Are Cogent TYPE-C silica 2.o columns considered UHPLC phases – FAQ

The generally accepted definition for a UHPLC *(Ultra High Performance Liquid Chromatography)* column is one in which the particle size is below 2µm.

The Cogent **TYPE-C Silica** 2.o™ columns have an average particle size of 2.2 µm, making them “near-UHPLC” phases. The idea behind UHPLC columns is that, as particle size decreases, peak efficiency increases dramatically. There are drawbacks to using sub 2µm phases as well though.

Pressure is also greater with smaller particle sizes, generally necessitating specialized equipment that can withstand the high pressure. Uneven heating can be generated in the column due to the high flow rates causing **band broadening** as well. Furthermore, extra-column broadening becomes more significant, requiring low ID tubing and minimized lengths between modules. Blockage from particulate matter is therefore of greater concern.

All samples and solvents used in UHPLC need to be filtered with a 0.22um syringe filter to prevent frits from clogging.

A near-UHPLC phase therefore represents a good compromise between the advantages of both smaller and larger particle size columns. The Cogent **TYPE-C Silica** 2.o™ columns are also fully compatible with UHPLC instrumentation.

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