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MoreInstructions™

Cornelius Keg Topping System for Barrels

Keg Like A Pro!

Congratulations on your purchase and welcome to kegging! This guide is designed to teach you how to clean, sanitize, fill, and dispense your wine using Cornelius or "Corny" style kegs.

Whether you are looking for an ideal system for topping-up barrels, or just want to serve wines by the glass from your cellar, kegging is a great way to safely store and dispense small amounts of wine while completely avoiding oxygen exposure. The process involved in kegging wine may seem a little intimidating at first glance, but it is actually pretty straightforward. We're sure that after reading this manual you will be kegging like a pro in no time. Let's get started!

Kit Includes:

- 5 gallon "Corny" keg
- 20 cu. ft. Argon/Nitrogen tank
- Argon/Nitrogen regulator
- Tubing and hardware to connect the gas regulator to the keg
- Tubing and hardware to dispense wine from the keg into your barrel
- Cleaning brush for your dispense line
- Comprehensive instructions for assembly and use

Equipment:

The Set-Up:

· Cornelius or "Corny" style keg
· 5 ft of 3/16" Inner Diameter (I.D.) Beverage Line (D1700)
· 5 ft of 5/16" Inner Diameter (I.D.) Gas Line (D1704) ***Note:*** *A longer length gas line makes it easier to move the keg around while topping without having to also move your gas tank.*
· Gas-In (Gray) Quick Disconnect (KEG700)
· Beverage-Out (Black) Quick Disconnect (KEG710)
· Handheld faucet (D1260)
· ¼" Line Brush (CE45)
· Nitrogen or Argon Tank – 20 cubic ft. (D1054)
· Nitrogen/Argon Regulator – (D1070)

For Cleaning/Sanitizing (sold separately):

· Cleanser such as PBW (CL25A)
· Sanitizer such as Star San (CL62)
· Soft Scrub Pad (CE27) and/or Carboy Brush (CE40)
· Deep Socket Tool – 11/16" (TOOL120) and/or 7/8" (TOOL128)
· 6 gal Plastic Bucket (FE340)

You May Also Need:

· Keg Lube, such as CIP Film (CL40)
· Replacement Keg O-Rings (KEG500)
· Replacement Poppets (KEG540)
· Replacement Body Connects (KEG460N/KEG470N)

The Keg:

The Cornelius, or Corny, keg is made from stainless steel and designed to hold up to 60 PSI (pounds per square inch) of pressure. The most common Corny kegs are made to hold 5 gallons of liquid; however, they can vary in size. The Corny keg is made up of the following:

A) The Keg:

The keg is made up of two basic sections. *The Shell* is the body of the keg that holds liquid and is made of stainless steel. *The Top and the Base* of the keg are generally made from rubber - usually black. *The Top* of the keg is the section where the *Lid (B)* and *Body Connects (C & D)* are located.

B) The Lid:

The lid sets into an oval opening at the top of the keg. It consists of a bail to hold it in place, a pressure relief valve, and a large o-ring to form a seal against the keg.

Keg lids are normally interchangeable between kegs; however, some lids are a different shape than that pictured, and will only fit certain style kegs. These less common lids are commonly called “racetrack” lids due to their unique oval shape.

C) The “Gas-In” Body Connect or Post:

This is the part that the Gas-In Quick Disconnect fits on. This fitting is commonly identified by having either a star pattern and/or hash mark on the base. It usually takes a deep socket to remove these; typically they will be either 7/8" or 11/16".

D) The “Beverage-Out” Body Connect or Post:

This is the part that the Beverage-Out Quick Disconnect fits on. This fitting will not have a star pattern or hash mark identifying it.

E) Poppet:

In each of the body connects is a poppet. These are spring-loaded and allow either gas in or beer out when the Quick Disconnects are placed on the body connects. These sit on the dip tube flange.

F) Gas-In Dip Tube:

These are made of stainless or plastic and are usually 1 – 2 inches long. There is a gasket that seals the connection where the tube slides into the shell. This is how the gas gets into the keg.

G) Beverage-Out Dip Tube:

These are always made of stainless and can be curved or straight. These are made to reach all the way to the bottom of the keg. Beverage-Out Dip tubes have a gasket around them to form a seal where they go into the shell. This is what draws the wine from the bottom of the keg.

H) O-rings:

There are 5 o-rings on each Corny keg; 1 for the lid, 2 for each body connect, and 2 for each dip tube. O-rings should be replaced if the keg was used for something other than wine and periodically every couple years after that, depending on usage and storage. We recommend using a food-grade keg lube such as "CIP Film" (CL48) on the o-rings. This will help prevent the o-rings from cracking and also make putting the quick disconnects onto the keg easier.

