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PRODUCT SPECIFICATIONS

Thermo Scientific Vanquish—Dual Pump F

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 Flex, Vanquish Duo, UHPLC, HPLC, Dual LC, Tandem LC, Inverse Gradient, Ternary Solvent Blending

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.

Dual solvent delivery for increased productivity and return on investment

The biocompatible Thermo Scientific™ Vanquish™ Dual Pump F uniquely provides two independent ternary-solvent blending flow streams in one housing, giving you application flexibility with the Thermo Scientific™ Vanquish™ Duo UHPLC systems. For each ternary pump, our SmartFlow™ pumping technology with automatic compensation for changing eluent compressibility, ensures excellent flow and gradient precision, independent of eluent composition and backpressures up to 1000 bar (15,000 psi). This gives you unrivaled retention time precision and the highest data confidence for more freedom in method development and application switching.

- Double your application flexibility with unique dual-ternary solvent blending for your Vanquish Duo UHPLC system
- Excellent flow accuracy and precision from ultra-precise piston drives
- Built-in solvent degassing for enhanced flow stability and increased detector sensitivity
- Outstanding durability for improved system up-time and lower total cost of ownership
- Free up valuable bench space by having two pumps in the same housing

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Specifications

Specification	Value
Number of Pump Units	2
Operating Principle	Serial dual-piston pumps
Flow Range (settable)	0.001–8 mL/min, in 1 µL/min increments
Pressure Range	2–103 MPa, 20–1034 bar, 290–15000 psi; with a flow rate above 5 mL/min, the pressure range decreases linearly down to 80 MPa (800 bar, 11600 psi)
Compressibility Compensation	Fully automated, independent of the composition of the mobile phase
Flow Accuracy	±0.1%
Flow Precision	<0.05% RSD or <0.01 min SD, whichever is greater
Pulsation	Typically <1.0% or <0.2 MPa, whichever is greater
Gradient Formation	Low-pressure gradient proportioning
Proportioning Accuracy	±0.5% of full-scale*
Proportioning Precision	<0.15% SD
Number of Solvent Lines	2 × 3
Mixer Volume	400 µL (50 µL proprietary capillary mixer and 350 µL static mixer, default configuration)
Dwell Volume	679 µL (default configuration)
Solvent Degassing	Built-in, 6 Channels
GLP	Predictive performance functions for scheduling maintenance procedures based on the actual operating and usage conditions of the pump. All system parameters logged in the Thermo Scientific™ Chromeleon™ CDS Audit Trail.
PC Connection	USB 2.0 3-port-HUB to connect additional Vanquish modules
I/O Interfaces	2 × 6 pin Mini-DIN connectors each having functionality: 1 input, 1 relay out, 1 bidirectional input/output
Safety Features	Leak detection and safe leak handling, excess pressure monitoring
Wetted Parts (analytical flow path)	MP35N, titanium, ceramics, sapphire, PEEK, UHMW PE, fluoropolymers
Biocompatible	Yes; pH range 2–12, chloride concentration up to 1 mol/L
Power Requirements	100–240 VAC, 50/60 Hz, max. 245 W/255 VA
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)
Dimensions (h × w × d)	192 × 420 × 620 mm (7.6 × 16.5 × 24.4 in.)
Weight	20 kg (44 lbs.)

* ±1.0% (of full-scale) for other combinations than AB

Ordering information

Description	Part Number
Vanquish Dual Pump F	VF-P32-A-01
Static mixer, volume: 150 µL (for total volume of mixing system: 200 µL**)	6044.5110
Static mixer, volume: 350 µL (for total volume of mixing system: 400 µL**)	6044.5310
Static mixer, volume: 750 µL (for total volume of mixing system: 800 µL**)	6044.5750A
Static mixer, volume: 1500 µL (for total volume of mixing system: 1550 µL**)	6044.5450A
Capillary mixer, volume 50 µL (for use with static mixers, volumes: 150 µL up to 1500 µL)	6044.5026
Set Inline filter, 35 µL, VF-P1, including: Inline filter: 10 µL, capillary mixer, volume: 25 µL	6044.3870
Mixing system, volume: 100 µL, including: Static mixer, volume: 75 µL, capillary mixer, volume: 25 µL	6044.5100

** Static mixers for use with 50 µL capillary mixer

Find out more at **thermofisher.com/VanquishDuo**

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