



## The perfect weight for control of inspection, measuring and test equipment



# Metrological Weights and Weight Sets (YCW, YCS)



## The complete line ranging from weights to certified testing services

Regular inspection and testing of weighing instruments are a must 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 accessories required for correct handling and storage of weights.

Sartorius weights and weight sets are calibrated by the DKD and comply with the International Recommendation OIML-R111. Therefore, they are suitable for legal and general metrological applications in research and industry.

Sartorius weights meet the requirements for traceability to the national "kilogram" prototype in conformance with the International Standard ISO 9000 concerning the quality element "Inspection, measuring and test equipment." These weights help support your quality management and quality assurance systems, and fulfill GLP and GMP requirements.

## Your DKD partner for mass units

Sartorius has DKD laboratories for both weights and electronic laboratory balances and industrial scales. Sartorius calibration laboratories have been inspected and accredited for compliance with the regulations of the German calibration service, DKD, concerning mass units. These laboratories meet the international standard for testing laboratories, ISO IEC 17025, which has been adopted as a European Standard under EN ISO IEC 17025.

## Recalibration for any brand names, manufacturers and designs

Depending on how frequently weights are used, they must be recalibrated on a regular basis so that they meet the requirements for reliable measuring, inspection and test equipment. Sartorius offers recalibration service along with DKD calibration certificates for all weights ranging from 1 mg to 50 kg, regardless of their design or brand name, and up to 1000 kg for M1 weights.

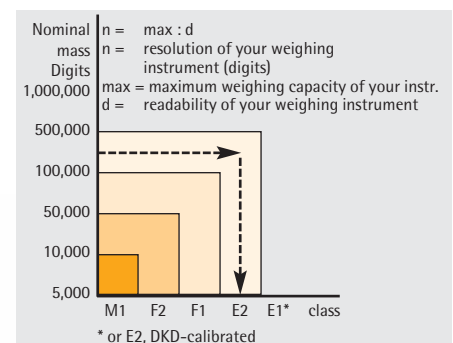
## Here's how to find the right test weight

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

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

Use the following chart 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 capacity of 2,200 g and a readability of 0.01 g. This yields 220,000 digits, which correspond to a class E2 test weight. Since 80% of 2,200 g is 1,760 g, you need to round it to a weight value of 2,000 g.



Weight set in wooden box



# Test Weights (YCW...8)



Cylindrical weights

## Features of Sartorius test weights

Stainless steel, non-magnetizable,  
density 7.95 g/cm<sup>3</sup>, polished;  
packaging of the weights:  
Plastic case

| Nominal mass | E2         | F1         | F2         |
|--------------|------------|------------|------------|
| 1 g          | YCW3128-0X | YCW3138-0X |            |
| 2 g          | YCW3228-0X | YCW3238-0X |            |
| 5 g          | YCW3528-0X | YCW3538-0X |            |
| 10 g         | YCW4128-0X | YCW4138-0X |            |
| 20 g         | YCW4228-0X | YCW4238-0X |            |
| 50 g         | YCW4528-0X | YCW4538-0X |            |
| 100 g        | YCW5128-0X | YCW5138-0X | YCW5148-0X |
| 200 g        | YCW5228-0X | YCW5238-0X | YCW5248-0X |
| 500 g        | YCW5528-0X | YCW5538-0X | YCW5548-0X |
| 1 kg         | YCW6128-0X | YCW6138-0X | YCW6148-0X |
| 2 kg         | YCW6228-0X | YCW6238-0X | YCW6248-0X |
| 5 kg         | YCW6528-0X | YCW6538-0X | YCW6548-0X |
| 10 kg        |            | YCW7138-0X | YCW7148-0X |



Susceptometer

## Options:

- X = 0: weights with DKD certificate issued to Sartorius
- X = 2: weights with DKD certificate issued to the customer or company requesting certification
- YCW02: Charge for DKD certificate issued to the customer or company

# Weights (YCW)



Leaf weights



Wire weights



Knob weights

## Features of Sartorius metrological weights

Class F1 leaf weights  
(F2, M1 in weight sets, or on request)  
1–5 mg aluminum; density 2.7 g/cm<sup>3</sup>  
10–500 mg nickel silver; density 8.6 g/cm<sup>3</sup>

