

16 Test weights

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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, doing it right!

The internationally valid OIML Directive R111-2004 classifies test weights hierarchically into 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 to ISO 9000ff if it has the relevant proof of accuracy, all KERN test weights come with an appropriate DKD calibration certificate (optional). For further details, see the DKD calibration service section on page 163.

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

→ See the glossary, page 168/169



CLASS M2 Individual weights, rectangular weights, weight sets **159**

CLASS M3 Individual weights, cylindrical weights, rectangular weights, weight sets **160**

Accessories Accessories, tweezers, custom-made special boxes, weight carrying cases, weight carriers **161**

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 $d > 1,000,000$ e
Use recommended with DKD calibration only.
- E2** The 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 balances of verification class III, $\leq 10,000$ e



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Selection of the appropriate test weight for your balance

Correctly selected test weights with DKD 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 depends on its tolerance.

Accuracy of the test weight: Should correspond to the readout **d** of the balance, rather than something better.

Nominal weight value: This is shown in adjust mode „CAL“ in the balance display. Given the 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 page145.

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] with approx. ±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, stand in accuracy class F1. KERN-No 327-72, see page 150.

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

E1 test weights are recommended. Depending on the safety requirements, E2 test weights with a DKD 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
Verification possible	yes	yes	yes	no	yes	yes, except M2
Checking equipment for verification purposes	approved	approved	approved	not approved	approved	approved
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 upper surface Optimum shape of the top for good grip 	<ul style="list-style-type: none"> Affordable test weight for analytical and precision balances Highly-refined upper surface 	<ul style="list-style-type: none"> Optimum, high-quality test weight for precision balances Optimum 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"> Optimum test weight for commercial and industrial scales Optimum shape of the top for good grip 	<ul style="list-style-type: none"> Affordable test weight for commercial and industrial scales Optimum shape of the top for good grip

OIML Directive R111-2004 for weights

The key points from the OIML Directive 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–50 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 $\pm \dots$ mg) are the respective permitted fabrication tolerances. They are to be equal to the → **measuring uncertainty** of the weight, if no → **DKD 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, i.e. 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 cylindrical test weights

Comply with OIML R111-2004 in all respects, without exception.

→ See the glossary, page 168/169

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

Denomination 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
	△	□	□	△	△	□	□	△	△	□	□	△	1	2	2	5	10
Weight set ↓	mg	mg	mg	mg	mg	mg	mg	mg	mg	mg	mg	mg	g	g	g	g	g
1 mg - 500 mg	Total weight												1,11 g				
1 mg - 50 g																	
1 mg - 100 g																	
1 mg - 200 g																	
1 mg - 500 g																	
1 mg - 1 kg																	
1 mg - 2 kg																	
1 mg - 5 kg																	
1 mg - 10 kg																	

Test weights Class E1

Milligram weights, wire shape, stainless steel



- Test weight material: Stainless steel
- Container material: Wood

Milligram weight			Box		DKD certificate		Package price	
KERN		Tol ±mg	KERN		€	KERN		€
308-31	1 mg	0,03	52,-	338-090-200	14,-	962-251	50,-	116,-
308-32	2 mg	0,03	52,-	338-090-200	14,-	962-252	50,-	116,-
308-33	5 mg	0,03	52,-	338-090-200	14,-	962-253	50,-	116,-
308-34	10 mg	0,03	52,-	338-090-200	14,-	962-254	50,-	116,-
308-35	20 mg	0,03	52,-	338-090-200	14,-	962-255	50,-	116,-
308-36	50 mg	0,04	52,-	338-090-200	14,-	962-256	50,-	116,-
308-37	100 mg	0,05	52,-	338-090-200	14,-	962-257	50,-	116,-
308-38	200 mg	0,06	52,-	338-090-200	14,-	962-258	50,-	116,-
308-39	500 mg	0,08	52,-	338-090-200	14,-	962-259	50,-	116,-

Individual weights, cylindrical, polished stainless steel



For weights
≤ 500 g

For weights
≥ 1 kg

- Test weight material: Polished stainless steel
- Container material: Lined wood

Individual weight			Box		DKD certificate		Package price		DKD certificate Recalibration	
KERN		Tol ±mg	KERN		€	KERN		€	KERN	€
307-01	1 g	0,010	83,-	317-010-100	28,-	963-231	191,-	302,-	962-231	50,-
307-02	2 g	0,012	89,-	317-020-100	28,-	963-232	191,-	308,-	962-232	50,-
307-03	5 g	0,016	96,-	317-030-100	28,-	963-233	191,-	315,-	962-233	50,-
307-04	10 g	0,020	104,-	317-040-100	28,-	963-234	191,-	323,-	962-234	50,-
307-05	20 g	0,025	113,-	317-050-100	28,-	963-235	191,-	332,-	962-235	50,-
307-06	50 g	0,030	135,-	317-060-100	28,-	963-236	191,-	354,-	962-236	50,-
307-07	100 g	0,05	162,-	317-070-100	28,-	963-237	191,-	381,-	962-237	50,-
307-08	200 g	0,10	194,-	317-080-100	28,-	963-238	191,-	413,-	962-238	50,-
307-09	500 g	0,25	280,-	317-090-100	31,-	963-239	191,-	502,-	962-239	50,-
307-11	1 kg	0,5	425,-	317-110-100	35,-	963-241	191,-	651,-	962-241	50,-
307-12	2 kg	1,0	630,-	317-120-100	44,-	963-242	465,-	1.139,-	962-242	62,-
307-13	5 kg	2,5	1.060,-	317-130-100	66,-	963-243	465,-	1.591,-	962-243	62,-
307-14	10 kg	5,0	1.530,-	317-140-100	89,-	963-244	465,-	2.084,-	962-244	62,-
307-15	20 kg	10,0	2.160,-	317-150-100	340,-	963-245	1.100,-	3.600,-	962-245	560,-
307-16	50 kg	25,0	4.140,-	317-160-100	415,-	963-246	1.300,-	5.855,-	962-246	630,-

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.

Weight sets, cylindrical shape, polished stainless steel



- Test weight material: Polished stainless steel
- Container material: Lined wood

