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Ask Bob!

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

1) I've been hearing a lot about CO2 filtration for my brewery. I'm seriously considering installing some filters, but only one at the CO2 bulk tank. I think it'll be much easier and cheaper than using filters at each point of use. Is this true?

Installing filters at each point of use will definitely cost more money, and will also be a little harder to install. But don't forget that the task at hand is to ensure that the CO2 that comes in contact with the beer is free of the organisms that make beer spoil. The best way of doing that is to filter the CO2 right before contact with the product.

Point-of-use (POU) filters will be smaller due to lower flows and could be capsule filters (housing and filter media in one disposable unit); due to high flow rates the filters located at the supply tank will have to be much larger. Also, POU filters reduce the contamination risk from your lines. You can always buy one CO2 filter for all your Bright beer tanks and move the filter assembly to whatever tank you plan to carbonate.

2) I'm planning to open a 4,000-bbl brewery with the goal of doubling my production in two years, and then doubling it again in the next three. I know there are many filter systems available, and also many sizes. I don't have the capital to buy a large filtration system in the beginning...is there anything I can use at start-up and grow with in the future?

I suggest you take a look at what I call a "combi filter." These filters are great for the craft brewer for several reasons. First of all, a combi filter is a DE filter and a fine filter in one system. A set-up like this is all you'll need as you grow. As you increase production you can buy more plate and frames to increase surface area in the filter. The more surface area you have in the filter, the more beer you can filter.

Another benefit is that if you only want to clarify your beer, you can just use the DE side. If you want to have a brilliant, stable beer, you can use both the DE side and filter sheet side. Since this is an all-in-one filter system, beer losses will be minimal. One thing to keep in mind, however, is that these filters require a bit of "elbow grease" cleaning after use.

3) I've been using trap filters for some time now. What's the best way to store these filters if I don't plan on filtering for a couple of weeks?

Most trap filters used today are constructed of polypropylene. The best and easiest way to store these filters is to clean the filters with the manufacturer's standard protocol: 1) Drain filter housing; 2) Pressurize housing with sanitary CO2 or nitrogen to about 5 PSI; 3) Sterilize filters before use. I always suggest hot water at 80°C (176°F) for 20-25 minutes to sanitize. Periodically check to see how much pressure is in the housing. If it starts to decrease, add more CO2.

This should work if you plan on keeping the filters installed in the housing. If you need to remove the filters to filter another product, remove the elements carefully post-cleaning, store the filters in a 20-50 ppm PAA, sodium metabisulfite or alcohol (without o-rings) in a

closed container (PVC pipe with closed-off ends). To bring them back on line you will need to replace the o-rings and then flush the elements thoroughly to remove the storage solution. Sterilize and then filter.

4) We have a small DE filter with a built-in dosing unit. When the unit was new we had very efficient agitation, but had filtration problems if we left the unit on with DE in it overnight (which we'd do to avoid wasting DE).

Now, we don't seem to have much agitation, and we need to make sure all DE gets wetted. However, the problem with overnight DE has disappeared. Any thoughts on why this might have happened?

You probably have a small impeller on a fast direct drive agitator. In the beginning it had a hefty agitation, but it also was crushing the DE particles and reducing the size of the large particles if left running too long. This created your filtration problem; your previously coarse DE was now ground down to a fine DE and couldn't compensate for solids suspended in the beer.

This grinding action also resulted in loss of impeller size until almost nothing was left, which would have subsequently fixed your grinding problem by simply reducing the amount of agitation.

The best solution is to get a large impeller driven by a slow-moving gear motor. However, dosing pumps and agitators are frequently driven by the same motor. If that's the case, get a new impeller and make sure you don't have extended runs with DE in the tank. ■