SHIMADZU
Excellence in Science

Advanced Performance UniBloc Balances

AP Series

AP Series

Advanced Performance UniBloc™ Balances

Provides High-speed Response and High Stability

A New Stage in Analytical Balance Performance

High Speed

The response time for trace measurements (from 1 mg) is about 2 seconds.
This significantly improves weighing efficiency.

Stress Free

The STABLO™-AP ionizer can be mounted.
This eliminates the influence of static electricity, achieving reliable measurements in a simpler procedure.

For Regulation

Interlocking with LabSolutions™ Balance enables compliance with a variety of data integrity regulations, including ISO 17025 for testing laboratories, ISO 9001 and ISO 14001 for the manufacturing industry, and GLP/GMP and the United States Pharmacopeia (USP) for the pharmaceutical industry.

For HPLC

Functions are included for the preparation of buffer solutions used in HPLC.
As a result, the operation can be performed accurately and easily, even by non-specialists.

Save Your Operation

Equipped with USB as standard*1. Includes many diverse functions to support users.

*1 All models: USB-B type connector as standard AP-W Series: USB-A type and B type as standard

* AP224W with optional ionizer

Watch the AP overview video on our website.

https://www.shimadzu.com/an/balance/analytical/ap.html

High Speed

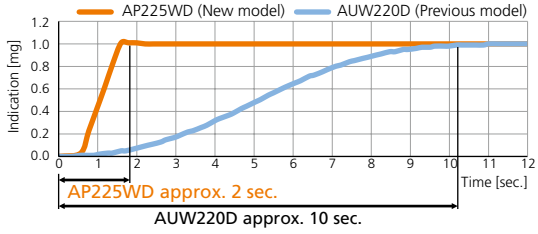
Fast measurement significantly improves operational efficiency.

Fast Response with UniBlocAP Technology

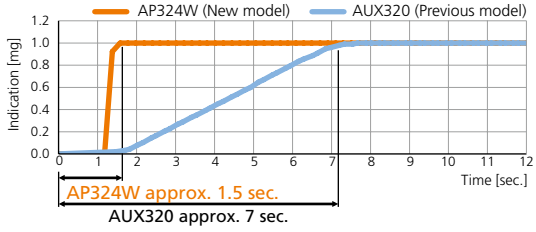
Shimadzu analytical balances boast the one-piece UniBloc weighing sensor, which is now even more advanced.
The response time is reduced to about 1/5 the time of previous models.
In addition, the UniBloc sensor offers a response time of just 2 seconds, an improvement from 10 seconds with the previous model.

* AP135W

■ Response During Trace Measurements with the 0.01 mg Model
(Equivalent to 1 mg / With Conditions Set by Shimadzu)



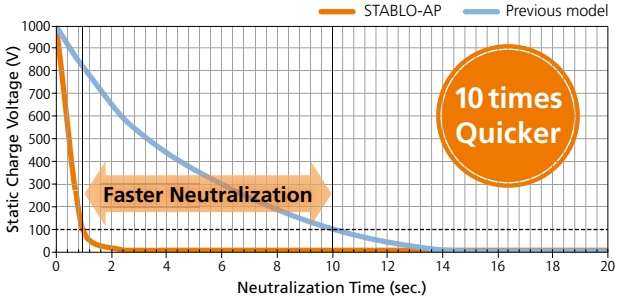
■ Response During Trace Measurements with the 0.1 mg Model
(Equivalent to 1 mg / With Conditions Set by Shimadzu)



Model	Previous Model	AP Series
0.01 mg	10 sec.	2 sec.
0.1 mg	7 sec.	1.5 sec.

Built-in High-Performance Ionizer (Optional)

■ Comparison of Neutralization Speed (Representative Values)



Measurement Conditions
• Time from ±1000 V to ±100 V
• For this evaluation, a 150 × 150 mm charged plate monitor (CPM, 20 pF) was used.
• Distance between CPM and ionizer: 100 mm

The ionizer eliminates influence of static electricity in 1/10 the time of previous models.

Note: Example of typical static electricity removal time
(±1000 V → ±100 V)
1 sec. for STABLO-AP and
10 sec. for STABLO-EX (previous model)

AC Method with Excellent Ion Polarity Balance

Mount the STABLO-AP in the balance and use it as a built-in model

Stress Free

A variety of accessories and options suitable for semi-micro measurements

Highly Sophisticated Simulation Technology

Increased weighing capacity from 135 mg to 220 g (0.01 mg model)

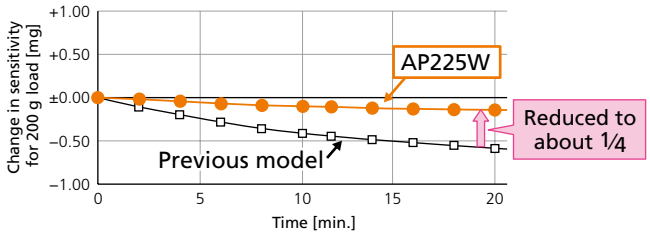
Micro amount weighing over 135 mg (read 0.01 mg step) is possible.

