

A&D WEIGHING

# ANALYTICAL/SEMI-MICRO BALANCES



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

# ORION™ SERIES

## An Exceptional Combination of Remarkable Features at Affordable Prices



**0.01 mg**

• 0.01mg Semi-Micro Resolution



• User Friendly Operation



• Liquid Crystal Display



• RS-232C bi-directional Interface



• Windows Communication Tools Software

**GLP**

• GLP/GMP/GCP/ISO Compliance

**ID**

• Balance ID Number



• Automatic Counting Accuracy Improvement



• Auto Power On Function



• Bluetooth® Interface (option)



• Underhook Capability

## Orion Series Specifications

Capacity / Resolution		HR-60	HR-120	HR-200	HR-300i	HR-202i
Gram	(g)	60x0.0001	120x0.0001	210x0.0001	310x0.0001	210x0.0001 / 42x0.00001
	(mg)	60000x0.1	120000x0.1	210000x0.1	310000x0.1	210000x0.1 / 42000x0.01
Decimal Ounce	(oz)	2.1x0.000005	4.2x0.000005	7.4x0.000005	10x0.00001	7.4x0.00001 / 1.4x0.000001
Troy Ounce	(ozt)	1.9x0.000005	3.8x0.000005	6.7x0.000005	9.9x0.00001	6.7x0.00001 / 1.3x0.000001
Pennyweight	(dwt)	38x0.0001	77x0.0001	135x0.0001	199x0.0001	135x0.0001 / 27x0.00001
Carat	(ct)	300x0.001	600x0.001	1050x0.001	1550x0.001	1050x0.001 / 210x0.0001
Momme	(mom)	16x0.00005	32x0.00005	56x0.00005	82x0.0001	56x0.0001 / 11x0.00001
Grain Unit	(GN)	925x0.002	1851x0.002	3240x0.002	4784x0.002	3240x0.002 / 648x0.0002
Tola	(t)	5x0.00001	10x0.00001	18x0.00001	26x0.00001	18x0.00001 / 36x0.000001
Tael	(TL)	1.5x0.000005	3.1x0.000005	5.5x0.000005	8.2x0.00001	5.5x0.00001 / 1.1x0.000001
Percentage Min Div		0.01%, 0.1% or 1% (auto prompt)				
Counting Min Weight		0.1 mg				
Linearity		±0.0002 g		±0.0003 mg		±0.0002 / ±0.00003 g
Repeatability / Std Dev		0.0001 g		0.0002 mg		0.0001 / 0.00002 g
Stabilization Time		3 seconds (typically)		Approx. 3.5 seconds		Approx. 3.5 / 8 seconds
Sensitivity Drift		±2ppm / °C (when automatic self calibration is not used)				
Display Refresh		5 times per second / 10 times per second				
Pan Size		Ø 85 mm / 3.3 inches			Ø 90 mm / 3.6 inches	
Physical Dimensions	(mm)	213(W) x 319(D) x 301(H)			217(W) x 442(D) x 316(H)	
	(in)	8.4(W) x 12.6(D) x 11.9(H)			8.54(W) x 17.4(D) x 12.24(H)	
Breeze Break Dimensions	(mm)	180(W) x 192(D) x 200(H)			164(W) x 148.5(D) x 251(H)	
	(in)	7.1(W) x 7.5(D) x 7.9(H)			6.45(W) x 5.84(D) x 9.88(H)	
Operating Temperature		5C to 40C (41 F to 104 F), 85% RH or less (no condensation)				
Weight		Approximately 5.7 kg / 12.5 lb			Approximately 8.0 kg / 17.6 lb	
Power		100, 120, 220, 240 VAC (AC Adaptor) 50 Hz / 60 Hz 10 hours continuous operation with rechargeable battery pack			100, 120, 220, 240 VAC (AC Adapter) 50 Hz / 60 Hz, 11 VA	
Standard Accessories		Manual, AC Adaptor, Protective Cover			WinCT in CD-ROM, Manual, AC Adapter	
Ext. Cal. Mass (optional)		50 g	100 g	200 g	300 g / 200 g / 100 g	200 g / 100 g / 50 g / 20 g

0.01 mg



• 0.01mg Semi-Micro Resolution (some models).

