

## High Performance Packed Column for HPLC

**CoreFocus**

**Shim-pack Scepter™ Guard column (for prep)**

### INSTRUCTION MANUAL

#### ■ Introduction

Shim-pack Scepter Guard column (for prep) is cartridge-type guard column filled with packing materials. Please read the following instructions before use.

#### ■ Operating Precautions

Check if anything is missing or damaged. If there are any signs of damage, notify your local Shimadzu representative at once.

#### ■ Specifications

The product specifications are as follows.

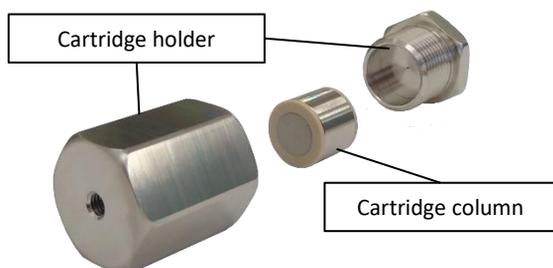
Size	Products name	Chemical bonding group
I.D. : 10 mm, 20 mm, 30 mm Length : 10 mm Particle size : 5 μm	Shim-pack Scepter C18-120 (G)	Octadecyl group (C18)
	Shim-pack Scepter C18-300 (G)	
	Shim-pack Scepter HD-C18-80 (G)	
	Shim-pack Scepter C8-120 (G)	Octyl group (C8)
	Shim-pack Scepter C4-300 (G)	Butyl group (C4)
	Shim-pack Scepter Phenyl-120 (G)	Phenyl group
	Shim-pack Scepter PFPP-120 (G)	Pentafluorophenyl group

#### ■ Installing the column

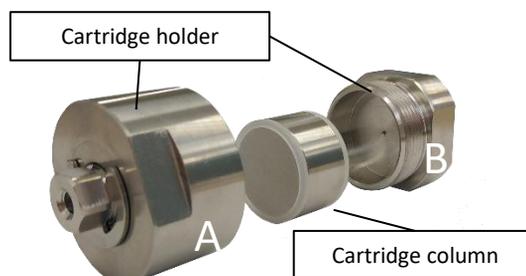
Please note the following when you install the cartridge column.

- The optional cartridge holder is required when you install the column.
- The cartridge holder can be used repeatedly. In case of degradation, replace the cartridge column only.
- The connect direction of the cartridge column is not restricted.

#### I.D. 10 mm



#### I.D. 20 mm, 30 mm



#### ■ Use method

- 1) Attach a guard cartridge column to cartridge holders. There is no specified direction for the column setting. For 20 mm I.D. / 30 mm I.D. guard cartridge column, insert the column to the holder B first, and put the cartridge holder A on top of them, then tighten the holders. When you replace a guard cartridge column, remove the holder A first, and then place the holder B on the bottom for smooth operation.
- 2) Tighten the cartridge holder by hand. After that, use a wrench to tighten them further. If leakage occurs, carefully tighten the guard cartridge holder little by little. Do not over tighten them, or the guard cartridge column may be damaged.

I.D. 10 mm	Tighten guard cartridge holders by rotating about 30 degrees. Use a 24 mm wrench or monkey-wrench.
I.D. 20 mm, 30 mm	Tighten guard cartridge holders by rotating about 15 degrees. Use a 32 mm wrench or monkey-wrench for 20 mm I.D. column, and a 40 mm wrench or monkey-wrench for 30 mm I.D. column.

- 3) Connect the assembled guard column in front of the main-column (the injector side) using tools such as a column coupler. Use a short tube to avoid diffusion of the injected sample solution.

## ■ Safety Guideline

- Select the cartridge columns whose functional groups are basically the same as those of the main column.
- The cartridge holder is sold separately. Select the cartridge holder according to the I.D. of the cartridge column. Use cartridge holder set for I.D. 10 mm (P/N: 227-31171-01) / 20 mm (P/N: 227-31171-02) / 30 mm (P/N: 227-31171-03). Using a guard cartridge column and guard cartridge holders in a wrong combination may cause leakage.
- If the cartridge column is attached and detached repeatedly, the airtightness may be lost, and fluid may leak.
- The connect direction of the cartridge column is not restricted. Once you use the cartridge column, do not change the flow direction. Otherwise, the insoluble material adsorbed at the inlet of the cartridge column may flow into the main column.
- If leakage occurs, gradually tighten the holder until the leakage stops. However, do not over tighten them, or the guard cartridge column may be damaged.
- The timing when you replace the cartridge column should be determined by the increase of pressure, the change of peak shapes and the separations, etc.
- The operating pressure should be kept under 30 MPa (4,350 psi).
- If you inject a large amount of a sample repeatedly, it may cause impurities to be adsorbed in the main column. Therefore, it may deteriorate the main column. Early replacement of the cartridge column is recommended to prevent contamination of main column.

## ■ Disposal Precautions

When disposing of the column, do so in accordance with the processing standards determined by law, separately from general industrial waste and household garbage.

## ■ Technical Support

Shim-pack Scepter series columns are manufactured, inspected, packaged and shipped under strict standards of quality control. Should you find any defect in performance, please contact your local Shimadzu representative, who will ensure your complete satisfaction.