Improved Sensitivity Stability When Ambient Temperature Changes

The temperature of the operational environment is affected by the external air temperature, turning off the air-conditioning, people entering the room, etc. The stability with respect to these small temperature variations in the operational environment has been improved. When the ambient temperature has changed by +1 °C in 20 minutes, the AP225W provides an improvement in the stability of the sensitivity by a factor of four compared to the previous model.

■ Change in Sensitivity When Repeatedly Weighing 200 g
(Measurement carried out by Shimadzu)

(When the ambient temperature has changed by +1 °C in 20 minutes)



Improved Minimum Weight

(Minimum display 0.01mg, AP225W/135W/225WD/125WD only)

By improving stability technologies, the minimum weight required for meeting USP Chapter 41 requirements has been improved from 30 mg to 20 mg.

*In a factory test in our company

The AP Holder (standard accessory for AP225W) compatible with a variety of weighing containers is provided standard, and static electricity is properly removed from the bottom of the container, resulting in easier operation.

→ The AP Holder in combination with the ionizer can eliminate the influence of static electricity on the weight value.
See page 13 for more information.

Volumetric flask (100 mL)

Test tube (10 mL)

AP Holder

Containers that can be used with the AP Holder (Examples)

Container	Applicable Volume*
Volumetric flask	10 to 100 mL
Conical flask	100 mL
Beaker	
Centrifuge tube (Spitz tube)	3 to 25 mL
Test tube	

* About 70 mm or more height or length is required.

Easy-to-Use Multi Stand

(0.01 mg model only, equipped as standard)

With weighing paper, for example, if the tare is larger than the pan diameter, measurements can be simplified by attaching the special multi stand.

The internal windbreak plate suppresses the influence of convection and air flow within the weighing chamber, improving the stability and response of measurement values.

High-Security User Management (All models)

Operations can be kept secure with user ID and password protection. Access rights can be specified separately for each user to prohibit unauthorized actions such as performing calibration or changing the settings. User IDs can also be used for barcode management.

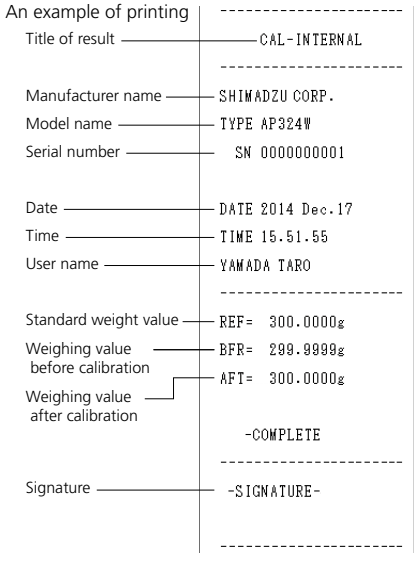
User Selection Screen

Printing Data in Accordance with Various Regulations (All models)

Printing can be customized to indicate when the measurements were taken and by whom. Users are free to set which items are to output, and in what order. The date, time, calibration log, and other information can be printed depending on the purpose of printing, which supports compliance with ISO, GLP, and GMP.

<Printed content>

- Date
- Time
- User name
- Balance manufacturer name
- User ID
- Serial number
- Balance ID
- Software version
- Minimum sample quantity
- Blank line
- Ruled line (--------)



Minimum Measurement Value (Warning Function) (All models)

Reproducibility can be confirmed by repeatedly measuring weights as instructed by AP series. The minimum sample quantity is automatically determined from the standard deviation and recorded in AP series.

If the minimum sample quantity requirement is not satisfied during measurement, an indicator flashes to warn the user.

Minimum sample quantity

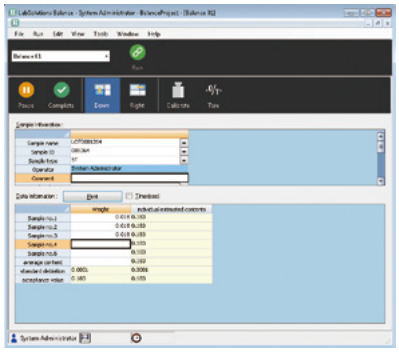
Recipe Function (Achieve Your Preferred Compounding Process) (AP-W Series only)

Sample recipes can be registered, allowing users to simply follow displayed instructions. This is convenient when compounding medicines.

Solutions to Improve Operational Efficiency and Ensure Data Reliability LabSolutions Balance

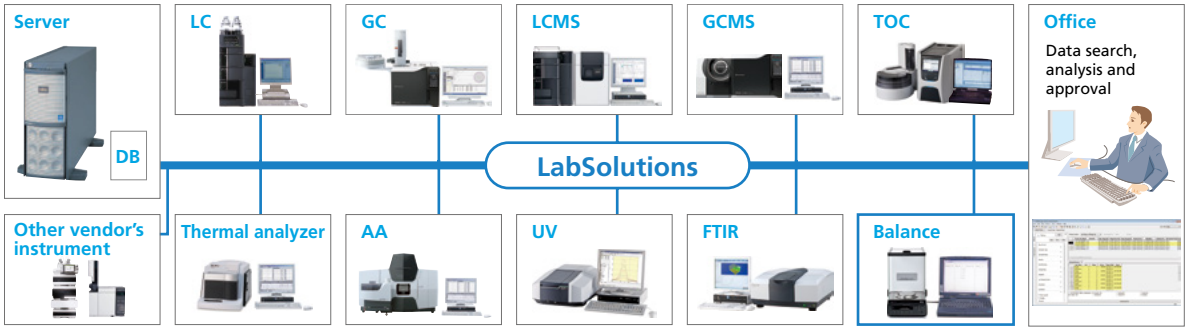
Analytical Network Data System Compliant with ER/ES Regulations

