



TORONTECH

COMPACT HALOGEN MOISTURE ANALYZER



Compact Halogen Moisture Analyzer - ToronMA™ CHa Series

ToronMA™ CHa Series compact halogen moisture analyzer packages a 5-inch full-color touchscreen and real-time drying curve into a 4 kg, 340 × 215 × 170 mm form factor suited to space-constrained benches. Three models address different precision levels: the CHa110 at 0.10% moisture readability (10%–90% range); the CHa105 at 0.05% (5%–95%); and the CHa101 at 0.01% (1%–100%). A silent rapid-cooling fan shortens inter-test cool-down, and adaptive voltage adjustment supports stable operation on varied mains supply. The CHa Series received an American Good Design award.

Eleven functional settings cover heating mode, stop mode, temperature, heating time, baud rate, language, clock, data storage, and calibration through the 5-inch color touchscreen. Standard, Fast, and Soft heating modes adapt the drying profile to sample type, with Automatic, Manual, and Timed stop modes for cycle termination control. The instrument stores 20 test groups and displays historical records for review and RS232 output. A one-click empty pan preheat function warms the chamber to the target temperature before sample loading.

The ø100mm aluminum sample pan accommodates food and agricultural sample sizes within the 110g capacity, and each instrument ships with 20 disposable pans for immediate testing. A windproof tray, silicone buffer pad, and adjustable leveling feet with a built-in level bubble provide stable, vibration-isolated positioning. The side handle and 4 kg weight support single-operator transport, and the 30mm testing height keeps the instrument profile low for shelf-clearance environments. External calibration with a user-supplied weight maintains weighing traceability at operator-defined intervals.

APPLICATIONS

Compact Halogen Moisture Analyzer - ToronMA™ CHa Series Applications

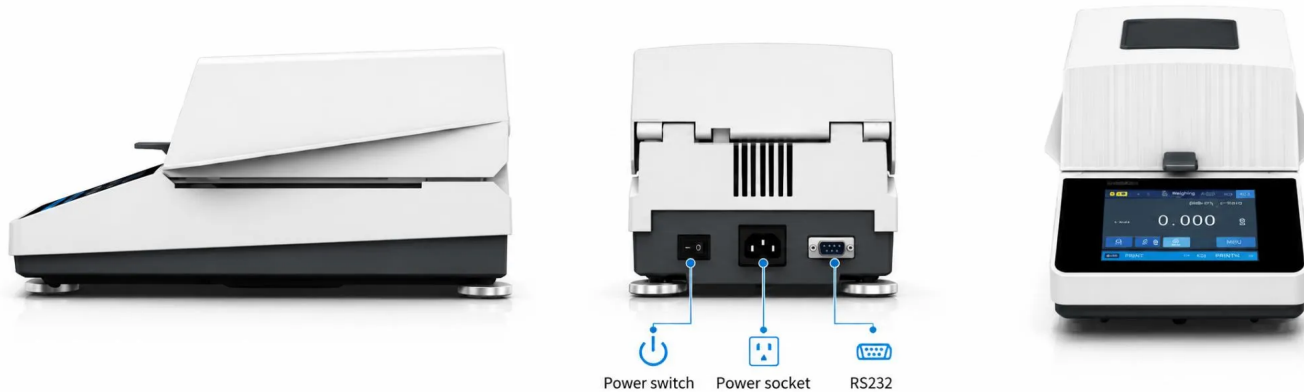
The ToronMA™ CHa Series suits food production, agricultural testing, and quality-control environments where compact touchscreen moisture analysis is required for grain, feed, tea, and similar materials.

