A&D Weighing

BH-T Series

Premium-Level Semi-Micro/Analytical Balances

andweighing.com

Introducing A&D Weighing's

BH-T Series Semi-Micro/Analytical Balances

Equipped with a vibrant 5-inch color touchscreen, the BH-T series offers maximum operability, enhanced functionality, and a broader range of solutions for advanced weighing tasks. All models include an external ionizer (static eliminator), automatic doors, multiple draft prevention safeguards, and intuitive navigation to streamline your workflow.

Product Features

- 5-inch Color Touchscreen for maximum operability and enhanced functions
- Standard External Ionizer for removing static from delicate measurement substances
- Draft and Convection Deterrence with concentric slots and high-profile breeze break ring for maximum stability
- Various Application Modes including Formulation, HPLC, and Density measurements

User Benefits

- Automatic Opening/Closing Breeze Break for touchless operation when wearing gloves
- Easy Disassembly Design for fast, efficient cleaning and maintenance of the unit
- Impact Shock Detection (ISD) to help avoid errors or damage due to impact loads
- Operation history for records of user logins, settings adjustments, and ISD history

ISO 9000 CERTIFIED

Easy Operation and Maintenace

Automatic Opening/Closing of the Breeze Break Doors

The side doors of the breeze break can be opened/closed using the non-contact IR sensors on the display unit (or an optional foot switch) for smooth, efficient access to the weighing chamber. You can choose to open either door—or both—by linking the door handle(s) to sliding arm(s), powered by pump and air cylinder technology.

Door Handle

Simply connect the handle of the door you wish to open/close automatically to the sliding arm below using the latch on the arm, which can be set to open the door fully or halfway.

IR Sensors

The IR sensors can also be used for contactless activation of the RE-ZERO or PRINT command.

5-inch Color Touchscreen

The touch screen enables intuitive operations while making it easy to enter numbers and change settings. The resistive screen responds to pressure so it can be operated even when wearing thick gloves.

Streamlined Design for Quick and Effortless Balance Cleaning

Each glass pane of the breeze break (including the rear panel), as well as the floor plate, can be easily detached for thorough cleaning/disinfection, thanks to the unique clip system. In addition, the side doors are suspended from the top rather than sliding along grooves, preventing the accumulation of dust/contaminants.

Groove-free side door design

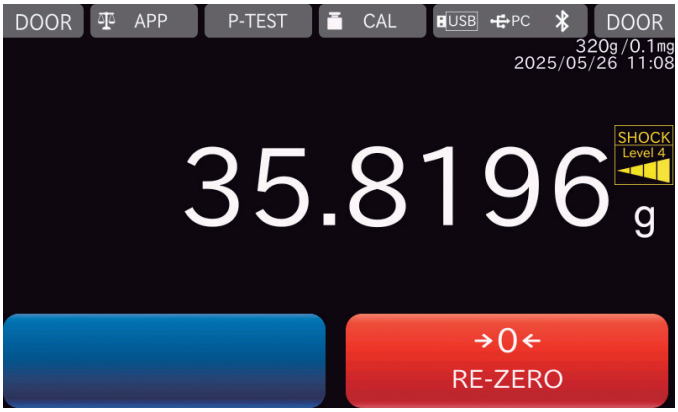
Glass panes and floor plate fully removed

Perforated weighing pan with high-profile breeze break ring

Minimizing the Impact of Drafts and Convection Flows

The weighing pan of the BH-T series features concentric slots that help mitigate convection flows, ensuring highly stable weighing. In addition, 0.01 mg models include two breeze break rings: a high-profile ring for enhanced protection against draft and convection flows, and a low-profile ring for use with items like weighing paper or filters that may touch the taller ring.[1]

1. Only the low-profile breeze break ring is included with 0.1 mg models.



Impact load: Level 4

Impact Shock Detection (ISD)

ISD detects impact loads on the weight sensor and triggers an audible alert for oversized loads. This helps reduce impact, minimize measurement errors and prevent sensor damage.

External Ionizer for Instant Static Elimination

The provided ionizer, easily ensures sample (and container) is completely free from destabilizing static electricity. Using a DC method, no fan is needed to deliver ions, and therefore no breeze is caused.