Cleaning/Sanitizing:

To Clean:

1. Completely dismantle the keg by taking off the body connects, dip tubes, o-rings, the keg lid, etc., and put the small fittings into a bowl.
2. If the keg is dirty, use PBW (CL25A) and some warm water to fill the keg at least half way full.
3. Use a carboy brush or a soft scrub pad (never use steel wool) to clean the shell of the keg inside and out, paying close attention to the areas that are hidden from view to make sure they are cleaned thoroughly.
4. Clean the Beverage-Out Dip Tube with a ¼" Line Brush and some PBW solution.
5. Clean and inspect all pieces such as O-Rings, Poppets, Body Connects, etc., for signs of wear or breakage. Replace if needed.
6. Drain the keg and small parts and rinse them well with warm to hot water. The PBW may be used on another keg or keg parts, or simply dumped at this time.
7. Reassemble the keg.

To Sanitize:

1. Fill the shell completely with a sanitizing solution. We recommend Star San. Follow the directions for diluting the sanitizer you use.
2. Let the sanitizer sit in the keg for the recommended contact time (1 minutes for Star San).
3. Put the lid in a separate bowl filled with sanitizing solution and let this sit as well.
4. Once the lid has soaked in the sanitizer for the proper amount of time, put it onto the filled keg, making sure that it seals correctly.

   Note: *It can be difficult to fully seal a corny keg lid by simply installing it on the keg and flipping the bale closed, as sometimes the gasket will not seat completely. The best way to do this is to put the lid in the keg and pull upward on it by the lid bale, as though you were trying to lift the keg. Then connect your gas line to the keg. The positive pressure that the gas imparts inside the keg should push the lid upwards into its sealed position. If the lid is not seated correctly you will be able to hear gas escaping around it. You may have to move the lid around a little bit in order to get it to seat. When seated correctly there will be no sound of gas escaping and you should be able to let go of the lid bale and have the lid stay in place. Once you've achieved this, simply flip the bale down into the closed position and you can be confident that you have a fully sealed keg.*

5. Turn the closed keg over and let it sit for another 1–2 minutes. This will allow the sanitizer to get into all the areas in the keg including the dip tubes.
6. Drain the keg. You can drain the keg by:

A) Opening the keg and setting it upside-down for 5–10 minutes.
B) Siphoning the sanitizer out with a siphoning set-up.
C) Pushing the sanitizer out with inert gas (Nitrogen or Argon). This is the recommended way, as this will sanitize the serving lines as well as fill the shell with inert gas rather than air.

7. Once the keg is drained, go ahead and rinse the sanitizer out with a small amount of fresh, clean water*. If you pushed the sanitizer out with inert gas, go ahead and open the keg, add a small amount of water into the keg and close the lid. Next, shake the keg around to make sure the water reaches inside the entire keg. Finally, using your gas push the rinse water out of the keg.

   Note: *When using "no-rinse" sanitizer, such as Star San, the small amount of foam or sanitizer let over after draining the keg will not impart any flavors or odors. You can choose to rinse it or leave it, whichever you are most comfortable with.*

The Nitrogen/Argon Set-Up:

The Nitrogen/Argon setup consists of two main parts: the Nitrogen/Argon tank and the Nitrogen/Argon regulator. Turning the handle on the tank counterclockwise turns the tank on. We highly recommend that a Nitrogen/Argon tank of 20 ft^3 or more is used, along with a regulator like the one pictured. Although smaller, more portable systems are available, they are not practical for cellar work.

Helpful tip: *One 20 ft^3 tank is enough to push 27 five-gallon Corny kegs (assuming no loss of gas).*

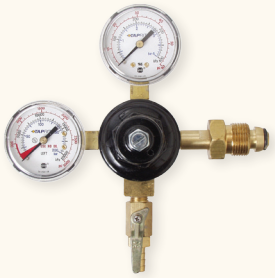
Selecting the Right Gas

Nitrogen, Argon and CO_2 are three inert gasses commonly used in winemaking because they do not react with wine (like oxygen does). Choosing which of these gasses is best suited for your needs will depend on whether you will be kegging, or kegging and purging headspaces:

- **CO_2:** *Good for purging, not for kegging!* CO_2 is heavier than air so it makes a good protective blanket in headspaces. However, compared to Nitrogen or Argon, CO_2 goes into solution under relatively low pressure. This means that if you use CO_2 to push wine out of a keg – or a barrel - you can inadvertently carbonate your wine. Therefore we ***do not*** recommend using CO_2 in a kegging system.
- **Nitrogen:** *Good for kegging, not for purging!* Unlike CO_2, Nitrogen will not diffuse into wine at low pressures so it is safe to use it in a kegging set-up. However, Nitrogen is lighter than air so you cannot use it to form a protective blanket. As long as you are using Nitrogen to push the wine in kegs and not purge headspaces, then it is a fine choice.
- **Argon:** *Good for both kegging and purging!* Argon will not diffuse into wine so it is safe to use in kegs. As an added benefit, Argon is also heavier than air and can therefore be used to effectively purge headspaces in carboys and tanks. Because of these dual qualities we recommend using Argon for all of your cellar gas needs. It's the one gas that does it all!

