



**UNION KEHLIBAR**  
PACKAGING MACHINES AND EQUIPMENT

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**MANUAL FOR WORKING WITH A FILLING MACHINE**  
**FOR GRAIN PRODUCTS**



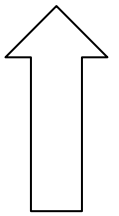
**2017**



## CONTENT

<a href="#"><u>INSTALLATION</u></a>	.....	Page 3
<a href="#"><u>SAFETY WORK</u></a>	.....	Page 4
<a href="#"><u>STARTING THE WEIGHER</u></a>	.....	Page 5
<a href="#"><u>MAIN MENU</u></a>	.....	Page 8
<a href="#"><u>WORK PROGRAM SETUP AND</u></a>	.....	Page 11
<a href="#"><u>PARAMETERS</u></a>		
<a href="#"><u>CALIBRATION</u></a>	.....	Page 18
<a href="#"><u>WORKING SEQUENCE</u></a>	.....	Page 20
<a href="#"><u>CLEANING THE FILLING MACHINE</u></a>	.....	Page 22
<a href="#"><u>TROUBLESHOOTER</u></a>	.....	Page 23
<a href="#"><u>MAINTANANCE</u></a>	.....	Page 24
<a href="#"><u>VIDEO</u></a>	.....	Page 25

## INSTALLATION



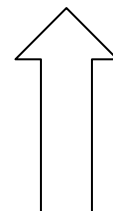
### 1. Requirements:

- ambient temperature 15 - 30°C
- humidity 35 – 85%
- power supply 220V±10%, 50Hz

2. The dosing/weighing device should be placed on a specially designed for the purpose metal platform. The platform should be positioned on horizontal, rigid and smooth place.

- the weigher should be placed on a place where its performance will be not affected from vibrations or other side effects, which could deteriorate its normal operation.
- there should be enough space around the machine so that to facilitate its cleaning and maintenance.

## SAFETY WORK

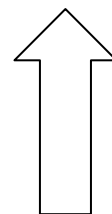


### **SAFETY INSTRUCTION FOR WORKING WITH THE DOSING DEVICES**

#### **General safety conditions:**

1. Working with an opened electrical panel is not allowed. All of the electrical maintenance is done ONLY by an authorized personnel.
2. Install the dosing device on a strong and stable frame. The frame should be installed on hard and flat surface. Level the frame, so that to avoid any shaking and eventual falling of the dosing device.
3. Only granular products should be used when testing the dosing device. After finishing work, the dosing device should be emptied and cleaned.
4. The cleaning of the device is done with a cleaning mop and spirit. Cleaning with other chemicals is done only after the approval of the manufacturer.
5. When working with a weigher do not hit or apply strong pressure on the weighing hoppers, because you may damage the scales. If there is an additional agitator, installed in the hopper, any mechanical adjustments or cleaning procedures, are forbidden on working machine.

