

OIML Weights



CarePacs®

Signature Line E1, E2, F1

Premium Line E2, F1

Basic Line F1, F2, M1

Industrial Weights F1 – M3

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 one milligram to five 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.

Page | 4

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

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 recalibration 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 5 tons, satisfying all industry and customer specific needs.

Design and Construction

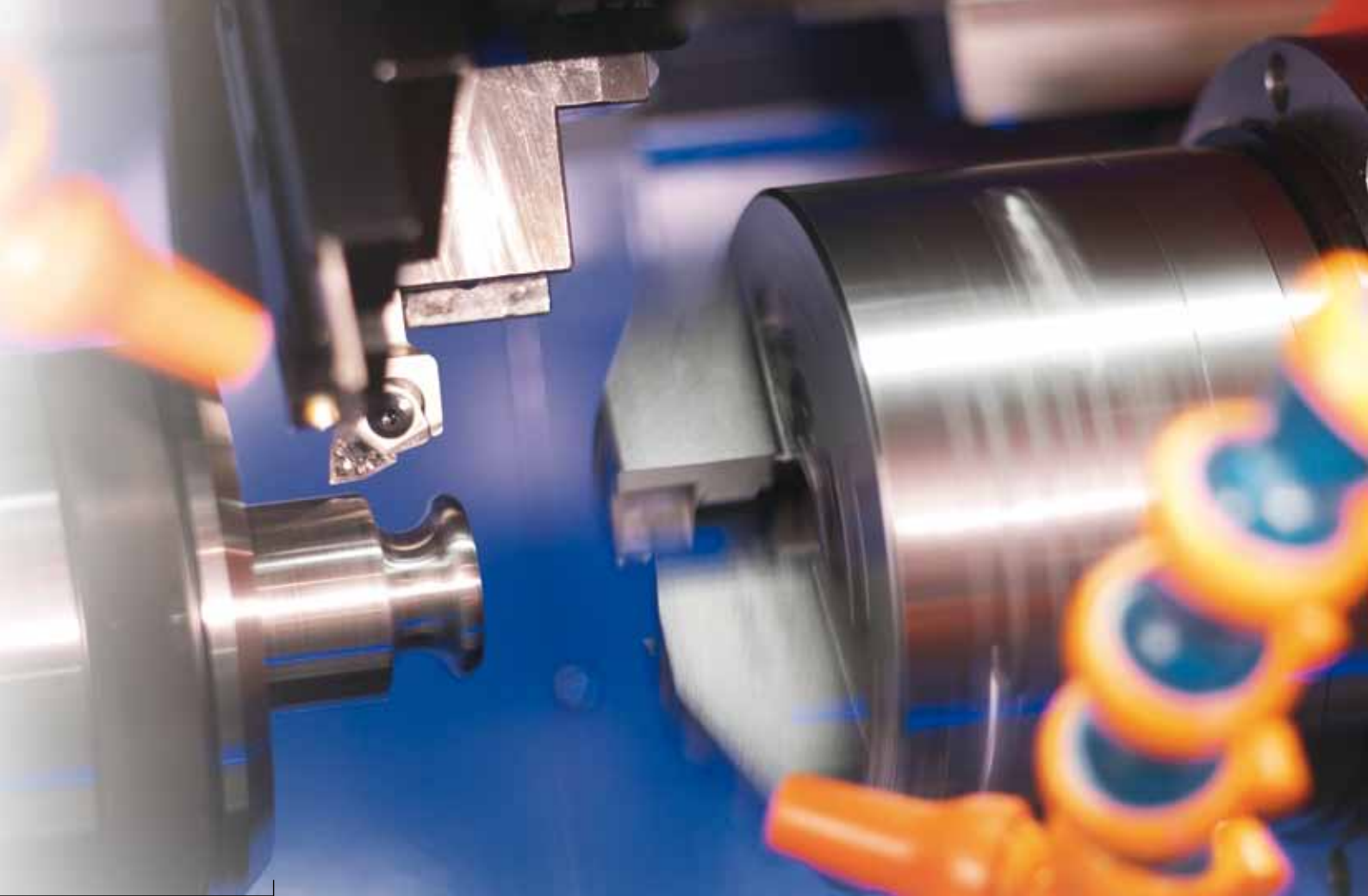


All weights are made of premium stainless steel to make them corrosion resistant. Monobloc weights are specially designed for long term stability, and weights with an adjusting cavity provide best value for money. Electrolytic polishing ensures glossy surfaces for anti adhesion effects.

