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1 Introduction

This chapter provides information about the target audience for this manual and the intended use of the system.

Before operating the system, the operator should:

- Read the entire user manual carefully
- Understand the meaning of the hazard notifications and hazard labels applied to the system
- Pay particular attention to the safety notes in the manual

Store the manual close to the machine for easy operator access and reference.

In the event that you lose this manual, provide the information on the typeplate and re-order the manual from the METTLER TOLEDO Service.

1.1 Intended Audience

This user manual is for all personnel who do the following tasks:

- Setting up a product and changing a product
- Operating the equipment
- Monitoring the inspection process
- Maintaining the equipment
- Cleaning the equipment
- Sanitizing the equipment

1.2 Intended Use of the System

The intended use of the checkweigher is to weigh and sort packages automatically in the given environment. You can find information about the environmental conditions on the System Specification Sheet and the Technical Data.

- This checkweigher is intended to be used solely for product inspection processes.
- This checkweigher is designed for indoor use only.
- Operation is allowed only if the safety equipment and the safety devices are not bypassed or abrogated.

Any other use that exceeds the scope mentioned above is not in compliance with the intended use. In particular, the transportation of persons is prohibited. The manufacturer/supplier is not liable for any damage arising from misuse. Risk is borne solely by the user.

Any misuse voids the warranty.

1.3 Original Language

The original manual is written in English. If you are reading a translated version of this manual, and you also need the English original manual, you can ask METTLER TOLEDO to supply it. If you have a question about the intended meaning of any translated text, consult the original English-language manual.

1.4 Warranty

For information on warranty, refer to the official METTLER TOLEDO terms and conditions at http://www.mt.com/us/en/home/site_content/legal/commercial_terms.html.

1.5 Additional Documents

The following additional documents are included with your equipment:

- Technical manual
- CE Certificate of Conformity (if applicable)
- Wiring diagrams and engineering drawings
- Parts list
- Literature from original equipment manufacturers

2 Safety Notes



Important Safety Note

Read and understand all the safety notes in the following sections as well as the safety messages in the rest of this manual.

If you do not follow the safety notes and messages, this may lead to property damage and personal injury up to and including death.

2.1 Risk Assessments

METTLER TOLEDO performs risk assessments in accordance with the guidelines in EN 12100 General Principles for Design - Risk Assessment and Risk Reduction. Current harmonized standards make sure that the latest basic terminology, principles and methodology achieve safety in the design of the systems. These standards make sure that principles of risk assessments and risk reduction are used during the risk assessment process. The principles are based on knowledge and experience of the design, use, incidents, accidents, and risks associated with the equipment.

Defined procedures are used for identifying hazards and estimating and evaluating risks during relevant phases of the system life cycle, and for the elimination of hazards or sufficient risk reduction. The guidance from these standards helps in the preparation of the documents and verification of the risk assessment and risk reduction process. The risk assessment prepared using this methodology is kept indefinitely in the project technical construction file at the supplier's site.

As a minimum, the risk assessment demonstrates compliance with the harmonized European Directives that are shown on the Declaration of Conformity supplied with the equipment.

Risk assessments are not normally provided as they can contain confidential proprietary design solutions. Please make requests for risk assessments to your authorized METTLER TOLEDO distributor. METTLER TOLEDO considers these requests on a case-by-case basis. If METTLER TOLEDO decides to supply a version of the risk assessment then you can order this from your authorized METTLER TOLEDO distributor. The recipient of the risk assessment must treat it as confidential information.

2.2 Safety Labels and Notice Labels

The ISO 3864 safety labels are installed at potentially hazardous areas on the equipment. They give special safety-related notifications. The locations of these labels are given in the drawings supplied with your equipment. There are three types of safety labels:

- Hazard notifications
- Mandatory procedures
- Prohibitive procedures

Additionally, **NOTICE** labels may appear on your equipment.

The meanings of the different kinds of labels are explained in the following sections.

Before you transport, install, operate or work on the equipment, find out about the location and meanings of the labels. Maintain the labels so that they are clear of obstructions and are readable. Do not remove any labels. Replace any label that is no longer readable.

2.2.1 Hazard Notifications




A hazard notification consists of the following:

- Hazard alert symbol (yellow triangle with black symbol)
- Signal word (**DANGER**, **WARNING**, or **CAUTION**)
- Special notifications related to the hazard (as required)

The signal word labels are attached next to the hazard alert symbol labels on the equipment.

2.2.1.1 Definitions of Signal Words





Signal words describe the level of risk of a particular hazard. The color of the safety label background indicates the risk, as shown in the following table. The definitions of the signal words are based upon the ISO 3864 definitions..

| | |
|---|--|
|  | DANGER (red): This signal word indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. |
|  | WARNING (orange): This signal word indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury. |
|  | CAUTION (yellow): This signal word indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury. |

2.2.1.2 Meaning of Hazard Alert Symbols





The following hazard alert symbols may be installed on your equipment.

| | |
|---|-------------------------------------|
|  | Crushing |
|  | Shearing |
|  | Cutting |
|  | Entanglement |
|  | Drawing-in, trapping |
|  | Impact |
|  | Ejection of parts |
|  | Abrasion, friction |
|  | High pressure fluid ejection |
|  | Loss of stability |
|  | Slipping, tripping |
|  | Electrical shock |
|  | Electrostatic |

| | |
|---|---|
|  | Non-ionizing radiation |
|  | Permanent magnetic fields |
|  | Burning, scalding by direct contact, flames or thermal radiation |
|  | Hearing impairment |
|  | Arc flash |
|  | Laser |
|  | UV light |
|  | Optical radiation |
|  | Ionizing radiation |

2.2.2 Mandatory Procedures




Mandatory procedures alert personnel to special, required actions. The round labels have blue backgrounds and white symbols. The symbols describe the required action. The following table lists the mandatory procedures labels which may be installed on your equipment.

| | |
|---|----------------------------------|
|  | Read the manual |
|  | Read the technical manual |
|  | Wear ear protection |
|  | Lockout, tagout |

| | |
|---|-------------------|
|  | Lift point |
|---|-------------------|


2.2.3 Prohibited Procedures

Prohibited procedures alert personnel to particular actions to avoid. The labels are round with a circular red band and single diagonal cross bar. The black symbol describes the action to avoid. The following table lists the prohibited procedure labels that may be installed on your equipment.

| | |
|---|---|
|  | Do not operate without safeguards |
|  | Do not operate the equipment if you have implanted medical devices |
|  | Do not step on the equipment |

2.2.4 Notice

The word **NOTICE** does not give safety information. It is still an important word to inform you of activities that may harm the equipment or other property. The following definition is based upon the ANSI Z535 definition.

| | |
|---|--|
|  | NOTICE (blue): This word indicates important information that is not related to personal injury which, if ignored, could result in damage to the equipment, damage to property, malfunctions, erroneous results, or loss of data. |
|---|--|

2.3 General Protective Procedures



Important Safety Note

Make sure that all personnel who work on or near the equipment are capable of performing all operations in a safe manner.

- Keep the manual in a convenient location near the equipment. Replace the manual if it becomes lost or damaged.
- Wear Personal Protective Equipment (PPE) in accordance with your plant's safety procedures.
- Understand the hazards of the equipment and the risks related to those hazards before working on or near the equipment.
- Obey all safety procedures of the local plant.
- Do not wear loose clothing, jewelry, long hair, or anything that can become entangled with the equipment.
- Be careful around the equipment to avoid hitting your head, arms, or other body parts against the equipment. Be careful if the equipment is over your head.
- Be careful not to trip over cables or other parts of the equipment.
- Do not move quickly in the area around the equipment.
- Do not climb, hang onto, or use any of the part of the equipment as a support.
- Obey the lockout tagout (LOTO) procedures of the plant.

- If there is a safety-related malfunction when you are operating the equipment, press the emergency stop device. Tell the responsible supervisor, and follow the applicable steps approved by your company to fix the malfunction.

2.4 Safety Notes for Various Activities



Important Safety Note

Read and understand all parts of the manual before using or working on any equipment.

The following sections list safety notes for particular activities or groups of activities. Refer to the correct sections in the manual for more detailed instructions.

2.4.1 Transporting and Moving the Equipment

- Only transport or move the equipment if you have the applicable training as defined by your company.
- Your company has sole responsibility for the safe moving and transporting of the equipment.
- Use safe moving procedures during transporting to maintain stability and to prevent the equipment from tipping or falling.
- Disconnect the electrical supply, the pneumatic supply, and the communication cables before you move the equipment.
- Use the correct lifting devices. If you use a forklift, lift the equipment at the correct lift points as shown by the blue lift point labels.
- Blue lift point labels are placed on the equipment to show recommended locations for lifting. These lift point locations were tested with the manufacturer's forklift trucks. A qualified rigger must make sure that the lift points are correct for your lifting equipment.
- When you lift the equipment by hand, obey the safe lifting procedures of your company.

2.4.2 Installing

Only install the equipment if you have the applicable training as defined by your company.

2.4.3 Operating the Equipment and Monitoring the Inspection Process

- Before beginning operation, make sure that the area is safe.
- Know the location and effect of each emergency stop button that controls the equipment.
- Do not operate the equipment without protective guards and doors in place.
- Make sure the safety circuit is working correctly.
- Do regular inspections of the equipment.
- If there is a fault or change in the equipment behavior, stop the equipment and inform responsible personnel.

2.4.4 Testing and Verifying the Equipment

Only do testing and verifying of the equipment if you have applicable training as defined by your company.

2.4.5 Maintaining, Cleaning and Sanitizing the Equipment

- Remove all power from the equipment before doing any work.
- Keep the equipment in good working order.
- Follow a preventative maintenance program.
- Replace parts when needed.
- Obey the lockout tagout (LOTO) procedures of the plant.
- Test (validate) the safety circuit after parts are replaced.
- Only use METTLER TOLEDO approved spare parts and accessories.
- Do not make any unauthorized modifications to the equipment.
- Replace safety labels if damaged, missing, or unreadable.

- Do a visual check of the equipment at least once during a shift to identify any visual damage or faults. Report any equipment changes to the responsible supervisor immediately.
- When required for a hygienic production environment, do regular sanitizing of the equipment according to your company's procedures.
- After cleaning or sanitizing, check all cables, connectors, and pneumatic hoses for leakage, loose connections, rub marks and damage. Tighten, repair, or replace any faulty cables and air tubing, as necessary.

2.5 Special Hazards

The following sections describe special instructions for equipment that may have special hazards.

2.5.1 Electricity

- Only work on the electrical systems if you have the applicable electrical training as defined by your company.
- Keep all electrical enclosure doors closed. If the doors have locks on them, keep them locked.
- Remove all power from the equipment before doing any work.

2.5.2 Pneumatics

- Only work on the pneumatic system if you have the applicable training as defined by your company.
- Check pneumatic parts for visible damage.
- Before any repair or maintenance work, remove the pneumatic supply and relieve the pressure in the pneumatic system parts.
- Make sure that there is a consistent pneumatic supply when you operate the equipment.
- If a pneumatic pipe becomes loose during the operation of the equipment, keep away from the loose pipe.

2.5.3 Moving Parts

- Product inspection equipment moves automatically, intermittently and without notice. Some surfaces may get hot. Do not place hands or any other body parts on or near the moving parts.

The following are examples of moving parts:

- Conveyor belts and rollers
- Rejectors and product diverters
- Motors
- Gearboxes
- Side grips
- Automatic position adjusters
- Encoders
- Pneumatic cylinder
- Solenoids
- Only operate the equipment with all safeguards in place.
- Make sure that all safeguards are in correct operating condition.
- Do not climb, sit, stand, walk, or ride on the conveyor.

2.5.4 Rejectors

- Be aware around rejectors because they move quickly and without notice.
- Do not reach into the rejector area or reject bin while the rejector is operating.
- Make sure the rejector is installed correctly.
- Make sure the rejected products do not cause harm.
- Keep your eyes and other body parts away from air blast nozzles when the equipment is operating.

2.5.5 Noise

- Make sure that all noise-absorbing parts of the equipment are present and in the correct position.
- Wear hearing protection as directed by your local safety authority.

2.5.6 Electromagnetic Fields

- High frequency electromagnetic fields exist in the aperture of the metal detector and in the area near the aperture.
- When the metal detector is operating, avoid prolonged exposure to the electromagnetic field inside the aperture and up to 200 mm from the aperture.
- Consult your doctor if you have a pacemaker or similar device before you operate the metal detection system or approach the metal detector's aperture.

3 System Description

This chapter provides an overview of the checkweigher, including the basic parts identification. The C23 system is a robust solution for accurate weighing of up to 80 kg loads with a maximum throughput of 150 weighings per minute.

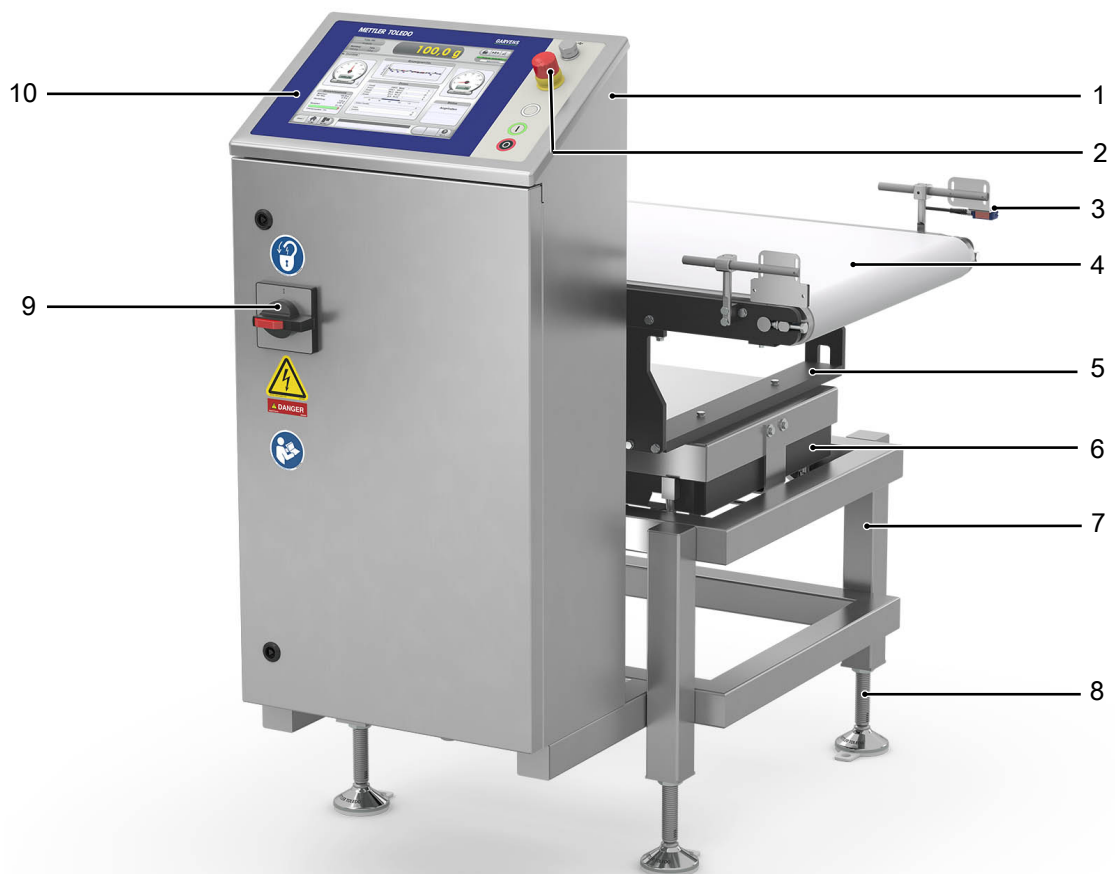
The checkweigher weighs products as they move along the transport line.

The system consists of the following components:

- control enclosure
- weigh conveyor
- load cell to weigh the product
- user interface to visualize the weight of the product
- software to analyze the weight signal and make statistical decisions

3.1 Components of the System

The image shows an example of a C23 System with 12" terminal.



| # | Component |
|---|-----------------------|
| 1 | Control enclosure |
| 2 | Emergency stop button |
| 3 | Light barrier |
| 4 | Weigh conveyor |
| 5 | Conveyor support |

| | |
|----|---------------------------|
| 6 | Load cell |
| 7 | Frame |
| 8 | Levelling foot |
| 9 | Disconnect switch |
| 10 | Terminal with touchscreen |

Control Enclosure

The control enclosure houses various controls and electronic components, such as the IPC and the XRTC.

Terminal with touchscreen

The terminal can either have a 12" touchscreen or a 7" touchscreen. The terminal with the touchscreen is the interface that you need to operate the system. The terminal is typically mounted on the control enclosure, but may also be mounted at a distance from the system.

Conveyor support

The conveyor support is mounted over the load cell and supports the weigh conveyor.

Load Cell

The load cell measures the weight of the product. It can be either a strain gauge load cell or an EMFR load cell.

Frame

The frame is a welded construction made of powder coated or stainless steel rods. The frame supports the load cell, the conveyor support and the weigh conveyor with the bearings.

Weigh Conveyor

The weigh conveyor is mounted on the load cell and transports the products in the transport line. The weight of the products is classified then by the software into different weight zones.

Light Barrier

The most common sensors in the system are light barriers. The light barriers can be mounted in different positions at the frame and fulfill different functions. Depending on the position and the function to fulfill, following types of the light barriers can be assembled:

Weigh light barrier - mounted in front of weigh conveyor to detect when a package is ready to weigh.

Light barrier - mounted on different position to fulfill one of the following functions:

- monitor the filling level of a catch bin
- detect product jams
- confirm the rejection of a product
- detect products with an open flap
- detect products that do not align with the conveyor belts

Emergency Stop Button

This button stops the conveyors and the system immediately.

Disconnect Switch

The disconnect switch connects and disconnects the main power of the system. It is mounted in different positions according to the design.

Sorting Equipment

The sorting equipment rejects products from the production line or classifies products into preset categories. The design of the sorting equipment depends on the dimensions and characteristics of the products inspected, so that your system may be equipped with a pusher, or a sorting rake on the roller path.

3.2 The Terminal

The system is operated using the terminal and the touchscreen. The system is equipped with a 12" touchscreen or a 7" touchscreen. Each terminal has the following buttons:



12"-Touchscreen

| # | Button | Color of the button | Function of the button |
|---|----------------|---------------------------------------|--|
| 1 | Emergency stop | Red / yellow | Stops the conveyors and the system immediately. NOTICE The emergency stop button must be pushed in emergency situations only. Do not stop the system with the emergency button unless there is an emergency situation. |
| 2 | Reset | Blue, if reset is required | Resets the safety circuit, which resets the pneumatics for the rejector and the power of the conveyors. Optional function that depends on the safety performance level. |
| 3 | Start | Green, illuminated after system start | Starts the conveyors. |
| 4 | Stop | Red, illuminated after system start | Stops the conveyors. |



7"-Touchscreen

| # | Button | Color of the button | Function of the button |
|---|----------------|---------------------------------------|--|
| 1 | Emergency stop | Red / yellow | Stops the conveyors and the system immediately. NOTICE The emergency stop button must be pushed in emergency situations only. Do not stop the system with the emergency button unless there is an emergency situation. |
| 2 | Reset | Blue, if reset is required | Resets the safety circuit, which resets the pneumatics for the rejector and the power of the conveyors. Optional function that depends on the safety performance level. |
| 3 | Start | Green, illuminated after system start | Starts the conveyors. |
| 4 | Stop | Red, illuminated after system start | Stops the conveyors. |

The terminal also has an USB port:



4 Operation of the System

The system is operated using the terminal, the touchscreen and the switch box (optional).

