

WXG-4 Manual Polarimeter

Instruction Manual

Introduction

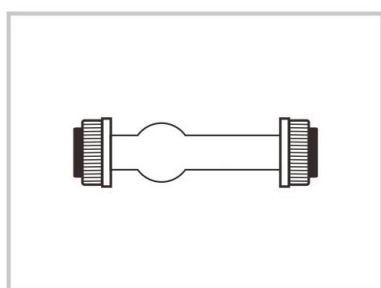
Thank you for selecting the WXG-4 manual polarimeter. This manual provides a step-by-step guide to help you operate the instrument, please carefully read the following instructions before use.

Unpacking

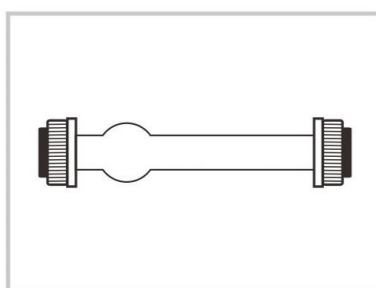
Before unpacking, ensure that the current work environment meet following conditions.

- Ambient temperature is greater than 0°C and less than 40°C.
- No potential electromagnetic and ambient light interference.

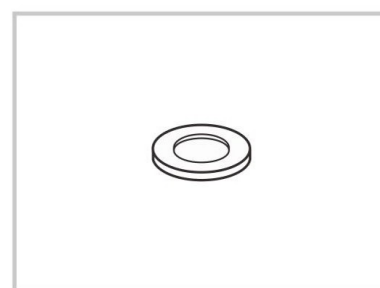
The following list describes the standard accessories of the polarimeter. After the unpacking, please check all accessories are complete. If any are damaged or missing, please contact nearest distributor.



Test tube 100mm



Test tube 200mm

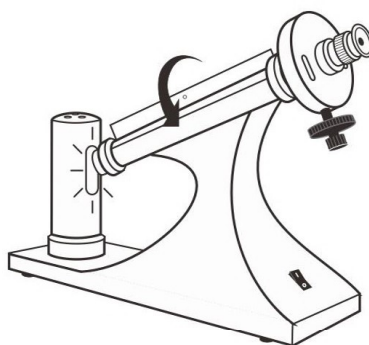


Sealing rings

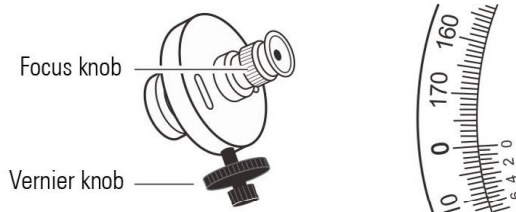
Prior to Use

Before plugging the plug into the power outlet, ensure that local mains power voltage matches the polarimeter requirements.

- 1.1 Close the lid of polarimeter. Press the power switch to the **ON** position, the sodium lamp will gradually light up.

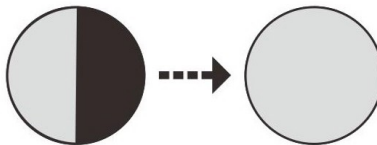


- 1.2 Wait for the light source to stabilize, rotate the focus knob until the visual field became legible.
- 1.3 Rotate the vernier knob makes the vernier scale aim at zero position.



Recording the Reference Point

- 2.1 Place an empty test tube into the sample chamber.
- 2.2 Rotate vernier knob until the visual field appears uniform brightness. Record the measured value.

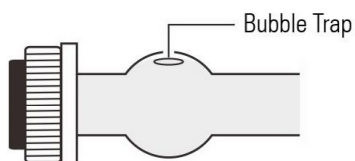


Filling the Sample Solution

- 3.1 Take out the test tube from sample chamber. Unscrew the cap, remove the sealing ring and glass disc.

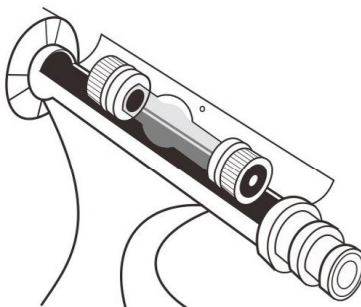


- 3.2 Rinse the test tube thoroughly with distilled water.
- 3.3 Pour sample solution into the test tube, then screw on the test tube cap. Wipe away the drops of water on glass disc.
- 3.4 If necessary, collect all air bubbles into the bubble trap.



Measurement

- 4.1 Open the lid of polarimeter, place the test tube into the sample chamber. Note, the bubble trap is upward.



- 4.2 Close the lid, clockwise or anticlockwise rotate vernier knob until the visual field appears uniform brightness. Record the measured value.
- 4.3 Repeat the above measurements 2 times and calculate the average of measured values.

Calculation

If the measured values are positive angle (Dextrorotatory substance), minus the value of the reference point shall be the actual measured value of the substance. If the measured values are negative angle (Levorotatory substance), minus the 180° shall be the actual value of the substance.

Determination of the Concentration

If you need to determine the purity, concentration or proportion of the sample, please using the formula below.

$$\alpha = [\alpha]LC$$

α Optical Rotation

$[\alpha]$... Specific Rotation

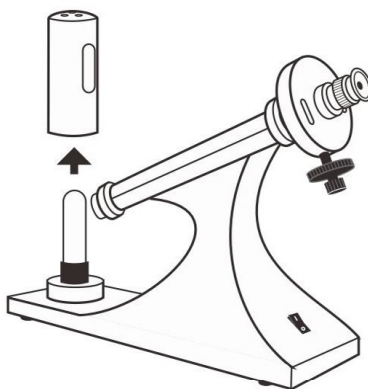
L..... Tube length (dm)

C..... Concentration (g/L)

Replacing the Sodium Lamp

Before replacing the sodium lamp, be sure to disconnect the power plug from the wall outlet.

5.1 Wait for the sodium lamp to cool down, remove the lamp cover of polarimeter.



5.2 Pull the sodium lamp from the socket.

5.3 Insert a new lamp into the socket.

5.4 Replace the lamp cover again in such a way that the window point in the direction of the polarizer.

Specifications

Model	WXG-4
Measuring Range	-180° ~180°
Scale Value	1°
Vernier	0.05°
Magnifier	3X
Light Source	Sodium Lamp, 589.44nm
Test Tube Length	50/100/200mm
Power Requirements	220V/50Hz
Dimensions	500 (L) × 135 (W) × 330 (H)mm
Weight	5kg

Hazardous Substance Statement

Instruments is committed to the reduction and eventual elimination of all hazardous substances in both the manufacturing process and finished products we supply. We have an active manufacturing and procurement program to minimize and eliminate the use of harmful heavy metals such as cadmium, lead, mercury and the like. New technologies and design parameters are also promoting these efforts and we expect to have little or no such materials in our product in the coming years. We welcome our customer suggestions on how to speed up these efforts.



Warranty

The warranty period for polarimeter is two years from the date of shipment. Above warranty does not cover the light source. Out of warranty products will be repaired on a charged basis. The warranty on your polarimeter shall not apply to defects resulting from:

- Improper or inadequate maintenance by customer.
- Unauthorized modification or misuse.
- Operation outside of the environment specifications of the products.

For more information, please contact the nearest authorized distributor.