## STARTING THE WEIGHER



1. Connect the weigher to the electrical supply and the air compressor (see Img. 1)



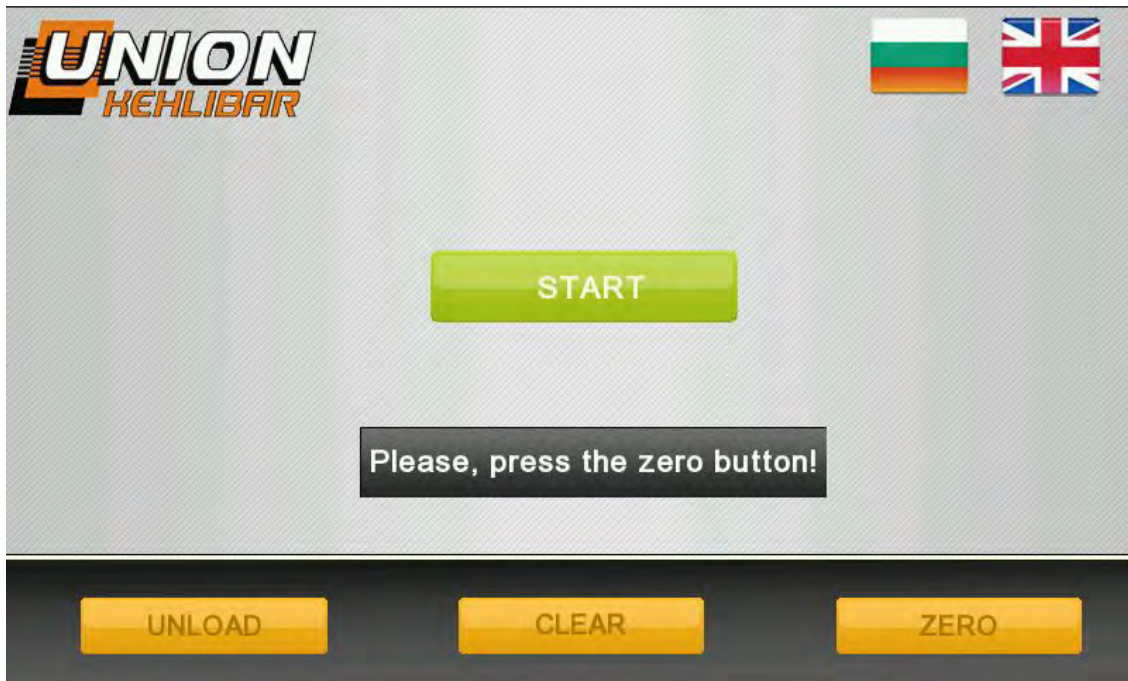
Img.1

2. Start the weigher from the black switch on the back of the electrical panel (see Img.2):



Img.2

After turning on the filler, the control panel will visualize the following screen: (see Img.3):



Img.3

The starting screen gives the option for the usage of functions for unloading the fed product and calibration of the weighs of the filler. The filler has 2 regimes for clearing the leftover product – **UNLOAD** and **CLEAR**

- The button **UNLOAD** will open the dosing hoppers(buckets) and will turn on the vibrators in a constant operation regime, so that the leftover product is released. After the product is cleared, the operator has to deactivate the function.

- The button **CLEAR** activates a function with which a real working regime is simulated, maintaining the following consequence: vibration -> unloading hopper(bucket) -> closing hopper(bucket) .

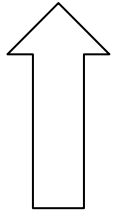
- The button **ZERO** is used for resetting the weighs of the filler.

3. Every time you start the machine, ZERO procedure should be done.

Press Zero button and wait until the text **Waiting until the zeroing is finished!** disappears.

Notice: Do not touch the weighing machine during Zeroing because you could affect the correct zeroing of the scales.

## MAIN MENU



In order to proceed to the main menu, press the **START** (see Img.4)



Img.4

When you enter the MAIN MENU, the following window visualizes (see img.5):



Img.5



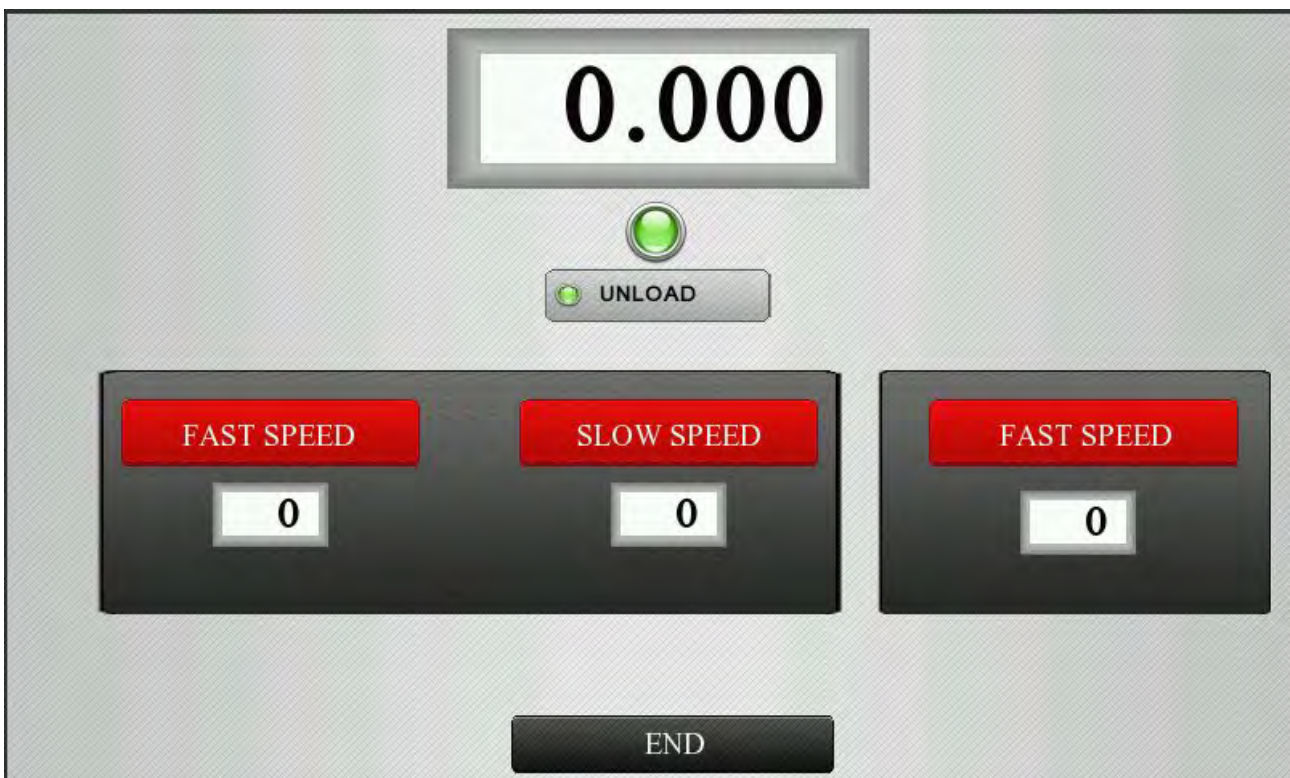
By pressing the big green **START** button, the filler enters working mode and starts the dosing procedure according the work program currently loaded (work program 1 is loaded on the image shown above).

