



sartorius

MIKROLAB
FRISENETTE

Weights and Weight Sets



turning science into solutions

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From Weights to Certified Testing Services

The Complete Line

Regular inspection and testing of weighing instruments are essential to ensure reliable weighing results. Sartorius offers highly accurate metrological weights and weight sets with nominal mass values from 1 mg to 1,000 kg, special and test weights, as well as the right accessories required for correct handling, storage and cleaning of weights.

For unique identification and classification, all Sartorius weights – except for wire and leaf weights – are laser-engraved with an individual three-character alphanumeric marking in accordance with the OIML R111-1 International Recommendation. Therefore, Sartorius weights are 100% traceable throughout their entire life cycles. On weights made of cast iron, this unique marking is stamped on the cover plate.



The Perfect Test Weight for Your Weighing Instrument

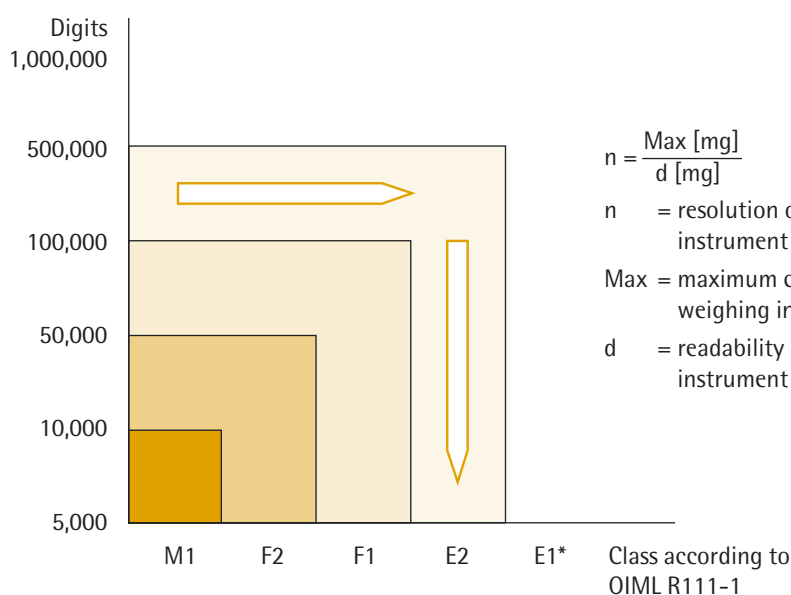
Here's how to find the right weight

Just determine the number of digits specified for your weighing instrument's resolution, then check the graph below for the particular accuracy class that your weight must have.

The nominal mass value of your weight should be more than 80% of the maximum capacity of your weighing instrument.

Use the diagram below to determine whether you need an individual weight or a weight set by comparing the nominal mass values.

Example: Suppose your weighing instrument has a maximum capacity of 2,200 g and a readability of 0.01 g. This yields 220,000 digits, which correspond to a class E2 weight. Select 2,000 g as the nominal mass value.



* or E2, DAkkS-calibrated



Your DAkkS Partner for Mass

Sartorius has calibration laboratories for weights and weighing instruments. These calibration laboratories are accredited by the DAkkS* and meet the International Standard ISO IEC 17025, which is also recognized throughout Europe as a European Standard (EN ISO IEC 17025). Thus, weights calibrated by Sartorius are traceable to your national standard.

DAkkS assessments are made according to the applicable requirements and the corresponding rules of the European Co-operation for Accreditation (EA), the International Accreditation Forum (IAF) and the International Laboratory Accreditation Cooperation (ILAC).

* German accreditation body for calibration, testing, inspection, certification of quality, products and services, etc.





**Recalibration of all weights,
manufacturer brands and designs**

Depending on how frequently weights are used and which accuracy is required, they must be recalibrated at regular intervals so that they meet the requirements for reliable measuring, inspection and test equipment.

Sartorius offers recalibration service with DAKkS calibration certificates for all weights, regardless of class, design or brand.



Your local Sartorius Service Center will provide you with information on our recalibration service.

If you are located in Europe, please send your weights to:

Sartorius Lab Instruments GmbH & Co. KG
DAkkS Calibration Laboratory
Weender Landstrasse 94-108
37075 Goettingen, Germany

Reference Line Weights

Sartorius Reference Line weights are the first choice for primary mass standards. They are supplied with a first-class finish featuring high gloss polished and corrosion-resistant surfaces. The quality of these weights exceeds the requirements of the OIML R111-1 International Recommendation. Sartorius Reference Line weights have only positive deviations from the nominal value*.

OIML class E1 and E2 weights from 1 mg to 500 mg are available as wire weights; those with a nominal mass of 1 g and higher are designed as knob weights. They are manufactured from special stainless steel that has a density of $8,000 \text{ kg/m}^3$ and comply with OIML R111-1 tolerances. The weights are non-magnetizable and are delivered in a high-quality wooden case**.

