

# Precision weights and masses COFRAC accredited laboratory



  
**ZWIEBEL**  
Precision weights and masses

# WE GIVE WEIGHT TO YOUR MEASUREMENTS !

DO YOU REQUIRE an industrial- or a science-based approach for your needs? Are you seeking quality, effectiveness and high performance? Zwiebel will shape your requirements.

## WE HAVE BEEN PROVIDING OUR EXPERIENCE AND EXPERTISE SINCE 1828

Two centuries of experience have built up Zwiebel's know-how, and it is establishing itself as France's leading manufacturer of precision weights and masses.

Our assets: very high-tech manufacturing systems and highly-innovative methods. Our company now works in a number of sectors: aeronautics, agribusiness, chemistry and pharmacology etc

## REAL INTERNATIONAL PRESENCE

As a preferred partner in mass metrology, our customers are hugely varied. Among them are the BIPM (the international bureau of weights and measures) and a number of national and primary laboratories, which are genuine benchmarks in each country.

## A COMPLETE RANGE

AS PROOF of its commitment in all market areas, Zwiebel is able to meet all types of request, from 0.1 mg to 2 tonnes, for all classes (E0, E1, E2, F1, F2, M1, M1-2, M2, M2-3, M3).

## A REQUIREMENT THAT CARRIES WEIGHT: INNOVATION

Zwiebel is actively conducting a policy of innovation. We are involved in studies concerning new materials and we are studying and developing new automatic systems for calibrating measurements. We are also the first manufacturer to be meeting normative requirements.

## OUR DAY-TO-DAY COMMITMENTS TO QUALITY

At Zwiebel, quality is non-negotiable! Our commitment is twofold: we select our materials and we use specific software that favours adapting our comparators towards robotics. But we take this even further.

By integrating all stages of the manufacturing process at our site, and by rigorously respecting quality procedures, we are able to ensure that Zwiebel's weights and masses conform to international standards and recommendations.



AUSTRIA BMWA	ESTONIA EAK	GREECE ESYD	LITHUANIA LA	PORTUGAL IPAC	SWEDEN SWEDAC
BELGIUM BELAC	FINLAND FINAS	IRELAND INAB	NETHERLANDS RvA	SLOVAKIA SNAS	SWITZERLAND SAS
CZECH REPUBLIC CAI	FRANCE COFRAC	ITALY SIT	NORWAY NA	SLOVENIA SA	TURKEY TURKAK
DENMARK DANAK	GERMANY DKD	LATVIA LATAK	POLAND PCA	SPAIN ENAC	UNITED KINGDOM UKAS

EA MEMBERS (EUROPEAN COOPERATION FOR ACCREDITATION)



# OUR "SCIENTIFIC METROLOGY" RANGE

## OIML WEIGHTS FROM 1mg to 50kg E0, E1 and E2 classes

These weights, except E0 class, are according to the international OIML R111 recommendation in term of material (roughness, magnetism, ...) of shape and marking.

Class E1 weights intended to ensure traceability between national mass standards and weights of a lower accuracy class.

Class E2 weights intended for use in the calibration of weights of a lower accuracy class and for use with weighing instruments of special accuracy class I. Class E2 weights or weight sets have to be accompanied by a calibration certificate.

Class E0, E1 and E2 weights can be supplied either individually or in sets (plastic or wooden case).



Example of composition :  
1 set in wooden case tot. 1111.11g E2  
Réf. : 8234318

- 1 wooden case
- 24 weights from 1mg to 500g
- 1 tweezer
- 1 glass protection for wires



Stainless steel  
(1 mg - 500 mg)



Stainless steel  
(1 g - 20 kg)



Stainless steel  
(50 kg)

### FOR EXAMPLE IN E2 CLASS

Nominal values	Tolerances
1 mg	+/- 0,006 mg
...	...
1 kg	+/- 1,6 mg
...	...
50 kg	+/- 75 mg

For other classes, please consult our website.

### Recommended accessories



## OIML WEIGHTS FROM 1mg to 50kg F1 and F2 classes

These weights are according to the international OIML R111.

