RUNNING THE MULTIHEAD WEIGHER

When the machine is turned on, the main menu will be displayed

Zero– Zeroing of the weighing scales
After turning on the machine, a text reading PLS PRESS ZERO will be displayed.
Following this instruction, press ZERO button and wait until the PLS PRESS zero text disappears and the today's date will be displayed instead it.

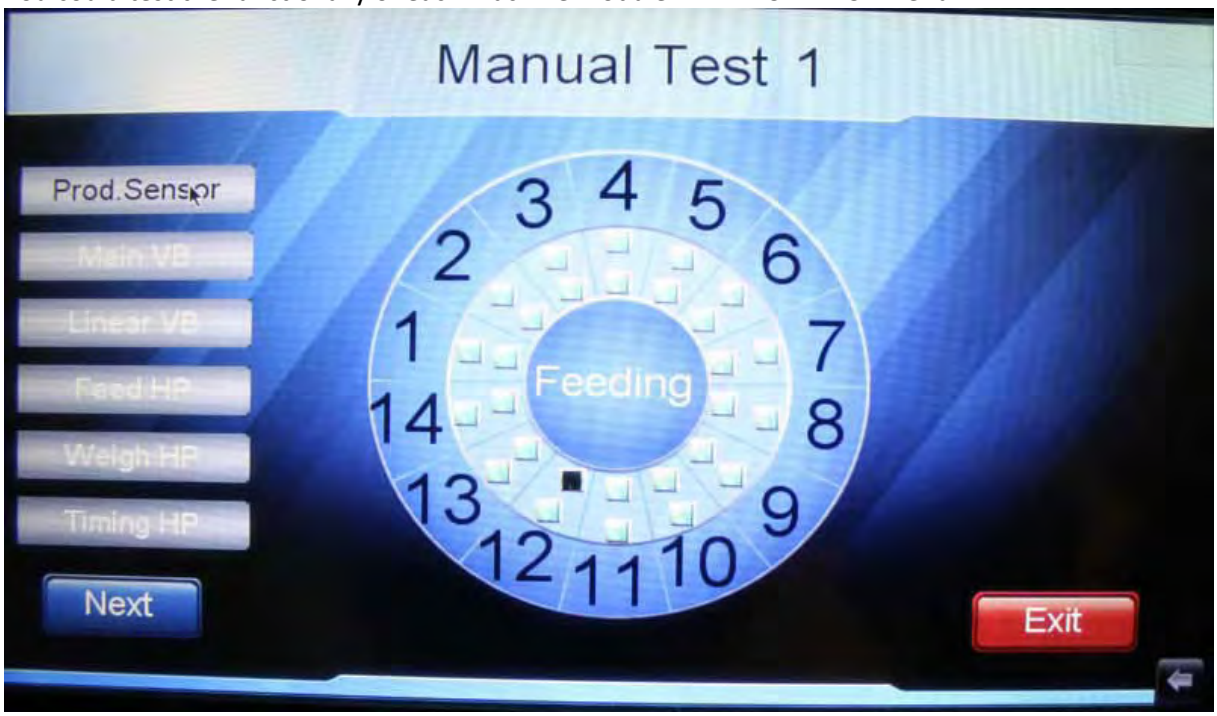
Notice: during zeroing, don't touch or shaking the machine. This will affect the precision of the machine later if wrong zeroing is done.

The zero procedure is done every time the machine is turned on.

