Usermanual

Amacs -Feeding Broiler

Code No. 99-97-2394

Edition: 08/2009 GB (version: 2.0.0)

Program version

The product described in this manual is computer-based, and most functions are realised by software. This manual corresponds to:

Software Version: V2.0.0

Product- and Documentation changes:

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IMPORTANT

Notes concerning the alarm system

Where climatic control is used in livestock buildings, break-downs, malfunctions or faulty settings may cause substantial damage and financial losses. It is therefore **most important to install a separate, independent alarm system**, which monitors the house concurrently with climatic control. Please note that the product liability clause of **BIG DUTCHMAN**'s general terms and conditions of sale and delivery specifies that an alarm system **must be installed**.

We want to draw your attention to EU-directive No. 998 of 14/12-1993 concerning minimum requirements for domestic animals, which specifies that an alarm system must be installed in any house, which is mechanically ventilated. In addition to this, there must be a suitable emergency system.

1 Main screen feeding

AMACS can individually control the feeding process. The visual elements allow for intuitive and simple operation of the feeding menu.

This chapter first only deals with the main screen feeding. The specific pictures and further detailled settings are treated in the respective chapter.

Figure 1-1: Main screen feeding broiler

1.1 Set-ups in the main screen

In the main screen "feeding broiler" you can make different set-ups, as desribed below.

1.1.1 Switching between "house feed" image and zoomed image

As can be seen in the above screenshot, it is easy to see how many feed lines are installed in the house.

Click on the arrow marked red **(R)** in the previous screen and the overview of the feeding appears as reduced or zoomed image.

The blue **(B)** marked area of the screen will appear correspondingly, depending on what weighing system was installed in the house.

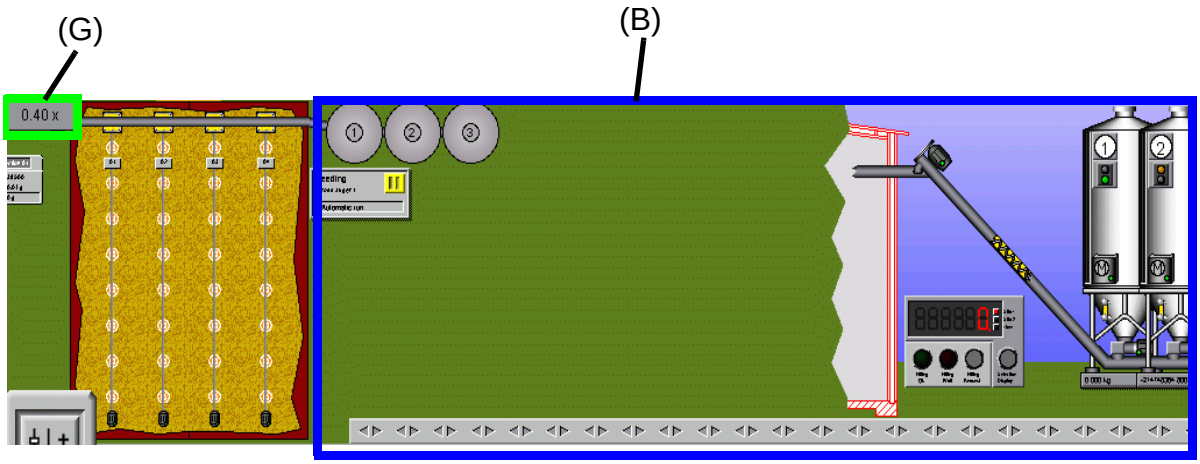


Figure 1-2: Overview of the entire feeding

Too leave the zoomed image, simply click on the field highlighted green **(G)** in the previous screenshot. This will lead you back to the "normal" view.

1.1.2 Switching between "house feed" image and "silo feed" image

If a zoom effect is not required, it is also possible to use the two arrows highlighted yellow **(Y)** in figure 1-1 to switch from "feed house" to "feed silo".

You may also click on one of the orange **(O)** marked silos in the screenshot above.

Now the following image appears:

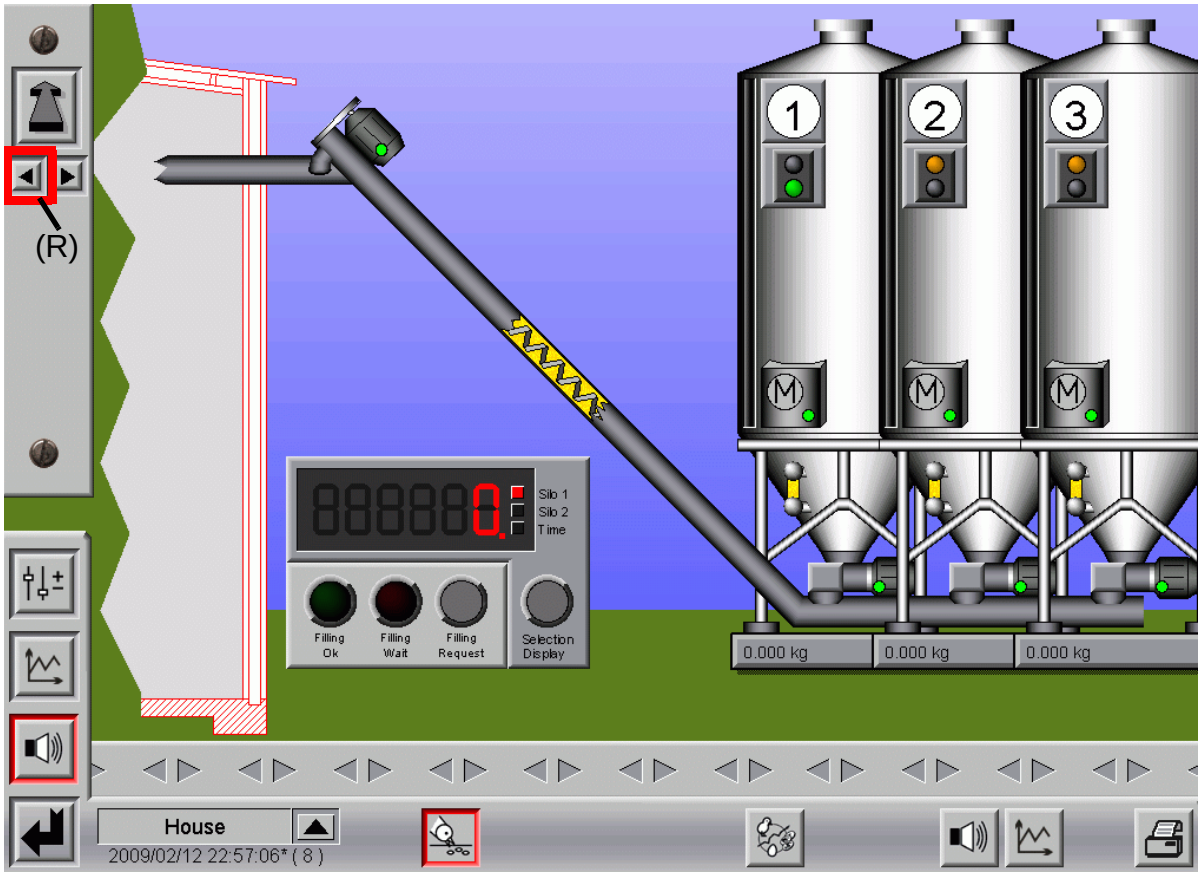


Figure 1-3: View "Silo"

To return to the main screen, click on the arrow highlighted red **(R)** in the previous screenshot.

1.2 Display of the feed consumption

	Note: The display of the feed consumption can only be selected if a feed registration is installed!

1.2.1 Display of feed consumption per compartment and animal

To get an overview of the feed amounts per feed line and animal, additional information can be obtained from the main screen feeding.

The consumed amount of feed in kg is displayed as well as the average amount in g/ bird and the current number of animals in the compartment.

Figure 1-4: Display of feed consumption

1.2.2 Graphical overview of feed consumption

In order to see whether the feed consumption corresponds to the reference value, a bargraph was integrated (highlighted red **(R)** in the previous picture).

The bargraph slowly moves from the left to the right, and the progress graph will be filled according to the feed consumption. Just make a click with the mouse in the afternoon to see whether everything is okay.

If the colour of the bargraph changes from grey to green, the set consumption has been reached.

1.3 Status feeding in the main screen

Click on the status field in the upper right corner of the main screen feeding (marked red **(R)** in the following picture).

Now the current progress of the feeding is displayed.

However, the feeding can also be set to pause in the status field or interrupted, if necessary.

1.3.1 Automatic feeding

If the feeding is in automatic mode, a pause button is displayed in the status field as well as the note "Automatic run".

In this status it is waited for the automatic feeding start.

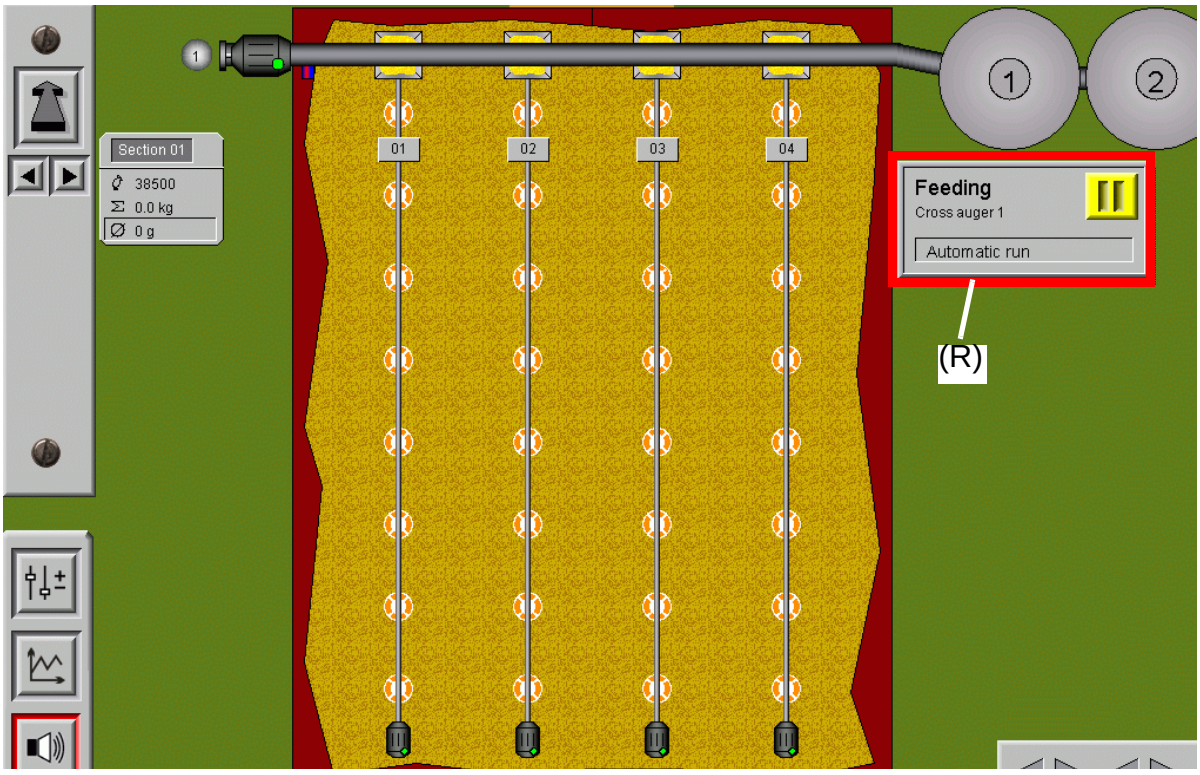


Figure 1-5: Automatic run of feeding

1.3.2 Switch feeding to pause

There are several reasons why the feeding might have to wait, for this reason **AMACS** offers the possibility to comfortably put the feeding process on hold.

To carry out this function, you have to click on the red **(R)** marked button "pause" in the picture below.

If the pause mode is activated, the button turns green and as can be seen in the screenshot, the computer shows "automatic in pause".

Now, all feedings are retarded until you click on the same button once again.

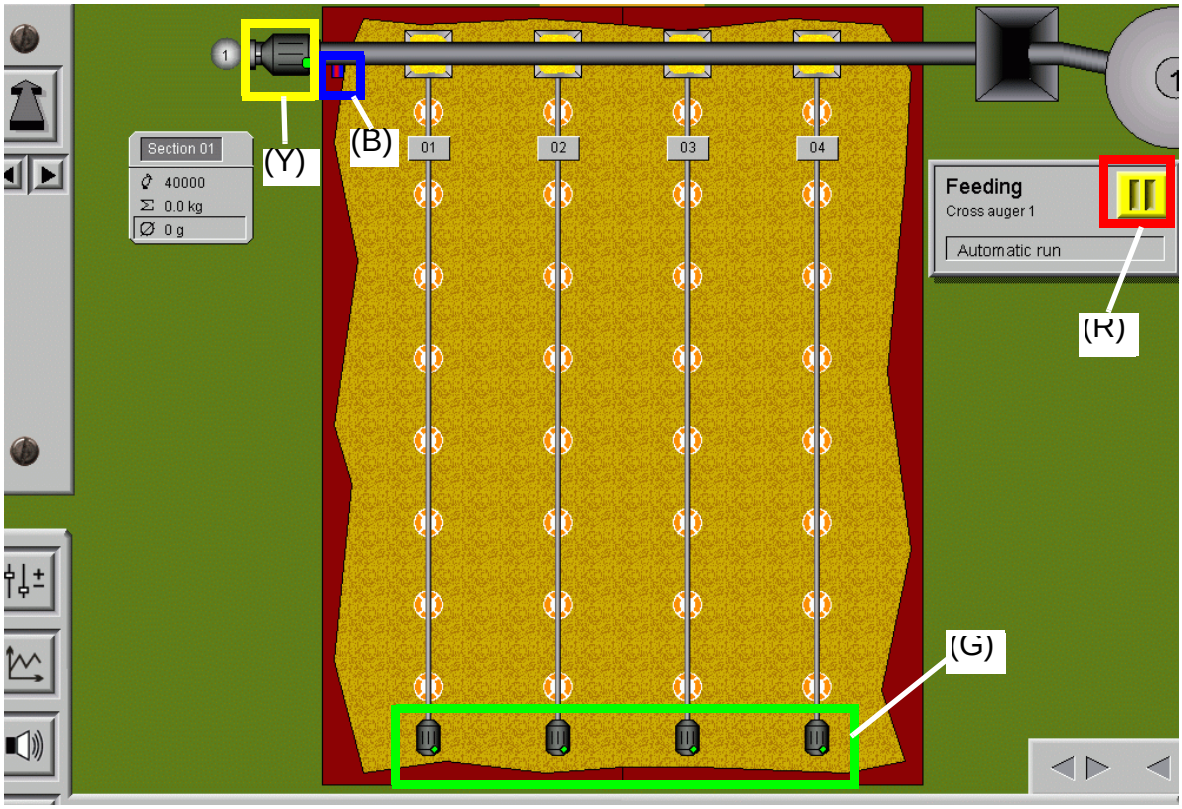


Figure 1-6: Feeding automatic in pause

1.4 Graphic display of sensor cross auger

The sensor at the cross auger is an important tool for **AMACS** to determine the correct amount of feed per compartment.

To keep you informed of the sensor status (highlighted blue **(B)** in the figure 1-6) it is displayed in the main screen feeding. When the sensor is covered with feed, it is red, and if it is not covered with feed, it is coloured green.

If a feeding is soon to be started, the motors at the augers change their colour as well (highlighted yellow **(Y)**). When feed is transported into the house, they will change their colour from grey to green.

1.5 Augermatic drive in the main screen

If the motors of the feeding (marked green **(G)** in the previous picture) are highlighted green, they are released. Thus the motors may run as soon as the sensor in the Augermatic system has signalized "empty".

In addition to the supervision of the release, a motor symbol that lights up green also means that the feeding is in progress. A grey motor symbol signalizes that the motor has stopped.

1.6 Manual operation

The motors can be switched on and off manually by clicking on the motor symbol of the feed lines, cross augers, silo augers or the vibrator.

A click opens a control panel with a switch. With a mouse click it can be switched to manual operation. Now two keys are released allowing to switch the motors on and off.

In case of a cross auger, the signal of the sensor will of course always take priority over a manual operation.

If the sensor is red, the augers cannot be switched on manually.

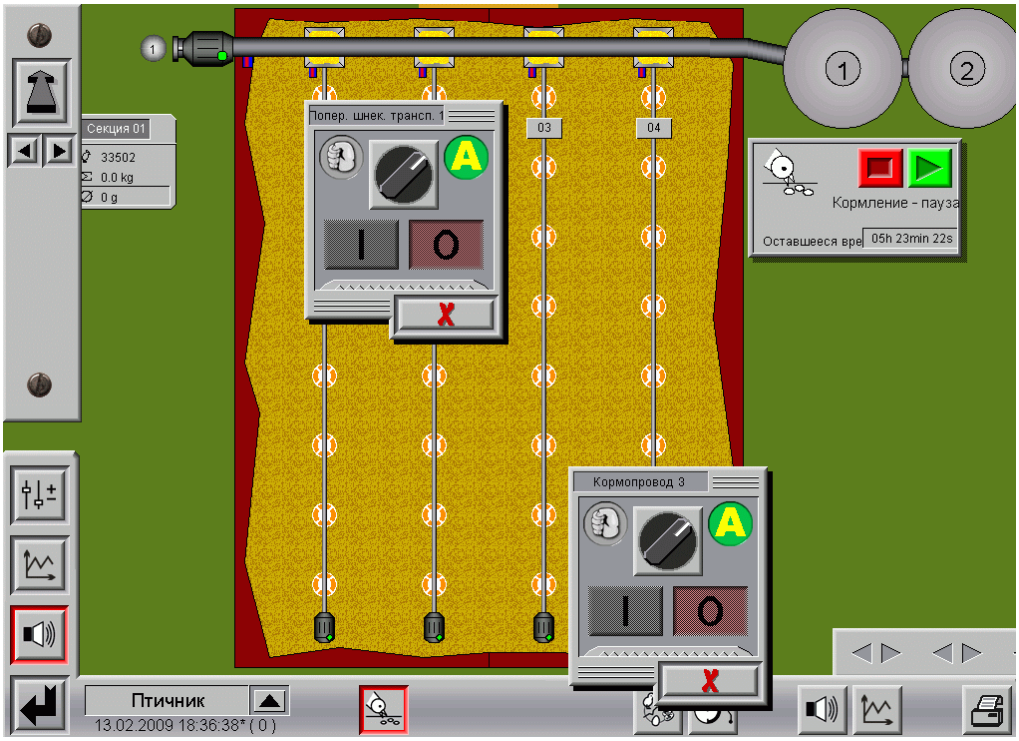


Figure 1-7: Manual operation of the motors

1.7 Notes

2 Feeding

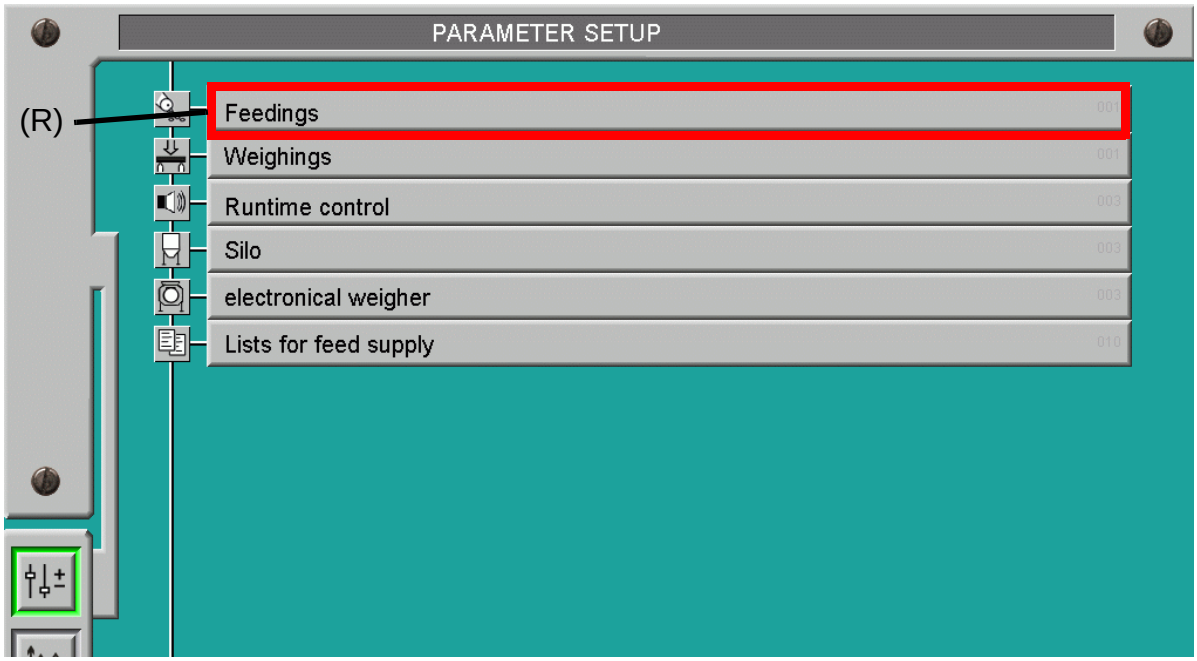


Figure 2-1: Overview feeding manager - Feedings

Click on the button "Feedings" to open a window where all important settings can be made concerning the feeding.

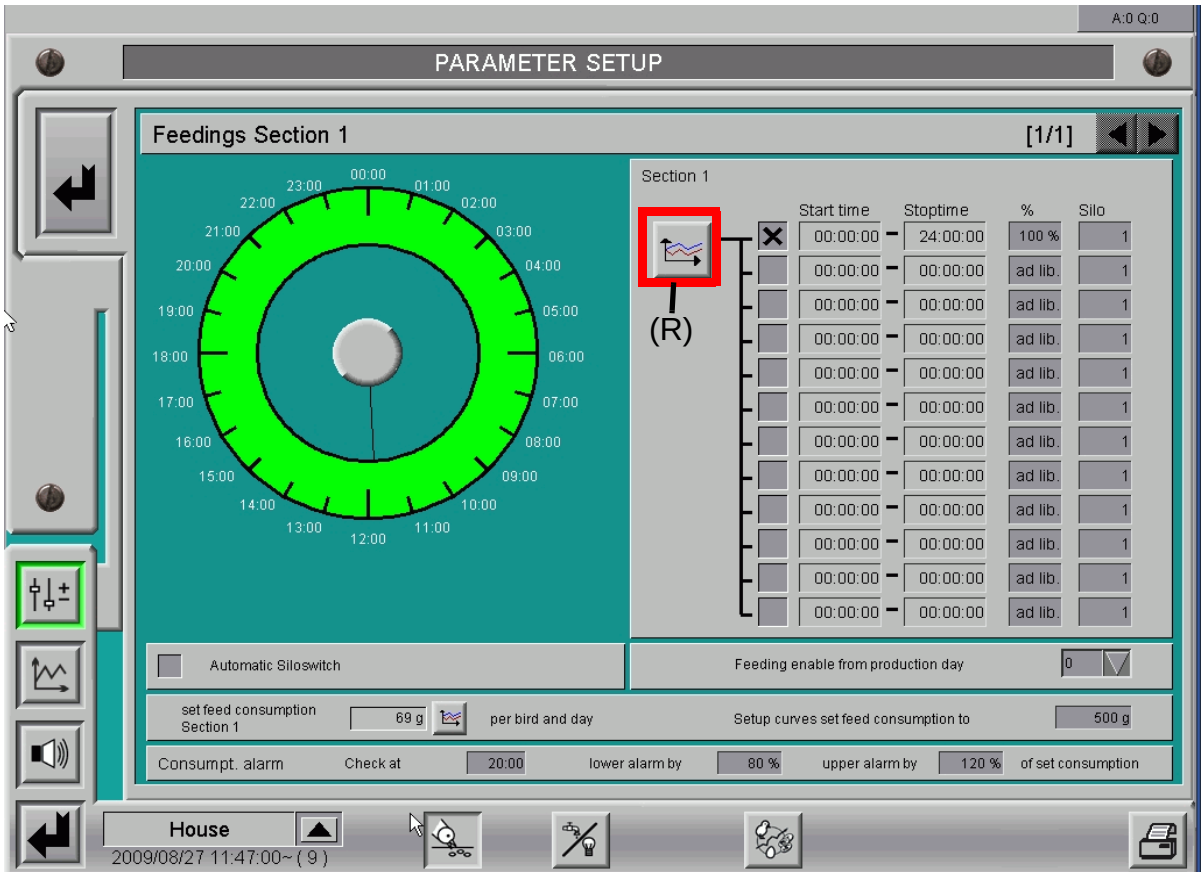


Figure 2-2: Feeding manager

2.1 Feeding times

Click on the red **(R)** marked button with the curve symbol in the picture above to adjust the desired start and stop times.

In the window which opens now (see the following picture) you can enter the start and stop times for the feeding as well as deactivate or activate the feeding processes.

These values are taken over from the production manager as described in chapter "Production curves" of the **AMACS** user manual and can then be changed here.

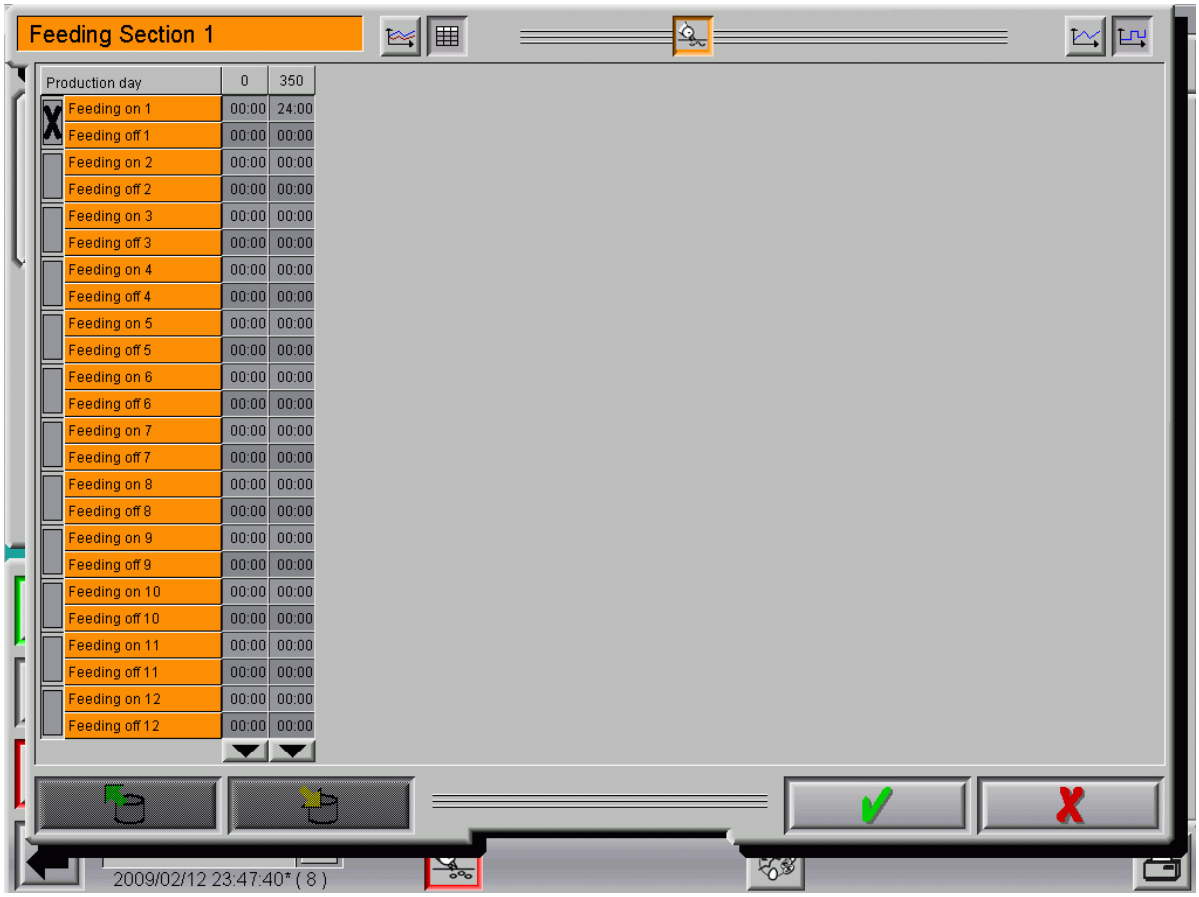


Figure 2-3: Production manager (enter start and stop times)

2.1.1 Feeding activated

A cross in front of the start time (marked red **(R)** in the following screenshot) determines whether this feeding shall be carried out.

If the checkbox is **not acitvated** (=**no** cross in the checkbox), a feeding will not be carried out.

These values are taken over from the production manager as described in chapter "Production curves" of the **AMACS** user manual and can then be changed here.

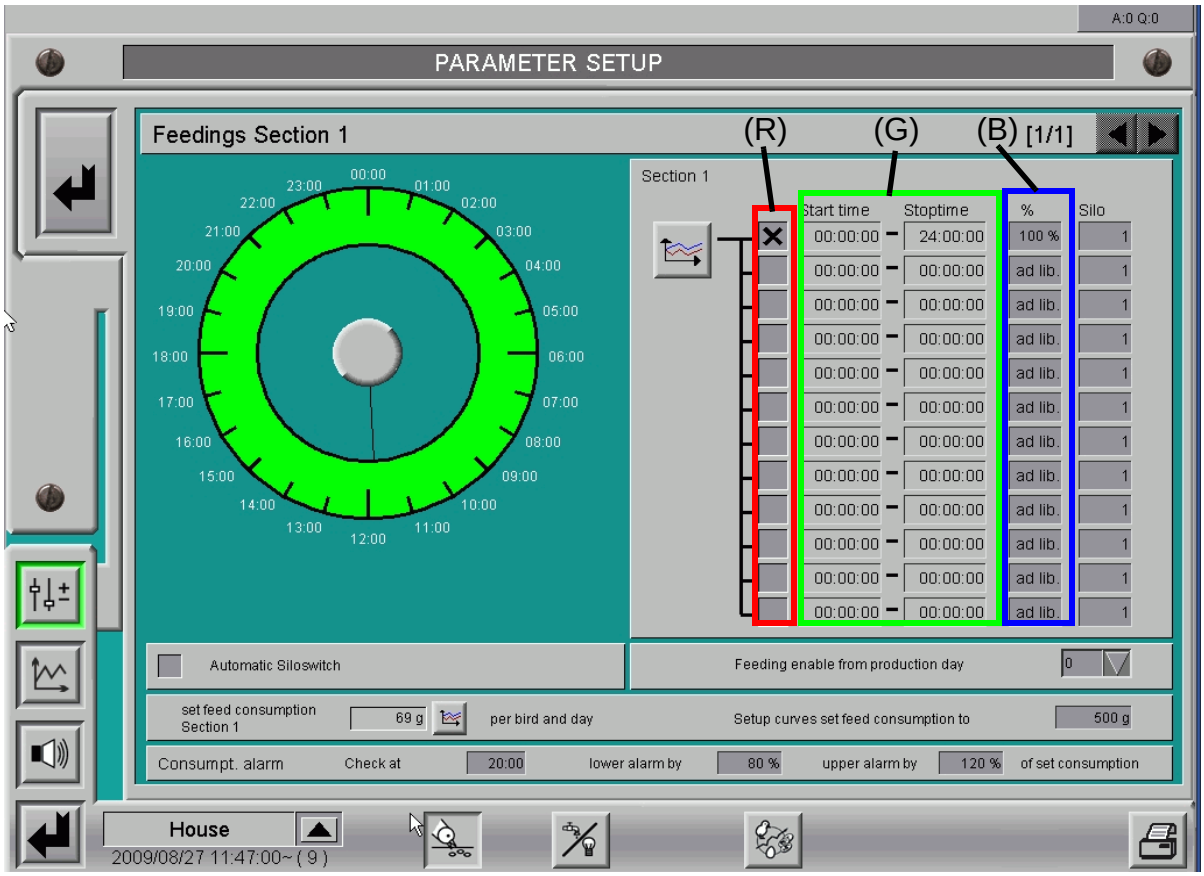


Figure 2-4: Feeding activated

2.1.2 Times for feeding

The field highlighted green **(G)** in the picture above shows the times at which a feeding shall be carried out.

These values are taken over from the production manager as described in chapter "Production curves" of the **AMACS** user manual and can then be changed here.

2.2 Restricted feeding

If the animals shall be slown down regarding their eating behaviour, you can enter in the field highlighted blue **(B)** how many percent of the set feed consumption shall be fed out for this feeding.

The feeding will then stop automatically as soon as the entered percentage consumption is exeeded.

2.3 Automatic silo adjustment

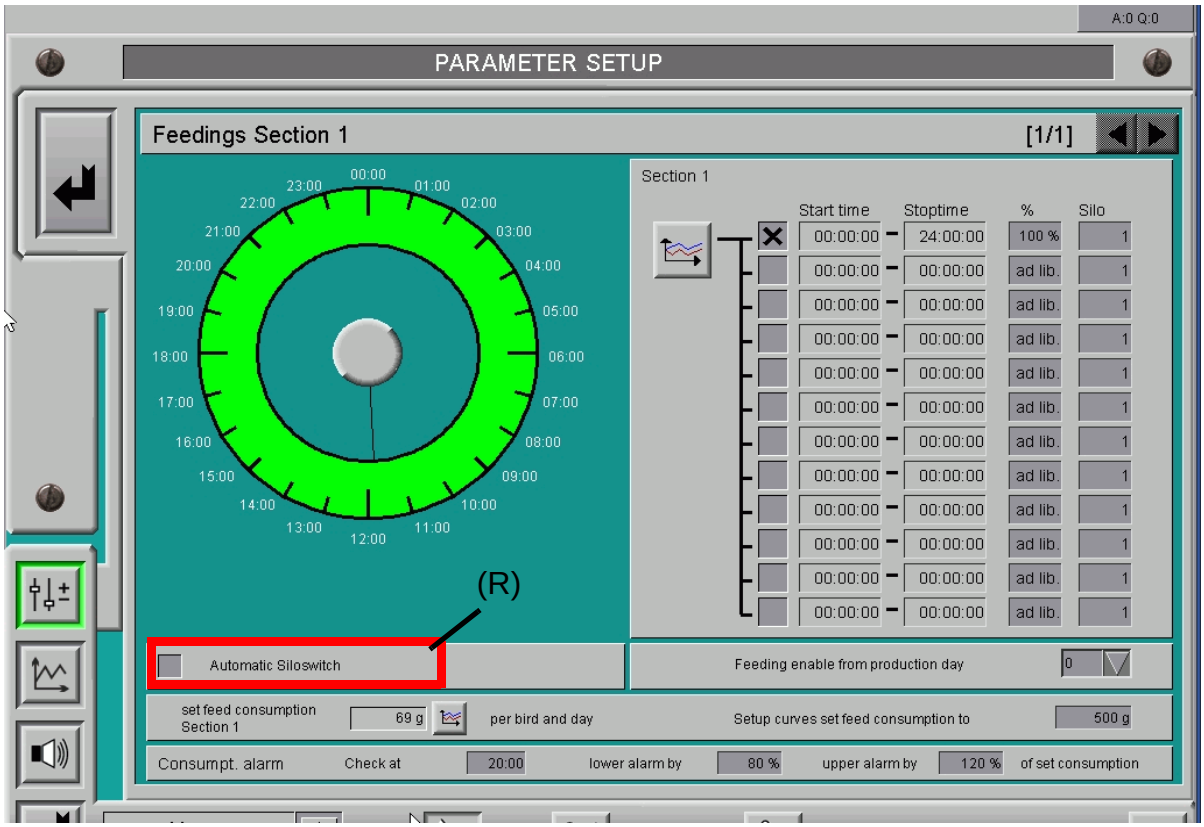


Figure 2-5: Automatic silo adjustment

The activation of the red **(R)** marked checkbox (=cross in the checkbox) in the previous screenshot allows for an automatic silo adjustment, i.e. the entered times can be automatically modified by **AMACS** if necessary.