Weights intended for use in the calibration of weights of a lower accuracy class and for use with weighing instruments of special accuracy class I and high accuracy class II. They can also be used as control weights and are usually accompanied by a calibration certificate.

Class F1 and F2 weights can be supplied either individually or in sets (plastic or wooden case).



Example of composition :  
1 set in plastic case tot. 2111.11g F1  
Ref : 8444314

- 1 plastic case
- 25 weights from 1mg to 1kg
- 1 tweezer
- 1 glass protection for wires
- 1 cleaning duster



Stainless steel  
(1 mg - 500 mg)



Stainless steel  
(1 g - 20 kg)



Stainless steel  
(50 kg)

### FOR EXAMPLE IN F1 CLASS

Nominal values	Tolerances
1 mg	+/- 0,02 mg
...	...
1 kg	+/- 5 mg
...	...
50 kg	+/- 250 mg

For other classes, please consult our website.

### Recommended accessories



# OUR «SCIENTIFIC METROLOGY» RANGE

## OIML WEIGHTS FROM 1 mg to 50kg

### M1, M2 and M3 classes

These weights are according to the international OIML R111.

Weights intended for use in the calibration of weights of a lower accuracy class and for use with weighing instruments of medium accuracy class III and ordinary accuracy class IIII. They can also be used as control weights and are usually accompanied by a calibration certificate.

These weights can be supplied either individually or in sets (plastic or wooden case).



Example of composition :  
1 set in wooden case tot. 2110g M1  
Ref : 8051212

- 1 wooden box
- 13 weights from 1g to 1kg
- 1 tweezer



Aluminium  
(1 mg - 500 mg)



Stainless steel  
nickel plated brass - brass  
(1 g - 10 kg)



Stainless steel  
Cast iron  
(5 - 50 kg)

#### FOR EXAMPLE IN M1 CLASS

Nominal values	Tolerances
1 mg	+/- 0,2 mg
...	...
1 kg	+/- 50 mg
...	...
10 kg	+/- 500 mg

For other classes, please consult our website.

#### Recommended accessories



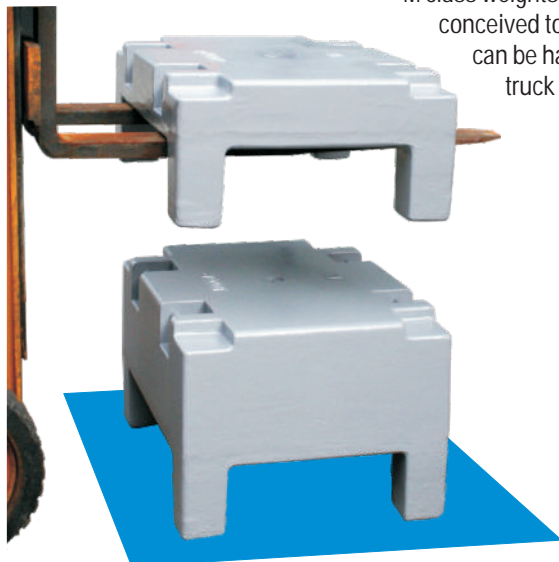
## MASSES FROM 100 kg to 2t

### E, F and M classes

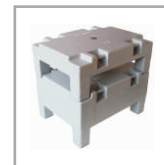
These masses intended for use in the calibration of weights of a lower accuracy class and for use with weighing instruments of special accuracy class I, high accuracy class II and medium accuracy class III. They are usually accompanied by a calibration certificate.

All these masses can be handled with slings to be fixed at the rings.

M class weights with feet have been conceived to be stackable and can be handled with a forklift truck or pallet lift.



Cast iron  
(100 - 200 - 500 kg)



Cast iron  
(500 kg - 1 t - 2 t)



Stainless steel  
(100 kg à 2 t)

#### FOR EXAMPLE IN M1 CLASS

Nominal values	Tolerances
100 kg	+/- 5 g
...	...
500 kg	+/- 25 g
...	...
2 t	+/- 300 g

For other classes, please consult our website.