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 ISO 9001 registration, and the ISO 14001 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 of Good Weighing Practice™

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

For more information

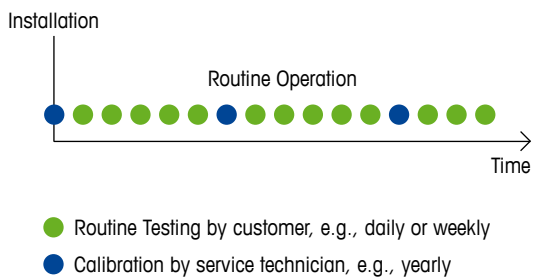
► www.mt.com/GWP



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

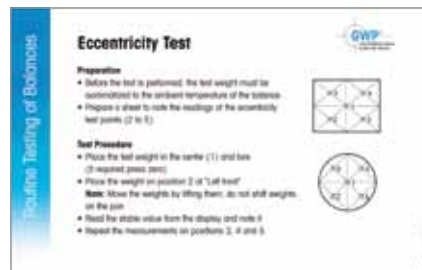
- Never touch weights with bare hands: always use synthetic gloves for weight handling. Refer to accessory section of this brochure for professional weight handling tools such as tweezers, synthetic gloves and cloths.
- Store weights in the original box after use.
- Allow weights sufficient time for 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 of 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.

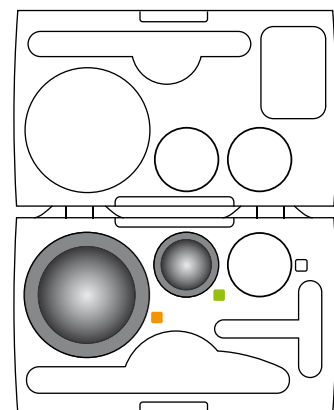
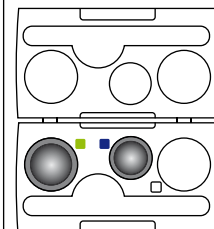


Save Time and Money

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



Reference weight

Turn table

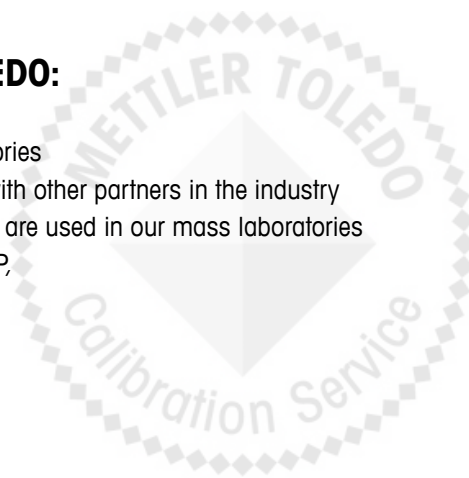
Test weight

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 recalibration



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.



