

**DO YOU KNOW  
WHAT'S IN  
YOUR KEGS?**

**WE CAN HELP  
WITH THAT!**



# How much is too much?

- **Overfilling of kegs is a critical issue, especially among small craft brewers**
- Kegs filled to overflow are kegs that are overfilled
- Overfilling results in lost revenue and damaged kegs
- 1/2, 1/4, and 1/6 bbl kegs are net, or working volumes.
- The gross volume is generally 1.5-2% greater. The additional volume is intended to be filled with gas, not beer

# Understanding Why Kegs Require Headspace

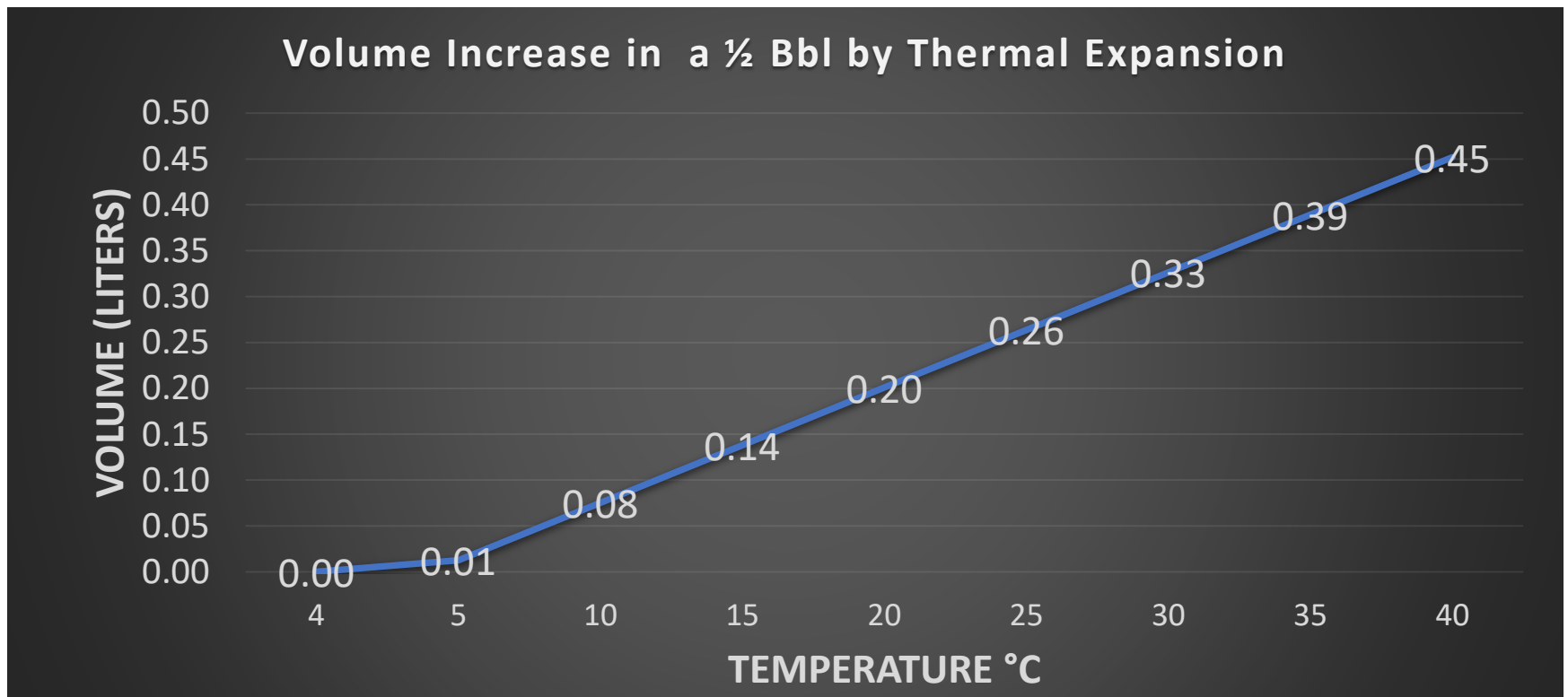
It is commonly recognized that bottles and cans of beer need to have headspace. Otherwise they'd be popping caps or blowing up on the shelf with some regularity. It is important to understand that while kegs are significantly stronger than cans or bottles in many ways, they are no match for thermal expansion and the power of hydraulic force .