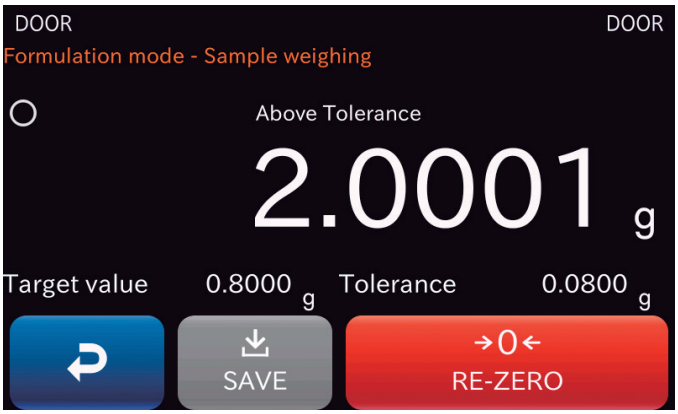
Convenient Measurement Modes

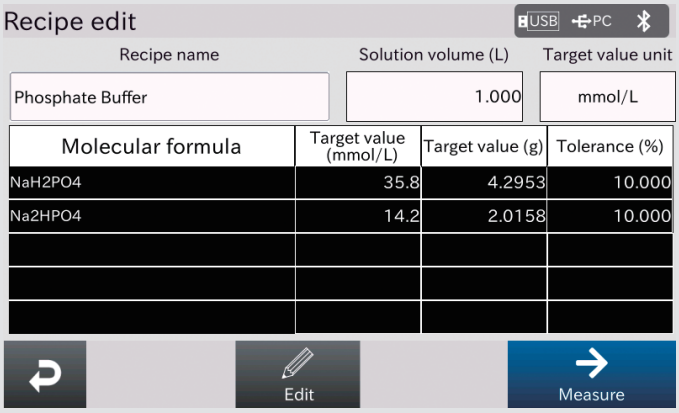
Formulation Mode

Formulation mode enables quick, accurate weighing of multiple samples to mix according to a set recipe, allowing you to set a target value (g) and tolerance (%) for each sample. Up to 150 samples and 300 recipes can be registered in the balance for easy creation or selection/change of recipes.

Weighing screen in formulation mode

Instructions prompt you to weigh each sample within its target range. The [SAVE] key to proceed to the next step activates only when the weight is within range, preventing errors.





HPLC Mode

HPLC mode facilitates buffer solution preparation for high-performance liquid chromatography. You can specify target sample quantities in molar concentration (mol/L or mmol/L) as well as weight (g). The balance automatically converts between molar concentration and weight—eliminating manual calculation errors.

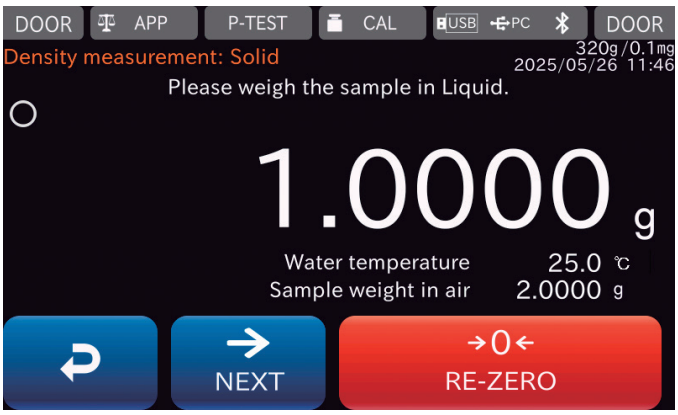
Recipe edit screen in HPLC mode

Thirteen commonly used samples are pre-registered with molecular weight data. Up to 30 additional samples and 300 recipes can be registered.

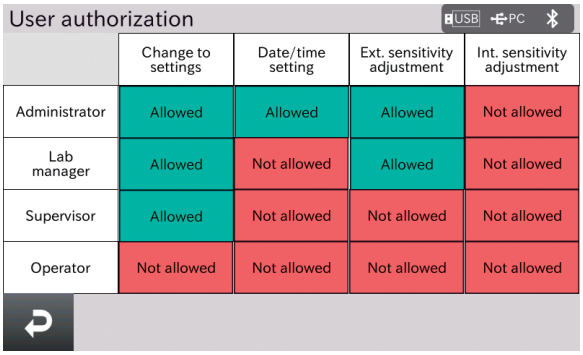
Density Measurement Mode

To measure density, simply enter the water temperature (or liquid density if not using water), then weigh the sample in air and in water using either the AD-1653 density determination kit (sold separately) or the underhook. The balance calculates density automatically. Liquid density can also be measured using a sinker.[2]