The system can be operated in two different modes:

- Dynamic mode
The system weighs products automatically in motion.
- Static mode
The system weighs products when the weigh conveyor is stopped. This mode can be used to check the weighing accuracy of the load cell.

The following chapters and sub-chapters refer to the dynamic mode.

Note Your system may run in the emergency run mode. In this mode the products are transported without weight determination.

4.1 Adjusting the Mechanical Components

The system can be equipped with optional mechanical components, such as guide rails, top and bottom conveyors and sidegrip conveyors that must be adapted to the products that move along the production line. The following chapters describe briefly how to adapt and adjust the mechanical components.

NOTICE The mechanical components have to be adjusted to the new product before you start the system.

4.1.1 Guide Rails

The system can be equipped with guide rails that consist of one or two lateral rails in order to ensure an optimal transfer of products. You can adjust the guide rails to prevent that products fall down from the transport line.

Adjusting the Guide Rails

To adjust height and width of the guide rails to the size of your product, proceed as follows:

- 1 Loosen the clamping levers or the knurled screw.
- 2 Set the pass-through size of the guide rails to the height or the width of the product.
- 3 Define the pass-through size adequately: The pass-through size setting should allow the product to be transferred and moved further along the conveyor.
- 4 Re-tighten the clamping levers or the knurled screw.

NOTICE Products that bump against the front edge of the guide rails cause vibrations or are deformed and have a negative effect on the weighing precision.

4.2 Start of the System

To start the system, proceed as follows:

Before starting the system make sure that:

- all transport locks do not touch the load cell.
- the safety devices of the system (for example guards) have been checked.
- the guide rails are adapted to the article.

- 1 Turn on the system using the disconnect switch at the control enclosure.
⇒ The terminal powers on, but the conveyor is still not running.
- 2 Press the start button at the terminal or touch [Start] on the touchscreen to turn on the conveyor.
⇒ The conveyor runs.

4.3 Interruption of Operation

If you want to interrupt the operation, then you can stop the conveyor.

DANGER The system will not be disconnected from the power supply, when you interrupt the operation!

To interrupt the operation, proceed as follows:

- Press the Stop button at the terminal
- ⇒ The conveyor stops

Restarting the Operation

If you want to restart the conveyor and operation, then proceed as described in [Start of the System ▶ Page 17].

4.4 End of Operation

NOTICE The system should not be stopped using the emergency stop button, unless there is an emergency situation.

- 1 Press the stop button at the terminal to turn off the conveyor.
 - ⇒ The conveyor stops
- 2 Turn off the system at the disconnect switch that is located at the control enclosure.
 - ⇒ The system shuts down.

4.5 End of Operation in Case of Emergency

In case of emergency, press the emergency stop button of the system. The emergency stop button is located at the terminal.



When you press the emergency stop button, the drive system and the energy supply is cut off.

Restarting Operation

Before you restart the system, make sure that your supervisor and/or qualified personnel checked the safety devices of the system to ensure they are operating correctly.

Note Be aware that the system interrupts the compressed air supply when you stop the production using the emergency stop.

To restart operation, proceed as follows:

- 1 Turn the emergency stop button in the direction of arrows to release it.
 - Note** You must release all activated emergency stop buttons.
 - 2 Press the blue reset button.
 - 3 Press the start button at the terminal to turn on the conveyors.
 - or-
 - Touch **[Start]** at the touchscreen of the terminal to turn on the conveyors.
- ⇒ The conveyors run and the system is operating.

See also

📖 Start of the System ▶ Page 17

4.6 Restarting after a Power Failure

The conveyor remains stopped after a power failure and does not start automatically when the power is restored. After power is restored, press the reset button and proceed as described in [Start of the System ▶ Page 17].

Be aware that the system also interrupts the compressed air supply when you stop the operation using the emergency stop.

Before you restart the system, make sure that your supervisor and/or qualified personnel checked the safety devices of the system to ensure they are operating correctly.

5 The Software

The system is mainly operated through the touchscreens. The following chapters describe the operation of the system using the touchscreen of the HMI.

Note The system may need some more software configurations for operation. For more information, refer to the Technical Manual.

NOTICE The screenshots in this manual are examples and can differ from the screen on your system. The home screen and the menu options depend on the user profile, the access levels and the software options that are activated.



NOTICE

Risk of property damage

The touchscreen must be operated using your fingers or touchpens only. The use of sharp objects, such as a screw driver, can destroy the touchscreen.

Visibility of Buttons and Screens

Always remember that many software features need certain user rights. This means, if your screen does not offer buttons that are shown in the user manual, it is likely that you need more user rights. These user rights have to be assigned to your profile by a supervisor.

Displaying Active Software Options

If you want to know which software options are active, proceed as follows:

- 1 Touch **[MENU]**.
- 2 Select the menu items **Information > System Information**
⇒ The System Information screen opens up.
- 3 Select the item "Active Options" in the section "Select Information" on the left hand side.
⇒ The active software options are displayed.

Data Entries

During operation there are fields that require information that you need to enter. If you need to enter information, then proceed as follows:

- 1 Touch on the field to enter information.
⇒ An on-screen keyboard opens up
- 2 Enter the information.
- 3 Confirm with **[OK]**.
⇒ The window closes.

Information can also be entered using a keyboard connected to the USB port.

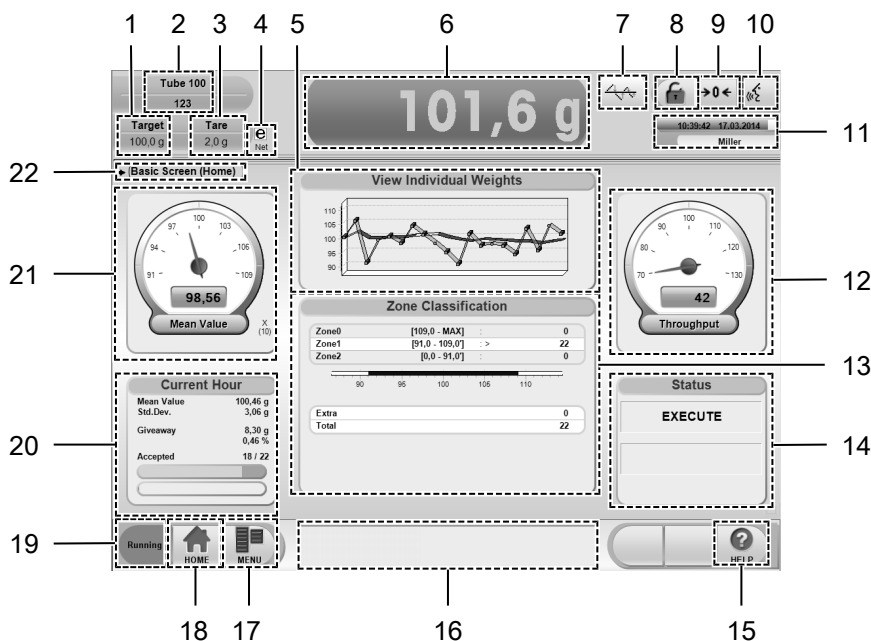
5.1 Basics

The following chapters describe basic procedures that are necessary to operate the system.

5.1.1 The Home Screen

The following images show the home screen of a standard checkweigher with 12" or 7" touchscreen. Choose the one that is suitable for your system. To return to the home screen, touch **[HOME]**.

12" Touchscreen

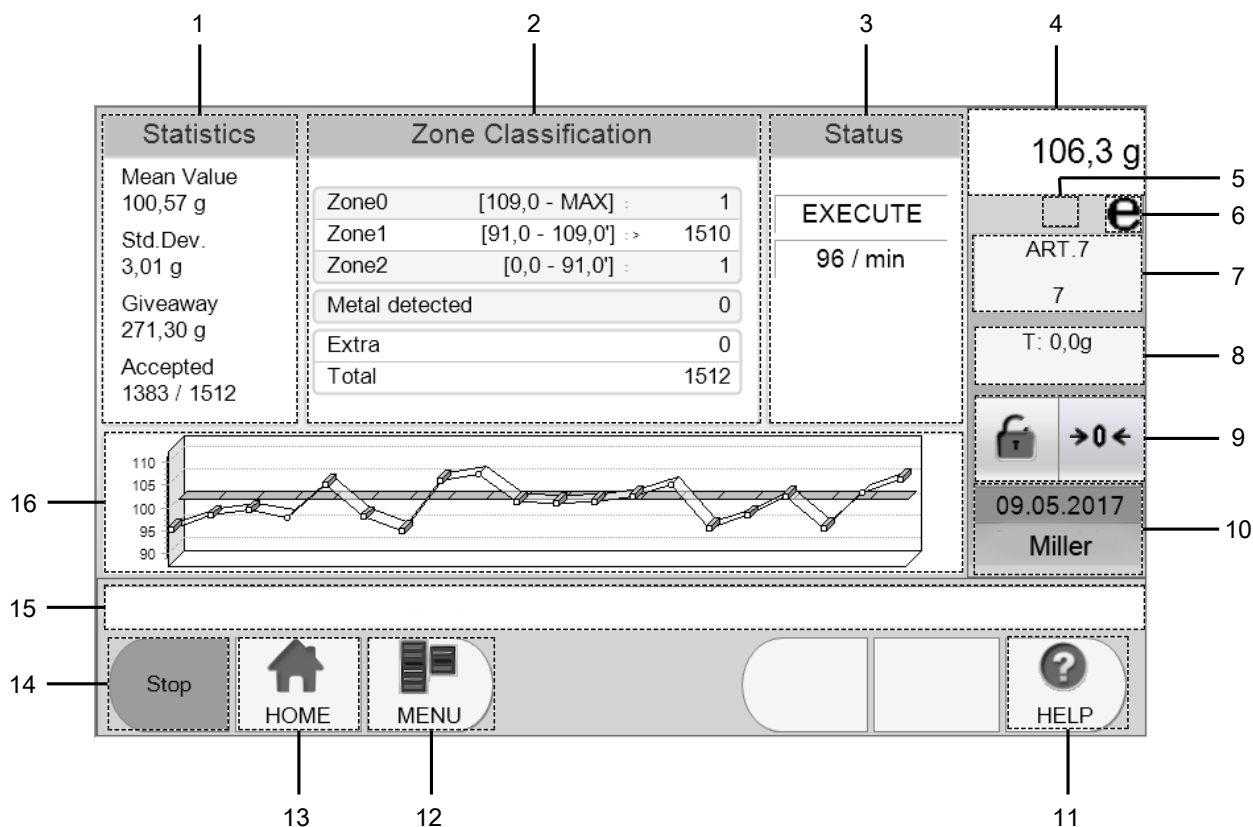


Explanation of the screen

| # | Function and description | Reaction when touched |
|----|--|---|
| 1 | Given target weight of the package | Opens up the Main Package Setup screen |
| 2 | Given name and optional code of the package | Opens up the Package Changeover screen |
| 3 | Given tare weight of the package | Opens up the Main Package Setup screen |
| 4 | “e” indicates that the system meets the Conformity Assessment. “Net” indicates that the net weight is shown in area 6. | Opens up the Metrology Info screen |
| 5 | Displays the weight of each item graphically | Opens up the Items screen |
| 6 | Shows the gross weight of the package Shows the net weight, when “Net” is displayed and when the motors are running | Opens up the Large Weight Display screen |
| 7 | Symbol for the feedback control (only shown if the option is available) <ul style="list-style-type: none"> • Correction upwards: arrow up (red) • Correction downwards: arrow down (green) • No correction: display of the chart (gray) | Opens up the Feedback screen |
| 8 | This button can have to states: <ul style="list-style-type: none"> • Open: the user is logged in • Closed: the user is logged off and the monitoring mode is active | You can log off or log in |
| 9 | [→0←] | Resets the load cell to zero |
| 10 | Temporary language changeover for the current session | Opens up a list with the languages |
| 11 | Date and time Current user profile Time until the automatic logoff | Frames the buttons that one can select to change parameters Touch the field again and the frames disappear |
| 12 | Throughput per minute | Opens up the Speed screen |

| # | Function and description | Reaction when touched |
|----|---|---|
| 13 | Zone designation, tolerance limits, quantity of products per weight zone The corresponding zone of the last product that has been weighed is marked with ">" | Opens up the Zone Classification screen |
| 14 | System status | Opens up the PackML Machine Status screen |
| 15 | Online help | Opens up an online help that explains the screen The online help is also available in most of the other screens |
| 16 | Field of system information and error messages | Opens up the Messages screen |
| 17 | [MENU] button | Opens up the menu |
| 18 | [HOME] button | Opens up the home screen |
| 19 | Conveyor mode: "Running", "Stopped", "Not Ready" | Indicates the state of the system |
| 20 | Statistical information about the package: If the General Statistics option is deactivated for the active package memory: "Statistics not active" If the General Statistics is activated for the active package memory: Number of the accepted products from all weighed products and the corresponding mean value, standard deviation and "giveaway" If Counter Statistics is activated: order and batch, ratio of number of accepted products and the corresponding mean value, standard deviation of accepted products and starting time of the current batch | If you touch the headline and General Statistics is activated: the display switches between the screens Total Statistics , Current Hour , Batch Statistics and Interval Statistics When you touch the graph of the statistical data, the screen of the statistics evaluation opens up. If Counter Statistics is activated: When you touch the field with the statistical data, the screen of Orders and Batches opens up |
| 21 | Mean weight | Opens up a window where the base of the calculation of the mean value can be changed If General Statistics is not activated: Gliding Mean If General Statistics is activated: the mean weight of Hour Statistics, Total Statistics, Interval Statistics, Batch Statistics or Gliding Mean |
| 22 | Name of the current screen that is displayed | No functionality |

7" Touchscreen



7" Home screen

Explanation of the screen

| # | Function and description | Reaction when touched |
|---|---|--|
| 1 | Statistical information about the package: If the General Statistics option is deactivated for the active package: "Statistics Disabled" If the General Statistics is enabled for the active package: Number of the accepted products from all weighed products and the corresponding mean value, standard deviation and "giveaway" | Opens up the Total Statistics screen |
| 2 | Zone name, tolerance limits, quantity of products per weight zone The corresponding zone of the last product that has been weighed is marked with ">". A value that is marked with a tick mark (') is inclusive. For example, the zone values "[0,0 - 91,0']" include a package with 91,0 gram but the zone values [91,0 - 109,0"] do not. | Opens up the Zone Classification screen |
| 3 | PackML state and the number of inspected products per minute. | Opens up the PackML Machine Status screen |
| 4 | Shows the gross weight of the package | Opens up the Large Weight Display screen |
| 5 | The color shows if the current values of the feedback control are above (green) or below (red) the configured mean values | Opens up the Feedback screen |

| # | Function and description | Reaction when touched |
|----|---|---|
| 6 | "e" indicates that the system meets the Conformity Assessment. It is only displayed for approved systems. | Opens up the Metrology Info screen |
| 7 | Displays package name and optional code of current package | Opens up the Package Changeover screen |
| 8 | Given tare weight of the package | No functionality |
| 9 | The lock can have the following states: <ul style="list-style-type: none"> • Open: the user is logged in • Closed: the user is logged off and the monitoring mode is active | You can log off or log on |
| | [→0←] | Resets the load cell to zero |
| 10 | Date and time Current user profile | No functionality |
| 11 | Online help | The online help is also available in most of the other screens |
| 12 | [MENU] button | Opens up the menu |
| 13 | [HOME] button | Opens up the home screen |
| 14 | Conveyor mode: "Start", "Stop", "Not Ready" | Indicates the state of the system |
| 15 | Displays system and error messages | Opens up the Messages screen |
| 16 | Displays the weight of each item graphically | Zooms into the graph for more details. Touch multiple times to zoom in further. After the highest zoom level is reached the original zoom level (100%) is shown |

5.1.2 Access Levels

The access levels are defined in user profiles. Each user has one user profile. The following access levels exist:

| Access level | Authorization |
|------------------------|---|
| Monitoring mode | Basic rights, one can only view parameters and statistics. |
| Operator | Additional rights for conducting a package changeover and for printing statistics. |
| Supervisor | Additional rights for creating, editing and deleting packages, adjusting sorting devices. The supervisor can set up and edit user profiles and parameterize outputs and inputs. |
| QA (Quality Assurance) | Additional rights for the password reset of the supervisor, adaptation of serial interfaces and approval test. Editing packages as well as the export and import of data are not possible with this profile. |

Always remember that many software features need certain user rights. This means, if your screen does not offer buttons that are shown in the user manual, it is likely that you need more user rights. These user rights have to be assigned to your profile by a supervisor. If you need more user rights, then contact your supervisor or a technically qualified person.

5.1.2.1 The Monitoring Mode

When no user is logged on to the system, the monitoring mode is the default access level and you get access to the following menus:

| | | | |
|---|------------------------|-----------------------------|------------------------------|
| [MENU] | Information | Messages | |
| | | State | PackML Machine Status |
| | | | Components Status |
| | | | Positions |
| | | XRTC: Motor and IO | |
| | Production Data | System Information | |
| | | Zone Classification | |
| | | Statistics | Total Statistics |
| | | | Current Hour |
| | | | Interval Statistics |
| | | | Batch Statistics |
| | | Charts | Feedback |
| | | Items | |
| | Actions | Large Weight Display | |
| | | Login | |
| Display Cleaning Mode Display Cleaning Mode (12" touchscreen only) | | | |

***NOTICE Only needed in collaboration with the Mettler Toledo Service.**

5.1.3 The Quick Access Box

This option is only available with the 12" touchscreen.

The Quick Access Box shows user specific actions and functions. These actions and functions have to be configured and assigned to a user profile. Up to eight actions and functions can be assigned to a user profile.

These actions have to be configured by the supervisor or the operator itself. The position of the box in the home screen can differ. If you want to activate the Quick Access box or change the position of the Quick Access Box, then you need supervisor rights.

If you want to display the functions, proceed as follows:

- Make sure that your user name appears in the quick access box.
 - 1 Touch the box.
 - ⇒ The screen with the preselected actions opens up.
 - 2 Choose the action that you want to carry out.
 - ⇒ The screen of the action that you chose opens up.

5.1.3.1 Configuring the Quick Access Box

If you want to assign actions and functions to a user profile, proceed as follows:

- 1 Touch **[MENU]**.
- 2 Select the menu items **Setup > Users > Quick Access Setup**.
 - ⇒ The Quick Access Setup screen opens up and shows which screens are available.

