



CATALYST INTELLITANK

USER'S MANUAL



CATALYST



1
**INSTRUCTIONS
FOR USE**

NOTE: Please keep these instructions for future reference as they include mounting and use information for the complete line of Catalyst IntelliTank tanks and accessories.



WELCOME! to the CATALYST IntelliTank line of wine and beer making tanks designed specifically for the Garagiste and Craft Brewers' needs. These tanks bring a whole new level of professionalism to an industry that has had to resort to make-shift vessels to contain some of the finest wines and beers made in the world.

As you explore this User's Guide, you'll find that this vessel will become one of the most versatile pieces of fermenting and aging equipment in your arsenal. Capable of withstanding the rigors of daily use in your winery or brewery, this tank will perform to your high standards of quality in all your wine and beer making endeavors.

The IntelliTank is designed to have minimal impacts on your wine and beer by minimizing head space with its tapered top and by angling and offsetting the spout, allowing for stacking tanks closely above each other reducing the footprint of your wine and beer storage. Right out of the box, you can start using your IntelliTank for fermenting and aging wine and beer.

SAFETY

WARNING: READ ALL INSTRUCTIONS.

Failure to follow the safety rules listed below and other basic safety precautions may result in serious personal injury.

Work Area

The IntelliTanks are designed to allow for stacking on shelving closely above one another. As a result, there is a risk that it may fall. Keep children and visitors away from any “fall zones” to prevent injury. If working with a stacked tank from a ladder, follow the ladder’s safety warnings and use caution when performing tasks requiring both hands. Don’t overreach and maintain balance whenever working with a stacked tank. Heavy hoses and racking canes pulling on an empty tank may cause the tank to tip and possibly fall from a shelf.

Fermentation

During every fermentation, yeast is creating carbon dioxide and if the IntelliTank is sealed, extreme pressures can build up. Therefore it is imperative that a fermentation lock always be used until you are sure both primary (alcohol) and secondary (malic acid) fermentations are complete before sealing the tanks with tri-clover caps. Our spouts are sized to accommodate #6.5 bungs fitted with your choice of airlock or other pressure relief devices. Use these until you are sure all fermentation is totally complete. When using a solid cap and tri-clamp on an IntelliTank, before removing it carefully observe the upper front ribs for excessive curvature, which will indicate that

the tank has undergone adverse pressurization and extreme care should be taken when removing the cap.

Pressurizing

IntelliTanks can be pressurized for force carbonating wines and beer, transferring using inert gas and other functions you may want to undertake using positive pressure.

Do not exceed 30 PSI of positive pressure when putting the tank under pressure. The tank may rupture or a fitting blow out!

Always include a pressure regulator and pressure relief valve in the pressurizing system when pressurizing the IntelliTank.



Proper setup of a CO2 pressurizing tank

Always double check your pressurizing equipment (gas cylinders, pumps, hoses, regulators, and fittings) to ensure they are in good condition

prior to applying pressure or vacuum to your IntelliTank.

In the photo above we've added to the standard regulator a needle valve and an auxiliary shut off valve. The needle valve serves as a pressure relief valve to bleed off excess pressure when disconnecting the line from the keg or tank. To bleed off the pressure open the valve after shutting off the knob on top of the gas cylinder and let the gas pressure slowly come to equilibrium. Once the sound of air coming out of the valve ceases, it is safe to remove the gas line from the ported spout.

Vacuum Transfers and Degassing

Do not exceed -10 PSI (20 inches of Hg) of vacuum pressure.

Do not remove valves, caps, clamps or other fittings when the contents are under pressure or vacuum.

Personal Safety

When using electrical equipment around your winery, ensure that it is grounded and protected by a ground fault circuit interrupter.

Wear proper apparel. Non-slip footwear is recommended.

A full tank can be very heavy. If moving a full IntelliTank, use caution when lifting. The optional IntelliTank Stainless Steel Handle (SSH5) has been tested at up to 400 pounds so using mechanical lifting equipment is a wise option to manually lifting full tanks. The handles have been sized to fit over the fork of most forklifts.

