

WEIGHING 101

Measuring weight with accuracy and precision remains one of the most critical components in almost every business.

Despite booming technology advances in scale hardware and supporting software, having the right equipment is only a part of the equation – knowing how to weigh properly involves two key components, which work to mitigate the external influences and user errors that can be detrimental to precise weighing:

- › Choosing the right balance location
- › Proper balance operation

LOCATION, LOCATION, LOCATION

To ensure precise weighing results, consider the following tips on balance placement:



1 Environment

Room should be vibration-free, free from drafts and electrostatic charges and should maintain a constant temperature (weighing results vary widely when exposed to significant changes in room temperature – so maintain distance from fixtures such as windows or refrigerator).

- Constant Temperature
(-5° to +30° C)
- No Drafts
- Vibration-Free
- Antimagnetic

3 Light

Direct sunlight and lighting fixtures can influence weighing results through heat radiation, so the balance should be placed a significant distance from both (fluorescent tube lights work best).



2 Weighing Counter/Benchtop

The weighing bench should be sturdy and stable.

DID YOU KNOW?

A&D offer granite slab vibration isolators and weighing tables, critically important with Micro and Semi Micro balances.

4 Atmospheric Humidity

Experts recommend the relative humidity should be between 45 and 60 percent, and should not be operated above or below 20 to 80 percent.



OPERATION: MISSION PRECISION

To ensure balances can measure highest precision, use the following:



Standby/Switch on

The balance should always be connected to its power supply, so can be left in standby mode perpetually.

DID YOU KNOW?

The majority of A&D model automatically come with standby mode and engineered to be powered up all the time.



Leveling

The balance leveled prior to any weighing, so check the level indicator before each use, adjusting the leveling feet if needed.

DID YOU KNOW?

Select model at A&D offer illuminated spirit bubble. Allow for easier visibility when leveling.



Adjustment

Check the calibration of the balance on a regular basis, using the following as a general guide:

- › When operated for the first time
- › When the location is changed
- › After leveling
- › After any changes in temperature, humidity or air pressure

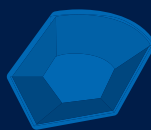
DID YOU KNOW?

At A&D calibration is critical. That is why we offer external and internal calibration models to fit your application and budgetary need.



Zero & Taring

It's important to "zero" the balance regularly to ensure accurate weight, before you place anything on the balance. When weighing with a container always use "tare". The balance will store the "container weight" and visually display to zero. That way, only the net weight of the sample will be measured and the weighing container will be subtracted out. If the weighing pan has debris or another container present, the balance would only record the gross weight.



Weighing Vessel

The smallest possible weighing vessel should be used, avoiding materials with a high degree of electrical insulation, such as glass and plastic, which can become electrostatically charged. Temperature of the weighing vessel and the sample it contains should be the same as the lab room (as a result, human hands should not handle the vessel or sample, and following removal from a drying oven or dishwasher, it should acclimatize to lab room temperature).

DID YOU KNOW?

A&D offers anti-static solutions such as built in ionizer and pass through ionizers and anti-static glass/materials.



Weighing Pan

The weighing vessel should be placed in the middle of the weighing pan, to prevent corner load errors.

DID YOU KNOW?

A&D engineers for off corner load errors in our mechanical and pan design.



Cleaning

The weighing chamber and weighing pan should be clean at all times, using conventional window-cleaning fluid and a lint-free cloth.

DID YOU KNOW?

Easy to clean is our middle name. Our choice in materials such as glass, stainless. Not to mention our chamber designs allow easy access.