

REVOLUTION 2.0

ADVANCED MILLING MACHINE



REVOLUTION 2.0TM

USER MANUAL V1.4



Sesh Technologies Manufacturing, Inc. 5517 E Trent Avenue, Spokane, WA 99212

Phone: (509) 204-3148 | Web: www.stmcanna.com

MATERIALS	Encased in 100% Food-Grade Material SAE 304/316, Dent-Resistant Stainless Steel Handle & Heavy Duty Castor Wheels for Easy Mobility
ASSEMBLY	Designed, Manufactured, & Assembled in the USA
POWER	Standard 220V 17.1 Load Amps Single Phase 5-1/2 ft. Cord Length Requires L6-30 Plug Seek Certified Electrician for Installation Needs
MOTOR	3HP UL Listed Long Life Cycle
WEIGHT & DIMENSIONS	Small Footprint Approx. 220 lbs 30" L x 65" H x 22-1/4" W
HOPPER	Holds 21 Liquid Gallons (Four 5-Gallon Buckets of Material)
THROUGHPUT	Up to 50 lbs +/- Hourly Up to 400 lbs +/- Daily Varies with Different Material Types
DUAL-BLADE SYSTEM	Custom-made Stainless Steel Serrated Blades Proprietary Angle for Optimized Cutting of Material



PARTICLE SCREENS	Fine Particle Screen (food grade, stainless material) Coarse Particle Screen (food grade, stainless material)
CHUTE & CHAMBER	Chute with Vibrating Agitator (non-stick, food-grade) Blade Area Chamber (food-grade)
SOFTWARE & UPGRADES	Revolution OS V1.2 Upgradable System Software Included for Lifetime of the Machine
TOUCH SCREEN	Manual and Automatic Operation Ergonomic 3.5" Resistive Touch Control Panel Low, Med, High Speed Start/Stop Auger On/Off Time Delay Pop-Up Error Messages Standard Service Data for Clogs or E-Stop Conditions
COMPLIANCE	OSHA Compliant
CLEANING	Sliding Back Door for Easy Access Quick Release Bolts Dishwasher Friendly
LIFE CYCLE & WARRANTY	1-Year Parts and Labor Warranty Motor 10-Year Llfe Cycle
SAFETY FEATURES	Machine is Fully Enclosed 2 Quick Access Emergency Stop Buttons Lock-Out Tag-Out Power Switch Multiple Automatic Internal Safety Limit Switches

TABLE OF CONTENTS —

Components 2	Touch Screen Operation	8
Getting Started 4	Powering Down	9
Best Practices & Tips5	Preventative Maintenance	1C
Emergency Procedures 6	Troubleshooting	15
Quick Start Guide 7	Terms of Business	23

COMPONENTS

FRONT



- **1. Hopper** The area your material is stored as it feed into your
- **2. Auger Bearing** Provides smooth rotation as it feeds material into the throat
- **3. Belt Drive** provides the momentum and power that spins the blades.
- **4. Casters** Swiveling caster wheels for easy mobility.
- **5. Auger Motor** Powers the auger
- **6. E-Stop Button** Turns the machine off in case of an emergency.
- **7. Chute** After the grinding process exits out of the machine here.

Revolution Grinder Components - bit.ly/revolution-components

COMPONENTS

- **8. Lid** Open to introduce material into the hopper
- **9. E-Stop Button** Turns the machine off in case of an emergency.
- **10. Top of Back Door Panel** Easy access to your blade chamber and chute
- **11. Lower Back Door Panel** Contains your electrical components. DO NOT access this portion as it will VOID your warranty.
- **12. Touch Screen Control** Used for the operation of machine.
- **13. Power/Lockout Button** Turns on the power and locks machine.



UNPACKING YOUR MACHINE

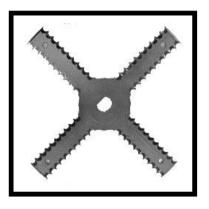
Carefully unpack your machine and inspect it to ensure it has not been damaged during shipping. Make sure all the correct parts are included and match your invoice. Please contact us if you have missing or damaged items.

