

TOUCH SCREEN ANALYTICAL BALANCE



Touch Screen Analytical Balance (0.1 mg) - ToronAB™ T Series

ToronAB™ T Series touch screen analytical balance delivers 0.1 mg readability through a colorful capacitive touchscreen interface, replacing the traditional keypad with an icon-driven system page for streamlined mode selection and parameter adjustment. Electromagnetic force sensing and fully automatic timed internal calibration maintain measurement accuracy without manual recalibration steps. Four capacity models cover between 100 g and 220 g, each housed in a cast aluminum anti-interference shell with a large-space windshield.

The touchscreen system page groups twelve functional settings into clearly labeled icon tiles, allowing operators to switch between weighing modes, adjust calibration timing, and configure print output without navigating through nested keypad menus. A built-in density kit and under-hook weighing mode support both solid and liquid density determination directly on the balance, removing the need for a separate density measurement setup. Counting, percentage, and under-hook weighing extend the functional range for production and research environments.

Automatic timed internal calibration deploys a built-in reference weight when the balance detects temperature drift, updating the calibration coefficient without operator involvement. The ø80 mm weighing pan and cast aluminum housing provide a stable, anti-interference platform, while the large-space windshield keeps the weighing chamber clear of air currents during sensitive measurements. An RS232 interface connects the T Series to printers, PCs, or LIMS for direct data output from each weighing session.

APPLICATIONS

Touch Screen Analytical Balance (0.1 mg) - ToronAB™ T Series Applications

The ToronAB™ T Series suits laboratories that handle multiple weighing tasks in a single session, where touchscreen navigation reduces mode-switching time and built-in density determination adds measurement capability without additional instrumentation.

- **Pharmaceutical Research and QC:** precise formulation weighing with touchscreen access to tare, counting, and percentage modes across high-throughput QC sessions; auto internal calibration maintains traceability over long production runs
- **Solid Density Determination:** the built-in density kit applies Archimedes' principle to calculate solid sample density directly on the balance from in-air and in-liquid mass readings
- **Liquid Density Determination:** under-hook weighing mode with the density kit measures buoyant force on a sinker of known volume, calculating liquid density for solvent identification and concentration verification
- **Gold and Jewelry:** 0.1 mg readability supports precious metal and gemstone mass measurement, with density determination supporting material authentication and alloy purity verification
- **Chemical Analysis Laboratories:** reagent preparation, standard solution formulation, and gravimetric determinations at 0.1 mg resolution, with touchscreen access to unit conversion and percentage modes
- **Scientific Research and Academia:** bench-scale quantitative chemistry where density determination, counting, and percentage weighing extend the single-instrument capability for varied experiment types
- **Food Science and Nutraceuticals:** formulation weighing with percentage mode supporting multi-ingredient ratio control and consistency verification during product development
- **Medical and Clinical Testing:** precise sample mass measurement for diagnostic reagent preparation; density function supports specific gravity determination in clinical chemistry



