


Online Weight Selector

Enter this website address for access: www.mt.com/weights
and click on the banner shown below.



Weight selector for laboratory balances
Nominal value and class of weights recommended by this weight selector are calculated to test balances with assigned process tolerances of up to 0.03%.
[▶ Start Search](#)

Routine testing of your balance's accuracy is at the heart of most quality systems. The METTLER TOLEDO Weight Selector will recommend two appropriate weights for performing routine testing. Simply enter the model of your METTLER TOLEDO balance, or, for older METTLER TOLEDO models or other brands enter the maximum capacity of the balance. The Weight Selector will recommend weights tailored to the characteristics of your balance with the following benefits

- Cost savings – purchase only what you need for routine testing, two weights rather than entire weight set
- Low cost of ownership – recalibration costs lower for two weights vs. entire set
- Time savings – easy and quick to use testing approach supported by manufacturer SOPs
- Testing against process tolerances as low as 0.03%

For quotes or technical information regarding weights please contact your local METTLER TOLEDO organization or use the email address: weights@mt.com

www.mt.com

For more information

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Quality certificates
Development, production and testing under ISO 9001.



Environment management system under ISO 14001.



"Communauté Européenne".
This mark assures you that our products comply with the latest guidelines.

OIML Weights



CarePacs®

Premium Line E1, E2, F1

Basic Line F1/F2 AC, M1-M3

Special Weights

Accessories

Comprehensive Portfolio
For Consistent Performance

METTLER TOLEDO



Unrivaled Expertise

Brought to you With Passion

METTLER TOLEDO is the world's leading manufacturer of balances and a significant supplier of weights, weight sets and related weight calibration services. The weight portfolio covers OIML weights from 1mg to several tons in all accuracy classes. Our customers all over the world use our weights for routine testing of balances and as primary standards in Mass Laboratories.



Vacuum melted steel for highest material purity

Vacuum melting of steel ensures consistent high quality through reduction of undesired trace elements, removal of dissolved gases and improvement of oxide cleanliness.

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Expertise



Overview of weight portfolio, technical specifications and weight calibration services

6

Routine Testing



Basics of routine testing of balances and weight handling

8

CarePacs® for Routine Testing



Benefits of routine testing with CarePacs®



10

Weight Calibration Service



Description of calibration service for weights

12

Traceability and Weight Classes

	E1	E2	F1
	mg	mg	mg
5000 kg			25000
3000 kg			
2000 kg			10000
1000 kg		1600	5000
500 kg		800	2500
300 kg			
200 kg		300	1000
100 kg		160	500
50 kg	25	80	250

OIML weight tolerances and traceability chart

14

Weights and Weight Sets



Overview of single weights and weight sets of all OIML classes

16

Order Numbers

△△	△△	△△	△△	△
△	△	△	△	△
△	△	△	△	△
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☐☐		☐	☐☐	☐
☐☐		☐☐	☐☐	☐
☐☐		☐☐	☐☐	☐

Order numbers of complete weight portfolio

An Extensive Weight Portfolio At Reasonable Cost

Choose from a comprehensive selection of weights and related calibration services. We offer you weights and services of highest quality – also for users with limited budget. Building on many years of experience and customer feedback, our weight boxes and accessories have an unmatched reputation. Profit from short re-calibration times and trustworthy services with our global network of accredited mass laboratories.



State-of-the-art turning procedures

New developments in state-of-the-art inserts for stainless steel turning such as improved coatings, and stronger substrates, in combination with proven turning principles and techniques, result in best possible surface finishes.

OIML Weights



Weights are available in OIML classes E1, E2, F1, F2, M1, M2 and M3 matching all requirements of OIML R111. Nominal values range from 1 mg to several tons, satisfying all industry and customer specific needs.

