

Shimadzu UniBloc Analytical Balances

AUW-D/AUW/AUX/AUY Series

UniBloc technology and
over 80 years of experience in precision weighing





AUW-D/AUW/AUX/AUY Series

Shimadzu's UniBloc technology and over 80 years of experience in precision weighing instruments bring analytical balances to a new level of stability, reliability and response. AUW-D models are the first five-decimal balances with this technology.

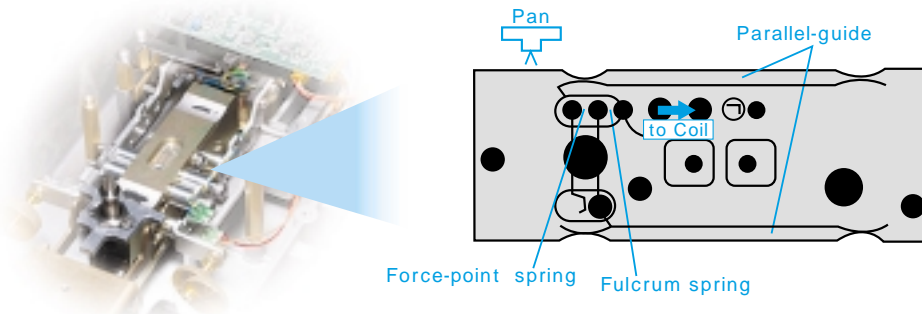


-Shimadzu UniBloc Technology-



Shimadzu introduced one piece force cell technology for precision balances in 1989. The Today's UniBloc is created by high-precision electric discharge wire processing applied to a block of aluminum alloy, and replaces the conventional electro-magnetic balance sensor assembly. UniBloc's compact, uniform structure ensures stable temperature characteristics, excellent response time and stable corner-load performance. The UniBloc design permits a consistency of production that assures reliability and a long operational life. AUW-D dual range analytical balances are the first five-decimal balances with the advantages of UniBloc one-piece force cell technology.

One piece force cell patented in USA in 1989, No.4799561, in China in 1991, No.12729, in Japan in 1995, No.1905686, first commercially introduced by Shimadzu in 1989 for the precision platform balances EB-K, EB-KW series.



Excellent Weighing Performance

Fast Response

Compact UniBloc mechanism and digital processing technology produce fast response and stability at the same time.

Environmental adjustment

Microprocessor digital control can be set to automatically provide the most suitable data processing for the installation environment and weighing application.

Measurement Administration



GLP/GMP/ISO9000 Conformance

If an optional printer is connected, data can be printed out with the date and time. Calibration report can be automatically output, ensuring the measuring control and traceability required by GLP/GMP/ISO9000. (AUW-D/AUW/AUX models)

Example of calibration record

```

-----
CAL-INTERNAL
-----
SHIMADZU CORP.

TYPE AUW2200
SN D450007558
ID 0100

DATE 03-04-29
TIME 17.17.04

REP= 200.0000g
BFR= 200.0002g
HFT= 200.0000g

-COMLETE
-SIGNATURE-----
    
```

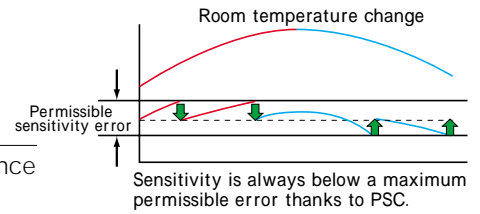
Automatic Span Calibration

Span calibration is essential for accurate measurement in precision weighing to adjust for the effects of even small changes in ambient temperature. AUW-D/AUW/AUX models have a built-in motor driven calibration weight to automate this necessary operation. The balance can be set to take care of the calibration itself, leaving the operator to concentrate on measurement work.



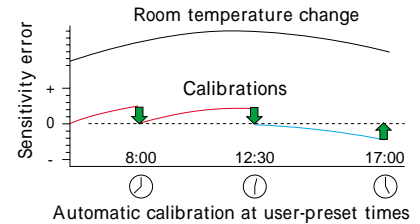
Fully-automatic calibration by temperature detection: PSC

The balance detects variations in the ambient temperature that influence accuracy and automatically performs calibration to compensate it. (AUW-D/AUW/AUX models)
This great feature has been provided by Shimadzu since as early as 1985.



