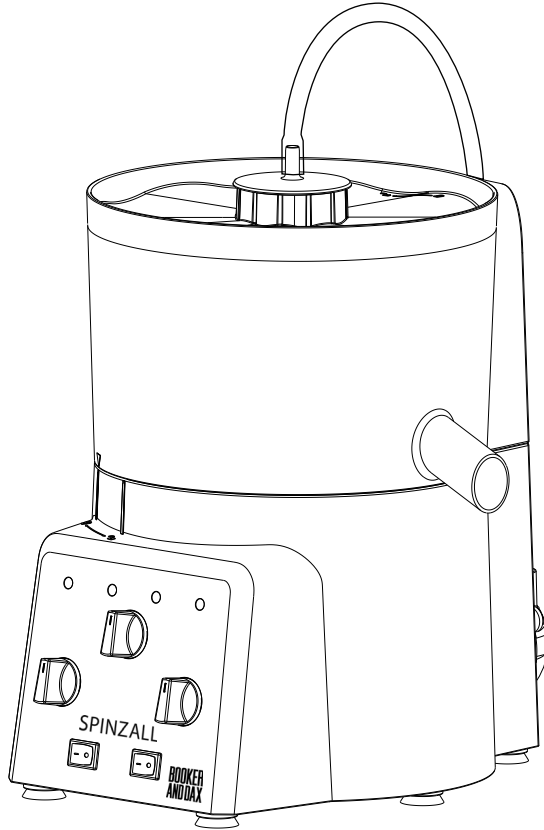


# SPINZALL

Culinary Centrifuge



## USER MANUAL and RECIPE BOOK

BDX SP-501

**BOOKER  
AND DAX**

(HEY! GOOD NEWS:  
you can see a video  
version of this book  
at [www.spinzall.com](http://www.spinzall.com))



Please read these instructions carefully before using this machine.  
Please retain these instructions for your future reference.

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## WHAT'S IN THE BOX

- 1 Assembled Spinzall centrifuge consisting of:
  - 1 Motor Base with assembled Pump, Pump Inner-Tube Assembly, and Bowl Gasket
  - 1 Bowl
  - 1 Lid Assembly with silicone rubber Chute Extender
  - 1 Lid Cap (with silicone rubber Gasket installed)
  - 1 Rotor with 3 installed Fins
  - 1 Feeder Assembly (1 Feeder Base, 1 Feeder Gasket, 1 Feeder Lid, 3 silicone rubber Feeder Extenders)
- 1 90 cm long/4mm inner diameter/8mm outer diameter silicone rubber Pump Inlet Tube
- 1 42 cm long/4mm inner diameter/8mm outer diameter silicone rubber Pump Outlet Tube
- 1 User Manual and Recipe Book
- 1 Limited Warranty
- 1 Spinzall Cheat Sheet

Extras (Spares): 3 Rotor Fins, 3 Tube Extenders, 1 Feeder Gasket, 1 Pump Inner-Tube Assembly

## INTRODUCTION

Thank you for purchasing the Spinzall, the first centrifuge designed exclusively for the kitchen and bar. With your Spinzall you can clarify juices, separate liquids from solids, purify oils, make butter, make quick cold-brew coffee, and conjure up a host of other culinary wonders.

**You must read and understand the instructions in this manual. While the Spinzall is easy to operate, you have a lot to learn and this manual may seem overwhelming at times. Stick with it, and after you've finished, check out the video version at [spinzall.com](http://spinzall.com).**

The Spinzall, like all centrifuges, separates products based on density differences. The rotor spins rapidly, subjecting what's inside to a force many times that of gravity. Heavier particles or liquids are forced to the outside of the rotor; lighter products are forced towards the inside.

The Spinzall, unlike other centrifuges, is designed to be simple and friendly. The Spinzall is self-balancing. Its special rotor shape allows you to clarify at speeds that are lower and safer than the speeds required by larger centrifuges. The Spinzall motor gently oscillates between 4000 rpm and 3650 rpm; this oscillation aids the clarification process. When the Spinzall motor turns off, an electronic brake gently slows and stops the rotor, bringing it to a stop within about a minute.

Your Spinzall runs in two modes: **Batch** and **Continuous**.

In **Batch Mode** the Spinzall will process 480 ml of product at a time. Batch Mode produces the clearest products. A typical batch takes from 5 to 15 minutes to process, depending on the recipe.

In **Continuous Mode** the amount of liquid you can process without stopping depends on the solids content of your liquid. You are limited by two volumes: the volume of the rotor, and the volume of the tube feeder cup (see "How Continuous Mode Works: Feeder Magic" page 16). For example, you can process several gallons of orange juice, but only a couple of liters of fruit puree, before you'll need to stop the Spinzall and clean out the rotor. In Continuous Mode the Spinzall pumps liquid through the top of the lid into the feeder tube, which in turn injects liquid into the interior of the rotor. Particles fling to the outside of the rotor, while clearer and lighter liquids move to the inside of the rotor. After the rotor is full of liquid, clear liquid spills out of the rotor into the bowl of the Spinzall, and then out of the spout.

## EXPECTATIONS

The Spinzall can accomplish anything a \$10,000, two-hundred-pound, three-liter centrifuge can—just not as quickly. Expect one liter every 10-20 minutes in Continuous Mode. In Batch Mode expect 480 milliliters to take about 5 and 10 minutes of spinning with one minute of deceleration per cycle. Many of the recipes for the Spinzall require pre-treatment with an enzyme, or with an enzyme plus a wine fining agent. (The \$10,000 models require this same pre-treatment, by the way.) All of these products are available for reasonable rates at [ModernistPantry.com](http://ModernistPantry.com).

## IMPORTANT SAFETY INSTRUCTIONS



### CAUTION

The Spinzall is a centrifuge, and **centrifuges are inherently hazardous**. Failure to comply with these warnings and instructions may result in a catastrophic mechanical failure that may cause property damage, serious personal injury, or death.

The spinning rotor of a centrifuge stores energy. The main dangers of this or any other centrifuge are:

- High energy rotor failures caused by a loss of dynamic balance or catastrophic structural failure
- Mechanical damage to body parts if they come into contact with spinning parts

Read and comply with the instructions in this manual and familiarize yourself with the Spinzall **BEFORE** using. Review instructions and warnings periodically to maintain awareness. Failure to follow these instructions will **VOID** your limited warranty.

Treat the Spinzall as you would any fine tool or instrument; do not drop it, throw it, or abuse it.

Do not attempt to operate the Spinzall before reading instructions. Specifications of the Spinzall are subject to change and revision at the manufacturer's discretion.

Owners should always review the enclosed Limited Warranty which contains important information.

Keep the Spinzall out of the reach of children, and do not allow anyone who has not read and understood the operating instructions to use it.

**NEVER** force open a locked lid. Doing so will break the interlock and VOID your limited warranty. Read the instructions for opening a locked lid.

**NEVER** alter the rotor, bowl, lid, motor base, motor, or safety mechanisms of the Spinzall in any way.

**NEVER** attempt to disassemble or unscrew the rotor from the rotor core. They are balanced as a unit.

**NEVER** use the rotor of the Spinzall in any other machine or for any purpose not indicated in these instructions.

**NEVER** alter the rotational speed of the Spinzall.

**NEVER** use a non-approved rotor, or any non-approved accessories, in the Spinzall.

**NEVER** exceed the weight capacity of the rotor—catastrophic failure leading to injury or death may occur if you do.



## CAUTION

**NEVER** exceed the maximum density for product added to the rotor of 1.23 grams/cc –catastrophic failure leading to injury or death may occur if you do. For reference, this is the density of 1:1 simple syrup. Maple syrup is too dense at 1.33 grams/cc. Most purees are thick, but not dense, and are OK.

**NEVER** run the Spinzall without the fins properly installed in the rotor.

**NEVER** attempt to defeat the safety mechanisms of the Spinzall or run the machine without safety mechanisms in place.

**NEVER** attempt to stop a spinning centrifuge rotor by hand.

**NEVER** operate the Spinzall if the rotor, casing, or safety mechanisms appear damaged, cracked, corroded, or otherwise compromised.

**NEVER** use flammable or hazardous materials in the Spinzall—a fire or explosion may result (for the definitions of flammability for alcoholic mixtures, see instructions).

**NEVER** attempt to use the Spinzall in an unbalanced configuration.

**NEVER** run the Spinzall unattended.

**NEVER** operate the Spinzall less than 300 mm (approximately one foot) from the edge of a table or countertop (to prevent falling).

**NEVER** use the Spinzall as a laboratory centrifuge.

**NEVER** place bio-hazardous materials into the Spinzall.

**ALWAYS** inspect the rotor, case, and safety mechanism of the Spinzall before every use to ensure they are in proper condition.

**ALWAYS** run the Spinzall on a flat, level, non-slippery surface.

**ALWAYS** maintain a 300mm (approximately one foot) safety zone around the Spinzall, free from hazardous or breakable materials.

**ALWAYS** keep your and anybody else's body outside of the 300mm (approximately one foot) safety zone, except to perform necessary operations on the centrifuge while it is running.

**ALWAYS** be aware of the sounds and sights of the Spinzall; if anything seems wrong, immediately shut off the power and wait for the rotor to come to a complete stop before diagnosing problem.