Design and Construction

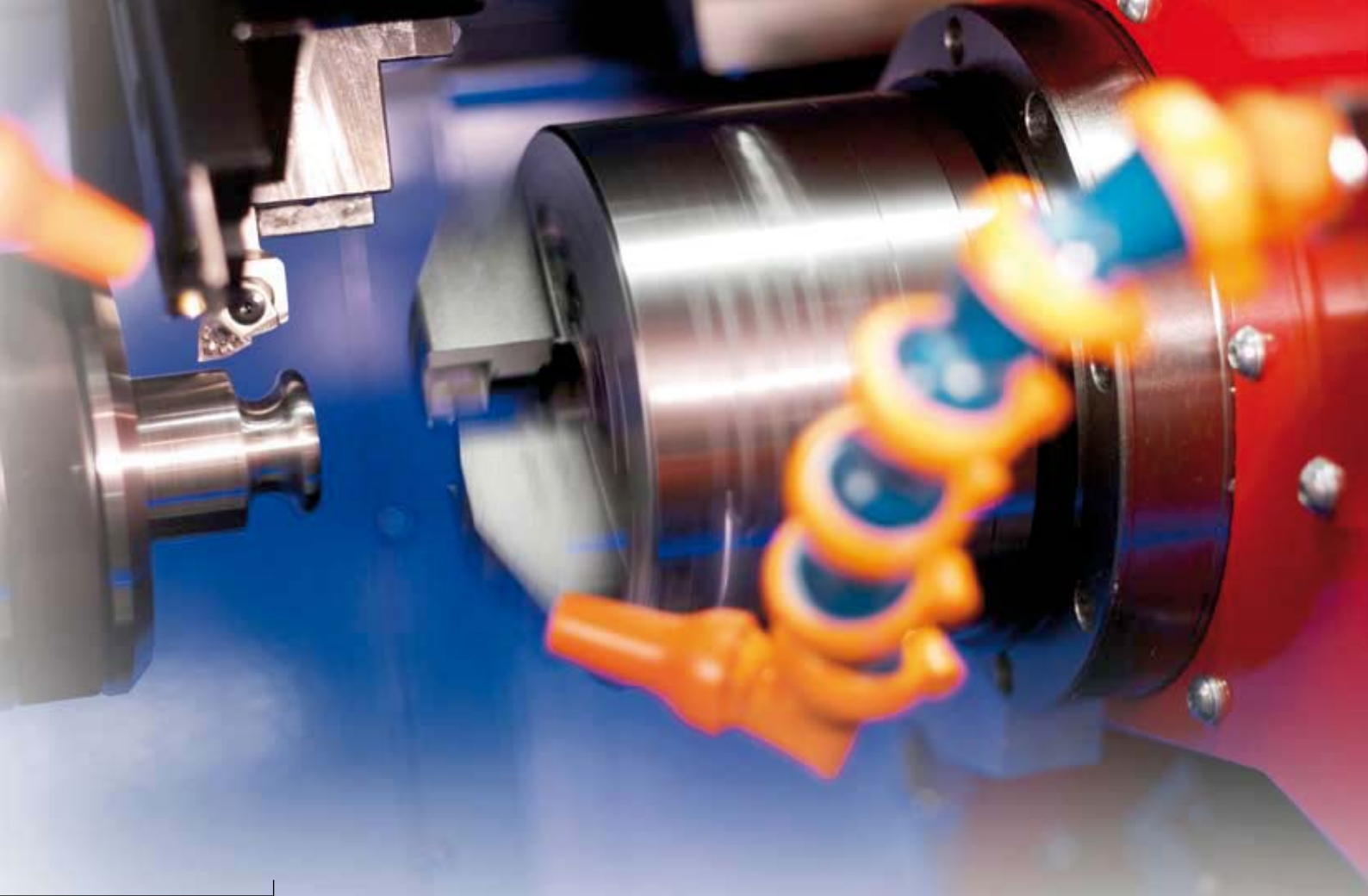


All weights are made of premium stainless steel to make them corrosion resistant. Monobloc weights are specially designed for long term stability, and weights with an adjusting cavity provide best value for money. Electrolytic polishing ensures glossy surfaces for anti adhesion effects.

Technical Specifications



Magnetization and susceptibility of all weights are strictly controlled to ensure compliance with standards. The steel used is vacuum melted and has a density of 8.0 kg/dm³, a homogenous structure, and best purity.



Traceability of Weights



All weights are manufactured with reference and traceability to the International Prototype Kilogram at the BIPM (International Bureau of Weights and Measures) near Paris. All manufacturing processes are in accordance with METTLER TOLEDO's ISO9001 registration, and the ISO14001 environmental standard.

Weight Boxes



Traditional wooden boxes are still preferred in many mass labs while plastic boxes better serve the regulated and other industries. Impact resistant plastic boxes and high quality foam inserts do not show any dissolve effects or residues even after years of use. Labels are tested for high resistance against cleaning liquids.

Weight Calibration



A global network of 11 Mass Laboratories in Switzerland and other key markets guarantee fast and cost effective calibrations no matter where our customers are.

Accessories



Ergonomic tweezers and weight forks as well as clean-room approved gloves and cleaning cloths meet highest requirements of all industries and assure professional testing.

Sustainable Product Quality Through Routine Testing

METTLER TOLEDO's Good Weighing Practice™ approach to risk evaluation of weighing processes, supports you from the selection of your weighing system right through to professional design of routine testing of balances.



Polishing is an industrial art

Experience combined with special skills acquired through years of weight polishing guarantee the consistent high quality our customers demand.

Recommendations of Good Weighing Practice™

GWP® provides recommendations for frequency and time intervals of balance calibration and verification to ensure accurate weighing. GWP® indicates the relevant test weights, routine tests, warning and control limits and provides the necessary standard operation procedure (SOP).

Customer Benefits Good Weighing Practice™

- More efficient testing
- Reduced measurement deviations
- Increased process safety

For more information

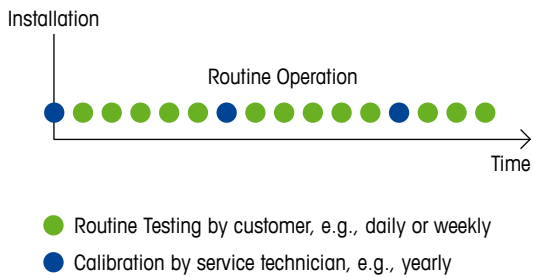
► www.mt.com/GWP



GWP® Recommendations on Testing Frequency

Testing frequency for routine testing of balances depends on many factors such as process risk and balance technology. The following general recommendations apply:

- Balances without FACT technology require higher testing frequencies compared to balances with FACT.
- Stringent process tolerances and associated higher risks require more frequent testing.



Weight Handling Tips

- Never touch weights with bare hands: always use synthetic gloves for weight handling. Refer to accessory section of this brochure for professional weight handling tools such as tweezers, synthetic gloves and cloths.
- Store weights in the original box after use.
- Allow weights sufficient time for acclimatization prior to balance testing, as temperature difference between test weight and balance may have impact on test results.
- Remove loose dust from weights with a soft brush or rubber bellows prior to testing.

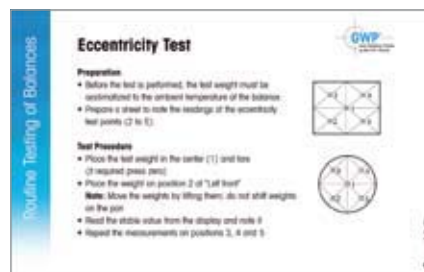
Professional CarePacs®

For Smooth Routine Testing

Perform routine testing of balances securely with only what you need – two test weights. Save time and cost with a METTLER TOLEDO CarePac®. This unique approach means you can rely on accurate measuring results. CarePacs® include tweezers, gloves and other accessories for professional weight handling.



Three sizes of CarePacs® allow testing for balances up to 8 kg weighing capacity.



SOPs to Ensure Accuracy

Routine testing is one of three aspects of professional monitoring of the accuracy of a balance. SOPs from METTLER TOLEDO give clear guidance as to how to perform this important task reliably.



Maintain Process Tolerances

Fully supporting routine testing with external weights, CarePacs® offer a convenient and cost-effective way of limiting the risk of working outside of specified process tolerances.