Weight set			DKD certificate		Package price		DKD certificate Recalibration				
KERN		€	Initial calibration		KERN		€	KERN	€	KERN	€
308-42	1 mg - 500 mg	655,-	962-250	335,-	990,-	962-250	335,-	962-201	540,-		
303-02	1 mg - 50 g	1.540,-	963-201	1.060,-	2.600,-	963-201	1.060,-	962-202	560,-		
303-03	1 mg - 100 g	1.700,-	963-202	1.160,-	2.860,-	963-202	1.160,-	962-203	610,-		
303-04	1 mg - 200 g	2.090,-	963-203	1.340,-	3.430,-	963-203	1.340,-	962-204	640,-		
303-05	1 mg - 500 g	2.420,-	963-204	1.430,-	3.850,-	963-204	1.430,-	962-205	670,-		
303-06	1 mg - 1 kg	2.840,-	963-205	1.520,-	4.360,-	963-205	1.520,-	962-206	720,-		
303-07	1 mg - 2 kg	4.150,-	963-206	1.980,-	6.130,-	963-206	1.980,-	962-207	740,-		
303-08	1 mg - 5 kg	5.300,-	963-207	2.430,-	7.730,-	963-207	2.430,-	962-208	770,-		
303-09	1 mg - 10 kg	6.890,-	963-208	2.870,-	9.760,-	963-208	2.870,-	962-215	235,-		
304-02	1 g - 50 g	910,-	963-215	760,-	1.670,-	963-215	760,-	962-216	260,-		
304-03	1 g - 100 g	1.070,-	963-216	850,-	1.920,-	963-216	850,-	962-217	310,-		
304-04	1 g - 200 g	1.460,-	963-217	1.030,-	2.490,-	963-217	1.030,-	962-218	335,-		
304-05	1 g - 500 g	1.790,-	963-218	1.120,-	2.910,-	963-218	1.120,-	962-219	360,-		
304-06	1 g - 1 kg	2.210,-	963-219	1.220,-	3.430,-	963-219	1.220,-	962-220	410,-		
304-07	1 g - 2 kg	3.520,-	963-220	1.760,-	5.280,-	963-220	1.760,-	962-221	435,-		
304-08	1 g - 5 kg	4.670,-	963-221	2.210,-	6.880,-	963-221	2.210,-	962-222	465,-		
304-09	1 g - 10 kg	6.260,-	963-222	2.660,-	8.920,-	963-222	2.660,-				

Test weights 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		DKD certificate		Package price	
KERN		Tol ±mg	KERN		€	KERN		€
318-01	1 mg	0,006	24,-	347-009-400	2,-	962-351	24,-	50,-
318-02	2 mg	0,006	24,-	347-009-400	2,-	962-352	24,-	50,-
318-03	5 mg	0,006	24,-	347-009-400	2,-	962-353	24,-	50,-
318-04	10 mg	0,008	24,-	347-009-400	2,-	962-354	24,-	50,-
318-05	20 mg	0,010	24,-	347-009-400	2,-	962-355	24,-	50,-
318-06	50 mg	0,012	24,-	347-009-400	2,-	962-356	24,-	50,-
318-07	100 mg	0,016	24,-	347-009-400	2,-	962-357	24,-	50,-
318-08	200 mg	0,020	24,-	347-009-400	2,-	962-358	24,-	50,-
318-09	500 mg	0,025	24,-	347-009-400	2,-	962-359	24,-	50,-

Individual weights, compact shape, polished stainless steel

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



Individual weight			Container		DKD certificate		Package price	
KERN		Tol ±mg	KERN		€	KERN		€
316-01	1 g	0,03	33,-	317-020-400	6,-	962-331	24,-	63,-
316-02	2 g	0,04	35,-	317-020-400	6,-	962-332	24,-	65,-
316-03	5 g	0,05	37,-	317-030-400	6,-	962-333	24,-	67,-
316-04	10 g	0,06	39,-	317-040-400	6,-	962-334	24,-	69,-
316-05	20 g	0,08	45,-	317-050-400	6,-	962-335	24,-	75,-
316-06	50 g	0,10	48,-	317-060-400	6,-	962-336	24,-	78,-
316-07	100 g	0,16	52,-	317-070-400	6,-	962-337	31,-	89,-
316-08	200 g	0,30	66,-	317-080-400	6,-	962-338	31,-	103,-
316-09	500 g	0,8	111,-	317-090-400	9,-	962-339	31,-	151,-
316-11	1 kg	1,6	161,-	317-110-400	9,-	962-341	31,-	201,-
316-12	2 kg	3,0	260,-	317-120-400	9,-	962-342	39,-	308,-
316-13	5 kg	8,0	375,-	317-130-400	15,-	962-343	39,-	429,-
316-14	10 kg	16,0	530,-	317-140-400	20,-	962-344	39,-	589,-

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		DKD certificate		Package price	
KERN		Tol ±mg	KERN		€	KERN		€
317-01	1 g	0,03	47,-	317-020-400	6,-	962-331	24,-	77,-
317-02	2 g	0,04	50,-	317-020-400	6,-	962-332	24,-	80,-
317-03	5 g	0,05	54,-	317-030-400	6,-	962-333	24,-	84,-
317-04	10 g	0,06	56,-	317-040-400	6,-	962-334	24,-	86,-
317-05	20 g	0,08	65,-	317-050-400	6,-	962-335	24,-	95,-
317-06	50 g	0,10	76,-	317-060-400	6,-	962-336	24,-	106,-
317-07	100 g	0,16	82,-	317-070-400	6,-	962-337	31,-	119,-
317-08	200 g	0,30	104,-	317-080-400	6,-	962-338	31,-	141,-
317-09	500 g	0,8	175,-	317-090-400	9,-	962-339	31,-	215,-
317-11	1 kg	1,6	260,-	317-110-400	9,-	962-341	31,-	300,-
317-12	2 kg	3,0	415,-	317-120-400	9,-	962-342	39,-	463,-
317-13	5 kg	8,0	590,-	317-130-400	15,-	962-343	39,-	644,-
317-14	10 kg	16,0	850,-	317-140-400	20,-	962-344	39,-	909,-
317-15	20 kg	30,0	1.340,-	317-150-100	340,-	962-345	50,-	1.730,-
317-16	50 kg	80,0	2.780,-	317-160-100	415,-	962-346	62,-	3.257,-

For individual weights, wooden boxes are also available as an alternative to the plastic containers.
For more details on this, please see page 161.

For weights
≤ 500 g

For weights
≥ 1 kg

Test weights Class E2

Weight sets, compact shape, polished stainless steel



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

Weight set		DKD certificate		Package price
KERN		€	KERN	€
312-024	1 g - 50 g	370,-	962-315	120,-
312-034	1 g - 100 g	410,-	962-316	142,-
312-044	1 g - 200 g	500,-	962-317	186,-
312-054	1 g - 500 g	610,-	962-318	208,-
312-064	1 g - 1 kg	810,-	962-319	230,-
312-074	1 g - 2 kg	1.310,-	962-320	290,-
312-084	1 g - 5 kg	1.650,-	962-321	320,-

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 removable plastic box



Weight set		DKD certificate		Package price
KERN		€	KERN	€
318-22	1 mg - 500 mg	320,-	962-350	180,-
313-024	1 mg - 50 g	820,-	962-301	300,-
313-034	1 mg - 100 g	910,-	962-302	322,-
313-044	1 mg - 200 g	1.110,-	962-303	366,-
313-054	1 mg - 500 g	1.270,-	962-304	388,-
313-064	1 mg - 1 kg	1.630,-	962-305	410,-
313-074	1 mg - 2 kg	2.460,-	962-306	470,-
313-084	1 mg - 5 kg	3.050,-	962-307	500,-
314-024	1 g - 50 g	540,-	962-315	120,-
314-034	1 g - 100 g	620,-	962-316	142,-
314-044	1 g - 200 g	830,-	962-317	186,-
314-054	1 g - 500 g	1.010,-	962-318	208,-
314-064	1 g - 1 kg	1.340,-	962-319	230,-
314-074	1 g - 2 kg	2.180,-	962-320	290,-
314-084	1 g - 5 kg	2.760,-	962-321	320,-