Class E1 and E2 wire weights  
1-mg special steel, non-magnetizable  
E1: density 8.0 g/cm<sup>3</sup>  
E2: density 7.95 g/cm<sup>3</sup>

| Nominal mass | Wire weights<br>Class E1 |            | Wire weights<br>Class E2 | Wire weights<br>Class F1 |
|--------------|--------------------------|------------|--------------------------|--------------------------|
| 1 mg         | YCW0111-00               | YCW0111-02 | YCW0121-00               | YCW013-00                |
| 2 mg         | YCW0211-00               | YCW0211-02 | YCW0221-00               | YCW023-00                |
| 5 mg         | YCW0511-00               | YCW0511-02 | YCW0521-00               | YCW053-00                |
| 10 mg        | YCW1111-00               | YCW1111-02 | YCW1121-00               | YCW053-00                |
| 20 mg        | YCW1211-00               | YCW1211-02 | YCW1221-00               | YCW123-00                |
| 50 mg        | YCW1511-00               | YCW1511-02 | YCW1521-00               | YCW153-00                |
| 100 mg       | YCW2111-00               | YCW2111-02 | YCW2121-00               | YCW213-00                |
| 200 mg       | YCW2211-00               | YCW2211-02 | YCW2221-00               | YCW223-00                |
| 500 mg       | YCW2511-00               | YCW2511-02 | YCW2521-00               | YCW253-00                |

Class E1, E2, F1 and F2 knob weights  
1 g to 50 kg, special steel,  
non-magnetizable  
E1; density: 8.0 g/cm<sup>3</sup>  
E2, F1, F2: density: 7.95 g/cm<sup>3</sup>

Packaging of the weights:  
Up to 20 g in a plastic case  
From 50 g and up in a wooden case  
From 1 kg and up additionally with glove

## Knob weights from 100 kg cylindrical weights

| Nominal mass | E1 (1)    |           | E2 (1)    | F1 (1)    |
|--------------|-----------|-----------|-----------|-----------|
| 1 g          | YCW311-00 | YCW311-02 | YCW312-00 | YCW313-00 |
| 2 g          | YCW321-00 | YCW321-02 | YCW322-00 | YCW323-00 |
| 5 g          | YCW351-00 | YCW351-02 | YCW352-00 | YCW353-00 |
| 10 g         | YCW411-00 | YCW411-02 | YCW412-00 | YCW413-00 |
| 20 g         | YCW421-00 | YCW421-02 | YCW422-00 | YCW423-00 |
| 50 g         | YCW451-00 | YCW451-02 | YCW452-00 | YCW453-00 |
| 100 g        | YCW511-00 | YCW511-02 | YCW512-00 | YCW513-00 |
| 200 g        | YCW521-00 | YCW521-02 | YCW522-00 | YCW523-00 |
| 500 g        | YCW551-00 | YCW551-02 | YCW552-00 | YCW553-00 |
| 1 kg         | YCW611-00 | YCW611-02 | YCW612-00 | YCW613-00 |
| 2 kg         | YCW621-00 | YCW621-02 | YCW622-00 | YCW623-00 |
| 5 kg         | YCW651-00 | YCW651-02 | YCW652-00 | YCW653-00 |
| 10 kg        | YCW711-00 | YCW711-02 | YCW712-00 | YCW713-00 |
| 20 kg        | YCW721-00 | YCW721-02 | YCW722-00 | YCW723-00 |
| 50 kg        | YCW751-00 | YCW751-02 | YCW752-00 | YCW753-00 |
| 100 kg*      |           |           |           | YCW813-00 |
| 200 kg*      |           |           |           | YCW823-00 |
| 500 kg*      |           |           |           | YCW853-00 |
| 1,000 kg*    |           |           |           | YCW913-00 |

### Options:

- X = 00: weights with DKD certificate issued to Sartorius (1 mg to 50 kg)
- X = 02: weights with DKD certificate issued to the customer or company requesting certification
- YCW02: Charge for DKD certificate issued to the customer or company

# Metrological Weights (YCW)



Ton weight with lug



Block weights



Ton weights



Stainless steel block weight

Class F2 knob weights 1 g to 50 kg, special steel, non-magnetizable  
 F2: density: 7.95 g/cm<sup>3</sup>  
 M1: 1–10 kg, brass/galvanized, polished

Packaging of the weights:  
 Up to 20 g in a plastic case  
 From 50 g and up in a wooden case  
 From 1 kg and up additionally with glove