Customer specific 3rd Weight
 CarePacs® offer option to add a third weight for customer specific testing, e.g., minimum weight determination.

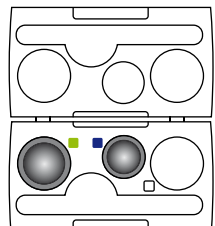
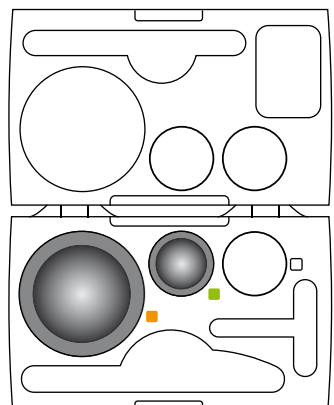
CarePac® Medium

Security through Superior Accessories
 Ergonomic tweezers and weight forks as well as clean-room approved gloves and cleaning cloths meet the highest requirements of all industries and assure professional testing.



Save Time and Money
 Routine testing is performed with two weights only at maximum and minimum load. Weights are specified to validate process tolerances up to 0.03%.



CarePac® Sizes	Small	Medium	Large
Balance Max. Load	Up to 490 g	From 500 g to 4900 g	From 5 kg to 8 kg
			

For more information:
www.mt.com/carepacs

Weight Calibration

The Cornerstone for Secure Testing

Accurately calibrated weights are at the base of accurate weighing results. Balances should always be checked with reference weights you can rely on and trust. At our accredited Mass Laboratories, we clean, calibrate, adjust and document the results in a calibration certificate. The calibration services cover the basic reporting of conventional mass correction, uncertainty and traceability information in accordance with ISO/IEC 17025 requirements.



Unique weight adjustment procedure

Electrolytic adjustment of weights is a unique technique of METTLER TOLEDO to achieve surface roughness which far exceed required specifications.



Offering*

- Calibration by ISO/IEC 17025 accredited laboratory ("as left" values)
- Traceable, accredited calibration certificate
- Statement of conformity for the accuracy class
- Certificates in German, English, French, Spanish and Italian
- Professional weight cleaning
- Faulty weights replaced by METTLER TOLEDO original weights
- Re-adjustment of adjustable weights
- Statement of additional "as found" values (e. g., before cleaning or before adjustment)
- Reminder service from METTLER TOLEDO for weights due for calibration
- Priority service for quickest turn-around time
- Archiving of calibration history of weights

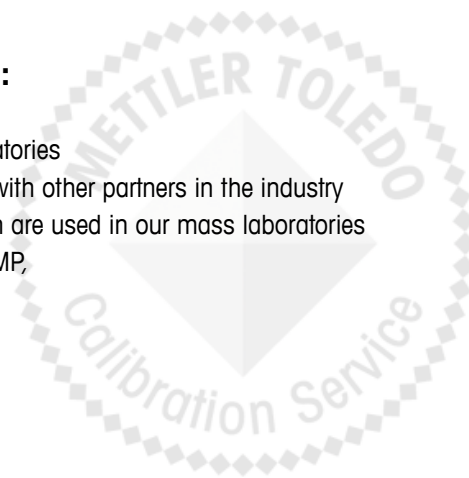
* Offering may vary from country to country

Feature	Benefit
Accredited Mass Laboratory	Accreditation in accordance with ISO/IEC 17025 ensures independent auditing of a labs technical competence.
Weight cleaning	Insures your weights are within original state to guarantee conditions for every balance check.
Re-adjustment of weights	Out of specification weights are adjusted to save costs, and weights can be used again for calibration purposes.



Benefits of calibrating your weights at METTLER TOLEDO:

- The only company in the world with a global network of 11 Mass Laboratories
- Network allows competence testing among own mass laboratories and with other partners in the industry
- Global leader in manufacturing state-of-the-art mass comparators, which are used in our mass laboratories
- All accredited mass laboratories meet or exceed ISO/IEC 17025, FDA, GMP, and requirements of nuclear industry
- Dense network ensures short turn around time for weight re-calibration



Weight Calibration Process

Weight calibration by an accredited Mass Laboratory under the scope of ISO/IEC 17025 is the only way to obtain accurate and reliable data. METTLER TOLEDO's weight calibration process is shown below.



Each weight is cleaned prior to the actual calibration process to ensure defined conditions for each calibration.



Stabilization of cleaned weights is important to ensure stable surface conditions prior to calibration.



Weight calibration process is performed following procedures of ISO/IEC 17025.

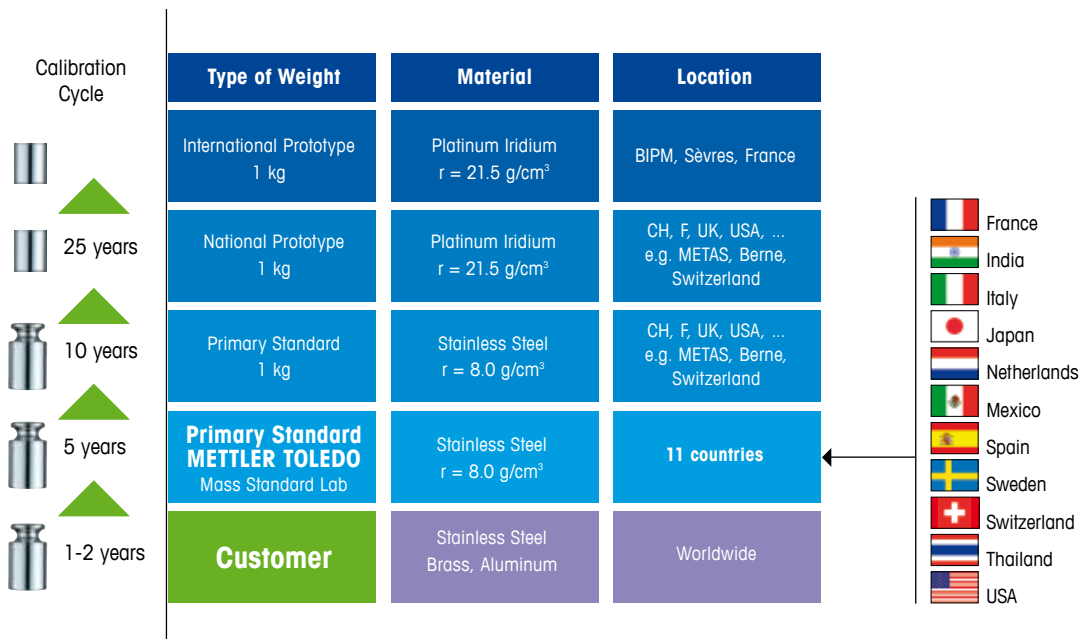


Calibration results, including measurement uncertainty statement, are reported in a certificate.

