RK TECHNOLOGIES
We don't just sell equipment — we support your complete NABL accreditation journey.

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OIML Standard Weights

Class E1 • E2 • F1

Range: 1 mg to 200 g

Austenitic / 316 / 304 Stainless Steel • Mirror Polish • NABL Calibration Available

CLASS E1	CLASS E2	CLASS F1
OIML R111 Standard	OIML R111 Standard	OIML R111 Standard

PRODUCT OVERVIEW

RK Technologies supplies Wensar OIML R111 Standard Weights in Class E1, E2 and F1 — covering the range 1 mg to 200 g. All weights are manufactured from high-grade stainless steel with mirror polish finish, supplied in aluminum alloy boxes with standard accessories. NABL accredited calibration certificates are available on request.

KEY HIGHLIGHTS

- ✔️ OIML R111 Standard — only recognised international weights standard
- ✔️ 90% Ready Stock — despatch within 2 working days
- ✔️ Individual weights available (1 mg to 200 g) — E2 & F1
- ✔️ E1 Class: 1 mg to 200 g available
- ✔️ All sets supplied with standard accessories
- ✔️ Re-calibration services available

CALIBRATION SERVICES

- ✔️ NABL Accredited Lab Calibration Certificate — at nominal charge
- ✔️ NPL Calibration for E1 & E2 — available at extra cost
- ✔️ Class F1 & F2 weights bear nominal value markings; E1 & E2 are unmarked
- ✔️ Duplicated weights are marked with a dot
- ✔️ "E" = Extra Fine (E1, E2) | "F" = Fine (F1, F2)

CLASS E1 — OIML Standard Weights

E1 Class weights are recommended for primary reference standard — for calibration of other reference standards and weights. NOT for general laboratory use. Supplied from 1 mg to 200 g.

Specification	E1 Class
Standard	OIML R111
Material	Austenitic Stainless Steel
Construction	Solid single piece fabrication
Cavity	No cavity adjustment
Density	8.00 g/cm³
Magnetic Susceptibility	< 0.005
Intensity of Polarization	< 2.5 µT
Shape	Cylindrical with knob
Finish	Mirror Polish
Packing	Aluminum alloy box

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Accessories	Tweezer, Cloth, Gloves (for sets)

Our Range — Class E1: E1 — 1mg to 500mg (12 pcs) | E1 — 1mg to 200g (23 pcs)

CLASS E2 — OIML Standard Weights

E2 Class weights are recommended for calibration of micro, semi-micro & analytical balances where very high accuracy is required. E2 weights can also be used to calibrate F1 Class weights.

Specification	E2 Class
Standard	OIML R111
Material	316 Stainless Steel
Construction	Solid single piece fabrication
Cavity	No cavity adjustment
Density	7.96 g/cm³
Magnetic Susceptibility	< 0.005
Intensity of Polarization	< 8 µT
Shape	Cylindrical with knob
Finish	Mirror Polish
Packing	Aluminum alloy box
Accessories	Tweezer, Cloth, Gloves (for sets)

Our Range — Class E2: E2 — 1mg to 500mg (12 pcs) | E2 — 1mg to 200g (23 pcs)

CLASS F1 — OIML Standard Weights

F1 Class weights are recommended for calibration of High Precision and top-loading balances with readability 0.001g. F1 weights can also be used to calibrate F2 Class weights.

Specification	F1 Class
Standard	OIML R111
Material	304 Stainless Steel
Construction	One or two pieces of same material
Cavity	May contain adjusting cavity
Density	7.90 g/cm³
Magnetic Susceptibility	< 0.05
Intensity of Polarization	< 25 µT
Shape	Cylindrical with knob
Finish	Mirror Polish
Packing	Aluminum alloy box
Accessories	Tweezer (for sets)

Our Range — Class F1: F1 — 1mg to 500mg (12 pcs) | F1 — 1mg to 200g (23 pcs)

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OIML R111 TOLERANCE TABLE (± mg) — 1 mg to 200 g

Maximum Permissible Error for Weights as per OIML R111 Tolerance Table

Denomination	E1 (±mg)	E2 (±mg)	F1 (±mg)
1 mg	0.003	0.006	0.020
2 mg	0.003	0.006	0.020
5 mg	0.003	0.006	0.020
10 mg	0.003	0.008	0.025
20 mg	0.003	0.010	0.030
50 mg	0.004	0.012	0.040
100 mg	0.005	0.016	0.050
200 mg	0.006	0.020	0.060
500 mg	0.008	0.025	0.080
1 g	0.010	0.030	0.100
2 g	0.012	0.040	0.120
5 g	0.016	0.050	0.160
10 g	0.020	0.060	0.200
20 g	0.025	0.080	0.250
50 g	0.030	0.100	0.300
100 g	0.050	0.160	0.500
200 g	0.100	0.300	1.000

Accuracy Example — 100g Weight (Maximum Permissible Error ± mg)

E1: 100g ± 0.05mg = 100.00005g to 99.99995g
E2: 100g ± 0.16mg = 100.00016g to 99.99984g
F1: 100g ± 0.5mg = 100.00050g to 99.99950g

WEIGHTS SEQUENCE — Available Sets

Number of pieces per denomination in each standard set (1 mg to 200 g range)

Denomination	1mg–500mg (12 pcs)	1mg–100g (21 pcs)	1mg–200g (23 pcs)
1 mg	1	1	1
2 mg	2	2	2
5 mg	1	1	1
10 mg	1	1	1
20 mg	2	2	2
50 mg	1	1	1
100 mg	1	1	1
200 mg	2	2	2
500 mg	1	1	1

1 g	—	1	1
2 g	—	2	2
5 g	—	1	1
10 g	—	1	1
20 g	—	2	2
50 g	—	1	1
100 g	—	1	1
200 g	—	—	2
Total	**12**	**21**	**23**

WEIGHTS HANDLING — Safety Precautions

Frequency of use, care, handling and environmental conditions all play a major role in long-term stability of weights.

Storage & Handling

- ✔️ Store in cupboard — protect from dust and atmospheric pollution
- ✔️ When not in use, keep covered to prevent contamination
- ✔️ Use in extremely stable environment only
- ✔️ Never place weight directly on any surface
- ✔️ Always handle with gloves, lifter or tweezers — never bare hands
- ✔️ After use, return weights to original packing box
- ✔️ Never mix one set of weights with another set

Cleaning & Calibration

- ✔️ Dropping or jingles strictly forbidden — any scratch affects accuracy
- ✔️ Do not touch any erosive materials
- ✔️ Weights under ideal conditions do NOT need cleaning
- ✔️ Weights less than 10mg nominal mass should NOT be cleaned
- ✔️ If cleaning required, follow class-specific procedure
- ✔️ After cleaning, allow all weights to stabilize
- ✔️ When sending for re-calibration, pack in large container/carton

Contact RK Technologies for Pricing, Demo & Calibration Services
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