Variable Capacity tanks (up to 1000 liters) can be upgraded to Smartbarrel wine storage. The SmartBarrel system uses a flexible liner, made of inert polymeric films with selectable oxygen permeability. This flexible liner is placed inside the VC tank which serves only to support the liner. The lid and leak-prone gasket is discarded. The advantage is the reuse of a pre-installed tank with all the features of a SmartBarrel liner – no topping, no air leakage, and no washing. If the VC tank has a cooling jacket, it can be used with an optional temperature sensor in the liner. 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. **ALL wine transfers are done through the diptube – No side or bottom connections are used.**

Components:

Please verify that you have all the supplied components:

1. Diptube cap with selected filling port (typically 1 ½ inch TriClamp, cap or valve not included)
2. Perforated diptube (adjustable telescopic version for VCT)
3. 2 inch TriClamp and gasket
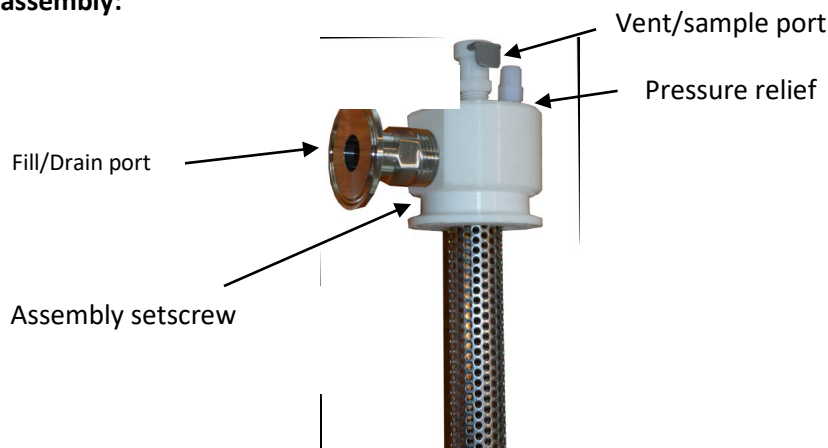4. Hex key for attaching cap to diptube

Disposables

Single-use 330 gallon liner for IBC (2 inch TriClamp port) – high permeability (HP) for micro-oxygenation or low permeability (LP) for storage.

Preparing the Container:

Any open-top tank can be used such as variable capacity tanks and fermentors. The wine does not contact the container surface so the material is not important. The inside surface of the container MUST BE clean and clear of protrusion that may damage or puncture the liner. Volume up to 330 gallons.
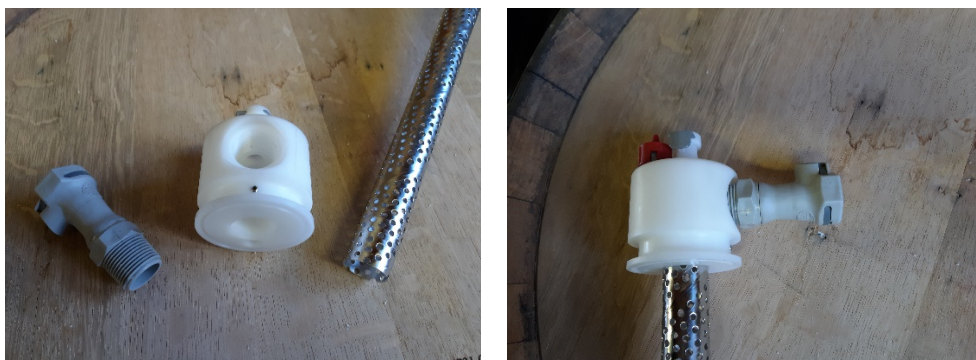
Diptube assembly:

Vent/sample port

Pressure relief

Fill/Drain port

Assembly setscrew

Adjust the length of the diptube

The dip tube should extend from the bottom of the tank to the top lip. Loosen the setscrews on the telescopic collar and adjust the height of the telescopic dip tube. Then tighten the collar to hold this position.

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.

Inserting the Liner and diptube assembly:

Inspect the interior of the container for any debris that might damage the liner. Now insert the dip tube assembly into the liner and secure with a gasket and TriClamp. Place this whole assembly in the container, secure in place if needed.

You are now ready to fill.

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. If nearing a full fill, start slowing down the flow and shut it off before the liner over expands. 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, stop filling and 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**.

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, simply pull it out and remove the dip tube assembly. The assembly should be washed for next use. Discard the used liner.

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 quick connects, 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.

Support: www.GOfermentor.com