# Automatic Potentiometric Titrator - pH/Ion Titration System - ±0.002 pH - 1/480000 Burette

Model **MSTITR-A51SWISS** | Brand **Master Science**







The Master Science Automatic Potentiometric Titrator performs potentiometric titration and direct pH, pX and ion concentration measurement on one bench instrument. A 7-inch high-contrast touchscreen displays the method, live titration curve and calculated result as the run progresses.

KEY HIGHLIGHTS

- Repeatable endpoints
- Precise dosing
- Wide chemistry coverage
- Batch automation
- Audit-ready data

AT A GLANCE

| | |
|---|---|
| **-2000.00 to 2000.00 mV** MV RANGE | **-5.000 to 20.000 pH** PH RANGE |
| **-2.000 to 20.000 pX** PX RANGE | **±0.002 pH; ±0.03 % or ±0.2 mV** ACCURACY |

**Request a Quotation**
Contact us for pricing, configuration options and delivery details.

support@themsci.com
www.themsci.com

Scan to view online

## Overview

Two hundred built-in titration methods, four user levels and complete sensor, titrant and data management make the instrument suitable for both routine QC and regulated pharmaceutical work.

How the Master Science Automatic Potentiometric Titrator solves typical titration problems:

## Overview

- DET, MET, SET, constant pH, constant speed, blank and manual modes
- Chemically resistant burette tubing for non-aqueous work
- Top or bottom stirrer support
- Optional second burette drive for dosing

## Overview

- 1 to 3 point calibration with buffer recognition (NIST, DIN, GB)
- Electrode diagnosis with slope and offset display
- Ion methods for $F^-$, $Cl^-$, $Br^-$, $I^-$, $NO_3^-$, $NH_4^+$, $K^+$, $Na^+$, $Ca^{2+}$ and more

## Key Benefits

**Repeatable endpoints**
dynamic and monotonic equivalence point modes detect endpoints consistently, with ≤ 0.2 % repeatability.

**Precise dosing**
burettes with 1/480,000 resolution deliver titrant accurately down to very small increments.

**Wide chemistry coverage**
the Master Science Automatic Potentiometric Titrator handles acid-base, non-aqueous, redox, precipitation and complexometric titrations.

**Batch automation**
an autosampler connection allows unattended sample series.

**Audit-ready data**
user levels, GLP storage and GMP logs support compliance.

Pair titration with routine pH checks using the Master Science benchtop pH meter.

## Technical Specifications

### GENERAL

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|---|---|
| General | Specifications of the Master Science Automatic Potentiometric Titrator: |
| Brand | Master Science |
| Model Number | MSTITR-A51SWISS |
| SKU | MSTITR-A51SWISS |
| Titration Repeatability | ≤ 0.2 % |
| Burette Options | 5, 10 or 20 mL, interchangeable |
| Burette Accuracy | **±0.010 mL (5 mL); ±0.020 mL (10 mL); ±0.030 mL (20 mL)** |
| Burette Resolution | 1/480,000 |
| mV Range | **-2000.00 to 2000.00 mV** |
| pH Range | **-5.000 to 20.000 pH** |
| pX Range | **-2.000 to 20.000 pX** |
| Ion Range | **1.000e-9 to 9.999e+9 (µg/L, mg/L, g/L, mol/L, mmol/L, ppm, ppb)** |
| Resolution | 0.001 pH; 0.001 pX; 0.01 mV |
| Accuracy | **±0.002 pH; ±0.03 % or ±0.2 mV** |
| Stability | ±0.3 mV / 3 h |
| mV Repeatability | ≤ 0.1 mV |
| Temperature Compensation | -10.0 to 135.0 °C, 0.1 °C resolution, ±0.1 °C |
| Titration Modes | DET, MET, SET, constant pH, constant speed, blank, manual |
| Built-in Methods | 200 titration methods; direct reading, standard addition and GRAN |
| Power Supply | AC 80 to 250 V, 47 to 63 Hz |

### DISPLAY & DATA

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|---|---|
| Data Storage | 1000 records per parameter |
| Interfaces | RS232 printer, USB to PC, U-disk (CSV/PDF), barcode scanner, balance |
| Display | 7-inch color touchscreen |

| DIMENSIONS & WEIGHT | |
|---|---|
| Dimensions | 240 × 370 × 270 mm |
| Net Weight | About 4 kg |

| COMMON LABORATORY PROBLEMS AND HOW THIS TITRATOR HELPS | |
|---|---|
| Colour indicator endpoints vary between analysts | potentiometric detection is objective. |
| Slow manual titration | automatic dosing and batch runs save time. |
| Calculation errors | the formula editor reports results directly. |
| Corroded tubing with aggressive reagents | resistant materials support non-aqueous work. |
| Missing audit trail | GMP logs and user control track every change. |

## Applications

The Master Science Automatic Potentiometric Titrator is used for: Pharmaceutical assay and content determination Acid value, base number and chloride in food and oils Water hardness and ion analysis Chemical and petrochemical QC Electroplating and metal finishing baths

## Data Management

- Formula editor and result recalculation
- CSV/PDF export to U-disk
- USB PC software; RS232 printing
- Barcode scanner and balance connection

## Standard Accessories Included

- 10 mL burette
- pH indicator electrode
- Platinum electrode
- Silver electrode
- Two reference electrodes
- Temperature probe
- pH standard buffer powders

## Optional Accessories

- 5 mL or 20 mL burettes
- Second burette drive
- Autosampler
- GMP software
- Dead-stop, conductometric, photometric and thermometric detection modules