High-Speed Automatic Polarimeter - Digital Polarimeter with Peltier Control - ±90° Range - 8°/s

Model **MSPOL-568SWISS, MSPOL-537SWISS, MSPOL-533SWISS, MSPOL-532SWISS, MSPOL-531SWISS** | Brand **Master Science**







The Master Science High-Speed Automatic Polarimeter is a five-model series built on a digital platform. A high-precision photoelectric encoder takes the place of the worm gear found in conventional polarimeters, which simplifies the mechanics, raises measuring speed and keeps the instrument quiet.

KEY HIGHLIGHTS

- Shorter measuring time
- Quiet bench
- No lamp changes
- Temperature-correct results
- Traceable data

AT A GLANCE

±90° (optical rotation); ±259 °Z (sugar scale)
MEASURING RANGE

Peltier-controlled cell.
READINGS SHIFTING WITH ROOM TEMPERATURE

8°/s
RESPONSE SPEED

±0.003° (568); ±0.004° (537, 533, 532); ±0.006° (531)
ACCURACY

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

support@themsci.com
www.themsci.com

Scan to view online

Overview

All models measure optical rotation, specific rotation, concentration and international sugar scale over ±90°. Response speed is 8° per second, with six readings averaged in 26 seconds. The upper three models run an Android system on a 10.1-inch touch screen; the other two use an 8-inch touch screen.

Key Benefits

Shorter measuring time
the Master Science High-Speed Automatic Polarimeter responds at 8° per second.

Quiet bench
low noise in standby and during measurement.

No lamp changes
LED source rated for 100,000 hours.

Temperature-correct results
built-in Peltier heating and cooling.

Traceable data
user levels, stored methods and PDF export on the Android models.

For Brix and refractive index, see the Master Science automatic digital refractometer.

Technical Specifications

GENERAL

Brand	Master Science
Model Number	MSPOL-568SWISS, MSPOL-537SWISS, MSPOL-533SWISS, MSPOL-532SWISS, MSPOL-531SWISS
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SKU	MSPOL-568SWISS, MSPOL-537SWISS, MSPOL-533SWISS, MSPOL-532SWISS, MSPOL-531SWISS
Measuring Scales	Optical rotation, specific rotation, concentration, international sugar scale; user-defined on 568, 537, 533
Measuring Range	**±90° (optical rotation); ±259 °Z (sugar scale)**
Accuracy	**±0.003° (568); ±0.004° (537, 533, 532); ±0.006° (531)**
Repeatability	≤0.002°
Resolution	0.0001° (568); 0.001° (others)
Minimum Transmission	0.01% (568); 0.05% (533); 0.1% (537, 532, 531)
Response Speed	8°/s
Measuring Time	6 readings in 26 s
Temperature Control	Peltier, 10 to 50 °C, ±0.2 °C (not on 531)
Calibration	Multi-point automatic
Sample Cells	100 mm and 200 mm standard; 100 mm temperature-controlled (not on 531)
Methods	1000 (568, 537, 533); 30 (532, 531)
User Management	500 users, four permission levels, electronic signature (568, 537, 533)
PC / LIMS Connection	Yes
Power Supply	220 V ±22 V, 50 Hz ±1 Hz, 200 W

OPTICAL PERFORMANCE

Wavelength	**589 nm; 537 dual: 589/880 nm; 537 multi: 589/546 nm; options 365, 405, 436, 546, 578, 633 nm**
Light Source	LED, 100,000 h, with interference filter; 20 W tungsten halogen on 537 multi-wavelength
Sodium lamp replacement	long-life LED.

DISPLAY & DATA

Display	10.1-inch colour touch screen (568, 537, 533); 8-inch (532, 531)
Storage	128 GB (568, 537, 533); 10,000 data sets (532, 531)
Interfaces	RS232, USB, flash drive; plus keyboard, mouse, Wi-Fi and Ethernet on 568, 537, 533

DIMENSIONS & WEIGHT	
Dimensions (L×W×H)	702 × 376 × 240 mm
Package Dimensions	880 × 530 × 490 mm
Net / Gross Weight	21 kg / 36 kg

COMMON PROBLEMS AND HOW THIS POLARIMETER HELPS	
Common Problems and How This Polarimeter Helps	How the Master Science High-Speed Automatic Polarimeter improves optical rotation testing:
Slow worm-gear instruments	encoder drive with fast response.
Readings shifting with room temperature	Peltier-controlled cell.
Dark or turbid samples	works down to 0.01% transmission on the top model.

The Master Science High-Speed Automatic Polarimeter is used in

Food and beverages
sucrose, monosodium glutamate, soy sauce, sugar content

Agriculture
antibiotics, hormones, pesticides, starch

Petrochemicals
mineral oil analysis

Fragrances and flavours
essential oils such as camphor oil

Pharmaceuticals
antibiotics, vitamins, amino acids

Glucose in infusion solutions

Measurement

- Photoelectric encoder drive instead of worm gear
- Glan-Thompson prism polariser (specified wavelengths on 568 and 537)
- Multi-point automatic calibration

Temperature

- Peltier control with heating and cooling
- Temperature-controlled sample cells supported

Data Management

- Large built-in database with user hierarchy
- Custom pre-stored methods
- PDF reports and flash drive export
- Serial and open interfaces for LIMS
- Optional audit trail software on 568, 537, 533

Standard Accessories Included

- 100 mm sample cell
- 200 mm sample cell
- 100 mm temperature-controlled cell (except 531)

Optional Accessories

- 50 mm sample cell
- 200 mm temperature-controlled cell
- Thermal printer; stylus and Wi-Fi printers on 568, 537, 533
- Audit trail software (568, 537, 533)
- Additional wavelengths (537)