INCLUDED ITEMS

- Revolution Grinder Machine
- (1) Screen for 3/16" (4.76mm) particles (pre-installed)
- (1) Screen for 5/32" (3.96mm) particles
- (1) Set of Dual Stainless Steel Blades (pre-installed)
- Extra Screens and Blade Sets Available for Additional Cost

STAINLESS STEEL DUAL BLADE SYSTEM

(both blades are pre-installed in your machine)



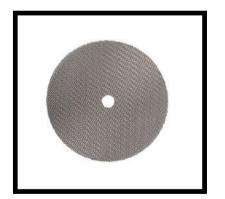


4 Arm Blade

Floater Blade

PARTICLE SCREENS (coarse screen is pre-installed on your machine)





3/16th Coarse

5/32nd Extraction

IMPORTANT! Always wear cut-proof gloves when handling anything inside the blade chamber.



The Revolution grinder can handle up to 10% moisture.

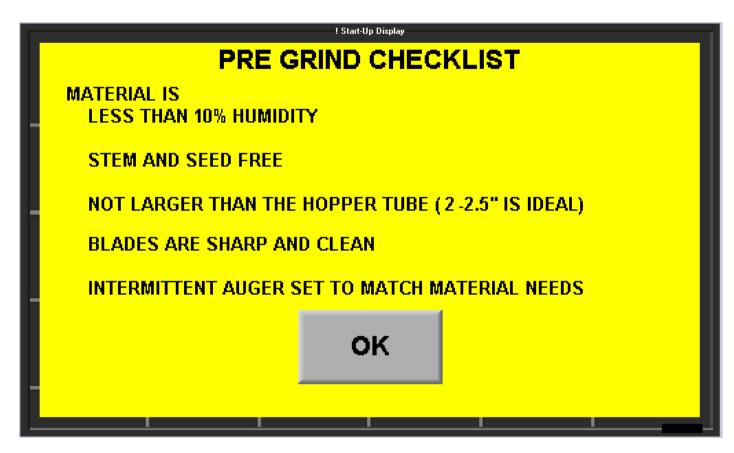
- Inspect your material prior to grinding
- Optimal moisture can range between 7-10%
- Lab certified optimal moisture is 8.8%
- Do not overfill hopper

If product bends without a snap, it's too moist. It product snaps and keif falls, it's too dry.

Optimal product will bend, then snap.

Always start motor on the highest speed setting speed

Auger on 3-seconds run time and 3-seconds off time to prevent clogging. If material is too dry, auger can run for longer, but can remain at 3-seconds of run time.



Preventative Maintenance on Page 10



E-STOP BUTTON

Press in case of an emergency

If there is a sudden emergency or need to shut off the machine quickly, press either of the two E-STOP buttons.

One is located on top of the plate on the rear side of the machine. The other is located just to the left of the touch screen.

"Emergency Stop" will display on the touch screen.

NOTE: the machine will not operate in this mode.

To clear the "Emergency Stop", pull the red E-STOP near the touch screen ensuring the yellow ring under the bottom is exposed.

If the "Emergency Stop" message is still displayed and both E-STOP buttons are not pressed, it is likely a trigger of the limit safety switch. (refer to page 20)



LIMIT SWITCHES

There are four safety switches located in the machine that will display the emergency stop as well. The screen will tell you which e-stop or limit switch is tripped. These switches will prevent the machine from running if not depressed properly.

LIMIT SWITCH LOCATIONS

- Hopper Lid Under Handle
- Behind the Drop Down Chute Back Left Corner
- Slide Panel Door Top Right Corner
- Components Slide Panel Door Top Right Corner

IMPORTANT! Do not alter limit switches in any way.



START/STOP

Press the START button to start the operation and STOP to stop the operation of the grinder.

