

HPLC & UHPLC

Transcend LX UHPLC Systems

Boost LC-MS throughput to a new level

The unique multichannel LC capability of the Thermo Scientific™ Transcend™ LX UHPLC systems increases throughput by up to four times, maximizing mass spectrometer productivity and return on investment. This multichannel LC capability also allows different methods to be run on separate channels simultaneously, reducing cross-contamination and downtime between method-switching. Transcend LX UHPLC systems can be used with any Thermo Scientific™ mass spectrometer and also with other select mass spectrometers.

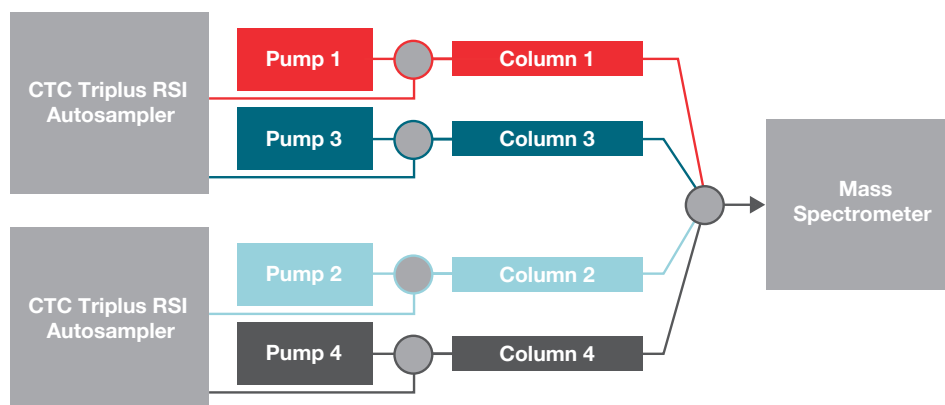
Benefits of multichannel LC technology

- Increases throughput and flexibility
- Decreases cost per sample
- Incorporates the leading precision of Thermo Scientific™ Vanquish™ Flex or Horizon UHPLC pumps

Multichannel LC maximizes the utilization of your mass spectrometer and enhances your lab's return on investment

Use a two- or four-channel LC system in combination with a single mass spectrometer to increase LC-MS throughput, and enable a faster return on investment.

- Reduces mass spectrometer idle time
- Increases sample throughput without changing validated methods



The Transcend LX systems feature either 2 or 4 (shown) completely independent LC channels.

The Thermo Scientific multichannel LC technology provides the throughput of up to four separate, parallel LC systems connected to a single mass spectrometer. With Thermo Scientific™ Aria™ MX software, each channel operates independently, so you can run a single method or multiple methods simultaneously. This critical feature improves MS efficiency, unlike traditional single-channel LC systems whose detectors are typically idle more than 75 percent of the time. Transcend UHPLC systems ensure efficient utilization of your mass spectrometer with dramatically reduced idle time. Save money effortlessly and boost sample throughput, without compromising data quality or sensitivity.



The Thermo Scientific™ Transcend™ VLX-2 UHPLC systems double throughput compared to a single LC system.



Injections are interleaved to maximize throughput and mass spectrometer utilization.



The Thermo Scientific™ Transcend™ LX-4 UHPLC system—maximum throughput enabling four times the throughput of a single LC system.

Specifications

Transcend VLX-2 UHPLC Systems			
Software		Aria MX software 2.6 or later Thermo Scientific™ Xcalibur™ 4.2 software or later Thermo Scientific™ Foundation™ 3.1 SP6 or later (Optional) Thermo Scientific™ TraceFinder™ 4.1 SP4 software or later	
Solvent and additives		LC-MS grade solvents	
Supported reservoir containers		0.25 L to 5 L with maximum height <350 mm	
Pump (HPG)		2 Vanquish Binary Pump F (PN 60500-60307)	2 Vanquish Binary Pump H (PN 60500-60407)
Gradient formation		High-pressure gradient proportioning	
Flow range (Settable)	0.001–8 mL/min, in 1 µL/min increments	0.001–5 mL/min, in 1 µL/min increments	
Maximum pressure	1,035 bar (103 MPa, 15,000 psi)	1,517 bar (151 MPa, 22,000 psi)	
Flow precision	<0.05% RSD or <0.01 min SD, whichever is greater		
Flow accuracy	±0.1%		
Mixer volume	100 µL (25 µL capillary mixer and 75 µL static mixer)	35 µL (25 µL proprietary capillary mixer and 10 µL filter, default configuration)	
Dwell volume	100 µL (default configuration)	35 µL (default configuration)	
Pulsation	<1.0% or <2 bar, whichever is greater	<0.4% or < 2 bar, whichever is greater; Typically <0.2% or <0.05 MPa, whichever is greater	
pH range	2–12 (buffer or chloride concentration up to 1 mol/L)		
Autosampler	Vanquish Dual Split Sampler FT	Vanquish Dual Split Sampler HT	
Maximum pressure	1,034 bar (103 MPa, 15,000 psi)	1,517 bar (151 MPa, 22,000 PSI)	
Carryover	<0.002% with caffeine (typically: <0.0004%)		
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) and capacity of 12 × 22.5 mm OD vials (≤10 mL) in the carousel		
Injection linearity	r²>0.99999 (caffeine in water)		
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 1,000 µL with Multidraw option, min. step = 0.01 µL		
Temperature range	4–40°C		
pH range	2–12		
Injection precision	<0.25% area RSD for 1 µL (caffeine in water), Typically <0.5% area RSD for 0.5 µL (caffeine in water)		
Injection principle	Split loop injection		
Column Temperature	Vanquish Column Compartment H (up to 3)		
	Column Chamber	Pre-heater	Post-column Cooler
Operating principle	Still air and forced air	Active	Passive
Temperature range	5–120°C in 0.1°C increments (18 K below ambient)	40–120°C (5 K above ambient)	40–80°C
Temperature stability	±0.05°C	±0.5°C	±0.5°C
Temperature accuracy	±0.5 °C (up to 80°C)	±2°C	±2°C (up to 80°C)
Column capacity	2 × max. 300 mm w/ pre-heater or guard column, max. ID: 10 mm 2 × max. 250 mm w/ pre-heater and guard column, max. ID: 10 mm		
Valves	2 x 2-position/6-port valves		
Maximum pressure	1517 bar (151 MPa, 22,000 psi)		

