

GX/GF

Series

Toploader Balances



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

The World's

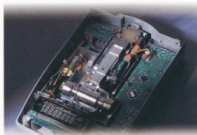
Our revolutionary Super Hybrid Sensor (SHS) technology improves response speed, accuracy and minimizes maintenance costs. SHS combines the best of magnetic force restoration and single point parallelogram load sensing technologies. Its unique design provides the fastest response speed in its class—just 1 second! And if the time ever comes when the SHS needs repair, you just replace one of three parts—there is no need to replace the whole sensor! This translates to Minimum Maintenance Costs.

(An additional benefit of our new SHS is that the GX automatically performs self calibration using the internal mass when the balance detects ambient temperature changes.)



Super Hybrid Sensor

(Patent Pending)



Motor-driven Internal Calibration

Internal Calibration

The GX 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, there is no downtime while the technician calibrates the balance.



- Automatic Self Calibration — Self-calibrates automatically when the balance detects ambient temperature changes.
- One Touch Automatic Calibration — Lets you calibrate the balance on demand with just the push of one button.
- Calibration is essential for accuracy in weighing. For example, in high resolution balances, changes in sensitivity drift can be caused by changes in the ambient temperature. Take the GX 600 for example, the weight might change by $\pm 0.010g$ with a change of $10^{\circ}C$. (Sample's weight: 500g)
- The GX's internal calibration mass is adjusted to an "OIML F1 class level." by the standard balance calibrated with an "OIML E2 class level mass". (The GX's internal calibration mass is not "the standard mass for legal metrology" nor "OIML's level of calibration mass." Instead it is the mass for adjustment.)

Just 1 Second — Ultra Fast Response Speed

- Ultra Fast Response Speed—Just 1 Second.* Ideal for installation on filling machines. *On "FAST" setting
- Ultra High Performance with minimum maintenance costs.

Standard RS-232C

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



Standard Windows Communication Tools Software WinCT

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.



Provided by end-user

USB Hub



Note: USB hub and USB/RS-232C converter must be provided by end-user.

Most User-Friendly

GX



GF



S-16
Steel Weighing Pan

Micro Cal
CAL

888
VFD Display

FDCW
Full Digital Conversion

IP54

ISO 9000
STANDARD

WinCT

COMPARATOR

GLP

AAA

OFF

ANIMAL

Balances...

888
VFD model



Bright, bold, blue vacuum fluorescent display (VFD) that is virtually unmistakable from any viewing angle.

ANIMAL



Animal Weighing Mode allows you to quickly and accurately determine the weight of any live or unstable subject.



Automatic Adjustable Environment Setting Adapts to the most suitable Environment Response Setting automatically with one-touch key operation. The response annunciator displays "FAST", "MID" and "SLOW." (GX)

Manual response adjustment can be set by MODE key and response speed can be adjusted as FAST, MID or SLOW. (GF)

COMPARATOR



Standard comparator function offers increased flexibility and compatibility for a vast number of applications. You can input a target weight and acceptable over and under limitations through either the keyboard or by placing samples on the pan. Hi, OK or Lo will be indicated on the display as the comparison results. (GX-04 Comparator output)

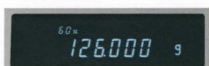
ACAI



Automatic Counting Accuracy Improvement (ACAI) is a novel and useful approach to insuring the utmost in performance when counting even the smallest of items. ACAI automatically updates and refines the average piece weight used to determine the total quantity.



Percentage function facilitates an effective and quick comparison of a sample or commodity against a known reference mass. Simply place the reference mass on the pan to register its weight and then enter the percent mode.



Overall capacity indication is a unique and helpful feature of the GF. By indicating how much of the balance's capacity has been filled, the risk of overloading the balance is minimized.

Main Features

GX series

GF series

SHS (Super Hybrid Sensor)	✓	✓
Internal Calibration	✓	—
VFD Display	✓	✓
WinCT	✓	✓
Data Memory Function	✓	✓
Automatic Adjustable Environment Setting	✓	(Manual)
Auto Self Checking	✓	✓
Density Determination Function	✓	✓
Quick Reference Card	✓	✓
Underhook	✓	✓
Time & Date Function	✓	—
Large Square Weighing Pan	✓	✓
Comparator Function	✓	✓
Animal Weighing	✓	✓
Capacity Indicator	✓	✓
ACAI Counting Function	✓	✓
Percentage Function	✓	✓
Front Air Bubble Leveling	✓	✓
Standard RS-232C	✓	✓
NIST Class II approvals	—	✓(6 models)
GLP, GMP, GCP, ISO Compliance Data Output	✓	✓
Splash Proof Keyboard and Display	✓	✓
Display Auto Power Off Function	✓	✓
Aluminum Die-Cast Case	✓	✓

IP54 *Splash Proof Keyboard and Display*

Balances protected from dust and spills up to IP54 level

GLP *GLP/GMP/GCP/ISO Compliance*

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

```
MODEL      A & D  
S/N       01234567  
ID        88000000  
DATE      2002/10/01  
TIME      12:24:56  
CALIBRATED (INT.)  
SIGNATURE
```

RS-232C *Standard RS-232C*

Bi-directional communication with a PC or connects directly to a printer

Commands

A PC can control the balance by sending commands to the balance.