MOTOR SPEEDS

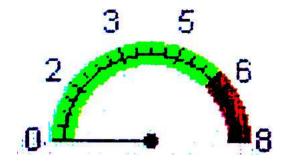
The Revolution has three speeds for operation. High, Medium, and Low, indicated by the largest to smallest icons on the touch screen:

1. HIGH: 100% of motor speed (1750RPM)

2. MEDIUM: 50% of full power (875RPM)

3.LOW: 10% of full power (175RPM)





AMP METER

The amp meter is located in the lower right corner. When in higher amperage, the machine will read that and delay the auger. This allows for the blade chamber to clear before introducing more material. If the meter remains high, you may have a clog that needs clearing.

AUGER SPEEDS

The Revolution has one auger speed that comes pre-set into the machine. The auger comes pre-set with **ON** times and **OFF** times. This prevents the clogging of materials and overfeeding the blade. These times may be changed, but we do not recommend going below 3 seconds off or more than 15 seconds on. If you wish to alter this please contact Client Services.

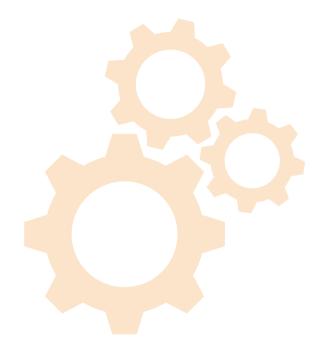
- Prepare your material. This prevents clogs and potential damage to your grinder.

 Buck and clean off big fan leaves and large stems. Remove as many seeds and remaining bud stems as possible to ensure an even grind.
- Plug in your machine. Insert the three-prong L6-30 plug into a standard 220v/30 amp single-phase wall outlet.
- Power on your machine. Turn the red lock-out power switch to the vertical position on the right side of the machine for ON. Turn horizontal for OFF.
 - If it does not turn on, check the power connection.
 - If "Emergency Stop" is displayed on the screen, check the emergency procedures on the previous page.

- Open the hopper. With the machine on the highest speed setting open the hopper to reveal the Auger and throat to the grinder.
- Begin loading your material. Load material starting at the end opposite the throat. This allows the Auger to pull the material into the throat and prevents clogging.
- Collect your material. The material will run from the throat of the hopper down into the blade chamber and ground material will move down the chute to vibrate out of the grinder.

- Ensure all material has been run through the machine.

 Never leave material in your machine overnight. Your
 material can dry out, reducing your final product quality.
- Clean the machine entirely to prevent any material built up from the previous run from drying onto your machine causing buildup and possibly degrading your equipment over time.
- Turn your red lockout power switch to the horizontal position OFF



Keeping your machine clean and maintained will guarantee longevity and optimal operating conditions.

The key things to note are:

- Lube the auger bearing once a month by using any food-grade bearing grease.
- Cure and prep your material properly.
- Clean your inside blade chamber regularly between runs and the hopper area as needed.



BEFORE CLEANING

- Run all material through the Revolution to ensure it is empty.
- Turn the Power/Lockout button to the OFF position and unplug the power.
- **ALWAYS** work with diamond cut-proof gloves when handling anything in the blade chamber

HOPPER & AUGER - CLEANING

- 1. Remove the Auger
 - a. On side of the hopper without the motor, loosen Auger Shaft Bolts that are around the Auger Drive Shaft with %" Allen Wrench.
 - b. Slide-out the now loosened Auger Drive Shaft from the center of the bearing. Located right below the Auger Shaft Bolt that has now been loosened.
 - c. Inside the Hopper, the (2) sections of Auger may now be removed. Remove the first section of Auger that is located next to Auger Drive Shaft that was just removed.
- 2. Remove the Backing Trough Plate
- 3. Using isopropyl alcohol to spray and wipe off material from the Auger
- 4. Use a soft-bristle paintbrush/nylon brush to move all dry material down to the 2 ½" drop tube to the blade chamber.
- 5. Spray down the inside of the hopper with isopropyl alcohol once the chute has been removed and all material has been removed and collected. Wipe down the inside of the Hopper with paper towels or microfiber rags

REASSEMBLY OF THE AUGER

ALWAYS UNPLUG MACHINE PRIOR TO ANY MAINTENANCE.