Specifications (continued)

Transcend VLX-2 UHPLC Systems			
Column Temperature	Vanquish Column Compartment H (up to 3)		
	Column Chamber	Pre-heater	Post-column Cooler
Operating temperature	5–35°C		
Operating humidity	20–80% RH (non-condensing)		
Sample Extension	Optional Vanquish Charger Module		
Samples	Shelf with 9 levels: Any 9 of the following (SBS footprint): 54 × 12 mm OD vials (≤1.5 mL); 96 × 6, 7 and 8 mm OD vials (≤1.2 mL); 24 × 15 mm OD vials (≤4 mL); Deep well plates (96 and 384); Shelf with 20 levels: Any 20 of the following (SBS footprint): Shallow well plates (96 and 384)		
Plate capacity	9 deep well plates/vial racks or 20 shallow well plates		
Temperature range	4–40°C		

Transcend LX-2 UHPLC System (PN 60500-60207) and Transcend LX-4 UHPLC System (PN 60500-60208)	
Software	Aria MX software 2.6 or later Xcalibur 4.2 software or later Foundation platform 3.1 SP6 or later TraceFinder 4.1 SP4 software or later
Solvent and additives	LC-MS grade solvents
Supported reservoir containers	0.25 L to 5 L with maximum height <350 mm
Pump (HPG)	2 Vanquish Binary Pump F (LX-2), 4 Vanquish Binary Pump F (LX-4)
Gradient formation	High-pressure gradient proportioning
Flow range (Settable)	0.001–8 mL/min, in 1 µL/min increments
Maximum pressure	1,034 bar (103 MPa, 15,000 psi)
Flow precision	<0.05% RSD or <0.01 min SD, whichever is greater
Flow accuracy	±0.1%
Mixer volume	100 µL (includes 25 µL proprietary capillary mixer and 75 µL static mixer)
Dwell volume	100 µL
Pulsation	<1.0% or <2 bar, whichever is greater
pH range	2–12 (buffer or chloride concentration up to 1 mol/L)
Autosampler	Thermo Scientific™ TriPlus™ RSH Autosampler (LX-2: Single Head, LX-4: Dual Head) 85 cm Rail
Maximum pressure	1,034 bar (103 MPa, 15,000 psi)
Carryover	<0.003% with Chlorhexidine (600 µg/mL)
Sample capacity	2,304 (well plate, 384 × 6 plates), 576 (well plate, 96 × 6 plates), 576 (6, 7 and 8 mm OD vials [≤1.2 mL], 96 × 6 racks), 324 (12 mm OD vials [≤2 mL], 54 × 6 racks)
Injection linearity	$r^2 > 0.9999$ (100 µL LCMS-P Tool)
Injection volume range	0.1–100 µL
Maximum injection volume	100 µL (10 mL optional)
Temperature range	4–40°C
pH range	2–12
Injection precision 1	<0.1% area RSD full loop injection (caffeine in water)
Injection precision 2	<0.5% area RSD partial loop injection (caffeine in water)
Injection principle	Pushed loop injection
Column Temperature Control	Analytical Sales & Services, Inc. MultiSLEEVE™ Column Heater system
Temperature range	5°C above ambient to 100°C
Temperature stability	± 0.5°C
Temperature accuracy	± 0.1°C

Specifications (continued)

Transcend LX-2 UHPLC System (PN 60500-60207) and Transcend LX-4 UHPLC System (PN 60500-60208)	
Max column length	10 cm
Operating temperature	0 to 50°C
Operating humidity	< 75% RH (non-condensing)
Sample Extension	Optional CoolStack (3 drawer or 6 drawer 12MT)
Samples	4,608 (well plate, 384 × 12 plates), 1,152 (well plate, 96 × 12 plates), 1,152 (6, 7 and 8 mm OD vial (≤1.2 mL), 96 × 12 racks), 648 (12 mm OD vials (≤2 mL), 54 × 12 racks) 12MT 6912 (well plate, 384 × 18 plates), 1,728 (well plate, 96 × 18 plates)
Plate capacity	6 deep well plates or 12 well plates
Temperature range	4–40°C


 Learn more about Transcend LX UHPLC systems at
thermofisher.com/TranscendMultichannelSystems