

S O V D A

Commissioning & Training

For Precision Fill 2.0

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INTRODUCTION

The Precision Fill Commissioning & Training Manual will allow you to transition your installed machine into a fully functional, programmed piece of machinery while equipping you with the knowledge to comfortably operate the device.

A [companion video](#) to this document can be located at the QR code to the right. Timestamp links and QR codes are included for reference in the sections below; however, you should watch this video in full before beginning this process.



OVERVIEW

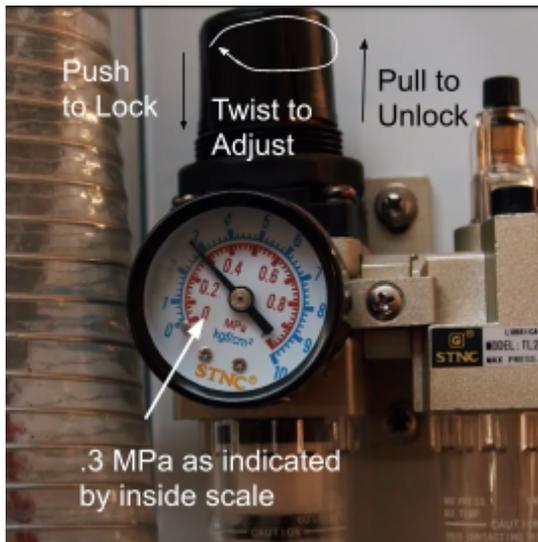
Checking the machine's essential functions and setting up your daily operational settings will kickstart smooth, streamlined production. This document will help you to achieve highly accurate production performance and meet the needs of bagging different sizes of product by guiding you through the following steps:

- Double checking equipment installation & functionality;
- Activating, programming, and understanding the HMI;
- Testing, fine-tuning and understanding machine operating procedures;
- General Checks and Air Pressure Adjustment.

Setup Checklist

Note: Information on how to perform assembly & utility setup is provided in the [Uncrate & Assembly guide](#).

- Check that the regulator is set to .3mpa:



- Ensure the electrical cable is plugged in and seated properly both at the outlet and the machine plug-in point.
- Ensure the foot pedal canon plug is plugged in and seated properly.
- Ensure that the shipping supports are removed from inside the machine:



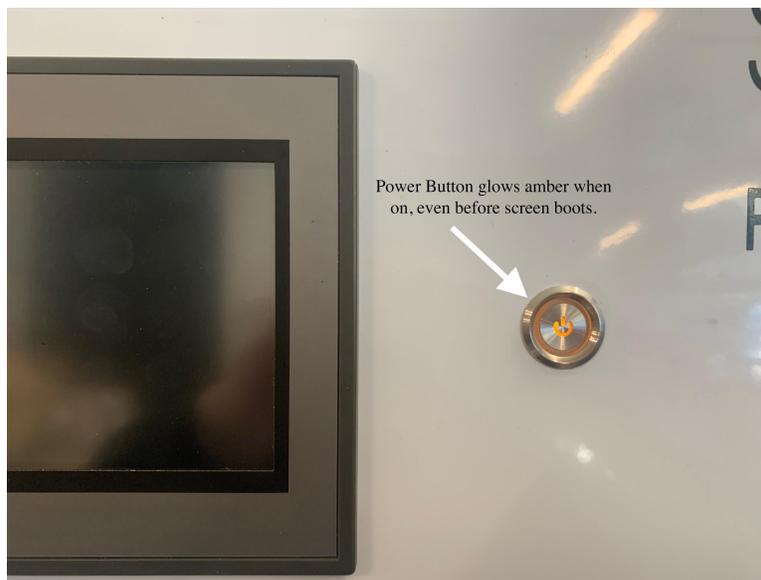
NEXT STEPS

Setting Up the HMI

The HMI (“Human Machine Interface,” commonly called a “screen”) controls all operations of the Precision Fill.

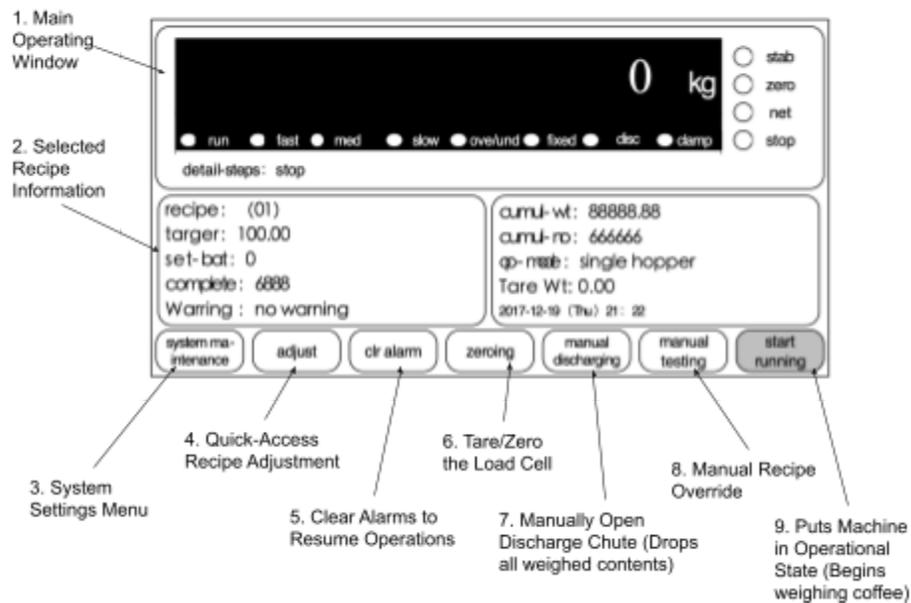
Note: The machine must be plugged in and powered to perform these steps.

Press the power button on the front of the machine. It should glow yellow/amber.



Understanding the Home Page

The Home Page is where all main menu items are organized and can be accessed. Additionally, the Home Page is the main operating page of the Precision Fill.



[Image 4]

【recipe】The current Recipe number and Recipe name are displayed (02)1kg

【target】The recipe targets output weight.

【set-bat】The desired amount of bags that constitute a batch. For instance, you set a batch at 10 bags. Once 10 bags are filled, you can't fill more bags, unless you press "clr alarm" in order to force bagging above the set batch.

【complete】The number of packages completed this time.

