stainless steel
Box material: Wood

Milligram weight			+	Box		+	DAkkS certificate		=	Package price	
KERN		Tol ± mg		KERN			KERN			KERN	
308-31	1 mg	0,003		338-090-200			962-251				
308-32	2 mg	0,003		338-090-200			962-252				
308-33	5 mg	0,003		338-090-200			962-253				
308-34	10 mg	0,003		338-090-200			962-254				
308-35	20 mg	0,003		338-090-200			962-255				
308-36	50 mg	0,004		338-090-200			962-256				
308-37	100 mg	0,005		338-090-200			962-257				
308-38	200 mg	0,006		338-090-200			962-258				
308-39	500 mg	0,008		338-090-200			962-259				

Class E1 • Individual weights, cylindrical shape, polished stainless steel



Test weight material: Polished stainless steel
Box material: Lined wood

For weights ≤ 500 g

For weights ≥ 1 kg

Individual weight			+	Box		+	DAkkS certificate Initial calibration*		=	Package price	DAkkS certificate Recalibration	
KERN		Tol ± mg		KERN			KERN			KERN		
307-01	1 g	0,010		317-010-100			963-231				962-231 R	
307-02	2 g	0,012		317-020-100			963-232				962-232 R	
307-03	5 g	0,016		317-030-100			963-233				962-233 R	
307-04	10 g	0,020		317-040-100			963-234				962-234 R	
307-05	20 g	0,025		317-050-100			963-235				962-235 R	
307-06	50 g	0,03		317-060-100			963-236				962-236 R	
307-07	100 g	0,05		317-070-100			963-237				962-237 R	
307-08	200 g	0,10		317-080-100			963-238				962-238 R	
307-09	500 g	0,25		317-090-100			963-239				962-239 R	
307-11	1 kg	0,5		317-110-100			963-241				962-241 R	
307-12	2 kg	1,0		317-120-100			963-242				962-242 R	
307-13	5 kg	2,5		317-130-100			963-243				962-243 R	
307-14	10 kg	5,0		317-140-100			963-244				962-244 R	
307-15	20 kg	10,0		317-150-100			963-245				962-245 R	
307-16	50 kg	25,0		317-160-100			963-246				962-246 R	

* For E1 weights > 1g at the point of initial calibration, a volume determination will be carried out in accordance with OIML:R111. When recalibrating, this is not required.

Class E1 • Weight sets, cylindrical shape, polished stainless steel

Test weight material: Polished stainless steel
Case material: Lined wood. Milligram weights 1 mg – 500 mg in plastic box



Weight set		+	DAkkS certificate Initial calibration		=	Package price	DAkkS certificate Recalibration	
KERN			KERN			KERN		
308-42	1 mg – 500 mg		962-250				962-250 R	
303-02	1 mg – 50 g		963-201				962-201 R	
303-03	1 mg – 100 g		963-202				962-202 R	
303-04	1 mg – 200 g		963-203				962-203 R	
303-05	1 mg – 500 g		963-204				962-204 R	
303-06	1 mg – 1 kg		963-205				962-205 R	
303-07	1 mg – 2 kg		963-206				962-206 R	
303-08	1 mg – 5 kg		963-207				962-207 R	
303-09	1 mg – 10 kg		963-208				962-208 R	
304-02	1 g – 50 g		963-215				962-215 R	
304-03	1 g – 100 g		963-216				962-216 R	
304-04	1 g – 200 g		963-217				962-217 R	
304-05	1 g – 500 g		963-218				962-218 R	
304-06	1 g – 1 kg		963-219				962-219 R	
304-07	1 g – 2 kg		963-220				962-220 R	
304-08	1 g – 5 kg		963-221				962-221 R	
304-09	1 g – 10 kg		963-222				962-222 R	

Class E2 • Milligram weights, flat polygonal sheet, aluminium/German silver

Test weight material: Aluminium 1 mg – 5 mg/German silver 10 mg – 500 mg
 Container material: Lined plastic



Milligram weight			+	Container		+	DAkkS certificate		=	Package price
KERN		Tol ± mg		KERN			KERN			KERN
318-01	1 mg	0,006		347-009-400			962-351			
318-02	2 mg	0,006		347-009-400			962-352			
318-03	5 mg	0,006		347-009-400			962-353			
318-04	10 mg	0,008		347-009-400			962-354			
318-05	20 mg	0,010		347-009-400			962-355			
318-06	50 mg	0,012		347-009-400			962-356			
318-07	100 mg	0,016		347-009-400			962-357			
318-08	200 mg	0,020		347-009-400			962-358			
318-09	500 mg	0,025		347-009-400			962-359			

Class E2 • Individual weights, compact shape, polished stainless steel

Test weight material: Polished stainless steel
 Container material: Lined plastic



Individual weight			+	Container		+	DAkkS certificate		=	Package price
KERN		Tol ± mg		KERN			KERN			KERN
316-01	1 g	0,03		317-020-400			962-331			
316-02	2 g	0,04		317-020-400			962-332			
316-03	5 g	0,05		317-030-400			962-333			
316-04	10 g	0,06		317-040-400			962-334			
316-05	20 g	0,08		317-050-400			962-335			
316-06	50 g	0,10		317-060-400			962-336			
316-07	100 g	0,16		317-070-400			962-337			
316-08	200 g	0,3		317-080-400			962-338			
316-09	500 g	0,8		317-090-400			962-339			
316-11	1 kg	1,6		317-110-400			962-341			
316-12	2 kg	3,0		317-120-400			962-342			
316-13	5 kg	8,0		317-130-400			962-343			
316-14	10 kg	16,0		317-140-400			962-344			

Class E2 • Individual weights, cylindrical shape, polished stainless steel

Test weight material: Polished stainless steel
 Container material: Lined plastic or wooden box (317-150-100 and 317-160-100)