▶ Video: Removing & Reinstalling Auger - bit.ly/removing-auger

- 1. Place the bottom hopper base back in the hopper.
- 2. Attach the short piece of flighting with the open end on the Hex rod.
- 3. Put the long piece of flighting with the cut out onto the short piece of flighting.
- 4. Slide the 16" piece of Hex Rod back into the flighting through the outside of the Hopper.
- 5. Secure the 2 Allen set screws located on the bearing, opposite of the chain guard side (using a 1/8" Allen wrench)
- 6. Replace the removable baffle above the throat leading into the grinder.
- 7. Close the lid.
- 8. Plug the Revolution back in (Revolution is clean and ready for the next use!)

CHANGING & CLEANING THE PARTICLE SCREEN

Video: Changing Particle Screens <u>bit.ly/particle-screens</u>

Remove the Back Panel

- 1. Remove the upper back panel by removing the four Allen head screws using a 3/16" Allen wrench.
- 2. Slide the back door straight up to expose the upper inside of the Revolution.

Drop the Chute

- 1. First, release the quick-clamp from the top of the black elbow and drop the output tube onto the midplate
- 2. Second, remove the hitch pins from the buckle latches and then open the buckles and the chute will then pull out.
- 3. Do this in reverse order to get the unit put back together

Changing the Particle Screen

- 1. After the chute has been lowered, loosen the 4 tabs with the 5/16" Allen.
- 2. Swing the tabs away from the surface to allow the screen to drop.
- 3. Replace screen and reverse steps above to secure screen.
- 4. Reverse sections 1 and 2, ensuring all quick-release tabs and bolts are secure.
- 5. Use isopropyl alcohol to clean the inside of the chute, particle screen, and blade chamber. Do not scrape, this may cause damage.
- 6. Reverse sections 1 and 2, ensuring all quick-release tabs and bolts are secure.

CHANGING THE BLADES

▶ Video: Changing the Blades - <u>bit.ly/changing-blades</u>

Please watch our how-to video for this crucial step in maintaining your grinder.

Replacing the Blades

- 1. First, remove the cotter pin from the bottom of the shaft where it goes through the castle nut
- 2. Second use a screwdriver to hold the blades from spinning while you a 9/16 open-end wrench to remove the castle nut being careful as the blades will fall at this point.
- 3. The hat washer goes in between the two blades.
- 4. When putting the S blade the bearing is pressed flush on one side of the S blade. This is the side that goes up toward the 4 arm blade.

Putting the Machine Back Together

- 1. Ensure the blades have been put back on and secured into place.
- 2. Replace the screen.
- 3. Replace the chute and plug back in the small internal motor that is attached to the chute (if removed)
- 4. Slide the back panel in place and secure it with the 4 screws.



CLOG PREVENTION

ALWAYS UNPLUG MACHINE PRIOR TO ANY MAINTENANCE.

USE CUT-PROOF GLOVES WHEN CHANGING THE BLADES.



Preparing Your Material Properly

- 1. Prepare your material before introducing it into your grinder
 - a. BUCK your buds completely off of the main stem
 - b. REMOVE all big stems and fan leaves
 - c. <u>CURE</u> your material! This is one of the most important steps. Our lab-tested and certified results state 8.8% is the optimal moisture content for most cannabis and hemp plants. Ultimately you will need to work with your material to lock in the perfect cure for your company. This moisture content can be between 7% 10%
- 2. Load the hopper from the end opposite the throat of your grinder. This allows the auger to pull material into the throat at the set speed
 - a. Adding material directly over the throat can potentially clog it

WHAT CAUSES CLOGS?