- Eliminate manual entry, and all the weighing data are saved automatically in a safe database without transcription mistakes.
- Reports appropriate for weighing methods, such as the mass variation test, drying weight loss test and particle size test, can be created automatically after the measurement. In addition, customized reports featuring such information as system conformance, content uniformity and elution tests together with the analysis results obtained by HPLC, etc. can be created.



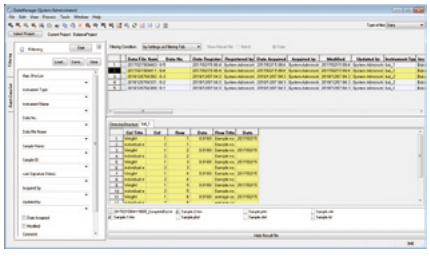
Main Window of LabSolutions Balance

Integrated Management of Analytical Data on Network System Using LabSolutions



Compliant with the Latest Data Integrity Guidance (U.S. FDA 21 CFR Part 11)

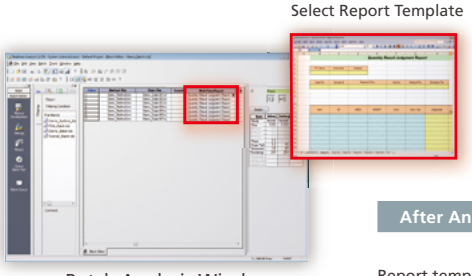
- Weighing results can be automatically saved in the database together with other information, including sample ID, operator name, operation date and series number of instrument used. This enables quick data searching based on sample information.
- It allows setting up user authority to ensure only the authorized user can create a template for weighing.
- It prevents improper manipulation, unintended overwriting and deletion of data. In addition, measurement results, all the operation histories and reasons will be saved in the database as log files.



LabSolutions Data Manager

Integrated Report Creation Function Combines Analysis Results from HPLC and Weighing Results from Balance

Creation of Report Template
It enables creating the report by reading sample data and confirming the sample report at the same time.



Batch Analysis Window

After Analysis

Report template formats can be freely customized.

Automatically print reports and create PDF files.

Note: Multi-data report creation (optional) is necessary to use this function.

Buffer Solution Preparation Mode

(AP-W Series only)

- **Recipes for 13 commonly used buffer solutions are included as standard**

  Preparation recipes for commonly used buffer solutions are provided as standard.

  e.g. disodium phosphate, sodium acid citrate

- **New buffer solution recipes can be registered**

  If a buffer solution is not registered by default, it can be newly registered.

- **Instructions are shown on the display**

  The target weighing value is shown on the display and analog bar in order to compare the target with the current weight.

  Manual calculation is not needed.

- **Record function**

  Record output with date, time and operator name.

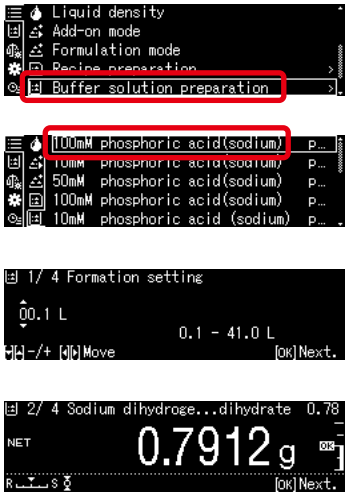
The pH level of mobile phase (eluent) solutions used in liquid chromatographs is adjusted to improve separation of components and extend the life of columns. This pH adjustment process is performed using a buffer solution. Currently, the most common method is using a pH meter to measure the pH as the solution is prepared; however, this process requires considerable time and effort, which can cause operational bottlenecks.

An alternative method does not require a pH meter. It involves preparing solutions by weighing fixed theoretically calculated quantities of an acid and base.

AP series supports weighing these acids and bases. If the type and quantity of the buffer solution are specified, the balance displays the type and quantity of sample that should be weighed. Then the buffer solution can be prepared easily by adding water to the specified quantity of sample weighed accordingly.

Preparation example: When weighing and preparing 50 mM of di-sodium hydrogen phosphate, 2-hydrate and 50 mM of sodium dihydrogenphosphate, 2-hydrate in order to prepare 3 L of 100 mM phosphoric acid (sodium) buffer solution at pH=2.1:

Example of preparation by AP series



Select the buffer solution mode.

Specify the type and quantity.

Displays the name and quantity of sample.

Prepare as instructed on screen.

