

For Supercritical Fluid Chromatography

COSMOSIL® PACKED COLUMN

1. INTRODUCTION

Thank you for purchasing COSMOSIL Packed Column. Please read this manual carefully to ensure maximum separation efficiency and long column lifetime.

2. ABOUT THE COSMOSIL FOR SUPERCRITICAL FLUID CHROMATOGRAPHY

This column is designed for supercritical fluid chromatography (SFC).

Documents related to SFC voluntary standard "KHK/JAIMA S 0901(2018)" can be obtained from "Certificate of analysis (Japanese)" on each product page of our online site **【e-Nacalai】** (registration required).

(Note) QC inspection of the column is performed under HPLC conditions.

3. CARE AND USE

1. Avoid mechanical shocks to the column.
2. Connect the column according to the flow direction indicated on the label.
3. The COSMOSIL SFC Column connection uses the former Waters type, the same type used in the COSMOSIL HPLC columns.
If you use connectors with shorter nib, please use suitable adaptor for connecting to the COSMOSIL Column. [Fig.1]

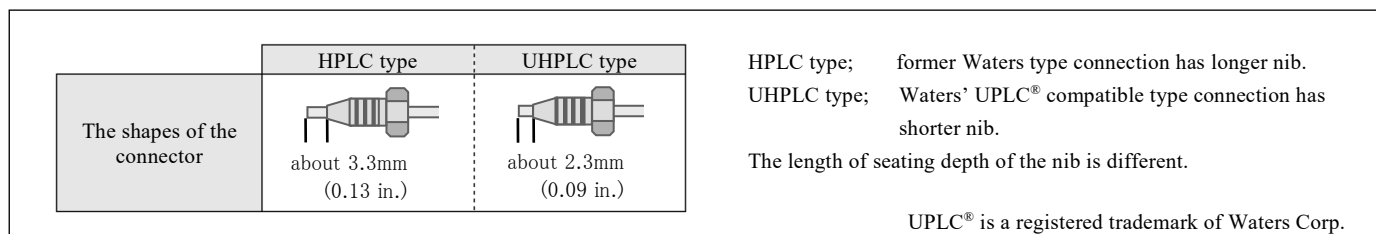


Figure 1. Difference between HPLC type and UHPLC type fitting.

4. To maximize the column performance, you need to minimize the instrument dead volume by shortening the length and/or narrowing the inner diameter of the tubing.
5. Do not tighten connection nuts more than necessary.
6. Keep the pressure under 30 MPa for columns with 2.1, 4.6, 10 mm I.D., and under 23MPa for 20 mm I.D.
7. Avoid changing the flow rate rapidly and changing mobile phase at high flow rate.
8. Keep the temperature under 50°C.
9. When separation ionic compounds, peak shape and analysis reproducibility would improve with mobile phase additives.
Acid compounds: e.g. 0.1% TFA, 0.1% acetic acid and 0.1% formic acid, Basic compounds: e.g. 0.1% diethylamine.
10. Dissolve samples in the same modifier used in the mobile phase.
11. Filter the sample solution before injection.
12. To maximize column lifetime, cleaning up as many impurities in a sample as possible before injection.
13. Use solvent with higher modifier concentration than in the mobile phase for washing the column.
14. After completing the analysis, wash the column with acid-and/or base-free solvent first, then with methanol or ethanol. Store the column with caps tightly plugged.

4. WARRANTY

Nacalai Tesque will replace defective columns reported within 2 weeks of receipt for the follow reasons with prior approval.

- (1) Damage during the transportation caused by our inappropriate packing.
- (2) Theoretical plate number measured according to the test method specified in the Inspection Report is significantly lower than guaranteed.
(Please note that the plate number decreases when using instruments with large dead volume, injecting big amount of sample, or dissolving the sample with solvents different than in the mobile phase.)

We cannot accept claims for performance deterioration caused by willful removal of the end filters or end-fittings, or user errors.
Return shipment is not accepted unless we have given prior permission and shipping instruction.