SMARTER PACKAGING. SMARTER BUSINESS.

Operating Manual

Filling machine
Type BVP

Machine no.: 10-190983

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Please read the operating instructions carefully and keep them for future reference.

Target group
This operating manual is aimed at any person involved in transporting, setting up and dismantling, operating, maintaining, servicing, sourcing spare parts for and cleaning this filling machine. The owner of this system shall assume responsibility for ensuring that anyone working with or on this machine, has read and understood the operating manual.

Document storage
Please store this operating manual so that all persons coming into contact with the filling machine have access to it, at all times.

In addition, national and company accident prevention regulations, as well as generally applicable safety regulations, must be observed and applied.

Table of Contents

1 Description of signs

Safety instructions
The following safety signs are crucial for safety and **must** be observed:

DANGER	This sign indicates that death or serious injury is **very likely** to occur if no precautions are taken.
WARNING	This sign indicates that death or serious injury **could** occur if no precautions are taken.
CAUTION	This sign means that minor injuries **could** occur if no precautions are taken.
NOTE	This sign means that minor injuries **could** occur if no precautions are taken.
	These signs contain references to safety-relevant information or general safety measures. These signs do not refer to individual hazards or individual precautions.
	Sign to make work easier or reference to further information.

2 Safety

The system is used in an industrial environment. The owner is therefore required to observe all statutory accident prevention regulations.

In addition to the safety instructions in this operating manual, all the valid state and local accident prevention regulations, safety instructions and environmental protection requirements must be met by the owner.

In addition:

- The owner must familiarise themselves with all health and safety regulations and carry out a risk analysis in order to identify additional risks arising from the special working conditions at the system installation site.
- For the period during which the system is operated, the owner must ensure that the operating manual corresponds to the current status of the system and must adapt it if necessary.
- The owner must ensure that all persons working with and/or on this system are regularly trained and are aware of the risks associated with the work.
- The owner must provide the necessary personal protective equipment.

The owner of the system must ensure that the system is adequately equipped with lighting and glare protection at all times.

2.1 Safety instructions

Electrical voltage

DANGER

Electric shock

Do not touch any live parts.

Damage to insulation or individual parts can cause death.

Moving parts

WARNING

Moving parts

Rotating and linear moving parts can cause serious injury.

Tripping and falling

WARNING

Tripping and falling

Access to the system via unauthorised routes can result in serious injury.

Authorised personnel only.

Human error

WARNING

Risk of injury due to human error

Human error can lead to serious injury.

Improper use of PPE

WARNING

Risk of injury due to improper use of personal protective equipment

Improper or incorrect use of personal protective equipment can result in serious injury.

2.2 Residual risks

The risk assessment according to the MRL has revealed a few residual risks, which are described in detail here.

Neglect of ergonomic principles

Particularly heavy loads

- When removing full bags, the operator must not remove more than 25 kg of full containers from the system.

Preventative measures:

- In accordance with the owner's guidelines following risk assessment

Insufficient consideration of physical risk

- When removing full bags, the operator must not remove more than 25 kg of full containers from the system.

Preventative measures:

- In accordance with the owner's guidelines following risk assessment

Energy accumulation

Pneumatic systems

- The system is equipped with compressed air reservoirs which are not vented when the emergency stop is actuated. The operation of the valves can result in dangerous movements of the system components.

Preventative measures:

- Operator training.
- Indication of the pipes which remain pressurised after the "emergency stop" has been activated
- Risk assessment performed by the owner.

Noise

Compressor

- The on-site set-up may result in more noise emissions

Preventative measures:

- Sound pressure level measured by the owner in production conditions
- PPE used in accordance with the owner's guidelines following the risk assessment

2.3 Installed safety devices

DANGER

Uncontrolled start-up

Uncontrolled restart can result in death or serious injury.

Before switching the system back on, make sure that:

- All safety devices are installed and fully functional
- The danger has been removed
- No persons are still present in the system

EMERGENCY STOP button (yellow-red)

When the "emergency stop" button is pressed, all dangerous energies in the system are switched off.

Before restarting the system, the "Hall emergency stop" button must be unlocked again.

Safety light curtains (Electro-sensitive Protective Equipment)

Entering the safety area triggers the relevant safety circuit. Any dangerous energies in the system are switched off (like with the emergency stop function).

There must be a distance of at least 500 mm between the safety light curtain and danger zone (robotic arm range of motion; observe Safe Robot!) (DIN EN ISO 13855).

Before restarting the system, the safety light curtain must be reactivated.

Residual risk:

Pneumatic systems

- The system is equipped with compressed air reservoirs which are not vented when the emergency stop is actuated. The operation of the valves can result in dangerous movements of the system components.

Preventative measures:

- Operator training.

WARNING

Risk of injury from activating the wrong safety device

For reasons of functionality and clarity, the entire system is divided into several safety areas.

Each safety area has its own safety devices.

- The owner must ensure that all persons working with/on the system are informed of this.
- The owner is solely responsible for training all persons who work with/on this system to ensure safe operation as far as possible.
- All persons who work on/with this system must become familiar with how the safety devices work and what area they cover.

- Observe the accident prevention regulations!
- Repairs must only be performed by authorised and qualified personnel.
- Switch off the system before maintenance work and secure it against unauthorised restart. If the main switch is out of sight during maintenance, servicing and cleaning work, it must be secured against being switched on again with a lock.
- In addition, signs must be visible to indicate the work being performed on the system.
- Work on electrical equipment can only be performed by qualified electricians, specialists for specified electronic activities (SEA) or persons trained in electrical engineering.
- Live parts in control cabinets and distribution boxes are designed to be finger safe, however, when working with tools, there is still the danger of coming into contact with live parts.
- Only carry out maintenance, cleaning, lubrication, etc. when the system is switched off and at a standstill.

In the case of maintenance or servicing work:

- Power off.
- Wait for the system to come to a standstill.
- Make sure residual energy has dissipated safely
- (e.g. pressure accumulators, electrics, pneumatics).
- Do not clean body, clothing, or equipment with compressed air.
- Do not overestimate your own strength. If necessary, get help or use hoisting equipment e.g.: lift truck.
- Do not clean the system with high-pressure cleaning equipment. Supplied parts must be serviced according to the manufacturer's instructions. Ensure order and cleanliness during all maintenance work.
- Keep transport routes clear.

After completing maintenance work, leave the machine in safe working order. This includes checking that:

- loosened screwed connections have been adequately tightened.
- safety devices are fully installed and operational.
- connections/pipelines have been tightened.
- All repair work must be performed exactly in the order described.
- Only use approved auxiliary and operating materials.
- Only use original spare parts.

2.4 What to do in the event of danger or accidents

a) Preventive measures

- Always be on the lookout for accidents or fire.
- First aid equipment and fire extinguishers must be kept ready to hand.
- All persons working with/on the system must be familiar with the emergency reporting chain, first aid measures and emergency equipment.
- Escape and rescue routes must be kept clear.

b) What to do in an emergency

- Shut the system down by pressing the "EMERGENCY STOP" button.
- Inform those responsible on site.
- Alert a doctor and/or the fire brigade.
- Rescue other people only when you have ruled out any danger to yourself.
- Administer first aid.

2.5 Qualifications

WARNING

Risk of injury due to inadequately qualified personnel

Improper use of the machine can lead to injury and damage to property.
Specialised tasks must only be performed by persons with the qualifications described in the relevant chapters of this operating manual.
Ensure that unqualified personnel do not have access to hazardous areas.

The following qualifications are specified in this operating manual for various tasks:

Owner

The owner (company, company owner) is the person who has purchased or rented this equipment and is using it commercially.

Operator

Is a person designated by the owner to perform special tasks on and/or with the system, e.g. operation, maintenance, cleaning or similar.

Maintenance worker

Is a person who has special knowledge in the field of system maintenance and repair beyond that of the operator.

Skilled worker

Is a person who is able to perform the tasks assigned to them due to their specialist training, skills, experience and knowledge of relevant regulations, accident prevention standards and operational circumstances and who is able to identify and avoid risks in the process.

Authorised person

An "authorised person" is someone who has been trained and instructed in the tasks assigned to them and who has been instructed in personal protective equipment, safety measures, applicable rules, accident prevention standards and operational conditions.

Trained person

A "trained person" is someone who has been trained and instructed in the tasks assigned to them and in the associated risks and who has also been instructed in personal protective equipment, safety measures, applicable rules, accident prevention standards and operational conditions.

Personal protective equipment (PPE)

Personal protective equipment must be worn to minimise the risk of injury:

- ✓ Always wear the personal protective equipment necessary for the work to be performed. The necessary PPE is specified by the owner in the course of a risk assessment.
- ✓ Follow all signs relating to personal protective equipment in your working environment.

	**Helmet:** For protection against falling and flying objects.
	**Safety goggles:** For protection against flying parts and splashing liquids.
	**Protective gloves:** Protects hands from friction, scratches, stab wounds, cuts or contact with hot surfaces.
	**Safety shoes:** For protection against falling over, heavy objects and slipping on slippery floors.

In order to ensure machine safety, after each adjustment of the connection terminal, the pick-up and push-on positions must be checked for interference.

2.6 Ongoing testing of safety devices

A qualified person should test safety devices before they go into operation and then on an annual basis thereafter.

Furthermore, the operator should carry out daily functional checks and visual inspections to determine whether the safety devices appear to be complete and functional.

Device	OK	Not OK	Observation
Emergency stop devices • on the control cabinet (1) • on the packer controls (2) • on the chain system (3)			
In every operating state, actuation of the emergency stop device stops the entire machine			
The machine can only be restarted after the emergency stop device has been manually reset			
Resetting the emergency stop command should not restart the machine.			
Device	**OK**	**Not OK**	**Observation**
Safety lock • on the safety fence door (4)			
Unlocking or releasing a safety gate immediately switches off the relevant safety area.			

The system can only be restarted after using the key-operated switch.			
Activating the safety lock should not restart the machine.			

Door lock controls • on the control cabinet (1)			
Pressing the activation button (white; flashes when pressed) forces the system into a safe state and unlocks the safety lock.			
The safety lock activates when you press the key-operated switch.			
Activating the safety lock should not restart the machine.			
Device	**OK**	**Not OK**	**Observation**
Safety light curtains • at the empty pallet magazine and pallet roller conveyor (4)			
Triggering a safety light curtain immediately switches off the relevant safety area.			
The system can only be restarted after using the key-operated switch.			
Activating the safety light curtain should not restart the machine.			

Emergency stop

Figure 2 "Emergency Stop" on the control cabinet (1)

Figure 2 "Emergency Stop" on the packer controls (2)

Figure 3 "Emergency Stop" button (3)

Safety lock

Figure 5 Safety lock (4)

Figure 5 Door lock controls (5)

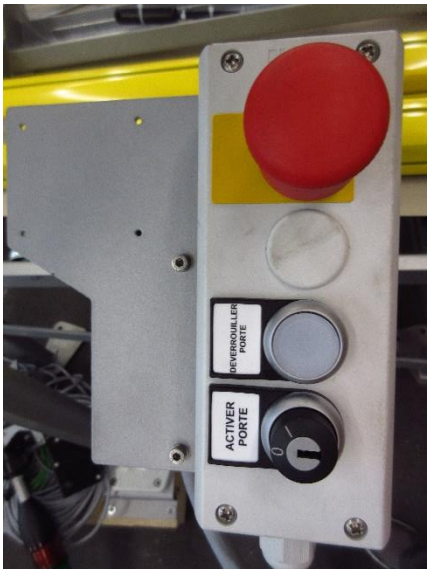


Figure 6 Door lock controls (6)

The control panel for every door on a safety fence has an "emergency stop" button (red)

Safety light curtains

Figure 7 Safety light curtains (7)

3 System description

The **Filling machine type BVP** comprises:

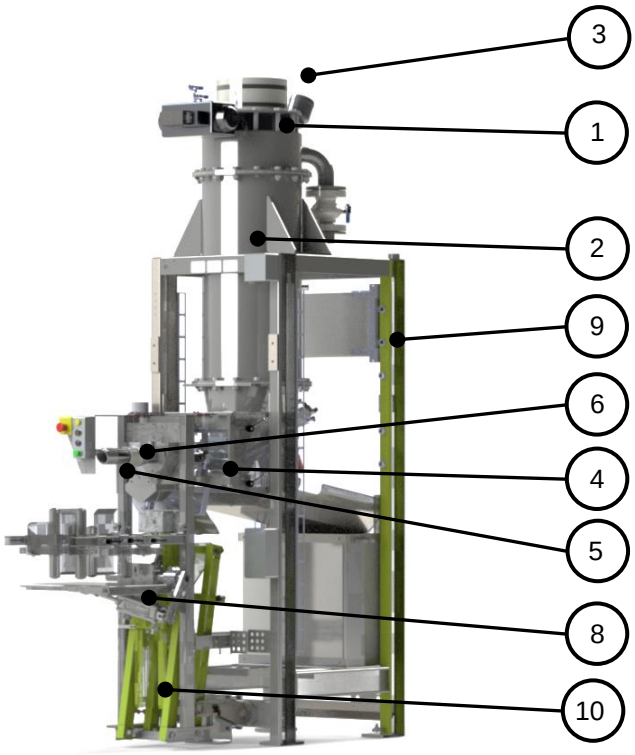
- Type BVP pneumatic packer
- VALVOMAT®
- VALVOSEAL® heat sealing unit
- VALVOPACK® Robot
- Roller conveyors

3.1 Filling machine BVP

3.2 System component description

This chapter contains a description of the individual components involved in a valve bag system.

3.2.1 BVP



WARNING

Danger of crushing for hands/fingers

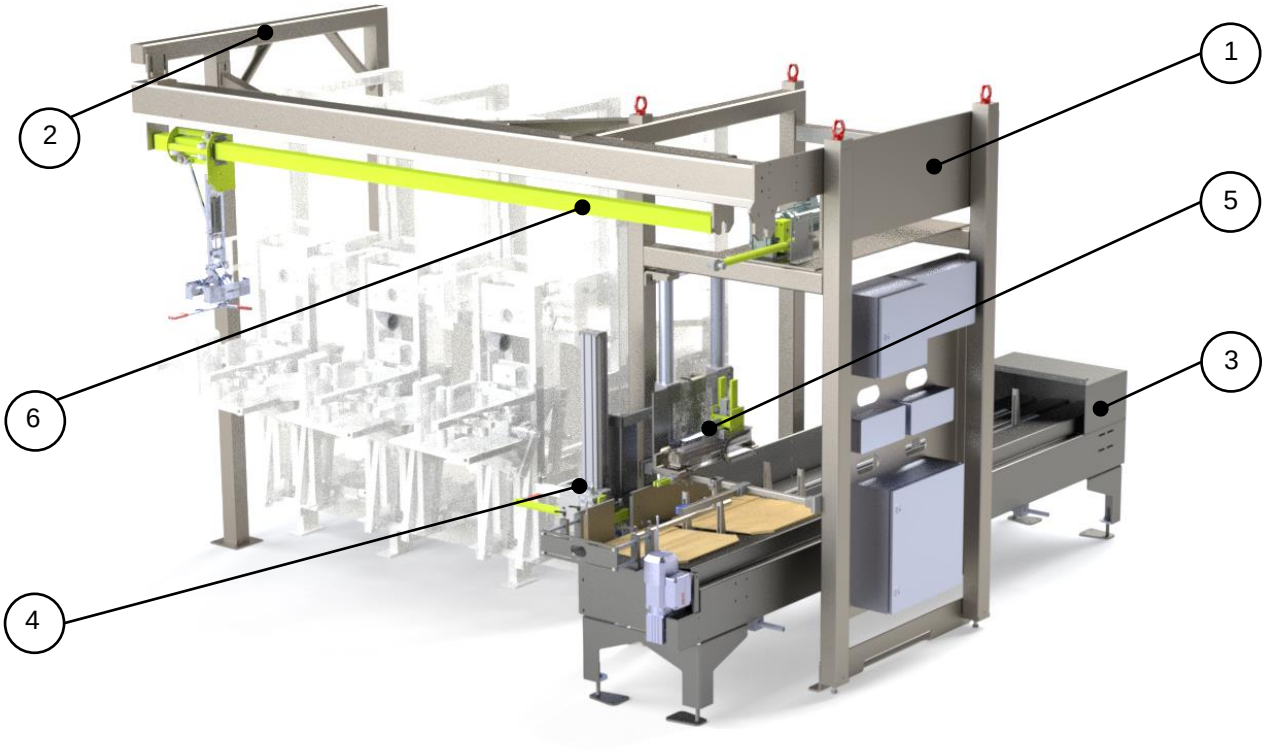
Take care when manually positioning empty bags on the spout.

The system should only be operated by authorised personnel.

The core components of the BVP are:

1. Closing flap
2. Fluidisation pipe
3. Fill level gauge
4. Pinch valve
5. Filling spout
6. Bag clamp
7. Discharge ring nozzle (not visible)
8. Bag carriage
9. Machine frame
10. Bag release
11. Suction unit (not depicted)

3.2.2 VALVOMAT®

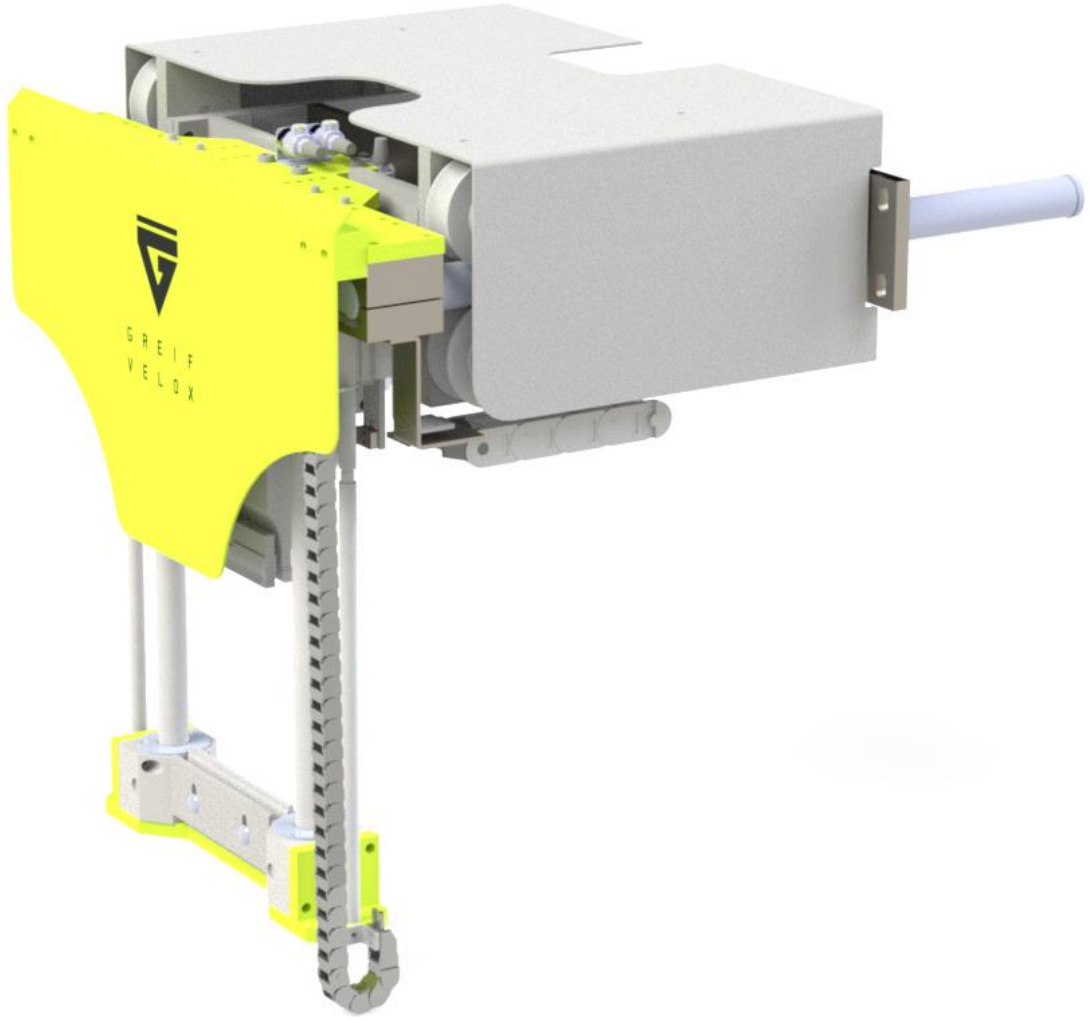


The VALVOMAT® is composed of the following components:

1. Valvomat frame
2. Valvomat support
3. Chain system
4. Bag lift
5. Valve opener
6. Moving unit

The VALVOMAT® is a positioning system for automatically loading the BVP pneumatic packer with empty valve bags.

3.2.3 VALVOSEAL®



How VALVOSEAL® works

Valve bags are heat sealed using ultrasonic heat sealing. The VALVOSEAL® heat sealing unit is integrated in the machine frame of the pneumatic packer.

In order to seal the valve bags, the VALVOSEAL® moves into position in front of the spout using a pneumatic mechanism. At the same time, the bag carriage turns to move the valve bag into position, ready for sealing. The sonotrode is also lowered using a pneumatic mechanism. The actual sealing process only begins after a series of safety prompts have been answered via the control system. In the event of an error, an error message will show up on the operating display and the sealing process will come to a halt.

The sealing time and ultrasonic sealing performance are pre-set at the factory and can be adjusted during commissioning where required.

3.2.4 VELOPACK®

Description

VELOPACK® is the latest generation of automated palleting machine, specially selected according to the requirements and functions of the customer system.

More details on the robot can be found in the manufacturer's documentation.

DANGER

Moving parts

Moving parts cause serious injury.

They should only be operated by authorised personnel.

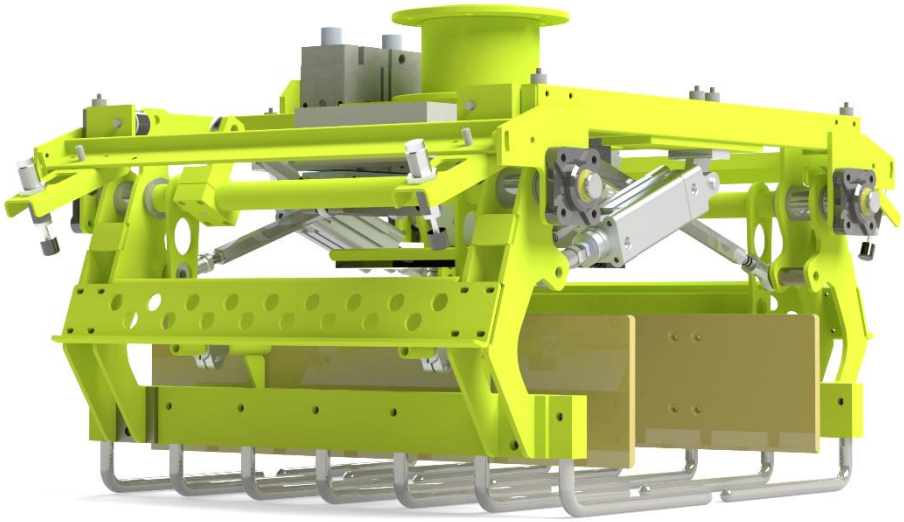
WARNING

Risk of burns

Servo drives can become very hot.

Do not touch servo drives. Let them cool down before performing any maintenance.

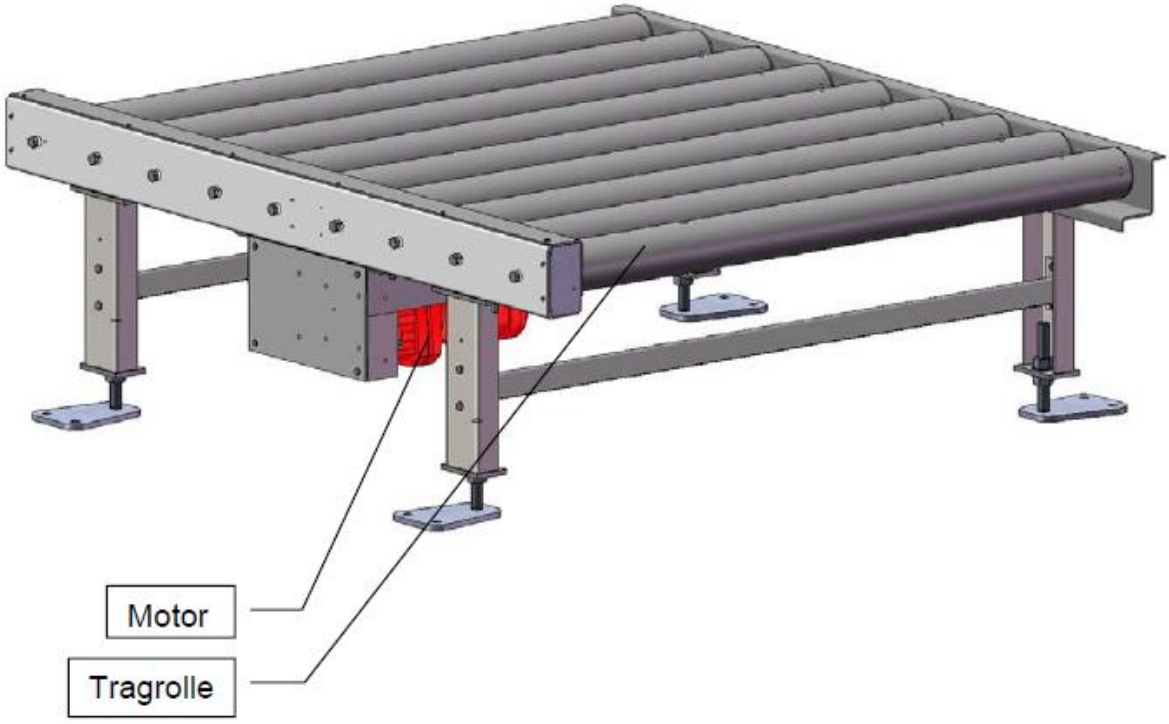
3.2.5 Gripper system



The gripper system takes the bags supplied by the roller conveyor and places them on the pallet. The style and number of layers is determined by the robot control system.

Additional prongs can be attached to or removed from the gripper to enable optimal handling of bags of different lengths.

3.2.6 Roller conveyor



Every roller conveyor consists of angular frames with inserted rollers. The height of the roller conveyor supports can be adjusted and they are firmly connected to the base. The rollers on this roller conveyor model are driven in one direction by a motor.

The pallet is conveyed across the rollers by friction. Movement and stoppage cycles for the conveyor vary depending on the model.

4 Transport

Find out the weight of the parts being delivered before the delivery arrives, so a suitable forklift can be scheduled on time. You can find the weight of the delivered parts:

- in the shipping documents,
- in the main spare parts list on the last sheet
  or
- it can be requested from GV.

The system components are usually supplied on a stable wooden pallet of sufficient length. The covering film provides protection against moisture and dust.

4.1 Safety instructions Transport

DANGER

Danger of crushing

Danger of death
Never stand or work under suspended loads.

WARNING

Suspended loads

Only use load-handling equipment that has a sufficient load-bearing capacity and is free of technical defects and damage.

The provisions of the UVV (accident prevention standards), chapters 18.1 to 18.4 and the VDMA guidelines "Industrial trucks" must be observed when using hoists or internal transport. Unloading and transporting by hand is not permitted if the weight exceeds 25 kg.

4.2 Setup area

You should have already checked when reviewing the technical drawing, which was supplied for your approval, that the overall dimensions of the components can fit through all tight spaces in your plant between the unloading site and the setup area.

Before unloading, double-check the transportation route and cross-reference with the information in the cargo documents.

First unload the loose parts supplied and put them in a safe place away from the planned transport route. Ensure there is enough space to put down the components safely.

Protect the components from damage. Keep transport routes clear and secure internal transport by taking suitable measures. Loads must be set down carefully and immediately positioned to protect them against tipping or rolling, as well as from falling objects and other dangers, e.g. being hit by a forklift.

Use only tested and approved load-handling equipment (lifting belts, ropes, shackles etc.) with a sufficient load-bearing capacity. Always choose lifting equipment in accordance with the maximum weight to be lifted.

Only use load-handling equipment that is free of technical defects and damage.

5 Setup

5.1 Safety instructions

Inform yourself of potential dangers at the setup location before commencing work. Clear and clean the setup area. During this phase of installation, clear a large area for setup and only allow persons who are directly involved with the installation to come into the vicinity. Secure pits, ramps, platform edges and ceiling openings against falling. Ensure that the floor of the setup area can support the weight of the equipment.

DANGER

Suspended loads

Never stand or work under suspended loads.

WARNING

Heavy loads

Only use load-handling equipment that has a sufficient load-bearing capacity and is free of technical defects and damage.

5.2 Stability

Some components of the filling machine are supplied with safety devices for transport and assembly. These safety devices are painted red. The safety devices protect the components from damage and/or prevent them tipping over during assembly. The safety devices must not be removed until the components are fixed in their final positions.

Be sure that system components are tightly secured, e.g. with chain hoists so that they cannot fall over in their final positions and are safely fixed to the floor, wall and/or ceiling.

Align the components on the floor before fixing them in their final positions.

5.3 Transport safety devices

Transport safety devices must be removed before the system is put into operation for the first time.

Any transport safety devices that aren't removed can cause the system to malfunction or become damaged.

5.4 Fixings and fasteners for system parts

Provided that no other contractual arrangement was made, GREIF-VELOX supplies all the fixings and fasteners for the system, along with its components.

Specific customer requirements (e.g. conformity with the German Water Resources Act, earthquake certification) are taken into consideration, as long as these were made known at the time of contract settlement.

GREIF-VELOX guarantees secure installation, provided that the concrete quality is as stated by the customer in the planning drawings.

5.5 Sequence of setup

Setup begins at the product transfer point; that is, where the customer's product feed meets the pre-filling tank. Accordingly, the pneumatic packer is positioned, aligned and fixed underneath the pre-filling tank.

5.6 Setup steps

The following steps are required to setup the system:

- Installation of the components
- Adjustment

If you commissioned GREIF-VELOX with the assembly of the system, you don't set up the system or individual components yourself.

Our service department plans the installation and commissioning of the system in close coordination with the plant owner. You can reach our service department under the following contact details in case of any questions.

NOTE

If there are any problems, please contact:

GREIF-VELOX GmbH
Service Department
Kronsforder Landstrasse 177
23560 Lübeck
Tel.: +49 451 / 5303-213
Fax: +49 451 / 5303-233
GREIF-VELOX service staff can be made quickly available to you at any time.

5.7 Establishing the energy supply

DANGER

Electric shock

Electrical installation work must only be performed by qualified personnel.

The electrical installation work that will be carried out by GREIF-VELOX in the scope of delivery is specified in the contract.

Generally, the systems are wired at our factory with the exception of a control cabinet or terminal box.

The remaining electrical installation work must be carried out on site by a specialist company. Who is responsible for commissioning the external company or department is regulated in the contract.

Do not lay electrical cables over sharp edges.

NOTE

We strongly advise that the machines are set up and put into operation by our knowledgeable staff.