**SAVE** these instructions.

**QUESTIONS?** Go to [www.spinzall.com](http://www.spinzall.com)

# THE PARTS OF YOUR SPINZALL

**Note:** Actual Spinzall may differ from pictures in this manual.

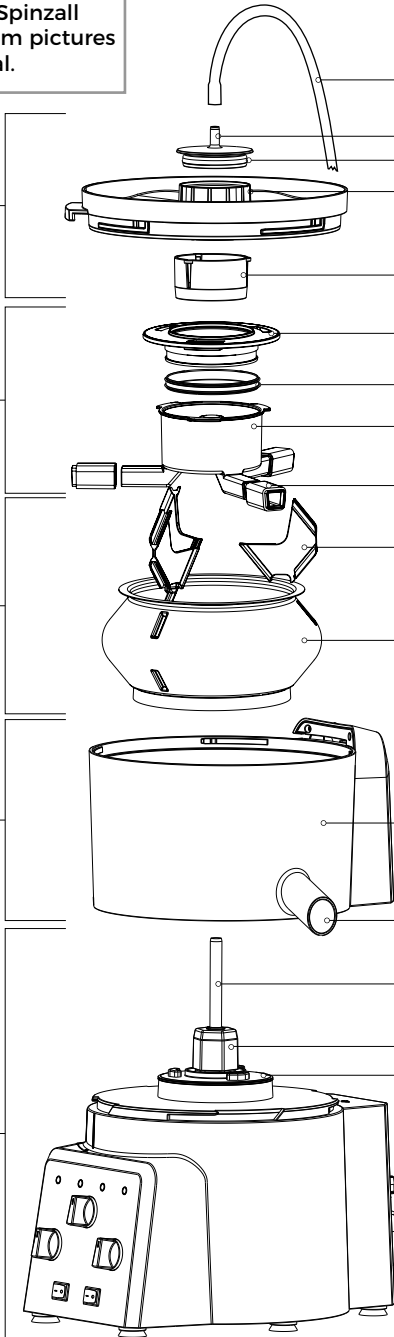
**Lid Assembly**

**Feeder Assembly**

**Rotor Assembly**

**Bowl**

**Motor Base**



**Pump Outlet Tube:** You can pump liquids into the Spinzall automatically during operation through this tube.

**Lid Cap**

**Lid Cap Gasket**

**Inlet Chute:** Products are added to the Spinzall through this chute.

**Inlet Chute Extender:** Controls splashing in rotor. Use is optional.

**Feeder Lid:** Prevents evaporation in the rotor and forms the top of the feeder cup.

**Feeder Gasket:** Prevents cloudy liquid from spilling out of feeder before entering the rotor.

**Feeder Cup:** injects liquid into rotor and holds floating products that would ruin clarification.

**Feeder Extenders:** inject liquid closer to outer wall of the rotor to help clarification.

**Fins:** Balance products in the rotor and make them behave as a single unit rather than a scouring tornado. Note their orientation.

**Rotor:** Holds 486 milliliters

**Bowl**

**Spout:** liquids pour out of this spout during Continuous Mode

**Shaft**

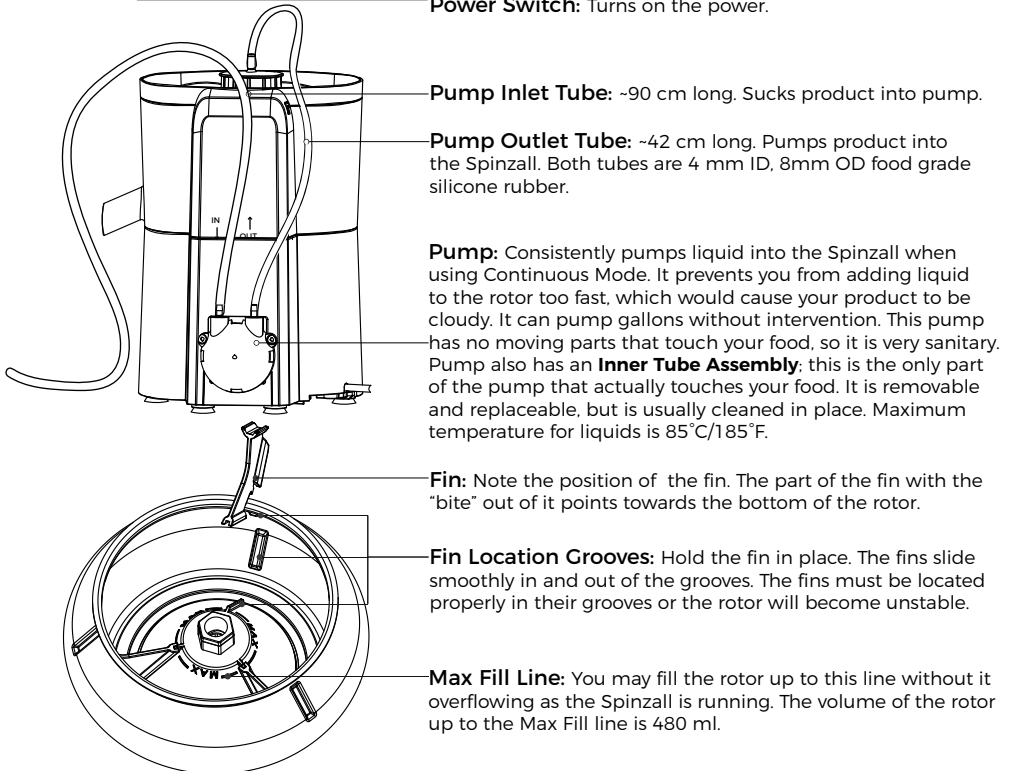
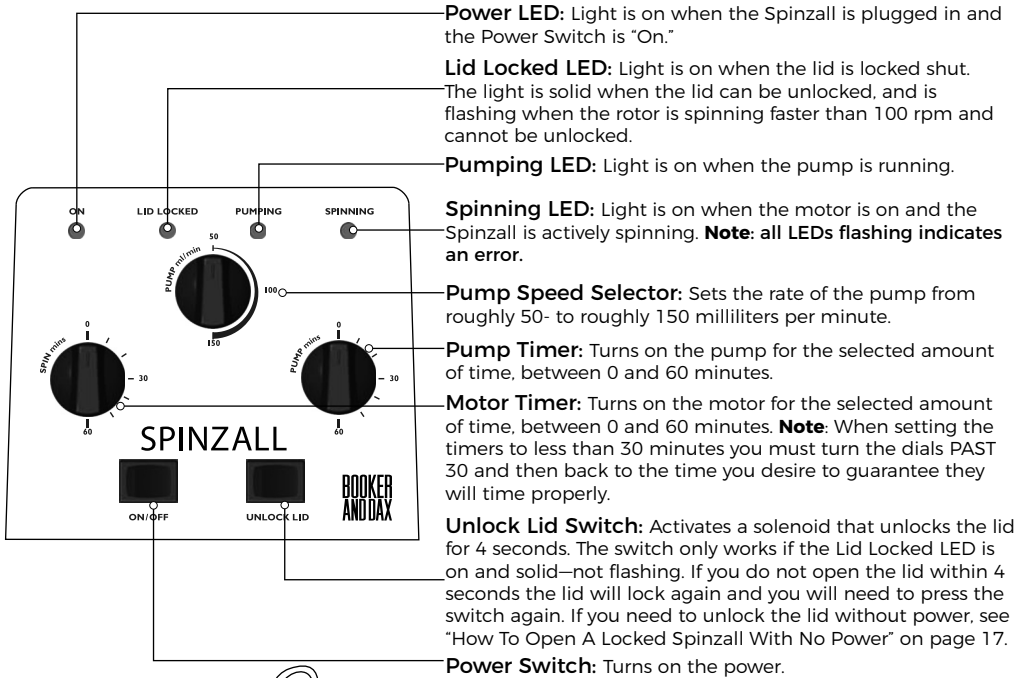
**Shaft Coupling**

**Bowl Gasket:** Prevents leaking between the motor base and the bowl during continuous operation.

**Motor Base**

**Pump:** Consistently pumps liquid into the Spinzall during use in Continuous Mode.

**Note:** all food contact parts are made from food-grade silicone, clear BPA-free Tritan resin, FDA compliant polypropylene, and stainless steel.

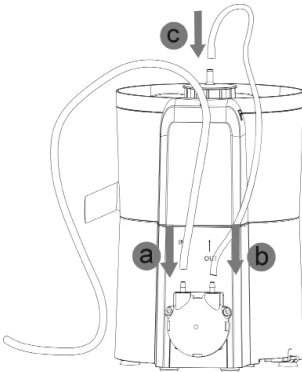


## SPINZALL SAFETY MECHANISMS

The Spinzall is designed with your safety in mind:

- The Spinzall has a **Lid Interlock System**. Once the lid is locked it cannot be opened again without pressing the **Unlock Lid Switch**. This switch only operates when the rotor is spinning under 100 rpm and the power is on. The interlock system makes it impossible for your body to come into contact with a spinning rotor. In the event that you've locked your Spinzall when it's off and unconnected to power, you'll need to use the **Manual Override** to open it.
- The Lid has a secondary safety switch wired directly to the motor; it turns off the motor when the Lid isn't fully closed, even if the Interlock is altered or damaged. Also, if the Spinzall vibrates excessively, the lid will rotate slightly to disengage this switch and turn off the motor while the Lid stays locked.
- The Spinzall has an imbalance sensor. If the machine tips over during use the machine will shut itself off and warn the user by flashing all of its LEDs. The Spinzall must be switched off and back on to reset it.
- The Bowl of the Spinzall is made of super-tough, shatter-resistant Tritan resin.
- The feeder chute on the Lid is designed so that large particles that may damage or unbalance the machine cannot accidentally drop into the rotor while it is spinning.
- The spout on the Bowl is designed to prevent your fingers from reaching inside.
- The Rotor is manufactured from two different materials: Tritan resin and stainless steel. In the extremely unlikely event of a rotor failure, the joint between the plastic and metal parts of the rotor will fail first, causing liquid to leak, reducing the stress on the rotor and preventing catastrophic failure.
- The motor on the Spinzall has low torque. This low-torque, long-life motor is more durable and more energy-efficient than a more powerful motor, and much safer, because it is not powerful enough to accelerate an imbalanced rotor to full speed.
- If, for any reason, the Spinzall cannot verify the rotor speed, it will shut down and warn the user by flashing all of its LEDs. The machine must be switched off and back on to reset it.

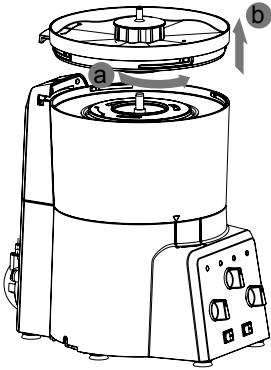
## BEFORE FIRST USE



1. First, **install the pump tubing**: Insert the **Pump Inlet Tube** (90 cm long, the longer of the two pump tubes) over the Pump Inlet Port on the back of the Spinzall labeled "IN" (a). Insert the **Pump Outlet Tube** (42 cm long, the shorter of the two pump tubes) over the Pump Outlet Port on the back of the Spinzall labeled "OUT" (b). Insert the other end of the **Pump Outlet Tube** over the Lid Cap hose barb (c). It will be tight; wetting the tube may make this operation easier.
2. The Spinzall arrives assembled. **Before first use you must disassemble and thoroughly clean the rotor assembly, tube feeder, bowl and lid.** Instructions for taking the Spinzall apart are on the next page. For cleaning instructions, see "After The Spin: Opening And Cleaning Your Spinzall," steps 9-10, page 16.