The main screen shows the current weight in the weighing hopper. The main screen also presents the option for manual discharging of the product by pressing the **UNLOAD** button.

With the **VALVE** button, you can control manually the pneumatic pinch for holding the ready bag.

The **WORK PROGRAM** button in the upper part of the main menu, opens the window for choosing and loading of a work program. The digit, next to it, shows the program that is currently loaded. You will find additional info in the [Work program setup and parameters](#) section.

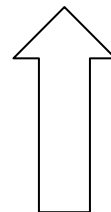
By pressing the **VIBRATION** button in the lower part of the screen, you open a window for quick setup of the vibration speed (see Img. 6)



Img.6

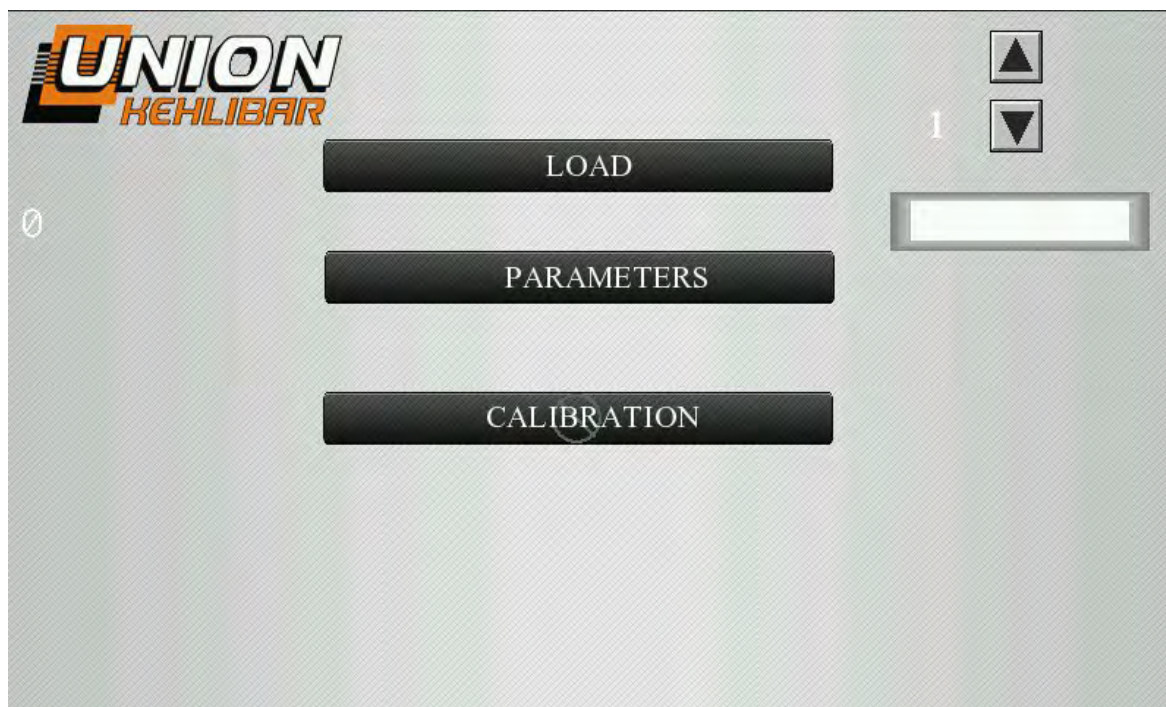
The filling machine is equipped with two vibrators. The dosing principle is as follows: The two vibrators are feeding on fast speed until they reach the GROSS weight. After reaching the GROSS weight, the right vibrator stops completely, and the left one switches to a slow-more precise speed, until it reaches the MINIMUM weight. For more info about the individual setup of the vibrators, please check the section **Work program setup and parameters**

