



MD48 TRIMMER

USER GUIDE v1.0



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INTRODUCTION

This User Guide is a comprehensive manual covering the operation and maintenance of the Mobius MD48 trimming machine as of the date of publication. ETEROS TECHNOLOGIES reserves the right to make updates to the machine from time to time. In the event of an update, this User Guide will remain appropriate for the safe operation and maintenance of your unit. This User Guide, as well as any documentation supplied by component manufacturers, are to be considered the information package associated with this device. Every operator must read and understand the User Guide. The manual should be located within easy access for periodic review.

DISCLAIMER

ETEROS TECHNOLOGIES recognizes that the MOBIUS MD48 TRIMMER is a purpose-built machine for processing cannabis by licensed producers. Please check all municipal, provincial/state, and federal laws and regulations before using the MOBIUS MD48 TRIMMER. ETEROS TECHNOLOGIES does not promote or condone the use of processing equipment in any way that may be deemed illegal.

ETEROS TECHNOLOGIES recognizes that our equipment can be used for processing herbs, hops, flowers, and many other products. It is not the responsibility of ETEROS TECHNOLOGIES to confirm alternative applications for our equipment.

SERVICE & REPAIRS

Repairs must be carried out in consultation with Eteros Technologies' Technical Support department. Only original equipment manufacturer (OEM) Mobius parts are to be used for repairs.

Should the need arise, please notify:

ETEROS TECHNOLOGIES
26 INDUSTRIAL AVE.
CARLETON PLACE, ONTARIO, CANADA
K7C 3T2
www.ETEROS.com

Improper interfacing, improper repair, or unauthorized modification could result in void warranty claims.

NOTICE: ENSURE THE MOBIUS MD48 TRIMMER IS POWERED DOWN AND UNPLUGGED BEFORE PERFORMING ANY SETUP, MAINTENANCE, OR CLEANING TASKS

WARRANTY

Thank you for purchasing Mobius equipment from Eteros Technologies Inc.

The Mobius MD48 Trimmer is covered by our manufacturer's warranty as follows:

- No warranty on consumable parts, including tumblers, shear bands, brushes and bearings;
- Warranty coverage for one (1) year or 1,000 operating hours, whichever occurs first, on motors, electrical components, and remainder of machine components.

The warranty period begins on the date the equipment is received by the customer.

The above terms are valid if Mobius equipment is used and maintained as directed. If the equipment is modified in any way, all terms of this warranty are void. This warranty does not apply to cosmetic damage, such as scratches or general wear and tear.

Should you experience a technical problem with your equipment, please contact Eteros Technologies at the email or phone number outlined in the [Services & Repairs](#) section.

WARNING LABELS



DANGER:

Indicates a hazardous situation that, if not avoided, will result in serious injury and/or death. This signal word is to be limited to the most extreme situations; typically for machine components that, for functional purposes, cannot be guarded.



WARNING:

Indicates a potentially hazardous situation that, if not avoided, could result in serious injury and/or death. It includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices.



CAUTION:

Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

SAFETY INSTRUCTIONS

To ensure operator safety while in use, this device includes warning decals, guarding, and other safety features. Operators are encouraged to use caution and best judgment when using equipment. Equipment should be serviced when required.

To avoid possible damage to the machine and risk of injury to the operator, consult with an Eteros Technologies representative to answer any questions.

This document refers to the ETEROS TECHNOLOGIES product trimming machine as the MOBIUS MD48 Trimmer. Since this machine has a rotary trimming unit, special safety precautions must be observed to reduce the risk of personal injury. Careless or improper use may cause serious or even fatal injury. Please read and understand these precautions thoroughly before using the machine.

All operators must read and understand this User Guide and be trained in safe operation and use of the MOBIUS MD48 TRIMMER. We recommend the owner of this equipment develop a standard operating procedure specific to each worksite to address any local hazards or other conditions not outlined in this User Guide. The MOBIUS MD48 TRIMMER must be inspected regularly for damage, component failure, and wear. Results of inspection activity should be documented.

Eteros Technologies makes every effort to ensure the MOBIUS MD48 TRIMMER is compliant with all current safety standards. It is the responsibility of the owner to ensure all municipal, provincial, state, county, territorial, and federal codes, regulations and standards have been met in each working location.

Do not lend or rent your machine without providing the User Guide. A first-time operator should receive practical instruction before using the machine.

This machine is not to be used for any purpose other than those expressly stated in the User Guide, advertising literature or other Eteros Technologies written material pertaining to the MOBIUS MD48 TRIMMER.