Traceable Weights Translate Into Trustworthy Results

Traceability is defined in the International Vocabulary of Basic and General Terms in Metrology (ISO, 1993) as the "property of the result of a measurement or the value of a standard whereby it can be related to stated references, usually national or international standards, through an unbroken chain of comparisons all having stated uncertainties." All of METTLER TOLEDO's calibration laboratories for weights are accredited to ISO/IEC 17025 and arrange for the following to ensure traceability of calibrated weights:

- An **unbroken chain of comparisons** is achieved by using primary standards which are traceable to national, and international standards, and finally to the prototype kilogram at the International Bureau of Weights and Measures (BIPM) in Sèvres, near Paris.
- **Measurement uncertainty**, assigned to each calibration, and clearly stated on the calibration certificates for weights.
- **Documentation**, normally a calibration certificate, showing all results including uncertainties and other information required by the standard ISO/IEC 17025.
- **Competence**, demonstrated by actively participating in competency testing in cooperation with industry and government partners.
- All primary standards are calibrated by National Institutes to establish traceability to the **SI unit of mass**.
- **Recalibrations** of primary, working and check standards at appropriate intervals, which insures their accuracy and traceability.



OIML Tolerances

International Organization of
Legal Metrology Recommendation R111

	E1	E2	F1	F2	M1	M2	M3
	mg	mg	mg	mg	mg	mg	mg
5000 kg			25000	80000	250000	800000	2500000
2000 kg			10000	30000	100000	300000	1000000
1000 kg		1600	5000	16000	50000	160000	500000
500 kg		800	2500	8000	25000	80000	250000
200 kg		300	1000	3000	10000	30000	100000
100 kg		160	500	1600	5000	16000	50000
50 kg	25	80	250	800	2500	8000	25000
20 kg	10	30	100	300	1000	3000	10000
10 kg	5	16	50	160	500	1600	5000
5 kg	2.5	8.0	25	80	250	800	2500
2 kg	1	3	10	30	100	300	1000
1 kg	0.5	1.6	5	16	50	160	500
500 g	0.25	0.8	2.5	8.0	25	80	250
200 g	0.1	0.3	1.0	3	10	30	100
100 g	0.05	0.16	0.5	1.6	5.0	16	50
50 g	0.03	0.10	0.3	1.0	3.0	10	30
20 g	0.025	0.08	0.25	0.8	2.5	8.0	25
10 g	0.020	0.06	0.20	0.6	2.0	6.0	20
5 g	0.016	0.05	0.16	0.5	1.6	5.0	16
2 g	0.012	0.04	0.12	0.4	1.2	4.0	12
1 g	0.010	0.03	0.10	0.3	1.0	3.0	10
500 mg	0.008	0.025	0.08	0.25	0.8	2.5	
200 mg	0.006	0.020	0.06	0.20	0.6	2.0	
100 mg	0.005	0.016	0.05	0.16	0.5	1.6	
50 mg	0.004	0.012	0.04	0.12	0.4		
20 mg	0.003	0.010	0.030	0.10	0.30		
10 mg	0.003	0.008	0.025	0.08	0.25		
5 mg	0.003	0.006	0.020	0.06	0.20		
2 mg	0.003	0.006	0.020	0.06	0.20		
1 mg	0.003	0.006	0.020	0.06	0.20		

The nominal weight values in this table specify the smallest and largest weight permitted in any class of OIML R 111 and the maximum permissible errors and denominations shall not be extrapolated to higher or lower values. For example, the smallest nominal value for a weight in OIML class M2 is 100 mg while the largest is 5000 kg. A 50 mg weight would not be accepted as an R 111 class M2 weight and instead should meet class M1 maximum permissible errors and other requirements (e.g. shape or markings) for that class of weight. Otherwise the weight cannot be described as complying with R 111.



International Prototype Kilogram (IPK) at BIPM, a cylinder made of 90% platinum and 10% iridium.



Tips on calibration and re-calibration of weights

- Calibration laboratories can be accredited in one or more fields of calibration, e.g., dimensional, thermodynamic or mechanical. Ensure that your calibration laboratory is accredited in accordance to ISO/IEC 17025 for mass calibration.
- Customers often trust their weights to legal verification officers. As this service falls under laws of legal metrology, no actual calibration is performed but only verification of weights. Legal verification is not performed in accordance with ISO/IEC 17025, and therefore such weights are not suitable for routine testing of balances.
- Legally verified weights are explicitly applied to test scales used for commercial trade between seller and customer, e.g., butchery.

From 1 mg to 2 tons

From one Supplier

Whether you need weights in the mg range for routine testing of micro balances or larger weights in highest accuracy classes for mass determination, METTLER TOLEDO offers a matching solution for each specific requirement.



Initial weight calibration performed by robots

Substantial investments in newest robots technology combined with decades of experience have opened a new area in weight calibration. Computer-controlled processes exclude any human errors, and lead to consistent and reproducible results with low uncertainty values.



Premium Line Weights



Features

Premium Line weights of classes E1, E2 and F1 are Made in Switzerland, a label for highest quality. Thanks to their monobloc design they are preferred in Mass Labs all over the world, and for calibration of analytical and micro balances.

Your Benefits

Premium, vacuum melted steel offers an anti-corrosive surface, and low magnetization and susceptibility values. The monobloc design and electro polishing of surface provide maximum stability of the weight.

