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# CALIBRATION WEIGHTS

Ensuring your weighing is accurate and precise





# **Calibration Weights**

Calibration weights are designed in cast iron or stainless-steel. Weights are used to calibrate weighing equipment and manufactured and laboratory compared to a known standard. To maintain your weighing device accuracy and for Legal for Trade applications, it is important to use a reliable and certifled test weight.

#### **Applications:**

- Calibration Class I & II balance in accordance to Handbook 44
- Student laboratory use
- · Rough weighing operations
- Tolerance testing
- Verification checks
- · Calibration shift test & calibration adjustments
- Sensitivity testing



# **Selecting Calibration Weights**

#### **Materials & Features:**

- · Stainless steel polished finish
- Meets ASTM E617-19
- USP-41 compliant
- · Nominal value marked on weight
- · Serial Number applied to case

#### **Style Available:**

- · Type I design (one piece) for ASTM Class 0
- Type II design (screw-knob) for ASTM Class I-4 with sealing cavity for adjustment of material

	Cast Iron	Stainless Steel	
Application Use	Test industrial weighing devices, non-marked scales without class designation, check acceptable tolerance	Test Class III scales and balances, non-classified scales, check acceptable tolerance	
Balance / Scale Classification	Class III / Non-designated	Class III	
Marked for Consistency	0	•	
Serial Number	0	Optional	
Approvals	NIST Handbook 44 and 105-1 specifications	NIST Handbook 44 and 105-1 specifications, Class F tolerances	
Styles	<ul><li> Grip handle</li><li> Nesting slab</li><li> Slotted</li></ul>	<ul><li>Cylindrical</li><li>Grip handle</li><li>Leaf</li><li>Dish</li></ul>	
Weight Class	ASTM Class 6 and 7     OIML Class M1 and M2	ASTM Class 5,6,7	





	Electronic Balance Calibration Weights	Precision Laboratory Test Weights
Application Use	Calibration Tolerance & Verification Checks	Calibration, Tolerance & Verification Checks
Balance / Scale Classification	Class I, Class II	Class I, Class II
Marked for Consistency	•	*
Serial Number	Optional for class 2-4	Optional for Class 2-4
Approvals	<ul><li>ASTM E 617-13</li><li>Density 7.84 g/cm3 (303 SS)</li></ul>	<ul><li>ASTM E 617-13</li><li>Density 7.95 g/cm3 (316 SS)</li></ul>
Styles	<ul><li> Grip handle</li><li> Cylindrical</li><li> Leaf</li></ul>	<ul> <li>Cylindrical</li> <li>Type 1 one piece construction</li> <li>Type 2 two piece construction (screw knob)</li> <li>Leaf</li> </ul>
Weight Class	ASTM Class 0-7	<ul><li>ASTM CLass 0-4</li><li>OIML Class E1, E2, F1, F2</li></ul>

<sup>\*</sup>Precision Laboratory Test Weights

ASTM Class 0 test weights are not individually marked with their weight value or individually serialized per ASTM E 617-13. Single-piece cylindrical test weights are Type I, ASTM Class 0 and OIML Class E1 and E2, and F1 and F2 with a one-piece construction. These weights have no added adjusting material. Type II designs are cylindrical weights with adjusting cavities.

# **Test Weights and Configurations**

A&D offers test weights as Individual weights, Cal-pal kits or Weight sets.









	Individual Weights	Cal-Pal Weight Kits	Weight Sets
Includes:	<ul><li>Test weight: 1 piece</li><li>Vial or soft case</li><li>Cotton glove</li></ul>	<ul><li>Test weights: 3 pieces</li><li>Vial or PVC hard case</li><li>Tweezer or Lifter</li></ul>	<ul><li>Test weights: 9 to 21 pieces</li><li>Hard case (varies)</li><li>White glove &amp; Tweezer or Lifter</li></ul>

#### **Individual Weights**

Class I ASTM 1-piece test weight with screw knob test weight screw knob with sealing cavity or leaf, includes vial or soft case and cotton glove.

#### **Cal-Pal Weight Kits**

All cylindrical ASTM kits (excluding grip-handle weights) include their own protective hard case and glove set for safe handling.

#### **Weight Sets**

Sets may be ordered in a 5-2-2-1 or a 5-3-2-1 configuration. For example, a set might include:

- (1) 50 g weight, (2) 20 g weights, and (1) 10 g weight, or
- (1) 50 g weight, (1) 30 g weight, (1) 20 g weight, and (1) 10 g weight.

OIML and ASTM test weight sets larger than 500 grams, or one pound, include a hardwood case with velvet-lined pockets. Test weight sets with the largest weight of 500 grams include a precision-machined polyvinyl, crush-resistant case.

