



TORONTECH



POTENTIOMETRIC TITRATOR

Potentiometric Titrator – ToronAPT™ 2000 (Automated)

Potentiometric Titrator (ToronAPT™ 2000) is a fully automatic system built for fast, precise, and repeatable titrations across many analytical workflows. It uses high-resolution potential (mV) measurement and automated reagent delivery to identify endpoints without visual indicators, reducing operator subjectivity and improving result consistency.

Designed as a compact all-in-one platform, ToronAPT™ 2000 combines a high-precision syringe burette, intelligent endpoint detection, and a large 10-inch capacitive touchscreen. It supports multiple titration modes and chemical methods, making it a strong fit for routine QC testing and advanced analytical labs that want dependable potentiometric titration with minimal manual steps.

APPLICATIONS

Potentiometric Titrator – ToronAPT™ 2000 (Automated) Applications



Potentiometric Titrator – ToronAPT™ 2000 is suitable for a wide range of titrations, including:

- Acid-Base Titrations: Measure acidity, alkalinity, and concentration for chemical, pharmaceutical, and industrial samples.
- Redox Titrations: Evaluate oxidation-reduction reactions used in environmental, metallurgical, and chemical analysis.
- Complexometric Titrations: Quantify metal ions with chelating agents for water hardness testing, alloy analysis, and industrial QC.
- Precipitation Titrations: Determine halides and other ions through precipitation reactions.
- Non-Aqueous Titrations: Accurately titrate weak acids/bases using non-aqueous solvents.
- Potentiostatic (Constant pH) Titrations & pH Measurement: Maintain continuous pH control and perform direct pH measurement using calibrated electrodes.