* Valid at the time of delivery and without taking into account the measurement uncertainty

** Unless otherwise specified





Nominal Value	Without DAkkS calibration certificate		With DAkkS calibration certificate	
	OIML Class E1	OIML Class E2	OIML Class E1	OIML Class E2
1 mg	YCW0111-00	YCW0121-00	YCW0111-02	YCW0121-02
2 mg	YCW0211-00	YCW0221-00	YCW0211-02	YCW0221-02
5 mg	YCW0511-00	YCW0521-00	YCW0511-02	YCW0521-02
10 mg	YCW1111-00	YCW1221-00	YCW1111-02	YCW1121-02
20 mg	YCW1211-00	YCW1121-00	YCW1211-02	YCW1221-02
50 mg	YCW1511-00	YCW1521-00	YCW1511-02	YCW1521-02
100 mg	YCW2111-00	YCW2121-00	YCW2111-02	YCW2121-02
200 mg	YCW2211-00	YCW2221-00	YCW2211-02	YCW2221-02
500 mg	YCW2511-00	YCW2521-00	YCW2511-02	YCW2521-02
1 g	YCW3111-00	YCW3121-00	YCW3111-02	YCW3121-02
2 g	YCW3211-00	YCW3221-00	YCW3211-02	YCW3221-02
5 g	YCW3511-00	YCW3521-00	YCW3511-02	YCW3521-02
10 g	YCW4111-00	YCW4121-00	YCW4111-02	YCW4121-02
20 g	YCW4211-00	YCW4221-00	YCW4211-02	YCW4221-02
50 g	YCW4511-00	YCW4521-00	YCW4511-02	YCW4521-02
100 g	YCW5111-00	YCW5121-00	YCW5111-02	YCW5121-02
200 g	YCW5211-00	YCW5221-00	YCW5211-02	YCW5221-02
500 g	YCW5511-00	YCW5521-00	YCW5511-02	YCW5521-02
1 kg	YCW6111-00	YCW6121-00	YCW6111-02	YCW6121-02
2 kg	YCW6211-00	YCW6221-00	YCW6211-02	YCW6221-02
5 kg	YCW6511-00	YCW6521-00	YCW6511-02	YCW6521-02
10 kg	YCW7111-00	YCW7121-00	YCW7111-02	YCW7121-02
20 kg	YCW7211-00	YCW7221-00	YCW7211-02	YCW7221-02
50 kg	YCW7511-00	YCW7521-00	YCW7511-02	YCW7521-02

Reference Line Weights

Sartorius Reference Line milligram weights of OIML class F1 are designed as wire weights. These weights are made of stainless steel that has a density of 7,950 kg/m³. The tolerances comply with OIML R111-1.

OIML class F1 and F2 weights with nominal values of 1 g and higher are available as knob weights and made of special stainless steel that has a density of 7,950 kg/m³. Their tolerances likewise comply with OIML R111-1.

The weights are non-magnetizable and, up to 20 g, come in a plastic case. Starting at 50 g, they are supplied in a high-quality wooden case*.

* Unless otherwise specified

Nominal Value	Without DAkkS calibration certificate		With DAkkS calibration certificate	
	OIML Class F1	OIML Class F2	OIML Class F1	OIML Class F2
1 mg	YCW0131-00	-	YCW0131-02	-
2 mg	YCW0231-00	-	YCW0231-02	-
5 mg	YCW0531-00	-	YCW0531-02	-
10 mg	YCW1131-00	-	YCW1131-02	-
20 mg	YCW1231-00	-	YCW1231-02	-
50 mg	YCW1531-00	-	YCW1531-02	-
100 mg	YCW2131-00	-	YCW2131-02	-
200 mg	YCW2231-00	-	YCW2231-02	-
500 mg	YCW2531-00	-	YCW2531-02	-
1 g	YCW3131-00	YCW314-00	YCW313-02	YCW314-02
2 g	YCW323-00	YCW324-00	YCW323-02	YCW324-02
5 g	YCW353-00	YCW354-00	YCW353-02	YCW354-02
10 g	YCW413-00	YCW414-00	YCW413-02	YCW414-02
20 g	YCW423-00	YCW424-00	YCW423-02	YCW424-02
50 g	YCW453-00	YCW454-00	YCW453-02	YCW454-02
100 g	YCW513-00	YCW514-00	YCW513-02	YCW514-02
200 g	YCW523-00	YCW524-00	YCW523-02	YCW524-02
500 g	YCW553-00	YCW554-00	YCW553-02	YCW554-02
1 kg	YCW613-00	YCW614-00	YCW613-02	YCW614-02
2 kg	YCW623-00	YCW624-00	YCW623-02	YCW624-02
5 kg	YCW653-00	YCW654-00	YCW653-02	YCW654-02
10 kg	YCW713-00	YCW714-00	YCW713-02	YCW714-02
20 kg	YCW723-00	YCW724-00	YCW723-02	YCW724-02
50 kg	YCW753-00	YCW754-00	YCW753-02	YCW754-02



OIML class F1 and F2 cylindrical weights with a lug are made of a special stainless steel that has a density of 7,950 kg/m³, and their tolerances comply with OIML R111-1. The weights are delivered in a wooden case suitable for transportation by a pallet mover.

