

Solids Collection Filter (SCF™)

AVANTech offers a revolutionary new filter to collect and dispose of solids from suppression and fuel pools, sumps, and tanks.

By collecting solids right in the disposal container, our SCF™ eliminates costly steps for solids separation and reduces waste handling, contamination, and personnel exposure. By eliminating the need for secondary processing such as drying or solidification of solids, it saves money and manpower.

The Canister Concept

The main components of the SCF™ system are special filter canisters. When dose is not a major concern or solids volumes are small, these canisters can be used as "stand-alone" units, without a liner. When a large volume of solids is expected or several cleanings are planned, the canisters may be contained in a liner.

Each canister contains from one to seven filter elements. As these elements capture solids, excess solids fall from the elements and collect in the bottom of the canisters. Clean filtrate is produced for recycle or discharge.

Advantages of SCF™

- ✓ High flow rates up to 900 gpm
- ✓ High solids loading, >1/4 ton
- ✓ Pressurized system, no level control
- ✓ Approved dewatering system
- ✓ Replaces hundreds of bag and cuno filters
- ✓ No handling of individual filters
- ✓ Liner characterized for disposal
- ✓ Approved for disposal at Clive, UT, and WCS, TX

Packaging and Disposal

The SCF™ is operated until the filter banks are fully loaded with solids or administrative dose limits are reached. If the canisters are in a liner, spent resin can be sluiced to the liner to fill the voids around the canisters to maximal packaging efficiency.

The canisters or liners are dewatered using an AVANTech dewatering procedure approved by the South Carolina Department of Health and Environmental Control (DHEC). This assures compliance with the 0.5% Free-Standing Water (FSW) disposal requirement.



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Filter Elements

SCF™ canisters hold accordion filter elements from 2 to 10 microns absolute. The pleats provide large filter area, high solids loading, and long run times. Outside loading ensures that solids are trapped between the element and the canister.

Fill-Head

When canisters are mounted in a liner, the SCF™ manifold distributes influent to individual canisters. Instrumentation includes high-level auto-shutdown and CCTV manifold.

Control Skid

A control skid holds all pumps and controls for canister/liner filling, sluicing, and dewatering. A centrifugal pump supplies filtration pressure or supplements plant supply pumps.

The control skid can be operated unattended under the supervision of the Programmable Logic Controller (PLC). Sensors and interlocks prevent over-pressurization of the canisters and over-filling of the liner.

A low-flow (50 gpm) or a high-flow (900 gpm) control skid is used with the SCF-28. The low-flow skid is used when flow rates are under 50 gpm (e.g., tank/sump desludging). High-flow applications typically have low solids loading, but need high flow to maintain clarity or to process large volumes of water.

ALARA Operation

A control skid allows remote operation. The manifold used with a liner can be remotely connected/disconnected to keep personnel exposure ALARA. When canisters are in a liner, the water around them provides self-shielding. Standard casks or process shields can be used for external shielding.

SCF™ Sizes and Applications

For uses that involve small volumes of solids or low flow rates (10-50 gpm for maximum loading or 200 gpm for clarification), individual canisters of various sizes may be used and disposed of in a drum overpack or liner.

The SCF-28 Liner is recommended when there will be large volumes of solids or when several cleanings will be conducted and the liner can be stored between uses. This unit consists of four 7-element canisters in an 8-120 Liner.

Both this liner and its dewatering procedure have been approved by the South Carolina DHEC for disposal.

	SCF-1	SCF-4	SCF-7	SCF-28
Number of Filter Elements	1	4	7	28
Number of Canisters	1	1	1	4 in Liner
Maximum Flow Rate (gpm)	40	150	250	900
Est. Loading (# dry wt) @ 10 gpm/element	45	135	250	1600
Est. Loading (# dry wt) @ 3 gpm/element	65	200	470	2400
Disposal Volume (cf)	1.25	4	8	136



900 gpm SCF™ Internals