Weight sets, cylindrical shape, polished stainless steel

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



Weight set		DKD certificate		Package price
KERN		€	KERN	€
318-22	1 mg - 500 mg	320,-	962-350	180,-
313-02	1 mg - 50 g	880,-	962-301	300,-
313-03	1 mg - 100 g	960,-	962-302	322,-
313-04	1 mg - 200 g	1.170,-	962-303	366,-
313-05	1 mg - 500 g	1.400,-	962-304	388,-
313-06	1 mg - 1 kg	1.670,-	962-305	410,-
313-07	1 mg - 2 kg	2.550,-	962-306	470,-
313-08	1 mg - 5 kg	3.250,-	962-307	500,-
313-09	1 mg - 10 kg	4.180,-	962-308	530,-
314-02	1 g - 50 g	590,-	962-315	120,-
314-03	1 g - 100 g	670,-	962-316	142,-
314-04	1 g - 200 g	880,-	962-317	186,-
314-05	1 g - 500 g	1.120,-	962-318	208,-
314-06	1 g - 1 kg	1.380,-	962-319	230,-
314-07	1 g - 2 kg	2.260,-	962-320	290,-
314-08	1 g - 5 kg	2.960,-	962-321	320,-
314-09	1 g - 10 kg	3.890,-	962-322	350,-

Test weights 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		DKD certificate		Package price		
KERN		Tol ±mg	KERN		€	KERN	€	KERN	€
328-01	1 mg	0,02	347-009-400		2,-	962-451	17,-		30,-
328-02	2 mg	0,02	347-009-400		2,-	962-452	17,-		30,-
328-03	5 mg	0,02	347-009-400		2,-	962-453	17,-		30,-
328-04	10 mg	0,025	347-009-400		2,-	962-454	17,-		30,-
328-05	20 mg	0,03	347-009-400		2,-	962-455	17,-		30,-
328-06	50 mg	0,04	347-009-400		2,-	962-456	17,-		30,-
328-07	100 mg	0,05	347-009-400		2,-	962-457	17,-		30,-
328-08	200 mg	0,06	347-009-400		2,-	962-458	17,-		30,-
328-09	500 mg	0,08	347-009-400		2,-	962-459	17,-		30,-

Individual weights, compact shape, finely turned stainless steel

- **Test weight material:** Finely turned stainless steel
- **Container material:** Lined plastic
- **Build type:** Not in accordance with OIML R111, adjusted to error limit class F1



Individual weight			Container		DKD certificate		Package price		
KERN		Tol ±mg	KERN		€	KERN	€	KERN	€
329-01	1 g	0,10	347-030-400		2,-	962-431N	17,-		37,-
329-02	2 g	0,12	347-030-400		2,-	962-432N	17,-		38,-
329-03	5 g	0,16	347-030-400		2,-	962-433N	17,-		39,-
329-04	10 g	0,20	347-050-400		2,-	962-434N	17,-		42,-
329-05	20 g	0,25	347-050-400		2,-	962-435N	17,-		44,-
329-06	50 g	0,30	347-070-400		2,-	962-436N	17,-		46,-
329-07	100 g	0,50	347-070-400		2,-	962-437N	19,-		52,-
329-08	200 g	1	347-080-400		2,-	962-438N	19,-		62,-
329-09	500 g	2,50	347-090-400		3,-	962-439N	19,-		80,-
329-11	1 kg	5	347-110-400		3,-	962-441N	19,-		105,-
329-12	2 kg	10	347-120-400		3,-	962-442N	24,-		154,-
329-13	5 kg	25	347-130-400		9,-	962-443N	24,-		241,-
329-14	10 kg	50	347-140-400		9,-	962-444N	24,-		445,-

Individual weights, compact shape, polished stainless steel

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



Individual weight			Container		DKD certificate		Package price		
KERN		Tol ±mg	KERN		€	KERN	€	KERN	€
326-01	1 g	0,10	347-030-400		2,-	962-431	17,-		41,-
326-02	2 g	0,12	347-030-400		2,-	962-432	17,-		42,-
326-03	5 g	0,16	347-030-400		2,-	962-433	17,-		44,-
326-04	10 g	0,20	347-050-400		2,-	962-434	17,-		47,-
326-05	20 g	0,25	347-050-400		2,-	962-435	17,-		48,-
326-06	50 g	0,30	347-070-400		2,-	962-436	17,-		51,-
326-07	100 g	0,50	347-070-400		2,-	962-437	19,-		57,-
326-08	200 g	1	347-080-400		2,-	962-438	19,-		70,-
326-09	500 g	2,50	347-090-400		3,-	962-439	19,-		90,-
326-11	1 kg	5	347-110-400		3,-	962-441	19,-		123,-
326-12	2 kg	10	347-120-400		3,-	962-442	24,-		172,-
326-13	5 kg	25	347-130-400		9,-	962-443	24,-		285,-
326-14	10 kg	50	347-140-400		9,-	962-444	24,-		513,-

For individual weights, wooden boxes are also available as an alternative to the plastic containers.
For more details on this, please see page 161.

Test weights 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		DKD certificate		Package price	
KERN	Tol ±mg	€	KERN	€	KERN	€	KERN	€
327-61	1 g	0,10	23,-		347-030-400	2,-	962-431	17,-
327-62	2 g	0,12	24,-		347-030-400	2,-	962-432	17,-
327-63	5 g	0,16	26,-		347-030-400	2,-	962-433	17,-
327-64	10 g	0,20	29,-		347-050-400	2,-	962-434	17,-
327-65	20 g	0,25	31,-		347-050-400	2,-	962-435	17,-
327-66	50 g	0,30	34,-		347-070-400	2,-	962-436	17,-
327-67	100 g	0,50	38,-		347-070-400	2,-	962-437	19,-
327-68	200 g	1	52,-		347-080-400	2,-	962-438	19,-
327-69	500 g	2,50	72,-		347-090-400	3,-	962-439	19,-
327-71	1 kg	5	106,-		347-110-400	3,-	962-441	19,-
327-72	2 kg	10	158,-		347-120-400	3,-	962-442	24,-
327-73	5 kg	25	270,-		347-130-400	9,-	962-443	24,-
327-74	10 kg	50	510,-		347-140-400	9,-	962-444	24,-
327-75	20 kg	100	960,-		317-150-100	340,-	962-445	27,-
327-76	50 kg	250	1.800,-		317-160-100	415,-	962-446	38,-

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		DKD certificate		Package price	
KERN	Tol ±mg	€	KERN	€	KERN	€	KERN	€
327-01	1 g	0,10	30,-		347-030-400	2,-	962-431	17,-
327-02	2 g	0,12	31,-		347-030-400	2,-	962-432	17,-
327-03	5 g	0,16	33,-		347-030-400	2,-	962-433	17,-
327-04	10 g	0,20	37,-		347-050-400	2,-	962-434	17,-
327-05	20 g	0,25	41,-		347-050-400	2,-	962-435	17,-
327-06	50 g	0,30	45,-		347-070-400	2,-	962-436	17,-
327-07	100 g	0,50	55,-		347-070-400	2,-	962-437	19,-
327-08	200 g	1	72,-		347-080-400	2,-	962-438	19,-
327-09	500 g	2,50	118,-		347-090-400	3,-	962-439	19,-
327-11	1 kg	5	165,-		347-110-400	3,-	962-441	19,-
327-12	2 kg	10	250,-		347-120-400	3,-	962-442	24,-
327-13	5 kg	25	375,-		347-130-400	9,-	962-443	24,-
327-14	10 kg	50	680,-		347-140-400	9,-	962-444	24,-
327-15	20 kg	100	1.050,-		317-150-100	340,-	962-445	27,-
327-16	50 kg	250	2.270,-		317-160-100	415,-	962-446	38,-



Alternative to plastic container:

Wooden boxes for individual weights. For more details on this, please see page 161.