## TAKING YOUR SPINZALL APART



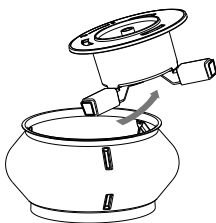
1. Remove the Lid by rotating it counterclockwise (a) and then lifting it off the shaft (b). Optionally remove the silicone **Chute Extender** and **Lid Cap** from the Lid (operation not shown). **CAUTION:** If the Lid is locked (which it automatically will be whenever it is fully closed) you **CANNOT** remove it without using the "Unlock Lid" Switch (see instruction 2 on this page). If you force open a locked lid you will **VOID** your limited warranty and you may break your SpinZall.

2. If the lid is locked first verify that the SpinZall Motor timer is fully off, plug the SpinZall in, and turn the Power Switch "ON." Rotate the lid FULLY clockwise to completely close it and verify that the "LID LOCKED" light is illuminated and solid (not flashing). Press the "Unlock Lid" momentary switch and turn the Lid counterclockwise to disengage the locking mechanism and lift the lid off the shaft.

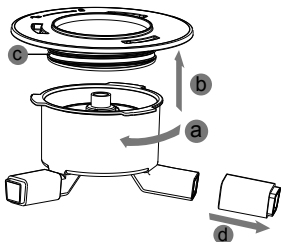
3. The **Unlock Lid** switch unlocks the Lid for approximately four seconds. The "Lid Locked" LED will turn off while the Lid is unlocked. If you do not open the lid within four seconds the lid will automatically lock again and the "Lid Locked" LED will turn on. **Remember:** You **MUST** have the SpinZall **plugged in and powered on to unlock the lid**. This is a safety feature. If you do not have access to power see the "How To Open A Locked SpinZall With No Power" on page 17.



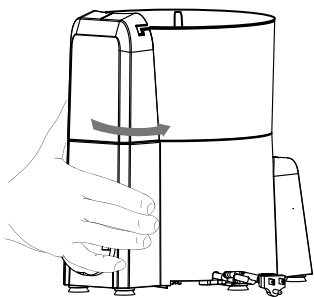
4. Remove the **Rotor** and **Feeder Assembly** from the shaft. They must be removed as a unit; you **CANNOT** remove the feeder assembly by itself. The Rotor and Feeder are very snug on the shaft and may be difficult to remove. To remove the Rotor and Feeder put both thumbs on the shaft as shown, curl your fingers under the rim of the rotor, and pull up with your fingers as you push with your thumbs. This movement will pull the rotor and feeder smoothly off the shaft (see picture at left).



5. Remove the **Feeder Assembly** from the **Rotor**. You **CANNOT** pull the Feeder straight out of the Rotor. You must use a circular and swinging motion (see picture). Optionally remove the three black fins inside the rotor. Do not lose the fins, as the SpinZall will not work without them.



6. If you wish to disassemble the **Feeder Assembly** to clean it, hold the lower part of the Feeder stationary and grasp the **Feeder Lid**; rotate the lid clockwise to disengage the tabs on the **Feeder Cup** (a) and then lift the Lid free of the Cup (b). Note the **Feeder Gasket** (c). You may remove the Gasket for cleaning, but you must make sure not to damage or lose it. The Feeder **WILL NOT** work properly without the Gasket, and your products will stay cloudy. If desired you can now remove the **Feeder Extenders** by pulling them off (d).



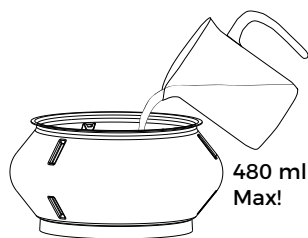
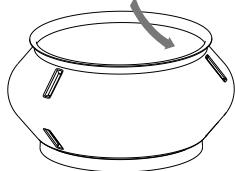
7. Remove the **Bowl** by twisting it counterclockwise on the Motor Base and lifting up. The Bowl may be tight on the Motor Base and require a good bit of force to twist open. The easiest way to apply the necessary force is to grab the Motor Base with your hand and use your thumb to push the Bowl counterclockwise as shown in the picture.

## HOW TO RUN YOUR SPINZALL IN BATCH MODE

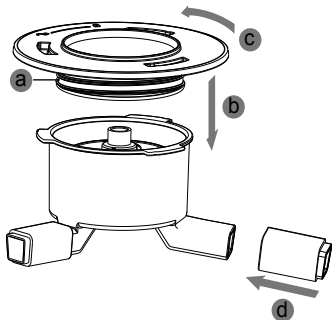
**Batch Mode** is best when you have less than 480 ml of product or when you are making solids, like no-churn butter or Greek yogurt. Batch Mode also usually produces the clearest results and is the fastest technique *per milliliter*. In Batch Mode you simply fill the assembled rotor with your product up to the “Max Fill” line (480 ml) or below, and spin it for the desired time. If you are clarifying a liquid, solids will be flung to the outer part of the rotor, where they will stick to each other and form a “puck.” When the cycle is done the Spinza'll will gently slow itself to a stop over the course of a minute. You may then press the Unlock Lid switch, open the machine, and recover the product. Be gentle with the rotor during recovery: sudden or violent movements can re-suspend cloudy particles from the puck, ruining your result. Liquids can be poured out of the rotor. Often you will find a few floating particles in the liquid that you can easily filter out with a fine mesh strainer (untreated, finely woven cotton kitchen towels make ideal strainers.) These floating particles will not affect product clarity. To harvest solids out of the rotor, gently slide out the fins for easier access. The rotor, bowl, and lid can now be washed by hand or in a dishwasher. The downside of Batch Mode is you must open, clean, fill, and close the Spinza'll quite often when making a large amount of product. For this reason, there is **Continuous Mode**. In Continuous Mode you pump product through the Spinza'll while it is running, so you can clarify much more than 480 ml at a time (see “How To Run Your Spinza'll In Continuous Mode” page 13). **To see a video of the Batch Mode procedure, visit [spinza'll.com](http://spinza'll.com).**



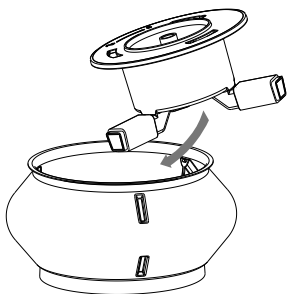
1. Inspect the rotor for dents or cracks. If it is damaged, **DO NOT USE**. Make sure all three **Fins** are inserted into the rotor and are firmly seated in their slots. The “bite” out of the fin points down (see the picture for proper orientation). **WARNING:** If the fins are not installed properly or are missing, the rotor **CANNOT** balance itself and the Spinza'll will not operate properly and may get damaged or cause injury.



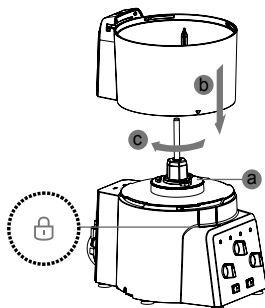
2. Optionally fill the Rotor up to the “**Max Fill**” line on the interior of the Rotor. If you do not fill the Rotor now, you may fill it when the Rotor is spinning. If you add more than the “**Max Fill**” you may prevent the Rotor from spinning, or you may spill cloudy liquid into the bowl. Although the Spinza'll will balance itself, try to fill the three sections of the Rotor equally. **NOTE:** When spinning very thick products the Spinza'll may wobble as it begins to spin. It should settle out as it speeds up. If it does not stop wobbling, turn off the machine and let it stop. **WARNING:** do not fill the Rotor with liquids weighing more than 1.23 grams per milliliter (the density of 1:1 simple syrup). **WARNING:** do not fill the Rotor with warm alcohol or with any alcoholic beverage greater than 40% ABV or warmer than 25°C, or any other flammable or explosive product. There is risk of severe injury or death if you do.



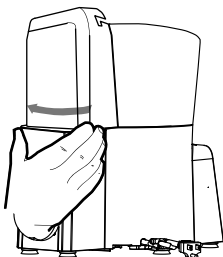
3. Make sure the **Feeder Assembly** is properly assembled. To assemble the Feeder, make sure the **Feeder Gasket** is in the proper position on the **Feeder Lid (a)**, then align the slots in the Feeder Lid with the tabs on the Feeder, push down (**b**) and, holding the body of the Feeder stationary, twist the lid counter-clockwise to lock it in place (**c**). **NOTE:** if the Feeder Gasket is missing or leaks, cloudy liquid will spill out of the Feeder during Continuous Mode, rendering your product cloudy. Optionally place the Feeder Extenders over the ends of the tubes, making sure to engage the rectangular cutouts in the extenders with the tabs on the undersides of the tubes (**d**). Wetting the Extenders may make them easier to assemble. **NOTE:** If you do not use the Extenders recipes may not clarify as well. You must use all three extenders, not just one or two.



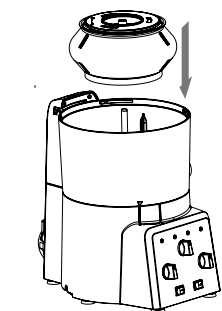
4. Insert the **Feeder Assembly** into the **Rotor**. You must insert the Feeder using a sweeping motion (see picture). It intentionally cannot fit into the Rotor directly. Once the Feeder Assembly is inside the Rotor make sure it is seated properly on the Rotor's hexagonal spindle. **NOTE:** You **MUST** insert the Feeder **BEFORE** you place the Rotor on the motor shaft. You **CANNOT** fit the Feeder into the Rotor while it is in the Spinzall. Also, you must remove the Rotor from the Spinzall to remove the Feeder. **NOTE:** You **MAY** operate the Spinzall in Batch Mode without the Feeder, but the lid on the Feeder prevents evaporation during spinning. See recipes for details.



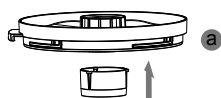
5. Make sure the **Bowl Sealing Gasket (a)** is installed properly on the Motor Base. Push firmly on the triangular portions of the gasket that lock it into place. If the gasket is not firmly in place, it will cause friction that will prevent the rotor from spinning. If the gasket is damaged, missing, or not properly installed, the Bowl may leak during continuous operation. Align the Bowl with the marks on the Motor Base; push down and rotate clockwise to lock the Bowl into place (see (**b**) and (**c**)). **Note:** It may take a little force to lock the Bowl into place, but the locking triangle on the Bowl **MUST** line up with the **lock symbol** on the Motor Base for the Spinzall to run.