## WORK PROGRAM SETUP AND PARAMETERS



### 1. SELECTING AND LOADING OF A WORK PROGRAM

After pressing the **WORK PROGRAM** button in the upper part of the main menu, you will open the window for selecting and loading of a work program (see Img. 7):



Img.7

By using the up/down arrow buttons in the upper right corner, you are able to choose between the preset work programs. Each program is marked with a digit (1, 2, 3, etc....) (see Img. 8):



Img.8

After you select the required work program, you need to press the **LOAD** button, in order to load the program in the memory and return to the main menu. You are able to change all of the preset programs, depending on the product being packed and the required dose.

## 2. MECHANICAL ADJUSTMENT OF THE FILLING MACHINE

The filling machine is used for a large variety of different products, each with different characteristics and behavior. Due this reason, in order to achieve the optimal balance between speed and dosing accuracy, the thickness of the product layer could be adjusted with the help of mechanical doors, situated on each of the vibrators. The door could be moved up and down, depending on the layer you want to achieve. The bigger the layer- the faster the speed and the lower the accuracy (see Img,9):

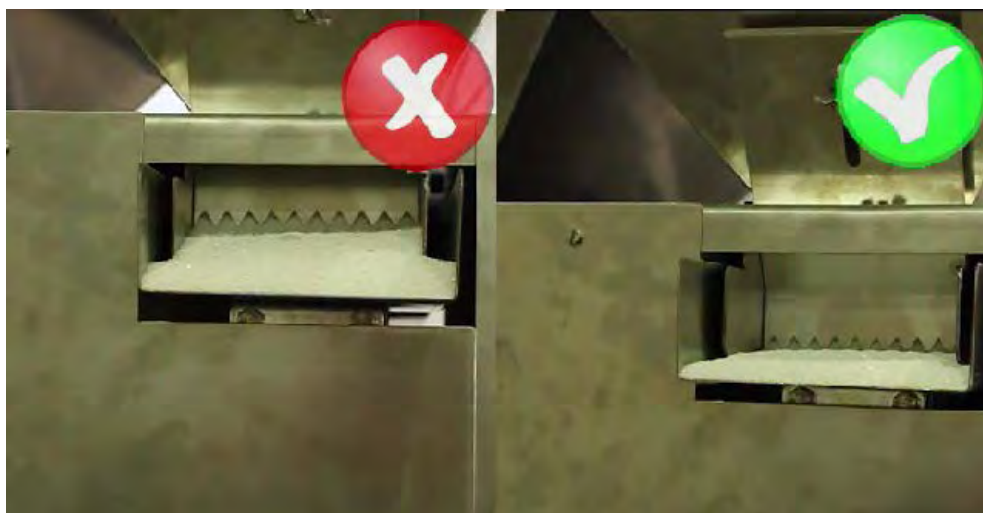


Img. 9

In order to achieve the optimal balance between speed and accuracy, it is recommended to adjust the doors the following way:

- For optimal dosing speed, you need to leave the door of the right vibrator (which works only on a fast speed) open at the maximum. In some cases, it's allowed even to remove the door completely.