Individual weight			+	Container		+	DAkkS certificate		=	Package price
KERN		Tol ± mg		KERN			KERN			KERN
317-01	1 g	0,03		317-020-400			962-331			
317-02	2 g	0,04		317-020-400			962-332			
317-03	5 g	0,05		317-030-400			962-333			
317-04	10 g	0,06		317-040-400			962-334			
317-05	20 g	0,08		317-050-400			962-335			
317-06	50 g	0,10		317-060-400			962-336			
317-07	100 g	0,16		317-070-400			962-337			
317-08	200 g	0,3		317-080-400			962-338			
317-09	500 g	0,8		317-090-400			962-339			
317-11	1 kg	1,6		317-110-400			962-341			
317-12	2 kg	3,0		317-120-400			962-342			
317-13	5 kg	8,0		317-130-400			962-343			
317-14	10 kg	16,0		317-140-400			962-344			
317-15	20 kg	30,0		317-150-100			962-345			
317-16	50 kg	80,0		317-160-100			962-346			

For individual weights, wooden boxes are also available as an alternative to the plastic containers.
 For more details on this, please see page 180

For weights ≤ 500 g For weights ≥ 1 kg

Class E2 • Weight sets, compact shape, polished stainless steel



Test weight material: Polished stainless steel
Case material: Lined plastic

Weight set		+	DAkkS certificate		=	Package price
KERN			KERN			KERN
312-024	1 g - 50 g		962-315			
312-034	1 g - 100 g		962-316			
312-044	1 g - 200 g		962-317			
312-054	1 g - 500 g		962-318			
312-064	1 g - 1 kg		962-319			
312-074	1 g - 2 kg		962-320			
312-084	1 g - 5 kg		962-321			

Class E2 • Weight sets, cylindrical shape, polished stainless steel



Test weight material: Individual weights, polished stainless steel,
milligram weights aluminium/German silver
Case material: Lined plastic. Milligram weights 1 mg - 500 mg in plastic box

Weight set		+	DAkkS certificate		=	Package price
KERN			KERN			KERN
318-22	1 mg - 500 mg		962-350			
313-024	1 mg - 50 g		962-301			
313-034	1 mg - 100 g		962-302			
313-044	1 mg - 200 g		962-303			
313-054	1 mg - 500 g		962-304			
313-064	1 mg - 1 kg		962-305			
313-074	1 mg - 2 kg		962-306			
313-084	1 mg - 5 kg		962-307			
314-024	1 g - 50 g		962-315			
314-034	1 g - 100 g		962-316			
314-044	1 g - 200 g		962-317			
314-054	1 g - 500 g		962-318			
314-064	1 g - 1 kg		962-319			
314-074	1 g - 2 kg		962-320			
314-084	1 g - 5 kg		962-321			

Class E2 • Weight sets, cylindrical shape, polished stainless steel



Test weight material: Individual weights, polished stainless steel,
milligram weights aluminium /German silver
Case material: Lined wood. Milligram weights 1 mg - 500 mg in plastic box

Weight set		+	DAkkS certificate		=	Package price
KERN			KERN			KERN
318-22	1 mg - 500 mg		962-350			
313-02	1 mg - 50 g		962-301			
313-03	1 mg - 100 g		962-302			
313-04	1 mg - 200 g		962-303			
313-05	1 mg - 500 g		962-304			
313-06	1 mg - 1 kg		962-305			
313-07	1 mg - 2 kg		962-306			
313-08	1 mg - 5 kg		962-307			
313-09	1 mg - 10 kg		962-308			
314-02	1 g - 50 g		962-315			
314-03	1 g - 100 g		962-316			
314-04	1 g - 200 g		962-317			
314-05	1 g - 500 g		962-318			
314-06	1 g - 1 kg		962-319			
314-07	1 g - 2 kg		962-320			
314-08	1 g - 5 kg		962-321			
314-09	1 g - 10 kg		962-322			

Class F1 • Milligram weights, flat polygonal sheet, aluminium/German silver

Test weight material: Aluminium 1 mg – 5 mg/German silver 10 mg – 500 mg
 Container material: Lined plastic



Milligram weight			+	Container		+	DAkkS certificate		=	Package price
KERN		Tol ± mg		KERN			KERN			KERN
328-01	1 mg	0,020		347-009-400			962-451			
328-02	2 mg	0,020		347-009-400			962-452			
328-03	5 mg	0,020		347-009-400			962-453			
328-04	10 mg	0,025		347-009-400			962-454			
328-05	20 mg	0,03		347-009-400			962-455			
328-06	50 mg	0,04		347-009-400			962-456			
328-07	100 mg	0,05		347-009-400			962-457			
328-08	200 mg	0,06		347-009-400			962-458			
328-09	500 mg	0,08		347-009-400			962-459			

Individual weights, compact shape, finely turned stainless steel

Test weight material: finely turned stainless steel
 Container material: Lined plastic

■ Build type: Does not conform to OIML:R111, adjusted to F1 error limit class, however no mention of the OIML error limit classes on the calibration certificate



Individual weight			+	Container		+	DAkkS certificate		=	Package price
KERN		Tol ± mg		KERN			KERN			KERN
329-01	1 g	0,10		347-030-400			962-431			
329-02	2 g	0,12		347-030-400			962-432			
329-03	5 g	0,16		347-030-400			962-433			
329-04	10 g	0,20		347-050-400			962-434			
329-05	20 g	0,25		347-050-400			962-435			
329-06	50 g	0,3		347-070-400			962-436			
329-07	100 g	0,5		347-070-400			962-437			
329-08	200 g	1,0		347-080-400			962-438			
329-09	500 g	2,5		347-090-400			962-439			
329-11	1 kg	5,0		347-110-400			962-441			
329-12	2 kg	10		347-120-400			962-442			
329-13	5 kg	25		347-130-400			962-443			
329-14	10 kg	50		347-140-400			962-444			

Class F1 • Individual weights, compact shape, polished stainless steel

Test weight material: Polished stainless steel
 Container material: Lined plastic



