February 15, 2016

Balance New Product

Release of the STABLO-AP Electronic Balance Ionizer

In recent years, high-reliability weight measurements have been in demand due to increasing sophistication of research & development and quality controls. One of the causes of reductions in the reliability of weight measurements and for inferior productivity is the impact of static electricity. If the sample bottle, the sample itself, or the container used to weigh the sample becomes charged, the sample may scatter when removed from the sample bottle, so the precious sample is wasted, or it may adhere to the outside of the container used for weighing, reducing productivity. In addition, when samples with a static electric charge are weighed with an electronic balance, reliability is reduced due to instability of the measurement results, and deviation of the measurement results from their true value.

The **STABLO-AP electronic balance ionizer** has been released as a new product designed to play an effective role in eliminating these effects of static electricity, thereby heightening the reliability of weighing, and improving productivity.

Thanks to the adoption of a high-voltage AC corona discharge method under digital control, the **STABLO-AP ionizer** achieves **high-speed neutralization[*1] in a mere one second without causing draft**. In addition, the AC method allows positive and negative ions to be emitted equally, enabling stable neutralization (ion balance ±10 V or less[*2]) without oppositely charging the neutralized sample. A draft is not needed for ion exposure, so powdered samples are not scattered, and contamination with foreign materials does not occur. The STABLO-AP can be used in either of the two ways to suit the measurement situation: It can be fastened for use to a stand provided as standard, or hand held and moved around freely. Take the release of this new product as an opportunity to expand sales in conjunction with electronic balances. Note that sales of the previous STABLO-EX will continue until the inventory is depleted.

On Stand

While being neutralized, charge-prone samples can be injected into a container without being scattered. You can also easily neutralize spatulas and sample bottles in the midst of the work flow.
Samples can be neutralized before weight measurements.

Hand Held

You can neutralize sample static electricity during weight measurements.
Move the unit freely to any position where static electricity is a concern and then neutralize it.

*1: Neutralization time taken from a static charge of ±1000 V to ±100 V at a distance of 100 mm from the discharge needle

*2: Static charge after neutralization from a static charge of ±1000 V to ±100 V at a distance of 100 mm from the discharge needle

1. Comparison with the Previous Model (STABLO-EX)

Improvements over the previous model (STABLO-EX) are as per the table below.

Model Name	STABLO-AP	STABLO-EX	Advantages of the STABLO-AP
Neutralization method	AC corona discharge	AC corona discharge	Uses an alternating current discharge method under the unique digital control. Though small, it can generate high-power AC ions.
Fan	No	Yes	Due to no fan draft, it can neutralize powdered samples without scattering them.
Neutralization time[*1] (No draft)	**1 second**	12 seconds	It can neutralize samples in 1/10th the time of the previous product.
Ion balance	**±10 V**	±20 V	Stable ion balance after neutralization
Neutralization distance (no draft)	50 to 400 mm	50 to 500 mm	This is the maximum distance for the STABLO-EX when the built-in fan is used. (Neutralization time of 100 seconds)
Operating life	30,000 hours	10,000 hours	Thanks to the alternating current output under digital control, the discharge is sometimes stopped, which means minimal wear of the discharge needle, and a long operating life.

*1 Neutralization time taken from a static charge of ±1000 V to ±100 V at a distance of 100 mm

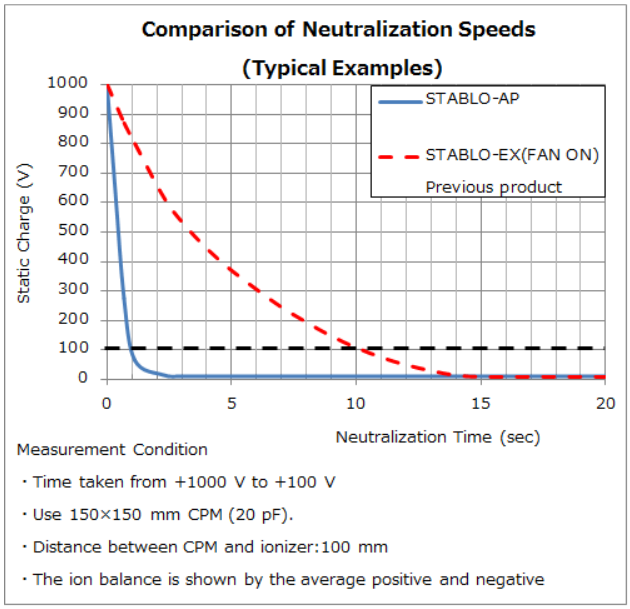
2. Features

2.1. High-Speed Static Neutralization

HDC-AC* Corona Discharge Method

Thanks to the adoption of a high-voltage AC corona discharge method under digital control, the unit achieves high-speed static neutralization in a mere one second without causing draft.
There is no draft, so powdered samples are not scattered, and there are no concerns about contamination even when it is used inside a balance weighing chamber.