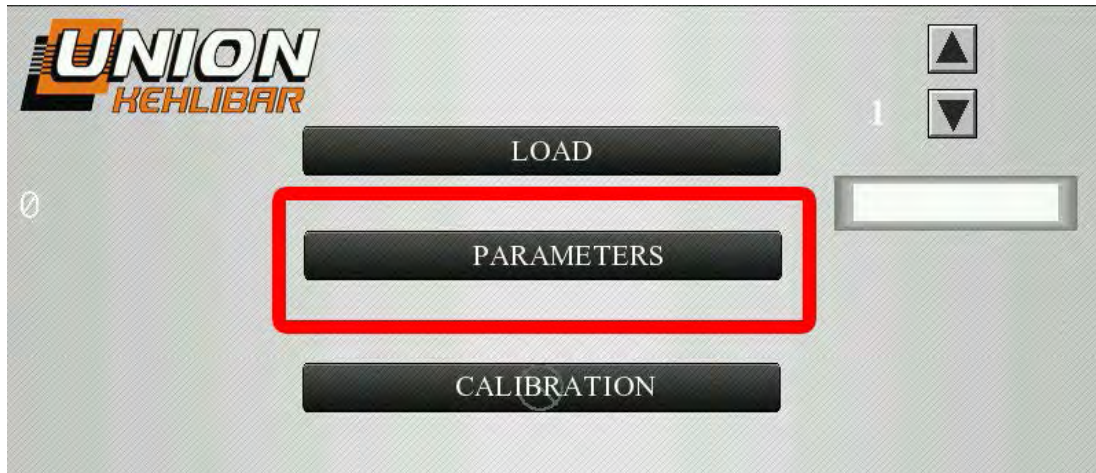
- For maximum accuracy, the door of the left vibrator must be opened enough, just for the product to pass through. If the gap is too large, overweigh will often occur, which will slow the whole working process (see Img. 10)



Img.10

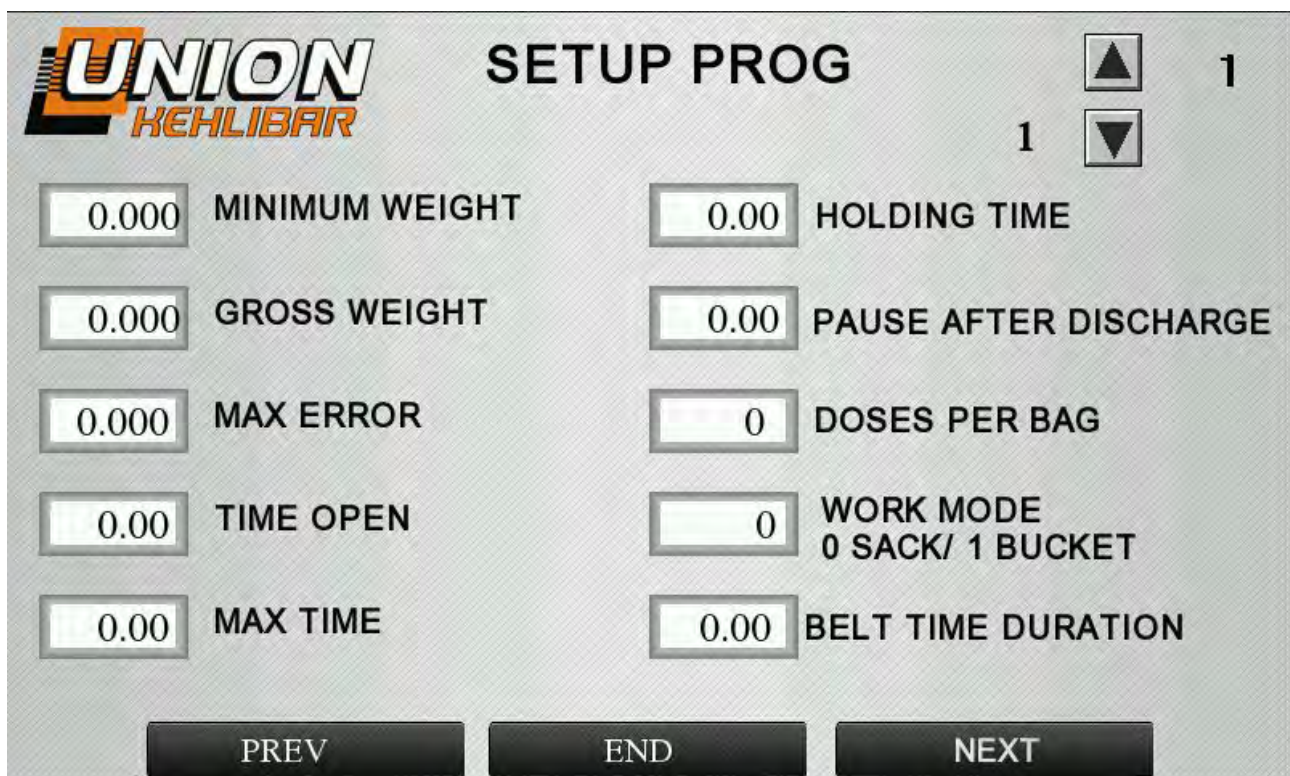
### 3. PARAMETERS OF THE WORKING PROGRAM