【warning】Displays the current alarm and alarm contents.

【cumul-wt】Total completed weight.

【cumulative-no】Total number of bags completed.

start running · The gray color indicates the stop state, tap this to start packing.

manual discharging Tap on "manual discharging" to discharge all coffee in the hopper.

clr alarm When you have filled the number of bags input in "set-bat", the machine will indicate the bagging run is complete and activate a completion alarm. You will need to hit the "clr alarm" button to continue to fill bags over the batch limit. (see how to set a cycle).

Setting the Administrator Password

The default Administrator Password is "0". You do not need to set a different password, however this step will allow you to create your own passcode.

Note: There are no recovery or password reset options available to the user besides factory reset. Do not forget your password.

In order to change the password, from the Home Page, tap:
system maintenance > admin pass modify > enter the password if necessary >
type the new password 1st time > OK > type the new password 2nd time > OK

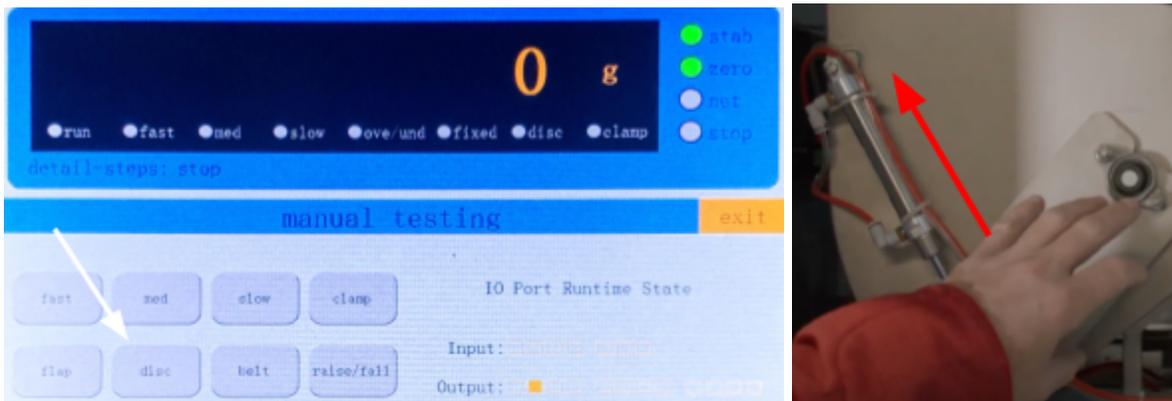
*(home page page menu)>
system maintenance > admin
pass modify> type the new
password 1st time > OK >
type the new password 2nd
time > OK*

CHECKING ALL FUNCTIONAL BUTTONS

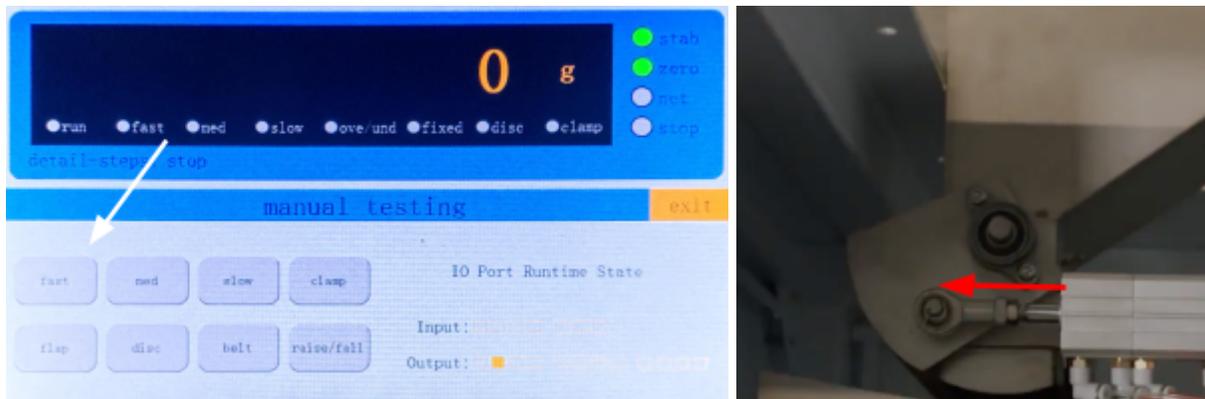
Warning: Pneumatic pistons exert significant force. Never operate the machine when someone is reaching inside the machine body. Serious bodily harm could result.

Before you put any coffee into your Precision Fill, it's strongly recommended to check all of the functional buttons are working properly. Remove the access panels from the sides of your Precision Pill. On the Home Screen, tap the "manual testing" button, then perform the following checks:

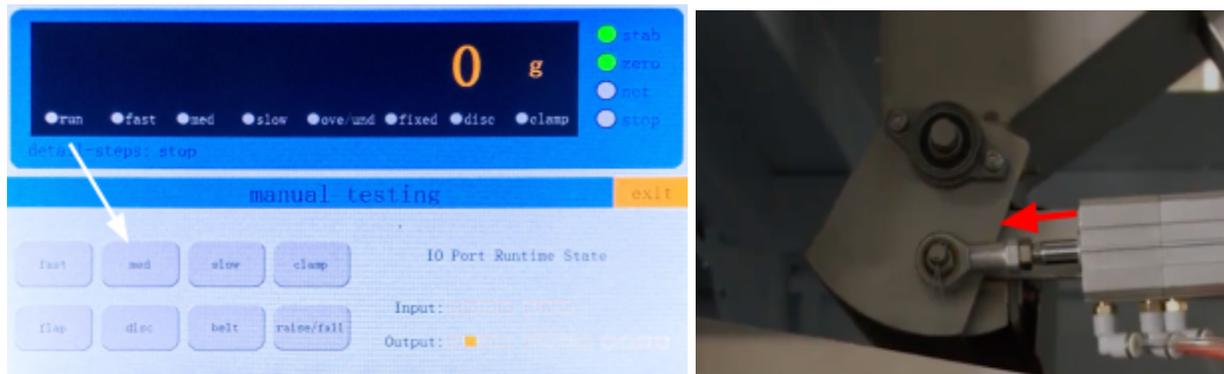
1. disc. [Discharge Button]: When you tap this button, the discharge gate should open as indicated below:



2. fast [Fast Feed Button]: When you tap the Fast Feed button, the filling gate should be all the way open and the vibrator should be operating.