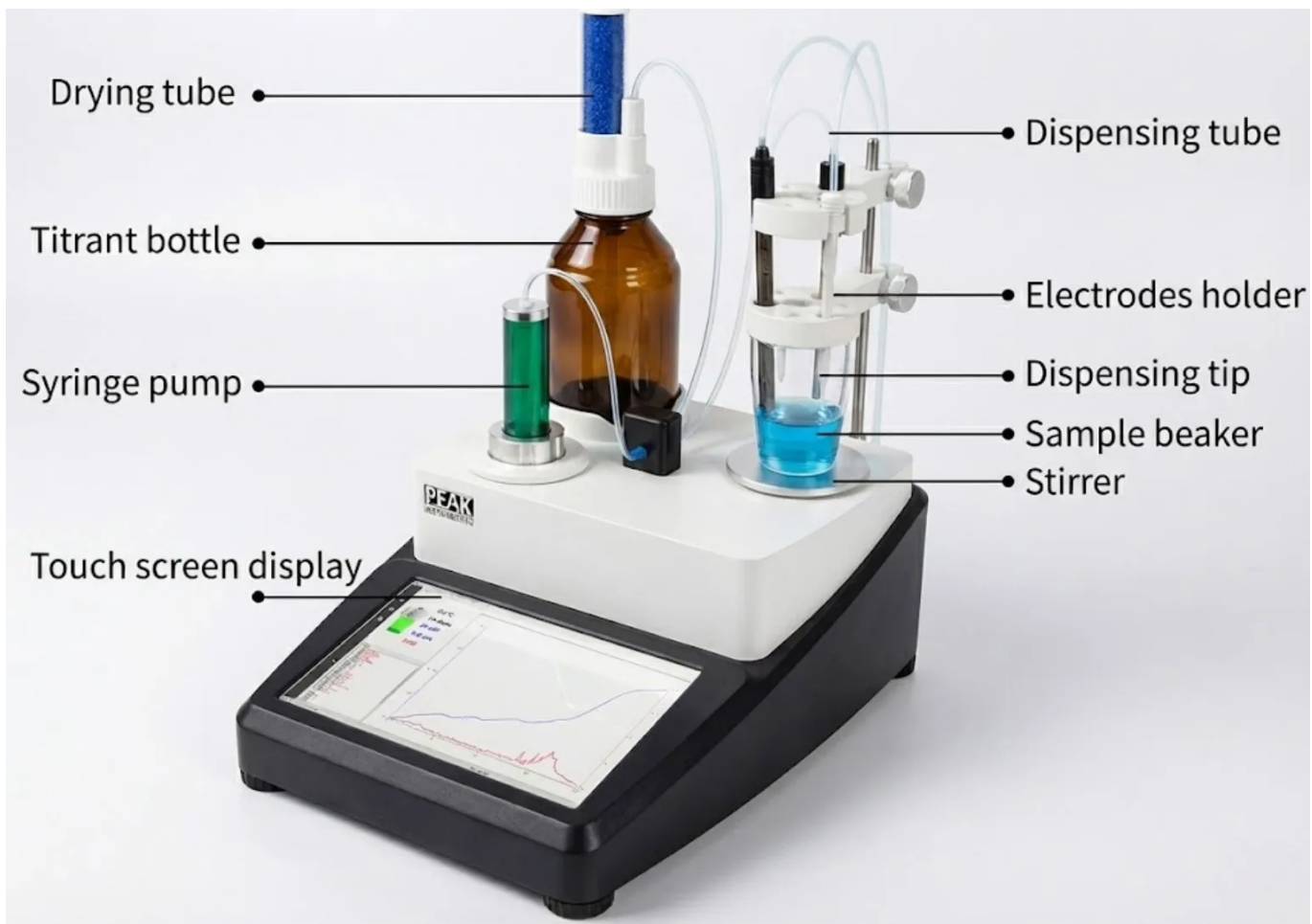
Standards

- ASTM D1067: Procedures for measuring acidity or alkalinity in water by potentiometric titration.
- ASTM D664: Potentiometric method for acid number in petroleum products, lubricants, and biodiesels to evaluate acidic constituents and oil degradation.
- ISO 750: Potentiometric method for chloride content in water and aqueous solutions.
- ISO 11285: Potentiometric titration method for sulfuric acid content in industrial chemicals.

FEATURES

Potentiometric Titrator – ToronAPT™ 2000 (Automated) Key Features

- 10-Inch Capacitive Touchscreen: Real-time method display, titration curves, and results with intuitive operation.
- Robust Chemical Resistance: Chemically resistant housing and fluid paths compatible with strong acids, bases, and organic solvents.
- Comprehensive Data Management: Automatic recording, storage, and printing for traceability, analysis, and compliance needs.
- Fully Automatic Potentiometric Titrator: Automates reagent dosing, endpoint detection, calculations, and result storage for consistent outcomes.
- Multiple Titration Modes: Supports dynamic titration, endpoint titration, equivalence titration, and manual titration.
- High-Precision Syringe Burette: Built-in 10 mL burette with ultra-fine resolution (1/96,000) for accurate, repeatable delivery.
- Automatic Endpoint Determination: Electronic endpoint detection improves repeatability and reduces human error.
- Integrated Cleaning & Reagent Handling: Automated cleaning, rinsing, and reagent replenishment help reduce cross-contamination; pipelines are cleaned and rinsed multiple times.



