SIBATA

Water Activity Analyzer
AW-1/AW-Multi

Separable Sensor
with easy and speedy measurement!

For managing water activity, the crucial parameter in food safety and qulity management. Quick and easy measurement of water activity in samples!

■ Application Examples

- Food, pharmaceutical, cosmetic, and agricultural fertilizer industries

- Educational and research institutions, testing and analysis institutions

- New product development, prototype evaluation

- Quality control of raw materials and manufacturing processes, pre-shipment inspection

Water Activity Analyzer AW-1

The Best Feature
The Separable Sensor !

Features

- Compact and lightweight for portability
- Separable sensor
- Two modes of measurement: Stability Mode and Quick Mode
- One-point user-calibration mechanism
- 10 data saving on the device itself

Point

4 BENEFITS of the separable “Sensor-equipped Sample Container”

1

Each Sensor-equipped Sample Container can be calibrated, with its data saved on the sensor. It allows you to assign a Sensor-equipped Sample Container to a sample.

2

With a USB Type-A male to Type-A female cable, the Sensor-equipped Sample Container can be place in a thermostatic incubator for measurements. *The USB cable not included.

3

By using the included B-type silica gel and multiple Sensor-equipped Sample Container, continuous measurements can be made without being affected by volatile components.

4

When the sensor deteriorates, only the Sensor-equipped Sample Container needs to be replaced, not the whole device.

Point

Setups using PC software

- Date and time
- Data logging
- Measurement mode
- Calibrating, reading and storing calibrated values

Point

Two Modes of Measurement (Stability Mode and Quick Mode)

● **Stability Mode: standard mode**
After aging for 1 minute, AW-1 continues taking measurement until the water activity values stabilize.
<Application> New product developent and evaluating prototypes where water activity values in samples are unknown.

● **Quick Mode: short-time prediction mode**
After aging for 1 minute, AW-1 takes measurement for 5 minutes and determines a predicted value.
<Application> Manufacturing sites and pre-shipment inspections where water activity values in sample are known and where quick and repeated measurement is needed. *Users who are inexperienced with water activity measurements are advised to initially use Stability Mode.

Water Activity Analyzer AW-Multi

Simultaneous multiple analysis of up to 8 or 16 samples

Features

- Measures up to 8 or 16 samples simultaneously
- Custom software to check measurement*1
- Uses the same Sensor-equipped Sample Container as the model AW-1
- Simultaneous calibration on multiple sensors
- Alarm to notify the measurement completion
- Two modes of measurement:
  Stability Mode and Quick Mode
- Automatically stores measured data on PC in CSV format

*1: A separate PC is required for measurement.

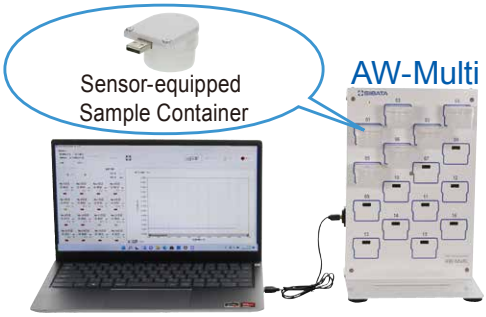
8 Samples　　16 Samples

Point

AW-Multi's Strengths and the Differences from the AW-1

When using multiple AW-1 units,

- It takes up a lot of space.
- Setting up parameters on each unit is time consuming.
- Checking data on each device is time consuming.



- Saves space.
- Both individual and a batch measurement is available.
- Data is managed on a computer.

Point

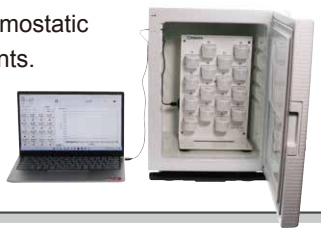
Setups using PC software

- File names
- When to start measurement
- Alarm sound
- Measurement mode
- Calibrating, reading and storing calibrated values

Point

Using a thermostatic incubator

Place the device in a thermostatic incubator for measurements. Well-organized sensors in one unit brings you higher work efficiency.