*HDC-AC: Ion control method featuring alternating current output with the unique digital control

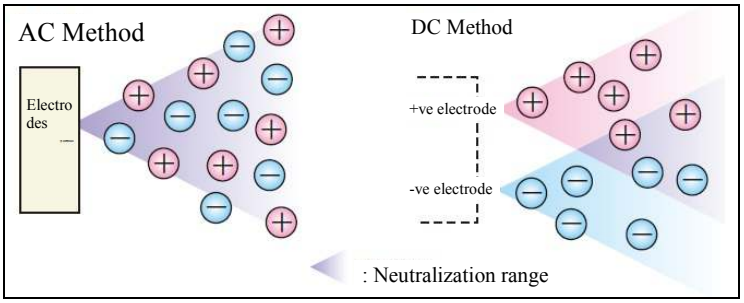


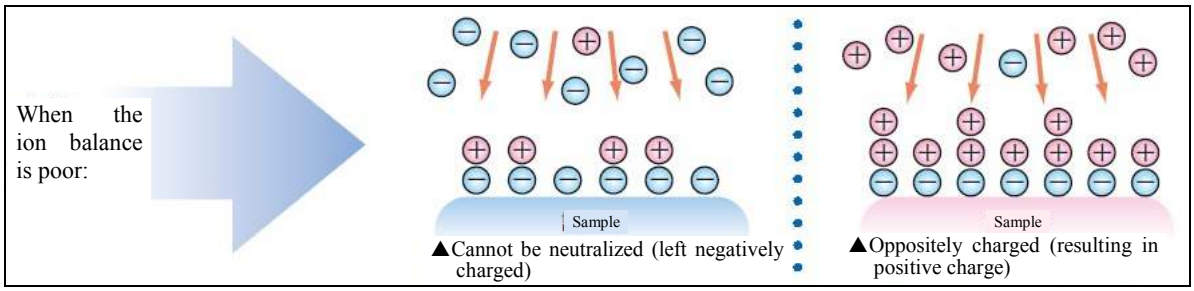
2.2. Stable Ion Balance

The use of an AC method achieves a good ion balance of ±10 V or less without oppositely charging the sample.
Also, the alternating current output under digital control provides a long operating life (30,000 hours). This enables stable static neutralization over extended periods.

*AC discharge method: In this method, an AC voltage is applied to the discharge needle, so equal amounts of positive and negative ions are released from a single electrode. This enables stable neutralization over a wide range.

DC discharge method: In this method, DC voltage is applied to two electrodes respectively, one positive and one negative, so that both types of ions are released. The neutralization range is limited when the electrodes are distanced. Also, the ion balance worsens as the discharge needles degrade.





▲Cannot be neutralized (left negatively charged)

▲Oppositely charged (resulting in positive charge)

2.3. Usage Suited to the Objective

On Stand

While being neutralized, charge-prone samples can be injected into a container without being scattered.
Samples can be neutralized before weight measurements, which heightens weight measurement reliability and lessens sample scatter.

Hand-Held

You can neutralize sample static electricity during weight measurements.
Move the unit freely to any position where static electricity is a concern and then neutralize it.

3. Specifications

Neutralization method	AC corona discharge
Ion balance[*1]	± 10 V
Static neutralization range	Approx. 50 to 400 mm from the discharge port
Static neutralization time[*2]	1 second
Ozone concentration	0.06 ppm or less (centered at 150 mm from the discharge port)
Discharge electrode (material)	Tungsten, operating life of 30,000 hours
Usage environment	0 to 40 °C, 25 to 85 % relative humidity or less (no condensation)
Rated power supply	DC 24 V, 1.0 A
Input power supply (AC adapter)	100-240V , 0.58 A, 50 to 60 Hz
Pollution class[*3]	2
Over voltage category[*3]	II
Altitude	Up to 2000 m
Installation environment	For indoor use only
Weight	Approx. 710 g (ionizer unit: approx. 395 g, stand: approx. 315 g)
Size	Approx.124 × 87 × 49 mm

*1: Typical value where a 150 mm × 150 mm charge plate monitor (CPM) is measured at 20 pF at a distance of 100 mm from the discharge needle (At time of shipment)

*2: Neutralization time taken from a static charge of ±1000 V to ±100 V at a distance of 100 mm from the discharge needle

4. Sales Materials

Ionizer Brochure (C054-E071): Scheduled to be released in February 2016

5. Precautions

This is an ionizer specifically for sample, container and measurement tools.

6. Comparison Table

As per separate sheet.