OIML Calibration Weights

OIML Class **E1, E2, F1, F2, M1, M2, M3** Calibration Weights

The OIML Recommendations for Weights

The Organisation International de M?ologie L?le has defined exactly the metrological requirements for weights in the area of compulsory verification worldwide. Most countries are members of OIML. OIML Recommendation R111 (Edition 1994) refers to weights from 1mg to 50Kg. Declarations are made regarding among other aspects, accuracy, materials, geometric form, identification and preservation.

Classes of Accuracy, E1 to M1

The classes of accuracy are graded in strictly hierarchical fashion in a ratio of 1:3, where E1 is the most accurate and M3 being the least accurate class of weights. When checking weights among themselves the next highest class is always the correct class for control.

Test Weights (Standard)

When a Company is certified for Quality Assurance to ISO 9001 - 9003 it accepts the obligation, in respect of control of measuring equipment, to periodically test or have all of its measuring instruments tested. This testing must be documented. Correspondingly, this applies equally to Good Laboratory Practice (GLP) and Test Laboratories to EN 45001.

Calibration Certificates

Individual certificates of calibration are available. Prices on application.

Weight Classifications

E1 Weight Standards of the highest accuracy class, mostly only as Reference Standards for metrological services.

E2 Weight Standards, the most accurate test or adjusting weights for high resolution, high precision balances I over n* = 100,000 d.

F1 High precision weights suitable for testing, calibrating and adjusting most high precision balances I up to approx. n* = 100,000 d.

F2 High precision weights suitable for very accurate precision balances II with a resolution up to approx. n* = 50,000 d.

M1 Precision weights for precision balances II and trade balances III up to n* = 10,000 d. For weighing with mechanical gold and carat balances.

M2
Precision weights for testing, calibrating and adjusting trade balances III and IV with a resolution of less than n* 5,000 d.

M3
Trade weights for everyday use with mechanical platform scales, decimal balances, etc.

Prices include the following: -
E1 and 20Kg weights are supplied in a wooden box.
E2, F1, F2, M1 and M2 weights are supplied in a cushioned plastic box.
M3 weights are not supplied in a box

Weight Sets:

Customised weight sets of 7 or more boxed weights can be quoted for. Please apply for a quotation clearly stating the class & nominal value of the weights you require

To order weights the product code is made up of 2 parts
First the Class. Second the Nominal Value. Example: -
E1-50mg Equates to: - E1 Class, 50mg Nominal Value
M1-10kg Equates to: - M1 Class, 10Kg Nominal Value

Weights should not be touched or handled as this will change the value and degrade the weight. Always use a handling glove or tool.

Classes of Accuracy OIML

Nominal Weight	E1	E2	F1	F2	M1	M2	M3
	Mg	T	O	L	E	R	A	N	C	E
1 mg	±0.002	±0.006	±0.02	±0.06	±0.2		
2 mg	±0.002	±0.006	±0.02	±0.06	±0.2		
5 mg	±0.002	±0.006	±0.02	±0.06	±0.2		
10 mg	±0.002	±0.008	±0.025	±0.08	±0.25		
20 mg	±0.003	±0.01	±0.03	±0.1	±0.3		
50 mg	±0.004	±0.012	±0.04	±0.12	±0.4		
100 mg	±0.005	±0.015	±0.05	±0.15	±0.5		
200 mg	±0.006	±0.02	±0.06	±0.2	±0.6		
500 mg	±0.008	±0.025	±0.08	±0.25	±0.8		
1 g	±0.01	±0.03	±0.1	±0.3	±1	±3	
2 g	±0.012	±0.04	±0.12	±0.4	±1.2	±4	
5 g	±0.015	±0.05	±0.15	±0.5	±1.5	±5	
10 g	±0.02	±0.06	±0.2	±0.6	±2	±6	
20 g	±0.025	±0.08	±0.25	±0.8	±2.5	±8	
50 g	±0.03	±0.1	±0.3	±1	±3	±10	
100 g	±0.05	±0.15	±0.5	±1.5	±5	±15	
200 g	±0.1	±0.3	±1	±3	±10	±30	
500 g	±0.25	±0.75	±2.5	±7.5	±25	±75	
1 Kg	±0.5	±1.5	±5	±15	±50	±150	
2 Kg	±1	±3	±10	±30	±100	±300	
5 Kg	±2.5	±7.5	±25	±75	±250	±750	±2500
10 Kg	±5	±15	±50	±150	±500	±1500	±5000
20 Kg	±10	±30	±100	±300	±1000	±3000	±10000