CLEANING AND SANITIZING

Prior to the first use of your new IntelliTank, be sure to clean it well. To clean, any typical wine or beer cleaning cleansers and sanitizers are very effective. Do not use brushes on the interiors of the tanks as these may cause minor scratches that will make cleaning and sanitizing more difficult over time. Usually, just shaking the tank vigorously will free it from all residue, which can be dumped out or drained from the bottom port if equipped appropriately.

Sanitizing is best preformed prior to each use. A 1000 ppm Potassium or Sodium Metabisulfite mixed with enough citric or tartaric acid to lower the pH to below 3.5 will do a great job of sanitizing your tank. Just pour a gallon or two into your tank, swirl around well and pour off. No need to rinse.

You may have your own preferred cleaning and sanitizing compounds, and your IntelliTank will respond well to those as well.

Other methods of sanitizing and sterilizing, including steaming or high pressure water spray can be equally effective to produce the desired results suited to the brewer or wine-maker.

And be sure to check out our Rotating Cleaning Sprayers designed to attach to the end of our Racking Canes, which will blast the insides of your IntelliTanks with water or cleansers.



BASIC MODEL

The Intellitank comes equipped with a pre-installed, stainless steel spout topped with a 1-1/2" sanitary ferrule. Almost all of the basic bungs that fit on your glass carboys will fit in the IntelliTank's stainless steel spout. But the IntelliTank's system is designed to bring the serious wine and beer maker to the next level, using professional grade equipment and systems to raise your proficiency and product excellence.

The tank, as delivered, is ready to use as a very basic vessel. But the options and configurations for using this vessel are limitless with its many accessories, ports, valves and fittings. Be sure to check our website www.catalyst-manufacturing.com for numerous videos on how to expand the functionality of your tanks.



POSITIONING YOUR TANKS

The IntelliTanks are designed to work together as a system or just as a lonely little tank. Working together, they will have a synergistic impact on your wine and beer making efficiency. These tanks are designed for efficiency in space management. They have a rectangular footprint. They have forward leaning spouts so you can stack one over the other with a mere 4" between them while being able to gain full access to the tank below. And you can work these tanks so you never need to lift a full tank again if you have even the most basic of pump systems. If you stack these tanks under an 8' high ceiling, you can produce 90 gallons of wine or beer in a very tidy 5 square feet of floor space or up to 200 gallons in the space of a small bedroom closet!



BOTTOM PORT

The IntelliTank comes with a sealed, offset port near the bottom-left front of the tank. The Bottom Port will provide you with a powerful system for racking, draining and cleaning your tanks. Installing the bottom port requires the use of a drill motor and very available drills.

Drilling the Port Hole

The bottom port hole should be drilled at 1-3/8" in diameter using a Forstner bit, hole saw or paddle (spade) bit in a hand-held drill motor. We have molded in a recessed centering point to align your drill bit. Drill slowly. Once drilled, use a piece of fine sand paper or sanding sponge to smooth the edge of the hole. For a finer finish, a very brief wave of a flame (candle lighter) along the edge of the hole will remove the scratches and fill and seal themselves.



Attaching the Racking Port Adaptor

The Racking Port Adaptor is the same fitting that comes attached to the top of your tank as the spout (Part No: SP112). To attach the Port Adaptor to the drilled Port Hole, install one or two of the stainless steel screws and washer through the Bottom Racking Port Adaptor Flange and fit the silicone flange gasket over the screws. Align with the threaded inserts and install all six

screws loosely at first, then tightening firmly to form a complete, airtight seal between the tank and the flange.

You'll notice that the bottom port is not centered on the face of the tank, as is typical with most other tanks. This is designed specifically so if you install any Bottom Port accessories, you won't be impeded from inserting a racking cane into a tank positioned directly below it.