Example:

If **AMACS** registers that the activated silo (example silo 1) is emptied during a feeding, it will be switched to the alternative silo.

The change-over is effected on the basis of certain settings which are still desribed later on.

When activating the automatic silo adjustment, the entry of the silo number is set to e.g. 2 so that the next feeding is started with this silo. This has the advantage that the empty silo does not always start first before it is switched over to the alternative silo.

If the feeding time is defined under silo "AUTO", it is always fed out from the presently activated silo.

If an automatic silo adjustment is not required, this function can be deactivated by clicking on the checkbox.

2.3.1 Manual silo selection during feeding

If the silos shall be switched over manually during a feeding, just click on the orange **(O)** marked litte orange LED at the silo. Now feed is taken from this silo.

The little control LED at the silo indicates which silo is presently active; green **(G)** means active and orange **(O)** means inactive.

This manual selection of the silo does not always have an influence on the feedings which are started automatically later on, since it is always switched to the silo chosen behind the start time.

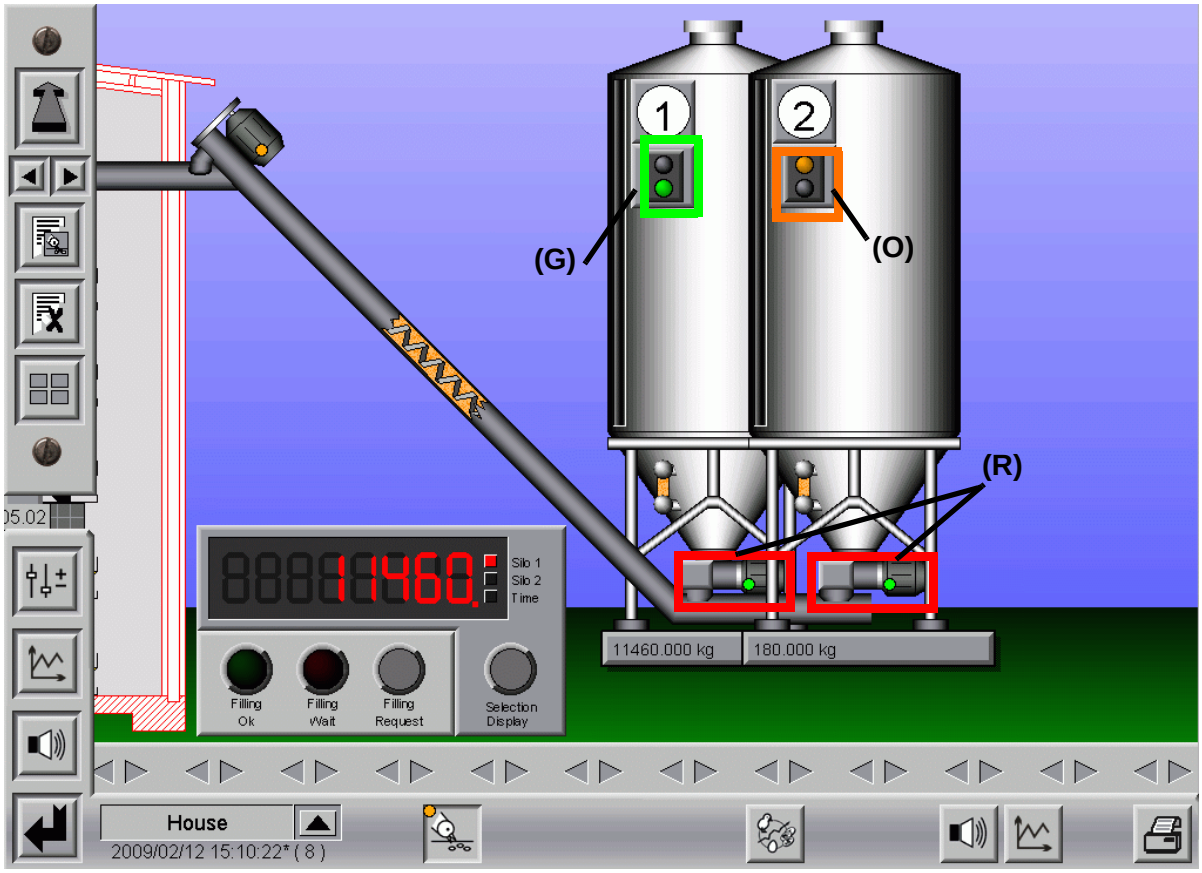


Figure 2-6: Manual selection of a silo

2.3.2 Manual operation of discharge augers

Since this configuration also comprehends a discharge auger per silo, this can be operated manually as well.

With a click on the red **(R)** marked motors at the silo in the previous picture, the control panel for these motors will be opened.

Now it can be switched over to manual operation. If the cross auger runs (sensor for cross auger may not be covered with feed), these motors can be started manually.

Caution:

Maintenance or service works at drive units or augers may only be carried out if the protective switch is in the OFF position. The drive units could be activated without prior warning e.g. by the time clocks or sensors. Also observe local security signs and instructions.

2.4 Set feed consumption

In order to adjust the desired set feed in the house, click on the button highlighted red **(R)** with the curve symbol.

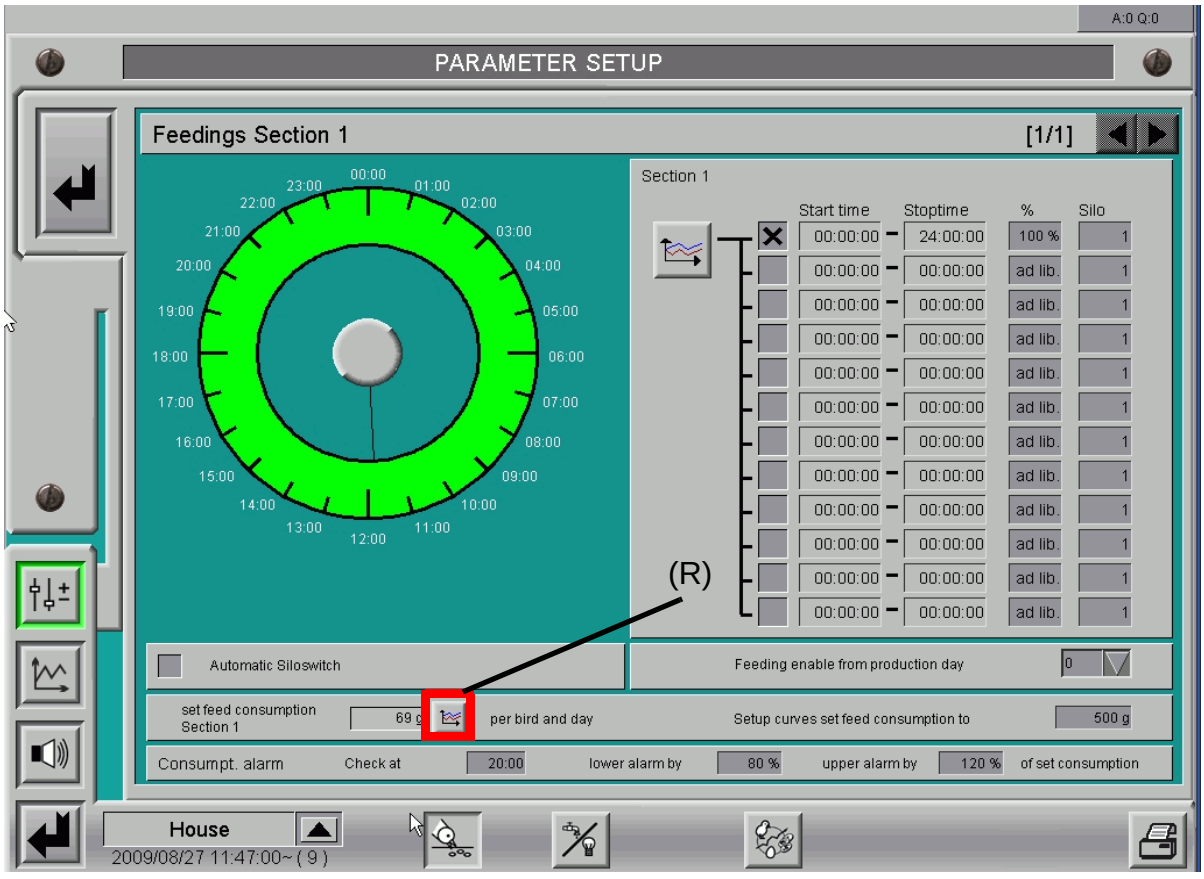


Figure 2-7: Set feed consumption

The setting range for the set curve is preset behind the curve symbol. This function ensures that the measuring range corresponds to the breed and is not displayed too large or too small.

The following picture opens:

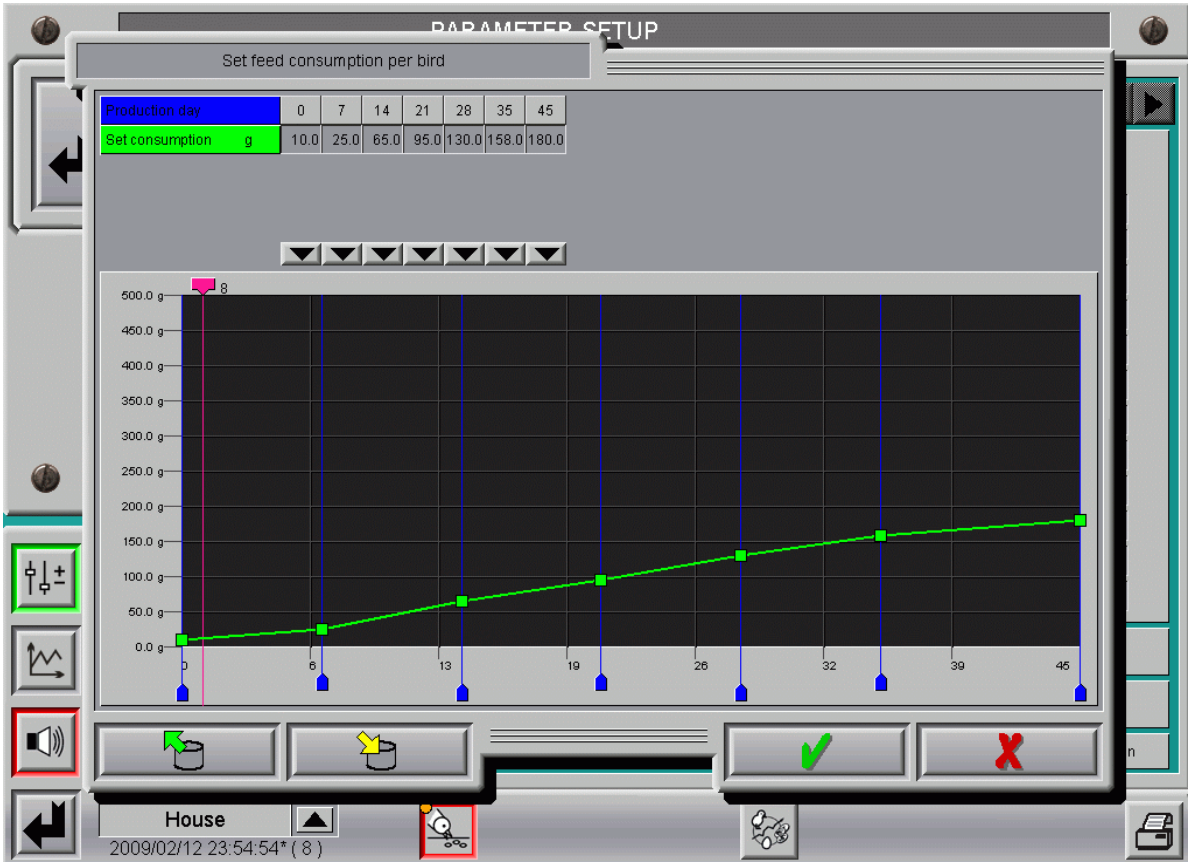


Figure 2-8: Feed curve broiler

With this curve the set consumption shall be determined per bird for the fattening period.

This menu offers three different possibilities to enter data.

The values in this curve should be changed or stored as described in detail in chapter „Set curves” of the **AMACS** user manual.

2.5 Feeding activated from the day of production

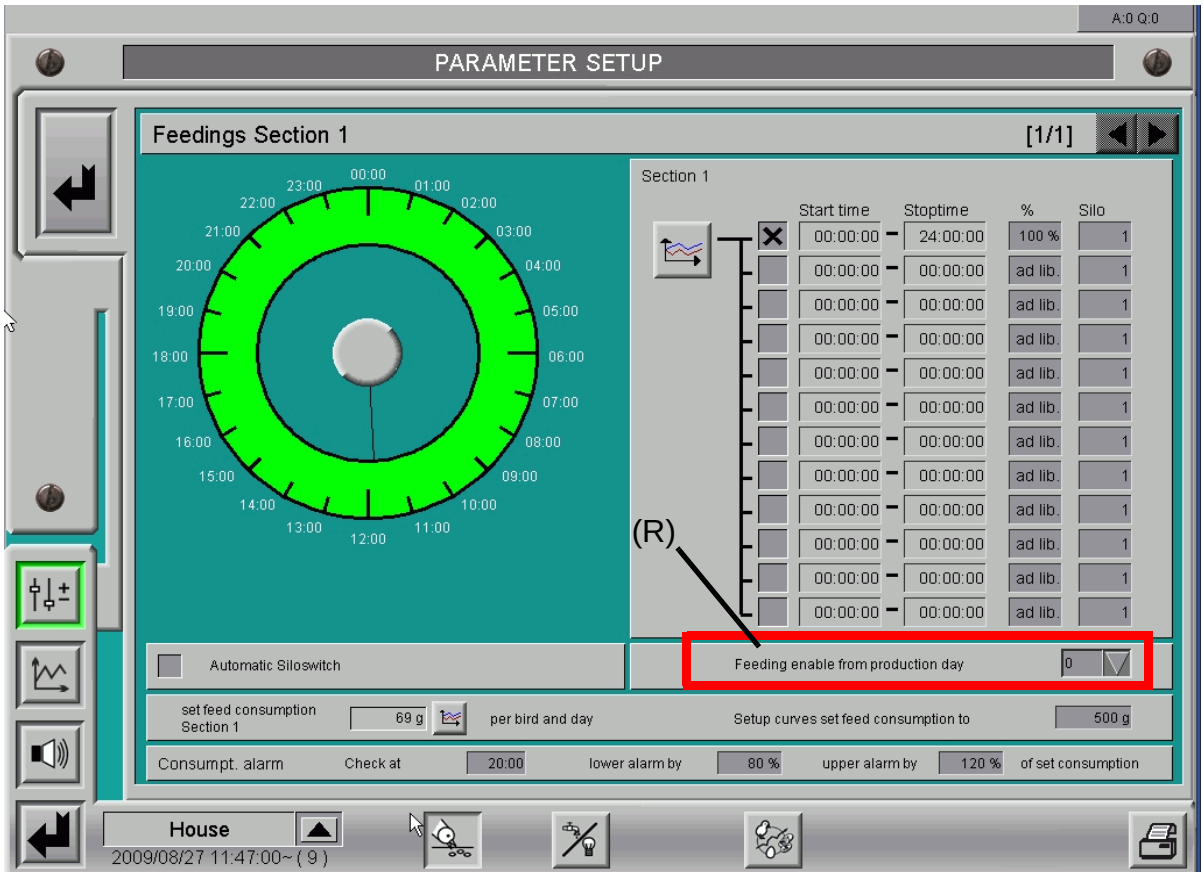


Figure 2-9: Feeding activated from the day of production

The start day for the feeding may deviate from the actual day of housing in.

In order to prefill the feed troughs so that the birds can directly eat when they are housed in, an entry can be made in the red **(R)** marked field.

An entry of e.g. -2 means that the feeding system can be filled 2 days before housing in.

More information regarding the housing in and production start can be found in the manual "broiler".

2.6 Feeding in the main screen

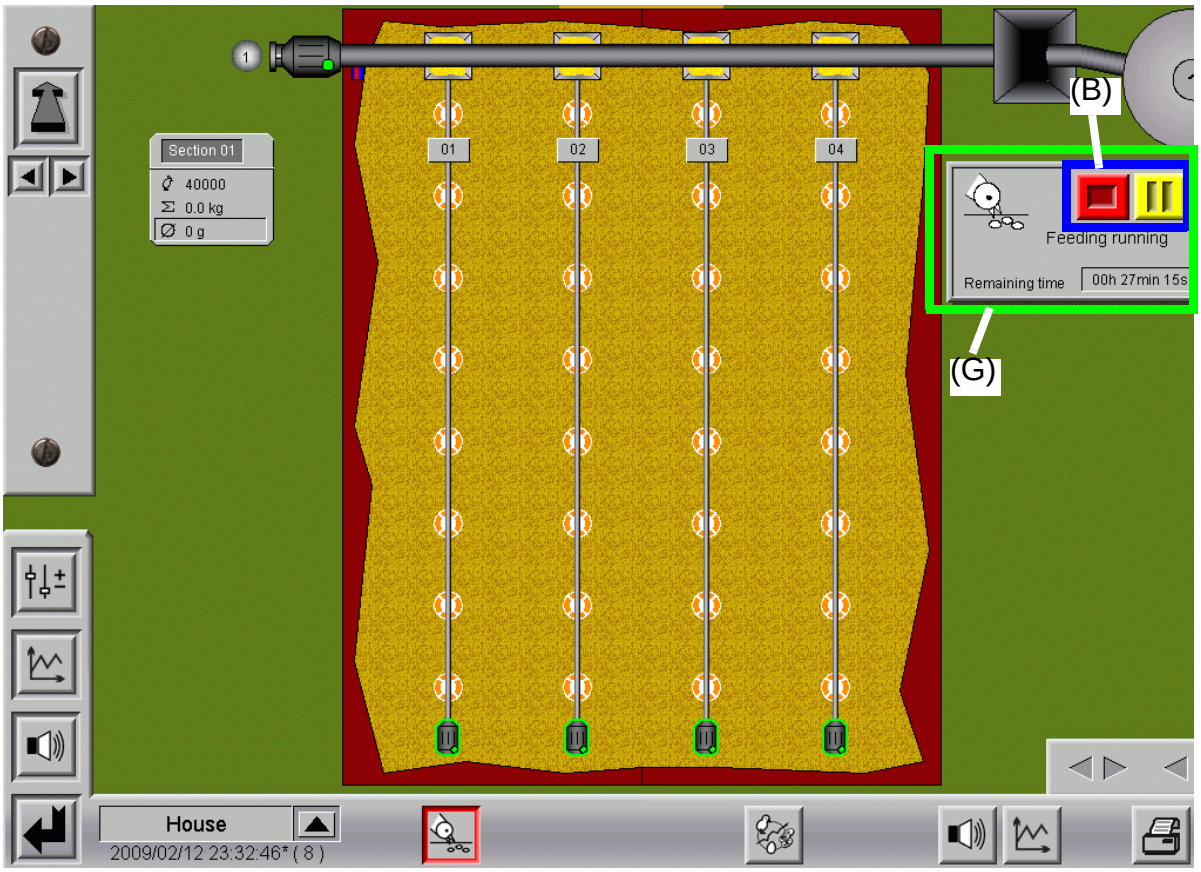


Figure 2-10: Feeding in the main screen

2.6.1 Status feeding

2.6.1.1 Remaining feeding time

When a feeding process is started, the remaining running time of the feeding is displayed under "remaining feeding time".

2.6.1.2 Start und stop of a feeding in progress

A feeding already active can be stopped, see the green **(G)** marked area in the picture above.

With a click on the yellow button (pause), the feeding can be stopped and restarted later on.

If the red button (stop) is pressed, the current feeding is stopped. Both buttons are marked blue **(B)** in the picture above.

2.7 Consumption alarm feeding

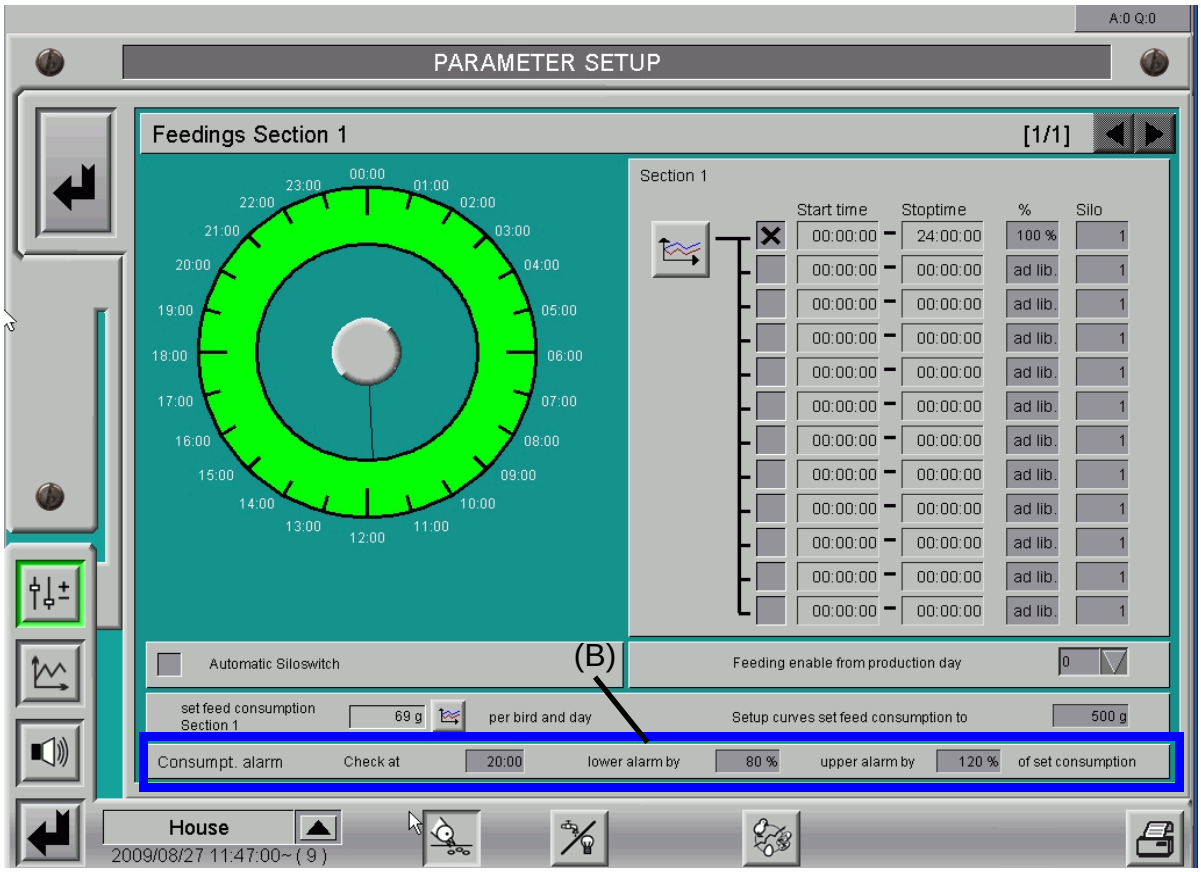


Figure 2-11: Consumption alarm

A time and the limiting values can be entered as percentage in the blue **(B)** marked area of the above picture. As soon as the feed quantity in a group remains under the set value respectively exceeds this, an alarm is triggered.

The following picture shows what such a message looks like. Just click on the mouse to confirm the message.

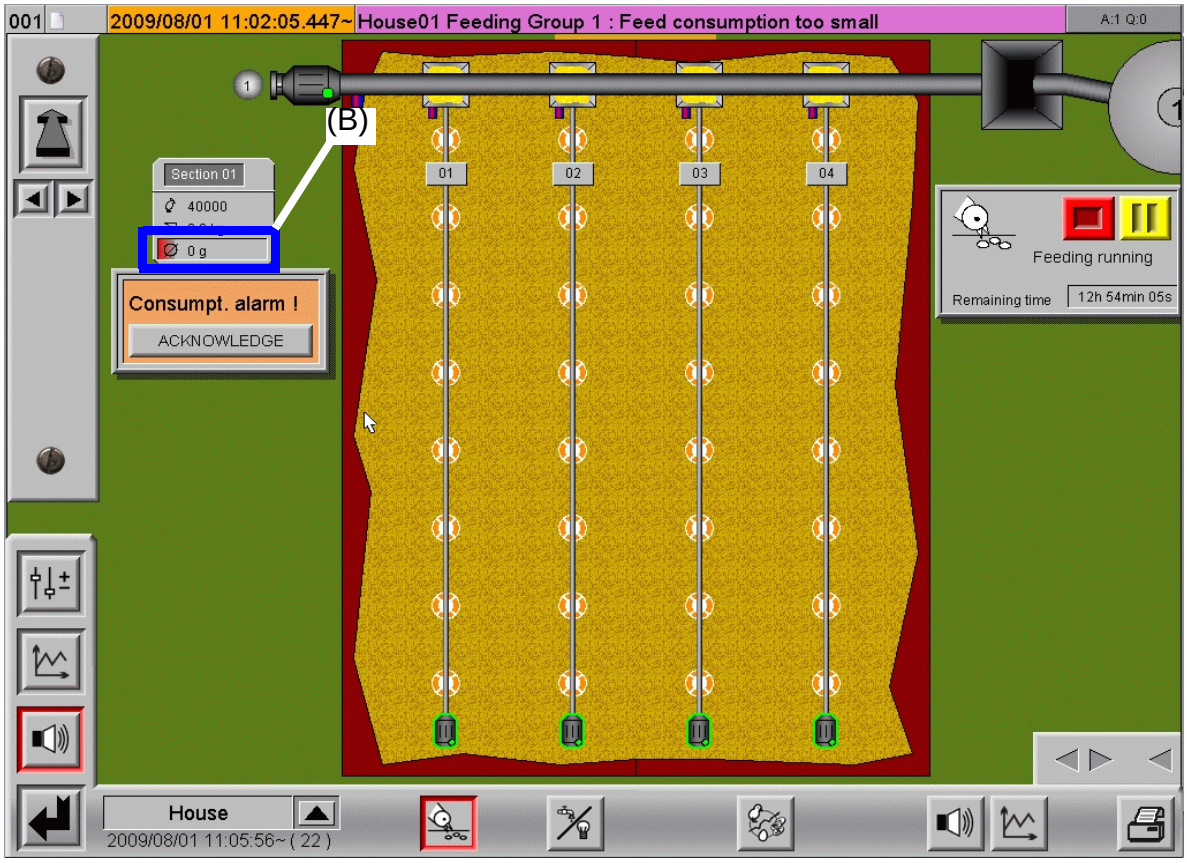


Figure 2-12: Confirm consumption alarm

The consumption alarm also indicates if too much or too little feed was consumed. If the red bar appears on the left (marked blue **(B)** in the above picture), the feed consumption is too little.

If the bar appears on the right, too much feed was consumed.

2.8 Notes

3 Runtime control

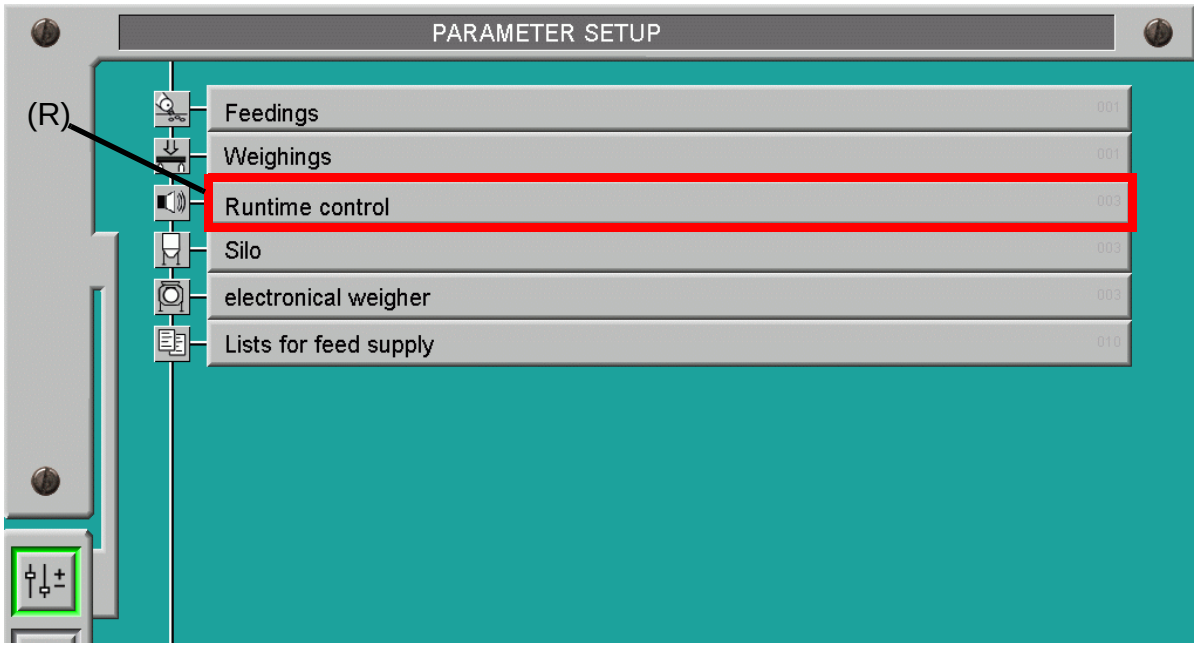


Figure 3-1: Set-up in the feeding manager / Runtime control

Click on the red marked button "runtime control" to open a window where all settings for the control can be made.

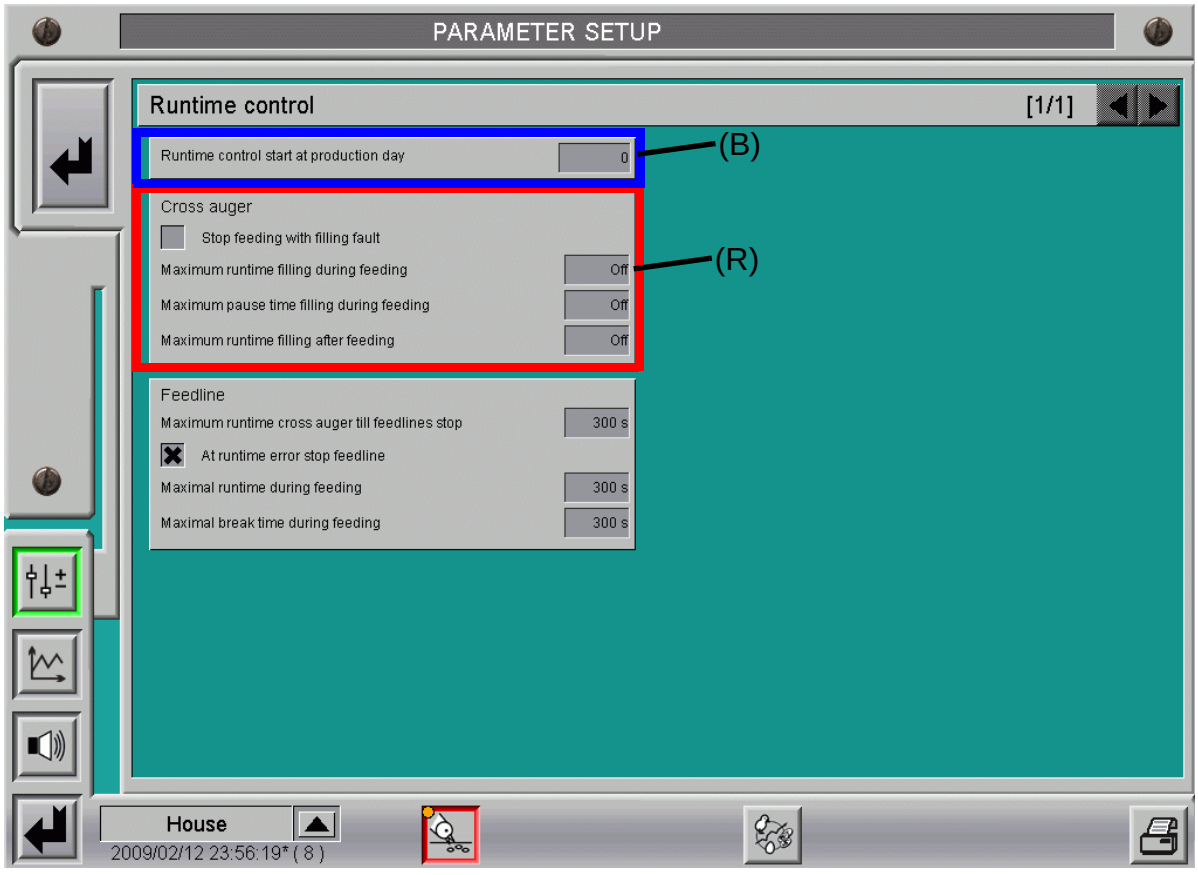


Figure 3-2: Runtime control

3.1 Runtime control from the day of production

The start day for the runtime control may deviate from the actual day of housing in.

Since the animals do not eat so much when they are housed in, the runtime control (blue **(B)** marked in the previous picture) can be set to e.g. 1 since the feeding only runs correctly the next day.

More information regarding the setting of the production start can be found in the manual "Broiler".

3.2 Runtime control cross auger

With the runtime control cross auger, marked **(R)** in the previous picture, the cross auger as well as the sensor are controlled regarding malfunction.

3.2.1 Stop at error filling

If feeding shall be stopped at one of the three possible filling errors, the cross in the field "Stop at error filling" has to be activated.

If a fillling error has interrupted the feeding, the status display for feeding in the main picture will be hidden.

If the feeding shall be restarted, click on "Acknowledge" and the runtime error will be reset.