Adding and Removing Screens


If you want to add or remove screens from a user profile, proceed as follows:

- 1 Touch the name of the screen that you want to assign or remove.
 - or -
 - Use **[↑]** and **[↓]** to select the name of the screen.

- 2 Use [→] and [←] to add or remove the screen.
- 3 Repeat until the section of the allocated screens contains all desired screens.
- 4 If you want to finish the configuration, touch **[HOME]**.
 - ⇒ A window opens up and asks if you want to apply the settings.
- 5 Touch either **[Yes]** if you want to apply the settings.
 - or -
 - Touch **[No]** if you do not want to apply the settings.
 - or -
 - Touch **[Cancel]** if you still want to add changes to the configuration.
- ⇒ If you touched either **[Yes]** or **[No]**, the system returns to the home screen.


5.1.4 Logging In

To operate the checkweigher, log in at the touchscreen.

- 1 Touch .
 - or-
 - Touch **[MENU]** and select the menu item **Actions > Login**
 - ⇒ The log in screen appears.
- 2 Select your name or ID and confirm with **[OK]**.
- 3 Enter your password and confirm with **[OK]**.
- 4 Select the language you want to use.
- 5 Touch **[OK]**.
 - ⇒ The home screen appears.
 - ⇒ You are logged in if your login name appears.


5.1.5 Changing the Password

To change your password, proceed as follows:

- 1 Touch  until the login screen is shown.
 - or-
 - Touch **[MENU]**.
- 2 Select the menu items **Actions > Login**.
- 3 If the correct user name appears, enter your password and confirm with **[OK]**.
To change Username, touch the name of the current user, select correct user from the list and confirm with **[OK]**.
- 4 Touch **[Show Options]**.
 - ⇒ The screen expands by additional options.
- 5 Activate **Change Password?**.
- 6 Touch **[OK]**.
 - ⇒ A new window opens up.
- 7 Type in the old and the new password.
- 8 Confirm with **[Apply]**.
 - ⇒ The new password is saved.
 - ⇒ The home screen appears.

5.1.6 Changing the Language

The language of the touchscreen can be changed permanently. To change the language permanently, proceed as follows:


- 1 Touch  until the login screen is shown.
 - or-
 - Touch **[MENU]**.
- 2 Select the menu items **Actions > Login**.
- 3 Choose your user name or ID and enter your password.

- 4 Touch **[Show Options]**.
 - ⇒ The screen expands by additional options.
- 5 Touch the field next to "Language".
 - ⇒ A list with all available languages opens up.
- 6 Select the language and confirm with **[OK]**.
 - ⇒ The language changes immediately.
 - ⇒ The home screen appears.

Changing the Language Temporarily

This option is only available with the 12" touchscreen.

The language of the touchscreen can also be changed temporarily, so that the screens and menu items are displayed in another language. To change the language temporarily, proceed as follows:

- 1 Touch  in the upper right hand corner.
 - ⇒ A list with all available languages opens up.
- 2 Select the language and confirm with **[OK]**.
 - ⇒ The language changes immediately.

5.1.7 Changing the Conveyor Belt Speed

The weigh conveyor speed affects the speed of the infeed and outfeed conveyors and must synchronize with the rest of the production line. The conveyor speed is automatically calculated by the system based on the throughput settings for the product. In addition you can adjust the speed manually as follows:

- 1 Touch **[MENU]**.
- 2 Select the menu items **Setup > System > Motor > Speed**.
 - ⇒ The Speed screen opens up.
 - ⇒ The belt speed is displayed in m/min in the center of the speedometer.
- 3 Use the arrow buttons to increase or decrease the belt speed.
 - The large buttons increase and decrease the speed by steps of 5 m/min.
 - The small buttons increase and decrease the speed by steps of 1 m/min.
- 4 Touch **[Home]** to return to the main screen.
 - ⇒ The speed changes immediately.

Changing the Belt Speed with More Speed Zones

The system can have more than one motor or more than one speed zone, depending on the configuration. The other motors can be the motors of additional options, such as transfer units.

If you want to change the belt speed and the system has more than one speed zone, open the Speed screen as described above. Motor 1 is displayed in the middle of the screen. The other motors are displayed on the right and on the left of motor 1. The speed of motor 1 has to be changed first before adjusting the speed of the other motors. If you change the speed of motor 1, the speed of the other motors is adjusted automatically, so that the speed ratio stays the same. Only if the speed ratio of the motors is not okay, change the motor speed of the other motors.

- 1 Use the arrow buttons to increase or decrease the belt speed of motor 1.
 - 2 If necessary, adjust the speed of motor 2 and motor 3.
 - The arrow buttons of motor 2 and motor 3 are in the corresponding boxes of the motors.
- ⇒ The speed changes immediately.

5.1.8 Setting the Load Cell to Zero

To ensure accurate weighing results, the load cell of the system must be set to zero. Normally, the system resets the load cell to zero automatically whenever the product gap is big enough. In the case that no automatic reset to zero was possible within a certain period of time, the button **[→0←]** turns red. In this case, the load cell must be reset to zero manually.

NOTICE If the button is red, resetting the load cell to zero is absolutely necessary!

To reset the load cell to zero manually, proceed as follows:

- Stop the conveyors.
- Make sure that there is no product on the weigh conveyor.
- Touch the button [**→0←**] on the home screen.
- ⇒ The load cell is reset to zero and the button turns green.

The button can optionally have three colors that indicate the state:

| Color of the button | Meaning |
|---------------------|-------------------------------------|
| Gray | Normal state |
| Green | Zero setting successfully performed |
| Red | Zero setting not performed |

If the system is legally approved (MID), the button is grayed out.

5.1.9 Large Display

The weight display can be enlarged, so that it fills the entire middle area of the screen.

To enlarge the display, proceed as follows:

- Touch the weight display.
- or–
- Touch [**MENU**]. Select the menu items **Production Data > Large Weight Display**.
- ⇒ The large weight display opens up.

In order to change the display parameters, touch the list field and choose between:

- Net (the net weight)
- Mean value: Gliding Mean (for 12" only: the mean weight as selected in the left speedometer)
- Difference (the deviation from the actual weight to the target weight)
- Gross (the gross weight)
- Giveaway

If you want to return to the home screen, touch [**HOME**].

5.1.10 Deactivating the Touchscreen for Cleaning

This option is only available with the 12" touchscreen.

The touchscreen can be deactivated to clean the terminal or the touchscreen. It avoids unintended changes of settings and parameters. To deactivate the touchscreen, proceed as follows:

- 1 Touch [**MENU**].
- 2 Select the menu items **Actions > Display Cleaning Mode**.
⇒ The screen of the display cleaning mode opens up.
- 3 Clean the touchscreen with mild detergent and a soft cloth.
- 4 After cleaning, touch **Back to Normal Operation** and confirm with [**Yes**].
- ⇒ The system returns to the home screen.

Note You can only touch **Back to Normal Operation**, as long as the picture of the home screen is colored.

5.1.11 Metal Detector Information Display

This software function is optional. Depending on the configuration of your system, your system might not have this function.

Information and parameters of the metal detector can be displayed on the touchscreen of the checkweigher. If you want to show the information of the metal detector, then proceed as follows:

- 1 Touch [**MENU**].
- 2 Select the menu items **Setup > General > Metal Detector**.
- ⇒ The information of the metal detector appears on the touchscreen of your system.

Note The screen of the Zone Classification additionally shows information about the quantity of metal contaminated products.

5.2 Setup and Administration

In this menu you can administrate users and change system setups.

5.2.1 User Administration

In this menu you can maintain users and user profiles.

5.2.1.1 Users: Adding, Editing, Removing

Adding a User

To add a new user, proceed as follows:

- 1 Touch **[MENU]**.
- 2 Select the menu items **Setup > Users > Edit Users**.
⇒ The Edit Users screen opens up.
- 3 Touch **[Add]**.
- 4 Touch the field next to "Name" in the section "Edit User Properties".
⇒ An on-screen keyboard appears.
- 5 Enter the user name and confirm with **[OK]**.
- 6 Touch the field next to "Password" in the section "Edit User Properties".
⇒ An on-screen keyboard appears.
- 7 Enter the password and confirm with **[OK]**.
- 8 Enter the new password again and confirm with **[OK]**.
- 9 Touch the field next to "Profile".
- 10 Select the desired profile from the list and confirm with **[OK]**.
- 11 Touch the field next to "Language".
- 12 Select the desired language and confirm with **[OK]**.
- 13 Confirm with **[Apply]**.
⇒ The settings are saved.

Note Write down and do not lose the supervisor password. If you lose the password, then the user access can not be restored. To regain the access, remove and add the user again.

Editing a User

To edit user properties, proceed as follows:

- 1 Touch **[MENU]**.
- 2 Select the menu items **Setup > Users > Edit Users**.
⇒ The Edit Users screen opens up.
- 3 Select the user whose properties you want to change and touch **[Edit]**.
- 4 Touch the field with the content that you want to change.
- 5 Enter the new content or select the new profile or a different language and confirm with **[OK]**.
- 6 Confirm with **[Apply]**.

Removing a User

To remove a user, proceed as follows:

- 1 Touch **[MENU]**.
- 2 Select the menu items **Setup > Users > Edit Users**.
⇒ Edit Users screen opens up.
- 3 Select the user you want to delete in the section "User List" and touch **[Remove]**.
- 4 Confirm with **[Yes]**.
- 5 Confirm with **[Apply]**.
⇒ The settings are saved.

5.2.1.2 User Profiles: Adding, Editing, Removing

A user profile is a template that contains common access rights. The user profile makes sure that all users that belong to this profile have the same access rights.

Adding a User Profile

To add a user profile, proceed as follows:

- 1 Touch **[MENU]**.
- 2 Select the menu items **Setup > Users > Edit Profiles**.
⇒ The Edit Profiles screen opens up.
- 3 Touch **[Add]**.
- 4 Touch the field next to "Name".
⇒ An on-screen keyboard appears.
- 5 Enter the profile name and confirm with **[OK]**.
- 6 Activate (green checkmark) or deactivate (red dash) the parameter and change the values of the parameters if necessary.
- 7 Confirm with **[Apply]**.
⇒ The settings are saved.

Explanation of the parameters

| Parameter | Description |
|---------------------|--|
| Auto Logoff | Number of minutes (since last screen touch) until the system automatically logs user off. |
| Failed Logins | Number of failed logins until a user is blocked. |
| Min Password | Minimum number of characters for a password. |
| Password Expiration | Number of days until you have to change the password. |
| Change password | Forces the user to change the password assigned by the administrator after the first log in. |

Editing a User Profile

To edit a user profile, proceed as follows:

- 1 Touch **[MENU]**.
- 2 Select the menu items **Setup > Users > Edit Profiles**.
⇒ The Edit Profiles screen opens up.
- 3 Select the user profile whose properties you want to change and touch **[Edit]**.
- 4 Activate or change the parameters if necessary.
- 5 Confirm with **[Apply]**.
⇒ The settings are saved.

Removing a User Profile

To remove a user profile, proceed as follows:

- 1 Touch **[MENU]**.
- 2 Select the menu items **Setup > Users > Edit Profiles**.
⇒ The Edit Profiles screen opens up.
- 3 Select the user profile that you want to delete and touch **[Remove]**.
- 4 Confirm with **[Yes]**.
⇒ The user profile is deleted.

5.2.1.3 Resetting a User

If the password of a user expires or the allowed number of failed logins is exceeded, the user account becomes locked. To reset the user, proceed as follows:

- If the password of a user is expired
- If the allowed number of failed logins is exceeded

To reset the user, proceed as follows:

- 1 Log in as QS.
- 2 Touch **[MENU]**.
- 3 Select the menu items **Setup > Users > Edit Users**.
⇒ The Edit Users screen opens up.
- 4 Select the user whose password you want to change.
- 5 Touch the **[Reset]** button in the section "Edit User Properties".
⇒ The user is resetted and can log in with the old password.

5.2.1.4 Allocating Screens to User Profiles

Note The system is supplied with profiles that have pre-assigned screen allocations. You can change these screen allocations only, if you are authorized to do so.

To allocate a specific screen to a specific user profile, proceed as follows:

- 1 Touch **[MENU]**.
- 2 Select the menu items **Setup > Users > Assign Profiles**.
⇒ The Assign Profiles screen opens up.
- 3 Touch the profile in the section "Profile List" that you want to change and touch **[Edit]**.
⇒ "Allocated Screens" show the screens that are already allocated to the profile. "Available Screens" contain the screens that are currently not allocated to the profile.
- 4 Select in the section "Available Screens" screens that you want to add consecutively to the profile.
⇒ Section "Available Screens" contains screens that are not allocated to the profile.
- 5 Use **[→]** and **[←]** to add or remove screens.
- 6 Repeat until the profile contains all desired screens.
- 7 To save the changes, touch **[HOME]** and confirm with **[Yes]**.
⇒ The settings are saved and the home screen appears.

5.2.2 System Setup

In this menu you can do basic configurations of the system.

5.2.2.1 Time and Date

To set the time of your system, proceed as follows:

- 1 Touch **[MENU]**.
- 2 Select the menu items **Setup > General > Time and Date**.
⇒ The Time and Date screen opens up.
- 3 Enter time.
- 4 Touch **[Set Time]**.
- 5 Confirm with **[YES]** to perform final evaluation.
⇒ The settings are saved.

5.2.2.2 Changing the IP Address

To change the IP address of your system, please contact the METTLER TOLEDO Service. If necessary, the corresponding instructions can be made available.

5.2.2.3 Setting the Rejectors

The general rejector settings apply to all packages. A delay offset can be configured for each package individually in the "Rejector Adjustment" screen, see Adjusting the Rejectors.

5.2.2.3.1 General Rejector Settings

Note The rejector settings are set at the factory prior to shipment. Any changes to these settings may cause inaccurate rejection of product. Please consult the METTLER TOLEDO Service before making changes.

To configure the general rejector settings, proceed as follows:

- 1 Touch **[MENU]**.
- 2 Select the menu items **Setup > General > Rejector Settings**.
⇒ The Rejector Settings screen opens up.
- 3 Select the rejector in the rejector list and touch [Edit].
- 4 Enter the settings.
⇒ Explanation:
Name - Name of rejector
Distance - Distance in mm from the Weigh Light Barrier (WLB) to the middle of the rejector.
Duration - Duration in ms that the rejector is energized by the control.
Output - The designated circuit assigned to the control that energizes the rejector.
Rejector Type - Type of rejector
Delay Offset - Fine tuning of the rejector firing.
- 5 Confirm the settings with **[OK]**.
- 6 Touch **[Apply]** to save all settings for the rejector.
⇒ The settings are saved.

5.2.2.3.2 Adjusting the Rejectors

The delay offset and duration offset for the current package can be adjusted in the Rejector Adjustment screen.

NOTE The settings are only valid for the current package memory.

To adjust the rejectors proceed as follows:

- 1 Touch **[MENU]**.
- 2 Select the menu items **Packages > Active Package > Rejector Adjustment**.
⇒ The Rejector Adjustment screen opens up.
- 3 Chose the rejector whose settings you want to adjust.
- 4 Change the settings.
- 5 Confirm with **[Apply]**.
⇒ The settings are saved.

Explanation of the fields

| Field | Meaning |
|-----------------|---|
| Delay Offset | Dynamic checkweigher: tolerance to compensate the lag of the rejector. Intermittent checkweigher: fine adjustment between two weighing cycles. The global sorting distance is the reference. |
| Duration Offset | Change in the pulse duration, to adapt the rejector to the product weight. |

Note These settings are specific to individual packages.

5.3 Package Maintenance

Users with the access level "operator" can change or print packages from the package database.

Users with a higher access level can also create, copy, delete or edit packages from the package database.

5.3.1 Conducting a Package Changeover



NOTICE

Risk of property damage

The system can be equipped with additional mechanical options, such as sidegrip conveyor, guide rails, top and bottom conveyor, that must be adapted to the new package size.

- Make sure that all mechanic components are adapted to the new package size before conducting a package changeover at the system.
 - 1 Touch **[MENU]**.
 - 2 Select the menu items **Packages > Package Maintenance > Package Changeover-** or -
Shortcut (available with 12" touchscreen only): Touch the name of the package in the upper left hand corner in the home screen.
 - ⇒ The Package Changeover screen opens up.
 - ⇒ The active package is marked.
 - 3 Touch the package that you want to select.
 - ⇒ The color of the selected package changes to yellow.
 - 4 Confirm with **[Changeover]**.
 - ⇒ The home screen appears, the counters are updated and the name and the code of the new package appears.
 - ⇒ The new package is now active.

5.3.2 Conducting a Package Changeover using ProdX

This software function is optional. Depending on the configuration of your system, some functions are not available.

The ProdX software makes it possible to search and load any package from a ProdX database.



NOTICE

Risk of property damage

The system can be equipped with additional mechanical options, such as sidegrip conveyor, guide rails, top and bottom conveyor, that must be adapted to the new package size.

There are three ways to conduct a package changeover using ProdX:

- Conducting a package changeover if the package is already loaded
- Conducting a package changeover if the package is not loaded (1)
- Conducting a package changeover if the package is not loaded (2)

Conducting a Package Changeover if the Package Is Already Loaded

Proceed as described in Conducting a Package Changeover.

Conducting a Package Changeover if the Package Is Not Loaded (1)

- Make sure that all mechanic components are adapted to the new package size before conducting a package changeover at the system.
 - 1 Touch **[MENU]**.
 - 2 Select the menu items **Packages > Package Maintenance > Package Changeover.**
 - ⇒ The screen of the Package Changeover opens up.
 - 3 Touch **ProdX tableau.**
 - ⇒ The screen of the ProdX opens up.
 - 4 Select the package that you want to load.

- 5 Confirm with **[Download]**.
- ⇒ The home screen appears and the name and the code of the new package appears in the upper left hand corner.
- ⇒ The new package is now active.

Conducting a Package Changeover if the Package Is Not Loaded (2)

- Make sure that all mechanic components are adapted to the new package size before conducting a package changeover at the system.
- 1 Touch **[MENU]**.
 - 2 Select the menu items **Actions > Download Product from ProdX**.
 - ⇒ The screen of the Package Changeover opens up.
 - 3 Touch **ProdX tableau**.
 - ⇒ The screen of the ProdX opens up.
 - 4 Select the package that you want to load.
 - 5 Confirm with **[Download]**.
 - ⇒ The home screen appears and the name and the code of the new package appears in the upper left hand corner.
 - ⇒ The new package is now active.

5.3.3 Conducting a Package Changeover using FreeWeigh

This software function is optional. Depending on the configuration of your system, some functions are not available.

The FreeWeigh software makes it possible to search and load any package from FreeWeigh database.



NOTICE

Risk of property damage

The system can be equipped with additional mechanical options, such as sidegrip conveyor, guide rails, top and bottom conveyor, that must be adapted to the new package size.

There are three possibilities to conduct a package changeover using FreeWeigh:

- Conducting a package changeover if the package is already loaded
- Conducting a package changeover if the package is not loaded (1)
- Conducting a package changeover if the package is not loaded (2)

Conducting a Package Changeover if the Package Is Already Loaded

Proceed as described in Conducting a Package Changeover.

