# Agilent 1260 Infinity Multiple Wavelength Detector

## Features, Technical Details, Specifications and Ordering Details

### Real multiple wavelength detection for ultrafast LC

The Agilent 1260 Infinity Multiple Wavelength detector (MWD) provides simultaneous detection of up to 8 compound specific wavelengths for optimum selectivity over a wavelength range from 190 nm to 950 nm. The improved diode array design offers very low detector noise (<± 7 µAU) for precise quantification of trace levels, regardless of how many signals are recorded. High-speed UV detection with up to 80 Hz data rates keeping pace with the analysis speed of fast LC.

### Features

- Simultaneous acquisition of up to 8 compound-specific wavelengths for increased sensitivity and selectivity.
- Low noise front-end electronics and the patented flow cell design delivers very low detection limits resulting from minimized short-term noise (< ± 7 µAU).
- Up to 100% resolution gain in fast LC by 80 Hz data acquisition rate.
- Electronic temperature control (ETC) - maximum baseline stability and practical sensitivity under fluctuating ambient temperature and humidity conditions.
- Wide linear range – for reliable, simultaneous quantification of primary compounds, by-products and impurities.
- Programmable slit (1 to 16 nm) for rapid optimization of sensitivity and linearity.
- New data recovery card (DRC) and radio frequency identification (RFID) technology provide new levels of data security and traceability.
- Automatic wavelength verification by built-in holmium oxide filter.
- Range of 9 analytical and preparative flow cells provide maximum application flexibility.
- Extensive diagnostics, error detection and display with Agilent 1200 Series Instant Pilot controller and Agilent Lab Advisor software.

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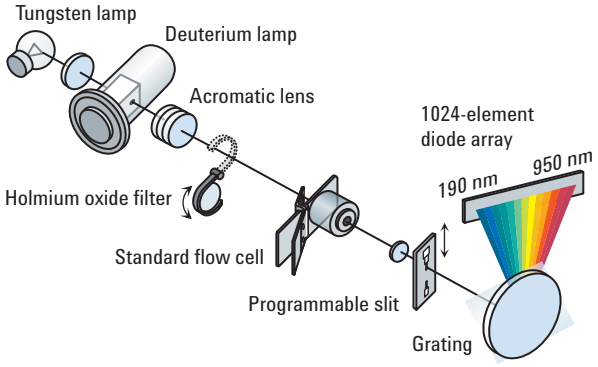
# Technical Details – Agilent 1260 Infinity Multiple Wavelength Detector

### Diode-array design for uncompromised sensitivity

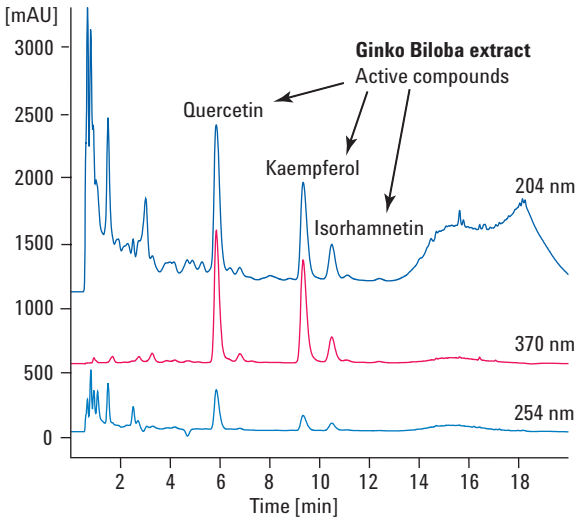
With conventional scanning UV-detectors the sensitivity is decreasing with the numbers of acquired signals. The 1260 Infinity multiple wavelength detector is based on an improved diode array design which offers the same high sensitivity for both single and multiple wavelength detection.