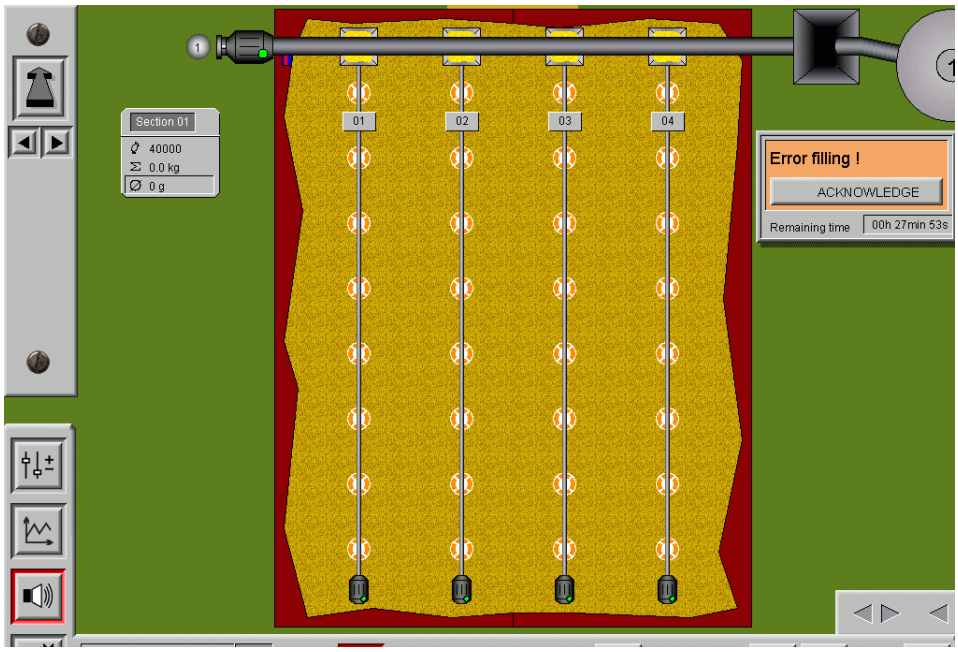


Figure 3-3: Stop at filling error

3.2.2 Maximum running time during the feeding

The cross auger must be switched off once during the feeding in order to prevent that the auger will transport feed into the house although e.g. a drop pipe at the auger is broken.

If an alarm is not required, you can enter 0 to deactivate the alarm (in this case, "OFF" is displayed).

Important:

The time specified must be **shorter than the running time of the feed-lines** so that an alarm can be triggered.

3.2.3 Maximum pause time during feeding

In order to ensure that the cross auger did run, a maximum pause time can be entered here in seconds during which the cross auger must have run once.

If an alarm is not required, you can enter 0 to deactivate the alarm (in this case, "OFF" is displayed).

Important:

The time specified must be **shorter than the running time of the feed-lines** so that an alarm can be triggered.

3.2.4 Maximum running time of filling prior to / after feeding

To ensure that the feed amount is correctly registered, the feed-lines are filled up prior to and after the feeding.

If the set time is exceeded, an alarm is activated.

The alarm can be caused by a defective sensor at the cross auger or bridging in the silo.

If an alarm is not required, you can enter 0 to deactivate the alarm (in this case, "OFF" is displayed).

3.3 Runtime control feed-lines

With the runtime control of the feed-lines, marked red **(R)** in the picture below, the Augermatic system as well as the sensor are checked regarding malfunction.

3.3.1 Maximum running time cross auger until the feed-lines are switched off

A time can be entered in seconds in the marked field in the picture below.

With this entry, the running time is determined during which the cross auger may continuously run until the feed-lines stop to fill the hoppers.

If an alarm is not required, you can enter 0 to deactivate the alarm (in this case, "OFF" is displayed).

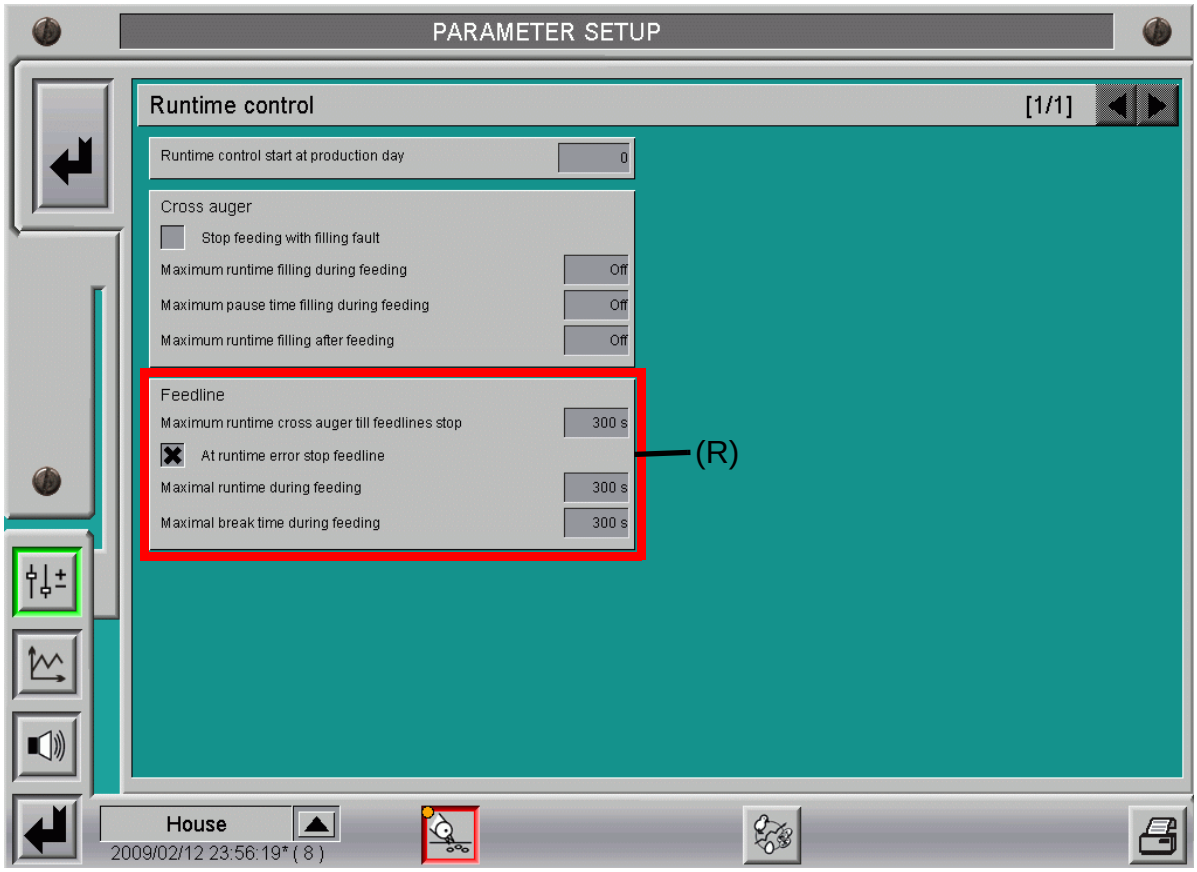


Figure 3-4: Runtime control

3.3.2 Stop feed-line in case of a running time error

In order to prevent that the feed-lines continue running although the cross auger or the feed sensor switch is defective, the feed-line is stopped in case of a running time error by activating the checkbox.

3.3.3 Maximum running time during feeding

To prevent that feed is conveyed to the house although the sensor has failed or a leakage occured at the Augermatic system, a "maximum running time" can be entered here for the feed-lines.

If an alarm is not required, you can enter 0 to deactivate the alarm (in this case, "OFF" is displayed).

Important:

The time must be **larger than the maximum pause time** so that an alarm can be triggered.

3.3.4 Maximum pause time during feeding

To prevent that feed is conveyed to the house although the sensor has failed, the feed-lines must have run for a certain time.

This time can be entered in seconds in the field "maximum pause time".

If an alarm is not required, you can enter 0 to deactivate the alarm (in this case, "OFF" is displayed).

Important:

The time specified must be **shorter than the maximum running time** so that an alarm can be triggered.

3.4 Notes

4 Storage silos

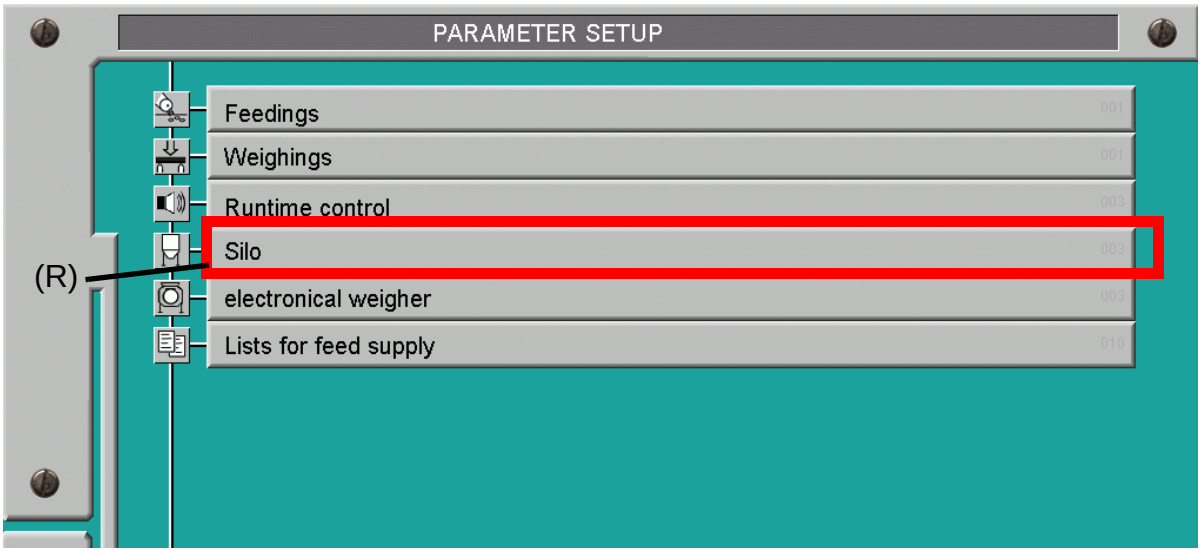


Figure 4-1: Overview feeding manager - Storage silos broiler

A click on the button "storage silos" **(R)** opens a window where some data can be entered in addition to the menu points already described in the previous chapters.

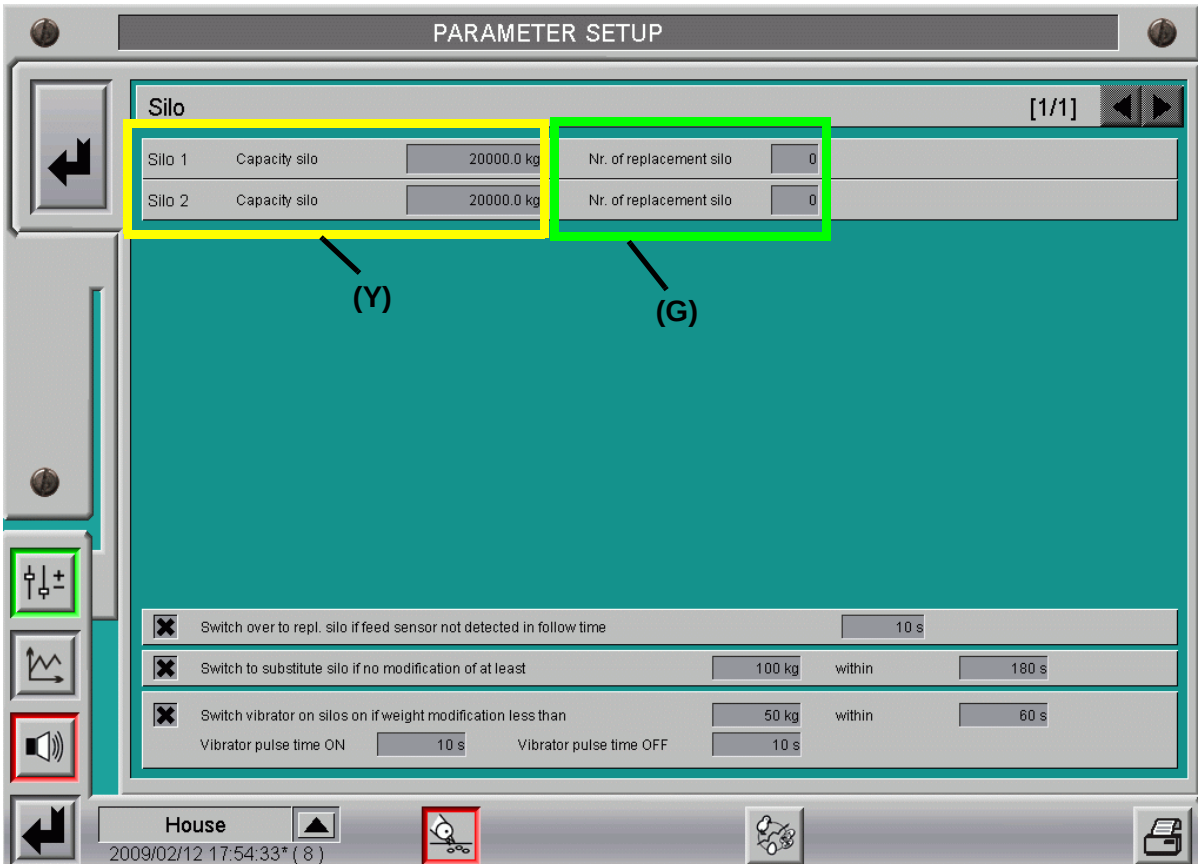


Figure 4-2: Capacity of the storage silos

4.1 Storage silo capacity

An entry in the yellow **(Y)** marked window is only necessary for the correct and proportional display of the current level at the silo in the main picture.

4.2 Alternative silo (only in case of silo weighing or with minimum sensor)

4.2.1 Identification number of alternative silo

If there are several silos, it can be determined in the green **(G)** marked window which silo shall be selected in case of an automatic switch-over.

Important!

Please consider that the feed type in the alternative silo must allow a switching-over.

4.2.2 Switch over to alternative silo if a sensor is installed additionally

As already mentioned above, the different functions which can be determined by the configuration may also make the menus appear differently.

In the menus there are only those settings for which a function is available. This facilitates the operation and improves the clarity.

In the following picture you will find an example which additional function will be provided through the installation of minimum sensors in the silo.

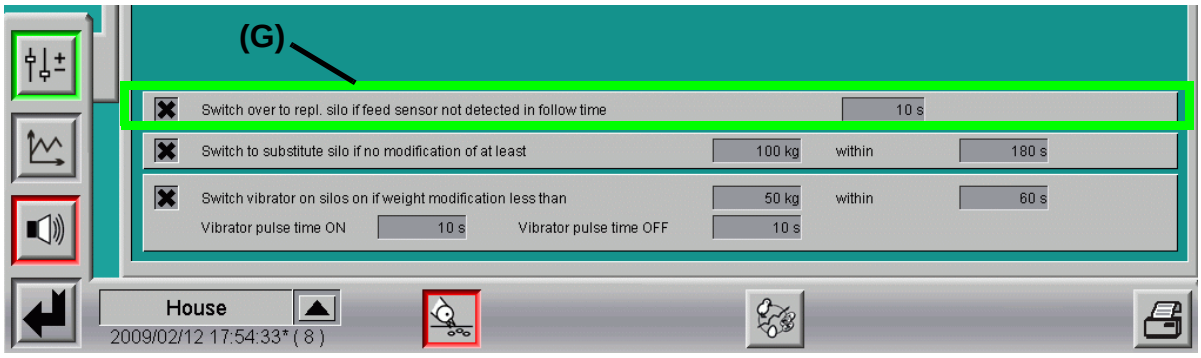


Figure 4-3: Switch over to replacement silo with minimum sensor

4.2.2.1 Activate silo change

The cross in the green **(G)** marked checkbox of the previous picture activates the automatic change via mimimum sensor.

4.2.2.2 Conditions for a change-over to alternative silo

If the automatic change-over to an alternative silo is activated, a time can be entered in seconds in the green **(G)** marked field of the previous picture.

If a time of 10 sec has been entered as in the example, a change-over is effected if the sensor installed on the bottom of the silo is not covered with feed for more than 10 seconds.

The entry must of course be adjusted to the mechanical conditions and the conditions typical for the plant and may therefore also contain other values.

4.2.2.3 Minimum sensor in the main picture

The minimum sensors of the silo are displayed in the main picture feeding.

If the sensor is covered with feed it will take a beige colour, as marked yellow **(Y)** in the picture below.

If the sensor signalizes an empty silo, this will be displayed in blue in the main display (blue **(B)** marked in the following picture).

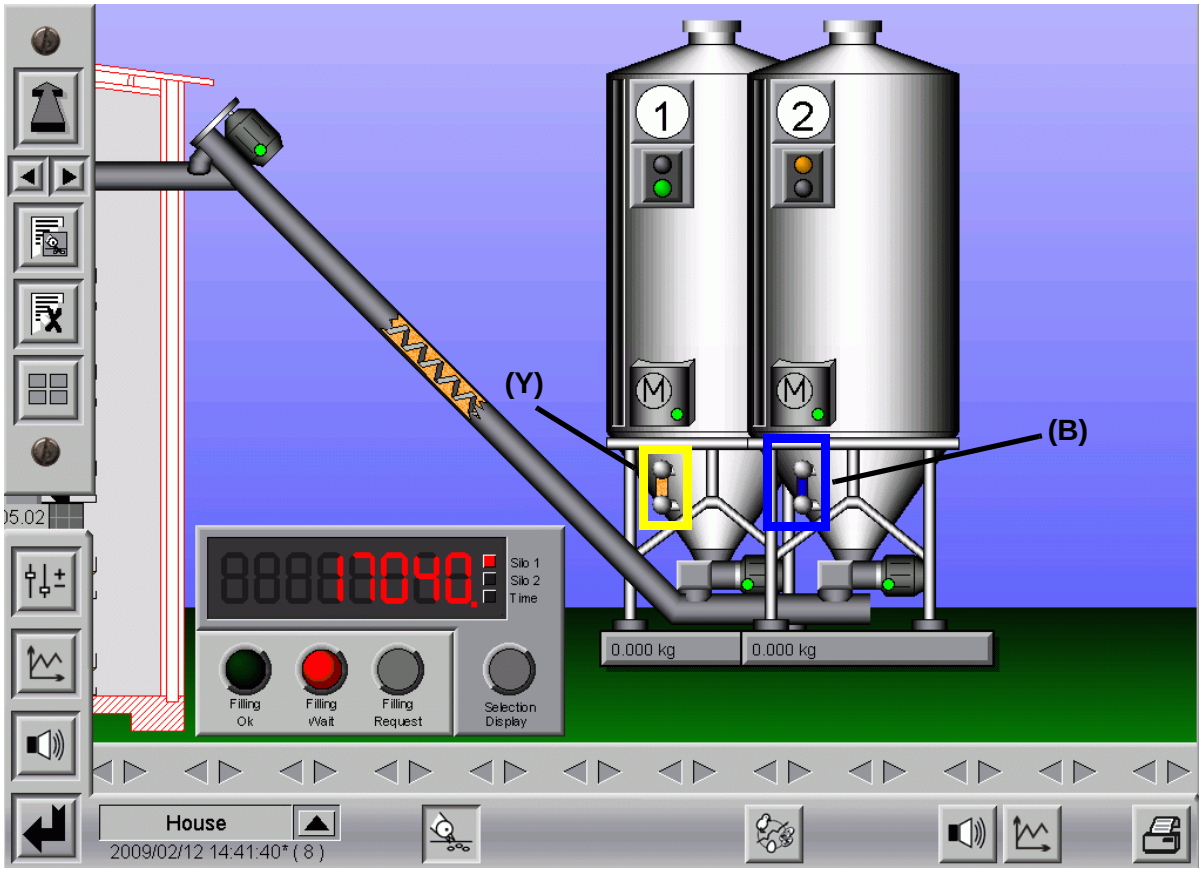


Figure 4-4: Minimum sensors in the main picture

4.2.3 Switch-over to replacement silo with installed silo weighing

Due to the different functions that can be determined by the configuration, the menus may appear differently.

In the menus there are only those settings for which a function is available. This facilitates the operation and improves the clarity.

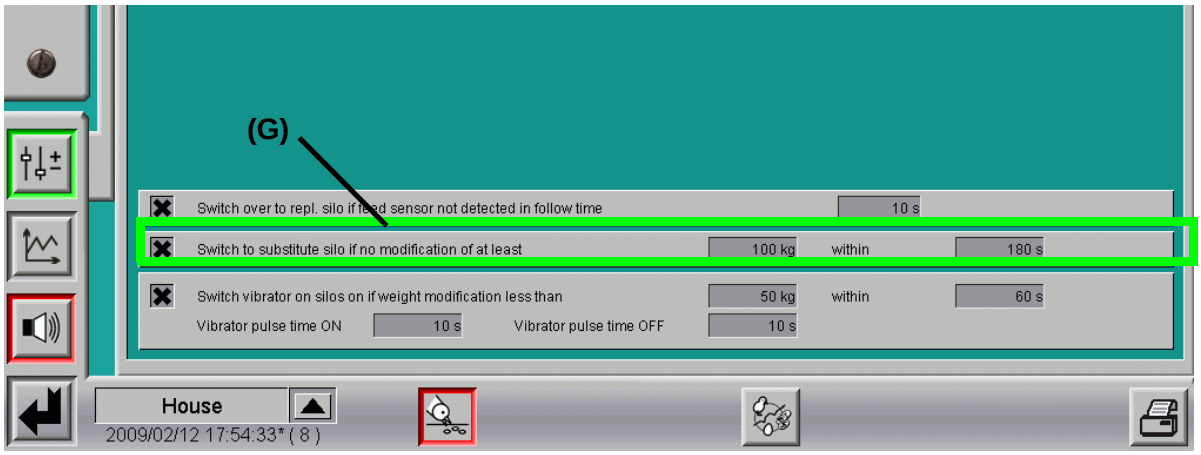


Figure 4-5: Switch-over to replacement silo via weighing value

4.2.3.1 Activate silo change

The cross in the green **(G)** marked checkbox of the previous picture activates the automatic change-over via weighing value.

4.2.3.2 Conditions for a change-over to alternative silo

If the automatic switch-over to a replacement silo is activated, a weight in kg can be entered as well as a time in seconds in the green **(G)** marked field.

If a weight of 100 kg has been entered and a time of 180 sec (see example), a switch-over is effected if the weighed value in the silo has **not** changed by at least more than 100 kg within 180 seconds.

The entry must of course be adjusted to the mechanical conditions and the conditions typical for the plant and may therefore also contain other values.

Note:

A switch-over to other types of feed may only be effected if the chosen feed type corresponds to the one primarily used. Please observe the official regulations.

4.3 Set-up parameters for storage silos if vibrators are installed

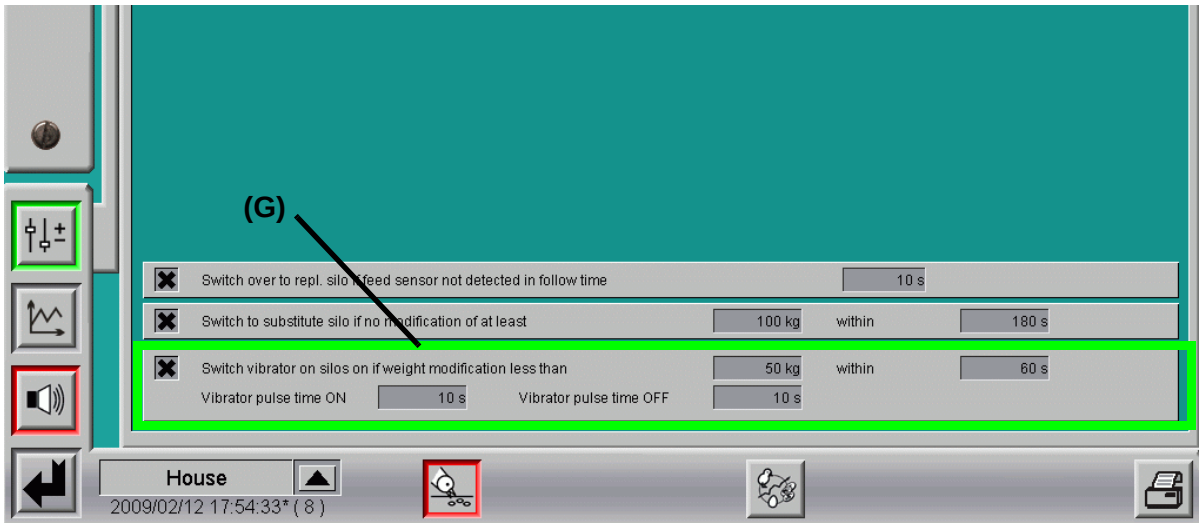


Figure 4-6: Parameters for switching on the vibrators

4.3.1 Switching on the vibrator

As already mentioned above, the different functions which can be determined by the configuration may make the menus appear differently.

The following example shows which additional function is provided by the installation of a vibrator at the silo.

4.3.2 Activating the vibrator

The cross in the green **(G)** marked checkbox in the previous picture will switch on the automatic activation of the vibrator.

4.3.3 Conditions for switching on the vibrators

According to the entry in the green **(G)** marked field, the vibrator shall only start if the feed quantity in the silo registered by the scale does not change by at least 50 kg within a time of 60 seconds.

This time should be shorter than the time for switching-over to a replacement silo to give the vibrator the chance to loosen a feed bridge, if necessary.

The entry must of course be adjusted to the mechanical conditions and the conditions typical for the plant and may therefore also contain other values.

4.3.4 Vibrator times for puls / pause mode

Since the vibrator shall not condense the feed, a pulse time "On" and a pulse time "Off" can be set for the vibrator, depending on the size and utilisation.

The most suitable times must be determined at a trial run.

4.3.5 Manual start of a vibrator in the main picture

If the vibrators shall be switched on manually e.g. during a feeding, click on the blue **(B)** marked M at the silo. Now **AMACS** starts the vibrator.

The small green point indicates that the vibrator runs in automatic mode. If it is orange, it indicates that this system is in manual operation.

Attention!

The vibrator should not run if no feed is taken, otherwise the feed will be further condensed in the cone (hopper) of the silo, and this is not the meaning of a vibrator.

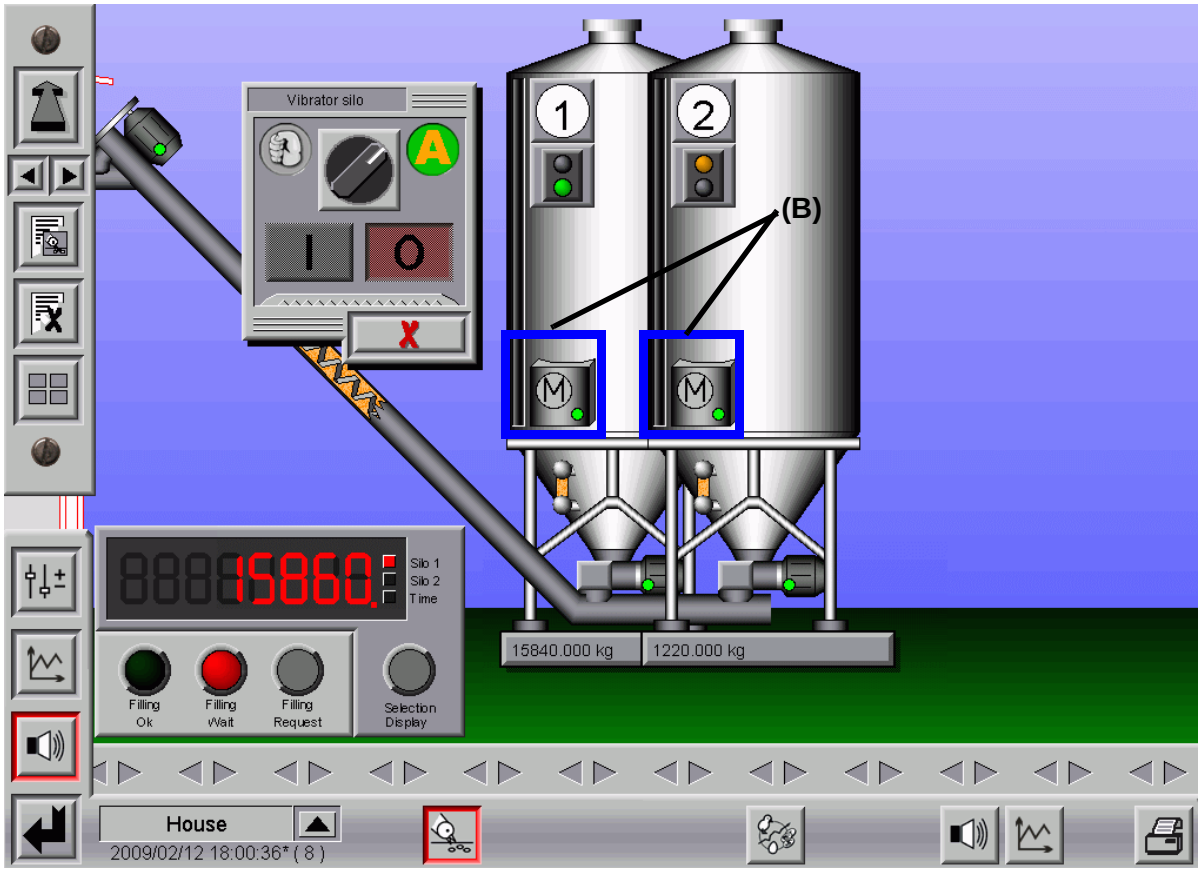
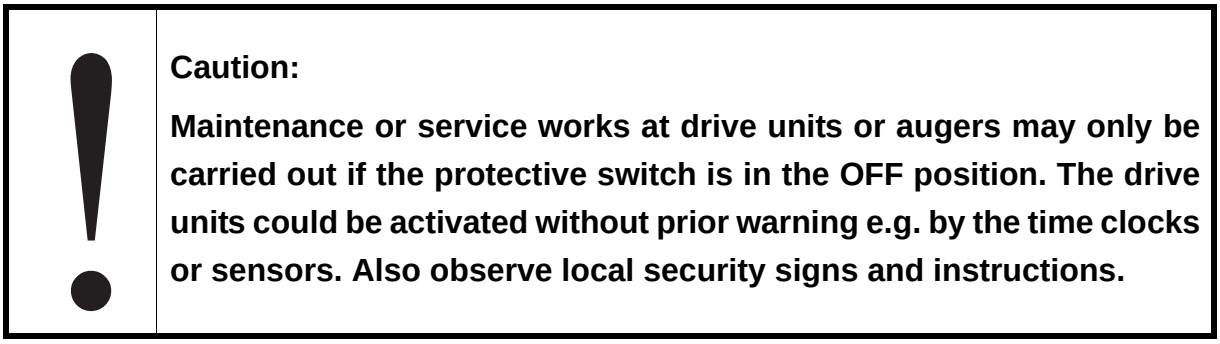


Figure 4-7: Manual operation of the vibrators



Caution:

Maintenance or service works at drive units or augers may only be carried out if the protective switch is in the OFF position. The drive units could be activated without prior warning e.g. by the time clocks or sensors. Also observe local security signs and instructions.

4.4 Notes

5 List for the feed delivery

5.1 Display of the delivery recognition

The red **(R)** marked lorry symbol which appears on the silo indicates that feed was supplied. There are following options:

- a lorry is displayed: The silo is currently filled
- the lorry flashes: The delivery is finished but has not yet been confirmed
- no lorry: It is not filled presently and all deliveries have been confirmed

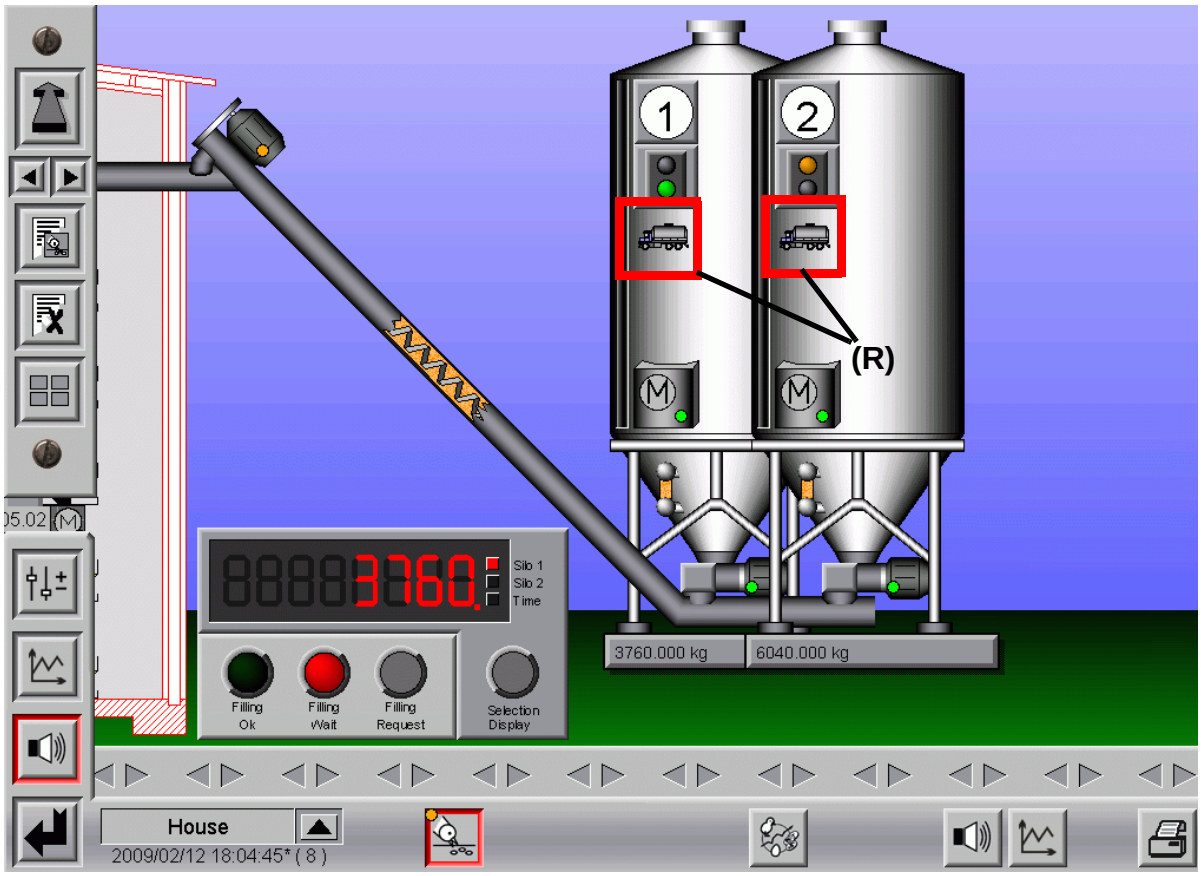


Figure 5-1: Display delivery recognition

5.2 Confirm delivery

In order to confirm a delivery click on the blue **(B)** marked button in the following picture. Now a window opens where you can click on the yellow **(Y)** marked lorry in the following picture.

