

Operating Instructions

Solu-Sert™ Soluble Filter Capsule



The Solu-Sert™ filter capsule is a self-contained filter “cassette capsule” that captures all particles that enter a filter cassette. It consists of an MCE filter membrane sealed to a cellulose shell to create the capsule. This capsule is then inserted into a Zefon 2-Piece filter cassette with a support pad as a complete unit. After sampling, the entire capsule is removed, digested, and analysis performed.

Solu-Sert™ is suitable for sampling for numerous types of metals including the following:

Aluminum	NIOSH method 7013
Arsenic	NIOSH method 7900
Barium	NIOSH method 7046
Beryllium	NIOSH method 7102
Cadmium	NIOSH method 7048
Chromium	NIOSH method 7024
Cobalt	NIOSH method 7027
Copper	NIOSH method 7029
Elements	NIOSH method 7300, 7301, 7303
Lead	NIOSH method 7882 & 7105†
Tungsten	NIOSH method 7074
Zinc	NIOSH method 7030

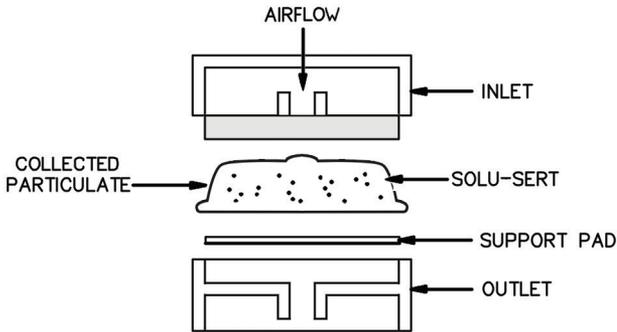
†= Blanks may have to be determined prior to analysis

Product Specifications

Shell Material:	Cellulose Acetate
Filter Membrane:	0.8µm MCE
Diameter:	37mm
Weight:	~200 mg @ 50% RH

How it works

1. The Solu-Sert™ is placed inside a 37mm 2-Piece filter cassette.
2. As air enters the cassette, all particles that enter the cassette are captured inside the Solu-Sert™.
3. After sampling, the Solu-Sert™ is removed and the entire assembly is dissolved for analysis.



Warnings

- Solu-Sert™ filter capsules are delicate and must be handled with care to prevent damage.
- Solu-Sert™ filter capsules must precisely fit the cassette inlet and outlet. They are designed to fit Zefon brand 37mm 2-Piece filter cassette housings, model #37MMH-2. Zefon has tested the fit of the Solu-Sert with SKC/Omega brand 37mm 2-Piece cassette, model #225-2050LF and as of 9-2013 can confirm adequate fit. Zefon has not tested nor can guarantee Solu-Sert capsules will fit any other brand of filter cassette.
- The Solu-Sert™ capsule is not appropriate for gravimetric analysis. Due to the hygroscopic nature of cellulose, tare weights will not be reproducible. For gravimetric analysis, use a filter insert constructed of PVC such as the Zefon Gravi-Sert™.

Filter Cassette Assembly

1. Prepare 37mm cassette outlets with a 37mm support pad.
2. Carefully remove Solu-Sert™ capsules from packaging tube, taking care to not apply pressure or squeeze the packaging tube while holding it.
3. Place Solu-Sert™ into the cassette outlet with the filter side facing down.
4. Visually inspect the dome of the Solu-Sert™ to make sure it has not been damaged or pushed inwards.
5. Place cassette inlet on top of cassette outlet, press and seal closed. Visually inspect cassette one final time to make sure dome is intact.
6. Insert inlet and outlet cassette plugs.



Post Sampling

1. Carefully open filter cassette, taking care to open it slowly so the Solu-Sert™ does not fall or pop out. (Zefon offers a cassette opening tool, product # ZA0046, to aid in opening cassettes).
2. If using hot block digestion, prepare samples under normal protocol as if using just filter by itself, but insert the entire Solu-Sert™ into the digestion solution. It will fully dissolve.
3. If using Microwave digestion, the entire Solu-Sert™ must be inserted into the digestion vial. For vials approximately 25-33mm in diameter, the Solu-Sert can be folded to fit inside the vial. The process for doing this is to first collapse the dome in the middle. Then carefully fold the filter side of the capsule onto itself. This must be done with care to prevent the filter from tearing before it is fully folded.



Step 1
Press the dome down



Step 2
Fold inward



Step 3
Folded in half

4. For digesters using 10mm vials, please contact Zefon technical support to discuss.

Accessories

PART#	DESCRIPTION
37MMH-2	37mm 2-Piece Cassette Housings
FSP37	37mm Cellulose Support Pads
ZA0046	Cassette Opening Tool



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