Availability: 1 mg to 50 kg

Box: Wooden or plastic box



Basic Line Weights



Features

Available in classes F1AC, F2AC, and M1 – M3. They are made of premium stainless steel – no aluminum is used for mg weights. The economical design with an adjusting cavity allows for optimized manufacturing and adjustment processes.

Your Benefits

Very competitively priced and perfect for in-depth testing of precision balances and industrial scales. Perfectly suited for larger in-house calibration services.
Availability: 1 mg to 20kg
Box: Plastic box



Special Weights



Features

A variety of special weights is available to meet your very specific needs. From stackable, stainless steel weights to calibrated weight carriers, you find everything from just one supplier.

Your Benefits

For special testing of balances and industrial scales.

Overview

Weights and Weight Sets



17 CarePacs®
For balances with max. load of 8 kg



18 Premium Line Weights
Monobloc weights of OIML Classes E1, E2, F1



20 Basic Line Weights
Weights with adjusting cavity of OIML Classes F1, F2, M1, M2, M3



22 Special Weights
Weights for special applications

23 Accessories
For professional weight handling

Color Code

OIML



For tolerances refer to page 13

CarePac® S

Weighing ranges up to 490 g



OIML	Balances								
	PB403 XP404 XS403	EL202 EL204 EL303 JL1503-C	PB303 PL202 PL303 XP203 XP204 XP205 XS203 XS204 XS205	AB104 AB135 AL104 EL104 JB803-C JL203-CMR	JL502-C JL603-C PB153 XP105 XS104 XS105	AB54 AL54 HG63 HR83 JB203-C JL203-05 PL83 XP56 XS64	XP26	XP6 MX5	XP2U UMX2
Set up	200 g F2 20 g F1	200 g F2 10 g F1	100 g F2 5 g E2	50 g F2 2 g E2	20 g F1 1 g E2	5 g E2 0.2 g E2	2 g E2 0.1 g E2		
Order No	11123000	11123001	11123002	11123003	11123006	11123005	11123004		

CarePac® M

Weighing ranges 500 g – 4900 g



OIML	Balances							
	JB2503-C JL602 JL802 PB503 PB602 PL601	PL602 XP504 XP603 XP802 XS603 XS802	JL1501 JL1502 P81501 P81502 PL1501 PL1502	XP1202 XP1203 XS1003	EL2001 EL3002 JB2002 JB3002 JL3001 PB3001	PB3002 PL3001 PL3002 XP2001 XP2002 XP2003 XS2002	EL4001 JB4002 PB4002 PG4002	XP4001 XP4002 XS4001 XS4002
Set up	500 g F2 20 g F1	1000 g F2 50 g F2	2000 g F2 100 g F2	2000 g F2 200 g F2				
Order No	11123007	11123008	11123009	11123010				

CarePac® L*

Weighing ranges 5 kg – 8 kg

OIML	Balances		
	EL6000 EL6001 JB6001 JB8001 JL6001 PB5001 PB8000	PB8001 PG6002 PL6000 PL6001 XP5003 XP6001	XP6002 XP8001 XP8002 XS6001 XS6002 XS8001
Set up	5000 g F2	200 g F2	
Order No	11123011		

* Available as of April 2009

CarePacs® for non-current METTLER TOLEDO models or 3rd party balances

OIML										
Set up	200 g F2	100 g F2	50 g F2	200 g F2	100 g F2	500 g F2	1000 g F2	2000 g F2	5000 g F2	5000 g F2
	50 g F2	50 g F2	50 g F2	100 g F2	100 g F2	10 g F1	10 g F1	10 g F1	500 g F2	100 g F2
Order No	11123026	11123027	11123028	11123029	11123030	11123036	11123037	11123038	11123012	11123042

Customized 3rd Weight

3rd weights are for customized testing, e.g., determination of minimum weight.

Value	OIML Class E2 Order No	Value	OIML Class E2 Order No
1 mg	11123044	1 g	11123053
2 mg	11123045	2 g	11123054
5 mg	11123046	5 g	11123055
10 mg	11123047	10 g	11123056
20 mg	11123048	20 g	11123057
50 mg	11123049	50 g	11123058
100 mg	11123050	100 g	11123059
200 mg	11123051		
500 mg	11123052		

Premium Line OIML E1, E2 & F1



Individual
Weights



Specifications E1, E2, F1



Wire Weight

High-grade steel
Density: 8.0 kg/dm³
Magnetic susceptibility < 0.01



Knob Weight

High-grade steel
Density: 8.0 kg/dm³
Magnetic susceptibility < 0.01
Monobloc



Weight and Box



Weight and Box, **including Certificate**



Wire weight



Marked wire weight



Cylindrical weight with knob



Marked cylindrical weight with knob

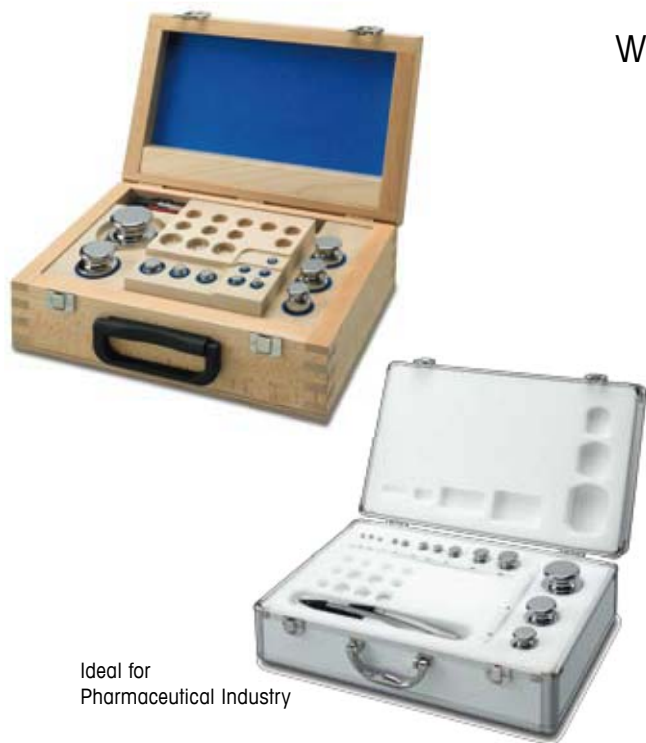
Marked single weights
are available on request