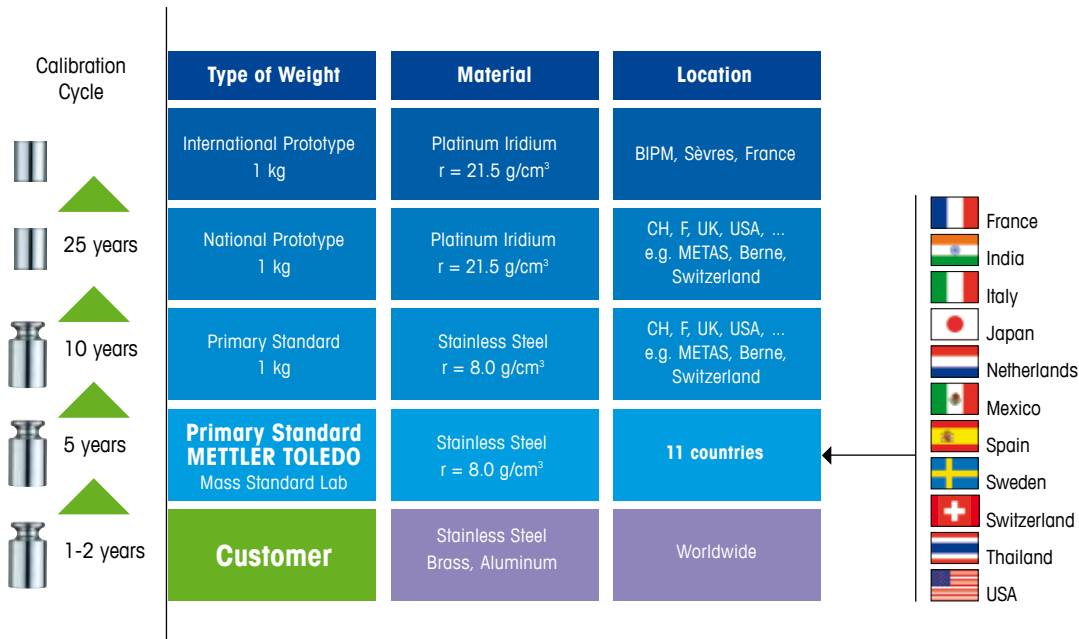
Calibration results, including measurement uncertainty statement, are reported in a certificate.

Traceable Weights Translate into Trustworthy Results

Traceability is defined in the International Vocabulary of Basic and General Terms in Metrology (ISO, 2008) as the "property of a measurement whereby the result can be related to a reference, through a documented unbroken chain of calibrations, each contributing to the measurement uncertainty."

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 proficiency testing in cooperation with industry and government partners.
- All weight references are metrologically traceable to **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 recalibration 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.

Overview

Weights and Weight Sets



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



16 Signature Line Weights
Monobloc weights of OIML Classes E1, E2, F1



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



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



22 Industrial Weights
Weights with adjusting cavity of OIML Classes F1, F2, M1, M2, M3



23 Accessories
For professional weight handling

Color Code

OIML



For tolerances refer to page 13

CarePac® S

Weighing ranges up to 490 g

Balances		XP205											
		XP204S	MS205		XP105								
		XP203S	MS304S		XS105		XP56						
		XS205	MS204S		XS104		XS64						
		XS204	MS303S		XA105		ML54						
	XP404S	XS203S	ML204		MS105		HR83						
	XS403S	XA204	ML203		MS104S		HG63						
OIML	MS403S	XA303S	ML303		ML104		HB43-S						
							XP26						
							MJ33						
								XP6					
									XP2U				
									XS3				
Set up	200 g F2		200 g F2		100 g F2		50 g F2		20 g F1		5 g E2		2 g E2
	20 g F1		10 g F1		5 g E2		2 g E2		1 g E2		0.2 g E2		0.1 g E2
Order No.	11123000		11123001		11123002		11123003		11123006		11123005		11123004



CarePac® M

Weighing ranges 500 g – 4900 g

Balances		XP504	MS603S					
		XP603S	ML503		XP2003S	MS3002S		XP4002S
		XP802S	ML802		XP2002S	ML3002		XP4001S
		XS603S		XP1203S	MS1003S	XP2001S	ML2001	XS4002S
	XS802S		XP1202S	MS1602S	XS2002S		XS4001S	
	XA503S		XS1003S	ML1602	XA3002S		MS4002S	
			XA1502S	ML1502	XA3001S		ML4002	
OIML								ML4001
Set up	500 g F2		1000 g F2		2000 g F2		2000 g F2	
	20 g F1		50 g F2		100 g F2		200 g F2	
Order No.	11123007		11123008		11123009		11123010	



CarePac® L

Weighing ranges 5 kg – 8 kg

Balances		XP5003S	XS8001S
		XP8002S	XS6001S
		XP6002S	XA5002S
		XP8001S	MS6002S
	XP6001S	MS8001S	
	XS5003S	MS6001S	
	XS6002S	ML6001	
OIML			
Set up	5000 g F2		
	200 g F2		
Order No.	11123011		

Only base models of balances are listed. DR, DU, X or E types need the same CarePac as the base models.

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.

	OIML Class E2		OIML Class E2
Value	Order No.	Value	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		

For quotes or technical information regarding weights please use the email address below.