 Edit method

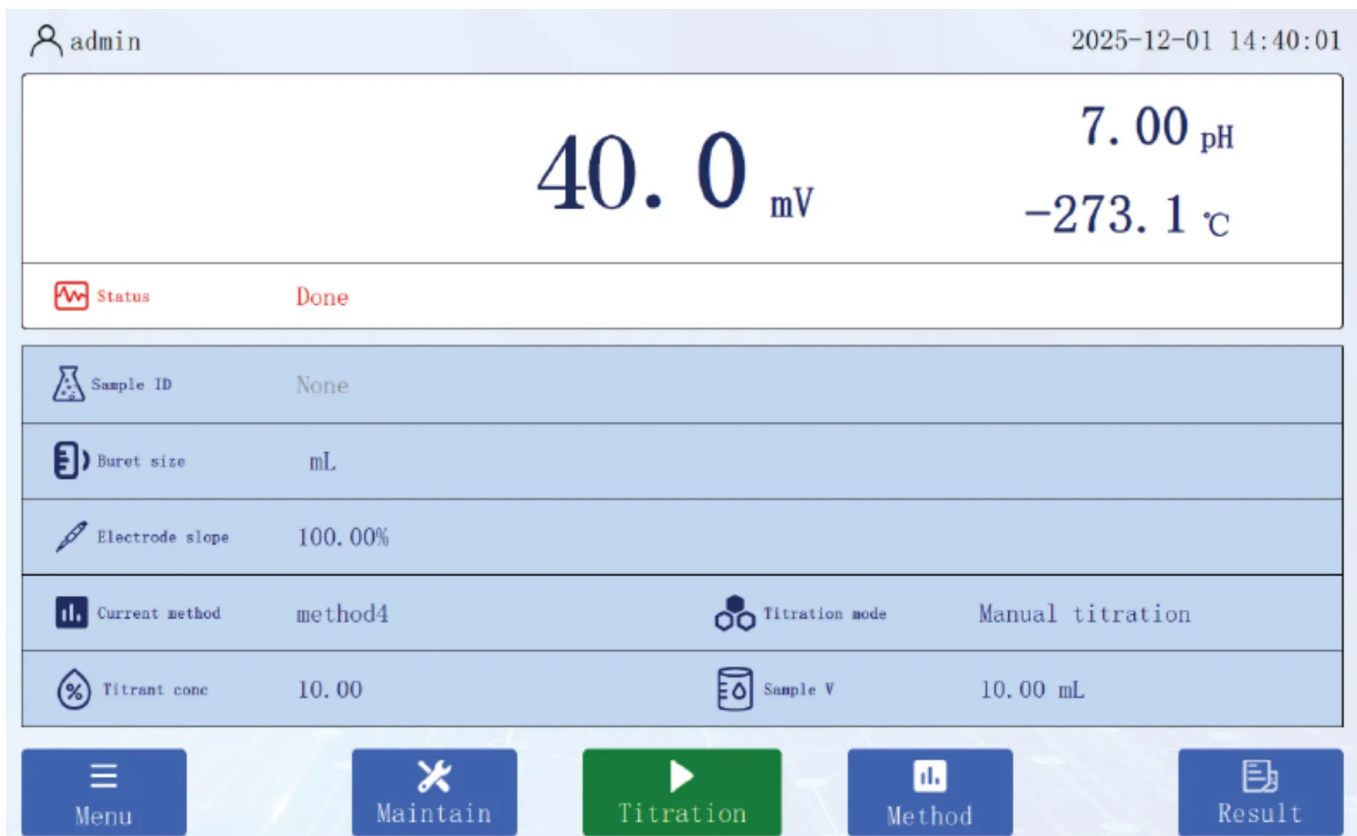
Basic info	No	SW	mV jump value(mV/mL)	Pre-ctrl value(mV)	Correlation
Titration info	1	☒	500.00	None	1.00
End Point info	2	☐	500.00	None	1.00
	3	☐	500.00	None	1.00
	4	☐	500.00	None	1.00
	5	☐	500.00	None	1.00

