

Adjustable Solid Load Cartridge Cap for RediSep® Cartridges

Product Information and Instructions

Overview

Teledyne Isco's adjustable Solid Load Cartridge Cap (SLCC or "cap") is easy to use and provides you with additional flexibility in loading your solid samples. Teledyne Isco recommends solid sample cartridges for best purification results. (See Chromatography Application Note 15, *Dry samples improve resolution in normal phase flash chromatography*.)

Caps are available (refer to Table 1) to fit 5, 25, 65, and 260 gram RediSep empty or prepacked solid load cartridges for use with CombiFlash® systems.

If using the caps with Teledyne Isco self-pack columns, refer to the *Self-pack Columns Instruction Sheet*, part number 69-3873-506.

Designed for Convenience

The design of the cap is simple, yet effective:

- **Easily adjustable** – A lever on the cap provides for quick vertical movement of the metal plunger rod, allowing for adjustment to any bed height.
- **No dead volume** – Eliminating dead volume improves gradient accuracy because there is no space for solvent mixing.
- **Secure lock** – The locking mechanism holds the plunger and cartridge securely in place, without the use of clumsy external springs and hardware.
- **Low maintenance** – The plunger uses a virgin PTFE seal, eliminating costly, leak-prone O-rings.
- **No leaks** – Internal stops within the cap keep the cartridge from rotating. The cap tightly holds the cartridge and prevents leaks, even under high operating pressures.
- **High operating pressure** – The 5, 25, and 65 gram caps, when used according to these instructions, are rated to 200 psi (for use on the CombiFlash Rf 200 system).

Preparing Cartridges

Teledyne Isco's adjustable caps can be used with any type of sample, and are effective with low solubility samples. The caps can be used with a variety of RediSep cartridges. To meet your specific needs, RediSep disposable cartridges are available empty, or prepacked with silica gel, Celite¹ or C18 reversed phase media. After selecting a cartridge, prepare the solid sample.

Preparing a Prepacked Cartridge

1. Dissolve the sample and introduce it onto the prepacked cartridge (Figure 1).
2. Remove the solvent by drying the cartridge.

Preparing an Empty Cartridge

1. Adsorb the sample onto loose silica or other suitable media.
2. Pour the sample and media mixture into the cartridge (Figure 1).
3. Place a frit into the cartridge.
4. Push the frit down on top of the sample and media mixture.
5. If you did not remove the solvent before loading the mixture into the cartridge, continue with *Drying the Cartridge*.

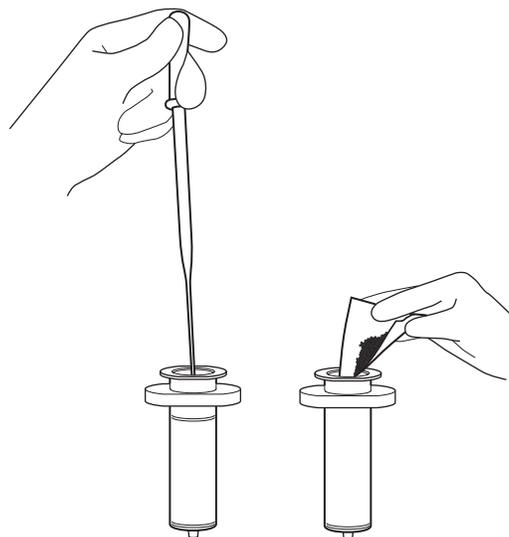


Figure 1: Preparing Cartridges Pipette sample onto prepacked cartridges (left) or pour adsorbed sample into empty cartridges (right).

Drying the Cartridge

Solvent should be removed from the prepared cartridge. You can do so using a vacuum dryer. Teledyne Isco's cartridge dryer stand (part number 60-2200-010) can dry up to four cartridges.

CombiFlash Rf system users may also use the alternative cartridge drying technique described on page 3.

1. Celite is a registered trademark of Celite Corporation.

Loading Cartridges

To load the 5, 25, or 65 gram cartridge on the system:

1. The cap must match the size of your selected cartridge. If it does not match, install the correct cap now.
2. Press the lever on the side of the cap and fully extend the plunger (Figure 2).

