

# Mobile phase Cleaner for HPLC

## Ghost Trap DS

### Instruction Manual

#### ■ Introduction

The Ghost Trap DS is a cleaner cartridge for Reversed Phase Liquid Chromatography that cleans up impurities come from the mobile phase or the pipes (including the gradient mixer). Install the cartridge between the gradient mixer and the autosampler (manual injector) in order to clean up the ghost peak.

#### ■ Specifications

##### ● Lineup

P/N	Contents	Size (Volume)
228-59921-91	Cartridge 2 pc	7.6 mmID×30 mm (about 700 µL)
228-59921-92	Cartridge 2 pc Holder 1 pc	
228-59921-93	Cartridge 2 pc	4.0 mmID×20 mm (about 150 µL)
228-59921-94	Cartridge 2 pc Holder 1 pc	
228-59921-95	Cartridge 2 pc (for SFC)	7.6 mmID×30 mm (about 700 µL)
228-59921-96	Cartridge 2 pc (for SFC) Holder 1 pc	

##### ● Cartridge

Item	Contents
Type	Stainless steel Cartridge
Packing Material	activated charcoal
Maximum Pressure	35 MPa
pH	2 ~ 12

#### ■ Installation

- Insert the cartridge to the holder and firstly finger-tighten and then tightening with the wrench about 90-degree. In case of leakage, tighten it additionally about 45-degree. (Up to 90-degree for additional tightening.)

#### ■ Flushing the Ghost Trap DS

- Please flush the Ghost Trap DS before use it. Flushing solvent is same as the mobile phase (final gradient concentration) and flushing time is 2 hours or more. Please check the baseline before start analysis.

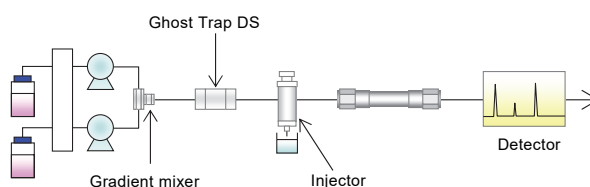
**NOTE** Some of the mobile phases take more long time to be stable of the baseline. In this case, please extend the flushing time. When the flushing is not enough, use the Acetonitrile or the Tetrahydrofuran (THF) to flush the cartridge, and then exchange the mobile phase to use the analysis.

#### ■ Handling and Precautions

- It is recommended that the cartridge is installed between

the gradient mixer and the autosampler (refer to the figure). As a result, you can clean up impurities from the mobile phase or the pipes. Please note the delay volume will increase of the cartridge volume (see the specifications).

- It is possible to be solved the delay volume that the Ghost Trap DS are installed between the each pumps and the gradient mixer.
- When the Ghost Trap DS connects using by the male nut, length to which piping dashes out from the ferrule is different from our standard length.
- If the Ghost Trap DS is installed in the column oven, eluted ingredient may be observed. In this case, please place the Ghost Trap DS outside of the column oven.
- In ion-paired chromatography, the ion-pair reagents are trapped by the Ghost Trap DS. As the result, the mismatched retention time or the changed peak shapes are occurred.
- Please fill the solvent in the cartridge before connect the analytical column, and confirm the leak is not done.
- Please do not use the auto purge function when the Ghost Trap DS is installed in the Shimadzu HPLC systems due to its pressure.
- The following figure shows an example of the Ghost Trap DS installed in the gradient system.



**NOTE** When using the mass spectrometer, the bleed noise might be observed. Depending on the circumstances, there is a possibility that impurities cannot be removed by using the Ghost Trap DS.

#### ■ Replacement cycle

- If it is impossible to trap impurities more over, the ghost peak will appear. In this case, because the Ghost Trap DS is not possible to be regenerate, please exchange the new cartridge.

#### ■ Technical Support

Should you find any defect in performance, please contact your local Shimadzu representative, who will ensure your complete satisfaction.