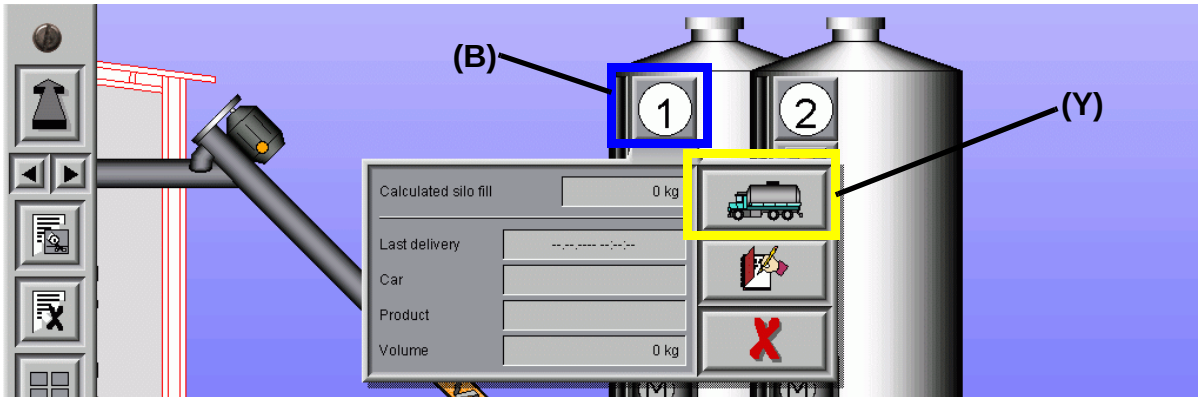


Figure 5-2: List delivery

Now additional information can be entered in the openening window, if available.

With the arrow keys (marked in red **(R)**) preset information can be chosen from a list. This is intended for a quick entry of standard values.

If the field "Volume" is bordered in green, the recognized delivery was entered in the field "Volume". The delivery can now be confirmed with the green key. If the red key is pressed, the entry will be reset.

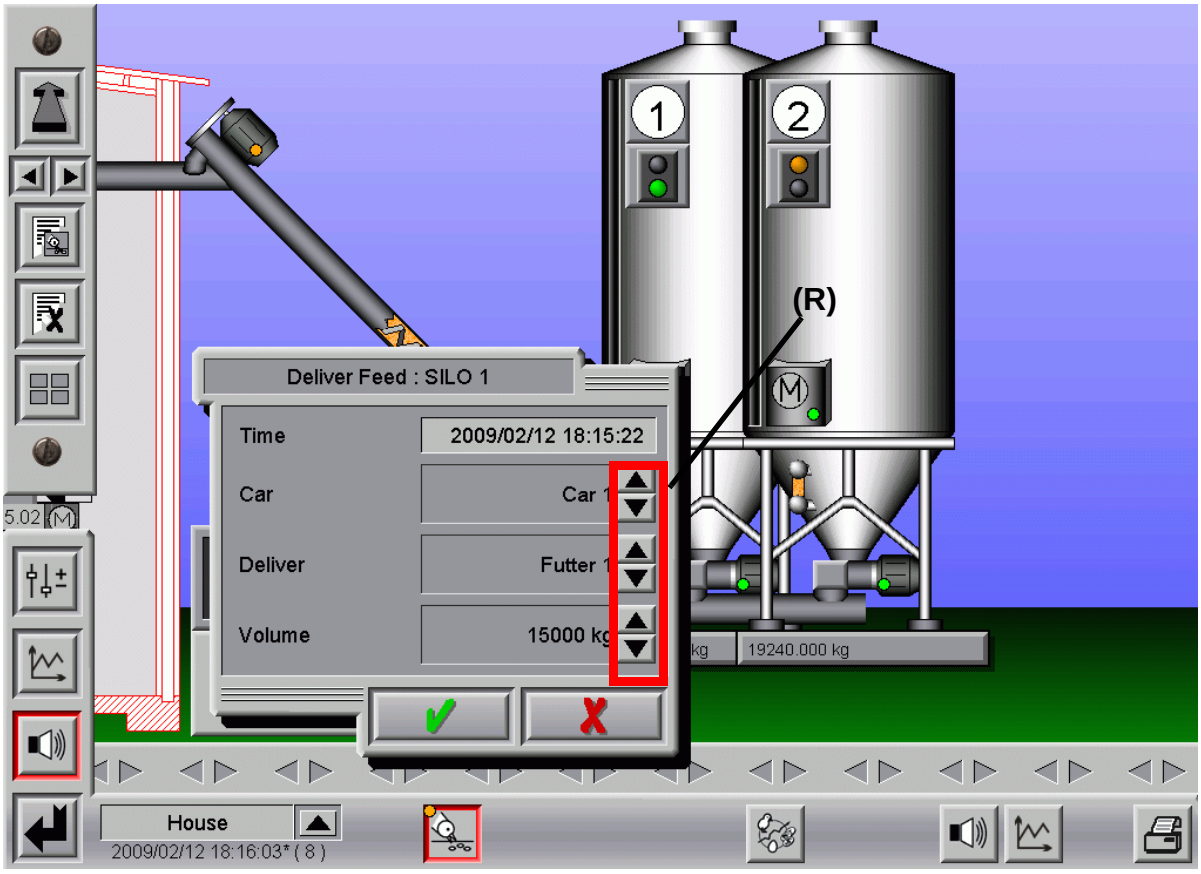


Figure 5-3: List delivery

5.3 Information lists regarding vehicles, products and delivery quantities

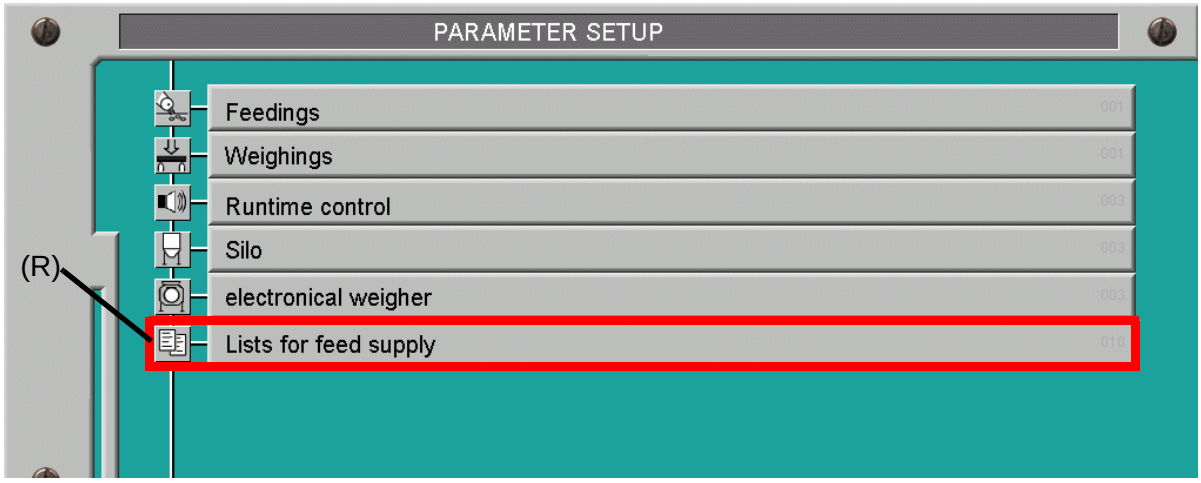


Figure 5-4: Lists with additional information for a feed delivery

In order to guarantee that additional information for a delivery to be confirmed are quickly available, a description can already be deposited regarding type and licence number of a silo car or type and quantity of a delivery so that the deliveries can be provided with additional information and confirmed.

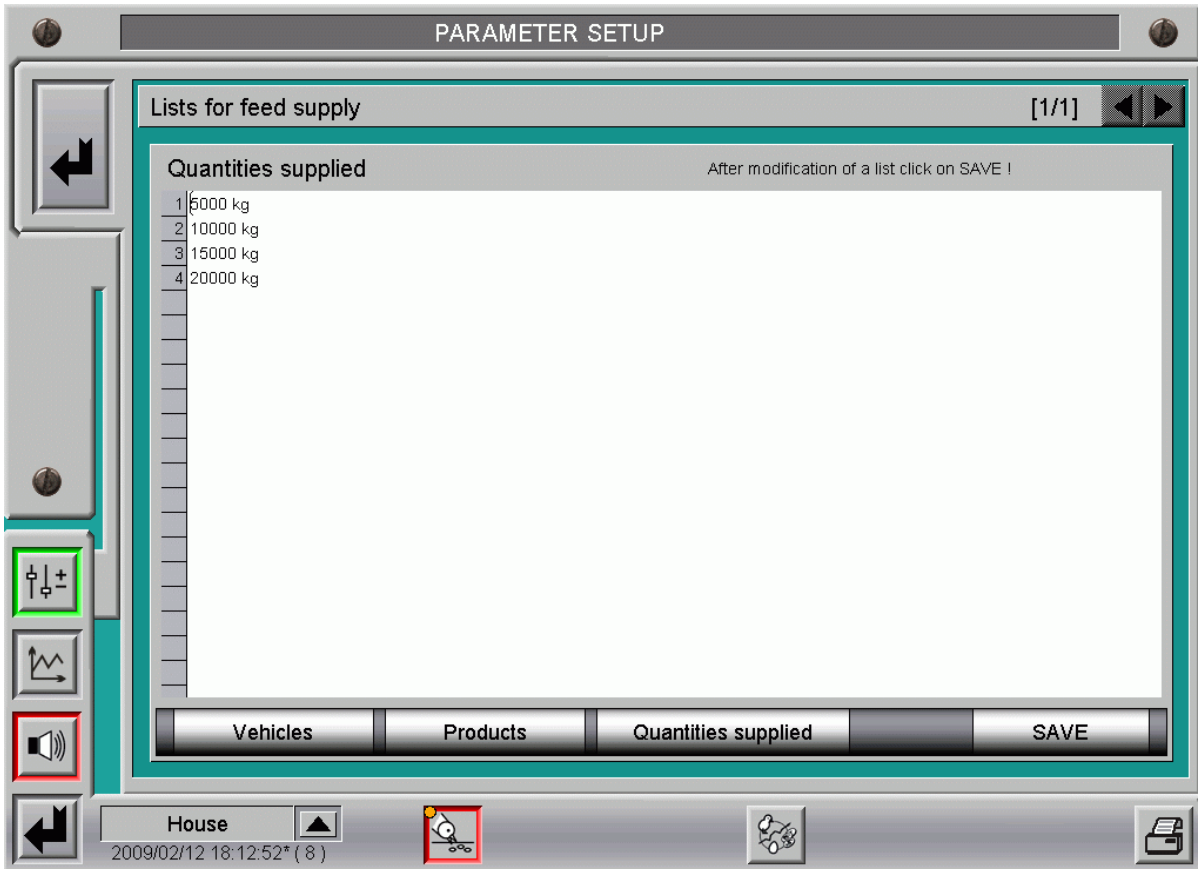


Figure 5-5: Process the lists, vehicles, products and delivery quantities

5.4 Last delivery and delivery list

It is possible to have a look at the last delivery or all deliveries in a list.

A click on the yellow-marked **(Y)** buttons in the following picture opens a window where the last delivery is displayed.

If an overview on all registered deliveries is required in the form of a list, click on the blue **(B)** marked notebook. The figures are now listed from the data base.

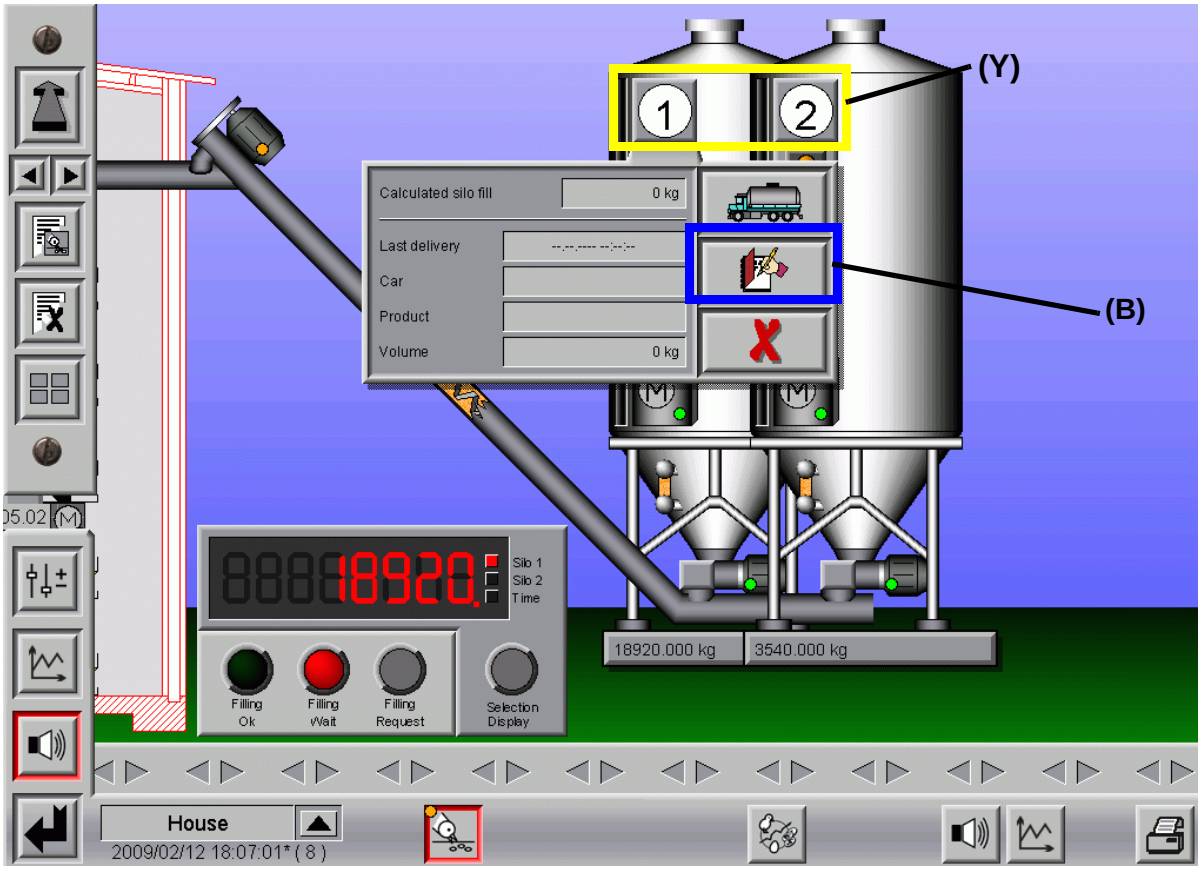


Figure 5-6: Display of the last delivery respectively of all registered deliveries

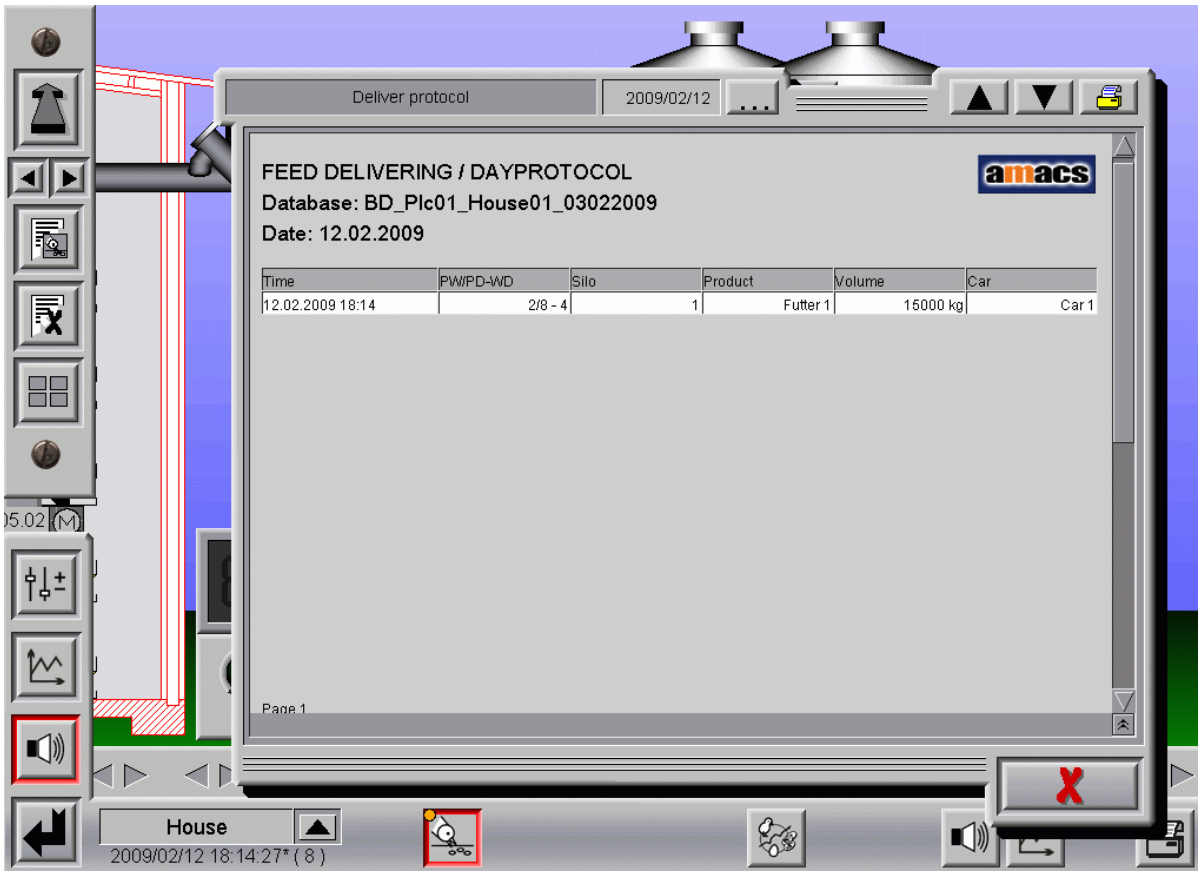


Figure 5-7: Delivery Protocol

Note:

Sunshine or changing temperatures (water condensation during the day and absorption of humidity during the night) might cause the display of the current silo status to vary slightly; however, this does not inhibit the registry of the feed amount per group or per bird.

5.5 Notes

6 Weighings

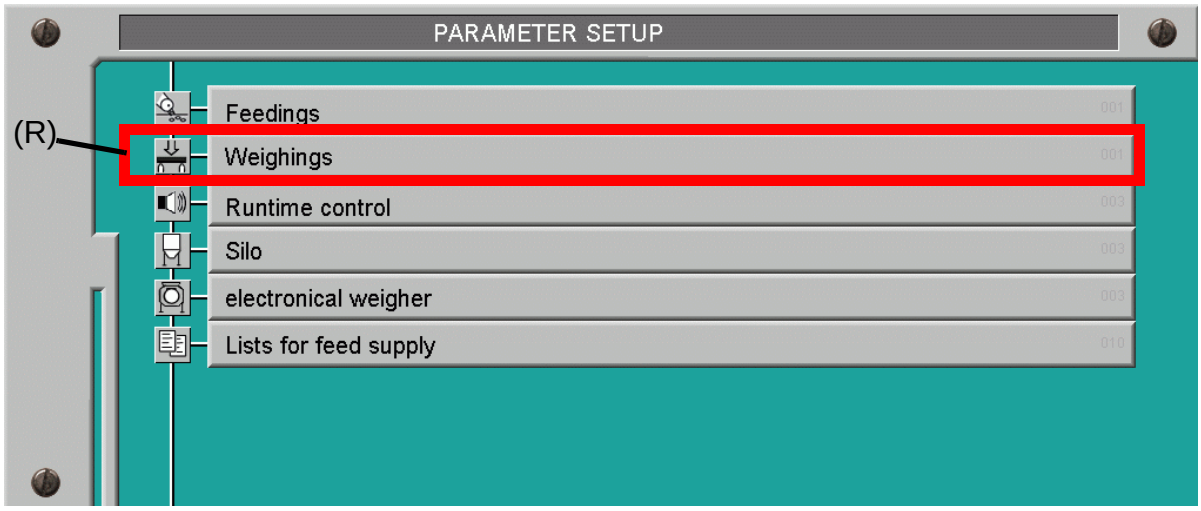


Figure 6-1: Set-up parameters weighings broiler

When clicking on the red **(R)** marked button „Weighings“, a menu opens in which all settings necessary for the electronic weighing can be entered.

Since **AMACS** can control different silo weighers and feed weighers, this menu appears again later on in another form. Normally, the farm staff does not have to make entries here. The displayed values serve for the control.

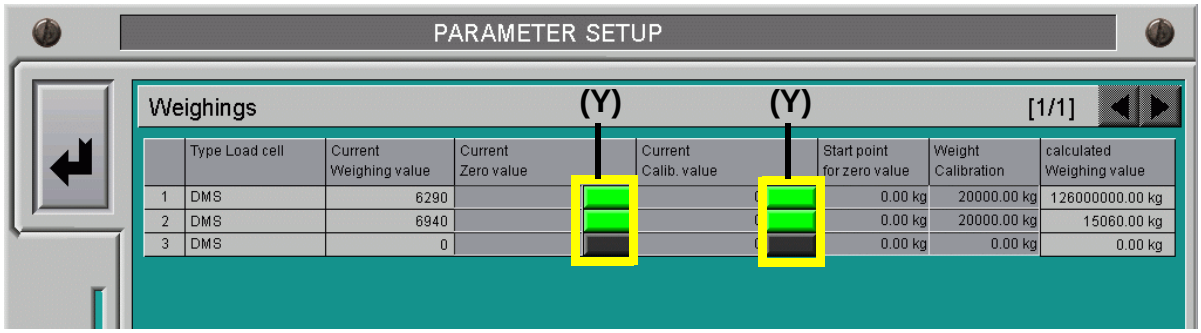


Figure 6-2: Values of the silo weigher

6.1 Type load cell

This field only serves for information since the type of silo scale is already determined by the service technician at the system configuration. Following signals are possible with other configurations.

6.1.1 WSG

Load cells with wire strain gauge that transmit the weight to **AMACS**.

6.1.2 0-10 Volt

Load cells or scales that transmit the signal of a weight as voltage signal in volt.

6.1.3 0(4)-20mA

Load cells or scales that transmit the signal of a weight as a current signal in mA.

6.2 Current weight value

The signal which is currently measured by the entry card is displayed. This is also referred to as raw value since with this value a service technician can notice if the load cell is correctly working.

6.3 Calibration of the silo-scale

6.3.1 Calibration of the silo-scale with a strain gauge signal

6.3.1.1 Read-out the calibration value from the W2 board

The entry card for the strain gauge weigh bars used by **Big Dutchman** (W2 Code No- 91-04-0009) is gauged in a procedure described in the next chapter. This means that the currently measured weighing value is stored as current zero value, generally known as tare weight, on the card.

Now the scale is loaded with a calibration weight and the entry card is notified to store the currently measured weighing value as calibration value. Now make a note which weight was calibrated since this has to be entered later on.

If the buttons on the right next to the current zero value and the current calibration value (marked in yellow **(Y)** in the picture) are pressed, these will become green. This means that **AMACS** will now permanently query the zero value and the calibration value from the entry card.

6.3.1.2 Calibrate W2 input

As soon as the mechanism of the silos and the cross auger have been installed, the silo can be filled. The silo should be filled as full as possible since the calibration is more precise with a maximum weight than with half a load.

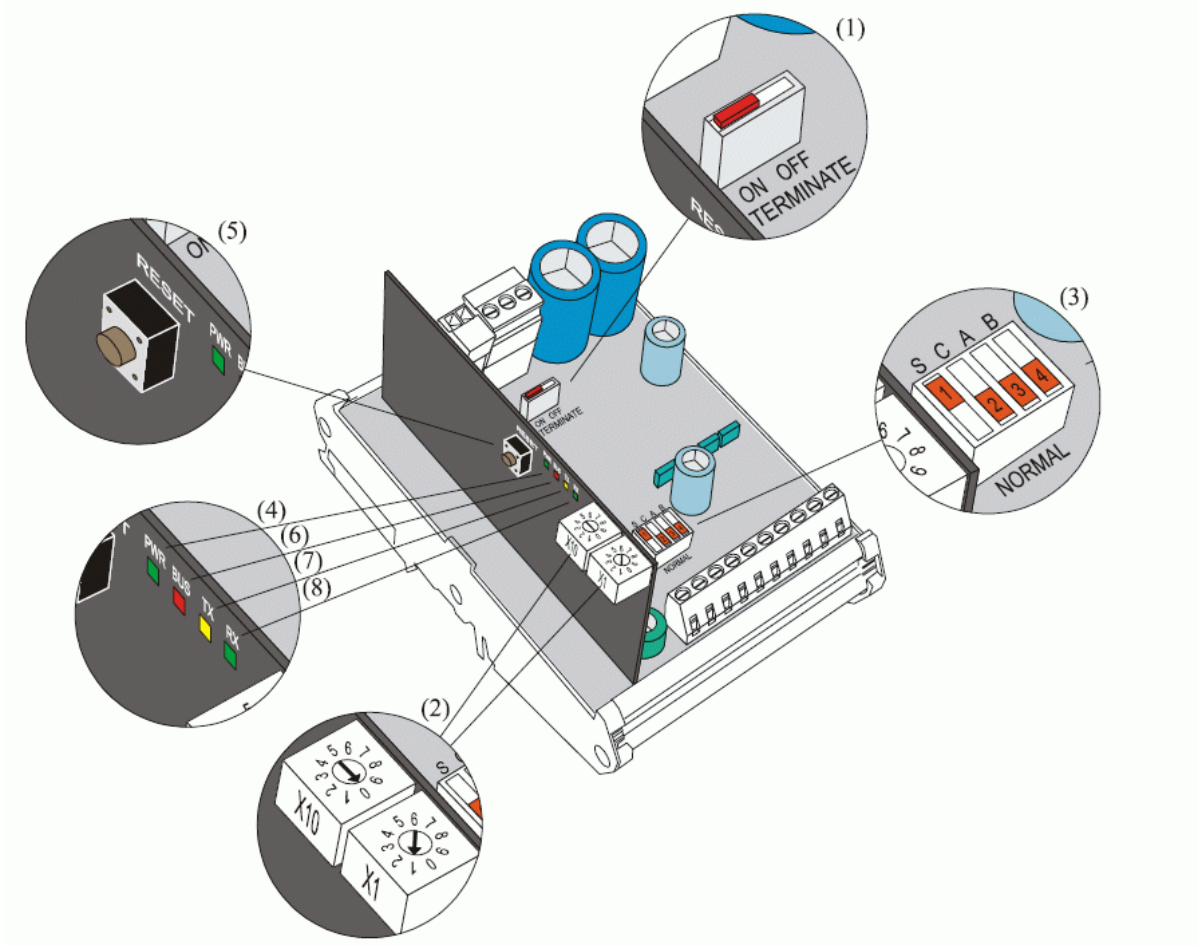


Figure 6-3: Calibration of the weighing module W2

In order to calibrate the weighing module, the following has to be considered:

- ensure that the green PWR lamp (4) lightens continuously (should not flash)
- the switch (3) (NORMAL- S) is set to "S" = setting (and C, A and B to NORMAL)
- the zero key (RESET) (5) is pressed
- wait until the red lamp (6) lights up
- the weighing channel is chosen which shall be calibrated (only one at the moment):
  - scale 1: switch (3) (NORMAL - A) to "A" or
  - scale 2: switch (3) (NORMAL - B) to "B"
- ensure that the scale is not loaded (TARE)
- the switch must be set to (3) (NORMAL - C) "C" = KAL position
- wait until the yellow lamp lights up
- load the scale with a known test weight
- wait some seconds until the scale is balanced out
- turn back the switch (3) (NORMAL - C) to „NORMAL“ position

- if the green lamp lights up, the calibration was carried out OK
- turn back the switch (3) S and A or B to NORMAL
- press the zero key (RESET) (5)

This program stores the calibration values TARE and TEST in the weighing module.

In order to finish the calibration of the scale, the test weight has to be entered in the menu.

*) In case of an error, the RED+YELLOW+GREEN lamp ight up. The error can be eliminated by setting the switches (3) S, C A and B to NORMAL. When the zero key is pressed (RESET) (5) the calibration will be repeated.

The calibration may fail if:

- the switch (3) A or B is not set correctly
- the scale is defective or there is no connection to the scale
- the calibration weight is too light:
  - the calibration weight must be at least 1 per mil or preferably at least 10 percent of the full load. "Full load" means that the load cell is weighted with 100 %. (2 mV/V)
- if errors occur at the data storage.

The calibration of the scale should be controlled in regular intervals and repeated, if necessary.

Moreover the automatic calibration procedure can be avoided by a manual entry. This is desribed in the following chapter 6.3.2.

6.3.2 Calibration of the silo-scale with a signal 0-10V / 4-20mA

In case of a non-loaded scale, the current zero value must be noted down. Afterwards the scale is loaded with a known weight and this value is entered in the field "Current calibration value".

6.4 Start point for zero value

Normally the start point for the zero value is set to 0kg. If, however, the zero point has shifted, the weight can be input which is displayed at an empty scale.

6.5 Weight for the calibration value

In this field the weight with which the scale was calibrated is entered in kg.

6.6 Calculated weigh value (only with silo weighing)

The "silo weight" is calculated from the basic values entered in the previous menus and then displayed.

Note:

Of course the scale is only as precise as the values used for the calibration. The supplied feed amount should be checked on a gauged scale before it is entered under "Calibration value corresponds".

6.7 Use the weigh or flow values for the feed registration

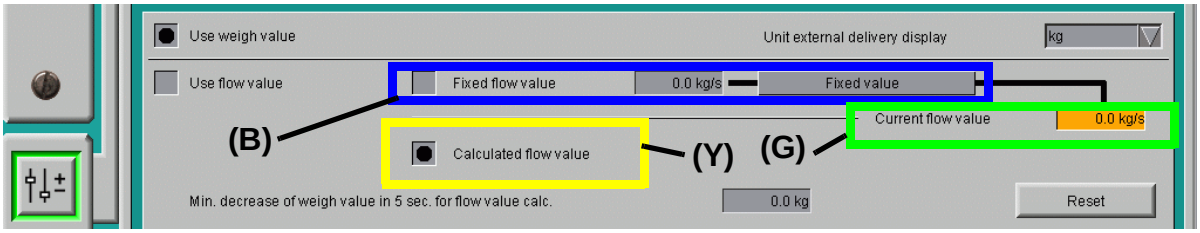


Figure 6-4: Weigh and flow value

6.7.1 Use weigh value

During the normal operation, this method must always be active so that the feed quantities transported into the house for the feeding can be correctly calculated.

6.7.1.1 Unit of external delivery display

If an external supplier display exists - as described in chapter **6.9.2** - it can be adjusted if kg shall be displayed or lbs, as customary in the USA.

6.7.2 Use flow values

If the electronic scale is disturbed or not yet installed, the feed amount can temporarily also be determined as approximate value over the previously determined flow values. In this case, this point has to be activated by a mouse click.

Since the feed amount in kg per second varies only slightly during the time the cross auger runs, it can be determined via the permanently calculated values (kg/s) how much feed was transported into the house when the cross auger was switched on for e.g. 33 seconds.

6.7.2.1 Use fixed flow value

If a flow value shall be fixed to avoid that **AMACS** has to permanently calculate the value, the value which was calculated before via own tests can be entered in the blue **(B)** marked field „kg/s“ and the checkbox can be activated. Now it will be constantly calculated with this value in order to determine the feed amount.

6.7.2.2 Calculated flow value

In the green **(G)** marked field the currently valid flow value kg/s will always be calculated from the values of the feed scale.

The checkmark in the yellow **(Y)** marked checkbox signifies that the system continues to work with the calculated flow value in case of a failure.

In addition to the errors due to defective or faulty silo scales which do not occur so often, there is still a disturbing influence (see chapter **6.7.2**) where this function will ensure that the calculated feed amount can be registered.

- **Silo filling when feeding is in-progress:**

  If the silo is filled while a feeding is in progress, **AMACS** can notice this and will then automatically determine the feed quantities for this feeding on the basis of the calculated flow value kg/s.

- **Minimal reduction of the weigh value within 5 seconds:**

  In order to ensure that the calculation of the flow value does not vary too much, a maximum change of 5 sec can be specified. Normally a standard value of 2.5 kg is entered here.

- **Reset:**

  If you wish to start a completely new calculation, you can use the reset-button to set all flow values back to 0 and enter values for a fixed flow value.

6.8 Automatic recognition of a delivery (only in case of silo weighing)

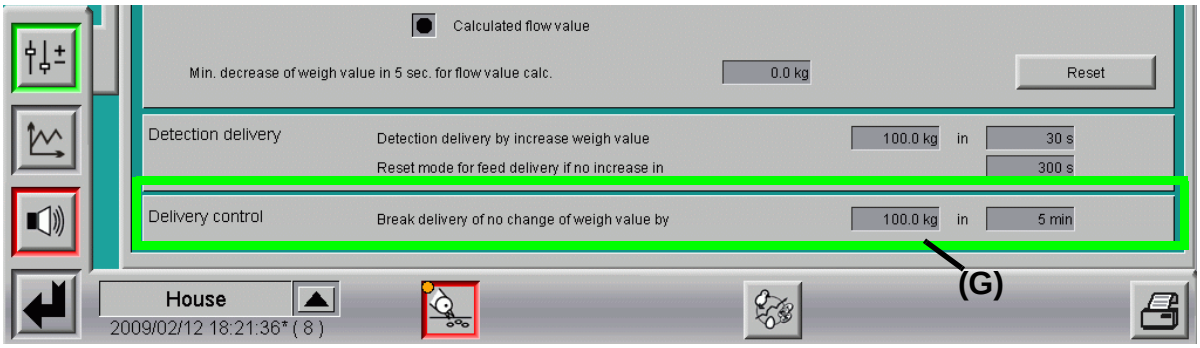


Figure 6-5: Set-up for the recognition of a delivery

6.8.1 Recognition of delivery

If **AMACS** has to automatically recognize the feed deliveries since e.g. no key button or display is available for the log-on or if one has forgotten to register the delivery via the key button, this will be carried out according to the set parameters.

If the silo contents increases by more than 200 kg in a time frame of e.g. 60 sec. **AMACS** will register this as delivery. If the delivery is now finished and the silo contents is stable during a time of 300 sec., the system switches back to standard mode, i.e. the supplied feed amount is transferred to delivery control and any remaining feedings that were put on hold because of the delivery will now be fed out.

6.9 Delivery control (only in case of silo weighing)

If the key button "Silo filling" is pressed as originally intended, the filling is signalized as finished when the key button is pressed once again. However, if the supplier has forgotten to press the key button to signalize that the feeding was finished, a delivery is automatically recognized and finished (green **(G)** marking) when not more than 100 kg are filled into the silo in a period of 5 minutes.

6.9.1 Option "Delivery control with or without display"

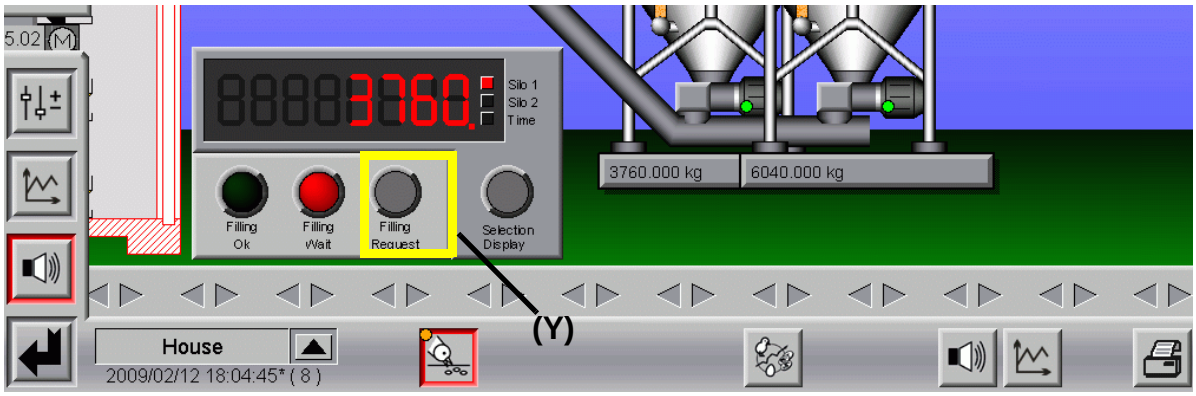


Figure 6-6: Filling request

The key "Filling Request", marked yellow **(Y)** in the picture above enables the supplier to interrupt a feeding in progress, however, the feeding of the currently running group is finished when this is activated.