- **Grain Moisture Testing:** moisture content determination for rice, corn, wheat, and other grain commodities during post-harvest processing, storage, and commodity grading; the CHa110 and CHa105 moisture ranges cover typical grain moisture specifications
- **Tea and Herbal Products:** moisture testing of tea leaves, dried herbs, and botanical products where 0.05% or 0.01% readability (CHa105, CHa101) supports specification tolerance compliance
- **Animal Feed and Pet Food:** moisture testing of compound feeds, pellets, and raw feed materials where moisture content affects storage stability, palatability, and nutritional specifications
- **Dried Vegetables and Fruit Products:** moisture determination in dehydrated food ingredients where the CHa105 and CHa101 moisture ranges cover the relevant levels for processed food QC
- **Flour and Starch Products:** moisture testing of flour, starch, sugar, and baking ingredients where water content affects shelf life, texture, and processing behavior
- **Coffee and Cocoa:** moisture determination in roasted coffee, cocoa powder, and raw beans where 0.05% or 0.01% readability detects subtle moisture differences affecting flavor stability and storage
- **Pharmaceutical Raw Materials (CHa101):** the CHa101 1%–100% moisture range extends applicability to pharmaceutical excipient verification and chemical raw material QC
- **General Production QC:** multi-scenario moisture testing where the compact form, 5-inch touchscreen, and real-time curve suit field-adjacent testing stations and small laboratory spaces



FEATURES

Compact Halogen Moisture Analyzer - ToronMA™ CHa Series Key Features



The ToronMA™ CHa Series combines a 5-inch color touchscreen and real-time drying curve in a compact 4 kg platform, suited to food, grain, and agricultural moisture testing.



5 Inch
Touch Screen



Print Setting



RS232



Ext. Cal.



- **5-Inch Full-Color Touchscreen:** icon-based touch interface provides single-tap access to eleven functional settings, heating mode selection, real-time drying curve, and historical records
 - **Real-Time Dynamic Drying Curve:** moisture content plotted against elapsed time on the color display throughout the drying cycle, showing drying rate and test endpoint
 - **Three Moisture Readability Options:** CHa110 (0.10%, 10%–90%), CHa105 (0.05%, 5%–95%), and CHa101 (0.01%, 1%–100%) allow selection of the precision and range that fits the application
 - **Silent Rapid-Cooling Fan:** draws residual heat from the drying chamber quickly after each test, shortening the cooling interval before the next sample can be loaded
 - **Adaptive Voltage Adjustment:** compensates for mains supply voltage variation, maintaining stable halogen lamp output under fluctuating power supply conditions
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- **Test Frequency Selection:** configures how often the weighing cell samples mass, letting the operator balance measurement speed against reading stability for the material being tested
 - **Standard / Fast / Soft Heating Modes:** three drying profiles adapt the heating ramp to sample type, from heat-tolerant grains in Standard or Fast mode to more delicate materials in Soft mode
 - **Automatic / Manual / Timed Stop Modes:** three termination options give the operator control over when the drying cycle ends, from equilibrium-based auto-stop to fixed-duration or manual endpoints
 - **One-Click Empty Pan Preheat:** warms the drying chamber to the target test temperature with a single tap before sample loading, reducing initial stabilization time
 - **Halogen Lamp Heating (40–160°C at 1°C Steps):** radiant heating reaches target temperature faster than convective oven methods, with a 160°C ceiling suited to food and agricultural moisture testing
 - **Load Cell Sensor:** reliable weighing cell supports moisture analysis across the three model readabilities within the 110g capacity
 - **φ100mm Aluminum Sample Pan (20pcs Included):** each CHa Series instrument ships with 20 disposable aluminum pans for immediate testing without waiting for additional supplies
 - **Insulated Carry Basket:** allows safe removal of the hot sample pan after each test without direct contact with the pan surface

- **Windproof Tray and Silicone Buffer Pad:** stacked vibration isolation reduces bench vibration interference during the weighing phase of each drying cycle
- **Adjustable Leveling Feet and Level Bubble:** four adjustable feet and a built-in level bubble support correct horizontal positioning before calibration and testing