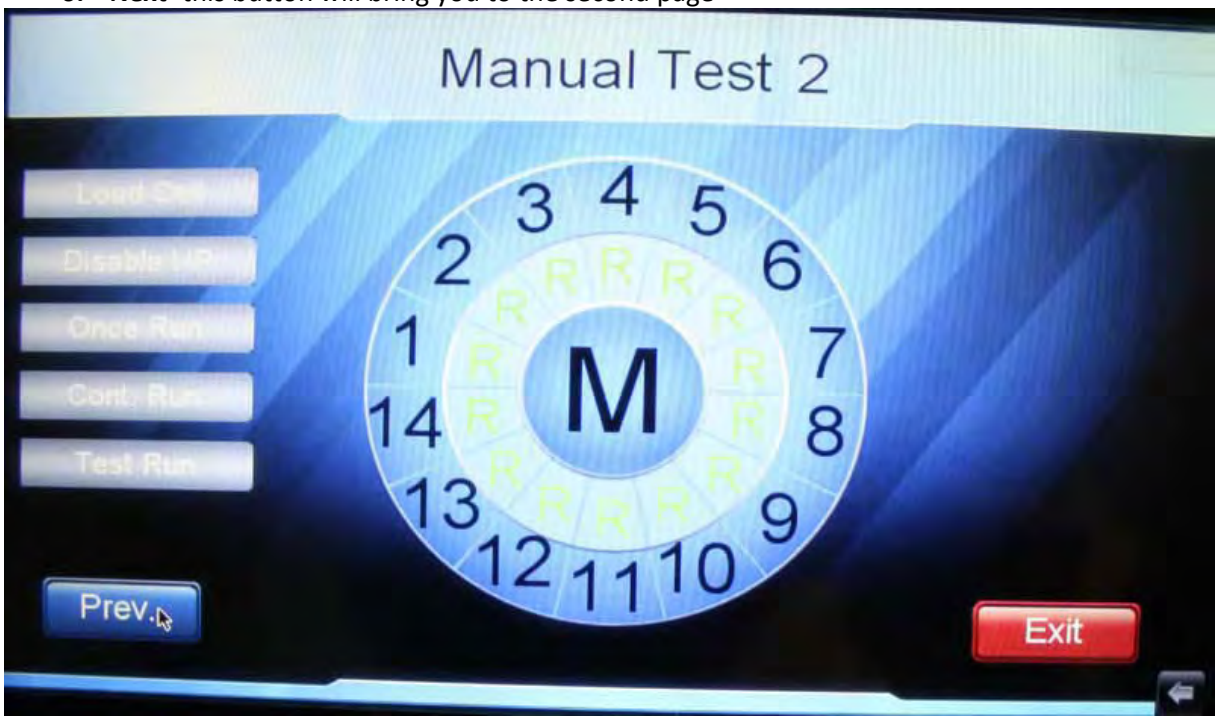
Empty and CLEAN buttons – these buttons could be used when cleaning the product out of the machine after the work day. Each of them activate a product cleaning mode of the machine and should be deactivated when the product is fully clean.

MANUAL TEST

You could test the functionally of each machine module in MANUAL TEST menu.



1. **Prod. Sensor** - pressing this button, will display you the status of the product level sensor. A status reading FEEDING should be displayed when the product sensors see each other and status reading FULL when they don't see each other. натиснете този бутон, за да проверите нивото на продукта в захранващата фуния на машината.
2. **Main VB** (top vibrating cone) – if you click this button and after that click the button M, the main vibrator should vibrate for a while.
3. **Linear VB** (linear vibrating pans) – by clicking this button, you could run for a while each single vibrating pan. If you press M, you could run all of them at the same time.
4. **Feed HP** (feeding hoppers) - by clicking this button, you could open for a while each single feeding hopper (the upper hoppers). If you press M, you could open all of them at the same time.
5. **Weigh HP** (weighing hoppers) - by clicking this button, you could open for a while each single weighing hopper (the lower hoppers). If you press M, you could open all of them at the same time.
6. **Next–**this button will bring you to the second page



7. **Load Cell –** pressing this button, you will see the current product weights of each weighing hopper. By clicking on a single load cell number, you could manually make it zero.