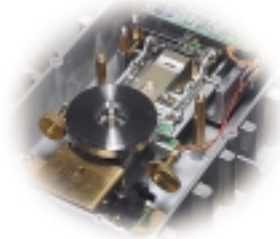
Fully-automatic calibration at user pre-set times: Clock-CAL

The balance automatically performs calibration at selected times, up to three times a day (e.g., before starting work, during lunch-break, or after work). (AUW-D/AUW models)



Span calibration at any time : Touch-key calibration

Automated calibration can be started by pressing keys. (AUW-D/AUW/AUX models)
Also, your external calibration weights can be used for span calibration. (All models)



Application Support



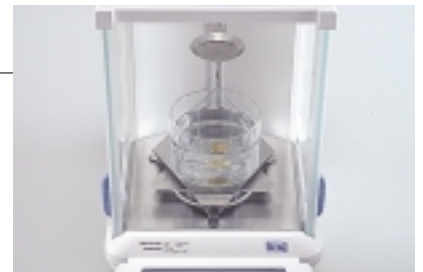
Shimadzu's unique Windows Directs, handiest data transmission to a computer

Measurement results can be transmitted to Excel or other Windows applications without any software installation to your computer. All you have to add is one RS-232C cable.
By combining standard AutoPrint functions with standard spreadsheet functions, even difficult applications can be easily automated including data collection, processing and storage.



Specific Gravity Measurement

Installing the optional SMK-401 specific gravity kit transforms the balance into a dedicated instrument for measuring specific gravity or density. Specific gravity measurement software is already installed in the Shimadzu balance.



Below-weigh Hook for Hanging Measurement

Measurement which cannot be performed within the weighing chamber is possible using the hook provided as a standard component.



Piece Counting and Unit Conversion

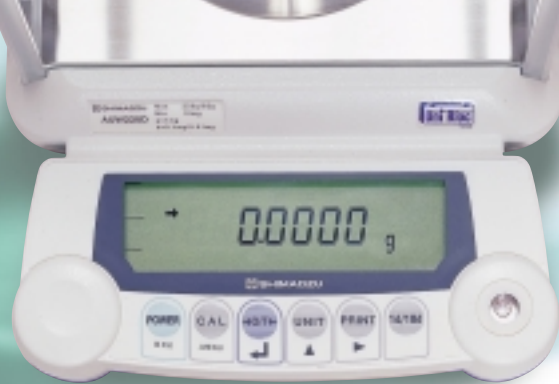
In addition to piece counting, the balance can also perform weight measurement as percentages and in a variety of mass units, such as carat.



Interval Timer

Data can be automatically output at time intervals set in the range from 1 second to 99 minutes 59 seconds. This function can be also combined with WindowsDirect. (AUW-D/AUW/AUX models)

*with optional AKB-301 Application Keyboard



User-friendly Features



User-friendly Weighing Chamber

The large dimensions of the weighing chamber allow easy measurement of even tall flasks. Equalization in temperature before measurement is essential in precision weighing. This is easy with the extra space allowing samples to be kept inside the chamber.

Weighing work is made easy by the smooth door movement. The doors can be detached to allow the chamber to be cleaned with ease and it is also possible to remove, clean or replace the door rail.



Easy Level Adjustment

Level adjustment, particularly important in installing an analytical balance, can be performed with ease using an easy-to-view level gauge at the front of the balance and large level screws.



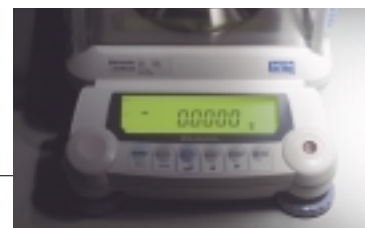
Metal Housing

The aluminum die-cast housing offers lasting high quality exterior, protection of the core mechanism, and ease of cleaning.



Backlit Display

Allows use under poor lighting conditions (AUW models)



Comfortable Key Operation

The embossed key panel sheet provides clear clicking response when operated. If you choose, the key operations are confirmed with a gentle beeping sound, too.



Analog Bar Graph Display

The analog display allows the operator to see at a glance how much more can be loaded before reaching the weighing capacity.

In-use protective cover

Keeps dirt away from key panel and display.