The Standard Adaptor provides a number of options that are available for adapting your Intelli-Tank to fittings, other pieces of equipment and even other IntelliTanks.

Ferrule Caps

If you don't expect to need to use the bottom port for the duration of time that the tank is being used, install a stainless steel ferrule cap and silicone gasket (Part Number EC112) and secure with a tri-clover clamp (TCCL112) and tighten securely. Test the fitting with water to ensure a tight seal prior to filling with wine, wort, or beer. If after the IntelliTank is filled, you decide to add a different fitting like our Butterfly Valve (TCBTV112), cap the top spout with a Ferrule Cap(s) and lay the tank on its back. The Bottom Spout will now be higher than the level of the wine/Beer inside. Remove the Ferrule Cap and install the desired fitting and tri-clover clamp and tighten securely.

Butterfly Valves

CATALYST offers a stainless steel butterfly valve (Part Number: BTV112) to attach to, and close the Bottom Racking Port. With the Butterfly Valve in place, the attachments to the bottom port are easy and endless. We recommend that whenever a butterfly valve is installed, that you install a ferrule end cap to it to assure that if the valve is

unintentionally opened the contents of the tank won't be lost.



Connecting Two Tanks Together

The Bottom Ports allow you to join two tanks together to make one tank. To do this, place the two tanks face-to-face with the bottom Port Adaptors separated with a silicone gasket and connect with a tri-clover clamp (Part Number: TCCL112) For joining two different sized Intelli-Tanks together you will need to shim the bottom of the smaller tank so the ferrules of each tank mate up without stressing the connections.

Siphoning

Racking out of an elevated IntelliTank into a lower tank or vessel is essentially the same as siphoning with any other set up. To start a siphon with the ported spout installed, insert the racking cane with the drilled ferrule and gasket and clamp to the top of the ported spout. Attach a 3/4" barbed ferrule to the side port and apply pressure to the tubing with a hand pump, gas pressure or even just by blowing into the tube.

With the CATALYST racking canes, however, you will be able to speed up the process substantially just by increasing the size of your hoses.

The disadvantage of siphoning, however is that at some point the heavy, filled tank needs to be elevated above the level of the receiving container. The IntelliTank system has been developed to allow the vintner or brewer to move wine or beer effectively without ever needing to lift a full container again. Adding the Ported Spout to the top of your IntelliTank adds myriad functionality to your tanks.

RACKING CANES

CATALYST provides stainless steel racking canes to facilitate racking, transferring and moving wines from one tank or vessel to another via pumping or siphoning. The standard racking cane is sized to fit the 23 Liter IntelliTank 23. To adapt your racking canes to reach the bottom of the 57 Liter Intellitank 57, attach the 8" racking cane extender (Part No.: RCE8) to the racking cane.



Our racking canes like the rest of the IntelliTank line of products are developed to be equipped with the tri-clover clamps and gaskets, so to attach to your tubing, you will want to get a 3/4" hose adaptor and 3/4" tri-clamp.

RACKING CANE ADAPTOR



The racking canes can be equipped with our Racking Cane Adaptor (RCA112). This adaptor will seal your racking cane to the Ported Spout so you can either

vacuum transfer into the IntelliTank or pressure transfer from the IntelliTank with inert gas. For transferring or racking under pressure or vacuum, slide the drilled ferrule and gasket up the racking cane (it may require light tapping the adaptor to slide past the threaded end of the cane) and attach them to the top of the Ported Spout with a tri-clover clamp. Attach your gas pressure tank or vacuum pump to the side port of the Ported Spout by installing your gas line tubing to a 1/2" Barb x 3/4" Triclover Hose Adaptor (TCB3412).

Increasing the effectiveness, efficiency and control of the movement of liquids from one tank or vessel to another, attach a ball valve (Part No. CBV34) to the racking cane's sanitary ferrule with a 3/4" silicone gasket and tri-clamp.