 Cancel  Restore  Save

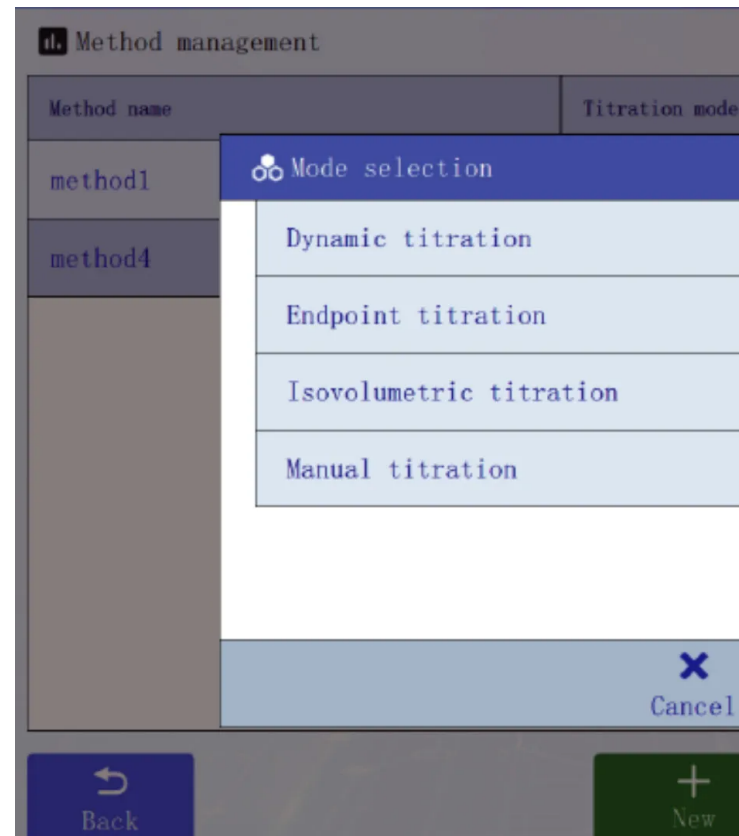


The titration bottle is well sealed

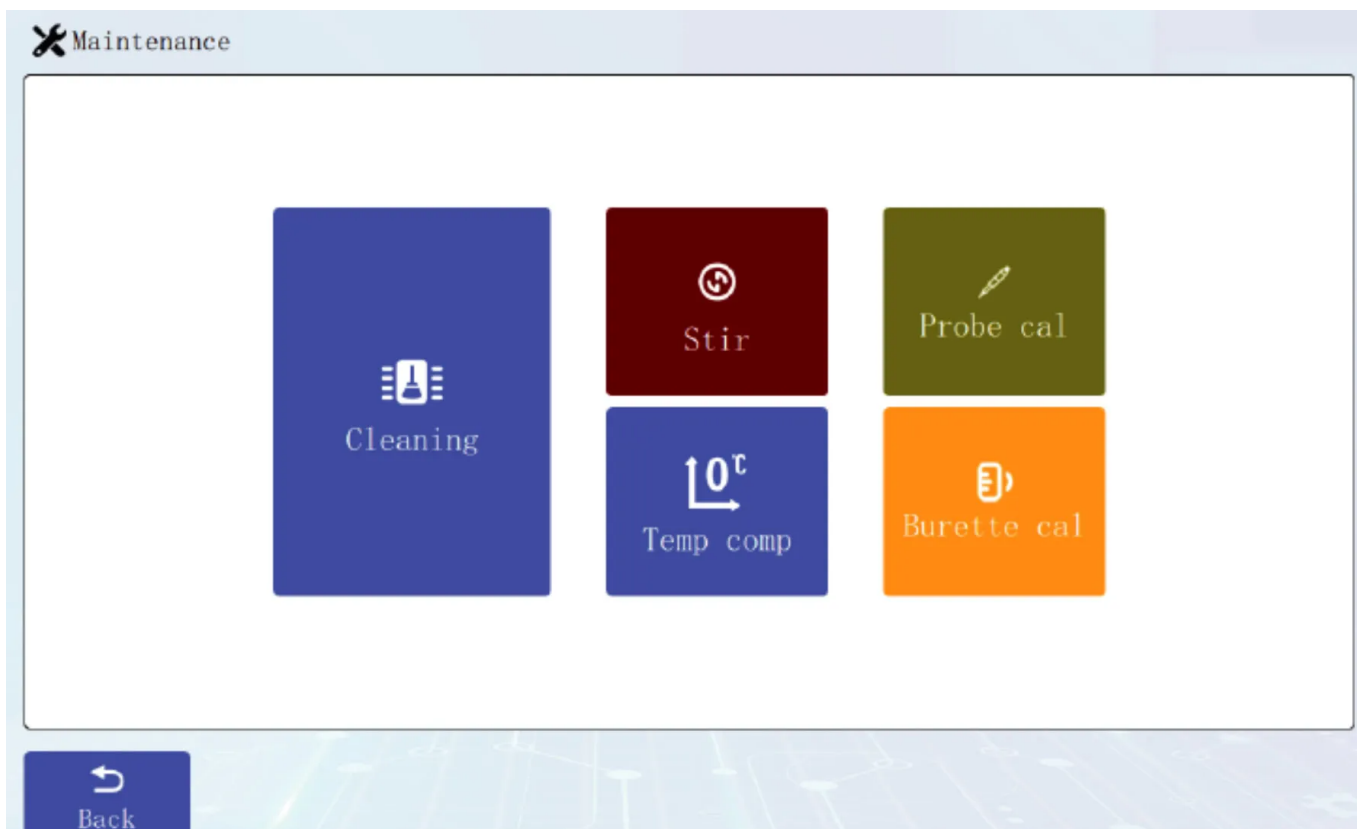
Automatic endpoint determination



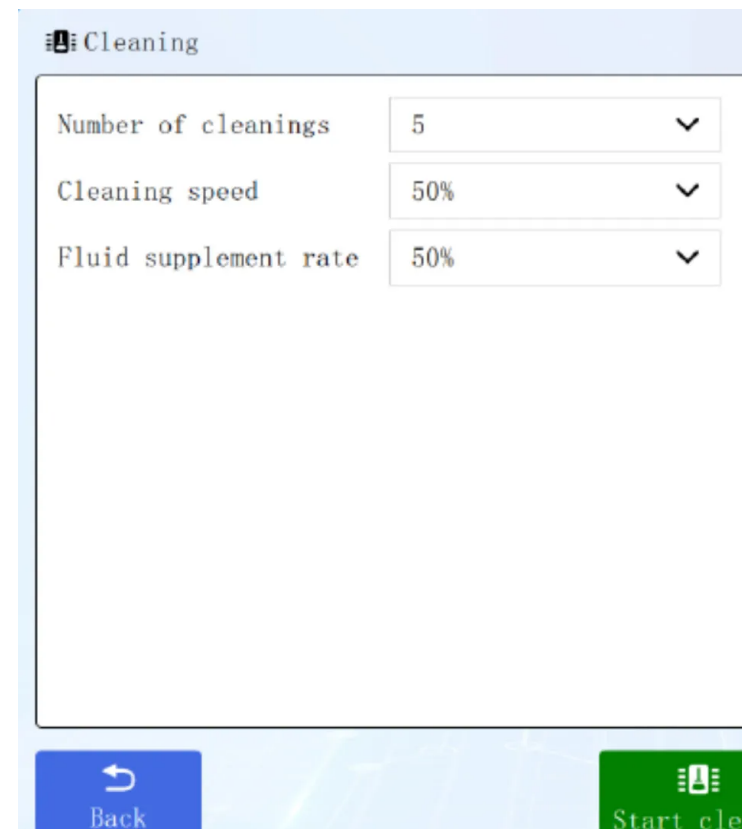
Real-time display of results



Multiple titration methods



Probe and Burette Calibration



Automatic cleaning and fluid replenishment

TECHNICAL SPECIFICATIONS

Potentiometric Titrator – ToronAPT™ 2000 (Automated) Technical Specifications

Model		ToronAPT™ 2000
Instrument Type		Automatic Potentiometric Titrator
Display		10-inch color capacitive touch screen
Measuring Range	Measurement Range (mV)	-2000.0 to +2000.0 mV
	pH Range	-2.00 to 16.00 pH
	Temperature Range	-5 to 120 °C
Resolution		0.1 mV / 0.01 pH / 0.1 °C
Accuracy	Measurement Range (mV)	±0.1 mV, ±0.03% FS
	pH Range	pH ±0.01
	Temperature Range	± 0.1°C, excluding probe error
Titration Repeatability		≤0.2%
Electronic Stability		±0.3 mV / 3 h
Burette Volume		10 mL
Burette Resolution		1 / 96,000
