

# GH/HR-i

Analytical  
Semi-Micro Balances



**GH-252**

250gx0.1mg  
101gx0.01mg

**GH-202**

220gx0.1mg  
51gx0.01mg

**GH-300**

320gx0.1mg

**GH-200**

220gx0.1mg

**GH-120**

120gx0.1mg

**HR-202i**

220gx0.1mg  
51gx0.01mg

**HR-300i**

320gx0.1mg

## GH/HR-i series



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

# **High Performance up to 101g (GH-252), 0.01mg Semi-Micro Weighing Automatic Self-Calibration (GH) and Ergonomic Design Ethernet interface (GH-08) with WinCT-Plus software makes data acquisition using multiple GH models possible expanding your Local Area Network System.**

## **Motor-driven Internal Calibration (GH models only)**

The GH internal calibration with an internal mass saves time and money. External calibration requires a great deal of skill, time and an expensive external mass. With our internal calibration with internal mass, the balance is calibrated very quickly.

### **Automatic Self Calibration (GH models only)**

Self-calibrates automatically when the balance detects ambient temperature changes.

### **One Touch Automatic Calibration (GH models only)**

Allows you to calibrate the balance on demand with just the push of a button.

## **Standard RS-232C**

Incorporates bi-directional communication with a PC, printer or other peripheral device.

## **Multiple Weighing Units**

Uses programmable or standard units of measurement: g, mg, PCS (with ACAI\* function), %, oz, ozt, ct, dwt, GN, tl, etc.

\*ACAI (Automatic Counting Accuracy Improvement)

## **Data Memory Function (GH models only)**

200 PCS Weighing data without date and time

100 PCS Weighing with date and time

50 PCS Calibration history data

## **GLP/GMP/GCP/ISO Compliance**

Allows GLP or LIMS balance management by outputting the Balance ID number and data used to calibrate the balance. This data can be output to A&D's AD-8121B printer or a computer, indicating date, time, Balance ID number, serial number and calibration data.

|            |            |
|------------|------------|
|            | A & D      |
| MODEL      | GH-300     |
| S/N        | 01234567   |
| ID         | LAB-0123   |
| DATE       | 2007/10/03 |
| TIME       | 12:34:56   |
| CALIBRATED | (INT.)     |
| SIGNATURE  |            |

## **ID Number**

The balance ID number can be set. It is used to identify the balance when GLP in use.

The ID number is memorized and maintained once it is fixed, even when the AC adapter is removed.

## **Auto Power On Function**

Plug in the unit and it turns itself on without having to press the ON/OFF key.

## **Time & Date (GH models only)**

Standard Time & Date Function complies with GLP and Interval Weighing in the Data Memory Function.

## **Interval Time Setting (GH models only)**

Weighing intervals of 2, 5, 10, 30 seconds and 1, 2, 5, 10 minutes in the Data Memory Function.

## **Standard Underhook**

Ideal for density determination and weighing magnetic substances.

## **Auto Re-Zero Function**

Re-zeroes automatically after data output.

## **Standard Windows Communication Tools Software**

A free copy of WinCT - A&D's powerful and flexible data collection software tool for virtually instant connection to a PC and a network of other devices.



# GH/HR-i



## Quick USB Interface (GH-02)

Easy-to-use optional USB interface, with no driver or software installation necessary, for transfer of weighing data to a computer (Unidirectional communication from a balance to a PC only. Please use the standard RS-232C interface for sending commands from a PC to the balance.)

## Ethernet Interface (GH-08) with WinCT-Plus software (CD-ROM)

WinCT-Plus software makes it possible for the user to easily set up an IP address, subnet mask etc. The user can also send commands to control and acquire data from multiple GH balances.



## AD-1683 Static eliminator

The AD-1683 static eliminator, which incorporates a high-voltage power source, is a DC power-operated compact device which can eliminate static electricity from charged objects without the need of an external high-voltage power source. Since this static eliminator is compact and lightweight with no fan (no breeze is produced) and requires no high-voltage wiring, it is very easy to handle. It can generate ions very easily because it is a DC type.