ALWAYS UNPLUG MACHINE PRIOR TO ANY MAINTENANCE. USE CUT-PROOF GLOVES WHEN CHANGING THE BLADES.

MOISTURE CONTENT IS TOO HIGHT - The most common cause of clogs

Our lab-certified results state the optimal moisture level is 8.8% but please note your material may require slightly different moisture levels. Stay within 7% - 10% range. Anything higher will result in possible damage to your machine by gunking up and clogging the blade chamber. This can result in blade breakage or burning out the motor.

TO TEST THIS

- Have a lab test your moisture content
- Test the moisture content yourself with a reliable moisture reader.
- Cure your material in an open bin for a few hours. If your material bends without a snap TOO MOIST! If your material snaps and kief is seen falling after the snap TOO DRY!
- Cure your material in an open bin overnight if high moisture content is present.

TO RESOLVE THIS

• Honing in your material's moisture content is the only way to resolve this issue. As with grinding material in a hand grinder. The more live and wet your bud is the harder it is to twist and grind that material. The same goes for your industrial grinder. Wet material naturally sticks and stacks causing buildup and potentially clogging or damage to your grinder.

HOPPE & THROAT CLOGS

ALWAYS UNPLUG MACHINE PRIOR TO ANY MAINTENANCE. USE CUT-PROOF GLOVES WHEN CHANGING THE BLADES.

These clogs can occur when the material is either introduced into your machine incorrectly:

- You loaded too much material into the hopper
- You loaded material into the machine directly over the throat.
 - Please see the "HOPPER & AUGER CLEANING" section to access the throat to clear debris.
- You loaded material with a moisture content higher than recommended.
 - CURE your material longer

REMOVING & RESOLVING CLOGS

ALWAYS UNPLUG MACHINE PRIOR TO ANY MAINTENANCE. USE CUT-PROOF GLOVES WHEN CHANGING THE BLADES.

If the machine gets clogged, stop the machine and disassemble. Refer to the steps on <u>PAGE 13</u> for changing the particle screen. If still an issue, please call Client Services at (509) 204-3164.

YOUR MATERIAL MAY NEED MORE PREPARATION

As mentioned above, preparing your material before entering it into your grinder is not just helpful in providing a smooth grinding process but it prevents contaminants (stems and seeds) from degrading your final product.

TO TEST THIS

- Visually inspect your material before placing it into the hopper. Paying close attention to any bulk colas or the apical bud that can be rather bulky.
- Use the Rule of Thumb, meaning no buds bigger than your thumb should be entering into the machine. It must be size to fit into the throat of your grinder.

TO RESOLVE THIS

- Buck your material down more. Many companies buck their material off of the main bulky stem but fail to continue to bulk the smaller buds off of these side branching stems. Remember the Rule of Thumb above! These stems are still too large to process and can result in clogs or damage to your grinder.
- Many companies use a trim machine to take off excess stems and leaves before introducing this material into their grinder.

MISCELLANEOUS TROUBLESHOOTING

DO NOT REMOVE BOTTOM PANEL WITHOUT STM APPROVAL AS IT WILL VOID YOUR WARRANTY

MY MACHINE APPEARS TO BE SMOKING

As we have mentioned throughout this manual, preparing your material properly is the #1 way to prevent issues during production. This especially applies to moisture content. If you run your material and notice smoking, this is actually vapor.

How does vaporization happen in my grinder and is it safe?

- Vapor happens when you introduce material that is above our moisture content range.
 - Your blades can move between 170 RPM to 1700 RPM
 - This speed vs heat naturally created inside the blade chamber can cause your grinder to recreate the conditions a vape machine would use.
- It is completely safe and as long as it's addressed and corrected right away you will not see any long-lasting issues in your equipment.
- This has a simple resolution. CURE CURE CURE! Follow our steps above under MOISTURE CONTENT IS TOO HIGH for directions.