Individual weight			+	Container		+	DAkkS certificate		=	Package price
KERN		Tol ± mg		KERN			KERN			KERN
326-01	1 g	0,10		347-030-400			962-431			
326-02	2 g	0,12		347-030-400			962-432			
326-03	5 g	0,16		347-030-400			962-433			
326-04	10 g	0,20		347-050-400			962-434			
326-05	20 g	0,25		347-050-400			962-435			
326-06	50 g	0,3		347-070-400			962-436			
326-07	100 g	0,5		347-070-400			962-437			
326-08	200 g	1,0		347-080-400			962-438			
326-09	500 g	2,5		347-090-400			962-439			
326-11	1 kg	5,0		347-110-400			962-441			
326-12	2 kg	10		347-120-400			962-442			
326-13	5 kg	25		347-130-400			962-443			
326-14	10 kg	50		347-140-400			962-444			

Class F1 • Individual weights, cylindrical shape, nickel-plated and polished brass

Test weight material: Nickel-plated and polished brass

Container material: Lined plastic or lined wooden box (317-150-100 and 317-160-100)



Individual weight			+	Container		+	DAkkS certificate		=	Package price
KERN		Tol ± mg		KERN			KERN			KERN
327-61	1 g	0,10		347-030-400			962-431			
327-62	2 g	0,12		347-030-400			962-432			
327-63	5 g	0,16		347-030-400			962-433			
327-64	10 g	0,20		347-050-400			962-434			
327-65	20 g	0,25		347-050-400			962-435			
327-66	50 g	0,3		347-070-400			962-436			
327-67	100 g	0,5		347-070-400			962-437			
327-68	200 g	1,0		347-080-400			962-438			
327-69	500 g	2,5		347-090-400			962-439			
327-71	1 kg	5,0		347-110-400			962-441			
327-72	2 kg	10		347-120-400			962-442			
327-73	5 kg	25		347-130-400			962-443			
327-74	10 kg	50		347-140-400			962-444			
327-75	20 kg	100		317-150-100			962-445			
327-76	50 kg	250		317-160-100			962-446			

Class F1 • Individual weights, cylindrical shape, polished stainless steel

Test weight material: Polished stainless steel

Container material: Lined plastic or lined wooden box (317-150-100 and 317-160-100)



Individual weight			+	Container		+	DAkkS certificate		=	Package price
KERN		Tol ± mg		KERN			KERN			KERN
327-01	1 g	0,10		347-030-400			962-431			
327-02	2 g	0,12		347-030-400			962-432			
327-03	5 g	0,16		347-030-400			962-433			
327-04	10 g	0,20		347-050-400			962-434			
327-05	20 g	0,25		347-050-400			962-435			
327-06	50 g	0,3		347-070-400			962-436			
327-07	100 g	0,5		347-070-400			962-437			
327-08	200 g	1,0		347-080-400			962-438			
327-09	500 g	2,5		347-090-400			962-439			
327-11	1 kg	5,0		347-110-400			962-441			
327-12	2 kg	10		347-120-400			962-442			
327-13	5 kg	25		347-130-400			962-443			
327-14	10 kg	50		347-140-400			962-444			
327-15	20 kg	100		317-150-100			962-445			
327-16	50 kg	250		317-160-100			962-446			



Alternative to plastic container:

Wooden boxes for individual weights. For more details on this, please see page 180

Weight sets, compact shape, finely turned stainless steel



Check weight material: finely turned stainless steel, Case material: Lined plastic

Build type: Does not conform to OIML:R111, adjusted to F1 error limit class, however no mention of the OIML error limit classes on the calibration certificate

Weight set		+	DAkkS certificate		=	Package price	
KERN			KERN			KERN	
321-024	1 g - 50 g		962-415				
321-034	1 g - 100 g		962-416				
321-044	1 g - 200 g		962-417				
321-054	1 g - 500 g		962-418				
321-064	1 g - 1 kg		962-419				
321-074	1 g - 2 kg		962-420				
321-084	1 g - 5 kg		962-421				

Class F1 • Weight sets, compact shape, polished stainless steel



Test weight material: Polished stainless steel

Case material: Lined plastic

Weight set		+	DAkkS certificate		=	Package price	
KERN			KERN			KERN	
322-024	1 g - 50 g		962-415				
322-034	1 g - 100 g		962-416				
322-044	1 g - 200 g		962-417				
322-054	1 g - 500 g		962-418				
322-064	1 g - 1 kg		962-419				
322-074	1 g - 2 kg		962-420				
322-084	1 g - 5 kg		962-421				

Class F1 • Weight sets, cylindrical shape, polished and nickel-plated brass or polished stainless steel

Test weight material: Individual weights – nickel-plated and polished brass or polished stainless steel, milligram weights - aluminium 1 mg – 5 mg/German silver 10 mg – 500 mg

Case material: Lined plastic. Milligram weights 1 mg – 500 mg in plastic box



Weight set		+	DAkkS certificate		=	Package price	
KERN			KERN			KERN	
328-22	1 mg - 500 mg		962-450				
Polished and nickel-plated brass							
323-624	1 mg - 50 g		962-401				
323-634	1 mg - 100 g		962-402				
323-644	1 mg - 200 g		962-403				
323-654	1 mg - 500 g		962-404				
323-664	1 mg - 1 kg		962-405				
323-674	1 mg - 2 kg		962-406				
323-684	1 mg - 5 kg		962-407				
324-624	1 g - 50 g		962-415				
324-634	1 g - 100 g		962-416				
324-644	1 g - 200 g		962-417				
324-654	1 g - 500 g		962-418				
324-664	1 g - 1 kg		962-419				
324-674	1 g - 2 kg		962-420				
324-684	1 g - 5 kg		962-421				
Polished stainless steel							
323-024	1 mg - 50 g		962-401				
323-034	1 mg - 100 g		962-402				
323-044	1 mg - 200 g		962-403				
323-054	1 mg - 500 g		962-404				
323-064	1 mg - 1 kg		962-405				
323-074	1 mg - 2 kg		962-406				
323-084	1 mg - 5 kg		962-407				
324-024	1 g - 50 g		962-415				
324-034	1 g - 100 g		962-416				
324-044	1 g - 200 g		962-417				
324-054	1 g - 500 g		962-418				
324-064	1 g - 1 kg		962-419				
324-074	1 g - 2 kg		962-420				
324-084	1 g - 5 kg		962-421				