Complete buffer solution

Number	Buffer solution preparation list		
1	100 mM	phosphoric acid (sodium)	pH = 2.1
2	10 mM	phosphoric acid (sodium)	pH = 2.6
3	50 mM	phosphoric acid (sodium)	pH = 2.8
4	100 mM	phosphoric acid (sodium)	pH = 6.8
5	10 mM	phosphoric acid (sodium)	pH = 6.9
6	20 mM	citric acid (sodium)	pH = 3.1
7	20 mM	citric acid (sodium)	pH = 4.6
8	10 mM	tartaric acid (sodium)	pH = 2.9
9	10 mM	tartaric acid (sodium)	pH = 4.2
10	20 mM	acetic acid (ethanolamine)	pH = 9.6
11	100 mM	acetic acid (sodium)	pH = 4.7
12	100 mM	boric acid (potassium)	pH = 9.1
13	100 mM	boric acid (sodium)	pH = 9.1

* Results can be printed with date/time and user ID.

Sample Preparation

(AP-W Series only)

When preparing a standard solution from a particular component, the standard powder for this component will be a hydrochloride or a hydrate. Preparing a standard solution of the target component at a desired requires difficult calculations prior to weighing it. With the AP series, however, the required weight value is automatically calculated, so it can be weighed without performing manual calculations.

Example of preparation by AP series

Weigh 25 mg Amitriptyline to make a standard solution

Standard sample of Amitriptyline is Amitriptyline Hydrochloride.
Calculation is essential to determine part of Acidum hydrochloricum by molecular weight in order to make a 100 mg/mL Amitriptyline solution.

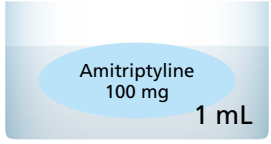
Molecular weight of Amitriptyline: 277.4
Molecular weight of Acidum hydrochloricum: 36.5
Molecular weight of Amitriptyline Hydrochloride: 277.4 + 36.5 = 313.9

To compare the molecular weight of Amitriptyline Hydrochloride with Amitriptyline, the following calculation is necessary.
313.9/277.4 = 1.132

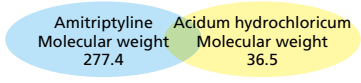
The molecular weight of Amitriptyline Hydrochloride is 1.132 times of Amitriptyline.
So, if 25mg of Amitriptyline is used, it follows that the weight of Amitriptyline Hydrochloride should be:
25 mg × 1.132 = 28.3 mg.

Hence, 28.3 mg of Amitriptyline Hydrochloride is needed to make the correct standard solution.

Standard solution of Amitriptyline



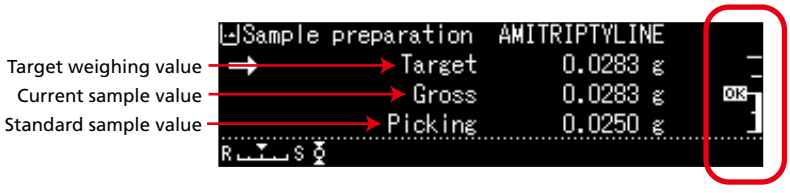
Amitriptyline Hydrochloride



No need for manual calculation

AP series can automatically calculate the sampling weight using the molecular amount of the standard sample, molecular weight of unnecessary sample, and the target value in order to reach the correct concentration solution.

Just weigh the target weight value on display and the target weight of the standard sample can be obtained.



Checking weighing conditions on the same display

Save Your Operation

Equipped with USB as standard.*1 Includes many diverse functions to support users.

*1 AP-W Series only

USB Offers Greater Expandability

(USB host: AP-W Series only)

Equipped with an RS-232C connector, a USB device and a USB host as standard. You can now simultaneously send output to both a computer and printer or connect a USB flash drive, a barcode reader, or an external numeric keypad. Transcription errors can be avoided and data can be recorded without a computer.

USB and RS-232C are standard

USB host is available for AP-W Series

USB flash drive

Connecting a USB memory device allows you to record large amounts of weighing data in CSV format. Used in combination with the interval output function, it also enables recording of long-term changes over time.

Example of a record:
- File name
- Date and time
- Weighing value

*The information saved will differ depending on the function used.

Display capture function

Weighing display can be recorded into USB memory in BMP format. User name, date/time, and setting can be shown with display information.

The user name, time, measurement conditions, pass/fail judgments, and other information displayed on screen can be saved as is, enabling the recording of measurements, and checks after measurements.

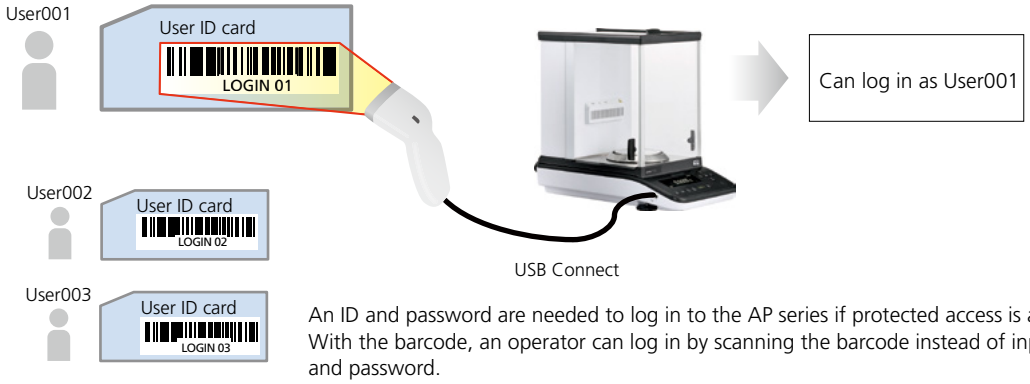
Numeric keypad

Connecting a common external numeric keypad makes it easier to enter numeric values. This is especially useful for entering the mass value of weights, setting upper/lower limit values for the comparator function, or entering the sample count during piece counting mode.