Test weights Class F1

Weight sets, compact shape, finely turned stainless steel



- **Test weight material:** Finely turned stainless steel
- **Case material:** Lined plastic

Weight set		+ DKD certificate	= Package price	
KERN	€	KERN	€	
321-024	1 g - 50 g	185,-	962-415	64,-
321-034	1 g - 100 g	215,-	962-416	74,-
321-044	1 g - 200 g	280,-	962-417	94,-
321-054	1 g - 500 g	320,-	962-418	104,-
321-064	1 g - 1 kg	460,-	962-419	114,-
321-074	1 g - 2 kg	640,-	962-420	144,-
321-084	1 g - 5 kg	820,-	962-421	159,-

Weight sets, compact shape, Polished stainless steel



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

Weight set		+ DKD certificate	= Package price	
KERN	€	KERN	€	
322-024	1 g - 50 g	235,-	962-415	64,-
322-034	1 g - 100 g	270,-	962-416	74,-
322-044	1 g - 200 g	350,-	962-417	94,-
322-054	1 g - 500 g	410,-	962-418	104,-
322-064	1 g - 1 kg	580,-	962-419	114,-
322-074	1 g - 2 kg	810,-	962-420	144,-
322-084	1 g - 5 kg	1.030,-	962-421	159,-

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 removable plastic box



Weight set		+ DKD certificate	= Package price	
KERN	€	KERN	€	
328-22	1 mg - 500 mg	175,-	962-450	96,-
Nickel-plated and polished brass				
323-624	1 mg - 50 g	400,-	962-401	160,-
323-634	1 mg - 100 g	435,-	962-402	170,-
323-644	1 mg - 200 g	530,-	962-403	190,-
323-654	1 mg - 500 g	590,-	962-404	200,-
323-664	1 mg - 1 kg	750,-	962-405	210,-
323-674	1 mg - 2 kg	1.030,-	962-406	240,-
323-684	1 mg - 5 kg	1.270,-	962-407	255,-
324-624	1 g - 50 g	260,-	962-415	64,-
324-634	1 g - 100 g	300,-	962-416	74,-
324-644	1 g - 200 g	380,-	962-417	94,-
324-654	1 g - 500 g	450,-	962-418	104,-
324-664	1 g - 1 kg	630,-	962-419	114,-
324-674	1 g - 2 kg	900,-	962-420	144,-
324-684	1 g - 5 kg	1.140,-	962-421	159,-
Polished stainless steel				
323-024	1 mg - 50 g	500,-	962-401	160,-
323-034	1 mg - 100 g	560,-	962-402	170,-
323-044	1 mg - 200 g	700,-	962-403	190,-
323-054	1 mg - 500 g	820,-	962-404	200,-
323-064	1 mg - 1 kg	1.070,-	962-405	210,-
323-074	1 mg - 2 kg	1.570,-	962-406	240,-
323-084	1 mg - 5 kg	1.920,-	962-407	255,-
324-024	1 g - 50 g	340,-	962-415	64,-
324-034	1 g - 100 g	400,-	962-416	74,-
324-044	1 g - 200 g	540,-	962-417	94,-
324-054	1 g - 500 g	660,-	962-418	104,-
324-064	1 g - 1 kg	890,-	962-419	114,-
324-074	1 g - 2 kg	1.400,-	962-420	144,-
324-084	1 g - 5 kg	1.750,-	962-421	159,-

Test weights Class F1

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

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

Weight set		DKD certificate		Package price	
KERN	€	KERN	€	KERN	€
Polished brass and nickel-plated					
328-22	1 mg - 500 mg	175,-	962-450	96,-	271,-
323-62	1 mg - 50 g	455,-	962-401	160,-	615,-
323-63	1 mg - 100 g	485,-	962-402	170,-	655,-
323-64	1 mg - 200 g	580,-	962-403	190,-	770,-
323-65	1 mg - 500 g	700,-	962-404	200,-	900,-
323-66	1 mg - 1 kg	790,-	962-405	210,-	1.000,-
323-67	1 mg - 2 kg	1.120,-	962-406	240,-	1.360,-
323-68	1 mg - 5 kg	1.470,-	962-407	255,-	1.625,-
323-69	1 mg - 10 kg	1.990,-	962-408	270,-	2.260,-
324-62	1 g - 50 g	310,-	962-415	64,-	374,-
324-63	1 g - 100 g	350,-	962-416	74,-	424,-
324-64	1 g - 200 g	435,-	962-417	94,-	529,-
324-65	1 g - 500 g	560,-	962-418	104,-	664,-
324-66	1 g - 1 kg	660,-	962-419	114,-	774,-
324-67	1 g - 2 kg	980,-	962-420	144,-	1.204,-
324-68	1 g - 5 kg	1.330,-	962-421	159,-	1.489,-
324-69	1 g - 10 kg	1.850,-	962-422	174,-	2.024,-
Polished stainless steel					
323-02	1 mg - 50 g	560,-	962-401	160,-	720,-
323-03	1 mg - 100 g	610,-	962-402	170,-	780,-
323-04	1 mg - 200 g	750,-	962-403	190,-	940,-
323-05	1 mg - 500 g	930,-	962-404	200,-	1.130,-
323-06	1 mg - 1 kg	1.100,-	962-405	210,-	1.310,-
323-07	1 mg - 2 kg	1.650,-	962-406	240,-	2.890,-
323-08	1 mg - 5 kg	2.110,-	962-407	255,-	2.365,-
323-09	1 mg - 10 kg	2.880,-	962-408	270,-	3.150,-
324-02	1 g - 50 g	390,-	962-415	64,-	454,-
324-03	1 g - 100 g	450,-	962-416	74,-	524,-
324-04	1 g - 200 g	600,-	962-417	94,-	694,-
324-05	1 g - 500 g	760,-	962-418	104,-	864,-
324-06	1 g - 1 kg	940,-	962-419	114,-	1.054,-
324-07	1 g - 2 kg	1.480,-	962-420	144,-	1.624,-
324-08	1 g - 5 kg	1.950,-	962-421	159,-	2.109,-
324-09	1 g - 10 kg	2.710,-	962-422	174,-	2.884,-



You can make up your own individual weight set yourself:

It contains only the weights which you need for testing purposes. KERN will make your own personal box out of plastic, wood or aluminium. For more details on this, please see page 162.