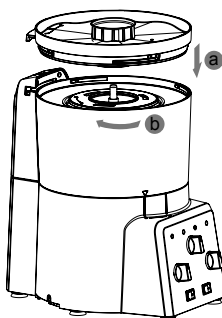
6. The easiest way to lock a tight bowl into place is to put your thumb on the motor base as shown and use your fingers to rotate the bowl into the locked position.



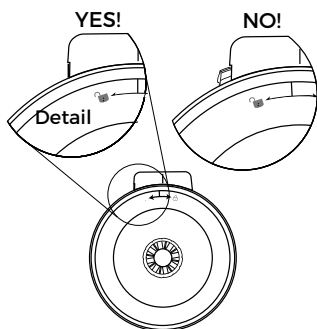
7. Place the assembled Rotor and Feeder on the Motor Shaft and push down until it is firmly seated on the rubber shaft coupling (see picture). If the rotor is not firmly seated friction will prevent the rotor from spinning.



8. Assemble the Inlet Chute Extender onto the bottom of the chute on the Lid (a). Make sure the Extender is lined up properly on the ribs of the Chute, or friction will prevent the rotor from spinning. **NOTE:** You may run the Spinzall without the Chute Extender, but product may splash out of the Feeder if you do. Inspect the ball bearing in underside of the Lid. Make sure it operates smoothly. If necessary, clean any sticky residue to ensure smooth operation. If it is sticky the Spinzall will be very loud and you will prematurely wear out the bearing.

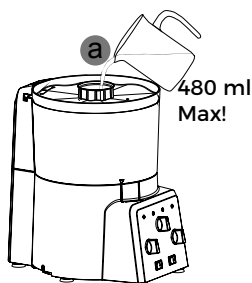


9. Make sure the **Motor Timer** and **Pump Timer** are set to zero, then plug the Spinzall in and turn the **Power Switch** to "ON." The Power LED should light, but all the other LEDs should be off. Align the Lid with the shaft and Bowl as shown, then push down and rotate clockwise as shown to close the lid (see a and b). Closing the Lid automatically locks it and turns on the "Lid Locked" LED. **WARNING:** Do not attempt to open a locked lid without using the "Unlock Lid" switch or the Manual Override (see "How To Open A Locked Spinzall With No Power" page 17). Doing so could break your Spinzall.



10. **NOTE:** Make sure the Lid is COMPLETELY closed like the detail on left. Be careful not to inadvertently rotate the lid counterclockwise after you have closed it (detail on right). If you do, the lid will still be locked (and the Lid Locked LED light will be on), but the Spinzall will not spin because the secondary safety switch will be disengaged (see "Spinzall Safety Mechanisms"). If you turn on the Motor Timer with the lid in this incorrect position the Spinzall will go into error mode in 5 seconds. All LEDs will flash, and the machine must be switched off and back on to reset it.

Top view Spinzall Lid



11. If you have not filled the Rotor yet, you may fill it now with up to 480 milliliters of product (a), or you may start spinning with an empty rotor and fill it with the pump (see the recipe section for which technique you should use). Place the Lid Cap in place on the top of the Lid, making sure gasket is in place on cap (operation not shown). **NOTE:** The cap is not necessary in Batch Mode, but you should always use it because it reduces noise and evaporation.

12. Turn the Motor Timer (the knob on the lower left of the front panel) to the desired number of minutes (operation not shown). **Note:** When setting the timer to less than 30 minutes you must turn the dial PAST 30 then back to the time you desire to guarantee it will time properly. The “Spinning” LED will illuminate, and after the Rotor reaches 100 rpm, the “Lid Locked” LED will start flashing, indicating that the Lid cannot be unlocked. If the rotor does not reach 100 rpm within 5 seconds the Spinzall will go into error mode. All LEDs will flash and the machine must be switched off and back on to reset it. The Rotor should slowly accelerate up to 4100 rpm. After it reaches its maximum rpm it will slow down to 3600 rpm and then cycle between these two speeds. This cycling helps clarification. If the rotor does not spin, see “**Troubleshooting,**” page 19. When the Spin is over the Spinzall will gently apply an electronic brake, stopping the rotor in about a minute without disturbing the clarity of your product. Follow the instructions in “**After The Spin: Opening And Cleaning Your Spinzall**” starting at step 2, page 15.

## HOW TO RUN YOUR SPINZALL IN CONTINUOUS MODE

In **Continuous Mode** you pump product into the Spinzall while it is running. Cloudy product is pumped in; clarified product spills out. Continuous Mode is made possible by the **Feeder Assembly**. To understand **WHY** the Feeder works see the section “**How Continuous Mode Works: Feeder Magic.**” To just figure out how to run in Continuous Mode, read below.

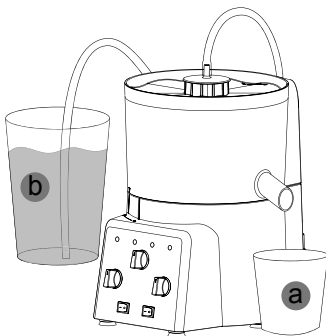
The main decisions you will make in Continuous Mode are:

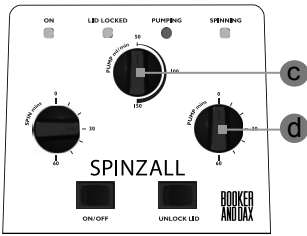
- **Whether to start with a full rotor or an empty rotor.** In general, if a product has airy cloudy particles that tend to float in the rotor, start with an empty rotor so the Feeder tube can filter them out. If your product does not have particles that float in the rotor, start with a full rotor to save time.
- **How fast to run the pump.** The faster you pump product through the rotor, the faster you are done—but if you pump too fast, you exceed the capabilities of the Spinzall and your product will go cloudy. See the recipes for how fast you should run a particular product.
- **How big a batch to process before you stop the Spinzall and clean it out.** Maximum batch size is determined by the solids contained in your product. Generally, the Spinzall should be cleaned out after processing 300-350 grams of SOLIDS. See recipes for details.

To see a video of this procedure, visit [spinzall.com](http://spinzall.com).

Continuous Mode starts out the same way Batch Mode does, so to begin follow the instructions in “**How To Run Your Spinzall In Batch Mode,**” and then:

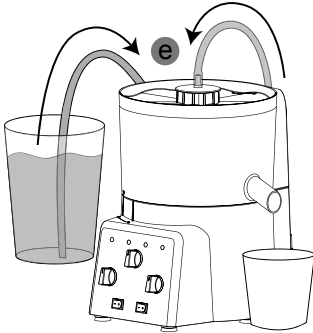
1. Make sure the Spinzall is spinning at full speed (you will hear the motor speed oscillating instead of just speeding up) and that the Lid Cap is in place and the Pump Tubing is installed correctly. If you are starting with an empty rotor, you may begin pumping right away. If you are starting with a full rotor, you should allow the unit to run for 30 seconds after reaching full speed. **NOTE:** If you overfill the rotor and liquid spills into the bowl BEFORE the Spinzall reaches full speed, stop the Spinzall, clean it out, and start again.
2. Make sure to place a receiving vessel under the Spout (a). Place the **Pump Inlet Tube** into whatever product you wish to pump (b). Note: The pump can pump fruit purees, nut milks, and very finely blended herbs mixed with liquids or oils. It





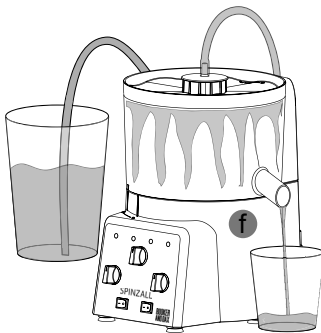
cannot pump large solids or solids that compact in the tube, such as coffee grounds. If the tubes clog, you may remove them and clean them with a piece of wire.

3. Set the Pump Speed knob (c) to the desired pumping rate. Almost any product that will clarify in the Spinzall will clarify at 50 ml/minute. Many products will clarify at higher rates—100 or even 150 ml/min. If you run the pump faster than the Spinzall can clarify a particular product, the liquid that comes out of the rotor will start turning cloudy. If this happens, slow the pump down.



4. If you are starting with an empty rotor, pump at 150 ml/min for 3 minutes, then turn down the pump speed to the proper speed for your recipe (this will save you some time). Rotor should begin overflowing within one minute.

5. To start the Pump, turn the Pump Timer to the desired number of minutes (d). **Note:** When setting the timer to less than 30 minutes you must turn the dial PAST 30 then back to the time you desire to guarantee it will time properly. The “Pumping” LED will illuminate and the pump will begin to pump liquid into the rotor (e). **Note:** The Pump Timer is independent from the Motor Timer. If the Motor Timer turns off, the Pump Timer will continue to run if it has time left.



6. After the rotor is full, liquid will begin to spill out of the rotor into the bowl and out of the spout (f). Liquid that is thrown out of the rotor will have small air bubbles. This is normal and will make your product LOOK cloudy at first but will not affect final clarity. **Tip:** Keep an eye on the bowl. If you see that the liquid in the bowl suddenly looks different, switch the vessel under the spout immediately and clean out the rotor. You have probably exceeded the solids capacity of the Rotor or the Feeder.

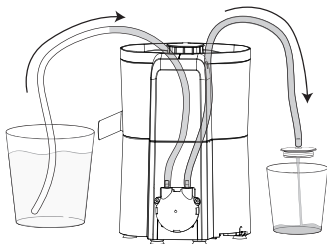
7. After you have finished pumping your liquid you may wait for the Motor Timer to finish or you may turn the knob to zero when you are done. The Timer will “ding” and the Spinzall will gently apply an electronic brake that will slow down the rotor in about a minute without disturbing the clarity of your product. **Note:** It is advisable to continue spinning for several minutes after you are finished pumping to fully clarify the product left in the rotor. **Note:** DO NOT TURN the Power Switch “OFF”. The electronic brake will not operate and the rotor will take 2 minutes or more to stop.

8. Proceed to “After The Spin: Opening And Cleaning Your Spinzall.”

## AFTER THE SPIN: OPENING AND CLEANING YOUR SPINZALL

To see a video of this procedure, visit [spinzall.com](http://spinzall.com).