Nominal value	Shape	E1		E2			
		Order number Wooden box		Order number Wooden box		Order number Plastic box	
1 mg	△	159000	159001	158300	158301	158306	158307
2 mg	△	159010	159011	158310	158311	158316	158317
5 mg	△	159020	159021	158320	158321	158326	158327
10 mg	△	159030	159031	158330	158331	158336	158337
20 mg	△	159040	159041	158340	158341	158346	158347
50 mg	△	159050	159051	158350	158351	158356	158357
100 mg	△	159060	159061	158360	158361	158366	158367
200 mg	△	159070	159071	158370	158371	158376	158377
500 mg	△	159080	159081	158380	158381	158386	158387
1 g	■	159090	159091	158390	158391	158396	158397
2 g	■	159100	159101	158400	158401	158406	158407
5 g	■	159110	159111	158410	158411	158416	158417
10 g	■	159120	159121	158420	158421	158426	158427
20 g	■	159130	159131	158430	158431	158436	158437
50 g	■	159140	159141	158440	158441	158446	158447
100 g	■	159150	159151	158450	158451	158456	158457
200 g	■	159160	159161	158460	158461	158466	158467
500 g	■	159170	159171	158470	158471	158476	158477
1 kg	■	159180	159181	158480	158481	158486	158487
2 kg	■	159190	159191	158490	158491	158496	158497
5 kg	■	159200	159201	158500	158501	158506	158507
10 kg	■	159210	159211	158510	158511	158516	158517
20 kg	■	159220	159221	158520	158521	158526	158527
50 kg	■	159230	159231	158530	158531		

Nominal value	Shape	F1			
		Order number Wooden box		Order number Plastic box	
1 mg	△	159410	159411	159416	159417
2 mg	△	159420	159421	159426	159427
5 mg	△	159430	159431	159436	159437
10 mg	△	159440	159441	159446	159447
20 mg	△	159450	159451	159456	159457
50 mg	△	159460	159461	159466	159467
100 mg	△	159470	159471	159476	159477
200 mg	△	159480	159481	159486	159487
500 mg	△	159490	159491	159496	159497
1 g	■	158600	158601	158606	158607
2 g	■	158610	158611	158616	158617
5 g	■	158620	158621	158626	158627
10 g	■	158630	158631	158636	158637
20 g	■	158640	158641	158646	158647
50 g	■	158650	158651	158656	158657
100 g	■	158660	158661	158666	158667
200 g	■	158670	158671	158676	158677
500 g	■	158680	158681	158686	158687
1 kg	■	158690	158691	158696	158697
2 kg	■	158700	158701	158706	158707
5 kg	■	158710	158711	158716	158717
10 kg	■	158720	158721	158726	158727
20 kg	■	158730	158731	158736	158737
50 kg	■	158740	158741		

Weight Sets

	E1									E2								
	1 mg 500 mg	1 mg 200 g	1 mg 1 kg	1 mg 2 kg	1 mg 5 kg	1 g 50 g	1 g 500 g	1 mg 1 kg	1 kg 5 kg	1 mg 500 mg	1 mg 200 g	1 mg 1 kg	1 mg 2 kg	1 mg 5 kg	1 g 50 g	1 g 500 g	1 mg 1 kg	1 kg 5 kg
1 mg	△	△	△	△	△			△△		△	△	△	△	△			△△	
2 mg	△△	△△	△△	△△	△△			△△		△△	△△	△△	△△	△△			△△	
5 mg	△	△	△	△	△			△△		△	△	△	△	△			△△	
10 mg	△	△	△	△	△			△△		△	△	△	△	△			△△	
20 mg	△△	△△	△△	△△	△△			△△		△△	△△	△△	△△	△△			△△	
50 mg	△	△	△	△	△			△△		△	△	△	△	△			△△	
100 mg	△	△	△	△	△			△△		△	△	△	△	△			△△	
200 mg	△△	△△	△△	△△	△△			△△		△△	△△	△△	△△	△△			△△	
500 mg	△	△	△	△	△			△△		△	△	△	△	△			△△	
1 g		■	■	■	■	■	■	■			■	■	■	■	■	■	■	■
2 g		■	■	■	■	■	■	■			■	■	■	■	■	■	■	■
5 g		■	■	■	■	■	■	■			■	■	■	■	■	■	■	■
10 g		■	■	■	■	■	■	■			■	■	■	■	■	■	■	■
20 g		■	■	■	■	■	■	■			■	■	■	■	■	■	■	■
50 g		■	■	■	■	■	■	■			■	■	■	■	■	■	■	■
100 g		■	■	■	■	■	■	■			■	■	■	■	■	■	■	■
200 g		■	■	■	■	■	■	■			■	■	■	■	■	■	■	■
500 g			■	■	■		■	■				■	■	■		■	■	■
1 kg			■	■	■			■	■			■	■	■			■	■
2 kg				■	■				■	■			■	■				■
5 kg					■				■					■				■
Number of Weights	12	23	25	27	28	8	12	38	4	12	23	25	27	28	8	12	38	4
Wooden Box	159300	159340	159350	11117614	11117616	159310	159320	159360	159330	158800	158840	158850	11117624	11117626	158810	158820	158860	158830
	159301	159341	159351	11117615	11117617	159311	159321	159361	159331	158801	158841	158851	11117625	11117627	158811	158821	158861	158831
Plastic Box										158806	158846	158856	11117321	11117323	158816	158826		11125900
										158807	158847	158857	11117322	11117324	158817	158827		11125901