Otherwise GREIF-VELOX will not be able to accept any warranty claims.

6 Operation of the system

In this chapter, you will find all the information on the system's operator panel.

6.1 Operation instructions

6.1.1 Abbreviations

The following abbreviations are used in these instructions:

S:	Scales
VM:	VALVOMAT® (positioning system)
TP:	Touch panel (operating device)
BTP:	Bag transport
OP:	Operator panel

6.1.2 Start-up screen

Upon turning on the panel, the start-up screen appears.

6.1.3 Navigation bar

The navigation bar is displayed at the bottom of all TP pages. With this navigation bar (touch screen), the pages shown below can be viewed (see chapter "Page navigation overview").

Button  : Jump to start-up screen

Button  : Jump one page left

Button  : Jump one page down

Button  : Jump one page up

Button  : Jump one page right

Button  : Jump one level up

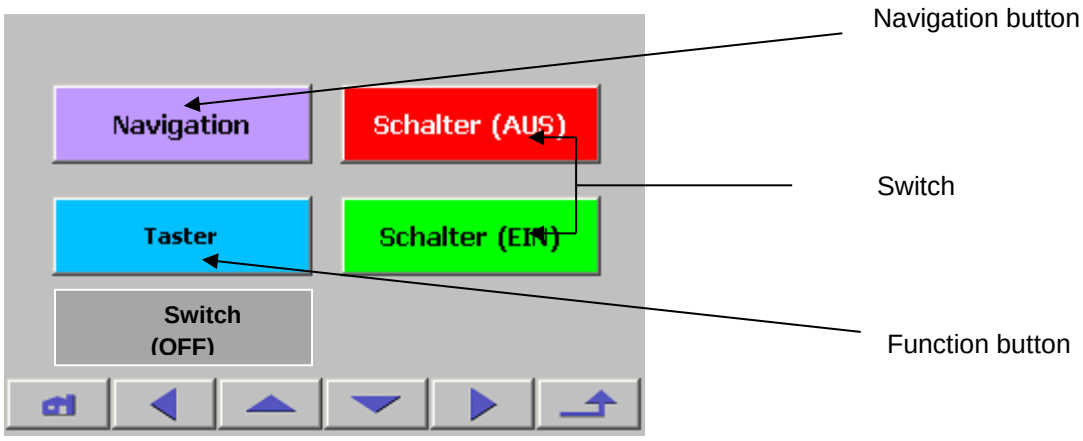
6.1.4 Button colours

There are three types of TP page buttons:

1. Navigation button → Function "jump to the page" is carried out when the button is released
   (Purple colour: button function)

2. Function button → Function lasts for as long as the button is pushed
   (Blue colour: button function)

3. Switch → Function is switched on/off
   (Grey colour: function OFF; green colour: function ON)



6.1.5 Header

In the upper part of all TP pages, the header containing the name of that particular page can be seen. If there are several pages present under one operation (here e.g. "Scales operation"), this is indicated by two digits (here e.g. "2/2") at the end of the page name. The first digit is the number of the page currently displayed; the second digit is the total number of pages in this selection.

Furthermore, a time/date field and the following control buttons are also present on every page.

6.1.6 Input fields

Changing values in input fields:

Input field for numerical value: 500

- Touch the input field with your finger (touchscreen). A number pad appears.
- Enter a new value using the number pad → Press "Enter"

Input field pull-down menu: AUS

- Touch the pull-down menu with your finger (touchscreen). Menu expands.

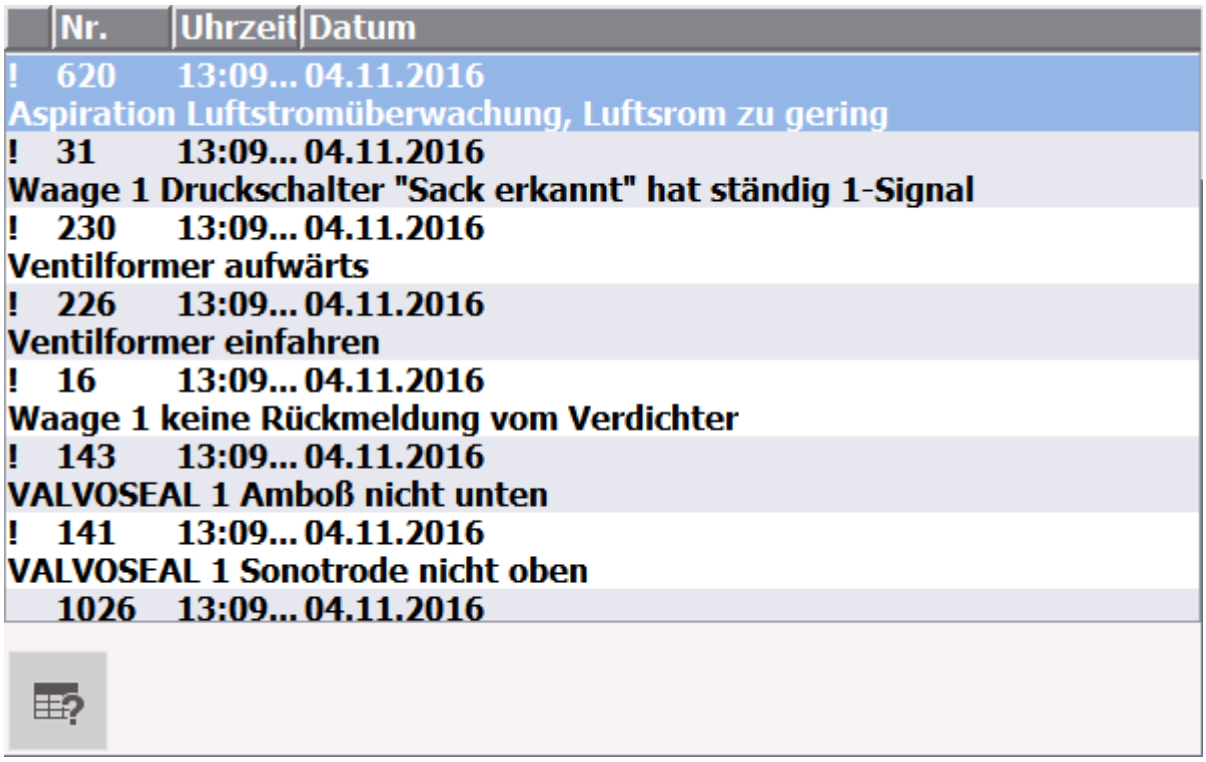
- Select the correct value using your finger.

6.1.7 Faults/operational notifications

Faults and operational notifications can be told apart by the preceding exclamation mark. No exclamation mark is displayed for operational notifications.

Operational notifications do not have to be/cannot be acknowledged. The notifications disappear when the state described in the notification has been remedied.

In the event of a fault, the fault notification window is displayed automatically and an audible alarm sounds. This displays an exclamation mark, the notification number, time, date and fault notification text. The most recent notification is always at the top.



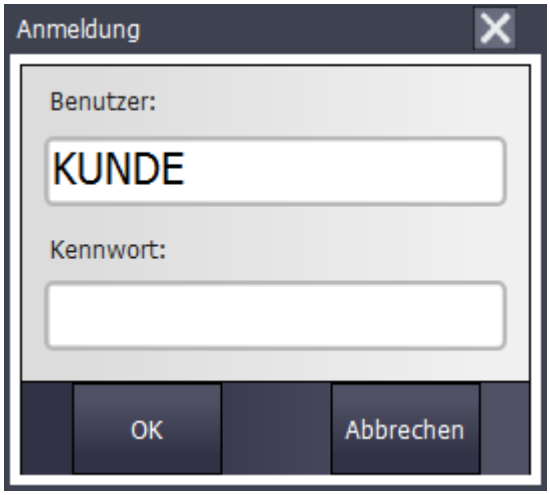
Press the "Help text" button  to open a "help text" window. In this window, you can find the reference identifier of the component which generated the fault notification.

6.1.8 Users with a password

In the "Operation" pages, parameters and actions are password protected.

Grant access to parameters/actions:

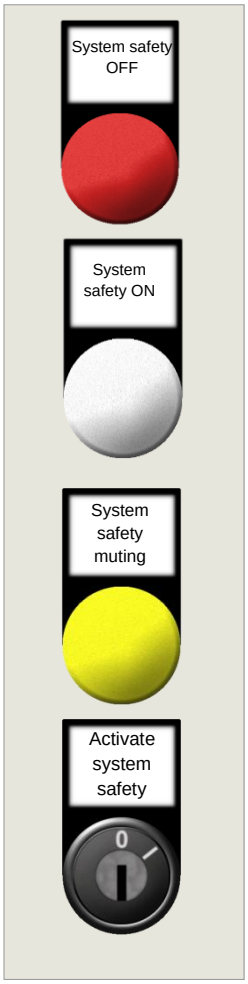
Select the desired parameter/action → Log in screen appears.



- Select the user and password fields and enter user ("KUNDE") and password ("1234") using the TP keypad. Confirm input by pressing "Enter".
- End input by pressing "OK".

Access will be automatically blocked again after 5 min.

6.1.9 Safety light curtain operation



"System safety OFF" indicator light (flashing red light when the corner transfer safety area is not active; continuous red light when the corner transfer, robot, bagging, bag transport and pallet transport safety area is not active)

"System safety ON" indicator light (lights up white when the corner transfer, robot, bagging, bag transport and pallet transport safety area is active)

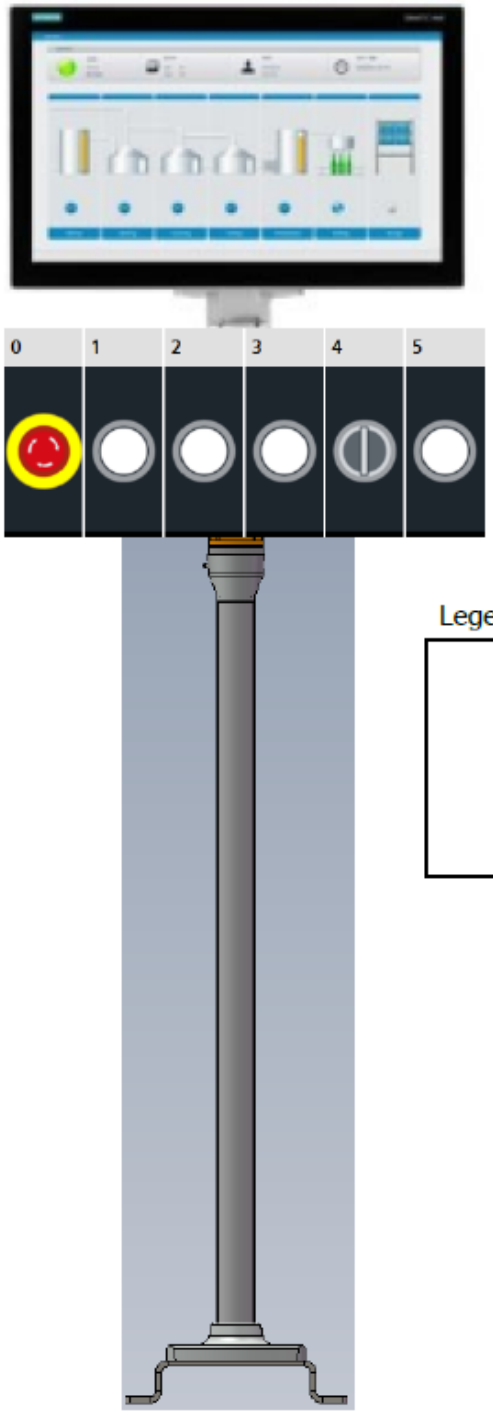
"System safety muting" indicator light (lights up yellow when muting for the robot, bagging, bag transport and pallet transport safety area is active)

"Activate system safety" key switch (corner transfer, robot, bagging, bag transport and pallet transport safety area is not active)

6.2 Operating the BVP control panel

The following chapters describe the BVP control panel.

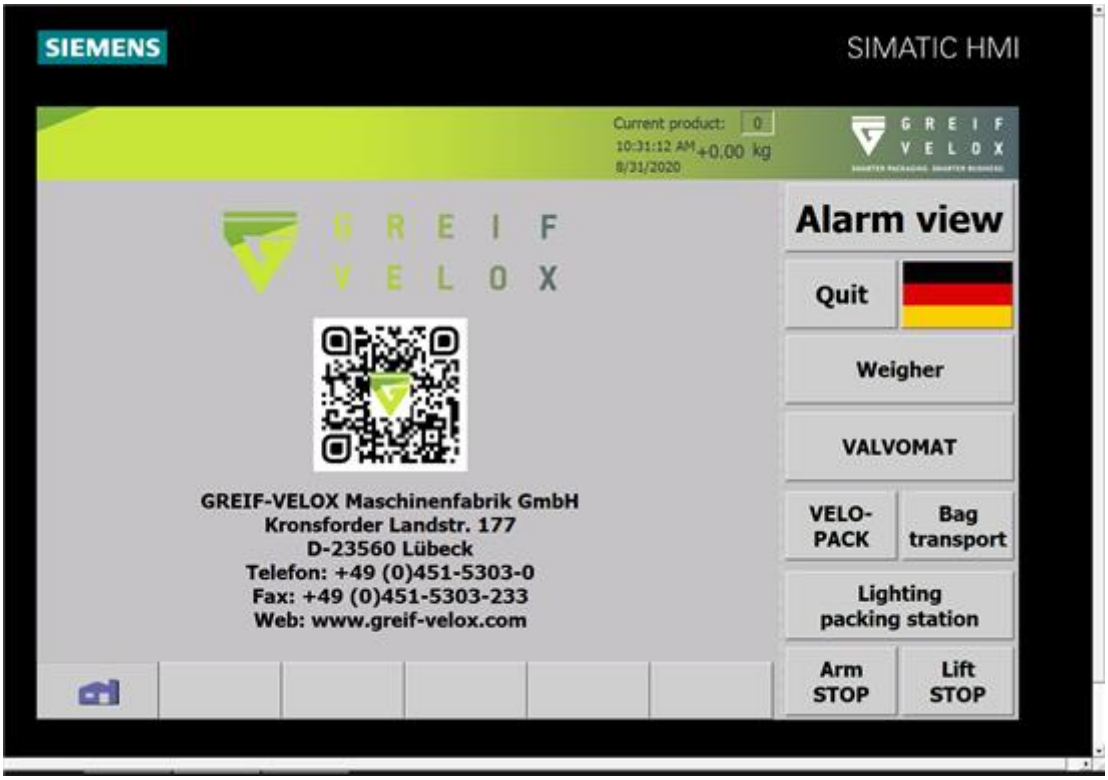
6.2.1 Control station BVP



Legend

0	+0-S236	EMERGENCY STOP
1	+0-SP191	CONTROL VOLTAGE ON
2	+0-S192	CONTROL VOLTAGE OFF
3	+0-SP701	PLANT START / STOP
4	+0-S223	ENABLE DOOR
5	+0-SP232	UNLOCK DOOR

6.2.2 Description of control buttons



Control button	Function
Alarm view	Indicated all current fault notifications
Quit	Deletes pending faults
	Switch language to German
Weigher	Turn scale on/off
Bag transport	Turn bag transport on/off
VALVOMAT®	Turn VALVOMAT® on/off
VELOPACK®	Turn VELOPACK® on/off
Arm STOP	Blocks positioning arm
Lift STOP	No new bags are accepted

All other buttons light up green when the function is turned on.

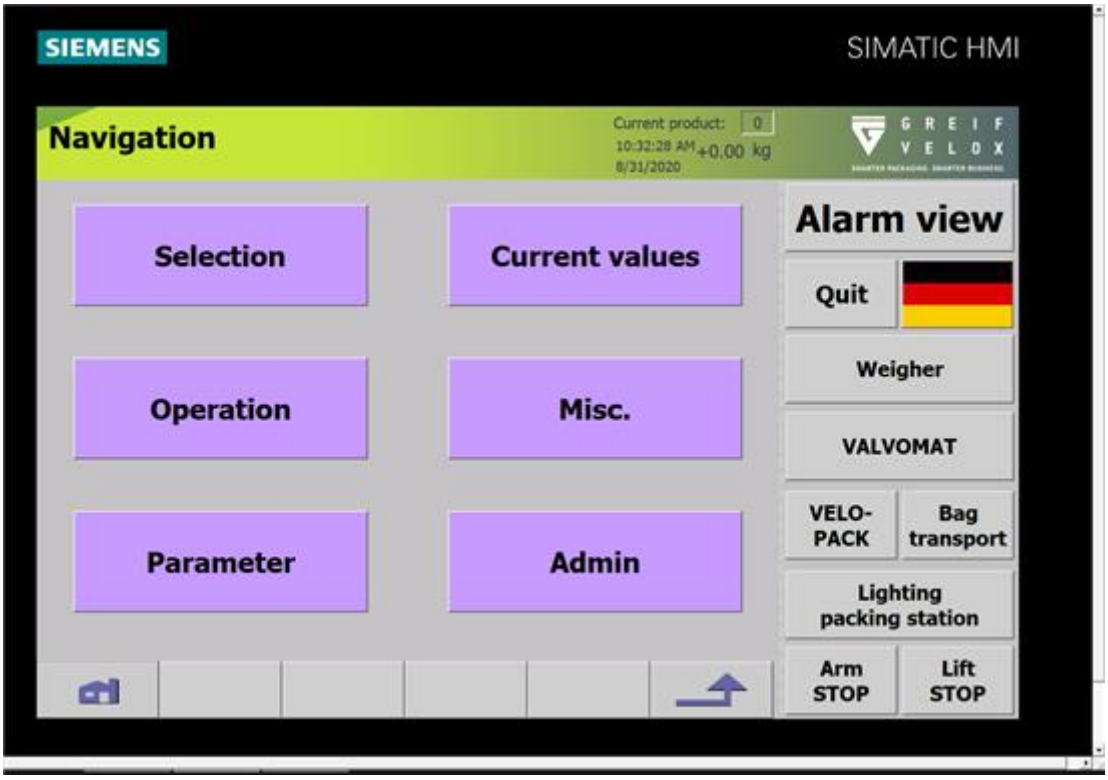
6.2.3 Navigation

To get to the "Navigation" menu, press  in the start-up screen.

In this menu, you can choose from between five navigation buttons:

- Selection
- Operation (manual)
- Parameter
- Current values
- Misc.
- Admin

> The sixth navigation button **"Admin"** is intended for maintenance purposes only and is protected by a special password.

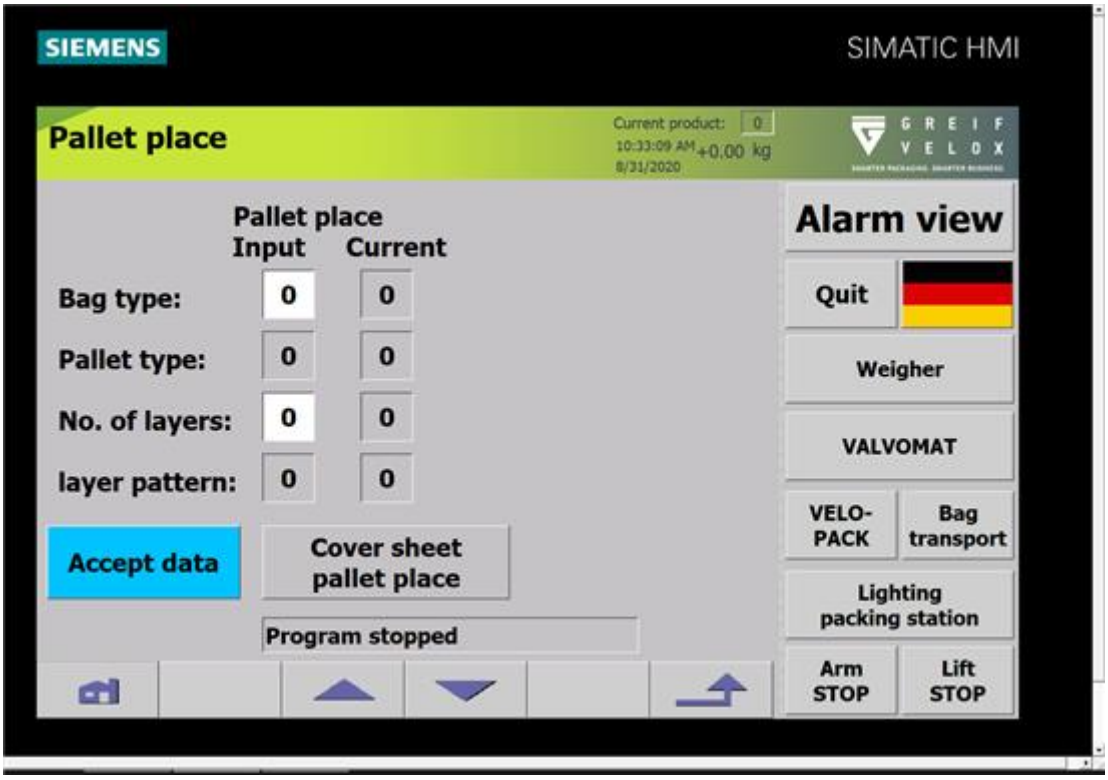


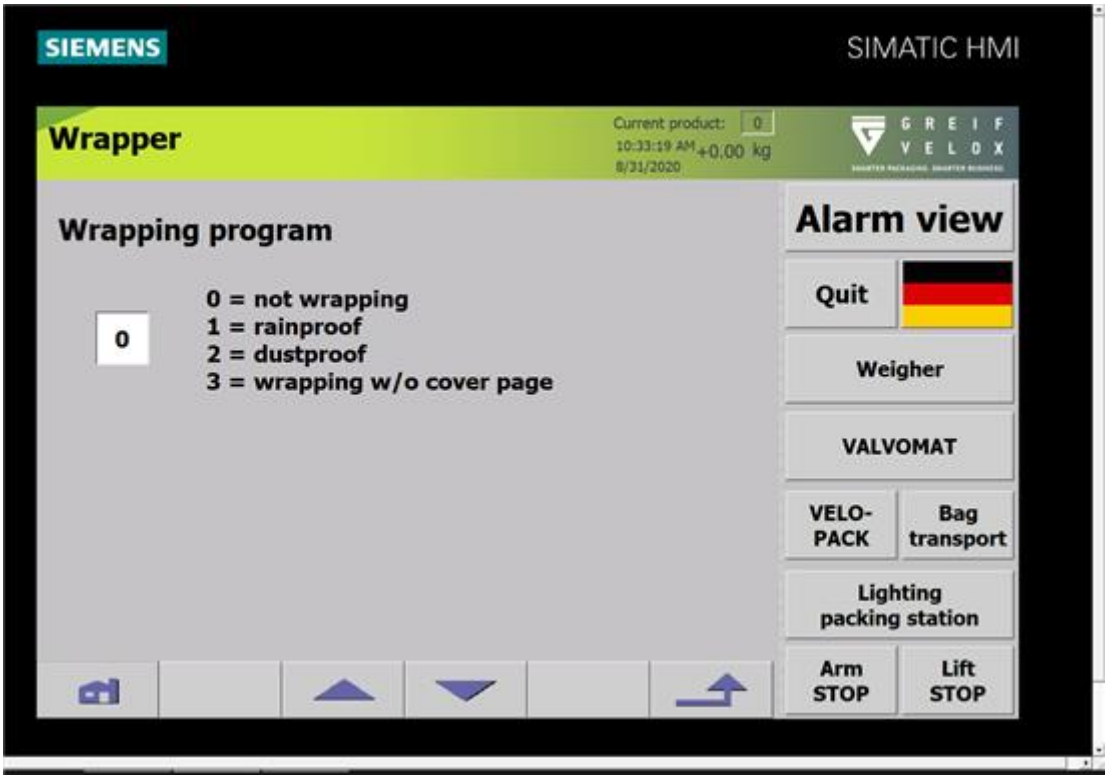
6.2.3.1 Selection

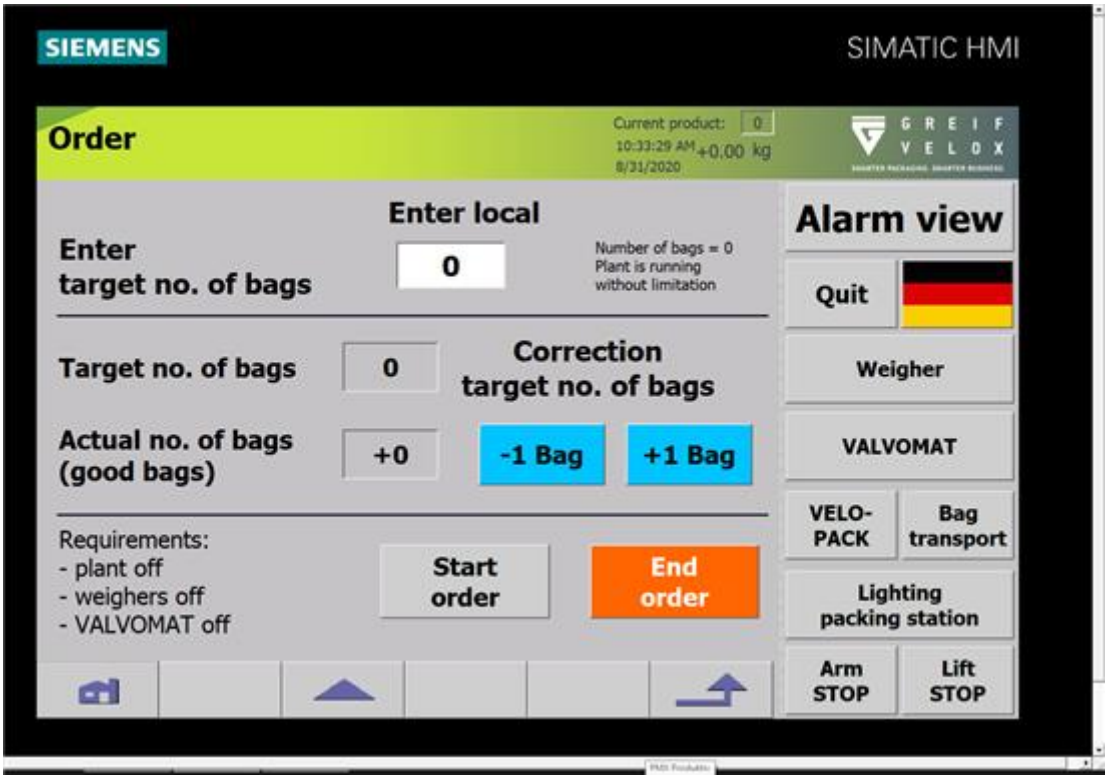
Pressing the navigation button "Selection" will open the "Type selection" window.

The operating menu consists of four windows. Press  to switch between the screens.

The product type is selected in this window. By pressing "Import data", the type is selected, and the associated parameters loaded.

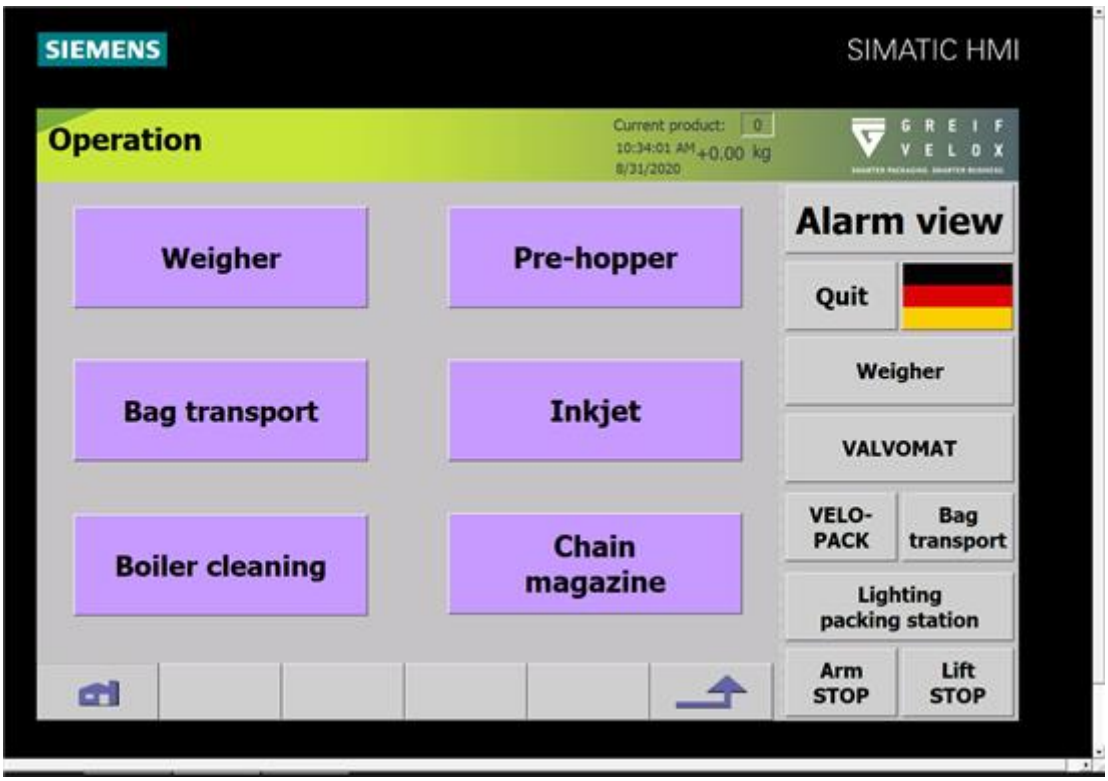

SIEMENS
SIMATIC HMI
Pallet place
Current product: 0
10:33:09 AM +0.00 kg
8/31/2020
GREIF VELOX
Pallet place
Input Current
Bag type: 0 0
Pallet type: 0 0
No. of layers: 0 0
layer pattern: 0 0
Accept data
Cover sheet pallet place
Program stopped
Alarm view
Quit
Weigher
VALVOMAT
VELO-PACK
Bag transport
Lighting packing station
Arm STOP
Lift STOP


SIEMENS
SIMATIC HMI
Wrapper
Current product: 0
10:33:19 AM +0.00 kg
8/31/2020
GREIF VELOX
Wrapping program
0
0 = not wrapping
1 = rainproof
2 = dustproof
3 = wrapping w/o cover page
Alarm view
Quit
Weigher
VALVOMAT
VELO-PACK
Bag transport
Lighting packing station
Arm STOP
Lift STOP


SIEMENS
SIMATIC HMI
Order
Current product: 0
10:33:29 AM +0.00 kg
8/31/2020
GREIF VELOX
Enter local
Enter target no. of bags
0
Number of bags = 0
Plant is running without limitation
Target no. of bags
0
Correction target no. of bags
Actual no. of bags (good bags)
+0
-1 Bag
+1 Bag
Requirements:
- plant off
- weighers off
- VALVOMAT off
Start order
End order
Alarm view
Quit
Weigher
VALVOMAT
VELO-PACK
Bag transport
Lighting packing station
Arm STOP
Lift STOP

6.2.3.2 Operation (manual)

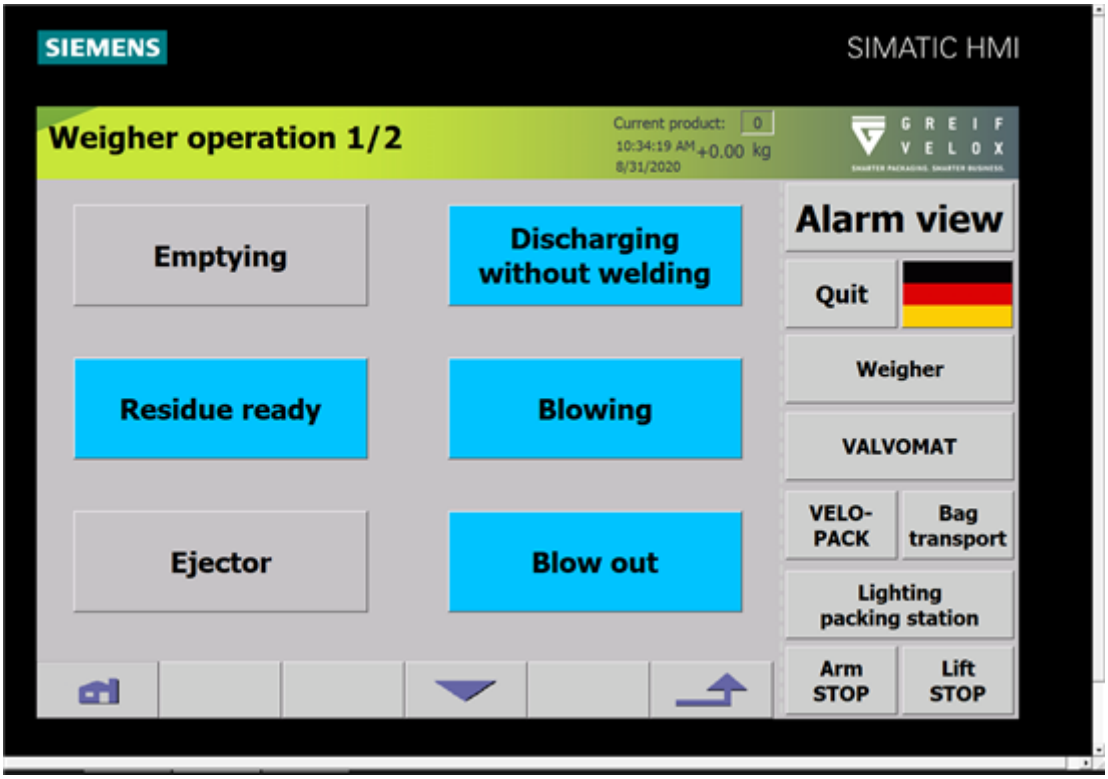
Pressing the navigation button "Operation" from the navigation screen opens the overview of operating options for the **manual operation** of the system.



