UHPLC systems compatible with 1 mm ID columns

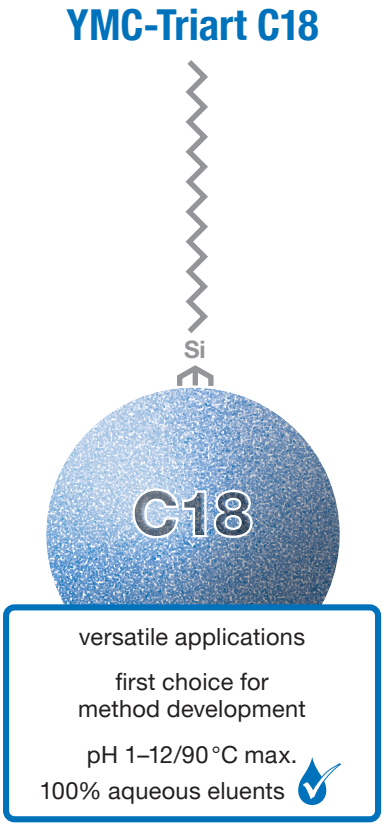
Fast and high sensitivity UHPLC / MS columns

Ideal choice for

- Low sensitivity compounds
- Low sample amounts
- High sensitivity LC/MS analyses
- Peptides / peptide mapping
- Oligonucleotides

Features

- High performance 1 mm UHPLC columns
- High precision column hardware for reliable results
- Highly reproducible YMC-Triart phases in highly reproducible hardware
- Excellent peak shapes for high sensitivity LC-MS analyses
- Bringing MicroLC and UHPLC advantages together



Specifications	
Particle size	1.9 µm
Pore size	12 nm
Modification	Trifunctional
Base particle	Organic / inorganic hybrid silica
pH range	1–12
Temperature range	pH < 7: 90 °C pH > 7: 50 °C
Pressure limit	100 MPa / 15,000 psi
Recommended flow rate	0.05–0.2 mL/min

In order to achieve the described benefits, a suitable system for 1 mm UHPLC columns has to be used. Otherwise, the advantages of the columns can be reduced by use of a non-optimised system, with a too high system volume. A selection of suitable UHPLC systems are mentioned below.

YMC Europe GmbH · Schöttmannshof 19 · 46539 Dinslaken · Phone +49 2064 427-0 · Fax +49 2064 427-222 · Email: info@ymc.eu · **www.ymc.de**

Selection of suitable UHPLC systems*

Waters ACQUITY UPLC I-Class (Plus)

For columns up to 4.6 mm ID and 150 mm length

	Sample Manager with Fixed loop (SM-FL)	Sample Manager with flow through needle (SM-FTN)
Total system bandspread (5 σ)	≤ 7 µL	≤ 9 µL
Dwell volume	95 µL	100 µL
Gradient delay volume	≤ 75 µL	
Possible flow rate	0.01–2.0 mL/min	
Maximum pressure	1,200 bar	

Agilent 1290 Infinity (II)

For 1–5 mm ID columns
Has a function to automatically reduce the delay volume

Delay volume	20–125 µL (depending on configuration)	
	Binary pump + sample manager with fixed loop*	**20 µL**
	Binary pump + Jet Weaver + fixed loop	55 µL
	Binary pump + standard sample manager	90 µL
	Binary pump + Jet Weaver + sample manager	125 µL
Flow rate	0.05–5 mL/min	
Maximum pressure	1,200 bar	

* recommended configuration

Thermo Scientific Vanquish Neo

Uses Viper fittings
1 mm ID columns explicitly mentioned in brochure

Gradient delay volume	< 2 µL*
Flow rate	1 nL/min–0.1 mL/min
Maximum pressure	1,500 bar

* in micro direct injection configuration with 50 µm ID capillaries

Thermo Scientific UltiMate 3000 RSLCnano

System delay volume: < 350 nL
Uses Viper fittings

	Binary high pressure gradient pump HPG	ternary micro pump TM
Gradient delay volume	< 25 nL	220 µL
Flow rate	0–0.05 mL/min	0–2.5 mL/min
Maximum pressure	800 bar	620 bar

Selection of suitable microLC systems*

Shimadzu Nexera Mikros

Already used for applications with YMC-Triart C18 1 mm ID columns
For 0.1–1 mm ID columns
Flow rate: 0.1 µL/min–0.5 mL/min
Uses Universal fittings

SCIEX MicroLC Systems M3 MicroLC, M5 MicroLC, MicroLC 200 Plus

Flow rate: 0.02–0.2 mL/min (different models available with smaller flow rates)
Maximum pressure: 690 bar
Column IDs up to 1 mm possible

*only based on vendor specifications, neither representing a complete selection of systems nor a recommendation for a specific system or vendor.