Operators must be in good physical condition and mental health to operate this device. Under no circumstances should the device be operated by anyone under the influence of any substance, including drugs or alcohol, which might impair vision, dexterity, or judgment. Do not operate the MOBIUS MD48 TRIMMER when fatigued. Be alert - If tired while operating the device, take a break. Fatigue may result in loss of control. Working with any equipment can be strenuous. If you have any condition that might be aggravated by strenuous work, check with your doctor before operating the device.

GENERAL SAFETY PRECAUTIONS

KNOW THE SAFETY INFORMATION

Read and become familiar with the entire User Guide. Learn the equipment applications, limitations, and possible hazards.

KEEP GUARDS AND SHIELDS IN PLACE

Keep all guarding in place and in working order to protect both the device and the operator. Ensure the tumbler cap is closed and secured while in operation. **NEVER REACH INTO THE TUMBLER WHEN THE CAP IS REMOVED.**

BE AWARE OF YOUR SURROUNDINGS

This unit has a rotating drum and has the ability to tilt. Be aware of the motions and warn others before they approach the work area.

AVOID ROTATING DRUM

The drum protrudes outside the body of the machine and rotates during use. Keep hands, arms, body, long hair and clothing away from the drum while in use. If you need to work around the timer to clear or clean plant material away for any reason, always shut off the electric motor and disconnect the trimmer's power cord from the AC outlet. Use a wooden stick to remove any obstruction or debris. Never put your hand into the slotted drum while the machine is running; serious personal injury could result

AVOID TILTING BODY

When activated, the upper body will tilt side-to-side to mix the product causing potential collisions or pinch points. Keep hands, arms, body, long hair and clothing away from the machine while in use. If you need to work around the trimmer to clear or clean plant material away, always shut off the electric motor and disconnect the trimmer's power cord from the AC outlet.

WORK IN A SAFE ENVIRONMENT

Do not use equipment in a dangerous environment or damp/wet locations. Never expose the control panel directly to rain or water. Keep the work area well-illuminated. Operate the equipment on a stable surface with minimal slope to ensure safety and proper function. Engage the locking casters to prevent unintended movement during use.

WORK AWAY FROM FLAMMABLE LIQUIDS OR GASSES

Do not use the device in the presence of flammable liquids or gasses.

KEEP THE WORK AREA CLEAN

Cluttered areas and workspaces invite accidents.

TRAINED OPERATORS ONLY

Keep children and bystanders away from the device. Visitors should be kept at a safe distance from the work area.

DON'T FORCE THE EQUIPMENT

It will operate optimally and safely at the rate for which it was designed.

USE THE RIGHT TOOL

Don't force the device to do a job for which it was not designed.

WEAR PROPER APPAREL

Do not wear loose clothing, gloves, neckties, rings, bracelets, or other jewelry that may get caught in moving parts. Non-slip footwear is recommended. Wear a protective hair covering to contain long hair.

ALWAYS OPERATE & CLEAN DEVICE IN A WELL-VENTILATED AREA

Dust generated from certain materials can be a health hazard. Use a dust collection system whenever possible.

WEAR A FACE MASK OR DUST MASK

This device may produce dust or operate near other dust-producing machines. If dust extraction is not considered, a dust mask must be worn.

POWER DOWN AND DISCONNECT

Power down and disconnect equipment before cleaning, servicing, and when changing any accessories, consumables, or other components.

CHECK FOR DAMAGED PARTS BEFORE OPERATION

The equipment should be inspected prior to use to ensure proper operation in performing its intended function. Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting, and any other conditions that may affect

its operation. Any damaged part including guards should be properly repaired or replaced.

ALWAYS WEAR EYE PROTECTION

Safety goggles can protect your eyes from fast-moving debris.

ALWAYS WEAR EAR PROTECTION

Wear ear muffs or earplugs when operating loud machinery.

ERGONOMICS

WARNING: Repetitive actions such as inserting plant stems that are performed over an extended period of time by one worker can result in permanent repetitive strain injuries. Operators are encouraged to develop a job rotation strategy and provide ergonomic training to workers to reduce the likelihood of RSI occurrences.

WARNING: Lifting and reaching equipment or components can induce musculoskeletal injuries. Always use two people to lift large and cumbersome or heavy objects to reduce the risk of injury.

PREFACE

INTENDED USE OF EQUIPMENT

The MD48 is designed and manufactured to trim excess plant material from cannabis and hemp flower. It should be used in a laboratory, clean room or production-type environment.

