

# Intelligent Chiral Detector OR-2090



JASCO Model OR-2090 Chiral Detector has been designed for the detection of optically active compounds such as amino acids, sugars, terpenes, and other compounds containing an asymmetric carbon. In industry, these compounds are widely used as original materials for pharmaceuticals, biochemicals, agrochemicals, cosmetics, foods, and beverages. It is well known that optical isomers of these compounds often exhibit totally different biological activity. One offers a favorable effect to human body while the other can offer a dangerous or unknown effect. Recently, particularly in the pharmaceutical industry, such optical isomers have to be separated, detected and fractionated in order to investigate the biological activity of each. An HPLC system including a chiral separation column and a chiral detector is essential for such research work. We at JASCO, a world leader in chiro-optical spectroscopy as well as HPLC instrumentation have developed the Model OR-2090 chiral detector for HPLC to meet the demand.

The OR-2090 can easily be interfaced with the JASCO HPLC system using the JASCO chromatography data systems.

- **High-Sensitivity**

Most chiral compounds have stronger chirality in the near UV region than in the visible to near IR region. However, most of the commercially available chiral detectors use light sources in this region. This leads to relatively high sensitivity for sugars, but miserable sensitivity for biomedical compounds which are of interest to most analysts. The OR-2090 utilizes a Xe-Hg lamp as a light source which emits strong line emissions by Hg at 365 nm and others besides the continuous radiant energy in all the higher-sensitivity than those of other commercially available products having no capability near the UV range.

- **Advanced Optics**

The most advanced and hydrodynamic flow cell offers artifact-free chromatograms, and extremely low baseline noise levels and drift of  $2.0 \times 10^{-5}$  degrees and  $5 \times 10^{-5}$  degrees / hour, respectively.

- **Wide Wavelength Range on Detection**

By using a 150 W Hg-Xe lamp having the line spectra on wide wavelength range, the OR-2090 can detect a wide variety of compounds having chirality in the range from 350 to 900 nm.

- **Patented Tapered Flow Cell**

The tapered flow cell having a 25-mm path length promises not only high-sensitivity but also low peak broadening and artifact-free chromatographic peaks.

- **Easy Maintenance for Flow Cell**

The flow cell of current products in the field do not allow the operator to remove the cell for cleaning. The patented front-loading cassette cell of the OR-2090 permits easy cleaning of the flow cell without any re-alignment.



## SPECIFICATIONS

Photometric system:	Open-loop polarizer / analyzer system with optical modulation by Faraday cell
Light source:	150 W, Hg-Xe lamp
Spectral range:	White light (350 ~ 900 nm)
Angular range:	± 500 mdeg
Gain:	x1, x10
Range:	12 steps in total
Flow cell:	Front-loading cassette tapered cell (patented)
Cell path length:	25 mm
Cell volume:	44 µL
Noise level:	2 x 10 <sup>-5</sup> deg (H <sub>2</sub> O flow of 0.5 mL/min, response; STD)
Baseline drift:	5 x 10 <sup>-5</sup> deg/h (H <sub>2</sub> O flow of 0.5 mL/min, response; STD)
Temperature control:	
Setting range:	0 to 40 °C
Control range:	5 °C to 10 °C above ambient temperature
Zero adjustment:	Both optical and electrical zero
Response:	FAST, STD, SLOW
Output:	Integrator output (1V/1deg), recorder output (10 mV FS), marker output, leak output
Input:	Marker signal from external devices
Power requirement:	AC 100 ~ 240V ±10% 50/60Hz
Power consumption:	415 VA
Dimension:	300 (W) x 470 (D) x 230 (H) mm
Weight:	Approx. 21 kg

### NOTE:

All the listed angles on this specifications are calibrated by the rotation angle of 0.1% sucrose in water on sodium D line having no other line spectrum in measurement wavelength range. Additionally those are calculated as the angles in 10 mm path length cell.

## STANDARD ACCESSORIES

Recorder cable	1 pc
Marker cable	1 pc
Syringe, 5 mL	1 pc
Syringe needle	1 pc
Compression screw, 1/16"	2 pcs
Ferrule, 1/16"	2 pcs
Tube SST, 1/16" O.D. x 0.8 mm I.D. x 300 mm	1 pc
Screw driver, Phillips	1 pc
Wrench, 1/4" x 5/16"	1 pc
Spare fuses	2 pcs
AC power cable	1 pc

## ORDERING INFORMATION

6837-J002B	Model OR-2090	Chiral Detector
6838-J002B	Model CD-2095	Circular Dichroism Detector
6824-J002B	Model UV-2070	UV/VIS Detector (~ 900 nm)
6825-J002B	Model UV-2075	UV/VIS Detector (~ 600 nm)
6826-J002B	Model UV-2077	Multi-wavelength UV/VIS Detector
6832-J002B	Model MD-2015	Diode Array Detector (~ 900 nm)
6831-J002B	Model MD-2010	Diode Array Detector (~ 600 nm)
6829-J003B	Model FP-2020	Fluorescence Detector
6833-J002B	Model RI-2031	Refractive Index detector
6836-J002B	Model CL-2027	Chemiluminescence Detector
6818-J002B	Model PU-2080	HPLC Pump
6823-J003B	Model PU-2089	Quaternary HPLC Pump
6820-J002B	Model PU-2085	Semi-micro HPLC Pump
6821-J002B	Model PU-2086	Semi-preparative HPLC Pump
6822-J002B	Model PU-2087	Preparative HPLC Pump
6819-J002B	Model PU-2080i	Bio-inert HPLC Pump
6823-J004B	Model PU-2089i	Bio-inert Quaternary HPLC Pump
6828-J008B	Model AS-2059	Autosampler
6827-J005B	Model AS-2055	Autosampler
6827-J006B	Model AS-2057	Autosampler
6834-J002B	Model CO-2060	Column Oven
6835-J002B	Model CO-2065	Column Oven

● Specifications are subject to change without notice.



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