► weights@mt.com

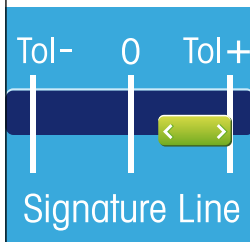
Signature Line

OIML E1, E2 and F1



The Signature Line offers more than perfection. Hand selected weights with guaranteed positive tolerances and a lifetime guarantee make these weights the first choice for ambitious testing purposes.

Guaranteed Positive Tolerances



The unique electrolytic adjustment procedure combined with robotic calibrations allows selective production of weights in the positive tolerance range.

Full Lifetime Guarantee

- Quality
- Accuracy
- Service
- Guarantee

The "Stay-in-tolerance" lifetime guarantee means that if ever a weight should be found out of tolerance it will be replaced free of charge.

High-grade stainless steel, vacuum melted
Density: 8.0 kg/dm³
Magnetic susceptibility < 0.01
One-piece design (Monobloc)

- Weight and Box
- Weight and Box, including Certificate
- Wire weight
- Marked wire weight
- Cylindrical weight with knob
- Marked cylindrical weight with knob

Individual Weights

Nominal value	Shape	E1		E2	
		Order number Wooden Box		Order number Plastic Box	
1 mg	△	00159000	00159001	–	30003706
2 mg	△	00159010	00159011	–	30003707
5 mg	△	00159020	00159021	–	30003710
10 mg	△	00159030	00159031	–	30003711
20 mg	△	00159040	00159041	–	30003712
50 mg	△	00159050	00159051	–	30003713
100 mg	△	00159060	00159061	–	30003714
200 mg	△	00159070	00159071	–	30003715
500 mg	△	00159080	00159081	–	30003716
1 g	■	00159090	00159091	–	30003717
2 g	■	00159100	00159101	–	30003718
5 g	■	00159110	00159111	–	30003719
10 g	■	00159120	00159121	–	30003720
20 g	■	00159130	00159131	–	30003721
50 g	■	00159140	00159141	–	30003722
100 g	■	00159150	00159151	–	30003723
200 g	■	00159160	00159161	–	30003724
500 g	■	00159170	00159171	–	30003725
1 kg	■	00159180	00159181	–	30003726
2 kg	■	00159190	00159191	–	30003727
5 kg	■	00159200	00159201	–	30003728
10 kg	■	00159210	00159211	–	30003729
20 kg	■	00159220	00159221	–	30003730
50 kg	■	00159230	00159231	–	30003731

Individual Weights

Nominal value	Shape	F1	
		Order number Plastic Box	
1 mg	△	–	30003743
2 mg	△	–	30003744
5 mg	△	–	30003745
10 mg	△	–	30003746
20 mg	△	–	30003747
50 mg	△	–	30003748
100 mg	△	–	30003749
200 mg	△	–	30003750
500 mg	△	–	30003751
1 g	■	–	30003752
2 g	■	–	30003753
5 g	■	–	30003754
10 g	■	–	30003755
20 g	■	–	30003756
50 g	■	–	30003757
100 g	■	–	30003758
200 g	■	–	30003759
500 g	■	–	30003760
1 kg	■	–	30003761
2 kg	■	–	30003762
5 kg	■	–	30003763
10 kg	■	–	30003764
20 kg	■	–	30003765
50 kg	■	–	30003766

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 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					■				■					■			■	
No. of Weights	12	23	25	27	28	8	12	38	4	12	23	25	27	28	8	12	4	
Wooden Box	00159300	00159340	00159350	11117614	11117616	00159310	00159320	00159360	00159330									
	00159301	00159341	00159351	11117615	11117617	00159311	00159321	00159361	00159331									
Plastic Box										30003732	30003734	30003735	30003736	30003737	30003738	30003739	30003740	

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					■			■								
No. of Weights	12	23	25	27	28	8	12	4								
Plastic Box									30003767	30003768	30003769	30003770	30003771	30003772	30003773	30003774



High quality boxes are available in both wooden and plastic construction.



Marked single weights are available on request.



The second weight is marked for identification purposes.

Premium Line OIML E2 and F1



Uncompromising selection of steel and rigorous control of manufacturing processes make Premium Line weights the excellent choice for balance calibration and testing. The proven one-piece design (monobloc) guarantees best long term stability and accurate testing results.

