HPLC & UHPLC

Vanquish Split Samplers

LC that takes your productivity to new heights

Vanquish platform benefits

- Precision and reproducibility to meet every application demand
- Widest portfolio of detection technologies
- 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 Core, Vanquish Duo, sampler, split loop, liquid handling, Dual LC

Sample injection for highest productivity and fastest return on investment

Thermo Scientific™ Vanquish™ HPLC and UHPLC System Split Samplers perfectly combine maximum injection precision by SmartInject technology with very high sample capacity. All fluidics are consequently optimized for the highest ruggedness and uptime, even under the toughest system pressure and eluent conditions. The innovative air stream cooling provides maximum sample integrity, even in challenging environments. The customizable gradient delay volume allows for incredibly easy method transfer. Tedious sample configuration is eliminated through automated barcode reading. Throughput and application flexibility can be doubled with two independent injections units using a Thermo Scientific™ Vanquish™ Duo UHPLC System for Dual LC.

- Thermo Scientific™ Vanquish™ Horizon (150 MPa) and Flex (100 MPa) UHPLC Systems—Split samplers for highest injection precision with small injection volume without any tradeoff on durability and robustness, biocompatible
- Thermo Scientific™ Vanquish™ Core HPLC System—Split samplers for highest injection precision for standard, routine and highly productive HPLC applications with widest gradient delay volume adjustment capabilities for easiest method transfer

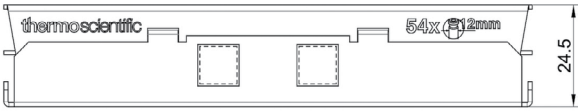
Specifications

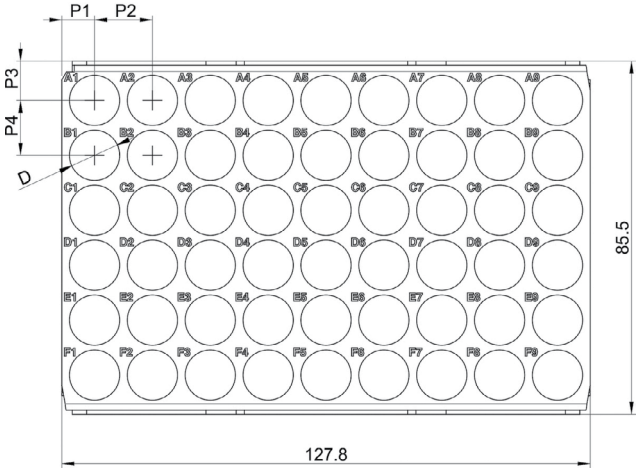
	Split Sampler HT	Dual Split Sampler HT	Split Sampler FT	Dual Split Sampler FT	Split Sampler CT	Split Sampler C
Injection units	1	2	1	2	1	1
Operating principle	Split loop injection					
Pressure range	5–151 MPa (50–1517 bar, 700–22,000 psi)		2–103 MPa (20–1034 bar, 290–15,000 psi)		2–70 MPa, (20–700 bar, 290–10, 100 psi)	
Injection volume range	Default: 0.01–25 µL, min. step = 0.01 µL Optional: 0.01–100 µL min. step = 0.01 µL, up to 250 µL or up to 1000 µL with Multidraw option, min. step = 0.01 µL				Default: 0.01–100 µL, min. step = 0.01 µL Optional: 0.01–250 µL, up to 1000 µL with Multidraw option, min. step = 0.01 µL	
Injection volume accuracy	Typically ±0.5% for 10 µL water				Typically ±0.5% at 50 µL and ±1% at 10 µL water	
Injection volume precision	<0.25% area RSD for 1 µL (caffeine in water) Typically <0.5% area RSD for 0.5 µL (caffeine in water)				<0.25% area RSD for 3 µL (caffeine in water) Typically <0.5% area RSD for 1 µL (caffeine in water)	
Injection linearity	r > 0.99999 (caffeine in water)					
Injection cycle time	Down to 8 s depending on separation conditions					
Minimum sample required	2 µL at 1 µL injection volume					
Carry over (UV)	<0.002% with caffeine (typically: <0.0004%)					
Needle wash (external)	1 solvent per injection unit, dip rinse and continuous rinse					
Sample compartment temperature range	4–40 °C (≥23 K below ambient at <80% RH)					–
Sample temperature accuracy	-2 °C/+4 °C					–
Sample temperature stability	±1 °C					–
Dwell volume (contribution of the autosampler to the system gradient delay volume)	110 µL with 25 µL sample loop (default configuration); 83 µL with sample loop of 10 µL				255 µL with 100 µL sample loop (default configuration); 124 µL with sample loop of 10 µL	
Method Transfer capability	Sampler freely tunable contribution to system gradient delay volume between inject volume to 100 µL				Sampler freely tunable contribution to system gradient delay volume between 0 to 230 µL	
Sample capacity	Any four of the following (SBS footprint): • 54 × 12 mm OD vials (≤1.5 mL) • 96 × 6, 7, and 8 mm OD vials (≤1.2 mL) • 16 × 15 mm OD vials (≤4 mL) • 9 × 22.5 mm OD vials (≤10 mL) • Well plates (96 and 384, deep and shallow) + capacity of 12 × 22.5 mm OD vials (≤10 mL) in the carousel					
Automation features barcode reading	Barcode reading: • Empty segment detection • Rack/well plate verification • Inventory management					
Liquid handling programming	Yes	–	Yes	–	Yes	Yes
GLP	Predictive performance functions for scheduling maintenance procedures based on the actual operating and usage conditions of the sampler. All system parameters logged in the Thermo Scientific™ Chromeleon™ Chromatography Data System (CDS) 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					
Safety features	Leak detection and safe leak handling					

