



TORONTECH

HALOGEN MOISTURE ANALYZER



Halogen Moisture Analyzer - ToronMA™ H Series

ToronMA™ H Series halogen moisture analyzer uses high-brightness halogen lamp heating and a high-precision sensor to determine moisture content across four readability options: 0.1%, 0.05%, 0.02%, and 0.01%. An HD LCD display presents moisture content, dry residue, and time/temperature data without a touchscreen, making the H Series suited to keypad-operated laboratory and production workflows. All models cover 110g capacity with a $\phi 90$ mm aluminum sample pan across a 40–199°C temperature range. An optional grinder, printer, and aluminum carry box support extended field and mobile testing.

Thirteen functional settings cover heating mode, stop mode, temperature calibration, instrument calibration, data storage, time/date, and baud rate for flexible parameter control. Moisture and dry residue display as percentages throughout the drying cycle, with 15 data groups stored for recall and RS232 output. The H100 model uses a second halogen lamp type and a backlit LCD display, while the H110, H105, and H102 models share the same HD LCD screen and lamp. CN/EN language and print settings are accessible through the settings menu.

The H Series uses a 365 × 235 × 185 mm, 7 kg aluminum shell housing with a multi-layer stainless steel heating chamber on a windproof tray. A support tripod stabilizes the heating chamber on the tray for consistent pan positioning during each drying cycle. A $\phi 90$ mm aluminum sample pan with an insulated carry basket supports safe sample handling after high-temperature cycles. Adjustable feet allow the operator to level the instrument on any bench surface before calibration and testing.

APPLICATIONS

Halogen Moisture Analyzer - ToronMA™ H Series Applications

The ToronMA™ H Series suits quality-control, production, and laboratory environments where moisture content testing across four precision levels is required from a traditional LCD-operated platform.

- **Food and Agricultural Commodities:** moisture determination in grain (corn, rice, soybeans), white sugar, and food products where 0.1% or 0.05% readability satisfies commodity grading and production QC requirements
- **Pharmaceutical Manufacturing:** moisture content testing of tablets, capsules, granulations, and excipients where 0.01% moisture readability meets pharmacopoeial specifications for low-moisture pharmaceutical materials
- **Plastics and Polymer Processing:** pre-drying moisture verification of polymer pellets and resins where 0.02%–0.05% readability supports material specification compliance before extrusion or molding
- **Paper and Packaging Materials:** moisture testing of paper, board, and packaging where water content affects strength, printability, and dimensional stability
- **Chemical Intermediates and Raw Materials:** incoming material moisture verification and in-process monitoring across chemical products, with the readability tier matched to specification tolerance
- **Traditional Medicine and Botanical Products:** moisture determination in herbal preparations and botanical raw materials where moisture content affects storage stability and regulatory compliance
- **Industrial and Production QC:** general moisture testing in cosmetic, chemical, and industrial raw materials where the four readability options let the H Series serve applications across a wide accuracy range
- **Educational and Research Institutions:** traditional LCD-based moisture analyzer suited to teaching environments and research labs where straightforward keypad operation supports training and standard laboratory workflows



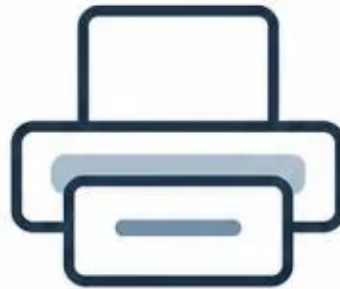
FEATURES

Halogen Moisture Analyzer - ToronMA™ H Series Key Features

The ToronMA™ H Series provides classic LCD-based halogen moisture analysis in four readability configurations for flexible application matching.