	Without DAkkS calibration certificate		With DAkkS calibration certificate	
Nominal Value	OIML Class F1	OIML Class F2	OIML Class F1	OIML Class F2
100 kg	YCW813-00	YCW814-00	YCW813-02	YCW814-02
200 kg	YCW823-00	YCW824-00	YCW823-02	YCW824-02
500 kg	YCW853-00	YCW854-00	YCW853-02	YCW854-02
1,000 kg	YCW913-00	YCW914-00	YCW913-02	YCW914-02



Reference Line Weight Sets

The weights of the Sartorius Reference Line sets* have the same features and properties as the individual weights of this series, along with the corresponding maximum permissible errors. These weight sets are supplied with gloves, tweezers and a brush in a high-quality wooden case.

OIML class E1 and E2 weights in the Reference Line sets are made of special stainless steel that has a density of $8,000 \text{ kg/m}^3$, and their tolerances comply with OIML R111-1. Reference Line sets with nominal mass values up to 500 mg feature a wire weight shape.

OIML class F1 and F2 weights of Reference Line sets are made of special stainless steel that has a density of $7,950 \text{ kg/m}^3$. Their tolerances comply with OIML R111-1.

OIML class F1 Reference Line weight sets contain wire weights with nominal values of up to 500 mg; those of OIML class F2 have leaf weights instead and nominal values of up to 500 mg.

Reference Line sets with leaf weights from 1 mg to 5 mg are made of aluminum that has a density of $2,650 \text{ kg/m}^3$; those with weights from 10 mg to 500 mg are made of nickel silver with a density of $8,600 \text{ kg/m}^3$. Their tolerances comply with OIML R111-1.





	Without DAkkS calibration certificate		With DAkkS calibration certificate	
Nominal Value	OIML Class E1	OIML Class E2	OIML Class E1	OIML Class E2
1 mg - 5 g	YCS011-351-00	YCS011-352-00	YCS011-351-02	YCS011-352-02
1 mg - 100 g	YCS011-511-00	YCS011-512-00	YCS011-511-02	YCS011-512-02
1 mg - 200 g	YCS011-521-00	YCS011-522-00	YCS011-521-02	YCS011-522-02
1 mg - 1 kg	YCS011-611-00	YCS011-612-00	YCS011-611-02	YCS011-612-02
1 mg - 5 kg	YCS011-651-00	YCS011-652-00	YCS011-651-02	YCS011-652-02
1 g - 1 kg	YCS31-611-00	YCS31-612-00	YCS31-611-02	YCS31-612-02
1 g - 5 kg	YCS31-651-00	YCS31-652-00	YCS31-651-02	YCS31-652-02
1 g - 10 kg	YCS31-711-00	YCS31-712-00	YCS31-711-02	YCS31-712-02

	Without DAkkS calibration certificate		With DAkkS calibration certificate	
Nominal Value	OIML Class F1	OIML Class F2	OIML Class F1	OIML Class F2
1 mg - 100 g	YCS01-513-00	YCS01-514-00	YCS01-513-02	YCS01-514-02
1 mg - 200 g	YCS01-523-00	YCS01-524-00	YCS01-523-02	YCS01-524-02
1 mg - 1 kg	YCS01-613-00	YCS01-614-00	YCS01-613-02	YCS01-614-02
1 mg - 5 kg	YCS01-653-00	YCS01-654-00	YCS01-653-02	YCS01-654-02
1 g - 1 kg	YCS31-613-00	YCS31-614-00	YCS31-613-02	YCS31-614-02
1 g - 5 kg	YCS31-653-00	YCS31-654-00	YCS31-653-02	YCS31-654-02
1 g - 10 kg	YCS31-713-00	YCS31-714-00	YCS31-713-02	YCS31-714-02

* For a list of individual weight combinations in each set, see page 28.

Proof Line Weights

Sartorius Proof Line weights are high-quality working standards for everyday use. These weights are made of high quality material with polished or precision-lathed surfaces and comply in all respects with the requirements on shape, material and markings specified by the OIML R111-1 International Recommendation.

OIML class E2 milligram weights are designed as leaf weights. With a nominal mass ranging from 1 mg to 5 mg, these weights are made of aluminum that has a density of 2,650 kg/m³; those with nominal values ranging from 10 mg to 500 mg are manufactured from nickel silver with a density of 8,600 kg/m³. Their tolerances comply with OIML R111-1.

Weights with nominal values of 1 g and higher are available as knob weights and are made of a special stainless steel that has a density of 7,950 kg/m³. Their tolerances comply with OIML R111-1.

Proof Line weights are non-magnetizable and supplied in a high-quality plastic case*. These plastic cases are suitable for use in cleanrooms.