1. When you are done pumping liquids through the pump you should immediately clean the pump. You may do this while the rotor is still spinning. Remove the Lid Cap from the Lid and place it in an empty vessel. Set the Pump Speed knob to 150 ml/min, then pump hot water (less than 85°C/185°F) through the tubing until it is clean. The hot water may be followed with a sanitizer if you wish. After the tubing is clean, continue to pump all of the water and/or sanitizer out of the tube until it is dry. For stubborn cleaning problems, the tubing may be removed from the pump, cleaned, and replaced. It is also possible to remove the tubing on the inside of the Pump itself (see “**Replacing the Inner Tube Assembly of the Pump**”).



2. When the rotor speed drops below 100 rpm, the “Lid Locked” LED will stop flashing and turn solid. This indicates that it is possible to unlock the Lid.

3. Press the “**Unlock Lid**” switch and turn the Lid counterclockwise to disengage the locking mechanism and lift the lid off the shaft.

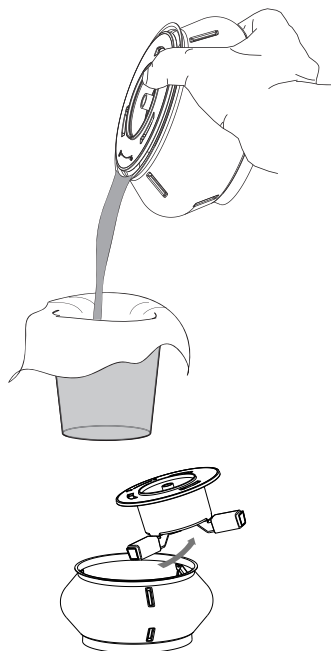
4. The “**Unlock Lid**” switch unlocks the Lid for approximately 4 seconds. The “Lid Locked” LED will turn off while the Lid is unlocked. If you do not open the lid within 4 seconds the lid will automatically lock again and the “Lid Locked” LED will turn on. **Remember:** You MUST have the Spinzall plugged in and turned on to unlock the lid (see “**Taking Your Spinzall Apart,**” steps 2-3 page 9).

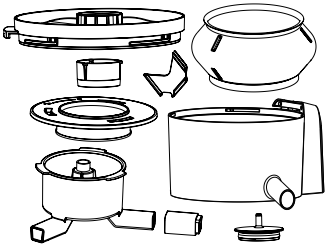
5. Lift the rotor off the motor shaft along with the Feeder. **Remember:** You **CANNOT** remove the Feeder from the Rotor until you first lift the motor off the shaft! Also, the rotor will be tight on the shaft (see “**Taking Your Spinzall Apart,**” step 4 page 9).

6. Pour the liquid out of the rotor as shown. Leaving the Feeder in place prevents the Fins from falling out. **Note:** you may need to pour the liquid through a fine strainer to remove any particles from the liquid (untreated, finely woven cotton kitchen towels make ideal strainers). They should not affect clarity.

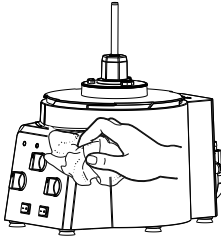
7. Remove the Feeder from the Rotor with an upward sweeping motion (reverse of installation). If you are using the solids, be careful not to disturb the puck too much while you are removing the Feeder. You may disassemble the Feeder assembly for cleaning; it is dishwasher safe. Take care not to lose or damage the gasket.

8. If you are harvesting the solids out of the rotor, gently pull the fins out of the rotor and gather the solids using a spoon. Both the rotor and the fins are dishwasher safe. Make sure the fins are properly reinstalled before using the Spinzall again.



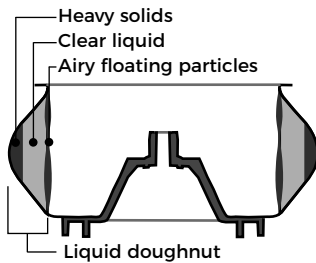


9. All the food-contact portions of the Spinzall shown at left may be cleaned in a residential dishwasher (we have not tested commercial dishwashers). NOTE: While dishwashing may reduce the lifespan of the ball bearing in the Lid, we have tested it for 100 dishwashing cycles with no degradation. **NEVER** clean any part of the Spinzall with a sharp object and **NEVER** use an abrasive cleaner or scouring pad. Carefully clean everything with running water. Pay special attention to the Feeder assembly. If the tubes on the Feeder get clogged, wash them with a small bottle brush. Be careful not to misplace any gaskets or fins and follow the instructions in **"Assembling and Running the Spinzall"** to reassemble the Spinzall.



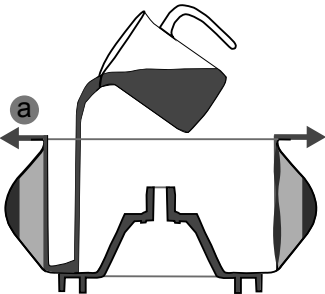
10. Do not wash the Motor Base with water or immerse it in water. Wipe it clean with a soft dry cloth. Make sure all parts of the Spinzall are dry, and store in a clean ventilated place. Please clean the Spinzall directly after using or dry residue will adhere to parts, affecting disassembly and performance.

## HOW CONTINUOUS MODE WORKS: FEEDER MAGIC

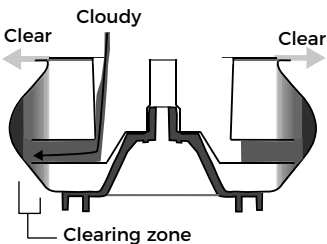


To get the most out of your Spinzall you should understand how the Feeder Assembly allows for Continuous Mode operation.

When the Rotor is full of liquid and spinning, the liquid inside forms a doughnut shape. The outside of that doughnut contains the heavy, cloudy, and solid parts of the product, and the inside of that doughnut contains the lighter, clearer product. On the very inside surface of the doughnut are the floating particles. These are solid particles that are filled with air and will never sink to the outside of the Rotor.



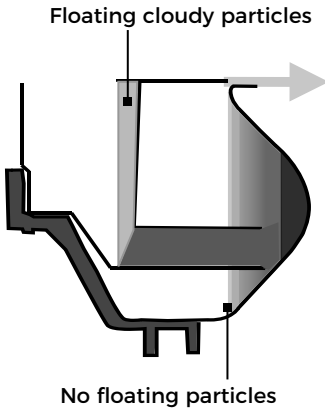
If you were to pour liquid directly into the Rotor while it was spinning it would hit the inside wall of the spinning "liquid doughnut" and cloudy liquid would immediately spill out over the lip of the Rotor. The liquid would not clarify (a).



The three tubes on the Feeder Assembly inject cloudy liquid on the **INSIDE** of the "liquid doughnut", giving the liquid time to clarify before it spins out. A "clearing zone" is created under the surface of the liquid. The closer the cloudy liquid is injected to the outside of the Rotor, the less chance there is that cloudy liquid will make it out of the Rotor.



Different products have different clearing rates. The clearing rate is the rate at which you can add product to the Spinzall and achieve good results. If you try to pump too quickly, you will add cloudy liquid to the rotor faster than it can clarify, and your result will not be clear. The Pump Speed knob allows you to adjust the pump rate. Slower rates often provide clearer results. Use trial and error to find the fastest rate that stays clear.



When you have airy, floating particles in the spinning rotor (as you will have with many recipes), adding liquid will cause these particles to fly out of the Rotor at high speed, potentially clouding your product. The Feeder is designed to fix this problem. The inside of the Feeder forms a cup. The walls of the cup are fashioned at an angle that actually floats light particles up so they never enter the Rotor. This cup must always be sealed with the included gasket, or cloudy product will spill out of the Rotor. TIP: If you are clarifying a product with a lot of these airy particles you should start your Rotor EMPTY, and pump the Rotor full using the Spinzall's Pump. This will allow your Feeder to float the light particles away from your product. If your product does not have floating particles you should start the Rotor full.

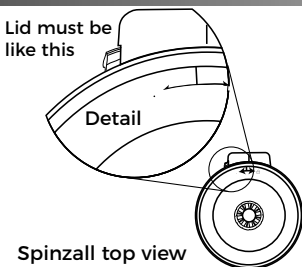
In addition to forming the top of the Feeder "cup," the Feeder Lid acts as a Rotor cover to prevent evaporation while spinning.

The quantity of liquid that you can process in Continuous Mode depends on the solids content of the liquid and how well the particles within it compact. In general, there are two considerations:

1. Once the Rotor fills with solids, these solids will start spilling out of the rotor and ruin the clarification.
2. Once the Feeder "cup" fills with floating particles, cloudy liquid will spill out of the Feeder and ruin the clarification.

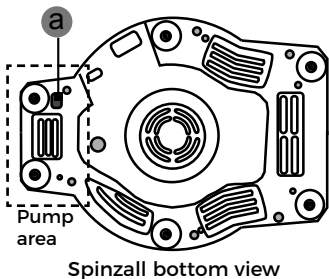
The amount of product you can process at once varies very widely. For example it is possible to do three gallons of citrus juice without stopping, but you may be able to do only a liter of a puree that has a lot of floating particles in it.

## HOW TO OPEN A LOCKED SPINZALL WITH NO POWER



To see a video of this procedure, visit [spinzall.com](http://spinzall.com).

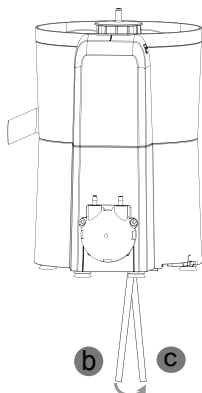
1. In the event that you need to unlock the lid and you do not have access to power, there is a **Manual Interlock Override**. **Warning: NEVER** override the interlock while the Spinzall is spinning. The override technique can take a while to master so you should practice with an EMPTY Spinzall BEFORE you need to do it for real! First unplug the Spinzall, then rotate the Lid slightly counterclockwise until it will not rotate any more (see picture). The lid must be in this position to manually override the interlock.



2. Keeping the Spinzall in an upright position, place the pump area of the Spinzall over the edge of a table (not shown).

3. Locate the **Interlock Access Hole (a)** on the bottom of the motor base (see picture). **Note:** this bottom view picture is for reference only, you should keep the Spinzall upright with the pump area over the edge of a table. Turning the Spinzall on its side with a full rotor will cause a mess!