Premium Stainless Steel



Premium, vacuum melted stainless steel ensures an anti-corrosive surface with low magnetization and susceptibility values.

Made in Switzerland



The one-piece construction and electrolytically polished surface offer best long term stability. Unmatched Swiss quality!

High-grade stainless steel, vacuum melted
Density: 8.0 kg/dm³
Magnetic susceptibility < 0.01
One-piece design (Monobloc)

- Weight and Box
- Weight and Box, including Certificate
- Wire weight
- Marked wire weight
- Cylindrical weight with knob
- Marked cylindrical weight with knob

Individual Weights

		E2			
Nominal value	Shape	Order number Wooden Box		Order number Plastic Box	
1 mg	△	00158300	00158301	00158306	00158307
2 mg	△	00158310	00158311	00158316	00158317
5 mg	△	00158320	00158321	00158326	00158327
10 mg	△	00158330	00158331	00158336	00158337
20 mg	△	00158340	00158341	00158346	00158347
50 mg	△	00158350	00158351	00158356	00158357
100 mg	△	00158360	00158361	00158366	00158367
200 mg	△	00158370	00158371	00158376	00158377
500 mg	△	00158380	00158381	00158386	00158387
1 g	■	00158390	00158391	00158396	00158397
2 g	■	00158400	00158401	00158406	00158407
5 g	■	00158410	00158411	00158416	00158417
10 g	■	00158420	00158421	00158426	00158427
20 g	■	00158430	00158431	00158436	00158437
50 g	■	00158440	00158441	00158446	00158447
100 g	■	00158450	00158451	00158456	00158457
200 g	■	00158460	00158461	00158466	00158467
500 g	■	00158470	00158471	00158476	00158477
1 kg	■	00158480	00158481	00158486	00158487
2 kg	■	00158490	00158491	00158496	00158497
5 kg	■	00158500	00158501	00158506	00158507
10 kg	■	00158510	00158511	00158516	00158517
20 kg	■	00158520	00158521	00158526	00158527
50 kg	■	00158530	00158531		

Individual Weights

		F1			
Nominal value	Shape	Order number Wooden Box		Order number Plastic Box	
1 mg	△	00159410	00159411	00159416	00159417
2 mg	△	00159420	00159421	00159426	00159427
5 mg	△	00159430	00159431	00159436	00159437
10 mg	△	00159440	00159441	00159446	00159447
20 mg	△	00159450	00159451	00159456	00159457
50 mg	△	00159460	00159461	00159466	00159467
100 mg	△	00159470	00159471	00159476	00159477
200 mg	△	00159480	00159481	00159486	00159487
500 mg	△	00159490	00159491	00159496	00159497
1 g	■	00158600	00158601	00158606	00158607
2 g	■	00158610	00158611	00158616	00158617
5 g	■	00158620	00158621	00158626	00158627
10 g	■	00158630	00158631	00158636	00158637
20 g	■	00158640	00158641	00158646	00158647
50 g	■	00158650	00158651	00158656	00158657
100 g	■	00158660	00158661	00158666	00158667
200 g	■	00158670	00158671	00158676	00158677
500 g	■	00158680	00158681	00158686	00158687
1 kg	■	00158690	00158691	00158696	00158697
2 kg	■	00158700	00158701	00158706	00158707
5 kg	■	00158710	00158711	00158716	00158717
10 kg	■	00158720	00158721	00158726	00158727
20 kg	■	00158730	00158731	00158736	00158737
50 kg	■	00158740	00158741		

Weight Sets

	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	△	△	△	△	△			△△		
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					■					■
No. of Weights	12	23	25	27	28	8	12	38		4
Wooden Box	00158800	00158840	00158850	11117624	11117626	00158810	00158820	00158860	00158830	
	00158801	00158841	00158851	11117625	11117627	00158811	00158821	00158861	00158831	
Plastic Box	00158806	00158846	00158856	11117321	11117323	00158816	00158826	-	11125900	
	00158807	00158847	00158857	11117322	11117324	00158817	00158827	-	11125901	

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					■					■
No. of Weights	12	23	25	27	28	8	12			4
Wooden Box	00161700	00158900	00158910	11117802	11117804	00158870	00158880	00158890		
	00161701	00158901	00158911	11117803	11117805	00158871	00158881	00158891		
Plastic Box	00161706	00158906	00158916	11119979	11119981	00158876	00158886	11125907		
	00161707	00158907	00158917	11119980	11119982	00158877	00158887	11125908		



High quality boxes are available in both wooden and plastic construction.



