VersaPak® Cartridges

VersaPak cartridges are pre-compressed, disposable flash columns containing high efficiency spherical silica or bonded phase sorbents, designed to meet your stringent flash purification requirements. Cartridge pre-compression reduces particle interstitial spacing to provide even mass transfer and balanced chemical interaction. The spherical geometry of the particles increases bed density and greatly reduces the possibility of particulate fines due to fracture within the cartridge bed resulting in the highest efficiency flash cartridges.

Sample Loading

Sample loading can be quite challenging at times due to the wide range of sample types that can be encountered in flash chromatography. There are multiple ways that a sample can be loaded onto the VersaPak cartridge for separation in the VersaFlash® station including:

1. Direct injection into the sample injector assembly mounted on top of the VersaFlash station (on-line)
2. Direct syringe injection onto the cartridge. (off-line)
3. Vacuum aspiration onto the cartridge using the VersaVac® manifold (off-line)
4. Using a solid sample cartridge prior to the primary cartridge (on-line)
5. Using a valve and loop injector for repetitive volume sample loading (on-line)
6. Through the pump loading for dilute samples (on-line, prefiltration is highly recommended)

For detailed instructions on each of these methods please see the VersaFlash HTFP Station Manual, T703012.

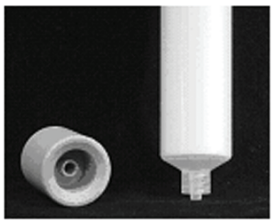
Cartridge Stacking

Cartridges can be stacked one on top of another and used in series for difficult separations, thereby, expanding the sample loading capacity and/or increasing the separation efficiency. Stacking also allows the use of different phase chemistries to perform bi-modal separations. For detailed instructions on stacking cartridges, please see the VersaFlash HTFP Station Manual, T703012.

Adapting the 23 mm Cartridges for use in the VersaFlash station

It is necessary to use the PEEK™ adapter with the 23 mm cartridges in order to properly seal the cartridges into the VersaFlash station. Simply place the male luer lock end of the cartridge into the adapter.

The cartridge can then be used like any other VersaPak cartridge and sealed into the station. These adapters are reusable so do not discard them with the used cartridge, simply remove it from the cartridge and rinse it with solvent for use with additional cartridges. The recommended sample loading should be onto the capped end of the cartridge as the cap has been designed for optimum sample diffusion.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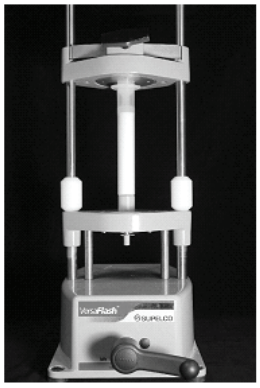
23 mm Cartridge & Adapter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23 mm Cartridge in VersaFlash Station

Cartridge Storage

Cartridges should always be stored in sealed shipping bags. Removing them from the bags may lead to moisture adsorption, which in turn could lead to changes in performance. Store C18 cartridges for multiple use in a non-buffered neutral medium containing at least 5% organic solvent (THF is not recommended).

Cartridge Disposal

Cartridges should be disposed of properly, using one of the following methods.

1. Flush out the residual solvent by applying a pressurized air source or using the VersaVac manifold.
2. Cap the ends and dispose of the cartridges appropriately.