6.2.3.2.1 Weigher

Pressing the "Weigher" button opens the "Weigher operation 1/2" window.

Press  to change between the screens.



Buttons:

Run to empty: When this button is pressed, the product feed flap remains closed and the fill level gauge is bypassed. The scales container can be emptied for the purposes of cleaning or changing the product.

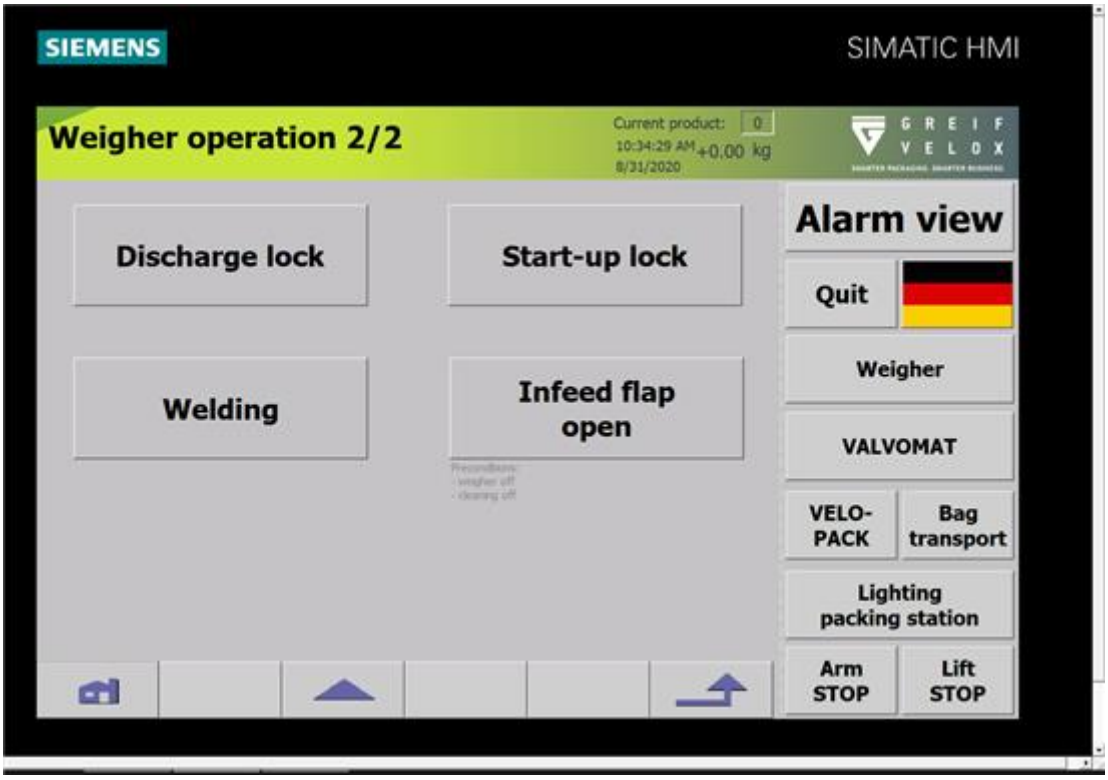
Ejector: This button turns the ejector on/off.

Early abort: If a bag can no longer reach its fill weight (e.g. the scale container is empty), the current filling operation can be aborted by pressing this function button.

Discharge: In order to remove residual product from the filling spout, this function button can be pressed to blow the spout clean.

Blow impulse: If the product does not start to flow when dosing commences, this function button can be pressed to perform an additional blowing action.

Release without sealing: If the operator finds that repeating the sealing process does not lead to success, the bag can be released by pressing this function button.



Buttons:

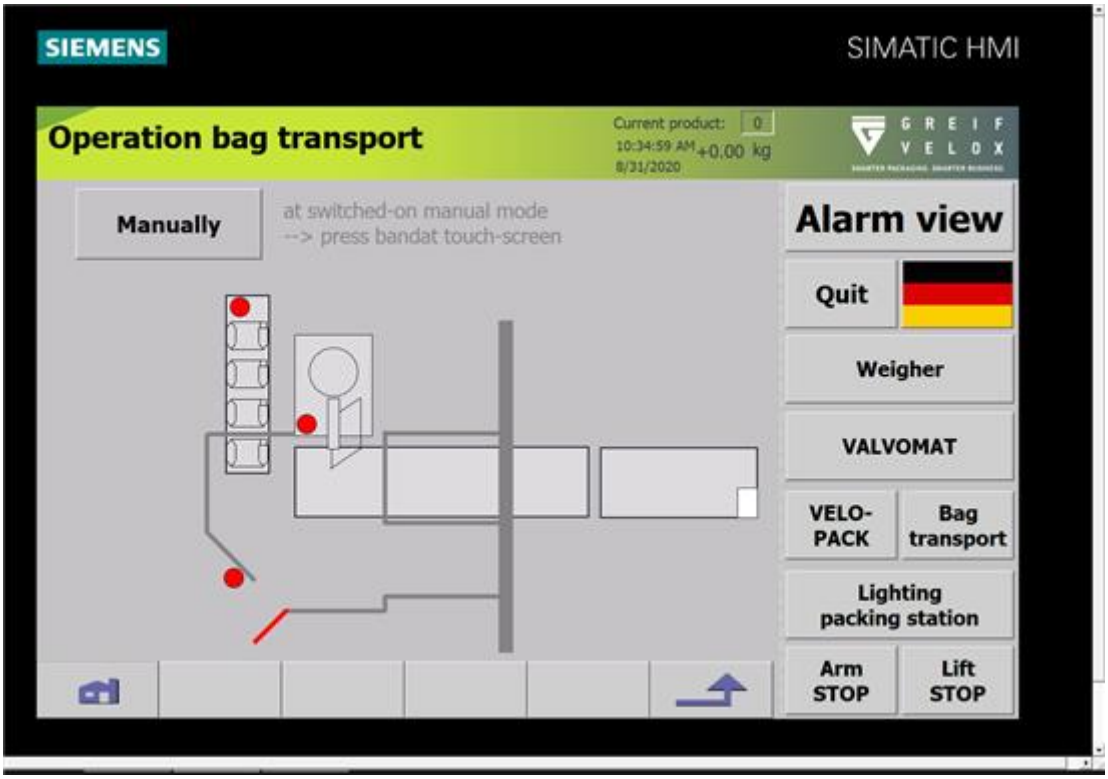
Lock bag release: Pressing this button prevents the full bag from being released.

Lock start-up: Pressing this button prevents the filling process from starting.

Sealing: Pressing this button activates or deactivates sealing for the scales.

6.2.3.2.2 Bag transport

Pressing the "Bag transport" button opens the "Operation bag transport" window.



Buttons:

Manual: Manual operation turned on. If the function is activated, the colour of this switch changes to green. The functions can now be operated by hand.

Function button:

The conveyors run for as long as they are pressed on the screen.

If you press the space between two conveyors, both run simultaneously.

Legend:

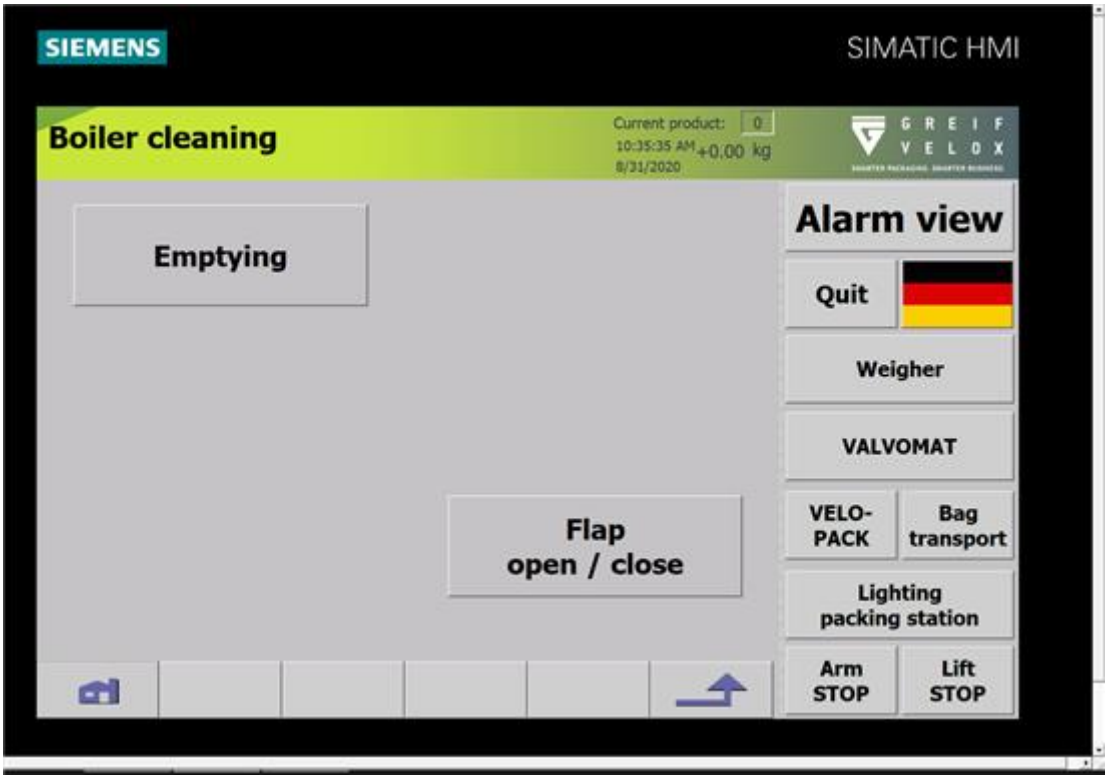
The status of the bag is shown for the respective conveyor. The legend is shown on the screen.

The following legend is used for the roller conveyors:

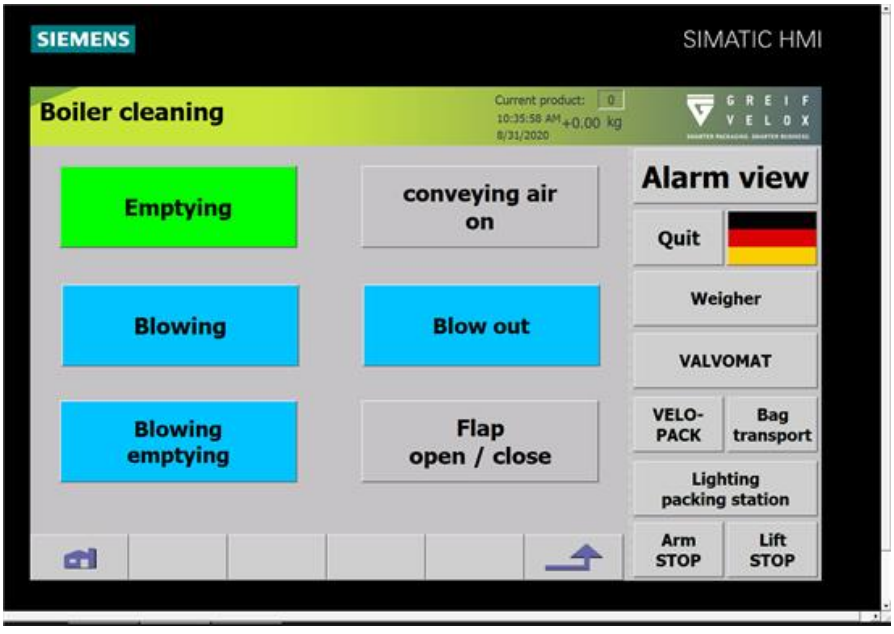
Motor ON	
Fault	
Runtime fault	
Light barrier occupied	

6.2.3.2.3 Boiler cleaning

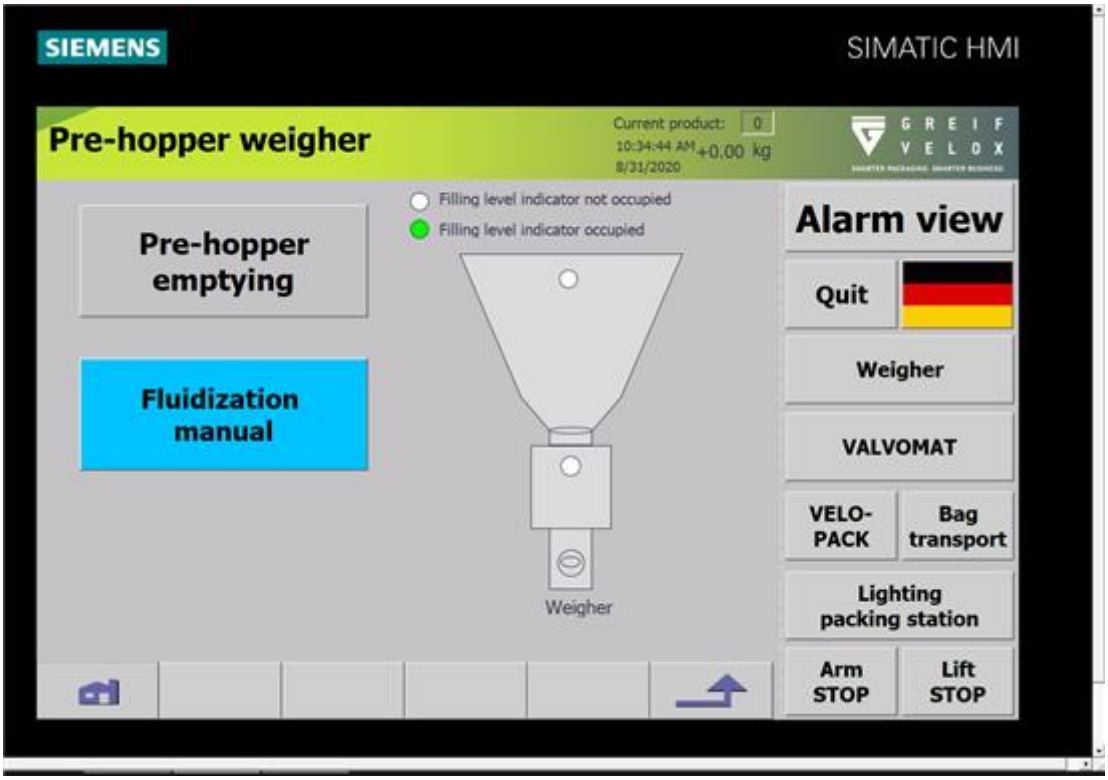
Durch Berühren der Taste „Kesselreinigung" wird das Fenster „Kesselreinigung Bedienung“ aufgerufen.



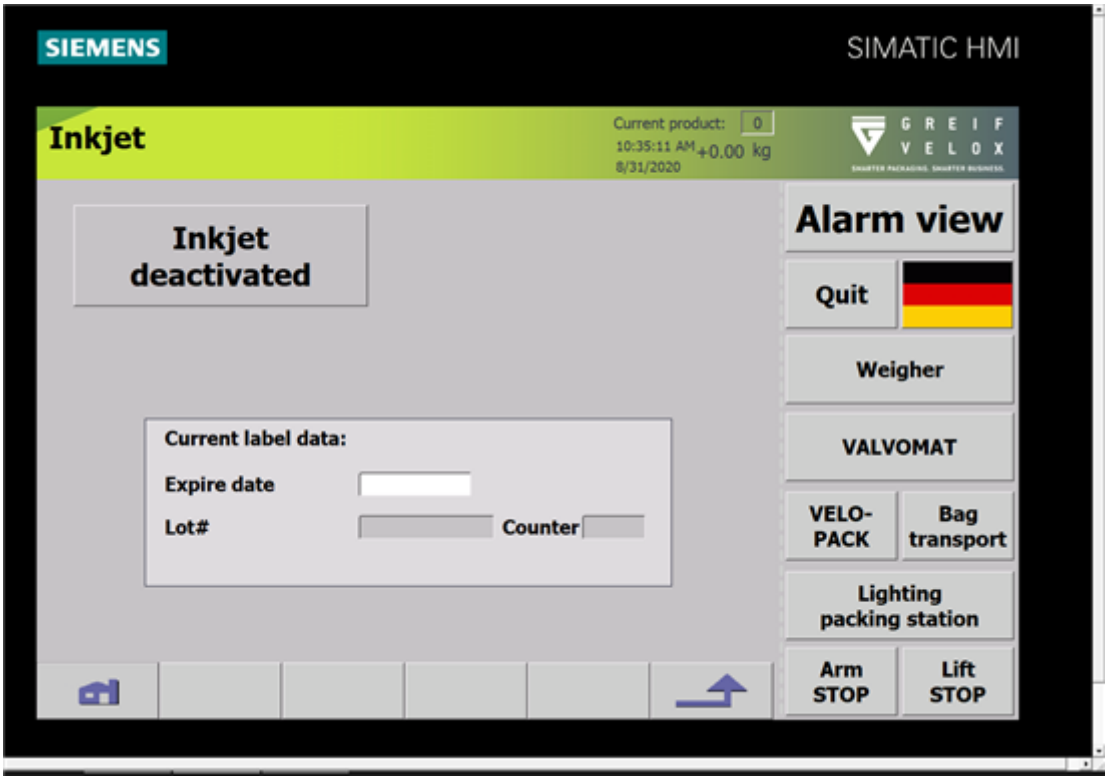
Mit aktivierter Kesselreinigung werden zusätzliche Bedienmöglichkeiten sichtbar.



6.2.3.2.4 Pre-hopper



6.2.3.2.5 Inkjet

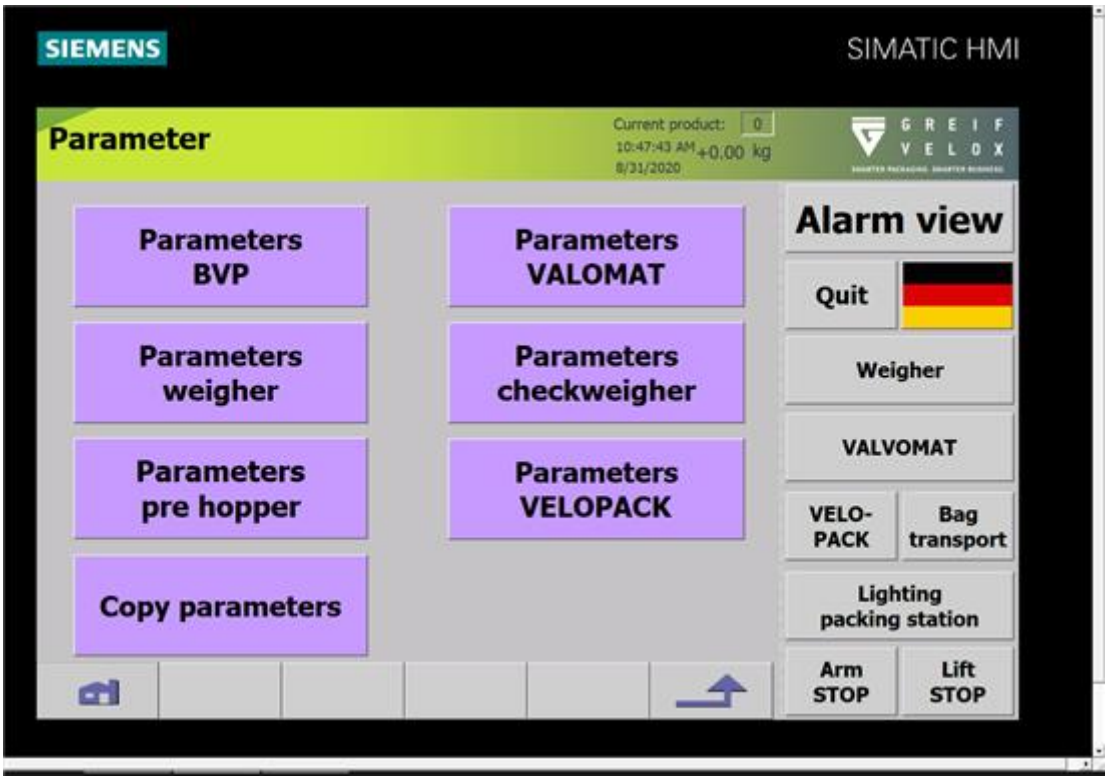


6.2.3.2.6 Chain Magazine

6.2.3.3 Parameters

Pressing the "Parameters" navigation button opens the overview for the input of parameters for the following areas:

- Parameters BVP
- Parameters weigher
- Parameters pre hopper
- Copy parameters
- Parameters VALVOMAT
- Parameters checkweigher
- Parameters VELOPACK



All parameters for the parameterisation of the system are compiled in these windows. The parameters of the individual parts of the system can be accessed via navigation buttons.

The values displayed on the parameter pages are password-protected. In order to edit the fields, the fields must be enabled (see Chapter "6.1.8").
Entering the correct login credentials enables fields to be edited and changes the brightness.

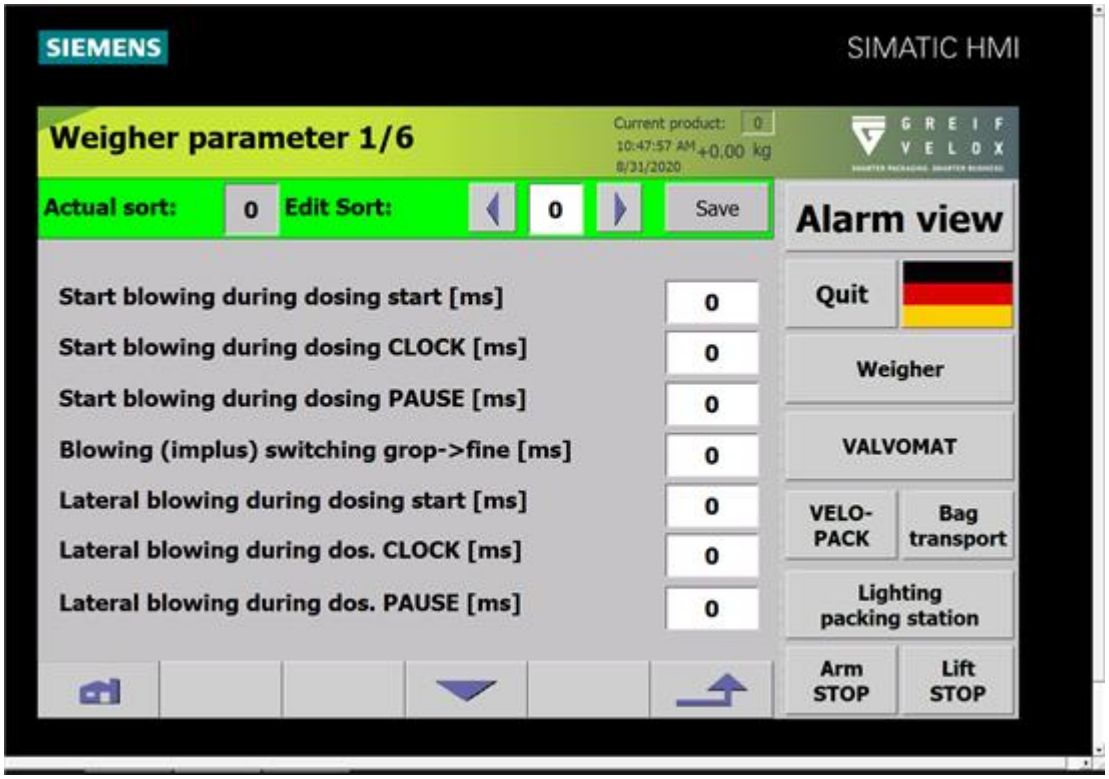
If no further input has been made after 5 minutes, the input fields are automatically locked again.

Parameter changes may only be made by qualified personnel.

6.2.3.3.1 BVP parameters

Pressing the "BVP parameters" button opens the "Weigher parameters 1/6" window.

The operating menu comprises six windows. Press  to change between windows.



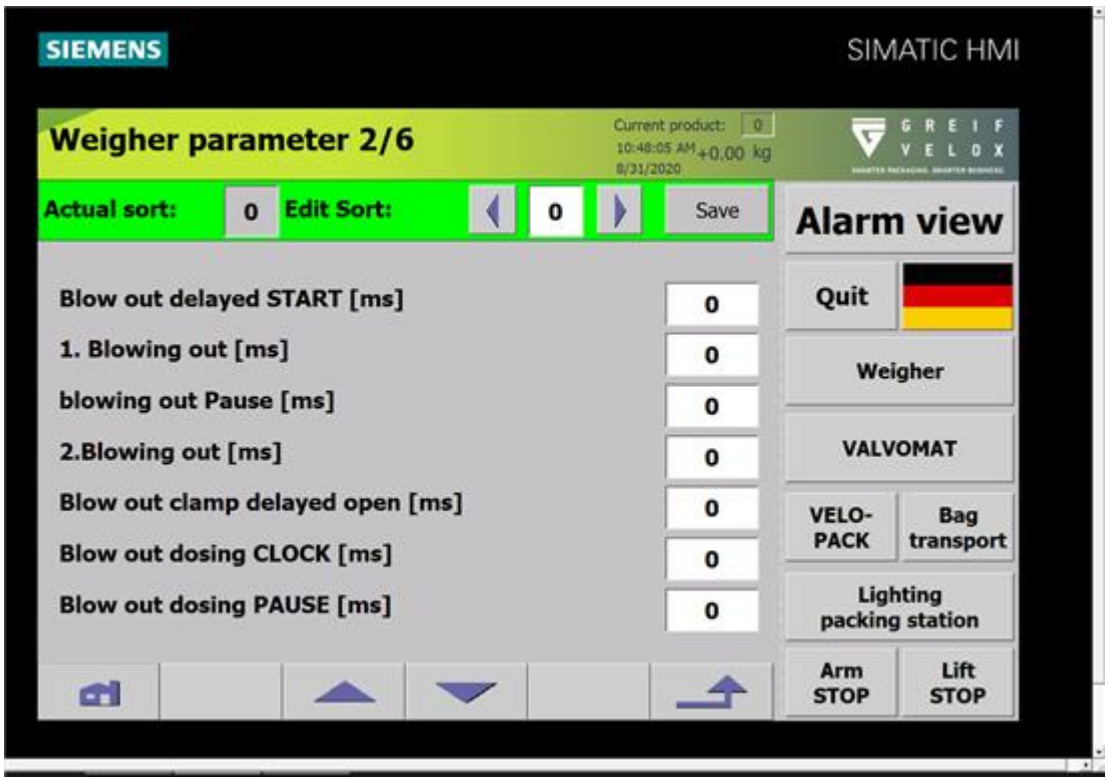
In the upper half of all parameter windows, there is the option to edit all necessary product types. To do so, select the product type to be edited. This can be done either by way of direct input in the input field, or by pressing the "left" or "right" buttons next to the input field. Making a direct input or pressing the buttons loads the current parameters of the corresponding product type. The product type currently loaded is displayed in the output field at the top.

After parameter changes, the new parameters have to be transferred to the controller by pressing the "Save" button.

Parameter changes to the current product type apply starting from the next bag.

