

For Today's GLP/GMP Laboratories

The Autopol[®]V Automatic Polarimeter



 RUDOLPH
RESEARCH
ANALYTICAL

TECHNICAL BULLETIN 914

The Autopol® V Automatic Polarimeter is designed for today's GLP/GMP analytical laboratories. Whether you are a Pharmaceutical, Chemical or University Lab, the Autopol® V has the standard features you must have.



STANDARD FEATURES AND ACCESSORIES

- TempTrol™ – Electronic cooling & heating from 15°-35°C
- Six Standard Wavelengths: 365nm, 405nm, 436nm, 546nm, 589nm and 633nm
- 21CFR11 Compliance: Electronic Signature and secure local electronic data storage
- Standard Accessories: TempTrol™ NIST Traceable Quartz Standard, TempTrol™ 100mm Polarimeter Cell, TempTrol™ Temperature Validation Cell, Built-In Sample Measurement Probe, Flash Card Reader and Flash Card
- Domestic 3-year warranty and 20-year support guarantee

TEMPTROL™ ELECTRONIC TEMPERATURE CONTROL SYSTEM



Figure A

The TempTrol™ System allows push-button temperature control of your 100mm cell, 200mm cell or Quartz Plate. Set the temperature, push “measure” and walk away. The Autopol® V will heat or cool to a predefined temperature and then provide you with the result all in one easy step.

VALIDATION AND CALIBRATION

Rudolph Research Analytical knows that you must be able to validate your instrument's operating performance regularly. Therefore, the Autopol® V comes standard with the accessories, validation tools and automatic calibration functions necessary to ensure that the temperature control, temperature measurement and optical measurement processes are working accurately and reproducibly. All functions are accessed simply and conveniently through the Autopol® V liquid sealed touchscreen. (Figure B)

ACCESSORIES

The Autopol® V accepts all Rudolph standard cells and Quartz Plates as well as the new TempTrol™ Cells and Quartz Plates.

The USP <781> requires optical rotation measurements at 25°C ± .5°C (unless another temperature is specified). The European Pharmacopoeia requires optical rotation measurements made at 20° ± .5°C (unless another temperature is specified). Whatever your temperature control needs are, the Autopol® V's exclusive TempTrol™ System (Patent Pending) makes your measurement in seconds without a waterbath. (Figure A)



Figure B

SPECIFICATIONS:

Measuring Mode:	Optical Rotation, Specific Rotation, Concentration & User-defined Scales
Measuring Scale:	Degrees Arc, % Concentration
Measuring Range:	±89° Arc Optical Rotation, ±999.99° Arc Specific Rotation and 0-99.9% Concentration
Resolution:	0.001° Arc Optical Rotation 0.001% Concentration 0.001° Specific Rotation
Reproducibility:	0.002° Arc
Accuracy:	0.002° up to 1°, 0.2% up to 5°, 0.01° above 5°
Prism:	Glan Thompson calcite quartz
Optical Wavelengths:	365nm, 405nm, 436nm, 546nm, 589nm, 633nm (other wavelengths available)
Wavelength Selection:	Automatic by push-button
TempTrol™ Range:	Automatic Electronic Heating & Cooling 15°-35°C
TempTrol™ Accuracy:	±0.2°C
Temp. Probe Range:	10°-40°C
Temp. Probe Accuracy:	±0.1°C
Measurement Time:	4°/sec. slew rate and 5 sec. nominal settling time
Light Source:	Tungsten-halogen 6V, 20W, avg. 2,000 hour life
Sample Chamber:	Accepts sample tubes up to 200mm
Data Storage:	Multimedia Card and/or Secure Digital Card
Communication Interface:	Two RS232 serial ports, one parallel printer port and one auxiliary port
Analog Output:	0.1% resolution 0-10 volts or 4-20mA full scale (optional)
Calibration:	Automatic calibration by push-button
Display:	7.5cm x 10cm graphics LCD, 320 x 240 dots cold fluorescent back lit
User Interface:	Touchscreen
Automatic Sensitivity Control:	Measures samples with transmittance as low as 0.01% (up to O.D. 4.0)
Input Power:	100-240Volts, 50/60 Hz
Operating Dimensions:	35"W x 10.5"H x 17"D 890mm W x 267mm H x 432mm D
Shipping Dimensions:	41"W x 25"H x 25"D 1025mm W x 625mm H x 625mm D
Operating Weight:	85 lbs. (39kg)
Shipping Weight:	105 lbs. (47kg)
Calendar/Clock Functions:	Battery-backed clock; time and date sent to computer & printer