By pressing the **PARAMETERS** button (see Img.11), you will enter the menu for setup of the different work programs and parameters



Img.11

The following window opens (see Img.12):



Img.12

The up/down arrow buttons, in the upper right corner, are used for selecting the work program you want to adjust.



In order to save the changes in the work program, you'll need to press the **END** button.

The following parameters could be changed:

**MINIMUM WEIGHT** – Sets the lower limit of the desired weight. For example, if we are about to setup a program for 1kg and the tolerable underweight is 2g, this value will be set to 0.998g

**GROSS WEIGHT** – Sets the weight, after which the vibration switches to a slower (more accurate) speed.

**MAX ERROR** – Sets the acceptable positive tolerance from the value of the minimum weight. If for example, the value is set to 5g, the machine will treat all the dosages between 998 and 1003g as correct dosages. If the weight exceed this range, an overload error will be displayed on the screen and the operator should manually remove some product in order to clear the error.

**TIME OPEN** – Sets the discharging time for the weighing hopper. The higher the target weight is, the more time is needed for discharging it.

**MAX TIME** – Sets the maximum time for the making of a single dose. If there is no ready dose in this time, the machine stops working and NO PRODUCT error is displayed on the screen. The error is cleared by pressing on NO PRODUCT text.

**HOLDING TIME** – 0.4 system value. Sets the time after which the holding mechanism is actuated when the pedal is pressed

**PAUSE AFTER DISCHARGE** – Sets the time, necessary for the weighing hopper to close before the product feeding is started once again. If the time is too short, the vibrator will start to feed product before the hopper is fully closed and product leakage will occur.

**DOSES PER BAG** – Sets the number of doses to be discharged in a single bag.

**WORK MODE** – 0 is used when working with bags and 1 is used when working with buckets

**BELT TIME DURATION** – used only when the machine is supplied with outgoing belt. Sets the working duration of the outgoing belt after the bag is released. This time is set in a such a way that the filled bag is transferred to the sealing station (the belt should stop on the sealing station)

By pressing the **NEXT** button, you will open the window for the vibration speed setup (see Img. 13):



Img.13

Each of the vibrators is adjusted separately. The machine is equipped with 2 vibrators. The right vibrator works only on FAST SPEED, while the left one works on both FAST and SLOW speed (for better dosing precision).

Until reaching the **GROSS** weigh, both of the vibrators are working on FAST speed. When the **GROSS** weight is reached, the right vibrator stops completely, and the left vibrator



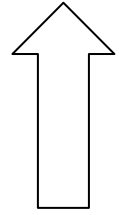
switches to a SLOW (more precise) dosing speed, until reaching the set **MINIMUM WEIGHT**.

In order to change the vibration value, press the corresponding window and enter the required value.

You can test manually the required speed by pressing the relevant **FAST SPEED/SLOW SPEED** button. When you press the button, it will become green. In order to stop the vibration, you will need to press the same button once again.

With the **OPPEN HOPPER** button, you could empty the hopper (because it fills with product during setup).

## CALIBRATION



When pressing the button **CALIBRATION** from the menu for selecting and loading of a work program, a window for calibrating the weighs of the filler opens. The menu for calibration is protected with a password. The access password is 333. The window that opens is the following (see Img.14):



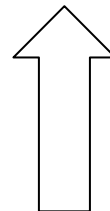
Img.14

The first step is to set a value for the control weight, which will be used in the calibration. This is done via the button **CONTROL WEIGHT** in the upper right corner of the menu.