Voltage		110–240 V AC, 50/60 Hz
Operating Environment		10–37 °C, up to 70% RH
Stirrer Speed		10–100% (10% increments)
Shipping Size & Weight		560 × 490 × 410 mm, 11 kg
Weight		11 kg

Standards configuration:

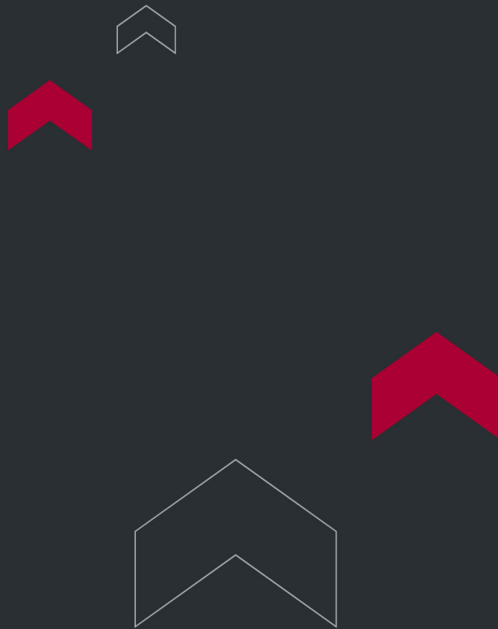
- Unit & Support: Titrator, Rod, 2 Holders
- Electronics: Power Adapter, Power Cable, USB Manual
- Probes: pH Electrode, Temp Probe, Short-circuit Connector
- Vessels: 150 mL Beaker, 500 mL Bottle & Cap
- Chemistry: 3x pH Buffers, 100g Desiccant, Drying Tube
- Small Parts: 2 Dispensing Tips, Stirrer Bead, Micron Filter

Electrode Application Guide

Application / Analysis Method	Recommended Electrode Configuration
Acid-Base Titration	pH Composite Electrode or Separate Electrodes
Water Quality: Determination of alkalinity, bicarbonate, and carbonate	pH Composite Electrode or Separate Electrodes
Food Analysis: Determination of total acid (Automatic Potentiometric Titration)	pH Composite Electrode or Separate Electrodes
Fats & Oils: Determination of acid number and acidity (Potentiometric Method)	pH Composite Electrode or Separate Electrodes
Petroleum Products: Determination of acid number (Potentiometric Method)	pH Composite Electrode or Separate Electrodes
Dairy Products: Determination of acidity	pH Composite Electrode or Separate Electrodes
Industrial Cooling Water: Determination of total alkali and phenolphthalein alkalinity	pH Composite Electrode or Separate Electrodes
Industrial Cooling Water: Determination of carbonate alkalinity	pH Composite Electrode or Separate Electrodes
Water Analysis: Standard Test Method for Acidity or Alkalinity	pH Composite Electrode or Separate Electrodes
Volatile Organic Liquids: Determination of acidity (Titration Method)	pH Composite Electrode or Separate Electrodes
Plasticizers: Determination of acid value and acidity	pH Composite Electrode or Separate Electrodes
Industrial Glyoxal: Determination of acidity	pH Composite Electrode or Separate Electrodes

