CBC Online Seminar Q&A

**Draught Beer Quality Workshop: Demystifying Dispense Gas**

Q: If the serving lines rise 6 feet above the keg, travel to the tap location, and then drop 6 feet to the taps, is the static resistance zero? All of the line is identical all the way to the taps and the trunk line is maintained at the same temp as the cold room and glycol chilled all the way to the taps. Distance is 33 feet.

A: Yes. The drop cancels out the rise. The distance is a different story. The length of the line and the internal diameter must be considered as they will add resistance that will need to be overcome with applied pressure to the keg. If that pressure is 2 or so PSI over ideal gauge pressure, then a blended gas (or pump) should be used.

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Q: If you receive a keg from a brewery that doesn't show you the volume of CO2 (most of them in Argentina don't show it), is there any way to calculate that volume in the keg?

A: There a few breweries in the US that do list the v/v CO2 on the keg somewhere. But not many. Generally, you have to go off of style and make a best guess. I just Goggled it and found this: https://www.kegworks.com/blog/co2-gauge-pressure-settings-draft-beer-styles/ which is a good place to start.

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Q: The draft manual refers to the steel shank and bend tubing as the “choker line,” but I’ve previously heard the 3/16 tubing used to balance the system called a “choker line” too. Are both correct?

A: Choker is a reference to “choking” the line down (or restricting it with a smaller diameter tube) typically right before it is connected to the skank in the tower. So, in my mind it’s anything that does that. Generally, it’s vinyl tubing which the length of is a controllable. It’s where the system is brought into balance. The problem with vinyl is its porous nature. There are flexible barrier tubing options now on the market and other products that add restriction in the barrier tube itself (little whirly beads, for instance).

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Q: Is there any benefit of balancing a line with a choker line vs. using an adjustable tap (as common in Europe)?

A: Ultimately a properly designed system is balanced correctly from the get-go. Flow control faucets are a way to “band aid” a poorly designed system. Although, there are times when a flow control is desirable - when going from a 2.5 v/v CO2 beer to a 3.5 v/v CO2 beer on the

same line / faucet and the line was designed for 2.6 v/v $CO_2$, for instance. The flow control faucets allow one to add and take away restriction readily at the faucet.

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Q: How do you feel about flow control faucets? I've always heard they're amazing but I wonder if the use of them is just ignoring some issues that might be happening inside the keg or draft lines? For example, a server adjusts the flow control because the beer is pouring foamy instead of going in the cold box to check what the source of the issue is.

A: Same answer as above. But will add that the biggest issue is bartenders messing with them. If people aren't properly trained, they become a nightmare as every person wants to monkey around with them. And your right, go to the cooler and figure out what the real problem is (likely temperature) and maybe pressure.

Q: What about if you have the cooler 10 feet up from the faucet? Are you gaining pressure?

A: If the bar is in the basement and the cooler is on the ground floor, and the drop is 10' then yes, you would subtract 5 psi from applied pressure as the pull of gravity should be accounted for.

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Q: What is the best way to serve a beer, such as a stout, at a higher temp (let's say 42 degrees F) on blended gas without having the pressure increase over the desired vinyl line pressure limits (e.g. 30 PSI max)?

A: Well, go to a pump. I honestly believe pumps could replace blended gas in any situation and you can pour off ideal gage pressure. A problem is being sure the pump is periodically taken apart and thoroughly cleaned and if it were to fail (rarely happens) you stop pouring beer, on that line, that day. Both are easily overcome by have a second clean pump in a drawer. Once a quarter, take off the old, put on the new and then clean the old one and put it back in the drawer. If it fails, you have one ready to go…

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Q: Is there equipment for a direct draw system that will help proper dispense of many beers with different carb levels? In particular would a $CO_2$ regulator on each tap line make sense? Or is that not the right science.

A: It's about having a dedicated regulator to each tap so that the pressure can be individually set according to that beer's specific volumes of $CO_2$

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Q: Since many establishments don't pay much attention to CO2 levels, should many of the beers designed for a wide market be at a certain carbonation level so they are less likely to have issues when being poured with industry standard beers?

A: I would say the majority beers in the US are around 2.5 to 2.8 v/v CO2 which is why it works at retail for the most part. But as beers become more eclectic and consumers demand more choice, establishments should respond by presenting the best possible experience at retail and that requires an understanding of the basics of draught dispense.

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Q: Are all these calculations independent of how full the keg is? Meaning it doesn't matter how much beer is in the keg.

A: The hydrostatic pressure of the liquid in the keg does enter into the equation. But it is so insignificant that it is not factor (it would be a bigger deal if the keg were 10 feet tall). So no.

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Q: So the ideal situation would have you changing pressures every time the restaurant or bar changes the type of beer,but in reality we never know when they change the type beer.

A: That's true. Most are pouring with the same pressure across the board which is likely set for the large legacy brewery's beers. And that is for 2.6 – 2.8 v/v CO2. This is ok for all the beers approaching those volumes but is problematic for beers with a lot less or a lot more volumes of CO2. For bars wanting to have a wide selection, they should have lines balanced to several levels of CO2 volumes and then switch out beers on those lines with similar volumes.

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Q: What's that calculator we need to download again?

A: Easy Blend by McDantim