At the red lamp "Filling Wait" one can see if a feeding is presently carried out (marked in red **(R)** in the picture below).

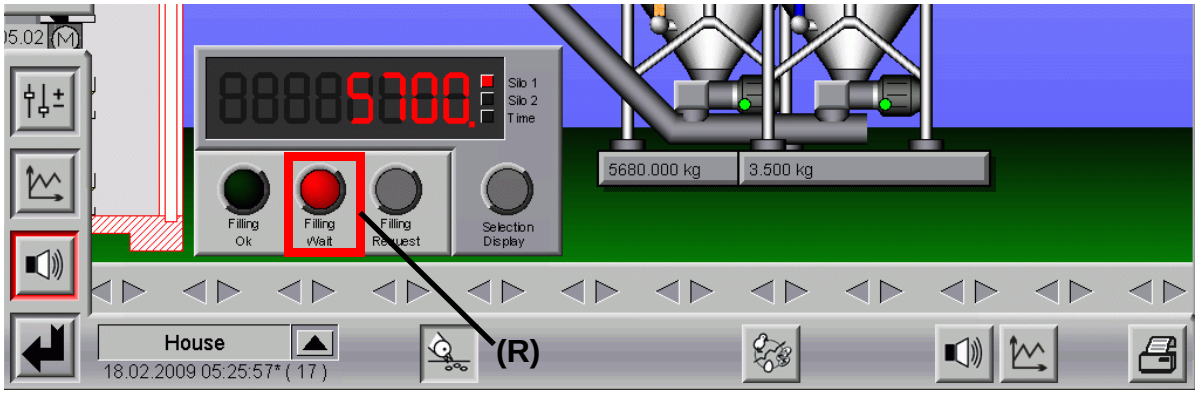


Figure 6-7: Filling Wait

Whether a request was sent for filling can be seen at the flashing green lamp "Filling OK" and the red lamp which is switched on at a running feeding (blue **(B)** marked in the following picture).

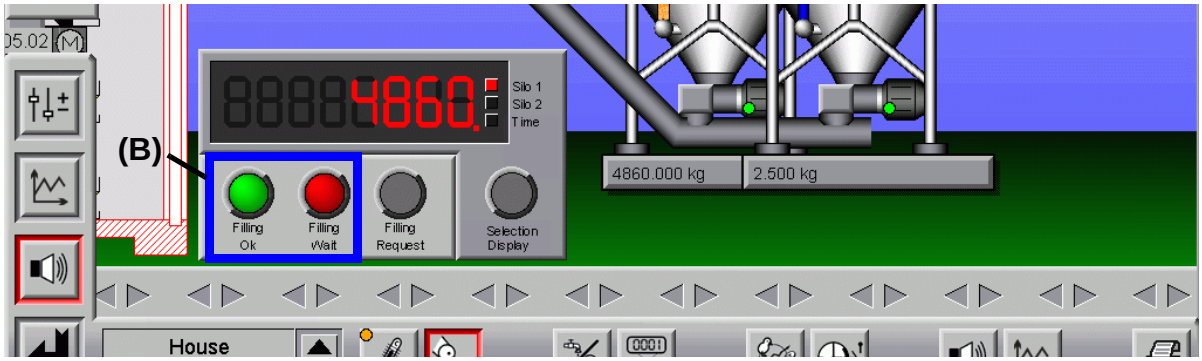


Figure 6-8: Feeding Active

As soon as the green lamp "Filling OK" lights and the red lamp "Filling Wait" is switched off (green **(G)** marked), the silo can be filled.

AMACS will continue feeding the remaining groups as soon as the delivery of feed was recognized as finished or the key "Filling Request" was pressed once again.

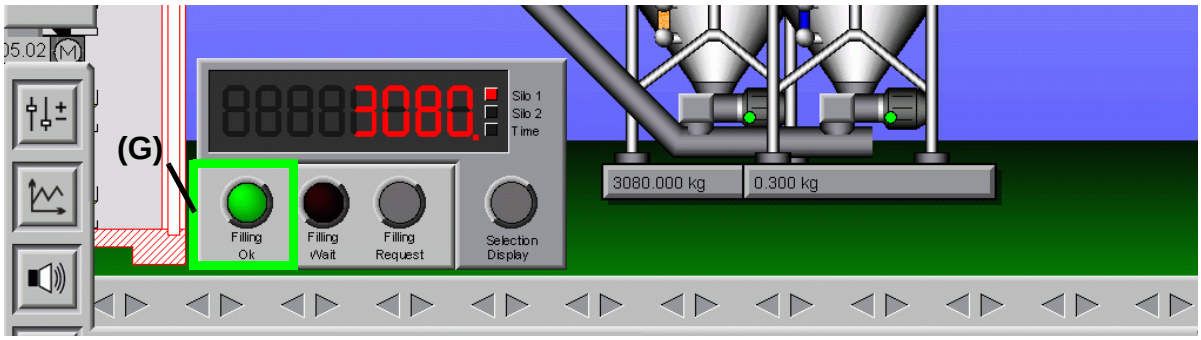


Figure 6-9: Filling OK

6.9.1.1 Information about the filling during a feeding

If a feeding is interrupted to fill a silo, an information window appears in the feeding picture indicating that the feeding is waiting for the filling. This can be seen in the picture below, marked yellow **(Y)**.

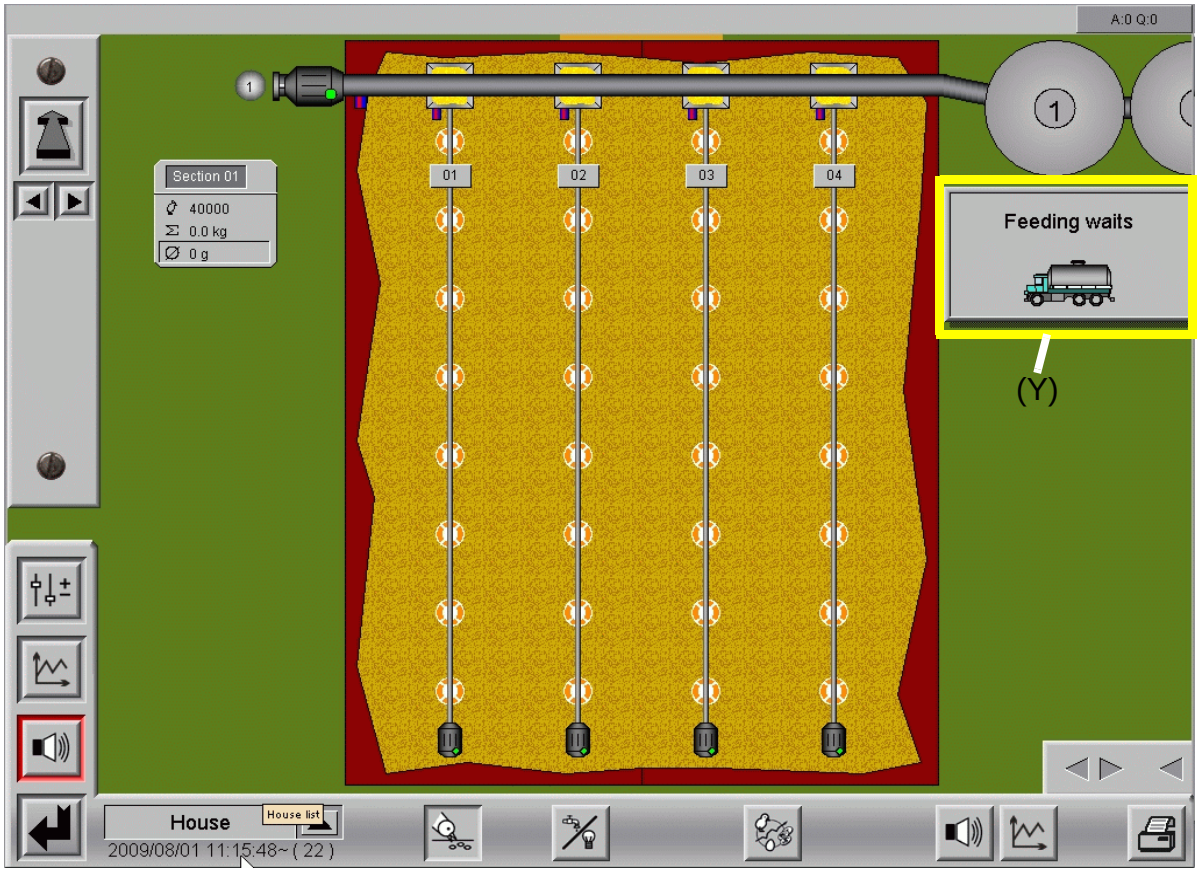


Figure 6-10: Feeding broiler is waiting for delivery

6.9.2 Option "External display with control possibility for the supplier"

The external display with control possibility for the supplier in **AMACS** is marked in green **(G)** in the following picture. This allows the reading of the current silo level directly at the silo.

With the key "Selection Display" the supplier can query the silo levels of up to two silos.

As third function the display shows the remaining running time at a feeding in-progres to avoid that feed is supplied while a feeding is still carried out.

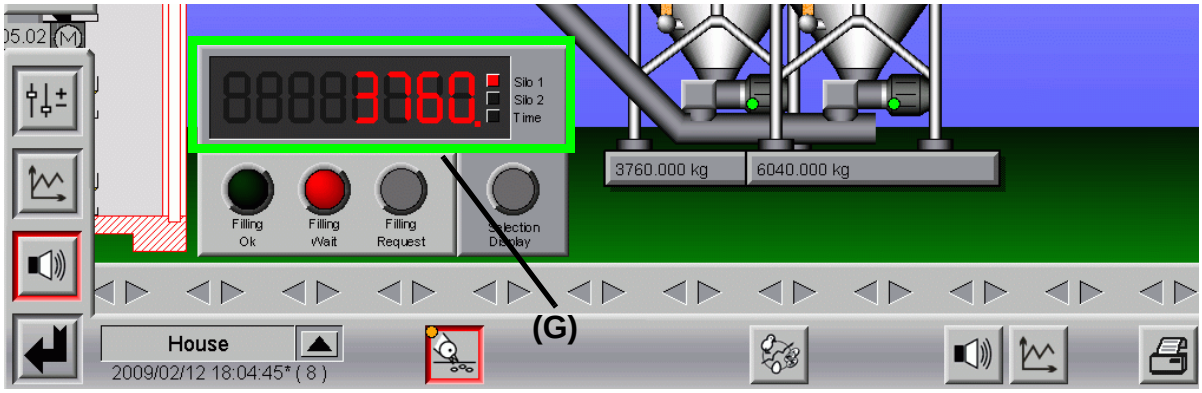


Figure 6-11: External display with control possibility for the supplier

6.9.2.1 Change external display in the main picture

If there are more than two silos, click on the red figures in the picture below. With the click the display changes from silo 1/2 to silo 3/4, see also the blue **(B)** marked field in the picture below. Thanks to this method, up to eight silos can be displayed with this single display.

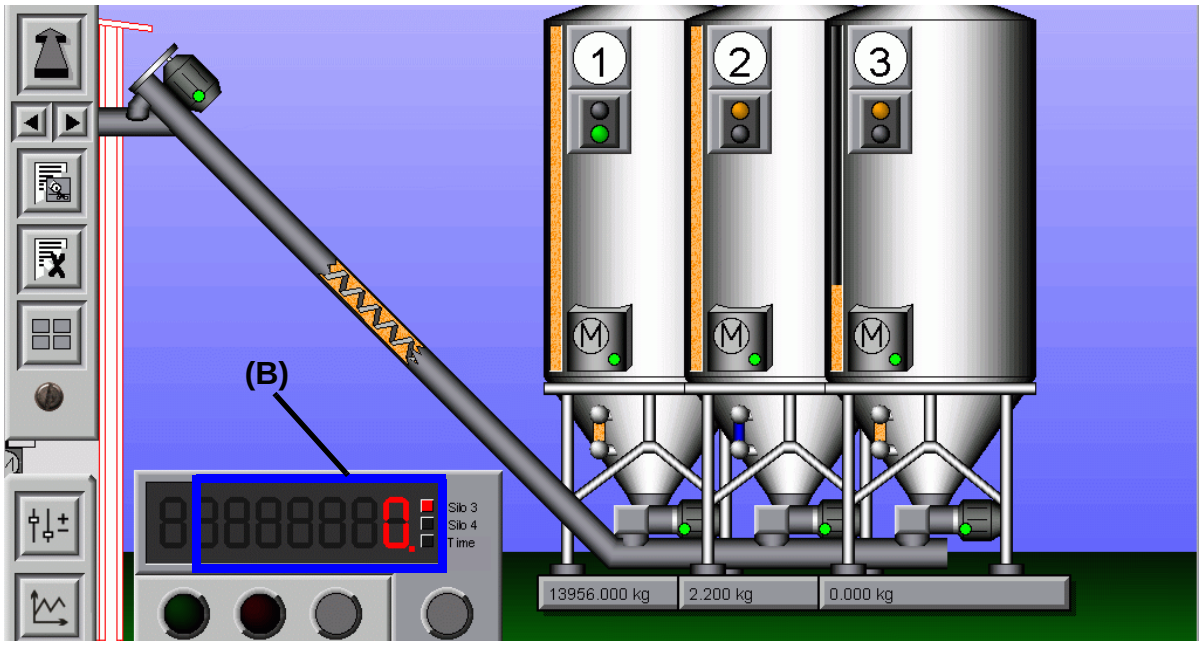


Figure 6-12: External display in the main picture

6.10 Overview weighings

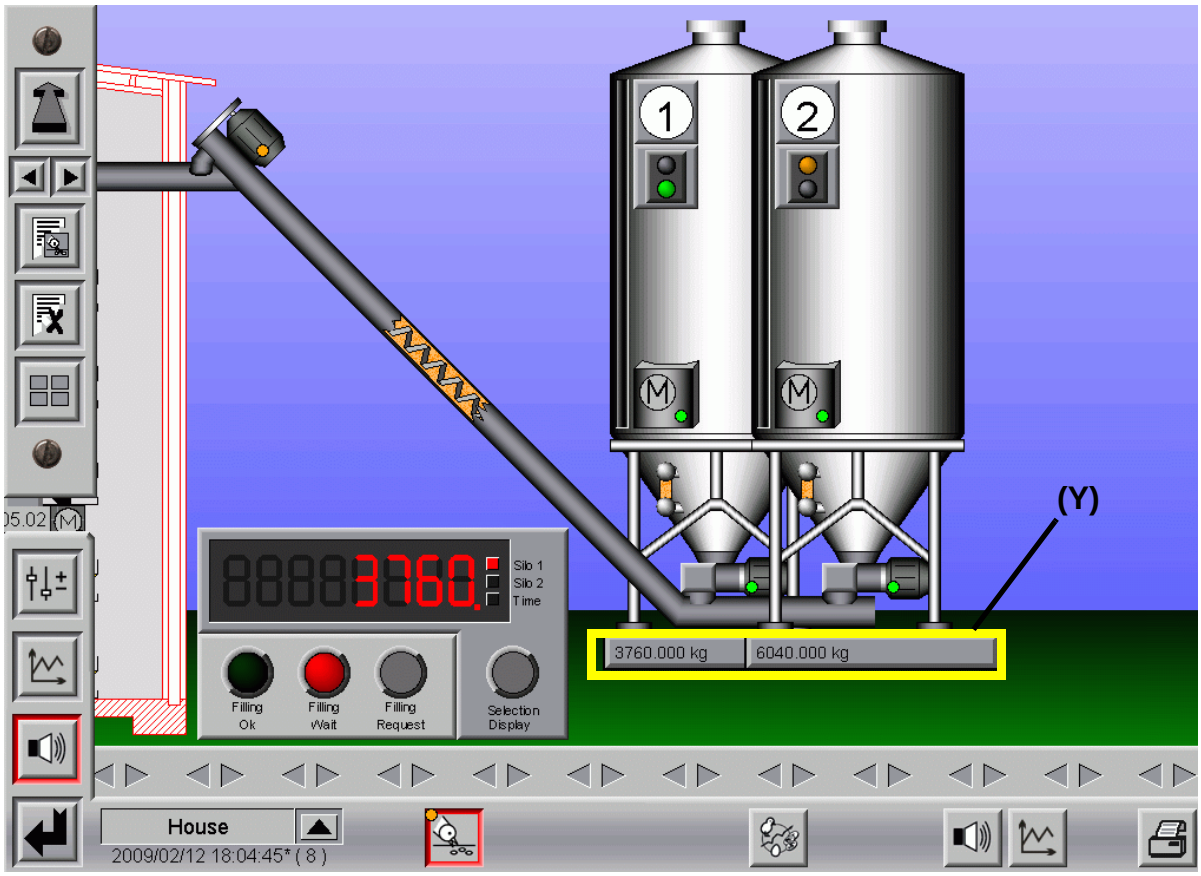


Figure 6-13: Electronic silo scale and external display with control possibility for the supplier

6.10.1 Current silo weight

If one electronic scale is installed per silo, the silo contents can be read off directly in the picture. In the previous picture, the display of the silo scales is marked in yellow **(Y)**.

6.10.2 Curve view of the silo scale

If it is clicked on the current weigh value, the curve view of the weighing is opened in which the weigh value can be retraced.

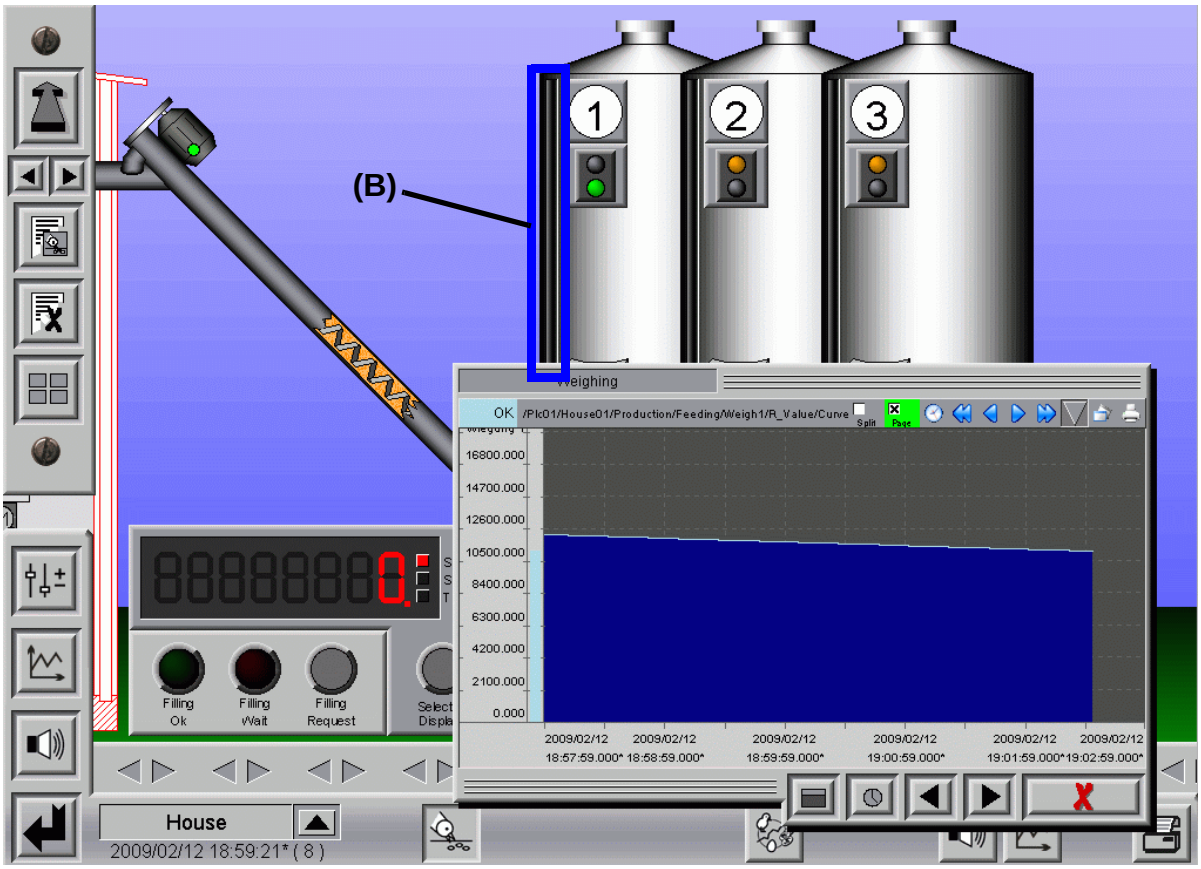


Figure 6-14: Curve view Weighing

6.10.3 Visual display of current filling status

The blue **(B)** marked window in the picture **6-14** allows an easy estimation of the current silo contents.

The window functions like a bar graph and will always show the current filling status.

Note:

Sunshine or changing temperatures (water condensation during the day and absorption of humidity during the night) might cause the display of the current silo status to vary slightly; however, this does not inhibit the registry of the feed amount per group or per bird.

6.11 Notes

7 Electronic batch weigher

7.1 Overview weighings

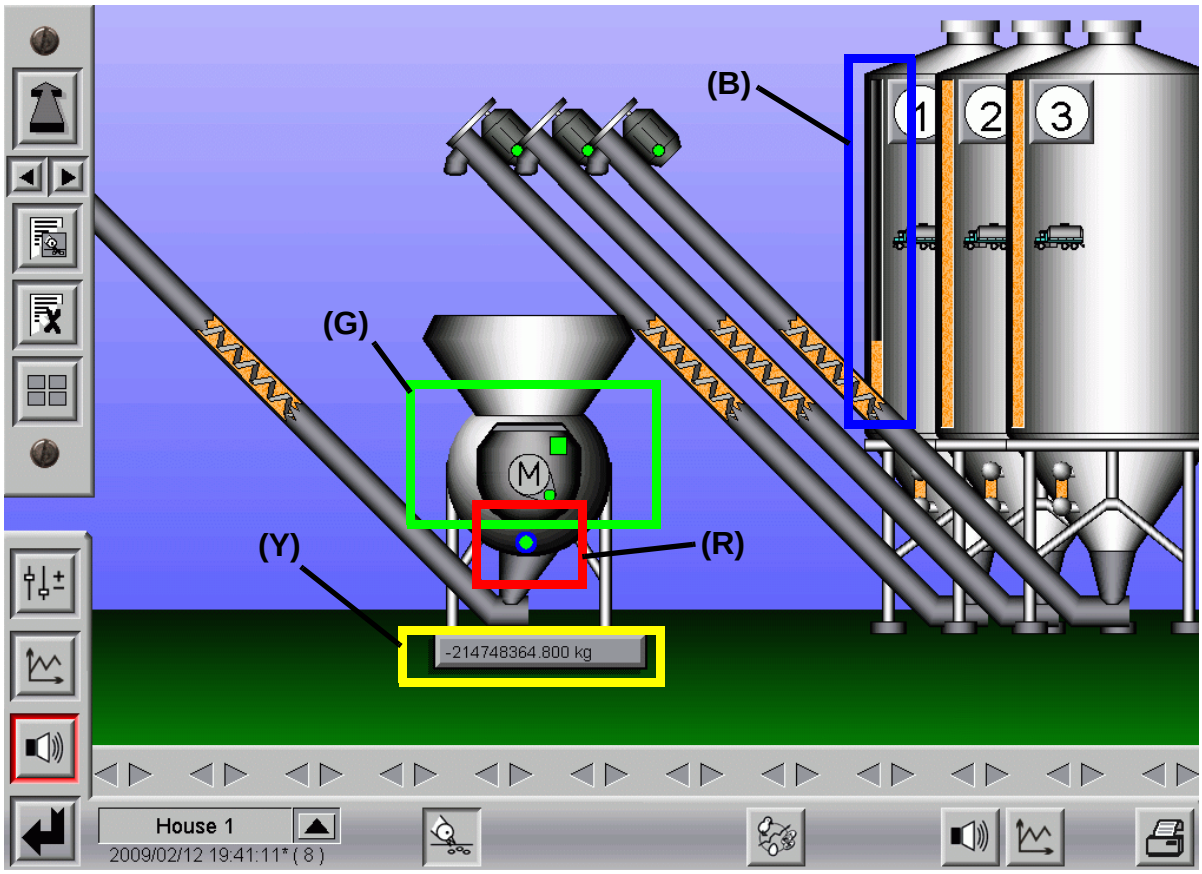


Figure 7-1: Electronic silo weigher

7.1.1 Current weight in the drum

If an electronic batch weigher is installed, the current weight in the drum can directly be read from the picture. In the previous picture the display of the weigh value is marked in yellow **(Y)**.

7.1.1.1 Graphical view of the scale

A click on the current weigh value will open the graphical view of the weighing where the weigh value can be traced back.

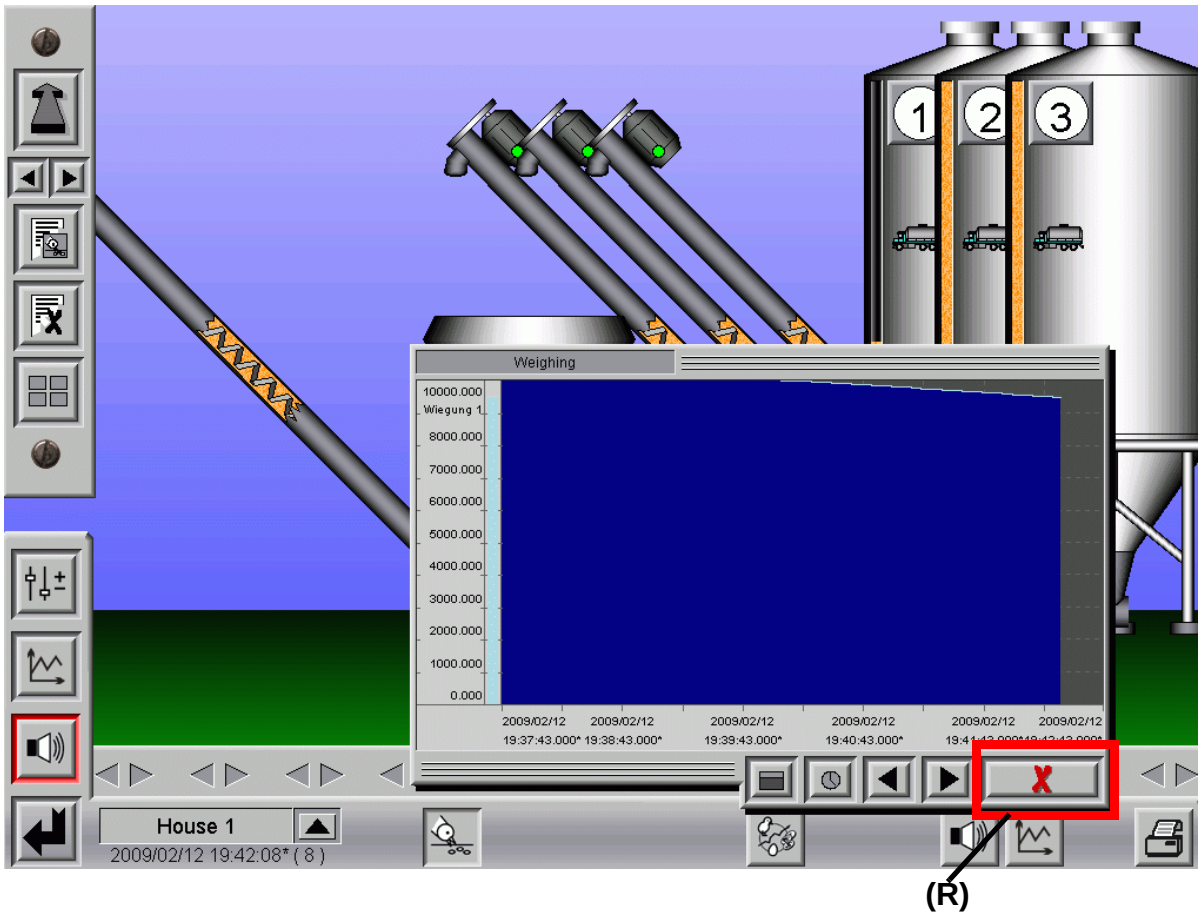


Figure 7-2: Graphical view Weighing

The graphical view can be closed again via the red **(R)** marked X.

7.1.2 Minimum sensor in the drum

The minimum sensor at the drum, marked red in the picture **7-1** gives a signal to **AMACS**, if the batch weigher shall dose a batch.

If the sensor lights up green, more feed is required. However, if there is still enough feed in the hopper this will light up red.

7.1.3 Control of the drum position

To check the position of the drum, see the small display "Drum position top", marked green **(G)** in the picture **7-1**. If this display lights up green, this means that the drum is in the correct position (opening above) and feed can be filled into the drum. If the display is grey, the drum is not in correct position.

7.1.4 Manual operation of scale drum

In order to check the scale, the drum can also be operated manually in the view picture. Click on the green **(G)** marked field in picture **7-1**. Now the following menu appears.

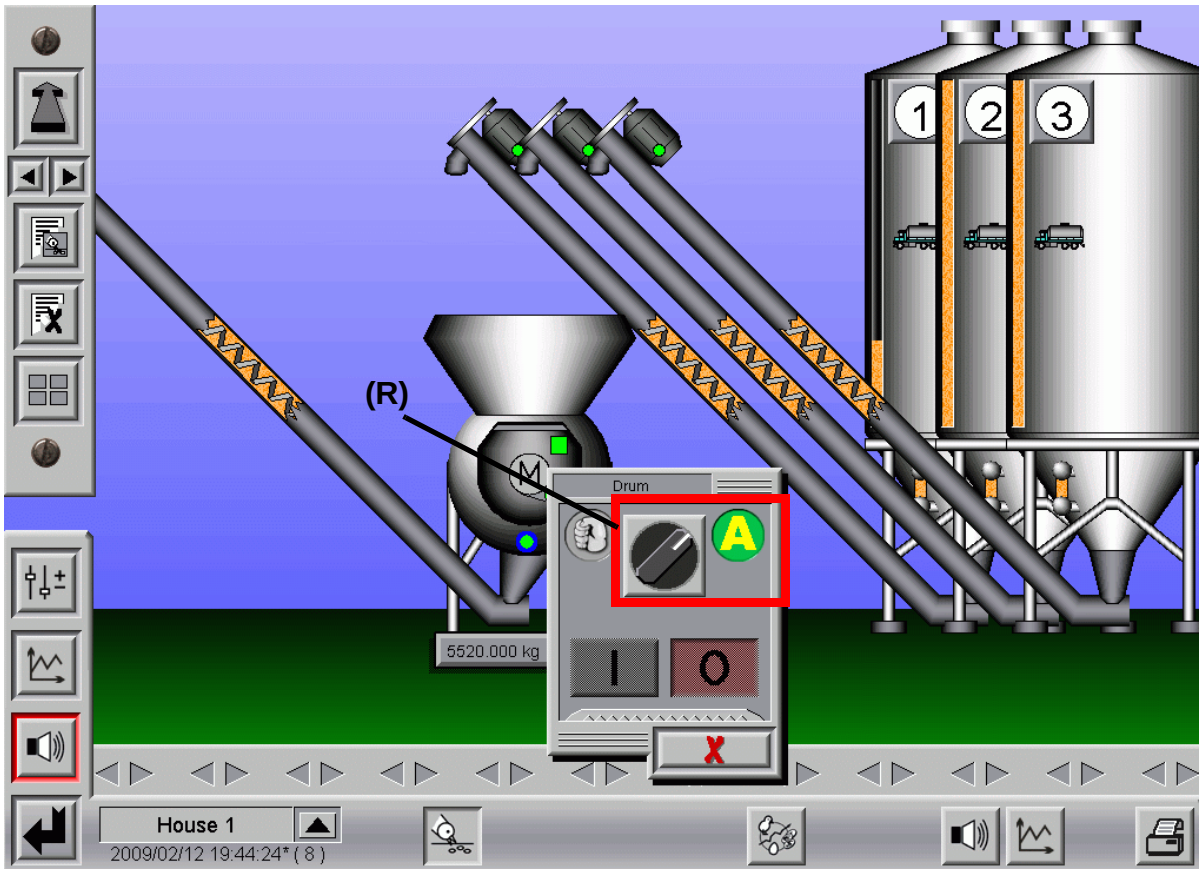


Figure 7-3: Turn the drum manually

Click on the red **(R)** highlighted switch or closed fist to switch the drum motor to manual operation.

Now the drum motor can be switched on or off by means of the marked pushbuttons. When the motor is started only one revolution can be carried out. As soon as the sensor (marked red **(R)** in the previous picture) is activated the drum will always stay in the "top" position.

7.1.5 Information regarding the filling of the batch weigher

As soon as a filling starts a window will be opened in the view picture "Feeding" where the set recipe with all parameters and an interruption function are displayed.

