Moisture Analyzers

A moisture analyzer is a precision balance combined with a halogen or infrared heater that reports loss on drying as a percentage of the initial sample mass. It replaces an oven-and-desiccator procedure that takes hours with a measurement that takes minutes.

Moisture analyzer selection

Application	Typical capacity	Typical readability	Notes
Food QC, snacks, dairy	50–110 g	0.001 g / 0.01%	Halogen heating
Plastics and resin pellets	50–110 g	0.001 g	High-temperature program
Grain and agriculture	110–200 g	0.01 g	Larger pan for bulk samples
Pharma and fine chemicals	50 g	0.0001 g / 0.001%	High-resolution, GLP output

Certification and compliance

- Authorized A&D Weighing dealer. Sold as an authorized dealer since 1998, so every unit carries the full manufacturer warranty and factory firmware — not grey-market stock.
- NIST-traceable calibration certificate. Any instrument can ship with a calibration certificate produced in our Cypress, Texas lab using mass standards traceable to NIST, with as-found and as-left values recorded.
- In-house repair & on-site service. Factory-trained technicians repair, adjust and re-certify weighing equipment in our own Texas workshop and on-site across the Houston metro.

Specification checklist

- Readability in % moisture. 0.01% is standard; 0.001% only matters for low-moisture pharma samples.
- Heating element. Halogen heats fastest and most evenly; infrared and metal-rod elements are more tolerant of splatter.
- Method memory. Stored programs keep operators from changing the result by changing the procedure.
- End-point criteria. Automatic, timed and rate-based end points each suit different materials.
- Data output. GLP printout or PC output for QC records.

Frequently asked questions

How does a moisture analyzer work?

It weighs the sample, heats it with a halogen or infrared element while continuously re-weighing, and reports the percentage of mass lost as moisture once the weight stabilizes.

Is a moisture analyzer as accurate as an oven?

It is accurate and repeatable, but it measures loss on drying rather than water specifically. Correlate the rapid method to your oven reference method once per material and document the offset.

What sample size should I use?

Most methods use 2–10 g spread thinly and evenly across the pan. Larger samples take longer; uneven samples terminate early and read low.

What temperature should I set?

It depends on the material — typically 105 °C for food and grain, higher for plastics. Start from the reference oven method's temperature and validate against it.

Terminology

Analytical balance	A balance reading to 0.0001 g (0.1 mg) or finer, enclosed in a draft chamber. Used for analytical chemistry, pharmaceutical assay and trace-level formulation.
ASTM E617	The American standard that defines tolerance classes for mass standards. Class 1 weights are the tightest commonly used for laboratory balances, Class 2 for 0.01 g balances, and Classes 4 and 6 for industrial platform and crane scales.
Auto-zero tracking	A function that continuously re-zeros small drifts near zero so the display stays at 0 when the pan is empty. It can mask a very slow addition of material, so it is disabled for some dispensing work.
Drift	A slow change in reading with no change in load, usually caused by temperature change, air movement, static, or a settling mechanical assembly rather than by an instrument fault.
Force restoration	A weighing mechanism that balances the load with an electromagnetic coil and measures the current needed to do so. It gives faster settling, better linearity and lower drift than a strain gauge, and is what A&D's SHS sensor uses.
GLP output	A printout or data record that includes date, time, instrument identification and calibration status, as required by Good Laboratory Practice and comparable quality systems for audit trails.
Moisture analyzer	A balance combined with a controlled heater that weighs a sample, dries it, and reports moisture content as a percentage of the mass lost. Also called a loss-on-drying balance.
Precision balance	A balance reading to between 0.1 g and 0.001 g, usually with an open pan. Coarser than an analytical balance and far finer than a bench or platform scale.

EK1200i.com — authorized A&D Weighing dealer since 1998. Calibration, repair and application support from Cypress, Texas.
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