

Facilitator — June/July 2015



Taking the Long View

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Points to consider for a long-draw

Along-draw beer system uses glycol refrigeration to keep beer cold, all the way from a walk-in cooler to the tap. If you are thinking about installing a long-draw beer system, there are some important questions to consider, such as:

- How far will the keg storage be from the tap?
- Do we want the lines to run overhead or underground?
- What types of beers will we be selling?
- Do we want to push or pump the product?
- How can we maximize our profits?

So, let's take these questions one at a time and break them down.

How far will the keg storage be from the tap?

The answer to this question will determine cost and size. The product/ glycol conduit will have two to four glycol lines that send and return (circulate) the refrigerated glycol to keep the beer cold. The glycol lines surround the product lines, each of which directly contacts the glycol lines. This bundle is insulated and sealed by vinyl tape. The length of the run will determine the cost, chiller size and product loss.

Depending on the number of product lines, conduits average between \$10 and \$27 per foot.

Chillers are rated by BTUs, and the horsepower ranges from 1/5 to 1.5 horsepower, and even larger for remote applications.

The length also determines loss. Your beer vendors should be cleaning your lines every two to three weeks. There is three-quarters of an ounce per foot, per line. A 100-foot run has 75 ounces of product per line. Using a 16-ounce glass, that calculates to between four to five beers that go down the drain. With a 12-ounce glass, that is six beers down the drain that you paid for but cannot sell.

Do we want the lines to run overhead or underground?

The answer will help you decide if you should push or pump, and it affects the size of your chiller. You can do both in either situation but need to consider the gravity. Lifts and falls can create gas pockets in the lines, and this can lead to foam.

Your choice will also determine whether you have to install a beverage chase. Due to the ridged construction of the product/glycol conduit and its insulation, beverage chases have a long radius at any turn. All turns must be kept to a minimum if the lines are going underground or overhead. They need to be sealed and water proof. If the chase is compromised and takes on water, your glycol chiller will not be able to handle the load, resulting in foaming beer.

What types of beers will we be selling?

This will determine what types of gas you will use to operate your system. Stout beers require a 25/75 blend of carbon dioxide and nitrogen. Lagers and ales require CO2. If pushing, a blend of 60/40 or 70/30 should be used.

Do we want to push or pump the beer?

If pushing beer, you should note that lagers, ales and stouts have natural CO2 content from the fermentation process, which is typically 12 to 15 psi. CO2 can be in a liquid or gas state. CO2 that is under pressure and under temperature can be dissolved in liquid. CO2 at 38 degrees and above will convert back to a gas.

If your kegs are at 34 to 38 degrees with straight CO2 pressure, your beer will be over-carbonated. To help this problem, beer systems use a blended gas. The pushing method can be achieved by blending CO2 and nitrogen to a ratio that meets your needs. They use CO2 and nitrogen in order to increase pressures above the 12 to 15 psi of natural CO2 pressure to push the beer out of the vessel to the faucet. This prolongs the effect of the over-carbonation of beer.

If pumping beer, you do this by keeping natural keg or "RACK" pressure on the vessel at 12 to 15 psi. Then, using CO2 like electricity to operate the pumps keeps the beer packed in the line, minimizing gas pockets and giving consistent pours.

How can we maximize our profits?

Determine your conduit length and calculate your product volume based on the number of flavors you will have. Also, determine if the length of run warrants the use of a F.O.B. (foam on beer).

A F.O.B. costs between \$70 and \$120. It uses a float to seal the product line and stop the flow when the keg is empty. Therefore, it doesn't lose the primed line, which means you don't have spraying foam at the end of the keg, and you don't have to re-prime the lines.

As mentioned before, with a 100-foot run, serving a 16-ounce glass equates to wasting about 4.68 beers.

The most important thing to remember, no matter what decision you make, is to keep all your equipment maintained. Temperature is the No. 1 cause of foam and waste. Keep your walk-in cooler in good operation, and maintain your glycol refrigeration system on a regular basis. These measures will help sustain the life of your beer system and maximize your profits.

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