



INSTRUCTIONS FOR USE

Preparation

1. Start by removing the cellophane wrapping from the filter cartridge.



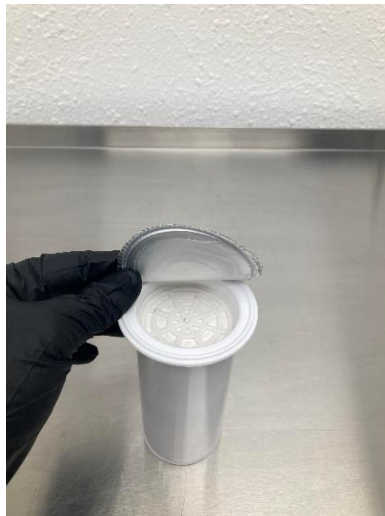
2. Carefully inspect the bottom of the filter housing where the paper is, looking for any tears or imperfections that could result in a rupture. Any questionable defects should be addressed with AFS for a replacement prior to use, or use a secondary backup filter (as outlined below)



3. *(Optional)*: For best results poke a small hole in the filter lid and place in a vacuum oven at 100°F for 30-60 minutes prior to use. This helps eliminate any humidity/moisture that may have accumulated in the media during shipping.



4. Peel foil lid away from cartridge and discard. If there is foil remaining on the cartridge after the lid has been peeled away, do not attempt to scrape the remaining foil off the cartridge. Doing so could result in damage to the cartridges built-in gasket. It is perfectly acceptable to operate the cartridge with foil reminsce present, doing so will not result in a bad/faulty seal on your machine.

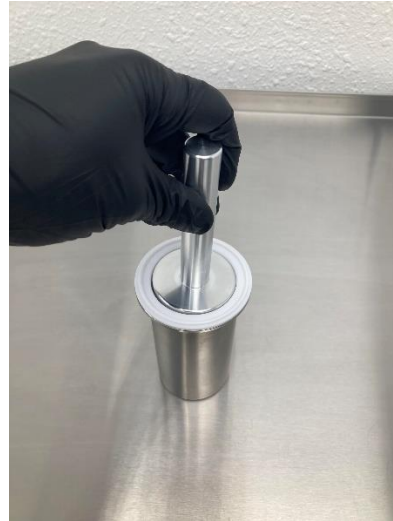


5. Place filter cartridge into filter housing.



- Using an AFS packer, firmly press the filter media/insert to ensure a tight packing in case pack was disrupted during the shipping process. The top insert is placed in the cartridges to prevent the media from shifting during transportation. It also keeps media in the cartridge from becoming airborne. If you are noticing a slower flow rate than you desire, with appropriate PPE you may either poke several holes in the insert before use or remove it all together. If you do choose to remove the insert, do not forget to repack your cartridge.

***** Important! Do not skip this step. Failure to pack will cause channeling which could result in poor filter performance and possible filter paper rupture. *****



Installation

7.

- a. **For internal systems** provided by the OEM attach the filter housing to the flange using the 2.5" tri-clamp. The filter cartridge itself acts as the gasket. Tighten bolts to **10ft/lbs.**



Place entire assembly back into column and follow reassembly procedures per manufacturers' instructions.

- b. **For external systems** running inline, assemble the base of the filter housing by installing the 2.5" -> 1.5" reducer using a gasket and clamp. The base of the filter housing is the side closest to the screen plate. Tighten bolts to **10ft/lbs.**



Ensure that the cartridge is fully inserted into the housing and install another 2.5"->1.5" cap reducer onto the top of the filter housing using the filter itself as the gasket. Tighten bolts to **10ft/lbs.**



Place inline assembly within the flow path of your extraction system using standard single pin 1.5" tri-clamp connections tighten the single pin clamps to **4ft/lbs**. For best results/control place the assembly directly above or below a ball valve.