3. Med [Medium Feed Button]: When you tap the Medium Feed button, the filling gate should be half way open and vibrator should be operating.



4. slow [Slow Feed Button]: When you tap the Slow Feed button, the filling gate should be totally closed and the vibrator should be operating. When you turn the slow feed off, the vibrator should stop.



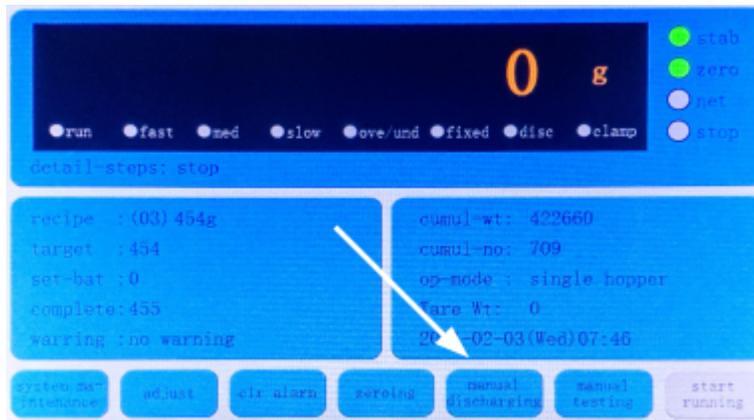
You can now exit the manual testing menu and return to the home page.

CALIBRATION

Weigh 50 grams of coffee with your most accurate scale. Pour the 50g of coffee directly into the machine's weighing bucket (indicated on the last photo in the above section). Now observe if the Precision Fill display shows exactly 50g.

If the machine measures 50g, you don't need to recalibrate the weighing function. However in most cases, your machine will need to be calibrated. Follow the steps below to calibrate your machine.

1. Put a vessel below the filling spout and press "Manual Discharging". This ensures no coffee is in the weighing chamber during calibration.