Class F1 • Weight sets, cylindrical shape, nickel-plated and polished brass or polished stainless steel

Test weight material: Individual weights polished or nickel-plated brass or polished stainless steel, milligram weights aluminium 1 mg – 5 mg/German silver 10 mg – 500 mg
 Case material: Lined wood. Milligram weights 1 mg – 500 mg in plastic box



Weight set		+	DAkkS certificate		=	Package price	
KERN			KERN			KERN	
328-22	1 mg – 500 mg		962-450				
Polished and nickel-plated brass							
323-62	1 mg – 50 g		962-401				
323-63	1 mg – 100 g		962-402				
323-64	1 mg – 200 g		962-403				
323-65	1 mg – 500 g		962-404				
323-66	1 mg – 1 kg		962-405				
323-67	1 mg – 2 kg		962-406				
323-68	1 mg – 5 kg		962-407				
323-69	1 mg – 10 kg		962-408				
324-62	1 g – 50 g		962-415				
324-63	1 g – 100 g		962-416				
324-64	1 g – 200 g		962-417				
324-65	1 g – 500 g		962-418				
324-66	1 g – 1 kg		962-419				
324-67	1 g – 2 kg		962-420				
324-68	1 g – 5 kg		962-421				
324-69	1 g – 10 kg		962-422				
Polished stainless steel							
323-02	1 mg – 50 g		962-401				
323-03	1 mg – 100 g		962-402				
323-04	1 mg – 200 g		962-403				
323-05	1 mg – 500 g		962-404				
323-06	1 mg – 1 kg		962-405				
323-07	1 mg – 2 kg		962-406				
323-08	1 mg – 5 kg		962-407				
323-09	1 mg – 10 kg		962-408				
324-02	1 g – 50 g		962-415				
324-03	1 g – 100 g		962-416				
324-04	1 g – 200 g		962-417				
324-05	1 g – 500 g		962-418				
324-06	1 g – 1 kg		962-419				
324-07	1 g – 2 kg		962-420				
324-08	1 g – 5 kg		962-421				
324-09	1 g – 10 kg		962-422				

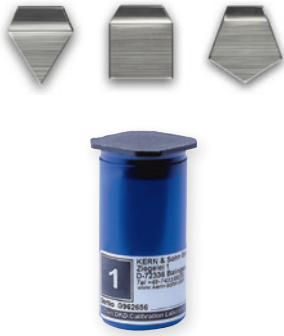


You can create your own individual weight set yourself:

It contains only the weights which you need for testing purposes. KERN will customise your own personal box out of plastic, wood or aluminium. For more details on this, please see page 181

Class F2 • Milligram weights, flat polygonal sheet, aluminium/German silver

Test weight material: Aluminium 1 mg – 5 mg/German silver 10 mg – 500 mg
 Container material: Lined plastic



Milligram weight			+	Container		+	DAkkS certificate		=	Package price
KERN		Tol ± mg		KERN			KERN			KERN
338-01	1 mg	0,06		347-009-400			962-451			
338-02	2 mg	0,06		347-009-400			962-452			
338-03	5 mg	0,06		347-009-400			962-453			
338-04	10 mg	0,08		347-009-400			962-454			
338-05	20 mg	0,10		347-009-400			962-455			
338-06	50 mg	0,12		347-009-400			962-456			
338-07	100 mg	0,16		347-009-400			962-457			
338-08	200 mg	0,20		347-009-400			962-458			
338-09	500 mg	0,25		347-009-400			962-459			

Class F2 • Individual weights, cylindrical shape, finely turned stainless steel

Test weight material: finely turned stainless steel
 Container material: Lined plastic or wooden box (337-150-200 and 337-160-200)



Individual weight			+	Container		+	DAkkS certificate		=	Package price
KERN		Tol ± mg		KERN			KERN			KERN
337-01	1 g	0,3		347-030-400			962-431			
337-02	2 g	0,4		347-030-400			962-432			
337-03	5 g	0,5		347-030-400			962-433			
337-04	10 g	0,6		347-050-400			962-434			
337-05	20 g	0,8		347-050-400			962-435			
337-06	50 g	1,0		347-070-400			962-436			
337-07	100 g	1,6		347-070-400			962-437			
337-08	200 g	3,0		347-080-400			962-438			
337-09	500 g	8,0		347-090-400			962-439			
337-11	1 kg	16		347-110-400			962-441			
337-12	2 kg	30		347-120-400			962-442			
337-13	5 kg	80		347-130-400			962-443			
337-14	10 kg	160		347-140-400			962-444			
337-15	20 kg	300		337-150-200			962-445			
337-16	50 kg	800		337-160-200			962-446			



Alternative to plastic container:

Wooden boxes for individual weights. For more details on this, please see page 180

Class F2 • Test weights, stainless steel, stackable

Test weight material: finely turned stainless steel
 Box material: Wood



Test weight				+	Container		+	DAkkS certificate		=	Package price
KERN		Tol ± mg	Dimens. Ø × H		KERN			KERN			KERN
337-141	10 kg	160	137×132 mm		337-141-200			962-444			
337-151	20 kg	300	137×217 mm		337-151-200			962-445			
337-161	50 kg	800	198×250 mm		337-161-200			962-446			

Class F2 • Weight sets, cylindrical shape, finely turned stainless steel

Test weight material: Individual weights - finely turned stainless steel, milligram weights - aluminium 1 mg – 5 mg/German silver 10 mg – 500 mg
Case material: Lined plastic. Milligram weights 1 mg – 500 mg in plastic box