### Accessories

AX-054016580-S Discharge Electrode Pin

## GH/HR-i Series Specifications

|                                                         |                             | GH-252                                                                                             | GH-202                      | GH-300        | GH-200              | GH-120                     | HR-202i                                | HR-300i             |
|---------------------------------------------------------|-----------------------------|----------------------------------------------------------------------------------------------------|-----------------------------|---------------|---------------------|----------------------------|----------------------------------------|---------------------|
| Gram                                                    | (g)                         | 250x0.0001/101x0.00001                                                                             | 220x0.0001/51x0.00001       | 320x0.0001    | 220x0.0001          | 120x0.0001                 | 220x0.0001/51x0.00001                  | 320x0.0001          |
|                                                         | (mg)                        | 250000x0.1/101000x0.01                                                                             | 220000x0.1/51000x0.01       | 320000x0.1    | 220000x0.1          | 120000x0.1                 | 220000x0.1/51000x0.01                  | 320000x0.1          |
| Decimal Ounce (oz)                                      |                             | 8.82x0.00001/3.56x0.000001                                                                         | 7.76x0.00001/1.80x0.000001  | 11.29x0.00001 | 7.76x0.00001        | 4.23x0.00001               | 7.76x0.00001/1.80x0.000001             | 11.29x0.00001       |
| Troy Ounce (ozt)                                        |                             | 8.04x0.00001/3.25x0.000001                                                                         | 7.07x0.00001/1.64x0.000001  | 10.29x0.00001 | 7.07x0.00001        | 3.86x0.00001               | 7.07x0.00001/1.64x0.000001             | 10.29x0.00001       |
| Pennyweight (dwt)                                       |                             | 160.8x0.0001/64.9x0.00001                                                                          | 141.5x0.0001/32.8x0.00001   | 205.8x0.0001  | 141.5x0.0001        | 77.2x0.0001                | 141.5x0.0001/32.8x0.00001              | 205.8x0.0001        |
| Carat (ct)                                              |                             | 1250x0.001/505x0.0001                                                                              | 1100x0.001/255x0.0001       | 1600x0.001    | 1100x0.001          | 600x0.001                  | 1100x0.001/255x0.0001                  | 1600x0.001          |
| Momme (mom)                                             |                             | 66.7x0.0001/26.9x0.00001                                                                           | 58.7x0.0001/13.6x0.00001    | 85.3x0.0001   | 58.7x0.0001         | 32.0x0.0001                | 58.7x0.0001/13.6x0.00001               | 85.3x0.0001         |
| Grain Unit (GN)                                         |                             | 3858x0.002/1559x0.0002                                                                             | 3395x0.002/787x0.0002       | 4938x0.002    | 3395x0.002          | 1852x0.002                 | 3395x0.002/787x0.0002                  | 4938x0.002          |
| Tola (t)                                                |                             | 21.43x0.00001/8.66x0.000001                                                                        | 18.86x0.00001/4.37x0.000001 | 27.44x0.00001 | 18.86x0.00001       | 10.29x0.00001              | 18.86x0.00001/4.37x0.000001            | 27.44x0.00001       |
| Tael (TL)                                               |                             | 6.67x0.00001/2.69x0.000001                                                                         | 5.87x0.00001/1.36x0.000001  | 8.53x0.00001  | 5.87x0.00001        | 3.20x0.00001               | 5.87x0.00001/1.36x0.000001             | 8.53x0.00001        |
| Repeatability (Standard Deviation)                      |                             | 0.1mg / 0.03mg                                                                                     | 0.1mg / 0.02mg              | 0.2mg         | 0.1mg               | 0.1mg                      | 0.1mg / 0.02mg                         | 0.2mg               |
| Linearity                                               |                             | ±0.2mg / ±0.10mg                                                                                   | ±0.2mg / ±0.03mg            | ±0.3mg        | ±0.2mg              | ±0.2mg                     | ±0.2mg / ±0.03mg                       | ±0.3mg              |
| Stabilization Time (typical at FAST)                    |                             | Approx. 3.5 sec(0.1mg) / 8 sec(0.01mg)                                                             |                             |               | Approx. 3.5 seconds |                            | Approx. 3.5 sec(0.1mg) / 8 sec(0.01mg) | Approx. 3.5 seconds |
| Sensitivity Drift (10°C to 30°C)                        |                             | ±2ppm/°C (when automatic self calibration is not used)                                             |                             |               |                     |                            |                                        |                     |
| Operating Temperature                                   |                             | 5°C to 40°C (41 F to 104 F),85%RH or less (no condensation)                                        |                             |               |                     |                            |                                        |                     |
| Display Type                                            |                             | Liquid Crystal Display (LCD)                                                                       |                             |               |                     |                            |                                        |                     |
| Display Refresh Rate                                    |                             | 5 times/second or 10 times/second                                                                  |                             |               |                     |                            |                                        |                     |
| Counting Mode                                           | Minimum unit mass           | 0.1mg                                                                                              |                             |               |                     |                            |                                        |                     |
|                                                         | Number of samples           | 10, 25, 50 or 100 pieces                                                                           |                             |               |                     |                            |                                        |                     |
| Percent Mode                                            | Minimum 100% reference mass | 10.0mg                                                                                             |                             |               |                     |                            |                                        |                     |
|                                                         | Minimum 100% display        | 0.01%, 0.1%, 1% (Depends on reference mass stored)                                                 |                             |               |                     |                            |                                        |                     |
| Standard Serial I/F                                     |                             | RS-232C interface with Windows Communication Tools (WinCT : included as CD-ROM)                    |                             |               |                     |                            |                                        |                     |
| Calibration Weights to be used for External Calibration |                             | 200g<br>100g<br>50g<br>20g                                                                         | 300g<br>200g<br>100g        | 200g<br>100g  | 100g<br>50g         | 200g<br>100g<br>50g<br>20g | 300g<br>200g<br>100g                   |                     |
| Weighing Pan                                            |                             | Ø90mm                                                                                              |                             |               |                     |                            |                                        |                     |
| External Dimensions                                     |                             | 217(W) x 442(D) x 316(H)mm                                                                         |                             |               |                     |                            |                                        |                     |
| Power                                                   |                             | Confirm that the adapter type is correct for the local voltage and power receptacle (Approx. 11VA) |                             |               |                     |                            |                                        |                     |
| Weight                                                  |                             | Approx. 8.2kg(GH) / 7.9kg(HR-i)                                                                    |                             |               |                     |                            |                                        |                     |
| Standard Accessories                                    |                             | WinCT in CD-ROM, Manual, AC Adapter                                                                |                             |               |                     |                            |                                        |                     |