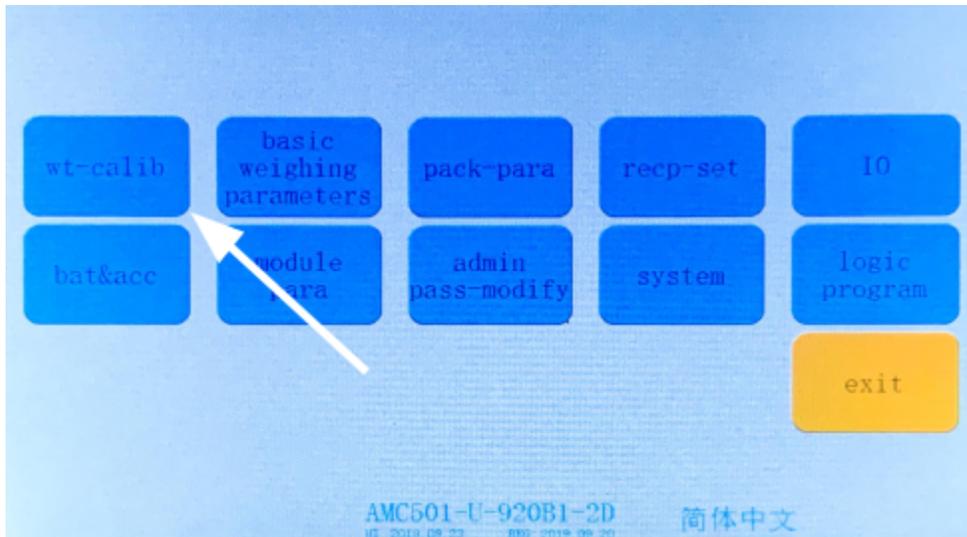


2. Press system maintenance

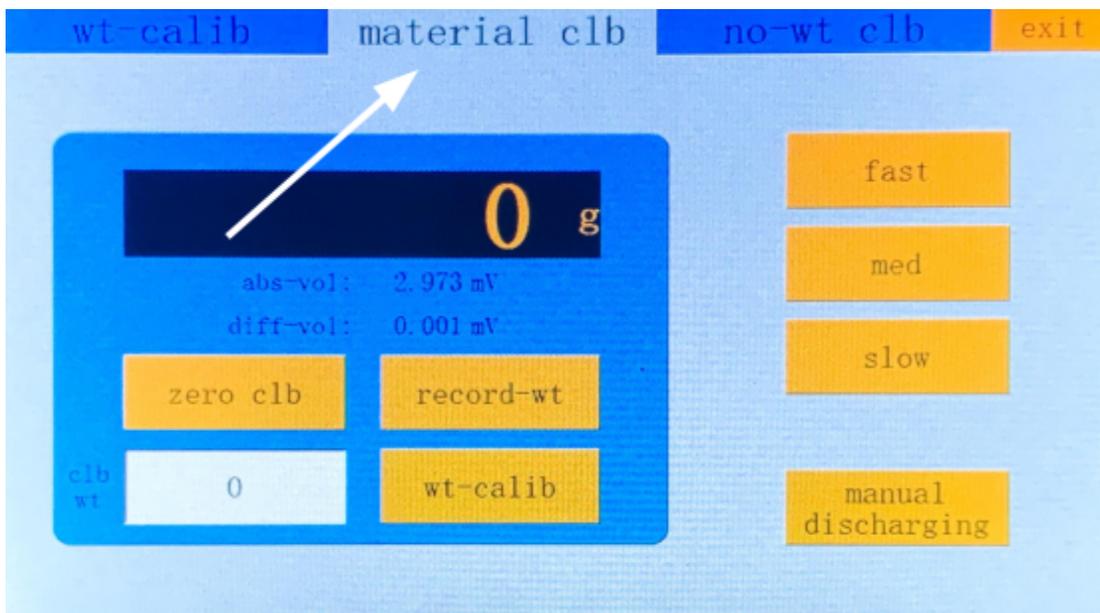


3. Enter the password from Step 4.2 (page 6). Default is "0"

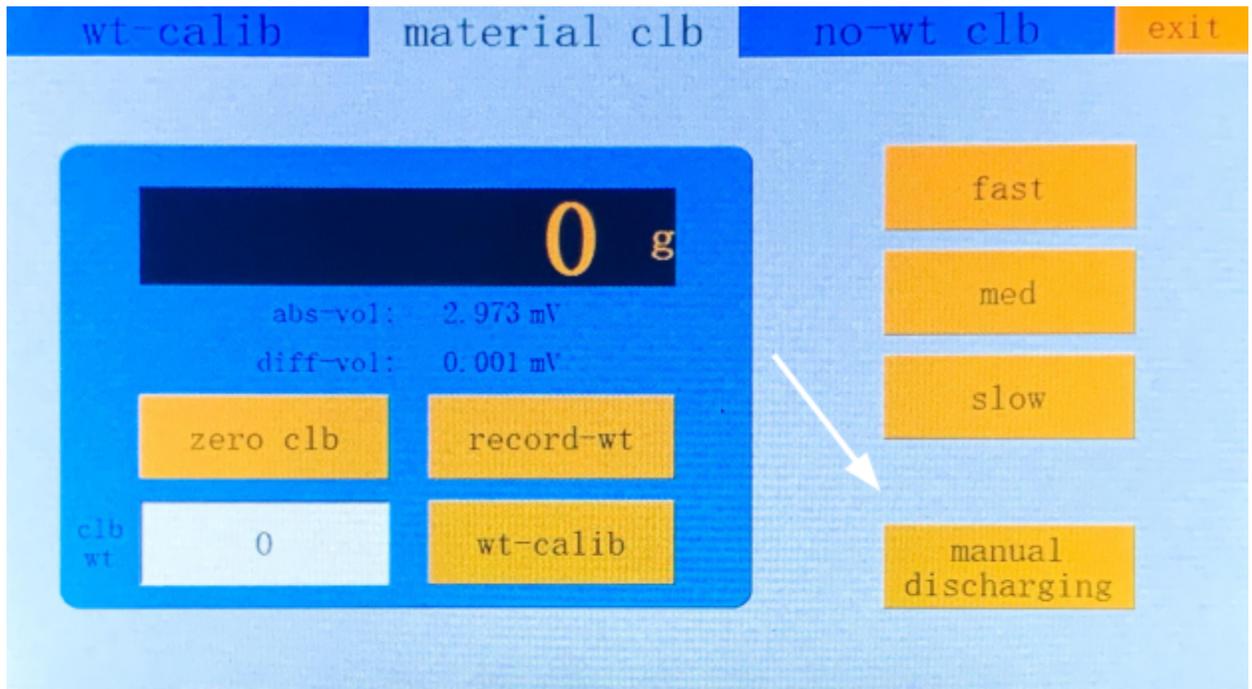
4. Press "wt-calib"



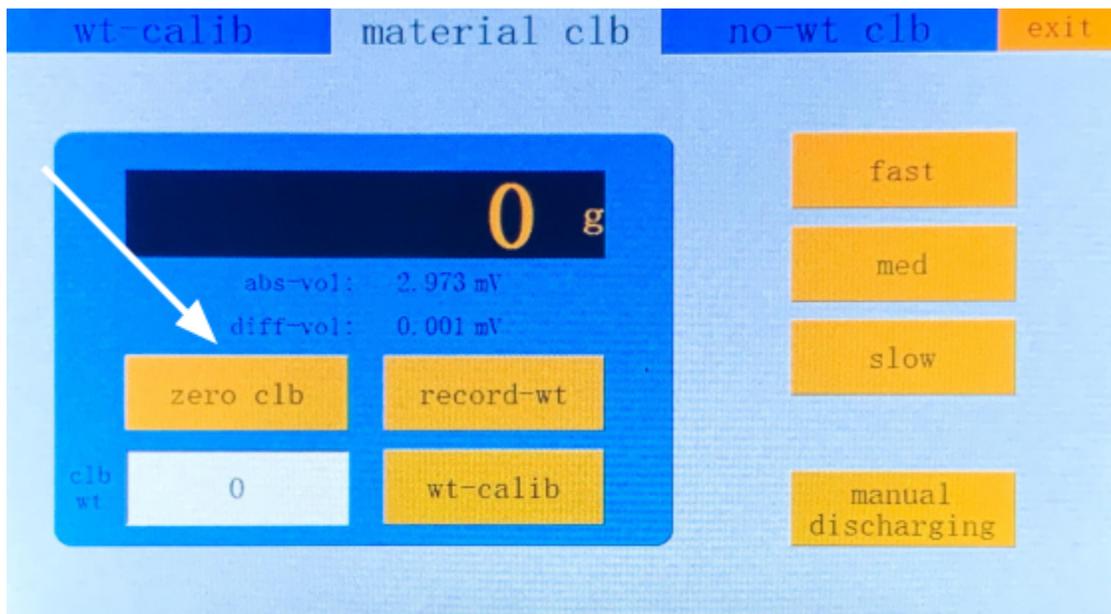
5. Press "material clb"



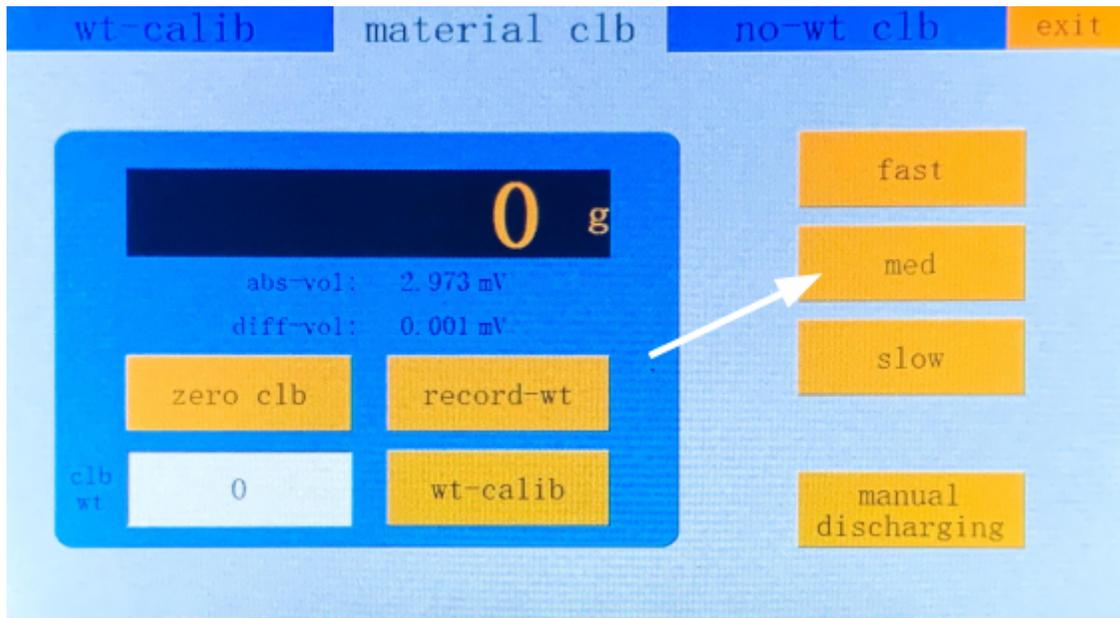
6. Press manual discharging to make sure all the coffee is out of the weight chamber, then press manual discharging again to close the outlet



