FISON

Automatic Polarimeter

FM-PMR-A101

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1. Introduction

Automatic Polarimeter FM-PMR-A101 operates with a working wavelength of 589.3 nm, ensuring consistent and precise measurements. It features a built-in Peltier temperature control system for enhanced accuracy and stability. The polarimeter is equipped with an 8-inch TFT color touch screen for a user-friendly interface. It supports multi-level authority management for secure operation. Our polarimeter offers advanced functionality, making it ideal for laboratory use.

2. Features

- ✓ Multi-function search
- ✓ Automatic calibration
- ✓ Support network printing and data statistical retrieval
- ✓ Comply with 21CFR requirements
- ✓ Fully comply with GLP GMP certification specifications

3. Specifications

Model No.	FM-PMR-A101
Measurement mode	Rotation, specific curl, concentration, sugar content and custom formula
Light source	LED cold light source
Working wavelength	589.3nm
Measuring range	Optical rotation ± 90° Sugar ± 259° for Z
Minimum reading	0.001° (0.0001° Optional)
Accuracy	± 0.002
Test function	Single, multiple and continuous measurement
Repeatability	(Standard deviation s) 0.002° (Optical rotation)
Temperature control range	10℃ to 60℃ (Peltier)
Temperature resolution	0.01℃
Temperature control accuracy	± 0.03℃
Display	8-inch TFT true color touch screen
Standard test tube	200mm, 100mm ordinary type,100mm temperature control type (optional Hastelloy alloy temperature control tube of various lengths)
Transmittance	0.0001
data storage	64 G
Audit trail	Yes
Electronic signature	Yes
Print	General-purpose printer, Wi-Fi printing (Standard with a printer)
Method library	Yes
cloud service	Yes
MD5 code verification	Yes
Custom formula	Yes
User Management	Four-level authority management
Export in multiple file formats	PDF & Excel
Communication Interface	USB, RS232, VGA, Ethernet
Instrument level	0.01 level
Power supply	220V ±22V, 50Hz ± 1Hz, 250W

4. Applications

Automatic Polarimeter is used to measure the concentration and purity of optically active compounds like sugars and drugs. It is widely used in pharmaceutical companies, chemical laboratories, food and beverage industries, etc.

5. Operations

Before starting up, keep the instrument on the test table with no noise, no strong light, no strong electromagnetic interference, no vibration, and no flat test table.

Step 1: Plug in the power supply and turn on the power switch behind the instrument.
Step 2: Enter the user login interface, enter the user's name (first permission admin) and password (the default is 888888), and press the "**Login**" key to enter the main test interface.
Step 3: In the parameter setting page mode, select for example (rotation luminosity), the result type.
Step 4: Set measurement times (1-6), sample number, name customization, and test tube length (10cm and 20cm according to the choice of use of filling).
Step 5: If the sample needs to be controlled by the temperature, first open the '**temperature**' setting button, and then input the required temperature value; put the test sample into the temperature test tube to fit the stainless steel inclined plane on the instrument, and plug the temperature probe on the instrument into the side hole of the temperature test tube.
(**Note:** After the temperature probe is removed, close the temperature switch).
Step 6: If the result type is selected, the known concentration value and the test tube length should be filled in; otherwise, the known specific rotation value should be filled in; other settings are the same as above.
The sugar-degree mode step is the same as the spin-luminosity mode.

Specific operation precautions:

1) Before testing the blank sample, ensure that the number of the instrument test interface is zero.
2) The blank sample is loaded into the temperature control test tube for testing.
3) After the temperature control is stable, click '**zero**' to clear zero, close the temperature control, run 2-3 times, and load the sample to be tested for test.
4) The heat conduction surface of the temperature control test pipe must fit with the instrument conduction direction.
5) After the temperature probe is removed, the instrument must turn off the temperature control.
6) Cleaning the temperature control test pipe should unscrew both screws and directly inject water to filter the cleaning.

6. Maintenance

1) When the instrument is not used, try to put it in a dry and ventilated room, and the indoor temperature difference does not change large, so as not to optical parts after damp mildew.
2) When taking the glass test tube, be careful to prevent the liquid from leaking inside the instrument.
3) After the corrosive liquid is tested, it should be cleaned in time.
4) Corrosive liquid should be prevented from dropping on the shell plastic and the inside of the instrument to prevent damage Instrument shape and box body.
5) It is strictly prohibited to disassemble the instrument without authorization.
6) If the instrument fails, it should be repaired in time.

Note: When the test result is the specific rotation degree, the parameter clear needs to be done in the rotation luminosity mode.

Warning: The instrument needs to preheat for 30 minutes before the test, otherwise the error will be too large.

7. Accessories

- Power Cable
- Temperature control tube
- Optical rotation test tube 200mm
- Optical rotation test tube 100mm