VersaPak Cartridge Specifications

Description:	Single used spherical silica or multiuse end-capped C18 (26% carbon) columns for low-pressure purification.
Cartridge Housing:	Low extractable polypropylene
Frit:	Low extractable polyethylene
Solvent Compatibility:	Resistant to normal and reversed phase solvents when used under normal flash chromatography operating conditions (temperature, pressure and exposure time).
Packing Material Support:	Spherical normal phase silica (20-45 or 45-75 micron particle size, 70 angstrom pore size). Recommended pH range for silica packing materials is pH 2-8
Maximum Pressure:	50 psi (40 psi for the 110 x 300 mm cartridges)

T703008F

SUPELCO
Bellefonte, PA

I.D. (mm) x Length (mm)	Bed Wt. (g)	Qty.	Cat. No.
20-45 µm Spherical Silica			
23 x 53	11	20/pk.	97757-U
23 x 110	23	20/pk.	97758-U
40 x 75	50	12/pk.	97781-U
40 x 150	100	6/pk.	97782-U
80 x 75	200	2/pk.	97714-U
80 x 150	400	2/pk.	97763-U
80 x 300	800	1/pk.	97764-U
110 x 300	1340	1/pk.	97765-U
20-45 µm Spherical C18 Bonded Silica			
23 x 53	15	2/pk.	97759-U
23 x 110	30	2/pk.	97760-U
45-70 µm Spherical Silica			
40 x 75	50	12/pk.	97704-U
40 x 75	50	96/pk.	97705-U
40 x 150	100	6/pk.	97706-U
40 x 150	100	48/pk.	97707-U
80 x 150	400	2/pk.	97708-U
80 x 150	400	12/pk.	97709-U
80 x 300	800	1/pk.	97710-U
80 x 300	800	6/pk.	97711-U
110 x 300	1340	1/pk.	97712-U
45-70 µm Spherical C18 Bonded Silica			
40 x 75	70	2/pk.	97700-U
40 x 150	140	1/pk.	97701-U
80 x 150	515	1/pk.	97702-U
80 x 300	1050	1/pk.	97703-U
110 x 300	1920	1/pk.	97713-U

VersaPak Cartridges for Isco, Biotage and Analogix Flash Systems

VersaPak cartridges with high efficiency spherical silica can be used in automated flash systems from Isco, Biotage, Analogix and other flash instrument providers. The improvement in cartridge efficiency means that you can use smaller VersaPak cartridges for the same size sample saving money, solvent and time.

VersaPak I-style Cartridges

The VersaPak cartridge fittings have been modified to make them compatible with Isco flash systems. The cartridges have a female luer lock fitting and a male slip luer outlet fitting allowing them to fit directly into the Isco Companion flash system.

20-45 µm Spherical Silica

I.D. x Length	Bed Wt. (g)	Qty.	Isco Style
23 x 53 mm	11	20/pk.	97787-U
23 x 110 mm	23	20/pk.	97788-U

Larger cartridges and cartridges with C18 bonded silica or other packing materials are available, please contact Sigma-Aldrich Technical Service for more information.

VersaPak A/B-style Cartridges

The VersaPak cartridge fittings have been modified to make them compatible with certain Biotage and Analogix flash systems. The cartridge inlet has a female luer lock fitting and the outlet has a male luer lock fitting allowing them to fit directly into Biotage and Analogix flash systems. Simple modification of the fittings on the Biotage tubing may be necessary to use the VersaPak cartridges on some systems.

20-45 µm Spherical Silica

I.D. (mm) x Length (mm)	Bed Wt. (g)	Qty.	Analogix/ Biotage Style
23 x 53	11	20/pk.	97791-U
23 x 110	23	20/pk.	97792-U

Larger cartridges and cartridges with C18 bonded silica or other packing materials are available, please contact Sigma-Aldrich Technical Service for more information.

FlashMaster® Cartridges

Pre-packed SPE tube style flash cartridges compatible with the Biotage FlashMaster system are also available with the high efficiency spherical silica.

20-45 µm Spherical Silica

Tube Size (mL)	Bed Wt. (g)	Qty.	Cat. No.
60	20	10/pk.	97783-U
150	70	10/pk.	97784-U
60	10	10/pk.	97785-U
150	50	10/pk.	97786-U

Different tubes sizes, packing weights and materials such as C18 bonded silica, alumina, cyano and other materials are available, please contact Sigma-Aldrich Technical Service for more information.