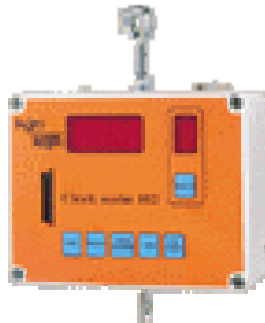


# Chick Scale 102



**CHICK SCALE 102**  
**USER'S MANUAL**

<b>INTRODUCTION.....</b>	<b>3</b>
<b>THE PANEL.....</b>	<b>4</b>
<b>OPERATION .....</b>	<b>4</b>
<b>BATCH .....</b>	<b>5</b>
<b>SETUP .....</b>	<b>5</b>
Erasing a Batch .....	5
<b>CONFIGURATION .....</b>	<b>5</b>
Uniformity Formula Option (Uni) .....	6
Measuring Unit Option (grLb).....	6
<b>OPERATION.....</b>	<b>7</b>
Printing .....	7
<b>OFF.....</b>	<b>7</b>
<b>TARE.....</b>	<b>7</b>
<b>AVERAGE.....</b>	<b>7</b>
<b>UNIFORMITY GRAPH .....</b>	<b>7</b>
UNIFORMITY FORMULAS.....	8
<b>CALIBRATION.....</b>	<b>8</b>
Connection to a PC .....	9
Low battery.....	9
Over weight.....	9
<b>ERROR MESSAGES .....</b>	<b>10</b>
Err1.....	10
Err2 and Err3.....	10
Err4.....	11

## **INTRODUCTION**

Thank you for choosing the **Chick Scale 102**.

The **Chick Scale 102** is a stand-alone battery operated precise manual weighing system, specially developed for weighing of live poultry.

The **Chick Scale 102** can weigh up to 9 batches and will give you the following information:

Number of birds weighed, average weight, four user chosen formulas, Coefficient of Variation (CV), Standard Deviation (SD) , Standard Deviation in Percentage (SDPR) and the percentage range, a uniformity graph in 25 gram steps (in Libra 0.05 LB steps).

All information on the **Chick Scale 102** can be easily displayed by pressing on one or two buttons.

On the **Chick Scale 102** the user can set the configuration easily by choosing items from the menu.

The **Chick Scale 102** may be connected to a printer or a PC in order to down load all its information in graphic form. All data can be imported to a spread sheet.

The **Chick Scale 102** has a built in rechargeable battery which operates the **Chick Scale 102** for up to 12 hours.

All information on the **Chick Scale 102** is stored in a memory that holds the information permanently in the events of a low battery voltage or battery failure.

The **Chick Scale 102** has been calibrated before leaving the factory.

**CHICK SCALE 102**  
USER'S MANUAL

**THE PANEL**

The **Chick Scale 102** panel has two displays, six buttons, a 25-pin connector for a printer/PC connection. The four-digit display is for displaying the weight measured and various messages (the weight display). The one-digit display on the right display on the right displays the batch number (the batch display).

The buttons are: **ON/TARE, AVR, UNI/GRAPH, PRINT, OFF** and **BATCH**.

There is a difference in the way a weight is displayed. When the Chick Scale 102 is in Kg mode, the weight will be displayed in gram XXXX. When the **Chick Scale 102** is in LB mode, the weight will be displayed in LB XX.XX.

When a running decimal point appears on the weight display it indicates that the **Chick Scale 102** is now ready and in its weighing mode.

**Note:** An adapter connector is located on the side of the Chick Scale 102.

When the adapter is connected, a red indicator on the right side of the weight display lights up.

**OPERATION**

Charge the **Chick Scale 102** for 10 hours before use.

**Chick Scale 102** may be run on its rechargeable batteries or by connecting it directly to the electrical supply using the supplied adapter.

**Use only the supplied adapter for charging and connection to the electricity**

Hang the **Chick Scale 102** from its top ring.

Connect your weighing device to the unit (hook, bucket, funnel etc...) before turning the **Chick Scale 102** on.