Specifications *(continued)*

	Split Sampler HT	Dual Split Sampler HT	Split Sampler FT	Dual Split Sampler FT	Split Sampler CT	Split Sampler C
Wetted parts	Sample flow path: Titanium, Ceramics, PEEK, MP35N, DLC Eluent flow path: MP35N, Titanium, Sapphire, PEEK, PTFE, Ceramics, DLC Wash liquid flow path: Silicone, PP, FFPM, PEEK, PA				Sample flow path: SST, Titanium, Ceramics, DLC, PEEK, PE-UHM Eluent flow path: SST, Titanium, Sapphire, PEEK, PE-UHMW, Ceramics, DLC Wash liquid flow path: Silicone, PP, PE, FFPM, FFKM, PEEK, PA, PK, TPE	
Biocompatible	Yes; pH range 2–12, chloride concentration up to 1 mol/L				No; pH range 1–13, chloride concentration up to 0.1 mol/L	
Normal-Phase compatible	No				Yes, with hardware modification by 6036.3972 Normal-Phase (NP) kit VC System	
Power requirements	100–240 V AC, ± 10%; 50/60 Hz; max. 525 W/550 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)	290 × 420 × 620 mm (11.4 × 16.5 × 24.4 in.)					
Weight	25 kg (55.1 lb)	29 kg (63.9 lbs.)	25 kg (55.1 lb)	29 kg (63.9 lbs.)	24 kg 52.9 lbs.)	22 kg (48.5 lbs.)

Vanquish rack dimensions





Specifications

	6851.1020	6851.1030	6850.1023	6850.1034	6850.1030	6850.1026
Number of positions	9	16	54	96		
Rack width	127.8 mm					
Rack depth	85.5 mm					
Rack height	24.5 mm					
P1	36.9 mm	36.9 mm	7.9 mm	6.15 mm	6.15 mm	6.15 mm
P2	27 mm	18 mm	14 mm	10.5 mm	10.5 mm	10.5 mm
P3	15.75 mm	15.75 mm	9.5 mm	6.75 mm	6.75 mm	6.75 mm
P4	27 mm	18 mm	13.3 mm	10 mm	10 mm	10 mm
ØD	23 mm	15.3 mm	12.15 mm	8.5 mm	7.5 mm	6 mm
Supported vial OD	22.5 mm	15 mm	12 mm	8 mm	7 mm	6 mm
Supported vial height	46.5 mm	47.5 mm	34.5 mm	41.5 mm	41.5 mm	33 mm

Ordering information

Description	Part number
Split Sampler HT	VH-A10-A-02
Dual Split Sampler HT	VH-A40-A-02
Split Sampler FT	VF-A10-A-02
Dual Split Sampler FT	VF-A40-A-02
Split Sampler CT	VC-A12-A-02
Split Sampler C	VC-A13-A-02

Accessories	Part number	Split Sampler HT/FT	Dual Split Sampler HT/FT	Split Sampler CT/C
Sample loop, 10 µL, MP35N, left	6850.1915	x	x	
Sample loop, 10 µL, MP35N, right	6850.1919		x	
Sample loop, 25 µL, MP35N, left (default)	6850.1911	x	x	
Sample loop, 25 µL, MP35N, right (default)	6850.1917		x	
Sample loop, 100 µL, MP35N, left	6850.1913	x	x	
Sample loop, 100 µL, MP35N, right	6850.1918		x	
Sample loop, 250 µL, MP35N, left	6850.1970	x	x	
Sample loop, 250 µL, MP35N, right	6850.1975		x	
Sample loop, 1,000 µL, MP35N, left	6850.1980	x	x	
Sample loop, 1,000 µL, MP35N, right	6850.1985		x	
Sample loop, 10 µL, SST	6851.1960			x
Sample loop, 25 µL, SST	6851.1940			x
Sample loop, 100 µL, SST (default)	6851.1950			x
Sample loop, 250 µL, SST	6851.1970			x
Sample loop, 1000 µL, SST	6851.1980			x
Sample rack, 9 pos, 22.5 mm OD vials	6851.1020	x	x	x
Sample rack, 16 pos, 15 mm OD vials	6851.1030	x	x	x
Sample rack, 54 pos, 12 mm OD vials	6850.1023	x	x	x
Sample rack, 96 pos, 6 mm OD vials	6850.1026	x	x	x
Sample rack, 96 pos, 7 mm OD vials	6850.1030	x	x	x
Sample rack, 96 pos, 8 mm OD vials	6850.1034	x	x	x
Normal-Phase (NP) kit VC System	6036.3972			x

For more information on Vanquish Split Samplers click **here**

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