**A long –life (> 2000 hours) deuterium lamp reduces operating costs.**

### Multiple wavelength detection for increased sensitivity and selectivity

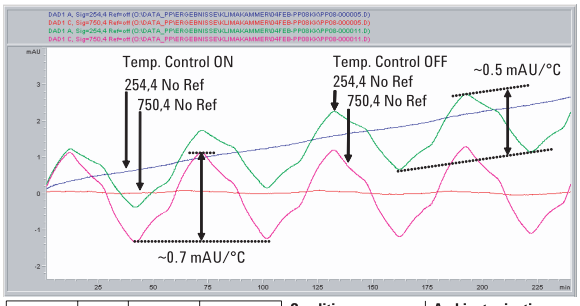
The 1260 Infinity multiple wavelength detector allows the simultaneous acquisition of up to 8 compound-specific wavelengths. This ensures optimum detection conditions in terms of selectivity and sensitivity especially for closely eluting compounds.




**Sensitive quantitation of active compounds and impurities in a single run without wavelength switching.**

### Maximum baseline stability

The electronic temperature control reduces baseline wander by more than a factor of 20. Even under the harshest ambient conditions, the baseline of the Agilent 1260 Infinity MWD remains constant within 30 ÌAU/°C.




| Temp. (°C) | RH (%) | AH (g/kg) | AH Dev. (%) |
|---|---|---|---|
| 23 | 95 | 16.9 | 12 |
| 25 | 95 | 19.1 | 0 |
| 27 | 95 | 21.5 | 13 |

**Conditions**
Relative humidity
95% RH = constant
Temp = 25 °C ± 2 °C
4 x 1h cycles

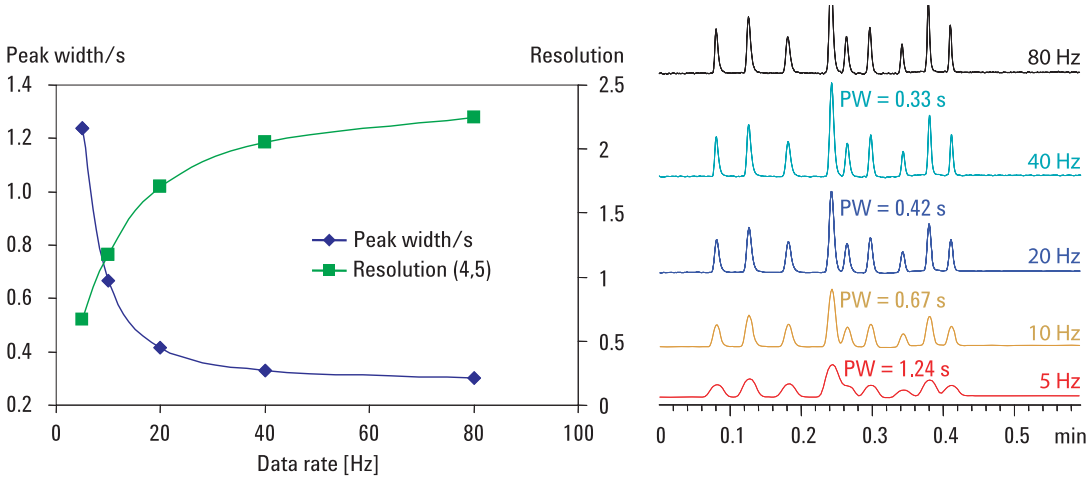
**Ambient rejection at 95% RH**
ETC off: ~ 700 µAU/°C
ETC on: < 30 µAU/°C

**Note:** By keeping RH=const. the absolute humidity is strongly modulated due to temparature variations (worst case conditions).

**Baseline wander with electronic temperature control turned on and off.**

### 80 Hz data rates for fast LC

Fast LC analyses can generates sharp and narrow peaks with peak widths smaller than 1 second. The 1260 Infinity multiple wavelength detectors offer multiple wavelength detection of 8 signals at 80 Hz data rate, keeping pace with the analysis speed of fast LC.




**80 Hz full spectral sampling rate provides resolution and peak capacity gains ogf 90% (30%) relative to 10 Hz (20 Hz) sampling rates.**

### New level of data security and traceability

"Data-never-lost-insurance" with built-in data recovery card (DRC) prevents data losses in the event of communication breakdowns between instrument and PC by automatically buffering raw and meta-data on an embedded memory card. Radio frequency identification (RFID) tags for all flow cells and UV lamp provide highest levels of data traceability by recording parameters, such as product and serial number, production date, cell dimensions, lamp usage, and the date of the last successful cell or lamp test.