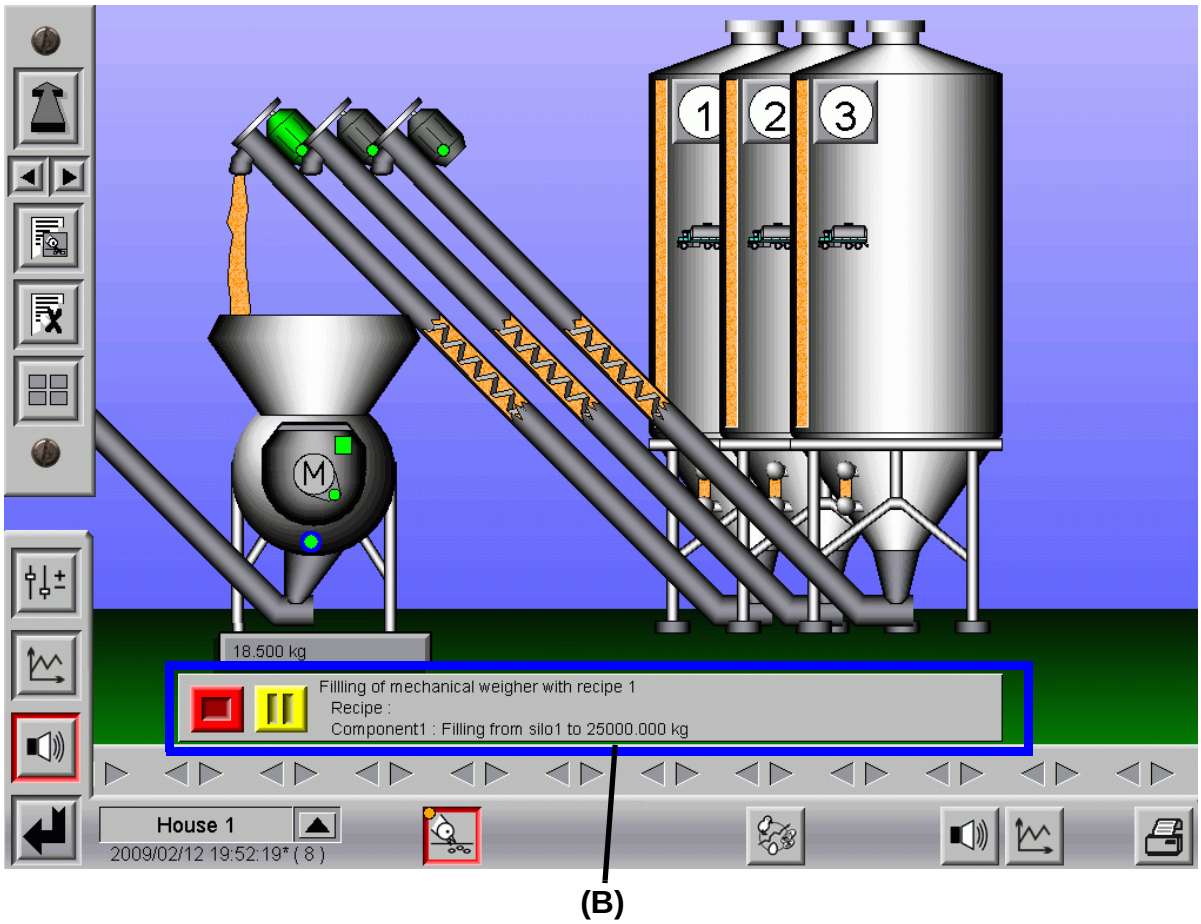


Figure 7-4: Information regarding the filling of the batch weigher

7.1.6 Stop filling

A filling already running can be stopped as shown in the blue **(B)** marked field of the previous picture. The current filling can be interrupted by clicking on the red button. The batch weigher is now rotated once and then waits for another demand.

7.1.7 Filling in pause

It may happen that the filling must wait. In order to switch the filling to pause, click on the pause button in the blue **(B)** marked field in the view picture. This will become green at a pause. Now the filling is delayed until this button is clicked again.

7.1.8 Defective feed scale 99 B

If the feed scale is defective, feed must nevertheless be transported into the house to feed the animals. In this case the hand operation of the drum described before can be used.

Start the drum as described under **7.1.4** and turn the opening to the bottom side. The cross auger as well as the silo auger can now be switched to manual operation if the "maximum sensor" that is installed above the scale will release and feed is transported into the house.

This "maximum sensor" is electromechanically integrated in the system and ensures that feed can be delivered into the house even in case of system failure.

(The maximum sensor is not shown in the main picture)

Attention:

Works at drive units or augers may only be carried out if the protective switch is in the OFF position. The drive units could be activated without prior warning e.g. by the time clocks or sensors. Also observe security signs and instructions.

7.2 Set-up parameters for the electronic batch weigher (page 1)

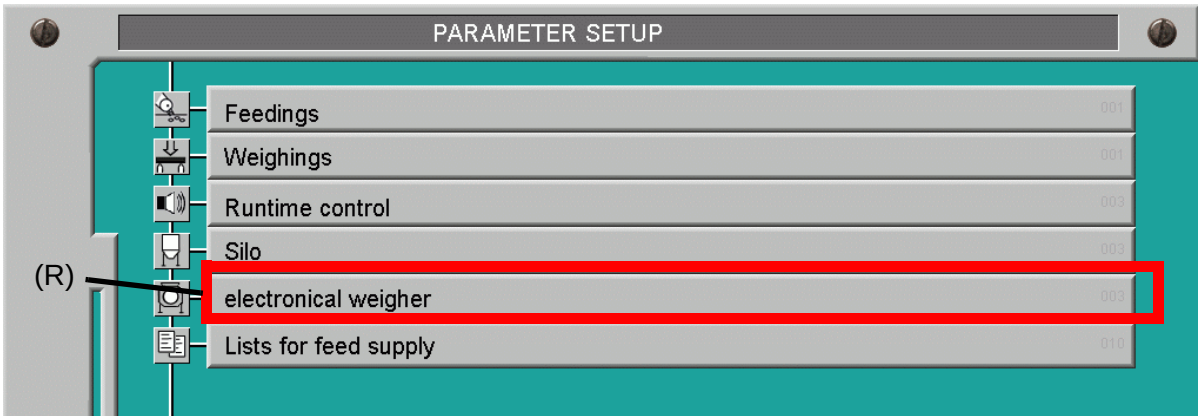


Figure 7-5: Overview feeding manager -Electronic batch weigher broiler

When opening the red **(R)** marked field in the previous picture, a menu appears (marked yellow **(Y)** in the next picture) where some values are entered at the initiation which may not be changed without cause.

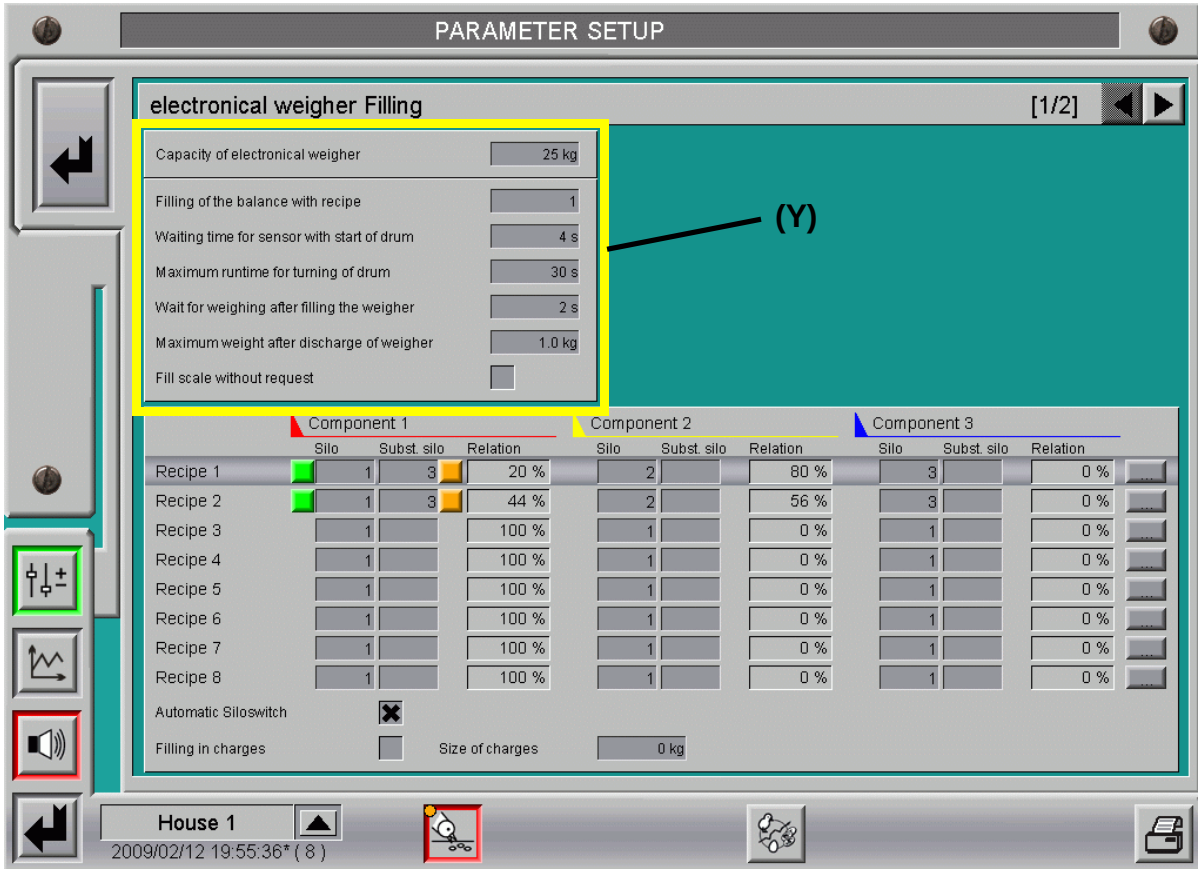


Figure 7-6: Set-up parameters for the batch weigher

7.2.1 Batch weigher capacity

Here the feed quantity is determined per filling. Lightweight but voluminous feed types might only allow a filling of up to 25 kg.

Make sure that the drum does not overflow when it is filled.

7.2.2 Filling of the weigher using a recipe

If several silos are installed, it is determined which recipe shall be used for filling the weigher. The currently active recipe will be highlighted in grey. See also chapter **7.2.8**.

7.2.3 Waiting time for sensors at drum start

This waiting time is required to allow the drum to turn away from the sensor "top position" without causing an error message. For the FW99 B we recommend a value of 4 seconds to guarantee a faultless operation.

7.2.4 Maximum running time for rotation of the drum

Use this menu to enter the allowed time for a full rotation of a drum. If the drum is not able to make a full rotation within this time, an error message will appear.

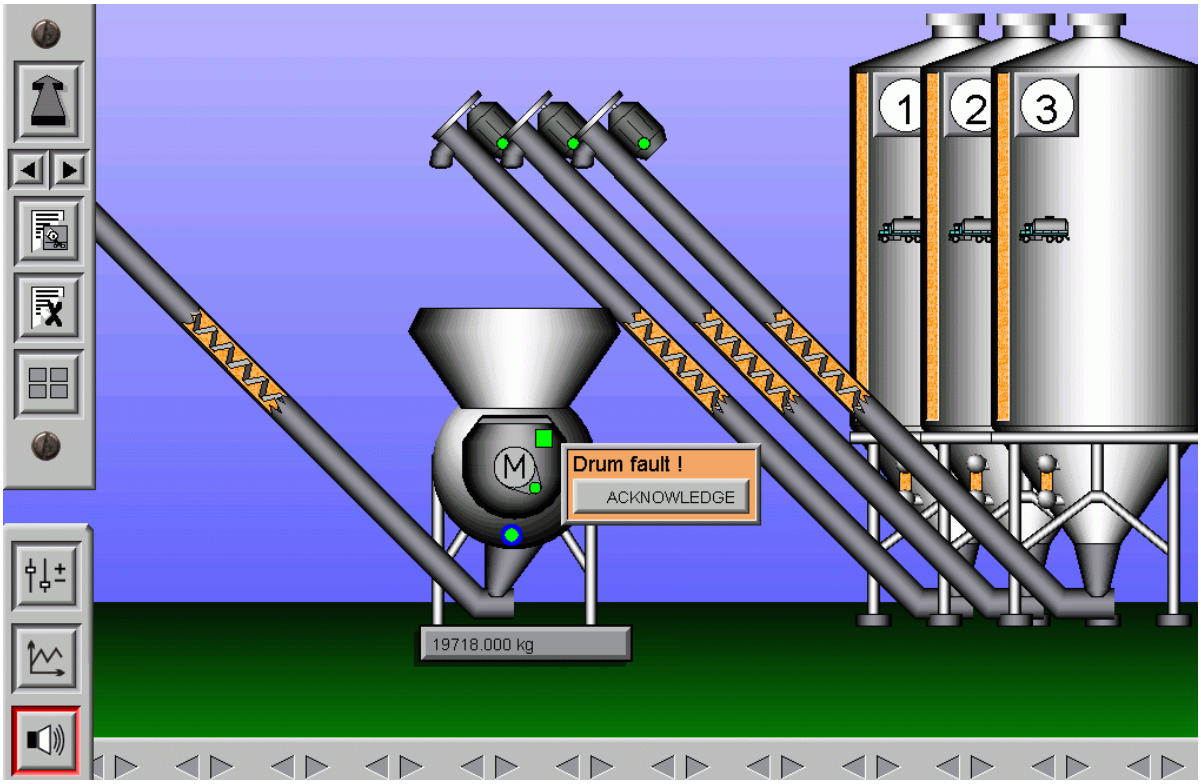


Figure 7-7: Error message

If the sensor does not give a signal this may have different reasons, e.g. …

- there is too much feed in the drum and therefore it cannot rotate any more to the correct position;
- the drum motor is currentless;
- the position sensor is too far away from the drum;
- the position sensor or the cable is defective.

If the error message is acknowledged via the button "ACKNOWLEDGE" the drum will try to get into the correct position.

7.2.5 Waiting time for weighing after filling the weigher

In order to ensure that the after-flow control can register the filled feed correctly, a waiting time of approx. 2 seconds is necessary after the filling so that the feed which possibly still runs can be weighed as well.

7.2.6 Maximum weight after discharge of the weigher

If the weigher is not fully emptied after a drum rotation, the precision of the scale might be affected.

Use this menu to determine how many kilograms are allowed in the drum after rotation. Under normal operating conditions we recommend a value of 1.0 kg.

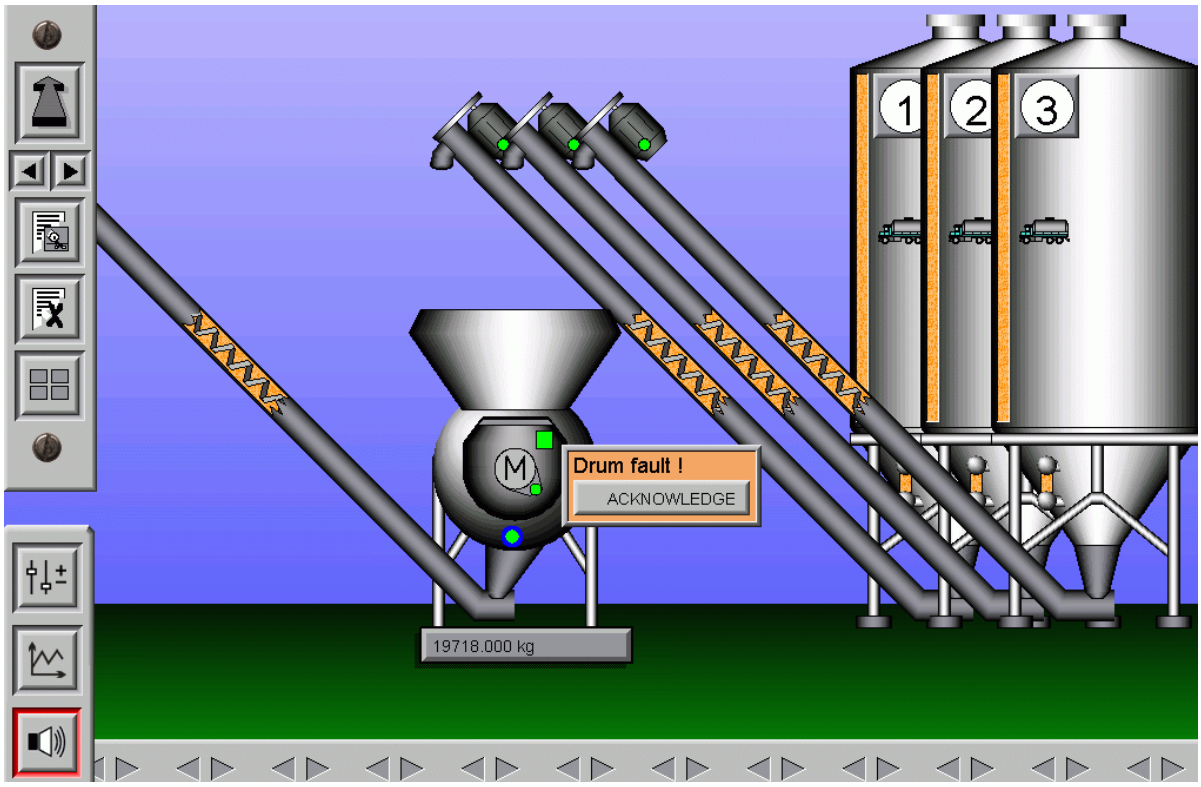


Figure 7-8: Error message

If the weigher is not fully discharged after the first rotation and the following two trials do not lead to a complete emptying, this may have several reasons, e.g.: …

- there is too much feed under the drum and the drum cannot be completely emptied;
- deposits have formed in the drum which are heavier than the maximum weight;
- the weigher is not exactly calibrated.

If the error message is acknowledged via the button "ACKNOWLEDGE" the batch weigher waits for the next request.

7.2.7 Fill weigher without request

Filling of the batch weigher without request is intended for the case the cross auger transports the feed faster into the hopper than the batch weigher can refill it.

In this case the time which the "empty" signalling sensor takes to work is used for filling the batch weigher and a direct discharge on request.

7.2.8 Recipes

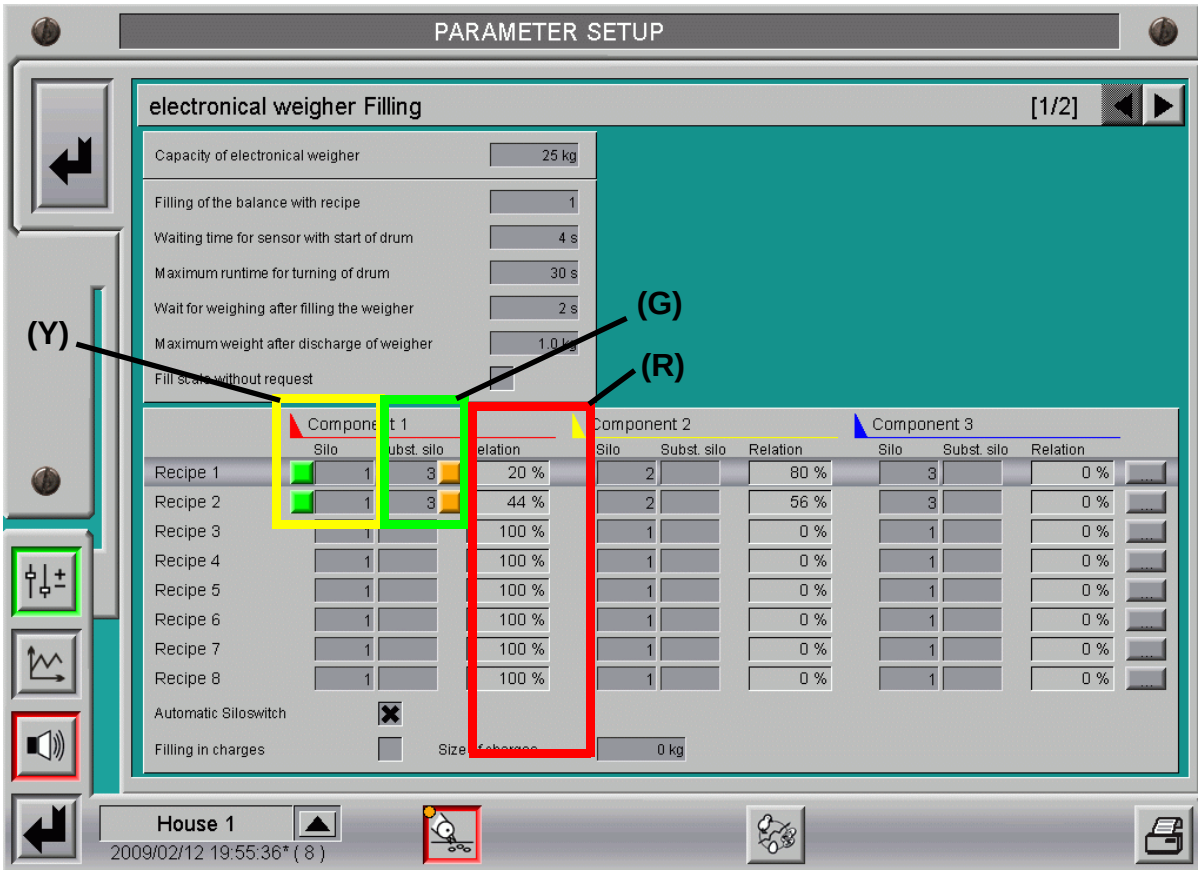


Figure 7-9: Set-up of recipes

7.2.8.1 Recipes 1-8

This menu is used to check and set the composition of the individual recipes.

7.2.8.2 Silo

Here it is specified for recipe 2, marked in yellow **(Y)** in the previous picture, from which silo the respective component will be taken.

7.2.8.3 Alternative silo

It is specified for recipe 2, marked in green **(G)** in the previous picture, to which silo it will be switched in case of a failure of the "normal" component.

7.2.8.4 Mixture ratio of the components

Click on the red **(R)** button in the previous screenshot to change the mixture ratio of the individual recipes.

7.2.8.5 Change of mixture in %

The following screenshot shows how the mixture of the components is adjusted. Keep the mouse pressed and move the yellow **(Y)** marked buttons upwards or downwards to adjust the mixture to the desired ratio.

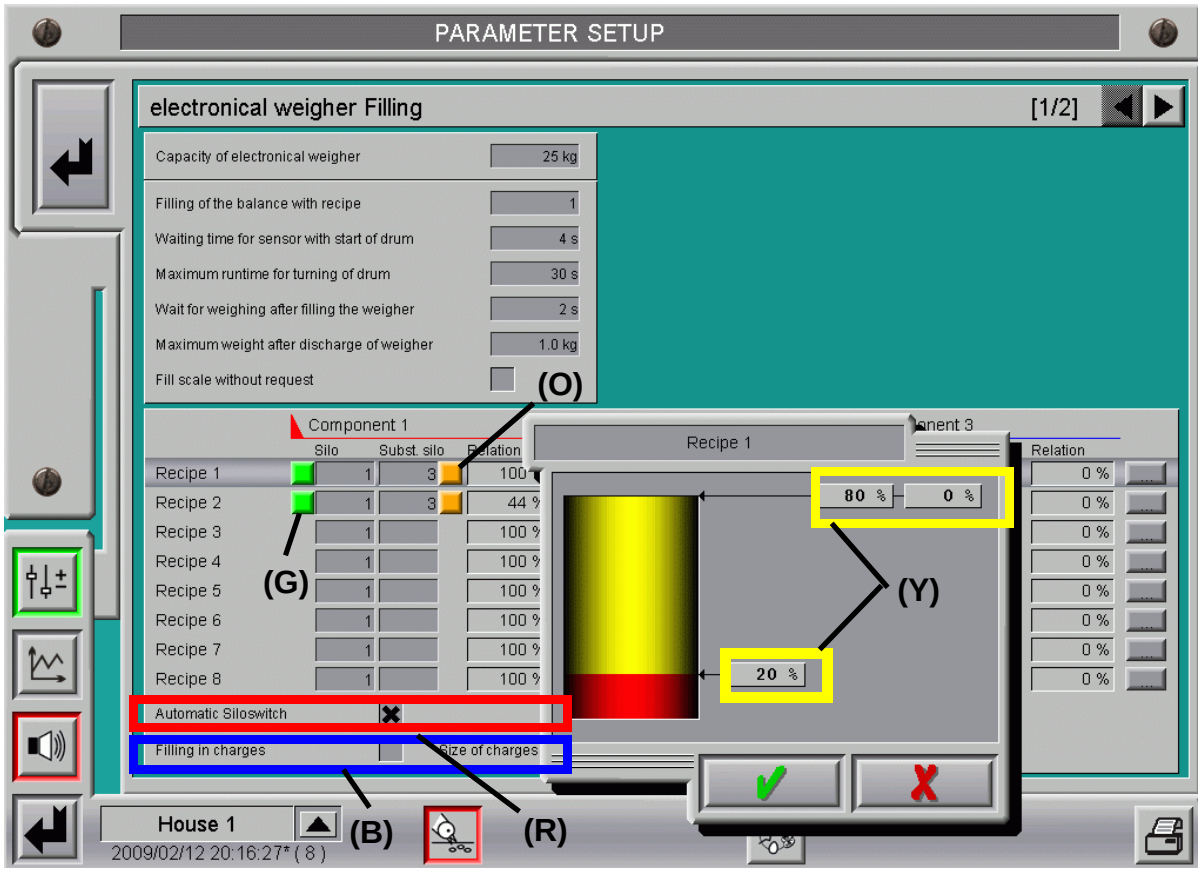


Figure 7-10: Adjustment of the mixture ratio

7.2.8.6 Automatic silo adjustment

The activation of the red **(R)** marked checkbox in the previous picture allows an automatic adjustment of the silo, i.e. the set silos can be automatically adjusted by **AMACS**, if necessary.

If the automatic silo adjustment is activated, the alternative silo will be entered as standard silo when it is switched to this silo.

A button in front of the field "Silo" and "Subst. silo" which lights up green **(G)** when the silo is active and orange **(O)** when it is inactive indicates from which silo it is presently filled. Click on the orange **(O)** button if the silos shall be switched over manually during a feeding.

The pushbuttons are hidden if no substitute silo is entered for a component.

7.2.8.7 Batch filling

This function, marked blue **(B)** in picture **7-10** may be used for the mixture when big weighers are used.

The function can be used e.g. to blend the fatting feed with home-grown wheat. Activate the checkbox and preset the batch size with 10 kg, for example. The feed amount is not filled into the drum in layers (batches).

The feed batches which are composed of e.g. 20% wheat and 80% feed are mixed when the drum rotates.

Note:

A switch-over to other types of feed may only be effected if the chosen feed type corresponds to the one primarily used. Please observe the official regulations.

7.3 Setting parameters for the electronic batch weigher (page 2)

The blue **(B)** marked button in the following picture makes further settings visible.

With the arrow keys it can be changed between the pages.

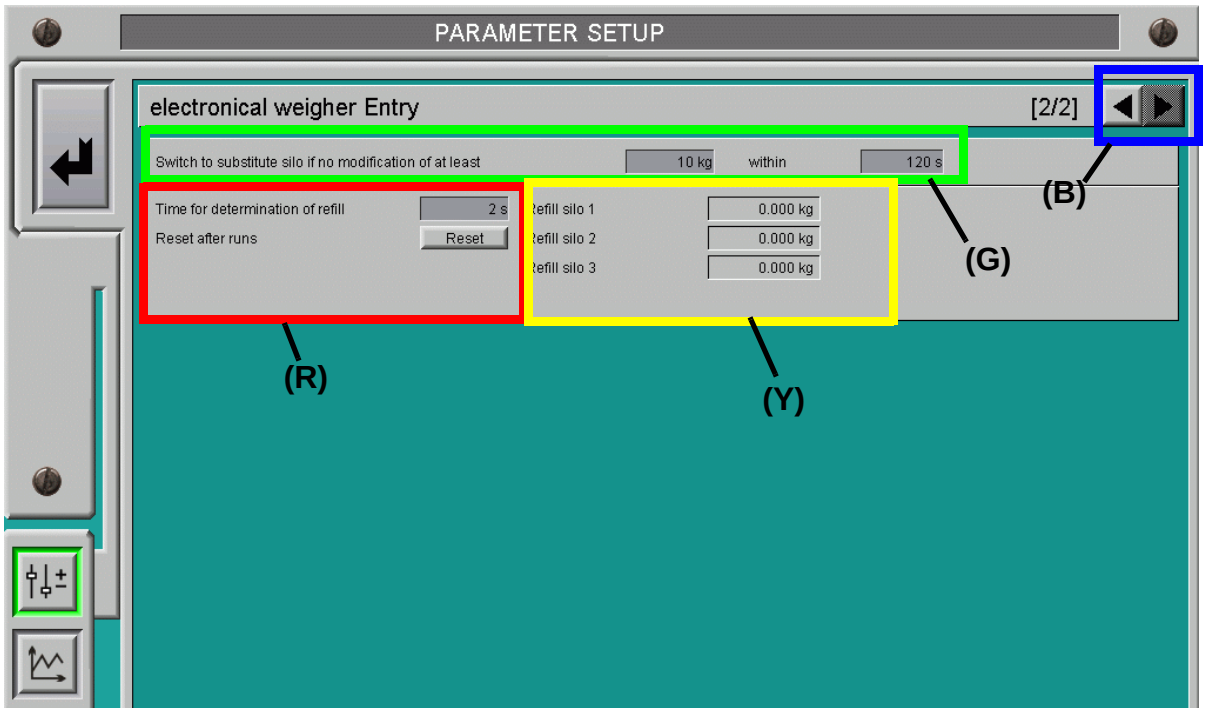


Figure 7-11: Electronic weigher Control parameters page 2

7.3.1 Switching to alternative silo

The parameters for switching to an alternative silo are determined in the green **(G)** marked field. If the weight in the drum does not change by at least 10 kg within the set time of 120 sec, it will be switched over to the substitute silo (if installed).

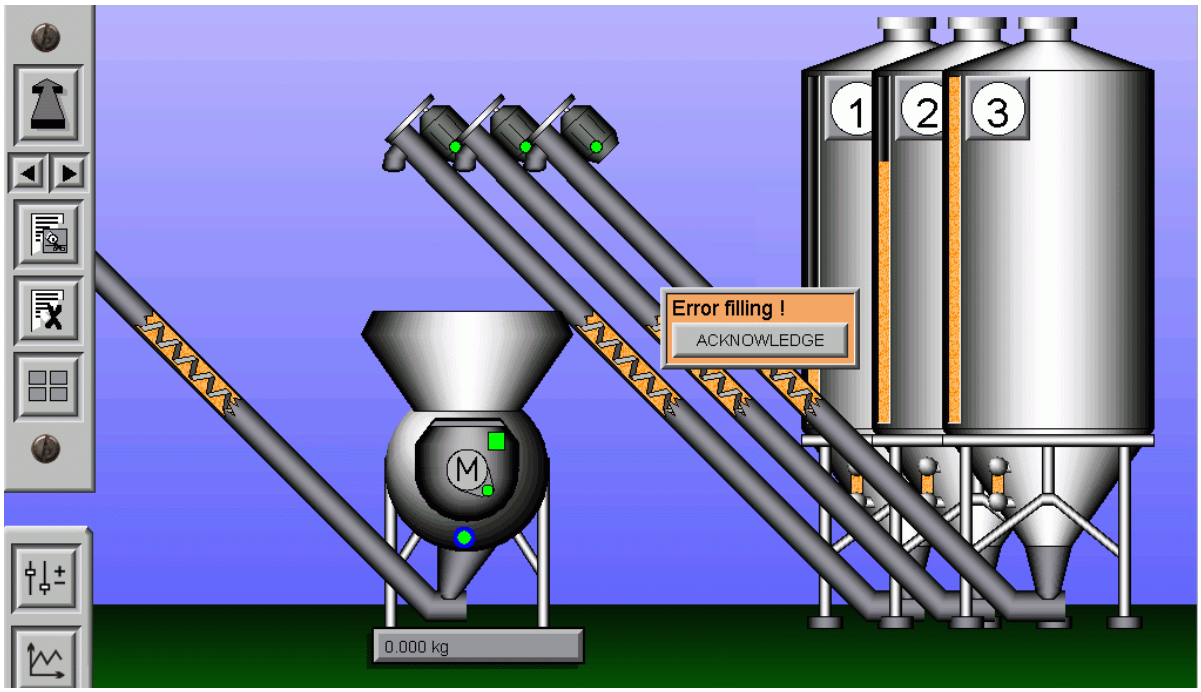


Figure 7-12: Filling error in the main picture

7.3.2 Time to determine the after-flow

To correctly determine the after-flow amount per auger, enter a pause time of 2 seconds (highlighted red **(R)**) after filling in each component.

The value is determined when the system is taken into operation. This value should not be reduced in order to ensure that the complete feed from the hopper above the weigher can fall into the drum within this time.

7.3.3 After-flow Silo 1-8

The after-flow of each component is permanently monitored and calculated from the average value of the last deliveries. The augers switch off, taking into consideration the calculated amount - according to the field highlighted yellow **(Y)** in figure 7-11 - to fill in the mix as accurately as possible.

7.3.4 Reset

The calculated after-flow values can reset to zero if you press this button.

7.4 Notes

8 Two houses, one electronic batch weigher

The structural conditions often require the utilisation of a batch weigher for two houses. However in this case **AMACS** has to process the feedings of both houses logistically to correctly register the distributed feed.

8.1 Traffic light view in the main screenshot

A traffic light is displayed in the main screen feeding to see which house has presently the control on the batch weigher.

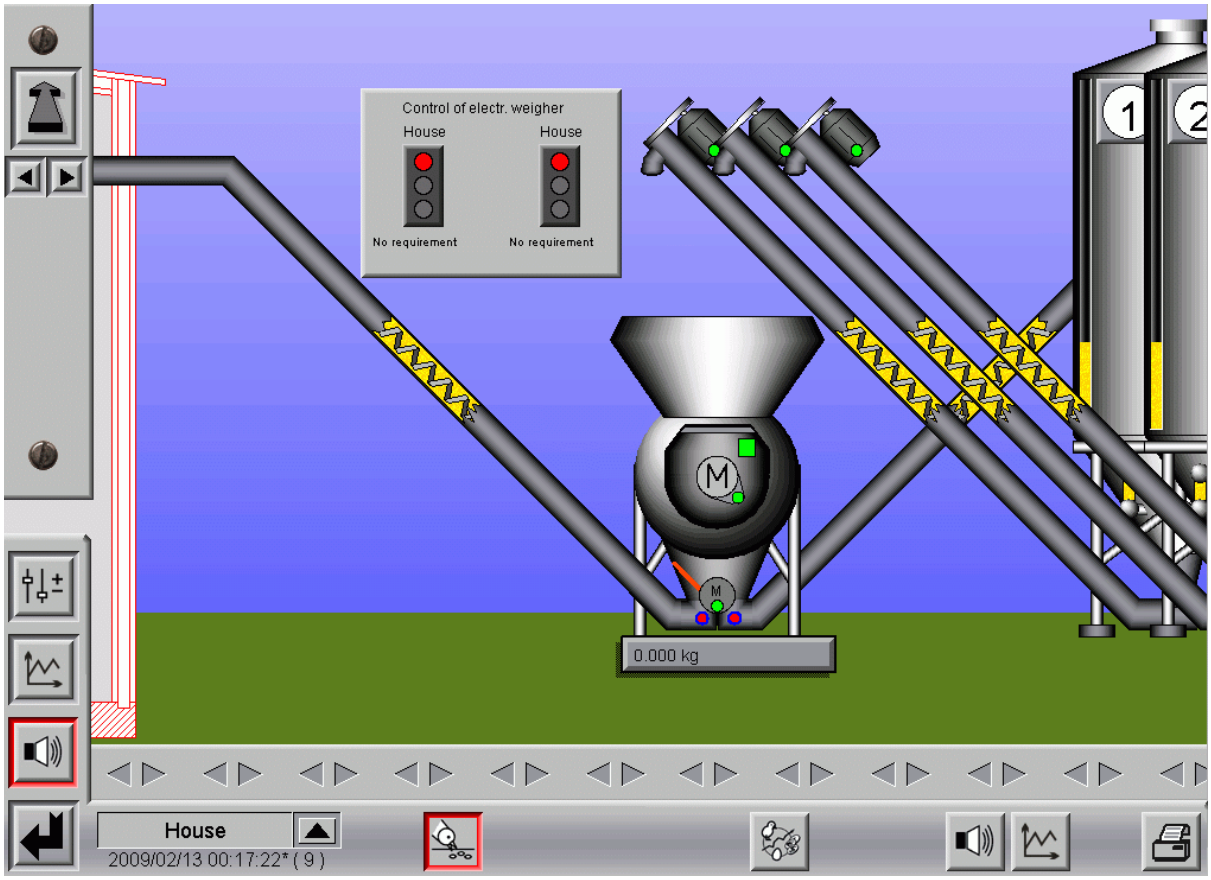


Figure 8-1: Traffic light in the main screen

The name of the house is displayed above the traffic light. The traffic light informs about the current status of the house. The colours of the traffic light have following meaning:

- **red** = no request
- **yellow** = wait for release
- **green** = release

The status of the respective house is also displayed below the traffic light. If a house has got the release, it is displayed how long time it will take to finish this. Thus the other house has the possibility to fill the batch weigher.

