

Instructions

HiSep Column

1 ml and 5 ml

HiSep 1 ml and 5 ml ready to use columns are for general sample preparation, process development and media screening use. The column design provides fast, simple and easy separations in a convenient format.

The columns can be operated with a syringe, peristaltic pump or common liquid chromatography system such as ÄKTA™ when suitable tubing adaptors are used.

Please read these instructions carefully before using the columns.

Intended use

The columns are intended for research use only, and shall not be used in any clinical or *in vitro* procedures for diagnostic purposes.

Safety

For use and handling of the product in a safe way. Each resin is stored in suitable preservative during shipping to prevent microorganisms from growing. Proper PPE (e.g. gloves and goggles) must be used to handle the columns.

Product description

HiSep column characteristics

The columns are made of biocompatible polypropylene that does not interact with biomolecules. The columns are delivered with a stopper at the inlet and a snap-off end at the outlet (see Figure 1). The snap-off is used as the sealing plug for the outlet of the column.

Table 1 lists the characteristics of HiSep columns.



Figure 1 . HiSep 1 ml and 5 ml column.
Note: HiSep columns cannot be opened or refilled.

Note: Make sure that the connector is tight to prevent leakage.

Table 1. Characteristics of HiSep columns.

Column volume (CV)	1 ml	5 ml
Column dimensions	0.7 × 2.5 cm	1.6 × 2.5 cm
Column hardware pressure limit	5 bar (0.5 MPa)	5 bar (0.5 MPa)

Note: The pressure over the packed bed varies depending on a range of parameters such as the characteristics of the chromatography medium, sample/liquid viscosity and the column tubing used.

The general properties of packed adsorbent see its data sheet

Operation

The column can be operated with a syringe, peristaltic pump or a chromatography system. Suitable tubing adaptors are required (contact Us for further information).

We recommend scouting the parameters among loading capacity and flow velocity etc to achieve the best desalting performance.

The recommended flow rate is 0.2 to 1 ml/min for 1 ml column and up to 5 ml/min for the 5 ml column.

- 1 Fill the syringe or pump tubing with equilibration buffer. Follow the flow direction. Remove the top stop plug and connect the column to the syringe (with the provided connector), or pump tubing, “drop to drop” to avoid introducing air into the column.
- 2 Remove the snap-off end at the column outlet. Keep the snap-off part as stop plug for the outlet.
- 3 Wash out the preservative and equilibrate the column with at least 5 column volumes of equilibration buffer. **Note: Don't connect the column outlet to a detector yet, as some fine particles may come out during this washing step. After 2CV washing, the outlet can be connected to a detector if needed.**
- 4 Apply the sample, using a syringe fitted to the luer connector or by pumping it onto the column.
- 5 Elute with the chosen buffer.

Storage

Wash the column with 5 column volumes of 20% ethanol at reduced flowrates such as 0.5 ml/min. Store the column in 20% ethanol at 4°C. Regular check of the column performance is recommended.

Optio Column

7 mm I.D., 11 mm I.D., 16 mm I.D., 26 mm I.D.

General Information

Column body (i.e. the tube): made of acrylic. It has an appearance similar to a glass tube, i.e. clear and transparent. This material is compatible to most commonly used aqueous chemicals. **WARNING: It isn't compatible with concentrated alcohols. 20% ethanol can be used for storage purpose. Don't use any alcohols greater than 20% v/v.**

End plunger: made of POM with polyamide support mesh (15 µm). Its o-ring is of NBR. They are inert to most aqueous buffers.

Connection: 1/16" female thread in both sides.

End Cover: Made of POM

Hardware pressure: recommended rating is less than **6 bar** (or 0.6 MPa, or 84 psi).

Storage: After receiving the columns, store them in a cold room.

Instruction of Use

Each packed column is sealed with pressured syringe in the bottom end of the column. It is then wrapped to a foam pad support.

1. Carefully unwrap the thin film to take out the column.
2. Follow the flow direction to clamp the column to a vertical stand.
3. Unscrew the top Stop Plug. Connect the column top to a chromatography system. Make sure that no air bubble is trapped in.
4. Gently unhook the springs from the shaft of the syringe using balanced force.
5. Unscrew the red male-thread connector from the syringe. Keep this storage syringe for later use.
6. Connect the outlet to the chromatography system.
7. Run at reduced flowrates (e.g. half of the aimed operating flowrate) to wash away the storage solution then run at normal flowrate until the column is equilibrated.

CAUTION: Regularly check the blue covers at both ends of the column during usage of the column. Make sure the cover isn't loose. Screwing the cover tightly by two fingers (i.e. **FINGER TIGHT**) if it becomes loose. **NEVER SCREW THE Blue COVER BY A FULL HAND.** It may damage the internal structure.

Storage after Use

In short term, seal both ends of the column with stop plugs if it isn't used.

In longer term, i.e. if the column isn't used for a few days or over, follow the instructions below to store the column.

1. Fill the column with 20% ethanol at reduced flowrates (e.g. half of the aimed operating flowrate) until the column is fully filled, e.g. 2CV.
2. Stop the pump.
3. Suck the storage solution to fully fill the storage syringe (including the luer adaptor). Leave the syringe upside-down and push out the air bubble. Adjust the liquid level inside the syringe to 4 ml (if 5 ml syringe used) or to 10ml (if 20 ml syringe used).
4. Dis-connect the column outlet from the chromatography system.
5. Carefully screw the male thread part to the syringe system. Finger tight is enough.
6. Disconnect the column top. Screw a 1/16" stop plug in.
7. Use balanced force to hook the springs back the top shaft of the syringe.
8. Check and make sure no leakage around the fittings.
9. Place the column in a cold room.

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