To optimize the performance of your MD48 please ensure that your product is:

- Cannabis or Hemp
- Flower, leaf, or trimmings
- Fully bucked or de-stemmed
- Dry to a moisture content of 8%-10%

OPERATING CONDITIONS

Location	Indoor
Altitude	0 - 2000 meters above sea level
Temperature (ambient)	5°C - 25°C
Relative Humidity	25% - 75%
Voltage	120 V +/- 10% 230 V +/- 5%
Pollution Degree	2
Overvoltage Category	II

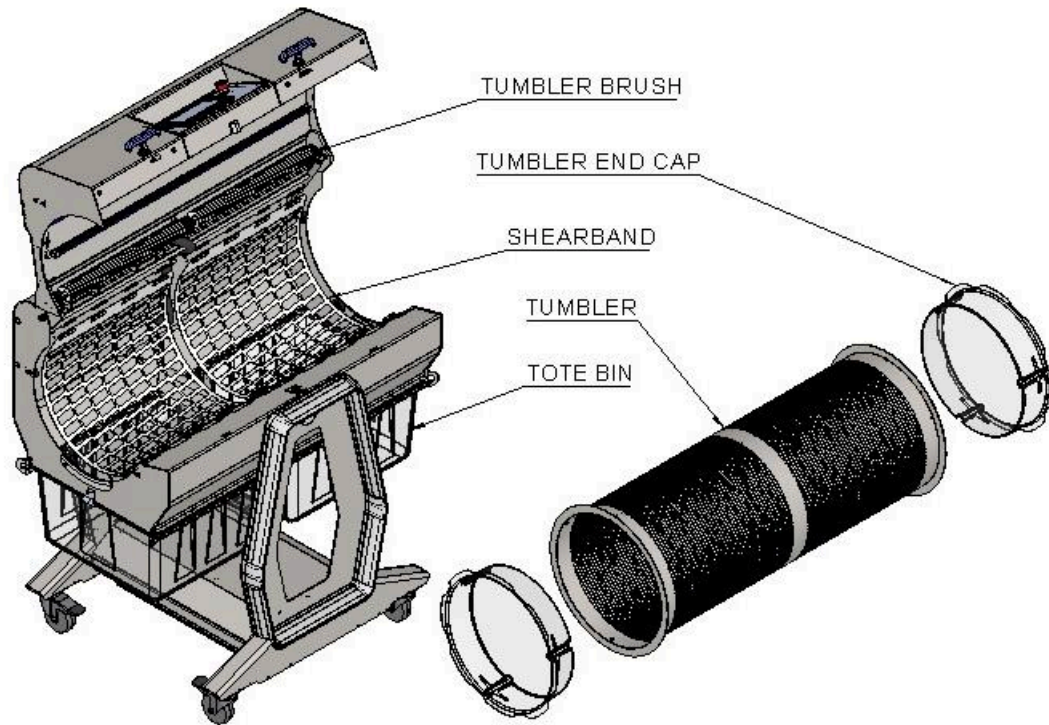
NOTICE: THIS DEVICE IS NOT TO BE OPERATED IN WET LOCATIONS.

SPECIFICATIONS

	MD48
Construction Body	Stainless Steel
Tote	Polycarbonate
Shearband	Nylon 6/6
Speed Adjustment	1-11
Motor Power	90 W
Dimensions (rounded)	51" (130 cm) H 32" (80 cm) W 48" (121 cm) L
Tumbler Dimensions	17" (43 cm) Diameter 43" (115 cm) Depth
Weight	363 LBS (165 KG)
Recommended PPE	Ear Protection Eye Protection Dust Mask
Power Requirements	NA: 120 V, 6 A ITL: 230 V, 3 A
Warranty	1 Year
Motor Markings	UL, CSA, CCC, EN, CE

INITIAL SETUP

GET TO KNOW YOUR MOBIUS MD48 TRIMMER



WHAT'S IN THE BOX

Your MOBIUS MD48 TRIMMER comes fully assembled, tested, and ready for operation. When unpacking the device, please ensure the following items are included:

- MOBIUS MD48 TRIMMER MACHINE
- TUMBLER
- 2X TRIM TOTES
- 2X TUMBLER CAPS
- 2X SHEAR BANDS
- 2X TUMBLER BRUSHES

OPERATION

OPERATION PREP

Please take the following steps to confirm the MOBIUS MD48 TRIMMER is ready to operate:

- Ensure that your MOBIUS MD48 TRIMMER is rated for the appropriate voltage (see **SPECIFICATIONS** section)
- Complete a thorough inspection of the equipment to ensure no damage occurred during shipment
- Confirm the power cord is in good condition
- Ensure the tumbler is properly installed such that the end flanges sit outside the drum guides
- Ensure the trim totes are installed on the tote rails beneath the tumbler
- Ensure the tumbler caps are snugly installed
- Ensure the shearbands are installed and tensioned
- Close and latch the top lid into place
- Ensure that the equipment is in a clean and tidy workspace and that all controls are accessible and visible
- The MD48 incorporates an inclinometer to detect the tumbler orientation. To ensure proper operation, only operate the trimmer on level flooring.