LCD Display

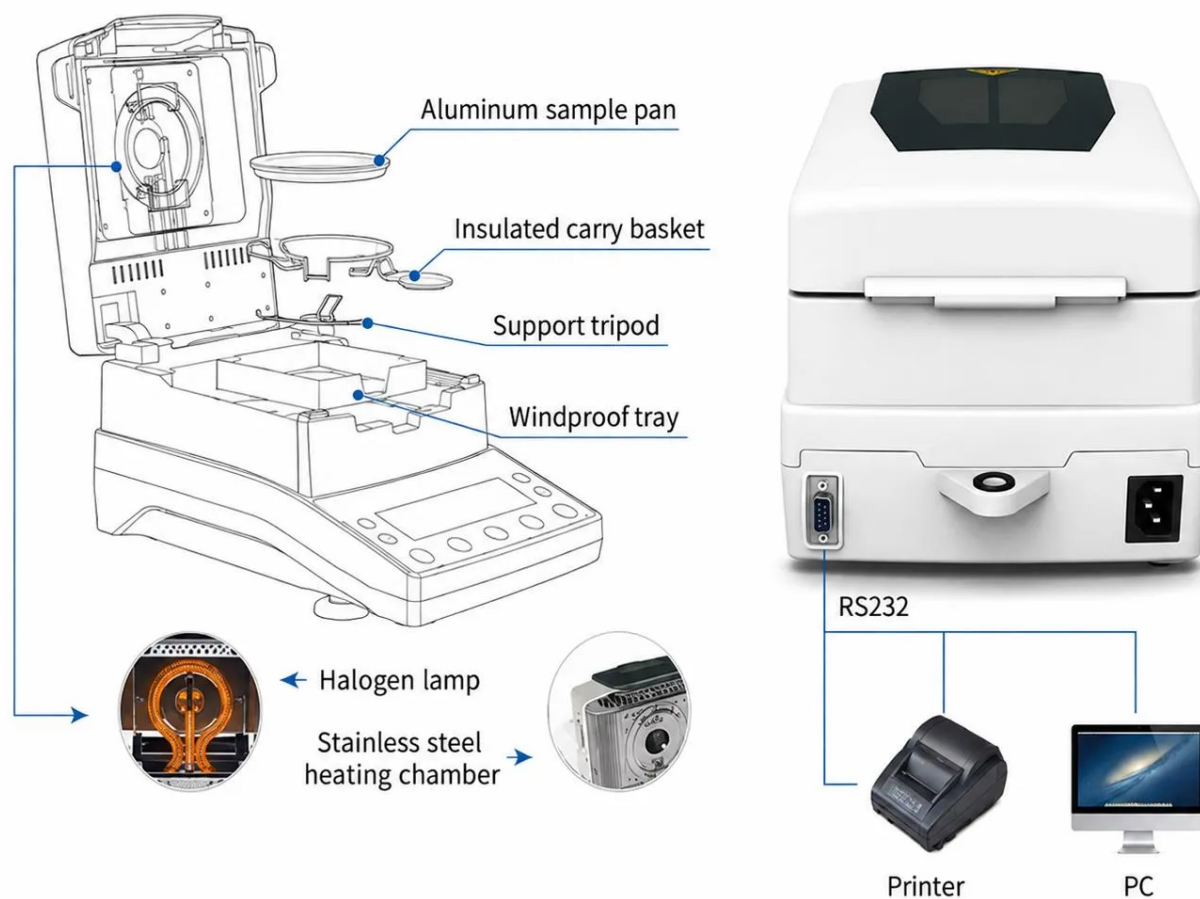


Print Setting



- **Four Moisture Readability Options:** H110 (0.1%), H105 (0.05%), H102 (0.02%), and H100 (0.01%) let buyers select the precision tier that fits their application without purchasing separate instruments for each readability level
 - **High-Brightness Halogen Lamp (400W):** top-down radiant heating reaches the target drying temperature across the 40–199°C range faster than convective oven methods for the same sample type and size
 - **HD LCD Display (H110, H105, H102):** high-definition display presents moisture percentage, dry residue, and time/temperature data in a clear, non-touch interface suited to production keypad workflows
 - **HD Backlit LCD Display (H100):** the H100 model uses a backlit LCD for improved visibility in lower-ambient-light environments, paired with a second halogen lamp type specific to its performance profile
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- **High-Precision Thermal Resistor Sensor:** monitors chamber temperature throughout the drying cycle, maintaining the set temperature within 1°C step precision across the full 40–199°C range
 - **Multi-Layer Stainless Steel Heating Chamber:** durable chamber construction distributes heat uniformly and withstands repeated thermal cycling in production and laboratory testing environments
 - **Support Tripod:** stabilizes the heating chamber on the windproof tray, maintaining consistent positioning and reducing unwanted pan movement during the drying cycle
 - **Windproof Tray:** isolates the heating chamber assembly from air currents below the pan, reducing pressure-differential interference during the weighing phase of each drying cycle
 - **Aluminum Sample Pan (φ90mm):** lightweight pan accommodates a wide range of sample containers within the 110g capacity
 - **Insulated Carry Basket:** basket handle allows safe removal of the hot sample pan after each test without direct contact with the pan surface
 - **Moisture Content Percentage Display:** real-time moisture percentage presented throughout the drying cycle for direct reading without post-test calculation
 - **Dry Residue Display:** residual dry mass percentage shown alongside moisture content for complete sample characterization per test
 - **15-Group Data Storage:** stores 15 test programs and historical results for standard QC recall and RS232 output to printers or PCs

- **13 Functional Settings:** heating mode, stop mode, temperature calibration, instrument calibration, data storage, CN/EN language, baud rate, and time/date configuration
- **RS232 Interface:** connects the analyzer to printers for hard-copy result output and to PCs for data export and logging
- **External Calibration:** all models calibrate with a user-supplied reference weight at operator-defined intervals for weighing traceability