Test weights 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



Milligramgewicht			Container		DKD certificate		Package price	
KERN		Tol ±mg	€		KERN	€	KERN	€
338-01	1 mg	0,06	10,-		347-009-400	2,-	962-451	17,-
338-02	2 mg	0,06	10,-		347-009-400	2,-	962-452	17,-
338-03	5 mg	0,06	10,-		347-009-400	2,-	962-453	17,-
338-04	10 mg	0,08	10,-		347-009-400	2,-	962-454	17,-
338-05	20 mg	0,10	10,-		347-009-400	2,-	962-455	17,-
338-06	50 mg	0,12	10,-		347-009-400	2,-	962-456	17,-
338-07	100 mg	0,16	10,-		347-009-400	2,-	962-457	17,-
338-08	200 mg	0,20	10,-		347-009-400	2,-	962-458	17,-
338-09	500 mg	0,25	10,-		347-009-400	2,-	962-459	17,-

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		DKD certificate		Package price	
KERN		Tol ±mg	€		KERN	€	KERN	€
337-01	1 g	0,3	19,-		347-030-400	2,-	962-431	17,-
337-02	2 g	0,4	20,-		347-030-400	2,-	962-432	17,-
337-03	5 g	0,5	22,-		347-030-400	2,-	962-433	17,-
337-04	10 g	0,6	24,-		347-050-400	2,-	962-434	17,-
337-05	20 g	0,8	26,-		347-050-400	2,-	962-435	17,-
337-06	50 g	1,0	28,-		347-070-400	2,-	962-436	17,-
337-07	100 g	1,6	32,-		347-070-400	2,-	962-437	19,-
337-08	200 g	3,0	42,-		347-080-400	2,-	962-438	19,-
337-09	500 g	8,0	60,-		347-090-400	3,-	962-439	19,-
337-11	1 kg	16	84,-		347-110-400	3,-	962-441	19,-
337-12	2 kg	30	129,-		347-120-400	3,-	962-442	24,-
337-13	5 kg	80	220,-		347-130-400	9,-	962-443	24,-
337-14	10 kg	160	415,-		347-140-400	9,-	962-444	24,-
337-15	20 kg	300	710,-		337-150-200	220,-	962-445	27,-
337-16	50 kg	800	1.290,-		337-160-200	345,-	962-446	38,-



Alternative to plastic container:

Wooden boxes for individual weights. For more details on this, please see page 161.

Check weights, stainless steel, stackable

- **Check weight material:** Stainless steel, finely turned



Check weight				Container		DKD certificate		Package price	
KERN		Tol ±mg	Maße Ø x H	€		KERN	€	KERN	€
337-141	10 kg	160	137x132 mm	550,-		337-141-200	190,-	962-444	24,-
337-151	20 kg	300	137x217 mm	670,-		337-151-200	235,-	962-445	27,-
337-161	50 kg	800	198x250 mm	1.790,-		337-161-200	345,-	962-446	38,-

Test weights 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 removable plastic box



Weight set		DKD certificate		Package price	
KERN		KERN		KERN	€
338-22	1 mg - 500 mg	143,-	962-450	96,-	239,-
333-024	1 mg - 50 g	365,-	962-401	160,-	525,-
333-034	1 mg - 100 g	405,-	962-402	170,-	575,-
333-044	1 mg - 200 g	495,-	962-403	190,-	685,-
333-054	1 mg - 500 g	570,-	962-404	200,-	770,-
333-064	1 mg - 1 kg	690,-	962-405	210,-	900,-
333-074	1 mg - 2 kg	970,-	962-406	240,-	1.210,-
333-084	1 mg - 5 kg	1.250,-	962-407	255,-	1.505,-
334-024	1 g - 50 g	225,-	962-415	64,-	289,-
334-034	1 g - 100 g	265,-	962-416	74,-	339,-
334-044	1 g - 200 g	360,-	962-417	94,-	454,-
334-054	1 g - 500 g	425,-	962-418	104,-	529,-
334-064	1 g - 1 kg	560,-	962-419	114,-	674,-
334-074	1 g - 2 kg	850,-	962-420	144,-	994,-
334-084	1 g - 5 kg	1.120,-	962-421	159,-	1.279,-

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
- **Box material:** Wood



Weight set		DKD certificate		Package price	
KERN		KERN		KERN	€
338-22	1 mg - 500 mg	143,-	962-450	96,-	239,-
333-02	1 mg - 50 g	365,-	962-401	160,-	525,-
333-03	1 mg - 100 g	405,-	962-402	170,-	575,-
333-04	1 mg - 200 g	495,-	962-403	190,-	685,-
333-05	1 mg - 500 g	570,-	962-404	200,-	770,-
333-06	1 mg - 1 kg	690,-	962-405	210,-	900,-
333-07	1 mg - 2 kg	970,-	962-406	240,-	1.210,-
333-08	1 mg - 5 kg	1.250,-	962-407	255,-	1.505,-
333-09	1 mg - 10 kg	1.750,-	962-408	270,-	2.020,-
334-02	1 g - 50 g	225,-	962-415	64,-	289,-
334-03	1 g - 100 g	265,-	962-416	74,-	339,-
334-04	1 g - 200 g	360,-	962-417	94,-	454,-
334-05	1 g - 500 g	425,-	962-418	104,-	529,-
334-06	1 g - 1 kg	560,-	962-419	114,-	674,-
334-07	1 g - 2 kg	850,-	962-420	144,-	994,-
334-08	1 g - 5 kg	1.120,-	962-421	159,-	1.279,-
334-09	1 g - 10 kg	1.610,-	962-422	174,-	1.784,-



You can make up your own individual weight set yourself:

It contains only the weights which you need for testing purposes. KERN will make your own personal box out of plastic, wood or aluminium. For more details on this, please see page 162.

Test weights 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		DKD certificate		Package price	
KERN		Tol ±mg	€		KERN	€	KERN	€
348-01	1 mg	0,20	4,10		347-009-400	2,-	962-651	14,-
348-02	2 mg	0,20	4,10		347-009-400	2,-	962-652	14,-
348-03	5 mg	0,20	4,10		347-009-400	2,-	962-653	14,-
348-04	10 mg	0,25	4,10		347-009-400	2,-	962-654	14,-
348-05	20 mg	0,30	4,10		347-009-400	2,-	962-655	14,-
348-06	50 mg	0,40	4,10		347-009-400	2,-	962-656	14,-
348-07	100 mg	0,50	4,10		347-009-400	2,-	962-657	14,-
348-08	200 mg	0,60	4,10		347-009-400	2,-	962-658	14,-
348-09	500 mg	0,80	4,10		347-009-400	2,-	962-659	14,-