Barcode reader

A barcode reader can be connected. Simply reading a barcode makes it possible to input user ID/Password. It is possible to manage sample IDs using barcodes.

An example of login by barcode



An ID and password are needed to log in to the AP series if protected access is activated. With the barcode, an operator can log in by scanning the barcode instead of inputting an ID and password.

* The latest information can be seen from the Shimadzu website (https://www.shimadzu.com/an/balance/)

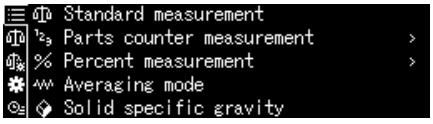
Easy-to-Read Organic EL Display

(All models)

Because the pixel elements in the organic electroluminescence display emit light, the screen can be seen clearly even in dark locations. Multi-language display capability*2 provides a more intuitive operating interface. A wider viewing angle has also improved the visibility of measurement values, which helps increase the efficiency of measuring operations.

*2 Japanese, English and Chinese

Clearly visible from the side



English example

Exceptional Visibility

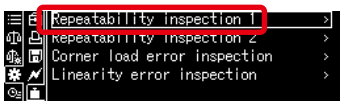
The visibility remains the same even when viewed from different angles. The viewing angle is a wide expanse of ±85 degrees, both vertically and horizontally. That means the display is clearly visible even when working beside the balance. A high-resolution dot-matrix display makes it easy to read detailed text.

Periodic Inspection Support Function

(AP-W/AP-X Series only)

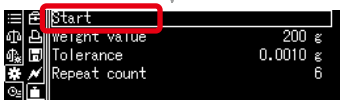
AP series supports periodic inspections. The function allows inspection of repeatability, corner load error, and linearity by simply following instructions displayed on the screen.

Example of printing

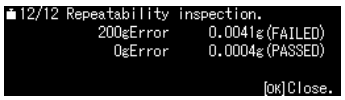


Select the inspection mode.

Place standard weights as instructed.



In this case, repeatability inspection is selected.



Results are displayed.

IL: Loaded weight
I0: Zero value

Printing sample

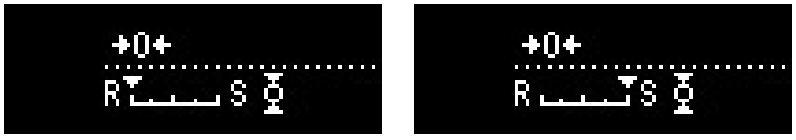
```
------------------------
      REPEATABILITY
------------------------
LOAD  = 150        g
MPE   =   0.0010 g
------------------------
N001
 IL    = 150.0000 g
 I0    =   0.0000 g

N002
 IL    = 149.9999 g
 I0    =-  0.0001 g

N003
 IL    = 149.9999 g
 I0    =-  0.0001 g

N004
 IL    = 149.9999 g
 I0    =   0.0000 g

N005
 IL    = 149.9999 g
 I0    =   0.0000 g

N006
 IL    = 149.9999 g
 I0    =   0.0000 g

TEST RESULTS
 LOAD =   0.0001 g
      (PASSED)
 ZERO =   0.0001 g
      (PASSED)
```

Smart Settings (All models)

Response and stability settings can be changed during measurements with a single touch. Changing the settings for different applications can make it even easier to use.

User-friendly arrow keys

The indicator is operated using the left and right arrow keys. Moving the setting toward [R] prioritizes response, which makes it easier to operate the balance. Conversely, moving it toward [S] makes it easier to stabilize weight values, which can improve readability in environments with vibration.



Moving it left prioritizes response and moving it right prioritizes stability. Five setting levels are available.

Specific Gravity Measurement (All models)

In combination with an optional specific gravity measurement kit, the balance can be used to measure specific gravity. Operations are simplified by a text-based navigation function. By using sinkers, the specific gravity of liquid can be measured as well. This allows measuring the specific gravity of metals, rubbers, plastics, and other materials easily.

First measure the empty weight.

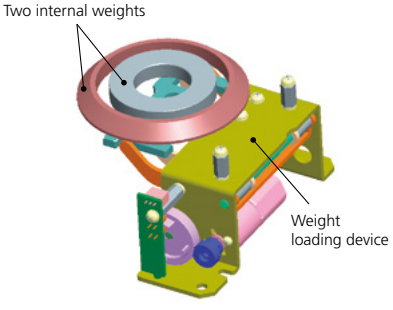
Then place it in the container filled with water, as instructed on the screen.

The specific gravity value is displayed using simple steps.

