

Release of New AP Series Analytical Balances (0.01 mg Models)

Shimadzu will release three new models of AP series, which are new types of well-reputed analytical balances. The new models form the high-sensitivity **AP-W series (with a minimum display value of 0.01 mg)**.

These new analytical balances have improved upon the AP-W series models released last year by achieving a minimum display value of 0.01 mg, and by improving the response time to only 2 seconds, while the previous model needs 10 seconds. As a result, work efficiency can be greatly enhanced. Moreover, in the same way as with the existing models in the AP-W series, the STABLO-AP ionizer is incorporated in the main unit of balance, which makes it easy to eliminate, in about 1 second, the static electricity that can affect a measurement. Thus, the reliability of the measurement results is enhanced. The units also include a USB host, a buffer solution preparation mode function for users of HPLC system, and recipe function. Additionally, the installation of Shimadzu's analysis network data system (LabSolutions Balance) with the analytical balance makes possible the linkage of a variety of Shimadzu's analytical instruments, and the centralized management of all measurement data within an environment that compliant with ER/ES (electronic records and electronic signatures) regulations.

Please take this opportunity to expand sales globally to customers who require the minimum value display of 0.01 mg in a great variety of industries, especially in the pharmaceutical, chemical, and food industries. Note that the current AU series models will continue to be sold concurrently.



Analytical Balance

AP Series

**Response Time Reduced to 1/5
(about 2 seconds) the Time of
Previous Models**

Highly Reliable Measurement

1. Release Date

May 26, 2017

Delivery Start Date: middle of July, 2017

2. Ordering Guide

2.1. Main Unit

P/N	Description	Code	Remarks
321-74000-30	Analytical Balance, AP135W for OVERSEAS	D3	135g weighing capacity (0.01mg), *Except for CHINA, KOREA, SAP and EURO
321-74000-31	Analytical Balance, AP125WD for OVERSEAS	D3	120g weighing capacity (0.1mg) 52g weighing capacity (0.01mg), *Except for CHINA, KOREA, SAP and EURO
321-74000-32	Analytical Balance, AP225WD for OVERSEAS	D3	220g weighing capacity (0.1mg) 102g weighing capacity (0.01mg) *Except for CHINA, KOREA, SAP and EURO
321-74000-50	Analytical Balance, AP135W for SAP	D3	135g weighing capacity (0.01mg), for SAP
321-74000-51	Analytical Balance, AP125WD for SAP	D3	120g weighing capacity (0.1mg) 52g weighing capacity (0.01mg), for SAP
321-74000-52	Analytical Balance, AP225WD for SAP	D3	220g weighing capacity (0.1mg) 102g weighing capacity (0.01mg), for SAP
321-74501-10	Analytical Balance, AP135W for SAP Verification	D3	135g weighing capacity (0.01mg), for SAP and Indian Type Approval
321-74501-11	Analytical Balance, AP125WD for SAP Verification	D3	120g weighing capacity (0.1mg) 52g weighing capacity (0.01mg) , for SAP and Indian Type Approval
321-74501-12	Analytical Balance, AP225WD for SAP verification	D3	220g weighing capacity (0.1mg) 102g weighing capacity (0.01mg) , for SAP and Indian Type Approval
321-74000-70	Analytical Balance, AP135W for CHINA	D3	135g weighing capacity (0.01mg), for CHINA
321-74000-71	Analytical Balance, AP125WD for CHINA	D3	120g weighing capacity (0.1mg) 52g weighing capacity (0.01mg), for CHINA
321-74000-72	Analytical Balance, AP225WD for CHINA	D3	220g weighing capacity (0.1mg) 102g weighing capacity (0.01mg), for CHINA
321-74500-50	Analytical Balance, AP135W for KOREA	D3	135g weighing capacity (0.01mg), for KOREA
321-74500-51	Analytical Balance, AP125WD for KOREA	D3	120g weighing capacity (0.1mg) 52g weighing capacity (0.01mg), for KOREA
321-74500-52	Analytical Balance, AP225WD for KOREA	D3	220g weighing capacity (0.1mg) 102g weighing capacity (0.01mg), for KOREA
321-80020-30	Analytical Balance, AP135W for EUR	D3	135g weighing capacity (0.01mg), for EURO
321-80020-31	Analytical Balance, AP125WD for EUR	D3	120g weighing capacity (0.1mg) 52g weighing capacity (0.01mg) for EURO



321-80020-32	Analytical Balance, AP225WD for EUR	D3	220g weighing capacity (0.1mg) 102g weighing capacity (0.01mg), for EURO
321-80021-10	Analytical Balance, AP135W ECTA	D3	135g weighing capacity (0.01mg), for EURO Type Approval
321-80021-11	Analytical Balance, AP125WD ECTA	D3	120g weighing capacity (0.1mg) 52g weighing capacity (0.01mg), for EURO Type Approval
321-80021-12	Analytical Balance, AP225WD ECTA	D3	220g weighing capacity (0.1mg) 102g weighing capacity (0.01mg), for EURO Type Approval