Conducting a Package Changeover if the Package Is Not Loaded (1)

- Make sure that all mechanic components are adapted to the new package size before conducting a package changeover at the system.
- 1 Touch **[MENU]**.
 - 2 Select the menu items **Packages > Package Maintenance > Package Changeover**.
 - ⇒ The screen of the Package Changeover opens up.
 - 3 Enter the name of the package in the field and touch **[Search Package]**.
 - 4 Touch **[Load Package from Host]**.
 - ⇒ The home screen appears with the code of the new package.
 - ⇒ The new package is now active.

Conducting a Package Changeover if the Package Is Not Loaded (2)

- Make sure that all mechanic components are adapted to the new package size before conducting a package changeover at the system.
- 1 Touch **[MENU]**.

- 2 Select the menu items **Actions > Load Package from Host**.
 - ⇒ The screen of the Package Changeover opens up.
- 3 Change to the list view.
- 4 Enter the name of the package in the field.
 - or -
 - Search the package using [**Search Package**].
- 5 Touch [**Load Package from Host**].
 - ⇒ The home screen appears and the name and the code of the new package appears in the upper left hand corner.
 - ⇒ The new package is now active.

5.3.4 Changing the Tare Weight

The tare weight of a package is the weight of the package without content, for example an empty carton. To change the tare weight, proceed as follows:

- 1 Touch [**MENU**].
- 2 Select the menu items **Actions > Tare Weight**.
 - ⇒ An on-screen keypad opens up.
- 3 Enter the new tare weight.
- 4 Confirm the new tare weight with [**OK**].
 - ⇒ The new tare weight is now adapted and displayed in the home screen.

5.3.5 Creating a New Package



NOTICE

Risk of property damage

The system can be equipped with additional mechanical options, such as sidegrip conveyor, guide rails, top and bottom conveyor, that must be adapted to the new package size.

To create a new package, follow the instructions for the corresponding touchscreen size.

12" Touchscreen

- 1 Touch [**MENU**].
- 2 Select the menu items **Packages > Package Maintenance > Create New Package**.
 - ⇒ A new screen opens up. The yellow rectangles represent package memory locations that are not occupied yet. A maximum of 200 packages can be created. You can use [**←**] or [**→**] to scroll page by page.
- 3 Select a free package memory location and touch [**Create Now**].
 - ⇒ The Main Package Setup screen opens up.
- 4 Define the initial parameters of the new package.

Note The parameters of a new package are preset and based on the parameters and settings of the package that is currently active.
- 5 Touch [**Continue...**] to open up other screens where you can set other parameters of the new package.

Note You can see all other screens where you can set other parameters in the box at the top right hand corner. The screens open up consecutively when you touch [**Continue...**].
- 6 Modify the parameters if needed.

Note Screens that have already been edited are marked with a green checkmark at the top right hand corner.
- 7 To save the changes, confirm with [**Apply**].
 - ⇒ The parameters of the package are saved.

7" Touchscreen

- 1 Touch **[MENU]**.
- 2 Select the menu items **Packages > Package Maintenance > Create New Package**.
⇒ A new screen opens up. The yellow rectangles represent package memory locations that are not occupied yet. A maximum of 200 packages can be created. You can use **[←]** or **[→]** to scroll page by page.
- 3 Select a free package memory location and touch **[Create Now]**.
⇒ The Main Package Setup screen opens up.
- 4 Define the initial parameters of the new package.
Note The parameters of a new package are preset and based on the parameters and settings of the package that is currently active.
- 5 Modify the parameters if needed.
- 6 To save the changes, confirm with **[Apply]**.
⇒ The parameters of the package are saved.

5.3.6 Modifying Parameters of a Package

In this menu you can change the parameters of any individual package or the parameters of the active package.

5.3.6.1 Editing the Package Data of Each Package

The data of any package can be edited. To edit the data of a package follow the instructions for the corresponding touchscreen size.

12" Touchscreen

- 1 Touch **[MENU]**.
- 2 Select the menu items **Packages > Package Maintenance > Edit Package**
Touch the arrow buttons to change the pages.
- 3 Touch the field of the package that you want to edit.
- 4 Touch **[Edit]**.
⇒ The Main Package Setup screen opens up.
- 5 Edit the parameters of the package.
- 6 Touch **[Continue...]** to open up other screens where you can edit other parameters of the package.
Note You can see all other screens where you have to set other parameters in the box at the top right hand corner. The screens open up consecutively when you touch **[Continue...]**.
- 7 Delete the parameters if needed.
Note Screens that have already been edited are marked with a green checkmark.
- 8 To save the changes, confirm with **[Apply]**.
⇒ The parameters of the package are saved.

Note Alternatively, you can edit the data of the active package, when you touch the package ID in the upper left hand corner in the home screen.

7" Touchscreen

- 1 Touch **[MENU]**.
- 2 Select the menu items **Packages > Package Maintenance > Edit Package**
Touch the arrow buttons to change the pages.
- 3 Touch the field of the package that you want to edit.
- 4 Touch **[Edit]**.
⇒ The Main Package Setup screen opens up.
- 5 Edit the parameters the package.
- 6 Delete the parameters if needed.
- 7 To save the changes, confirm with **[Apply]**.

- 8 Make any changes to the subsequent screens. Confirm with **[Apply]** after each screen.
⇒ The parameters of the package are saved.

5.3.6.2 Editing the Package Data of an Active Package

The parameters and settings of the active package can be modified as described in chapter Editing the Package Data of Each Package, or as follows:

- 1 Touch **[MENU]**.
- 2 Select the menu items **Packages > Active Package**.
⇒ A new menu opens up.
- 3 Select the screen that contains parameters that you want to change.
⇒ The screen opens up.
- 4 Touch the parameter that you want to change and modify the entries.
- 5 Touch **[Apply]** to save the entries.
⇒ The entries are saved.

5.3.7 Copying the Package Data

If the data and parameters of a new package are similar to the data and parameters of a package that already exists, then the data can be copied and adapted. To copy a package, follow the instructions for the corresponding touchscreen size.

12" Touchscreen

- 1 Touch **[MENU]**.
- 2 Select the menu items **Packages > Package Maintenance > Copy Package**
⇒ A new screen opens up.
- 3 Select the package that you want to copy and confirm with **[Copy]**.
⇒ A new screen opens up.
- 4 Touch a free yellow rectangle to select a free package memory location and touch **[Copy]**.
⇒ The Main Package Setup screen opens up.
⇒ The parameters of the copied package are adopted for the new package.
- 5 To change the parameters and names, touch the corresponding field and proceed as described in "Editing the Package Data".
- 6 Touch **[Continue...]** to open up other screens where you can edit other parameters of the new package.
Note You can see all other screens where you have to set other parameters in the box at the top right hand corner. The screens open up consecutively when you touch **[Continue...]**.
- 7 Modify the parameters if needed.
Note Screens that have already been edited are marked with a green checkmark.
- 8 To save the changes, confirm with **[Apply]**.
⇒ The parameters of the package are saved.

7" Touchscreen

- 1 Touch **[MENU]**.
- 2 Select the menu items **Packages > Package Maintenance > Copy Package**
⇒ A new screen opens up.
- 3 Select the package that you want to copy and confirm with **[Copy]**.
⇒ A new screen opens up.
- 4 Touch a free yellow rectangle to select a free package memory location and touch **[Copy]**.
⇒ The Main Package Setup screen opens up.
⇒ The parameters of the copied package are adopted for the new package.
- 5 To change the parameters and names, touch the corresponding field and proceed as described in "Editing the Package Data".

- 6 Modify the parameters if needed.
 - 7 To save the changes, confirm with **[Apply]**.
- ⇒ The parameters of the package are saved.

5.3.8 Deleting a Package

To delete a package and all its data, proceed as follows:

- 1 Touch **[MENU]**.
 - 2 Select the menu items **Packages > Package Maintenance > Delete Package**.
Touch the arrow buttons to change the pages.
 - 3 Touch the package that you want to delete, and touch **[Delete Now]**.
 - 4 Touch **Yes** to confirm.
- ⇒ The package and all corresponding data is deleted.

5.3.9 Recalculating of the Weight Zones

This menu allows to configure the automatic recalculation of the weight zones whenever the target weight of a package is changed. You can also set the basic method of calculation.

- 1 Touch **[MENU]**.
 - 2 Select the menu items **Packages > Zone Calculation Setup**.
⇒ The Zone Calculation screen opens up.
 - 3 Modify the parameters of the package.
 - 4 To save the changes, touch **[Apply]**.
- ⇒ The changes are saved.

Explanation of the screen

| Field | Explanation |
|--|--|
| Recalculate Zones After Target Weight Change | <p>Green checkmark (✓) The zone limits of a package are recalculated after any modification of the target weight. The basis for the recalculation is the selected Calculation Method.</p> <p>Red minus (-) The zone limits of a package stay the same after the modification of the target weight.</p> |
| Calculation Method | <p>FPVO Calculation of the weight zones according to the pre-packaged goods legislation.</p> <p>Absolute Offset Enter the positive and negative offset of the individual weight zones. The offsets are added to the target weight.</p> <p>Relative Offset Enter the offset as a percentage. The offsets are added to the target weight.</p> <p>Keep the offsets After a modification of the target weight, the offsets stay the same in proportion to the target weight.</p> |
| Rejector Indication (only 12" touch-screen) | Indicates the rejector in the Zone Classification, for example (*) |

5.4 Package Setup

In this menu you can modify the settings for all existing packages. To modify the settings, you have to be authorized to do so.

Note Depending on the configuration of your system, some functions are not available.

5.4.1 Main Package Setup

This screen is the first of several screens that shows the data of the package and allows the user to assign parameters to a specific package that has to be weighed.

- 1 Touch **[MENU]**.
- 2 Select the menu items **Packages > Active Package > Main Package Setup**.
⇒ The Main Package Setup screen appears.
- 3 Modify the parameters of the package.
- 4 To save the changes, touch **[Apply]**.
⇒ The changes are saved.

Explanation of the parameters

| Field | Explanation |
|--|---|
| Name | Name of the package Recommendation: each name must only exist once |
| Target Weight | Target weight of the package |
| Tare | Mean tare weight of the package that is considered during every dynamic weighing process. |
| Target Throughput | The target throughput specifies the number of products to be weighed per minute. The checkweigher calculates the belt speed that is needed to reach the target throughput. This speed will be set automatically when the modification is applied. |
| Code (Only available with 12" touch-screen) | Code of the package, for example the EAN Code. Note If the system is connected to ProdX, each code must only exist once. |
| Unit (optional) | Additional units for the package, such as count and volume |
| Unit of Measurement | Unit of measurement for the dimensions of the package. |
| Statistics? / Stats? | If checked, the statistic for this package is turned on. |

Note The other sub-menus of the Active Package are listed in the small window at the upper right hand side of the screen. To open one of these sub-menus, touch the name of the menu and the corresponding screen opens up.

5.4.2 Additional Package Setup

In this menu, you can change, set and modify parameters of the package.

- 1 Touch **[MENU]**.
- 2 Select the menu items **Packages > Active Package > Add. Package Setup**.
⇒ The Additional Package Setup screen opens up.
- 3 Touch the field that you want to specify.
- 4 Change the parameters.
- 5 Confirm with **[Apply]**.
⇒ The settings are saved.

Explanation of the fields

| Field | Explanation |
|--|--|
| Description | Description of the package (optional) |
| Number of Zones | Quantity of weight zones that you specify in the Limit Setup. |
| Tolerance System (Option in the General Statistics) | Selection of the tolerance system EC-, FREE, US, Australian that are explained below |

| Field | Explanation |
|--|---|
| EC- | Complies with EU production directives. If the limits of "TU1 Percentage" and "TU2" are exceeded, then the product is rejected. Note If EC- is the selected tolerance system, then sorting devices need to be assigned to the zones "TU1" and "TU2". The number of sorting devices may not be set to zero. |
| FREE | If the limits of "TU1 Percentage" and "TU2" are exceeded, the product does not have to be rejected in any case. If you do not want to reject the products, then select the number of sorting devices "NO" (= no rejector) in the Statistical Limits screen. |
| US | The products are only weighed to check whether their weight is within the limits. If "US" is selected, products are not rejected by the statistics program. The weight of the products is only checked for, whether the weight lies within the tolerance limits that can be entered in the Statistical Limits screen. The mean value is then only calculated from products that lie within this range. |
| Australian | Complies with Australian directives. |
| Ind. Corr. Factor | Package specific correction factor The individual correction factor is typically used at extremely high belt speeds. The weight value may be displaced relative to the weight value determined during static weighing operations. This effect is compensated by automatic multiplication of the dynamically determined weight value and the individual correction factor. Note In the case of calibrated checkweighers, the individual correction factor setting is read-only and cannot be changed by the operator. |
| Product Length (optional) | Length of the product. |
| Product Length (Max) (optional) | Max. length of the product is displayed only if the option "Askew Detection" and "Product Length" is active. |
| IIR Level (optional) | Filter level of the load cell which is displayed depending on the operation mode. High values increase the repeat accuracy. |
| 'Product picture' (12" touchscreen only) | You can add a product picture to each product. Touch the checkbox to assign a picture to the product. To add pictures, they must be uploaded to the following folder: D:\HMI\packages |

5.4.3 Setting Up the Limits of Weight Zones

In this screen, you enter the limits of the individual weight zones, so that the weighed products can be classified into different weight zones then. The number of weight zones can be specified in the Add. Package Setup screen.

If you want to set the limits of the weight zones, proceed as follows

- 1 Touch **[MENU]**.
- 2 Select the menu items **Packages > Active Package > Limit Setup**.
⇒ The Limit Setup screen appears.
- 3 Touch the zone that you want to specify.
- 4 Change the parameters.
- 5 Confirm with **[Apply]**.
⇒ The settings are saved.

Continue the desired adjustment for all other zones.

12" Touchscreen

Explanation of the screen

| Field | Explanation |
|-----------|--|
| Zone Name | Name of the zone. Note The names of the zones are used in the basic screen and in printouts. |

| Field | Explanation |
|--------------------|---|
| Comment | Comment for the weight zone (optional) |
| Upper Limit | Upper tolerance limit of the weight zone |
| Lower Limit | Lower tolerance limit of the weight zone |
| [... ? | These settings regulate the case, that the weight of a product is exactly same as the lower tolerance limit of the selected weight zone. Note These settings have to be set individually for the lower tolerance limit of every weight zone. However, it can not be set for the lowest weight zone. |
| (✓) | Lower tolerance limit with checkmark (=default): A product with the same weight as the lower tolerance limit is categorized into the selected weight zone. |
| (-) | Lower tolerance limit without checkmark: A product with the same weight as the lower tolerance limit is categorized into the next lower weight zone. Note A weight that lies between two tolerance zones can only belong to one of these zones. If a limit does not belong to the zone that it delimits, then this limit is marked by an apostrophe in the weight zones display. |
| (✓) "Accepted" | Specifies for every weight zone, whether the weight is "accepted" or "not accepted" in terms of the Statistics option. (This is for the Statistics option only) |
| (-) "Not accepted" | |
| [Actions] | Shows the designated actions for every weight zone If you touch [Actions] , the Zone Actions screen opens up to configure the actions. |

7" Touchscreen

Explanation of the screen

| Field | Explanation |
|--------------------|---|
| Zone Name | Name of the zone. Note The names of the zones are used in the basic screen and in printouts. |
| Comment | Comment for the weight zone (optional) |
| Upper Limit | Upper tolerance limit of the weight zone |
| Lower Limit | Lower tolerance limit of the weight zone |
| (✓) | Lower tolerance limit with checkmark (=default): A product with the same weight as the lower tolerance limit is categorized into the selected weight zone. |
| (-) | Lower tolerance limit without checkmark: A product with the same weight as the lower tolerance limit is categorized into the next lower weight zone. Note A weight that lies between two tolerance zones can only belong to one of these zones. If a limit does not belong to the zone that it delimits, then this limit is marked by an apostrophe in the weight zones display. |
| (✓) "Accepted" | Specifies for every weight zone, whether the weight is "accepted" or "not accepted" in terms of the Statistics option. (This is for the Statistics option only) |
| (-) "Not accepted" | |
| (White text field) | Shows the designated actions for every weight zone If you touch the white field, a list of actions opens up to configure the actions. |

5.4.3.1 Allocating Actions to Weight Zones

You can allocate actions of the system to specific weight zones of the current package, such as rejectors, outputs or messages.

If you want to allocate actions to weight zones, then proceed as follows:

- 1 Touch **[MENU]**.
- 2 Select the menu items **Setup > General > Zone Actions**.
⇒ The Zone Actions screen opens up.
- 3 Select the weight zone. Select the action from the Action List that you want to allocate to the weight zone.
- 4 Touch **[→]** to add the corresponding action to the list on the right hand side.

- 5 Touch [**←**] to remove the corresponding action from the list.
 - 6 Add and remove actions until the list on the right hand side contains all actions that you want to allocate.
 - 7 If you want to save the settings, then touch [**HOME**].
 - 8 Confirm with [**Yes**].
- ⇒ The settings are saved and the system return to the home screen.

5.4.4 Setting Up Statistical Limits

To set up the statistical limits and parameters, proceed as follows:

- 1 Touch [**MENU**].
- 2 Select the menu items **Packages > Active Package > Statistical Limits**.
⇒ The screen of the Statistical Limits opens up.
- 3 Modify the parameters.
- 4 Touch [**Apply**] to save the changes.
⇒ The parameters are saved and the statistical limits are activated.

Explanation of the parameters

| Parameter | Description |
|----------------------------------|---|
| TU1 Limit | All items that weigh less than this limit are rejected, as long as the limit of TU1 Percentage is exceeded |
| TU1 Percentage | Enter the maximum TU1 limit for the production process according to the regulations for pre-fabricated packages. NOTICE Consider your national regulations Germany: If the production is in accordance with the regulations for pre-fabricated packages, a maximum of 2% of the items is allowed to be between the limits TU1 and TU2. International: Consider your national regulations for pre-fabricated packages before you enter a value. |
| TU2 limit | All items that weigh less than this value are rejected. |
| 10000 Pcs Rule | The hour of production is completed automatically after 60 minutes or earlier, if 10000 accepted products were weighed. |
| Auto Printout | If your system is equipped with a printer, you can choose if the results are printed automatically at the end of an production hour. |
| Rejector Settings | Select a rejector for the tolerance limits TU1 and TU2. The rejection of products can only be deactivated when the statistics system "FREE" is selected. |
| Mean Value Control, top field | Select the basis for the calculation of the mean value control: <ul style="list-style-type: none"> • Off: the mean value control is deactivated • Hour Statistics: the mean value control is based on the Hour Statistics • Total Statistics: the mean value control is based on the Total Statistics Note Whether the mean value of the products is higher than the target weight is controlled all the time in the respective "current hour of production" or since begin of production. Therefore, the mean value of the product weight is always higher than the target weight. |
| Mean Value Control, bottom field | Select a rejector from the list: <ul style="list-style-type: none"> • NO: no rejector is assigned • Rej. 1, Rej. 2, ...: Rejector is assigned |

The input fields depend on the chosen kind of statistic. If you have chosen the tolerance system "US", you can define the areas of tolerance:

| Field | Description |
|---------------------|---|
| Upper Limit | Define the upper limit of the area of tolerance |
| Lower Limit | Define the lower limit of the area of tolerance |
| Stat Limit Tracking | Considers the American legislation |

Information about the Tolerance Limits TU1 and TU2

The software automatically calculates a limit for both tolerance limits (TU1 and TU2), in accordance with the requirements of the regulations for pre-fabricated packages. This limit is displayed automatically on the screen.