8. **Disable HP (disable a hopper)** – this button lets you disable a particular hopper which is not function properly. The damaged hopper should be disabled until it is repaired. The rest of the hoppers will continue working without it.
9. **Once run/** (machine sector test) **–** by selecting this mode, and after that pressing on a particular number, you could test an entire machine sector. For example, if you press No 2, the top cone will vibrate, the linear pan no 2 will vibrate after that, the feeding hopper no 2 will open and finally the weighing hopper no 2 will open too.
10. **Cont. Run –** This is the same mode as ONCE RUN mode with the exception that using this mode, the machine will work in the above described sequence until you stop it (continuous)
11. **Test run–** machine test start (used mainly for demonstrations)
12. **Exit–** this button returns you to the main menu

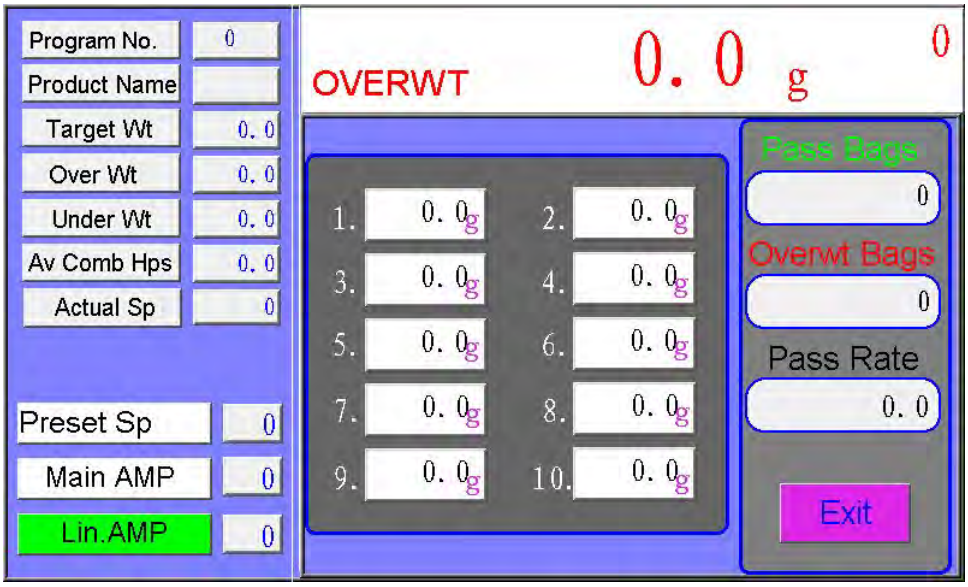
START TO RUN

In order to run the machine, press the **START TO RUN** button from the main menu. The following screen will be displayed. The program no will show you which work program is currently loaded into the machine memory. If you want to change it, refer to the **PROGRAM SETUP** section later below in this book.

On the left side, you could see some of the basic parameters displayed for the selected work program. Some of them could be changed from here but they will be not saved permanently in the machine memory. For editing a work program, please refer to the section **PROGRAM SETUP**

Press RUN button in order to run the machine.

You could track some real time statistics by clicking the details button.