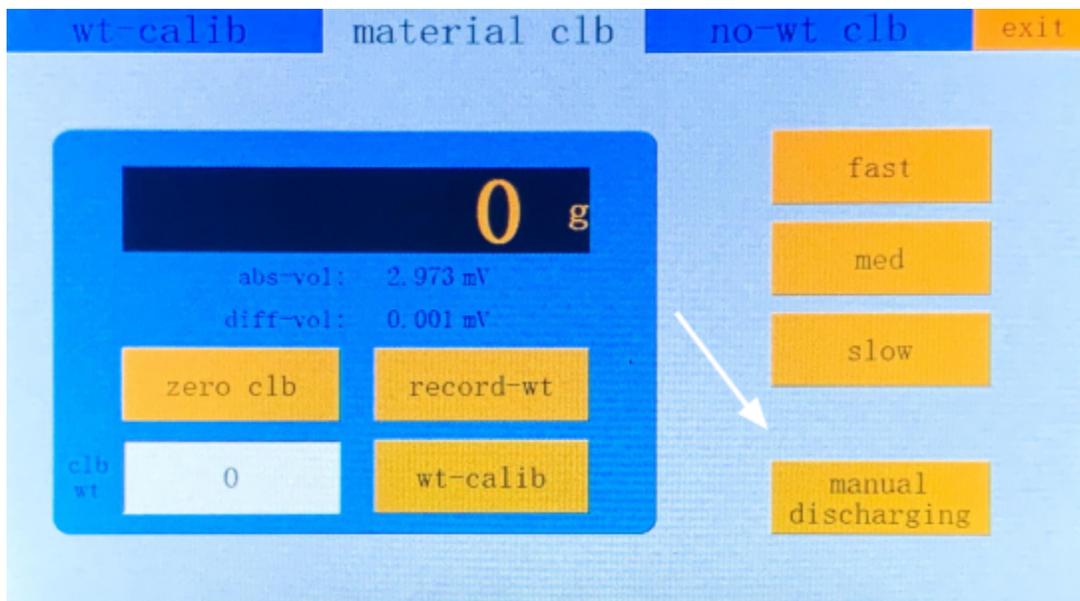
7. Press "zero clb"



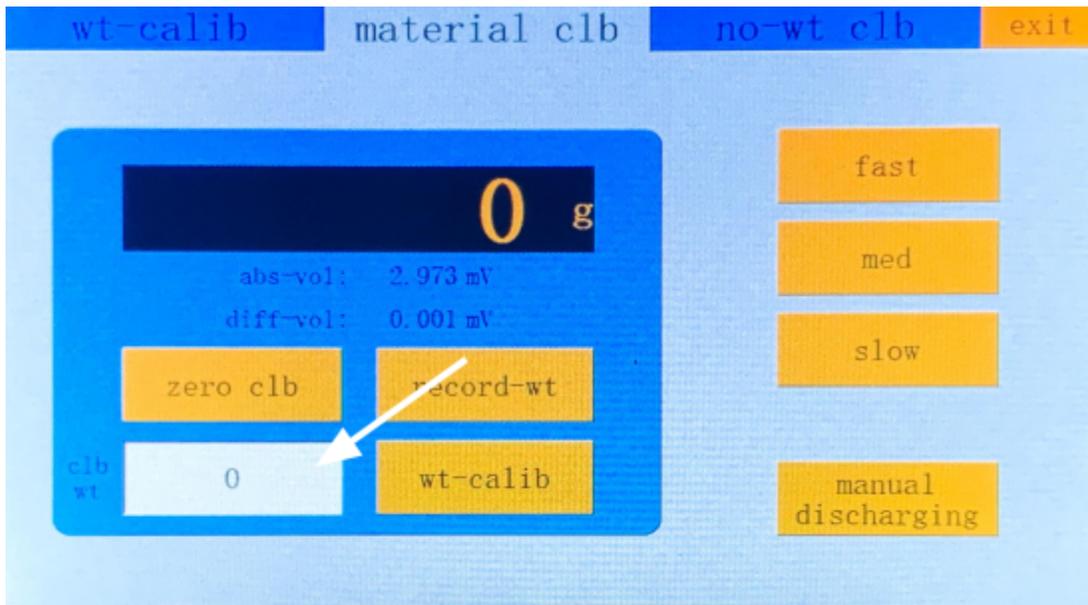
8. Add about 4000 grams of coffee to the intake hopper of the machine, then press "med" until coffee has entered the weighing chamber and the screen indicates about 2520g



9. Place a bag capable of holding 3000g worth of coffee on a scale and tare the scale. Place the bag on the filler head. Use the Manual Discharge function to empty coffee into the bag.



10. Weigh the coffee in the bag and record the weight.
11. Press the "0" and enter the weight you recorded.



12. Press wt-calib

CREATING A RECIPE

1. On the home page, tap "system maintenance" then "recp-set"

[Video Link](#)



2. You should see this screen:

The screenshot shows a software interface titled "recipe". On the left is a vertical menu with five options: "target set", "time set", "patting bag set", "fall and ove/und", and "others". To the right of this menu are two main sections. The top section contains a "recipe-select" field with the number "1" inside, a "recipe-hide" button, and a "shown" button. The bottom section contains a "recipe name" label and an empty text input field. In the top right corner of the interface is an "exit" button.

3. Tap "target set" to get to the main recipe interface.
4. Select a recipe number that hasn't been used, and tap [recipe-hide] until it displays "shown".
5. Enter the desired name for this recipe by tapping the recipe name tab
6. Press [target set] to adjust your recipe. To learn how to adjust your recipe parameters, please see the section below.

