1. Introduction

This manual describes how the AD-1683 works and how to get the most out of it in terms of performance. Please read this manual completely before using the AD-1683.

2. Features

The AD-1683 generates bipolar ions continuously by DC corona discharge separately from positive and negative discharge electrodes and directs the ionized air onto the charged body to eliminate static electricity. The generated ions are well balanced in polarity and can eliminate static electricity regardless of the polarity of the charged body. (See Fig. 3)

3. Part Names

- WARNING LABEL
- ADAPTER JACK
- ADAPTER IDENTIFICATION LABEL
- DISCHARGE ELECTRODE PINS
- STAND PLATE
- PLUG
- AD-1683 MAIN UNIT
- AC ADAPTER

4. How to Use the AD-1683

4-1. Installing the AD-1683

Choose the installation site so that the AD-1683 can be placed beside the electronic balance and a space wide enough to place a sample (10 cm to 30 cm from the front of the AD-1683) be secured. Place the sample in front of the AD-1683 inside the specified area and perform static elimination. Then, weigh the sample using the electronic balance.

4-2. Turning the power on

When the elimination performance remains low even after cleaning the discharge electrode pins and static elimination performance will be lowered. To maintain the elimination performance, clean the AD-1683 periodically (once a week). Use a cotton swab to clean the electrode pins.

4-3. Finishing the use

When relocating the AD-1683, remove the AC to avoid a possible electrical shock. To prevent electrical shock, insert the POWER cable into a grounded outlet and earth ground the grounding cable.

5. Maintenance

5-1. Cleaning

Remove the AC adapter from the AD-1683 before cleaning.

Note: Please confirm that the AC adapter type is correct for your local voltage and receptacle type.

5-2. Replacing the discharge electrode pin

When the elimination performance remains low even after cleaning the discharge electrode pins, replace the discharge electrode pins with new ones. Remove the AC adapter from the receptacle and the AD-1683. Using a pair of pliers, pull the discharge electrode pin out. Insert a new pin, using much care not to bend the pin tip. Be sure to insert the pin till stopped.

Replacement discharge electrode pins (Sold separately): AX-054016580-S

6. Specifications

- Static elimination method: DC corona discharge (Bipolar)
- Elimination range: (See Fig. 2)
  - Distance: Approx. 10 cm to 30 cm from the electrode
  - Area: 30x30 cm from the electrode
- Elimination performance:
  - Temperature 22°C
  - Humidity 45% RH
  - Elimination effective area
    - Ion current: 0.4 μA
    - 0.4 μA
    - 0.6 μA
    - 1 μA
  - Elimination time: 1 sec, 4 sec, 15 sec, 70 sec
  - Elimination range (See Fig. 2)
    - Distance: Approx. 10 cm to 30 cm from the electrode
    - Area: 30x30 cm from the electrode
- Elimination performance:
  - When charged 5 kV
  - Elimination performance cannot be guaranteed.
- Ambient temperature and humidity:
  - Temp: 0°C to 50°C
  - Humidity: 20% RH to 80% RH
  - Ozone concentration:
    - Positive discharge pin: 0.07PPM
    - Negative discharge pin: 0.25PPM
    - (Measured at a distance of 1 cm from each discharge pin.)
- Power supply:
  - AC adapter, Please confirm that the AC adapter type is correct for your local voltage and receptacle type.
  - Approx. 1.5 VA
- Power consumption:
  - Ozone generator: 0.1 W
- Discharge electrode pin:
  - Tungsten (φ0.6x17 mm), Life Approx. 10000 hours
  - Approx. 300 (including the stand)

Caution

- Do not face the front of the AD-1683 directly toward an electronic balance. Ionized air from the AD-1683 may affect the measurement and cause a measurement error.
- When using a balance of other manufacturers, static elimination cannot be guaranteed.
- Do not place the sample closer to the AD-1683 than specified. The sample may become charged.
- Do not place any obstacle between the AD-1683 and the sample.
- The stand can be attached to the workbench. The stand has three holes with a diameter of 6 mm in 42.5 mm interval for that purpose. (To secure the stand: Bend the side plates outward to remove the AD-1683, using much care not to separate the upper and lower cases.) Attach the stand to the workbench using the screws. Replace the AD-1683 on the stand.

Note: Please confirm that the AC adapter type is correct for your local voltage and receptacle type.

© 2004 A&D Company Ltd. All rights reserved.