Agilent ZORBAX Reliance Cartridge Guard-Columns

Datasheet

Introduction

The ZORBAX Reliance Cartridge Guard-Column Series has been developed to provide convenient, cost-effective protection for high-performance analytical columns. The cartridge components assemble quickly and easily to provide a high-efficiency, low-dead-volume column that seals at high pressures. The PPS polymeric guard-column tubing is more solvent-resistant than PEEK and is specifically engineered to make leak-tight seals against metal surfaces without requiring gaskets. The reusable guard-column end fittings adapt the cartridge guard-column for connection to standard 1/16 inch LC fittings and provide a stand-alone guard-column system. The materials used in Reliance cartridges are ZORBAX, ZORBAX StableBond and ZORBAX Eclipse packings.

Guard-Columns

The guard-column cartridges provide physical (filtration) and chemical (adsorption) protection for analytical columns. They are packed with 5 µm ZORBAX packing of identical chemistry to ZORBAX analytical columns to provide the most effective protection. The guard-column cartridges are unthreaded 2.1 mm ID or 4.6 mm ID x 12.5 mm tubes with press-fit 2-micron porosity frits and are available in the most popular stationary phases. A packed 4.6 mm ID guard-column cartridge has a void volume of less than 150 µL. The 2.1 mm ID cartridge has a void volume of less than 30 µL.

Guard-Column Hardware Kit

The Reliance Guard-Column Hardware Kit, (Part Number 820777-901), consists of three major components:
Low-volume guard-column holder
End fitting
Column connector (see note on this page)

Assembly of a Reliance Cartridge Guard-Column

The standard configuration, illustrated in the exploded view in Figure 1, requires a guard-column hardware kit and a polymeric guard-column cartridge chosen from the list in the order information section of this sheet.
To assemble, first place the guard-column holder on the bench top, open end up. Put the polymeric guard cartridge into the holder with the arrow on the cartridge pointing up. (To avoid possible plugging of the analytical column, flow through the guard-column cartridge should always be in the direction of the arrow.) With the guard-column holder still vertical on the bench top, the guard-column end fitting should be screwed into it until it is finger tight. Further wrench-tightening 1/4 to 1/3 turn must be carried out before the guard-column assembly is installed into the flow stream. Connection of the guard-column assembly to the analytical column is achieved using the column connector provided (.010" ID x 50 mm).

NOTE: The column connector tube and fittings are provided unassembled. Initial use requires careful tightening inside the guard-column-assembly end fitting and the inlet fitting of the analytical column to properly set the ferrules.

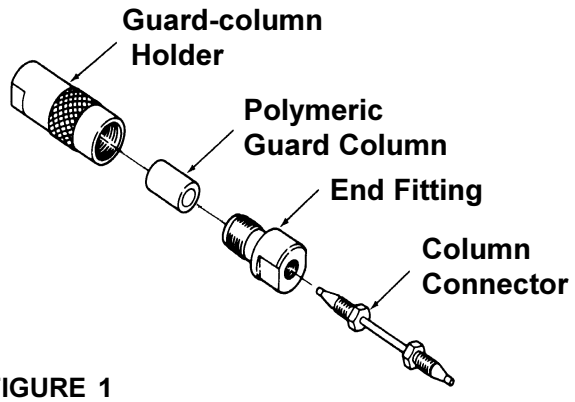

FIGURE 1

Operational Guidelines

To maintain optimum column performance and obtain long column life, the following guidelines should be observed:

- Do not use a mobile-phase pH outside the range of 2 to 8 (pH 3 to 8.5 for Diol).
- Only wrench-tighten the cartridge holder 1/4 to 1/3 turn to avoid damaging the polymeric cartridge.
- PPS guard-columns may be used up to 80°C. Do not exceed the maximum operating temperature of the analytical column.

In addition, we recommend:

- For 4.6 mm ID guard-columns, flushing a minimum of 3 mL of methanol through the guard-column assembly after installing a new guard cartridge, then 10 mL of mobile phase to ensure equilibration before re-attachment to the analytical column.
- For 2.1 mm ID guard-columns, flushing a minimum of 0.5 mL of methanol, then 2 mL of mobile phase through a new guard-column before re-attaching the assembly to the analytical column.
- Replacing the guard cartridge when the system pressure has increased by 10% from normal or after every 100 to 200 injections.
- Minimizing the system dead volume to maintain efficiency.
- Pumping through the guard-column in the recommended direction.

Safety

Safety precautions must be observed while operating any HPLC column, including the ZORBAX Reliance cartridge guard-column. Considerations for safe operation are primarily concerned with chemical exposure. Prior to using any chemical, its hazards should be assessed. Precautions should be taken to prevent exposure to these hazards both under normal operating conditions and in case of spills, leaks, and other accidents.
The small particles in the guard-column are respirable; therefore, the guard-columns should not be opened.

Ordering Information

Guard-Column Cartridge	Agilent Part No.
4.6 mm ID x 12.5 mm, 4-Pack	
SIL	820950-901
ODS	820950-902
SAX	820950-903
SCX	820950-904
CN	820950-905
C8	820950-906
NH_2	820950-908
Diol	820950-911
Phenyl	820950-912
Rx-C8	820950-913
Rx-C18	820950-914
SB-C8	820950-915
SB-CN	820950-916
SB-Phenyl	820950-917
300SB-C8	820950-918
Rx-SIL	820950-919
SB-C18	820950-920
300SB-C18	820950-921
SB-C3	820950-922
300SB-CN	820950-923
300SB-C3	820950-924
XDB-C18	820950-925
XDB-C8	820950-926
XDB-Phenyl	820950-927
Bonus-RP	820950-928
dsDNA	820950-929
2.1 mm ID x 12.5 mm, 4-Pack	
300SB-C8	821125-918
Rx-SIL	821125-919
300SB-C3	821125-924
XDB-C8	821125-926
Bonus-RP	821125-928
dsDNA	821125-929
Hardware	
Guard-Column Hardware Kit	820777-901
or parts can be ordered separately:	
Low Vol. Guard-Column Holder	820565-001
End Fitting (1/16" Male Adapter)	820572-001
Column Connector	820563-901

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