8.2 Setting parameters for the batch weigher PAGE 2

The blue **(B)** marked button in the picture below makes the settings for the batch weigher visible. With the arrow keys it can be changed between the pages.

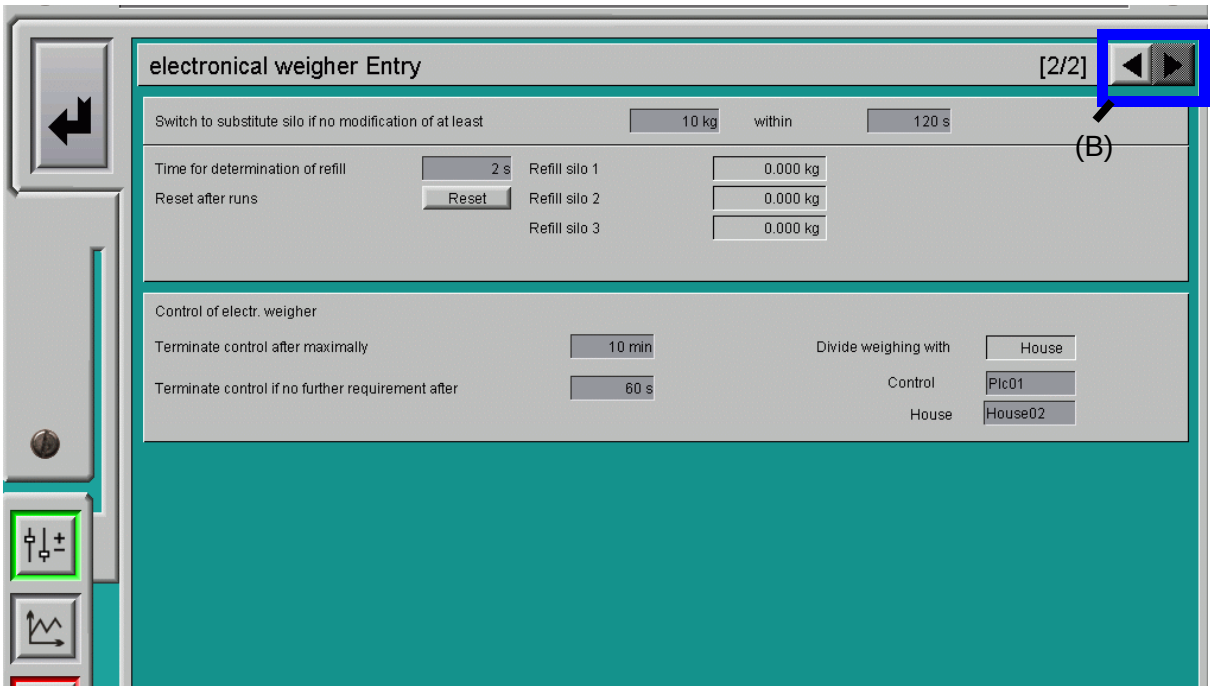


Figure 8-2: Electronic batch weigher, control parameters page 2

8.2.1 Control of the batch weigher

In order to prevent that the batch weigher skips from house to house in case of simultaneous feed demand, you can enter under "terminating control after maximally" how long a house shall keep the control.

After this time has elapsed, the batch weigher is made available to the house which first requires feed.

If the house which has presently the control of the batch weigher, does not have a feed demand, you can enter under "Terminate control if no further requirement after" when the control has to be released again.

8.2.2 Divide weighing with

To make sure that the batch weigher knows which house shall be filled, the additional house has to be entered under "divide weihging with".

Enter the "Name" of the SPS under control (this is entered by the service technician when the system is taken into operation), as well as the configurated house under "House".

8.3 Notes

9 Day silo

9.1 Overview weighings

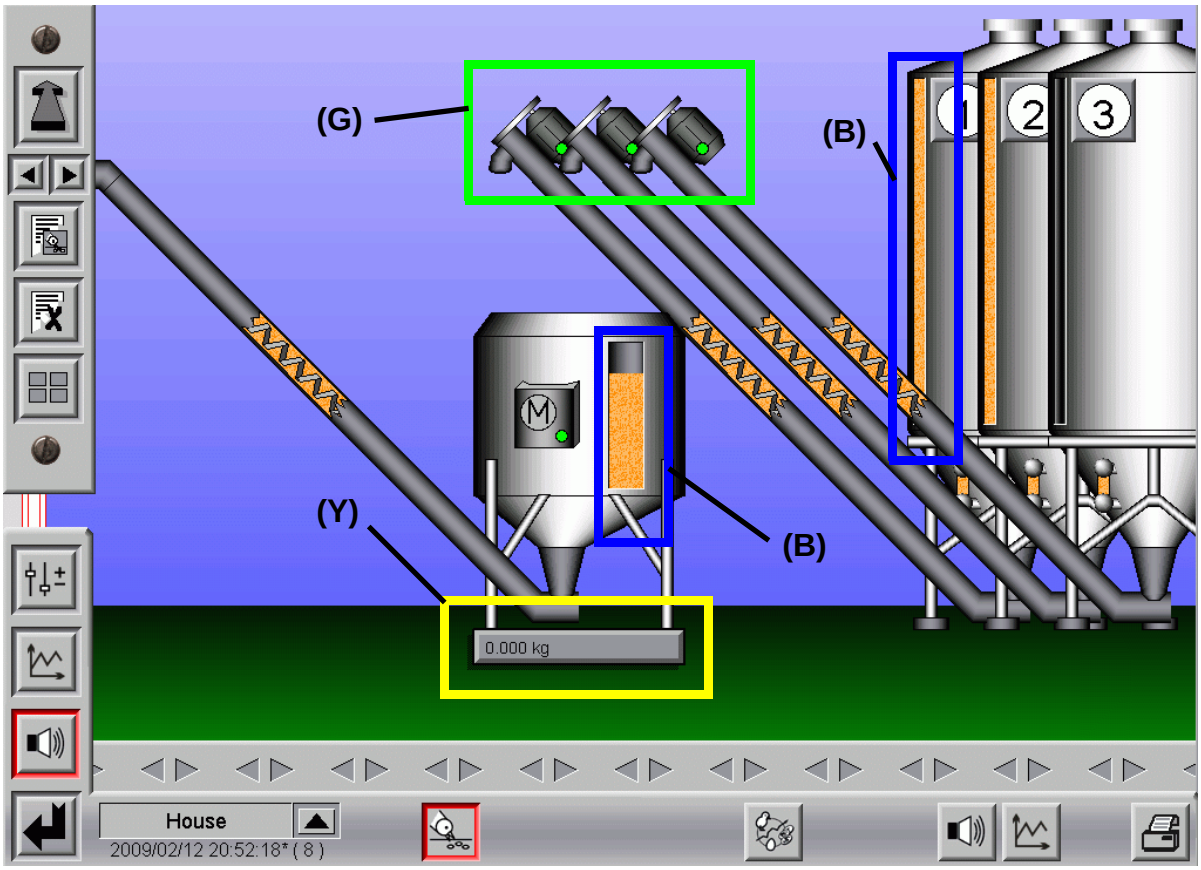


Figure 9-1: Electronic silo weigher under a day silo

9.1.1 Current silo weight

If a day silo with an electronic scale is installed, the current silo contents can always be directly read from the picture. In the previous picture the display of the weighing value is marked yellow **(Y)**.

9.1.1.1 Graphical view of the scale

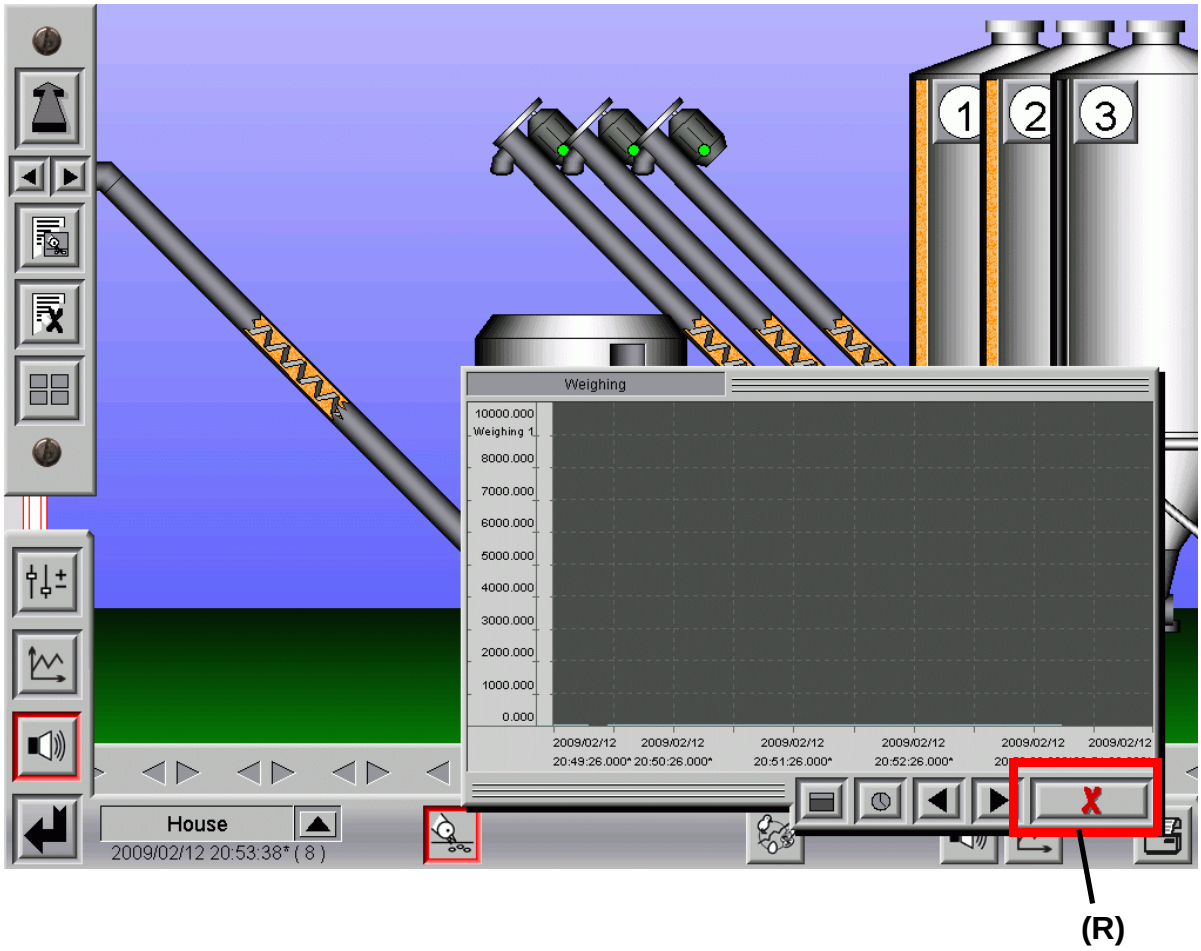


Figure 9-2: Curve view of the scale

A click on the current weighing value will open the curve view of the weighing where the weigh value can be traced back.

The curve view can be easily closed with the red **(R)** marked X.

9.1.2 Visual display of current filling status

The current silo contents of the day silo and the storage silos can be easily estimated in the blue **(B)** marked window in the picture **9-1**.

The window functions like a bargraph and always shows the current level.

If all feed supplies are entered manually for each storage silo, the calculated silo level is displayed in the blue **(B)** marked window.

9.1.3 Manual operation of discharge augers

Since this configuration includes one conveyor auger per silo, the auger can also be operated manually. Click on the motors highlighted green **(G)** in figure **9-1** to open the control panel for these motors. You can now switch the motors to manual operation and if there is still space in the day silo, the feed may also be refilled manually.

	**Caution:** Maintenance or service works at the drive units or augers may only be carried out if the protective switch is in the OFF position. The drive units could be activated without prior warning e.g. by the time clocks or sensors. Also observe local security signs and instructions. The augers should not be switched to manual operation without supervision since otherwise the day silo might be overcharged.

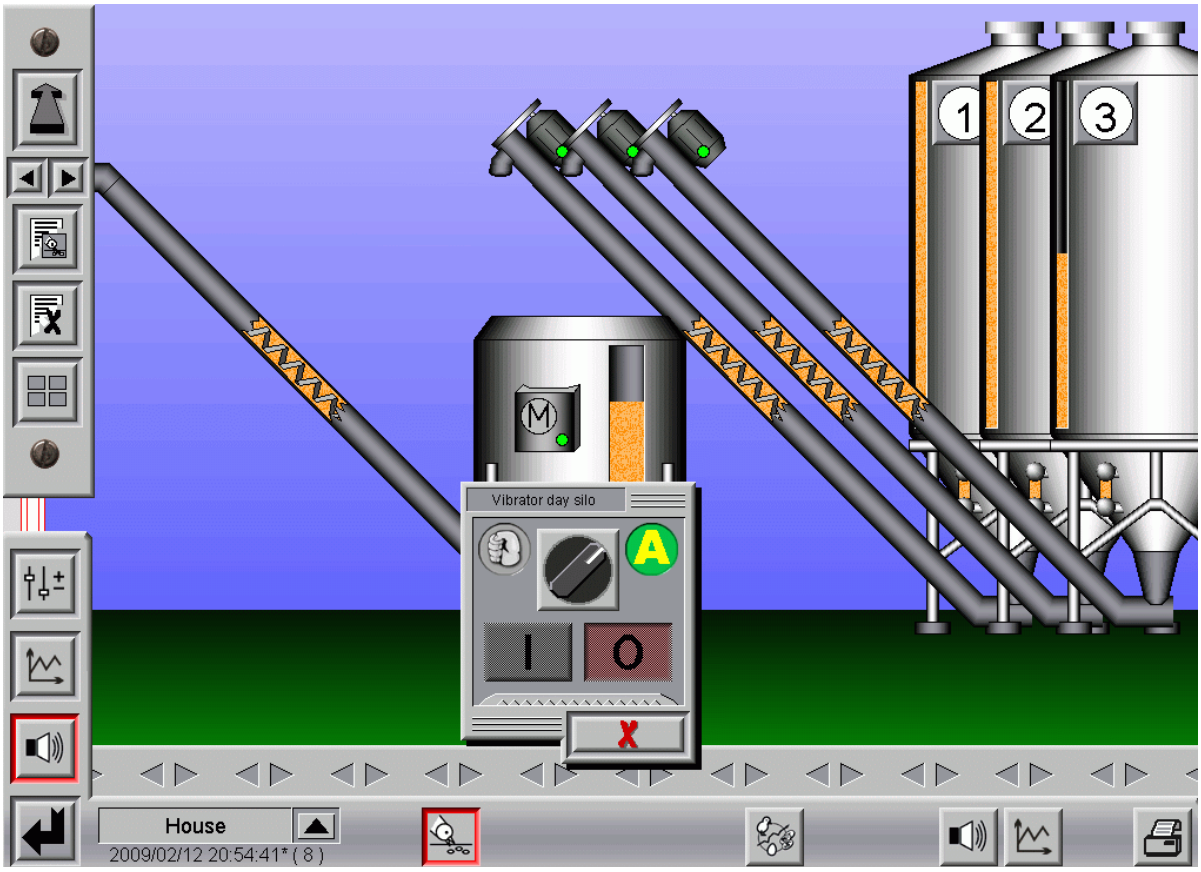


Figure 9-3: Vibrator at the silo

9.1.4 Feed scale at the day silo is defective

Even if the feed scale is defective, feed has to be transported into the house to feed the animals. In order to achieve this, you can use the above described manual operation of the auger. If the sensor is not covered with feed, feed will be conveyed into the house. In order to carry out this function, the cross auger sensor has to be included in the electromechanical system and has to ensure that feed can be delivered into the house even in case of system failure.

Attention:

Works at drive units or augers may only be carried out if the protective switch is in the OFF position. The drive units could be activated without prior warning e.g. by the time clocks or sensors. Also observe security signs and instructions.

9.2 Set-up parameters for the day silo (page 1)

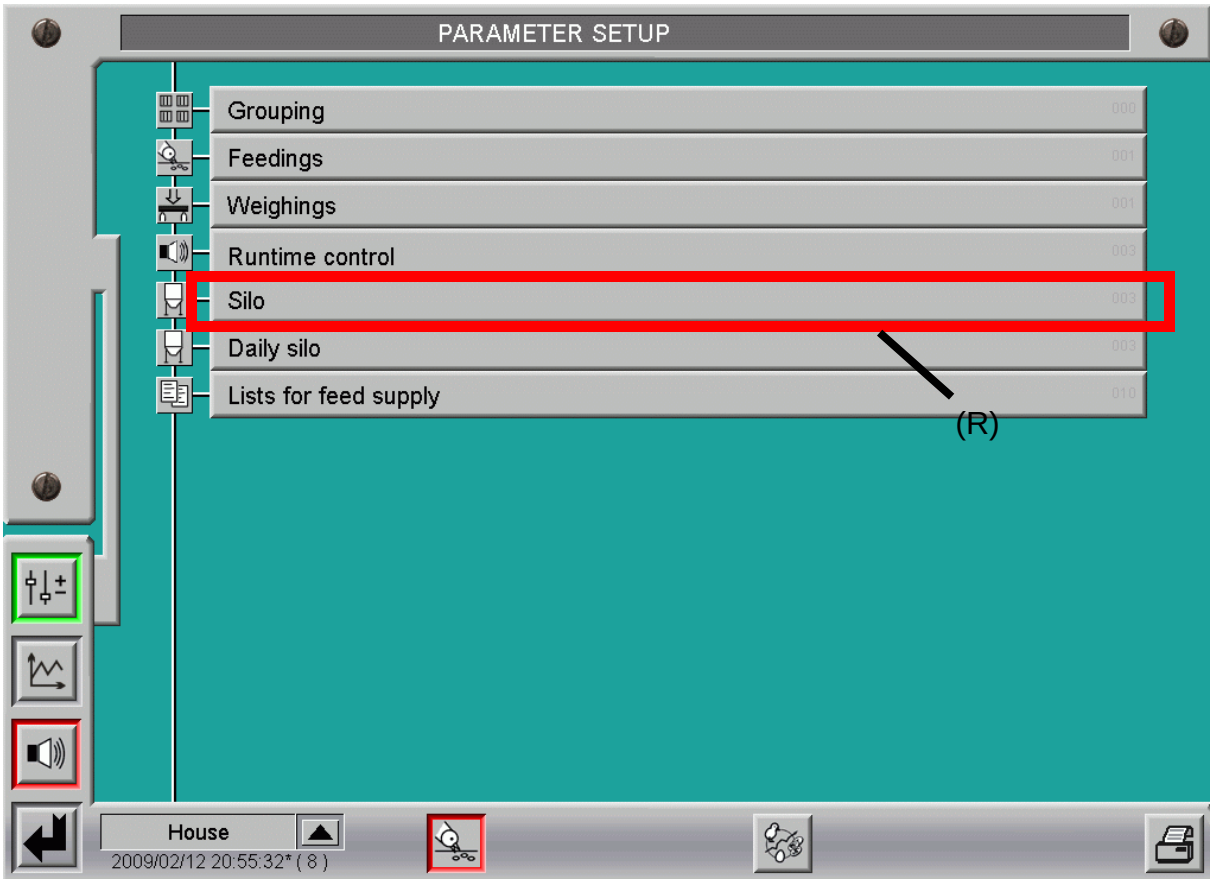


Figure 9-4: Overview feeding manager - day silo broiler

Click on the field highlighted red **(R)** in the above picture to open a menu where you can enter all important parameters for filling and mixing of feed types in the day silo.

9.2.1 Day silo capacity

Use this menu to determine the maximum size of one filling. Lightweight but voluminous feed types might only allow a small filling amount. Make sure that the silo does not overflow when you set the filling amount.

9.2.2 Fill day silo at set times

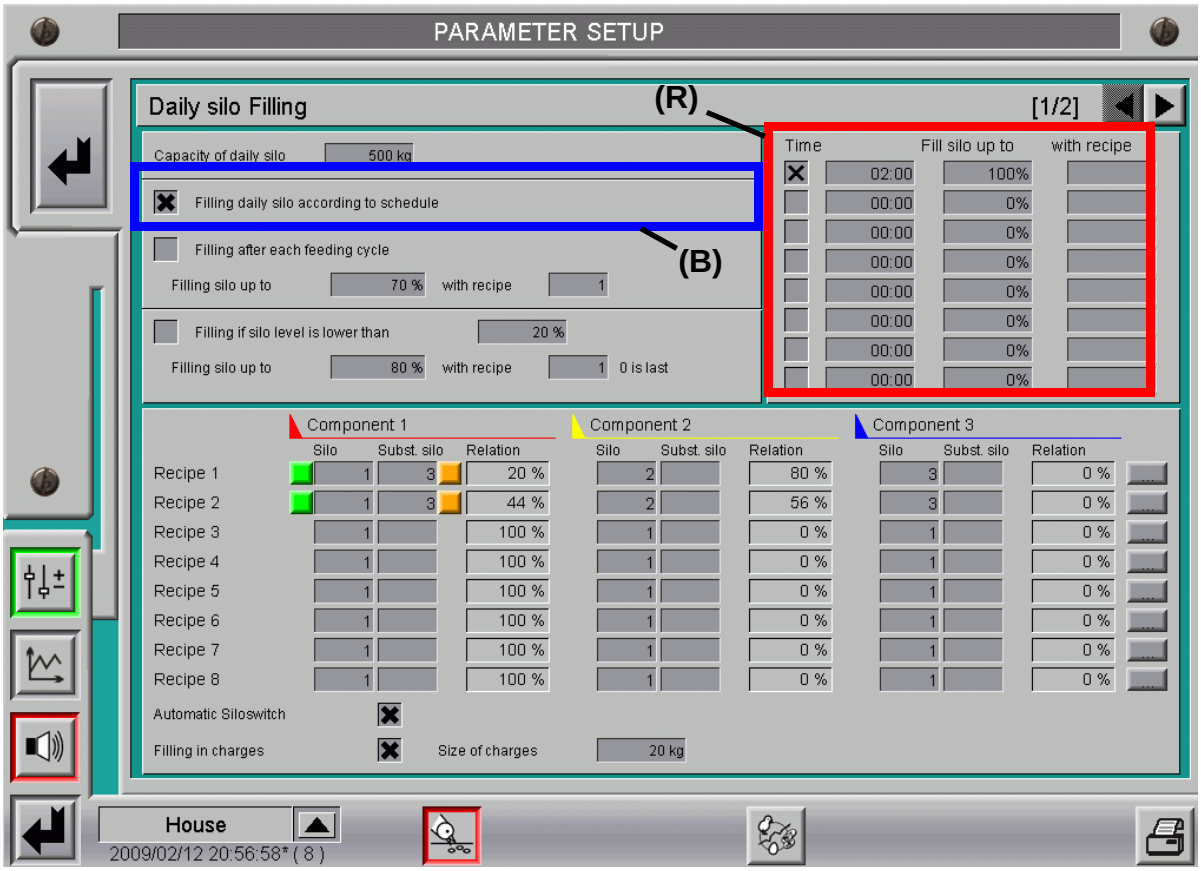


Figure 9-5: Control parameter for filling of day silo page 1

9.2.2.1 Fill day silo at set times

Use the blue **(B)** highlighted area in the above figure to determine whether you want the silo to be filled at certain set times.

9.2.2.2 Time, amount and recipe for filling of the day silo

If you have made a selection in the blue **(B)** highlighted area in the figure above that you wish the silo to be filled at certain times, you can activate the desired filling times by setting check marks.

You can also determine how many percent (in reference to the previously programmed "day silo capacity") you want to fill into the silo per time unit.

Use the same row to determine which recipe is to be filled in per filling time. Highlighted red **(R)** in the above figure is the area where you can make such entries.

9.2.3 Filling of day silo after each feeding cycle

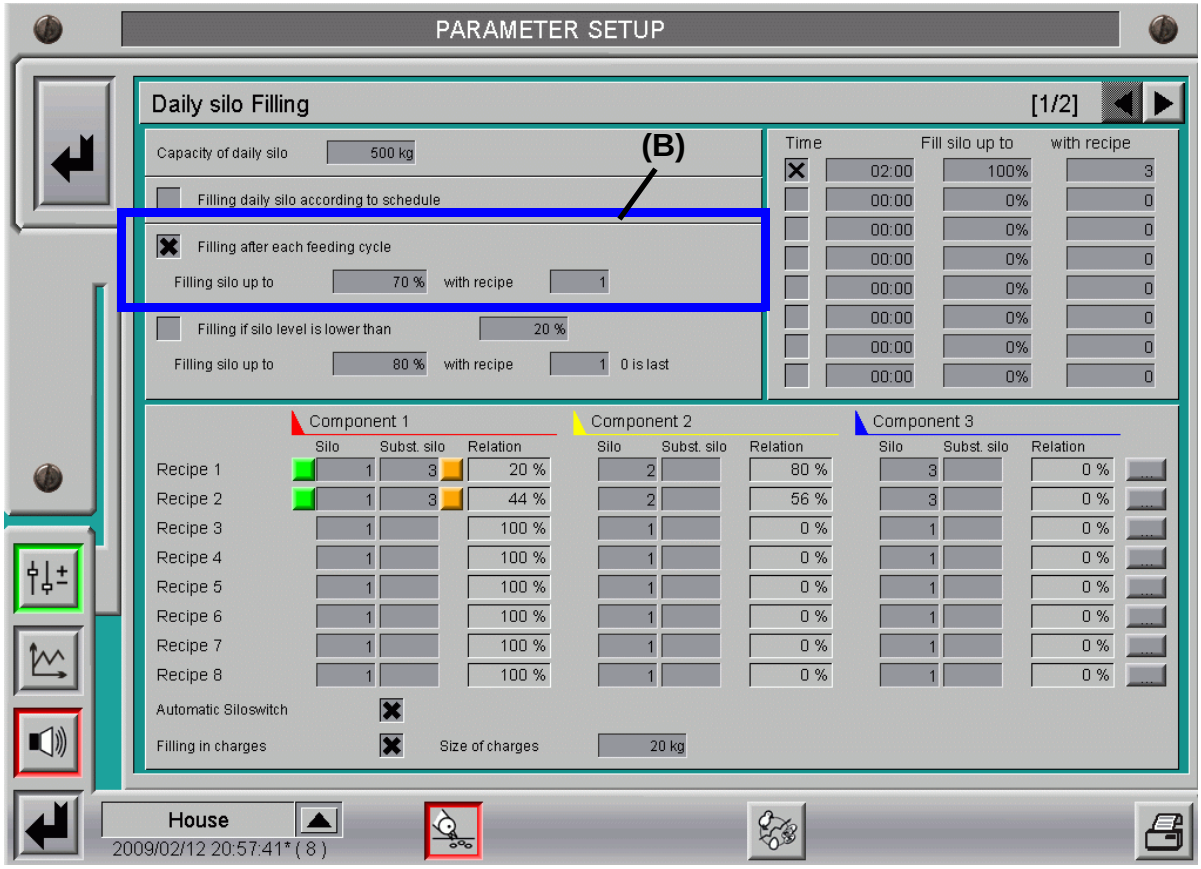


Figure 9-6: Fill day silo after each feeding cycle

With the activated checkbox highlighted blue **(B)** in the figure above you can determine that the silo is filled after each feeding cycle. Moreover you can choose how many percent of feed (in reference to the previously programmed "day silo capacity") you want to fill into the silo. Use the same row to determine which recipe is to be filled.

9.2.4 Filling of day silo if the silo content does not reach the set value

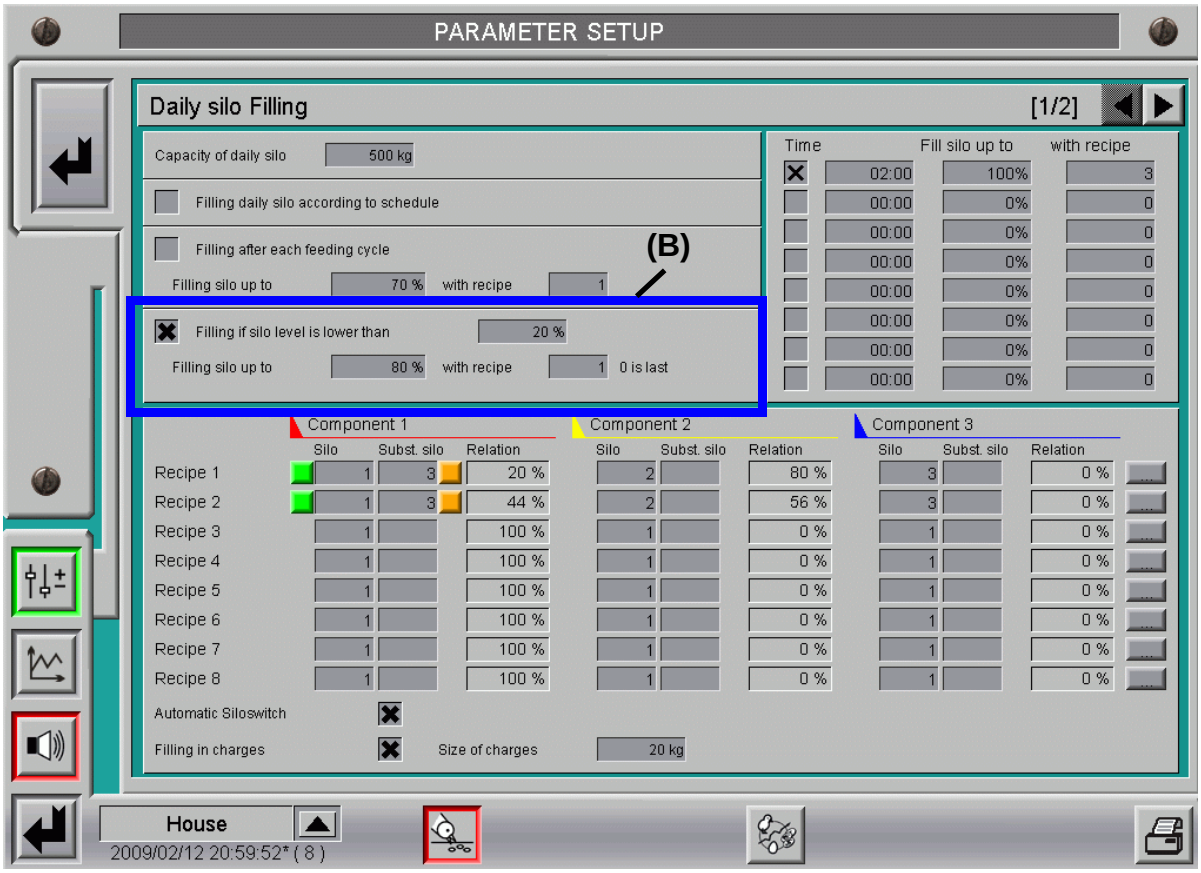


Figure 9-7: Fill up day silo if silo content falls below X%

You can make a selection in the blue **(B)** highlighted area in the above figure whether you want to fill up the silo if the silo content falls for example below 20% (in reference to the previously programmed "day silo capacity"). You can also determine how many percent (in reference to the previously programmed "day silo capacity") you want to fill into the silo. Use the same row to determine which recipe is to be filled in.

9.2.5 Feed type recipes for day silo filling

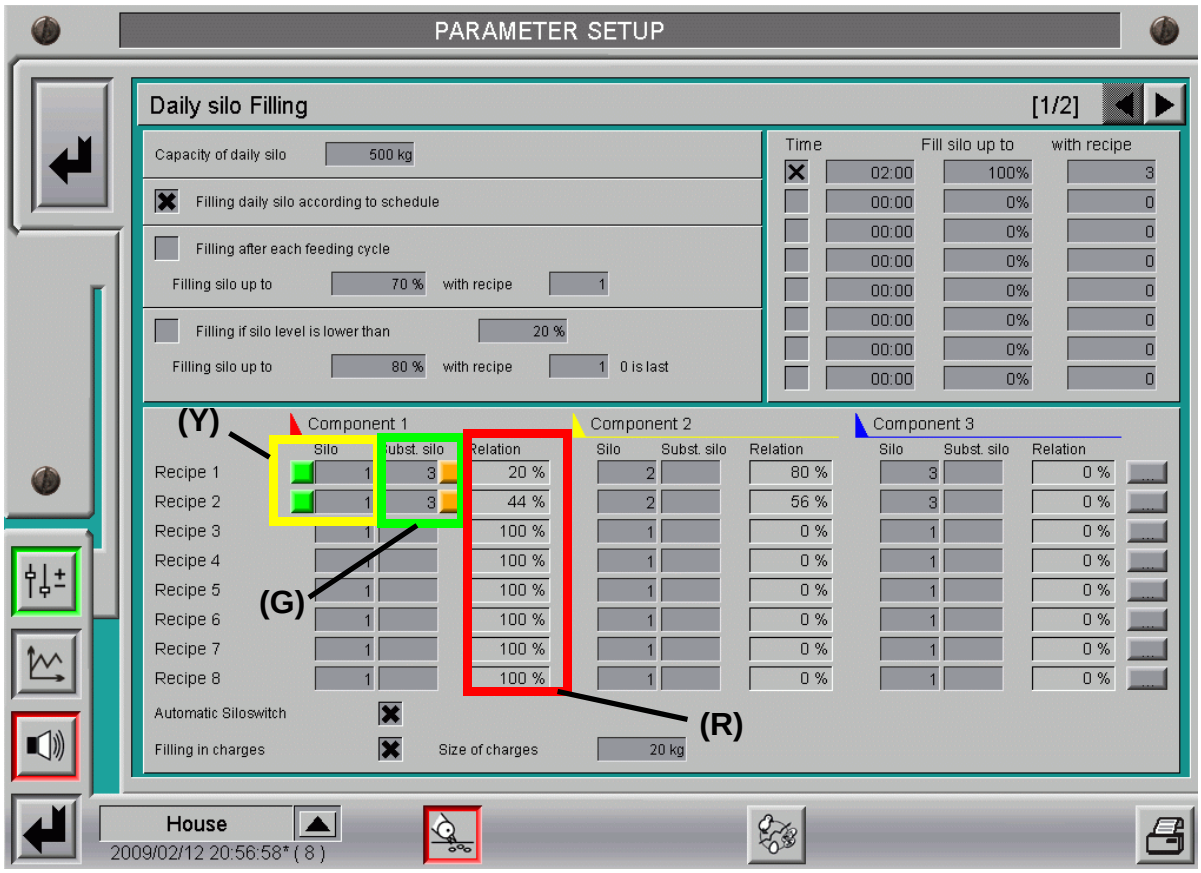


Figure 9-8: Setting of the recipes

9.2.5.1 Recipe 1-8

This menu is used to check and set the composition of the individual recipes.