THE REVOLUTION WILL NOT POWER ON

- 1. Make sure the lockout tag power button is on. It is located on the side of the machine.
- 2. If this does not resolve the issue, check to make sure the E-stop button is not depressed (page 5). If so, you will see "Emergency Stop" displayed on the screen.
- 3. If you still see "Emergency Stop" and both E-stop buttons are not depressed, make sure one or more of the safety limit switching has not been triggered. There are four areas that have a limit safety switch, which will prevent the machine from operating if triggered.
 - a. Hopper Lid Under Handle
 - b. Behind the Drop Down Chute Back Left Corner
 - c. Slide Panel Door Top Right Corner
 - d. Components Slide Panel Door Top Right Corner
- 4. If you have completed both above steps with no resolve:
 - a. Take a multimeter to the outlet your grinder is plugged into. It is possible you are experiencing a surge in that outlet.
 - b. You can also test this as a possible issue by plugging your grinder into another Standard 220V outlet.
 - c. Please be sure this outlet is fitted for the proper voltage before plugging into it!

iF YOU ARE STILL EXPERIENCING ISSUES, PLEASE CALL CLIENT SERVICES AT (509) 204-3164

TROUBLESHOOTING VFD ERROR

If your clog is minimal or you aren't seeing any clog at all, It is usually an error code preventing the drive belt from spinning. If the steps below do not resolve your issue please continue to the BLADE CHAMBER - TROUBLESHOOTING section below.

- 1. Turn your grinder off by turning the Power/Lockout button to the OFF position
- 2. Unplug your grinder for 2 minutes
- 3. Power your grinder back up and perform a test run.
- 4. **If there is no change, immediately press the e-stop and turn your machine back off!! Move onto the next section.

ALL OTHER ISSUES

Any other internal issues such as electrical or more advanced mechanical issues will require technical assistance from our STM Tech Support team. Please call or email our Client Service team and please provide the information requested in our "Terms & Troubleshooting Questions under our Terms below.

TERMS OF BUSINESS

All orders are required to electronically agreed to our terms by clicking "I agree" during the checkout process in our online store. All completed orders, whether "Paid" or "Awaiting Payment" agree to and are held to our Terms of Business.

All STM systems carry a limited one-year warranty against defects in workmanship and/or materials. Accessories are excluded from this warranty.

PURCHASING TERMS & CONDITIONS

All products are first-come-first-serve and that receipt of payment is required in order to receive a confirmed shipping date in the queue. STM Canna & STM Supply reserve the right to specify collection by certified check, money order, or company check. Personal checks are not accepted. Due to high demands, certain items may have a lead time of 4-8 weeks or more from the payment date, unless otherwise stated. Following the receipt of an invoice, STM Canna must receive a payment within a maximum of 7 days before the invoice expires – leaving lead times, quoted prices, specials, and discounts on all items subject to change. If a deposit is applicable for any special reason, my deposit is non-refundable. Purchaser agrees to adhere to the Customer Awareness Program and Terms of Business herein.

CUSTOMER AWARENESS PROGRAM (C.A.P.)

STM takes pride in the products we make and the services we offer. To ensure our customers fully understand the services we provide, along with the capabilities and expectations of our products, we have executed and outlined the Customer Awareness Program contents below:

- A 12-month warranty on each product that is applicable with regards to manufacturer's defects, including parts and labor.
- STM Client Services department is dedicated to ensuring the success and satisfaction of all STM clients.
- STM Tech department provides our clients with all software updates, phone support, and virtual support, as needed.
- An easy-to-use client portal with tools such as product F.A.Q.'s and Best Practices, along with an extensive video library to help guide you towards success with your STM equipment.