PRODUCT PREP

CHECK MOISTURE CONTENT

A successful trim starts with using a properly prepared product. The Mobius MD48 Trimmer is designed to trim plant material at 8-12% moisture content, but the 9-10% range is ideal. While a moisture meter will provide the most accurate measurement of the moisture content, the reference images below can also be used to gauge how wet or dry your plant material is:

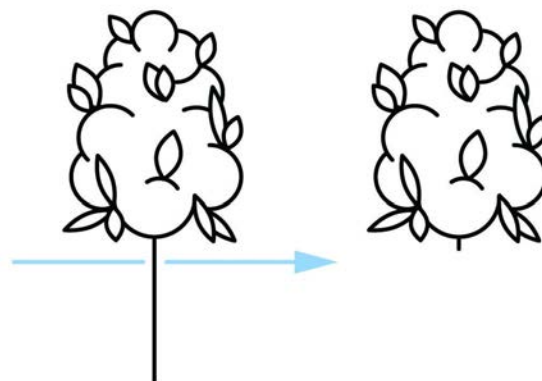
PINCH TEST



Another way to gauge the moisture levels is to bend the stem: if there is a snapping sound, the product is close to ideal moisture levels. If the stems bend with no snapping sound, this is a sign that they are still too moist.

REMOVE STEMS

If feasible, it is recommended to remove the stems from the buds prior to trimming. Try to trim the stem as close to the bud as possible.



GENERAL OPERATION

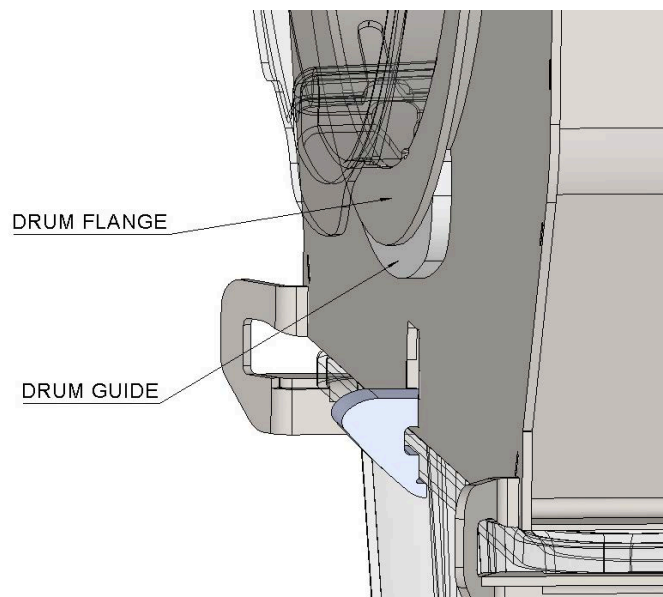
NOTICE: PRIOR TO DEVICE OPERATION, ENSURE ALL GUARDS AND THE TOP COVER ARE IN PLACE AND PROPERLY SECURED

NOTICE: PRESS THE E-STOP BUTTON AT ANY TIME TO STOP ALL MOVING PARTS AND TURN OFF THE MACHINE

MACHINE START-UP SEQUENCE

1. Open the unit by turning handles and lifting the lid.
2. Drape the slots in the edges of the shearbands over the tabs in the front and rear of the machine body.
3. Install both tumbler brushes by clicking them into the two clips on the inside of the machine lid.
4. Set the tumbler on the shearbands. The end flanges will sit outside 2 guides on the body.

NOTE: To reduce the risk of musculoskeletal injury, use two people to install or remove the tumbler.



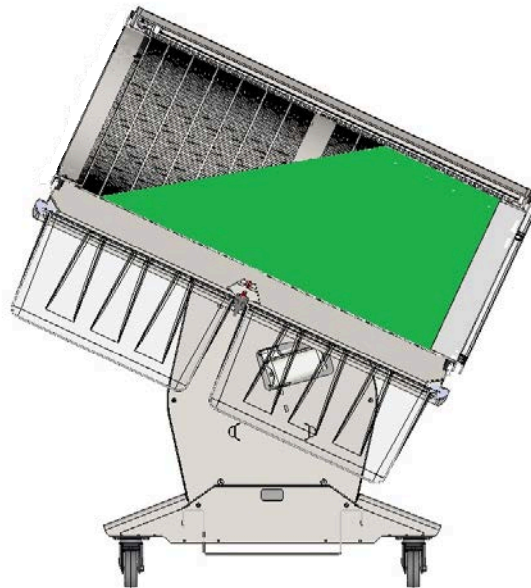
5. Close the lid and lock it using the 2 handles.
6. Slide the totes in from each end along the tote rails using the latches to lock in place.