## Knob weights from 100 kg cylindrical weights

| Nominal mass | F2 (1)    | M1 (2)    | M2 (3)    |
|--------------|-----------|-----------|-----------|
| 1 g          | YCW314-00 |           | YCW316-0X |
| 2 g          | YCW324-00 |           | YCW326-0X |
| 5 g          | YCW354-00 |           | YCW356-0X |
| 10 g         | YCW414-00 |           | YCW416-0X |
| 20 g         | YCW424-00 |           | YCW426-0X |
| 50 g         | YCW454-00 |           | YCW456-0X |
| 100 g        | YCW514-00 |           | YCW516-0X |
| 200 g        | YCW524-00 |           | YCW526-0X |
| 500 g        | YCW554-00 |           | YCW556-0X |
| 1 kg         | YCW614-00 | YCW615-0X | YCW616-0X |
| 2 kg         | YCW624-00 | YCW625-0X | YCW626-0X |
| 5 kg         | YCW654-00 | YCW655-0X | YCW656-0X |
| 10 kg        | YCW714-00 | YCW715-0X | YCW716-0X |
| 20 kg        | YCW724-00 |           |           |
| 50 kg        | YCW754-00 |           |           |
| 100 kg*      | YCW814-00 |           |           |
| 200 kg*      | YCW824-00 |           |           |
| 500 kg*      | YCW854-00 |           |           |
| 1,000 kg*    | YCW914-00 |           |           |

| Nominal mass value | Rectangular bar weights (1) M1 | Rectangular bar weights (4) M1 | Rectangular bar weights (4) M2 | Cylindrical weights (4) M1 |
|--------------------|--------------------------------|--------------------------------|--------------------------------|----------------------------|
| 5 kg               | YCW6554-0X                     | YCW6559-0X                     | YCW6569-0X                     |                            |
| 10 kg              | YCW7154-0X                     | YCW7159-0X                     | YCW7169-0X                     |                            |
| 20 kg              | YCW7254-0X                     | YCW7259-0X                     | YCW7269-0X                     |                            |
| 50 kg              | YCW7554-0X                     | YCW7559-0X                     | YCW7569-0X                     |                            |
| 100 kg             |                                | YCW8159-0X                     |                                | YCW8157-0X                 |
| 200 kg**           |                                | YCW8259-0X                     |                                | YCW8257-0X                 |
| 500 kg**           |                                | YCW8559-0X                     |                                | YCW8557-0X                 |
| 1,000 kg**         |                                | YCW9159-00                     |                                | YCW9157-00                 |

\* Weight with lug for crane

\*\* Weight with lug for crane, stackable

### Materials:

(1) stainless steel, (2) galvanized brass, (3) brass, precision lathed surface  
 (4) gray casting, painted black

### Options:

X = 0: weights with DKD certificate issued to Sartorius (F1, E2, F2 up to 50 kg)

X = 2: weights with DKD certificate issued to the customer or company requesting certification