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		DKD certificate		Package price	
KERN		Tol ±mg	€		KERN	€	KERN	€
Finely turned brass								
347-41	1 g	1,0	4,10		347-030-400	2,-	962-631	14,-
347-42	2 g	1,2	4,40		347-030-400	2,-	962-632	14,-
347-43	5 g	1,6	4,80		347-030-400	2,-	962-633	14,-
347-44	10 g	2,0	5,30		347-050-400	2,-	962-634	14,-
347-45	20 g	2,5	5,70		347-050-400	2,-	962-635	14,-
347-46	50 g	3,0	6,70		347-070-400	2,-	962-636	14,-
347-47	100 g	5,0	8,60		347-070-400	2,-	962-637	15,-
347-48	200 g	10	13,-		347-080-400	2,-	962-638	15,-
347-49	500 g	25	28,-		347-090-400	3,-	962-639	15,-
347-51	1 kg	50	43,-		347-110-400	3,-	962-641	15,-
347-52	2 kg	100	77,-		347-120-400	3,-	962-642	16,-
347-53	5 kg	250	165,-		347-130-400	9,-	962-643	16,-
347-54	10 kg	500	310,-		347-140-400	9,-	962-644	16,-
Finely turned stainless steel								
347-01	1 g	1,0	4,60		347-030-400	2,-	962-631	14,-
347-02	2 g	1,2	4,90		347-030-400	2,-	962-632	14,-
347-03	5 g	1,6	5,40		347-030-400	2,-	962-633	14,-
347-04	10 g	2,0	5,80		347-050-400	2,-	962-634	14,-
347-05	20 g	2,5	6,50		347-050-400	2,-	962-635	14,-
347-06	50 g	3,0	8,20		347-070-400	2,-	962-636	14,-
347-07	100 g	5,0	11,-		347-070-400	2,-	962-637	15,-
347-08	200 g	10	16,-		347-080-400	2,-	962-638	15,-
347-09	500 g	25	34,-		347-090-400	3,-	962-639	15,-
347-11	1 kg	50	54,-		347-110-400	3,-	962-641	15,-
347-12	2 kg	100	92,-		347-120-400	3,-	962-642	16,-
347-13	5 kg	250	196,-		347-130-400	9,-	962-643	16,-
347-14	10 kg	500	385,-		347-140-400	9,-	962-644	16,-

Check weights, stainless steel, stackable



Check weight				Container		DKD certificate		Package price	
KERN		Tol ±g	Maße Ø x H	€		KERN	€	KERN	€
347-141	10 kg	0,50	137x132 mm	465,-		337-141-200	190,-	962-644	16,-
347-151	20 kg	1,00	137x217 mm	530,-		337-151-200	235,-	962-645	21,-
347-161	50 kg	2,50	198x250 mm	1.510,-		337-161-200	345,-	962-646	23,-

Test weights 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/German silver
- **Case material:** Lined plastic. Milligram weights 1 mg - 500 mg in a removable plastic box

Weight set		+ DKD certificate	= Package price		
KERN	€	KERN	€		
Finely turned brass					
348-22	1 mg - 500 mg	69,-	962-650	60,-	129,-
343-424	1 mg - 50 g	149,-	962-601	100,-	249,-
343-434	1 mg - 100 g	162,-	962-602	106,-	268,-
343-444	1 mg - 200 g	191,-	962-603	118,-	309,-
343-454	1 mg - 500 g	220,-	962-604	124,-	344,-
343-464	1 mg - 1 kg	305,-	962-605	130,-	435,-
343-474	1 mg - 2 kg	485,-	962-606	144,-	629,-
343-484	1 mg - 5 kg	710,-	962-607	151,-	861,-
344-424	1 g - 50 g	81,-	962-615	40,-	121,-
344-434	1 g - 100 g	94,-	962-616	46,-	136,-
344-444	1 g - 200 g	124,-	962-617	58,-	182,-
344-454	1 g - 500 g	158,-	962-618	64,-	222,-
344-464	1 g - 1 kg	250,-	962-619	70,-	320,-
344-474	1 g - 2 kg	430,-	962-620	84,-	514,-
344-484	1 g - 5 kg	650,-	962-621	91,-	741,-
Finely turned stainless steel					
343-024	1 mg - 50 g	155,-	962-601	100,-	255,-
343-034	1 mg - 100 g	170,-	962-602	106,-	276,-
343-044	1 mg - 200 g	205,-	962-603	118,-	323,-
343-054	1 mg - 500 g	245,-	962-604	124,-	369,-
343-064	1 mg - 1 kg	335,-	962-605	130,-	465,-
343-074	1 mg - 2 kg	540,-	962-606	144,-	684,-
343-084	1 mg - 5 kg	800,-	962-607	151,-	951,-
344-024	1 g - 50 g	88,-	962-615	40,-	128,-
344-034	1 g - 100 g	102,-	962-616	46,-	148,-
344-044	1 g - 200 g	139,-	962-617	58,-	197,-
344-054	1 g - 500 g	179,-	962-618	64,-	243,-
344-064	1 g - 1 kg	285,-	962-619	70,-	355,-
344-074	1 g - 2 kg	490,-	962-620	84,-	574,-
344-084	1 g - 5 kg	750,-	962-621	91,-	841,-

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
- **Box material:** Wood



Weight set		+ DKD certificate	= Package price		
KERN	€	KERN	€		
Finely turned brass					
348-22	1 mg - 500 mg	69,-	962-650	60,-	129,-
343-42	1 mg - 50 g	149,-	962-601	100,-	249,-
343-43	1 mg - 100 g	162,-	962-602	106,-	268,-
343-44	1 mg - 200 g	191,-	962-603	118,-	309,-
343-45	1 mg - 500 g	220,-	962-604	124,-	344,-
343-46	1 mg - 1 kg	305,-	962-605	130,-	435,-
343-47	1 mg - 2 kg	485,-	962-606	144,-	629,-
343-48	1 mg - 5 kg	710,-	962-607	151,-	861,-
343-49	1 mg - 10 kg	1.090,-	962-608	158,-	1.248,-
344-42	1 g - 50 g	81,-	962-615	40,-	121,-
344-43	1 g - 100 g	94,-	962-616	46,-	136,-
344-44	1 g - 200 g	124,-	962-617	58,-	182,-
344-45	1 g - 500 g	158,-	962-618	64,-	222,-
344-46	1 g - 1 kg	250,-	962-619	70,-	320,-
344-47	1 g - 2 kg	430,-	962-620	84,-	514,-
344-48	1 g - 5 kg	650,-	962-621	91,-	741,-
344-49	1 g - 10 kg	1.020,-	962-622	98,-	1.118,-

Test weights Class M1

Continuation of weight sets, cylindrical shape, finely turned brass or finely turned stainless steel



Weight set			+ DKD certificate	= Package price
KERN		€	KERN	€
343-02	1 mg - 50 g	155,-	962-601	100,-
343-03	1 mg - 100g	170,-	962-602	106,-
343-04	1 mg - 200 g	205,-	962-603	118,-
343-05	1 mg - 500 g	245,-	962-604	124,-
343-06	1 mg - 1 kg	335,-	962-605	130,-
343-07	1 mg - 2 kg	540,-	962-606	144,-
343-08	1 mg - 5 kg	800,-	962-607	151,-
343-09	1 mg - 10 kg	1.250,-	962-608	158,-
344-02	1 g - 50 g	88,-	962-615	40,-
344-03	1 g - 100 g	102,-	962-616	46,-
344-04	1 g - 200 g	139,-	962-617	58,-
344-05	1 g - 500 g	179,-	962-618	64,-
344-06	1 g - 1 kg	285,-	962-619	70,-
344-07	1 g - 2 kg	490,-	962-620	84,-
344-08	1 g - 5 kg	750,-	962-621	91,-
344-09	1 g - 10 kg	1.190,-	962-622	98,-



You can make up your own individual weight set yourself:

It contains only the weights which you need for testing purposes.
KERN will make your own personal box out of plastic, wood or aluminium
For more details on this, please see page 162.