Turn on the power by pushing the **ON/TARE** button.

On the display will appear briefly "8.8.8.8." ⇒ "1003" ⇒ "tArE" and when the batch number appears on the batch display, the weight display shows either "CLr" (for the word "Clear", meaning that there is no information stored at that batch) or "dAtA" (if there is a previously weighed information in that batch).

A running decimal point indicates that the **Chick Scale 102** is now ready and in the weighing mode ("XXXX" is the software version).

**Important - During this period do not touch the unit.**

Each time a bird is hanged on the hook, the CHICK SCALE 102 will weigh it and display its weight.

A flashing weight will indicate that the **Chick Scale 102** has recorded the bird's weight and taken it into its calculated average and uniformity.

At this point you may remove the bird, wait for the running decimal point and continue to weigh.

It is recommended not to use the **Chick Scale 102** for more than 12 hours without recharging.

Note: When recharging it is recommended to recharge the batteries for at least 10 hours. No damage to the batteries will be caused by over charging.

### **BATCH**

It is possible to weigh up to 9 different batches with the **Chick Scale 102**. All information stored for each batch will stay permanently in the memory until erased by the user (see erasing of batch). When the power is turned on, the last batch number which was in use will appear on the batch display and the weight display will show the state of this batch information. If the batch is empty the display shows "CLr" (for the word "clear"), if there is information, the display shows "dAtA" (for the word data). To choose a batch number press on the **BATCH** key. For each key press the batch number rises by one. After the ninth batch the first batch will be displayed. Each time you press the **BATCH** key, the information status for the new batch, clear or data appears on the weight display.

### **Setup**

#### **Erasing a Batch**

In order to erase the stored information do as follows:

1. Choose a batch number.
2. Press 4 times on the **AVR** button, "ErAS" will appear on the display.
3. Press once on the **BATCH** button and the "CLr" will appear.

All data for the current batch has now been erased.

At any time by pressing on the **PRINT** button you can exit the erase mode (this must be done before pressing on the **BATCH** button).

### **CONFIGURATION**

To configure the **Chick Scale 102** use the main menu. To get to the main menu press 3 times on the **UNI** button. The first option in the menu will appear.

The main menu options are:

1. **Uni**. Used to configure one of four uniformity formulas.
2. **grLb**. Used to configure the measuring unit (Gram or Lb).
3. **CAL**. Used to calibrate the **Chick Scale 102**.
4. **TUnE**. Used only at the factory to initialize the **Chick Scale 102**.
5. **End**. Used to exit the menu.

To advance through the main menu options press on the **PRINT** key.

To choose one of the main menu options press on the **AVR** key.

To exit the main menu, choose the **End** option.

The **CHICK SCALE 102** will return to its weighing mode.

### **Uniformity Formula Option (Uni)**

The **Chick Scale 102** factory configuration is the uniformity formula called Coefficient of Variation (**CV**). The other options are: Standard Deviation (**SD**), Standard Deviation in Percents (**SDPR**) and the last formula is called the percentage range of the average.

The sub-menu from which you choose the formula contains the following options:

**CU** (for **CV**), **Sd** (for **SD**), **SdPr** (for **SDPR**) and numbers from 3 to 30 which are the options for the percentage range of the average.

See below a description of these formulas.

To change the uniformity formulas do as follows:

1. Enter the **main menu** by pressing 3 times on the **UNI/GRAPH** key. The first option, **Uni**, appears.
2. Press on the **AVR** key to choose that option. You are now in the sub-menu and the current option appears.

To see the other options in the sub-menu press the **UNI/GRAPH** key to advance through the options and the **PRINT** key to go backwards.

To choose an option from the sub-menu, press the **AVR** key.

To exit the sub-menu without choosing an option, press the **PRINT** key.

The choice is stored in the permanent memory.

The **CHICK SCALE 102** will return to its weighing mode.