YCW02: Charge for DKD certificate issued to the customer or company

## Metrological weight sets in a wooden case with forceps\*

# Weight Sets (YCS)

### Combination of weights

- Weight without marking
- Weight with marking

| Range               | Content         | mg  | g   | kg  |     |
|---------------------|-----------------|-----|-----|-----|-----|
| <b>1 mg – 5 g</b>   | 1               | ●   | ●   |     |     |
|                     | 2               | ● ○ | ● ○ |     |     |
|                     | Total contents: | 5   | ●   | ●   |     |
|                     | 11.11 g         | 10  | ●   | ●   |     |
|                     | 16 weights      | 20  | ● ○ | ● ○ |     |
|                     |                 | 50  | ●   | ●   |     |
|                     |                 | 100 | ●   | ●   |     |
| 200                 |                 | ● ○ | ● ○ |     |     |
| 500                 | ●               | ●   |     |     |     |
| <b>1 mg – 100 g</b> | 1               | ●   | ●   |     |     |
|                     | 2               | ● ○ | ● ○ |     |     |
|                     | Total contents: | 5   | ●   | ●   |     |
|                     | 211.11 g        | 10  | ●   | ●   |     |
|                     | 21 weights      | 20  | ● ○ | ● ○ |     |
|                     |                 | 50  | ●   | ●   |     |
|                     |                 | 100 | ●   | ●   |     |
| 200                 |                 | ● ○ | ● ○ |     |     |
| 500                 | ●               | ●   |     |     |     |
| <b>1 mg – 200 g</b> | 1               | ●   | ●   |     |     |
|                     | 2               | ● ○ | ● ○ |     |     |
|                     | Total contents: | 5   | ●   | ●   |     |
|                     | 611.11 g        | 10  | ●   | ●   |     |
|                     | 23 weights      | 20  | ● ○ | ● ○ |     |
|                     |                 | 50  | ●   | ●   |     |
|                     |                 | 100 | ●   | ●   |     |
| 200                 |                 | ● ○ | ● ○ |     |     |
| 500                 | ●               | ●   |     |     |     |
| <b>1 mg – 1 kg</b>  | 1               | ●   | ●   | ●   |     |
|                     | 2               | ● ○ | ● ○ | ● ○ |     |
|                     | Total contents: | 5   | ●   | ●   |     |
|                     | 2,111.11 g      | 10  | ●   | ●   |     |
|                     | 25 weights      | 20  | ● ○ | ● ○ | ● ○ |
|                     |                 | 50  | ●   | ●   | ●   |
|                     |                 | 100 | ●   | ●   | ●   |
| 200                 |                 | ● ○ | ● ○ | ● ○ |     |
| 500                 | ●               | ●   | ●   |     |     |
| <b>1 mg – 5 kg</b>  | 1               | ●   | ●   | ●   |     |
|                     | 2               | ● ○ | ● ○ | ● ○ |     |
|                     | Total contents: | 5   | ●   | ●   |     |
|                     | 11,111.11 g     | 10  | ●   | ●   |     |
|                     | 28 weights      | 20  | ● ○ | ● ○ | ● ○ |
|                     |                 | 50  | ●   | ●   | ●   |
|                     |                 | 100 | ●   | ●   | ●   |
| 200                 |                 | ● ○ | ● ○ | ● ○ |     |
| 500                 | ●               | ●   | ●   |     |     |
| <b>1 g – 1 kg</b>   | 1               | ●   | ●   | ●   |     |
|                     | 2               | ● ○ | ● ○ | ● ○ |     |
|                     | Total contents: | 5   | ●   | ●   |     |
|                     | 2,110 g         | 10  | ●   | ●   |     |
|                     | 13 weights      | 20  | ● ○ | ● ○ | ● ○ |
|                     |                 | 50  | ●   | ●   | ●   |
|                     |                 | 100 | ●   | ●   | ●   |
| 200                 |                 | ● ○ | ● ○ | ● ○ |     |
| 500                 | ●               | ●   | ●   |     |     |
| <b>1 g – 5 kg</b>   | 1               | ●   | ●   | ●   |     |
|                     | 2               | ● ○ | ● ○ | ● ○ |     |
|                     | Total contents: | 5   | ●   | ●   |     |
|                     | 11,110 g        | 10  | ●   | ●   |     |
|                     | 16 weights      | 20  | ● ○ | ● ○ | ● ○ |
|                     |                 | 50  | ●   | ●   | ●   |
|                     |                 | 100 | ●   | ●   | ●   |
| 200                 |                 | ● ○ | ● ○ | ● ○ |     |
| 500                 | ●               | ●   | ●   |     |     |
| <b>1 g – 10 kg</b>  | 1               | ●   | ●   | ●   |     |
|                     | 2               | ● ○ | ● ○ | ● ○ |     |
|                     | Total contents: | 5   | ●   | ●   |     |
|                     | 21,110 g        | 10  | ●   | ●   |     |
|                     | 17 weights      | 20  | ● ○ | ● ○ | ● ○ |
|                     |                 | 50  | ●   | ●   | ●   |
|                     |                 | 100 | ●   | ●   | ●   |
| 200                 |                 | ● ○ | ● ○ | ● ○ |     |
| 500                 | ●               | ●   | ●   |     |     |

\* From 1 kg and up, gloves are additionally supplied

### Features of Sartorius weight sets

The weights in Sartorius sets have the same features as the individual weights of their corresponding class. Sartorius weight sets are supplied in a wooden case (except for service weights, which are in a plastic case), along with the matching accessories (gloves, forceps, brushes, etc.).