**Data recovery card offers "data never lost" insurance and prevents data l osses by buffering raw and metadta**

# Specifications – Agilent 1260 Infinity Multiple Wavelength Detectors

| Specifications: 1260 Infinity Multiple Wavelength Detector (G1365C) | |
|---|---|
| **Detector type** | 1024-element diode array |
| **Light source** | Deuterium and tungsten |
| **Number of signals** | 8 |
| **Maximum sampling rate** | 80 Hz |
| **Short-term noise** | < ± 0.7 x $10^{-5}$ AU at 254/4 nm and at 750 nm, TC 2 sec. cell |
| **Drift** | < 0.9 x $10^{-3}$ AU/hr at 254 nm |
| **Linearity** | > 2.0 AU (5 %) at 265 nm |
| **Wavelength range** | 190-950 nm |
| **Wavelength accuracy** | ± 1 nm, self-calibration with deuterium lines. Verification with holmium oxide filter, |
| **Slit width** | Programmable: 1, 2, 4, 8, 16 nm |
| **Diode width** | < 1 nm |
| **Wavelength bunching** | Programmable, 1 - 400 nm, in steps of 1 nm |
| **Flow cells** | **Standard**<br>13-µL volume, 10 mm-cell path length, 120 bar (1740 psi) pressure maximum<br>**Semi-micro**<br>5-µL volume, 6-mm cell path length, 120 bar (1740 psi) pressure maximum<br>**Micro**<br>2-µL, volume, 3-mm cell path length, 120 bar (1740 psi) pressure maximum<br>**Semi-nano**<br>500-nanoliter volume, 10-mm cell path length, 50 bar (725 psi) pressure maximum<br>**Nano**<br>80-nanoliter volume, 6-mm cell path length, 50 bar (725 psi) pressure maximum<br>**High Pressure (for SFC)**<br>1.7-µL volume, 6-mm cell path length, 400 bar (5802 psi) pressure maximum<br>**Preparative 3 mm**<br>3-mm cell path length, 120 bar (1740 psi) pressure maximum<br>**Preparative 3 mm**<br>0.3-mm cell path lenght, 20 bar (291 psi) pressure maximum, quartz<br>**Preparative 0.06 mm**<br>0.06-mm cell path length, 20 bar (291 psi) pressure maximum, quartz |
| **Time programmable** | Wavelength, polarity, peak width, lamp bandwidth, autobalance, wavelength range, threshold, spectra storage mode. |
| **Analog output** | Recorder/integrator: 100 mV or 1 V, 2 outputs. |
| **Communications** | LAN, Controller-area network (CAN), RS-232C, APG Remote: ready, Start, stop and shut-down signals. |
| **GLP features** | Data recovery card to prevent data losses. RFID for electronics records of flow cell and UV lamp conditions (path length, volume, product number, serial number, test passed, usage)<br>Early maintenance feedback (EMF) for continuous tracking of instrument usage in terms of lamp burn time with user settable limits and feedback messages. Electronic records of maintenance and errors. Verification of wavelength accuracy with built-in holmium oxide filter. |
| **Safety and maintenance** | Extensive diagnostics, error detection and display through Agilent Instant Pilot and Agilent Lab Advisor software. Leak detection, safe leak handling, and leak output signal for shutdown of pumping system. Low voltages in major maintenance areas. |
| **Others** | Electronic temperature control (ETC) for the complete optical unit. |