For Better Weighing Results: PSC and Clock-CAL (AP-W/AP-X Series only)

• Two internal weights provided

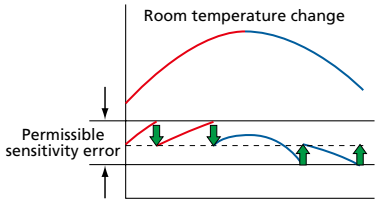
0.01 mg models are calibrated at 2 points with the internal weights (weight value and 1/2 value).



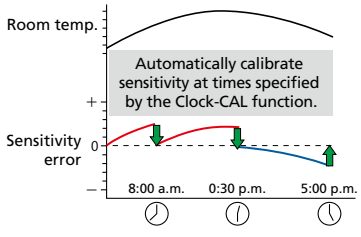
• Includes Perfect Self Calibration (PSC) function

The analytical balance automatically detects any temperature changes that could affect sensitivity and automatically starts calibration.

The Clock-CAL function enables automatic calibration at a pre-specified time (for example, before starting work, during lunch, or after work hours).



PSC (Perfect Self Calibration)



Clock-CAL

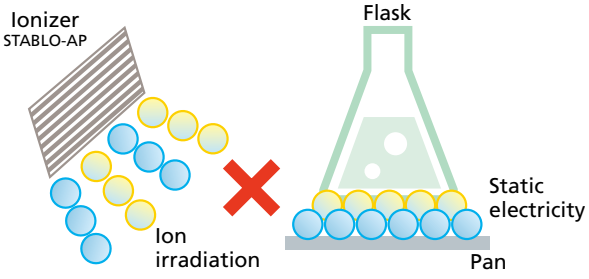
Why is the AP Holder needed as a countermeasure to static electricity?

If the AP Holder and the STABLO-AP ionizer are used together, static electricity can be quickly removed from the entire test chamber, including the surfaces of glass containers, which helps to decrease the weighing time and improve reliability.

AP Holder

Example of Removing Static Electricity from a Flask

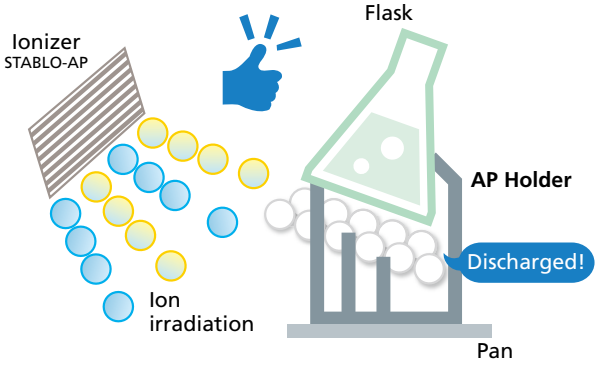
NG The conical flask is directly placed on the pan.



The bottom of the flask is in close contact with the pan, so removal of the static charge is obstructed, leading to an unstable weight value.

Ions emitted from the ionizer cannot reach the bottom of the flask, so removal of static charge from the bottom of the flask is insufficient. Therefore, Coulomb forces act between the surrounding metal parts and the windshield door, which affects the weight value.

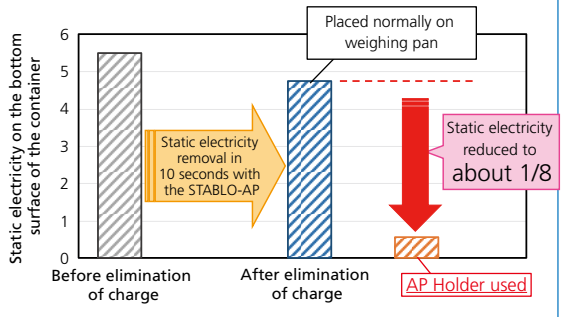
OK The conical flask is tilted using the AP Holder and placed on the pan.



Using the AP Holder to separate the flask from the pan, the ions supplied by the ionizer reach the locations where there is static charge on the bottom of the flask. This improves and neutralization effect and results in a stable weight value.

The AP Holder can hold the container in a tilted position, so the charge can be reliably removed from the bottom of the container being mounted on the AP Holder.

Effect of AP Holder on Eliminating Static Charge
(measurement is carried out by Shimadzu)



Static electricity on the bottom surface of the charged measuring flask (capacity 100 mL) measured with a surface potentiometer

