

STILL SPIRITS

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POCKET GUIDE

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SERIES

FILTERING SPIRIT

A step by step guide to the filtering process and the important role it plays in the distilling process.

FILTERING SPIRIT

Filtering, or polishing, is a common step post-distillation. It's an easy way to 'clean up' your spirit to ensure the purest possible flavour. We highly recommend filtering neutral spirit if you plan to use it with flavourings. Keep in mind, filtering your spirit can help improve the flavour, but it can only do so much. If it doesn't taste quite right, you may need to dilute and re-distil the spirit.

There are numerous filters for 'polishing' or filtration of spirit. Almost all are based around the use of activated carbon.

In the following pages, you'll learn about the filtering process, as well as the different types of equipment and consumables required for filtering spirit.



ACTIVATED CARBON

Activated carbon, sometimes referred to as activated charcoal, is typically made using a chemical, like phosphoric acid, as well as high heat. The base of activated carbon is usually wood sawdust or wood chips, but a variety of products can be activated and carbonized, such as plastic and stone. Activated carbon is extremely porous, giving it a large surface area for “trapping” larger impurities inside its pores. This is an adherence to the surface through adsorption. This differs from absorption, where molecules are incorporated or taken into a substance.



CHOOSING A FILTER

Choosing the right filter will be based primarily on the volume of spirit you plan to filter after each batch. Match the size of the filter to your batch size and you'll have fewer problems.

If you use a large filter packed with carbon on a small batch of alcohol, much of it might be lost to the filter!

Follow the instructions provided with the filter, and if the filter is of good quality, you should get great results!

CARBON BLOCK FILTER

A carbon block filter is a simple filter that has been designed for the home distilling market. It uses a compressed block of activated carbon. The density forces the liquid to pass through slowly. This is a great way to get started, but the consistency and quality of results can be an issue from time to time.

Sometimes a second pass of the spirit through a carbon block can be useful. These systems often provide average to good results but are suitable for most folks looking to add a bit of polish to their spirit. The Still Spirits EZ Filter is a good example of a carbon block filter.

CONTAINER FILTER

One of the easiest ways to use carbon is to put the spirit in a glass jar or alcohol safe container and add carbon to it. Stirring or mixing now and again is required to get good results.

If you put the carbon in a muslin bag, you can easily remove it later. Most people choose to leave the carbon in solution for 3 days, stirring or shaking when they walk by.

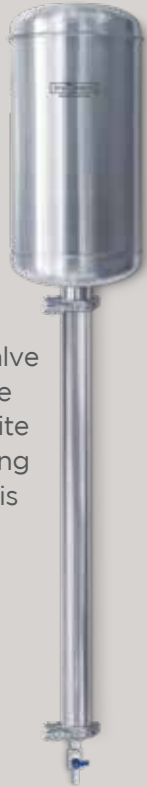
Add carbon loose if you have a fine mesh filter, or possibly by slowly running it through a coffee filter.



VERTICAL (OR GRAVITY-FED) FILTER

A vertical filter takes the container filter one step further. It's a long tube that holds carbon with a container at the top to hold spirit, and a valve to control flow at the bottom. The spirit is slowly removed via gravity, and the valve will control the speed of flow through the carbon. A large vertical filter allows you to use as little or as much carbon as you like, weighing it out first. A vertical filter with a good valve at the bottom allows you to pass a large amount of spirit through the carbon quite slowly, without much effort or monitoring on your part! The Still Spirits Filter Pro is a great example of this kind of filter.

There are other ways to polish spirits, but it comes down to passing spirit through activated carbon and then collecting the polished spirit, leaving the carbon behind - as simple as that!



QUICK TIP: Most whiskeys and rums don't need filtering, but a quick or minimal polishing (a quick run through a vertical filter, or a filter packed at 20% of the standard recommended amount) can be helpful to focus the aroma, flavour, and finish! Experiment with a portion of your whiskey or rum sometime!

USING LOOSE ACTIVATED CARBON

When using something like the Still Spirits Filter Pro or another vertical (gravity-fed) filter, you'll be packing the unit with loose activated carbon.

Carbon Type: There are numerous grades and sizes of activated carbon.

Anything from 0.45 mm to 2 mm can be used for filtering your spirit.





Carbon for use with spirits can be purchased at any homebrew shop. You should always purchase your carbon from a reputable supplier, as some varieties are not food grade. Using carbon intended for use with a water filter is an option as well.

Carbon Amount: Use a minimum of 8 g of activated carbon for every 1 L of spirit you plan to clean. If you're doing one run through your filter over carbon, around 25 g per 1 L should be enough to polish your spirit. Using anything over 65 g per 1 L will provide little difference.