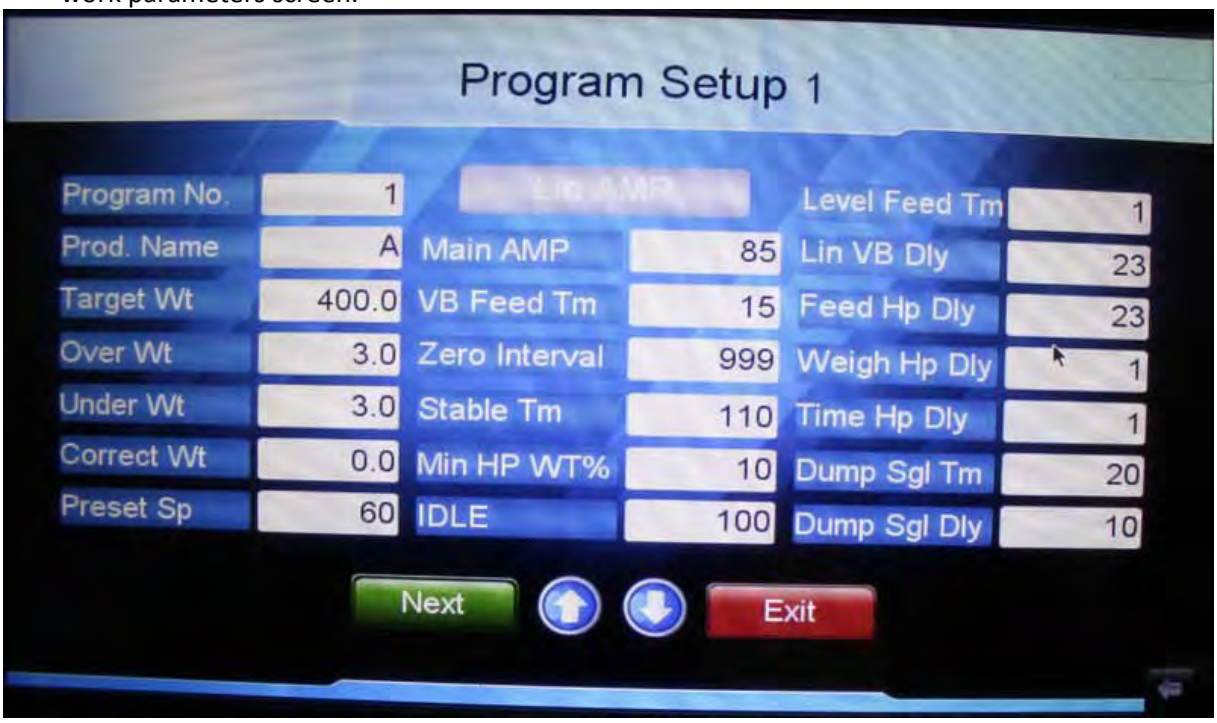
PROGRAM SETUP

For program setup or preset work program selection, press the button **PROGRAM SETTUP** from the main menu.

From this section, you have 2 options – either select an existing work program or edit a work program.

In order to select an existing work program, use the up/down arrows to select in and after that press **download** button in order to download it to the machine's memory.

In order to edit a particular program, first you should select the program which you would like to select (using up/down arrows) and after that input the password into the pass filed at the top-right corner of the screen. **The initial password is 111.**
After selecting the program which will be edited and filled in the password, the **program setup** button under the password field will be unlocked. Clicking on this button will bring you to the work parameters screen.



1. **program No.** (program number [1-99]) – you could change the work program being change using the up\down arrows.
2. **Product name** - sets the work program name. 6 letters max!
3. **Target WT -** sets the desired target weight.
4. **Over WT/overweight**– sets the allowed overweight error (upper limit)
5. **Under WT/ underweight** sets the allowed underweight error (lower limit)
6. **Correct WT/correcting value –** if you need to make the machine displaying the total weight, including the bag film weight, you could set it from here.
7. **For example,** if your single bag weight is 2g, and the target weight is 50g, the machine will display 52g if you set a value 2g in Correct WT parameter
8. **Preset speed –** it sets the expected speed of the machine. This parameter is used for synchronization with the packaging machine. The standard value is 60
9. **LIN AMP/ linear pans amplitude. –** sets the vibrating amplitude (the vibration strength of each linear pan)
10. **VB Feed Tm/Linear vibrator feed time. –** sets the single vibration time (impulse duration) for the linear pans.
11. **Main AMP/Main vibrator amplitude. –** sets the top cone vibration amplitude
12. **Zero interval–** sets an interval after which the machine will accomplish self-zeroing.
    For example, if you input a value of 100, after 100 discharging, the machine will delay for a second and will make self-zeroing in order to include the accumulated salt and dust into the hoppers weight.
13. **Stable time–** Sets the stable time for the weighing hoppers to weight the product in them before joining a combination. The bigger is this value, the higher the machine's precision would be.
14. **Min HP WT%/Minimum single hopper weight%-** sets the minimum percentage which a single weighing hopper should have in order to join into a combination. If this percentage is not reached, the linear pan will refill it until it is reached. The standard value is 5%
15. **IDLE/no combination times–** sets the max working cycles which a particular hopper is allowed to miss.

