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Ask Bob!

Got a question about filtration issues? You've come to the right place... Just Ask Bob!

1) I know I need to use carbon to remove color, flavor and aroma from malt-based products. What are my options?

There are basically two ways to use carbon: you can use carbon powder and a DE filter to remove it, or you can use carbon-activated filter sheets.

The easiest method for most craft brewers is the use of carbon-impregnated sheets. They're used just like standard filter sheets, but it's critical that you ensure that the beer has enough contact time to react with the carbon. Most carbon used in the brewing industry needs 3-5 minutes of contact time with beer to work effectively. However, different manufactures have different requirements. An added benefit of carbon sheets is that they can be reactivated and reused several times.

2) I have an old filter housing that hasn't been used in several years. I currently only DE filter my beer. My DE filter was running well, but over time it is beginning to blow more and more DE through. Can I use this old filter housing? And if so, what type of filter should I use?

I love two-part questions! To begin, we'd need to find out what type of housing you have. There are many different style of filters made by many different filter companies. This is also true with filter housings. Chances are that if it's very old, it's a DOE (Double Open-Ended) filter. DOE housings are easily identified by the presence of tie rods or hold-down plates. If you are unsure, you can e-mail a picture of the inside housing and I'll be happy to help you out. Once

you know for sure, choosing filters is easy.

The first thing to look at when choosing a filter is the flow rate. This will ultimately tell you what type of filters you can use. All filters have unique flow curves. Pleated filters have more surface area than comparable standard depth filters, so a 5-micron pleated filter, for example, can handle a higher flow rate than a standard depth filter. If the housing is on the small side, you will most likely be able to use only pleated depth filters. For larger housings, you can choose either pleated depth or standard depth filters. Standard depth filters are typically cheaper, but need to be replaced more frequently. The more expensive pleated depth filters last longer, and usually end up being cheaper in the long run. No matter what type of filter you need, you should always contact a filter sales specialist, as filter technology is always advancing.

3) My beer currently goes through a small DE filter, and then through a plate and frame (filter sheets). The DE filter has been rebuilt several times over the years, and the plate and frame is getting old. I'm having a tough time maintaining consistent beer quality. I'm considering changing over from my plate and frame to a cartridge-type filter system, but I've heard that these cartridges are difficult to operate. I'm a small brewer and I'd like to keep things as simple as possible...

Many craft brewers use the same filter set-up that you are currently using, for the same reasons you alluded to in your question: it works well and is easy to use. However, cartridge-type filter are also easy to use! And there are other advantages to using cartridge-type filters as traps.

The biggest benefit of a cartridge-type system is that it's enclosed—the filters are sealed in a filter housing. There is no possible way for harmful bacteria to infect the filter or beer. Plate and frames are considered open filters. Open filters have no housing...beer actually leaks onto the floor, and since they're

exposed to the environment, open filters are susceptible to bacteria. Also, filter sheets are nominal rated, which means your filtered product quality may vary slightly.

Benefits of cartridge-type filters would be: no beer leaking on the ground; less filter change-out, which saves man-hours; and absolute-rated filtration, which will give you more consistent overall filtration. Using cartridge filters is just like using filter sheets: Sanitize, Cool, Filter, Clean.

4) We have a small DE filter with horizontal leaves in a vertical vessel that seems to have unstable and too little precoat when starting up. We have to run circulation for an extended period of time to clear up the filtrate before we can go on line. We also seem to have a very limited capacity for heel filtration when changing beer types. The scavenge screen seems full after just one filtration...

Your filter is probably between 2 and 6 m² in size, and might have just a bottom filling/filtration feed. This type of filter is usually a wine filter that has been adapted for beer filtration. However if the internal flow distribution leaves something to be desired, try the following: Do a precoat as you normally would. Push the water in the vessel out through the filtrate outlet. When the filter is empty, leave all valves open and lift the top. This should enable you to observe the cake distribution in the vessel. If most of the cake is on the bottom elements, you have a distribution problem. If not, your problem lies with either the seals or the leaves. If there's too much cake on the bottom elements, do this: Make sure your precoat flow is 10 to 18 hl/m² of filter surface, and throttle down on the heel filtrate discharge. How much to throttle down or how long to keep the heel filtrate open during precoating is dependent upon the severity of the distribution problem. Check on the cake after trying the change to see how the distribution is. Finally, make sure that the speed is not too high. If it is, you'll notice a wash-off on one side of some of the leaves. ■