	Without DAkkS calibration certificate	With DAkkS calibration certificate
Nominal Value	OIML Class E2	
1 mg	YCW0121-AC-00	YCW0121-AC-02
2 mg	YCW0221-AC-00	YCW0221-AC-02
5 mg	YCW0521-AC-00	YCW0521-AC-02
10 mg	YCW1121-AC-00	YCW1121-AC-02
20 mg	YCW1221-AC-00	YCW1221-AC-02
50 mg	YCW1521-AC-00	YCW1521-AC-02
100 mg	YCW2121-AC-00	YCW2221-AC-02
200 mg	YCW2221-AC-00	YCW2121-AC-02
500 mg	YCW2521-AC-00	YCW2521-AC-02
1 g	YCW312-AC-00	YCW312-AC-02
2 g	YCW322-AC-00	YCW322-AC-02
5 g	YCW352-AC-00	YCW352-AC-02
10 g	YCW412-AC-00	YCW412-AC-02
20 g	YCW422-AC-00	YCW422-AC-02
50 g	YCW452-AC-00	YCW452-AC-02
100 g	YCW512-AC-00	YCW512-AC-02
200 g	YCW522-AC-00	YCW522-AC-02
500 g	YCW552-AC-00	YCW552-AC-02
1 kg	YCW612-AC-00	YCW612-AC-02
2 kg	YCW622-AC-00	YCW622-AC-02
5 kg	YCW652-AC-00	YCW652-AC-02
10 kg	YCW712-AC-00	YCW712-AC-02

* Unless otherwise specified



Sartorius Proof Line knob weights of OIML classes F1 and F2 with nominal values of 1 g and higher are made of stainless steel that has a density of 7,950 kg/m³. The tolerances of these knob weights comply with OIML R111-1, and they are supplied in high-quality plastic screw-top boxes. Knob weights from 10 g and up feature an adjustment chamber.



Proof Line OIML class F1 leaf weights ranging from 1 mg to 5 mg are made of aluminum that has a density of 2,650 kg/m³; those with nominal values from 10 mg to 500 mg are manufactured from nickel silver that has a density of 8,600 kg/m³. Their tolerances comply with OIML R111-1.

Milligram weights of the Proof Line range are delivered in a high-quality plastic case.

These plastic cases are suitable for use in cleanrooms.

Nominal Value	Without DAkkS calibration certificate		With DAkkS calibration certificate	
	OIML Class F1	OIML Class F2	OIML Class F1	OIML Class F2
1 mg	YCW013-00	-	YCW013-02	-
2 mg	YCW023-00	-	YCW023-02	-
5 mg	YCW053-00	-	YCW053-02	-
10 mg	YCW113-00	-	YCW113-02	-
20 mg	YCW123-00	-	YCW123-02	-
50 mg	YCW153-00	-	YCW153-02	-
100 mg	YCW213-00	-	YCW213-02	-
200 mg	YCW223-00	-	YCW223-02	-
500 mg	YCW253-00	-	YCW253-02	-
1 g	YCW313-AC-00	YCW314-AC-00	YCW313-AC-02	YCW314-AC-02
2 g	YCW323-AC-00	YCW324-AC-00	YCW323-AC-02	YCW324-AC-02
5 g	YCW353-AC-00	YCW354-AC-00	YCW353-AC-02	YCW354-AC-02
10 g	YCW413-AC-00	YCW414-AC-00	YCW413-AC-02	YCW414-AC-02
20 g	YCW423-AC-00	YCW424-AC-00	YCW423-AC-02	YCW424-AC-02
50 g	YCW453-AC-00	YCW454-AC-00	YCW453-AC-02	YCW454-AC-02
100 g	YCW513-AC-00	YCW514-AC-00	YCW513-AC-02	YCW514-AC-02
200 g	YCW523-AC-00	YCW524-AC-00	YCW523-AC-02	YCW524-AC-02
500 g	YCW553-AC-00	YCW554-AC-00	YCW553-AC-02	YCW554-AC-02
1 kg	YCW613-AC-00	YCW614-AC-00	YCW613-AC-02	YCW614-AC-02
2 kg	YCW623-AC-00	YCW624-AC-00	YCW623-AC-02	YCW624-AC-02
5 kg	YCW653-AC-00	YCW654-AC-00	YCW653-AC-02	YCW654-AC-02
10 kg	YCW713-AC-00	YCW714-AC-00	YCW713-AC-02	YCW714-AC-02

Proof Line Weights

Sartorius Proof Line knob weights of OIML class M1 are made of stainless steel, precision-lathed and have a density of 7,850 kg/m³. Their tolerances comply with OIML R111-1.

OIML class M2 knob weights of the Sartorius Proof Line series are manufactured from brass, precision-lathed and have a density of 8,400 kg/m³. Their tolerances comply with OIML R111-1

All Proof Line weights are supplied in high-quality plastic screw-top boxes that are





suitable for use in cleanrooms. Knob weights from 10 g and up feature an adjustment chamber.

OIML M1 and M2 block weights and ton weights of the Proof Line series are made of cast iron that is black lacquered and has a density of 7,200 kg/m³. Their tolerances comply with OIML R111-1.

Proof Line OIML class M1 block weights are also available in a choice of stainless steel that has a density of 7,850 kg/m³. Their tolerances comply with OIML R111-1.