- **Side Handle:** built-in handle enables single-operator carrying between workbenches and testing stations
- **Clock Function and Date/Time Setting:** onboard clock records test time and date alongside each result for traceability documentation
- **Historical Records Review:** stored results are accessible directly from the touchscreen for review, comparison, and RS232 output
- **20-Group Data Storage:** stores test parameters for up to 20 sample types for recall without re-entry
- **External Calibration:** calibrates with a user-supplied reference weight at operator-defined intervals to maintain weighing traceability
- **CN/EN Bilingual Interface:** switchable Chinese/English language setting for multi-region laboratory and production deployment
- **Compact Form Factor (340 × 215 × 170 mm, 4 kg):** smaller and lighter than most bench-top halogen moisture analyzers, suited to space-constrained testing environments
- **American Good Design Award:** international product design recognition for the CHa Series platform

THEORY & METHOD

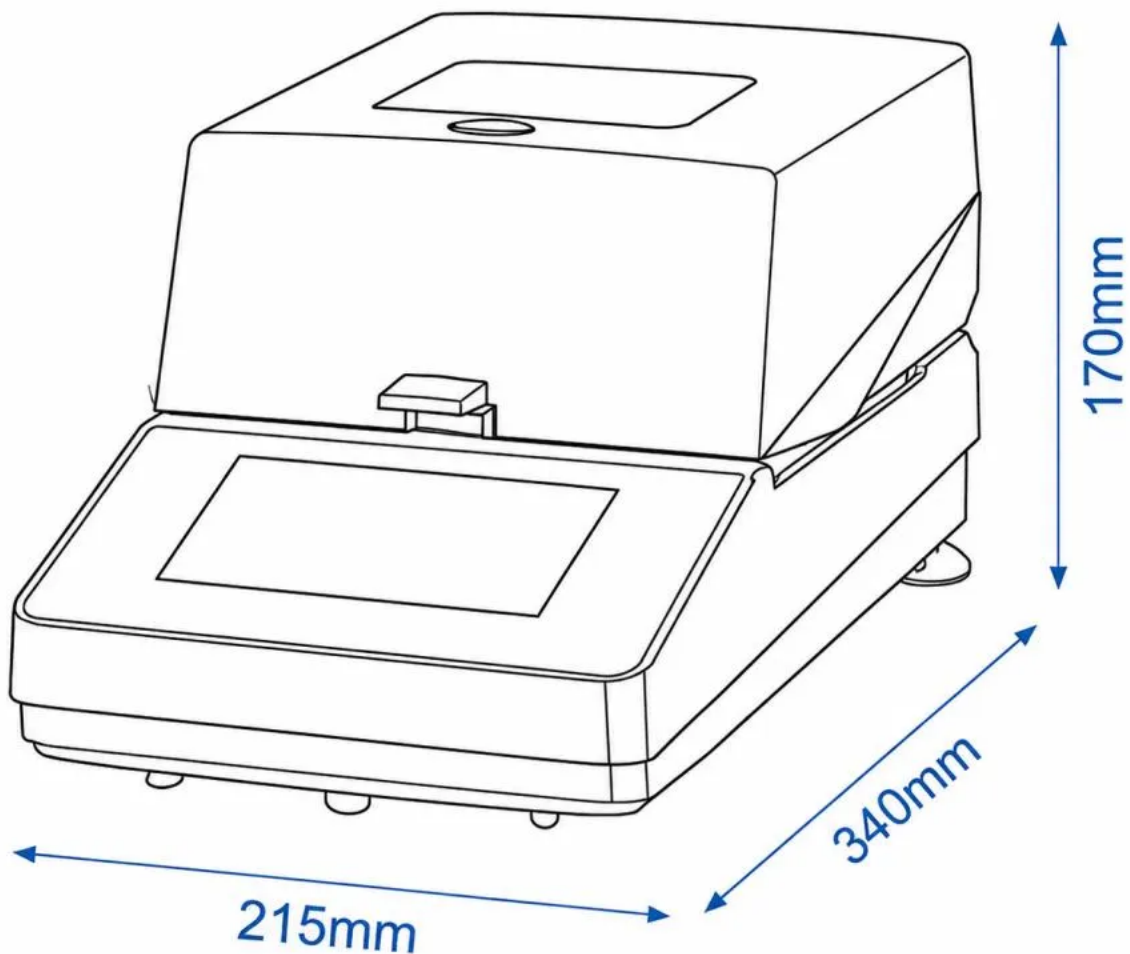
Theory and Method

The ToronMA™ CHa Series applies the drying loss method, weighing the sample continuously during halogen lamp heating and calculating moisture as the percentage of mass lost. A load cell sensor records mass throughout the drying cycle, and the real-time curve on the touchscreen plots moisture content against elapsed time. The 40–160°C halogen heating range suits food, grain, and feed samples where higher temperatures would cause decomposition beyond moisture loss. Standard, Fast, and Soft heating modes adapt the drying rate to each sample type.