EXPECTATIONS AND CAPABILITIES OF YOUR STM EQUIPMENT: STM ROCKETBOX

With our detailed manual and training videos, you can expect a complete and comprehensive training program to educate your team on best practices, as well as the cleaning and maintenance of your machine and accessories. By following the guidelines provided to you via the user manual and training videos, you will be able to produce a quality and consistent product that will be easily repeatable. The shaker box within the machine contains an area where material may escape during operation. With the 400 hour break-in period, STM advises against re-purposing this excess waste due to potential metal contaminants residing in the shaker box from regular usage. Results are not guaranteed and can greatly vary from operation to operation.

WHO IS COVERED?

This warranty covers the original purchasing company unless otherwise discussed prior to the sale and authorized in writing by STM Canna & STM Supply. Warranties do not transfer for resold machines regardless of the age of the model.

Please note that results with STM Canna & STM Supply products can yield varying results which depend on a myriad of factors, including but not limited to: correct grind size, age of the material, quality of material, moisture content, strain, temperature, correct sized cone usage, quality of cones used, the skill of the operator, and more. Our quoted weight ranges for flower and trim are all general averages that have been reported to us by our customers, however, your material may behave completely differently. We take no responsibility whatsoever for your results, only for the working functionality of our products. If you have any questions or concerns, please do not hesitate to talk to us about this very important disclaimer. There are no warranties on paper products. Machines come with a 1- year parts and labor warranty. See Returns & Voidable actions below.

EXTENT OF WARRANTY

There are no warranties on paper products. Machines come with 1-year parts and labor warranty. Accessories are excluded from this warranty. See Returns on Page 25.

SHIPPING

All orders must be paid in full before the order is shipped. Orders received will fall in line and be serviced accordingly where the shipment date may be sooner than originally quoted. We will ship by the most reasonable means based on the volume of the order unless otherwise specified. Since the ownership of product transfers at the FOB point, claims for damaged, lost, or short shipments must be made at the time of receipt.

SPECIAL ORDERS

All special order items must be paid in full before the order is placed. These items are non-returnable and no refund will be given. All special order items will also take a longer period of time for the customer to receive, which will be quoted at the time of payment.

LIABILITY

The purchaser of any products releases the manufacturer of those parts and STM Canna from all liabilities pertaining to use of the products.

TROUBLESHOOTING

- Reference your instruction sheet and double-check all instructions.
- Always take time to examine problems in detail.
- When all else fails, please call the STM technical support line at (509) 204-3164 or email us at clientservices@stmcanna.com.

The technical line is open 8:00am – 4:00pm Monday through Friday, Pacific Time. Please have the following information handy: Name of Company the purchase was made under, Date of Purchase, and Serial number.

RETURNS

No Refunds/Exchanges: We do not accept returns or exchanges unless the item purchased is defective. No item will be accepted for return without prior approval. All approved returns must be accompanied by a return authorization (RA) number and must be in new and unused condition. All RA numbers must be clearly displayed on the outside of the box. All returns are subject to restocking fees, not to exceed 20% unless damaged. Refunds are issued in the form of like payment. All refused shipments are subject to a 20% restocking fee and all applicable freight charges. All items that we ship are insured; if an item comes that is damaged from shipping, we will work closely with you to get you replacement parts as soon as possible. We may also request pictures or other identifying information to establish that damage was caused by the shipping carrier.

If you receive an item you believe is defective, please contact us with details of the product at (509) 204-3164 or email us at clientservices@stmcanna.com.

We may ask you for pictures, videos, descriptions, and other identifying information to make a determination. If you are unable to provide adequate documentation requested, your return request will be denied. If your item is deemed defective, which is solely at STM's discretion, we will issue you an RMA # which you will need to place in and on the package. After receiving your RMA #, you may send the item to:

STM Canna 3038 E Trent Avenue Spokane, WA 99202

Upon receipt of the returned product, we will fully examine it and notify you via e-mail, within a reasonable period of time, whether you are entitled to a replacement as a result of the defect. If you are entitled to a replacement, we will replace the product at no additional cost to you.