



FOR WOOD BARREL

The SmartBarrel system uses a flexible liner, made of inert polymeric films with selectable oxygen permeability. This flexible liner is placed inside a rigid container which serves only to support the liner, and can be of any shape – vertical cylinder, cubic box, or horizontal barrel/drum. The material of construction of the rigid container is not important as the wine does not come in contact with it. The unique feature of the SmartBarrel is the diptube. This tube has three connections. 1) for filling and emptying 2) to vent gas and sample, and 3) overpressure relief valve. The outer container does not need to be pressurized or even be leak tight. The wine is entirely contained in the flexible liner with the container only serving as a physical support.

If using system for primary fermentation a separate high flow vent will be needed, sold separately.

Components:

Please verify that you have all the supplied components:

1. Diptube cap with selected filling port (typically 1 ½” TriClamp, **cap or valve not included**)
2. Perforated tube with white rubber cap.
3. Clear Cover Plate
4. Cover plate hardware (2 inserts and 2 thumb screws)
5. 2 inch TriClamp and gasket
6. 2 x 3 feet foam sheet

Disposables

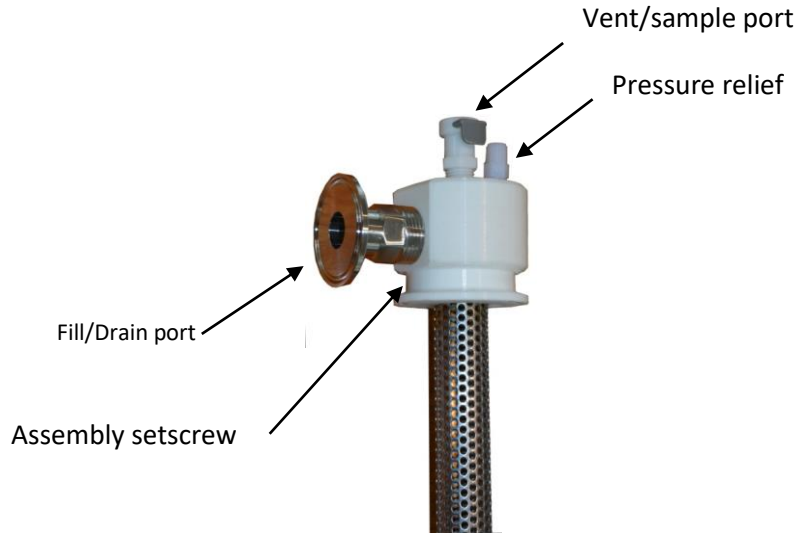
Single-use SmartBarrel liner

Preparing the barrel:

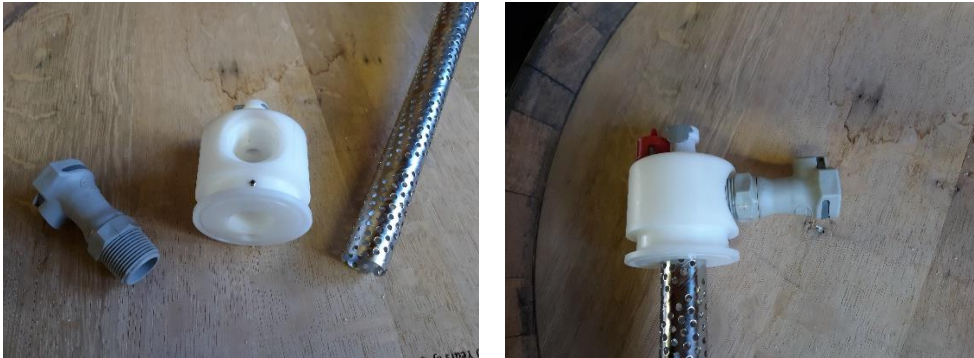
An opening will need to be cut at the bung hole to allow for the insertion and positioning of the liner. Barrel should be placed on rack or other solid mounting to prevent rolling. We recommend making a square opening from the edge of the 2 metal bands, no larger than 12” x 12”. Sanding or filing of this cut edge is necessary to prevent damage to the liner during insertion. The interior of the barrel should be washed to remove any precipitates and checked for any sharp edges or splinters. The cover plate provided helps hold the diptube vertical while filling and pumping out, also helps keep drips or spills from entering the barrel. Use the plate as a template to mark where the mounting holes will be drilled into the barrel and the supplied inserts tapped in.



Diptube assembly:



Insert **open end of perforated tube** into the head of the diptube assembly and secure with set screw (hex key included). Attach filling port adaptor ordered and use wrench to tighten. The white rubber cap at the end of the tube is necessary to prevent damage to the liner from the tube's metal edge.

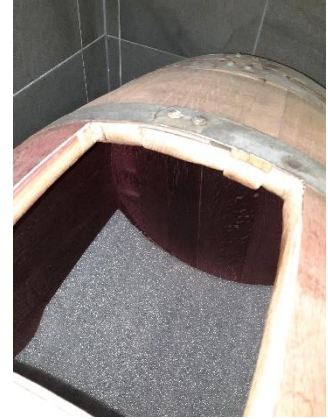


Check the height of the assemble in your barrel, it should rest on the bottom and the TriClamp connections should be 1 inch above the top of the barrel, this will accommodate the cover plate to lay flat across the cut opening and the connection of the liner to be above the opening. The length of the perforated tube may need to be cut to length because of the varying diameter of barrels, this is easily done with a hack saw.



