

HPLC & UHPLC

Vanquish Fraction Collector

The new standard in analytical fraction collection for flexible and precise purification

Benefits

- **Superior user experience** with full fraction collector integration into the Thermo Scientific™ Vanquish™ LC platform and Thermo Scientific™ Chromeleon™ Chromatography Data System
- **Wide application flexibility** by supporting a broad analytical flow range and wide variety of sample containers and fractionation triggers, for normal-phase (NP) and reversed-phase (RP) applications
- **Compelling fraction purity performance** using innovative valve technology for enhanced resolution, product recovery, and minimized carry-over
- **Preserved sample integrity** through automated vial rack and well plate recognition, precise fractionation movement, and enclosed storage under temperature and light controlled conditions
- **Optimal system setup** with Thermo Scientific™ Viper Fingertight fitting systems, automated delay volume determination, and intuitive instrument method wizards

Pinpoint purification by fractionation with precision

The integrated Thermo Scientific™ Vanquish™ Fraction Collector sets a new standard in precise purification of your most precious samples. The fraction collector can be used with any analytical Thermo Scientific™ Vanquish HPLC or UHPLC System as well as with all Thermo Scientific™ Vanquish LC detectors including mass spectrometers, all of which can be controlled by the Thermo Scientific™ Chromeleon™ Chromatography Data System (CDS). The fraction collector combines maximum application versatility with powerful fractionation options to preserve the LC separation within your purification processes.

- Choose between different collection modes and extensive wash, rinse and flush procedures. Maximize recovery rates of the purest fractions with precise timing of fractionation steps, while preserving the compound resolution by low dispersion fluidics.



- Collect your fractions into a wide variety of collection vessels at flow rates from 50 $\mu\text{L}/\text{min}$ up to 10 mL/min . Customizable collection needle height provides the flexibility to fine tune the exact positioning from fill-from-the-bottom to sub-mm above the vial approaches. Innovative air stream cooling and efficient insulation preserves fraction integrity, even in challenging environments.
- Use automation functions like automated delay volume determination and integrated barcode reading for fail-safe vessel rack recognition, to simplify set up procedures, optimize your system and save time. These advanced features enable smooth integration into any laboratory workflow and allow you to focus on the next step.
- Take advantage of Viper Fingertight Fitting systems and innovative fraction valve technology paired with the intelligence of Chromeleon CDS robust operation and maximum productivity.

Specifications

Vanquish Fraction Collector specifications	
Sample capacity	Any four of the following sample racks or well plates with SBS footprint format: • 54 × 12 mm O.D. vials (≤1.5 mL) • 96 × 6, 7 and 8 mm O.D. vials (≤1.2 mL) • 16 × 15 mm O.D. vials (≤4 mL) • 9 × 22.5 mm O.D. vials (≤10 mL) • 96- and 384-position well plates (deep and shallow)
Collection modes	• Triggered by peak signals or time frames • (Saw)vertical, (saw)horizontal • Interrupt and continuous collection modes • Collect above or inside vessel • Manual collection, pooling, wrapping and concatenating
Delay volume	<19 µL with contribution by • Fraction collector inlet to fraction valve port: <2.7 µL (default, time-based fractionation, single stack configuration) • Fraction valve: <0.5 µL • Fraction valve to needle: <10.7 µL (default) • Needle: <5 µL
Fraction valve	• Low internal volume: <0.5 µL • Fast switching time ~30 ms • Maximum operating pressure: 138 bar (2000 psi)
Min. collection volume	One droplet collection volume: ≥6 µL (water)
Needle move time	Typically 0.08 s to 1.3 s depending on rack configuration and fractionation mode
Operating flow rate	0.05–10 mL/min
Carryover	<0.15% with flush enabled
Temperature range	4–40 °C, cooling ≥23 K below ambient at <80% relative humidity
Temperature accuracy	-2 °C/+4 °C
Temperature stability	± 1 °C
Delay volume determination	Automated with air bubble injection
Detectors supporting automated delay volume determination	One of following detectors: • Thermo Scientific™ Vanquish™ Variable Wavelength detectors (VC-D40-A, VF-D40-A) • Thermo Scientific™ Vanquish™ Diode Array detectors (VH-D10-A, VF-D11-A, VC-D11-A) • Thermo Scientific™ Vanquish™ Multiple Wavelength detector (VC-D12-A) Note: More information about supported flow cells can be found in the Operating Manual, chapter 9.1
Automation features	Barcode reading: • Empty segment detection • Rack/well plate verification • Inventory management Fraction simulation to model and optimize peak detection options in Chromeleon CDS using chromatogram data.
PC connection	1 USB port (USB 2.0, “B” type connector) 1 USB hub with 3 ports (USB 2.0, “A” type connectors)
System interlink	2 system interlink connectors (RJ45-8 connectors)
Safety features	Leak detection and safe leak handling