Goldjewelry



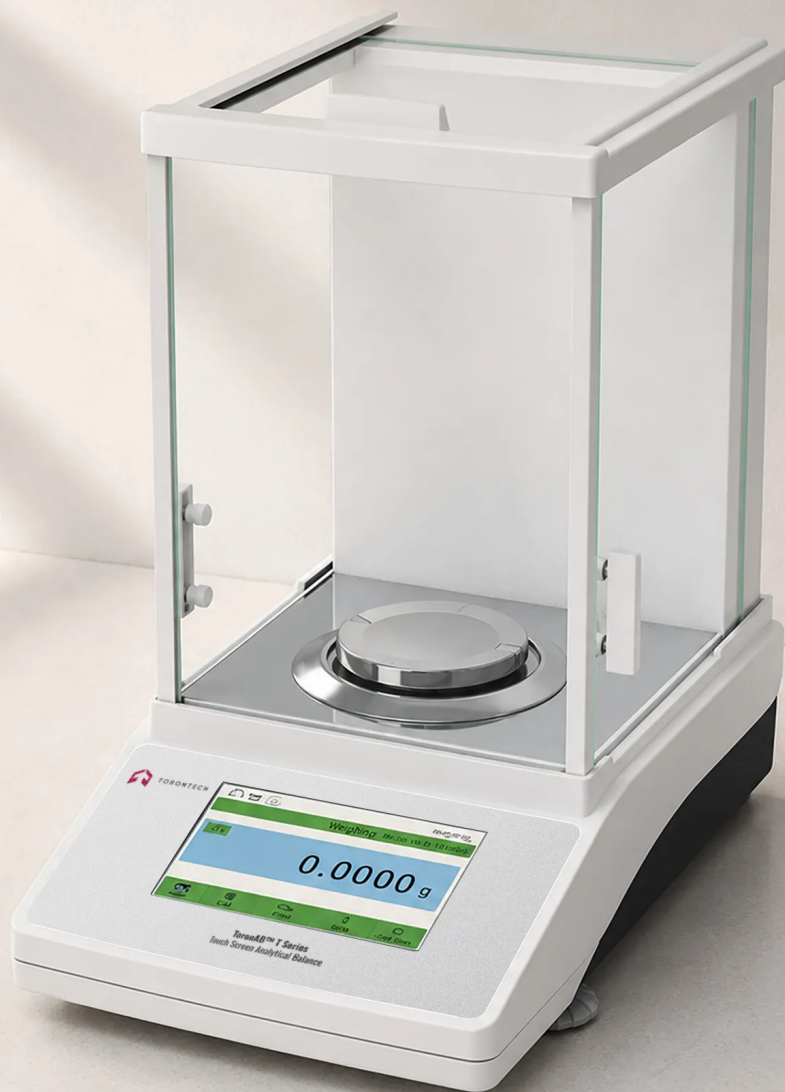
Scientific experiment



High procislon data



Medicine Welghing



FEATURES

Touch Screen Analytical Balance (0.1 mg) - ToronAB™ T Series Key Features

System Page


SPEED


STABILITY


PRINTER


CALIBRATION


SYSTEM SETTING


MODE


SYSTEM INFORMATION


BACK

CALIBRATION


One-point calibration


Multi-Calibration


Internal-Calibration

Back

weighing

+ 20.0000g

Put on the pan

PRINT

MENU

+0+
ZERO

T
TARE

M
MODE

weighing

Weigh 1

2.0000 g

Weigh 2

1.0000 g

Percentage

50.00%

PRINT

MENU

+0+
ZERO

T
TARE

M
MODE

weighing

Sample quantity: 5

Sample weight

5.0000 g

Total weight

10.0000 g

Quantity

10 pcs

PRINT

MENU

+0+
ZERO

T
TARE

M
MODE

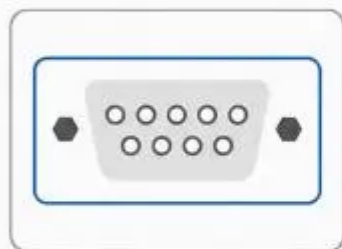
The ToronAB™ T Series delivers a touchscreen-native analytical workflow with built-in density determination across all four models.



Touch Screen



Print Setting



RS232



Auto Int.Cal.



Density



Under Weighing

- **Colorful Capacitive Touchscreen:** icon-based system page provides single-tap access to all twelve functional settings and weighing modes, eliminating keypad navigation sequences for mode changes
 - **Built-In Density Kit:** integrated hardware and software support both solid and liquid density determination on the same platform, applying Archimedes' principle without additional instruments
 - **Density Function Mode:** dedicated density calculation mode automates the two-measurement calculation for solid and liquid density, displaying the result in g/cm³ on the touchscreen
 - **Under-Hook Weighing:** rear under-hook port supports suspension weighing below the balance for density determination and for measuring samples that cannot rest on the standard pan
 - **Electromagnetic Force Restoration Sensor:** EMFR cell provides accurate 0.1 mg mass determination across the full capacity range, with ≤ 3 s stabilization time for each reading
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- **Auto Timed Internal Calibration:** built-in calibration weight deploys automatically when temperature drift is detected, maintaining measurement accuracy without operator involvement between sessions
 - **Internal Calibration Time Setting:** the operator configures the calibration trigger interval through the touchscreen, adjusting frequency to match the thermal stability of the working environment
 - **Weighing Calibration Mode:** dedicated calibration function on the touchscreen provides manual one-touch recalibration at any point during use
 - **Full-Capacity Tare:** tare function operates across the entire weighing range, zeroing the display with any container before sample addition
 - **Counting Function:** piece-count mode calculates quantity from a stored reference piece weight, with results displayed directly on the touchscreen
 - **Percentage Function:** percentage mode compares each reading against a stored reference, supporting fill-ratio verification and formula proportion control
 - **Unit Conversion:** reading switches between g, mg, ct, and oz through the touchscreen settings without hardware adjustment
 - **Stability and Speed Setting:** adjustable response characteristics balance readout speed against settling stability for the sample type being weighed