## Options

**GH-02** Quick USB interface with cable

**GH-08** Ethernet interface

\* GH-02 and GH-08 cannot be used at the same time.

## Accessories

**AD-1653**

**AD-1682**

**AD-1683**

**AD-1684**

**AD-1688**

**AD-1689**

**AD-8121B**

**AD-8527**

**AD-8920A**

**AD-8922**

**AX-K02466-200**

**AX-USB-9P**

Density Determination Kit

Rechargeable Battery Unit (Maximum operating time: 8 hours)

Static Eliminator

Electrostatic Fieldmeter

Weighing Data Logger

Tweezers for Calibration Weight

Dot Matrix Compact Printer

Quick USB Adapter

Remote Display

Remote Controller

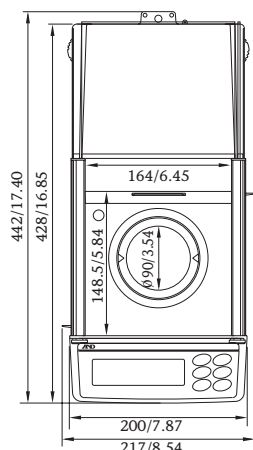
RS-232C Cable (9P-9P, 2m)

Serial/USB Converter

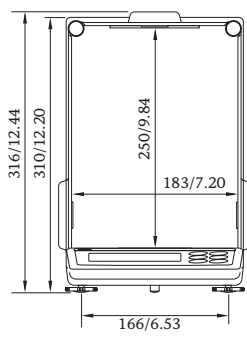


AD-8121B

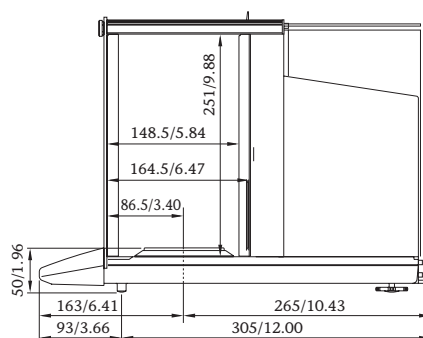
## Dimensions (mm/inches)



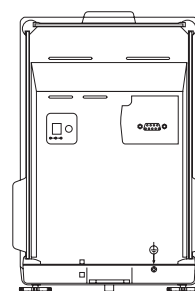
Top View



Front View



Side View



Rear View



...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.aand.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>**

Große Straße 13 b 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.**

Vereyskaya 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