The limits of both tolerance limits appears on the printouts and on the screens of the Statistics.

The recalculation is carried out in accordance with the respective setting of the tolerance systems.

5.4.5 Specifying the Evaluation of Intervals and Batches

This software function is optional. Depending on the configuration of your system, some functions are not available.

If the option General Statistics is active, the Interval Setup screen is displayed in the Package Setup screen.

The evaluation of an interval can be done either after a specified time or after a specified number of items.

The evaluation of a batch can be carried out after entering a new batch ID.

To display the menu of the interval setup and batches, proceed as follows:

- 1 Touch **[MENU]**.
- 2 Select the menu items **Packages > Active Package > Interval Setup**.
⇒ The Interval Setup screen opens up.
- 3 Touch the field/parameter that you want to specify.
- 4 Change the parameters.
- 5 Confirm with **[Apply]**.
⇒ The settings are saved.

Explanation of the fields

| Field | Description |
|------------------------|--|
| Interval Type | Field to specify the cause by creation a statistics interval result. Pieces: After a specific number of products. Time: After a specific time of production. |
| End at | Field to define the interval of the products. Depends on the Interval Type. |
| Auto Interval Printout | (✓) Activation of the automatic print of the results at the end of an interval. |
| Batch | The batch ID Note If you confirm the batch ID, then the previously active batch ends automatically. |
| Auto Batch Printout | (✓) Activation of the automatic print of the results by a change of a batch. |

5.4.5.1 Changing the Batch ID

The batch ID identifies the batch and can either be a number or a name.

You can print the batch before changing the batch ID. The batch specific data of a finished batch is deleted after changing the batch ID, but is considered in the Total Statistics. If the batch ID is changed while the system is running, then the current batch statistics is completed automatically. If you enter and save a new batch ID, then the recording of the batch statistics restarts.

To change the batch ID, then proceed as follows:

- 1 Touch **[MENU]**.
- 2 Select the menu items **Actions > Batch**.
⇒ An on-screen keyboard opens up.

3 Enter the new batch ID and confirm with **[OK]**.

⇒ The batch ID is changed.

To return to the home screen, touch the **[HOME]** button.

Note You can also change the batch ID in the Interval Setup screen at the Package Setup and in the Batch Statistics screen.

Changing the Batch ID During Operation

To change the batch while the system is running, proceed as follows:

- 1 Touch the input field **Batch**.
⇒ An on-screen keypad opens up.
- 2 Enter the batch ID and confirm with **[OK]**.
- 3 Touch **[Apply]** to save the batch ID.
⇒ The batch ID for the package is saved.

5.4.6 Setting Up and Editing Gliding Limits

This software function is optional. Depending on the configuration of your system, some functions are not available.

The setup of gliding limits is additional to the package setup of the current article. To edit the gliding limits, proceed as follows:

- 1 Touch **[MENU]**.
- 2 Select the menu items **Packages > Active Package > Gliding Limits Setup**.
⇒ The Gliding Limits Setup screen appears.
- 3 Edit the data.
- 4 Touch **[Apply]** to save the changes.
-or-
Touch **[Cancel]** if you do not want to save the changes.

Explanation of the screen

| Field | Description |
|-----------------|--|
| Gliding? | Activates or de-activates the gliding limits. (✓) gliding limits activated (-) gliding limits de-activated |
| Offset plus | Permissible deviation upwards |
| Offset minus | Permissible deviation downward |
| Qty for MV | This value specifies the quantity of products, whose weight is the base for calculating the mean value of the gliding limit. |
| Reference | Reference weight for the gliding limits. The nominal weight for the article is pre-set as a default suggestion. To specify the reference weight by means of weighing the product, enter the value 0. When the production starts, then the weight of the first accepted product will be set automatically as the reference weight. |
| Auto Adjust | Adjusts the gliding limits permanently, in order to minimize the quantity of rejected products. This function considers Quantity and Tolerance Range. |
| Quantity | Only valid, if Auto Adjust is activated This value specifies the quantity of consecutive products, whose weight lies not within the range of the gliding limits. If this value is reached, the gliding limits are adjusted automatically. |
| Tolerance Range | Only valid, if Auto Adjust is activated The tolerance value is to minimize the quantity of rejected products in case of consecutive rejects/ successive errors. |
| Max zone | Instead of only calculating the "acceptable weight" zone (default setting), the zone above can be included in the calculation of the gliding mean value. |

| Field | Description |
|----------|--|
| Min zone | Instead of only calculating the "acceptable weight" zone (default setting), the zone below can be included in the calculation of the gliding mean value. |

5.4.7 Setting Up the Feedback Control

This software function is optional. Depending on the configuration of your system, some functions are not available.

The feedback setup function is used to adjust fillheads of a filling machine. The checkweigher constantly determines the mean value of the last weighings. Systematic weight deviations of the products are recognized and assigned to the affected fillhead. The filling behavior of the filling machine is readjusted optimally by means of control signals through the feedback connections.

To set up the feedback control, proceed as follows:

- 1 Touch **[MENU]**.
- 2 Select the menu items **Packages > Active Package > Feedback Setup**
⇒ The Feedback Setup screen appears.
- 3 Modify the values.
- 4 Touch **[Apply]** to save the settings.
⇒ The parameters are saved.

Explanation of the parameters (1)

| Field | Description |
|----------------------------|---|
| Upper Limit Lower Limit | Product weights above the upper limit and below the lower limit are not included in the mean value calculation. |
| Tolerance + Tolerance - | If the mean value lies between Tolerance+ and Tolerance-, no feedback activity is carried out. If the mean value lies between Tolerance+ and the upper limit or between Tolerance- and the lower limit, feedback activity is carried out. |
| Target | Weight that represents the target to be achieved using the feedback setup. This weight may deviate from the nominal (target) weight. |
| Start Phase | This value specifies the number of products that are not used for the calculation after the checkweigher has been switched on. |

Explanation of the parameters (2)

| Field | Description |
|----------------|---|
| On | If checked, the feedback setup is turned on. |
| Control Factor | Control factor to adjust the filling machine in accordance with the filling machine specification. Numerical input. |
| Neutral | Number of products that are located on the (neutral) section between the filling machine and weighing conveyor and can therefore no longer be detected by the feedback setup. |
| Qty for MV | Specifies the number of products whose weights are to be used continuously for the calculation of the mean value of the feedback control. |

5.4.8 Setting Up the Metal Detector

This software function is optional. Depending on the configuration of your system, some functions are not available.

Some of the basic settings of the metal detector can be changed at the weighing terminal of the checkweigher. To set up the metal detector, proceed as follows:

- 1 Touch **[MENU]**.
- 2 Select the menu items **Packages > Active Package > Metal Detector Setup**
 ⇒ The Metal Detector Setup screen appears.

| Field | Description |
|---------------------|---|
| Product No. | Number of the package memory under which the following settings are stored in the metal detector. If a package is not yet stored in the metal detector, first enter the corresponding settings manually there or let a product run through the metal detector in learn mode (see the operating instructions of the metal detector). |
| Sensitivity | Default factory setting that the metal detector may change automatically while a package is being "learn". A manual entry input is possible. |
| Phase | Default factory setting that the metal detector may change automatically while a package is being "learn". A manual entry input is possible. |
| Only Changeover | If checked, only the stored product number is sent to the metal detector when the package is changed. Individual values such as the sensitivity or phase are not sent. |
| Mode | The following modes are available: <ul style="list-style-type: none"> • Active Activation of the normal detection mode. Detection of metallic impurities/foreign matter. • Invert Activation of the invert mode. The metal detector searches for "missing" metal, for example screw caps. • Not Active Deactivation of the detection mode. The metal detector does not examine the products for metallic impurities/foreign matter. |
| Timer Group | Dependent on the metal detector version. Selection the timer group to adjust the signal behavior to different product sizes. |
| Operating Frequency | Select the operating frequency to adjust the search coil to the product types. |

5.5 Production Data

The following chapters describe how to display different information about the production.

5.5.1 Displaying the Weight Zone Classification

The screen of the Zone Classification displays the following information for the defined weight zones:

- The amount of products
- The mean value
- The total weight of the products

To display the weight zones proceed as follows:

- 1 Touch **[MENU]**.
- 2 Select the menu items **Production Data > Zone Classification**.
 ⇒ The Zone Classification screen appears.

Explanation of the screen

| | Explanation |
|---------------------------|---|
| Zone | Weight zone |
| Limits | Upper and lower limits of the weight zone |
| Counter (optional) | Quantity of products that belong to the weight zone |
| Total Wgt. [kg] | Total weight of the products |
| % | Shows the percentage of the weighed products that belong to a weight zone |
| Metal detected (optional) | Quantity of metal contaminated products (Subset of Extra Counter) |
| Countercheck (optional) | Quantity of products that have been detected by the countercheck function (Subset of Extra Counter) |
| Extra | Total amount of products which could not be weighed |
| Total | Total amount of all products, total mean value, total weight |

12" Touchscreen

Explanation of the buttons

| Button | Function |
|---------------------------|---|
| [Delete] | To delete the counters If the option „General Statistics“ is not activated, then this button is displayed instead of [Final Evaluation] |
| [Final Evaluation] | To perform a final evaluation If the option „General Statistics“ is activated, then this button is displayed instead of [Delete] |
| [Print] | To print the state of the counter |
| [Limit Setup] | To switch to the Limit Setup screen |

7" Touchscreen

Explanation of the buttons

| Button | Function |
|---------------------------|--|
| [Final Evaluation] | To perform a final evaluation If the option „General Statistics“ is activated, then this button is displayed instead of [Delete] |
| [Setup] | Opens the Limit Setup screen. |
| [Print] | To print the state of the counter |

5.5.2 Displaying the Weight of Single Items

This screen displays the individual weight of every single item in a graph.

Based on a fixed amount of products that were weighed, four wizard functions support the calculation:

- Printout
Checks the production period and prints the data
- Measure target
Checks the production period in order to calculate and adopt the target weight
- Measure tare
Checks the production period in order to calculate and adopt the tare weight of empty packages
- Sample rejecter (OPTION)
Checks the production period, rejects the samples and prints the data

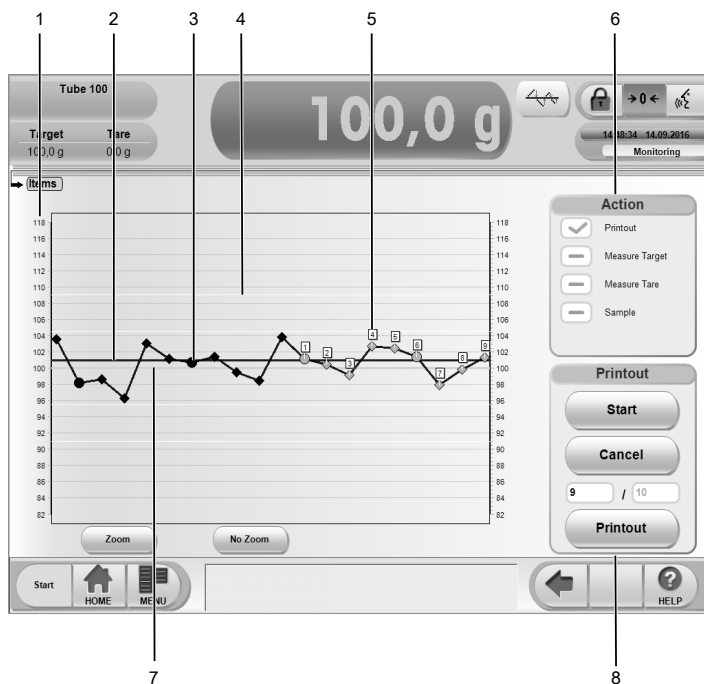
To display the screen proceed as follows:

Touch the field "View Individual Weights" on the home screen.

- or -

12" Touchscreen

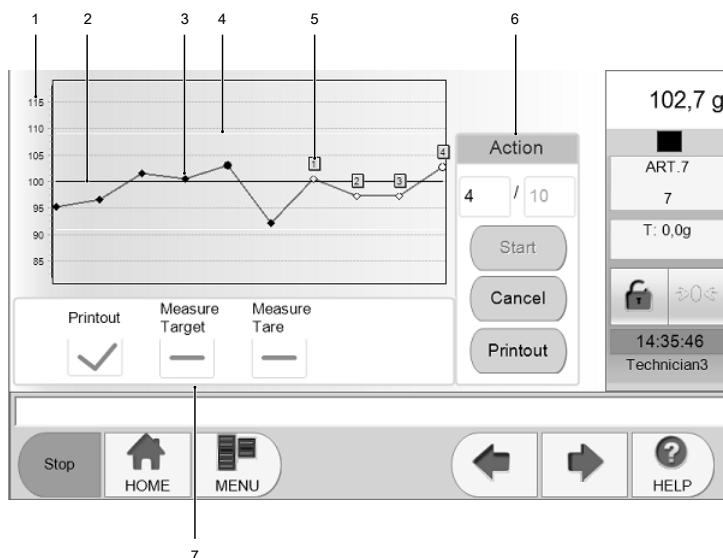
- 1 Touch **[MENU]**.
- 2 Select the menu items **Production Data > Charts > Items**.
⇒ The following screen appears for the 12" touchscreen



Example of the 12" Items screen

7" Touchscreen

- 1 Touch **[MENU]**.
- 2 Select the menu items **Production Data > Items**.
⇒ The following screen appears for the 7" touchscreen
⇒



Example of the 7" Items screen

Explanation of the screen

| # | Explanation |
|---|---|
| 1 | Axis that shows the weight |
| 2 | Mean value (blue line) |
| 3 | Point of measurement for every single item |
| 4 | Limits of the weight zones (white lines) |
| 5 | Points of measurement for the item which data was recorded |
| 6 | Field that shows the action you want to be carried out Only one action can be selected at any time |
| 7 | Target weight (gray line) |
| 8 | Buttons to control the wizard function |

5.5.2.1 Printing Individual Values

To print out individual values of an item, proceed as follows

- 1 Activate the Printout field (✓).
- 2 To print out more or less measurements than displayed in the section "Printout", enter the quantity of measurements into the field before the slash.
- 3 Touch **[Start]**.
 - ⇒ The recording of individual values starts.
 - ⇒ If no printer is available, the values are displayed.
 - ⇒ If a printer is available, the "Printout Saved" window opens up. Touch **[Yes]** if you want to preview the data, touch **[No]** if you do not want to preview the data.

If you touched **[No]**, you can save the data on a USB stick or print the data directly.

If you touched **[Yes]**, a window with the preview of the data opens up.

To save the data, touch **[OK]**.

To print the data, touch **[Print]**.

5.5.2.2 Calculating the Target Weight

This function calculates the mean target weight of the package while the packages run along the conveyor belt. To calculate the mean target weight of the package, proceed as follows:

- Make sure that you are authorized to operate this function.
 - Make sure that the Items screen is open.
 - Make sure that packages with the desired target weight are running along the conveyor belts.
- 1 Activate the field "Measure Target".
 - ⇒ The field "Measure Target" is marked with a green checkmark (✓).
 - ⇒ The section "Measure Target" is active.
 - 2 Enter the number of packages that are the base for the calculation in the field before the slash.
 - 3 Touch **[Start]** to start the calculation.
 - ⇒ The conveyors start to run and the calculation begins.
 - ⇒ A new window opens up at the end of the calculation.
 - 4 Touch **[No]** if you do not want to accept the calculated mean target weight and start the calculation again.
 - or-
 - Touch **[Yes]** to accept the calculated target weight.

Note If the option "Statistics" is activated, the execution of the final evaluation must be accepted in order to accept the target weight. If you do not accept the execution of the final evaluation, then the target weight is not accepted.

 - ⇒ The target weight is accepted and the data of the package is changed. The updated target weight of the current package is displayed on the home screen.

5.5.2.3 Calculating the Tare Weight

This function calculates the mean tare weight of the package while the packages run along the conveyor belt. To calculate the mean tare weight of the empty package, proceed as follows:

- Make sure that you are authorized to operate this function.
 - Make sure that empty packages are running over the conveyors.
 - Make sure that the Items screen is open.
- 1 Activate the field "Measure Tare".
 - ⇒ "Measure Tare" is marked with a green checkmark (✓).
 - ⇒ The section "Measure Tare" is active.
 - 2 Enter the number of packages that are the base for the calculation in the field before the slash.
 - 3 Touch **[Start]** to start the calculation .
 - ⇒ The conveyors start to run and the calculation begins.
 - ⇒ A new window opens up at the end of the calculation.
 - 4 Touch **[No]** if you do not want to accept the calculated tare weight and start the calculation again.
-or-
Touch **[Yes]** to accept the calculated mean tare weight.
 - ⇒ The tare weight is accepted and the updated mean tare weight of the package is changed. The data of the current package is displayed on the home screen.

5.5.2.4 Triggering a Sample Rejection

This software function is optional. Depending on the configuration of your system, some functions are not available.

This function makes it possible to reject products during the production process, so that they can be controlled and checked manually.

To reject products, then proceed as follows:

- 1 Touch **[MENU]**.
 - 2 Select the menu items
12" touchscreen: **Production Data > Charts > Items**
7" touchscreen: **Production Data > Items**
 - ⇒ The Items screen opens up.
 - 3 Activate the field Sample in the section Action.
 - ⇒ The field is marked with a green checkmark (✓).
 - 4 Enter the number of products that has to be rejected in the field before the slash or accept the proposal.
 - 5 Touch **[Start]**.
 - ⇒ The products are rejected and recorded.
 - ⇒ The sample rejection ends automatically, when the products have been rejected.
To end the sample rejection, then touch **[Cancel]**.
- ⇒ When the sample rejection ends automatically, you are asked if you want to print the data or not, depending on the configuration of the system.

5.5.3 Displaying the Histogram

This option is only available with the 12" touchscreen.

The histogram displays the statistical frequency and normal distribution of the weights over a period of time. The legend shows the following values:

- Quantity of products
- Mean weight
- Standard deviation σ (sigma)

The small vertical bar displays the mean weight.

The three horizontal bars display σ , 2σ or 3σ in relation to the mean weight.

To display the histogram, proceed as follows:

- 1 Touch **[MENU]**.

2 Select the menu items **Production Data > Charts > Histogram**.

⇒ The screen of the histogram appears.

Note For more details, you can zoom in by drawing a square over the area that you want to magnify.

Explanation of the buttons

| Button | Function |
|--------------|--|
| [Clear] | Clears the display |
| [Marks] | Shows the following supplements, consecutively: <ul style="list-style-type: none">• No supplement• Weight• Quantity of products for this weight• Both |
| [Reset Zoom] | Resets the zoom |

5.5.4 Feedback Control

This software function is optional. Depending on the configuration of your system, some functions are not available.