For example, if this parameter is set to 100, a single weighing hopper might be not discharged for 100 dischargings (combinations) but on the 101 combination, it will be forcefully discharged so that to empty it.

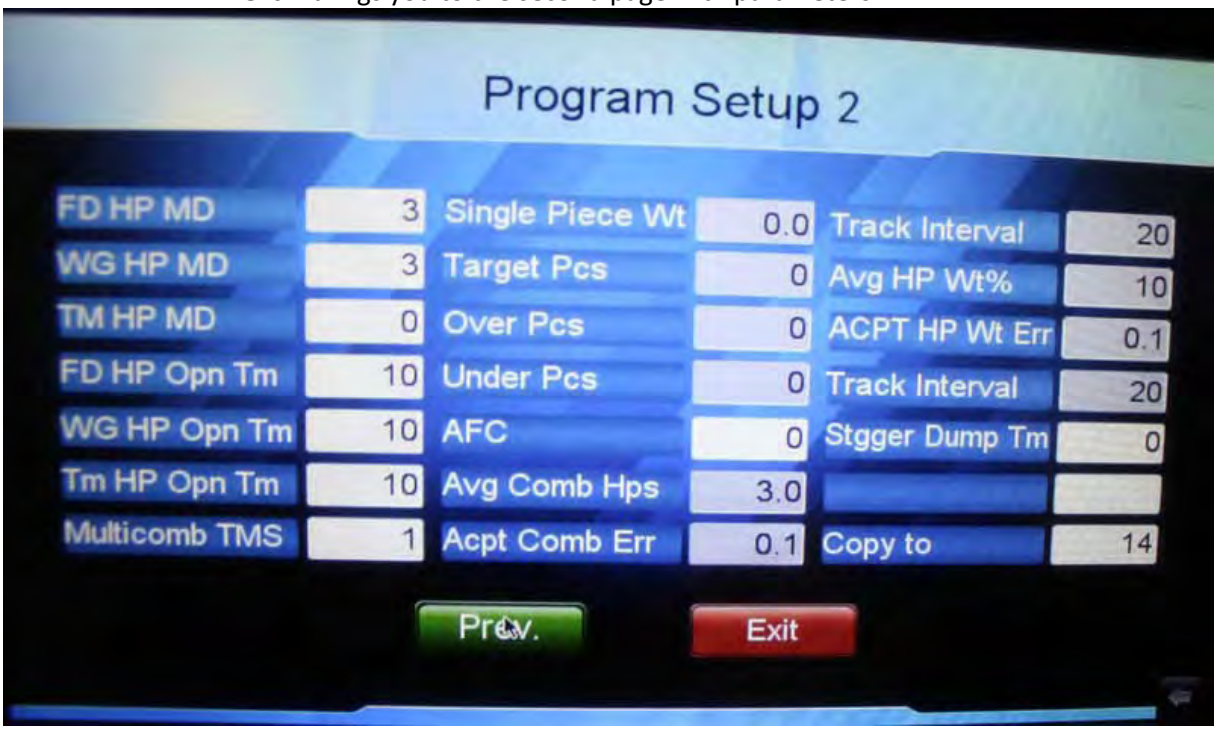
16. **Multicomb TMS/multi-combination Times/–** sets the number of doses to be discharged in one single bag. From here, you could make the dosing device to discharge a several doses in one common bag.
17. **Stagger Dump Time–** sets a delaying time between the discharging of each hopper in a particular combination.
    For example, if 3 weighing hoppers are chosen to discharge, they will discharge one by one with a slight delay between each discharging set by this value.

    This parameter is used when the product being discharged is too light and bulky. If all the chosen hoppers open to discharge at the same time, the product will block at the packaging machine filling tube entrance.
    Using this parameter, the product is separated on layers falling each after another and decreasing the risk of jamming into the packaging machine filling tube.