	Without DAkkS calibration certificate		With DAkkS calibration certificate	
Nominal Value	OIML Class M1	OIML Class M2	OIML Class M1	OIML Class M2
1 g	YCW315-AC-00	YCW316-AC-00	YCW315-AC-02	YCW316-AC-02
2 g	YCW325-AC-00	YCW326-AC-00	YCW325-AC-02	YCW326-AC-02
5 g	YCW355-AC-00	YCW356-AC-00	YCW355-AC-02	YCW356-AC-02
10 g	YCW415-AC-00	YCW416-AC-00	YCW415-AC-02	YCW416-AC-02
20 g	YCW425-AC-00	YCW426-AC-00	YCW425-AC-02	YCW426-AC-02
50 g	YCW455-AC-00	YCW456-AC-00	YCW455-AC-02	YCW456-AC-02
100 g	YCW515-AC-00	YCW516-AC-00	YCW515-AC-02	YCW516-AC-02
200 g	YCW525-AC-00	YCW526-AC-00	YCW525-AC-02	YCW526-AC-02
500 g	YCW555-AC-00	YCW556-AC-00	YCW555-AC-02	YCW556-AC-02
1 kg	YCW615-AC-00	YCW616-AC-00	YCW615-AC-02	YCW616-AC-02
2 kg	YCW625-AC-00	YCW626-AC-00	YCW625-AC-02	YCW626-AC-02
5 kg	YCW655-AC-00	YCW656-AC-00	YCW655-AC-02	YCW656-AC-02
10 kg	YCW715-AC-00	YCW716-AC-00	YCW715-AC-02	YCW716-AC-02



		Without DAkkS calibration certificate		With DAkkS calibration certificate	
Nominal Value		OIML Class M1	OIML Class M2	OIML Class M1	OIML Class M2
Block weights, cast iron					
	5 kg	YCW6559-AC-00	YCW6569-AC-00	YCW6559-AC-02	YCW6569-AC-02
	10 kg	YCW7159-AC-00	YCW7169-AC-00	YCW7159-AC-02	YCW7169-AC-02
	20 kg	YCW7259-AC-00	YCW7269-AC-00	YCW7259-AC-02	YCW7269-AC-02
	50 kg	YCW7559-AC-00	YCW7569-AC-00	YCW7559-AC-02	YCW7569-AC-02
Block weights, stainless steel					
	5 kg	YCW6554-AC-00	-	YCW6554-AC-02	-
	10 kg	YCW7154-AC-00	-	YCW7154-AC-02	-
	20 kg	YCW7254-AC-00	-	YCW7254-AC-02	-
	50 kg	YCW7554-AC-00	-	YCW7554-AC-02	-
Block weights, cast iron					
	100 kg	YCW8159-AC-00	-	YCW8159-AC-02	-
	200 kg	YCW8259-AC-00	-	YCW8259-AC-02	-
	500 kg	YCW8559-AC-00	-	YCW8559-AC-02	-
	1,000 kg	YCW9159-AC-00	-	YCW9159-AC-02	-
Ton weights, cast iron					
	100 kg	YCW8157-AC-00	-	YCW8157-AC-02	-
	200 kg	YCW8257-AC-00	-	YCW8257-AC-02	-
	500 kg	YCW8557-AC-00	-	YCW8557-AC-02	-
	1,000 kg	YCW9157-AC-00	-	YCW9157-AC-02	-



Proof Line Weight Sets

The weights of the Sartorius Proof Line weight sets* have the same features and properties as the individual weights of this series, along with the corresponding maximum permissible errors.

These weight sets are supplied with gloves, tweezers and a brush in a high-quality plastic case.

All milligram weights are provided as leaf weights. With nominal mass values ranging from 1 mg to 5 mg, they are made of aluminum that has a density of $2,650 \text{ kg/m}^3$; weights with nominal values of 10 mg to 500 mg are made of nickel silver that has a density of $8,600 \text{ kg/m}^3$. Their tolerances comply with OIML R111-1.

* For a list of individual weight combinations in each set, see page 28.



Without DAkkS calibration certificate

Nominal Value	OIML Class E2	OIML Class F1	OIML Class F2	OIML Class M1
1 mg - 500 mg	YCS011-252-AC-00	YCS01-253-AC-00	YCS01-254-AC-00	YCS01-255-AC-00
1 mg - 100 g	-	-	-	YCS01-515-AC-00
1 mg - 200 g	-	-	-	YCS01-525-AC-00
1 mg - 1 kg	-	-	-	YCS01-615-AC-00
1 mg - 5 kg	-	-	-	YCS01-655-AC-00
1 g - 100 g	YCS31-512-AC-00	YCS31-513-AC-00	YCS31-514-AC-00	-
1 g - 200 g	YCS31-522-AC-00	-	-	-
1 g - 1 kg	YCS31-612-AC-00	YCS31-613-AC-00	YCS31-614-AC-00	YCS31-615-AC-00
1 g - 5 kg	YCS31-652-AC-00	YCS31-653-AC-00	YCS31-654-AC-00	YCS31-655-AC-00
1 g - 10 kg	-	-	-	YCS31-715-AC-00