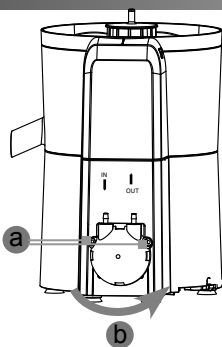
4. There is a lever inside the unit that you must push to unlock the lid. When you push the lever you will hear a faint click and the lid will unlock. You will need a wooden chopstick, long thin screwdriver, or similar implement. There are two techniques you can use. Experiment to see which one works for you:



option 1. Looking at the back of the Spinzall, insert your stick all the way into the **Interlock Access Hole** at an angle so it looks like the stick in position (b). When the stick is in the **Interlock Access Hole** as far as it can go, swing the stick into position (c). The tip of the stick should depress the interlock override lever.

option 2. Looking at the back of the Spinzall, place the tip of the stick **JUST** inside the **Interlock Access Hole** with the tip of the stick pushing against the inside wall of the hole like the stick in position (c). Keep pushing the tip of the stick against the inside of the hole and slide the stick upwards. The tip of the stick should depress the interlock override lever.

## HOW TO REPLACE THE PUMP INNER TUBE ASSEMBLY

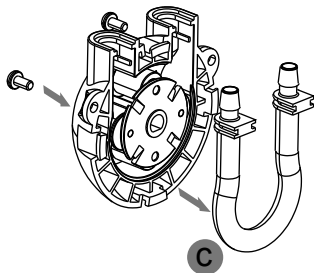


To see a video of this procedure, visit [spinzall.com](http://spinzall.com).

After several hundred hours of pumping it may become necessary to replace the inner tube assembly on the pump.

The replacement procedure:

Remove the two screws on the pump housing (at (a) in picture). Rotate the pump housing counter-clockwise to unlock it (b) and remove the pump head from the Motor Base.



Before you remove the tubing assembly (c) from the pump, take note of how it fits into the pump. Take a picture for your reference. Remove the old tube and replace with a new one. Note that the polypropylene hose barbs **MUST** be properly engaged in the pump housing and the tube **MUST** be engaged under the rollers. To engage the tube with the rollers it may be necessary to turn the rollers by hand. Reinstall the pump by aligning the tabs on the pump with the slots on the Motor Base and twist clockwise to lock the pump in place. Replace the screws.

## TROUBLESHOOTING YOUR SPINZALL

Problem	Cause	Solution
Nothing works and all the LEDs are flashing	The imbalance sensor has been tripped.	Turn the Power Switch off, wait for the lights to go out, and then turn back on.
The Lid is closed, the Power is "ON" but the LID LOCKED LED is not lit.	There is a problem with the interlock or the lid and bowl are not properly engaged.	Unlock the lid and bowl, turn the Power Switch off, wait for the lights to go out, and then turn back on, lock the bowl and lid. If problem persists, email <a href="mailto:info@spinzall.com">info@spinzall.com</a> .
The Lid is LOCKED and cannot be opened	The Spinzall needs to be plugged in and turned "ON" to unlock the lid.	Plug the Spinzall in, then turn it "ON" and press the "LID UNLOCK" switch.
	The rotor is spinning faster than 100 rpm.	Wait for the rotor to slow down. The LID LOCKED LED will change from flashing to solid.
The LID LOCKED LED and the SPINNING LED were illuminated but the rotor did not spin when the MOTOR TIMER was turned on. After 5 seconds all the LEDs started flashing and then nothing worked.	There is friction on the rotor or an overloaded bowl so the rotor could not spin (you may hear a faint hum).	Turn the Power Switch off, wait for the lights to go out, and then turn back on. Open the lid and make sure the rotor is clear to spin without friction. If this fails, remove Inlet Chute Extender and try again.
	The Lid is locked but not fully closed, so the motor safety switch is disengaged and the rotor can not spin.	Make sure the lid is closed 100% (see page 12, step 10). Turn the Power Switch off, wait for the lights to go out, and then turn back on.
Spinzall is very loud (it properly operates at 70dBA; you should be able to have a conversation next to it).	Rotor imbalance	Clean rotor and try again. Make sure fins are properly installed. If rotor is damaged, email <a href="mailto:info@spinzall.com">info@spinzall.com</a>
	Ball bearing in lid is sticky or frozen (will not turn).	Clean ball bearing and try again. If problem persists email <a href="mailto:info@spinzall.com">info@spinzall.com</a>
	Rotor is overflowing solids	Check to see if one of the three rotor sections has reached capacity (you will see solids all the way up to the lip of the rotor).
Spinzall doesn't clarify properly	Recipe wasn't followed, or improper enzymes or wine fining agents were used. For recipes not in this manual, visit <a href="http://spinzall.com">spinzall.com</a> .	Check recipe and try again. Remember, if the liquid hasn't broken and doesn't show clear areas, it probably won't clarify.
	You have set the pump speed too high.	Set the pump to a lower speed.
	You have exceeded the solids capacity of the rotor or the feeder.	Don't do that.
	There is too much vibration.	Empty the rotor and try again.

## RECIPES

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### Remember:

In order for the Spinzall to work properly, most liquids will require pre-treatment with **Clarifying Aids**.

Many Spinzall recipes require the enzyme **Pectinex Ultra SP-L**. Using the exact amount of Pectinex Ultra SP-L called for in a recipe is not critical. A little more is better than a little less. Generic “Pectinase” enzymes are NOT a substitute.

Many recipes also require the wine fining agents **Kieselsol** and **Chitosan**, both of which **require accurate measurements!** We recommend using a pipette.

If you don't use the products called for, or if you use them improperly, these recipes will **not work AT ALL**. The clarifying aids are required, not optional, if they are listed. All of these products are available at [modernistpantry.com](http://modernistpantry.com)

See the individual recipes for specifics.

## General Recipe Notes



**Alcoholic Products WARNING:** Warm alcoholic vapor is extremely flammable. Although warm liquids added to a Spinzall will rapidly cool to ambient room temperature due to evaporative cooling, it is unsafe to add warm alcohol to the Spinzall. NEVER add alcohol that is higher than 40% ABV or that is warmer than 25 degrees Celsius (77F) to the Spinzall, and never operate the Spinzall with alcohol in an ambient temperature greater than 25 degrees Celsius (77F). If the temperature of a 40% ABV liquid rises above 26 degrees Celsius (79F), its vapor will sustain a flame if ignited. This is called its “flash point.” The danger of a fire in this situation is very, very real. For reference, the flash point of 30% ABV is slightly higher at 29 degrees Celsius (84F), but the flash point for 50% ABV is only 24 degrees Celsius (75F).

**Starchy products:** Starch does not clarify using normal enzyme and wine-finishing pre-treatments in the Spinzall (or in a \$10,000 bench-top centrifuge either). Some day the proper enzymes may be available from modernistpantry.com. Keep checking back with [www.spinzall.com](http://www.spinzall.com) and [www.modernistpantry.com](http://www.modernistpantry.com) for updates. Starchy products include: unripe bananas, many smaller tropical bananas, sweet potatoes, very unripe apples, and many seeds.

**Meat Stocks:** The Spinzall will not clarify meat stocks on its own. It is possible to do it using eggs whites, or other forms of protein-protein interaction, but we don't think it is worth the trouble.



Crushed ice in Spinzall bowl.

**Very temperature-sensitive items:** Although the Spinzall does not heat up products like a traditional centrifuge and therefore does not incorporate refrigeration, sometimes you might want to actively chill your product (see "Fractionating Fats" at [spinzall.com](http://spinzall.com)). You can do this when operating in Batch Mode by adding some crushed ice to the Spinzall bowl. **Note:** if the ice touches the rotor, the Spinzall may not spin. Be sure to place a vessel under the output spout to catch the melt water.

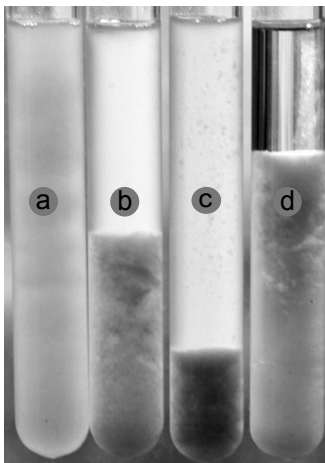
**Blenders, Juicers, and Pre-Straining:** Many Spinzall recipes require that you blend your ingredients before spinning them. The finer you blend these ingredients, the better your results will be. We recommend using a high-speed blender. If you are using a juicer instead of a blender as you would for citrus and as you should for apple juice, you should pre-strain the juice to remove the majority of the pulp. This will increase the volume you can process at one time

## Clarifying Aids: Fruits, Veggies, and the Pectinex Test

The Spinzall can clarify almost any non-starchy fruit or vegetable, either on its own or mixed with other liquids or alcohol. Any such product requires pre-treatment with the enzyme **Pectinex Ultra SP-L** (not included). Without this enzyme the pectins in the fruits or veggies will prevent clarification. Pectinex Ultra SP-L is an all-natural liquid enzyme that breaks down both pectin and hemicellulose. It has a faintly fermented smell. It is made by the Novozyme Corporation and may be purchased at [modernistpantry.com](http://modernistpantry.com). Pectinex Ultra SP-L should be stored in the refrigerator and will last six months. The enzyme won't spoil, but after 6 months it will slowly fade in efficacy.

Sometimes (like for most apple juices), pre-treatment with Pectinex Ultra SP-L is sufficient, other times not. To find out, perform the **Pectinex Test**.

**Pectinex Test:** For every liter of room temperature juice, liquid, or puree, add 2-4 ml Pectinex Ultra SP-L. The exact amount is unimportant. Stir the mixture thoroughly and put it in a clear container. Leave the container undisturbed for 30 minutes.



### Enzymes and fining agents:

Lime juice after the steps of adding Pectinex Ultra SP-L, Kieselsol and Chitosan. They have been allowed to settle for an hour to show you what each step does.

**a)** Just Pectinex Ultra SP-L. There is a slight break in the juice, but in-between the clouds the juice is not clear.

**b)** Kieselsol was added to (a). Notice the break is VERY obvious now, and the solids settle well, but the juice is still a little cloudy.

**c)** Chitosan was added to (b). The cloudy portions of the juice have settled much harder, but the liquid isn't any clearer.

**d)** A second round of Kieselsol was added to (c). Notice that the cloudy parts don't settle as well, but that the juice in-between is crystal clear. This is ideal.