Weight set		+	DAkkS certificate		=	Package price	
KERN			KERN			KERN	
338-22	1 mg - 500 mg		962-450				
333-024	1 mg - 50 g		962-401				
333-034	1 mg - 100 g		962-402				
333-044	1 mg - 200 g		962-403				
333-054	1 mg - 500 g		962-404				
333-064	1 mg - 1 kg		962-405				
333-074	1 mg - 2 kg		962-406				
333-084	1 mg - 5 kg		962-407				
334-024	1 g - 50 g		962-415				
334-034	1 g - 100 g		962-416				
334-044	1 g - 200 g		962-417				
334-054	1 g - 500 g		962-418				
334-064	1 g - 1 kg		962-419				
334-074	1 g - 2 kg		962-420				
334-084	1 g - 5 kg		962-421				

Class F2 • Weight sets, cylindrical shape, finely turned stainless steel

Test weight material: Individual weights - finely turned stainless steel, milligram weights - aluminium 1 mg – 5 mg/German silver 10 mg – 500 mg
Case material: Wood. Milligram weights 1 mg – 500 mg in plastic box



Weight set		+	DAkkS certificate		=	Package price	
KERN			KERN			KERN	
338-22	1 mg - 500 mg		962-450				
333-02	1 mg - 50 g		962-401				
333-03	1 mg - 100 g		962-402				
333-04	1 mg - 200 g		962-403				
333-05	1 mg - 500 g		962-404				
333-06	1 mg - 1 kg		962-405				
333-07	1 mg - 2 kg		962-406				
333-08	1 mg - 5 kg		962-407				
333-09	1 mg - 10 kg		962-408				
334-02	1 g - 50 g		962-415				
334-03	1 g - 100 g		962-416				
334-04	1 g - 200 g		962-417				
334-05	1 g - 500 g		962-418				
334-06	1 g - 1 kg		962-419				
334-07	1 g - 2 kg		962-420				
334-08	1 g - 5 kg		962-421				
334-09	1 g - 10 kg		962-422				



You can create your own individual weight set yourself:

It contains only the weights which you need for testing purposes. KERN will customise your own personal box out of plastic, wood or aluminium. For more details on this, please see page 181

Class M1 • Milligram weights, flat polygonal sheet, aluminium/German silver

Test weight material: Aluminium 1 mg – 5 mg/German silver 10 mg – 500 mg
 Container material: Lined plastic



Milligram weight			+	Container		+	DAkkS certificate		=	Package price
KERN		Tol ± mg		KERN			KERN			KERN
348-01	1 mg	0,20		347-009-400			962-651			
348-02	2 mg	0,20		347-009-400			962-652			
348-03	5 mg	0,20		347-009-400			962-653			
348-04	10 mg	0,25		347-009-400			962-654			
348-05	20 mg	0,3		347-009-400			962-655			
348-06	50 mg	0,4		347-009-400			962-656			
348-07	100 mg	0,5		347-009-400			962-657			
348-08	200 mg	0,6		347-009-400			962-658			
348-09	500 mg	0,8		347-009-400			962-659			

Class M1 • Individual weights, cylindrical shape, finely turned brass or finely turned stainless steel

Test weight material: Individual weights - finely turned brass or finely turned stainless steel
 Container material: Lined plastic



Individual weight			+	Container		+	DAkkS certificate		=	Package price
KERN		Tol ± mg		KERN			KERN			KERN
Finely turned brass										
347-41	1 g	1,0		347-030-400			962-631			
347-42	2 g	1,2		347-030-400			962-632			
347-43	5 g	1,6		347-030-400			962-633			
347-44	10 g	2,0		347-050-400			962-634			
347-45	20 g	2,5		347-050-400			962-635			
347-46	50 g	3,0		347-070-400			962-636			
347-47	100 g	5,0		347-070-400			962-637			
347-48	200 g	10		347-080-400			962-638			
347-49	500 g	25		347-090-400			962-639			
347-51	1 kg	50		347-110-400			962-641			
347-52	2 kg	100		347-120-400			962-642			
347-53	5 kg	250		347-130-400			962-643			
347-54	10 kg	500		347-140-400			962-644			
Finely turned stainless steel										
347-01	1 g	1,0		347-030-400			962-631			
347-02	2 g	1,2		347-030-400			962-632			
347-03	5 g	1,6		347-030-400			962-633			
347-04	10 g	2,0		347-050-400			962-634			
347-05	20 g	2,5		347-050-400			962-635			
347-06	50 g	3,0		347-070-400			962-636			
347-07	100 g	5,0		347-070-400			962-637			
347-08	200 g	10		347-080-400			962-638			
347-09	500 g	25		347-090-400			962-639			
347-11	1 kg	50		347-110-400			962-641			
347-12	2 kg	100		347-120-400			962-642			
347-13	5 kg	250		347-130-400			962-643			
347-14	10 kg	500		347-140-400			962-644			

Class M1 • Test weights, stainless steel, stackable

Test weight material: Stainless steel, finely turned
 Box material: Wood



Test weight				+	Container		+	DAkkS certificate		=	Package price
KERN		Tol ± g	Dim. Ø x H		KERN			KERN			KERN
347-141	10 kg	0,50	137×132 mm		337-141-200			962-644			
347-151	20 kg	1,00	137×217 mm		337-151-200			962-645			
347-161	50 kg	2,50	198×250 mm		337-161-200			962-646			

Class M1 • Weight sets, cylindrical shape, finely turned brass or finely turned stainless steel

Test weight material: Individual weights finely turned brass or finely turned stainless steel, milligram weights aluminium 1 mg – 5 mg/German silver 10 mg – 500 mg
Case material: Lined plastic. Milligram weights 1 mg – 500mg in plastic box