If cleaning 8 L of newly distilled spirit, 400 g is a good target. At 500 g, providing 62.5 g of carbon per 1 L, you'll be maximizing your polishing power.

These are good numbers to work within, and somewhere between 25 g and 65 g per liter is going to get the job done.

QUICK TIP: If your filter manufacturer makes a recommendation for the type and amount of carbon, it's best to follow these guidelines!

STEP BY STEP POLISHING PROCESS

1. Prior to filtering, dilute your spirit to your final alcohol by volume (ABV) % target. Your spirit will filter well at 40-50% ABV. The addition of water helps impurities dissolve and adhere to the carbon.



2. Some activated carbon may be dusty. If you want to clean your carbon you can do so by boiling it for 15 minutes or by running water through your filter to rinse the carbon prior to use. Let this rinse water sit in your filter for 15 minutes and then drain. Doing either a boil or soak helps ensure the carbon pores are cleared and that there is some water to help the impurities move into the pores of the carbon.

SIDE NOTE: If you would like to keep your alcohol at higher than 50% ABV, or would prefer not to dilute it prior to filtering for another reason, wet your carbon first by filling your filter with water and letting it stand for 15 minutes prior to emptying. You may leave some water behind and this may dilute your spirit minimally but will help clean up your undiluted or high ABV spirit.

3. You can repeat rinse if a lot of dust has been removed. If there is an oily film or white cloudiness to the water in your boiled carbon kettle or coming off of your filter, repeat your rinsing process.

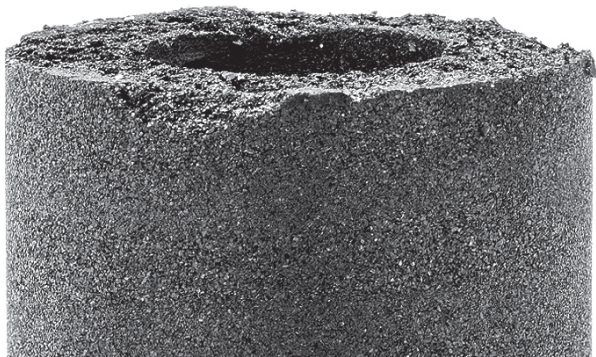
3^a. Using a Carbon Block Filter: If your filter came with carbon blocks or cartridges for use with the specific filtering system, these can be rinsed or soaked in water as well. Simply setting them in water for 15 minutes or passing water through them in their filter housing will help clean dust and particles out and should provide better filtration.

4. Once your carbon is ready, choose an appropriate amount of carbon for filtering. Around 15-25 g per 1 L for a good polishing or if you've decided to filter your dark (aged) spirits, and around 50-65 g per 1 L for maximum results on neutral spirits.



5. Fill your loose carbon filter with undiluted spirit. It's best to let the alcohol saturate the carbon by leaving it in the filter for 24 hours or more. More time only improves the prospect of a good polishing! We recommend a minimum of 8 hours of holding your spirit in the filter. If you run it through immediately the carbon will not have time to treat the spirit and may also create channels in the carbon if you run it too fast.

5^a. Using a Carbon Block Filter:
A carbon block filter is meant to slow the process, so holding spirit above the carbon block filter won't help much, but you should run the carbon block at no more than a drip or two per second in most cases. It's always good to follow manufacturer instructions!



QUICK TIP: In a hurry?

Leave half of the pre-rinsed water if it's running clean and just 'chase' this with the alcohol. This allows you to run your filter sooner as the bottom half of your filter is 'saturated.' We recommend letting it sit 2-4 hours before running the spirit off.

6. Once you're ready to run spirit through, remember that speed affects the carbons ability to polish. If all of your spirit has been sitting in the carbon for a while, run off speed may not have as big of an effect. If that was the case, and your spirit is completely in your carbon tube, you can run off your spirit at around 2 L per hour. That's about as fast as you'd want to go. On the slow side of things, you can let your spirit filter drip at one drop per second. Slower than that and you might just be wasting your time. 2-4 drips per second is pretty typical.

QUICK TIP: If you have a valve, dial it back to the 'break' in the stream so that the spirit is dripping out, rather than flowing in a constant stream. This is the 'sweet spot' , and you should collect around 1 L per hour - a great target.

7. Collect into a glass or stainless jug. If you have a glass jug large enough to collect your entire spirit run, then you can walk away and check in near the estimated end of your run. If you're using quality, clean carbon, there should be no difference in the spirit run at the beginning or the end of filtering.

TIME TO ENJOY!

Now that your filtered and polished spirit is ready for aging or flavouring, it's almost time to sit back and enjoy your favourite drop!

Be sure to check out our full range of flavourings at:

www.stillspirits.com





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