



Thermo Scientific Vanquish—Diode Array Detector FG

Separate your productivity from the status quo

Vanquish platform benefits

- Unsurpassed retention time and peak area precision
- High detector sensitivity and low baseline noise
- Less maintenance and easy set-up with Thermo Scientific™ Viper™ fingertight fittings
- Dedicated solutions for exceptional LC-MS performance

Keywords

Vanquish Horizon, Vanquish Flex, Vanquish Duo, UHPLC, HPLC, Diode Array Detection, UV VIS Detection, Linearity, Limit of Detection, Robustness

Experience uncompromised UHPLC—with no trade-offs in performance, robustness or ease-of-use. Operators of the Vanquish system have all they need to solve their toughest analytical challenges with confidence.

Flexibility and performance to rely on

The Thermo Scientific™ Vanquish™ Diode Array Detector FG is designed for the highest reliability and flexibility with a wide portfolio of flow cells to match your application needs. The Diode Array Detector FG offers excellent linearity and optimized noise performance to support a wide dynamic range and low limit of detection.

Advantages of Vanquish Diode Array Detector FG

- Versatile and ultrafast separations with a spectral range of 190–800 nm, data acquisition up to 250 Hz, 10 absorption channels and one 3D field
- Detect trace analytes next to main compounds with a large linearity range of typically 2.7 AU and very low baseline noise of less than $\pm 6 \mu\text{AU}$
- Dispersion-optimized, robust flow cells make the Diode Array Detector FG suited for any setup including LC-MS applications and other hyphenated techniques

Specifications

Specification	Value
Optical Design	Single-beam, reverse-optics design with concave holographic grating, achromatic optics, 1024 element photodiode array
Maximum Data Collection Rate	250 Hz (including 3D acquisition) (under Thermo Scientific™ Chromeleon™ CDS 7.2.8 control or higher)
Wavelength Range	190–800 nm
Noise	<±6 µAU at 254 nm (standard flow cell, bandwidth: 4 nm, slit width: wide, time constant: 2 s)
Drift	<1 mAU/hour at 254 nm
Linearity	<5% at 2.2 AU (typically <5% at 2.7 AU)
Slit Width	Settable: Wide, narrow
Spectral Bandwidth	Pixel resolution: 0.6 nm (average)
Light Source	Deuterium lamp, tungsten lamp
Number of Signal Channels	10 + 3D field
Flow Cells	5 options, see ordering information for details
Flow Cell Pressure Limit	<ul style="list-style-type: none"> Standard biocompatible: 5 MPa (50 bar, 720 psi) Other flow cells: 12 MPa (120 bar, 1740 psi)
Wavelength Accuracy	±1 nm
Wavelength Repeatability	±0.1 nm
Wavelength Calibration	Internal calibration with D-alpha line of the deuterium lamp
Wavelength Validation	Internal validation with holmium oxide filter
Wetted Parts	<ul style="list-style-type: none"> Standard, semi-analytical and semi-micro flow cell: SST, fused silica, PTFE, PEEK, titanium Standard biocompatible: Fused silica, PEEK Semi-micro biocompatible: MP35N, titanium, fused silica, PTFE, PEEK
PC Connection	USB 2.0; 3-port HUB to connect additional Vanquish modules
Safety Features	<ul style="list-style-type: none"> Power-up diagnostics of optics, cooling fans, motors and electronics Leak detection and safe leak handling
GLP	Predictive performance functions for scheduling maintenance procedures based on the actual operating and usage conditions of the detector: lamp age and ignitions (UV lamp and VIS lamp), lamp intensity degradation (UV lamp and VIS lamp), leak detection, service monitoring period. All system parameters logged in the Chromeleon CDS Audit Trail.
Environmental Conditions	Operation: 5–35 °C, 20–80% RH (non condensing), max. 2000 m above sea-level Storage: -20–45 °C, max. 60% RH (non condensing)
Power Requirements	100–240 VAC, 50/60 Hz, max. 245 W/255 VA
Dimensions (h × w × d)	160 × 420 × 620 mm (6.3 × 16.5 × 24.4 in.)
Weight	16.3 kg (35.9 lbs.)

Ordering information

Description	Part Number
Vanquish Diode Array Detector FG	VF-D11-A
Flow cell, standard, path length 10 mm (13 µL, SST)	6083.0510
Flow cell, semi-analytical, path length 7 mm (5 µL, SST)	6083.0520
Flow cell, semi-micro, path length 7 mm (2.5 µL, SST)	6083.0530
Flow cell, standard, biocompatible, path length 10 mm (13 µL, PEEK)	6083.0540
Flow cell, semi-micro, biocompatible, path length 7 mm (2.5 µL, titanium)	6083.0550
Diagnostic cell	6083.0570
Manual inject and flush kit for flow cells	6078.4200
DAC extension board	6083.0900

Find out more at thermofisher.com/VanquishDuo

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