7. Install both tumbler end caps by lining up the 3 pins with the groove on the caps and rotating it to lock.
8. Ensure the e-stop is released, select the desired settings in the Control Panel and start the machine.

Once the machine is running, it is recommended to check the trim after about 3-5 minutes to make sure the desired trim quality is being achieved with the tumbler speed and shearband tension setting. Continue to monitor and check the trim approximately every 5 minutes while the machine is running.

LOADING SEQUENCE

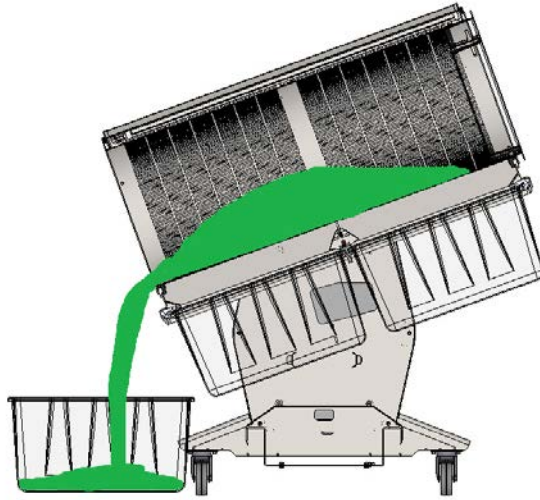
1. Complete the Machine Start Up Sequence.
2. Install one tumbler end cap by lining up the 3 pins with the groove on the caps and rotating it to lock.
3. Using the Control Panel (see Control Panel Overview section for more details), tilt the machine back so the installed cap is lower.
4. Once the machine is tilted backwards, load it with the product. Only fill the tumbler about $\frac{1}{2}$ to $\frac{2}{3}$ of the way full. Overfilling the tumbler will lead to a lower quality trim and a slower processing time.



5. Secure the second end cap as outlined in step 2

UNLOADING SEQUENCE

1. Tilt the machine and remove the end cap on the top.
2. Place a collection tote and slowly tilt the machine in the opposite direction to dump the product in the tote.



3. Turn the drum on a low speed to assist in moving the product.

WARNING: NEVER REACH INTO THE TUMBLER WITH YOUR HAND OR ARM WHEN THE TUMBLER IS ROTATING.

CONTROL PANEL OVERVIEW

E-STOP - Emergency stop button – stops all moving parts on the device.

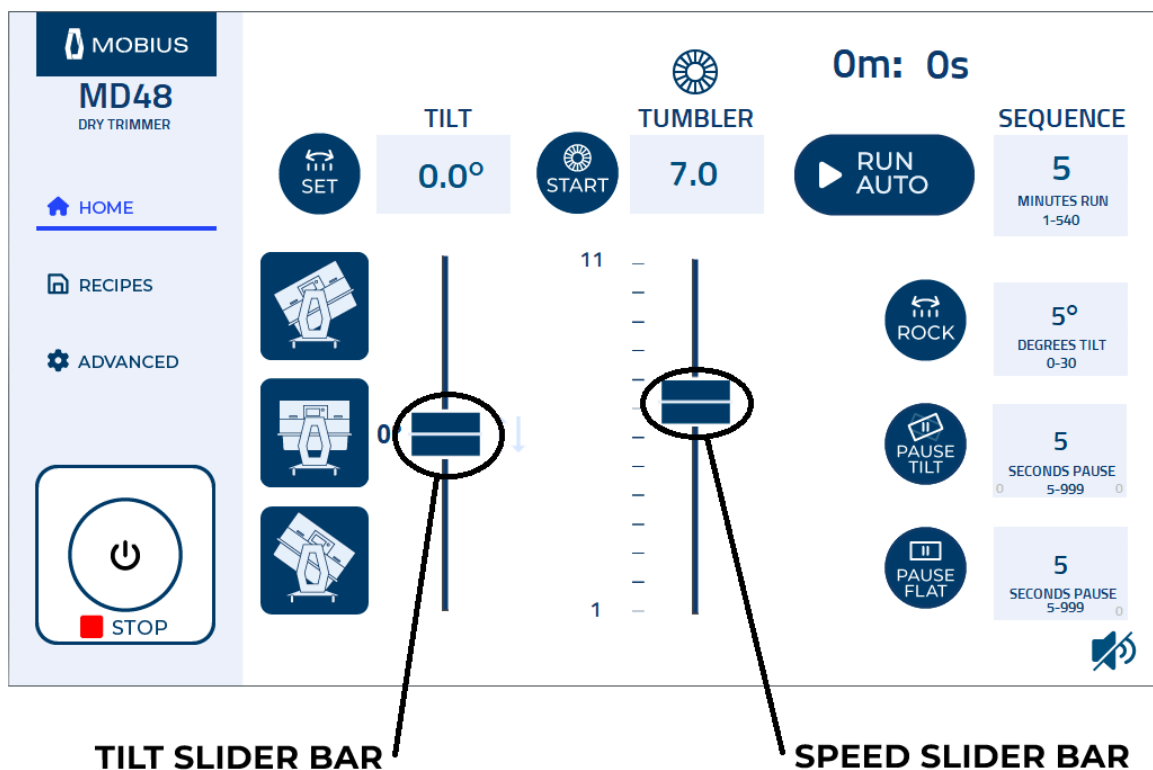
Control Panel – Controls unit, turn on, changes drum speed, controls tilting












