

*Compact Analytical Balances*

# **HR-AZ/HR-A**

*Series*

**HR-250AZ/HR-250A**  
252 g x 0.1 mg

**HR-251AZ/HR-251A**  
62 g/252 g x 0.1 mg/1 mg

**HR-150AZ/HR-150A**  
152 g x 0.1 mg

**HR-100AZ/HR-100A**  
102 g x 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.



Optional



## 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

### **Twelve Weighing Units**

You can easily choose from gram, milligram, ounce, troy ounce, metric carat, momme, pennyweight, grain, counting mode, percent mode, density mode, in addition to a user-programmable unit for conversion applications like GSM calculations in paper and fabric industries (one more unit from tael, tola, or Newton can be added upon request).

### **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 (FXi-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 (FXi-08)**

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



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

The Ni-MH rechargeable battery pack can be fitted into the balance for use without AC power (10 hours of charging for 14 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

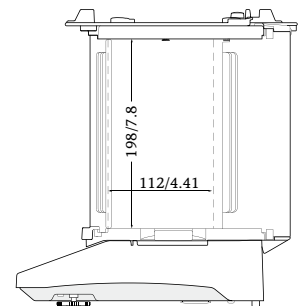
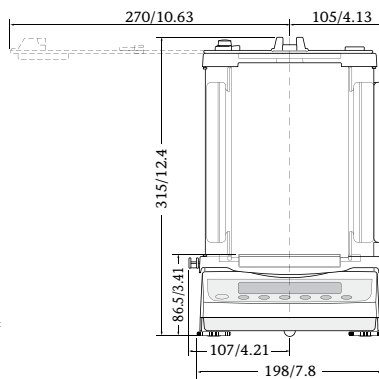
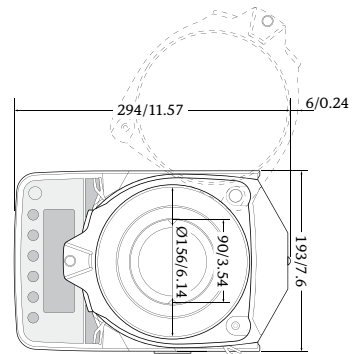
Models	HR-250AZ	HR-251AZ	HR-150AZ	HR-100AZ	HR-250A	HR-251A	HR-150A	HR-100A
Weighing capacity	252 g	62 g / 252 g <sup>iv</sup>	152 g	102 g	252 g	62 g / 252 g <sup>iv</sup>	152 g	102 g
Minimum weighing value	0.1 mg	0.1 mg / 1 mg	0.1 mg		0.1 mg / 1 mg		0.1 mg	
Repeatability (standard deviation)	0 to 200 g: 0.1 mg	0.1 mg / 0.5 mg	0.1 mg		0 to 200 g: 0.1 mg	0.1 mg / 0.5 mg	0.1 mg	
	200 to 252 g: 0.2 mg				200 to 252 g: 0.2 mg			
Linearity	±0.3 mg	±0.3 mg / ±1 mg	±0.2 mg		±0.3 mg	±0.3 mg / ±1 mg	±0.2 mg	
Stabilization time (when set to FAST under a good environment)	Approx. 2 seconds <sup>v</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 <sup>vi</sup>	gram, milligram, ounce, troy ounce, metric carat, momme, pennyweight, grain, counting mode, percent mode, density mode, and a user-programmable unit							
Counting mode	Minimum unit mass	0.1 mg	1 mg	0.1 mg		1 mg	0.1 mg	
	Number of samples	10, 25, 50 or 100 pieces						
Percent mode	Minimum 100% reference mass	10.0 mg	100 mg	10.0 mg		100 mg	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	250 g, 200 g 100 g, 50 g, 20 g	150 g, 100 g, 50 g	100 g, 50 g	250 g, 200 g 100 g, 50 g	250 g, 200 g 100 g, 50 g, 20 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 Smart range function: The minimum weighing value will switch to 1 mg automatically when the display value exceeds 62 g but returns to 0.1 mg by pressing the RE-ZERO (tare) key.  
 \* v The factory setting is MID, whose stabilization time is approx. 3 seconds.  
 \* vi One additional unit from tael (Singapore/HK jewelry/Taiwan/China), tola or Newton can be added upon request.

## Options

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

## Dimensions (mm/inches)



## Accessories

- AD-1654** Density determination kit
- AD-1671** Anti-vibration table for balances
- AD-1672** Tabletop breeze break
- 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-FXi-31** Main unit cover (5 pcs)
- AX-USB-9P** Serial/USB converter

**A&D** ...Clearly a Better Value

### A&D Company, Limited

3-23-14 Higashi-Ikebukuro, Toshima-ku, Tokyo 170-0013 JAPAN  
 Telephone: [81](3) 5391-6132 Fax: [81](3) 5391-6148  
 http://www.aandd.jp

### A&D ENGINEERING, INC.

1756 Automation Parkway, San Jose, CA 95131 U.S.A.  
 Telephone: [1](408) 263-5333 Fax: [1](408) 263-0119

### A&D Australasia Pty Ltd.

32 Dew Street, Thebarton, South Australia 5031 AUSTRALIA  
 Telephone: [61](8) 8301-8100 Fax: [61](8) 8352-7409

### A&D INSTRUMENTS LTD.

Unit 24/26 Blacklands Way Abingdon Business Park,  
 Abingdon, Oxon OX14 1DY UNITED KINGDOM  
 Telephone: [44](1235) 550420 Fax: [44](1235) 550485

### <German Sales Office>

Hamburger Straße 30 D-22926 Ahrensburg GERMANY  
 Telephone: [49](0) 4102 459230 Fax: [49](0) 4102 459231

### A&D KOREA Limited

Manhattan Bldg. 8F, 36-2 Yoido-dong, Youngdeungpo-gu, Seoul, KOREA  
 Telephone: [82](2) 780-4101 Fax: [82](2) 782-4280

### A&D RUS CO., LTD.

Verayskaya str.17, Moscow, 121357 RUSSIA  
 Telephone: [7] (495) 937-33-44 Fax: [7] (495) 937-55-66

### A&D Instruments India Private Limited

509 Udyog Vihar Phase V  
 Gurgaon-122 016, Haryana, INDIA  
 Telephone: [91](124) 471-5555 Fax: [91](124) 471-5599