#### Recommended accessories



## HANG MASSES AND MASSES WITH HOOK(S)

### M1, M2 and M3 classes

These masses can be used in a variety of applications such as pressure, torque and tensile strength testing.

Adjustment and calibration of each mass as well as its individual identification guarantee strict measures.

#### Masses with slots

This system is composed of a holder with a hanger from which you can stack and hang your slotted weights. The holder is manufactured from stainless steel, slotted weights are made of brass.

Adjustment of these weights can be achieved in kg or Newtons.

In addition, the holder can be adapted to your requirements in term of dimensions and nominal value.

#### Masses with hook(s)

Mass with one hook : these masses can be hooked individually in order to carry out tests.

Masses with two hooks : masses can be hooked together (chaplet) in order to carry out tests at various values. These masses are made of stainless steel.



Cast iron

(50 g - 10 kg)



Stainless steel

(1 g - 20 kg)



Stainless steel  
brass

(100 g - 20 kg)  
(1 N - 200 N)

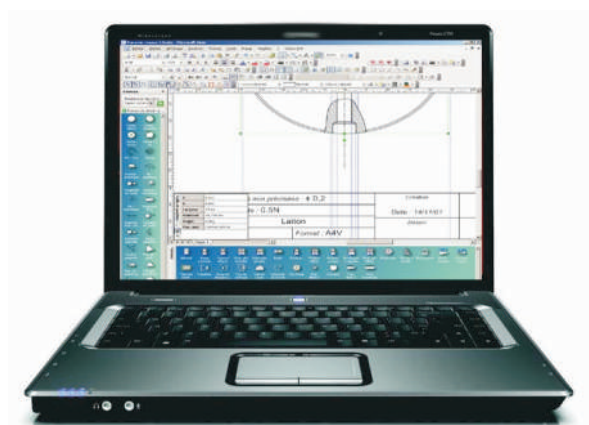


## MADE-TO-MEASURE, FROM DESIGN TO PRODUCTION

ZWIEBEL is there to assist you in defining, studying and producing your specific weights and masses.

Zwiebel's know-how:

- All types of material: brass, aluminium, stainless steel, steel, cast iron, plastic etc.
- All shapes and compositions: monobloc, with adjusting cavity, cylindrical, cubic etc.
- All types of finish: highly polished, brushed, painted, surface-coated
- All tolerances: either comply with OIML classes or specific tolerances
- All types of identification: laser marking, diamond point engraving, paint identification
- Accessories adapted to your needs (table, handling system, protective mechanism and packaging etc.)



### GOOD TO KNOW

Our experience enables us to propose packaging in plastic, wood or metal for standard weights or masses and for those that are non-standard in dimension.

# + + + SERVICE

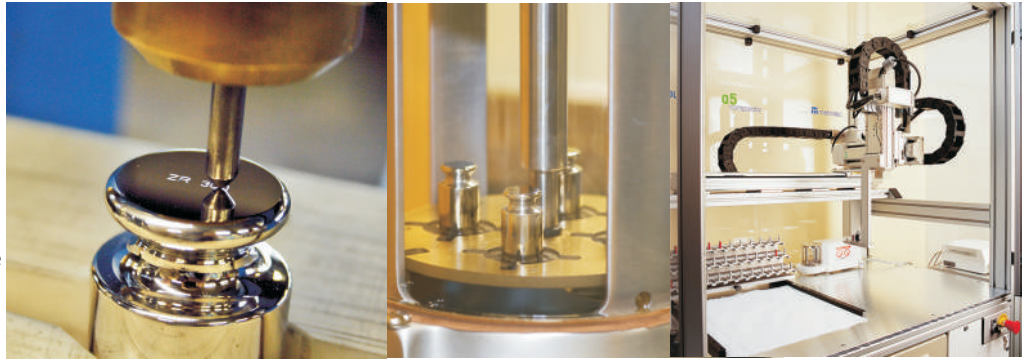
# RECALIBRATION

## IDENTIFICATION

Identifying the weights and masses is vital for ensuring the traceability of calibrations carried out.