Application / Analysis Method	Recommended Electrode Configuration
Seawater: Determination of alkalinity (pH Potentiometric Titration)	pH Composite Electrode or Separate Electrodes
Water Quality: Determination of chloride (Silver Nitrate Potentiometric Titration)	Ag (Silver) Composite Electrode or Ag Indicator Electrode + Reference Electrode
Water Quality: Determination of chloride (Mercuric Nitrate Titration)	Mercury Composite Electrode or Mercury Indicator Electrode + Reference Electrode
Silver Ion Titration: Titration with Thiocyanate	Ag (Silver) Composite Electrode or Ag Indicator Electrode + Reference Electrode
Water Quality: Determination of barium (Potentiometric Titration)	Tetraphenylborate Ion Electrode & Double Junction Reference Electrode
Arsenic Content: Ammonium ferrous sulfate titrimetric method	Platinum Electrode + Saturated Calomel Electrode
Groundwater Quality: Determination of sulfide (Iodometric Method)	Platinum Electrode + Saturated Calomel Electrode
Tin Concentrates: Determination of iron content (Cerium Sulfate Titimetric Method)	Platinum Electrode + Saturated Calomel Electrode
Water Quality: Determination of Chemical Oxygen Demand (COD) (Dichromate Method)	Platinum Electrode + Saturated Calomel Electrode
Iron Ores: Determination of total iron content (Titration after Titanium Trichloride Reduction)	Platinum Electrode + Saturated Calomel Electrode
Vitamin C Analysis: Determination by Iodometry	Platinum Electrode + Saturated Calomel Electrode
Food Analysis: Determination of calcium	Calcium Ion Selective Electrode & Saturated Calomel Electrode
Water Quality: Determination of calcium (EDTA Titrimetric Method)	Calcium Ion Selective Electrode & Saturated Calomel Electrode
Waste Acid: Determination of Chloride Ion Content	Ag (Silver) Composite Electrode or Ag Indicator Electrode + Reference Electrode
Water Treatment: Determination of chloride	Platinum Electrode + Saturated Calomel Electrode
Oil Analysis: Determination of mercaptan sulfur	Ag-S (Silver-Sulfide) Composite Electrode
Petroleum: Determination of Base Number	pH Composite Electrode or Separate Electrodes

Application / Analysis Method	Recommended Electrode Configuration
Chemical Analysis: Determination of titanium dioxide content	Platinum Electrode + Saturated Calomel Electrode
Food Analysis: Determination of peroxide value in curry paste	Platinum Electrode + Saturated Calomel Electrode
Food Analysis: Determination of acid value in curry pastes	pH Composite Electrode or Separate Electrodes
Pharmaceuticals: Determination of Calcium Content in Compound Calcium Granules II	Copper Composite Electrode
Edible Oils: Determination of acid value in soybean oil	pH Composite Electrode or Separate Electrodes
Chemical Analysis: Determination of citric acid	Platinum Electrode + Saturated Calomel Electrode
Water Analysis: Determination of chloride / Non-volatile residual chlorine	Platinum Electrode + Saturated Calomel Electrode
Battery Electrolytes: Determination of carbonate content in alkaline electrolytes	pH Composite Electrode or Split Electrodes
Pharmaceuticals: Determination of ferrous gluconate content	Platinum Electrode + Saturated Calomel Electrode
Chemical Reagents: Determination of total chromium content in chrome-manganese reagents	Platinum Electrode + Saturated Calomel Electrode
Metallurgy: Determination of Total Iron Content in High Titanium Slag	Platinum Electrode + Saturated Calomel Electrode
Supplements: Determination of Taurine content	pH Composite Electrode or Split Electrode



Torontech Inc.

251 Consumers Road, Suite 1200
Toronto, Ontario, M2J 4R3, Canada 

Phone: +1 416 368 2721 | Fax: +1 416 981 7652
Email: info@torontech.com

Torontech, LLC

601 Brickell Key Drive, Suite 700
Miami, FL 33131, USA 

Toll-Free: 1-866-383-7919
Email: sales@torontech.com

Torontech ME FZE

Meydan Grandstand, 6th Floor,
Meydan Road, Nad Al Sheba,
Dubai-261440, UAE 

Phone: +971 488 19252
Email: me@torontech.com