2. A sinker is included as standard with the AD-1653.



Advanced User Control Modes



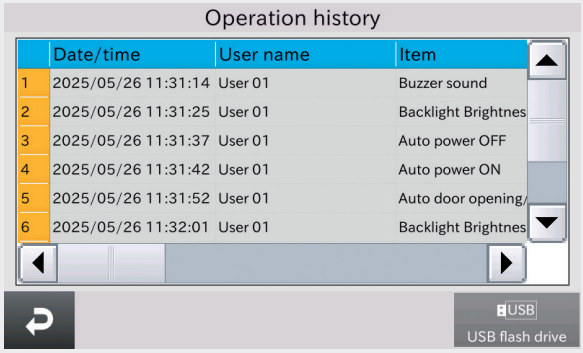
Operational Benefits

To prevent unauthorized changes to balance settings/data, users can be assigned to one of four access levels: administrator, lab manager, supervisor, or operator. The administrator can define the extent of user rights for each level: change settings, date/time setting, external sensitivity adjustment, and internal sensitivity adjustment.

Up to 100 users can be registered, including the administrator.

History Information

The balance can display or save to a USB flash drive the log-in/log-out history, operation (changes to settings) history, sensitivity adjustment history, and impact shock detection (ISD) history.



Operation history

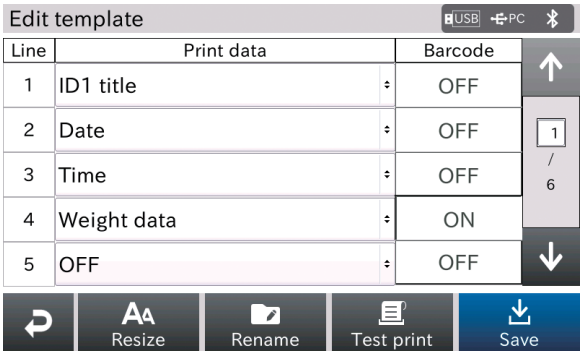
GLP Custom Output Mode

GLP custom output mode provides flexible customization of GxP-compliant data output. You can create reusable templates for headers, bodies, and footers, tailoring both content and sequence to your specific needs.

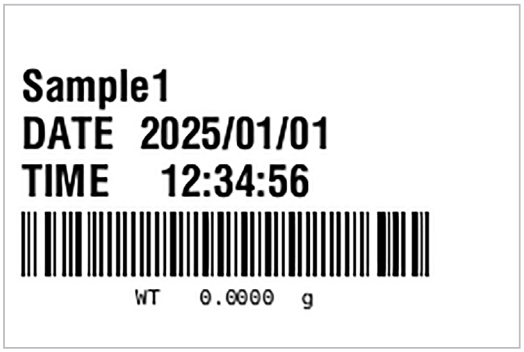
Selecting a template for GLP custom output

Label Output Mode

Label output mode enables connection to a ZPL®/ZPL II®-compatible label printer for text and barcode (CODE128) output. It supports the creation of reusable templates with customizable content, allowing you to choose between text or barcode for each line.

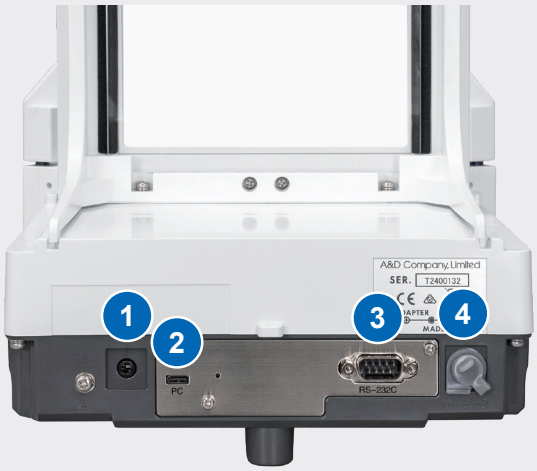


Editing a template for label output



Label generated using a template

Communication Interfaces and Connectors



1. **External key input (jack socket)**
   A separately-sold foot switch can be connected for operation of RE-ZERO, PRINT or the automatic breeze break doors.
2. **USB (Type-C) for connection with a PC**
   Using internal settings, you can toggle between Quick USB (HID) mode, which allows direct transmission of weighing data to a PC application (e.g., a spreadsheet), and Virtual COM (CDC) mode for bi-directional communication. A 2-meter USB cable is supplied as standard.
3. **RS-232C (D-Sub 9P)**
4. **Connector for AC adapter**
5. **Bluetooth®[3]**
6. **Ethernet (TCP/IP)**
7. **USB (Type-A) for USB flash drives**