**If the enzyme pre-treatment is adequate, you will see a “break:” cloudy patches separated by areas of obviously clear liquid.** If you see this break, you are ready to spin. Note you may see a break in as little as five minutes. If so, you are ready to spin.

When you are spinning in Batch Mode, you can spin as soon as you see a break. Since Continuous Mode tends not to produce as clear a result as Batch Mode, waiting longer after you see the break can help make a clearer product.

Pectinex will work faster the warmer it is. The temperature at which it works fastest is just above body temperature. If your product is cold, it may take up to an hour or more to see a break. **If you do not see a break**, you may need to additionally treat your product with the wine fining agents **Kieselsol** and **Chitosan** (also not included, but available from [modernistpantry.com](http://modernistpantry.com)).

**Kieselsol** (suspended silica) is a cloudy liquid that will not spoil, and does not need refrigeration, but should not be frozen. **Chitosan** is a hydrocolloid derived either from a fungus or from shrimp shells. Chitosan is made into a solution with water and a small amount of vinegar. **Fungal Chitosan** comes as a powder that you make into a solution. **Shrimp Chitosan** comes pre-made as a solution and is non-allergenic even for those people with shellfish allergies. Chitosan solution must be stored in the refrigerator and will last for at least 6 months. Both Kieselsol and Chitosan work by making the solids in your product clump together into larger particles that are easier for the Spinzall to spin out. Unlike Pectinex, which you do not need to measure accurately, these fining agents must be added in precise amounts and in a particular order **or your recipe will not work!**

First add two milliliters of Kieselsol per liter of product, stir, and wait 15 minutes. Then add two milliliters of Chitosan per liter of product, stir, and wait 15 minutes. Finally add two more milliliters of Kieselsol per liter of product, stir, and wait as long as you wish. The longer you wait, the harder the product will break and the easier it will be to clarify.

You can remember this recipe as “**Two-Fifteen**” because all the measurements are 2 milliliters and you are always waiting 15 minutes.

## “Two-Fifteen” Master Recipe For Clarifying Agents

Per liter of product:

**Add:** 2 ml Pectinex Ultra SP-L and 2 ml Kieselsol

**Wait:** 15 minutes

**Add:** 2 ml Chitosan

**Wait:** 15 minutes

**Add:** 2 ml Kieselsol

**Wait:** 15 minutes or longer, then spin.

## Clarifying Citrus Juice (Orange, Grapefruit, Lemon, Lime, or Similar)

**Maximum continuous run:** At least 2 gallons, possibly more

**Yield:** Greater than 90% juice

**Batch spin time:** 10-15 minutes

Clarified citrus juices are great for carbonation. Clarified lemon and lime juice taste very much like cloudy lemon and lime, but won't ruin the carbonation of a drink. Clarified grapefruit juice tastes less bitter than regular grapefruit juice. Pink grapefruit juice clarifies to yellow. Clarified orange juice tastes rather bland on its own, but is delicious carbonated, turned into a cordial, or fermented into a dry "beer." The leftover pulp can be used as a bittering agent.

### Procedure:

Juice as normal, and strain out pulp with a strainer.

For every 1 liter of juice:

1. Add 2-4 ml Pectinex Ultra SP-L and 2 ml Kieselsol then stir and wait 15 minutes. Juice that is room temperature will have better results than cold juice (due to the enzymes).
2. Add 2 ml Chitosan then stir and wait 15 minutes.
3. Add 2 ml Kieselsol then either spin immediately or wait. If you are spinning in Batch Mode, there is no need to wait. If you are using Continuous Mode, the longer you wait the clearer the product will be. 15-30 minutes is usually sufficient.
4. For Continuous Mode, set up your Spinzall and start it with an empty rotor. Once the rotor nears full speed begin pumping juice into the rotor at 150 ml/min for 3 minutes. Starting this way partially fills the rotor and floats any air filled particles out of the finished juice. Turn the pump speed down to around 80 ml/min. Juice should start pouring out of the Spinzall within a minute. This pump speed produces 1 liter every 12.5 minutes. You may be able to pump faster, or you may have to slow down. If the juice starts clouding slightly, stop the pump for 30 seconds, and then start it again at a slower speed.
5. After you are done pumping, run the rotor for an additional 5 minutes before stopping the cycle and straining the product in the rotor through a fine strainer.



This orange juice shows a very clear break. In fact, it is settling out. This is perfect for the Spinzall.

## Clarifying Thicker Juices such as Apple

**Maximum continuous run:** At least a gallon, possibly more

**Yield:** Greater than 90% juice

**Batch spin time:** 8-15 minutes

Follow the recipe for citrus juice with the following caveats and tips:

- Your maximum continuous volume will be slightly less than for citrus.
- The leftover pulp from spinning apple juice is usually very good.
- Different apples respond to clarification differently. The flavor of some (like Granny Smith) are not affected very much. Some are affected profoundly. You need to test.
- Do not attempt to juice apples with a blender. Use a masticating, centrifugal, or similar juicer.
- Do not peel apples before juicing. A lot of the flavor is in and near the skin.
- Coring apples is not necessary for most juicers.
- Apple juice turns brown and begins tasting like apple cider very quickly. If you want the juice to taste like fresh apple, you should add ascorbic acid (vitamin C, available at [modernistpantry.com](http://modernistpantry.com)) to the juice as it is being produced (half a teaspoon per liter).
- Some apples will require Kieselsol and Chitosan, as with citrus, but some will not. You have to test to see if Pectinex Ultra SP-L alone is sufficient. See **Pectinex Test** (page 21).



Apples should not be blended. Here they are being juiced in a Champion Juicer with added ascorbic acid.



## Clarifying Tomatoes

**Maximum continuous run:** At least 1 liter, possibly more

**Yield:** 66-80% juice depending on solids

**Batch spin time:** 15 minutes

Tomato water and pulp have a variety of uses in the culinary and cocktail world, but tomatoes are one of the more difficult things to make perfectly clear because the particles are so fine. As usual, Batch Mode produces the clearest results. If you follow the procedure below you should get good results.

You may use regular tomatoes, cherry or grape tomatoes, or even commercial tomato juice. Tomato skins can be very bitter, so if you want to use the leftover pulp (which is thick and delicious if the tomatoes are good), make sure to peel the tomatoes. Commercial tomato juice can yield surprisingly good results—much better than crappy fresh tomatoes.

Follow the recipe for citrus juice except: fresh or canned tomatoes should be room temperature and blended extremely well in a high-speed blender with the Pectinex Ultra SP-L. For tomato juice, just stir in the Pectinex as for citrus juice. For continuous processing, it is advisable to wait 30-45 minutes after adding the second round of Kieselsol (step 3 of the citrus juice recipe) before spinning. Tomato juice should be run at relatively slow pump speeds (50-80 ml/min).

## Clarifying Strawberry and Most Other Fruit Purees

Blueberry, raspberry, mango, pineapple, etc, follow this recipe.

**Maximum continuous run:** At least 2 liters, possibly more

**Yield:** 66-80% juice depending on solids

**Batch spin time:** 6-15 minutes

Clarified purees are useful in far more than cocktails. Because the solids have been removed, they may be hyper-concentrated on the stove without scorching for amazing fruit-based sauces.

Usually, these purees are made in a high-speed blender. Pre-purchased purees may also be used. The leftover pulp from these clarifications is typically delicious. Often, purees will clarify well with Pectinex Ultra SP-L alone. To see if you need Kieselsol and Chitosan follow the **Pectinex Test** (page 21). Proceed with recipe as for apple juice. Remember that the puree needs to be room temperature or slightly above (around body temperature) for the Pectinex enzyme to work quickly.

Some fruits—like strawberry—only require a short spin time, around 5 minutes. Others require more. You will have to test. If you turn off the rotor and the product is still cloudy, try spinning it longer.



If you look closely you can see the break in this strawberry puree. This will clarify well.

## Herb Oils

**Maximum continuous run:** 300-350 grams of herb. No limit to oil.

**Yield:** Greater than 90% of oil recovered

**Batch spin time:** N/A (continuous only)

Herb oils made in the Spinzall are pure, strong, and long-lasting. The Spinzall allows you to get unparalleled yields of oil. The following recipe is for parsley, but almost anything can be substituted. If using herbs that brown readily, consider adding a pinch of ascorbic acid (vitamin C) or sodium bisulfite (available from [modernistpantry.com](http://modernistpantry.com)) to the herbs prior to blending. For longest keeping, store oils in bags without oxygen in the freezer.



Dark but perfectly clear herb oil coming out of the spout.

Making herb oils in the Spinzall requires a special **Continuous Mode** technique that relies on the fact that oil floats on water; this technique requires some simple arithmetic. Unlike other Continuous Mode recipes, this one requires specific measurements. You **MUST** start with less than 350 grams of herbs (300 is safer—the idea is that you don't want to overflow the rotor). You then measure however much oil you want to blend with the herb. The amount isn't critical. In general, I use a little more than twice as much oil as herb. Any less oil and the mixture becomes difficult to pump. More oil just dilutes the flavor and color.

Next comes the crucial step: You measure out (but **DON'T** add to the herb/oil mix!) some water that you are going to use to get **ALL** of the oil out of the rotor.

The amount of water you use depends on the amount of herb you use. The total weight of herbs plus water should be 460 grams. If you used 200 grams of herb you will use 260 grams of water. If you used 100 grams of herb you will use 360 grams of water, etc.

First pump the oil/herb mixture through the Spinzall in Continuous Mode. After you are done, you **THEN** pump in the water you measured. That added water is heavier than the oil, so it will push the rest of the pure herb oil out of the rotor. What is left in the rotor is just watery waste.

### **Parsley Oil (master recipe)**

300 grams parsley, large stems removed (unless you like their flavor)

700 milliliters neutral, clean-tasting, vegetable-based oil (the amount of oil may be decreased to 600 ml for a stronger oil, or increased as much as you want for a weaker oil)

160 grams (milliliters) water

Very finely blend the parsley and oil (not the water!) in a high-speed blender. Place fins into the Spinzall rotor and add some of the oil parsley mixture making sure to not exceed the "max



Reading through the oil: no water or particles.

fill" line and trying to distribute the mix as evenly as you can. Install the feeder in the rotor, assemble the Spinzall, and start spinning. NOTE: the Spinzall may wobble a bit as it starts. It should self-balance quickly. If you overfilled the rotor, parsley will spill out of the rotor. If this happens, turn off the motor, remove the rotor, clean the bowl and start spinning again.