18. **Linear Vibrator feed delay - sets the delay time which is used to avoid product leakage between the linear pans and the feeding hopper. When setting this value, the operator should make sure that the feeding hoppers are fully closed when the product is falling into them. If they are not fully closed, the product could drop directly into the weighing hoppers and affecting the final precision. Product leakages are the most common problem related with the machine precision so beware when you setting these delays.**

19. **Feed hopper delay** – this delay is the same like the one described above, but it is used for delaying the feeding hoppers discharging**. When feeding hoppers open to discharge, the weighing hoppers should be completely closed to avoid any product leakage which will fell into the bag.**

20. **Weigh hopper delay–** it should be set to 1. It was used in the past.
21. **Next –** brings you to the second page with parameters.



22. **Level products feed time –** sets the addition time which the feeding conveyor will continue to work after the predefined product level is reached. This parameter prevents the frequent start/stop of the conveyor.
    If the operator sets the value to 3, the conveyor will feed the product until reaching the predefined by the laser product sensors and continue to work for 3 seconds in addition.
23. **Dump signal delay–** system parameter. Factory set before shipment.

24. **Dump signal time-** system parameter. Factory set before shipment.
25. **Feed hopper motor mode**– Sets the opening angle of the feeding hoppers. There are created 4 preset modes (each one with a particular opening angle). The operator is allowed to choose between 0-3 values. The bigger is the value set, the more the hoppers will open when discharging
26. **Weigh hopper motor mode -** Sets the opening angle of the weighing hoppers. There are created 4 preset modes (each one with a particular opening angle). The operator is allowed to choose between 0-3 values. The bigger is the value set, the more the hoppers will open when discharging
27. **Timing hopper motor mode –** parameter used in the past.
28. **AFC** (Automatic self learning mode of the machine) – the machine could adjust the linear pans vibration amplitudes automatically, according to the target weight being set. The options are as follow:
    - **0:** Manual mode. The machine works with the linear pans vibration amplitudes set by the operator.
    - **1 (AFCT):** - automatic self learning mode where all the vibrations are set on a particular value (all the amplitudes are same)
    - **2 (AFCW):** automatic self learning mode where each single linear pan vibration amplitude is set individually (the amplitudes are different)

Usually, these automatic modes are used for initial, rough and fast adjustment and afterwards, having the rough amplitude values, the operator has a kind of hint to select the most proper values

---AFCT---

These parameters are only available for automatic mode (1) AFCT

29. **AVG combination hoppers – sets the average number of hoppers to be used in a single discharging**. 3.5 value is recommended.
    If this mode is selected, the machine will self-adjust its vibrations so that a single dose will be done by discharging 3.5 hoppers
30. **Single acceptable combination error hopper**– sets the acceptable deviation from the above set 3.5 hoppers. The recommended values is 0.5 This way, the machine will adjust the vibrations so that 3 or 4 hoppers will be used per single discharging.
31. **Track interval-** sets the tracking interval after which changes in vibration values will be made. If the operator sets this parameter to 10 for example, the machine will make 10 combinations (discharging), analyze the results (if the above 2 parameters are met) and readjust the vibrating values as necessary.

---AFCW---

These parameters are only available for automatic mode (2) AFCW

32. **Avg HP Wt%/**Single AVG Hopper weight percent/sets the target product percentage value each single weighing hopper should contain. The recommended value is 33%.
33. **ACPT HP Wt Err/**Single hopper acceptable error weight - sets the max deviation from the above settled parameter.
    For example, if the operator sets a **target weight** of 100g, **Avg HP Wt%** to 33%, **and ACPT HP Wt Err** to 10g, the machine will try to adjust the vibrations as to have around 33g (33% from the target weight) in each single hopper and the acceptable deviation from this value is 10g so we are getting to an range of 23-43g. The machine will try to adjust the vibrations in such a way, that in each single weighing hopper will have product weight in range 23-43g.
34. **Track interval/следящ интервал -** sets the tracking interval after which changes in vibration values will be made. If the operator sets this parameter to 10 for example, the machine will make 10 combinations (discharging), analyze the results (if the above 2 parameters are met) and readjust the vibrating values as necessary.