Weight set		+	DAkkS certificate		=	Package price	
KERN			KERN			KERN	
348-22	1 mg - 500 mg		962-650				
Finely turned brass							
343-424	1 mg - 50 g		962-601				
343-434	1 mg - 100 g		962-602				
343-444	1 mg - 200 g		962-603				
343-454	1 mg - 500 g		962-604				
343-464	1 mg - 1 kg		962-605				
343-474	1 mg - 2 kg		962-606				
343-484	1 mg - 5 kg		962-607				
344-424	1 g - 50 g		962-615				
344-434	1 g - 100 g		962-616				
344-444	1 g - 200 g		962-617				
344-454	1 g - 500 g		962-618				
344-464	1 g - 1 kg		962-619				
344-474	1 g - 2 kg		962-620				
344-484	1 g - 5 kg		962-621				
Finely turned stainless steel							
343-024	1 mg - 50 g		962-601				
343-034	1 mg - 100 g		962-602				
343-044	1 mg - 200 g		962-603				
343-054	1 mg - 500 g		962-604				
343-064	1 mg - 1 kg		962-605				
343-074	1 mg - 2 kg		962-606				
343-084	1 mg - 5 kg		962-607				
344-024	1 g - 50 g		962-615				
344-034	1 g - 100 g		962-616				
344-044	1 g - 200 g		962-617				
344-054	1 g - 500 g		962-618				
344-064	1 g - 1 kg		962-619				
344-074	1 g - 2 kg		962-620				
344-084	1 g - 5 kg		962-621				

Class M1 • Weight sets, cylindrical shape, finely turned brass or finely turned stainless steel

Test weight material: Individual weights finely turned brass or finely turned stainless steel, milligram weights aluminium 1 mg - 5 mg/German silver 10 mg - 500 mg
Case material: Wood. Milligram weights 1 mg – 500mg in plastic box



Weight set		+	DAkkS certificate		=	Package price	
KERN			KERN			KERN	
348-22	1 mg - 500 mg		962-650				
Finely turned brass							
343-42	1 mg - 50 g		962-601				
343-43	1 mg - 100 g		962-602				
343-44	1 mg - 200 g		962-603				
343-45	1 mg - 500 g		962-604				
343-46	1 mg - 1 kg		962-605				
343-47	1 mg - 2 kg		962-606				
343-48	1 mg - 5 kg		962-607				
343-49	1 mg - 10 kg		962-608				
344-42	1 g - 50 g		962-615				
344-43	1 g - 100 g		962-616				
344-44	1 g - 200 g		962-617				
344-45	1 g - 500 g		962-618				
344-46	1 g - 1 kg		962-619				
344-47	1 g - 2 kg		962-620				
344-48	1 g - 5 kg		962-621				
344-49	1 g - 10 kg		962-622				

Continuation: **Class M1 Weight sets, cylindrical shape, finely turned brass or finely turned stainless steel**



Weight set		+	DAkkS certificate		=	Package price	
KERN			KERN			KERN	
Finely turned stainless steel							
343-02	1 mg - 50 g		962-601				
343-03	1 mg - 100g		962-602				
343-04	1 mg - 200 g		962-603				
343-05	1 mg - 500 g		962-604				
343-06	1 mg - 1 kg		962-605				
343-07	1 mg - 2 kg		962-606				
343-08	1 mg - 5 kg		962-607				
343-09	1 mg - 10 kg		962-608				
344-02	1 g - 50 g		962-615				
344-03	1 g - 100 g		962-616				
344-04	1 g - 200 g		962-617				
344-05	1 g - 500 g		962-618				
344-06	1 g - 1 kg		962-619				
344-07	1 g - 2 kg		962-620				
344-08	1 g - 5 kg		962-621				
344-09	1 g - 10 kg		962-622				

You can create your own individual weight set yourself:

It contains only the weights which you need for testing purposes. KERN will customise your own personal box out of plastic, wood or aluminium. For more details on this, please see page 181

Newton weights (N)

All hook and slotted weights as well as beam bars are available with N adjustment according to M1 tolerances. We need to know the location of use and postal code.

DAkkS calibration certificate for N weights: identical to DAkkS prices for individual weights M1

Class M1 • Hook weights, finely turned brass

Test weight material: Finely turned brass
Container material: Lined plastic



Hook weight			+	Container		+	DAkkS certificate		=	Package price	
KERN	Tol ± mg			KERN			KERN			KERN	
347-416	1 g	1,0		347-030-400			962-631				
347-426	2 g	1,2		347-030-400			962-632				
347-436	5 g	1,6		347-030-400			962-633				
347-446	10 g	2,0		347-050-400			962-634				
347-456	20 g	2,5		347-050-400			962-635				
347-466	50 g	3,0		347-070-400			962-636				
347-476	100 g	5		347-090-400			962-637				
347-486	200 g	10		347-090-400			962-638				
347-496	500 g	25		347-110-400			962-639				
347-516	1 kg	50		347-120-400			962-641				
347-526	2 kg	100		347-130-400			962-642				
347-536	5 kg	250		347-140-400			962-643				
347-546	10 kg	500		-			962-644				

Class M1 • Slotted weights, finely turned brass

Test weight material: Finely turned brass
 Container material: Lined plastic



Slotted weight			+	Container		+	DAkkS certificate		=	Package price	
KERN		Tol ± mg		KERN			KERN			KERN	
347-415	1 g	1,0		347-030-400			962-631				
347-425	2 g	1,2		347-030-400			962-632				
347-435	5 g	1,6		347-030-400			962-633				
347-445	10 g	2,0		347-030-400			962-634				
347-455	20 g	2,5		347-080-400			962-635				
347-465	50 g	3,0		347-080-400			962-636				
347-475	100 g	5,0		347-090-400			962-637				
347-485	200 g	10		347-090-400			962-638				
347-495	500 g	25		347-110-400			962-639				
347-515	1 kg	50		347-130-400			962-641				
347-525	2 kg	100		347-130-400			962-642				
347-535	5 kg	250		347-140-400			962-643				
347-545	10 kg	500		347-140-400			962-644				

Class M1 • Beam bars, aluminium or finely turned brass, for fixing slotted weights