This is ideally carried out on the weights or, by default, on the case (unless there is a technical impossibility or a specific request that needs to be specified on order).

Without identification, the COFRAC calibration certificate cannot be given



## REPAIR / ADJUSTING

The adjustment offers the possibility for a weight or a mass to get a value very close to the nominal value thanks to an addition or withdrawal of material in the adjusting cavity.



This eventual operation permits to re-use the weights without having to buy new ones.

Repair of weights (adjusting, painting, polishing, degreasing, ...) guarantees the calibration and secures their use in time.



MASS  
ACCREDITATION  
N° 2.1218

Since 1991, Zwiebel has been COFRAC accredited (France's accreditation committee) which is now internationally recognised and which enables us to issue certificates of calibration. Our accreditation is reinforced by continuous audit monitoring and by our involvement in inter-laboratory comparisons that ensure the high-precision and quality of weights and masses from Zwiebel's metrology laboratory.

## CALIBRATION IN OUR LABORATORIES

Thanks to its experience in calibration of weights since 1991, Zwiebel is there to assist you in all your measurement needs. This service is issued in one of our 3 laboratories according to the nominal value and precision of the weight.

We do guarantee a high level of service thanks to an equipment of precision, strict methods, a good knowledge of environmental conditions and a qualified staff.

Besides, our equipment is composed of manual comparators and robotized systems with precisions from 0.1µg to 1g.

In order for us to meet all your requirements, calibration documentation can be issued bilingual English, German, Spanish, Italian or Portuguese (French basic).



# OUR "LEGAL METROLOGY" RANGE



## M1, M2 and M3 class weights

Legal metrology weights are used for commercial transactions in conformity with the actual regulation.

These weights are according to the OIML R111 recommendation and can be supplied individually, in a base or in wooden case ; offered classes are M1, M2 and M3.

These weights cannot be calibrated.



Aluminium  
(1 mg - 500 mg)



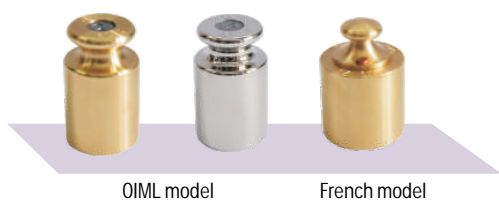
Nicked brass - brass  
(1 g - 10 kg)



Cast iron  
(5 - 50 kg)



Cast iron  
(50 g - 10 kg)



OIML model

French model



or



# OUR SCALES



## ELECTRONIC SCALES

Zwiebel offers a wide range of high quality precision, portable and industrial scales thanks to his partnership with a well-known manufacturer.

**Precision scales**  
A range that meets all your requirements for laboratory measurements.



**Portable scales**  
Practical and compact multi-purpose range. Battery and mains operated.



**Industrial scales**  
Industrial performance at attractive prices. A complete range of platforms and displays that can be adapted to your site requirements.



## ROBERVAL SCALES FROM 2 TO 20kg

### A ROBERVAL FOR EVERY TRADE

Zwiebel offers a range of 14 balances covering all types of weighing, up to 20kg. Several types of pans allow you to choose the balance that is best suited to your activity.

### A REAL GUARANTEE

These mechanical balances require no particular maintenance thanks to the high quality of their parts.

Their apparent simplicity hides the precision, special equipment and know-how that goes into their manufacture.

### DAILY PRECISION

Thanks to Zwiebel's quality of manufacturing, our balance weighs with class III precision.



Stainless steel panscale



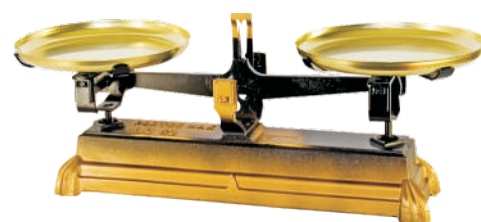
« Lyonnais » panscale



« Maraicher » panscale

## GOOD TO KNOW

WE ALSO SUPPLY separately pans from diameter 130 to 300 mm.



ROBERVAL with brass panscale



**Postal address**

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F-67701 SAVERNE CEDEX

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