Ideal for Pharmaceutical Industry



The second weight is marked for identification purposes

Weight Sets

	F1							
	1 mg 500 mg	1 mg 200 g	1 mg 1 kg	1 mg 2 kg	1 mg 5 kg	1 g 50 g	1 g 500 g	1 kg 5 kg
1 mg	△	△	△	△	△			
2 mg	△△	△△	△△	△△	△△			
5 mg	△	△	△	△	△			
10 mg	△	△	△	△	△			
20 mg	△△	△△	△△	△△	△△			
50 mg	△	△	△	△	△			
100 mg	△	△	△	△	△			
200 mg	△△	△△	△△	△△	△△			
500 mg	△	△	△	△	△			
1 g		■	■	■	■	■	■	
2 g		■	■	■	■	■	■	
5 g		■	■	■	■	■	■	
10 g		■	■	■	■	■	■	
20 g		■	■	■	■	■	■	
50 g		■	■	■	■	■	■	
100 g		■	■	■	■	■	■	
200 g		■	■	■	■	■	■	
500 g			■	■	■		■	
1 kg			■	■	■			■
2 kg				■	■			■
5 kg					■			■
Number of Weights	12	23	25	27	28	8	12	4
Wooden Box	161700	158900	158910	11117802	11117804	158870	158880	158890
	161701	158901	158911	11117803	11117805	158871	158881	158891
Plastic Box	161706	158906	158916	11119979	11119981	158876	158886	11125907
	161707	158907	158917	11119980	11119982	158877	158887	11125908

Basic Line

OIML F1AC, F2AC & M1AC



Specifications F1AC, F2AC, M1AC



Sheet Weight

Stainless steel
Density: 7.9 kg/dm³
Non magnetic



Knob Weight

Stainless steel
Density: 7.9 kg/dm³
Non magnetic
Adjusting cavity:
F1AC / F2AC 10 g – 20 kg

Individual Weights



Weight and Box

Weight and Box, **including Certificate**

- Sheet weight
- Marked sheet weight
- Cylindrical weight with knob
- Marked cylindrical weight with knob

Marked single weights
are available on request

Nominal value	Shape	F1AC		F2AC		M1AC	
		Order number Plastic box	Order number Plastic box	Order number Plastic box	Order number Plastic box	Order number Plastic box	Order number Plastic box
1 mg	<input type="checkbox"/>	11119491	11119561	11119079	11118271	11117935	11117751
2 mg	<input type="checkbox"/>	11119492	11119562	11119080	11118272	11117936	11117752
5 mg	<input type="checkbox"/>	11119493	11119563	11119081	11118273	11117937	11117753
10 mg	<input type="checkbox"/>	11119494	11119564	11119082	11118274	11117938	11117754
20 mg	<input type="checkbox"/>	11119495	11119565	11119083	11118275	11117939	11117755
50 mg	<input type="checkbox"/>	11119496	11119566	11119084	11118276	11117940	11117756
100 mg	<input type="checkbox"/>	11119497	11119567	11119085	11118285	11117941	11117757
200 mg	<input type="checkbox"/>	11119498	11119568	11119086	11118286	11117942	11117758
500 mg	<input type="checkbox"/>	11119499	11119569	11119087	11118287	11117943	11117759
1 g	<input checked="" type="checkbox"/>	11119455	11119525	11119042	11118191	11118055	11117711
2 g	<input checked="" type="checkbox"/>	11119456	11119526	11119043	11118192	11118056	11117712
5 g	<input checked="" type="checkbox"/>	11119457	11119527	11119044	11118193	11118057	11117713
10 g	<input checked="" type="checkbox"/>	11119458	11119528	11119045	11118194	11118058	11117714
20 g	<input checked="" type="checkbox"/>	11119459	11119529	11119046	11118195	11118059	11117715
50 g	<input checked="" type="checkbox"/>	11119460	11119530	11119047	11118196	11118060	11117716
100 g	<input checked="" type="checkbox"/>	11119461	11119531	11119048	11118201	11118061	11117717
200 g	<input checked="" type="checkbox"/>	11119462	11119532	11119049	11118202	11118062	11117718
500 g	<input checked="" type="checkbox"/>	11119463	11119533	11119050	11118203	11118063	11117719
1 kg	<input checked="" type="checkbox"/>	11119464	11119534	11119051	11118204	11118064	11117721
2 kg	<input checked="" type="checkbox"/>	11119465	11119535	11119052	11118205	11118065	11117722
5 kg	<input checked="" type="checkbox"/>	11119466	11119536	11119053	11118206	11118066	11117723
10 kg	<input checked="" type="checkbox"/>	11119467	11119537	11119054	11118211	11118067	11117724
20 kg	<input checked="" type="checkbox"/>	11119468	11119538	11119055	11118212	11118068	11117725

Weight Sets

F1AC

F2AC

	1 mg 500 mg	1 mg 200 g	1 mg 1 kg	1 mg 2 kg	1 mg 5 kg	1 g 50 g	1 g 500 g	1 mg 500 mg	1 mg 200 g	1 mg 1 kg	1 mg 2 kg	1 mg 5 kg	1 g 50 g	1 g 500 g
1 mg	□	□	□	□	□			□	□	□	□	□		
2 mg	□ ◻	□ ◻	□ ◻	□ ◻	□ ◻			□ ◻	□ ◻	□ ◻	□ ◻	□ ◻		
5 mg	□	□	□	□	□			□	□	□	□	□		
10 mg	□	□	□	□	□			□	□	□	□	□		
20 mg	□ ◻	□ ◻	□ ◻	□ ◻	□ ◻			□ ◻	□ ◻	□ ◻	□ ◻	□ ◻		
50 mg	□	□	□	□	□			□	□	□	□	□		
100 mg	□	□	□	□	□			□	□	□	□	□		
200 mg	□ ◻	□ ◻	□ ◻	□ ◻	□ ◻			□ ◻	□ ◻	□ ◻	□ ◻	□ ◻		
500 mg	□	□	□	□	□			□	□	□	□	□		
1 g		■	■	■	■	■	■		■	■	■	■	■	■
2 g		■	■	■	■	■	■		■	■	■	■	■	■
5 g		■	■	■	■	■	■		■	■	■	■	■	■
10 g		■	■	■	■	■	■		■	■	■	■	■	■
20 g		■	■	■	■	■	■		■	■	■	■	■	■
50 g		■	■	■	■	■	■		■	■	■	■	■	■
100 g		■	■	■	■		■		■	■	■	■		■
200 g		■	■	■	■		■		■	■	■	■		■
500 g			■	■	■		■			■	■	■		■
1 kg			■	■	■					■	■	■		
2 kg				■	■						■	■		
5 kg					■							■		
Number of Weights	12	23	25	27	28	8	12	12	23	25	27	28	8	12
Plastic Box	11119511	11119512	11119513	11119514	11119515	11119516	11119517	11118456	11118457	11118458	11118459	11118460	11118461	11118462
	11119581	11119582	11119583	11119584	11119585	11119586	11119587	11118339	11118340	11118341	11118342	11118343	11118344	11118345



