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

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

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