ION

BM SERIES

Microbalances
Semi-Microbalances
Analytical Balances

![A&D Weighing logo]

A&D Weighing

THE ION SERIES
Practical Weighing for Micrograms

Bring confidence to your lab with the BM series of microbalances, with a capacity from 520 g - 1 µg handle even trace quantities of valuable or degradable substances with confidence.

Our fan-less, integrated, direct current ionizer eliminates static and comes standard on all BM models. The automatic response adjustment function is powered by the embedded sensors to deliver fast and stable results to compensate for environmental variables:

- Temperature
- Humidity
- Vibration
- Atmosphere

Key Feature

- Built-in integrated fan-less ionizer to prevent static
- Enhanced performance due SHS weighing technology
- High sensitivity with six decimal place microgram, readability 0.001 mg (1µg)

- One-touch, full digital internal calibration with auto self-cal (ASC)
- Dual draft rings to reduce draft interferences

The Ion Series − Practical Weighing for Micrograms

Anti-static breeze break
Transparent metal coating on glass minimizes the effects of static

The green LED is lit while the ionizer is on.

Removable separation plate
to weigh taller objects

Draft Shields
BM-20 and BM-22 have innovative double ring draft shields

Bright LCD
High contrast backlit LCD provides excellent readability

BM-20   Max 22g d=1µg

ION
Neutralize static: Fan-less, direct current ionizer neutralizes charged samples

Internal Calibration
Automatic Self Calibration: Auto-calibration when environmental variable is detected or one push

MODE
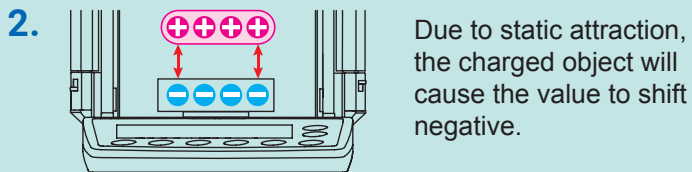12 Weighing Options: g, mg, oz, ozt, ct, dwt, grain, momme, tael, tola, messghal, pieces and percent

Interlocking Doors
Work efficiently, open either door from the opposite side, or open both doors with one hand.

Features and Accessories
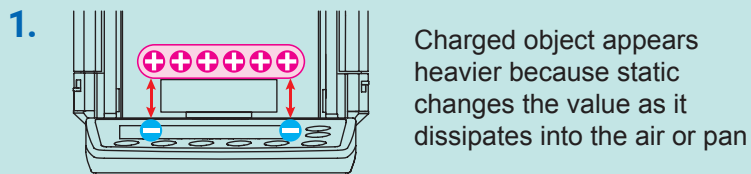
1. Charged object appears heavier because static changes the value as it dissipates into the air or pan

2. Due to static attraction, the charged object will cause the value to shift negative.

Static control

Removing static electricity is critical to accurate weighing. The built-in ionizer improves weighing accuracy by eliminating static. The fan-less direct current (DC) ionizer neutralizes static without the risk of compromising your sample— even fine powders.

This standard feature is easy to use, simply hold the sample in the upper neutralizing chamber for a few seconds before weighing.

Data Logger

- AD-1688 Data Logger stores up to 5000 weighing results with
  - Date
  - Time
  - Temperature
  - Humidity
  - Atmospheric pressure
  - WIN-Ct software
- GLP/GMP/GCP/ISO best practice compliance

ø50 mm

Aluminum pans

ø95 mm

AX-BM-032 microtube holder

Weighing Pans

- Filter weighing pans, to minimize drafts
- Holders for micro-centrifuge tubes
- 3 disposable aluminum pans: 8, 12 & 15 mm diameter
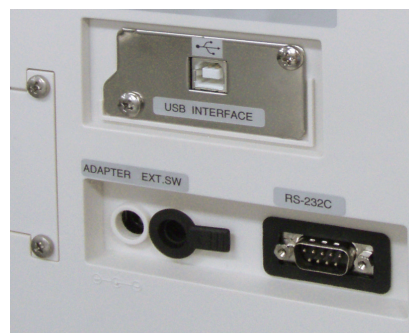
Standard Ports

RS-232 and USB ports are standard on all BM Series balances

Features and Accessories

AD-1676

AD-1687

Option BM-14

Accessories

Product code	Description
AD-1676	External draft enclosure
AD-1653	Density determination kit
BT-3135	Katsota Balance Table 24x35x32
BT-3136	Katsota Tabletop Slab 20x15x3
AD-1682	Rechargeable battery unit
AD-1687	Weighing environment logger
AD-1689	Long Rubber tipped Tweezers for calibration weight
AD-1691	Weighing environment analyzer
AX-BM-031	In-use covers (5 pcs)
AX-BM-032	Microtube holder for the BM-5/5D/20/22[*1]
AX-BM-033	Dust cover for storage
AX-BM-034	Microtube holder for the BM-252/200/300/500
AX-BM-035	Slide breeze break (for the BM-5/5D/20/22 only)
AX-BM-NEEDLESET	Discharge electrode units for the ionizer (a set of 4 pcs)

