



Brew Pub Business Model Philosophy: Brewhouse Size at a 7bbl Minimum

This may or may not be one of those things that you wish you knew before you started, or something that falls under "if I were to do it all over again I would.....". However, you would agree that information is powerful, and when you are making the big decisions, having all the information related to that decision at your fingertips can afford you the conviction you need to move forward with what makes sense for your well thought out strategy.

As you are likely aware through all your due diligence and business planning, sizing your brewery takes some figuring, as well as predicting growth in year 3, 4, 5. In years 3-5, will your existing equipment serve the demand you have created on your product at a reasonably level? Will your future growth calculations be met with your initial start up budget?

Related to your initial budget, does it include expenditures on equipment that can be easily added after a year or two of operating? Are these items adding up so much as to dictate the size brewhouse that is affordable at start up? Are you including nice to have versus need to have equipment in your budget that could be foregone? Equipment items that can be added later include: extra pump(s), VFD's on pumps, brew deck platform, grain mills, an auger/conveyance for a grain mill, fancy CIP/Keg Washing station, self-heating Hot Liquor Tanks, and converting some connections to stainless steel piping. Nice things that are not really needed at the brewpub scale include process piping for the brewhouse, more complex controls, and rake and plow on the Mash Tun. If you are budgetarily forced into a decision for a certain size brewhouse because of the items described in this paragraph, then it's worth playing around with evaluating a different start up scenario that considers reducing the equipment you will start with (which can be easily added later), and some of the nice features that are not at all necessary.

You know your target business model best, and don't take this as expert advice on your strategy....but I have heard that when opening a brewpub, you should seriously consider going with a 7bbl at a minimum (and no larger than 10bbl). You can always brew a little less volume, and less frequently. But I also think this takes into consideration the cost of upgrading. What I mean by this is, let's say you start with a 3.5 or 5bbl (I see the 3.5bbl as a possible exception as it can easily remain in service as a pilot system if space allows), you have the cost of that initial investment, and a need to convert to a larger system early on will not only represent a loss of production during the transition, but having to buy the new equipment before selling the old equipment can be a trick.

We work close with Brewery Finance. They really know the business, and of course look at it from a different perspective. Since they are in Denver, we usually get beers when we are over there delivering equipment to Denver area customers. They had mentioned a few stories about a brewery financing a certain size brewhouse, in which ended up being undersized and thus not serving the growth they were experiencing. Problem was, the equipment wasn't approaching being paid off by the time they needed a size upgrade. Since it's difficult to sell off your system and then buy the new system (loss of production), it is equally as difficult to be able to finance the new system, prior to selling the old system.

Basically, upgrading in size has a significant cost associated with it, that is in addition to the actual price of the upgraded equipment. That said, your initial purchase of equipment may be the most critical decision about equipment that you will make. Purchasing the brewhouse size that can get you pretty far down the road (calculated growth) is optimal.

My statement about 7bbl being a minimum comes from many conversations with Tom Hennessy, a well known brewery consultant that specializes on budget breweries designed for the brewpub model. Out of all the brewhouses we have

built in our 3.5bbl, 5bbl, 7bbl, 10bbl offering, most are 10bbl, the next popular size is 7bbl. We have only built a handful of 3.5 & 5's (which do have their place in certain market scenarios and strategies). Tom Hennessy was the motivation behind our product offering and philosophy, and is a local and brewery owner in our area (Colorado Boy Brewery). He has owned, operated and sold 7 successful breweries, and has help start over 80 brewpubs. He has written three books on the Brew Pub business model, including the Brewery Operations Manual. Hennessy also offers a Brewery Immersion Course, a three day seminar centered around your project, teaching brewing operations as well as the business end. <https://www.coloradoboy.com/immersion>

Usually, a brewery grows its production by first adding Fermenters, and eventually a double size Fermenter for a double brew of the most popular variety. The double brew scenario also dictates the need for enough hot liquor. If a brewery gets to a point where they are double brewing 2-3 days a week, one easy upgrade scenario may be adding a double sized self-heating Hot Liquor Tank, a third vessel, such as a dedicated whirlpool. This would result in reducing the time required to double or triple brew in one day.

Having a oversized or double size Hot Liquor tank allows you to double brew with ease, and recapture water from the Heat Exchanger on the first brew. To save money on a HLT, most of our customers plan to heat their hot liquor in the Kettle the day before brew day, and transfer to the HLT in the morning. By heating the water slightly higher than strike temp, you account for the temp loss in transferring to the HLT. This scenario eliminates the need for the HLT to be self-heating from tap water temperature, which is a more expensive vessel. It is good to have a port(s) for electric immersion elements, in case the temp needs to be raised in the HLT a degree or two, due to perhaps an unexpected delay in brewing. There is actually a lot that goes into careful consideration on the type/size of a hot liquor tank. For more on this, visit our informational page on this via our website.

<https://static1.squarespace.com/static/5a9e9942da02bcf47a068ed2/t/5b0340c603ce64928f514f79/1526939846527/Hot+Liquor+Tanks.pdf>

One quick thought on using Hot Water on Demand exclusively for your hot liquor; what vessel will you be able to recapture your hot water from the heat exchanger....will it just go down the drain? How will you adjust the PH, or other water treatments, will this be done in the mash tun or kettle during the brew? Hot Liquor Tanks play a vital role.

Here are some numbers to glance at:

Brewhouse Size & Estimated Cost	Financing Example: for Startups (20% first payment), 60 months	Financing Example for existing brewery expansion (first and last payment up front)
5 bbl: \$51,324	\$1009.54/mo	\$1119.38/mo
7 bbl: \$53,984	\$1061.87/mo	\$1177.39/mo
10 bbl: \$58,259	\$1145.95/mo	1270.63/mo

Estimated Cost Differences by size (not including Cellaring tanks):

From 5bbl to 7bbl: \$2660

From 7bbl to 10bbl: \$4275

From 5bbl to 10bb: \$6935

The above Brewhouse prices in the table include a platform, single size Hot Liquor Tank, Grant, (1) Pump with VFD, Two Stage Heat Exchanger, all required valves fittings & hoses, simple controllers.