

Thermo Scientific Vanquish Binary Pump F

Better separations, more results, easier interaction

The Thermo Scientific™ Vanquish™ UHPLC platform is designed to offer:

Better separations from advanced thermostating, optimized volumes and more sensitivity.

More results with throughput, speed and sample capacity to boost workflow productivity.

Easier interaction through intuitive operation and automated features.

The Thermo Scientific™ Vanquish™ Flex systems are designed as integrated UHPLC systems, where the Thermo Scientific™ Vanquish™ Binary Pump F drives the separation with more speed and resolution.



Vanquish Binary Pump F

Solvent Delivery for Highest Confidence in Peak Identification and Quantification

The biocompatible Vanquish Binary Pump F extends the capabilities of the Vanquish Flex systems by adding the power you need for high-throughput capabilities in LC-MS and LC applications.

Our Thermo Scientific™ SmartFlow™ pumping technology with automatic compensation for changing eluent compressibility ensures excellent flow and gradient precision, even working with back pressures up to 103 MPa—providing unrivaled retention time precision and high data confidence. The unique choice of 2 solvents out of 6 gives you the option to automatically select between multiple diverse separation methods.

- Get more analytical speed and reliable retention times for targeted quantitation in LC-MS to fast quantitation in UHPLC
- Take advantage of industry-leading 2 × 3 solvent channels for maximized method flexibility
- Have confidence in your results with excellent flow accuracy and precision by ultra-precise piston drives
- Benefit from outstanding durability for highest system up-time and low total cost of ownership
- Eliminate tedious fluidic setup and go tool-free with the innovative Thermo Scientific™ Viper™ finger tight fittings

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Vanquish Binary Pump F Specifications

Flow Range (Settable)	0.001–8 mL/min, in 1 µL/min increments
Pressure Range	2–103 MPa (20–1034 bar, 290–15,000 psi) With a flow rate above 5 mL/min, the pressure range decreases linearly down to 80 MPa (800 bar, 11,600 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	High-pressure gradient proportioning
Proportioning Accuracy	±0.2% of full-scale
Proportioning Precision	< 0.15% SD
Number of Solvent Lines	6
Mixer Volume	200 µL (50 µL proprietary capillary mixer and 150 µL static mixer, default configuration)
Dwell Volume	200 µL (default configuration)
Solvent Degassing	Built-in, 2 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™ Dionex™ Chromeleon™ Data System audit trail
PC Connection	USB 2.0, 3-port-HUB to connect further 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 V AC, 50/60 Hz, max. 245 W/255 VA
Environmental Conditions	5 °C–35 °C, 20% RH–80% RH (non-condensing)
Dimensions (h x w x d)	192 mm × 420 mm × 620 mm (7.6 in. × 16.5 in. × 24.4 in.)
Weight	20 kg (44.1 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
Vanquish Binary Pump F	VF-P10-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**)	6044.5750
Static mixer, volume: 1500 µL (for total volume of mixing system: 1550 µL**)	6044.5450
Capillary mixer, volume 50 µL (for use with static mixers, volumes: 150 µL up to 1500 µL)	6044.5026
Set inline filters, 35 µL, VF-P1 (includes 25 µL capillary mixer and 10 µL inline filter)	6044.3870
Mixing system, volume: 100 µL (includes 25 µL capillary mixer and 75 µL static mixer)	6044.5100
Capillary to connect the pump to the autosampler, for use with the 35 µL inline filter set and 100 µL mixing system	6042.2330

** Static mixers for use with 50 µL capillary mixer

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