CONTROL PANEL INTERFACE








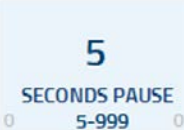


HOME




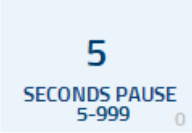

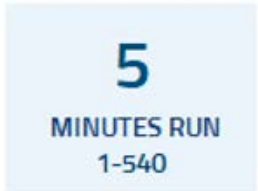
When the unit is powered on, the screen you will see is shown below.



BODY TILT LEFT	 <p>TILT LEFT</p>	To lower the left side of the drum housing, press this button. The unit will descend until it reaches its maximum travel limit.
HOME	 <p>RETURN TO NEUTRAL</p>	To return the drum housing to the set home position, press this button. The unit will move until it reaches its home.

BODY TURN RIGHT	 TILT RIGHT	To lower the right side of the drum housing, press this button. The unit will descend until it reaches its maximum travel limit.
PRESET TILT	 SET TILT  TILT 0.0°	<p>Use the Tilt Slider Bar until the desired angle is reached. Press the SET button to move to that position.</p> <p>Alternatively, press the light blue area and a number pad will open. Type the desired angle and hit enter then the number pad will disappear. Press the SET button to move to that position.</p> <p>When facing the machine, positive (+) numbers will rotate the unit such that the left side will descend (counter clockwise) while negative (-) numbers will rotate the unit such that the right side descends (clockwise).</p>
TUMBLER SPEED	 SET SPEED  TUMBLER 1.0	To set the speed, drag the Speed Slider Bar to the desired speed and press the START button to turn the drum on.
RUN	 ACTIVATE PROGRAM	To run the machine with the selected settings, press RUN AUTO
STOP		While the process is running, press STOP AUTO to stop the drum and return to neutral.

	STOP PROGRAM	
ENABLE	 ACTIVATES ENABLE	Press to enable the machine
STOP	 STOPS CURRENT PROCESS	Press to stop the current process. This will stop wherever it is during the process.
ROCK	<div>   </div> ROCK INACTIVE <div>   </div> ROCK ACTIVE	<p>To set the tumbler tilt amount, press the light blue area and a keypad will open up. Select the desired angle and hit enter.</p> <p>When the ROCK button is dark blue, it will not be active during the process. Press the ROCK button to activate and it will invert with a white background.</p> <p>It can be activated and inactivated while the process is running.</p>
PAUSE TILT	<div>   </div> PAUSE TILT INACTIVE <div>   </div> PAUSE TILT ACTIVE	<p>To set how long to pause at the maximum tilt, press the light blue area and a keypad will open up. Select the desired time in seconds and hit enter.</p> <p>When the PAUSE TILT button is dark blue, it will not be active during the process. Press the PAUSE TILT button to activate and it will invert with a white background.</p>

		It can be activated and inactivated while the process is running.
PAUSE FLAT	  <p>PAUSE FLAT INACTIVE</p>   <p>PAUSE FLAT ACTIVE</p>	<p>To set how long to pause at neutral, press the light blue area and a keypad will open up. Select the desired time in seconds and hit enter.</p> <p>When the PAUSE FLAT button is dark blue, it will not be active during the process. Press the PAUSE FLAT button to activate and it will invert with a white background.</p> <p>It can be activated and inactivated while the process is running.</p>
SOUND	 <p>BUZZER SOUND</p>	Toggles the buzzer sound on and off
SEQUENCE	 <p>SEQUENCE TIMER</p>	To the length of the process, press the light blue area and a keypad will open. Type in the number of minutes and hit enter.

RECIPIES

The MD48 can store up to four frequently used recipes. Each recipe can be uniquely identified with a custom recipe name. The settings for each recipe are displayed in a table format, as shown in the screenshot below. The settings for each recipe correspond to the row of numbers below the recipe name. Each setting is saved once you hit the *enter* key.