This option is only available with the 12" touchscreen.

The feedback function adjusts the fillheads of a filling machine. The checkweigher determines the mean weight of the products and checks if the weight deviates. If the weight deviates and violates the tolerance range (green area), then the checkweigher sends a signal to the filling machine, so that the filling machine adjusts the fillheads accordingly.

The Feedback screen shows the current activity of the feedback function. If you want to display the Feedback screen, then proceed as follows:

- 1 Touch **[MENU]**.
 - 2 Select the menu items **Production Data > Charts > Feedback**.
- ⇒ The Feedback screen appears.

5.6 Statistics

This software function is optional. Depending on the configuration of your system, some functions are not available.

This software option allows you to collect, analyze, interpret and present the data of products and production flows. The following statistics can be shown:

- Total statistics: overview of the entire production flow of packages
- Hour statistics: evaluation of the data for the current hour of the production
- Interval statistics: evaluation of the current interval
- Batch statistics: evaluation of the current batch
- Records Table or Records Graphics: overview of finished final evaluations and statistics

Note The statistical list depends on whether it is General Statistic or Counter Statistic.

The specification of the interval type, the batch size and the printout modalities for the package must have been set using the Package Setup menu. These settings may only be done by users that are authorized to do so.

5.6.1 General Statistics

This software function is optional. Depending on the configuration of your system, some functions are not available.

5.6.1.1 Activating the General Statistics

The Statistics option can be activated individually for every package. To activate the General Statistics option, then proceed as follows:

- 1 Touch **[MENU]**.
- 2 Select the menu items **Packages > Active Package > Main Package Setup**.
- 3 Touch the field next to "Statistics?".
 - ⇒ If the green checkmark (✓) is displayed, the statistics are active. If the red minus (-) is displayed, the statistics are not active.
- 4 Touch **[Apply]** to save the settings.
 - ⇒ The settings are saved.

5.6.1.2 Selecting the Tolerance System

The tolerance system is the regulation on which the weighing of the package is based.

If the tolerance system "FREE" was chosen, then the limits of the tolerance systems can be modified arbitrarily, such as production is not in accordance with the pre-packaged goods legislation.

If the tolerance system "EC-" was chosen, the limits of the tolerance systems can only be changed by approaching the limits towards the target weight.

The following table lists the tolerance systems:

| Tolerance System | Description |
|------------------|---|
| EC- | Complies with EU production directives. If the limits of "TU1" and "TU2" are exceeded, the product is rejected. Note If EC- is the tolerance system, the sorting devices need to be assigned to the zones "TU1" and "TU2". The number of sorting devices may not be set to zero. |
| FREE | If the limits of "TU1" and "TU2" are exceeded, the affected product does not have to be rejected. In this case, select sorting devices "NO". |
| US | The products are weighed to check whether their weight is within the tolerance area that can be specified in the Statistics screen. The mean value that is displayed in the Production Data screen is only calculated from products that are in the tolerance area. If "US" is selected, products are neither sorted nor rejected by the statistics program. |
| Australian | Complies with Australian directives. |

To select the tolerance system, proceed as follows:

- 1 Touch **[MENU]**.
- 2 Select the menu items **Packages > Active Package > Add. Package Setup**.
- 3 Touch the field next to "Tolerance System".
 - ⇒ A window with the tolerance systems opens up.
- 4 Select a tolerance system and confirm with **[OK]**.
- 5 Touch **[Apply]** to save the settings.
 - ⇒ The settings are saved.

5.6.1.3 Displaying Production Statistics

The following statistics can be shown:

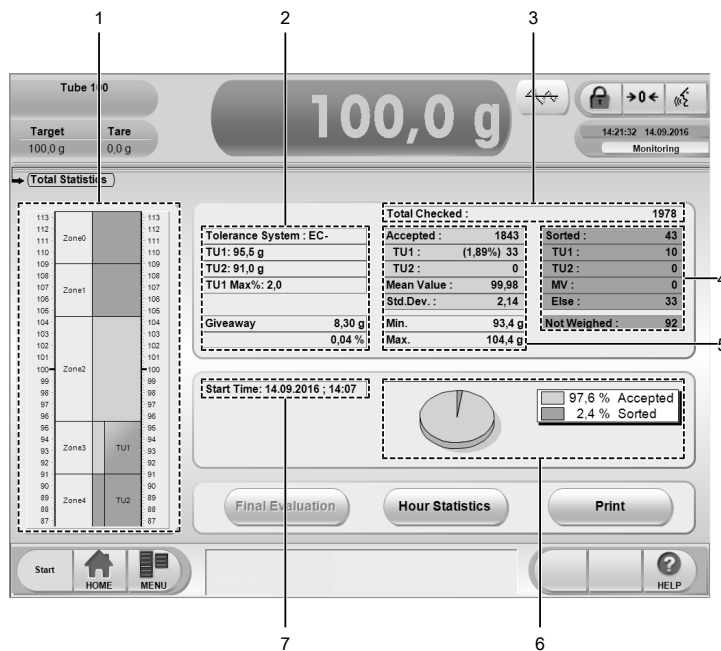
- Total statistics: overview of the entire production flow of packages
- Hour statistics: evaluation of the data for the current hour of the production
- Interval statistics: evaluation of the current interval
- Batch statistics: evaluation of the current batch
- Records Table or Records Graphics: overview of finished final evaluations and statistics

5.6.1.3.1 Total Statistics

This menu shows an overview of the entire production flow for the package. To display the total statistics, proceed as follows:

- 1 Touch **[MENU]**.
 - 2 Select the menu items **Production Data > Statistics > Total Statistics**.
- ⇒ The Total Statistics screen opens up. The following screenshots are examples for 12" or 7" touch-screens.

12" Touchscreen



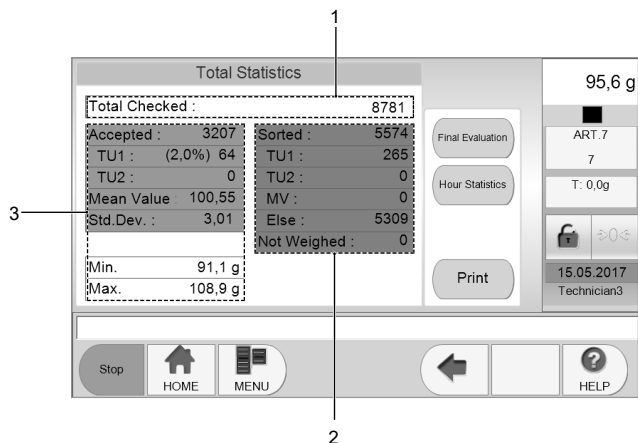
The three command buttons give you the possibility to perform a final evaluation, print the data, or switch to the Hour Statistics screen.

Explanation of the screen

| # | Description | Meaning |
|---|------------------|--|
| 1 | Weight Zones | Shows the weight zones and the statistical limits |
| 2 | Tolerance System | Shows the tolerance system that is the base for the calculation |
| | TU1 | Limit of TU1 |
| | TU2 | Limit of TU2 |
| | TU1 Max% | Max. Percentage of products that are allowed to be in the tolerance limit of TU1 |
| | Giveaway | Summarized in relation to the nominal weight |
| 3 | Total Checked | Sum of all products that were checked, beginning at Start Time |

| # | Description | Meaning |
|---|-------------|--|
| 4 | Sorted | Amount of products that were sorted |
| | TU1 | Amount of products which weight was in the limits of TU1 but exceed TU1 Max% |
| | TU2 | Amount of sorted products which weight was in the limits of TU2 |
| | MV | Amount of sorted products which violate the mean weight |
| | Else | Sum of products which weight was out of the weight zones that were marked as acceptable in the sense of the Statistics function |
| | Not weighed | Sum of all products which weight could not be determined (such as metal contaminated products, distance errors) |
| 5 | Accepted | Sum of all accepted products |
| | TU1 | Amount of products which weight was in the limits of TU1 and meets the requirements of TU1 Max% |
| | TU2 | Amount of products which weight was in the limits of TU2 |
| | Mean Value | Mean weight of the accepted products |
| | Std.Dev.: | Standard deviation of the accepted products from their actual weight to the target weight |
| | Min. | The minimum weight of a product that was weighed |
| | Max | The maximum weight of a product that was weighed |
| 6 | Pie chart | Shows the ratio of accepted to sorted products |
| 7 | Start time | Shows the start time of the statistics |
| | | Shows: <ul style="list-style-type: none"> • Batch ID (in case of Batch Statistics) • Remaining time or products (in case of Hour Statistics and Interval Statistics) |

7" Touchscreen



Total statistic screen 7"

The three command buttons give you the possibility to perform a final evaluation, print the data, or switch to the Hour Statistics screen.

Explanation of the screen

| # | Description | Meaning |
|---|---------------|--|
| 1 | Total Checked | Sum of all products that were checked, beginning at Start Time |

| # | Description | Meaning |
|---|-------------|---|
| 2 | Sorted | Amount of products that were sorted |
| | TU1 | Amount of products which weight was in the limits of TU1 but exceed TU1 Max% |
| | TU2 | Amount of sorted products which weight was in the limits of TU2 |
| | MV | Amount of sorted products which violate the mean weight |
| | Else | Sum of products which weight was out of the weight zones that were marked as acceptable in the sense of the Statistics function |
| | Not weighed | Sum of all products which weight could not be determined (such as metal contaminated products, distance errors) |
| 3 | Accepted | Sum of all accepted products |
| | TU1 | Amount of products which weight was in the limits of TU1 and meets the requirements of TU1 Max% |
| | TU2 | Amount of products which weight was in the limits of TU2 |
| | Mean Value | Mean weight of the accepted products |
| | Std.Dev.: | Standard deviation of the accepted products from their actual weight to the target weight |
| | Min. | The minimum weight of a product that was weighed |
| | Max | The maximum weight of a product that was weighed |

5.6.1.3.2 Hour Statistics

The information of the Hour Statistics refers to the current hour of production. The current hour of production stops after 60 minutes have passed or earlier, if 10000 products have been weighed and classified as "good".

To show the hour statistics, proceed as follows:

- 1 Touch **[MENU]**.
- 2 Select the menu items items **Production Data > Statistics > Current Hour**.

⇒ The Current Hour screen opens up.

You can print the data, trigger a final evaluation or switch to the Total Statistics screen.

5.6.1.3.3 Interval Statistics

The information of the Interval Statistics refers to the current interval that is not completed yet. The interval can be defined in the package data. To show the interval statistics, proceed as follows:

- 1 Touch **[MENU]**.
- 2 Select the menu items items **Production Data > Statistics > Interval Statistics**.

⇒ The Interval Statistics screen opens up.

5.6.1.3.4 Batch Statistics

The information of the Batch Statistics refers to the period of production since the last entry of a batch ID. This way, you can see if a batch has been completed, before you enter the ID of the next batch.

To show the batch statistics, proceed as follows:

- 1 Touch **[MENU]**.
- 2 Select the menu items **Production Data > Statistics > Batch Statistics**.

⇒ The Batch Statistics screen opens up.

5.6.1.4 Displaying Information about an Hour of Production

Information about a completed hour of production can be displayed in two different screens:

- Records Table
- Records Graphics

The Records Table displays the information in form of a table, the Records Graphics displays the information graphically.

5.6.1.4.1 Records Table

The records table shows data about all completed hours of production.

To show the table, proceed as follows:

- 1 Touch **[MENU]**.
- 2 Select the menu items **Production Data > Statistics > Records Table**.
⇒ The Records Table screen opens up.

You have the possibility to show the data about the packages in a diagram. To see the information in a diagram, touch **[Graphics]** and the screen of Records Graphics opens up.

Explanation of the information that can be shown:

- Date: the end date of production
- Start: the start time of production
- End: the end time of production
- Accepted: the number of accepted items
- Mean value: the mean value of all items of the package
- TU1 percentage: the percentage of the items that met the requirements of TU1

5.6.1.4.2 Records Graphics

The information about the last completed hours of production can be displayed graphically and in chronological order in a diagram. To show the information in a diagram, proceed as follows:

- 1 Touch **[MENU]**.
- 2 Select the menu items **Production Data > Statistics > Records Graphics**.
⇒ The records are displayed graphically.

You can switch with the buttons between the mean value, TU1 percentage and the number of accepted products.

Explanation of the information that can be shown:

- Date: the end date of production
- End: the end time of production
- Accepted: the number of accepted items
- Mean value: the mean value of all items of the package
- TU1 percentage: the percentage of the items that met the requirements of TU1

5.6.1.5 Changing the Batch ID

The batch ID identifies the batch and can either be a number or a name.

You can print the batch data before changing the batch ID. The current batch data of a finished batch is deleted after changing the batch ID, but is considered in the Total Statistics. If the batch ID is changed while the system is running, the current batch statistics is completed automatically. If you enter and save a new batch ID, then the recording of the batch statistics restarts.

To change the batch ID, proceed as follows:

- 1 Touch **[MENU]**.
- 2 Select the menu items **Actions > Batch**.
⇒ An on-screen keyboard opens up.
- 3 Enter the new batch ID and confirm with **[OK]**.
⇒ The batch ID will be changed.

To return to the home screen, touch the **[HOME]** button.

Note You can also change the batch ID in the Interval Setup screen at the Package Setup and in the Batch Statistics screen.

Changing the Batch ID During Operation

To change the batch while the system is running, proceed as follows:

- 1 Touch the input field **Batch**.
⇒ An on-screen keypad opens up.

- 2 Enter the batch ID and confirm with **[OK]**.
 - 3 Touch **[Apply]** to save the batch ID.
- ⇒ The batch ID for the package is saved.

5.6.1.6 Triggering a Final Evaluation

Usually, the final evaluation is triggered automatically in combination with specific actions, such as when you change the target weight. To trigger the final evaluation manually, proceed as follows:

- 1 Touch **[MENU]**.
 - 2 Select the menu items **Actions > Final Evaluation**.
⇒ A window opens up that asks to perform the final evaluation.
 - 3 Confirm with **[Yes]**.
-or-
Cancel with **[No]**.
- ⇒ If you touched **[Yes]**, then you are asked to print the information of the final evaluation, depending on the configuration of the system.

5.6.2 Counter Statistics

The “Counter Statistics” function is a statistical control that tracks the production process.

This function focuses on the proof and tracking of orders and batches.

If the “Counter Statistics” is active, the statistics section on the home screen changes.

The Counter Statistics in the Home Screen

The Counter Statistics section in the home screen shows the following parameters:

| Parameter | Description |
|------------|--|
| Order | Name or ID of the current order |
| Batch | Name or ID of the current batch |
| Mean Value | Mean value of the accepted weighed products of the current batch |
| Accepted | The number of accepted products of the current batch |
| Std. Dev. | The standard deviation of the accepted weighed products of the current batch |
| Start | Date and time of the current batch start |

5.6.2.1 Managing Orders and Batches

Every product must be assigned to an order and a batch. Before you start production, the system asks you to enter an order and a batch number. If neither an order nor a batch is assigned to a product, then you cannot start production.

To manage orders, batches and sub-batches, proceed as follows:

- 1 Touch **[MENU]**.
- 2 Select the menu items **Packages > Orders and Batches**.
⇒ The Orders and Batches screen opens up.

Orders

All orders appear in chronological order in the left box on the screen. The latest orders appear at the top of the box. The simple selection of an order does not trigger any action, such as a changeover. Each order has a start date that the system sets automatically when you create a new order. For each order, the corresponding batches are shown in the right box.

Batches

The following facts apply to batches as well as to sub-batches.

All batches of an order are shown in chronological order in the right box. The latest batch appears first in the list. The simple selection of a batch does not trigger any action, such as the creation of a new batch. Start time and end time of the currently selected batch are shown at the top of the box.

Sub-batches are always created with the same identifier (x) as the superordinate batch.

Filters

You can use a funnel filter to specify the displayed information about batches and sub-batches. Use the date filter to reduce the selection of the outdated orders.

5.6.2.1.1 Displaying Information About Production

Information about completed batches with sub-batches can be displayed in the screen Records: Batches. The information is displayed in form of a table.

Records Batches

The records batches shows information about all completed batches and sub-batches.

To show the table, proceed as follows:

- 1 Touch **[MENU]**.
- 2 Select the menu items **Production Data > Records: Batches**

⇒ The Records Batches screen opens up.

Explanation of the information that can be shown:

- Order: the name of the order
- Batch: the name of the batch
- Package: the name of the package
- Start: the start time of the batch
- End: the end time of the batch
- Total value: the total value of all items of the batch
- Mean value: the mean value of all accepted items of the batch

5.6.2.2 Using Sub-Batches

Optionally, you can use sub-batches that the system creates automatically when article parameters or important machine settings are changed or an interrupted batch is resumed. The sub-batches apply to all articles and packages. You can also create a sub-batch manually when you enter the current batch ID as a new batch. If you generate a sub-batch, then this is always recorded in the audit trail. This way, sub-batches allow a separate analysis of process-relevant parameter changes.

The use of sub-batches is optional and can be activated or deactivated. If you use sub-batches, then the first batch (batch identifier without index _x) has the same priority as a sub-batch.

To activate or deactivate the use of sub-batches, proceed as follows:

- 1 Touch **[MENU]**.
- 2 Select the menu items **Setup > General > Miscellaneous Setup**.
- 3 Activate or deactivate "Use sub-batches" and save with **[Apply]**.

⇒ The use of sub-batches is either activated or deactivated.

5.6.2.3 Processing Orders and Batches

You can process the orders and batches using the buttons on the right hand side in the Orders and Batches screen.

- After starting the system, the system asks you to enter the order ID and the batch ID.
- You can make all entries with either upper case letters or lower case letters.
- The IDs of orders and batches must always be unambiguous. You cannot use the same batch ID in more than one order.
- You cannot cancel the process of entering an ID.
- Do not use underscores in the batch ID, in order to avoid confusion with sub-batches.
- You cannot create sub-batches directly, but only by a final evaluation that can be carried out manually or by parameter modifications of the currently active article.

Explanation of the buttons

| Button | Explanation |
|-----------------------|---|
| [New order] | <p>The new order can be either a completely new order or the supplement of an order that already exists. If an order exists already, then the old order is resumed and continued.</p> <p>When you enter a new order ID, the recently used order ID is the default setting. You can overwrite the default setting with the new order ID.</p> <p>If an identifier is already used, then a text box opens after the input confirmation. If you touch No, then you create a new entry. If you touch Yes, then you confirm the identifier.</p> <p>After having entered an order ID, you have to enter a batch ID.</p> |
| [New batch] | <p>The new batch can be either a completely new batch or the modification of a batch that already exists. If a batch already exists, the old batch is resumed and continued.</p> <p>You cannot use the same batch ID in more than one order.</p> |
| [Finish batch] | <p>This button is only active if the currently active batch or sub-batch is selected in the list of batches. The system status changes to not ready.</p> <p>Note To make the system ready, you must enter a new order or batch.</p> |
| [Print] | <p>With this button you carry out the final evaluation and print out the completed batches with sub-batches. Already printed batches are marked with (*). You can re-use the completed batch. You can not print the batch named All.</p> <p>Note You can only print out completed batches with sub-batches.</p> |
| [Delete] | <p>You must select an order with a completed batch to activate this button.</p> <p>To delete a batch:</p> <ul style="list-style-type: none"> • Select an order and a batch with (*) and touch delete. <p>If you delete a batch, you also delete all sub-batches and all records. You can not delete: an order as long as it contains batches, a batch without (*), a single sub-batch, or a batch with not completed sub-batch.</p> <p>If you select the batch named All, you delete all completed batches of the selected order.</p> <p>To delete an order, you must first delete the included batches, then:</p> <ul style="list-style-type: none"> • Touch delete once again. |

Note The printouts are saved under **[MENU] > Information > Stored Reports**.

