

*Compact Analytical Balances*

# *HR-AZ/HR-A*

*Series*

**HR-250AZ/HR-250A**  
252 g × 0.1 mg

**HR-150AZ/HR-150A**  
152 g × 0.1 mg

**HR-100AZ/HR-100A**  
102 g × 0.1 mg



HR-250AZ



HR-250A

**Ultimate Value!**



**AND** ...Clearly a Better Value  
A&D Company, Limited  
<http://www.aandd.jp>

# Finally, Globally Proven Precision at a Fair Price

What do you expect most from a precision analytical balance? If you are like us, you will agree that accuracy and reliability come before anything else. The HR-AZ/HR-A series of compact analytical balances, behind their simple design, utilize proven A&D sensor technology that delivers superior performance to all users who wish to do superior work.

Optimizing value, the HR-AZ/HR-A series realizes the following three savings:

## 1. Saving “Time”

### *Fast Stabilization in 2 Seconds*

Our widely-recognized Compact Super Hybrid Sensor (C-SHS) technology<sup>1</sup> now enables you to perform high-speed, frustration-free weighing even at a resolution of 0.1 mg. \*1 Patent pending

### *One-Touch Automatic Calibration (HR-AZ models only)*

The built-in calibration mass lets you ensure the accuracy of your balance with just one key press.

## 2. Saving “Space”

### *Compact Footprint: 198 mm × 294 mm*

With the C-SHS, the footprint of the balance is smaller than the ISO A4 (210 mm × 297 mm) paper size, maximizing opportunities for use of an analytical balance in even the smallest of spaces.

### *Rotary Sliding Doors*

Unlike conventional analytical balances, the HR-AZ/HR-A series requires no extra space at the rear for accessing the weighing chamber, as the doors simply rotate behind the balance.

### *Removable Breeze Break*

The breeze break is easily removed using a unique clip system, allowing fast, simple cleaning and use in confined spaces like gloveboxes and controlled environment cabinets.



Rotary Sliding Doors

## 3. Saving “Cost”

### *Lean Design for Affordability*

The HR-AZ/HR-A design is all about “keeping it simple” without compromising quality or performance. Key features demanded by today’s market have been included, resulting in a compact, precise, and reliable analytical balance for the value-conscious user.



## Superb Usability

### **Large Removable Breeze Break with Antistatic Coating**

The breeze break is treated with an antistatic agent to ensure stable weighing. It also offers a large working space and can be detached for better portability and easy cleaning of the balance.



Removable Breeze Break

### **Clear, Reverse Backlit LCD**

The contrast of the black and white display provides excellent readability even in a dimly-lit area.

### **Front-Mounted Spirit Level**

The spirit level is easily visible when adjusting the leveling feet of the balance for accurate weighing.

## Great Flexibility and Compliance

### **Fourteen Weighing Units**

You can easily choose from g, mg, oz, oz-t, ct, momme, dwt, grain, tael, tola, pcs (counting mode), % (percent mode), DS (density mode), in addition to a user-programmable unit for conversion applications like GSM calculations in paper and fabric industries.

### **GLP/GMP/GCP/ISO Compliant Output**

For compliance and documentation requirements, the HR-AZ/HR-A series can output the balance manufacturer, model, serial number, ID number, date and time;<sup>ii</sup> space for signature, and calibration records.

\* ii For HR-AZ models only. Please use the AD-8121B compact printer, which has a calendar function, to print the date and time with HR-A models.

### **Adjustable Response Characteristics and Hold Function**

From three preset combinations of weighing speed and stability (FAST, MID, or SLOW), select the one that best suits your environmental conditions (drafts and vibrations). A hold function is also available for weighing animals.

### **Statistical Calculation Function**

The balance displays and outputs statistical calculation data including number of data, sum, maximum, minimum, range (maximum–minimum), average, standard deviation, and coefficient of variation.

## Options and Accessories

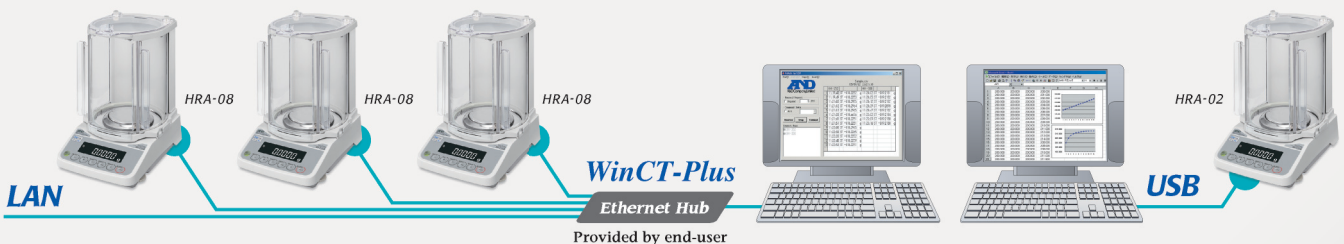
### **Quick USB Interface (HRA-02)**

The easy-to-use USB interface requires no driver or software installation for transfer of weighing data to a PC.<sup>iii</sup>

\* iii Data transfer from the balance to a PC only. Please use the RS-232C (standard interface) to serial-USB converter (AX-USB-9P, optional) for two-way communication or sending GLP or statistical calculation information via USB. Portable memory devices such as weighing environment logger (AD-1687) and data logger (AD-1688) are also available.