Beam bar material: Brass, aluminium (347-445-100)

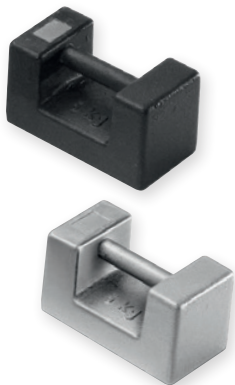


Beam bar				+	DAkkS certificate	
KERN	Size	Largest slotted weight possible	Maximum total load ¹⁾		KERN	
347-445-100*	10 g	100 g	200 g		962-634	
347-475-100**	100 g	1 kg	2 kg		962-637	
347-495-100***	500 g	10 kg	20 kg		962-639	
347-515-100***	1000 g	10 kg	40 kg		962-641	

¹⁾ is exclusive of the weight of the beam bar ("Size")

Class M1 • Block weights, lacquered cast iron/stainless steel

Test weight material: Lacquered cast iron/stainless steel (in OIML classes F1 and F2 on request)



Block weight			+	DAkkS certificate		=	Package price	
KERN		Tol ± g		KERN			KERN	
Lacquered cast iron								
346-86	5 kg	0,25		962-643				
346-87	10 kg	0,50		962-644				
346-88	20 kg	1,00		962-645				
346-89	50 kg	2,50		962-646				
Stainless steel								
346-06	5 kg	0,25		962-643				
346-07	10 kg	0,50		962-644				
346-08	20 kg	1,00		962-645				
346-09	50 kg	2,50		962-646				

Class M1 • Heavy duty weights, cast iron, stackable

Designed to be lifted with forklift trucks or cranes

Test weight material: Lacquered cast iron, delivery time is approx. 4 weeks



Heavy duty weight				+	DAkkS certificate	
KERN		Tol ± g	Dimensions W×D×H		KERN	
346-81	100 kg	5	340×225×280 mm		962-691	
346-82	200 kg	10	465×340×291 mm		962-692	
346-83	500 kg	25	750×500×314 mm		962-693	
346-84	1000 kg	50	750×500×500 mm		962-694	
346-85	2000 kg	100	1000×750×500 mm		962-695	

Class M2 • Individual weights, cylindrical shape, finely turned brass

Test weight material: finely turned brass
 Container material: Lined plastic



Individual weight			+	Container		+	DAkkS certificate		=	Package price
KERN		Tol ± mg		KERN			KERN			KERN
357-41	1 g	3		347-030-400			962-631			
357-42	2 g	4		347-030-400			962-632			
357-43	5 g	5		347-030-400			962-633			
357-44	10 g	6		347-050-400			962-634			
357-45	20 g	8		347-050-400			962-635			
357-46	50 g	10		347-070-400			962-636			
357-47	100 g	16		347-070-400			962-637			
357-48	200 g	30		347-080-400			962-638			
357-49	500 g	80		347-090-400			962-639			
357-51	1 kg	160		347-110-400			962-641			
357-52	2 kg	300		347-120-400			962-642			
357-53	5 kg	800		347-130-400			962-643			
357-54	10 kg	1600		347-140-400			962-644			

Alternative to plastic container:

Wooden boxes for individual weights. For more details on this, please see page 180

Class M2 • Block weights, lacquered cast iron

Test weight material: Lacquered cast iron



Block weight			+	DAkkS certificate		=	Package price
KERN		Tol ±g		KERN			KERN
356-86	5 kg	0,8		962-643			
356-87	10 kg	1,6		962-644			
356-88	20 kg	3,0		962-645			
356-89	50 kg	8,0		962-646			

Class M2 • Weight sets, cylindrical shape, finely turned brass

Test weight material: Finely turned brass
 Case material: Wood



Weight set			+	DAkkS certificate		=	Package price
KERN				KERN			KERN
354-42	1 g - 50 g			962-615			
354-43	1 g - 100 g			962-616			
354-44	1 g - 200 g			962-617			
354-45	1 g - 500 g			962-618			
354-46	1 g - 1 kg			962-619			
354-47	1 g - 2 kg			962-620			
354-48	1 g - 5 kg			962-621			
354-49	1 g - 10 kg			962-622			

Class M3 • Individual weights, cylindrical shape, finely turned brass

Test weight material: Finely turned brass
 Container material: Lined plastic



Individual weight			+	Container		+	DAkkS certificate		=	Package price
KERN		Tol ± mg		KERN			KERN			KERN
367-41	1 g	10		347-030-400			962-631			
367-42	2 g	12		347-030-400			962-632			
367-43	5 g	16		347-030-400			962-633			
367-44	10 g	20		347-050-400			962-634			
367-45	20 g	25		347-050-400			962-635			
367-46	50 g	30		347-070-400			962-636			
367-47	100 g	50		347-070-400			962-637			
367-48	200 g	100		347-080-400			962-638			
367-49	500 g	250		347-090-400			962-639			
367-51	1 kg	500		347-110-400			962-641			
367-52	2 kg	1000		347-120-400			962-642			

Class M3 • Individual weights, cylindrical shape, lacquered cast iron

Test weight material: Lacquered cast iron



Individual weight			+	DAkkS certificate		=	Package price
KERN		Tol ±g		KERN			KERN
366-91	100 g	0,05		962-637			
366-92	200 g	0,10		962-638			
366-93	500 g	0,25		962-639			
366-94	1 kg	0,50		962-641			
366-95	2 kg	1,0		962-642			
366-96	5 kg	2,5		962-643			
366-97	10 kg	5,0		962-644			

Class M3 • Block weights, lacquered cast iron

Test weight material: lacquered cast iron



Block weight			+	DAkkS certificate		=	Package price
KERN		Tol ±g		KERN			KERN
366-86	5 kg	2,5		962-643			
366-87	10 kg	5,0		962-644			
366-88	20 kg	10		962-645			
366-89	50 kg	25		962-646			

