

Thermo Scientific Vanquish – Binary Pump H

Better separations, more results, easier interaction

Thermo Scientific™ Vanquish™ UHPLC system is designed to offer:

- **Better separations** with the power of the system to unveil more compounds than ever before
- **More results** with throughput, speed and sample capacity to boost workflow productivity
- **Easier interaction** to make the system a joy to work with

The Vanquish UHPLC system is designed as an integrated UHPLC system, where the pump drives the separation with more power.

Vanquish Binary Pump



Solvent Delivery for Highest Confidence in Peak Identification and Quantification

The Vanquish Binary Pump H was developed to offer more pressure capabilities than ever before, without any tradeoff on durability and robustness. From ultra-fast to extremely shallow gradients at pressures up to 150 MPa, the industry-leading fourth generation SmartFlow™ pumping technology of the Vanquish system always provides you with unmatched retention time reproducibility and the lowest baseline noise for the highest detection sensitivity.

- Profit from the best harmonization of pumping control and smart fluidics for lowest gradient delays and exceptional gradient profile formation
- Rely on unmatched flow accuracy and precision by nanometer piston motion control
- Enjoy lowest pulsation up to 150 MPa by the Adaptive Thermal Effect Compensation
- Achieve maximum seal and piston lifetime by optimized stroke volume and DLC-coated pistons
- Set up your fluidics all tool-free with Thermo Scientific™ Viper™ fingertight fitting technology

PRODUCT SPECIFICATIONS

Specification	Value
Operating Principle	Parallel dual piston with independent piston drives and variable stroke volume
Flow Range	0.001–5 mL/min, in 1 µL/min increments
Pressure Range	5–151 MPa, (50–1517 bar, 700–22,000 psi)
Compressibility Compensation	Fully automated, independent of mobile phase composition
Flow Accuracy	±0.1%
Flow Precision	<0.05% RSD or <0.01 min SD, whichever is greater
Pulsation	<0.4% or <0.2 MPa, whichever is greater; Typically <0.2% or <0.05 MPa, whichever is greater
Gradient Formation	High-pressure gradient proportioning
Proportioning Accuracy	±0.2% of full-scale (from 0.2 to 4.0 mL/min and 1 to 99%)
Proportioning Precision	<0.15% SD (from 0.2 to 4.0 mL/min and 1% to 99%)
Number of Solvent Lines	2 out of 6
Mixer Volume	25 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™ Dionex™ Chromeleon™ Chromatography 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	MP35N, DLC, titanium, zirconium oxide (ZrO ₂), sapphire, aluminium oxide (Al ₂ O ₃), PEEK, PTFE, ECTFE, FEP, UHMW polyethylene, perfluoro-elastomer, amorphous fluoropolymer (AF)
Biocompatible	Yes, pH range 2–12, buffer and/or chloride concentration up to 1 mol/L
Power Requirements	100–240 V AC, 50/60 Hz, max. 525 W/550 VA
Environmental Conditions	5–35 °C 20–80% RH (non condensing)
Dimensions (h × w × d)	192 mm × 420 mm × 620 mm (7.6 × 16.5 × 24.4 in.)
Weight	32 kg (70.5 lbs)

ORDERING INFORMATION

Description	Part Number
Vanquish Binary Pump H	VH-P10-A
Optional Mixer for TFA Applications	6268.5120

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.

www.thermoscientific.com/chromatography

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