Class E1 and E2 weight sets with wire weights up to 500 mg

Class F1, F2 and M1 weight sets with leaf weights up to 500 mg

| Nominal mass       | E1            | E2            | F1           |
|--------------------|---------------|---------------|--------------|
| From 1 mg to 5 g   | YCS011-351-0X | YCS011-352-00 |              |
| From 1 mg to 100 g | YCS011-511-0X | YCS011-512-00 | YCS01-513-00 |
| From 1 mg to 200 g | YCS011-521-0X | YCS011-522-00 | YCS01-523-00 |
| From 1 mg to 1 kg  | YCS011-611-0X | YCS011-612-00 | YCS01-613-00 |
| From 1 mg to 5 kg  | YCS011-651-0X | YCS011-652-00 | YCS01-653-00 |
| From 1 g to 1 kg   | YCS31-611-0X  | YCS31-612-00  | YCS31-613-00 |
| From 1 g to 5 kg   | YCS31-651-0X  | YCS31-652-00  | YCS31-653-00 |
| From 1 g to 10 kg  | YCS31-711-0X  | YCS31-712-00  | YCS31-713-00 |

| Nominal mass       | F2           | M1           |
|--------------------|--------------|--------------|
| From 1 mg to 100 g | YCS01-514-00 | YCS01-515-0X |
| From 1 mg to 200 g | YCS01-524-00 | YCS01-525-0X |
| From 1 mg to 1 kg  | YCS01-614-00 | YCS01-615-0X |
| From 1 mg to 5 kg  | YCS01-654-00 | YCS01-655-0X |
| From 1 g to 1 kg   | YCS31-614-00 | YCS31-615-0X |
| From 1 g to 5 kg   | YCS31-654-00 | YCS31-655-0X |
| From 1 g to 10 kg  | YCS31-714-00 | YCS31-715-0X |

| Service weight set | E2              | F1              |
|--------------------|-----------------|-----------------|
| From 100 g to 5 kg | YSS5128-6528-0X |                 |
| From 1 g to 5 kg   |                 | YSS3138-6538-0X |

### Options:

X = 0: weights with DKD certificate issued to Sartorius (F1, E2, F2 up to 50 kg)

X = 2: weights with DKD certificate issued to the customer or company requesting certification

YCW02: Charge for DKD certificate issued to the customer or company

# Accessories for Weights (YAW)



Forceps



Weight forks



Handle for lifting weights



Plastic screw boxes

## Accessories for Sartorius weights

Sartorius offers glass bell jars with a support plate, brushes, gloves, forceps with silicone-coated tips, weight forks, handles for lifting weights and a permeability indicator (for checking magnetic properties of weights of accuracy classes E1, E2, F1 and F2).

In addition, Sartorius supplies susceptometers for easy and convenient determination of the susceptibility and magnetization of weights in accordance with OIML R111, 2004.

| Accessories  |  | Order no. |
|--|--|-----------|
| Glass bell jar with support plate  | For 1 mg – 5 g   | YAW00     |
|  | For 1 mg – 50 g  | YAW01     |
|  | (100 g or 200 g)   |           |
|  | For 100 g – 1 kg (2 kg)  | YAW02     |
|  | For 2 kg – 5 kg  | YAW03     |
|  | For 10 kg  | YAW04     |
| Brush  | For 20 kg  | YAW05     |
|  | For 50 kg  | YAW06     |
|  | Small, 100 mm  | YAW11     |
|  | Medium, 115 mm   | YAW12     |
| Pair of gloves   | Large, 150 mm  | YAW13     |
|  | Extra-large, 250 mm  | YAW14     |
|  | Cotton   | YAW21     |
| Forceps with silicone-coated tips  | Fine leather   | YAW22     |
|  | 115 mm for 1 mg – 5 g  | YAW31     |
| Weight fork  | 160 mm for 1 g – 200 g   | YAW32     |
|  | 230 mm for 1 g – 1 kg  | YAW33     |
|  | For 500 g  | YAW41     |
| Handle for lifting weights   | For 1 kg   | YAW42     |
|  | For 2 kg   | YAW43     |
|  | For 5 kg   | YAW50     |
|  | For 10 kg  | YAW51     |
| Permeability indicator   | For 20 kg  | YAW52     |
|  | For 50 kg  | YAW53     |
|  | For checking magnetic properties of weights of accuracy classes E1, E2, F1 and F2; supplied in a wooden case | YAW61     |
| Susceptometer  | For testing the magnetic properties of weights for accuracy classes E1, E2, F1 and F2 acc. to OIML R111.     |           |
|  | Resolution: 10 µg  | YSZ01C    |
|  | Resolution: 1 µg   | YSZ02C    |
| Reference susceptibility standard  | 1 kg   | YSZ01RSC  |
| Calibration set for susceptometer  |  | YSZ01RMC  |
| Plastic screw boxes for weights* with closed porous foam inlet also for use in clean rooms | 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   |           |

\* only for knob weights, for cylindrical weights on request

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