For calibrating, the following procedure is used:

1. During calibration, the chosen hopper (bucket) has to be empty. For the purpose, press the button **DISCHARGE (if not already empty)**.
2. Press the button **ZERO**, for zeroing the weigher.
3. Put the control weight on the weigher and press the button **FULL**, to finish the calibration.

To save the calibration, press the button **END**.



## WORKING SEQUENCE

1. After the proper work program is adjusted, selected and loaded, press the big green **START** button on the main menu. After pressing the button, the machine will start the dosing cycle, according the loaded program. When pressed, the button will change the color to RED (see Img. 15)

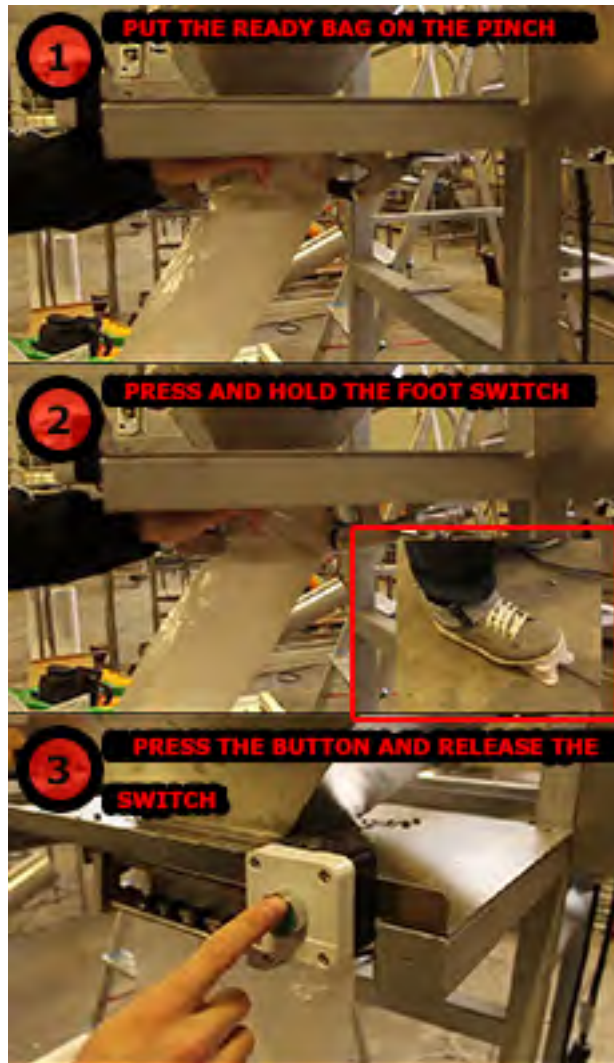


Img.15

2. Put the empty bag on the pneumatic pinch and press the foot switch, in order to close the mechanism. **Hold the food switch pressed!!!**

3. After assuring that the bag is well held, press the **GREEN** button and release the foot switch. By pressing the GREEN button, you confirm that the bag is properly held and ready for discharging the ready dose (see Img. 16)

When the set dose is ready, it will be automatically discharged in the bag.

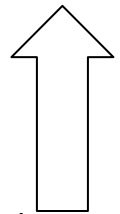


Img.16

4. After the ready dose is discharged, press the foot switch again, in order to release the filled bag.

Until the filled bag is processed for sealing, the filling machine continues with the dosing process, preparing the next dose.