MOBIUS

MD48

DRY TRIMMER

HOME

RECIPES


ADVANCED

STOP


RUN TIME MINUTES (1-540)	TUMBLER SPD 1-11	TILT deg. 0-30	PAUSE TILT SECONDS (5-999)	PAUSE FLAT SECONDS (5-999)	LOAD
X Product 1X					
5	5.0	5	5	5	
X Product 2X					
6	6.0	6	6	6	
X Product 3X					
7	7.0	7	7	7	
X Product 4X					
8	8.0	8	8	8	

To configure a frequently used recipe:

1. Select the desired name field to change. A keyboard will open up which allows you to enter a name for the Recipe. Select *enter* to close the keyboard
2. To set the total process run time (1-540 minutes), select the light blue square under the RUN TIME column. A keypad will open to allow you to enter the length in minutes. Select *enter* to close the keypad
3. To set the tumbler rotation speed (1-11), select the light blue square under the TUMBLER SPD column. A keypad will open to allow you to enter desired speed. Select *enter* to close the keypad.
4. To set the tumbler tilt amount (e.g. $\pm 15^\circ$), select the light blue square under the TILT deg. column. A keypad will open to allow you to enter the maximum angle the product is to be tilted to. Select *enter* to close the keypad.
5. To set the length of the pause (in seconds) at the most extreme tilt angle, select the light blue square under the PAUSE TILT column. A keypad will open to allow you to enter the number of seconds the product is to pause at maximum angle before reversing. Select *enter* to close the keypad.
6. To set the length of the pause (in seconds) at the neutral angle position, select the light blue square under the PAUSE FLAT column. A keypad will open to allow you to enter the number of seconds the product is to pause at the neutral angle before continuing. Select *enter* to close the keypad

To load the settings for a recipe, select the LOAD button () in the corresponding row.

ADVANCED

 MOBIUS


MD48

DRY TRIMMER

HOME

RECIPES

ADVANCED



STOP

ADVANCED

INCLINOMETER


DEGREES: -0.00

TEMP: 0.00

TARE

INC_COM

HMI Battery: 3.00V

PLC Battery: 

Run Timer: 0000h01m

TUMBLER

VFD_COM


RESET_En.


RESET_VFD


VFD VOLTAGE: 125V


VFD CURRENT: 0.0A


LOGIN


VFD DISABLED 


VFD ENABLED 

MOTOR STANDSTILL 


MOTOR MOVING 


STOP ERROR 

VELOCITY ERROR 

VFD ERROR 




ERROR CODE: 0

TOTE SENSOR 

LID SENSOR 

U 1055 C 1054

SET NEUTRAL	<div>TARE</div>	If the tumbler is not horizontal in the NEUTRAL (0°) position, tilt the tumbler until it is horizontal and then press and hold the TARE button to set the new Neutral position. Note that setting the neutral position to an excessive angle (e.g. >3°) could result in exceeding the machine travel limits and prematurely ending the trimming routine.
RESET INCLINOMETER COMMS	<div>INC_COM</div>	Press to reset the communications to the inclinometer

RESET VFD COMMS		Press to reset the communications to the VFD
RESET ENABLE BUTTON		Press to reset the Enable button
RESET VFD		Press to reboot the VFD

MACHINE STOP SEQUENCE

The machine will stop automatically after the specified time has elapsed. The machine can also be manually stopped by pressing the e-stop. Once the product inside the machine has been trimmed for the specified duration or to your desired consistency, remove the tumbler end cap and tilt the machine to deposit the trimmed product into a tote, bin or container.

MACHINE SHUTDOWN SEQUENCE

Press the e-stop button to de-energize the machine.

NOTICE: ENSURE THE MOBIUS MD48 TRIMMER IS POWERED DOWN AND UNPLUGGED BEFORE PERFORMING ANY SETUP, MAINTENANCE, OR CLEANING TASKS

SET-UP & ADJUSTMENTS

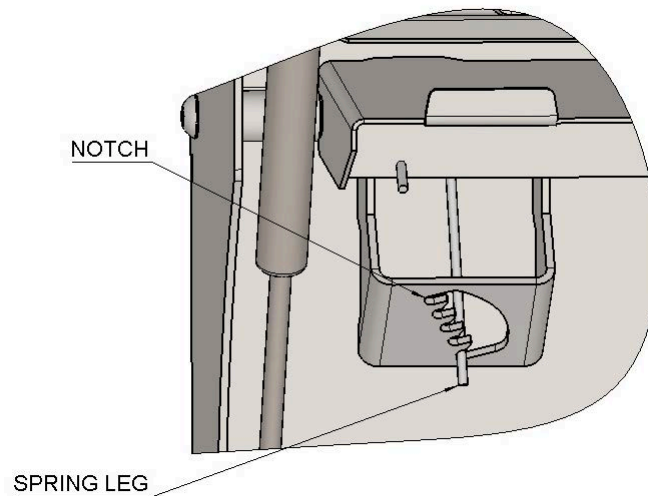
The MOBIUS MD48 TRIMMER typically requires minimal adjustments under normal operating conditions.