With DAkkS calibration certificate

Nominal Value	OIML Class E2	OIML Class F1	OIML Class F2	OIML Class M1
1 mg - 500 mg	YCS011-252-AC-02	YCS01-253-AC-02	YCS01-254-AC-02	YCS01-255-AC-02
1 mg - 100 g	-	-	-	YCS01-515-AC-02
1 mg - 200 g	-	-	-	YCS01-525-AC-02
1 mg - 1 kg	-	-	-	YCS01-615-AC-02
1 mg - 5 kg	-	-	-	YCS01-655-AC-02
1 g - 100 g	YCS31-512-AC-02	YCS31-513-AC-02	YCS31-514-AC-02	-
1 g - 200 g	YCS31-522-AC-02	-	-	-
1 g - 1 kg	YCS31-612-AC-02	YCS31-613-AC-02	YCS31-614-AC-02	YCS31-615-AC-02
1 g - 5 kg	YCS31-652-AC-02	YCS31-653-AC-02	YCS31-654-AC-02	YCS31-655-AC-02
1 g - 10 kg	-	-	-	YCS31-715-AC-02



Special Weight Sets and Service Weight Sets



All weights of the Sartorius service weight sets* have the same features and properties as the individual weights of the Sartorius Reference Line series, along with the corresponding maximum permissible errors. These service weight sets are supplied with gloves, tweezers and a brush in a service case.

* For a list of individual weight combinations in each set, see page 28.

Service Weight Sets

OIML Class	Nominal Value	Without DAkkS calibration certificate Order No.	With DAkkS calibration certificate Order No.
E2	1 mg - 5 kg	YSS0121-353-00	YSS0121-353-02
E2	100 g - 5 kg	YSS5128-6528-00	YSS5128-6528-02
F1	1 g - 5 kg	YSS3138-6538-00	YSS3138-6538-02



The Sartorius density reference set* consists of stackable disc weights. All weights are made of special stainless steel that has a density of $8,000 \text{ kg/m}^3$. Their tolerances comply with OIML R111-1. Density reference weights are non-magnetizable and are supplied in a high-quality wooden case with a calibration certificate, which includes density determination data.

* For weight set compositions, see page 28



Density Reference Set

OIML Class	Nominal Value	Order No.
E1	1 g - 1 kg	YCS31-612-09

Cylindrical Weights

Sartorius cylindrical weights of OIML classes E2, F1 and F2 are made of special stainless steel that has a density of 7,950 kg/m³. Their tolerances comply with OIML R111-1.

These weights are non-magnetizable and have a polished surface. They are supplied in high-quality plastic cases that are suitable for use in cleanrooms.

Without DAkkS calibration certificate

Nominal Value	OIML Class E2	OIML Class F1	OIML Class F2
1 g	YCW3128-00	YCW3138-00	-
2 g	YCW3228-00	YCW3238-00	-
5 g	YCW3528-00	YCW3538-00	-
10 g	YCW4128-00	YCW4138-00	-
20 g	YCW4228-00	YCW4238-00	-
50 g	YCW4528-00	YCW4538-00	-
100 g	YCW5128-00	YCW5138-00	YCW5148-00
200 g	YCW5228-00	YCW5238-00	YCW5248-00
500 g	YCW5528-00	YCW5538-00	YCW5548-00
1 kg	YCW6128-00	YCW6138-00	YCW6148-00
2 kg	YCW6228-00	YCW6238-00	YCW6248-00
5 kg	YCW6528-00	YCW6538-00	YCW6548-00
10 kg	-	YCW7138-00	YCW7148-00





With DAkkS calibration certificate

Nominal Value	OIML Class E2	OIML Class F1	OIML Class F2
1 g	YCW3128-02	YCW3138-02	-
2 g	YCW3228-02	YCW3238-02	-
5 g	YCW3528-02	YCW3538-02	-
10 g	YCW4128-02	YCW4138-02	-
20 g	YCW4228-02	YCW4238-02	-
50 g	YCW4528-02	YCW4538-02	-
100 g	YCW5128-02	YCW5138-02	YCW5148-02
200 g	YCW5228-02	YCW5238-02	YCW5248-02
500 g	YCW5528-02	YCW5538-02	YCW5548-02
1 kg	YCW6128-02	YCW6138-02	YCW6148-02
2 kg	YCW6228-02	YCW6238-02	YCW6248-02
5 kg	YCW6528-02	YCW6538-02	YCW6548-02
10 kg	-	YCW7138-02	YCW7148-02

Accessories for Cleaning and Handling of Weights

According to the OIML R111-1 International Recommendation, special care must be taken in handling weights. Sartorius supplies a wide range of work-saving accessories to enable you to meet such special requirements.

To ensure correct handling and cleaning of weights, Sartorius offers brushes, gloves

and handling tools in various designs and sizes.

For proper storage of weights, Sartorius provides glass bell jars and plastic screw-top boxes in different sizes. Wooden and plastic cases are available in a choice of designs on request.