3. The Bluetooth® function is currently enabled for the US, Canada and Japan only.

Options

AD-1653	Density determination kit
AD-1671	Anti-vibration table for balances
AD-1672/AD-1672A	Tabletop breeze break (large)
AD-1684A	Electrostatic field meter
AD-1687	Weighing environment logger
AD-1688	Weighing data logger
AD-8129TH	Compact printer
AX-BHT-31	Display cover for the BH-T series (5 pcs)
AX-BH-PAN-01	Weighing pan (perforated)
AX-BH-PAN-02	Weighing pan (non-perforated)
AX-BM-NEEDLESET	Discharge electrode units for the ionizer (a set of 4 pcs)
AX-HOLDER-SET-B	Sample cup holder set (antistatic)
AX-IR-SWITCH	External IR switch Can be added to the ionizer if you prefer not to put a hand or sample close to the IR sensor of the ionizer.
AX-SW137-PRINT	Foot switch for PRINT (with connector)
AX-SW137-REZERO	Foot switch for RE-ZERO (with connector)

Specifications

		BH-225TE	BH-225DTE	BH-224TE	BH-324TE
Capacity x Readability		220 g x 0.01 mg	51 g / 220 g[i] x 0.01 mg / 0.1 mg[i]	220 g x 0.1 mg	320 g x 0.1 mg
Repeatability (std. deviation)[ii]		0.015 mg (for 50 g) 0.03 mg (for 200 g)	0.025 mg (for 50 g) 0.1 mg (for 200 g)	0.09 mg	0.1 mg
Minimum weight[iii] (typical)		17 mg		104 mg	
Linearity		±0.10 mg	±0.2 mg		
Stabilization time (typical when set to FAST)		Approx. 7 secs	Approx. 7 secs / 3 secs	Approx. 3 secs	
Display		5-inch WVGA, TFT LCD color touch screen (resistive type) with two IR sensors			
Display language[iv]		English, French, German, Italian, Dutch, Spanish, Portuguese, Russian, Korean, Chinese, Japanese			
Counting mode	Minimum unit mass	0.1 mg			
	Number of samples	10 to 100 pieces			
Communication interface		RS-232C (D-Sub 9P), USB (Type-A), USB (Type-C), Ethernet (TCP/IP), External key input, Bluetooth®[v]			
Applicable weights for calibration test/sensitivity adjustment		Any weight between 10 and 200 g			
Standard accessories		AD-1683A external ionizer x 1, High-profile breeze break ring x 1[vi], Low-profile breeze break ring x 1, AD-1689 tweezers for calibration weight x 1[vi], Micro spatula x 1[vi], Large and small cleaning brushes x 1 each, Weigh boat (antistatic, 10 ml) x 10, USB cable (2 m) x 1			
Internal weight[vii]		Approx. 200 g			
Sensitivity drift		±2 ppm / °C (10 to 30 °C / 50 to 86 °F, when automatic self-sensitivity adjustment is OFF)			
Operating environment		5 to 40 °C (41 to 104 °F), 85% RH or less (no condensation)			
Display refresh rate		5 times / second or 10 times / second			
Units of measure[viii]		mg (milligram), g (gram), oz (ounce), ozt (troy ounce), ct (metric carat), mom (momme), dwt (pennyweight), gr (grain), pcs (counting mode), and % (percent mode)			
Percent mode	Minimum 100% reference mass	10.0 mg			
	% readability	0.01%, 0.1%, 1% (depends on the reference mass stored)			
Weighing pan size		Ø90 mm			
External dimensions (WxDxH)		265 x 442 x 381 mm			
Net weight		Approx. 8 kg			
Power supply / consumption		AC adapter / approx. 36 VA			

i. Smart range function: Automatically switches between the precision and standard ranges. Changes back to full precision range when the RE-ZERO (tare) operation is implemented.
ii. Repeatability can worsen depending on the environmental conditions and operator skills.
iii. Pursuant to the United States Pharmacopeia (USP), Chapter 41
iv. Certain functions are only available in English and Japanese.
v. The Bluetooth® function is currently enabled for the US, Canada and Japan only.
vi. For 0.01 mg models
vii. The mass of the internal weight may change over time due to on-site environmental conditions and/or degradation with age.
viii. Either tael (Singapore/HK jewelry/Taiwan) or tola can be added upon request.

A&D Weighing
4622 Runway Boulevard
Ann Arbor, MI 48108
888-726-5931
andweighing.com

5 YEAR A&D Weighing WARRANTY