

Ion chromatography

Thermo Scientific Dionex PDA Photodiode Array Detector

The Thermo Scientific™ Dionex™ PDA Photodiode Array Detector is a high-resolution, 1024-element photodiode array detector. The Dionex PDA simultaneously provides 1-nm resolution with the noise and drift performance previously available only in monochromator-based detectors. It operates using Thermo Scientific™ Chromeleon™ Chromatography Data System (CDS), which provides detector control, spectral overlays, and 3-D plotting. The high resolution and low noise performance of the Dionex PDA also make it ideal for the most sensitive and accurate library searches and peak purity analyses.

Performance features

- Extremely accurate compound confirmation with 1024 element, 1-nm resolution, photodiode array.
- Flexibility in both UV and Vis applications with 190–800 nm wavelength range.
- Low noise and high light intensity over the full spectral range using deuterium and tungsten lamps.
- Fast and accurate wavelength verification using built-in holmium oxide filter.
- Excellent reliability and reproducibility with low baseline drift (<500 μ AU/h).
- Simplified routine maintenance through front access to prealigned cells and lamps.
- Full control and flexible data collection through Chromeleon CDS (version 6.6 or higher).
- Easily monitor detector status for maximum uptime through five front-panel LEDs.
- Supports alternate programmable data collection with four analog outputs.

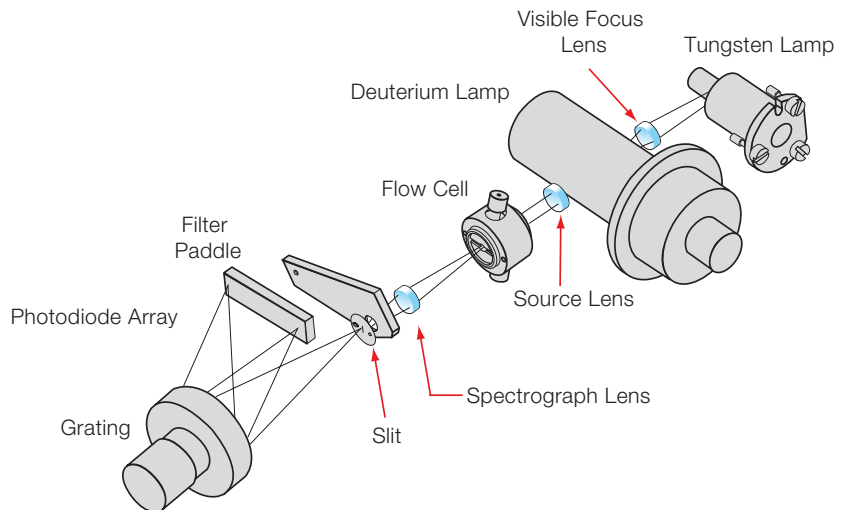


Figure 1. Light from the tungsten lamp is focused through an aperture in the deuterium lamp. The combined light then passes through the flow cell to the filter paddle, through the focusing lens, to the slit, and then to the diffraction grating and Dionex PDA photodiode array detector.

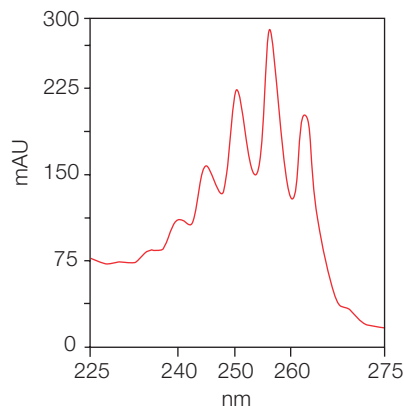


Figure 2. The eight fingers of the benzene spectrum demonstrate the excellent spectral resolution achieved with the 1024-element photodiode array and quality optics bench.

| Specifications | | |
|--------------------------------|-----------------------------|--|
| Performance | Noise | < ±10 µAU (flowing water, 2-s rise time, 254 nm) ±15 µAU (flowing water, 2-s rise time, 520 nm) |
| | Drift | <500 µAU/h |
| | Wavelength accuracy | ±1 nm, self-calibration with D2 lines, verification with built-in holmium oxide filter |
| | Resolution | 1 nm |
| | Linearity | Less than 5% RSD up to 2.0 AU |
| | | Less than 2% RSD up to 1.5 AU |
| Optics | Photodiode array | 1,024 element |
| | Pixel resolution | 0.7 nm |
| | Lamps | Tungsten and deuterium |
| Electronics | Analog outputs | Four, 0–3 AU, independently selectable, 1,000 mV range |
| Physical specifications | Power requirements | 90–265 V ac, 47–63 Hz (autosensing, no adjustment needed) |
| | Operating temperature range | 4–40 °C (40–104 °F) constant temperature |
| | Operating humidity range | 5–95% relative, noncondensing |
| | Dimensions (h × w × d) | 17.4 × 44.4 × 50.3 cm |
| | | 6.8 × 17.5 × 19.8 in. |
| | Weight | 18.1 kg 40 lbs. |

Ordering information

To order in the U.S., call 1-800-346-6390, or contact the Thermo Fisher Scientific office nearest you. Outside the U.S., order through your local Thermo Fisher Scientific office or distributor. Refer to the following part numbers.

| Description | Part number |
|--------------------------------------|-------------|
| Dionex PDA photodiode array detector | 064447 |

| Flow cell options | | | | |
|-------------------|----------|-------------|-------------|-------------|
| Cell | Material | Path length | Cell volume | Part number |
| Standard | PEEK | 10 mm | 13 µL | 056346 |
| Semi-micro | PEEK | 9 mm | 3.1 µL | 064169 |
| Semi-micro | SST | 9 mm | 3.1 µL | 064168 |
| Semi-preparative | PEEK | 0.4 mm | 0.7 µL | 064167 |

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