Class M3 • Weight sets, cylindrical, brass and lacquered cast iron

Test weight material: Brass and lacquered cast iron
 Case material: Wooden block



Weight set			+	DAkkS certificate		=	Package price
KERN				KERN			KERN
362-96	1 g - 1 kg			962-619			
362-97	1 g - 2 kg			962-620			
362-98	1 g - 5 kg			962-621			
362-99	1 g - 10 kg			962-622			

Tweezers, gloves, dusting brush



Tweezers to be able to safely grip small test weights					
For class	For weights	KERN	Length	Version	
E1 – F1	1 mg – 200 g	315-243	105 mm	1	Stainless steel with silicone-coated tips
E1 – F1	500 g – 2 kg	315-245	250 mm	1	Stainless steel with silicone-coated tips
F2 – M3	1 mg – 200 g	335-240	100 mm	2	Stainless steel
E1 – M3	1 mg – 200 g	315-242	100 mm	3	Plastic



Gloves cotton, 1 pair. Help to protect the test weights when being used daily, from grease from fingers, damp etc.	
KERN	
317-280	



Gloves leather/cotton, 1 pair. Help to protect the test weights when being used daily, from grease from fingers, damp etc.	
KERN	
317-290	



Dusting brush to clean the weights	
KERN	
318-270	

Boxes for individual weights/test weights

Box material: Lined wood
Suitable for individual weights
KERN-No. 307, 316, 317, 326, 327, 329



For weights ≤ 500 g

Wooden box for individual weights E1 – F1		
For weight	KERN	
mg	338-090-200	
1 g	317-010-100	
2 g	317-020-100	
5 g	317-030-100	
10 g	317-040-100	
20 g	317-050-100	
50 g	317-060-100	
100 g	317-070-100	
200 g	317-080-100	
500 g	317-090-100	
1 kg	317-110-100	
2 kg	317-120-100	
5 kg	317-130-100	
10 kg	317-140-100	
20 kg	317-150-100	
50 kg	317-160-100	

Box material: Wood
Suitable for individual weights
KERN-No. 337, 347, 357, 367



For weights ≤ 500 g

Wooden box for individual weights F2 – M3		
For weight	KERN	
mg	338-090-200	
1 g	337-010-200	
2 g	337-020-200	
5 g	337-030-200	
10 g	337-040-200	
20 g	337-050-200	
50 g	337-060-200	
100 g	337-070-200	
200 g	337-080-200	
500 g	337-090-200	
1 kg	337-110-200	
2 kg	337-120-200	
5 kg	337-130-200	
10 kg	337-140-200	
20 kg	337-150-200	
50 kg	337-160-200	



For weights ≥ 1 kg



For weights ≥ 10 kg

Wooden box for check weights F2, M1		
For weight	KERN	
10 kg	337-141-200	
20 kg	337-151-200	
50 kg	337-161-200	



For weights ≥ 10 kg

Aluminium box for individual weights, cylindrical shape, class E1, E2, F1 and F2		
Largest possible weight	KERN	
10 kg	317-140-600	
20 kg	317-150-600	

Cases/boxes for individual weight sets

Individual weight sets:

You can create your own “tailor-made” individual weight sets yourself. KERN will customise your own personal wooden box/plastic carrying case. The largest individual weight which will fit is given in the table.

Sample order:

Your individual weight set:

1 x 50 g, 2 x 100 g, 1 x 500 g, 2 x 1 kg, 1 x 2 kg.

The correct individual box is **KERN-Nr. 313-080-400** (plastic) or **KERN-Nr. 315-070-100** (wood)



Plastic case
for individual weight sets classes E2 – M3,
not appropriate for cast iron weights

KERN	Largest possible weight
313-050-400	≤ 500 g
313-080-400	≤ 5 kg



Wooden box
for individual weight sets classes E1 – F1

KERN	Largest possible weight
315-040-100	≤ 200 g
315-060-100	≤ 1 kg
315-070-100	≤ 2 kg
315-080-100	≤ 5 kg
315-090-100	≤ 10 kg



Wooden box
for individual weight set classes F2 – M3

KERN	Largest possible weight
335-040-200	≤ 200 g
335-050-200	≤ 500 g
335-060-200	≤ 1 kg
335-070-200	≤ 2 kg
335-080-200	≤ 5 kg
335-090-200	≤ 10 kg

Plastic carrying case for standard weight sets

Aluminium case

for safe storage and transportation under harsh industrial conditions



Plastic case for weight sets
with standard denomination classes E2 – M3,
not appropriate for cast iron weights

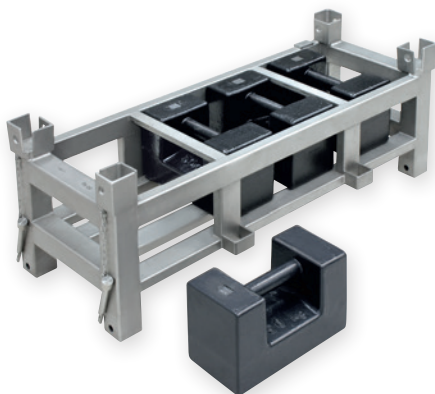
KERN	Largest possible weight
313-052-400	≤ 500 g
313-082-400	≤ 5 kg



Aluminium case
for weight sets with standard denomination
classes E1 – M2

KERN	Largest possible weight
313-042-600	≤ 200 g
313-062-600	≤ 1 kg
313-082-600	≤ 5 kg
313-090-600	≤ 10 kg

Weight carriers for block weights or other test weights



Individual weight carriers for testing high capacity floor scales, pallet scales, pallet truck scales, crane scales, etc. This can also be used for storing the weights.

This means the weight container and the weights can be placed on the scale in one go, saving time and money.

The weight container can be calibrated to OIML accuracy classes M1 – M3. On request, KERN will make you a “tailor-made” weight carrier to your specifications.

Example:

9 block weights	each 50 kg, class M1 =	450 kg
1 weight container	each 50 kg, class M1 =	50 kg
Total		= 500 kg