Newton weights (N)

All hook and slotted weights as well as beam bars are available with N adjustment according to **M1 tolerances**, additional price € 8,-.
We need to know the location of use and post code.

DKD-calibration certificate for N weights: identical to DKD prices for individual weights **M1**, additional price € 8,-.

Hook weights, finely turned brass

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



Hook weight			+ Container	+ DKD certificate	= Package price	
KERN		Tol ±mg	KERN	€	KERN	€
347-416	1 g	1,0	347-030-400	2,-	962-631	14,-
347-426	2 g	1,2	347-030-400	2,-	962-632	14,-
347-436	5 g	1,6	347-030-400	2,-	962-633	14,-
347-446	10 g	2,0	347-050-400	2,-	962-634	14,-
347-456	20 g	2,5	347-050-400	2,-	962-635	14,-
347-466	50 g	3,0	347-070-400	2,-	962-636	14,-
347-476	100 g	5	347-090-400	3,-	962-637	15,-
347-486	200 g	10	347-090-400	3,-	962-638	15,-
347-496	500 g	25	347-110-400	3,-	962-639	15,-
347-516	1 kg	50	347-120-400	3,-	962-641	15,-
347-526	2 kg	100	347-130-400	9,-	962-642	16,-
347-536	5 kg	250	347-140-400	9,-	962-643	16,-
347-546	10 kg	500	-	-	962-644	16,-

Test weights Class M1

Slotted weights, finely turned brass



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

Slotted weight			Container		DKD certificate		Package price	
KERN		Tol \pm mg	€		KERN		€	
347-415	1 g	1,0	14,-		347-030-400	2,-	962-631	14,-
347-425	2 g	1,2	15,-		347-030-400	2,-	962-632	14,-
347-435	5 g	1,6	16,-		347-030-400	2,-	962-633	14,-
347-445	10 g	2,0	19,-		347-030-400	2,-	962-634	14,-
347-455	20 g	2,5	20,-		347-080-400	2,-	962-635	14,-
347-465	50 g	3,0	22,-		347-080-400	2,-	962-636	14,-
347-475	100 g	5	25,-		347-090-400	3,-	962-637	15,-
347-485	200 g	10	30,-		347-090-400	3,-	962-638	15,-
347-495	500 g	25	48,-		347-110-400	3,-	962-639	15,-
347-515	1 kg	50	77,-		347-130-400	9,-	962-641	15,-
347-525	2 kg	100	116,-		347-130-400	9,-	962-642	16,-
347-535	5 kg	250	216,-		347-140-400	9,-	962-643	16,-
347-545	10 kg	500	376,-		347-140-400	9,-	962-644	16,-

Beam bars, finely turned brass, for fixing slotted weights



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

Carrier bar				DKD certificate	
KERN		Size	Largest slotted weight possible	Maximum total load	€
347-445-100*		10 g	100 g	200 g	30,-
347-475-100**		100 g	1 kg	2 kg	50,-
347-495-100**		500 g	10 kg	20 kg	79,-
347-515-100***		1000 g	10 kg	40 kg	118,-

Rectangular weights, lacquered cast iron/stainless steel



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

Rectangular weight			DKD certificate		Package price			
KERN		Tol \pm g	€		KERN		€	
Lacquered cast iron								
346-86	5 kg	0,25	62,-		962-643	16,-		78,-
346-87	10 kg	0,50	82,-		962-644	16,-		98,-
346-88	20 kg	1,00	114,-		962-645	21,-		135,-
346-89	50 kg	2,50	310,-		962-646	23,-		333,-
Stainless steel								
346-06	5 kg	0,25	315,-		962-643	16,-		331,-
346-07	10 kg	0,50	455,-		962-644	16,-		471,-
346-08	20 kg	1,00	580,-		962-645	21,-		601,-
346-09	50 kg	2,50	1.490,-		962-646	23,-		1.513,-

Heavy duty weights, cast iron, stackable. Designed to be lifted with forklift trucks or cranes.



- **Test weight material:** Lacquered cast iron

Heavy duty weight				DKD certificate		
KERN		Tol \pm g	Dim. W x D x H	€	€	
346-81	100 kg	5	340x225x280 mm	970,-	962-691	60,-
346-82	200 kg	10	465x340x291 mm	1.270,-	962-692	60,-
346-83	500 kg	25	750x500x314 mm	2.540,-	962-693	60,-
346-84	1000 kg	50	750x500x500 mm	3.730,-	962-694	130,-
346-85	2000 kg	100	1000x750x500 mm	6.060,-	962-695	190,-

Test weights Class M2

Individual weights, cylindrical shape, finely turned brass

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



Alternative to plastic container:

Wooden boxes for individual weights. For more details on this, please see page 161.

Rectangular weights, lacquered cast iron

- Test weight material: Lacquered cast iron



Rectangular weight			DKD certificate		Package price	
KERN		Tol ±g	KERN	€	KERN	€
356-86	5 kg	0,8	59,-			
356-87	10 kg	1,6	79,-			
356-88	20 kg	3,0	112,-			
356-89	50 kg	8,0	295,-			

Weight sets, cylindrical shape, finely turned brass

- Test weight material: Finely turned brass
- Box material: Wooden box



Weight set			DKD certificate		Package price	
KERN		€	KERN	€	KERN	€
354-42	1 g - 50 g	78,-	962-615	40,-		
354-43	1 g - 100 g	89,-	962-616	46,-		
354-44	1 g - 200 g	117,-	962-617	58,-		
354-45	1 g - 500 g	149,-	962-618	64,-		
354-46	1 g - 1 kg	245,-	962-619	70,-		
354-47	1 g - 2 kg	405,-	962-620	84,-		
354-48	1 g - 5 kg	610,-	962-621	91,-		
354-49	1 g - 10 kg	970,-	962-622	98,-		

Test weights Class M3

Individual weights, cylindrical shape, finely turned brass

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



Individual weight			Container		DKD certificate		Package price	
KERN		Tol ±mg			KERN	€	KERN	€
367-41	1 g	10	3,-		347-030-400	2,-	962-631	14,-
367-42	2 g	12	3,40		347-030-400	2,-	962-632	14,-
367-43	5 g	16	3,80		347-030-400	2,-	962-633	14,-
367-44	10 g	20	4,20		347-050-400	2,-	962-634	14,-
367-45	20 g	25	4,60		347-050-400	2,-	962-635	14,-
367-46	50 g	30	5,40		347-070-400	2,-	962-636	14,-
367-47	100 g	50	6,70		347-070-400	2,-	962-637	15,-
367-48	200 g	100	9,80		347-080-400	2,-	962-638	15,-
367-49	500 g	250	22,-		347-090-400	3,-	962-639	15,-
367-51	1 kg	500	35,-		347-110-400	3,-	962-641	15,-
367-52	2 kg	1000	59,-		347-120-400	3,-	962-642	16,-