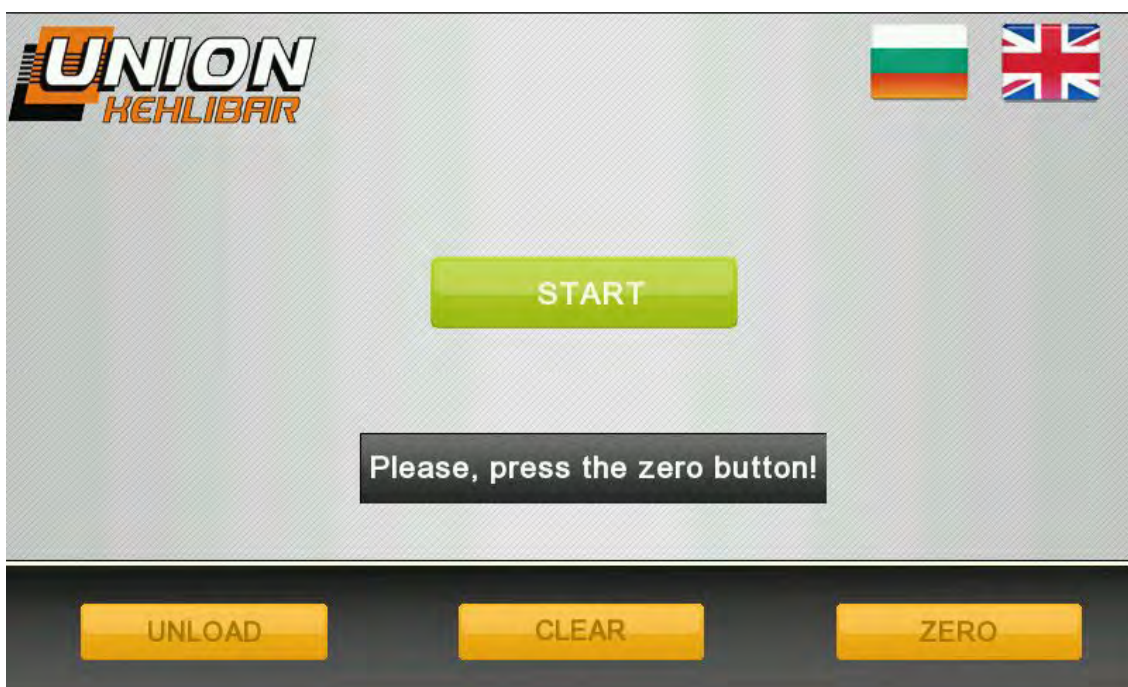
## CLEANING THE FILLING MACHINE



The starting screen gives the option for the usage of functions for unloading the fed product and calibration of the weighs of the filler. The weigher has 2 models for clearing the leftover product – **UNLOAD** and **CLEAR** (see Img. 17)

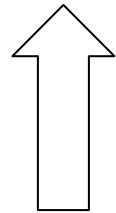
- The button **UNLOAD** will open the weighing hoppers and will turn on the vibrators in a constant operation mode, so that the leftover product is released. After the product is cleared, the operator has to deactivate the function.

- The button **CLEAR** activates a function with which a real working regime is simulated, maintaining the following consequence: vibration -> unloading hopper(bucket) -> closing hopper(bucket) .



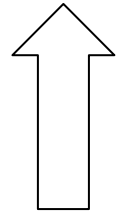
Img.17

## TROUBLESHOOTER



Problem	Possible causes	Solutions
Often or constant overweight on some of the weighing hoppers	<ul style="list-style-type: none"> <li>- The gates which defines the product layer thickness are too high (the gap is too big);</li> <li>- The value of parameter GROSS WEIGHT is too big and the weigher switches from fast to slow speed too late;</li> <li>- the fast speed is too fast;</li> <li>- the slow speed is too fast;</li> </ul>	<ul style="list-style-type: none"> <li>- readjust the level of the gate;</li> <li>- decrease the value of parameter GROSS WEIGHT;</li> <li>- decrease the fast speed;</li> <li>- decrease the slow speed;</li> </ul> <p>Notice: the speed change from fast to slow should be obvious (the operator should be able to see it)</p> <p>If this is not true, this means that the fast speed is too fast or the moment of changing between fast to slow speed is too late (parameter GROSS WEIGHT is too big).</p> <p>If the speed changing is obvious and easy to be seen and nevertheless the weigher overweight, this means that the slow speed is too fast or that the product layer thickness being fed is too big (the gate should be lowered and feeding gap decreased)</p>
Variations in the target weight	<ul style="list-style-type: none"> <li>- broken load cell/scale;</li> <li>- incorrect calibration of the scale</li> </ul>	<ul style="list-style-type: none"> <li>- Replace the load cell;</li> <li>- calibrate the load cell;</li> </ul>

## **MAINTENANCE**

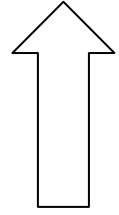


After the end of the working shift, the product left in the weigher obligatory should be removed and after that, the whole dosing device should be cleaned with a cleaning mop and spirit.

No product is allowed to be left in the dosing device after ending of the working shift!!!



## **VIDEO GALLERY**



1. Working with a FILLING MACHINE WITH GRANULAR PRODUCTS

<https://www.youtube.com/watch?v=d4dpN7A1bSo>