Serial numbers are not stamped on polished or milligram weights. A test weight should be more accurate than the precision of the weighing device, and it is recommended that a test weight has an accuracy of one-third the weighing device readability.

# **Product Configurations**

With and without ISO 17025 Accredited Certificate of Calibration documentation



### **Individual ASTM Weight Metric Kits**

Leaf							
Weight	Class	Туре	Material	Includes	Part No. without Cert.	Part No. with ISO 17025 Cert	
1 mg	Class I	Type I	Stainless Steel Polished	Vial, White Cotton Glove	AD-1700-1MG	AD-1700-1MG-C	
5 mg	Class I	Type I	Stainless Steel Polished	Vial, White Cotton Glove	AD-1700-5MG	AD-1700-5MG-C	
10 mg	Class I	Type I	Stainless Steel Polished	Vial, White Cotton Glove	AD-1700-10MG	AD-1700-10MG-C	
20 mg	Class I	Type I	Stainless Steel Polished	Vial, White Cotton Glove	AD-1700-20MG	AD-1700-20MG-C	
50 mg	Class I	Type I	Stainless Steel Polished	Vial, White Cotton Glove	AD-1700-50MG	AD-1700-50MG-C	
100 mg	Class I	Type I	Stainless Steel Polished	Vial, White Cotton Glove	AD-1700-100MG	AD-1700-100MG-C	
200 mg	Class I	Type I	Stainless Steel Polished	Vial, White Cotton Glove	AD-1700-200MG	AD-1700-200MG-C	
300 mg	Class I	Type I	Stainless Steel Polished	Vial, White Cotton Glove	AD-1700-300MG	AD-1700-300MG-C	
500 mg	Class I	Type I	Stainless Steel Polished	Vial, White Cotton Glove	AD-1700-500MG	AD-1700-500MG-C	



## **Individual ASTM Weight Metric Kits**

## Screw-Knob (sealing cavity for adjustment)

Weight	Class	Туре	Material	Includes	Part No. without Cert.	Part No. with ISO 17025 Cert
1 g	Class I	Type II	Stainless Steel Polished	Soft Case, White Cotton Glove	AD-1700-1G	AD-1700-1G-C
2 g	Class I	Type II	Stainless Steel Polished	Soft Case, White Cotton Glove	AD-1700-2G	AD-1700-2G-C
5 g	Class I	Type II	Stainless Steel Polished	Soft Case, White Cotton Glove	AD-1700-5G	AD-1700-5G-C
10 g	Class I	Type II	Stainless Steel Polished	Soft Case, White Cotton Glove	AD-1700-10G	AD-1700-10G-C
20 g	Class I	Type II	Stainless Steel Polished	Soft Case, White Cotton Glove	AD-1700-20G	AD-1700-20G-C
50 g	Class I	Type II	Stainless Steel Polished	Soft Case, White Cotton Glove	AD-1700-50G	AD-1700-50G-C
100 g	Class I	Type II	Stainless Steel Polished	Soft Case, White Cotton Glove	AD-1700-100G	AD-1700-100G-C
200 g	Class I	Type II	Stainless Steel Polished	Soft Case, White Cotton Glove	AD-1700-200G	AD-1700-200G-C
300 g	Class I	Type II	Stainless Steel Polished	Soft Case, White Cotton Glove	AD-1700-300G	AD-1700-300G-C
400 g	Class I	Type II	Stainless Steel Polished	Soft Case, White Cotton Glove	AD-1700-400G	AD-1700-400G-C
500 g	Class I	Type II	Stainless Steel Polished	Soft Case, White Cotton Glove	AD-1700-500G	AD-1700-500G-C
1 kg	Class I	Type II	Stainless Steel Polished	Soft Case, White Cotton Glove	AD-1700-1KG	AD-1700-1KG-C
2 kg	Class I	Type II	Stainless Steel Polished	Soft Case, White Cotton Glove	AD-1700-2KG	AD-1700-2KG-C
3 kg	Class I	Type II	Stainless Steel Polished	Soft Case, White Cotton Glove	AD-1700-3KG	AD-1700-3KG-C
4 kg	Class I	Type II	Stainless Steel Polished	Soft Case, White Cotton Glove	AD-1700-4KG	AD-1700-4KG-C
5 kg	Class I	Type II	Stainless Steel Polished	Soft Case, White Cotton Glove	AD-1700-5KG	AD-1700-5KG-C
10 kg	Class I	Type II	Stainless Steel Polished	Soft Case, White Cotton Glove	AD-1700-10KG	AD-1700-10KG-C
20 kg	Class I	Type II	Stainless Steel Polished	Soft Case, White Cotton Glove	AD-1700-20KG	AD-1700-20KG-C