• **Internal Calibration Standard** with built-in motor driven calibration mass saves time and money. Balance can even calibrate itself when sensing a change in ambient temperature.



• **Full Digital Calibration** simplifies calibration by eliminating the need to continuously loan and unload calibration weights to adjust Zero and Span.



• **User Friendly Operation** with large, clearly marked English Language Keys.



• **Liquid Crystal Display** with large, easy-to-read digits from a wide viewing angle.



• **RS-232C bi-directional Interface** for use with PC, Printer or Remote Display.



• **Windows Communication Tools Software** provides easy transmission of weighing data from A&D Balances and scales to a computer using an RS-232C interface. You can quickly collect data into Windows applications in a manageable format limited only by your own computers capabilities. Free Download from our website.



• **Bluetooth® Interface** (optional) allows Wireless Communication between the Balance and PC.

GLP

• **GLP/GMP/GCP/ISO Compliance** allows GLP and LIMS balance management by outputting the Balance ID number and data used to calibrate the balance. The data can be output to A&D AD-8121B printer or a computer, indicating date, time, Balance ID number, serial number and calibration data.



• **Balance ID Number** can be user-set when GLP is used. The ID Number is maintained even when AC power is removed.



• **Time and Date Function** complies with GLP and Interval Weighing in the Data Memory Function.



• **Data Memory Function** 200 PCS Weigh Data. (GH Models also offer choices of 100 PCS Weigh Data with T&D, or 50 Sets of Calibration Data.)



• **Automatic Counting Accuracy Improvement** for continuous recalculation and update of average piece weight ensures optimum count accuracy even with very small parts.



• **Auto Power On Function** Just plug in the AC adapter and the Balance turns itself on.



• **National Type Evaluation Program (model HR-60 only).**



• **Underhook Capability** for Density Measurement and weighing of large or magnetic materials.

### Options and Accessories:

AD-8920 Remote Display

AD-8922 Remote Controller

AD-1653 Density Determination Kit

AD-1682 Rechargeable Battery Pack (Ni-MH, external)

AD-1683 Static Eliminator

AD-1191 Compact Printer with Time & Date

AD-8121B Compact Printer with Time, Date and Statistics

AD-8118A Universal Printer

AD-8118B Multi-Function Printer

Win-CT Data Collection Software

GH-29 Bluetooth® (wireless) Adapter for GH and HRi Models

GR-29 Bluetooth® (wireless) Adapter for GR Models

HR-29 Bluetooth® (wireless) Adapter HR-60/120/200

AD-100-2 Anti-Theft Device

CC:103E Carrying Case (for HR-60, HR-120, HR-200 only)

HR-03 RS-232C is standard for all HR-I, GH & GR Models

HR-05 20mA Current Loop Interface; (HR-60, HR-120 & HR-200 only)

HR-09 Rechargeable Battery Pack (internal, for HR-60, HR-120 & HR-200 only)



#### AD-1683 Static eliminator

AD-1683 static eliminator, which incorporates a high-voltage power source, is a DC power-operated small-size 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. Being of a DC type, it has a remarkable ability for generating ions.



#### AD-8922 Remote controller

AD-8922 is a remote controller that can be connected to certain A&D weighing instruments in order to display weighing data and control the weighing instrument with key operation. (Access to the internal setting of weighing instrument is not allowed.)

Access Device	AD-8922 Key Functions					
	ON : OFF	CAL	SAMPLE	PRINT	MODE	RE-ZERO
GH, GP, GX, GX-K	Turns the display on and off	Calibrates using internal mass	Turns the minimum weighing value on and off #1)	Output weighing data to an external device #2)	Switches the weighing unit #3)	Returns weighing value to zero (tare)
GR		—				
AD-4212, EK-H, GF, GF-K, HR, HR-I	—	—	—	—	—	—
EK-I, EW-I	—	—	—	—	—	—
EK-G, EW-G, FC-I, FC-SI, FG, FR, FS, FS-KL, HV-G, HV-WP, HW-G, HW-WP	—	—	—	—	—	—

#1) Excluding PCS and % mode. #2) When the weighing machine is in stream mode, and AD-8922 is in key mode. #3) Excluding AD-4212



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