SEDIMENT TIP

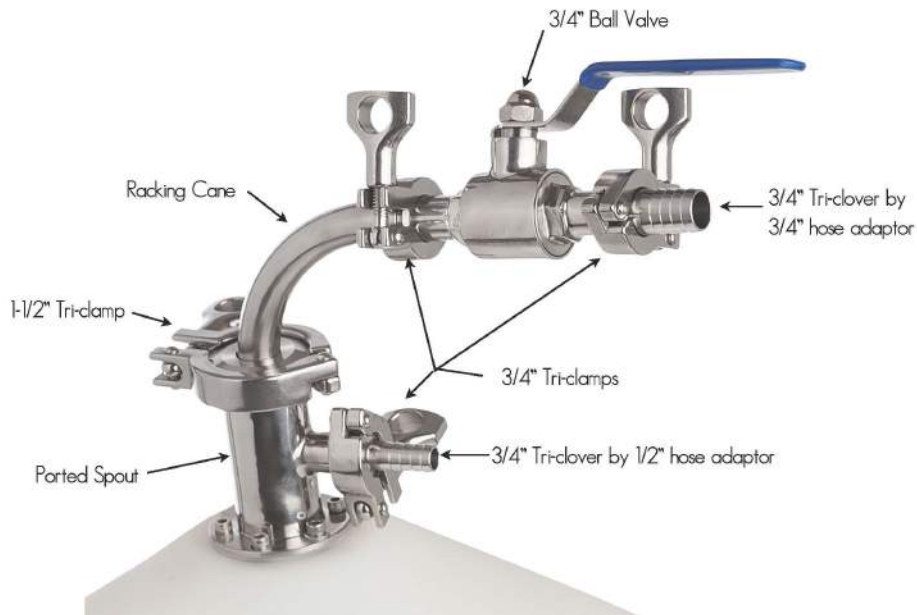
Catalyst racking canes can be equipped with a threaded stainless steel sediment tip that pulls the liquid from above the sediment on the bottom of the tank. The tip should be threaded onto the end of the racking cane or extension wand and then the drilled ferrule adjusted so the top of the tip is situated just above the sediment in the tank ensuring a clean racking every time.



DELUXE RACKING PACKAGE

To make getting your IntelliTanks all set up for effective racking and transfers, pick up our Deluxe Racking Package at a substantial discount over selecting all of the parts individually.

DELUXE RACKING PACKAGE



THE PORTED SPOUT

Garagistes and Craft Brewers use a number of ways to transport wine and beer from vessel to vessel. Among these is using a vacuum pump or diaphragm pump in addition to pushing wine or beer out with an inert gas. With the CATALYST Ported Spout (Part Number: PSP112), the ability to use of these methods of transferring your beverage is now a breeze!

Installing the Ported Spout

Remove the stainless steel spout that came with your IntelliTank and save for future attachment to the bottom port on your tank. The original spout equipped with your IntelliTank is identical to the Bottom Racking Port Adaptor.

Install one or two of the stainless steel screws and washers that come with the spout through the flange holes and then slip the silicone flange gasket over the screws.

Align the Ported Spout Flange with the threaded inserts at the top of the tank and install all six

screws. Tighten moderately tightly to provide an air-tight seal between the tank and the flange. When installing the Ported Spout consider which way the side port will be directed. You will be attaching your vacuum pump or inert gas cylinder tubing to this side port when vacuum transferring or pushing your product out of the tank, respectively. You can orient the side port of the Ported Spout in any of six different positions to best suit how you will be directing the lines from the side port. We recommend directing it to the side or rear to keep the empty IntelliTank from wanting to tip forward from the weight of the hoses.

Closing, Aging and Storing with the Ported Spout in Place

DO NOT TIGHTLY SEAL A TANK UNLESS ALL FERMENTATION IS COMPLETED! To tightly seal the IntelliTank once you're sure all fermentation is complete and degassed, install a Ferrule Cap and silicone gasket to the top of the spout and side port sanitary ferrule, and secure tightly with a triclover clamp.