Marked single weights are available on request.



The second weight is marked for identification purposes.

Basic Line

OIML F1, F2 and M1



Proven technology and competitive prices make Basic Line weights a cost effective solution for general testing purposes. All weights are made of stainless steel, even for mg weights no aluminum is used. Weights are manufactured under METTLER TOLEDO's stringent ISO 9001 quality management system.

Economical Production



The adjustable cavity (AC) design can be manufactured more economically, making these weights affordable even for smaller budgets.

Clean-room Suitability



All Basic Line weights are protected in robust and easy to clean plastic boxes. FDA approved materials, including foam inserts, make them a perfect solution for regulated industries.

Stainless steel
Density: 7.9 kg/dm³

- 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

Individual Weights

Nominal value	Shape	F1		F2		M1	
		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	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 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					▣		
No. of Weights	12	23	25	27	28	8	12
Plastic Box	11119511	11119512	11119513	11119514	11119515	11119516	11119517
	11119581	11119582	11119583	11119584	11119585	11119586	11119587

Weight Sets	F2						
	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					▣		
No. of Weights	12	23	25	27	28	8	12
Plastic Box	11118456	11118457	11118458	11118459	11118460	11118461	11118462
	11118339	11118340	11118341	11118342	11118343	11118344	11118345

Weight Sets	M1						
	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					▣		
No. of Weights	12	23	25	27	28	8	12
Plastic Box	11117862	11117863	11117864	11117865	11117866	11117867	11117868
	11117771	11117772	11117773	11117774	11117775	11117776	11117777

Industrial Weights

- Weight
- Weight **including Certificate**

Grip Handle Weights

Stainless steel
High gloss finish
Density: 7.9 kg/dm³

F1

Nominal value	Order number	
1 kg	11125424	11125429
2 kg	11125425	11125430
5 kg	11125426	11125431
10 kg	11125427	11125432
20 kg	11125428	11125433



Grip Handle Weights

Stainless steel
Density: 7.9 kg/dm³



Nominal value	F2		M1	
	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

Grip Handle Weights

Cast iron
Two-component coating
Density: 7.2 kg/dm³



Nominal value	M1		M2		M3	
	Order number		Order number		Order number	
5 kg	11125400	11125404	11125408	11125412	11125416	11125420
10 kg	11125401	11125405	11125409	11125413	11125417	11125421
20 kg	11125402	11125406	11125410	11125414	11125418	11125422
50 kg	11125403	11125407	11125411	11125415	11125419	11125423



Weight carrier

720 x 275 x 330 mm (LxWxH)

Weight carriers are available for easy and fast calibration up to 200 kg. Weight carriers 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 Capacity Weights

Cast iron
Two-component coating
Density: 7.2 kg/dm³

M1

Nominal value	Order number	
50 kg	11125498	11125499
100 kg	11125500	11125506
200 kg	11125501	11125507
500 kg	11125502	11125508
1000 kg	11125503	11125509
2000 kg	11125504	11125510
5000 kg	11125505	11125511



Other weights on request

Tweezers



	Order number
Straight tips, for weights 1 mg – 20 g, length 115 mm	00015900
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	00015901
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	00015904
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	00222175
Aluminum/Polyamide, for 2 kg weights, length 320 mm	00015902
Aluminum/Polyamide, for 5 kg weights, length 470 mm	00015903
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	00072001
Nylon gloves, pair, suitable for all environments	11123098
Micro fibre cloth, suitable for all environments	00158798
Brush, suitable for all environments	00158799
Weight marking, up to 5 digits, alphanumeric, on 1 g – 50 kg weights	11116500
Air bellow, for weight cleaning	11116548

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 the CarePac® or single 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 than 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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GWP®
Good Weighing Practice™

The global weighing guideline GWP® reduces risks associated with your weighing processes and helps to

- choose the appropriate balance
- reduce costs by optimizing testing procedures
- comply with the most common regulatory requirements

► www.mt.com/GWP