### **Measuring Unit Option (grLb)**

The **Chick Scale 102** factory configuration is set to measuring grams. To change the measuring unit, do as follows:

1. Enter the **main menu** by pressing 3 times on the **UNI/GRAPH** key.
2. Press on the **PRINT** key once. The option **grLb** appears.
3. Press on the **AVR** key to choose that option. The current measuring unit, **gr** for Gram or **Lb** for Libra, appears.
4. To change the measuring unit, press the **UNI/GRAPH** button. The display will toggle between **gr** and **Lb**. After choosing the measuring unit, press on the **AVR** button.

The choice is stored in the permanent memory.

## Operation

### Printing

It is possible to print out all the collected information of the **Chick Scale 102** on a standard parallel printer. To print, connect the unit to the printer. Choose the batch for printing and push on the "PRINT" button. A standard PC print cable can be used.

### OFF

To turn off the Chick Scale 102 push on the "OFF" button.

### TARE

It is possible to tare the Chick Scale 102 in the middle of a weighing session. Push on the **ON/TARE** button, (make sure that there are no birds on the hook). On the display will appear "**tArE**" for a few seconds and then the display will return to its weighing mode.

### AVERAGE

The **Chick Scale 102** will calculate the average of birds weighed on the unit and will count the number of birds weighed.

To display the average weight, push on the "AVR" button. The Chick Scale 102 will display the number of birds weighed and after a few seconds the calculated average weight (the average weight is displayed with a decimal point).

### UNIFORMITY GRAPH

The **Chick Scale 102** will record the weight of all the birds in 25 gram steps (in Libra .05 LB steps) in a range of  $\pm 1000$  grams (2.00 in Libras) around the average.

To step through the uniformity graph, push on the **UNI/GRAPH** button once and then the **PRINT** button.

The display will show the lowest recorded weight and after a few seconds the number of birds in this weight (the weight is displayed with a decimal point).

An additional push on the **PRINT** button will increment the display to the next weight and so on.

Once you have gone through all the weights, lightest to heaviest, the display will return to the lightest weigh. It will not show weights with no birds.

If the table is empty, the display will show "**CLr**".

To go out of this mode, push on **AVR** button.

The **Chick Scale 102** will return to its weighing mode.

**CHICK SCALE 102**  
USER'S MANUAL

**UNIFORMITY FORMULAS**

The **SD** (Standard Deviation) is calculated with the formula:

$$SD = \frac{\sum (X_i - X)^2}{n}$$

**X<sub>i</sub>** is a weight number, **i** is the average and **n** is the bird number.

The Coefficient of Variation (**CV**) is calculated as follows:

Standard Deviation divided by the average weight times 100.

$$CV = (SD100) / AVR$$

The SDPR (Standard Deviation in Percentage) is calculated as follows:

$$SDPR = 100 - CV$$

When you choose a percentage X (3%-30%), the Chick Scale 102 counts all the birds that fall into the following weight range:

The minimum of the range is the average weight minus (average\*X)/100.

The maximum of the range is the average plus (average\*X)/100.

The **Chick Scale 102** takes into account all weights except those which are less than half the current average.

The **Chick Scale 102** will not weigh anything under 50 grams (0.1 LB).

**CALIBRATION**

The **Chick Scale 102** is calibrated at the factory.

It is possible to re-calibrate the Chick Scale 102.

**\*NOTE** - To calibrate the **Chick Scale 102**, use a 1Kg or 5kg weights (2 Lb or 10 LB if using in Libras). The accuracy of the calibration depends on the precision of the weight used.

The steps for calibration are as follows:

- 1) Install the unit in its weighing position.
- 2) Press the **UNI** button 3 times. "Uni" will appear on the display.
- 3) Press on the **PRINT** button 2 times until the "CAL" appears on the display.
- 4) Press on the **AVR** button. A blinking "CAL" display will appear.
- 5) Press on the **AVR** button. -00- will now be displayed.

6) Wait for the display to show "CAL".