5.6.2.4 Displaying the Statistics

To see information about the production, proceed as follows:

- 1 Touch **[MENU]**.
 - 2 Select the menu items **Production Data > Statistics**.
- ⇒ The Statistics screen opens up.

Explanation of the buttons

| Button | Explanation |
|---------------------------|--|
| [Final Evaluation] | This button terminates the current (sub-)batch and starts a new (sub-)batch. |
| [Snapshot] | This button saves the printable snapshot of the current production data. |
| [Limit Setup] | This button opens up the Limit Setup screen where you can change the weight zones of the active article. |

5.7 System Messages

The table below shows messages that can appear on screen during production. Dependent on the configuration of your system, the system messages might not be available or differ from the list.

Conventions

| Column | Meaning |
|-----------------|---|
| Message | Error message that appears on screen in the message section |
| Type | Indicates the type of error message |
| Cause | What is causing the message |
| Troubleshooting | How to resolve the failure |

The following types of messages exist:

- P: Product
- I: Information
- W: Warning
- S: Service

In most cases, the messages do not require intervention by the operator. Always keep in mind that the messages and interventions also depend on the configuration of your system.

Messages

| Message | Type | Cause | Troubleshooting |
|---|------|--|--|
| *** | P | Indicates that the weight could not be determined. | Check info box in the lower section of the screen for more information. |
| Air OK | I | Compressed air supply is ok. | None |
| Askew package detected | P | A product lies askew on the conveyor. | None: The product will be rejected. |
| Askew package detected at infeed | P | A product lies askew on the infeed conveyor. | None: The product will be rejected. |
| CAN Bus OK! | I | Appears after the reset of the emergency stop button. | None |
| CAN Bus: Bus OFF! | I | Appears after pushing the emergency stop button. | None |
| CAN_Network: Found X of Y motors! | W/S | The system could not find all the motors. | Call technically qualified personnel and/or your supervisor to check the connections. |
| CAN_Network: Motors are exchanged! | I | Appears after the replacement of a motor when at least one motor has been replaced. | None |
| CAN_Network: Please check motor wiring and MCB! | W/S | The motors are not connected correctly. | Call technically qualified personnel and/or your supervisor. |
| CAN_Network: Some motors are offline: M1, M2 | I | The system could not find all the motors. | Call technically qualified personnel and/or your supervisor to check the connections. |
| CAN_Network: X motors found for position Y! | W | The motors are not connected correctly. | Call technically qualified personnel and/or your supervisor to connect the motors correctly. |
| Clear up belts | I | Informs that the function to remove products from the conveyors is active. | None |
| Config error in function "xyz" | W | The distance of the sorting device or the sensor of the function "xyz" is incorrect. | Call technically qualified personnel and/or your supervisor. |

| Message | Type | Cause | Troubleshooting |
|--|------|--|---|
| Countercheck: "GOOD" product missing | P | A product that meets all requirements is missed. The product may have been sorted out or has been removed. | None |
| Countercheck: "GOOD" product missing at infeed | P | A product that meets all requirements is missed. The product may have been sorted out or has been removed. | None |
| Countercheck: reject failure | P | A bad product has not been sorted out. This may have several causes: <ul style="list-style-type: none"> • Lack of compressed air • The sorting device is defective • The sorting device is in an unfavourable position • An incorrect offset has been entered | None: Call technically qualified personnel and/or your supervisor. |
| Countercheck: reject failure: reject failure | I | A bad product has not been sorted out. This may have several causes: <ul style="list-style-type: none"> • Lack of compressed air • The sorting device is defective • The sorting device is in an unfavourable position • An incorrect offset has been entered | None: Call technically qualified personnel and/or your supervisor. |
| Drive error Mx: Cause (num/num) | W | There can be various causes. For detailed information, see the table below. | Call technically qualified personnel and/or your supervisor. |
| Emergency-run activated | I | The checkweigher runs without weighing the products. The products are neither classified nor sorted out. | None |
| Emergency-run deactivated | I | Emergency-run mode is deactivated. | None |
| Emergency-stop pressed | W | The emergency stop button has been pushed. | If the critical situation is over, then reset the emergency stop button. |
| Emergency-stop reset | | Emergency-stop mode is deactivated. | None |
| Feedback: Invalid number (X). Max=y | I | There is a wrong code at the feedback inputs. | Call technically qualified personnel and/or your supervisor to check the input signals. |
| Generic setup mode OFF! | I | Function step in the function "IPT". | None |
| Generic setup mode ON! | I | Function step in the function "IPT". | None |
| Insufficient product spacing | P | The products are placed too close to each other. | None: The products will be rejected. |
| Incorrect product length | P | The weight light barrier has detected a product that is too long. This may have several causes: <ul style="list-style-type: none"> • A product is longer than the weigh conveyor. • The real product length is longer than the value that has been entered by an user. • Two subsequent products had no gap between each other. | None: Check the product length and the gap between the products. |
| Lack of compressed air | I | The compressed air supply in the pneumatic system is insufficient or interrupted. | Call technically qualified personnel and/or your supervisor. |

| Message | Type | Cause | Troubleshooting |
|--|------|--|---|
| Laser fault | W | The camera cannot read the code that has been printed on the product. | Check if the laser is clean. Check if the code on the product is clean. |
| Light barrier is obstructed | I | An object obstructs the light barrier. | Remove obstructing object. -or- Clean the light barrier. -or- Call technically qualified personnel. |
| Light barrier is not obstructed | I | The light barrier has been obstructed before. Now the light barrier is not obstructed by an object. | None |
| Loadcell: "message" | W/S | Loadcell communication is disturbed. Specifies the reason for the message. | Call technically qualified personnel and/or your supervisor. |
| Loadcell config error! (Command failed) | W/S | Error in the communication with the loadcell. | Call technically qualified personnel and/or your supervisor to contact the after-sales service. |
| Loadcell config error (X) | W | Loadcell configuration error. | Call technically qualified personnel and/or your supervisor. |
| Loadcell connected | W | Loadcell is connected. | None |
| Loadcell fault | W/S | Error of the loadcell or in the loadcell communication. | Call technically qualified personnel and/or your supervisor to contact the after-sales service. |
| Loadcell not connected | W | The loadcell is not connected. | Call technically qualified personnel and/or your supervisor to connect the loadcell. |
| Loadcell ready | I | The loadcell is ready and the check-weigher can be operated. | None |
| Loadcell reconnected | I | The loadcell has been reconnected. | None |
| Loadcell timeout | W/S | The response time of the loadcell has been exceeded. | If this message appears often, then call technically qualified personnel and/or your supervisor to contact the after-sales service. |
| Metal detected (or missed metal detect) | P | Metall detector indicates contaminated product. | None: The product will be rejected. |
| Metal monitoring: item missing | P | Weigh light barrier indicates less products than counted by the metal detector infeed light barrier. | The reaction of the system depends on the configuration. |
| Metal monitoring: too many items | P | Weigh light barrier indicates more products than counted by the metal detector infeed light barrier. | The reaction of the system depends on the configuration. |
| Motor command "Save parameter" failed for motor Mx | W/S | The motor cannot receive any command or parameters. The cause can be an interrupted connection. | Call technically qualified personnel and/or your supervisor to check the connection. |

| Message | Type | Cause | Troubleshooting |
|--|------|--|---|
| Motor command "SetSpeed" failed for motor Mx | W/S | The motor cannot receive any command or parameters. The cause can be an interrupted connection. | Call technically qualified personnel and/or your supervisor to check the connection. |
| Motor command "Start" failed for motor Mx | W/S | The motor cannot receive any command or parameters. The cause can be an interrupted connection. | Call technically qualified personnel and/or your supervisor to check the connection. |
| Motor command "Stop" failed for motor Mx | W/S | The motor cannot receive any command or parameters. The cause can be an interrupted connection. | Call technically qualified personnel and/or your supervisor to check the connection. |
| Motor X: Could not set OPERATIONAL MODE! | W/S | Motor X cannot be configured. The message can only be displayed after the checkweigher has been turned on. | Call technically qualified personnel and/or your supervisor to check the connection. |
| MotorX Y is offline! | I | Appears after the emergency stop button has been pushed. | None |
| MotorX Y is online! | I | Appears after the emergency stop button has been reset. | None |
| Multi evaluation: Code OK | I | Package memory changeover completed successfully. | None |
| Multi evaluation: Delay on package load | I | Package memory changeover delay. Changeover completed successfully. | None |
| Multi evaluation: No response from IPC | W/S | The IPC (option) does not respond. | Call technically qualified personnel and/or your supervisor. If this message appears often, then contact the after-sales service. |
| Multi evaluation: Wrong code | W | Package memory changeover is not carried out. | Check if the scanner can read the code. -or- If the code corresponds to the product and exists in the package memory. |
| No pulses! Please check configuration and motors/encoder | W/S | The motor cannot receive any command or parameters. The cause can be an interrupted connection. | Call technically qualified personnel and/or your supervisor to check the connection. |
| Open flap detected | P | A package that is incompletely closed has been detected. | The product will be rejected. |
| Open flap detected at infeed | P | A package that is incompletely closed has been detected at the infeed conveyor. | The product will be rejected. |
| Overload | P | The maximum load of the load cell is exceeded. | Call technically qualified personnel and/or your supervisor. |
| Please check delay of rejector x | W | The total delay for the sorting device x is too low. | Call technically qualified personnel and/or your supervisor. |
| Please check package pulse length of rejector x | W | The total pulse length for the sorting device x is too low. | Call technically qualified personnel and/or your supervisor. |

| Message | Type | Cause | Troubleshooting |
|--|------|--|---|
| Please check rejector distance, motor speed, ... Item [x] not classified! | W | A product was not classified. The distance of the sorting device may be too small or the motor speed too high. | Call technically qualified personnel and/or your supervisor. |
| Please check rejector distance, motor speed, ... Item [x] no attribute found by rejector y! | W | A product was not classified. The distance of the sorting device y may be too small or the motor speed too high. | Call technically qualified personnel and/or your supervisor. |
| PutCond for abc failed in task xyz | W/S | The system detected an internal software problem in the function "xyz". | Call technically qualified personnel and/or your supervisor to contact the after-sales service. |
| Pre-Selection | I | Informs that the pre-selection mode is active. | None: The rejector removes concerned products. |
| Product backup! | P | The system has detected a product jam. | Remove the products that cause the jam. -or- Call technically qualified personnel and/or your supervisor. |
| Rejector (1, 2, 3...): Insufficient distance! | W | The sorting device cannot react in time. | Reduce the speed of the conveyor. -or- Call technically qualified personnel and/or your supervisor. |
| Rezero range fault | W | The loadcell has not been set to zero. | Clean the conveyors. -or- Call technically qualified personnel and/or your supervisor. |
| Rezero successful | W | The loadcell has been set to zero. | None |
| Sample Input Active: Sample 1 Item | I | Information message in the function "Sample rejector". | None |
| Sample Mode: Item x rejected | I | Information message in the function "Sample rejector". | None |
| Sample Mode: Start Sample of x Items | I | Information message in the function "Sample rejector". | None |
| Sample Mode: Canceled, x NOT rejected | I | Information message in the function "Sample rejector". | None |
| Set tare value failed! (T max) | W | The tare weight of the product is higher than the permitted tare weight. | Enter a correct value. |
| Set tare value failed! (T min) | W | The tare weight of the product is lower than the permitted tare weight. | Enter a correct value. |
| Successive errors | P | The system has detected the same error in a preset number of packages. | The reaction of the system depends on the configuration. |
| Successive error: Value out of range! X > Y | W | Parameter X is too high. | Reduce the value for X. |
| Underload | P | The minimum load of the load cell is not achieved. | Call technically qualified personnel and/or your supervisor. |

Motor Errors

Motor errors are indicated by the message Drive error Mx: Cause (num/num). The message in the info line shows

- The time when the error occurred
- Error text (German in case of German operating language, otherwise English) and the name of the corresponding motor
- First number (indicates the error group 500 – 510, see table below)
- Second number (is not user relevant)

Error groups for Drive error Mx: Cause (num/num)

| Message | Error | Cause |
|---------|-----------------------|---|
| 500 | Overcurrent | The motor is overloaded |
| 501 | Undervoltage | The motor cable is damaged -or- The fuse is tripped |
| 502 | Overvoltage | |
| 503 | Voltage | Voltage (general) |
| 504 | Temperature | The temperature is too high and the motor is overloaded |
| 505 | Device fault hardware | |
| 506 | Device error software | |
| 507 | Monitoring | CAN Bus error |
| 508 | Report error | |
| 509 | General error | |
| 510 | Other error | |

6 Routine Maintenance



Important Safety Note

No cleaning, maintaining or sanitizing is to be undertaken until all conveyors are stopped, all sorting devices are disabled, and the system is turned off. Prior to undertaking any cleaning maintaining or sanitizing, implement Lockout/Tagout (LOTO) in accordance with the standard operating procedures.

This chapter provides information about routine maintenance tasks, such as:

- Visual inspection of components
- Checking whether parts of the system are damaged
- Checking the system for wear damage
- Cleaning the system and its components

Regular cleaning helps to maintain a good system operation and optimum accuracy. Proper cleaning and sanitation of the equipment and work surfaces may:

- Remove dirt and/or dirt material that harbor microorganisms
- Help to reduce bacteria and pathogens
- Help to reduce risk of cross-contamination

Therefore, cleaning and removing product spillage should be consistently carried out in accordance with the user's appropriately defined cleaning protocols. Sanitation of the system should be carried out only by trained and competent personnel.

The user has to retain at all times full and complete discretion, responsibility and liability for determining the suitability of all detergents, protocols and processes.

6.1 Maintenance Intervals

Important maintenance tasks are listed in the table below. The table provides an overview of recommended maintenance and cleaning intervals. More frequent maintenance and cleaning may be required, depending on environmental conditions, contamination, products and other factors.

| Maintenance Task | Daily | Weekly | Monthly | Quarterly | Annually |
|---|-------|--------|---------|-----------|----------|
| Visual inspection of the light barriers | X | | | | |
| Visual inspection of the frame | X | | | | |
| Visual inspection of the conveyor belts | X | | | | |
| Visual inspection of the sight glass | | X | | | |
| Checking the tension of conveyor belts | | X | | | |
| Cleaning the stainless steel components | | X | | | |
| Cleaning the plastic components | | X | | | |
| Cleaning the terminal and the touchscreen | | X | | | |
| Visual inspection of gaskets and seals | | | X | | |
| Checking the inspection glass | | | X | | |
| METTLER TOLEDO Performance Verification & Calibration | | | | X | |
| METTLER TOLEDO Preventative Maintenance | | | | | X |

If you have any questions, please contact your local METTLER TOLEDO representative.

6.2 Cleaning

This chapter provides information on cleaning the different components of the system. Cleaning the system implements tasks such as:

- Removing waste material
- Removing dust
- Removing debris

Cleaning has to be performed consistently and in accordance with the user's appropriately defined cleaning protocols. The user retains complete discretion, responsibility, and liability to establish and execute its cleaning protocols. The user may develop cleaning protocols that differ from the recommended maintenance intervals. Those cleaning protocols should be based on the specific application for which the system is used.

NOTICE The frequency of cleaning routine depends on the system's environment.



⚠ DANGER

Danger to life by electrocution

Before cleaning the system, make sure that qualified personnel or a technician disconnected the system from the power supply and de-energized the system.



⚠ WARNING

Risk of burning by direct contact with hot components

During production, moving components, such as motors can become hot. You can burn skin or limbs if you touch these components while they are still hot.

- Before you start to inspect and clean the system, wait until moving components, such as motors are totally cooled down.



⚠ CAUTION

Risk of injury by moving parts

The system equipment moves automatically, intermittently and without notice. Do not place hands or any other body parts on or near the system equipment while the system is running. The following are examples of moving parts: conveyor belts and rollers, rejectors, motors, gearboxes, sidegrip conveyors, automatic position adjusters.

- Before you start to clean the system, make sure that the system is turned off and disconnected from the main power supply



⚠ CAUTION

Risk of injury by detergents and cleaning agents

Detergents and cleaning agents may cause injury, such as chemical burn on your skin or in the eyes.

- Wear adequate protective clothing, hand protection and goggles as recommended by the manufacturer of any detergents and cleaning agents being used.

6.2.1 Recommended Precautions

The recommended precautions that are listed below help to protect your equipment.

- Make sure that the system has been unplugged by qualified personnel.
- Cover electrical equipment and other surrounding equipment that could be damaged by the cleaning process.
- Cover all openings to protect against the water or cleaning solution seeping in.
- Cover the motor and air intake parts with plastic before the cleaning process.
- Do not use aggressive detergents, such as petroleum ether, spiritus, diluents or abrasive cleaners to clean the system or any components.

6.2.2 IP Rating

The IP (Ingress Protection) rating specifies the environmental protection of electrical devices, such as the protection against foreign matters and liquids.

For information about the IP rating of your system, see the Technical Annex and/or Specification Sheet that you received with your order. The IP rating of your system always indicates the IP rating of the component with the lowest degree of protection.

NOTICE In this case, the IP ratings apply to checkweighers only. In case of combined systems, such as a checkweighers in combination with vision systems or a checkweigher in combination with metal detection systems, the other systems must be protected during the cleaning process.

Explanation of the IP Rating

The 1st number specifies the protection against solid objects.

The 2nd number specifies the protection against liquids.

| IP rating | 1 st number | 2 nd number |
|-----------|--|--|
| IP40 | Protected against solid object over 1 mm (tools, wires, and small wires) | No protection |
| IP54 | Protected against dust limited ingress (no harmful deposit) | Protected against water sprayed from all directions (limited ingress permitted) |
| IP65 | Totally protected against dust | Protected against low pressure jets of water from all directions (limited ingress permitted) |
| IP66 | Totally protected against dust | Protected against temporary flooding of water and powerful jets of water (limited ingress permitted) |
| IP69k | Totally protected against dust | Protected against water at high-pressure and steam-jet cleaning |

6.2.3 Detergents

Take care in the selection of detergents and disinfectants. On the basis of pH value, detergents can be classified as follows:

- Acid detergents: Detergents with a pH value below 4 are potentially damaging to the equipment. They are not suited for daily cleaning and their use should be restricted to once a month at most. Make sure to rinse off acid detergents with clean water.
- Neutral detergents: Detergents with a pH value of 7 are neutral. Use preferably neutral detergents to clean the system and components.
- Alkaline detergents: Detergents with a pH value between 7 and 12 are normally suited to everyday cleaning.