| Specifications: 1260 Infinity Multiple Wavelength Detector VL (G1365D) | |
|---|---|
| **Detector type** | 1024-element diode array |
| **Light source** | Deuterium and tungsten |
| **Number of signals** | 8 |
| **Maximum sampling rate** | 20 Hz |
| **Short-term noise** | < ± 0.7 x $10^{-5}$ AU at 254/4 nm and at 750 nm, TC 2 sec. |
| **Drift** | < 0.9 x $10^{-3}$ AU/hr at 254 nm |
| **Linearity** | > 2.0 AU (5 %) at 265 nm |
| **Wavelength range** | 190-950 nm |
| **Wavelength accuracy** | ± 1 nm, self-calibration with deuterium lines verification with holmium oxide filter. |
| **Slit width** | Programmable: 1, 2, 4, 8, 16 nm |
| **Diode width** | < 1 nm |
| **Wavelength bunching** | Programmable, a - 400 nm, in steps of 1 nm |
| **Flow cells** | **Standard**<br>13-µL volume, 10 mm-cell path length, 120 bar (1740 psi) pressure maximum<br>**Semi-micro**<br>5-µL volume, 6-mm cell path length, 120 bar (1740 psi) pressure maximum<br>**Micro**<br>2-µL, volume, 3-mm cell path length, 120 bar (1740 psi) pressure maximum<br>**Semi-nano**<br>500-nanoliter volume, 10-mm cell path length, 50 bar (725 psi) pressure maximum<br>**Nano**<br>80-nanoliter volume, 6-mm cell path length, 50 bar (725 psi) pressure maximum<br>**High Pressure (for SFC)**<br>1.7-µL volume, 6-mm cell path length, 400 bar (5802 psi) pressure maximum<br>**Preparative 3 mm**<br>3-mm cell path length, 120 bar (1740 psi) pressure maximum<br>**Preparative 3 mm**<br>0.3-mm cell path lenght, 20 bar (291 psi) pressure maximum, quartz<br>**Preparative 0.06 mm**<br>0.06-mm cell path length, 20 bar (291 psi) pressure maximum, quartz |
| **Time programmable** | Wavelength, polarity, peak width, lamp bandwidth, autobalance, wavelength range, threshold, spectra storage mode. |
| **Analog output** | Recorder/integrator: 100 mV or 1 V, 2 outputs |
| **Communications** | LAN, Controller-area network (CAN), RS-232C, APG Remote: ready start, stop and shut-down signals, |
| **GLP features** | RFID for electronics records of flow cell and UV lamp conditions (path length, volume, product number, serial number, test passed, usage)<br>Early maintenance feedback (EMF) for continuous tracking of instrument usage in terms of lamp burn time with user settable limits and feedback messages. Electronic records of maintenance and errors. Verification of wavelength accuracy with built-in holmium oxide filter. |
| **Safety and maintenance** | Extensive diagnostics, error detection and display through Agilent Instant Pilot and Agilent Lab Advisor software. Leak detection, safe leak handling, leak output signal for shutdown of pumping system. Low voltages in major maintenance areas. |
| **Others** | Electronic temperature control (ETC) for the complete optical unit. |

## Orderig Details – Agilent 1260 Infinity Multiple Wavelength Detector

| Description | Product Number |
|---|---|
| **Agilent 1260 Infinity Multiple Wavelength Detector**<br>Includes CAN cable and LAN interface with cable. Must order one flow cell. | G1365C |
| **Micro flow cell**<br>2 µL volume, 3 mm path length, 120 bar pressure limit. | #010 |
| **Nano flow cell**<br>80 nLvolume, 6 mm path length, 50 bar pressure limit. | #012 |
| **Semi-nano flow cell**<br>500 nL volume, 10 mm path length, 50 bar pressure limit. | #014 |
| **Semi-micro flow cell**<br>5 µL volume, 6 mm path length, 120 bar pressure limit. | #016 |
| **Standard flow cell**<br>13 µL volume, 10 mm path length, 120 bar pressure limit. | #018 |
| **Micro, high-pressure flow cell (for SFC)**<br>1.7 µL volume, 6-mm path length, 400 bar pressure limit. | #020 |
| **Preparative flow cell 3 mm**<br>4 µL volume, 3 mm path length, 120 bar pressure limit. | #022 |
| **Preparative flow cell 0.3 mm**<br>0,3 mm path length, 20 bar, pressure limit. | #024 |
| **Preparative flow cell 0.06 mm**<br>0,06 mm path length, 20 bar, pressure limit. | #026 |

**www.agilent.com/chem/1200**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