AP Series Specifications

W Series Analytical Balances

Series	W Series						
Model	**AP225W**	**AP135W**	**AP125WD**	**AP225WD**	**AP124W**	**AP224W**	**AP324W**
Capacity	220 g	135 g	120 g / 52 g	220 g / 102 g	120 g	220 g	320 g
Minimum Display	0.01 mg		0.01 mg / 0.1 mg		0.1 mg		
Calibration Weight	Built-in *1						
External Calibration Weight Range for Span Calibration	95 to 220.00090 g (200 g)	45 to 135.00090 g (100 g)	45 to 120.00090 g (100 g)	95 to 220.00090 g (200 g)	45 to 120.009 g (100 g)	95 to 220.009 g (200 g)	95 to 320.009 g (300 g)
Repeatability (Standard deviation)	0.015 mg (to 20 g) 0.03 mg (to 100 g) 0.05 mg (to weighing capacity)	0.05 mg	0.1 mg / 0.02 mg	0.1 mg / 0.05 mg	0.1 mg		0.15 mg
Repeatability (for Low Loads)	0.01 mg *3 (5 g low loads)				0.1 mg (5 g low loads)	0.1 mg (10 g low loads)	0.1 mg (20 g low loads)
Minimum Weight *2	20 mg *3				200 mg		
Linearity *2	±0.1 mg		±0.2 mg /±0.05 mg	±0.2 mg /±0.1 mg	±0.2 mg		±0.3 mg
Response Time for Trace Measurements *4	2 sec.						
Response Time *5	8 sec.		2 sec. / 8 sec.		2 sec.		
USB Host (Type A)	Included						
USB Device (Type B)	Included						
Recipe Compounding	Included						
HPLC Buffer Solution Preparation	Included						
mol Conversion Function	Included						
Sample (Concentration) Preparation	Included						
Inspection Support Function	Included						
Clock-CAL	Included						
Ionizer	Optional						
Operating Temperature/Humidity Range	5 to 40°C 20 to 85% *6						
Sensitivity Stability Against Temperature Range	±2 ppm/°C (10 to 30°C)						
Pan Size	ø91 mm						
Body Dimensions	Approx. 212 (W) × 411 (D) × 345 (H) mm (power supply unit included)				Approx. 212 (W) × 367 (D) × 345 (H) mm		
Weight	Approx. 7.9 kg				Approx. 7.0 kg		
Display	OEL display (dot matrix)						
Input/Output Terminal	RS-232C (D-sub 9P plug) USB host (Type A) USB device (Type B) Ionizer						

X Series / Y Series Analytical Balances

Series	X Series			Y Series		
Model	**AP124X**	**AP224X**	**AP324X**	**AP124Y**	**AP224Y**	**AP324Y**
Capacity	120 g	220 g	320 g	120 g	220 g	320 g
Minimum Display	0.1 mg					
Calibration Weight	Built-in			No		
External Calibration Weight Range for Span Calibration	45 to 120.009 g (100 g)	95 to 220.009 g (200 g)	95 to 320.009 g (300 g)	45 to 120.009 g (100 g)	95 to 220.009 g (200 g)	95 to 320.009 g (300 g)
Repeatability (Standard deviation)	0.1 mg		0.15 mg	0.1 mg		0.15 mg
Repeatability (for Low Loads)	0.1 mg (5 g low loads)	0.1 mg (10 g low loads)	0.1 mg (20 g low loads)	0.1 mg (5 g low loads)	0.1 mg (10 g low loads)	0.1 mg (20 g low loads)
Minimum Weight *2	200 mg					
Linearity *2	±0.2 mg		±0.3 mg	±0.2 mg		±0.3 mg
Response Time for Trace Measurements *4	2 sec.					
Response Time *5	2 sec.					
USB Host (Type A)	Not Included					
USB Device (Type B)	Included					
Recipe Compounding	Not Included					
HPLC Buffer Solution Preparation	Not Included					
mol Conversion Function	Included			Not Included		
Sample (Concentration) Preparation	Not Included					
Inspection Support Function	Included			Not Included		
Clock-CAL	Included			Not Included		
Ionizer	Optional			Not Included		
Operating Temperature/Humidity Range	5 to 40°C 20 to 85% *6					
Sensitivity Stability Against Temperature Range	±2 ppm/°C (10 to 30°C)					
Pan Size	ø91 mm					
Body Dimensions	Approx. 212 (W) × 367 (D) × 345 (H) mm					
Weight	Approx. 7.0 kg			Approx. 6.5 kg		
Display	OEL display (dot matrix)					
Input/Output Terminal	RS-232C (D-sub 9P plug) USB device (Type B) Ionizer			RS-232C (D-sub 9P plug) USB device (Type B)		

*1 Minimum display 0.01 mg models provide two internal weights as standard (see page 12 for details).

*2 Be compliant with USP Chapter 41. This is the tested value by the weight of the balance's capacity 5% (or 5 grams' weight). In the case of the AP225W, the results are for tests carried out with the optional internal windbreak plate applied. The minimum weight value is affected by the installation environment, so it is necessary to measure it in the actual environment of use.

*3 The value is the result of a test with the internal windbreak plate.

*4 The response time for displaying 90% of the added sample amount value in trace measurements (from 1 mg)

*5 The response time value is typical.

*6 Non-condensing.

AP Series

0.01 mg

AP225W
AP135W

0.01 mg / 0.1 mg

AP225WD
AP125WD

* Power supply unit included.