9.2.5.2 Silo

Here it is specified for recipe 2, marked in yellow **(Y)** in the previous picture, from which silo the respective component will be taken.

9.2.5.3 Alternative silo

It is specified for recipe 2, marked in green **(G)** in the previous picture, to which silo it will be switched in case of a failure of the "normal" component.

9.2.5.4 Mixture ratio of the components

Click on the red **(R)** marked button in the previous picture to change the mixture ratio of the individual recipes.

9.2.5.5 Change of mixture in %

The following picture shows how the mixture of the components is adjusted. Keep the mouse pressed and move the yellow **(Y)** marked buttons upwards or downwards to adjust the mixture to the desired value.

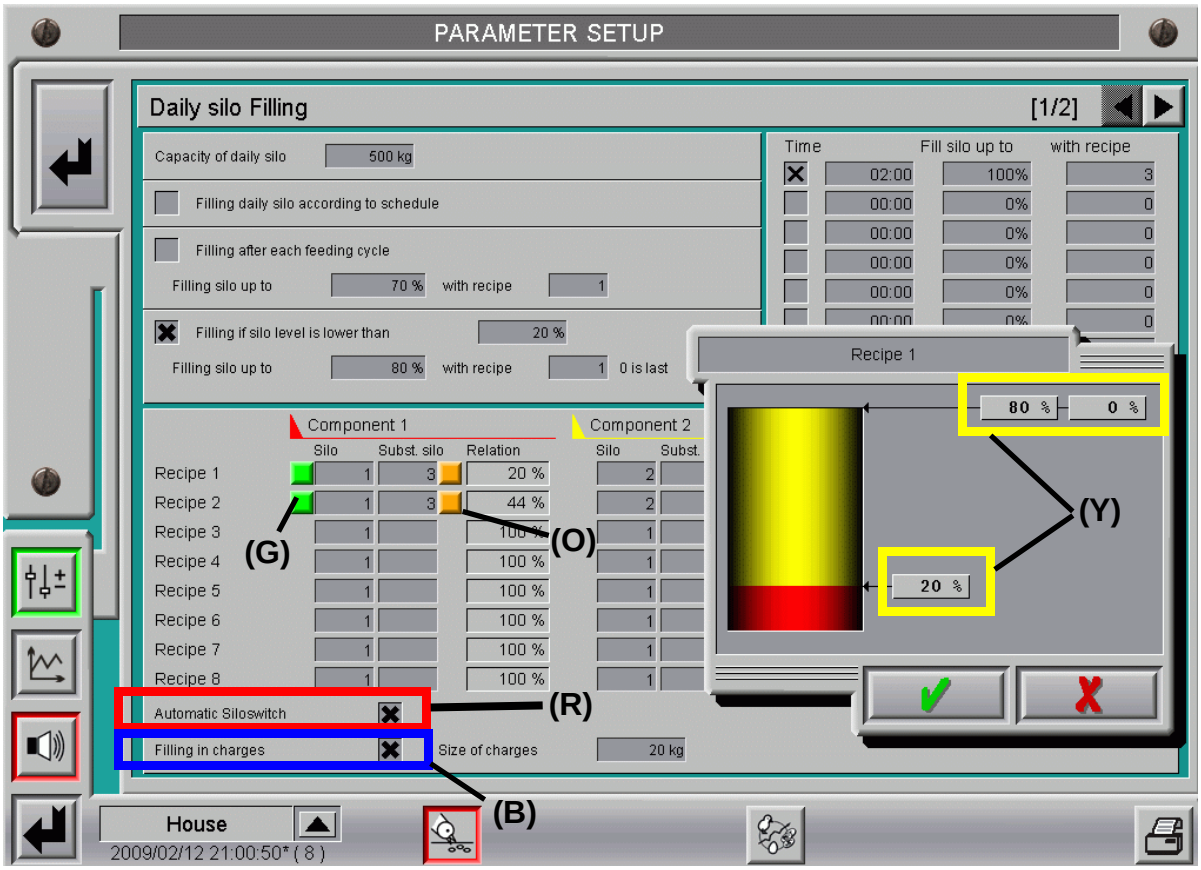


Figure 9-9: Adjusting the mixture ratio

9.2.5.6 Automatic silo adjustment

The activation of the red **(R)** marked checkbox in the previous picture allows an automatic adjustment of the silo, i.e. the set silos can be automatically adjusted by **AMACS**, if necessary.

If the automatic silo adjustment is activated, the alternative silo will be entered as standard silo when it is switched to this silo.

A button in front of the field "Silo" and "Subst. silo" which lights up green **(G)** when the silo is active and orange **(O)** when it is inactive indicates from which silo it is presently filled. Click on the orange **(O)** button if the silos shall be switched over manually during a feeding.

The pushbuttons are hidden if no substitute silo is entered for a component.

9.2.5.7 Batch filling

The function highlighted blue **(B)** in the previous picture is available if the day silo is used as a mixer.

This function can be used to blend the fattening feed with home-grown wheat. In order to use this function, place a cross in the check box and preset the batch size with 200kg for example. The feed amount is now filled into the silo in batches (layers) that blend together when the feed is dosed out; for example 80% fattening feed and 20% wheat.

However, the day silo does not have the same mixing effect as a drum weigher, thus it has to be verified if the function can be used in such a way.

	**Note:** You can only change the silos if the feed type corresponds to the previously selected feed type. Observe legal regulations.

9.3 Control parameters for the day silo (page 2)

The yellow **(Y)** highlighted button visualizes additional control parameters. Use the arrow keys to move between the pages.

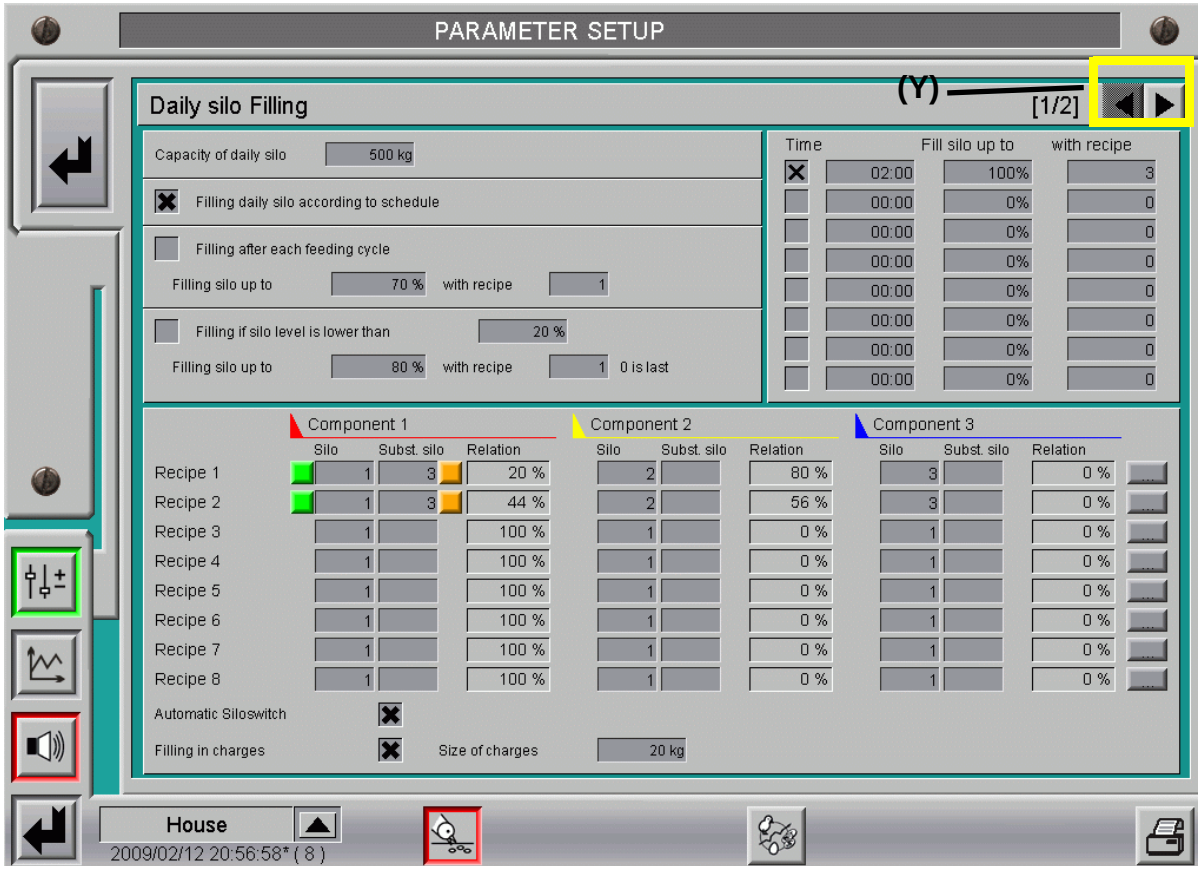


Figure 9-10: Control parameters for the day silo

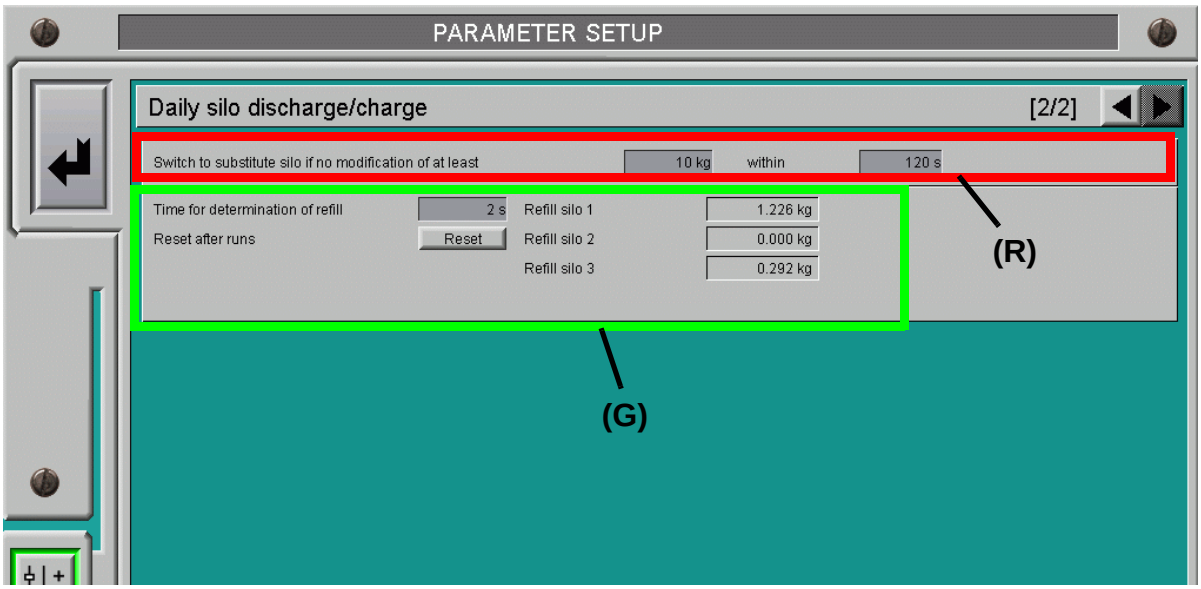


Figure 9-11: Control parameters day silo discharge/charge

9.3.1 Switching to alternative silo

Use the red **(R)** marked field to set the parameters that activate a change to the alternative silo. If the weight in the day silo does not change within the set time of 120sec by at least 10 kg, the alternative silo is activated (if installed).

9.3.1.1 Error message in the main screen

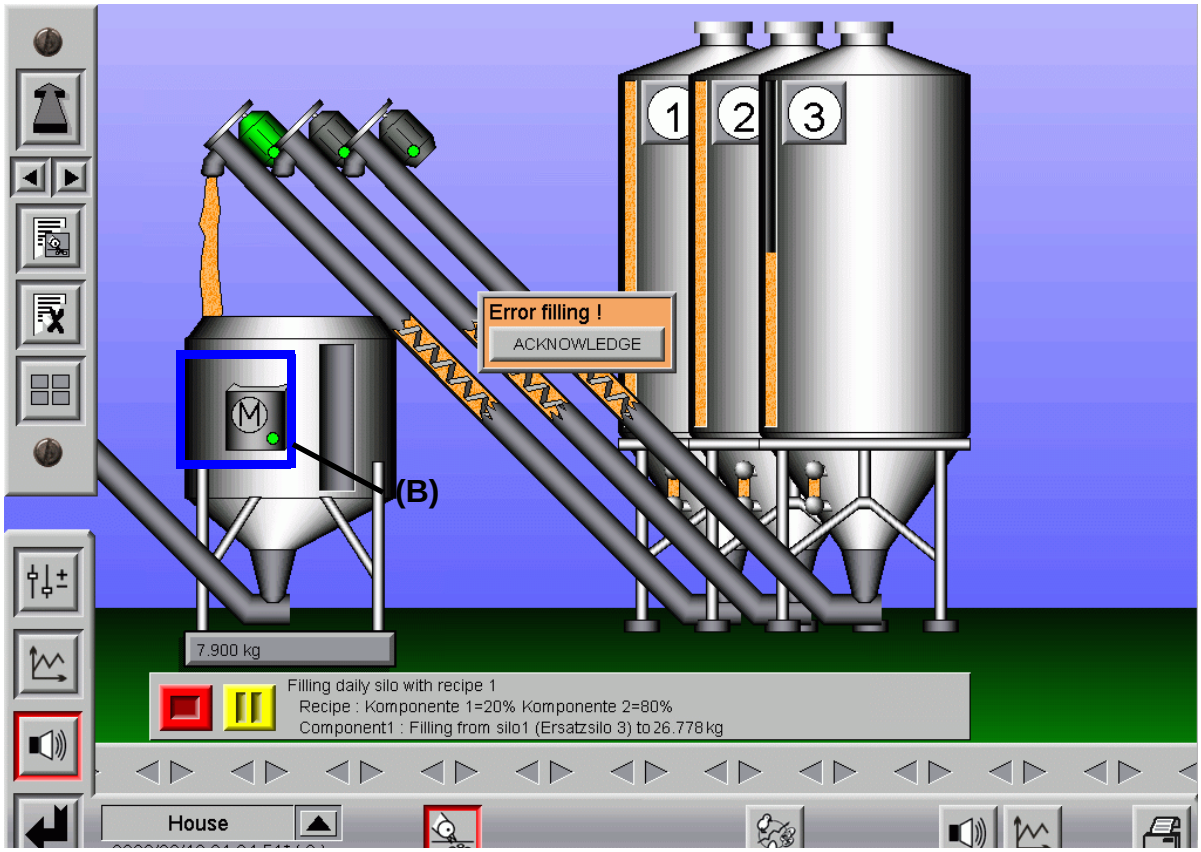


Figure 9-12: Filling error in the main screen

The error message can be confirmed via the button "ACKNOWLEDGE".

9.3.2 Time to determine the after-flow

To correctly determine the after-flow amount per auger, enter a pause time of 2 seconds after filling in each component. You have to ensure that the feed flow from the silo auger has ceased in order to correctly determine the after-flow amount (green **(G)** marking).

9.3.2.1 After-flow Silo 1-8

The after-flow of each component is permanently monitored and calculated from the average value of the last deliveries. The augers switch off, taking into consideration the calculated amount - according to the field highlighted yellow **(Y)** in figure 9-11 - to fill in the mix as accurately as possible.

9.3.2.2 Reset

The calculated after-flow values can reset to zero if you press this button.

9.4 Control parameters day silo, if a vibrator exists

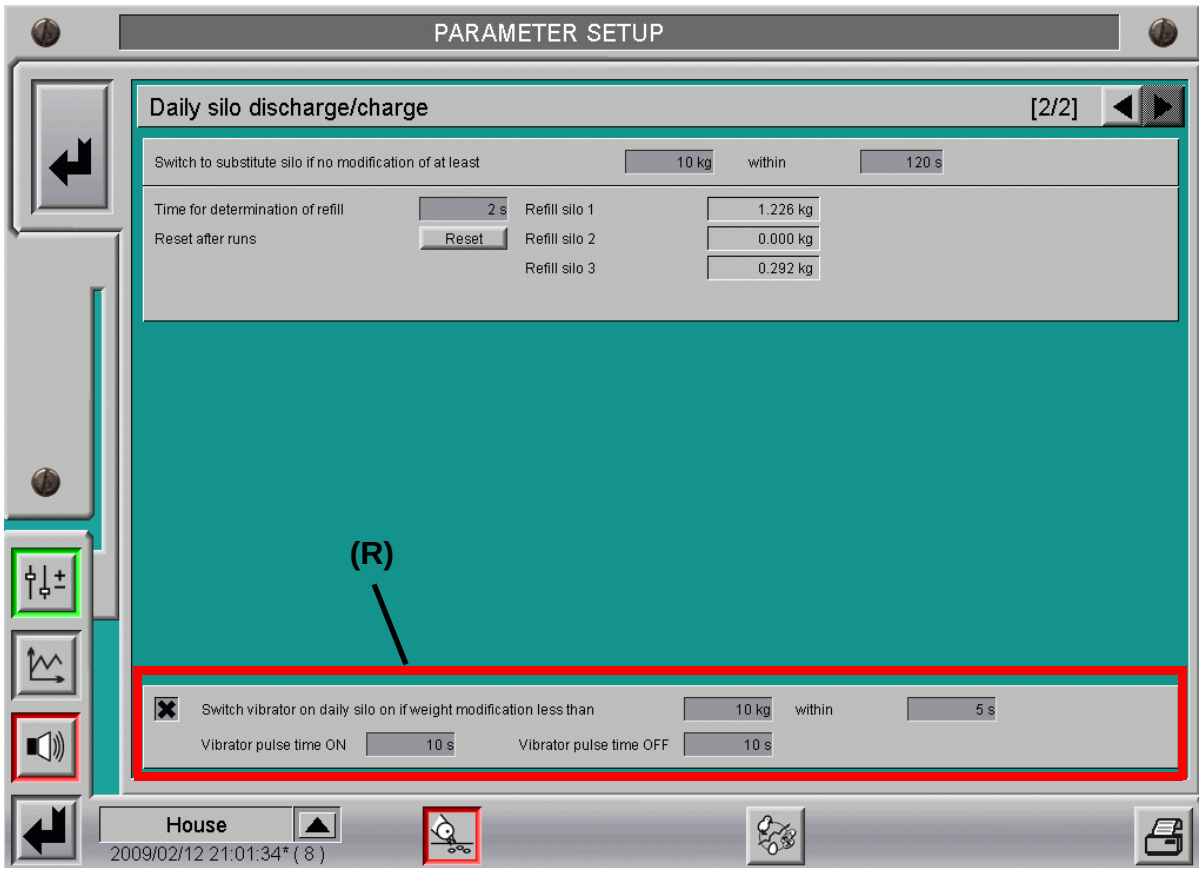


Figure 9-13: Parameters for activating the vibrators

9.4.1 Activation of the vibrators

A check mark in the area highlighted red **(R)** in the picture above activates the automatic start-up of the vibrators.

9.4.2 Conditions for an activation of the vibrators

According to the entry made in the area highlighted red **(R)** in the above picture, the vibrators shall only start if the feed content of the silo - as registered by the scale - does not change by at least 10 kg within a period of 120sec. This time should be shorter than the time after which the alternative silo is activated to give the vibrator a chance to loosen any obstructions.

Of course you have to take into consideration that the mechanic conditions of your individual installation might be different from our example, thus your entry might indicate different values.

9.4.3 Vibrator times for puls / pause mode

Since the vibrator shall not condense the feed, a pulse time "On" and a pulse time "Off" can be set for the vibrator, depending on the size and utilisation.

The most suitable times must be determined at a trial run.

9.4.4 Switch on the vibrator manually at the silo

If the vibrator shall be activated manually, e.g. during a feeding, just click on the blue **(B)** marked M at the silo in figure **9-12**.

Now a control panel is opened where the vibrator can be switched to manual operation. The A highlighted green signalizes that the vibrator is set to automatic operation.

Attention!

The vibrator should not run if no feed is taken, otherwise the feed will be further condensed in the cone (hopper) of the silo, and this is not the meaning of a vibrator.

9.5 Notes

10 Electronic tip weigher

The settings around the tip weigher are made as described in chapter 2, 3, 4 and 5.

In this case, the tip weigher only serves for the registration of the dosed feed.

10.1 Overview picture

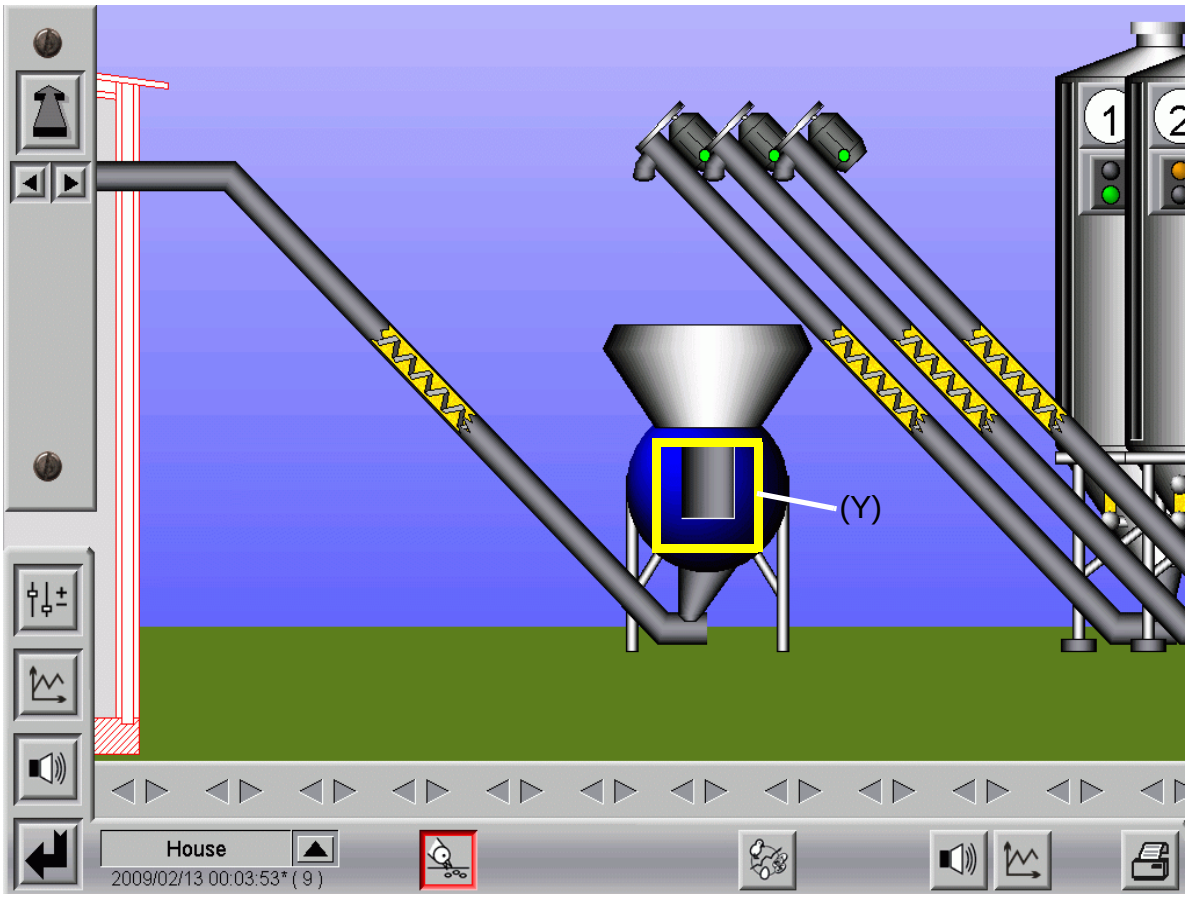


Figure 10-1: Overview picture Electronic tip weigher

10.1.1 Current level in the tip weigher

If an electronic tip weigher is installed, the calculated drum contents is directly displayed in the picture.

In the picture above, the display of the content is marked yellow **(Y)**.

10.1.2 Information regarding the filling of the tip weigher

As soon as a feeding process starts and the feed sensor at the cross auger signalizes an empty silo, the cross auger as well as the entered silo are switched on.

Due to the increasing weight in the drum of the weigher, the weigher tips out weight X and gives a signal to the computer.

With this signal the dosed feed is registered and assigned to the birds housed in.

10.2 Set-up parameters for the electronic tip weigher

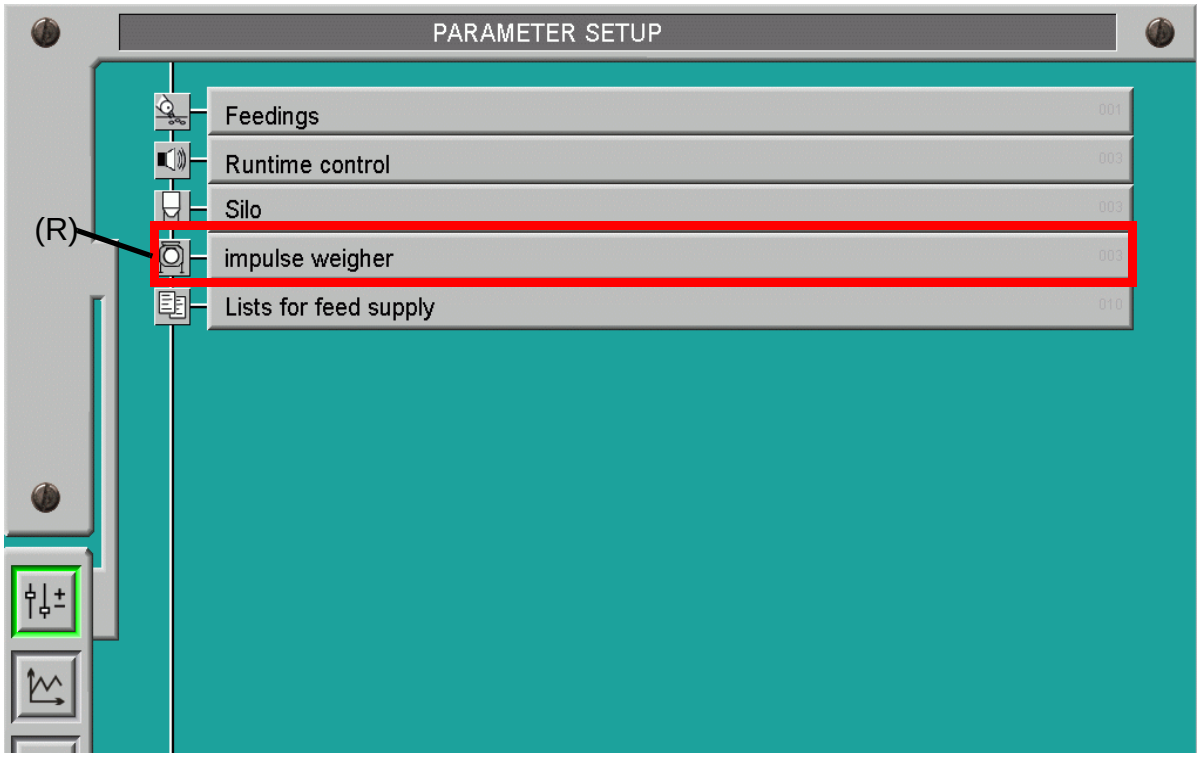


Figure 10-2: 'Selection set-up parameters for electronic tip weigher

A click on the red **(R)** marked field in the previous picture opens a menu where some values are entered when the system is taken into operation.

Important:

These values may not be modified without reason!

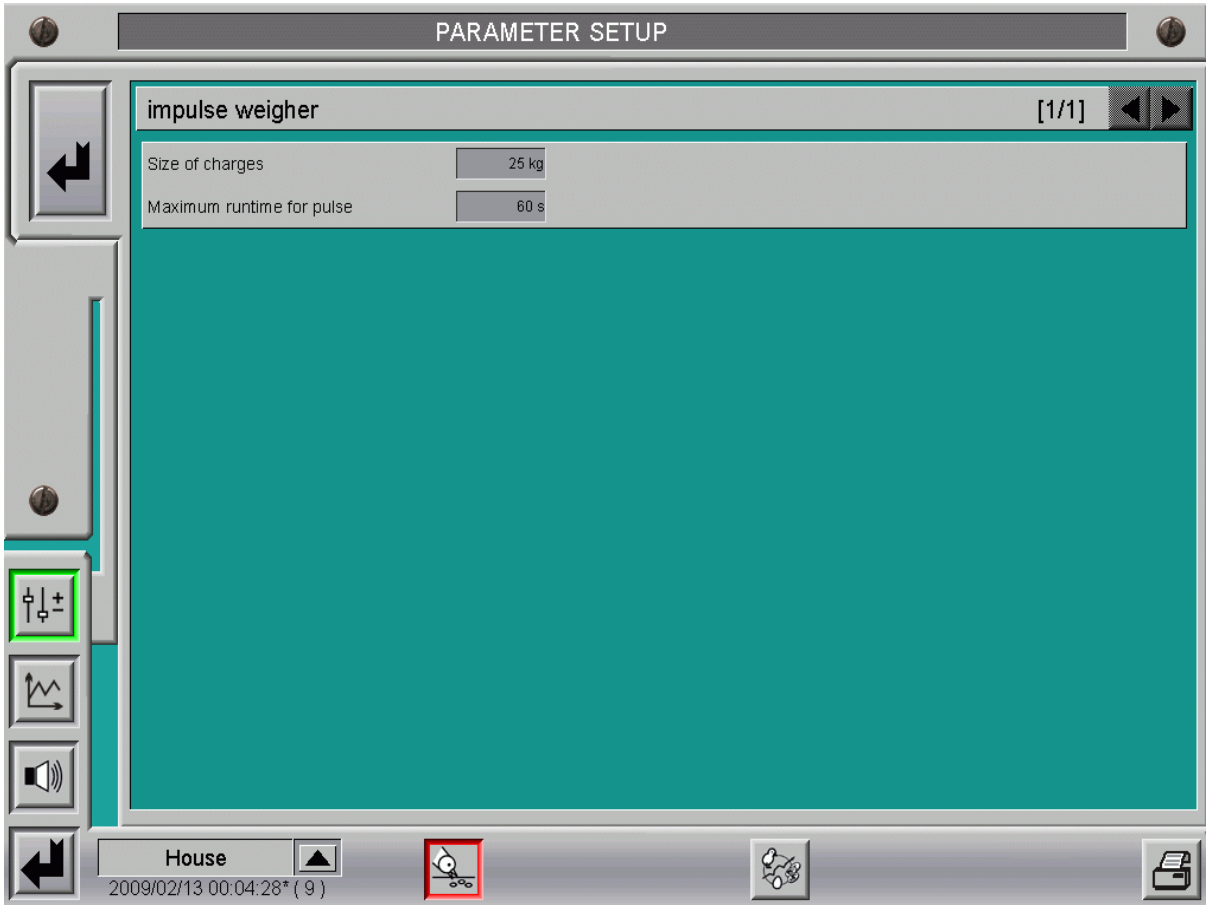


Figure 10-3: Overview set-up parameters for tip weigher

10.2.1 Capacity of the tip weigher

Here the feed amount is determined per tipping process (batch size).

The feed amount is adjusted when the system is taken into operation and should be checked regularly.

10.2.2 Maximum running time for pulse

Here it is determined how long it may take until the silo will release a tipping process of the weigher.

If the weigher does not tip out within this time, an alarm message will occur.

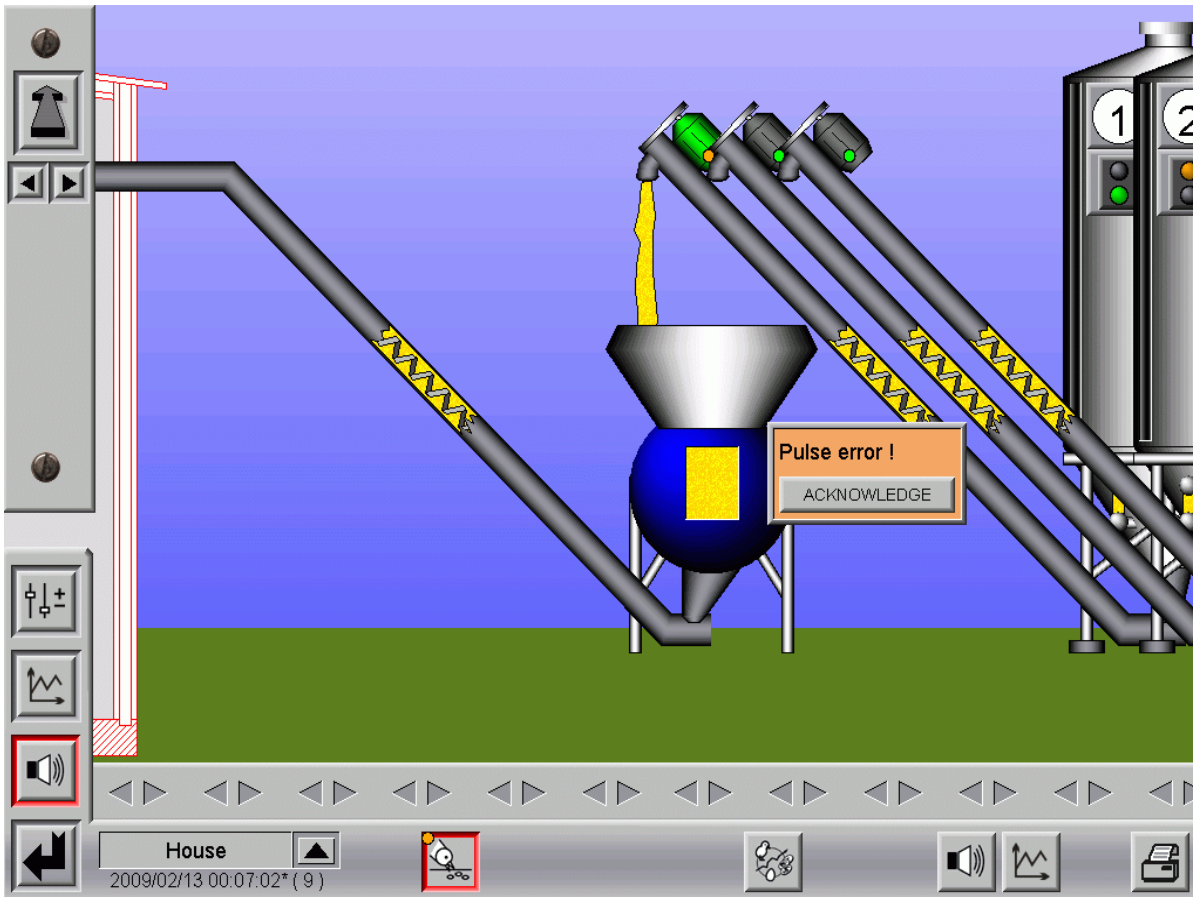


Figure 10-4: Error message

If the tip weigher does not give a signal, this may have several reason, for example ...

- the tip weigher got jammed
- the sensor or the cable is defective
- the silo auger is defective
- the feed under the tip weigher cannot be removed

If the error message is confirmed via the button "ACKNOWLEDGE" , the running time is reset (reset to 0).

10.3 Notes