PORTED SPOUT (PSP112)

Side Port Attachments

CATALYST provides two sizes of sanitary ferrules with barbed adaptors to attach the IntelliTank to two sizes (I.D.) of tubing --1/2" and 3/4". (Part Numbers: TCB3412 and TCB3434).

THE PORTED SPOUT A DIFFERENCE MAKER!

There are so many functions available to the winemaker or brewer when using the IntelliTank's Ported Spout and is one part of what truly sets IntelliTanks head and shoulders above the competition:

Vacuum Racking

Pressure Racking

In-line Pumping

Gassing the headspace above the beverage

Daisy-chaining a series of tanks together

Allowing for overflow into another vessel

Venting the tank

Degassing wine

Pressurizing for force carbonation

Wine On Demand

Beer Taps and Kegeators

Topping Tanks

1. Vacuum Racking

Vacuum Racking with the IntelliTank is a snap. Set up your vacuum pump by connecting tubing to the intake of the pump and connect that tube to an overflow container (liquid trap). This container can be any number of types of jars, canisters, (or even another IntelliTank!) that has an input and output and can withstand the vacuum pressures you plan to exert on the tanks. Whatever you use for the overflow container, be sure that the tubing can be connected tightly. An IntelliTank equipped with a ported spout works great! Just connect a racking cane to the top of the spout with the Racking Cane Adaptor (RCA112) to extend the racking cane at least 4" below the side port and connect the vacuum tube to the side port via the 3/4" barbed ferrule and tri-clamp.

With most vacuum pumps a 3/4 Triclover x 1/2" hose adaptor clamped to 1/2" I.D. tubing attached between your overflow container and the side port of the Ported Spout will work to draw your beverage from an open top container into the awaiting IntelliTank. Here's how:

a. Connect up the vacuum pump to the IntelliTank's Ported Spout as described above.

b. Insert a racking cane and sediment tip with tubing attached to the open vessel that contains the liquid to be transferred.

c. Ensure the fittings on the Ported Spout are tight. Turn on the vacuum pump. Liquid will begin to move from the full vessel into the tank as soon as the pressure differential is great enough to overcome height and distance between them. This will take slightly longer with larger Intelli-Tanks or ones set higher than the contributing tank.

d. Using the CATALYST Racking Cane, (Part No: RC34) with a ball valve (Part No: BLV34) attached you can maintain very precise control of vacuum racking into the IntelliTank. As the tank fills and you approach being full, close the valve down to slow and then stop the flow. Release the vacuum pressure, remove the Racking Cane from the tank, disconnect the vacuum line at the side spout and install the ferrule caps as desired to tightly close off the tank.



SET UP FOR VACUUM RACKING AND DEGASSING

2. Pressure Racking

Pumping your beverages from your IntelliTank to another vessel can also be done using an inert gas such as nitrogen or argon, or in the case of beer, CO₂. To set up the IntelliTank for pressure racking, connect your gas bottle to the side port of the Ported Spout using a barbed ferrule cap, silicone gasket and tri-clover clamp. Install a

RC34 racking cane in the top of the spout and secure to the top with a Racking Cane Adaptor and Gasket (Part No. RCA112).

Connect your hoses to the hose adaptors on each end and then connect them to the racking canes on each end with the 3/4" sanitary gasket and 3/4" tri-clover clamps and tighten the clamps to be air tight.

With the second raking cane now in your receiving vessel, turn the gas regulator valve on and the flow will immediately begin. With a ball valve attached to the racking cane in the receiving vessel, you can cut off the flow of the liquid just as the last drops enter and avoid bubbling or gurgling and wasting of the gas.

3. In-line Pumping

If you have (or plan to) set up your winery or brewery to move your wine or beer with an in-line pump like a diaphragm or impeller pump, the IntelliTanks will work admirably for you. Install your racking canes into each tank, secure them to the top of the spouts with a tri-clamp and leave the side port ferrule cap off each tank. Connect your pump in-line with the tubing between the tanks and you're set.