ADJUSTING A RECIPE

[Video Link](#)



The variables in a recipe you can adjust are:

- Target
- Fast Speed
- Medium Speed
- Slow Speed

The machines are calibrated at the factory with a default recipe. However as the electrical input differs from location to location, you'll have to readjust it. Starting with the default values and adjusting as needed is the best way to start.

Key Characteristics:

The weight listed next to a feed is the weight difference from zero which will shut off that feed type. For example, take the recipe below:

- Target: 340
- Fast: 340
- Med: 80
- Slow: 20

Since the Fast Feed is set to the target weight, Fast Feed will not initiate and the machine will default to Med Feed. At 80g before the target weight (in this case, 260g in the load cell), Med Feed will disengage and Slow Feed will stay active until 80g before the target weight. At 12g from target weight (meaning 328g is already measured by the load cell), all feeds will shut off and the coffee in the chute will enter the load cell.

Think about your Slow Feed value as a delay for all the coffee in the chute to enter the load cell. If you are consistently overshooting your Target, the delay is not long enough. Similarly, if you are consistently undershooting your Target, the delay is too long. This means you will use the Slow Feed to dial in your recipe output to match the target value.

Example Recipe

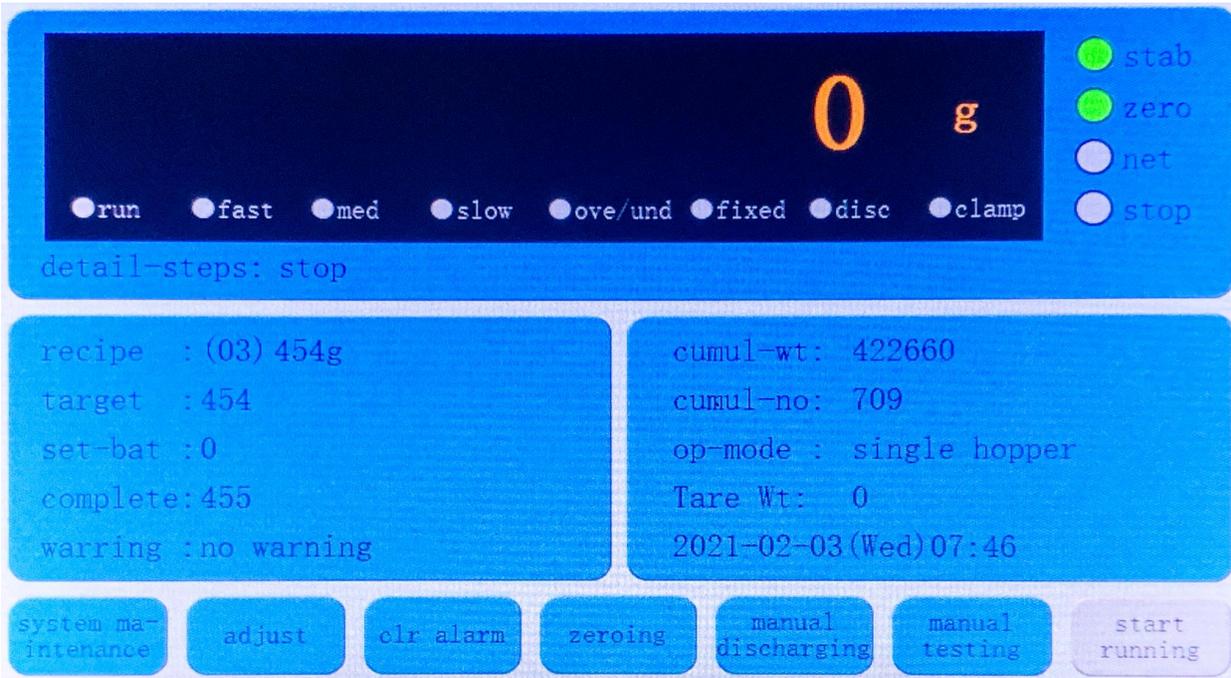
The 340g/12oz recipe is popular around the world. Below is a step-by-step guide to creating a 340g recipe.

You should already know how to enter the recipe settings (see step 10: Creating A Recipe) by going from the Home screen to System Maintenance>recp set>target set. You can jump straight to the Target Set page by tapping Adjust on the home page.

1. **Set Target Weight.** Tap the text box next to “target” and enter 340g. Tap “ok.”
2. **Set Fast Feed.** Since fast feed is used primarily for recipes weighing 1000 grams or more, we will not use Fast Feed on this recipe. Disable it by entering the target weight (340g) in the text box next to “Fast Feed.”
3. **Set Medium Feed.** This number can be fine-tuned later. For now, we will just set it to 80g (this is a reference value) by tapping the text box next to “med feed.”
4. **Set Slow Feed.** In order to demonstrate how to dial in a recipe, we will start with a value higher than necessary. Enter 20g in the text box next to “fine feed.”
5. **Test Recipe.** Return to the home screen. Ensure you have coffee in the hopper, your air compressor turned on, and a vessel below the outlet to catch discharged beans. Then tap “start running” in the lower right-hand corner. You should immediately hear the main valve open and the vibrators operating and see the weight indication start to increase.

Note: For some smaller bags where Med feed is not used, the Med/Fast Feed chamber will retain approximately 500 grams of coffee. For bags over 125 grams, use of Med Feed is recommended and will reduce retention.

6. Wait for Cycle to Finish. Once the cycle is complete, you will see a screen similar to this (likely with different values):



7. Adjust Slow Feed. Note that we are below our goal of 340g. This means our slow feed is too large. Tap "adjust" and enter 10g into your slow feed setting, then with a vessel below the discharge chute, tap the foot pedal. The machine should discharge coffee and begin another cycle. Check the weight at the end of the cycle (in our case, it was 336g).
8. Fine-Tune Slow Feed: Since we are now only 4 grams off, let's lower the slow feed value by 4 grams.
9. Continue Fine-Tuning: Run the cycle again. If the end weight is too high, increase the slow feed value; similarly, if the value is still too low, decrease the slow feed value. In our case, a fine feed value of 6 gives us the correct weight of 340g.