Input fields:

Blow impulse at dosing start:	Duration of blow impulse to speed up product flow at dosing start
Blow impulse during dosing TIMED:	Timed blow impulses can be set to speed up product flow during coarse dosing
Blow impulse during dosing PAUSE:	Pause duration between the blow impulses during coarse dosing
Blow (impulse) switchover coarse -> fine:	Blow impulse when changing from coarse to fine flow
Side blow impulse at dosing start:	Duration of blow impulse to speed up product flow at dosing start



Input fields:

Discharge START delayed: Time from dosing end to discharge start

1. Discharge: Duration of the first discharge impulse

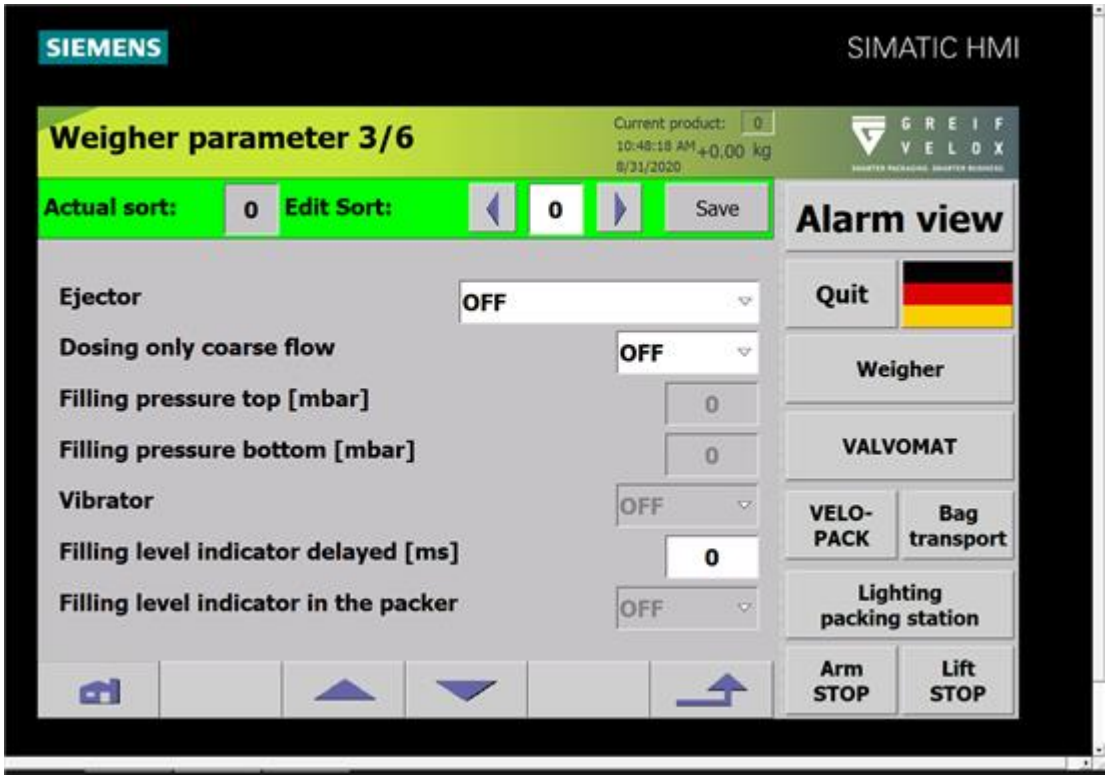
Discharge PAUSE: Pause between the first and second discharge impulse

2. Discharge: Duration of the second discharge impulse

Clamp delayed by: Settling time between second discharge and bag clamp opening

Discharge during dosing TIMED: Timed discharge impulses can be set to speed up product flow during coarse dosing

Discharge during dosing PAUSE: Pause duration between the discharge impulses during coarse dosing



Input fields:

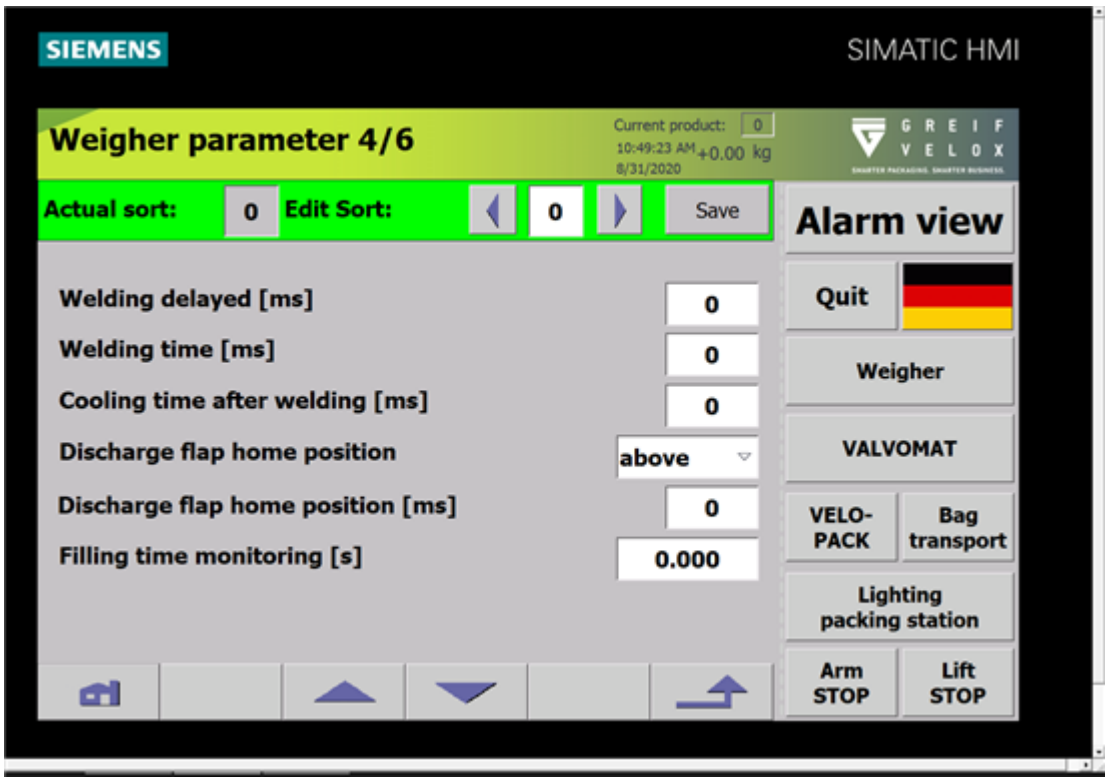
Ejector: Sets the operation mode of the ejector

Dosing only coarse flow: Sets the operation mode of the dosing.

Coarse flow (speed): Specification of turbine speed during coarse dosing.

Fine flow (speed): Specification of turbine speed during fine dosing.

Fill level gauge delayed: Increasing the time here can increase the product fill level in the vessel



Input fields:

Sealing delayed: Once the anvil and sonotrode have detected the bag valve, the sealing process is started following a delay.

Sealing time: Duration of the welding impulse

Cool-off time after sealing: Open sealing system with delay

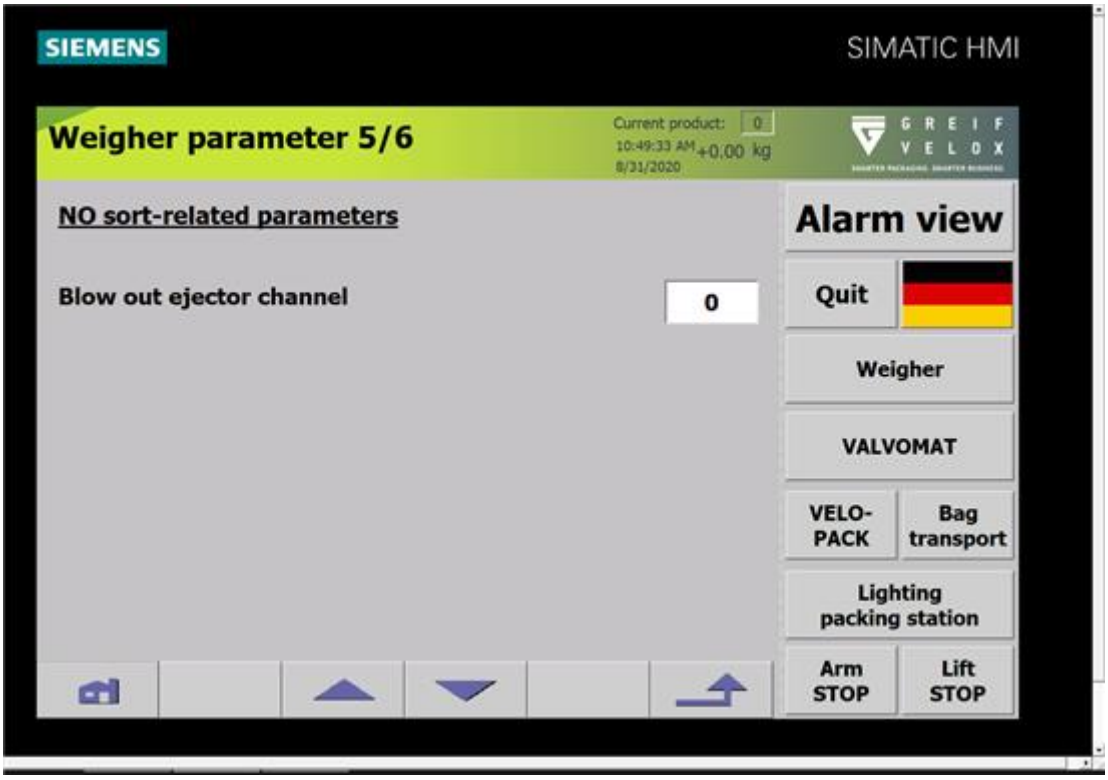
Sealing to bag valve:

Release flap start position: This setting determines whether the release flap is up or down during dosing.

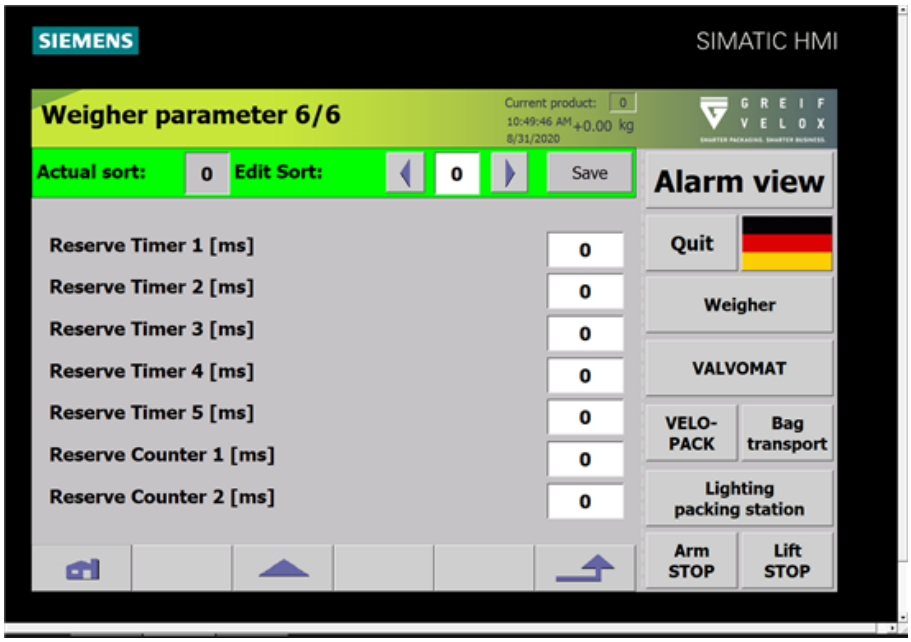
Release flap down/up empty message: Indicates how long the empty message remains.

Fill-time monitoring: This setting determines the maximum time allowed for one dosing. If this time is exceeded, the dosing is interrupted with the fault notification "Scale 1 fill speed = no weight increase".

Release unsealed bags: Can be turned on or off to determine whether unsealed bags should be released or not.



Blow out ejector channel: Duration of the discharge impulse for the ejector channel at dosing start.

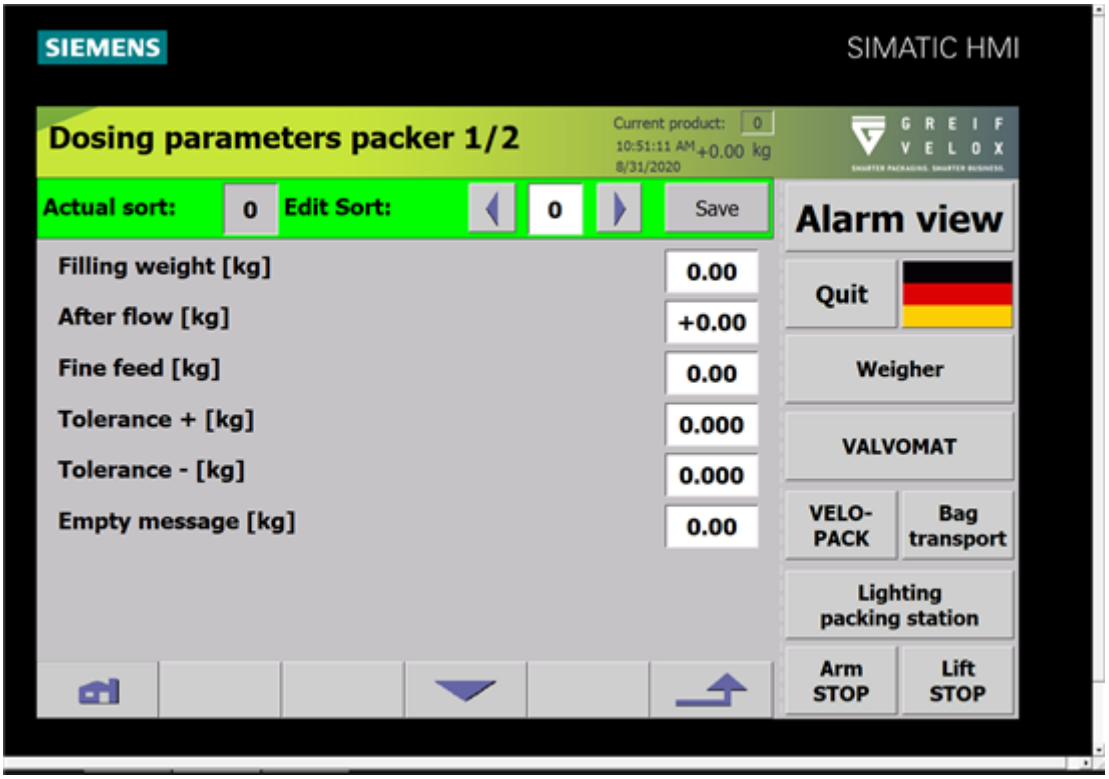


These parameters serve as a back-up for GREIF-VELOX service staff when commissioning the system.

6.2.3.3.2 Parameters weigher

Pressing the "Weighing parameters" button opens the "Dosing parameters packer 1/2" window.

The operating menu comprises two windows. Press  to change between windows.



Input fields:

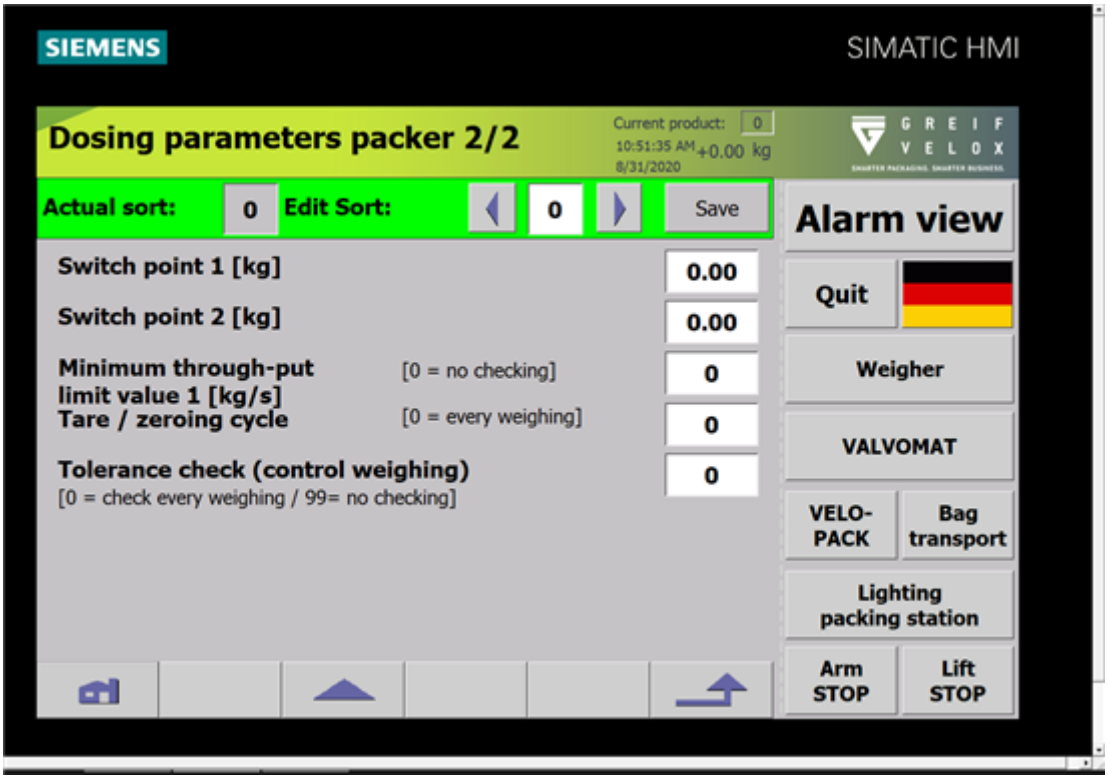
Filling weight: Net weight

After flow: Unweighed product after dosing stops.

Fine feed: Change from coarse to fine flow (fill weight – fine flow – afterflow) = switching point.

Tolerance +/-: Weights and measures regulations must be observed.

Empty message: Weight from which the bag is no longer considered "empty" for the programme cycle.



Input fields:

Switching point 1 [kg]: Switching point for changing from coarse to medium flow

Switching point 2 [kg]: Freely available switching point, not currently used

Minimum flow 1 [kg/s]: Minimum flow that must be reached.

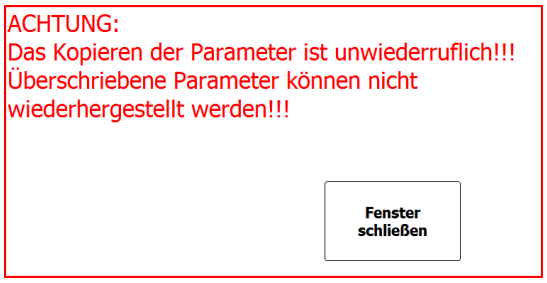
Tare/zeroing cycle: How often the tare is zeroed.

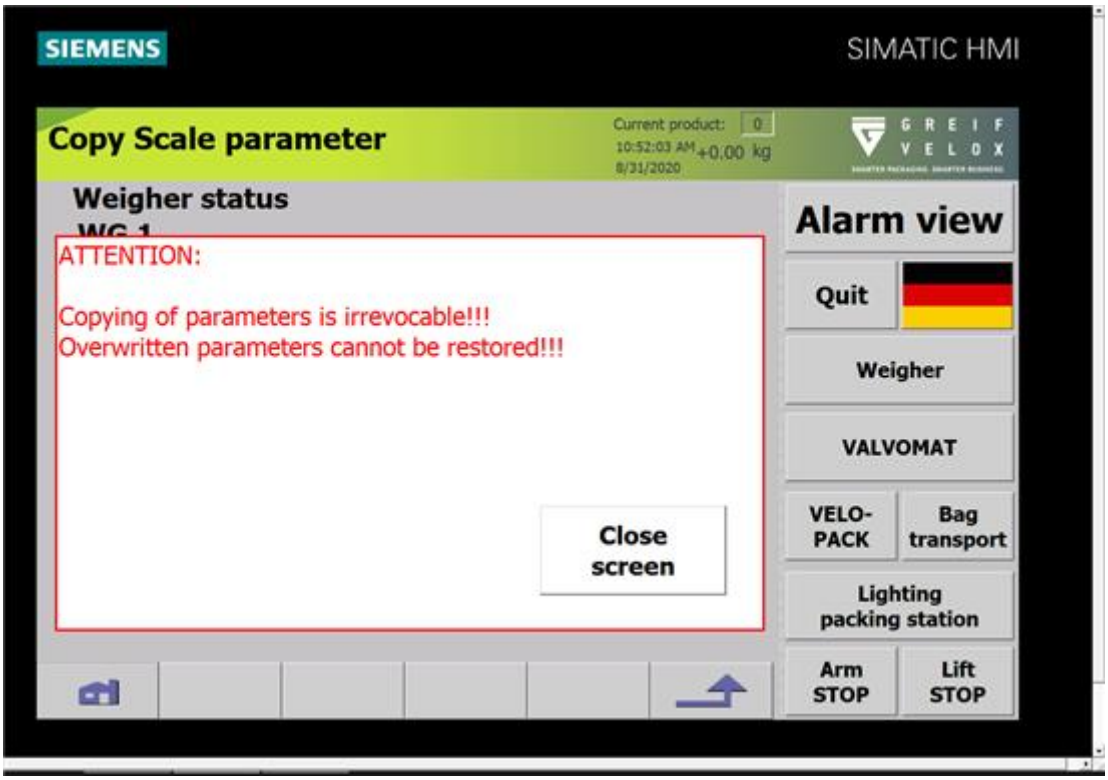
Tolerance check: How often a checkweigh is performed.

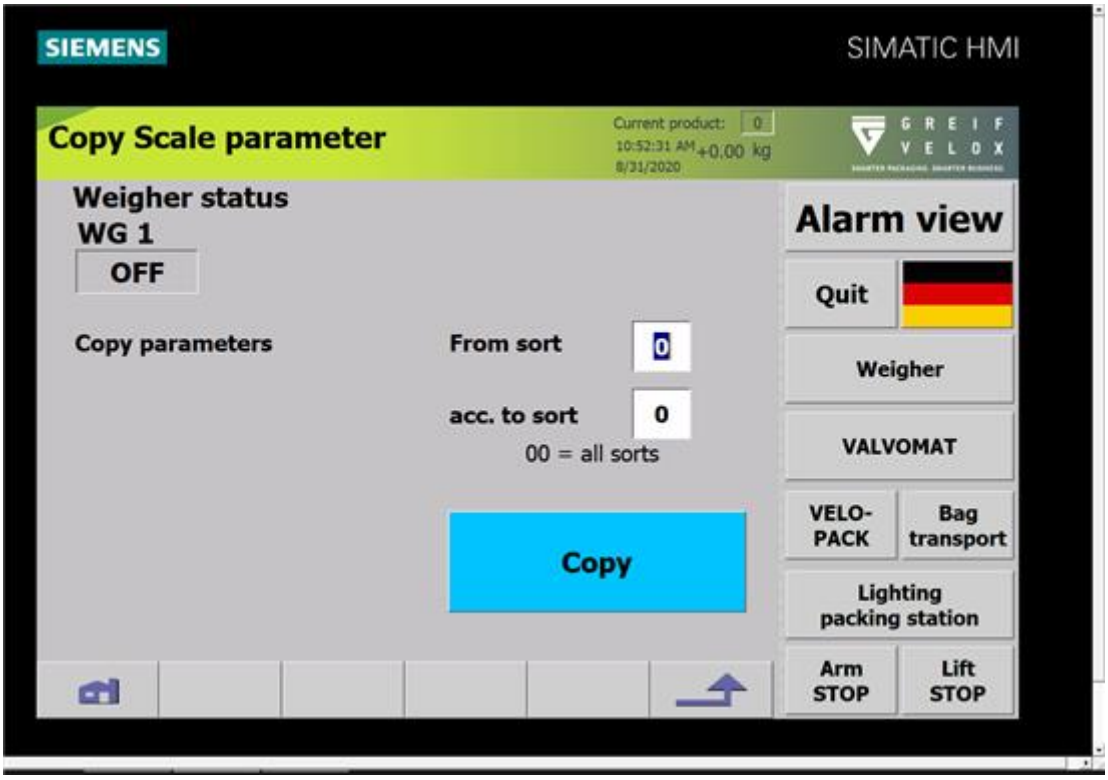
6.2.3.3.3 Copy parameters

Pressing the "Copy parameters" button opens the "Copy scale parameters" window.

Before the window opens, the following notification appears:







In order to save time entering product-related parameters, the parameters can be copied to new products.

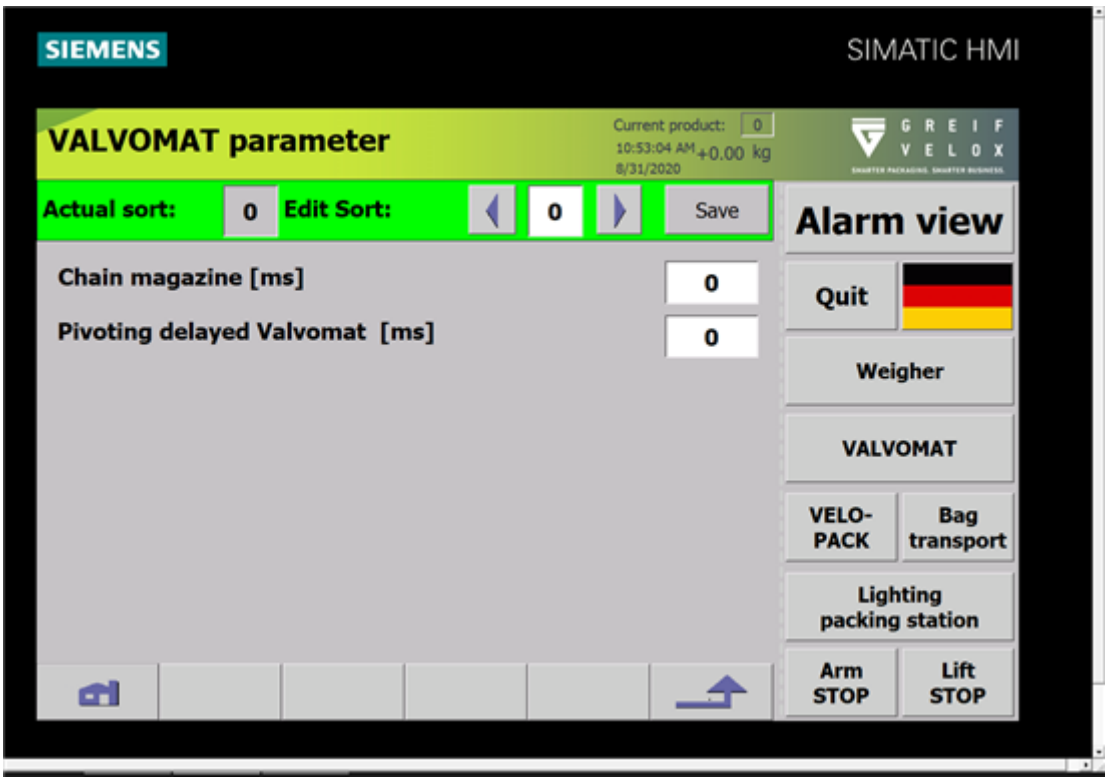
First select the source (the product whose parameters you wish to copy). Then select the target product (the product to which you wish to apply the copied parameters).

There is also the possibility of copying a set of parameters into all products. In this case, select "All products" in the last input field. When all entries have been made, initiate the copying process by pressing the "Copy" function button. The copying process is finished once the text "Parameters copied..." appears briefly on the screen.

> Copying parameters is only possible when the scales are **turned off**.

6.2.3.3.4 Parameters VALVOMAT

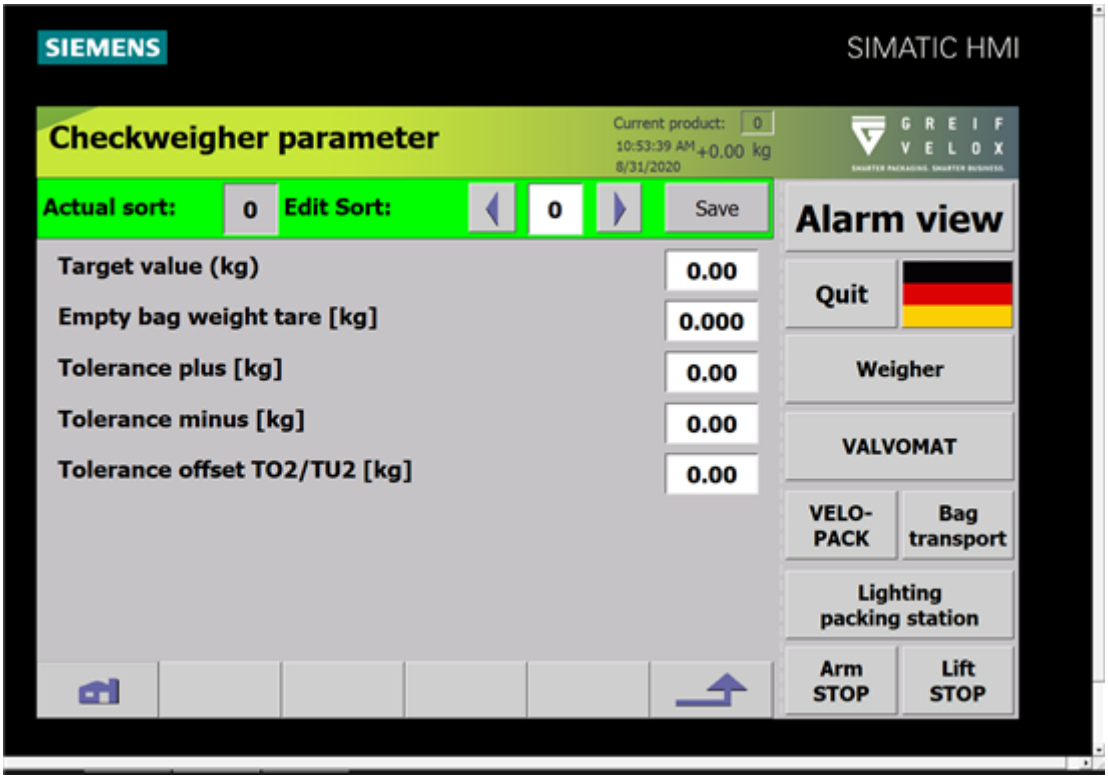
Pressing the "Parameter VALVOMAT " button opens the "VALVOMAT parameter" window.



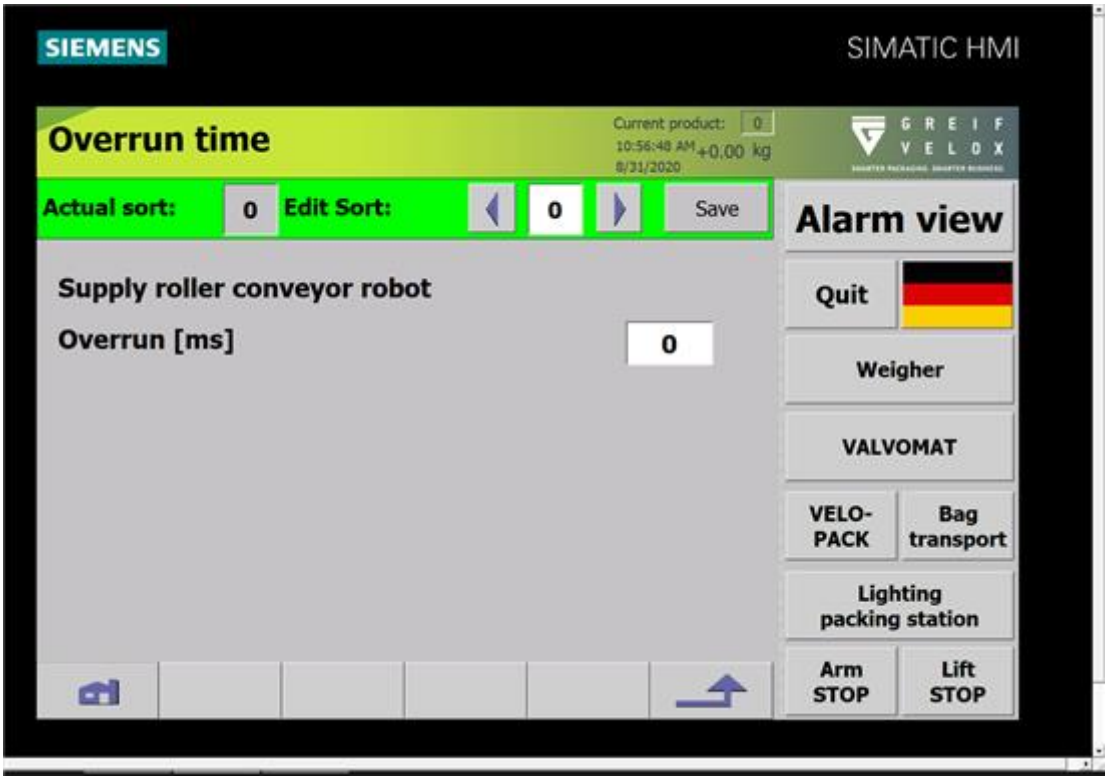
Input fields:

Valvomat swivel delayed: Positioning arm delay. With long bags, there is the possibility of calibration.