Each model has a defined moisture range: the CHa110 covers 10%–90% for rice, corn, and grain; the CHa105 covers 5%–95% for tea and similar materials; and the CHa101 covers 1%–100% for broader food testing. Test Frequency Selection configures how often the weighing cell is sampled, balancing measurement speed against reading stability. The silent rapid-cooling fan reduces chamber temperature after each test, shortening the interval before the next sample can be loaded. Automatic, Manual, and Timed stop modes give the operator control over cycle termination.

TECHNICAL SPECIFICATIONS

Compact Halogen Moisture Analyzer - ToronMA™ CHa Series Technical Specifications



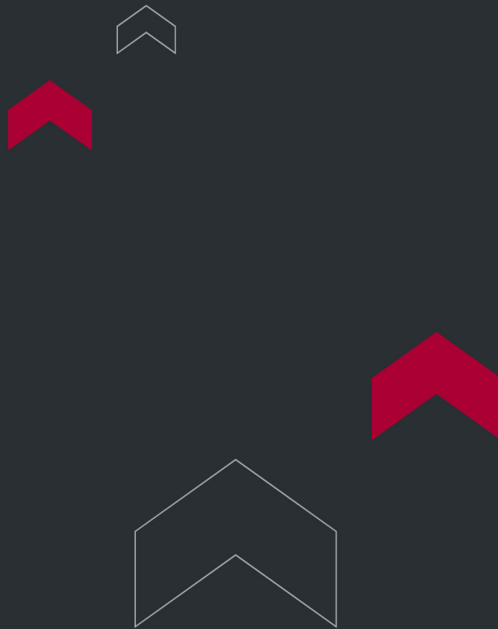
ToronMA™ CHa Series Models

Parameter	ToronMA™ CHa110	ToronMA™ CHa105	ToronMA™ CHa101
Capacity	110 g	110 g	110 g
Readability	10 mg (0.01g)	5 mg (0.005g)	1 mg (0.001g)
Moisture Range	10.00%–90.00%	5.00%–95.00%	1.00%–100.00%

Parameter	ToronMA™ CHa110	ToronMA™ CHa105	ToronMA™ CHa101
Moisture Readability	0.10%	0.05%	0.01%
Dry Range	90.00%–10.00%	95.00%–5.00%	100.00%–1.00%
Dry Readability	0.10%	0.05%	0.01%

Common Specifications

Parameter	Specification
Pan Size	φ100 mm (20 pcs included)
Sensor	Load cell
Heating Source	Halogen lamp
Temperature Sensor	High-precision thermal resistance
Temperature Range	40°C–160°C, 1°C Step
Working Temperature	15–30°C
Display	5-inch full-color touch screen
Testing Height	30 mm
Data Storage	20 groups
Interface	RS232
Input Voltage Power	220V 50Hz / 110V 60Hz
Product Dimensions (W × D × H)	340 × 215 × 170 mm
Packing Dimensions	415 × 310 × 255 mm
Gross Weight	4 kg



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