P-2000 Digital Polarimeter

Ultimate flexibility for a wide range of applications

A new generation of polarimeters offering simplicity, reliability and complete validation protocols

JASCO

P-2000 Digital Polarimeter

Ultimate flexibility for a wide range of applications ranging from quality control to research and technology


Foods


Pharmaceuticals


Sugars and Sweeteners


Essential oils, Flavors and Fragrances


Chemicals

JASCO, a leading manufacturer of polarimeters since 1967, is proud to introduce the new P-2000 multi-option polarimeter. The P-2000 is designed as a customizable polarimeter with various options for a range of applications and budgetary requirements. The instrument system can also be field upgraded as the application requirements change.

Advanced instrument control

Two graphical user interfaces are available including a newly redesigned intelligent remote module (iRM) with a color LCD touch screen and Spectra Manager™ II software, the latest version of JASCO's innovative cross-platform spectroscopy software. Both of these control and analysis interfaces allow full-system control and advanced data processing. 21 CFR part 11 compliant version for PC software can be ordered as an option.

Spectra Manager™ II

iRM-1100

The iRM conveniently guides the operator through routines from data acquisition to data processing. The obtained data can be automatically printed to USB printers, or saved to a USB storage for further processing on a PC.

Full line of accessories

In support of diverse applications, a full line of accessories including a variety of cylindrical cells: a demountable stainless steel cell, Peltier thermostatted cell holder, and sippper options, all offered for functional expansions of the P-2000. A newly developed Peltier cell holder offers accurate temperature control with ±0.1° accuracy.

Interference filter

A wide range of interference filters from UV-Vis to NIR

8-position automatic filter changer is optionally available.

Automatic light source switching mirror option

Light source

Up to two light sources can be installed. Available light sources are;

WI (Tungsten-Halogen lamp)
Na (Sodium lamp)
Hg (Mercury lamp)

High speed, precision and accuracy

The P-2000 offers a response speed as fast as six degrees per second to provide reproducible data for each measurement with a resolution of 0.0001°. A wide dynamic range of up to ±90° enables the system to measure chiral compounds over a broad range of concentrations. The sample chamber is equipped with two integrated temperature probes for cell holder and sample.

Cell holder

RSC-200 V-shape cell holder

Temperature control by an optional thermostatted water circulation bath and a water-jacketed cylindrical cell

PTC-262 Peltier thermostatted cell holder

Temperature control by Peltier effect with a SUS demountable cell or a cylindrical cell

SHP-263P Peltier sipper
SHP-263 Sipper

For quick measurements of multiple samples

Reliability and instrument verification

An automated validation program is available for GLP/cGMP laboratories or those regulated by the FDA. The program can be used for periodic validation of light source energy, zero repeatability, and rotational accuracy/repeatability. Inspected filters, sample cells with certified optical path length, and NIST-traceable rotation plates are also available.

Ultimate flexibility

With its single optical platform, the P-2000 can be customized to provide the optimum performance for every application. By selecting the most suitable combination of optical elements, the instrument can be used in the ultra-violet, visible and/or NIR regions.

Examples of versatile system configurations

A single wavelength system

546 nm with Hg or WI lamp

589 nm with Na or WI lamp

A dual wavelength system

589/546 nm with Na/Hg or WI lamp

5 wavelength system

589/578/546/436/365 nm with Na/Hg lamps

6 wavelength system

633/589/546/436/405/365 nm with WI lamp

7 wavelength system

633/589/578/546/436/405/365 nm with WI lamp

System expansion to UV range

334/313/302/296/280/254 nm with Hg lamp
with the optional UV/NIR region wavelength extension unit

334/325 nm with WI lamp
with the optional UV/NIR region wavelength extension unit

Multiple wavelength system for UV/Vis range

633/589/578/546/436/405/365/334/325 nm with WI lamp
with the optional UV/NIR region wavelength extension unit

System expansion to NIR range

880 nm with WI lamp
with the optional UV/NIR region wavelength extension unit

Multiple wavelength system for NIR and Visible range

880/589 nm with WI lamp
with the optional UV/NIR region wavelength extension unit

880/589/546 nm with WI lamp
with the optional UV/NIR region wavelength extension unit

Hardware Specifications

Principle	Automatic digital polarimeter with symmetric angular oscillation using the optical-null balance method
Light source	Tungsten-Halogen lamp (WI), Sodium lamp (Na), Mercury lamp (Hg) (Up to two light sources can be installed.)
Wavelength	880, 633, 589, 578, 546, 436, 405, 365, 334, 325, 313, 302, 296, 280, 254 nm
Aperture	1.8, 3 and 8 mm diameters
Angular range	±90°
Response speed	6°/sec
Measurement accuracy	±0.002° (up to 1°), ±0.2% (larger than 1°)
Repeatability	0.002°
Resolution	0.0001°
Integration time	1 - 100 sec
Detector	Photomultiplier tube
Automatic recognition	Light source, filter, cell holder
Temperature measurement	Cell holder, cell (sample)
Temperature measurement range	0~40°C (Temperature accuracy: ±0.1°C)
External output	Analog output
Dimensions	653 (W) x 249 (D) x 364 (H) mm
Weight	Approx. 30 kg
Power requirement	AC 100 ~ 240 V ±10%, 50 or 60 Hz, 280 VA

iRM-1100 Intelligent Remote Module

Display	640 x 480 pixel color LCD Touch sensitive screen
Measurement modes	Polarimeter measurement Readout modes: Optical rotation, optical specific rotation, concentration, sugar scale Z, Brix purity, optical purity Statistical calculation: Average value, standard deviation, coefficient of variation
	Time course measurement Readout modes: Optical rotation, optical specific rotation Data processing: Reaction rate calculation
Other standard function	Instrument validation
Data handling	Data format: JASCO format, text format
Data save	USB storage
Optional	Printer: USB compatible printer

Spectra Manager™ II

Measurement modes	Polarimeter measurement Readout modes: Optical rotation, optical specific rotation, concentration, sugar scale Z, Brix purity, optical purity Statistical calculation: Average value, standard deviation, coefficient of variation
	Time course measurement Readout modes: Optical rotation, optical specific rotation Data processing: Reaction rate calculation
Other standard function	Instrument validation
Optional	CFR version

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For more information, please contact :

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Products described herein are designed and manufactured by ISO-certified JASCO Corporation.

MADE IN TOKYO, JAPAN