6.2.3.3.5 Parameters checkweigher

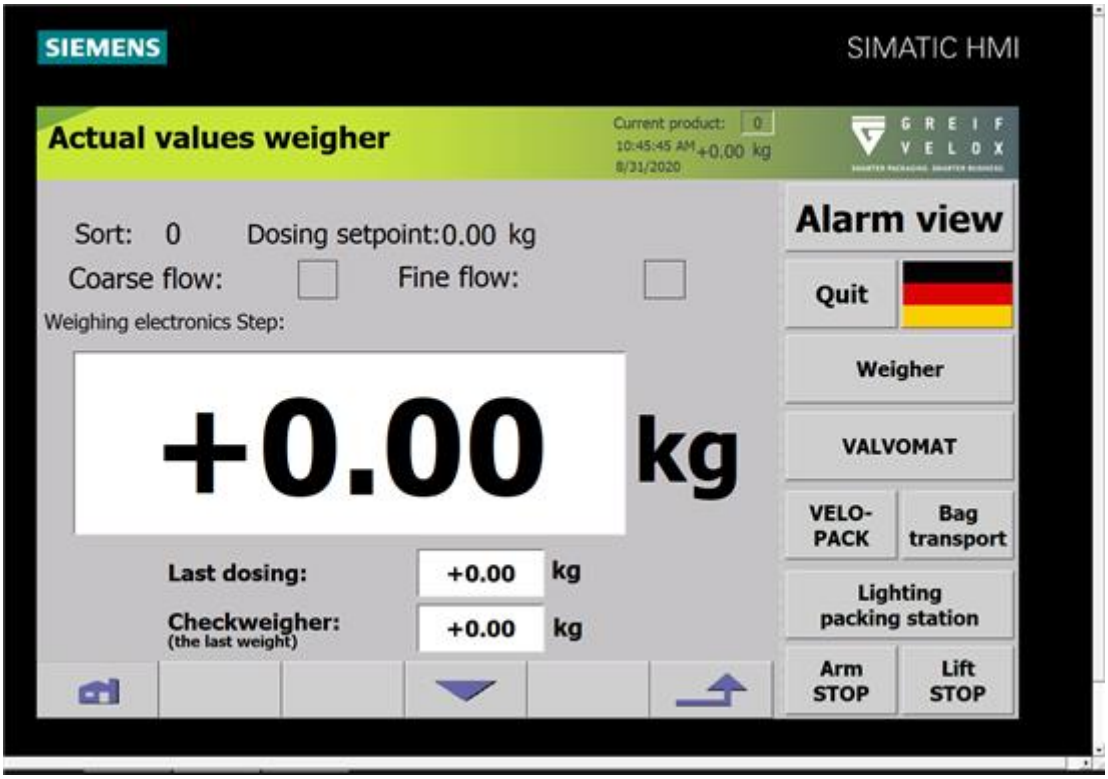


6.2.3.3.6 Parameters VELOPACK



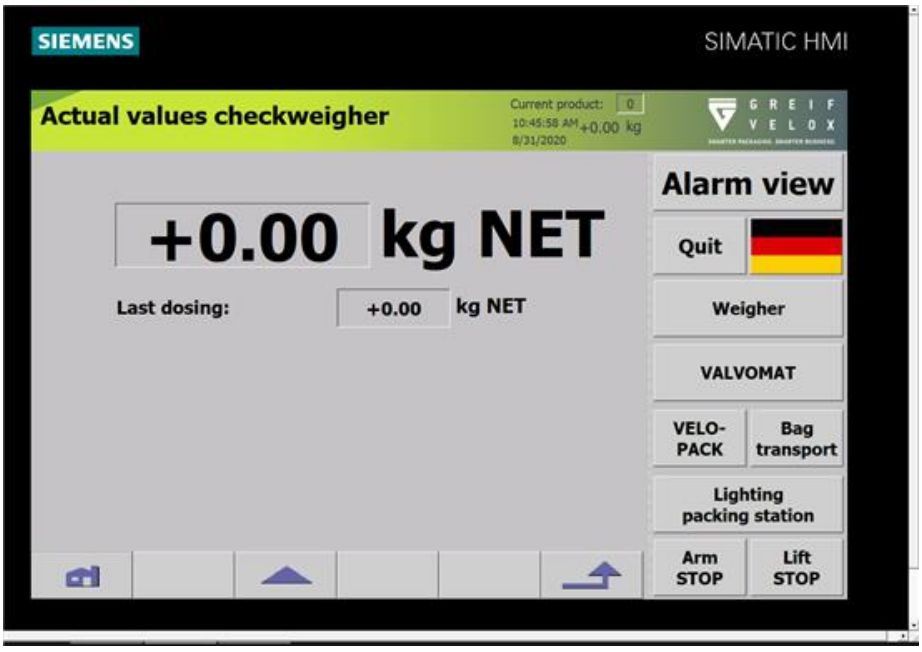
6.2.3.4 Actual values

Pressing the "Actual values" button opens the "Actual values weigher" window.



This window provides an overview of the current status of the scale.

The following data is shown: the current product, target weight, whether the scales are set to coarse or fine flow, the current step of the weighing electronics, actual weight and weight of the last dosing.



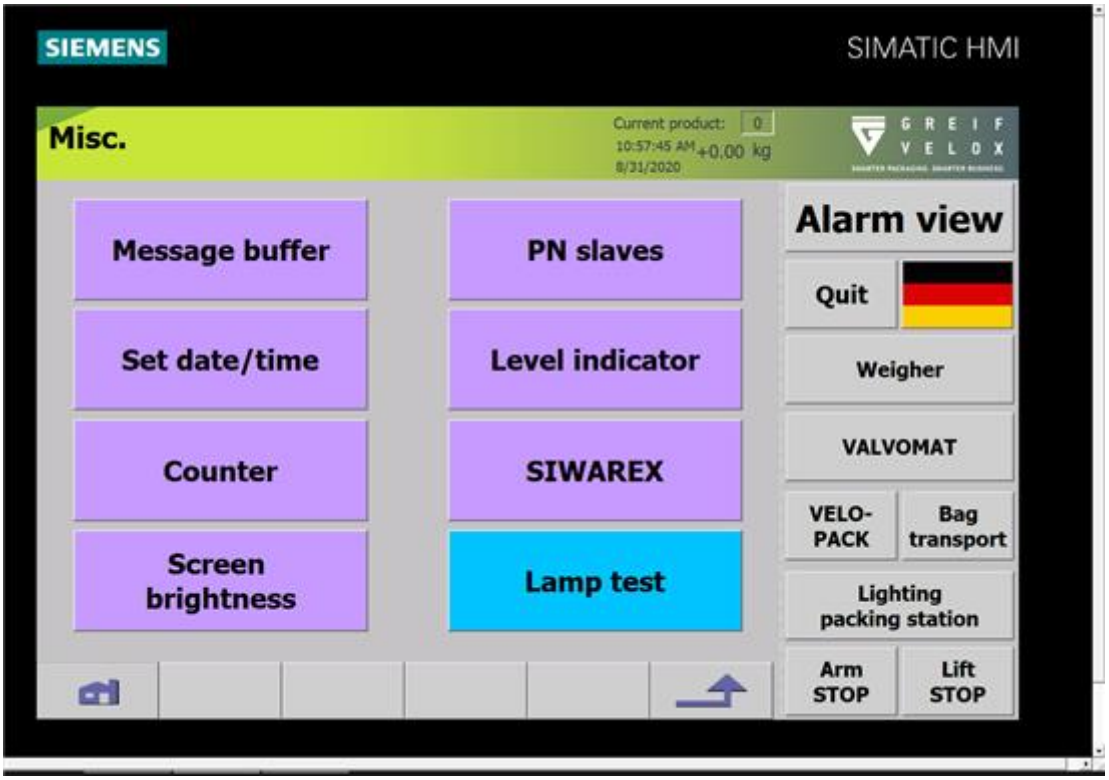
6.2.3.5 Misc.

Pressing the "Miscellaneous" button opens the "Miscellaneous" window.

This window is divided into eight sections.

- Message buffer
- Set date/time
- Counter
- Screen brightness
- PN slaves
- Level indicator
- SIWAREX
- Lamp test

Pressing the buttons will take you to the respective area.



Pressing the "Light test" function button turns on all lights in the system.

6.2.3.5.1 Message buffer

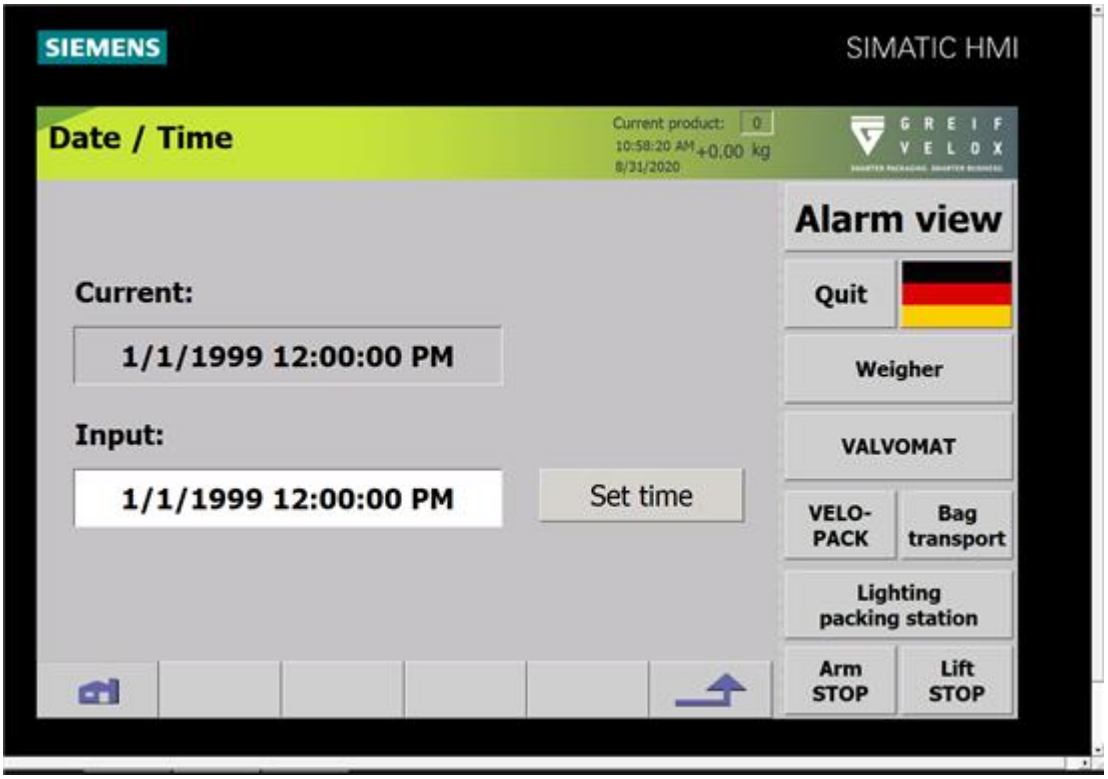
Pressing the "Notification buffer" button opens the "Notification buffer" window.

All fault notifications are listed on this page as history. The size of the notification buffer is dependent on the type of operating device. The notification buffer can be deleted by pressing the "Delete buffer" button or by cutting the power supply to the operating panel.

The “Delete buffer” button is password-protected.

6.2.3.5.2 Set time

Pressing the "Set time" button opens the "Date/time" window.

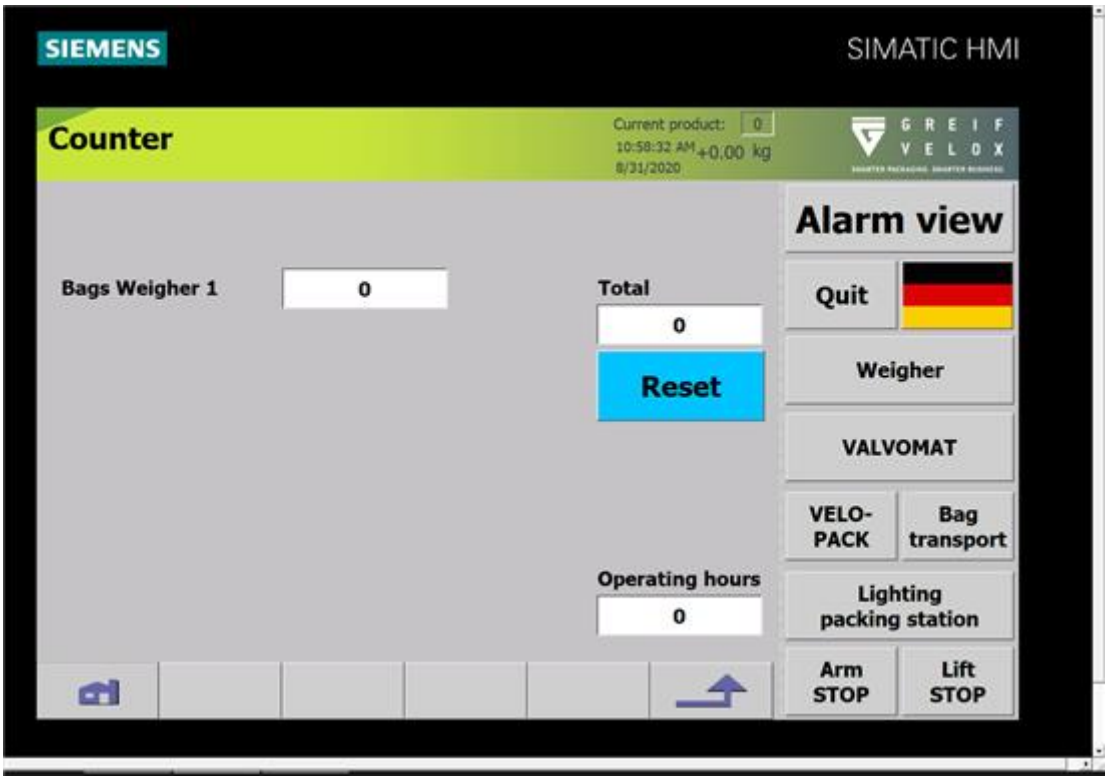


In this window, you can set the date and time.

> The “Apply” button is password-protected.

6.2.3.5.3 Counter

Pressing the "Counter" button opens the "Counter" window.



This window indicates the number of filled bags (with a distinction between GOOD, defective and metal bags) and the hours the system has been operating.
The "Total order" counter indicates the total number of all bags.

All counters are reset at the start of an order.

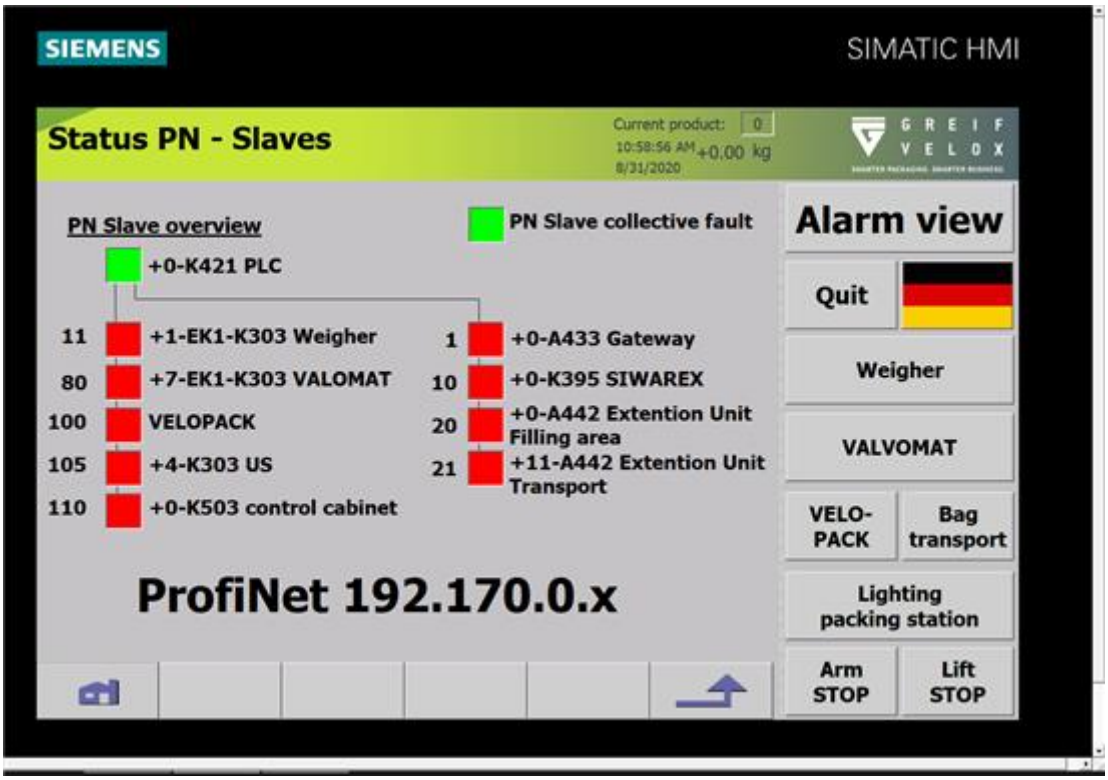
6.2.3.5.4 Screen brightness

Pressing the "Screen brightness" button opens the "Screen brightness" window.

The brightness of the screen is set using the sliding control.

6.2.3.5.5 PN slaves

Pressing the "PN slaves" button opens the "PN slave status" window.



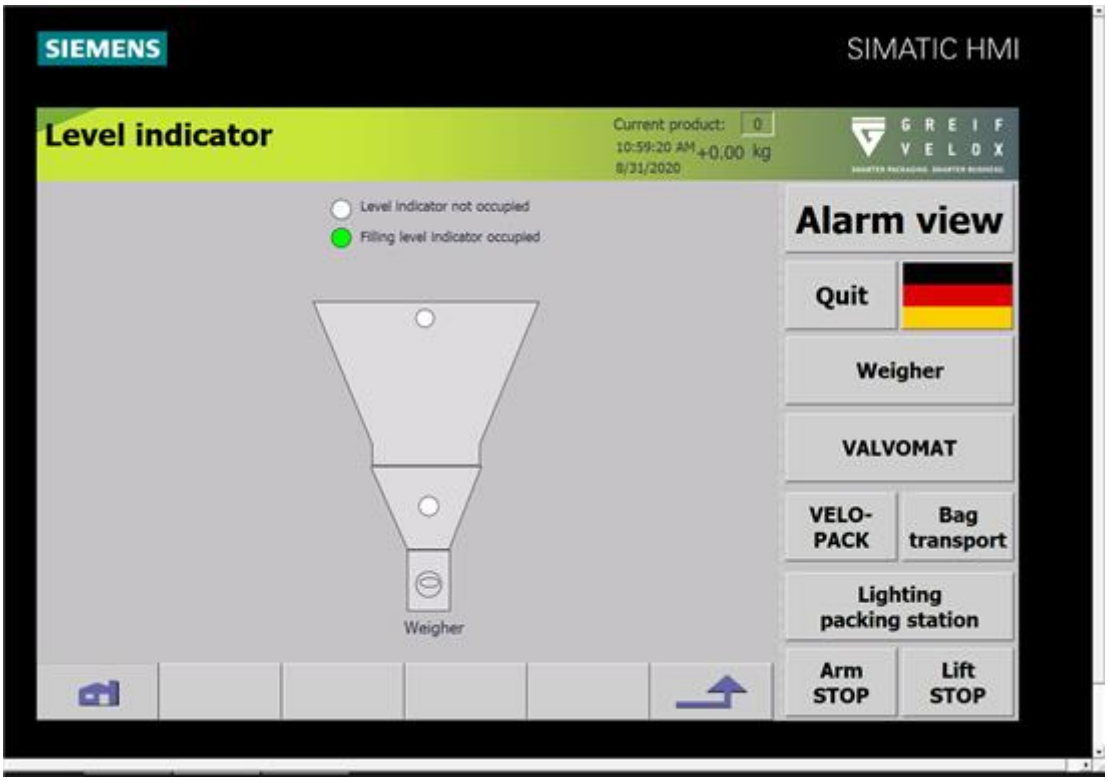
On this page, the current status of the Profinet/Profibus participants is shown.

Green: Profinet/Profibus participant online

Red: Profinet/Profibus participant offline

6.2.3.5.6 Fill level gauge

Pressing the "Fill level gauge" button opens the "Fill level gauge" window.



In this window, the current status of the fill level gauges is shown.

Green: Fill level gauge occupied

White: Fill level gauge not occupied

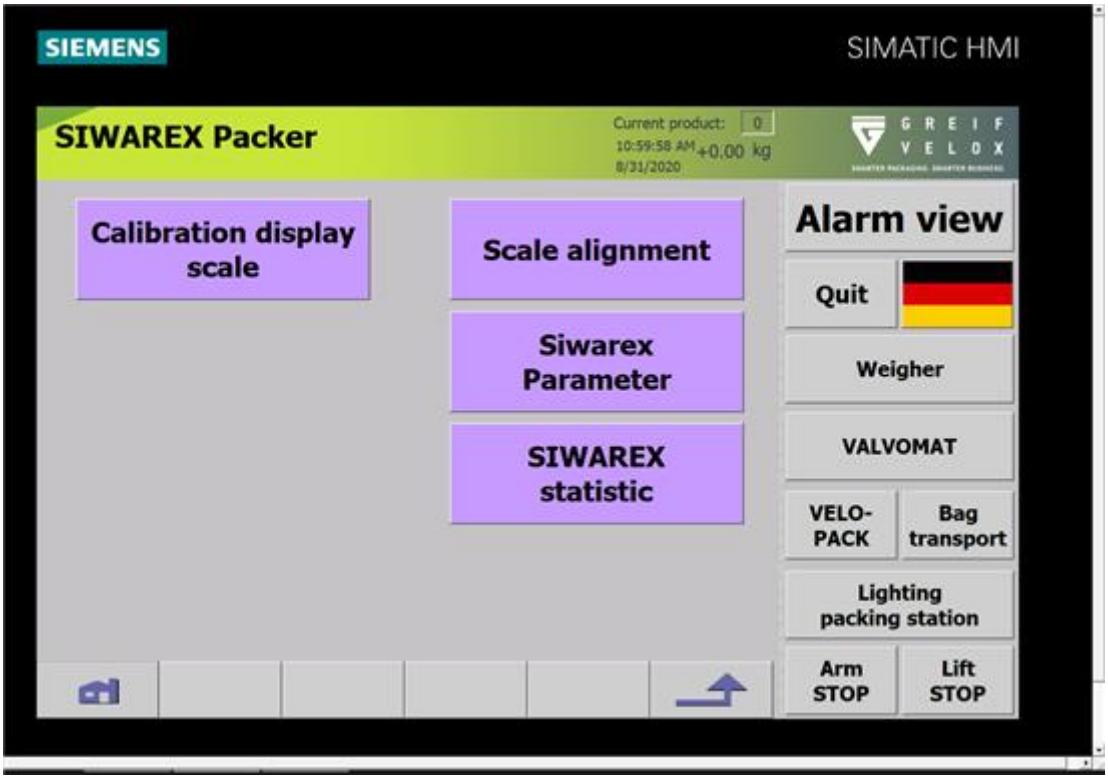
6.2.3.5.7 SIWAREX

Pressing the "SIWAREX" button opens the "SIWAREX" window.

The menu is divided into four areas.

- Calibration display scale
- Scale alignment
- Siwarex parameter
- Siwarex statistic

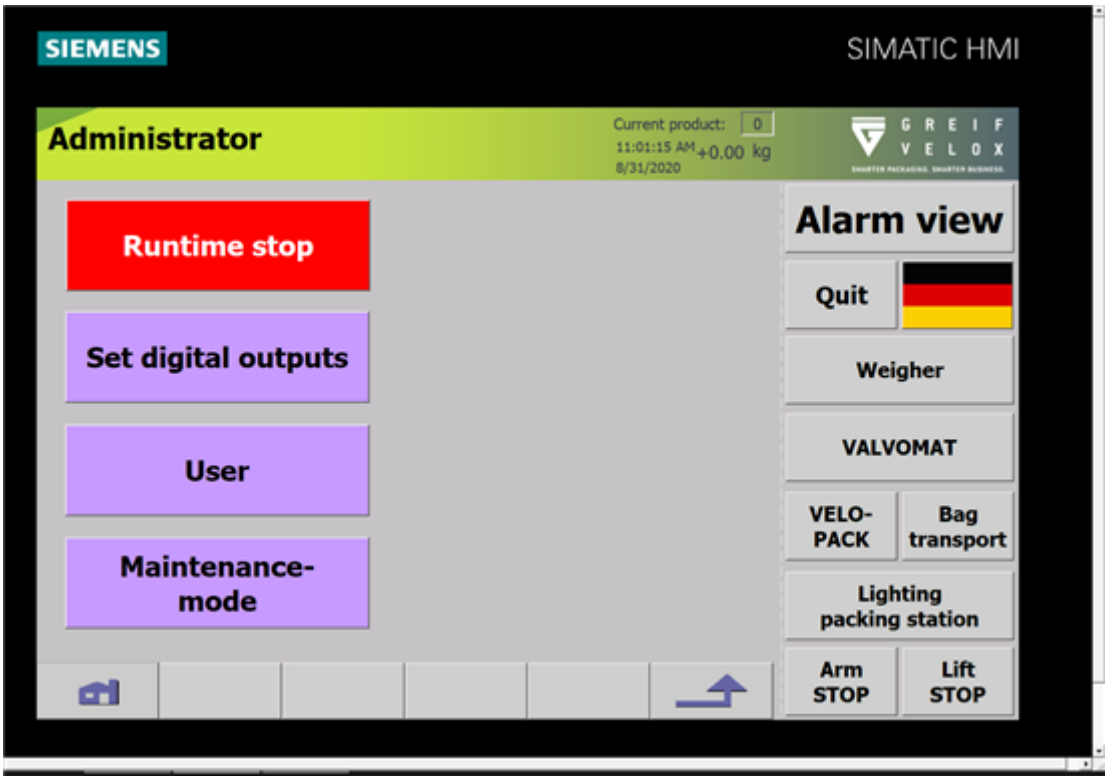
Pressing the buttons will take you to the respective area.



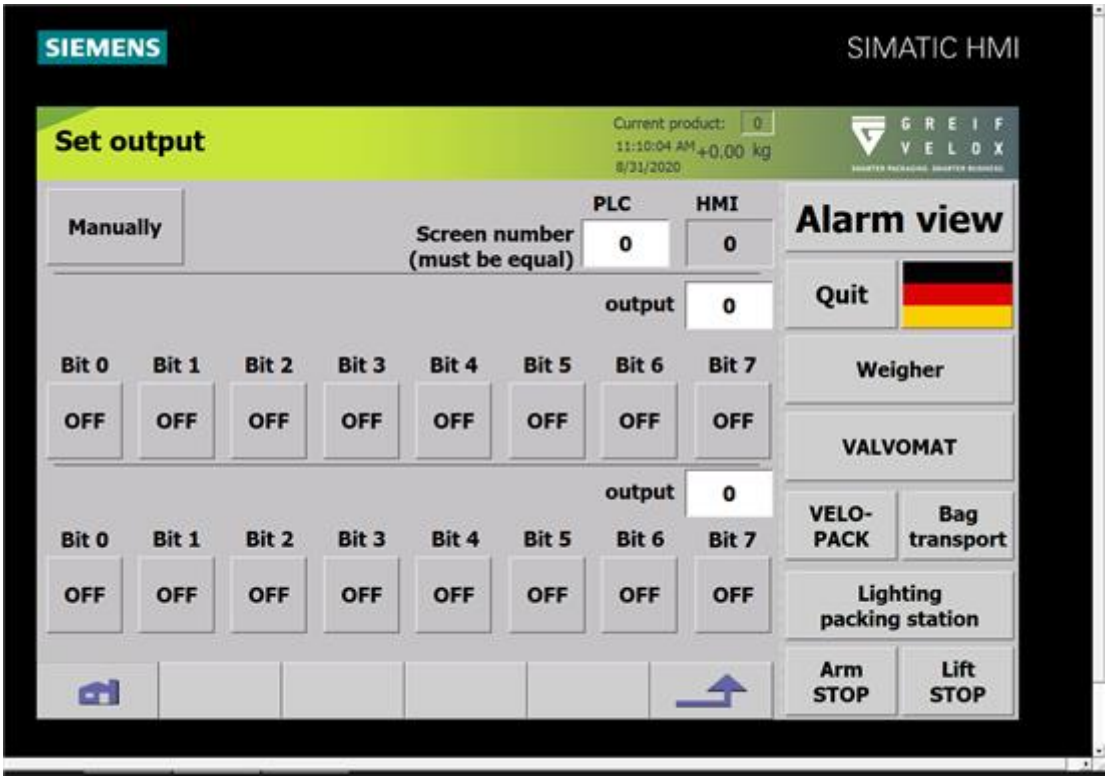
6.2.3.5.8 Light test

Pressing the "Light test" function button turns on all lights in the system. The lights remain on for as long as the operator presses and holds the function button.