As the cold beer you carefully placed into your kegs warms up, it expands. This additional volume has to go somewhere and if there isn't a cushion of headspace, the results include damage to the valve, damage to the keg, and loss of beer. Below you can see some examples of the damage this can do, from the mild rippling seen on the left to more extreme examples center and right.



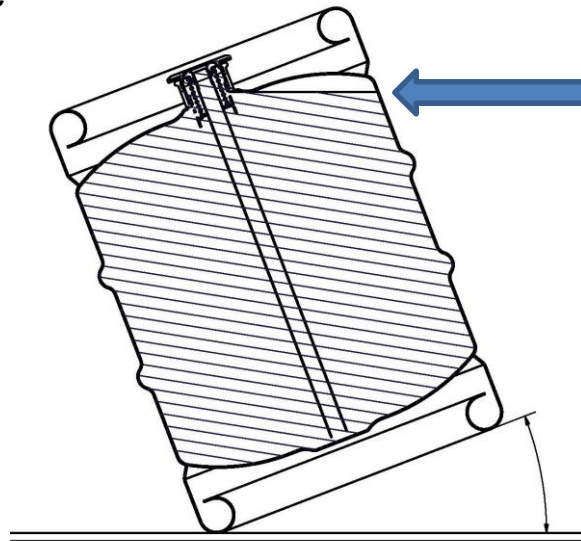
A ½ Bbl keg filled at 4°C will increase in volume by 140 ml at 15° C, 200 ml at 20° C and 450 ml by 40° C.

Without proper headspace, the extra beer volume has nowhere to go, and pressures inside the keg can reach **or significantly exceed** 10 bar in ½ bbls and 13 bar in sixth bbls.



# Over-filling

- Thermal Expansion of Liquid = hydraulic pressure  
*Leave head space! Your kegs are designed to hold full specified volume of beer plus head space.*
- **Best method:** fill by metered volume or by weight
- **Second best method:** fill upright to overflow through coupler with keg propped on an angle



**Fill to here!**

(the angle will need to be calculated for different kegs to get the correct volume fill)

**Head space:**

20L = .4L

30L = .6L

50L = .8L

½ bbl = 1.0L

- **Worst method:** fill upright, flat on the floor (valve end up) to overflow from coupler resulting in keg that is 100% filled with beer – over-filled

# Fundamentals of Keg Safety

- **Work safely! Work on ONE KEG AT A TIME! No shortcuts!**

- Kegs must always be depressurized before removing a circlip or spear.
  - Extra care must be taken if there is any evidence of damage to or tampering with the circlip
  - Depressurization must be completed/confirmed by the person who will be servicing the keg.
  - Keg must be depressurized immediately before service is performed. Remnant beer and temperature changes can re-pressurize a previously de-pressurized keg.
- A new circlip of the best quality and design should be used every time a spear is installed. **This is not optional.**
- Acquire service tools specific to the spear/neck type and manufacturer.
- All employees who service kegs should be fully trained in the safe use of the proper tools and supported with detailed SOPs

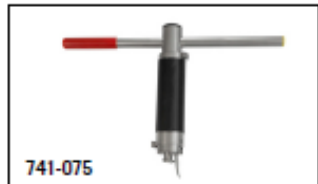
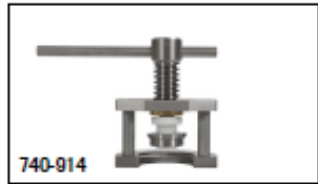


These are NOT keg service tools!



# These are keg service tools!

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Note – Micro Matic keg service tools are specifically designed for use with Micro Matic spears. Use with spears from other manufacturers is not recommended or warranted



***At Micro Matic we appreciate your business, and  
hope that you will specify genuine Micro Matic  
spears in all the kegs you buy***

**Thank you for your interest and attention!**

***For additional information, please contact:***

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