- Commands to query weighing data
- Commands to control the balance
- Commands to control the memory function
- Commands to control the comparator function

ID Number

The balance ID number can be set. It is used to identify the balance when GLP is used. The ID number is memorized and maintained once it is fixed, even if the AC adapter is removed.

Off *Display Auto Power Off Function*

Display turns off after 10 minutes of inactivity (can be disabled when undesired)

Data Memory Function

(Patent Pending)

Format the Data Memory Function for:

- GX : 200 sets of weighing data
 - 100 sets of weighing data with Time & Date
 - 50 sets of GLP Data-Time & Date, Calibration Data, ID number and Serial number
 - 20 sets of Unit Weight for Counting Mode
- GF : 40 sets of weighing data
- 20 sets of Unit Weight for Counting Mode

Time & Date (GX only)

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

Auto Self Checking

Automatically checks itself when setting the Automatic Adjustable Environment

Standard Underhook

Ideal for density determination and weighing magnetic substances.

Density Measurement Function

Picture shown with GX-13 Density Measurement Kit



Interval Time Setting

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

Auto Power On Function

Plug it in and it turns itself on without pressing ON/OFF key

Auto Re-Zero Function

Re-Zeroes automatically after data output

Large Square Weighing Pan

Standard large square weighing pan on all models
128 x 128mm for 0.001g resolution models
165 x 165 mm for 0.01g and 0.1g resolution models

Multiple Weighing Units & Programmable Unit

Uses Programmable or standard units of measure (g, ct, dwt etc.)

Front Air Bubble Leveling

Easily check the balance's level from the front

Quick Reference Card

A fast, convenient operating guide installed at the bottom of the balance



Specifications

	GX-200		GX-400		GX-600		GX-2000			GX-4000	GX-6100	GX-6000	GX-8000
	GF-200*	GF-300*	GF-400	GF-600	GF-1200*	GF-2000*	GF-3000*	GF-4000	GF-6100	GF-6000*	GF-8000		
Weighing capacity	210g	310g	410g	610g	1210g	2100g	3100g	4100g	6100g	6100g	6100g	8100g	
Minimum weighing value			0.001g				0.01g					0.1g	
Repeatability (Standard Deviation)			0.001g				0.01g					0.1g	
Decimal ounce (oz)	7.40755x0.0005	10.93495x0.0005	14.46270x0.0005	21.51710x0.0005	42.6815x0.0005	74.0755x0.0005	109.3495x0.0005	144.6230x0.0005	215.1710x0.0005	215.170x0.0005	215.170x0.0005	285.720x0.0005	
Troy ounce (ozt)	6.75165x0.0005	9.96675x0.0005	13.18180x0.0005	19.41195x0.0005	38.90250x0.0005	67.5165x0.0005	99.6675x0.0005	131.8180x0.0005	196.1195x0.0005	196.120x0.0005	196.120x0.0005	260.420x0.0005	
Pennyweight (dwt)	135.073x0.001	199.335x0.001	263.636x0.001	392.239x0.001	778.05x0.001	1350.33x0.001	1993.35x0.001	2636.36x0.001	3922.39x0.001	3922.4x0.001	3922.4x0.001	5208.4x0.001	
Carat (ct)	1050.00x0.005	1550.00x0.005	2050.00x0.005	3050.00x0.005	6050.00x0.005	10500.00x0.005	15500.00x0.005	20500.00x0.005	30500.00x0.005	30500.0x0.005	30500.0x0.005	40500.0x0.005	
Momax (mom)	56.0000x0.005	82.6665x0.005	109.3335x0.005	162.6665x0.005	322.6665x0.005	560.000x0.005	826.665x0.005	1093.335x0.005	1626.665x0.005	1626.65x0.005	1626.65x0.005	2160.00x0.005	
Grain unit (GN)	3240.80x0.02	4784.04x0.02	6327.26x0.02	9413.74x0.02	18673.2x0.02	32408.0x0.02	47840.2x0.02	63272.6x0.02	94137.4x0.02	94137.4x0.02	94138.2	125002x2	
Pound (lb)	0.462970x0.0005	0.683475x0.0005	0.903985x0.0005	1.344820x0.0005	2.66790x0.0005	4.62970x0.0005	6.83475x0.0005	9.03985x0.0005	13.44820x0.0005	13.4480x0.0005	13.4480x0.0005	17.8755x0.0005	
Pound/Ounce (lb/oz)	0.3 7.41oz x0.01oz	0.3 10.93oz x0.01oz	0.3 14.46oz x0.01oz	0.3 21.52oz x0.01oz	0.3 42.68oz x0.01oz	0.3 74.08oz x0.01oz	0.3 109.35oz x0.01oz	0.3 144.62oz x0.01oz	0.3 215.17oz x0.01oz	0.3 215.17oz x0.01oz	0.3 215.17oz x0.01oz	0.3 285.72oz x0.01oz	
Linearity		±0.002g		±0.003g			±0.02g		±0.03g	±0.03g		±0.1g	
Stabilization time (typical at FAST)					Approx. 1second				Approx. 1.5seconds		Approx. 1second		
Sensitivity drift (30°C to 30°C / 90°F to 90°F)					±2ppm/oC (When automatic self calibration is not used)						±5ppm/oC		Approx. 1second (auto-self calibration OFF)
Operating Temperature					5°C to 40°C (41°F to 104°F), 85%RH or less (No condensation)								
Sensing method					Super Hybrid Sensor (SHS) *SHS: Patent issued and pending								
Display type					Vacuum Fluorescent Display (VFD)								
Display refresh rate					5times/second or 10times/second								
Counting mode	Minimum unit mass		0.001g				0.01g					0.1g	
	Number of samples				10, 25, 50 or 100pieces								
Percent mode	Minimum 100% reference mass		0.100g				1.00g					10.0g	
	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)								
Weighing pan		128 x 128mm (5.04 x 5.04inch)			165 x 165mm (6.50 x 6.50inch)								
Calibration					Motor-driven Internal Calibration (GX only)								
External dimensions					210(W) x 317(D) x 86(H)mm (8.27 x 12.48 x 3.39inch)								
AC adapter					Confirm that the adapter type is correct for the local voltage and power receptacle								
Power consumption					Approx. 11VA (supplied by AC adapter)								
Net weight		Approx. 4.6kg (GX) / 3.8kg (GF)					Approx. 5.1kg (GX) / 4.3kg (GF)						

