

YMC Analytical Guard Column Holder

1. Introduction

YMC strongly recommends the use of guard columns to protect all chromatography columns to extend column lifetime and to ensure unchanging performance. A guard column of inferior quality will soon result in poor chromatographic performance with respect to peak symmetry and/or efficiency and even high-quality cartridges such as those supplied by YMC will need to be replaced at regular intervals to preserve the performance of the analytical column.

2. Universal finger-tight guard cartridge holder

YMC guard cartridge columns are packed under high pressure with packing materials of various functional groups to compliment that used in the analytical columns. The YMC guard cartridge holder is composed of a two-part holder and column coupler. The cartridge column can be replaced by hand, no tools are required.

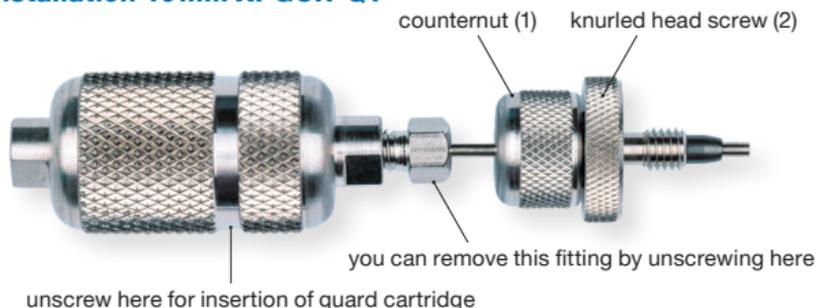
Two guard holders are available depending on which cartridge length is used. The holder for 10 mm length cartridges (PN XPGCH-Q1) is a one-part holder consisting of the holder and a connector. The 20mm holder (PN XPGCH-Q2E) consists of two parts, the cartridge holder and a MarvelX universal connector. Both systems guarantee a low dead volume connection between the guard cartridge and main column irrespective of the type of column fitting used.

3. Specifications

Cartridge length	Cartridge ID	Suitable main column ID	Max. pressure	Part No.
10 mm	2.1–4.0 mm	1.0–4.6 mm	55 MPa / 8,000 psi	XPGCH-Q1
20 mm	2.1–4.0 mm	1.0–4.6 mm	55 MPa / 8,000 psi	XPGCH-Q2E

The cartridge holders feature Parker style fittings (Port depth: ca. 2 mm/0.09 inch).

4. Installation 10mm XPGCH-Q1



1. Unscrew the counternut (1)
2. Insert the capillary into the port of the analytical column and screw the knurled head screw (2) **finger tight**.
3. Finally screw the counternut (1) finger tight
4. The guard cartridges are inserted into the holder without the need for any tools – simple hand tightening of the two parts of the holder will give leak-proof connection. A small slit between the holder parts will remain and demonstrates a perfect fit. Do not remove either of the black end caps at both ends of the cartridge. Place the cartridge column in the cartridge holder as it is delivered.
5. In the rare event of a leaking connection within the holder, turn off the flow and retighten the holder parts finger tight again.

5. Installation 20mm XPGCH-Q2E



unscrew here for insertion of guard cartridge

1. The guard cartridges are inserted in the holder bodies without any tools – simple hand tightening of the two parts of the holder will give a leak-proof connection. A small slit between the holder parts will remain and demonstrates a perfect fit. Do not remove either of the black end caps at both ends of the cartridge. Place the cartridge column in the cartridge holder as it is delivered.
2. Connect the guard holder and analytical column by using the MarvelX Universal connector.
3. In the rare event of a leaking connection within the holder, turn off the flow and retighten the holder parts finger tight again.

6. General remarks

- In general, the same packing material and the same inner diameter as the main column are recommended:

Main column ID	Recommended ID guard cartridge	Part No. 10 mm length*	Part No. 20 mm length*
1.0 mm	2.1 mm	-01Q1GC	-02Q1GC
2.0 / 2.1 mm	2.1 mm	-01Q1GC	-02Q1GC
3.0 mm	3.0 mm	-0103GC	-0203GC
4.0 mm	4.0 mm	-0104GC	-0204GC
4.6 mm	4.0 mm	-0104GC	-0104GC

*second part of guard cartridge Part No.; first part: stationary phase code, e.g. TA12S03-

- The flow direction of the cartridge column should not be changed after the first connection. Re-connection in the reverse direction may cause the impurities adsorbed at inlet-side of the cartridge column to flow out into main column.
- The replacement time of the cartridge column can be judged by an increase of back-pressure or a change in peak shapes and resolution.
- Repeated injections of a large amount of sample may result in loss of adsorption ability of the cartridge column. In such cases, impurity which should be trapped by cartridge column may flow into the main column.
- Early replacement of the cartridge column is recommended to prevent contamination of main column.