6.2.3.6 Admin



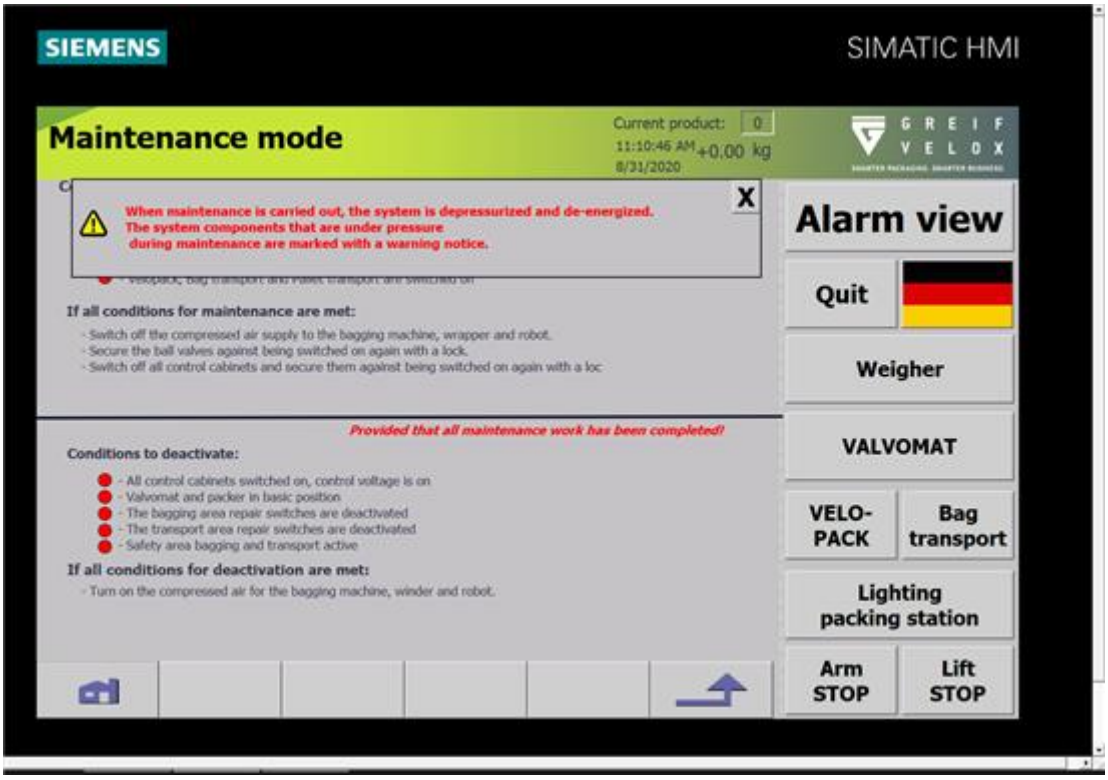
6.2.3.6.1 Set output

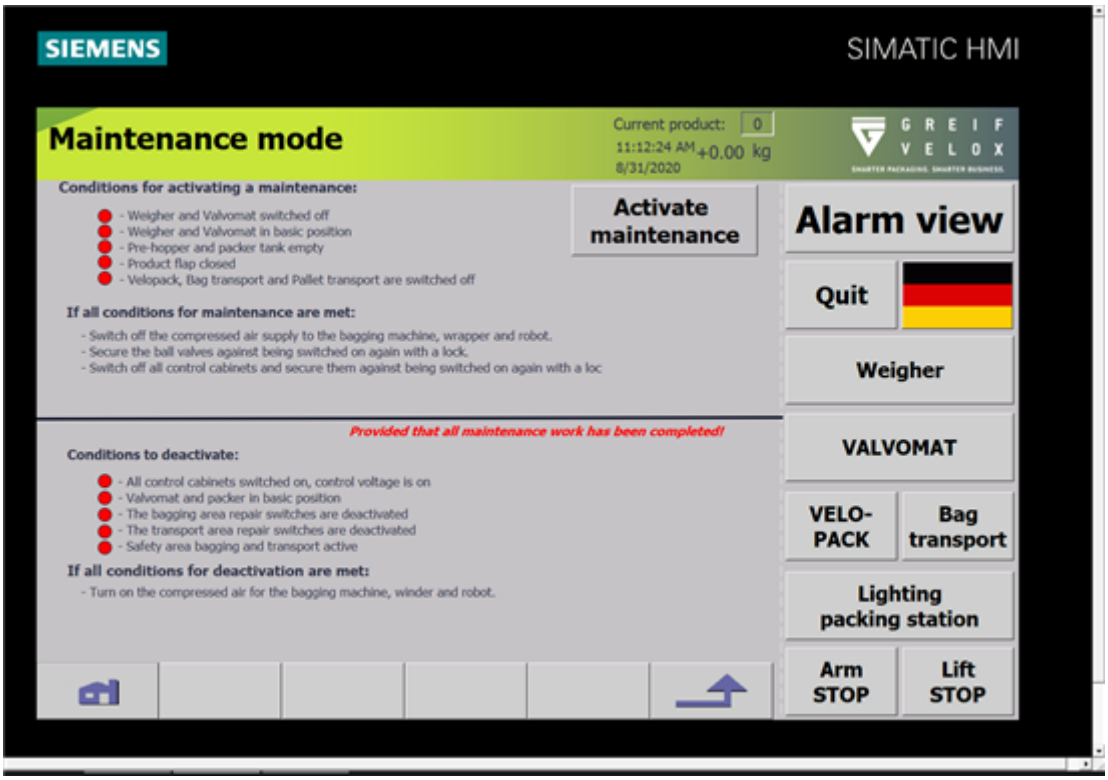


6.2.3.6.2 User


SIEMENS
SIMATIC HMI
User
Current product: 0
11:10:34 AM +0.00 kg
8/31/2020
GREIF VELOX
User
Password
Group
Logoff time
Alarm view
Quit
Weigher
VALVOMAT
VELO-PACK
Bag transport
Lighting packing station
Arm STOP
Lift STOP

6.2.3.6.3 Maintenance mode

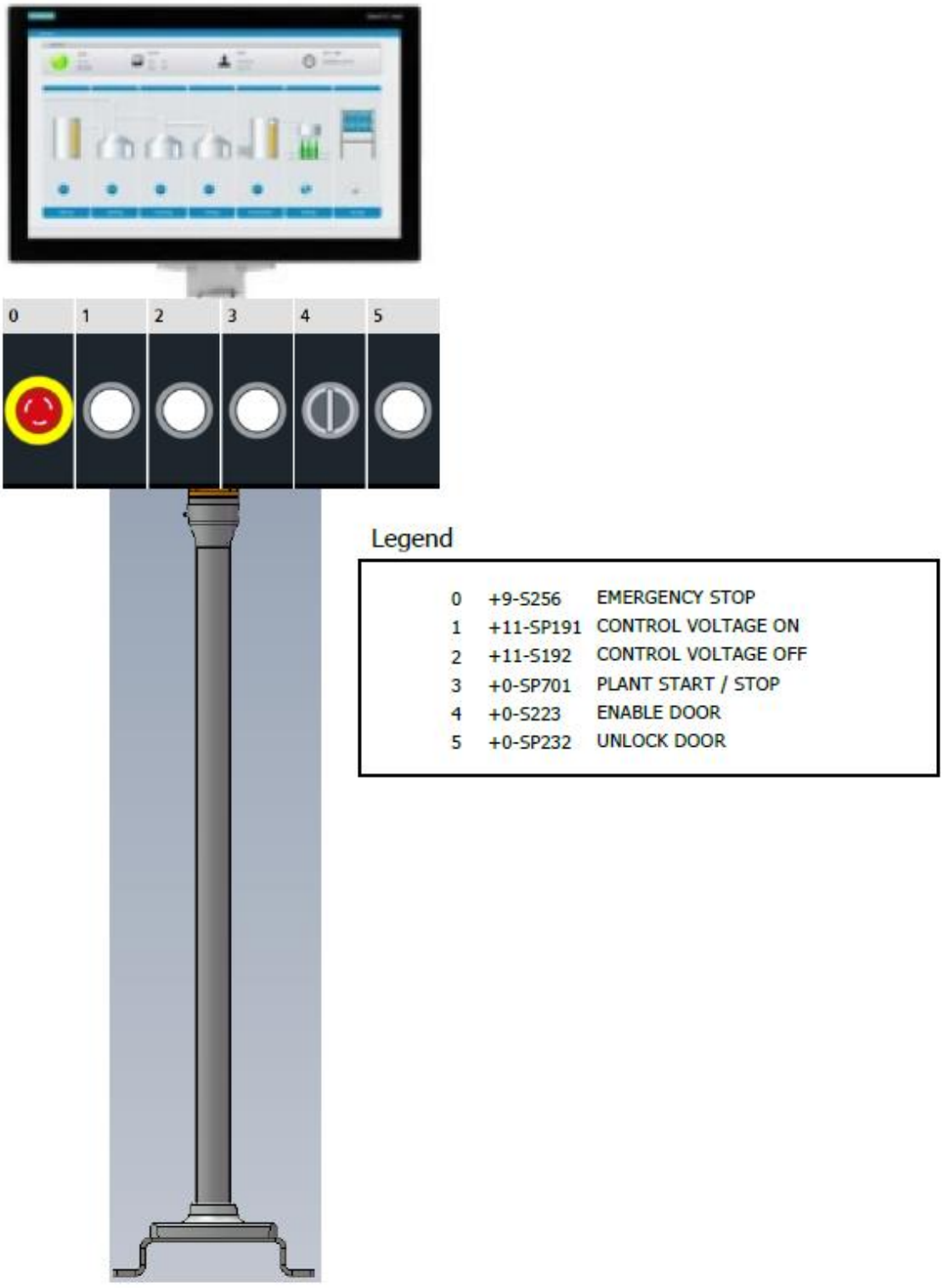




6.3 Operating the VELOPACK control panel

The following chapters describe the VELOPACK control panel.

6.3.1 Control station Transport



6.3.2 Description of control buttons

Control button	Function
Alarm view	Indicated all current fault notifications
Quit	Deletes pending faults
	Switch language to German
Weigher	Turn scale on/off
Bag transport	Turn bag transport on/off
Pallet transport	Pallet transport transport on/off
VALVOMAT®	Turn VALVOMAT® on/off
VELOPACK®	Turn VELOPACK® on/off

> All other buttons light up green when the function is turned on.

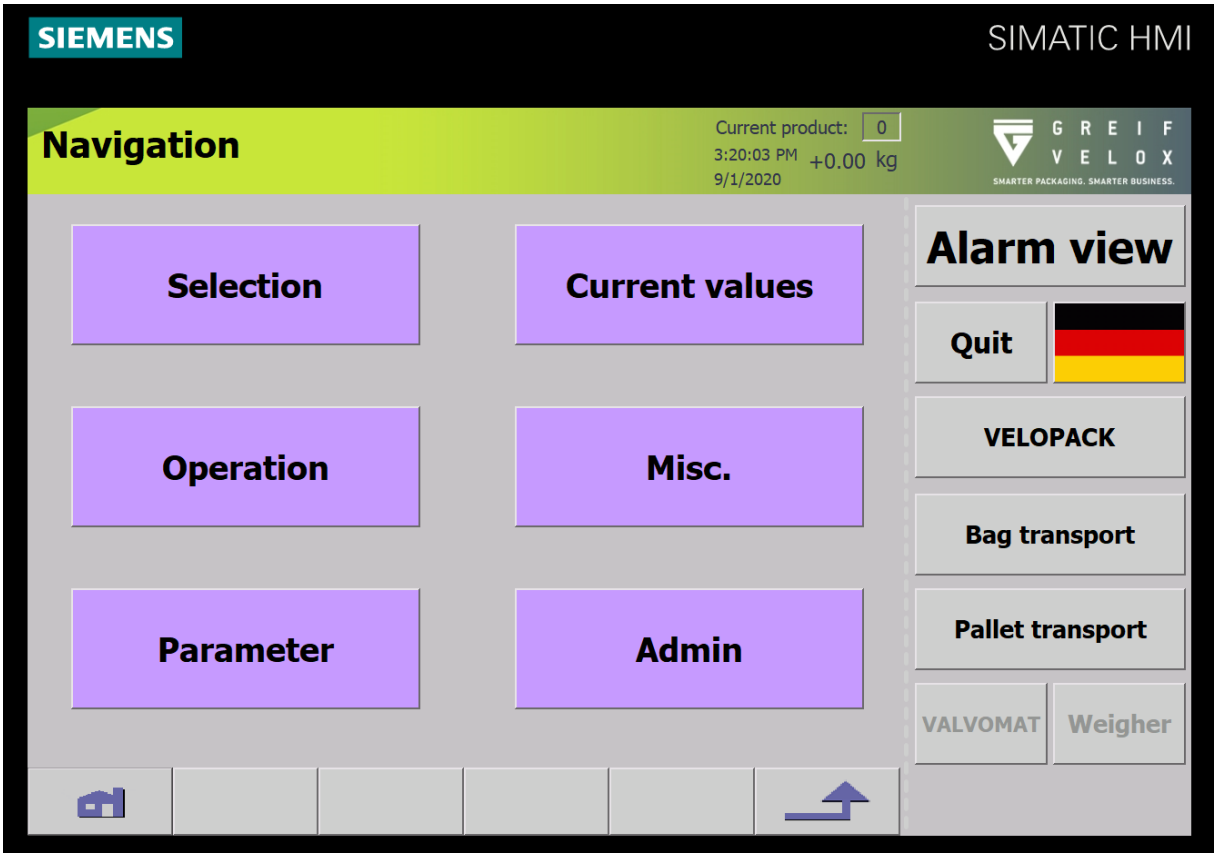
6.3.3 Navigation

To get to the "Navigation" menu, press  in the start-up screen.

In this menu, you can choose from between five navigation buttons:

- Selection
- Operation (manual)
- Parameter
- Current values
- Misc.
- Admin

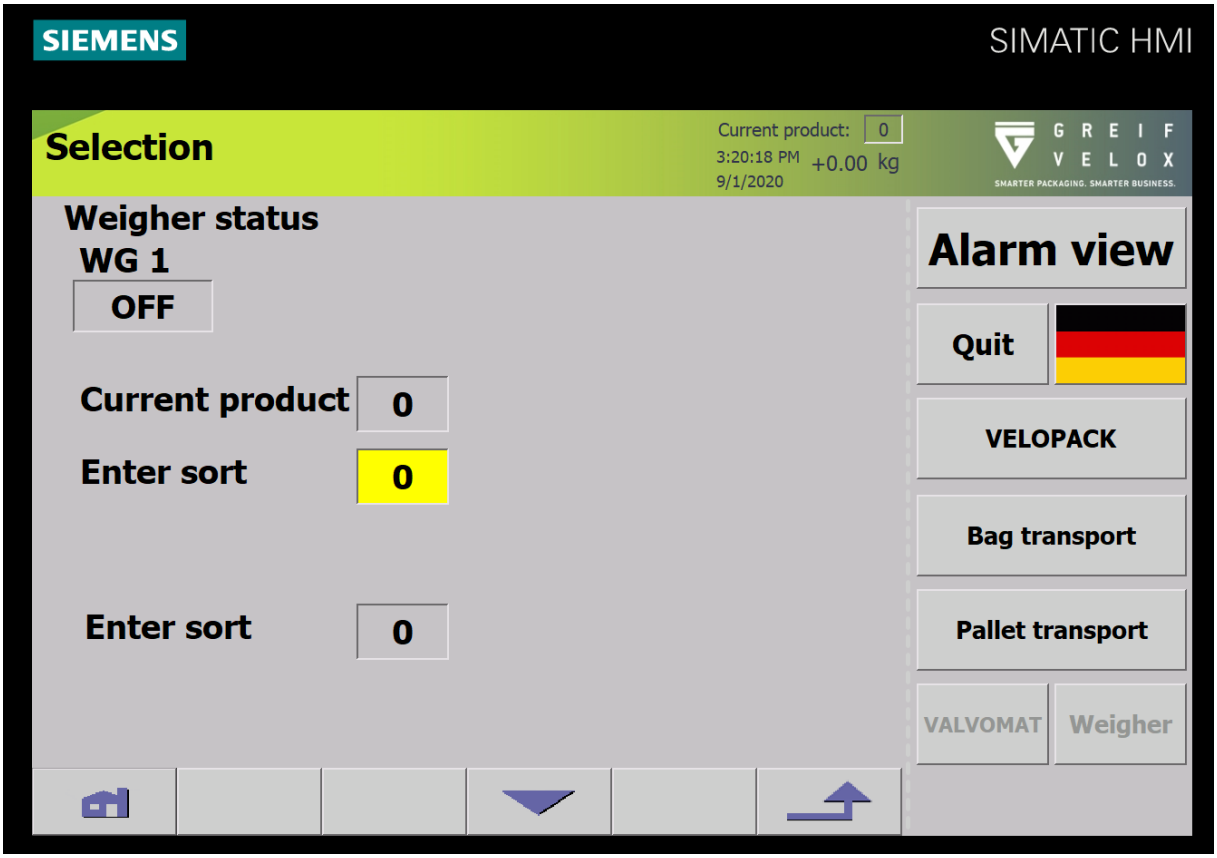
> The sixth navigation button **"Admin"** is intended for maintenance purposes only and is protected by a special password.



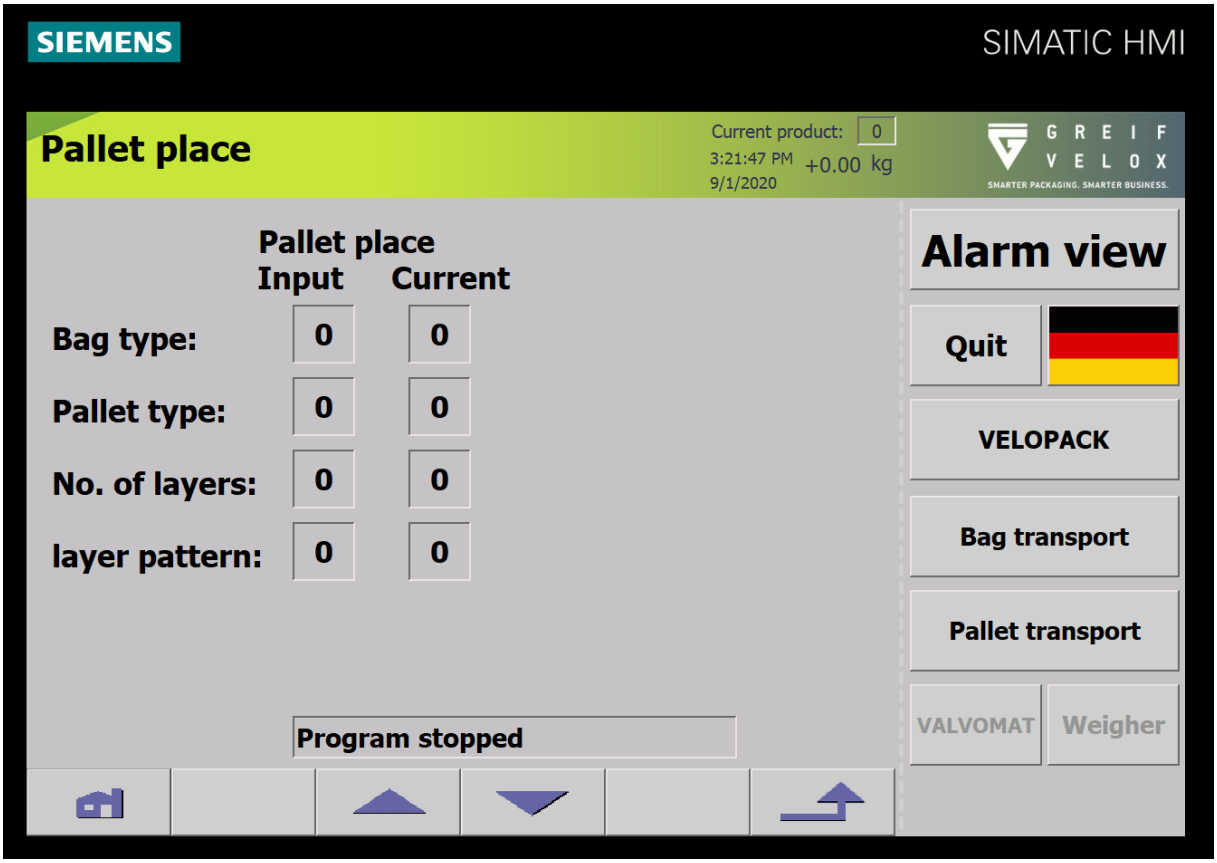
6.3.3.1 Selection

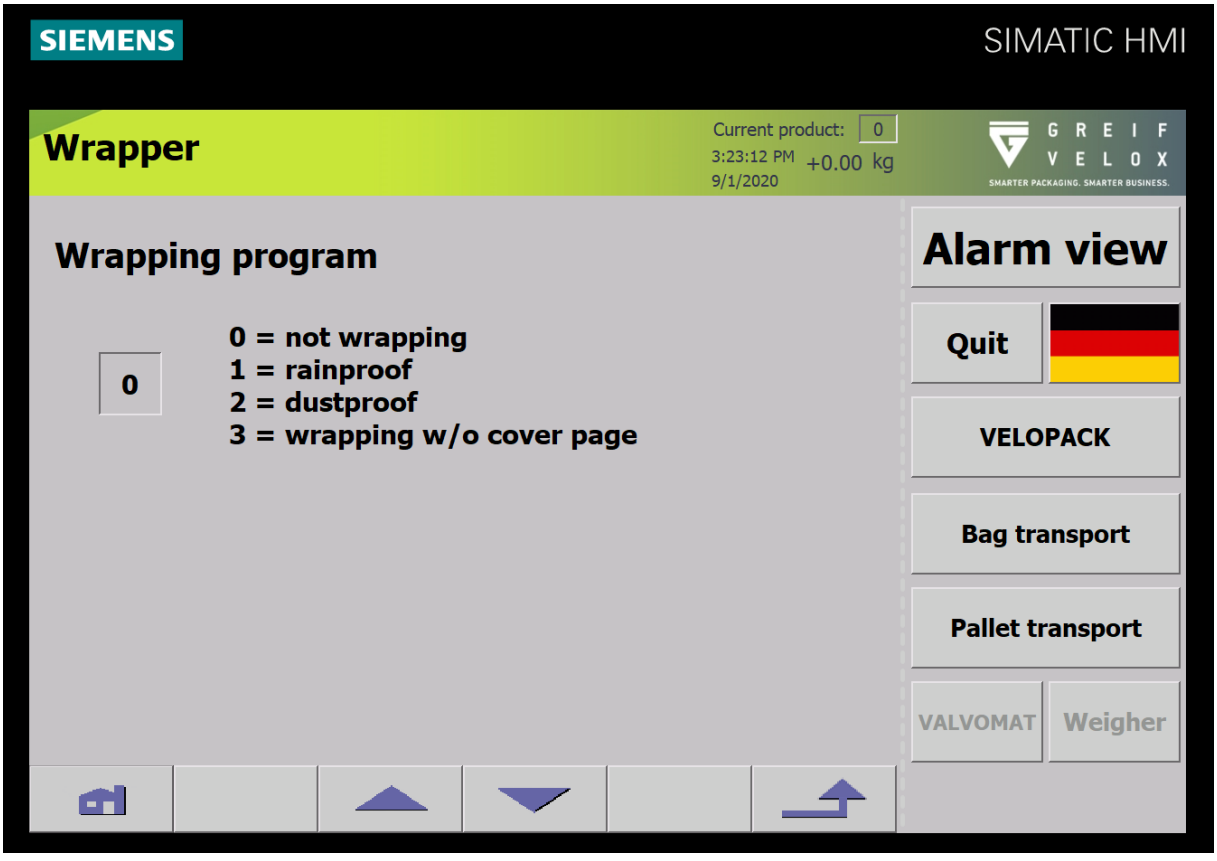
Pressing the navigation button "Selection" will open the "Selection" window.

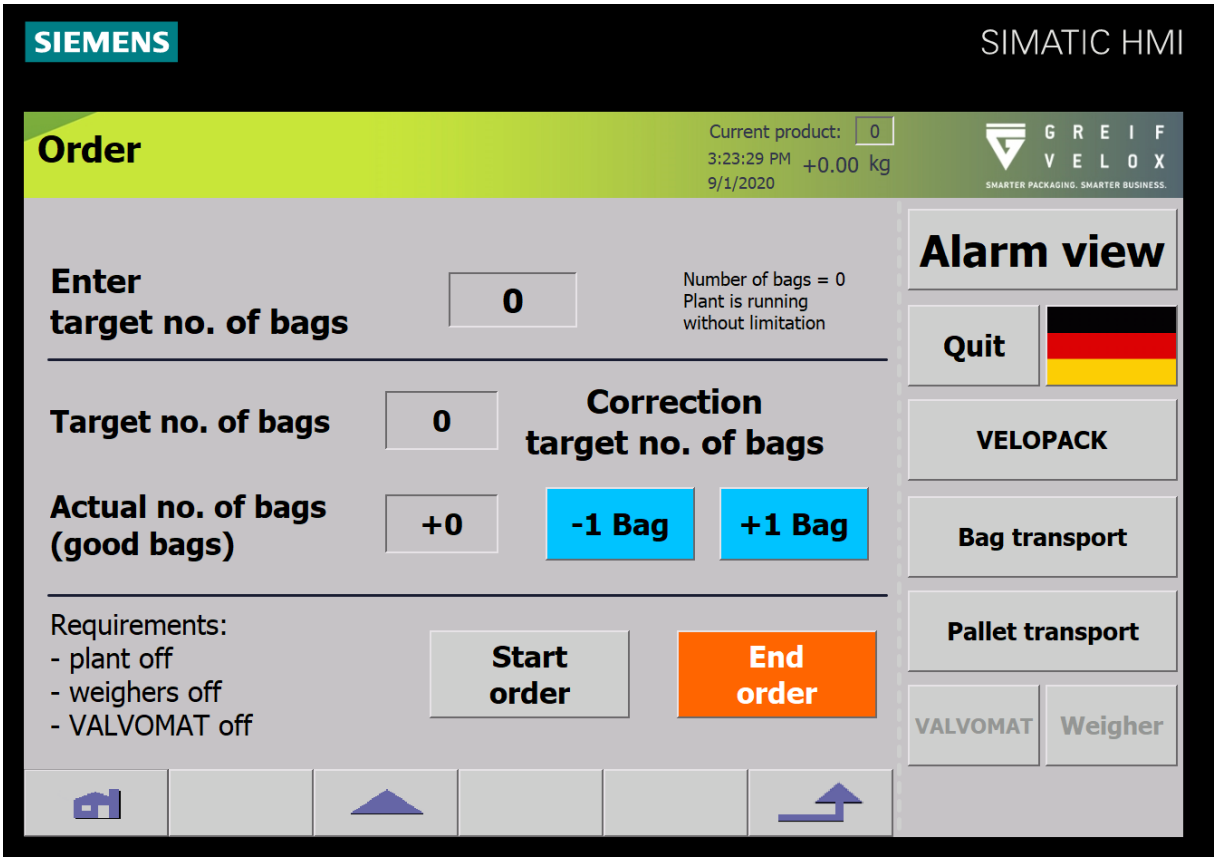
The operating menu consists of four windows. Press  to switch between the screens.



In diesem Fenster wird die Produktsorte angewählt. Mit der Taste „Daten übernehmen“ wird die Sorte angewählt und die dazugehörigen Parameter geladen.

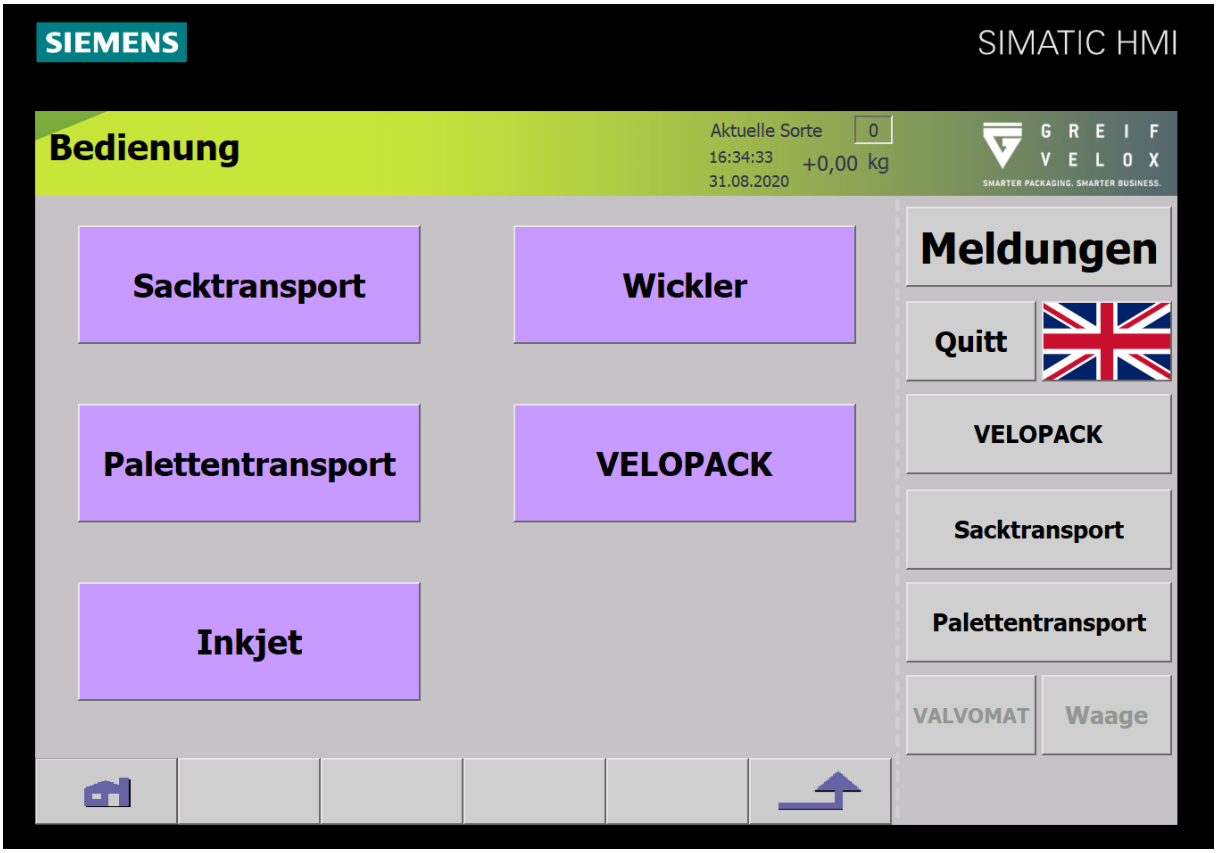

SIEMENS
SIMATIC HMI
Pallet place
Current product: 0
3:21:47 PM +0.00 kg
9/1/2020
GREIF VELOX
SMARTER PACKAGING. SMARTER BUSINESS.
Pallet place
Input Current
Bag type: 0 0
Pallet type: 0 0
No. of layers: 0 0
layer pattern: 0 0
Program stopped
Alarm view
Quit
VELOPACK
Bag transport
Pallet transport
VALVOMAT
Weigher


SIEMENS
SIMATIC HMI
Wrapper
Current product: 0
3:23:12 PM +0.00 kg
9/1/2020
GREIF VELOX
SMARTER PACKAGING. SMARTER BUSINESS.
Wrapping program
0
0 = not wrapping
1 = rainproof
2 = dustproof
3 = wrapping w/o cover page
Alarm view
Quit
VELOPACK
Bag transport
Pallet transport
VALVOMAT
Weigher


SIEMENS
SIMATIC HMI
Order
Current product: 0
3:23:29 PM +0.00 kg
9/1/2020
GREIF VELOX
SMARTER PACKAGING. SMARTER BUSINESS.
Enter target no. of bags
0
Number of bags = 0
Plant is running without limitation
Target no. of bags
0
Correction target no. of bags
Actual no. of bags (good bags)
+0
-1 Bag
+1 Bag
Requirements:
- plant off
- weighers off
- VALVOMAT off
Start order
End order
Alarm view
Quit
VELOPACK
Bag transport
Pallet transport
VALVOMAT
Weigher

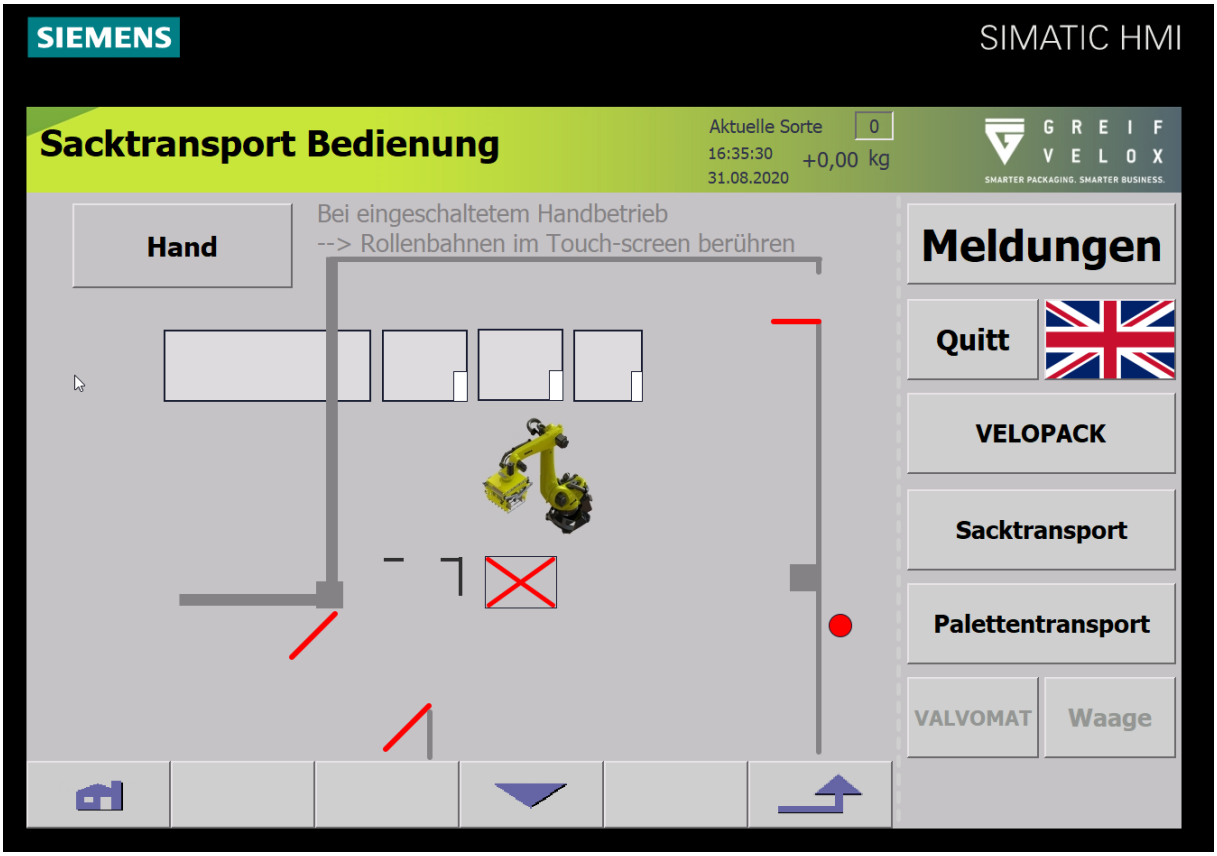
6.3.3.2 Operation (manual)

Mit der Navigationstaste „Bedienung“ aus dem Navigationsbild wird die Übersicht der Bedienmöglichkeiten für die **manuelle Bedienung** der Anlage aufgerufen.