Individual weights, cylindrical, lacquered cast iron

- Test weight material: Lacquered cast iron. 20 kg and 50 kg with bracket



Individual weight			DKD certificate		Package price	
KERN		Tol ±g			KERN	€
366-91	100 g	0,05	11,-		962-637	15,-
366-92	200 g	0,10	12,-		962-638	15,-
366-93	500 g	0,25	18,-		962-639	15,-
366-94	1 kg	0,50	22,-		962-641	15,-
366-95	2 kg	1,0	40,-		962-642	16,-
366-96	5 kg	2,5	66,-		962-643	16,-
366-97	10 kg	5	118,-		962-644	16,-
366-98	20 kg	10	235,-		962-645	21,-
366-99	50 kg	25	550,-		962-646	23,-

Rectangular weights, lacquered cast iron

- Test weight material: Lacquered cast iron



Rectangular weight			DKD certificate		Package price	
KERN		Tol ±g			KERN	€
366-86	5 kg	2,5	57,-		962-643	16,-
366-87	10 kg	5	77,-		962-644	16,-
366-88	20 kg	10	110,-		962-645	21,-
366-89	50 kg	25	290,-		962-646	23,-

Weight sets, cylindrical, lacquered brass and cast iron

- Test weight material: Brass lacquered and cast iron
- Container material: Wooden block



Weight set			DKD certificate		Package price	
KERN		€			KERN	€
362-96	1 g - 1 kg	140,-			962-619	70,-
362-97	1 g - 2 kg	225,-			962-620	84,-
362-98	1 g - 5 kg	295,-			962-621	91,-
362-99	1 g - 10 kg	420,-			962-622	98,-

Test weights Accessories

Tweezers, weight forks, weight grips, gloves, dusting brush



For weights ≤ 500 g



For weights ≥ 1 kg



For weights ≥ 10 kg

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

Tweezers to be able to safely grip small test weights

For weights of the class	For weights	KERN	Length	Version	€
E1 - F1	1 mg - 200 g	315-243	105 mm	1 Edelstahl mit silikonbeschichteten Spitzen	15,-
E1 - F1	500 g - 2 kg	315-245	250 mm	1 Edelstahl mit silikonbeschichteten Spitzen	32,-
F2 - M3	1 mg - 200 g	335-240	100 mm	2 Edelstahl	6,80
E1 - M1	1 mg - 200 g	315-242	100 mm	3 Kunststoff	6,20

Weight fork to be able to better grip the individual, cylindrical weights

KERN	For weights	€
315-253	2 kg	52,-
315-254	5 kg	57,-

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

KERN	€
317-280	2,50

Dusting brush to clean the weights

KERN	€
318-270	4,20



Weight carrying handle to be able to safely grip heavy, individual cylindrical weights

KERN	For weights	€
315-264	10 kg	88,-
315-265	20 kg	108,-
315-266	50 kg	290,-

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

KERN	€
317-290	6,90

Boxes for individual weights / test weights

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

Wooden box
for individual weights E1 - F1

For weights	KERN	€
mg	338-090-200	14,-
1 g	317-010-100	28,-
2 g	317-020-100	28,-
5 g	317-030-100	28,-
10 g	317-040-100	28,-
20 g	317-050-100	28,-
50 g	317-060-100	28,-
100 g	317-070-100	28,-
200 g	317-080-100	28,-
500 g	317-090-100	31,-
1 kg	317-110-100	35,-
2 kg	317-120-100	44,-
5 kg	317-130-100	66,-
10 kg	317-140-100	89,-
20 kg	317-150-100	340,-
50 kg	317-160-100	415,-



For weights ≤ 500 g



For weights ≥ 1 kg

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

Wooden box
for individual weights F2 - M3

For weights	KERN	€
mg	338-090-200	14,-
1 g	337-010-200	14,-
2 g	337-020-200	14,-
5 g	337-030-200	14,-
10 g	337-040-200	14,-
20 g	337-050-200	14,-
50 g	337-060-200	15,-
100 g	337-070-200	15,-
200 g	337-080-200	16,-
500 g	337-090-200	19,-
1 kg	337-110-200	24,-
2 kg	337-120-200	27,-
5 kg	337-130-200	47,-
10 kg	337-140-200	61,-
20 kg	337-150-200	220,-
50 kg	337-160-200	345,-



For weights ≥ 10 kg

Wooden box
for check weights F2, M1

For weights	KERN	€
10 kg	337-141-200	190,-
20 kg	337-151-200	235,-
50 kg	337-161-200	345,-

Aluminium box for Individual weight classes E1, E2

Largest weight	KERN	€
10 kg	317-140-600	245,-
20 kg	317-150-600	275,-

Test weights Accessories

Cases/boxes for individual weight sets

Individual weight sets:

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



Plastic case for individual weight sets classes E2-M3, not appropriate for cast iron weights		
KERN	Largest weight	€
313-050-400	≤ 500 g	82,-
313-080-400	≤ 5 kg	180,-

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 No. 313-080-400 (plastic) or
KERN No. 315-070-100 (wood).



Wooden box for individual weight sets classes E1-F1

KERN	Largest weight	€
315-040-100	≤ 200 g	124,-
315-060-100	≤ 1 kg	185,-
315-070-100	≤ 2 kg	245,-
315-080-100	≤ 5 kg	350,-
315-090-100	≤ 10 kg	465,-



Wooden box for individual weight set classes F2-M3		
KERN	Largest weight	€
335-040-200	≤ 200 g	58,-
335-050-200	≤ 500 g	61,-
335-060-200	≤ 1 kg	108,-
335-070-200	≤ 2 kg	134,-
335-080-200	≤ 5 kg	210,-
335-090-200	≤ 10 kg	300,-

Plastic carrying case for standard weight sets



Plastic case for weight sets with standard denomination classes E2-M3, not appropriate for cast iron weights		
KERN	Largest weight	€
313-052-400	≤ 500 g	55,-
313-082-400	≤ 5 kg	154,-

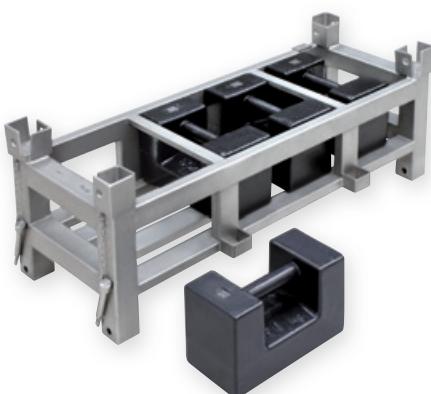


Aluminium case

for safe storage and transportation under harsh industrial conditions.

Aluminium case for weight sets with standard denomination classes E1, E2		
KERN	Largest weight	€
313-042-600	≤ 200 g	230,-
313-062-600	≤ 500 kg	310,-
313-082-600	≤ 1 kg	390,-
313-090-600	≤ 2 kg	470,-

Weight carriers for rectangular 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 balance in one go, saving you 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.