**Please note, inline housings are not equipped with pressure relief valves or other safety related components. Please ensure your system has adequate protection for where housing is located. Do not place between two ball valves or closed cylinders without adequate protection.*

Operation

8. When using the AFS cartridge you will operate your extraction system as normal with the fill/soak process with an exception or two. When using AFS cartridges on any system ensure that both ends of the cartridge are vacuumed down, as the cartridge is full of media and can inhibit the vac down process. Assuming you are operating your system inline, make sure your material column and collection pot on either end of the cartridge are in vacuum before operation. Once you have verified the vac values, we can determine the best way to operate the cartridge based off your valve arrangement.
 - A. If your ball valve lives below your AFS cartridge, on the solvent inject have your ball valve closed and give the cartridge a moment to “soak” before you open your ball valve and introduce your solution to the collection chamber. This will effectively “prime” the cartridge for optimum flowrate and performance. Otherwise operate as you normally would. Allowing the cartridge time to prime will heavily decrease the odds of channeling within the media.
 - B. If your ball valve lives above your AFS cartridge, we will perform a priming process when beginning solvent inject. For this priming process start your run with the ball valve above the AFS cartridge open when introducing solvent for your extraction. Allow your system to inject the solvent through the material and cartridge until you see liquid passing into your collection chamber. Now that you see liquid coming into the collection chamber it is an acceptable time to close the ball valve to soak your material if you wish to do so. Placing the Ball valve above your cartridge and not following these priming instructions will lead to longer run times as well as diminished results from too much contact time with the media in the cartridge.
9. When it comes time for the solution to pass through the filter housing it will require Nitrogen or Argon assist (do not use compressed air or compressed CO₂). Set the pressure on the nitrogen regulator to **no more than 60psi**.



10. Connect the nitrogen/argon line to the top of the materials column and fill the head space with nitrogen as needed for flowrate.



11. Activate the recovery pump as with a normal operation. The combination of the nitrogen pressure above the filter and the vacuum pressure below the filter will cause the solution to flow through the media. Depending on media type and solution viscosity flow may vary. It is recommended to suspend the addition of heat to the collection vessel until ample solution has passed through the filter allowing a liquid solution to pool in the collection vessel. This will help prevent burning of extract materials if evaporation/recovery is happening at a rate faster than the flow through the filter. If the cartridge is primed correctly on the solvent injection this is not a scenario you should experience.
12. Once the solution is finished passing through the filter (as observed by sight glasses when available), you may vent off the nitrogen from the system to keep it from circulating through the system and being recovered into the recovery tank.



Disposal

13. Once the run is complete, remove the filter cartridge from the housing assembly and discard.



***Some contents of filters may cause irritation if handled. Wear appropriate protective gloves and eye wear when handling. Do not remove contents of filters as some contents may be harmful to respiratory system. In case of accidental spillage, use appropriate respiratory masks. Do not eat contents. Not intended for internal use.**

***Prop 65: May contain chemicals known to the state of California to cause cancer, birth defects, or other reproductive harm.**

(Optional) Secondary Backup Filtration

Inline housings have a secondary tri-clamp on the bottom of the housing where a sintered stainless filter may be used as a backup filter in case the primary filter paper were to rupture. Using a secondary process will slow the flow/recovery process, however this adds extra security in case of rupture.



Notice

There are many factors that can affect the tensile strength of the filter paper in the base of the housings, and mistreatment of the filters can result in rupture of the filter membrane causing media to become infused into the extracted products. These include incorrectly packing before use causing channeling, physical damage to filter membrane, excessive head pressure, and aqueous (water) reagents [too much water moisture will weaken the membrane; use dried or heavily frozen materials to ensure no water contamination]. Due to so many varying factors, and lawful limitation on purchasing of extract, AFS will not be responsible for product loss due to media contamination. It is the extractor's responsibility to ensure adequate due diligence and product knowledge when using AFS filters. If you are uncertain use a secondary/backup filter.