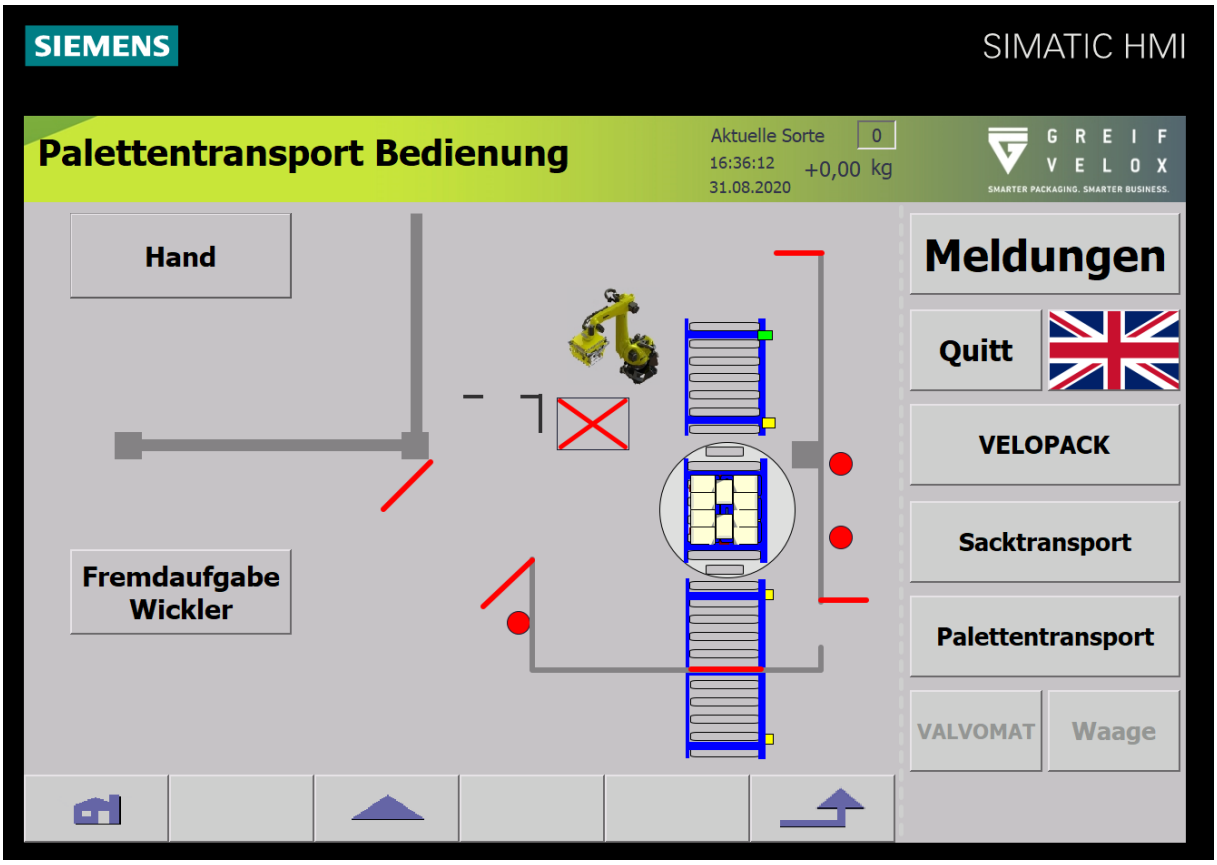
6.3.3.2.1 Bag transport

Durch Berühren der Taste „Sacktransport“ wird das Fenster „Sacktransport Bedienung“ aufgerufen.

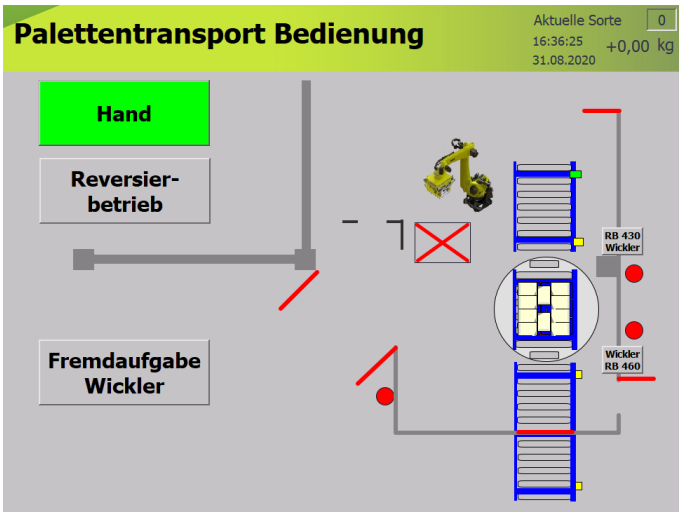


6.3.3.2.2 Palet transport

Durch Berühren der Taste „Palettentransport“ wird das Fenster „Palettentransport Bedienung“ aufgerufen.

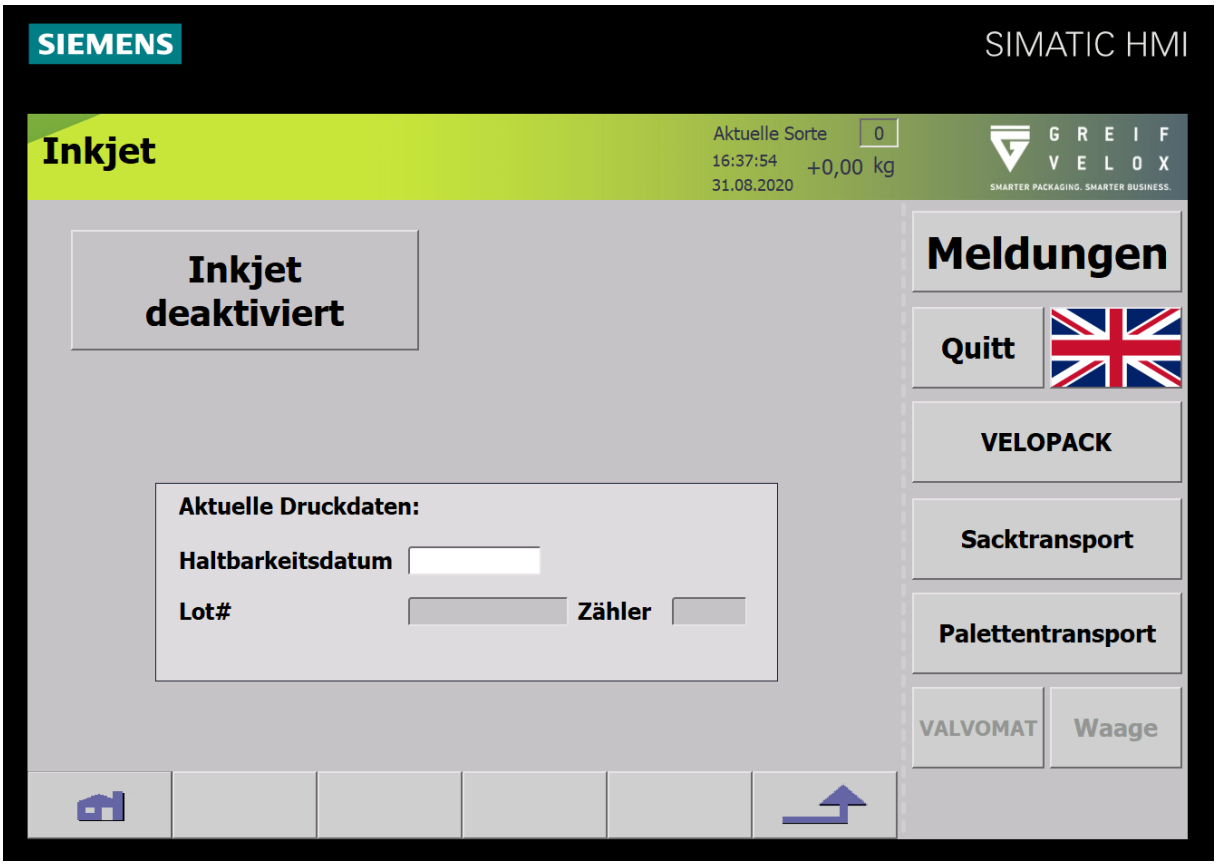


Hand Aktivierung



6.3.3.2.3 Inkjet

Durch Berühren der Taste „Inkjet“ wird das Fenster „Inkjet“ aufgerufen.



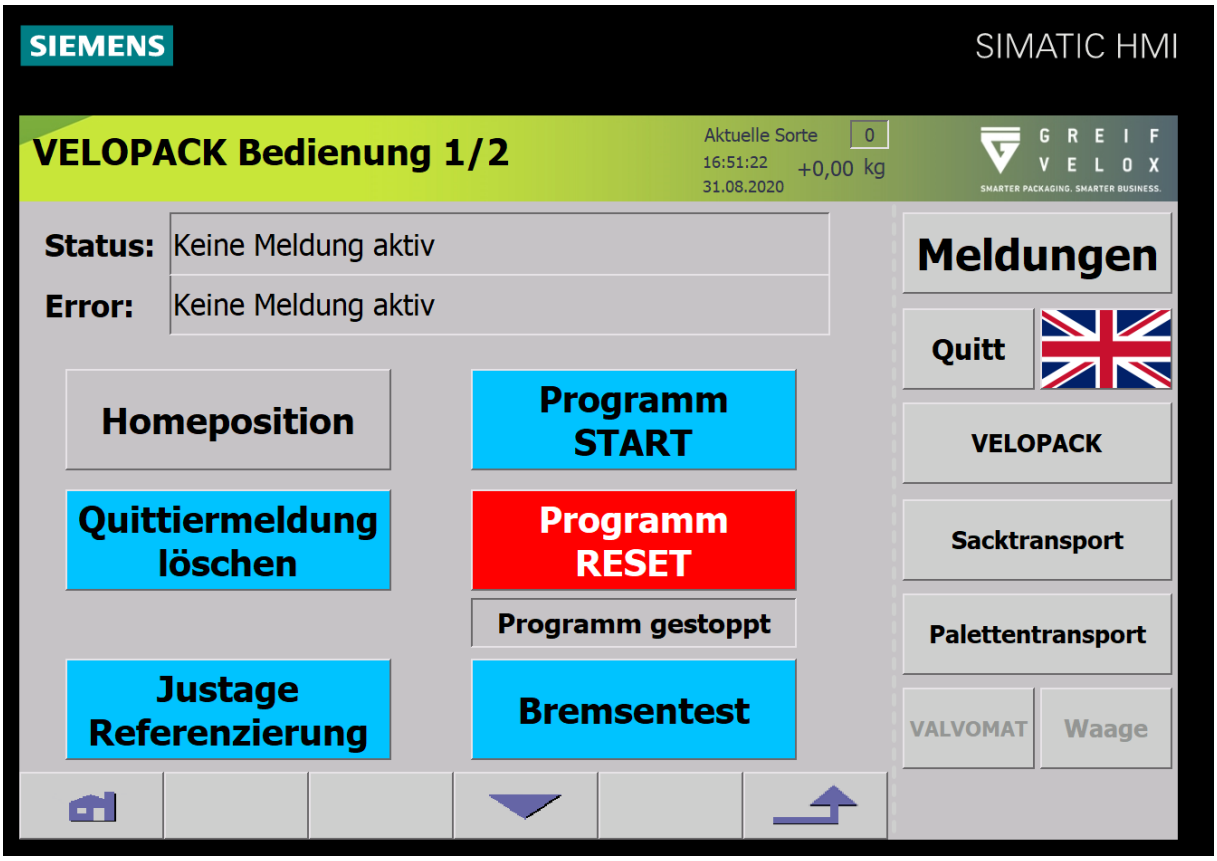
6.3.3.2.4 Wrapper

Durch Berühren der Taste „Wickler“ wird das Fenster „Wickler“ aufgerufen.

6.3.3.2.5 VELOPACK

Durch Berühren der Taste „VELOPACK“ wird das Fenster „VELOPACK Bedienung 1/2“ aufgerufen.

Das Bedienmenü besteht aus zwei Fenstern. Berühren Sie  , um zwischen den Fenstern zu wechseln.

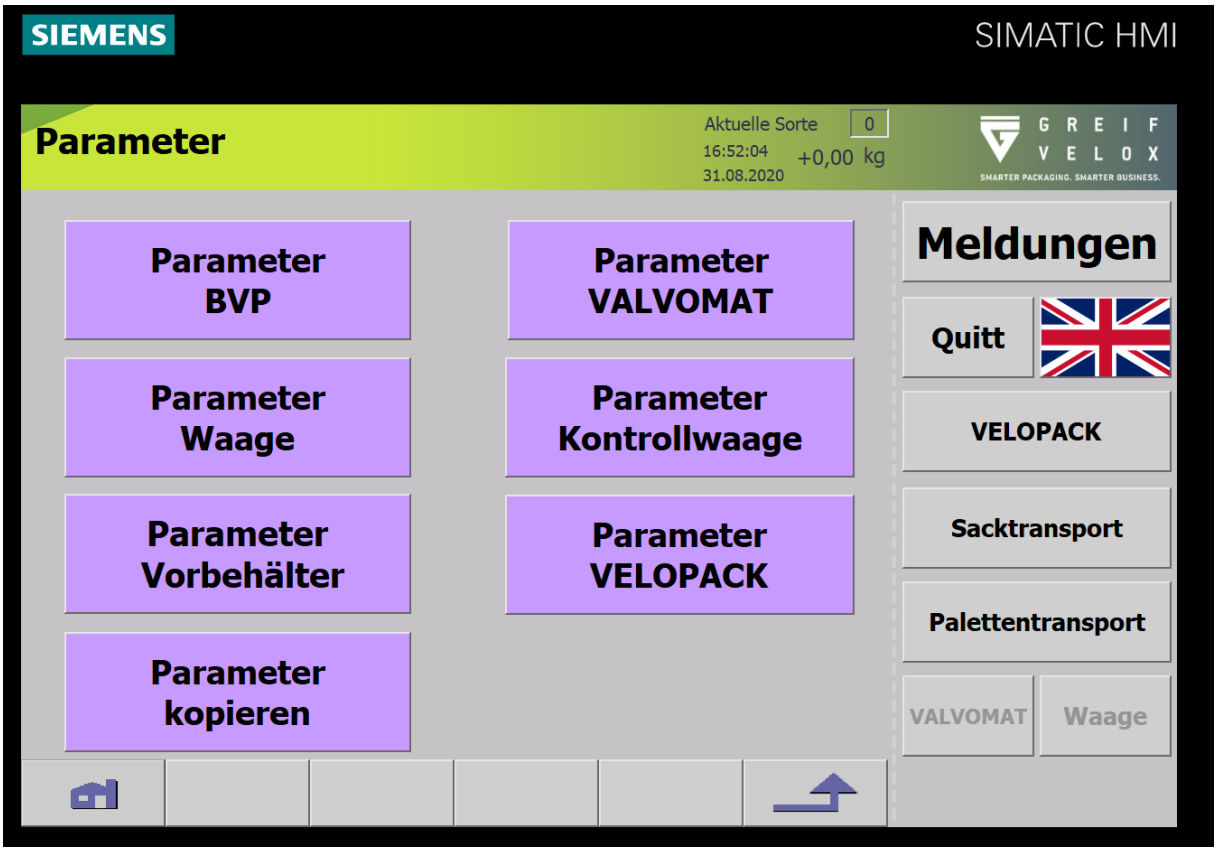



SIEMENS
SIMATIC HMI
VELOPACK Bedienung 2/2
Aktuelle Sorte 0
16:51:47 +0,00 kg
31.08.2020
GREIF VELOX
SMARTER PACKAGING. SMARTER BUSINESS.
Status: Keine Meldung aktiv
Error: Keine Meldung aktiv
Meldungen
Quitt
VELOPACK
Palettierplatz 1
Sacktransport
Palette ausfördern
Palettentransport
VALVOMAT
Waage

6.3.3.3 Parameter

Mit der Navigationstaste „Parameter“ wird die Übersicht für die Eingabe der Parameter für die folgenden Bereiche aufgerufen:

- Parameter BVP
- Parameter Waage
- Parameter Vorbehälter
- Parameter kopieren
- Parameter VALVOMAT
- Parameter Kontrollwaage
- Parameter VELOPACK



In diesen Fenstern sind alle Parameter für die Parametrierung der Anlage zusammengefasst. Über Navigationstasten werden die Parameter der einzelnen Anlagenteile aufgerufen.

Die in den Parameterbildern angezeigten Werte sind passwortgeschützt. Um die Felder zu editieren müssen die Felder freigegeben werden (siehe Kapitel „6.1.8“).
Bei richtigen Zugangsdaten werden die Editierfelder freigegeben und wechseln die Helligkeit.

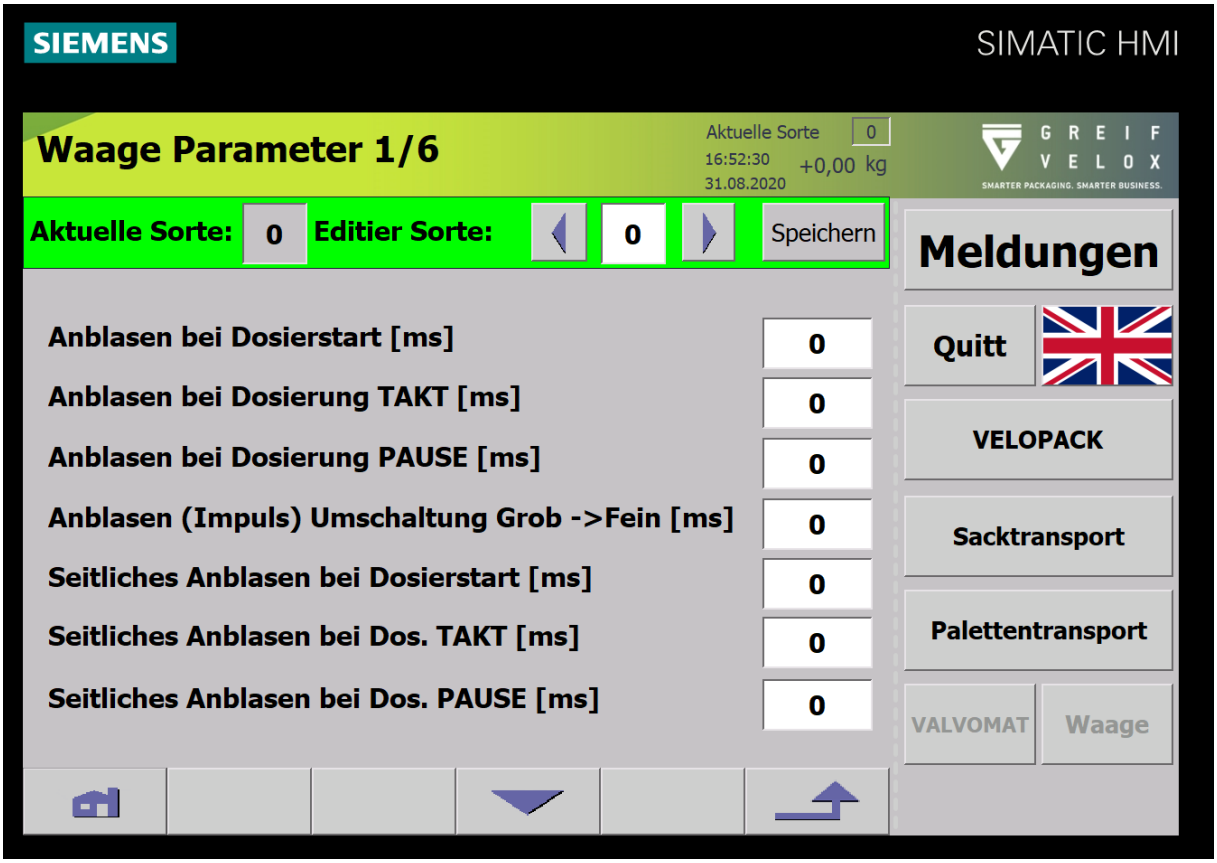
Sollte nach 5 Minuten keine weitere Eingabe erfolgt sein, werden die Eingabefelder automatisch wieder gesperrt.

Parameteränderungen dürfen nur durch fachkundiges Personal ausgeführt werden!

6.3.3.3.1 Parameters BVP

Durch Berühren der Taste „Parameter BVP“ wird das Fenster „Waage Parameter 1/6“ aufgerufen.

Das Bedienmenü besteht aus sechs Fenstern. Berühren Sie  , um zwischen den Fenstern zu wechseln.



In der oberen Hälfte aller Fenster für Parameter besteht die Möglichkeit alle nötigen Sorten zu editieren. Hierfür muss man die zu editierende Sorte auswählen. Entweder über eine Direkteingabe in dem Eingabefeld oder über die Schaltflächen „links“ oder „rechts“ neben dem Eingabefeld. Durch die Direkteingabe, bzw. Betätigen der Schaltflächen, werden die aktuellen Parameter der entsprechenden Sorte geladen. Die aktuell geladene Sorte wird im oberen Ausgabefeld angezeigt.

Nach Parameteränderungen müssen die neuen Parameter mit der Schaltfläche „speichern“ in die Steuerung übernommen werden.

Parameteränderungen der aktuellen Sorte werden ab dem nächsten Sack wirksam.

Eingabefelder:

Anblasen bei Dosierstart: Dauer des Anblasimpuls zur Produktbeschleunigung bei Dosierstart

Anblasen bei Dosierung TAKT: Zur Produktbeschleunigung können während der Grobdosierung getaktete Anblasimpulse erfolgen

Anblasen bei Dosierung PAUSE: Pausenzeit zwischen den Anblasimpulsen während der Grobdosierung

Anblasen (Impuls) Umschaltung Grob -> Fein: Anblasimpuls beim Wechsel von Grobstrom auf Feinstrom

Seitliches Anblasen bei Dosierstart: Dauer des Anblasimpuls zur Produktbeschleunigung bei Dosierstart

Eingabefelder:

Ausblasen verzögert START: Zeit von Dosierende bis Ausblasen Start

1. Ausblasen: Dauer des 1. Ausblasimpuls

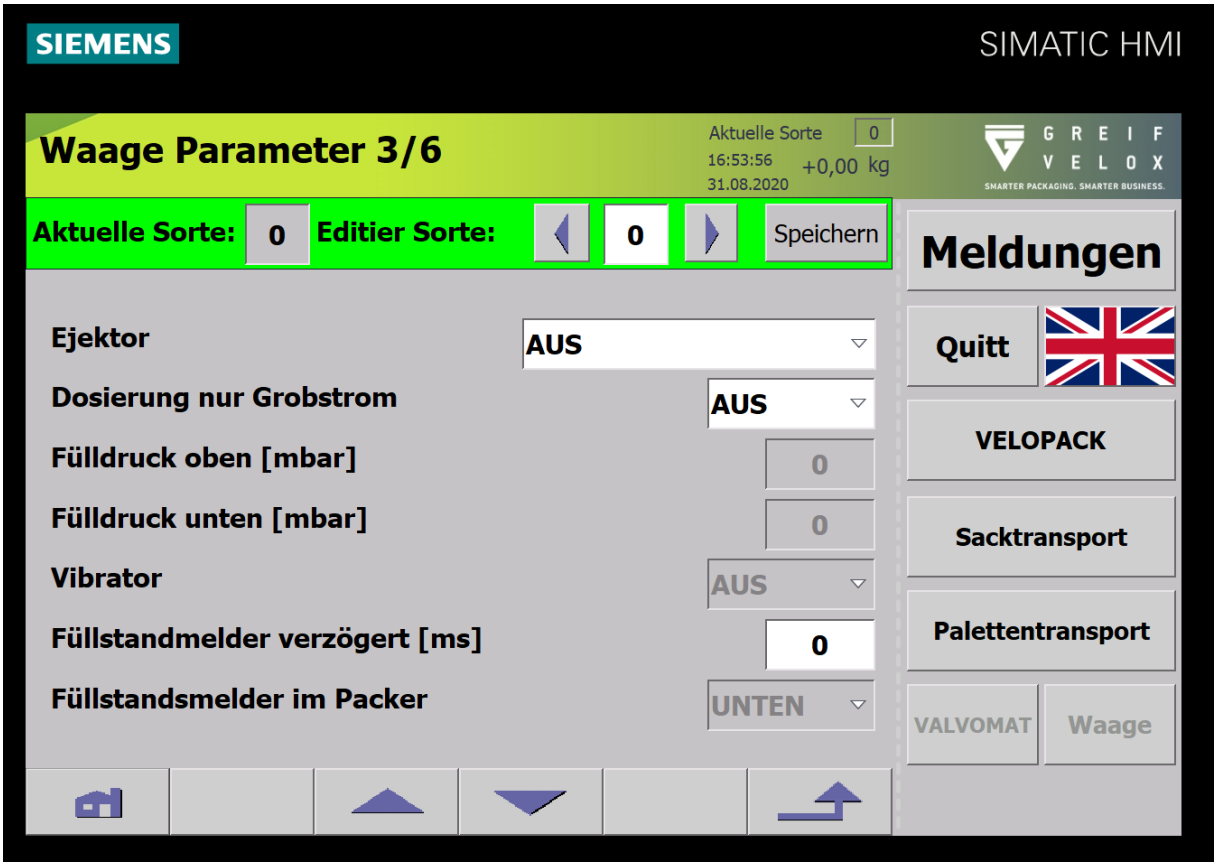
Ausblasen PAUSE: Pause zwischen dem 1. und 2. Ausblasimpuls

2. Ausblasen: Dauer des 2. Ausblasimpuls

Klemme verzögert auf: Beruhigungszeit nach dem 2. Ausblasen bis Sackklemme öffnen

Ausblasen Dosierung TAKT: Zur Produktbeschleunigung können während der Grobdosierung getaktete Ausblasimpulse erfolgen

Ausblasen Dosierung PAUSE: Pausenzeit zwischen den Ausblasimpulsen während der Grobdosierung



Eingabefelder:

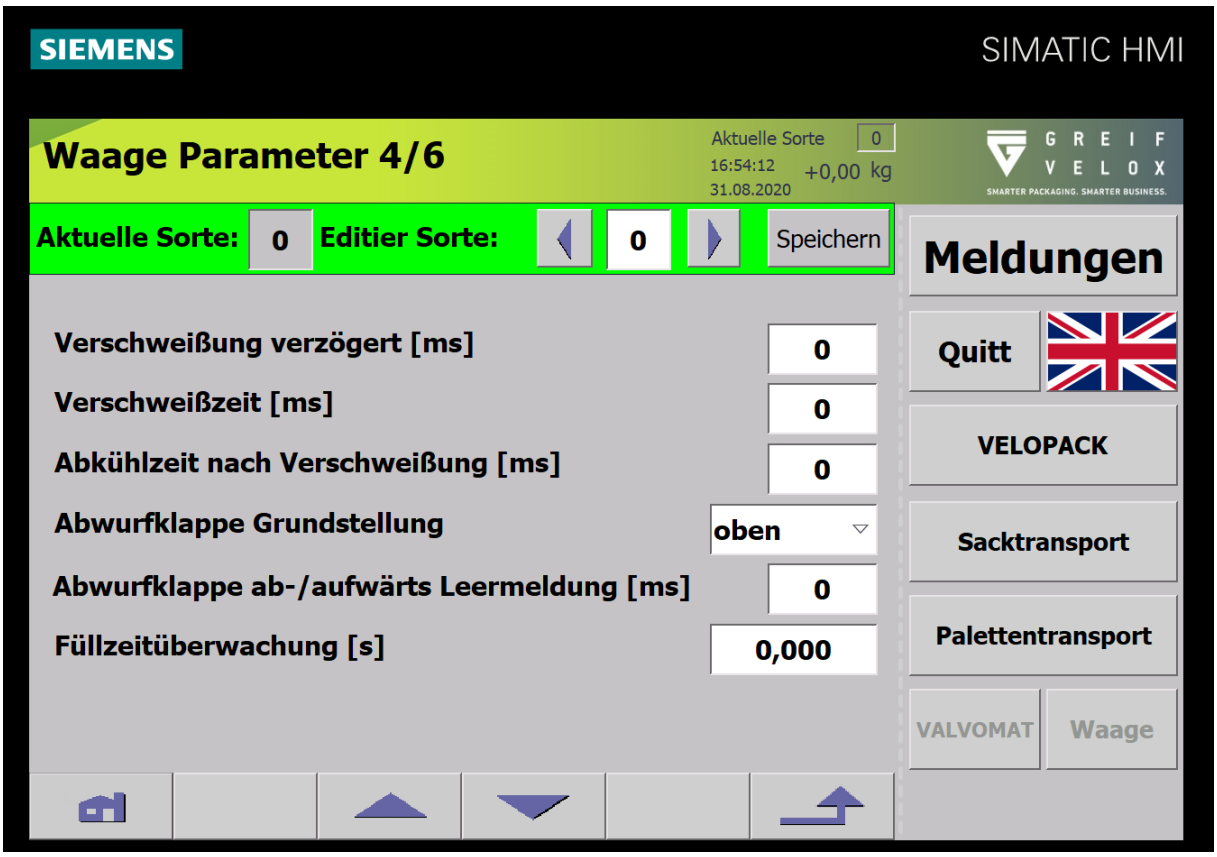
Ejektor: Stellt die Arbeitsweise des Ejektors ein

Dosierung nur Grobstrom: Stellt die Arbeitsweise der Dosierung ein.