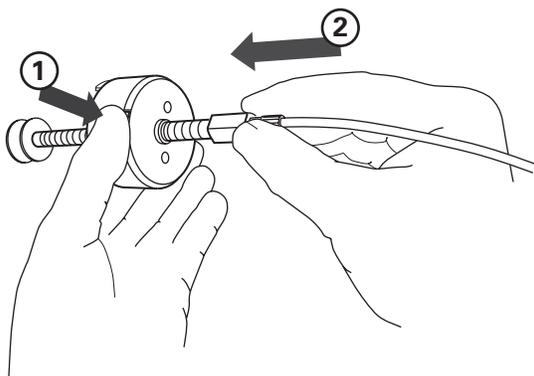


Figure 2: Press the lever and extend the plunger

3. Slide the plunger into the cartridge until it reaches the top frit (Figure 3).

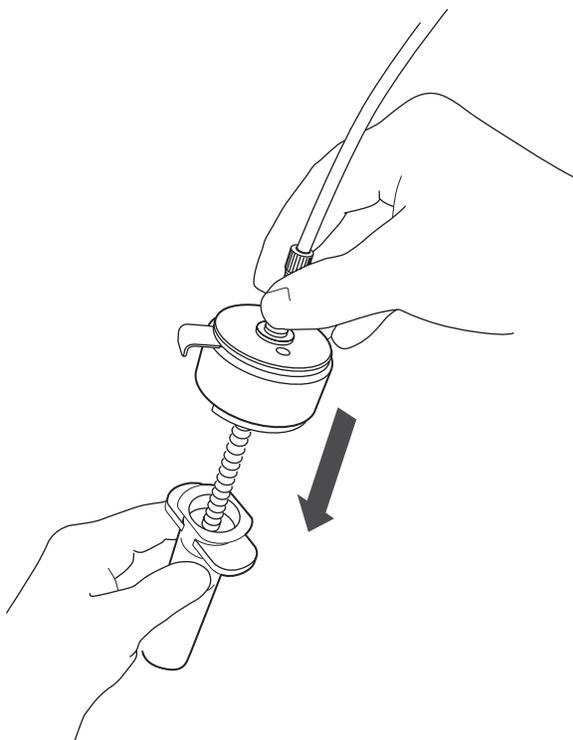


Figure 3: Insert the plunger to the bed

☑ Note

Illustrations are for general reference only. Actual cap features will vary according to the CombiFlash system and cap size.

4. Press the lever and push the cartridge into the cap. Align the cartridge so that it fits fully into the recess in the cap (Figure 4).

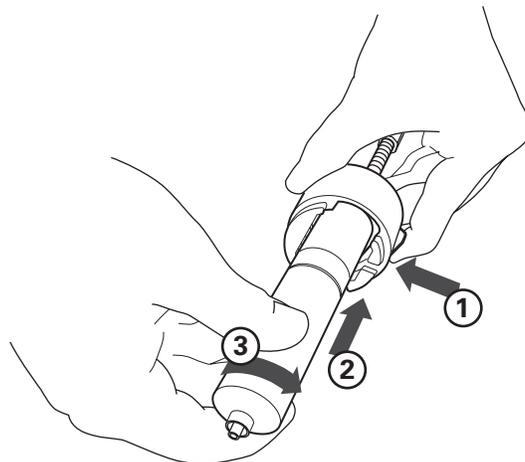


Figure 4: Align and push cartridge into the cap.
Then rotate the cartridge to secure it.

5. Rotate the cartridge $\frac{1}{4}$ turn to secure the cartridge in the cap (Figure 4).
 - o For 5 and 25 gram sizes, rotate the cartridge clockwise.
 - o For 65 and 260 gram cartridges, rotate the cartridge counterclockwise.
6. Place the cartridge assembly on the system and secure it to the Luer fitting (Figure 5).

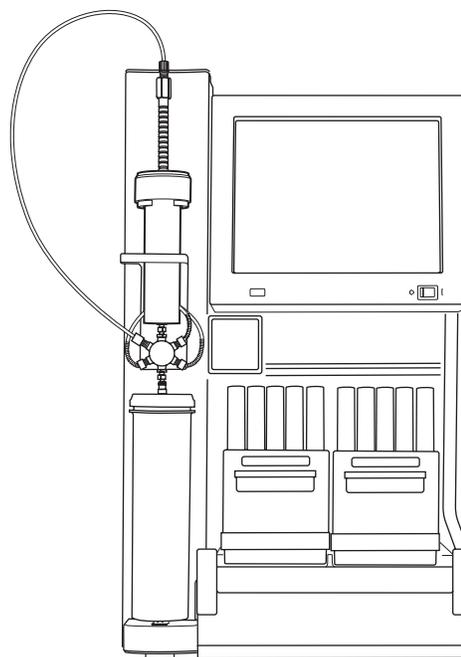


Figure 5: Secure the cartridge assembly on the system. (CombiFlash Rf 200 system shown.)

Additional Notes for CombiFlash Rf System Users

Alternative Cartridge Drying Technique

CombiFlash Rf system users also may dry the cartridge using the system's internal air pump. To do so, follow the instructions in *Loading Cartridges* on page 2. After connecting the cartridge to the cap in step 5, perform these sub-steps before proceeding with step 6.

- Place the end of the cartridge in a beaker to capture solvent and any compound that "breaks through" (Figure 6).
- On the CombiFlash Rf system touch screen panel, select the Tools>Manual Control menu option. This opens the Manual Control window.
- Click the Air Purge Cartridge button. Allow the air pump to run until the solvent is removed. The drying time can range from 10 minutes for hexane to 30–45 minutes for methanol.