Expanding Possibilities with a Wide Range of Accessories (Optional)

Name	Specification
Electronic Printer EP-50*	Equipped with statistical calculation functions (10 items) and numeric keypad. Uses standard paper. Impact dot print.
Electronic Printer EP-50WIN*	Equipped with statistical calculation functions (10 items) and numeric keypad. Uses standard paper. Impact dot print. Can be used simultaneously with WindowsDirect function.
Electronic Printer EP-60A	Equipped with statistical calculation functions (10 items). Uses thermal paper.
Specific Gravity Measurement Kit SMK-401	This kit makes it possible to determine specific gravity or density of solids with the highly precise immersion method. Samples with weights up to the weight capacity of the balance can be measured.
RS-232C Cable	Required to connect to a PC.
Application Keyboard AKB-301	Enables unit weight settings for piece counting, unit weight display, recalculation of piece with new unit weight, taring and output of currently displayed value. Other numerical settings can also be performed more efficiently.
Foot switch FSB-102PK	For hands-free tare command (key connector)
Foot switch FSB-102TK	For hands-free print command (key connector)

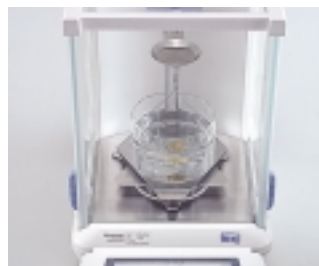
* Not available in EU.



EP-50



EP-60A



SMK-401



AKB-301

Consumables and Replacements

Name	Specification
In-use Protective Cover (standard accessory)	Cover for display (1 cover provided as standard accessory; 5 covers in a set)
Standard Paper for EP-50/EP-50WIN*	5 rolls per box
Dust-free Paper for EP-50/EP-50WIN*	5 rolls per box
Ribbon Cassette for EP-50/EP-50WIN*	5 per set
Thermal Paper for EP-60A	10 rolls per box

* Not available in EU.



AUW-D



AUW



AUX



AUY

Specifications

Series	AUW-D (dual range semi-micro)		AUW			AUX			AUY	
Model	AUW220D	AUW120D	AUW320	AUW220	AUW120	AUX320	AUX220	AUX120	AUY220	AUY120
Capacity	220g/82g	120g/42g	320g	220g	120g	320g	220g	120g	220g	120g
Minimum display	0.1mg/0.01mg	0.1mg/0.01mg	0.1mg	0.1mg	0.1mg	0.1mg	0.1mg	0.1mg	0.1mg	0.1mg
Repeatability (Standard deviation, σ)	≤ 0.1 mg (large range) ≤ 0.05 mg (small range)	≤ 0.1 mg (large range) ≤ 0.02 mg (small range)	≤ 0.15 mg	≤ 0.1 mg	≤ 0.1 mg	≤ 0.15 mg	≤ 0.1 mg	≤ 0.1 mg	≤ 0.1 mg	≤ 0.1 mg
Linearity	± 0.2 mg (large range) ± 0.1 mg (small range)	± 0.2 mg (large range) ± 0.03 mg (small range)	± 0.3 mg	± 0.2 mg	± 0.2 mg	± 0.3 mg	± 0.2 mg	± 0.2 mg	± 0.2 mg	± 0.2 mg
Response time (stabilization time, typical)	3s (Large range), 15s (small range)	3s (Large range), 12s (small range)	3 s							
Operating ambient temperature	5 to 40 °C									
Temperature coefficient of sensitivity (10 to 30°C)	± 2 ppm/°C (When PSC is Off)								± 2 ppm/°C	
Sensitivity stability against temperature change (When PSC is On, 10 to 30°C)	± 2 ppm									
Pan size	80mm dia approx.									
Body dimensions	220mmW X 330mmD X 310mmH approx.									
Weight	7kg approx.									
Power consumption	7VA approx.									
Available mass units	g, mg, ct, mom(monme), Lb, Oz, Ozt, Hong Kong tael, Singapore tael, Taiwan tael, Malaysia tael, Chinese tael, dwt, GN, m(mesghal), b(baht), t(tola), o(parts pound) *Availability of unit displays is subject to each area's legal restrictions.									
Backlighted Display			●	●	●					
Built-in calibration weight	●	●	●	●	●	●	●	●		
PSC	●	●	●	●	●	●	●	●		
Clock-CAL	●	●	●	●	●					
Built-in Clock	●	●	●	●	●	●	●	●		
GLP/GMP/ISO Calibration Report	●	●	●	●	●	●	●	●		
Windows Direct	●	●	●	●	●	●	●	●	●	●
Interval timer output	●	●	●	●	●	●	●	●		
RS-232 I/F	●	●	●	●	●	●	●	●	●	●
Specific gravity measurement software, piece counting, % display	●	●	●	●	●	●	●	●	●	●
Analog display	●	●	●	●	●	●	●	●	●	●

*Windows and Excel are trademarks of Microsoft Corporation.



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