

# Making Good Connections with the Improved Avantor® Ultrasphere® Column Hardware

## INTRODUCTION

As we progress with making product improvements to serve you better, we have made the decision to upgrade the hardware for the Avantor® Ultrasphere® column product range. As part of the upgrade, you will notice that the end fittings are different, which will mean a different port depth from the previous Waters depth fittings used for Avantor® Ultrasphere® columns. This change does not impact the packing material within the column which will continue to be the same silica. The part number will not change, and the performance is same.

## HOW TO ENSURE YOU CONTINUE TO GET THE SAME PERFORMANCE FROM YOUR AVANTOR® ULTRASPHERE® COLUMNS

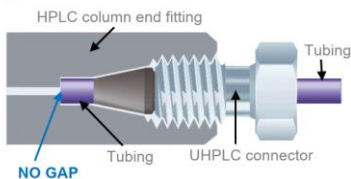
Making good connections in HPLC is vital. Making sure a good seal is formed to prevent leaks, but also importantly ensuring that no additional dead volume is introduced. Extra column volume (dead volume) will adversely effect your chromatography and result in unwanted peak dispersion. When installing a HPLC column a fresh connection should be made each time between the tubing and the HPLC connector.

Where possible avoid HPLC connectors that have been swaged onto tubing, as these do not allow free movement between the tubing and the connector and can lead to excess volume and poor seals

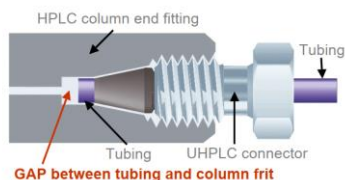


Figure 1: Example of difference in port depth for standard HPLC and Waters™ fittings.

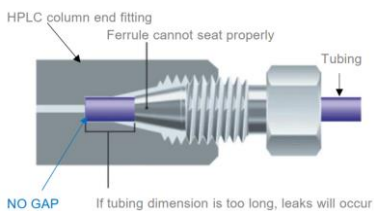
## The Importance of Good Connections



**Figure II: Tubing correctly fitted, no gap between tubing and column frit. Therefore no extra column volume introduced.**



**Figure III: Tubing incorrectly fitted, gap between tubing and column frit. Therefore extra column volume introduced.**



**Figure IV: Tubing correctly fitted, no gap between tubing and column frit. However, ferrule not fitted correctly.**



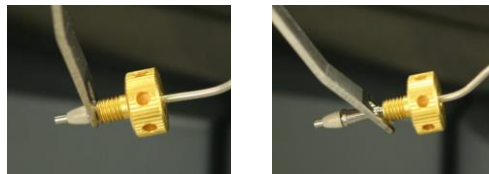
Please refer to the following [video from 2.14 minutes onwards](#)



**CATALOGUE NUMBER FOR ADAPTOR : HI-1211**

## Already Making Fresh Connections

Then you will continue to see the same exacting performance as previous Avantor® Ultrasphere® columns and no change is required



**Figure V: Examples of reusable fittings**

## Using Pre-Swaged Fittings, But Are Able to Change to New Connections

If you are currently using a pre-swaged fitting, you may be able to/have enough tubing exposed to cut the tubing and create a new fitting. In which case we would recommend doing this where possible, to ensure you get a fresh connection when installing your column each time.

However, this may not be possible if the amount of tubing exposed from the column heater is not long enough to cut and leave sufficient tubing for a connection. In this case you will need to replace the tubing for the heating assembly. Please contact us for further details or assistance if required.

## Using Pre-Swaged Fittings, But Are Unable to Change to New Connections

If you are using pre-swaged fittings, but are unable to change these fittings then we recommend using the Avantor® Hichrom Waters™ female to 10-32 male adapter. The Avantor® Hichrom Waters™ female to 10-32 male adapter, part number HI-1211 (Figure VI) is a PEEK fitting that acts as an adapter from Waters™ to standard fittings. We will be including a sample in relevant column boxes initially to assist your transition. The adapters can be reorder under part number HI-1211. For other options please contact [Chromsupport@avantorsciences.com](mailto:Chromsupport@avantorsciences.com)



**Figure VI: Avantor® Hichrom Waters™ female to 10-32 male adapter**

**Table 1:** Avantor® Ultrasphere® Columns Effected by Hardware Change.

Description	Catalogue Number
Ultrasphere 5µm ODS column, 250 x 4.6mm	235329
Ultrasphere 5µm ODS column, 150 x 4.6mm	235330
Ultrasphere 5µm Octyl column, 250 x 4.6mm	235332
Ultrasphere 5µm Octyl column, 150 x 4.6mm	235333
Ultrasphere 5µm Cyano column, 250 x 4.6mm	244071
Ultrasphere 5µm Cyano column, 150 x 4.6mm	244070
Ultrasphere 5µm SI column, 250 x 4.6mm	235341
Ultrasphere 5µm SI column, 150 x 4.6mm	235342
Ultrasphere 5µm IP column, 250 x 4.6mm	235335
Ultrasphere 5µm IP column, 150 x 4.6mm	235334
Ultrasphere 5µm ODS-DABS column, 250 x 4.6mm	240002
Ultrasphere 5µm ODS column, 250 x 2.0mm	244434
Ultrasphere 5µm ODS column, 150 x 2.0mm	237390
Ultrasphere 5µm Octyl column, 250 x 2.0mm	237396
Ultrasphere 5µm Octyl column, 150 x 2.0mm	237395
Ultrasphere 5µm Cyano column, 250 x 2.0mm	237394
Ultrasphere 5µm Cyano column, 150 x 2.0mm	237393
Ultrasphere 5µm SI column, 250 x 2.0mm	237392
Ultrasphere 5µm SI column, 150 x 2.0mm	237391
Ultrasphere 3µm ODS High Speed Column, 75 x 4.6mm	244254
Ultrasphere 3µm Octyl High Speed Column, 75 x 4.6mm	244228
Ultrasphere 3µm Cyano High Speed Column, 75 x 4.6mm	237573
Ultrasphere 3µm SI High Speed Column, 75 x 4.6mm	237574