- **Print Setting and Baud Rate Configuration:** baud rate and print mode settings (continuous real-time, continuous stable, single-point) are accessible through the touchscreen configuration menu
- **Cast Aluminum Anti-Interference Shell:** rigid aluminum housing shields the EMFR cell from electromagnetic disturbance and maintains structural stability under daily laboratory use
- **Large-Space Windshield:** enclosed draft shield keeps the weighing chamber clear of air currents, supporting 0.1 mg accuracy in environments with moderate ambient air movement
- **Overload and Fault Alarm:** visual and system alerts for tare overload, weighing underload, and general fault conditions protect the sensor and prevent undetected measurement errors
- **Level Bubble:** built-in spirit level confirms correct horizontal positioning before use

THEORY & METHOD

Theory and Method

The ToronAB™ T Series uses an electromagnetic force restoration (EMFR) weighing cell to determine sample mass. A servo-controlled coil within a permanent magnetic field connects to the weighing pan; when a sample is placed on the pan, the balance detects the force imbalance and adjusts the coil current until the pan returns to the null position. The restoring current at equilibrium is linearly proportional to mass, and the processor converts it to a reading stabilized to 0.1 mg within three seconds of sample placement.

Density determination on the ToronAB™ T Series applies Archimedes' principle: an object immersed in a liquid experiences a buoyant force equal to the weight of liquid displaced. The operator weighs the sample in air, then again while suspended below the pan in a liquid of known density; the balance calculates solid density automatically from these two readings. For liquid density, the balance measures the buoyant force on a sinker of known volume submerged in the test liquid and calculates density directly.

Automatic timed internal calibration deploys a built-in reference weight when the balance detects temperature drift, updating the calibration coefficient without operator involvement. The touchscreen interface organizes twelve functional

settings into an icon-based system page, letting the operator navigate to density, counting, percentage, or calibration modes with a single tap rather than through sequential keypad presses. Calibration timing is user-configurable through the touchscreen, allowing high-temperature environments to trigger more frequent cycles and stable labs to extend the interval.

TECHNICAL SPECIFICATIONS

Touch Screen Analytical Balance (0.1 mg) - ToronAB™ T Series Technical Specifications

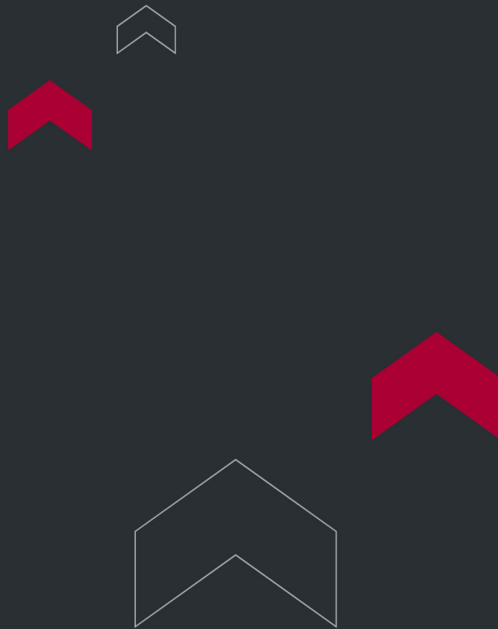
ToronAB™ T Series Models

Parameter	ToronAB™ T100	ToronAB™ T120	ToronAB™ T200	ToronAB™ T220
Capacity	100 g	120 g	200 g	220 g
Readability	0.1 mg	0.1 mg	0.1 mg	0.1 mg
Calibration Weight	100 g	100 g	200 g	200 g

Common Specifications

Parameter	Specification
Minimum Weight	10 mg
Repeatability	±0.2 mg
Linearity	±0.3 mg
Display	Colorful touch screen

Parameter	Specification
Pan Size	φ80 mm
Calibration Mode	Internal (automatic timed)
Stabilization Time	≤3 s
Working Temperature	18-23°C
Interface	RS232
Windshield Inner Dimensions	175 × 165 × 230 mm
Product Dimensions (W × D × H)	365 × 210 × 355 mm
Outer Carton Dimensions	490 × 335 × 485 mm
Inner Carton Dimensions	440 × 295 × 430 mm
Gross Weight	11 kg



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