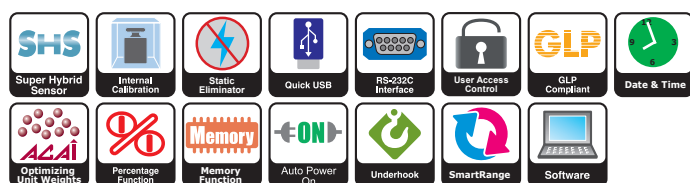| Product code	Description
AX-HOLDER-SET	Sample cup holder set
AX-ROUND-PAN-L	Round aluminum analytical pans (Ø15 mm, 0.8 ml, 100 pcs)
AX-ROUND-PAN-M	Round aluminum analytical pans (Ø12 mm, 0.3 ml, 100 pcs)
AX-ROUND-PAN-S	Round aluminum analytical pans (Ø8 mm, 0.05 ml, 100 pcs)
AD-1192	Compact dot matrix printer
AD-8121B	Multi functional Printer
AD-8920A	Universal remote display
AD-8922A	Remote controller
TB-648	AC Adapter (120V/220V)

Options

Product code	Description
BM-08	Ethernet interface with WinCT-Plus software[*2]
BM-14	Pipette accessory testing kit[*3]

1 BM-5/5D microtube holder is heavier than the standard weighing pan by approx. 2 g, leaving only approx. 3 g for weighing sample.
2 BM-08 and Quick USB (standard) cannot be used at the same time.
3 Cannot be used with the BM-5/5D.

Standard functions

SHS Super Hybrid Sensor | Internal Calibration | Static Eliminator | Quick USB | RS-232C Interface | User Access Control | GLP Compliant | Date & Time

ACAI Optimizing Unit Weights | Percentage Function | Memory Function | Auto Power On | Underhook | SmartRange | Software

BM-5D/22

Optional

LAN•Ethernet Interface

Specifications

Model	BM-5	BM-5D	BM-20	BM-22	BM-252	BM-200	BM-300	BM-500
Weighing capacity	5.2 g	2.1 / 5.2 g[*1]	22 g	5.1 g / 22 g[*1]	250 g	220 g	320 g	520 g
Readability	0.001 mg	0.001/0.01 mg	0.001 mg	0.001 / 0.01 mg	0.01 mg	0.1 mg		
Repeatability (Standard Deviation)	0.0012 mg[*2]	0.01 / 0.04 mg[*2]	0.0025 mg[*2]	0.004[*2] / 0.01 mg	0.03 mg (for 100 g)	0.1 mg	0.2 mg	
Linearity	±0.010 mg	±0.010 / ±0.02 mg	±0.010 mg	±0.010 / ±0.02 mg	±0.010 mg	±0.2 mg	±0.3 mg	±0.5 mg
Minimum weight (typical) [*3]	2.0 mg	5.0 mg	3.0 mg	5.0 mg	20 mg	120 mg		
Stabilization time (set to FAST)	~10 sec	~8 /10 sec	~10 sec	~8 /10 sec	~8 sec	~3.5 sec.		
Sensitivity drift (10 °C to 30 °C)	±2 ppm / °C (When automatic self calibration is not used)							
Operating temperature	5 °C to 40 °C (41 °F to 104 °F), 85% RH or less (non-condensation)							
Display refresh rate	5 times / sec or 10 times / sec							
Measurement Units (Display mode)	g, mg, oz, ozt, ct, momme, dwt, GN, tael[*4], tola[*4], messghal, pieces (counting mode), % (percent mode), Specific gravity							
Counting mode	Minimum unit mass = 0.1 mg / Number of samples = 10, 25, 50 or 100 pieces							
Percent mode	Minimum 100% ref. mass = 10.0 mg / Minimum 100% display = 0.01%, 0.1%, 1% (depends on the reference mass stored)							
Internal Memory	200 sets weighing data / 100 sets with date & time / 50 sets of calibration data							
External Data Logger	Store up to 5,000 weighing results with date & time to AD-1688 (standard)							
Data Output	GLP / GMP / GCP / ISO compliant. Outputs: balance manufacturer, model, s/n, balance identification number, data, time of calibration, mass used, and space for signature.							
Standard interface	RS-232C, Quick USB, External key plug for optional foot switch (SW:128)							
Internal calibration	Motor-driven internal calibration							
External calibration masses (g)	5, 2, 1		20, 10, 5, 2, 1		200, 100, 50, 20, 10	200, 100, 50	300, 200, 100, 50	500, 300, 200, 100, 50
Ionizer electrode pin life	~10,000 hours of continuous use. (User replaceable)							
Weighing pan diameter	25 mm (50 mm, 95 mm for weighing filter optional)				90 mm			
Power consumption	~30 VA (supplied by the AC adapter)							
External dimensions / Weight	690(W) × 860(D) × 630(H) mm 24kg (include AD-1676)		259 (W) x 466 (D) x 326 (H) mm / 10 kg					
Standard accessories	AD-1676 tabletop draft enclosure (BM5/5D only), Gold coated pans (Ø50 mm and Ø95 mm) for weighing filters, Aluminum pans 3 sizes - 10 each, AX-BM-032 microtube holder, AD-1688 weighing data logger, AD-1689 tweezers, AX-BM-033 dust storage cover				AD-1688 weighing data logger, AD-1689 tweezers × 1, AX-BM-033 dust storage cover			

1 Smart range function: The minimum weighing value switches to 0.01 mg automatically when the display value exceeds 5.1 g but returns to 0.001 mg by pressing the RE-ZERO (tare) key.
2 Repeatability using a 1gram weight within the weighing capacity
3 Pursuant to the United States Pharmacopoeia (USP), Chapter 41
4 Can be added upon request

Dimensions (mm/inches)

Models with readability 0.001mg to 0.1mg

A&D Weighing