These parameters are used only of counting mode is selected from the system parameters

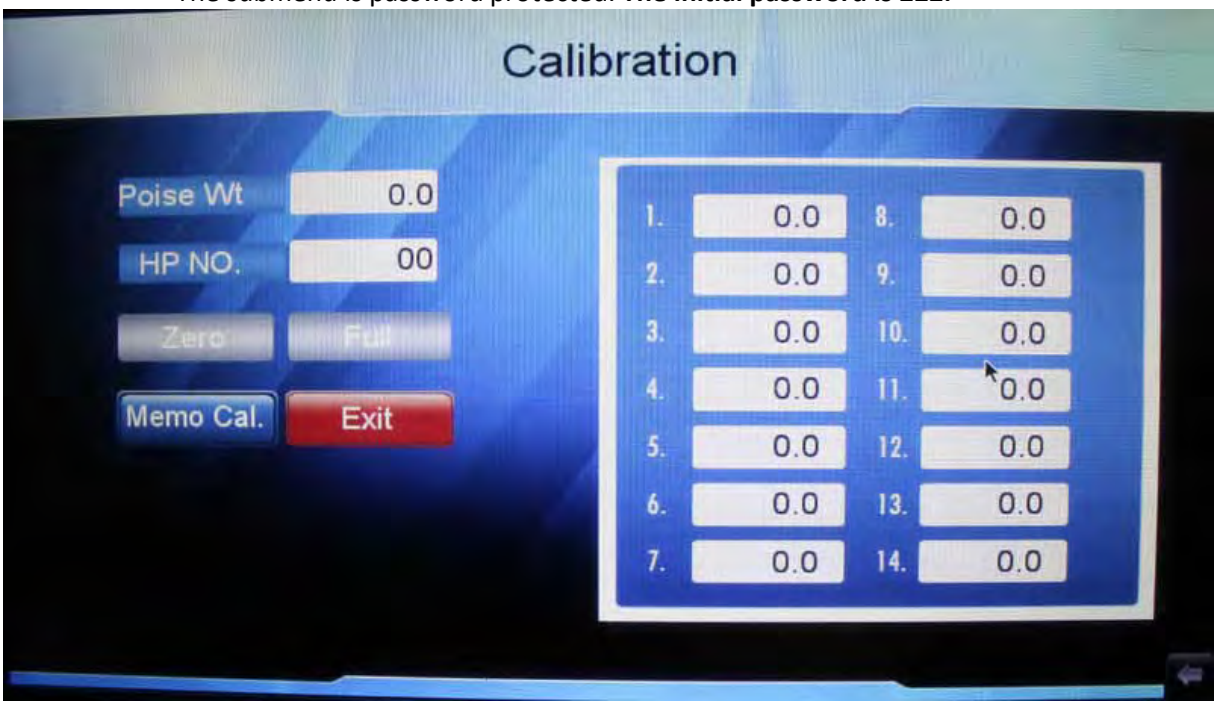
35. **Single Piece Wt –** sets the single piece weight
36. **Target Pcs –** sets the target number of pieces do be discharged

37. **Over Pcs-** sets the overweight max error (in pieces)
38. **Under Pcs –** sets the underweight max error (in pieces)

After editing is done, click exit to return into the program setup menu.

CALIBRATION

You could enter the calibration setup, by clicking **CALIBRATION** button from the main menu. The calibration is used when some of the hoppers are not weighing correctly. The submenu is password protected. **The initial password is 222.**



Before going ahead with the calibration, please make sure that all the hoppers are empty (there is no product into them).