Generally speaking, the difference in weight will be the change needed to the slow feed value. In the example above, the end weight was 4 grams below our target so the slow feed value was reduced by 4 (from 10 to 6). In other words, decreasing the value of the slow feed by 1 will increase the final weight by 1 gram (and increasing slow feed value by 1 will decrease the final weight by 1 gram).

NOTES ON MED AND FAST FEED ADJUSTMENT

The ideal Fast and Med Feed values are the lowest values which provide consistent results. This will ensure the equipment is operating at maximum speed throughout the entire cycle.

Note the difference between a recipe being “off” and a recipe being “inconsistent;” a consistent recipe will always have a very similar output, regardless of whether or not that number is close to the target value. Recipes that put out the same amount of coffee each cycle but are not hitting the target weight should be adjusted using the steps above. Inconsistency is when you have more than 4 grammes difference between 2 bags portioned in a row.

If you find your results are inconsistent, you likely have too low a value on either your Fast or Med feed. Increase the value until you get consistent results, then reduce that value until you start seeing inconsistencies. The lowest value that provides consistent results is the value you should use.

ADDITIONAL RECIPE EXAMPLES:

Consistency

After running your recipe 4 times with a Med Feed Speed of 40, you get the following weights:

240g

258g

260g

276g

Solution: Since you have inconsistent recipe outputs (regardless of target value), you'll need to increase your med feed value. Add in increments of 20 until you get the same weight (+/- 2g). Once you find a value giving you consistent results, dial in that value. Do this by reducing the value in increments of 5 until you see inconsistencies in output.

In our example, let's say you set your Med Feed value to 60 and get the following results:

244g

242g

244g

244g

246g

While you now have a consistent output, you need to reduce the Med Feed value as low as it can go to maximize the machine speed. Start by reducing by 5 until you see inconsistencies come back:

Med Feed: 60

242

244

246

244

244

Med Feed: 55

244

246

244

244

242

Med Feed: 50

250

248

262

260

256

Since inconsistencies returned at a Med Feed value of 85, you will return to the previous lowest value that provided consistent results (90). Repeat the same process from above, this time reducing the value by 1 instead of 5:

Med Feed: 54	Med Feed: 53	Med Feed: 52
244	246	250
244	244	258
242	244	246
246	246	260
244	242	252

Here, you can see inconsistency happens at a Med Feed speed of 52. This means the best value for your Med Feed on your equipment is 53.

Take away for setting up recipe:

- Medium feed will correct the problem of consistency. If you find a range of values larger than 4 grams in your target weight, you have a consistency problem.
- Fine feed will correct a problem of accuracy (for example, if you are systematically hitting your target + 10 grams, you have a problem of accuracy, not consistency).
- You can have both problems, in which case you will need to adjust both fine and medium feed settings. Start adjusting the medium feed until you achieve consistent portion sizes, then adjust fine feed settings to dial in your desired portion size.

OPERATING THE WEIGH & FILL

Congratulations! You have completed the Commissioning & Training portion of your Sovda Precision Fill setup! Now it's time to run the machine as you will for days to come.