- **Aluminum Shell:** rigid outer housing resists chemical and thermal stresses generated during continuous moisture testing
- **Adjustable Feet:** four adjustable feet support level positioning on any bench surface before calibration and testing
- **CN/EN Bilingual Interface:** switchable Chinese/English language and printing configuration for multi-region laboratory and production environments
- **Optional Grinder:** sample preparation grinder for reducing particle size of grain, seed, and solid samples before testing, improving sample homogeneity and repeatability
- **Optional Printer:** external RS232 printer for hard-copy GLP-format moisture results
- **Optional Aluminum Carry Box:** protective transport case for field testing and mobile deployment

THEORY & METHOD

Theory and Method

The ToronMA™ H Series applies the drying loss method: the high-precision sensor continuously records sample mass during halogen lamp heating, and moisture content is calculated as the percentage of initial mass lost. The high-brightness halogen lamp heats the ø90mm pan across a 40–199°C range, reaching the target temperature faster than convective oven methods. A thermal resistor sensor monitors chamber temperature throughout the cycle, maintaining the set temperature within 1°C step precision. The HD LCD display presents moisture percentage and dry residue alongside elapsed heating time.

Four readability tiers address different application precision requirements: 0.1% moisture (10mg) for industrial and commodity testing; 0.05% and 0.02% for mid-range laboratory work; and 0.01% (1mg) for pharmaceutical and chemical applications. A support tripod stabilizes the heating chamber on the windproof tray for consistent pan positioning during each cycle. The aluminum sample pan and insulated carry basket allow safe sample loading and unloading after high-temperature drying. External calibration with a user-supplied reference weight maintains weighing traceability at operator-defined intervals.

TECHNICAL SPECIFICATIONS

Halogen Moisture Analyzer - ToronMA™ H Series Technical Specifications

ToronMA™ H Series Models

Parameter	ToronMA™ H110	ToronMA™ H105	ToronMA™ H102	ToronMA™ H100
Capacity	110 g	110 g	110 g	110 g
Readability	10 mg (0.01g)	5 mg (0.005g)	2 mg (0.002g)	1 mg (0.001g)
Moisture Range	0.0%-100.0%	0.00%-100.00%	0.000%-100.000%	0.00%-100.00%
Moisture Readability	0.1%	0.05%	0.02%	0.01%
Dry Range	100.0%-0.0%	100.00%-0.00%	100.00%-0.00%	100.00%-0.00%
Dry Readability	0.1%	0.05%	0.02%	0.01%
Display	HD LCD	HD LCD	HD LCD	HD Backlit LCD
Halogen Lamp	Lamp-1	Lamp-1	Lamp-1	Lamp-2

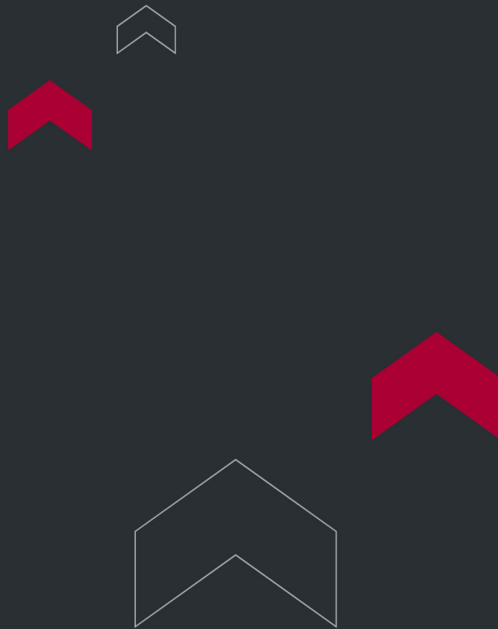
Common Specifications

Parameter	Specification
Pan Size	φ90 mm
Heat Source	Halogen lamp
Temperature Sensor	High-precision thermal resistor

Parameter	Specification
Temperature Range	40°C-199°C, 1°C Step
Time Setting	1-99 min, 10s Step
Calibration Mode	External
Working Temperature	15-30°C
Interface	RS232
Data Storage	15 groups
Heater Power	220V ±15%, 50Hz / 110V ±15%, 60Hz; 400W
Balance Power	Input: 220V 50Hz / 110V 60Hz; Output: 9V
Product Dimensions (W × D × H)	365 × 235 × 185 mm
Packing Dimensions	485 × 340 × 350 mm
Gross Weight	7 kg

Optional Accessories

Accessory	Description
Grinder	Sample preparation grinder for particle size reduction before moisture testing
Printer	External RS232 printer for GLP-format moisture results
Aluminum Carry Box	Protective transport case for field and mobile deployment



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