Point

Individual sensor and a batch measurement setup

● Individual Measurement
Starts measurement on each sensor separately. The individual measurement starts immediately once a sensor is inserted to the AW-Multi main unit board.
<Application> Efficiently measuring samples with different water activity.

● Simultaneous Measurement
Starts measurement on all sensors simultaneously. Insert all sensors on the AW-Multi main unit board and start measurement using the connected computer.
<Application> Taking measurements in a thermostatic incubator or testing multiple samples from the same material.

Specifications

Product Code	060990-010	--
Model	AW-1	AW-Multi
Number of Samples	1 sample	up to 8 samples or up to 16 samples
Measurement Range	water activity: 0 - 1.000 aw, cell interior/ambient temperature: 0 - 80 ℃, ambient humidity: 10 - 95%rh	
Measurement Mode	Stability Mode and Quick Mode	
Resolution	water activity: 0.001 aw, cell/ambient temperature: 0.1 ℃, ambient humidity: 0.1 % rh	
Water Activity Measurement Accuracy	± 0.01 aw*1 (at ambient temperature ± 0.2 ℃)	
Measurement Time	Stability Mode : 5 - 30 minutes*2 Quick Mode : 6 minutes	
Data Storage Function	Stores 10 measurements (water activity, temperature inside the cell, ambient temperature, ambient humidity)	Automatically saves to PC (water activity, temperature inside the cell, ambient temperature, ambient humidity)
Communications	Custom PC software via USB connection*3	Custom PC software via USB connection*3
Battery Operation Time	About 60 hours (AAA alkaline batteries)	--
Power	Power supply from 4 AAA batteries or USB (micro-B) port*4	Power supply from PC
Accessories	Sensor-equipped Sample Container (including B-type silica gel) 20 mL Sample Container (5 pcs) Sensor Protection Filter Φ18 (5 pcs) USB cable (A-microB)	Please inquire.*5
Dimensions / Weight	Approx. 80 (W) x 45 (D) x 115 (H) mm (excluding protrusions) Approx. 270 g (including batteries)	Approx. 210 (W) x 180 (D) x 315 (H) mm Approx. 2.0 kg

*1: 0.12 to 0.97 aw/Stability mode; ±0.01 aw after calibration; during measurement with the same conditions as during calibration.
This excludes conditions in which the sample contains alcohol.
*2: The measurement time differs depending on the sample.
*3: Download the custom software from the Sibata website.
*4: Alkaline batteries, a mobile battery, and smartphone charger are not included.
*5: PC and thermostatic incubator suppliable. Please inquire for details.

Consumables and Spare Parts

Product Code	Name
060990-011	Sensor-equipped Sample Container
060990-012	Sample Container 20mL, 10 pcs
060990-013	Sensor Protection Filter φ18, 10 pieces
080990-1	USB Cable & Battery Set

Sensor-equipped Sample Container

Sample Container 20mL, 10 pcs

Sensor Protection Filter φ18, 10 pieces

USB Cable & Battery Set

Option

Product Code	Name	Types of Saturated Salt	
060990-020	Saturated salt 0.225aw	Potassium Acetate	CH_3COOK
060990-021	Saturated salt 0.328aw	Magnesium Chloride	$MgCl_2$
060990-022	Saturated salt 0.529aw	Magnesium Nitrate	$Mg(NO_3)_2$
060990-023	Saturated salt 0.753aw	Sodium Chloride	NaCl
060990-024	Saturated salt 0.843aw	Potassium Chloride	KCl
060990-025	Saturated salt 0.930aw	Ammonium Dihydrogen Phosphate	$NH_4H_2PO_4$
060990-026	Saturated salt 0.973aw	Potassium Sulfate	K_2SO_4

- Prepared with reference to ISO18787:2017.
- Can be used for daily inspections and user-calibration.
- Simply replace the container lid with the lid from the Sensor-equipped Sample Container.
- Allowed to be used repeatedly.

"Introduction to Water Activity Analyzer AW-1"

"Water Activity Analyzer -Please review before taking measurements-"

● *Specifications and appearance described in this document are based on information as of June 2024.* ● *The color of actual products may differ to that color in this data sheet.*
● *Before using AW-1 and AW-Multi, please read the operation manual.*

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