### **LAN-Ethernet Interface with WinCT-Plus Software (HRA-08)**

You can send commands for controlling and acquiring data from multiple balances.



### **Rechargeable Battery Unit (HRA-09)**

The Ni-MH rechargeable battery pack can be fitted into the balance for use without AC power (10 hours of charging for 8 hours of operation).

### **Density Determination Kit (AD-1654)**

Using this kit, it is easy to calculate the density of a solid or liquid substance in density mode.

## Specifications

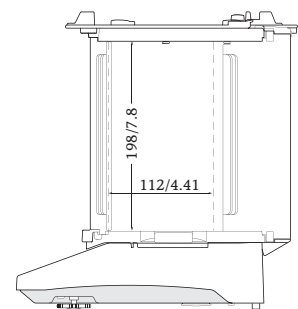
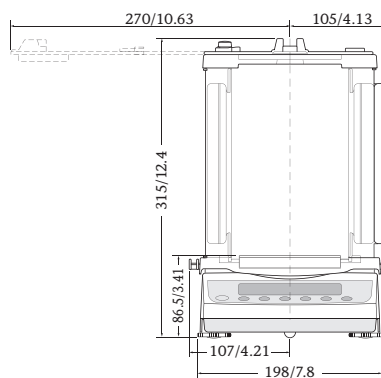
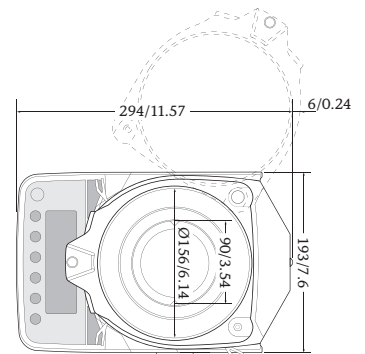
Models	HR-250AZ	HR-150AZ	HR-100AZ	HR-250A	HR-150A	HR-100A
Weighing capacity	252 g	152 g	102 g	252 g	152 g	102 g
Minimum weighing value	0.1 mg					
Repeatability (standard deviation)	0 to 200 g: 0.1 mg	0.1 mg		0 to 200 g: 0.1 mg	0.1 mg	
	200 to 252 g: 0.2 mg			200 to 252 g: 0.2 mg		
Linearity	±0.3 mg	±0.2 mg		±0.3 mg	±0.2 mg	
Stabilization time (when set to FAST under a good environment)	Approx. 2 seconds <sup>iv</sup>					
Sensitivity drift	±2 ppm/°C (10 to 30 °C/50 to 86 °F)					
Internal calibration	Yes			No		
Clock and calendar function	Yes			No		
Operating environment	5 to 40 °C (41 to 104 °F), 85% RH or less (no condensation)					
Display refresh rate	5 times/second (10 times/second can be selected)					
Display mode	g, mg, oz, oz-t, ct, momme, dwt, grain, tael, tola, pcs (counting mode), % (percent mode), DS (density mode)					
Counting mode	Minimum unit mass	0.1 mg				
	Number of samples	10, 25, 50 or 100 pieces				
Percent mode	Minimum 100% reference mass	10.0 mg				
	Minimum 100% display	0.01%, 0.1%, or 1% (depends on the reference mass stored)				
Interface	RS-232C					
Applicable calibration weight value	250 g, 200 g 100 g, 50 g	150 g, 100 g, 50 g	100 g, 50 g	250 g, 200 g 100 g, 50 g	150 g, 100 g, 50 g	100 g, 50 g
Weighing pan size	Ø90 mm					
External dimensions	198 (W) × 294 (D) × 315 (H) mm					
Net weight	Approx. 3.9 kg			Approx. 3.5 kg		
Power supply	AC adapter					
Power consumption	Approx. 11 VA (supplied to the AC adapter)					

\* iv The factory setting is MID, whose stabilization time is approx. 3 seconds.

## Options

- HRA-02\* Quick USB interface with cable
  - HRA-08\* Ethernet interface with WinCT-Plus software
  - HRA-09\* Built-in rechargeable battery
- \* The HRA-02, HRA-08 and HRA-09 cannot be used at the same time

## Dimensions (mm/inches)



## Accessories

- AD-1654 Density determination kit
- AD-1683 Static eliminator
- AD-1684 Electrostatic field meter
- AD-1687 Weighing environment logger
- AD-1688 Weighing data logger
- AD-1689 Tweezers for calibration weight
- AD-8121B Compact printer
- AD-8526 Serial/Ethernet converter
- AD-8527 Quick USB adapter
- AD-8920A Remote display
- AD-8922A Remote controller
- AX-HRA-31 Main unit cover (5 pcs)
- AX-USB-9P Serial/USB converter



AD-1683



AD-1687



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