7. Hang a standard weight (1 or 5 Kg or 2 or 10 Lb.) on the scale.

After a period of time the weight (1000 or 5000 grams or 2.000 or 10.00 LB) will blink on the display. At this stage the system has completed its calibration and stored it in the memory. You can remove the standard weight.

The calibration weight is stored in memory.

A running decimal point will indicate that the system is on and ready to be used.

**CHICK SCALE 102**  
USER'S MANUAL

**Connection to a PC**

In order to connect the **Chick Scale 102** to a PC, a parallel link (LPT) cable must be used. Install the supplied program on the computer.

Connect one end of the plug to the connector located on the front panel of the CS 102, the other end to the printer input connector located on the PC.

**Low battery**

The **Chick Scale 102** will display "**Lobt**" on its display if the internal battery is too low to operate the system.

If the "**Lobt**" appears in the middle of a weighing session stop weighing and recharge the batteries.

No data will be lost even if the batteries are low or the **Chick Scale 102** is turned off due to low batteries.

**Over weight**

If a load over 10 Kg (22 Lb) is hanged on the unit, the display will show "oFI".

**Such a weight may damage the load cell.**

**Important:** Before moving the Chick Scale 102, be sure to press the **OFF** key in order to avoid recording false weights while moving the device.

**WARNING: THERE IS NO WARRANTY ON DAMAGE OF THE LOAD CELL**

## **Error Messages**

There are four error messages **Err1**, **Err2**, **Err3** and **Err4**. When an error message appears please follow the instructions below.

### **Err1**

When **Err1** appears on the display, it means that the calibration data and/or user's settings data (which are saved in the EEPROM memory) have been corrupted.

Please do as follows:

1. Reset the weight unit (Kg or Lb) according to the CS102 Manual (page 5). Turn off the CS102 and turn it on again. If **Err1** still appears, go to step 2.
2. Reset the Uniformity Formula (CV, Standard Deviation, etc.) according to the CS102 Manual (page 5). Turn off the CS102 and turn it on again. If **Err1** still appears, go to step 3.
3. Perform a weight calibration using a known weight according to the CS102 Manual (page 7). Turn off the CS102 and turn it on again. If **Err1** still appears, go to step 4.
4. Perform a tuning procedure (see procedure steps below) and then re-calibrate with a known weight according to the instructions in the User's Manual (page 7). If **Err1** still appears please contact Agro Logic.

### **Err2 and Err3**

**Err2** appears when the internal circuit that recognizes the load cell output is not tuned or when working without the supplied AC/DC adaptor and the battery is empty. In these cases the **Err2** message is constant.

If the **Err2** is constant please do as follows:

1. Recharge the battery for at least 14 hours.
2. Perform a tuning procedure (see procedure steps below).
3. Re-calibrate with a known weight according to the instructions in the User's Manual (page 7).

### **Tuning Procedure:**

1. Hang the CS102 vertically and remove any weights/tray.
2. Press 3 times on the UNI/GRAPH key. UNI message is displayed.
3. Press 3 times on the PRINT key. The message TUNE appears.
4. Press once on the AVG key. The TUNE message blinks.
5. Press once on the UNI key. The tuning process starts and the display shows a number that slowly increases or decreases in value. At the end of the tuning process the display shows a blinking weight or a running dot. If **Err2** or **Err3** appear instead, it means that the tuning process has failed and that the load cell or the electronic circuit are damaged and the unit needs to be serviced.

**CHICK SCALE 102**  
USER'S MANUAL

**Err2** can also appear when working with the supplied AC/DC adaptor if the battery is fully discharged. In this case **Err2** appears momentarily when the CS102 is turned on for approximately 5 minutes (this is the time in which the battery is charged enough for the **Err2** message to disappear).

Note: when not working with the CS102, it can be connected to the supplied AC/DC adaptor constantly. In this way the battery is guaranteed to be fully charged when working with the device. This constant charging of the battery doesn't cause any damage to the battery.

**Err4**

If **Err4** appears, it means that the EEPROM memory chip has a malfunction and needs to be replaced. Please contact Agro Logic for further details.