Notes: The internal mass is equal to (approximately) 500grams.

Standard breeze break included for GX-200/400/600 and GF-200/300/400/600

* NTEP Class II versions available on request

Options

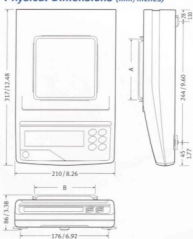
- GX-04* Comparator Output with a Buzzer/
RS-232C/Current Loop Output
- GX-06* Analog Output/Current Loop Output
- GX-10 Breeze Break for GX-200/400/600 and
GF-200/300/400/600
- GX-11 Glass Breeze Break for GX-2000/4000/6100/
6000/8000 and GF-1200/2000/3000/4000/6100/
6000/8000
- GX-12 Animal weighing pan for GX-400/600/2000/
4000/6100/6000/8000 and GF-300/400/600/
1200/2000/3000/4000/6100/6000/8000
- GX-13 Density Determination Kit for GX-200/400/600
and GF-200/300/400/600

- * 04& 06 cannot co-exist
- * Factory installed option

Accessories

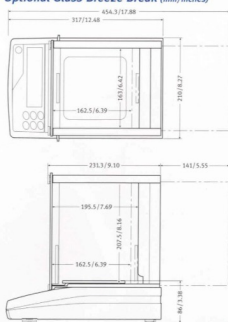
- AD-8121A Det. Matrix Compact Printer
- AD-8118B Universal Printer
- AD-8920 Remote Display
- AD-1682 Rechargeable Battery Unit
(Maximum operating time: 8hours)
- AX-K01710-200 RS-232C Cable (25P-9P)
- AX-SW128 Foot Switch
- AX-073003691-5 Dust Cover for GX-2000/4000/6100 and
GF-200/300/400/600
- AX-073003692-5 Dust Cover for GX-2000/4000/6100/
6000/8000 and GF-1200/2000/3000/
4000/6100/6000/8000

Physical Dimensions (mm/inches)



Dimensions With

Optional Glass Breeze Break (mm/inches)



Pan size (mm/inches)

Model	A	B
GX-200/400/600	128/5.03	128/5.03
GF-200/300/400/600		
GX-2000/4000/6100/6000/8000	165/6.49	165/6.49
GF-1200/2000/3000/4000/6100/6000/8000		

Approx. 1 second