0.1 mg

AP124W AP124X AP124Y
AP224W AP224X AP224Y
AP324W AP324X AP324Y

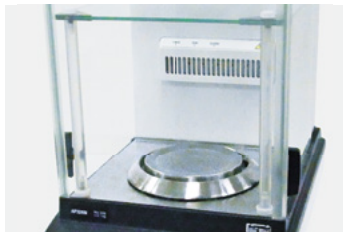
Options

STABLO-AP Ionizer

EP-100 Printer

EP-110 Printer
(multifunction printer with liquid crystal display)

SMK-601
Specific Gravity Measurement Kit



Internal Windbreak Plate
(Minimum Display 0.01 mg)

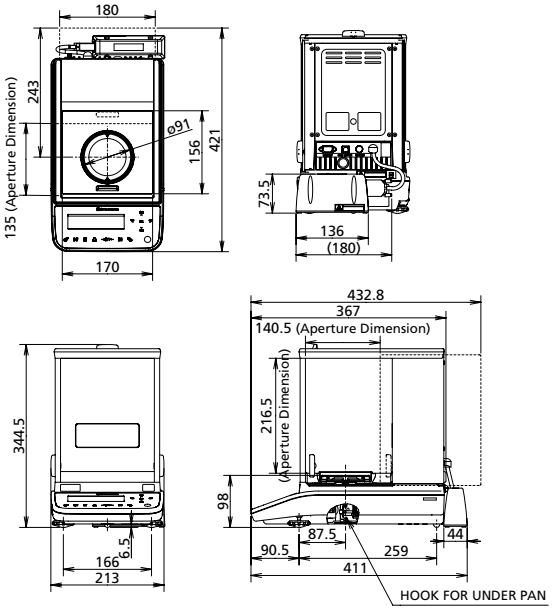
AP Holder

Options

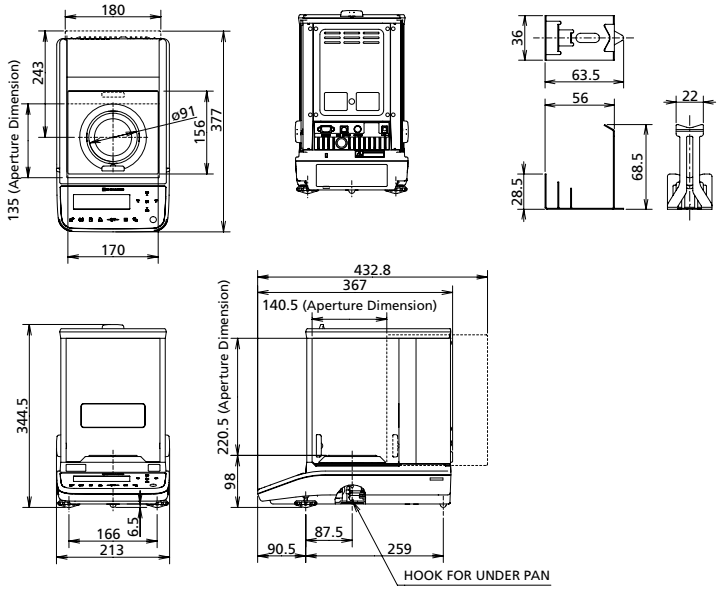
Options
Static Electricity Remover STABLO-AP Ionizer
Printer EP-100
Printer EP-110 (Multifunction Printer with Liquid Crystal Display)
Label Roll Paper for EP-100/110 (10 Rolls)
Specific Measurement Kit SMK-601
Display Protective Cover (Set of 5)
USB Cable
AC Adapter
Internal Windbreak Plate (Minimum Display 0.1 mg)
Internal Windbreak Plate Set (Minimum Display 0.01 mg)
RS–IO Interface Cable
AP Holder (Standard Accessory for AP225W)

External Dimensions of AP Series

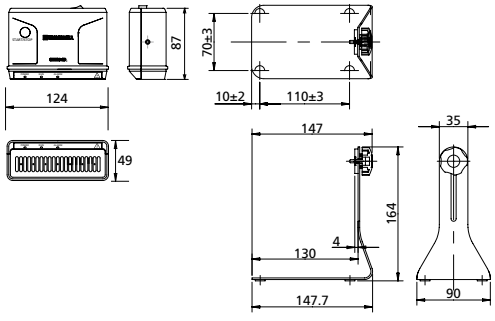
AP225W, AP135W, AP225WD, AP125WD Weight: Approx. 7.9 kg



(AP124W, AP224W, AP324W, AP124X, AP224X, AP324X) Weight: Approx. 7.0 kg
(AP124Y, AP224Y, AP324Y) Weight: Approx. 6.5 kg



External Dimensions of STABLO-AP



Static Electricity Remover STABLO-AP

2-Way Ionizer Designed Specifically for Electronic Balances

Ion Generation Method	AC corona discharge method
Ion Balance	±10 V
Effective Static Removal Range	Approx. 50 mm to 400 mm from the outlet
Static Elimination Time (approx.)	1 second (Typical value) (from ±1000 V to ±100 V)
Ozone Concentration	Max. 0.06 ppm (at 150 mm from the center of the nozzle)
Electrode Probes	Tungsten (durability: 30,000 hours)
Weight	Approx. 710 g (Main unit: 395 g, Stand: 315 g)
Operating Temperature and Humidity	0 °C to +40 °C, 25 % RH to 85 % RH (non-condensing)
Rated Electric Power Supply	DC 24 V, 1.0 A
Dimensions	Approx. 124 × 87 × 49 mm

*1: Typical values when measured with a 20 pF 150 mm × 150 mm charged plate monitor (CPM), at 100 mm from the center of the nozzle (at the time of shipment)

*2: Elimination time from a static charge of ±1000 V down to ±100 V, at 100 mm from the center of the nozzle (at the time of shipment)

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