2.2. Options

P/N	Description	Code	Remarks
321-73700-02	STABLO-AP Ionizer, for CE	D4	For power supply 220~240V *Except for CHINA and EURO
321-73700-03	STABLO-AP Ionizer, EN 120V	D4	For power supply 100~120V
321-73700-46	STABLO-AP Ionizer, for CHINA	D4	For CHINA
321-80018-01	STABLO-AP SEG	D4	For EURO
321-80019-11	EP-100 Electronic Printer, for EUR	D4	Dedicated AP connector cable for CE is included. For EURO
321-73900-41	EP-100 Electronic Printer, for CHINA	D4	For CHINA
321-73900-31	EP-100 Electronic Printer, for OVERSEAS	D4	For overseas except China and EURO
321-73904	Label Roll Paper for EP-100/110 (10 rolls)	D9	
321-80019-12	EP-110 Electronic Printer, for EUR	D4	Dedicated AP connector cable is included. For EURO
321-73900-42	EP-110 Electronic Printer, for CHINA	D4	For CHINA
321-73900-32	EP-110 Electronic Printer, for OVERSEAS	D4	For overseas except China and EURO
321-60550-03	SMK-601 Specific Gravity Measurement Kit	D4	
321-71730-41	USB Cable Set	D9	2m length
321-73929	AC Adaptor, 3A-163WP12	D9	Equivalent to standard accessory
321-73901-02	AC Adaptor, for EP-100/110	D9	With magnet coil
321-73668-01	Display Protective Cover (5 sheets)	D9	Equivalent to standard accessory
321-74150-01	Internal Windbreak Plate	D9	
321-75705-41	RSIO Interface Cable	D9	EP-80, EP-90 connector cable (dedicated for AP)

3. Comparison with Previous Model (AU Series)

The AP Series includes the following advantages compared to the previous mode (AU Series).

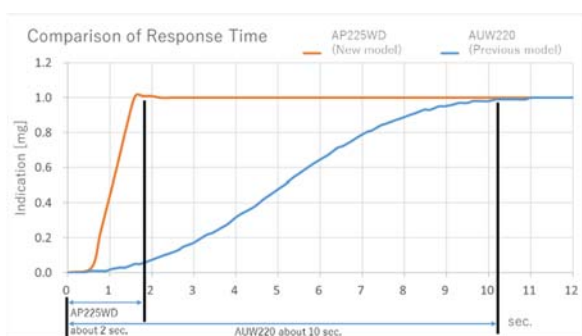
Model	AP Series	AU Series	Advantages of AP Series
Appearance			
Response Time for Trace Measurement*	2 seconds	10 seconds	Fast response time
Response Time	8 seconds	15 seconds	
Display	OLED	LCD	Wider viewing angle improves visibility. Text displayed by dot matrix.
Built-in Ionizer	Yes	No	User installable
Operating Guide Display	Yes (Japanese, English or Chinese)	No	Guidance displayed
Buffer Solution Preparation Mode	Yes	No	Buffer solution preparation procedure displayed.
USB Host	Yes	No	Connect USB flash drive, keyboard, etc.
USB Device	Yes	No	Connect directly to computer via USB port.
User Management	Yes	No	Authority can be specified for each user.
Inspection Support Function	Yes	No	Display periodic inspection procedures on the screen.

*The response time for displaying 90% of added sample amount value in trace measurements

4. Features

4.1. Achieving Fast Response Measurements

Thanks to the UniBlock AP integrated type aluminum mass sensor and newly developed digital control technology, the response time taken to reach the final measurement value, when measuring extremely trace amounts, is now reduced to 1/5 of what it was with previous models. This mass sensor employs a durable construction that is designed to be resistant to temperature changes, disturbances, and noise. Moreover, in the same way as with the models in the AP series released last year (0.1 mg model), the Shimadzu STABLO-AP ionizer can be incorporated in the balance. This then allows the static electricity that can affect a measurement to be eliminated in about one second, thus enhancing reliability.



STABLO-AP ionizer can be incorporated.



4.2. Compliance with Various Regulations

Support for a variety of regulations such as ISO 17025 for inspection organizations, ISO 9001 and ISO 14001 for the manufacturing industries, and GLP/GMP and USP (United States Pharmacopeia) for the pharmaceutical industries is provided. In the interest of data integrity, a linkage with LabSolutions Balance can be created. An analytical balance can be connected to a PC and included as part of a Shimadzu network system. Once this has been set up, the management of data that complies with GLP/GMP, or other regulations, can be performed in a centralized way, which includes various types of analytical instruments.

4.3. Wide Variety of Functions for Stronger Coordination with HPLC Systems and Safe Data Management

For HPLC (High-Performance Liquid Chromatograph) and other analytical instrument users, the AP-W series have advanced functions of navigating substances and masses to be weighed based on a registered solution recipe, and of automatically calculating the weigh values required for preparing solutions at specific concentrations. In particular, pre-registered common 13 buffer solutions recipes reduce the work involved in starting an analysis.