## **Cal-Pal ASTM Weight Kits**

Screw-Knob (seal	Screw-Knob (sealing cavity for adjustment)							
3 Essential Cal-Pal Kits	Class	Туре	Material	Part No. with ISO17925 Cert.	Micro, Semi, Analytical Balances	Precision Toploading Balances		
2 g, 200 mg, 1 mg,	Class 0	Type II	SS Polished	AD-2-200-1	BM-5D / BM-22			
5 g, 500 mg, 1 mg	Class 0	Type II	SS Polished	AD-5-500-1	BM-5 / BM-20			
20 g, 2 g, 20 mg	Class I	Type II	SS Polished	AD-20-2-20	BM-20 / BM-22			
100 g, 10 g, 20 mg	Class I	Type II	SS Polished	AD-100-10-20	HR-100A/AZ, GH-120, GF & GX124A AE, EK-120i			
100 g, 10 g, 200 mg	Class I	Type II	SS Polished	AD-100-10-200	HR-150AZ, EW-150i	GF&GX-123A, FX/FZ-120i		
200 g, 20 g, 20 mg	Class I	Type II	SS Polished	AD-200-20-20	BM-252, GH-252/202, GR-202			
200 g, 20 g, 200 mg	Class I	Type II	SS Polished	AD-200-20-200	BM-252, GH-252/202, GR-202/200, GF&GX-224A AE, HR-250A/AZ			
200 g, 20 g, 2 g	Class I	Type II	SS Polished	AD-200-20-2	BM-300/200, GH-300/200, GR-300/200, GF-224A/324A, GX-224A AE/324A AE, HR-250A/AZ	GF&GX-203A / 303A / 403A, FX/FZ-200/300i		
500 g, 50 g, 200 mg	Class I	Type II	SS Polished	AD-500-50-200	BM-500	GF&GX-603A, FX/FZ-500i		
500 g, 50 g, 2 g	Class I	Type II	SS Polished	AD-500-50-2	EK-610i	GF&GX-603A, FX/FZ-500i		
1 kg, 100 g, 2 g	Class I	Type II	SS Polished	AD-1-100-2		GF&GX-1003A / 1603A, FX/FZ-1200i		
1 kg, 100 g, 20 g	Class I	Type II	SS Polished	AD-1-100-20				
2 kg, 200 g, 2 g	Class I	Type II	SS Polished	AD-2-200-2				
2 kg, 200 g, 20 g	Class I	Type II	SS Polished	AD-2-200-20				
5 kg, 500 g, 2 g	Class I	Type II	SS Polished	AD-5,500,2				
5 kg, 500 g, 20 g	Class I	Type II	SS Polished	AD-5-500-20				
100 g, 10 g, 2 g	Class I	Type II	SS Polished	AD-100-10-2	HR-100A/AZ, HR-150AZ, GH-120, EK-200/300/400i			
500 g, 50 g, 20 mg,	Class I	Type II	SS Polished	AD-500-50-20	BM-500			
50 g, 5 g, 200 mg	Class I	Type II	SS Polished	AD-50-5-200	HR-150AZ, EW-150i			
50 g, 5 g, 2 g	Class I	Type II	SS Polished	AD-50-5-2	HR-150AZ, EW-150i			
White gloves – white cotton	N/A	N/A	White Cotton	AD-1700-11714				





## **ASTM Weight Sets 5-2-2-1 Configurations**

Combination of Leaf and Screw-Knob							
Piece Count	Weight	Class	Туре	Material	Includes	Part No. without Cert.	Part No. with Cert
21	100 g - 1 mg	Class I	Type II	Stainless Steel Polished	Hard Case, Tweezer or Lifter, White Cotton Glove	AD-1800-1M	AD-1800-1M-C
17	100 g - 10 mg	Class I	Type II	Stainless Steel Polished	Hard Case, Tweezer or Lifter, White Cotton Glove	AD-1800-10M	AD-1800-10M-C
9	100 g - 1 g	Class I	Type II	Stainless Steel Polished	Hard Case, Tweezer or Lifter, White Cotton Glove	AD-1800-1G	AD-1800-1G-C
25	1 kg - 1 mg	Class I	Type II	Stainless Steel Polished	Hard Case, Tweezer or Lifter, White Cotton Glove	AD-1800-10K	AD-1800-10K-C
13	1 kg - 1 g	Class I	Type II	Stainless Steel Polished	Hard Case, Tweezer or Lifter, White Cotton Glove	AD-1800-10G	AD-1800-10G-C
28	5 kg - 1 mg	Class 0	Type I/II	Stainless Steel Polished	Hard Case, Tweezer or Lifter, White Cotton Glove	AD-1800-5M	AD-1800-5M-C
16	5 kg - 1 g	Class 0	Type I/II	Stainless Steel Polished	Hard Case, Tweezer or Lifter, White Cotton Glove	AD-1800-5G	AD-1800-5G-C

