

Radwaste Solids Collection Filter (SCF™)

Mechanical filtration is an essential element of wastewater processing. In the nuclear industry, radwaste in particular, filtration is particularly problematic because of the personnel exposure and contamination associated with filter handling.

Over the last five years, AVANTech has integrated the proven **Solids Collection Filter (SCF™)** technology used in torus and spent fuel pool clean-up systems into liquid radwaste products (liners and individual canisters). The same advantages seen with the SCF™ products can now be used in liquid radwaste processing systems to save time, dose, and manpower.

Radwaste SCF™ Super Performance

The AVANTech Radwaste SCF™ provides superior removal of particulate, sediment, oil, grease, and other organic foulants from typical liquid radwaste streams. By placing the SCF™ ahead of the plant radwaste system, the downstream systems (ion exchange, reverse osmosis, etc.) can operate free of the foulants that cause decreased operating efficiencies. This directly correlates to improved performance in radioactive isotope discharges and media disposal volumes.

The SCF™ filtration system has been proven at more than 15 nuclear power plants to be successful for solids capture in support of radwaste operations, tank/sump cleanouts, equipment storage/dryer separator pit cleanings, and spent fuel pool clarity and cleanings. A complete list of references may be provided upon request.

The SCF™ filter cartridges are specially designed for high dirt loading, high flow rates, and low micron filtration. The radial pleat design of the cartridges produces very large surface area (~200 ft²/element) which in turn, permits high dirt and organics loading. The high capacity filter is rated at 40 gpm with a maximum pressure drop (D/P) of 35 psid.

The most commonly used filter element has a nominal filtration rating of 0.75-micron and 2-micron absolute rating, which is well suited for particulate capture in the radwaste process. As the filter elements load with dirt, the effective micron rating of the filter becomes lower, further improving filtration efficiency. Each filter can hold about 20-30 lbs of solids.



Advantages of Radwaste SCF™

- ✓ Sustained design flow rates
- ✓ High solids loading
- ✓ 150 psig design pressure/150°F design temperature
- ✓ Simple operations with minimal control requirements
- ✓ Highest filtration surface area per area on the market
- ✓ No handling of individual filters - disposable canister design
- ✓ ASME Code vessel capable (if required by state of use)
- ✓ Approved for disposal at Clive, UT, and Andrews, TX
- ✓ Radiation shields available for all SCF™ models

Radwaste SCF™ Capacity Comparison

Filter Type	Filtration Area (ft ²) per Unit
SCF™ Filter	220
6" x 30" Cartridge	60
8" x 30" Bag Filter	3.5
2" x 24" Cuno-Type Filter	1.0

Radwaste Solids Collection Filter (SCF™)

Radwaste SCF™ Liners				
Model	Filtration Area (ft ²) per Unit	Total No. of SCF™ Filters	Solids Volume (ft ³)	General Dimensions
SCF-200 RW Liner (ASC-200-SCF-LF)	10,750	49	65 (Solids) 75 (Spent Resin)	6'-0" O.D. x 6'-2" Ht.
SCF-170 RW Liner (ASC-170-SCF-LF)	6,160	28	36 (Solids) 60 (Spent Resin)	6'-1" O.D. x 6'-0" Ht.
SCF-120 RW Liner (ASC-120-SCF-LF)	6,160	28	36 (Solids) 60 (Spent Resin)	5'-0" O.D. x 6'-2" Ht.
SCF-EL-50 RW Liner (ASC-50-SCF-LF)	2,400	11	12 (Solids) 25 (Spent Resin)	3'-10" O.D. x 4'-4" Ht.

Available Micron Ratings (Absolute): 1, 2, 5, 10, 25-micron

Available Connections Sizes: 1", 1-1/2", 2", 3", 4" NPS

Available Connections Types: Cam-Lock, NPT, Victaulic©

Individual Radwaste SCF™ Canisters				
Radwaste SCF™ Model	Filtration Area (ft ²) per Unit	Total No. of SCF™ Filters	Solids Volume (ft ³)	General Dimensions
SCFT-150	2,400	11	12 (Solids)	2'-8" O.D. x 3'-8" Ht.
SCFT-075	1,500	7	7.5 (Solids)	1'-10" O.D. x 5'-0" Ht.
SCFT-075 (ASME)	1,500	7	7.5 (Solids)	1'-10" O.D. x 5'-0" Ht.
SCFT-055	1,500	7	4.5 (Solids)	1'-10" O.D. x 2'-10" Ht.
SCFT-030	660	4	3 (Solids)	1'-6" O.D. x 2'-7" Ht.

Available Micron Ratings (Absolute): 1, 2, 5, 10, 25-micron

Available Connections Sizes: 1", 1-1/2", 2", 3", 4" NPS

Available Connections Types: Cam-Lock, NPT, Victaulic©