- Poise weight – sets the poise weight value which will be used for the calibration (500g poise weight is supplied with the machine). Set it to 500g.

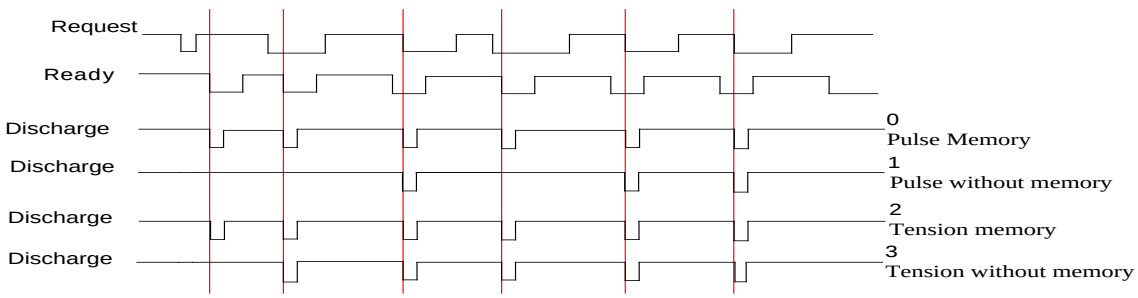
The calibration procedure is as follows:

1. **HP no –** choose the weighing hopper which will be calibrated by input its number.
2. Press zero to zero the selected weighing hopper (don't move or touch the weighing hopper during zeroing).
3. **Put the poise weight (500g) on the selected hopper.** It should show 500g. If not, press full to calibrate it.

SYSTEM SETUP

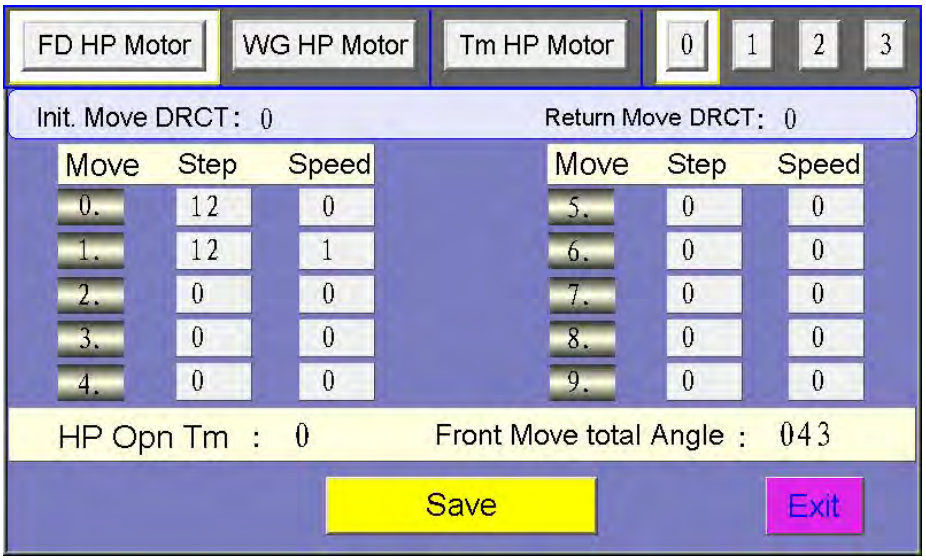
You could enter the system setup, by clicking on system setup button from the main menu. You could use the system settings in order to set some system parameters. The submenu is password protected. **The initial password is 333.**

1. **Time and date setting** – sets the date
2. **Weighing Mode – sets the weighing mode –** weighing (0) or counting (1)
3. **Signal Type –** factory set



4. **Optimum –** factory set

5. **Tm HP mode** - factory set
6. **Top cone mode**- factory set
7. **Comb.** - factory set
8. **Screen saver** – sets the screensaver time
9. **Motor mode setup – sets the hopper angle opening modes** - factory set



10. **Program Recovery** – default parameters
11. **Password setup** – password changing