Weight Sets

M1AC



	1 mg 500 mg	1 mg 200 g	1 mg 1 kg	1 mg 2 kg	1 mg 5 kg	1 g 50 g	1 g 500 g	1 mg 500 mg	1 mg 200 g	1 mg 1 kg	1 mg 2 kg	1 mg 5 kg	1 g 50 g	1 g 500 g
1 mg	□	□	□	□	□									
2 mg	□ ◻	□ ◻	□ ◻	□ ◻	□ ◻									
5 mg	□	□	□	□	□									
10 mg	□	□	□	□	□									
20 mg	□ ◻	□ ◻	□ ◻	□ ◻	□ ◻									
50 mg	□	□	□	□	□									
100 mg	□	□	□	□	□									
200 mg	□ ◻	□ ◻	□ ◻	□ ◻	□ ◻									
500 mg	□	□	□	□	□									
1 g		■	■	■	■	■	■							
2 g		■	■	■	■	■	■							
5 g		■	■	■	■	■	■							
10 g		■	■	■	■	■	■							
20 g		■	■	■	■	■	■							
50 g		■	■	■	■	■	■							
100 g		■	■	■	■		■							■
200 g		■	■	■	■		■							■
500 g			■	■	■		■							■
1 kg			■	■	■									
2 kg				■	■									
5 kg					■									
Number of Weights	12	23	25	27	28	8	12	12	23	25	27	28	8	12
Plastic Box	11117862	11117863	11117864	11117865	11117866	11117867	11117868	11117771	11117772	11117773	11117774	11117775	11117776	11117777

Special Weights

 Weight
 Weight including Certificate

Disc Weights

Including box

Stainless steel
 Density: 8 kg/dm³
 Non magnetic



Nominal value	E1		E2	
	Order number		Order number	
500 mg	-	-	11116720	11116721
1 kg	11116700	11116701	11116710	11116711

Cylindrical Weights

Stainless steel
 Density: 8 kg/dm³
 Non magnetic
 Stackable
 Weight diameter:
 5, 10, 20 kg: 137 mm
 50 kg: 200 mm



Nominal value	F2AC		M1AC	
	Order number		Order number	
5 kg	11116650	11116656	11116600	11116601
10 kg	11116651	11116657	11116610	11116611
20 kg	11116652	11116658	11116620	11116621
50 kg	11116653	11116659	11116630	11116631
40 kg weight carrier	11116654	11116660	11116640	11116641

Rectangular Weights

Cast iron (painted)
 Density: 7.2 kg/dm³
 Non magnetic



Nominal value	M1		M2		M3		Plastic Cases
	Order number		Order number		Order number		
5 kg	160900	160901	161000	161001	161100	161101	11116522
10 kg	160910	160911	161010	161011	161110	161111	11116523
20 kg	160920	160921	161020	161021	161120	161121	11116524
50 kg	160930	160931	161030	161031	161130	161131	11116525



Weight carrier

720 x 275 x 330 mm (LxWxH)
 Weight carrier is available for easy and fast calibration up to 200 kg. Weight carrier can accommodate 8 pieces 20 kg, 10 kg or 5 kg.
 The weights can be easily stacked for the calibration of high-load balances.



Heavy Weights

Cast iron (painted)
 Density: 7.2 kg/dm³
 Non magnetic

Nominal value	M1	
	Order number	
100 kg	11116168	11116169
200 kg	11116172	11116173
500 kg	11116174	11116175
1000 kg	11116176	11116177
2000 kg	11116178	11116179



Other weights on request

Tweezers



	Order number
Straight tips, for weights 1 mg – 20 g, length 115 mm	15900
Straight tips, for weights 1 mg – 20 g, length 220 mm	11116544
Straight tips, for weights 20 mg – 200 g, length 140 mm	11116543
Bent tips, for weights 20 g – 200 g, length 200 mm	15901
Bent tips, for weights 1 mg – 200 g, length 130 mm	11116540

Weight Handles



	Order number
Steel, with rubber coating, for 2 kg weights	11123096
Steel, with rubber coating, for 5 kg weights	11123097
Aluminum, for 10 kg and 20 kg weights	15904
Aluminum, for 10 kg and 20 kg weights, with ear for crane	11116517
Aluminum, for 50 kg weights, with ear for crane	11116515



Nylon gloves

Accessories

Weight Forks



	Order number
Aluminum/Polyamide, for weights 500 g – 1 kg, length 300 mm	222175
Aluminum/Polyamide, for 2 kg weights, length 320 mm	15902
Aluminum/Polyamide, for 5 kg weights, length 470 mm	15903
ABS, for 500 g weights, length 150 mm	11123094
ABS, for 1 kg weights, length 150 mm	11123095

Miscellaneous Accessories



Brush

Weight marking

	Order number
Leather gloves , pair, not suitable for regulated environments	72001
Nylon gloves , pair, suitable for all environments	11123098
Micro fibre cloth , suitable for all environments	158798
Brush , suitable for all environments	158799
Weight marking , up to 5 digits, alphanumeric, on 1 g – 50 kg weights	11116500
Air bellow , for weight cleaning	11116548