Specifications *(continued)*

Vanquish Integral Fraction Collector FT specifications <i>(continued)</i>	
Control	- Basic control for Chromeleon™ 7.2 SR5 MUI and Chromeleon™ 7.2.10 MUd - All functions control for Thermo Scientific™ Chromeleon™ 7.3.1 CDS and later - All functions control including Chromeleon AutoQ procedures for Thermo Scientific™ Chromeleon™ 7.3.2 CDS and later - Keypad buttons: Mute Alarm, Light, Service, Valve, Wash, Rotate - Status Indicators: LED bar, Status LED
GLP	All system parameters are logged in the Chromeleon Audit Trail
Biocompatible	Yes, pH range 2–12, chloride concentration up to 1 mol/L
Normal phase compatible	Yes, with hardware modification by 6706.0400 Normal-Phase (NP) kit for Vanquish Fraction Collector
Wetted parts	Sample flow path: MP35N, PAEK, PAEK/PTFE composite, PEEK Flush flow path: FEP, PEEK, ceramics, FFKM Wash liquid flow path: Silicone (RP)/Flexelene™ PE (NP), , PP, FFPM, PEEK, PA Waste flow: PP, PEEK, FEP, TPE
Environmental conditions	Operating: 5 to 35 °C, 20% to 80% RH (non-condensing) max. altitude 2000 m (6562 ft) above sea-level Storage: -20 to 45 °C max. 60% RH (non-condensing)
Power requirements	100–240 VAC, ± 10%, 50/60 Hz, max. 525 W/550 VA
Dimensions (h × w × d)	230 × 420 × 620 mm (9.1 × 16.5 × 24.4 in)
Weight	23 kg (53.7 lbs)

Ordering information

Description	Part number
Integral Fraction Collector FT	VF-F20-A-01
Accessories	
Sample rack, 9 pos, 22.5 mm OD vials	6851.1020
Sample rack, 16 pos, 15 mm OD vials	6851.1030
Sample rack, 54 pos, 12 mm OD vials (Included per default)	6850.1023
Sample rack, 96 pos, 6 mm OD vials	6850.1026
Sample rack, 96 pos, 7 mm OD vials	6850.1030
Sample rack, 96 pos, 8 mm OD vials	6850.1034
Delay volume determination capillary, 0.13 × 850 mm, SST (Included per default)	6040.2330
Normal-Phase (NP) kit for Vanquish Fraction Collector	6706.0400

Ordering information *(continued)*

Description	Flow rate [mL/min]					Part number
	Up to 0.5	0.5–1	1–2	2–5	5–10	
Delay capillary for time-based fractionation, 0.1 × 350 mm, MP35N, Viper*						6042.2340
Delay capillary for time-based fractionation, 0.18 × 350 mm, MP35N, Viper*						6042.2337
Delay capillary for peak-based fractionation, 0.18 × 1200 mm, MP35N, Viper						6706.1100
Delay capillary for peak-based fractionation, 0.25 × 1500 mm, MP35N, Viper						6706.1110
Delay capillary for peak-based fractionation, 0.5 × 800 mm, PEEK, Viper						6706.1120
Delay capillary for peak-based fractionation, 1 × 1000 mm, PEEK						6706.1130
Needle capillary, 0.18 × 415 mm, PEEK-shielded MP35N, Viper*						6706.1010
Needle capillary, 0.25 × 415 mm, PEEK-shielded MP35N, Viper						6706.1020
Flush buffer loop, 50 µL, PEEK, Viper*						6706.1070
Flush buffer loop, 100 µL, PEEK, Viper						6706.1080
Column to flow cell inlet capillary in two stacks configuration, 0.1 × 550 mm, MP35N, Viper*						6042.2360
Column to flow cell inlet capillary in two stacks configuration, 0.18 × 550 mm, MP35N, Viper*						6042.2355
Optional accessories						
Overpressure Relief Valve (60 bar) for the Vanquish DAD H installation with Vanquish Fraction Collector						6083.9260
Overpressure Relief Valve (40 bar) for Vanquish Fluorescence Detector C, F installation with Vanquish Fraction Collector						6079.9240

*included by default in module ship kit

 Learn more at thermofisher.com/LCpurification

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