

The Accela High Speed PDA Detector uses Thermo's patented LightPipe™ technology to ensure fast chromatographic separations with photo diode array detection.

## Accela™ PDA Detector

- Patented LightPipe technology for highest sensitivity
- Specialized 1 cm path length, 2  $\mu$ L LightPipe flowcell for fast separations
- Fiber-optic beam shaper provides maximum peak resolution
- Easy maintenance with integrated wavelength validation

### High Speed Sample Detection

The Accela PDA is optimized for the detection of high speed chromatographic separations. The short 1 cm path length, combined with the incredibly minimized cell volume of 2  $\mu$ L, renders this LightPipe flowcell as the premium choice for fast separations. The extremely low level of dispersion in the LightPipe enables the flowcell to retain the excellent peak shape and chromatographic resolution from the column.

The innovative fiber-optic beam shaper converts the circular beam of light exiting the flowcell into a vertical beam, emulating a slit while providing nearly 100% light throughput to the diodes. The maximization of the light throughput ensures the highest spectral resolution.

The combination of the patented LightPipe technology with the fiber-optic beam shaper provides the high sensitivity and resolution needed for high speed chromatographic applications.

### Easy Maintenance

The Accela PDA has an integrated holmium oxide solution-filled cuvette for validating wavelength accuracy. This holmium oxide in perchloric acid solution is immensely advantageous to the solid holmium oxide filters used by most manufacturers, because it provides wavelength verification across the entire spectral range.



## Software Control

### Xcalibur™ Data System

Thermo offers an array of Xcalibur data system software solutions that address the needs of compliance and reporting, small and large molecular analysis, and open lab environments.

Xcalibur is a very versatile, easy-to-use data system with 21 CFR Part 11 compliance. Whether the user is a lab manager or a technician, Xcalibur's Home Page offers easy navigation through the process of instrument setup, sequence setup, and data acquisition. Data analysis is simplified using any of the three browser environments: *Qual Browser*, *Quan Browser*, and *Library Browser*. Reporting is straightforward and effortless with the intuitive XReport software. LCQUAN™ quantitation software provides the customer with a structured and secure workflow.

### ChromQuest™ Chromatography Data System

ChromQuest offers maximum flexibility and efficiency in setting up and maintaining the performance of chromatography instruments. ChromQuest protects your results by ensuring data traceability and integrity with enhanced security features and electronic documentation. Sophisticated analytical tools facilitate high sample throughput and powerful data processing for liquid chromatography.

ChromQuest maximizes laboratory efficiency with project management for information storage and transfer. Along with accelerating data analysis and results generation, ChromQuest uses robust integration, flexible calibration routines, and advanced spectral analysis tools that help avoid the unexpected.

## Certification and Validation Services

Every pump is tested at the factory prior to shipment to ensure that it meets or exceeds performance specifications. A Declaration of Conformity (DC) accompanies each pump and documents test results. On-site field testing (optional) validates system performance.

## Specifications

### Wavelength Range

190–800 nm at 1 nm increment

### Wavelength Accuracy

± 1 nm at 254 nm and 640 nm

### Wavelength Calibration

Using Holmium oxide solution

### Wavelength Resolution

1.2 nm (512 pixel array)

### Absorbance Non-Linearity

< 5% at 2.0 AU at 256 nm

### Absorbance Range

– 2.0 to + 4.0 AU, 20-bit resolution

### Drift

< 1 mAU/hr after warm-up at 254 nm at a stable temperature (± 1 °C)

### Light Source

Pre-aligned Deuterium and Tungsten lamps

### Rise Time

User selectable: 0, 0.1, 0.2, 0.5, 1, 2, 5, or 10 sec

### Scan Rate

User selectable: 0.5, 1, 2, 4, 5, 10 or 20 Hz

### Discrete Channels

Three wavelength selectable channels

### Short-Term Noise

< 6 µAU/cm at 254 nm, using a 50 mm LightPipe flow cell

### Warm-up Time

90 min required to meet noise and drift specifications

### Cell Dimensions

10 mm, 2 µL LightPipe flow cell  
50 mm, 10 µL LightPipe flow cell

### Cell Pressure Range

0–1000 psi

### Analog Outputs

20-bit digital/analog conversion, unattenuated at 10 mV/AU, 100 mV/AU, or 1.0 V/AU

### Diodes

512

### Diode Spacing

1.2 nm

### Remote Controls

Ethernet interface for PC-based software control

### Operating Temperature

10 °C to 30 °C

### Ambient Environment

10–40 °C, 5–95% relative humidity, non condensing

### Dimensions

18 × 36 × 47 cm (H × W × D)

### Weight

19.5 kg

### Power Requirements

100/115 or 230 Vac, 50/60 Hz, 225 VA maximum power

### Product Certification

EMC  
CE  
TUV-C/US  
FCC (EMI)

## Ordering Information

Part Number	Description
60057-60030	Accela LC System
60057-60040	Accela PDA with 1 cm LightPipe™ flow cell
60057-60050	Accela PDA with 5 cm LightPipe flow cell
60057-60060	Accela System Kit
60057-60070	Hypersil GOLD™, 50 × 2.1 mm, 1.9 µm column

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