Once the rotor reaches full speed, begin pumping the remainder of the herb/oil mixture through the Spinzall at a rate of approximately 50-80 ml/minute.

After you have pumped all of the oil mixture into the rotor, keep it spinning and pump the 150 ml of water into the rotor at a rate of approximately 50-80 ml/minute.

## No-Churn Butter

**Maximum continuous run:** N/A: batch only

**Yield:** About 200 grams butter and 260 grams buttermilk, depending on the fat content of the cream

**Batch spin time:** 15 minutes



No-churn butter

Fresh butter is amazing—but often messy to make. The Spinzall makes butter quickly and without mess. The result is slightly different from traditional churned butter (because the Spinzall doesn't churn), but we like it a lot with fresh bread. Because the Spinzall doesn't churn, and because this recipe doesn't call for kneading the butter after you make it (which is the traditional way), this butter has higher buttermilk content and is therefore not a great cooking butter.

The leftover buttermilk in this recipe is actual buttermilk (not cultured low-fat milk like the majority of stuff available in the grocery store) and is fantastic in baked goods such as muffins, biscuits, and pancakes.

Cold heavy cream is the star in this recipe. Try to get regular pasteurized cream if you can. It tastes miles better than ultra-pasteurized cream. This recipe works with fresh cream or with cultured cream, although cultured cream tends to produce a slightly looser butter. Your first butter attempt should be with fresh cream to get the hang of the procedure. To culture cream, purchase cultured buttermilk (make sure the cultures are live—they usually are) and add 75 ml of buttermilk to every liter of heavy cream. Stir and let sit covered in a cool place until the desired tang is achieved (8-24 hours depending on the strength of the culture and the temperature of the cream). Chill the cultured cream to refrigerator temperatures before spinning.

Salt and other flavors may be added to the cream prior to spinning if you desire, but doing so may ruin the delicious buttermilk this recipe produces. Also remember that you need to add more of water soluble flavors (like salt) to get the result you'd expect, because the butter-making procedure removes most of the water. We typically salt AFTER we make the butter.

## Recipe:

480 milliliters cold heavy cream

Place fins into the Spinzall rotor and add cream up to the "max fill" line. DO NOT install the feeder assembly. Assemble the Spinzall and spin for 15-20 minutes. After the rotor has stopped and you remove it from the Spinzall, carefully pour the majority of buttermilk out of the rotor while using your fingers to make sure the butter doesn't fall out. Carefully remove the fins from the rotor without destroying the butter, then use a spoon to lift the three sheets of butter out of the rotor and place them on a paper towel to dry before serving.

Cultured cream may not form three perfect sheets of butter. If you don't have three perfect sheets, just spoon the solid butter pieces into a strainer to let the buttermilk drain off.



Butter and buttermilk in rotor after spinning

## Greek Yogurt and Labneh (Yogurt Cheese)

**Maximum continuous run:** N/A: batch only

**Yield:** About 250 grams labneh and 220 grams whey, depending on the spinning time

**Batch spin time:** 5-8 minutes for Greek yogurt, 15 minutes for labneh

Greek yogurt and labneh (yogurt cheese) is very fast to make in the Spinzall, and very good. You may use any store-bought yogurt, but the better it is, the better your results will taste. The only difference between the two is how long you spin. Shorter spins (5-8 minutes) remove some of the whey from the yogurt, turning it into Greek yogurt. Spinning for 15 minutes removes enough whey that the solids form a cheese with the tang of yogurt, and the spreadability of cream cheese. It is irresistible with olive oil and salt on a cracker.

Follow the same procedure as for **No-Churn Butter**.



Pouring off the whey



# Quick Cold-Brew Coffee: Centrifugal Percolation



Coffee grounds and initial water

**Maximum continuous run:** 650 ml

**Yield:** About 650 ml of cold brew coffee at 1.74% solids

**Batch spin time:** N/A: Continuous Mode only

Cold-brew coffee typically takes a long time to make and requires a lot of filtering. The Spinzall can make cold-brew coffee in under an hour without filtering. It uses a technique called **Centrifugal Percolation**. You fill the rotor with coffee grounds and a small amount of water, then you pump water into the rotor as it is spinning. The water is fed through the feeder and has to percolate through the coffee before it leaves the rotor. After you pump the water through the rotor to accomplish the first infusion, you simply re-circulate the coffee through the rotor until it is strong enough.

## Recipe:

190 grams freshly espresso-ground coffee

250 ml cold water

750 ml cold water

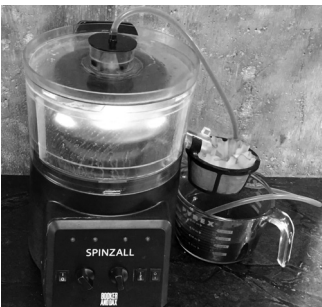
Add the espresso grounds to the assembled rotor making sure to distribute the grounds evenly, and then pour 250 grams of cold water over the grounds. Install the assembled feeder into the rotor and start the Spinzall. When the rotor reaches full speed, begin pumping the 750 ml of cold water into the rotor at a rate of about 50-80 ml/min. The first 100 ml or so of liquid that spills out of the rotor will have fine coffee grounds in it—pour it back into the 750 ml of water and continue to pump. The coffee coming out of the rotor will be very weak at this point. Once you have pumped the full 750 ml (plus the 100 you added back) of water through the rotor, pour the weak coffee back into the water container and pump it through the rotor again. After the liquid has passed through the rotor twice, take the pump inlet tube and place it into the coffee and pump it back into the rotor. You are now essentially re-circulating the coffee through the grounds to increase the strength of the infusion. Do this for about 12 minutes or until desired strength is reached. You are done.



First pump through



Second pump through



Recirculating



# Where to Go for More Recipes

For more free recipes and videos, visit [www.spinzall.com](http://www.spinzall.com)

Here is a sample of recipes available free on our website:

**Banana Justino:** Clear banana-um liquor (recipe also in the book *Liquid Intelligence*).

**Date Justino :** Clear scotch-date liquor (recipe also in the book *Liquid Intelligence*).

**Milk Washed Tea Vodka** (or any other milk washed liquor or milk punch) : Using milk to soften the flavor of harsh or tannic liquors (recipe in the book *Liquid Intelligence*). This technique requires no enzymes.

**Clarifying Infusions, Bitters, Syrups, And Spice Oils:** How to clarify any cloudy spice, fruit, or nut infusion without using a filter. This technique often requires no enzymes.

**Olive Brine, Puree, and Oil:** How to turn olives into the smoothest olive paste in the world, and get the best tasting brine at the same time.

**Nut Milk:** Making nut milk in the Spinzall. Requires no enzymes.

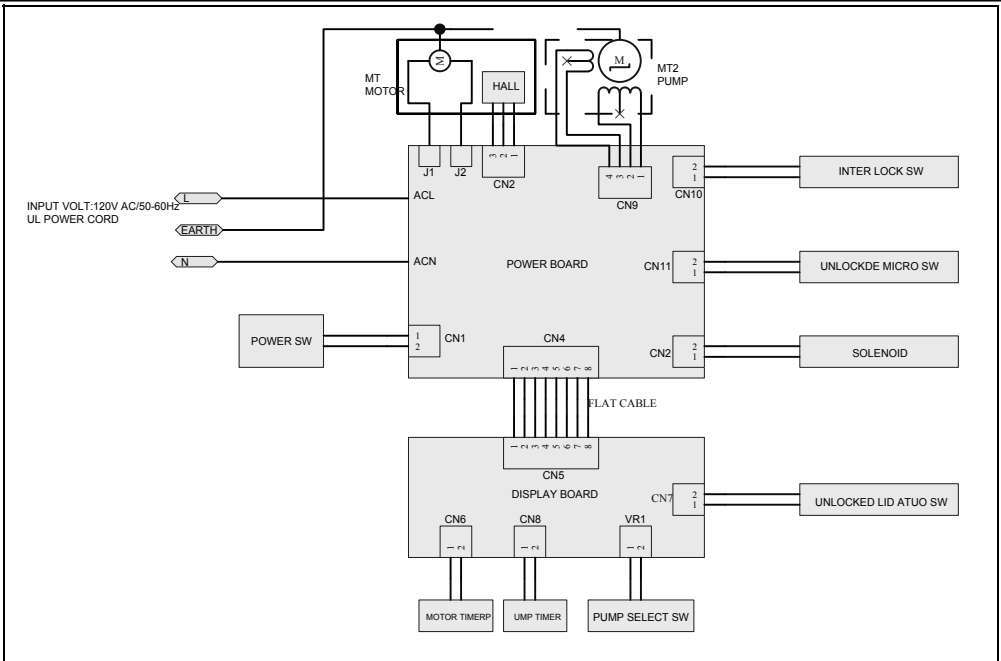
**Fractionating Fats:** how to make hard lard and chicken fat for baking without using hydrogenation. Requires no enzymes.

**Modernist Cuisine's Pea Butter:** Making the pea butter recipe from *Modernist Cuisine*.

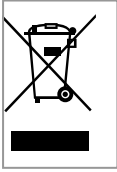
**Ultra Purees and Baby Food:** Making ultra-smooth, ultra-concentrated purees for baby (or you)

## ELECTRICAL SPECIFICATIONS

Product Name	Model Number	Rated Voltage	Rated Frequency	Rated Power
Spinzall	SP-501	120V~	50-60Hz	110W



## Environmental protection



The Spinzall must not be disposed of with regular household waste. At the end of its service life, the Spinzall must be properly delivered to a collection point for the recycling of electrical and electronic equipment. By collection and recycling of old appliances, you are making an important contribution to the conservation of our natural resources and providing for environmentally sound and healthy disposal.

## Where to Go for Supplies and Spare Parts

Modernist Pantry is the one-stop-shop for everything you need to conjure up culinary magic in your own kitchen. Professional chef, home cook, food enthusiast—no matter your skill or experience, Modernist Pantry has something for you. They make it easy to get the ingredients and tools you need (and can't find anywhere else) so that you can spend less time searching and more time creating memorable dishes and culinary experiences. Modernist Pantry is the source for all things Spinzall providing direct shipping to customers anywhere in the world.

Spinzall, Replacement Parts & Tubing, Pipettes, Pectinex Ultra SPL, Kieselsol, and Plant-based Chitosan

[ModernistPantry.com](https://www.modernistpantry.com)

## PERSONAL NOTES