4.4. New User-Friendly Interface

The re-designed user interface features an organic electroluminescence display that provides a wider viewing angle with superior visibility, a new key layout that enables intuitive operation, and a choice of three display languages (English, Japanese, or Chinese). The balances can be connected to computers through USB port standardly equipped, so that a single computer using Shimadzu connectivity software can load measurement values up to three analytical balances. AP-W series are able to save data directly onto a USB flash driver or connect a commercial USB keyboard or barcode reader for registering sample names, sample ID, or other information in the balance.



Organic Electroluminescence Display and USB Port

Note: Shimadzu has confirmed that the unit function properly using the following USB devices. However, sales may be discontinued or they may be replaced with substitute products without notice. For up-to-date information, visit the Shimadzu analytical balance website:

<http://www.shimadzu.com/an/balance/index.html>

USB flash drive:	RUF3-K8GA-* made by Buffalo, Inc.
USB keyboard:	BSKBJ18* made by Buffalo, Inc.
USB keyboard (numeric keypad):	BSTK10* made by Buffalo, Inc.
USB Barcode Reader:	OPL-6845-USB made by Optoelectronics Co., Ltd.
USB Hub:	BSH4U25* made by Buffalo, Inc.

With items marked with an asterisk (*), there is a BK type and a WH type; this denotes the color. Their operation is identical.

4.5. Multi-Stand Convenient for Weighing Micro-tubes

A multi-stand is now available, which is useful for accommodating medicine paper or rod-shaped samples that might easily roll off, and which can hold small containers or other objects in an upright position. This is particularly convenient for microtubes, which, while being held in an upright position, can be filled directly using a pipette. Also, it can allow direct fractionation without using medicine paper.



5. Specifications

Refer to the AP Series Brochure (C054-E074).

6. Comparison Chart

Refer to the AP Series comparison table (see comparison table in attached sheet)

7. Sales Materials

AP Series Brochure (C054-E074): Scheduled to be issued in May, 2017

- Note that the AP series brochure (C054-E072) contains information about the 0.1 mg models only.
- For details concerning the LabSolutions Balance, refer to the specialized catalog (C054-E073).

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Shimadzu Corporation

Global Marketing Department

Analytical & Measuring Instruments Division

E-mail: gcs_ami@group.shimadzu.co.jp

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AP Series Comparison Chart

		Brand Model	AP	Shimadzu AU	Mettler ^o MMS	CPA	Sartorius Secura	Quintix	BM	A&D GR
Overview Image										
Maximum load and Readability	~ 100g	120g/52g 0.1mg/0.01mg	120g/42g 0.1mg/0.01mg	120g/42g 0.1mg/0.01mg	220g/100g 0.1mg/0.01mg	120g/60g 0.1mg/0.01mg	120g/60g 0.1mg/0.01mg	250g 0.01mg	210g/42g 0.1mg/0.01mg	
	100g ~	200g ~ 0.01mg *Response time: The time from when loading a weight till a balance displays 90% of the weight. The weight has mass nearly equal to the balance's maximum load.	220g/102g 0.1mg/0.01mg	220g/82g 0.1mg/0.01mg	220g/120g 0.1mg/0.01mg	220g/120g 0.1mg/0.01mg	220g/120g 0.1mg/0.01mg	220g/120g 0.1mg/0.01mg	220g/120g 0.1mg/0.01mg	
Basic Spec	Response Time [sec]	2	10	2	2	2	2	4	4	
	Material: Case/Base	die-cast / die-cast	die-cast / die-cast	die-cast / die-cast	Plastic / die-cast	Plastic / Plastic	Plastic / Plastic	Plastic / die-cast	Plastic / die-cast	
Dimensions and Structure and Device	Display	Dot matrix OLED multilingual *Japanese, English, Chinese	LCD with backlight (green)	7 inches color TFT	7segment LCD	Colored touch panel LCD	Colored touch panel LCD	LCD with backlight *nega display	LCD	
	USB Host	Included USB memory Numeric keypad Barcode reader	Not Included	Included	Not Included	Not Included	Not Included	Not Included	Not Included	
	Built-in Ionizer	Optional	Not Included	Not Included	Not Included	Not Included	Not Included	Included	Not Included	
Function	Calculate MSQ	Included Alarm function is available	Not Included	Included	Not Included	Included	Included	Not Included	Not Included	
	Daily Check Support	Included	Not Included	Not Included	Not Included	Not Included	Not Included	Not Included	Not Included	
	Buffer solution preparation	Included	Not Included	Not Included	Not Included	Not Included	Not Included	Not Included	Not Included	
Advanced Function for HPLC user	Recipe formulation	Included	Not Included	Not Included	Not Included	Not Included	Not Included	Not Included	Not Included	
	mol unit	Included	Not Included	Not Included	Not Included	Not Included	Not Included	Not Included	Not Included	