The Regulator:

How it Works:



The Regulator essentially takes the pressure of the gas in the tank and reduces it to a lower, controlled pressure. The regulator attaches to the tank with a threaded male hex piece. The body of the regulator has two gauges: the one on top is the adjustable pressure and the one on the side reads the pressure of the gas in the tank. The gauge that measures the tank pressure will remain fairly steady until most of the gas is gone from the tank. At that point, the gauge will start plummeting into the red, which means it will soon be time to get your tank filled, or swap it for a full one.

You can adjust the flow of gas by turning the screw in the main body of the regulator. This threaded fitting will usually be screwed all the way out when it is new, but it will not actually come completely apart from the regulator body. To engage it, thread it in slowly till the threads start to connect. The more you thread it in, the more

the PSI will build and the more the gas will flow. Once the desired pressure is reached, moving the locknut until it hits the body of the regulator maintain your selected pressure.

On the bottom of the regulator is an on/off valve as well as a one-way valve, commonly called a check valve. These allow for ease of turning the gas flow on and off, and protect the regulator from anything flowing back up the gas line and into it.

Connecting the Regulator:

The regulator connects to the keg via a Gas-In Quick Disconnect (shown on the right). The Gas-In Quick Disconnect is connected to the regulator with 5/16" I.D. tubing. Most gas equipment is supplied with 5/16" barbed fittings for attaching tubing to, and the Argon/Nitrogen regulator that we sell is no exception, so you should work with 5/16" tubing. The barb on the Gas-In QD is ¼" — the 1/16" difference between this and the 5/16" tubing can easily be handled with a hose clamp.

Checking the System for Leaks:

When you first build your gas system or add any modifications, you should always check for gas leaks. The easiest way to check for leaks is to put all of the tubing and any connections (excluding the regulator and any other parts that may become damaged in liquid) into a bowl of water with the gas turned on. If a leak is present, you will see bubbles when submerged under water. Another great way to check for leaks is to use Star San, which is known for foaming, in conjunction with a spray bottle or washcloth. Commercial leak detectors are available, but they are not necessary for small-scale systems.

Filling:

Filling and Sealing the Keg:

A Cornelius keg can be filled in a variety of ways, from just opening the lid and siphoning into it, to filling through the beverage-out body connect in order to create a closed system and eliminate bacteria pickup. Once the keg is filled, it is most important that the lid be seated properly before the bail is closed. To do this, turn the gas on, and set it to 10 PSI. Put the Gas-In Quick Disconnect onto the Gas-In Body Connect of the keg while simultaneously pulling up on the bail of the keg lid. The lid might move a second or so before finding the seal, but it should sit correctly relatively fast. Once the lid is sealed and held up by the gas, set the bail of the lid.

Avoiding oxygen:

1. As mentioned earlier in the sanitization section, the best way to avoid oxygen exposure when kegging your wines is to make sure the oxygen is removed before filling your keg. This is best done during the sanitization process by pushing the sanitizer out with inert gas. This is the most effective technique and the one we recommend. Since the lid is never opened, this is a closed system. Therefore, both Nitrogen and Argon will work here.
2. Another method for purging the oxygen from your keg is to sanitize your gas line and lower it to the bottom of the keg. Turn on the gas just enough to create a slow bleed and let it start to fill the keg. After about a minute, begin checking the level of the gas by trying to lower the flame of a lighter past the rim of the keg opening. The flame will stay lit as long as there is oxygen to burn. When the flame goes out there is no longer oxygen in the keg. It is now safe to fill. Since the lid is open during the purging, only Argon can safely be used for this technique (Nitrogen will float away!).
3. The final method for removing oxygen from the keg would be to purge the remaining headspace left at the top of the keg once it has been filled. This is done by pulling up on the pressure relief valve while the gas is hooked up and holding it open for 5–10 seconds until all of the oxygen has been replaced by inert gas. This is the least recommended way since the wine will remain in contact with oxygen during the entire filling process.

Dispensing From a Keg:

To Dispense Kegged Wine:

1. Sanitize everything, including the gas and beverage posts on the keg.
2. If you haven't already done so, attach your Gas-In Quick Disconnect to the Gas-In Body Connect on the keg. Set your regulator to 5–10 PSI. Use the lowest amount needed to move the wine. ***Note:*** *Longer lines need higher PSI settings than shorter ones to overcome the physics of line restriction.*
3. Attach the Beverage-Out Quick Disconnect to the Beverage-Out Body Connect.
4. Squeeze the handle to open the faucet and the wine will flow!
5. Enjoy.

Some Helpful Tips:

- We recommend storing the keg with both the gas and the beverage lines disconnected from the keg (remember to sanitize the gas and beverage posts before connecting them the next time the keg is used).
- We strongly suggest breaking down and cleaning the beverage line after each use. This will make it easy to clean and won't allow anything to grow in the line until the next use. Take it apart, run warm to hot water through the body connect, faucet, and tubing. Drop it in some Star-San or PBW for a couple of minutes. Rinse everything with warm to hot water and allow them to dry (hanging the hose so that there are no loops and both ends hang straight down to facilitate draining).