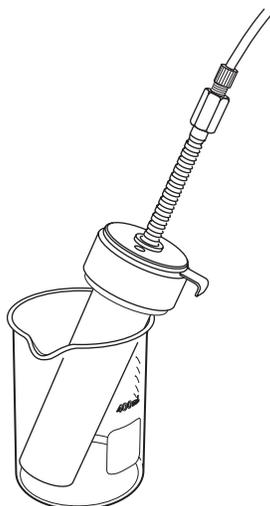


Figure 6: Dry the sample using the internal air pump on the CombiFlash Rf system (Optional)

Note

The system can automatically perform a post-run air purge to remove solvent from the cartridge and column. Use the Method Editor window to enter the Air Purge duration in minutes.

CombiFlash Rf SLCC Updates

Some CombiFlash Rf systems may have caps requiring sleeves. The sleeve is necessary for safe operation at pressures up to 200 psi.

CAUTION

If the system's cap requires a sleeve, never operate the system without the sleeve securely locked in place over the cartridge. Operating the system without the sleeve will cause leaks and may compromise safety.

If the cap on your CombiFlash Rf system requires a sleeve, Teledyne Isco recommends that you contact the factory to trade in the cap for the new design that does not require sleeves.

Ordering Information

Table 1 lists catalog numbers for ordering the solid load cartridge caps and disposable RediSep cartridges. To place your order, contact your Teledyne Isco representative. Or, contact the factory using the information on the back page.

Table 1: Teledyne Isco Catalog Numbers^a

Companion	Rf	Description
Solid Load Cartridge Caps		
60-5237-008	60-5237-047	Adjustable solid load cartridge cap (SLCC), fits 5 gram sample load cartridges
60-5237-009	60-5237-048	Adjustable SLCC, fits 25 gram sample load cartridges
60-5237-010	60-5237-044	Adjustable SLCC, fits 65 gram sample load cartridges
60-5237-015	N/A	Adjustable SLCC, fits 260 gram sample load cartridges. Includes loading rod and cartridge stand.
60-3877-061	N/A	Regular SLCC, fits 5 gram sample load cartridges
60-5214-023	N/A	Regular SLCC, fits 25 gram sample load cartridges
Empty Cartridges		
69-3873-235	69-3873-235	Sample load, empty cartridge (holds up to 5 grams) package of 30
69-3873-240	69-3873-240	Sample load, empty cartridge (holds up to 25 grams) package of 30
69-3873-225	69-3873-225	Sample load, empty cartridge (holds up to 65 grams) package of 12
69-3877-205	60-3877-205	Sample load, empty cartridge (holds up to 65 grams) package of 12, and two 450 g bottles of loose silica (75–150 μm), 60 Å.
69-3873-201	N/A	Sample load, empty cartridge (holds up to 260 grams) package of 6. Loading rod and stand ordered separately (60-3874-088 below).
60-3874-088	N/A	Loading rod and cartridge stand for 260 gram sample load, empty cartridge
Prepacked Silica Cartridges		
69-3873-238	69-3873-238	Sample load, prepacked silica gel cartridges, 2.5 grams, package of 20
69-3873-236	69-3873-236	Sample load, prepacked silica gel cartridges, 5 grams, package of 20
69-3873-243	69-3873-243	Sample load, prepacked silica gel cartridges, 12 grams, package of 15
69-3873-241	69-3873-241	Sample load, prepacked silica gel cartridges, 25 grams, package of 15
69-3873-310	69-3873-310	Sample load, prepacked silica gel cartridges, 32 grams, package of 12
69-3873-226	69-3873-226	Sample load, prepacked silica gel cartridges, 65 grams, package of 12
69-3873-311	N/A	Sample load, prepacked silica gel cartridges, 125 grams, package of 3.
69-3873-202	N/A	Sample load, prepacked silica gel cartridges, 260 grams, package of 4.
Prepacked C18 Reversed Phase Cartridges		
69-3873-237	69-3873-237	Sample load, prepacked C18 cartridges, 5 gram, package of 5
69-3873-242	69-3873-242	Sample load, prepacked C18 cartridges, 25 gram, package of 4
Prepacked Celite Cartridges		
69-3873-312	69-3873-312	Sample load, prepacked Celite cartridges, 2.5 grams, package of 20
69-3873-313	69-3873-313	Sample load, prepacked Celite cartridges, 5 grams, package of 20
69-3873-314	69-3873-314	Sample load, prepacked Celite cartridges, 12 grams, package of 15
69-3873-315	69-3873-315	Sample load, prepacked Celite cartridges, 25 grams, package of 15
69-3873-318	69-3873-318	Sample load, prepacked Celite cartridges, 32 grams, package of 12
69-3873-319	69-3873-319	Sample load, prepacked Celite cartridges, 65 grams, package of 12
69-3873-320	N/A	Sample load, prepacked Celite cartridges, 260 grams, package of 4

a. To order cartridges that require sleeves, contact Teledyne Isco for ordering information.

Teledyne Isco is continually improving its products and reserves the right to change product specifications, replacement parts, schematics, and instructions without notice.

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