To adjust the shearband to the required tension level:

1. Open the unit by turning handles and lifting the lid.

2. Remove the Drum and Shearbands
3. Slide the Spring Leg and install it in the desired notch. The highest notch is the highest tension.

WARNING: Take care to not pinch a body part between the spring arm and the notches.



4. Reinstall Shear Bands and drum
5. Close lid

GENERAL

CLEANING

The MOBIUS MD48 TRIMMER can be washed, cleaned, and wiped down with normal detergents, degreasers, and disinfectants. Mobius recommends using GMP Solutions Step 1 Cleaner. Step 1 Cleaner is specially formulated to break down residue buildups without damaging the equipment and makes cleaning your machine much easier versus using traditional cleaning solutions.

Place the body horizontal, disconnect the power and open the lid. The tumbler, tumbler end cap, tumbler brush, totes and shear bands can be removed to facilitate cleaning. The inside of the MOBIUS MD48 TRIMMER can be washed and wiped as needed.

Always wear appropriate PPE and follow manufacturer safety precautions when using pressure washers and chemical cleaners.

The equipment should be cleaned daily after each use to prevent the buildup of material and foreign contaminants.

ETEROS does not recommend using compressed air to clean the MD48 Trimmer.

NOTICE: ENSURE THE MOBIUS MD48 TRIMMER IS POWERED DOWN AND UNPLUGGED BEFORE PERFORMING ANY SETUP, MAINTENANCE, OR CLEANING TASKS

NOTICE: IF YOU CHOSE TO USE A PRESSURE WASHER, TAKE CARE NOT TO DAMAGE THE TRIMMER'S FINISH BY HOLDING THE NOZZLE EXCESSIVELY CLOSE TO THE MACHINE OR BY FOCUSING THE SPRAY ONTO THE MOTOR OR ANY SEALS. ALWAYS WEAR EYE AND HAND PROTECTION WHEN PRESSURE WASHING. WEAR NON-SLIP FOOTWEAR.

WARNING: ENSURE ALL CLEANING IS PERFORMED IN A WELL VENTILATED AREA TO PREVENT OVER-EXPOSURE TO CLEANING CHEMICALS.

MAINTENANCE

The MOBIUS MD48 TRIMMER is largely maintenance-free with frequent and proper cleaning.

The MD48 gearbox is a fully sealed unit and is 100% maintenance-free for life.

For machine repair, refer to the [Service & Repairs](#) section of this guide.

LIFTING & MOVING

The machine is easily moved and rolled on level surfaces. The machine includes four locking wheels that are installed at the factory. The machine is designed to be operated on smooth and level floors.

If lifting is required, the MD48 must be lifted using a forklift on the lower structural frame between the casters. Approach from the front or rear and ensure that the forks are spread wide enough to avoid contacting the sheet metal skid plate to avoid overturning or flipping off the forks. **DO NOT LIFT THE MD48 WHEN THE TUMBLER BARREL OPENING IS FACING THE FORKLIFT AS THIS WILL DAMAGE THE MACHINE.**

TROUBLESHOOTING

Problem	Resolution
MOBIUS MD48 TRIMMER WILL NOT START	<ul style="list-style-type: none"> • Ensure the machine is plugged in • Ensure the e-stop is disengaged (pulled out), by twisting counterclockwise • Ensure the tumbler base is engaged properly in the drum guides • Ensure the Lid is securely latched • Ensure the Trim Totes are fully seated and latched
PRODUCT IS UNDER TRIMMED OR OVER TRIMMED	<ul style="list-style-type: none"> • Adjust the tension on the shear bands and run smaller batches to get the desired trim consistency • Adjust the tumbler speed using the Control Panel • Ensure product is within the recommended hydration range
DEVICE IS ABNORMALLY NOISY	<ul style="list-style-type: none"> • Clean Drum, Shear bands and Rollers • Ensure both latches are secured
TRIM QUALITY IS DEGRADED	<ul style="list-style-type: none"> • Verify moisture content is within 8-12% range • Clean the tumbler, shear bands and tumbler brushes. Residue accumulation on trimming components is the number one factor that negatively impacts trim quality.

<p>DRUM DOES NOT ROTATE UNDER MANUAL FORCE</p>	<ul style="list-style-type: none">• Clean drum and shear band; excessive plant material has built up on these surfaces causing friction• Reduce tension on shear band (see SET-UP & ADJUSTMENTS).
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