4. Gassing the Headspace

When aging wine, minimizing oxygen in the headspace is a great way to preserve the wine while it matures until bottling. To replace the O₂ from the headspace with your choice of inert gas, connect the gas cylinder to the side port of the Ported Spout with the ferrule cap removed from the top port. Open your tank's regulator to slowly start the flow of the gas and allow enough gas to flow into the headspace to flush out approximately 5 times the volume of the headspace.

Then just cap the top spout with a solid gasketed end cap and tri-clamp and shut off the gas. Remove the gas line from the side port and quickly install a gasketed ferrule cap and tri-clamp to the side port.

To fill the IntelliTank completely with an inert gas, for such processes as racking a delicate white wine with minimal oxygen exposure, first fill a sanitized tank with water. Install fittings as you would for Pressure Racking as described above and push the water out into another IntelliTank. Once the water is removed and the tank full of gas, reconnect to your vacuum pump and pull your wine into the gassed tank. Quickly remove the racking canes and side port adapters and install the gasketed end caps to preserve the gassed headspace.

You can repeat this process a number of times, by flushing out the water in the next IntelliTank with the same inert gas, repeatedly, up to about 4 or 5 times.

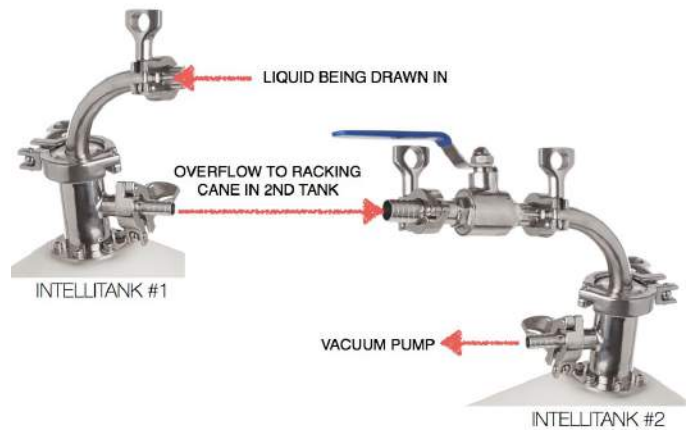
5. Daisy-chaining IntelliTanks Together.

By daisy-chaining your IntelliTanks, you can move wine or beer into a number of tanks simply by connecting them together. For example, if you want to separate a standard barrel of wine into four IntelliTank57's for future topping wine, start by inserting the racking canes into the top and connect the tubing coming off the racking cane to the side port of the Ported Spout on another IntelliTank. Push or pull your wines or beers from one or more sources into several IntelliTanks in one simple step. By having a number of different sizes of IntelliTanks and incorporating the gas purging of your tanks explained above, you can accommodate virtually any amount of

wine or beer, and have the tanks topped-up and protected.

6. Overflow Containment

The Ported Spout easily allows your IntelliTank to be used as an overflow container when moving wine or beer. Excessive foaming or accidental over filling your tank does not have to result in precious product loss. Just connect an IntelliTank as described in the Daisy-chaining procedure and all your overflow will be safely contained and easily transferred into smaller containers.



DAISY-CHAIN AND OVERFLOW TANK SETUP

7. Venting

A number of functions in wine and beer making require a vessel to be tightly capped, but able to release pressure or built up, unwanted gas. This is frequently done in very small wineries and breweries with air locks or fermentation bungs. CATALYST has a specially sized silicone fermentation bung available that will allow for degassing and fermentation gasses to be safely released and avoid excessive pressures.

In addition, a standard #6.5 one-hole bung fitted with a water trap type air lock will work well if monitored to keep them filled and clean.

8. Degassing

Degassing wine is well accomplished using the stainless spouts. Simply attach a vacuum pump to the spout and turn on your pump. By regulating the vacuum levels (or turning the pump on or off) you can keep excess foaming from being pulled into your overflow container.