CHOOSING & CHANGING OUTLET HEADS

1. Holding onto the attached head, loosen the tri-clamp until the clamp can swing out of the engagement area:



2. Slide the tri-clamp and head off of the outlet:



3. Place the tri-clamp around the flange on the desired head:



4. Slide the head and tri-clamp onto the outlet:

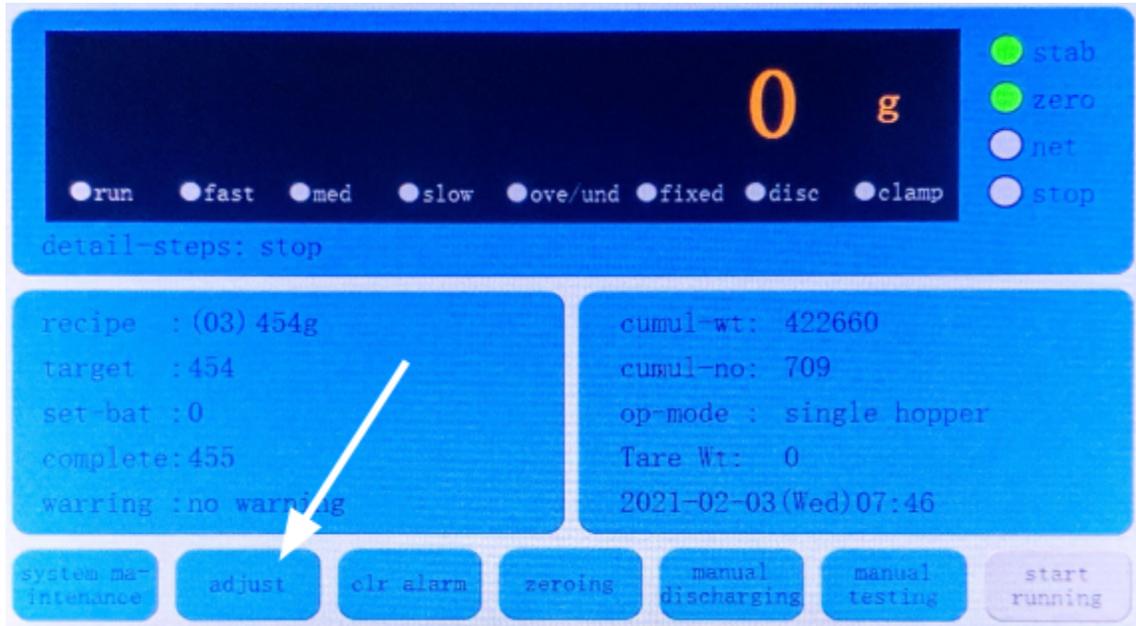


5. Orient the head direction and tighten the tri-clamp:

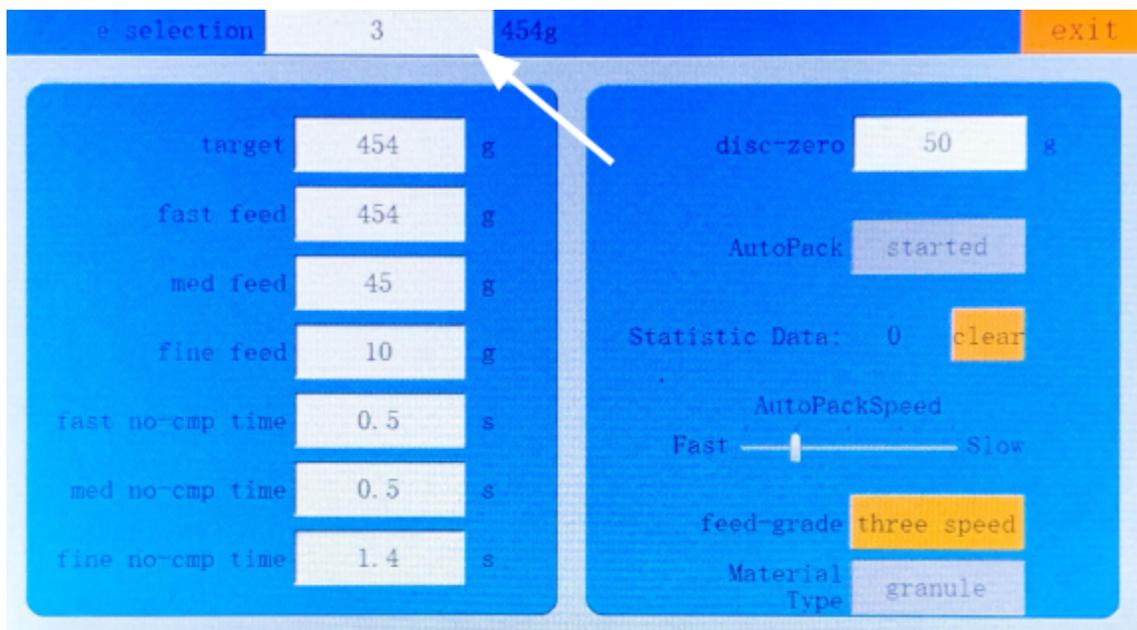


SELECTING A RECIPE

1. On the Home Screen, tap "adjust":

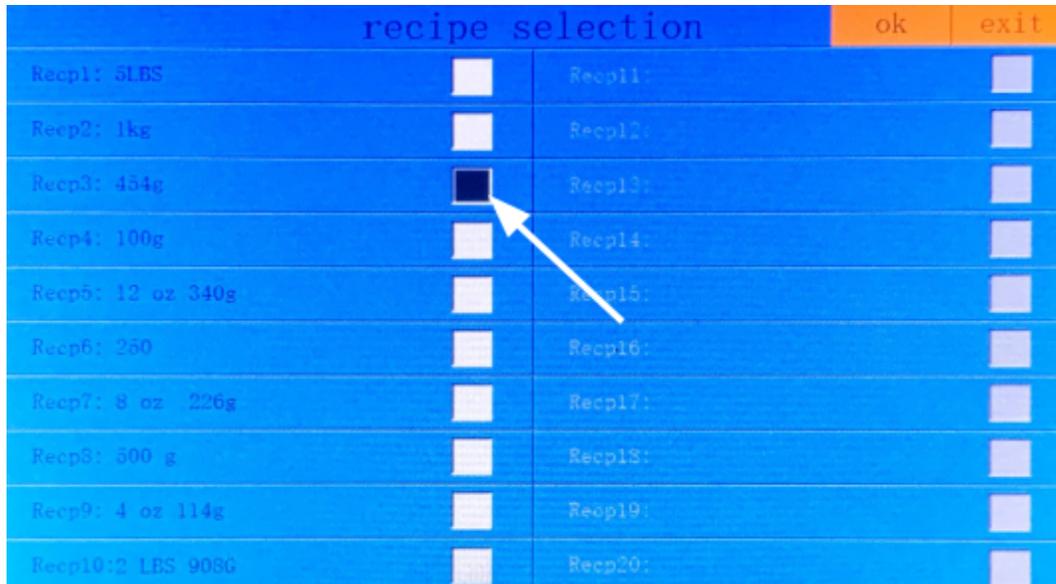


2. Tap the white text box displaying the current recipe name:



3. Tap the check box next to the recipe you would like to use.

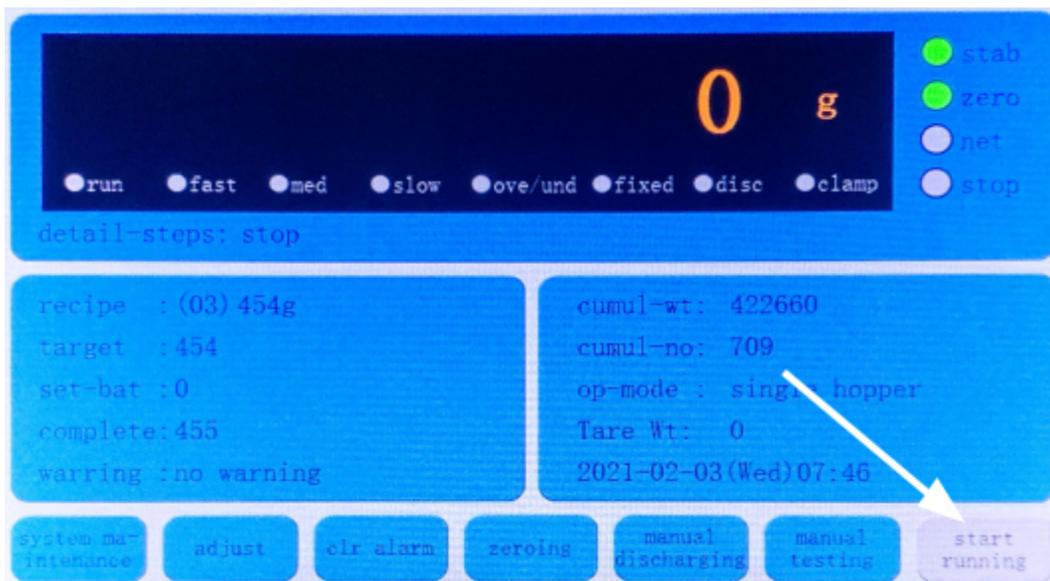
- Verify the correct recipe box is blacked out:



- Hit exit. Your new recipe will be displayed on the Home Screen.

Operating Your Precision Fill

- Ensure your air compressor is running, air to the machine is on, and the machine is powered on.
- Ensure the foot pedal is plugged in and oriented in a comfortable operating position.
- On the Home Screen, tap "start running"



4. You should immediately hear the weighing cycle begin. Once the weight stabilizes, place your bag on the head and step on the foot pedal to discharge coffee.