Accessories		Order No.
Brush	Small, 100 mm	YAW11
	Medium, 115 mm	YAW12
	Large, 150 mm	YAW13
	Extra large, 250 mm	YAW14
Gloves	Cotton	YAW21
	Leather	YAW22
Forceps with silicone-coated tips	115 mm for 1 mg – 5 g	YAW31
	160 mm for 1 g – 200 g	YAW32
	230 mm for 1 g – 1 kg	YAW33
Tweezers with carbon tips	105 mm for 1 mg – 50 g	YAW35
	115 mm for 1 mg – 5 g	YAW36
	160 mm for 1 g – 200 g	YAW37
	230 mm for 1 g – 1 kg	YAW38
Weight forks	For 500 g	YAW41
	For 1 kg	YAW42
	For 2 kg	YAW43
Weight fork, Fo(u)rk brand		
Fork, complete incl. adapters	For 500 g – 5 kg	YAW70
Fork	For 1 kg and 5 kg	YAW71
Adapter	For 500 g	YAW72
	For 2 kg	YAW73



Accessories for Storage of Weights

Accessories		Order No.
Handles for lifting weights	For 5 kg	YAW50
	For 10 kg	YAW51
	For 20 kg	YAW52
	For 50 kg	YAW53
Glass bell jar with support plate	For 1 mg - 5 g	YAW00
	For 1 mg - 50 g (100 g or 200 g)	YAW01
	For 100 g - 1 kg (2 kg)	YAW02
	For 2 kg - 5 kg	YAW03
	For 10 kg	YAW04
	For 20 kg	YAW05
	For 50 kg	YAW06
Plastic screw-top boxes with closed-pore foam inlay are suitable for use in cleanrooms	For 1 mg - 100 mg weights	YAW01GL
	For 200 mg - 500 mg weights	YAW05GL
	For 1 g - 20 g weights*	YAW20GL
	For 50 g weights*	YAW50GL
	For 100 g weights*	YAW100GL
	For 200 g weights*	YAW200GL
	For 500 g weights*	YAW500GL
	For 1 kg weights*	YAW1000GL
	For 2 kg weights*	YAW2000GL
	For 5 kg weights*	YAW5000GL
	For 10 kg weights*	YAW10000GL

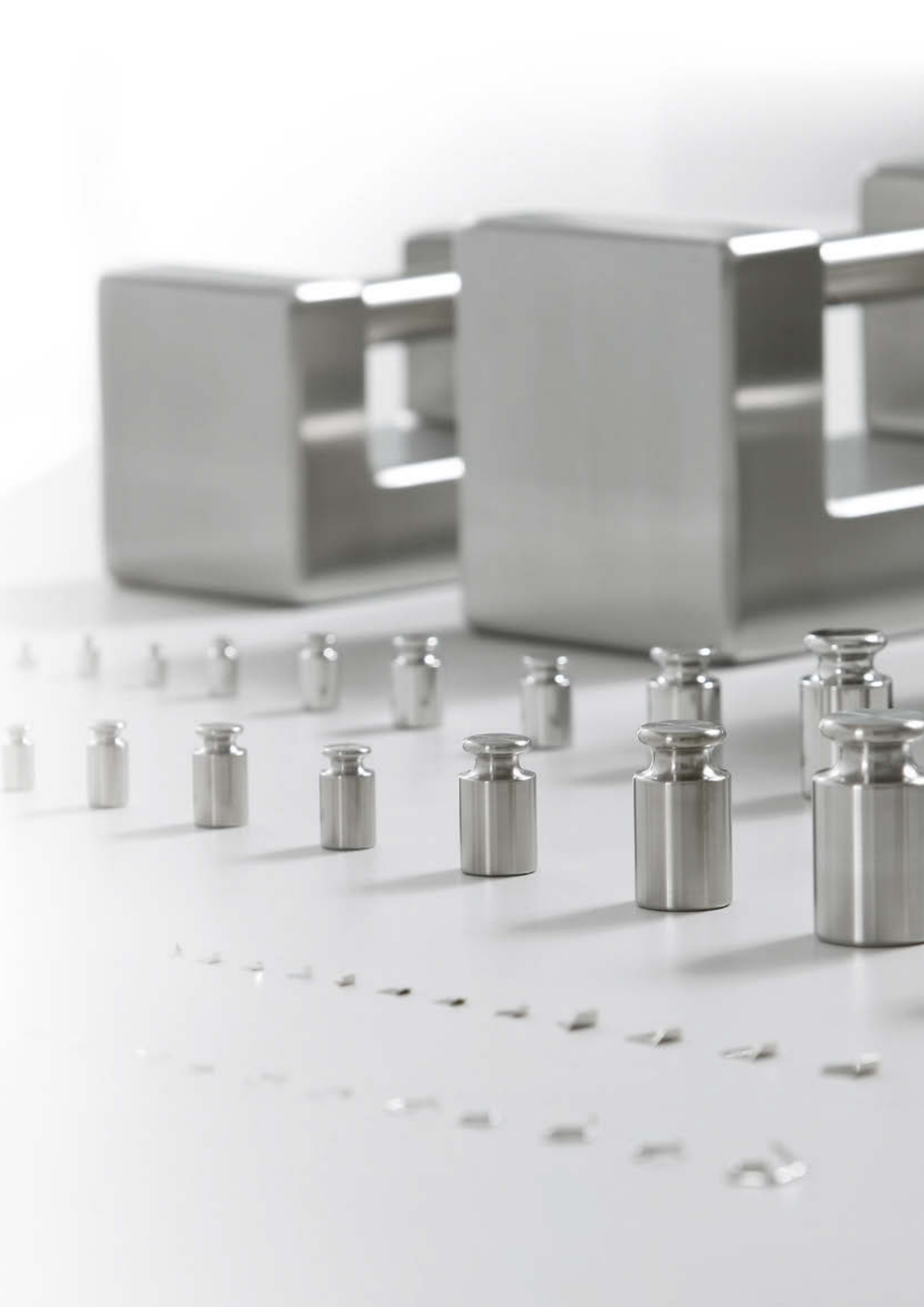
* For knob weights only; for information on boxes for cylindrical weights, please contact Sartorius (same price)