NOTICE If any of these detergents are mixed with chlorine or a strong oxidizing agent (used to break down proteins and some vegetable straining such as carrot), then special care must be taken to not only use the correct concentration but also to thoroughly rinse it off.

Typical concentrations should not exceed 2% and must be rinsed off within the specified time, typically 10 to 15 minutes (not more than 20 to 30 minutes), and should never dry on the surface. If detergents are left to dry on the surface of the system, the effect of the oxidizing agent in the detergent increases.

6.2.4 Cleaning: Stainless Steel Components

Some components of the checkweigher can be made of stainless steel.

The stainless steel components are resistant to corrosion and acid. The resistance is a result of a high chromium share that forms a dense passive layer of chromium oxide on the surface of the material.

Harmful media, such as cleaning solution that have not been rinsed off thoroughly, soiling or salty air, can lead to corrosion of the stainless steel.



NOTICE

Risk of property damage

Do not use aggressive detergents, such as petroleum ether, spiritus, diluents or abrasive cleaners to clean the system or any components.

- Before cleaning, make sure that the system is turned off.
 - Before cleaning, make sure that the system and the components are cooled down.
- 1 Use a mild detergent and a soft cloth for cleaning
 - 2 Clean the stainless steel surfaces with a soft cloth, dampened with detergent and water solution.
 - 3 After cleaning, make sure that you removed all detergent from the components.

Information about the Passive Layer

The passive layer covers and protects the steel. The passive layer can regenerate, if it is damaged, for example by scratches. The regeneration happens when the damaged surface reacts with the oxygen in the air to form a new passive layer. The passive layer only forms if the damaged surface can react unimpeded with the air. Grease, scaling, annealing colors or impurities impair this reaction.

If there is corrosion on the surface, then remove it immediately. Then let the surface where you have removed the corrosion passivate.

NOTICE The passive layer is important for the stainless steel surface's protection.

6.2.5 Cleaning: Aluminium Components

Some components of the catchweigher can be made of power coated aluminium, for example the frame, the conveyor or the conveyor support.

Aluminium materials are characterized by their lightness, high durability and corrosion resistance. This resistance provides a thin invisible oxid layer which forms immediately after contact of aluminium surface with the atmosphere. Nevertheless some substances, such as alkalis, can destroy this protective coating and lead to corrosion. In order to maintain the high resistance to corrosion you need to clean the aluminum components regularly.



NOTICE

Risk of property damage

Do not use aggressive detergents, such as petroleum ether, spiritus, diluents or abrasive cleaners to clean the system or any components.

- Before cleaning, make sure that the system is turned off.
 - Before cleaning, make sure that the system and the components are cooled down.
1. Use a paper tissue or a soft cloth for cleaning.
 2. Do not apply pressure while cleaning aluminium surfaces.
 3. Clean the aluminium surfaces with a tissue or a soft cloth, dampened with water. In cases of stubborn soiling use detergent and water solution.
 4. After cleaning, make sure that you removed all detergent from the components.
 5. Rub the surfaces dry. Pay special attention to remove the detergent from edges and joins.

6.2.6 Cleaning: Terminal and Touchscreen



NOTICE

Risk of property damage

Do not use aggressive detergents, such as petroleum ether, spiritus, diluents or abrasive cleaners to clean the system or any components.

- 1 Before cleaning, make sure that the touchscreen is deactivated.
- 2 Use a mild detergent and a soft cloth.

- 3 Clean the surfaces with a soft cloth, dampened with detergent and water solution.
- 4 After cleaning, make sure that you removed all detergent from the terminal and the touchscreen.

See also

 Deactivating the Touchscreen ▶ Page 70

6.2.6.1 Deactivating the Touchscreen

To deactivate the touchscreen, proceed as follows:

- 1 Touch **[MENU]** in the basic screen.
- 2 Select the menu items **Actions > Display Cleaning Mode**
 - ⇒ The screen of the display cleaning mode opens up.
- 3 Clean the touchscreen with a mild detergent and a soft cloth for cleaning
- 4 After cleaning, touch **Back to Normal Operation**, when the red bar is blinking, and confirm with **Yes**
 - ⇒ The system returns to the basic screen.

6.3 Frame

Frame

The frame is a welded construction made of powder coated or stainless steel rods. The conveyor support, the weigh bridge and the weigh conveyor are mounted on the frame.

6.3.1 Inspection: Frame

| Recommended inspection interval | What has to be done |
|---------------------------------|-------------------------------------|
| Daily | Perform a general visual inspection |

- Make sure that the system is turned off.
- 1 Check whether the frame is clean.
 - ⇒ If there is dust, dirt or condensation on the frame, then clean the frame.
 - 2 Check whether the frame is damaged.
 - ⇒ If the frame is damaged, then call your supervisor and/or qualified personnel.

6.3.2 Cleaning: Frame

- Before cleaning, make sure that the system is turned off.
 - Before cleaning, make sure that the system and the components are cooled down.
- 1 Check if the frame is clean.
 - ⇒ If there is dust, dirt or condensation on the frame, then clean wipe it off the frame with a soft, slightly moist cloth or a cotton swab.
 - 2 Turn the system on, when the frame is clean.
 - ⇒ If the frame is damaged, then call your supervisor or a technician.

6.4 Conveyor Belts

Regular cleaning and checking has a positive effect on the drive, straight run and durability of the conveyor belts. The conveyor belts also include the belts of sidegrip conveyors and top and bottom conveyors.



WARNING

Risk of burning by direct contact with hot components

During production, moving components, such as motors can become hot. You can burn skin or limbs if you touch these components while they are still hot.

- Before you start to inspect and clean the system, wait until moving components, such as motors are totally cooled down.

6.4.1 Inspection: Conveyor Belts

| Recommended inspection interval | What has to be done |
|---------------------------------|---|
| Daily | Perform a general visual inspection of the conveyor belts |

The visual inspection of the conveyor belts comprises of:

- Checking the alignment of the conveyor belts
- Checking the conveyor belts for wear damage

If the conveyor belts grind or touch other components, then this can lead to excessive wear and vibration.

Checking the Alignment of the Conveyor Belts

The alignment of the conveyor belts has to be checked while the system is running.

Check if the conveyor belts:

- run smoothly
- run in the center of the conveyor plate
- do not touch any protective devices, such as covers.

If one of the aspects listed above does not apply, then call your supervisor and/or qualified personnel to adjust the conveyor belts.

Checking the Conveyor Belts for Wear Damage

Check if the conveyor belts are clean and do not show any signs of wear.

If the conveyor belts show any sign of wear, then call qualified personnel to replace the belts.

If the conveyor belts are soiled, then clean them.

6.4.2 Checking the Tension of the Conveyor Belts

Most belt types will stretch as a result of use. This chapter provides information on checking the tension of a conveyor belt of the weigh conveyor 1 and the weigh conveyor 2.

| Recommended inspection interval | What has to be done |
|---------------------------------|--|
| Weekly | Check the conveyor belts for a tight fit |



WARNING

Risk of entanglement, abrasion and friction by moving belts. Do not check the tension of conveyor belts while the system and the conveyor belts are running.

There are two indicators to check the tension of a conveyor belt:

- If the outer edge area of the belt curves lightly upwards by itself, the belt is no longer sufficiently tight.
- If during operation the belt is slipping of the conveyor at normal loads (i.e. when a typical product is put on the conveyor).

If the tension is not sufficient, then call your supervisor and/or qualified personnel to adjust the belt tension.

6.4.3 Cleaning: Conveyor Belts



NOTICE

Risk of property damage by aggressive detergents

Aggressive detergents can harm the conveyor belts. Do not use the following detergents to clean the belt conveyors:

Aromatic compounds (benzene, toluene, xylene)

Chlorinated hydrocarbons (trichloroethylene, tetrachloroethylene, hydrogen tetrachloride)

Ketones (acetone, methyl ethyl ketone)

The following table informs about the degree of soiling and corresponding cleaning procedures

| Degree of soiling | Cleaning procedure |
|-----------------------------|--|
| Light soiling, such as dust | Wipe off with a soft cloth, dry or moist, warm or cold water |
| Oily and greasy soiling | Wipe off with a soft cloth, moist, warm water, detergent |
| Strong soiling | Brush off with warm water, detergent |

- Before cleaning, make sure that the system is turned off.
 - Before cleaning, make sure that the system and the components are cooled down.
- 1 Clean the conveyor belts and, if installed; the transition plates, according to the degree of soiling.
 - 2 Make sure that you removed all dust, dirt and/or debris from the conveyor belts.
 - 3 Make sure that you rinsed off the detergent thoroughly, before you re-start the system.

NOTICE There are no points on the conveyors that require lubrication.

6.5 Light Barriers

The sensors at your system are in most cases light barriers. The light barriers can be mounted in different positions on the frame and fulfill different functions, depending on their position. The following list are some functions that the sensors may fulfill:

- To monitor the filling level of a catch bin
- To detect jams of products
- To confirm the rejection of a product
- To detect products with an open flap
- To detect products that do not align with the conveyor belts

The daily visual inspection of the light barriers is important, in order to prevent the system from malfunction.

6.5.1 Inspection: Light Barriers

| Recommended inspection interval | What has to be done |
|---------------------------------|-------------------------------------|
| Daily | Perform a general visual inspection |



WARNING

Risk of injury by moving parts

While the system is running, components move automatically, intermittently and without notice.

- 1 Turn the system off before you start the visual inspection of the light barriers.
 - 2 Check if the light barriers and their components (reflectors, light sensors, photo cells) are clean.
 - 3 Check if the light barriers and their components (reflectors, light sensors, photo cells) are damaged or broken.
 - 4 If there is dust, dirt or condensation on any of the components, then clean the light barriers
- ⇒ If any component of the light barriers is damaged or broken, then call your supervisor and/or qualified personnel.

6.5.2 Cleaning: Light Barriers



WARNING

Risk of injury by moving parts

While the system is running, components move automatically, intermittently and without notice.

- 1 Turn the system off before you start to clean the light barriers.

- 2 If there is dust, dirt or condensation on any of the components (reflectors, light sensors, photo cells), then clean the light barriers with a soft, slightly moist cloth or a cotton swab.
- 3 Make sure that the light barriers are completely dry before you re-start the system.

6.6 Gaskets and Seals

The system has several gaskets and seals on covers, flaps and doors.

6.6.1 Inspection: Gaskets and Seals

| Recommended inspection interval | What has to be done |
|---------------------------------|-------------------------------------|
| Monthly | Perform a general visual inspection |

- Make sure that the gaskets and seals on covers, flaps and doors are in good condition and do not show any damages.
- ⇒ If any of the gaskets or seals is in bad condition and/or damaged, then call qualified personnel to replace the broken parts.

6.7 Compressed Air Supply

The compressed air must be free of contaminants, that is to say it must be dry and clean. If the compressed air is not kept clean and dry, the pneumatic parts may function poorly and wear out quickly. In order to check whether the compressed air is free of contaminants, the compressed air supply is equipped with an inspection window.

6.7.1 Inspection: Compressed Air Supply

| Recommended inspection intervals | What has to be done |
|----------------------------------|-------------------------------------|
| Weekly | Perform a general visual inspection |

- 1 Check the hoses for damage and wear.
 - 2 Check the pressure gauge for the correct pressure. The pressure should be minimum 3 bar and maximum 6 bar.
- ⇒ If the parts are damaged or worn or if the pressure is not in the range of 3 – 6 bar, then call you supervisor and/or qualified personnel.

6.7.2 Inspection: Inspection Window

| Recommended inspection interval | What has to be done |
|---------------------------------|--|
| Monthly | Perform a general visual inspection of the inspection window |

- Check if condensate has accumulated in the sight glass of the compressed air supply.
- ⇒ If condensate has accumulated, then call your supervisor and/or qualified personnel to drain the condensation.

6.8 Restarting the System after Cleaning

Consider the following instructions before you restart the system:

- Make sure that all safety devices are in place.
- Make sure that all safety labels on the system are visible.
- Make sure that all plastic and protective covers that were to protect against the ingress of water or cleaning solution have been removed from motors, openings, air intake parts.
- Make sure that all cleaning solution and detergent has been rinsed off the system and any components thoroughly.
- Make sure that no cleaning solutions dried on the system's surface.
- Make sure that all components of the system are completely dry.

7 Troubleshooting



Important Safety Note

Risk of injury

Before investigating any problem, be sure to read the entire User Manual. Do not troubleshoot anything that is denoted with "supervisor".

This chapter contains information about possible failures of the system and the most common troubleshooting steps to resolve the problem. The failures described below can occur when the system is operated normally for production.

If the failure still exists after having tried to resolve the problem, then call your supervisor.

Conventions

The troubleshooting table contains the following:

| Column | Meaning |
|-----------------------|---|
| Component | What component is affected or the type of issue encountered |
| Symptom | How the failure is manifested |
| Cause | What is causing the failure |
| Troubleshooting steps | How to resolve the failure |

7.1 System

The symptoms described below concern the failure of the whole system.

| Component | Symptom | Cause | Troubleshooting steps |
|-----------|----------------------------------|------------------------------|---|
| System | System does not start | External power not available | Check the main power supply and call your supervisor |
| | | Power cable not connected | Call your supervisor |
| | | Fuse blown | Call your supervisor |
| | System turns off without warning | Power failure | Wait until power is restored and call your supervisor |
| | | UPS failure | Call your supervisor |

7.2 Touchscreen

The symptoms described below concern the failure of the touchscreen.

| Component | Symptom | Cause | Troubleshooting steps |
|-------------|----------------------|----------------------|---|
| Touchscreen | Black with power on | Touchscreen failure | Call your supervisor |
| | | PC failure | Call your supervisor |
| | | Power supply failure | Call your supervisor |
| | Screen color wrong | Touchscreen failure | Call your supervisor |
| | Touch is not working | Touchscreen failure | <ol style="list-style-type: none"> 1 Recalibrate the touchscreen 2 Call your supervisor |

7.3 Conveyor Belts

The symptoms described below concern the failure of conveyor belt.

| Component | Symptom | Cause | Fixes |
|---------------|-----------------------------|--|---|
| Conveyor belt | The conveyor does not start | Power is off | Check if the disconnect switch is turned on |
| | | Emergency stop pressed | Lift the emergency stop button and press the reset button |
| | | Conveyor not started | Press the start button at the terminal |
| | | Line stopped, external stop, prime or backup sensor conditions that are supplied to the system | Wait until the whole line is running again |
| | | Debris on or in the belt is causing a jam | Clean the belt thoroughly |
| | | Motion drives do not work | Call your supervisor |
| | | Motor failure | Call your supervisor |
| | | The belt has been stopped by too much pressure | Remove weight from the conveyor and restart |
| | | Drive failure | Call your supervisor |
| | Belt damaged | Belt damaged by an external source | Call your supervisor |
| | | Conveyor end hitting each other | Call your supervisor |
| | | Belt type incorrect | Call your supervisor |
| | Belt edges frayed | Belt drift to the side | Call your supervisor |
| | | Belt misaligned | Call your supervisor |
| | Noise during running | Belt drift to the side | Call your supervisor |
| | | Belt misaligned | Call your supervisor |
| | | Conveyor clogged with debris | Clean the belt thoroughly |
| | | Roller damaged | Call your supervisor |
| | | Tooth belt pulleys defective | Call your supervisor |
| | | Motor and/or drive defective | Call your supervisor |
| | | Motor mountings are loose | Call your supervisor |

7.4 Sorting Devices

The symptoms described below concern the failure of the light barrier and the sorting devices such as rejectors. The rejectors can be:

- Pusher
- Sorting rake

| Component | Symptom | Cause | Fixes |
|-----------|----------------------------|-----------------------------------|---|
| Rejector | Excessive false rejects | Wrong article was set | Set the correct article |
| | | Weight outside of tolerances | Ensure that the tolerances are set correctly |
| | | Defective light barrier | Call your supervisor |
| | | Incorrectly mounted light barrier | Call your supervisor |
| | | Shape of the package has changed | Edit the data of the package |
| | No rejects but should have | Light barrier failure | <ol style="list-style-type: none"> 1 Check the position of the sensor and the reflector 2 Clean the sensor and the reflector thoroughly |
| | | System is set to bypass | Call you supervisor |
| | | Air pressure too low | Check the compressed air supplay |
| | | Air pressure valve failure | Call our supervisor |
| | | Light barrier sensor blocked | Unblock the light barrier sensor |
| | | Rejector failure | Call your supervisor |

8 Spare Parts

METTLER TOLEDO recommends to use only original METTLER TOLEDO spare parts to ensure a safe operation. The spare parts list is in the appendix of the documentation folder.

All warranty claims are void in case of damages that result from using non-original spare parts.

For reasons of safety and warranty, the replacement of a motor, the terminal or the load cell must be carried out by the after-sales service of METTLER TOLEDO or qualified technical personnel, authorized and trained by METTLER TOLEDO.

If you want to do such maintenance and repair yourself, then please contact your METTLER TOLEDO Service representative for information about training.

8.1 Service

If you wish to contact the Service Department, please have as much information on hand as possible:

- Machine type
- Serial number
- Mettler Toledo order number
- Precise wording of the error message or detailed default description
- Your contact details

8.2 Contact Information

For technical support, please contact your local Mettler Toledo representative.

9 Technical Data

This chapter provides the technical data for a standard C23 checkweigher.

For the exact technical data see the Technical Annex and wiring diagrams that you receive with your order.

Environmental Conditions

| | |
|-------------|---|
| Temperature | 0 – 40 °C |
| Humidity | % relative air humidity, non-condensing |

Weighframe

| | |
|--|---|
| Material of the standard design | stainless steel |
| Electromagnetic environmental classification | E2 |
| Mechanical environmental classification | |
| Compressed air connection | 1/4" |
| Compressed air requirement | 6 bar |
| Operating temperature | 0 – 40 °C |
| Noise emission | < 70 dB (A) at 1 m height and 1 m distance |
| Power connection | 110 / 230 VAC, single-phase, 50/60 Hz, N, PE, ≥ 1200 VA |
| Power consumption | approximately 750 VA |

Weighing Functions

| | |
|--------------------|------------------|
| Main function | Dynamic weighing |
| Secondary function | Static weighing |

10 Disposal

In conformance with the European Directive 2012/19/EU on Waste Electrical and Electronic Equipment (WEEE) this device may not be disposed of in domestic waste. This also applies to countries outside the EU, per their specific requirements.

Please dispose of this product in accordance with local regulations at the collecting point specified for electrical and electronic equipment. If you have any questions, please contact the responsible authority or the distributor from which you purchased this device. Should this device be passed on to other parties (for private or professional use), the content of this regulation must also be related.

Thank you for your contribution to environmental protection.



To protect your product's future:

METTLER TOLEDO Service assures the quality, measuring accuracy and preservation of value of this product for years to come.

Please request full details about our attractive terms of service.

www.mt.com

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Subject to technical changes.
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