Inserting the Liner and diptube assembly:

Inspect interior for anything that may damage the liner, sanding the interior may be necessary and insure it is clean and dry. Make sure that any tartrate crystal deposits are thoroughly removed by washing with hot water. These are sharp and can damage the liner. Place the supplied foam sheet inside the barrel so it covers the bottom surface. This sheet protects the liner from any sharp debris or wood splinters.



Liner placement is important to maximize filling volume by avoiding folds and pockets. First, lay the liner on a flat surface, folding the 4 corners up toward the opening of the liner.



Next, put the gasket on the TriClamp port and insert the dip tube. Brace the diptube against a flat surface and clamp the TriClamp. Pull up the four corners of the liner. **It is recommended to use the aspirator at this step to remove all air from the liner, this will make insertion easier and prevent damage during filling from over expanding the liner.**



Now insert into barrel. Push out the four corners of the liner to maximize filling capacity. If you are planning to add oak products, it is easiest to add them into the liner at this time. Slide the plexiglass cover on with the slot facing away from the fill/drain port. Fasten the cover using the supplied knob screws

Filling the Liner:

Filling the liner **REQUIRES A PUMP**. Maximum fill rate is 10 gallons per minute. We offer 3 types of attachments, CPC HFC12 quick connect, 1½" TC or 2" TC, but any ¾" NPT thread fitting can be used.



Before starting to fill, inspect all connections to prevent leaks.

- Verified hose clamps are present and tight on all hose barb connections
- Check all threaded connections are tight, Teflon tape may be needed.
- Inspect hoses for any damage, small cuts or cracks.
- Inspect all o-rings on quick connections, if used.
- Inspect TriClamp connection and condition of gasket between diptube and liner.

You can observe the wine filling through the transparent liner. Nearing the end of the fill, start slowing down the flow and shut it off before the liner expands out of the barrel opening. **Avoid over expanding the liner with wine or gas pressure, the red pressure relief valve can only relieve a small amount at a time, only a small fraction of volume compared to the flow of any pump. If you observe excessive gas in the headspace, attach the aspirator to the sampling port to vacuum out this gas.**

Once filling is complete, disconnect your filling line from the diptube assembly. If a quickconnect shutoff is used then your liner will automatically be sealed, but if another fitting is used, **a cap or valve will be needed to close off the diptube inlet.**

NOTE: IT IS VERY IMPORTANT THAT THERE IS NO SIGNIFICANT TENSION BETWEEN THE LINER AND PORT FLANGE. THIS HAS THE POTENTIAL TO CAUSE THE PORT TO FAIL, ALLOWING AIR INTO THE LINER. THIS IS USUALLY CAUSED BY THE LINER BEING FOLDED UNDER ITSELF. TO REMEDY, THE LINER MUST BE EMPTIED AND READJUSTED

Removing air or gases in headspace:

Any air trapped in the liner should be removed. Especially with a partial fill. Connect our cordless aspirator to the sampling port on the diptube and run it until wine is collected in the aspirator bottle.

Sampling

The wine may be sampled by attaching a hose to the sampling port and drawing out a sample. Our cordless aspirator makes this easy. The sample collected in the aspirator bottle can be removed and the contents tasted and analyzed.



Cordless aspirator/sampler

Emptying

The wine can be transferred out of the SmartBarrel by connecting a hose to the fill/drain port. **A PUMP IS REQUIRED TO GET THE WINE OUT. YOU CANNOT SIPHON THE WINE OUT BECAUSE THE LINER IS SEALED AND NO AIR IS ALLOWED TO ENTER. IF YOU TRY TO SIPHON, FLOW WILL STOP AFTER A FEW GALLONS BECAUSE A VACUUM WILL BUILD UP INSIDE THE LINER.** For a siphon you need a second hole to allow air in as liquid is removed. In the SmartBarrel we do not allow air in to prevent oxidation and contamination, so a PUMP is NECESSARY in order to get the wine out. The patented design of the perforated SmartBarrel diptube ensures that the clearest wine is removed first. The liner will collapse around the diptube as the wine is removed. No headspace is created, and no topping off is ever necessary.

Removing the used liner

When the liner is empty, remove the plexiglass cover plate and pull out the empty liner. With standard 7" spacing steel rack this can be done without having to remove the barrel

Cleaning the assembly:

To thoroughly clean the assembly, it may be necessary to disconnect the head from the tube by loosening the set screw and pulling the tube out. A small brush can be used to clean the inside of the head. If using quickconnects, a male piece should be inserted to open the shut off on the female attachment. Also, if needed the red pressure relief can be opened, when reassembling be sure both O-rings are present and the spring loaded part is oriented to vent out the top.

Notes:

Only a small amount of gas buildup from primary fermentation or Malolactic fermentation can be handled by the small red pressure relief vent, another suitable setup should be used if primary fermentation is not complete.

The dip tube can be removed at any time to make additions or add oak alternatives into the liner. Then reinstall the dip tube and vacuum out any headspace through the sample port.

Scan to see the setup video:



Support: www.GOf fermentor.com

tech@ GOf fermentor.com

Version 1.03 6/21