9. Pressurizing or Forced Carbonation

The IntelliTanks are designed to withstand pressures similar to beer kegs, so they will function quite well for maintaining carbonation of beer and for force carbonating wines and ciders. Connect your CO2 cylinders to the tank and provide appropriate desired pressures. Caution: Do not exceed 30 psi to avoid the potential of the tank bursting.

Natural carbonation may be achieved by adding a pre-mixed amount of yeast and sugar to the tank and capping the spout until secondary fermentation is complete. IntelliTanks will easily replace much more expensive stainless steel and plastic kegs for the home brewers and will allow winemakers to easily delve into the difficult process of sparkling wines.

Whenever pressurizing any container, including secondary fermentation for carbonating beers, be sure to incorporate a pressure relief system.

10. Wine On Demand

Wineries will find that using IntelliTanks equipped with an On Demand Tap on the Bottom Port will be an excellent way to dispense wine samples in

their tasting rooms. With the tanks under light gas pressure replacing the dispensed wine with nitrogen or argon as the wine is poured, their customers will be treated to the best the winemaker has to offer while the winemaker reaps the profits from eliminating the tasting room costs of lost bottles, caps, corks, labels and time opening them as well as unfinished bottles of wine that deteriorates overnight and must be dumped out. A lineup of your wines in a row of IntelliTanks will make a lasting impression on your customers and also save valuable space behind the tasting bar.

The garagiste will find this system will work equally as well for their own personal serving pur-



poses eliminating the need to bottle their tasting room wines!

To set up the IntelliTank for wine on demand, connect the On Demand Tap and gasket to the Bottom Port ferrule, and attach your inert gas tank (don't use CO2 unless you want fizzy wine!) to the side (or top) port of the Ported Spout and open the regulator and set to about 3 psi, or just enough to allow the proper amount of wine to flow from the faucet to pour freely, but not under pressure.

11. Beer Taps and Kegerators

The IntelliTank is equally versatile for brewers who can replace their expensive stainless steel kegs with IntelliTanks. To move your beer from tank to tap, connect your CO2 cylinders to the side port of the Ported Spout and install the racking cane and securely connect all fittings. Set your CO2 pressure as desired and recommended by your recipes for carbonation (typically 8 to 10 PSI). The IntelliTank23 and 57 will fit into most commercially available Kegeators.

12. Topping Tanks

The IntelliTank was designed with larger wineries in mind too. Not only will they completely eliminate the need for fragile glass carboys to handle less than barrel size volumes quite capably, they will also make moving your topping wine to your barrels much simpler. With a racking cane installed into the tank and connected to your topping wand, the IntelliTank can be placed on a cart or dolly with a small gas cylinder attached to the Ported Spout and wheeled throughout the barrel room without the need to drag hoses or pumps around. And cleanup? Well you know what it takes to clean up after a topping regime. With the IntelliTank topping system, you'll realize countless hours of savings on your first run.

SILICONE FERMENTATION BUNGS

Replace your maintenance intensive air locks with our new high quality fermentation bungs sized especially for the IntelliTank spouts. Great for relieving pressure during primary or secondary fermentations and allowing your product to age and de-gas over time. Made of 100% high quality and food grade silicone, they are easy to clean. They are a two part bung that, unlike some silicone fermentation bungs, does not need to be opened or closed. Just pop it in your spout and forget it.



Pull out the top portion of the bung to clean and sanitize it thoroughly. To replace it, place the bottom portion on a table or counter and with your thumbs, press the bulb of the top back into the hole. Work it back down the center hole until the bulb clicks back into place and creates a tight seal between the top and the vent holes of the bottom half.

NEW PRODUCTS

We are continuing to develop new products that will enhance wine, beer, cider and spirits making. Be sure to visit our store frequently to discover new additions of high quality, professional grade equipment to our lineup.

Sign up for emails from us to receive special offers from time to time and get new and exciting announcements.

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