Maximum Permissible Errors for Weights

According to OIML R111-1:2004

+/- in mg	Class								
Nominal Values	E1	E2	F1	F2	M1	M1-2	M2	M2-3	M3
1 mg	0.003	0.006	0.02	0.06	0.2				
2 mg	0.003	0.006	0.02	0.06	0.2				
5 mg	0.003	0.006	0.02	0.06	0.2				
10 mg	0.003	0.008	0.025	0.08	0.25				
20 mg	0.003	0.010	0.03	0.10	0.3				
50 mg	0.004	0.012	0.04	0.12	0.4				
100 mg	0.005	0.016	0.05	0.16	0.5		1.6		
200 mg	0.006	0.020	0.06	0.20	0.6		2.0		
500 mg	0.008	0.025	0.08	0.25	0.8		2.5		
1 g	0.010	0.030	0.10	0.3	1.0		3		10
2 g	0.012	0.040	0.12	0.4	1.2		4		12
5 g	0.016	0.050	0.16	0.5	1.6		5		16
10 g	0.020	0.060	0.20	0.6	2.0		6		20
20 g	0.025	0.080	0.25	0.8	2.5		8		25
50 g	0.030	0.10	0.30	1.0	3.0		10		30
100 g	0.05	0.16	0.5	1.6	5		16		50
200 g	0.10	0.30	1.0	3.0	10		30		100
500 g	0.25	0.8	2.5	8.0	25		80		250
1 kg	0.5	1.6	5	16	50		160		500
2 kg	1.0	3.0	10	30	100		300		1,000
5 kg	2.5	8.0	25	80	250		800		2,500
10 kg	5	16	50	160	500		1,600		5,000
20 kg	10	30	100	300	1,000		3,000		10,000
50 kg	25	80	250	800	2,500	5,000	8,000	16,000	25,000
100 kg		160	500	1,600	5,000	10,000	1,6000	30,000	50,000
200 kg		300	1,000	3,000	10,000	20,000	30,000	60,000	100,000
500 kg		800	2,500	8,000	25,000	50,000	80,000	160,000	250,000
1,000 kg		1,600	5,000	16,000	50,000	100,000	160,000	300,000	500,000
2,000 kg			10,000	30,000	100,000	200,000	300,000	600,000	1,000,000
5,000 kg			25,000	80,000	250,000	500,000	800,000	1,600,000	2,500,000



Weight Set Combinations

Range	Contents	mg	g	kg	Range	Contents	mg	g	kg
1 mg – 5 g	1	●	●		1 mg – 5 kg	1	●	●	●
Total	2	●○	●○		Total	2	●○	●○	●○
contents:	5	●	●		contents:	5	●	●	●
11.11 g	10	●			11,111.11 g	10	●	●	
16 units	20	●○			28 units	20	●○	●○	
	50	●				50	●	●	
	100	●				100	●	●	
	200	●○				200	●○	●○	
	500	●				500	●	●	
1 mg – 100 g	1	●	●		1 g – 1 kg	1		●	●
Total	2	●○	●○		Total	2		●○	
contents:	5	●	●		contents:	5		●	
211.11 g	10	●	●		2,110 g	10		●	
21 units	20	●○	●○		13 units	20		●○	
	50	●	●			50		●	
	100	●	●			100		●	
	200	●○				200		●○	
	500	●				500		●	
1 mg – 200 g	1	●	●		1 g – 5 kg	1		●	●
Total	2	●○	●○		Total	2		●○	●○
contents:	5	●	●		contents:	5		●	●
611.11 g	10	●	●		11,110 g	10		●	
23 units	20	●○	●○		16 units	20		●○	
	50	●	●			50		●	
	100	●	●			100		●	
	200	●○	●○			200		●○	
	500	●				500		●	
1 mg – 1 kg	1	●	●	●	1 g – 10 kg	1		●	●
Total	2	●○	●○		Total	2		●○	●○
contents:	5	●	●		contents:	5		●	●
2,111.11 g	10	●	●		21,110 g	10		●	●
25 units	20	●○	●○		17 units	20		●○	
	50	●	●			50		●	
	100	●	●			100		●	
	200	●○	●○			200		●○	
	500	●	●			500		●	

● Weight without marking
○ Weight with marking

* 1 kg and up: gloves included





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