Tricorn 5 Filter Kit
Tricorn 10 Filter Kit
Tricorn 5 Coarse Filter Kit
Tricorn 10 Coarse Filter Kit Filter tool
Tricorn 5 Medium Filter Kit
Tricorn 10 Medium Filter Kit

Instructions

Introduction

Tricorn™ columns are designed for high resolution liquid chromatography of biomolecules performed at medium to high pressures. They are suitable for use with with high performance resins, such as Sepharose™ High Performance, Superdex™, and SOURCE™.

When using Tricorn columns for large volume or repeated loading of clarified feed in combination with capture resins, such as Sepharose Fast Flow, Capto™ or MabSelect™, the Tricorn coarse filter kit is recommended to reduce the risk of clogging. When using Tricorn columns for polyclonal IgG or monoclonal antibody purification in combination with resins, such as MabSelect pcc or MabSelect Prisma, the Tricorn Medium Filter Kit is recommended to reduce the risk of clogging.

This instruction describes how to change the top filter, how to mount the top coarse filter for first-time use, and how to replace O-rings in Tricorn columns.

Replacing the top filter

Before replacing the top filter, try cleaning the column resin first as recommended in the instructions supplied with the resin. Replace the top filter if you still observe increased backpressure, a loss of resolution or sample recovery, after cleaning the resin in situ, or when cleaning the column.

If the top filter is clogged and needs to be replaced and/or the resin bed surface becomes contaminated, proceed as follows:

Step	Action
1	Disconnect the column from the system and insert a stop plug into the bottom unit (see the column instructions).
2	Lift the adapter lock and remove the adapter unit.
3	Using a hooked Filter Tool (Fig 1), carefully remove the filter from the surface of the resin bed.

Step	Action

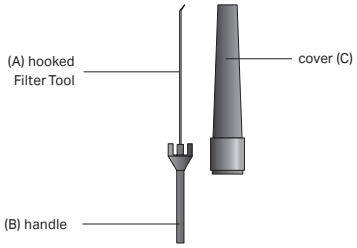

Fig 1. Filter Tool.

4	Fill the column tube with fluid and carefully stir the top 1 mm of the resin bed surface with a Pasteur pipette and remove the suspended resin particles.
5	Top off the column tube with fluid and remove all air bubbles.
6	Place a new pre-wet top filter on top of the fluid in the column. ***Note:*** *The top coarse filter is inserted by another procedure. See section Mounting the top coarse filter for first-time use.*
7	Screw the guiding ring (Fig. 2, A) inside the adapter unit down to its end position so that it is level with the bottom of the adapter unit (Fig. 2). Screw the guiding ring back 1.5 turns.

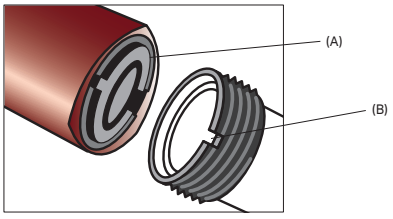

Fig 2. Adapter unit and slot on column tube threads.

Step	Action
8	Screw the adapter unit onto the column tube, ensuring the inner part of the guiding rings fits into the slots on the column threads (Fig. 2, B). Make sure that there are no air bubbles
9	Screw the adapter halfway down. Press the adapter lock down into locked position. It is now not be possible to turn the adapter if the adapter unit has been mounted correctly.
10	Unlock the adapter lock and screw the adapter unit down until the adapter meets the resin bed surface. Screw the adapter unit down a futher 360° so that the adapter is positioned slightly below the resin surface.
11	Press the adapter lock down into the locked position.
12	The column is now ready for use.

If the column is not to be used immediately, fit a stop plug into the adapter unit.

Note: *Do not tighten the adapter unit using a wrench, only by hand.*

Note: *We do not recommend changing the bottom filter without repacking the column as this may lead to a loss of efficiency. This will also mean that the top filter should be replaced.*

Mounting the bottom coarse filter

The bottom coarse filter is inserted in the filter holder in the same way as the standard bottom filter. See the packing instruction in Tricorn Empty High Performance Columns, Instructions.

Note: *The glossy side of the bottom coarse filter is recommended towards the adapter.*

Mounting the top coarse filter for first-time use

Pack your Tricorn column according to Tricorn Empty High Performance Columns, Instructions. The Tricorn top coarse filter is due to its hardness placed on the adapter according to the following procedure:

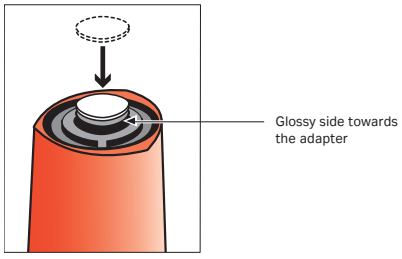

Fig 3. Placing the top coarse filter at the center of the adapter.

Step	Action
1	Screw the guiding ring (Fig. 2, A) inside the adapter unit down to its end position so that it is level with the bottom of the adapter unit (Fig. 2). Screw the guiding ring back one turn.
2	Wet the top coarse filter, the bottom of the adapter and the O-ring.
3	Place the top coarse filter at the center of the adapter (Fig. 3) with the glossy side towards the adapter.
4	Continue the procedure from step 8 in the previous section.

Step	Action
	Note: *Keep the adapter unit and column tube vertical during the procedure.*

Mounting the medium filter

Mounting the medium filter is executed according to the same procedure as the coarse filter.

Replacing O-rings

There are O-rings in the top adapter unit and in the bottom filter holder. Before replacing an O-ring, make sure that you have a replacement O-ring of the correct size and type.

To remove and replace the used O-rings, gently use a pair of forceps, taking care not do damage the O-ring fitting or housing. To facilitate the removal of the used O-ring, it is recommended to use the FPLC wrench (accessory, see Ordering information). With gentle force, place the plastic wrench over the O-ring causing the O-ring to stretch out from the groove on the adapter. Use a pair of forceps to carefully remove the used O-ring from the fitting.

Moisten a new O-ring with water to aid fitting. For high solvent resistance, use PFR O-rings (see Ordering information).

Material description

Product	Material
Standard filter	Polyethylene
Coarse filter	Vyon™ (high density polyethylene)
Medium Filter	Vyon (high density polyethylene)

Chemical resistance

All filters may be used with aqueous buffer solutions and detergents at pH conditions between 1 and 14, and with nearly all organic solutions commony used in chromatography. A list of chemicals that can be used with Tricorn glass columns with the filters mounted is found in Tricorn Empty High Performance Columns, Instructions.

Ordering information

Product	Quantity	Product code
Tricorn 5 filter kit[1, 2]	1	29053586
Tricorn 10 filter kit[1, 2]	1	29053612
Tricorn 5 coarse filter kit[1]	1	11001253
Tricorn 10 coarse filter kit[1]	1	11001254
Tricorn 5 Medium Filter Kit[1, 2]	1	29258132
Tricorn 10 Medium Filter Kit[1, 2]	1	29258131
Filter Tool	1	18115320
O-ring 3 × 1 PFR (5-mm columns)	1	18115303
O-ring 7 × 1 PFR (10-mm columns)	1	18115312
FPLC Wrench	1	19748101

[1] All filter kits include top and bottom filters and EPDM O-rings, 5 of each.

[2] Do not store exposed to daylight.

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