Grobstrom (Drehzahl): Vorgabe der Drehzahl der Turbine bei Grobdosierung.

Feinstrom (Drehzahl): Vorgabe der Drehzahl der Turbine bei Feindosierung.

Füllstandmelder verzögert: Durch eine Vergrößerung der Zeit kann der Produktstand im Kessel erhöht werden



Eingabefelder:

Verschweißung verzögert: Nachdem Amboss und Sonotrode das Sackventil erfasst haben wird die Verschweißung verzögert gestartet.

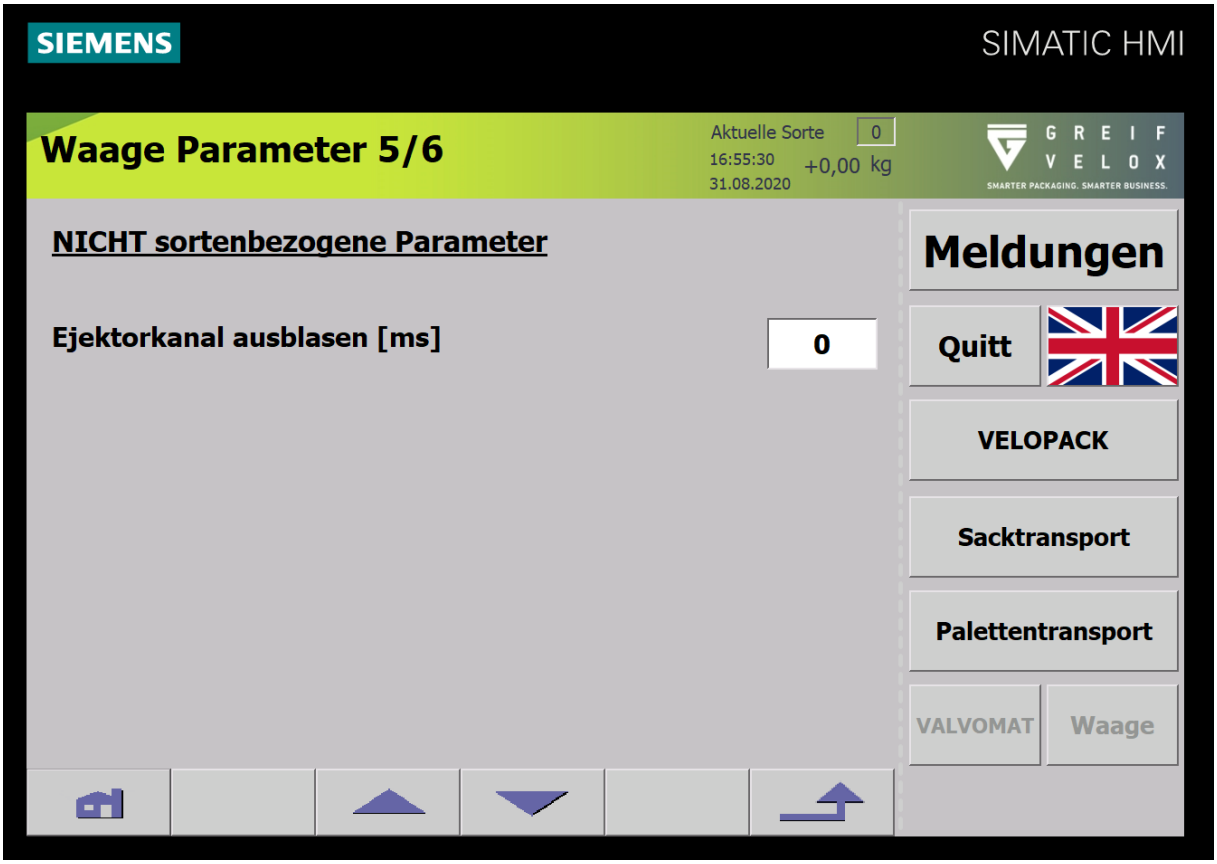
Verschweißzeit: Dauer des Schweißimpuls

Abkühlzeit nach Verschweißung: Verschweißung verzögert öffnen

Abwurfklappe Grundstellung: Mit dieser Einstellung wird festgelegt, ob die Abwurfklappe bei Dosierung oben oder unten ist.

Abwurfklappe ab-/aufwärts Leermeldung: Gibt an wie lange die Leermeldung ansteht.

Füllzeitüberwachung: Mit dieser Einstellung wird festgelegt, wie lange eine Dosierung maximal dauern darf. Wird diese Zeit überschritten wird die Dosierung, mit der Fehlermeldung „Waage 1 Füllgeschwindigkeit = Keine Gewichtszunahme“, unterbrochen.



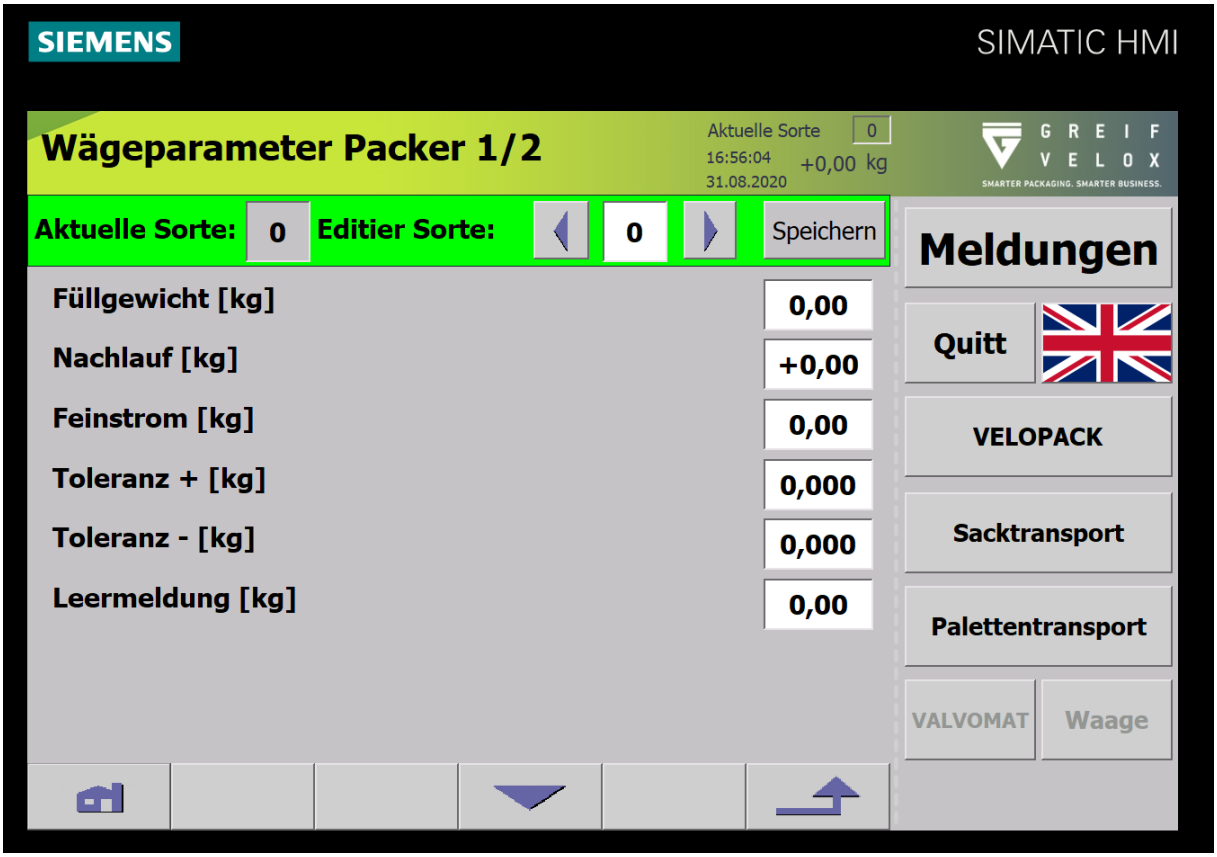
Ejektorkanal ausblasen: Dauer des Ausblasimpuls Ejektorkanal bei Dosierstart.

Diese Parameter dienen als Reserve für das Servicepersonal der Firma GREIF-VELOX bei der Inbetriebnahme.

6.3.3.3.2 Parameters Weigher

Durch Berühren der Taste „Parameter Waage“ aus dem wird das Fenster „Wägeparameter Waage 1/2“ aufgerufen.

Das Bedienmenü besteht aus zwei Fenstern. Berühren Sie  , um zwischen den Fenstern zu wechseln.



Eingabefelder:

Füllgewicht: Nettogewicht

Nachlauf: Nicht gewogenes Produkt nach Dosierungs-Ende.

Feinstrom: Umschaltung von Grob- auf Feinstrom (Füllgewicht – Feinstrom – Nachlauf) = Umschaltpunkt.

Toleranz +/ -: Die Eichvorschrift ist zu beachten.

Leermeldung: Gewicht ab wann der Sack für den Programmablauf nicht mehr „Leer“ ist

Eingabefelder:

Schaltunkt 1 [kg]: Schalpunkt für die Umschaltung von Grobstrom auf Mittelstrom

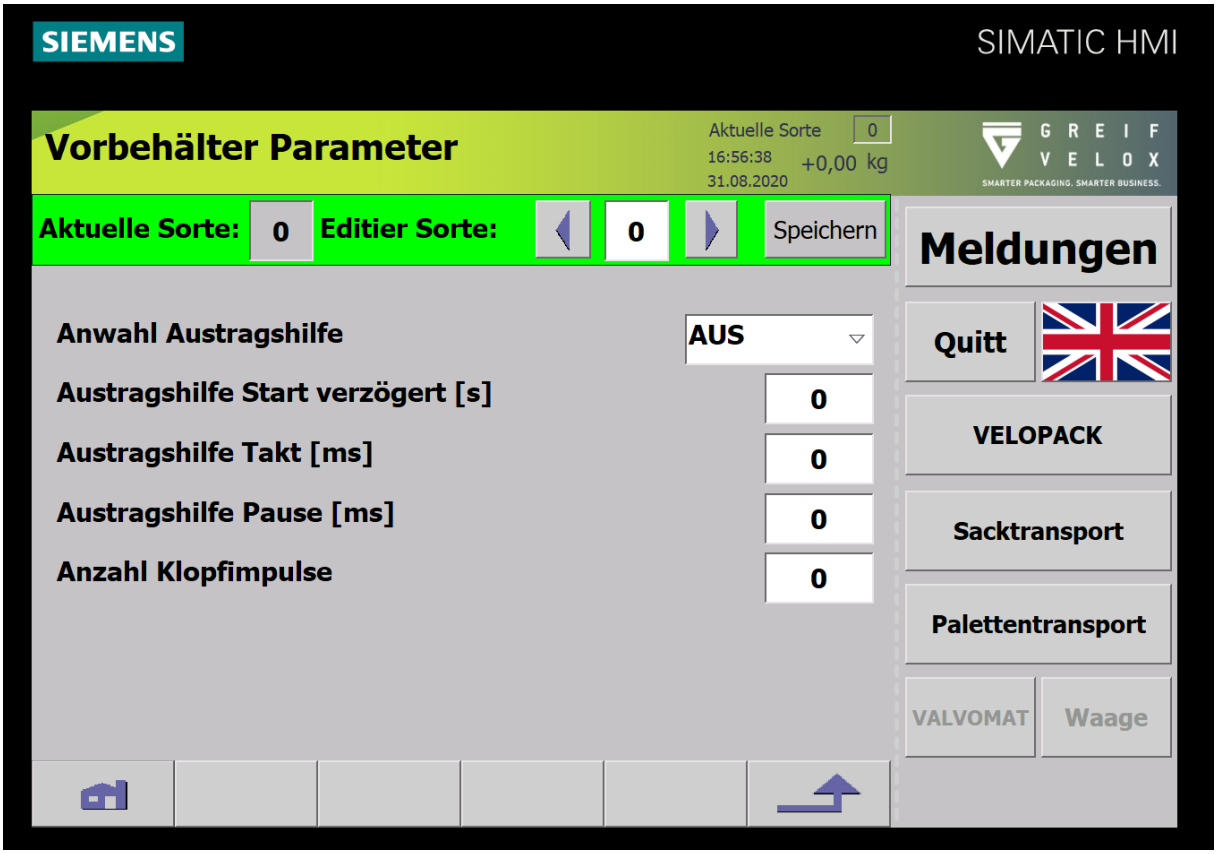
Schaltpunkt 2 [kg]: Frei verfügbarer Schaltpunkt, wird aktuell nicht verwendet

Mindestdurchfluss 1 [kg/s]: Mindestdurchfluss der erreicht werden muss.

Tara- / Nullstellzyklus: Wie häufig wird das Tara Nullgestellt.

Toleranzüberprüfung: Wie häufig wird eine Kontrollwägung gemacht.

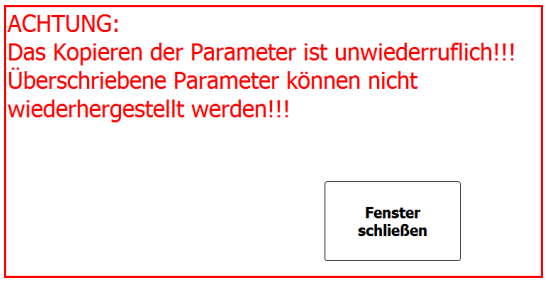
6.3.3.3.3 Parameter pre hopper

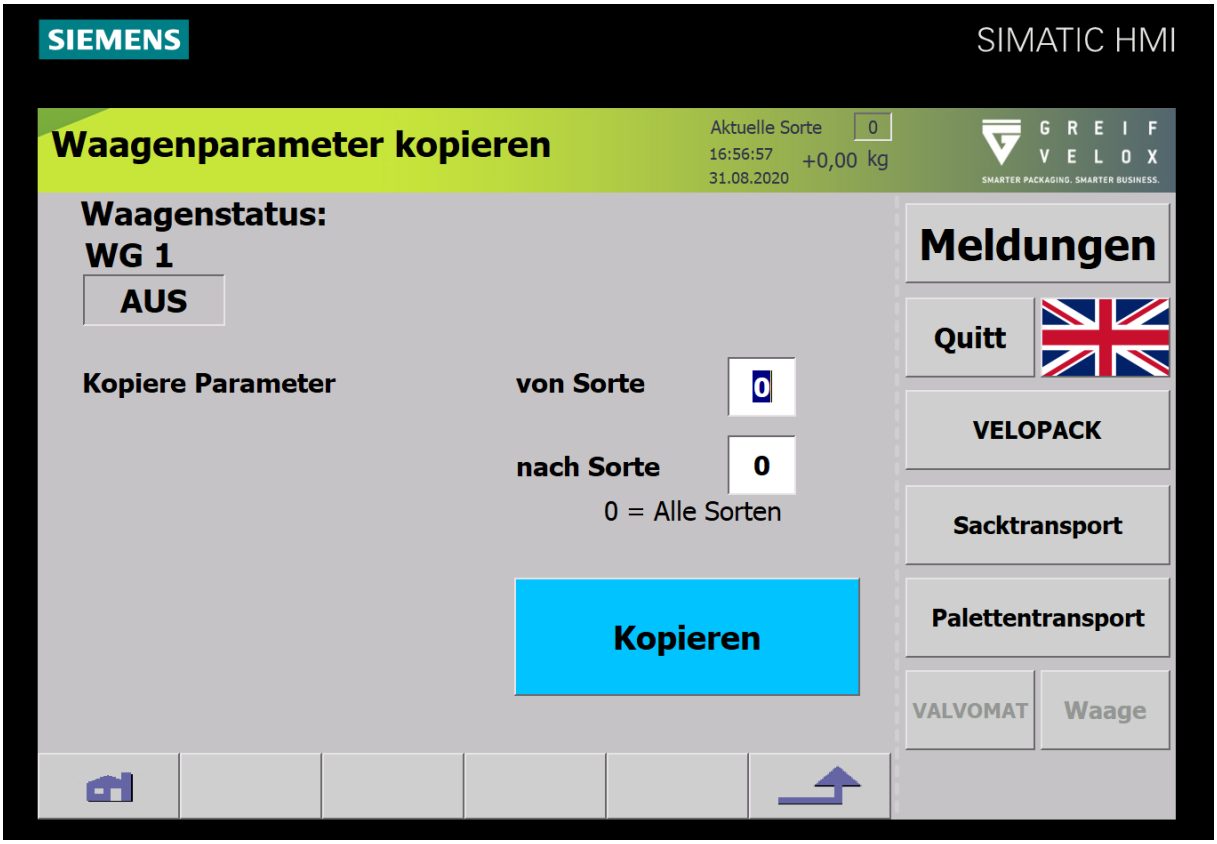


6.3.3.3.4 Copy parameters

Durch Berühren der Taste „Parameter kopieren“ wird das Fenster „Waagenparameter kopieren“ aufgerufen.

Bevor das Fenster aufgerufen wird, wird folgender Hinweis eingeblendet:





Um die Eingabearbeit der sortenbezogenen Parameter zu erleichtern, können die Parameter in neue Sorten kopiert werden.

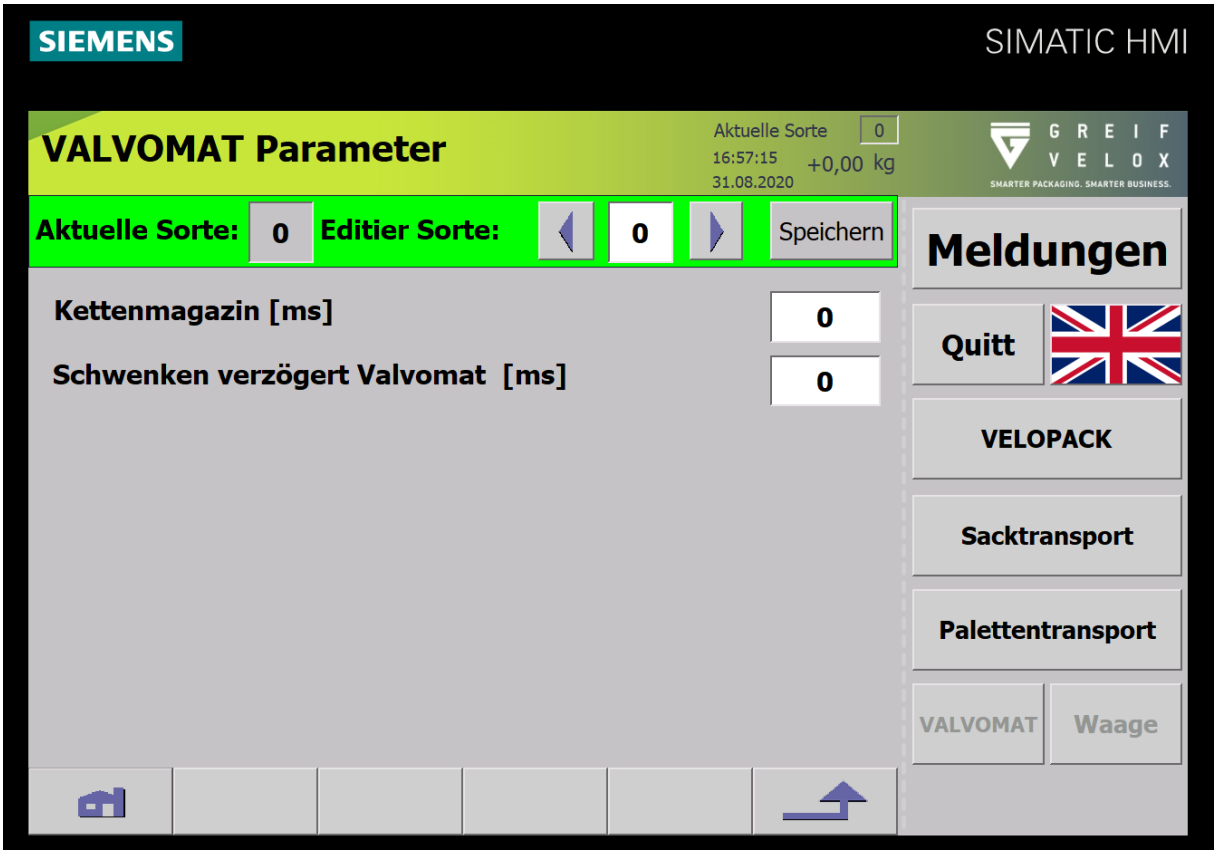
Zunächst muss die Quelle gewählt werden (Sorte, von der die Parameter kopiert werden sollen). Schließlich muss noch die Zielsorte gewählt werden (Sorte, wohin die Parameter kopiert werden sollen).

Es besteht auch die Möglichkeit, einen Parametersatz in alle Sorten zu kopieren. In diesem Fall muss im letzten Eingabefeld „Alle Sorten“ ausgewählt werden. Wenn alle Eingaben gemacht wurden, wird der Kopiervorgang mit Drücken der Funktionstaste „Kopieren“ ausgeführt“. Der Kopiervorgang wird durch kurzes Einblenden des Textes „Parameter kopiert...“ abgeschlossen.

> Das Kopieren der Parameter ist nur bei **ausgeschalteter** Waage möglich!

6.3.3.3.5 Parameters VALVOMAT

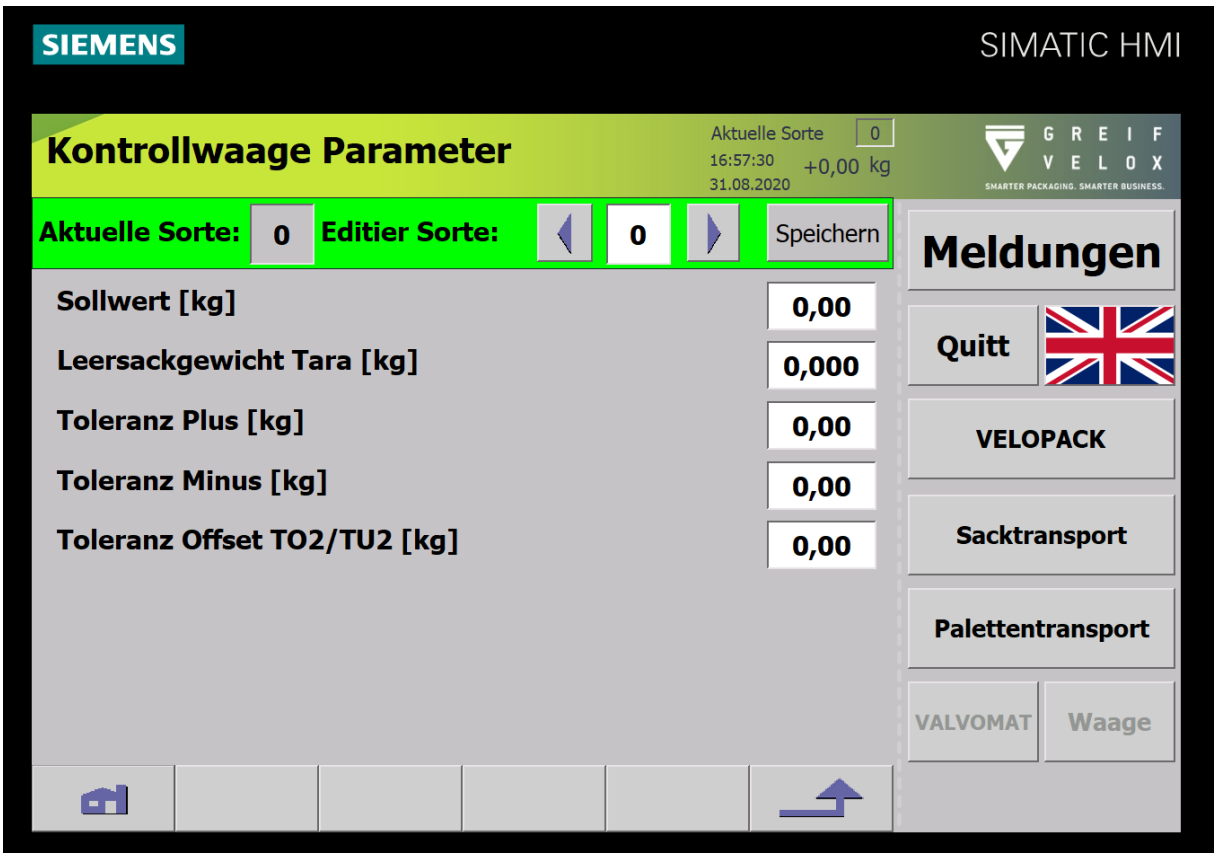
Durch Berühren der Taste „Parameter VALVOMAT“ wird das Fenster „VALVOMAT Parameter“ aufgerufen.



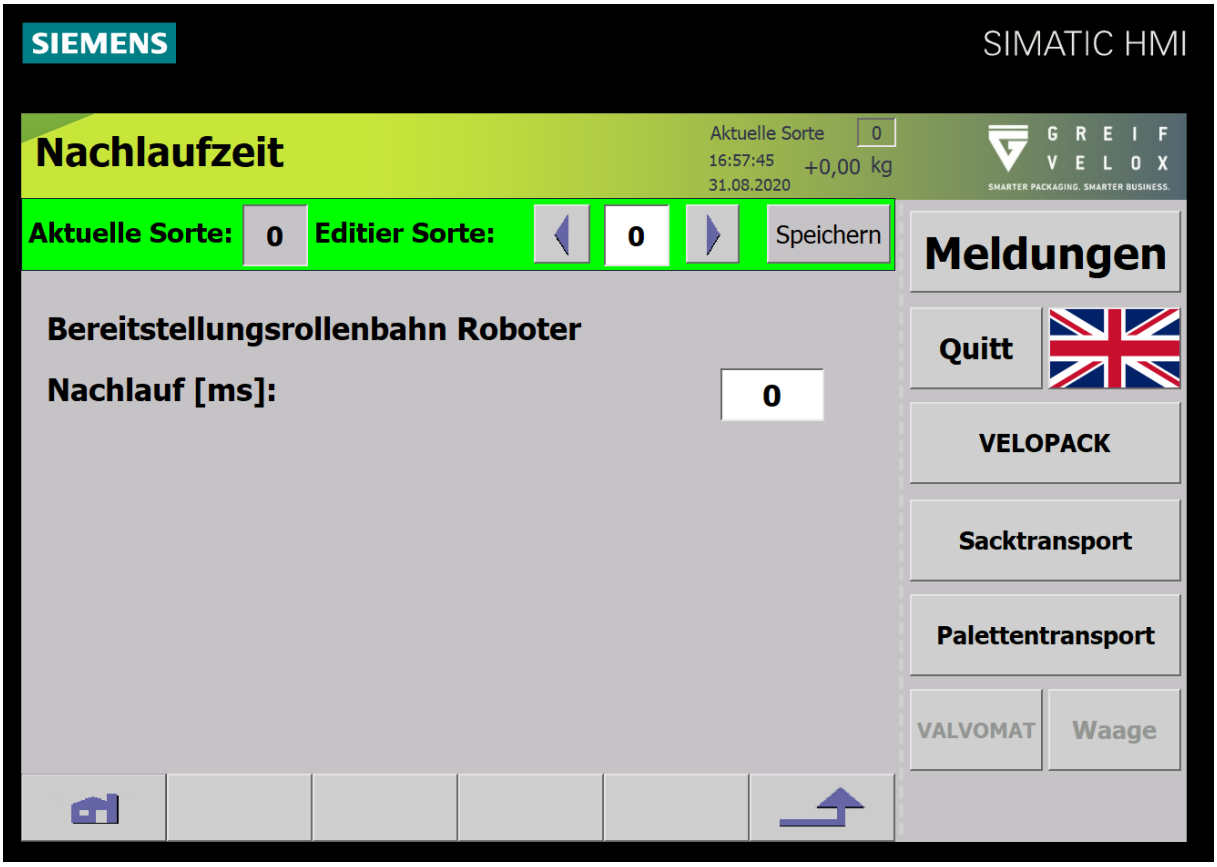
Eingabefelder:

Schwenken verzögert Valvomat: Aufsteckverzögerung für den Aufsteckarm. Lange Säcke haben die Möglichkeit des Auspendelns.

6.3.3.3.6 Parameters checkweigher



6.3.3.3.7 Parameters VELOPACK



6.3.3.4 Current values

Durch Berühren der Taste „Aktualwerte“ wird das Fenster „Aktualwerte Waage“ aufgerufen.

Dieses Fenster verschafft einen Überblick über den aktuellen Status der Waage.

Angezeigt werden: die aktuelle Sorte, das Sollgewicht, ob sich die Waage im Grob –oder Feinstrom befindet, den aktuellen Schritt der Wäge Elektronik, das Ist-Gewicht und das Gewicht der letzten Dosierung.


SIEMENS
SIMATIC HMI
Aktualwert Kontrollwaage
Aktuelle Sorte
0
16:58:29
31.08.2020
+0,00 kg
GREIF VELOX
SMARTER PACKAGING. SMARTER BUSINESS.
+0,00 kg NET
Letzte Dosierung:
+0,00
kg NET
Meldungen
Quitt
VELOPACK
Sacktransport
Palettentransport
VALVOMAT
Waage

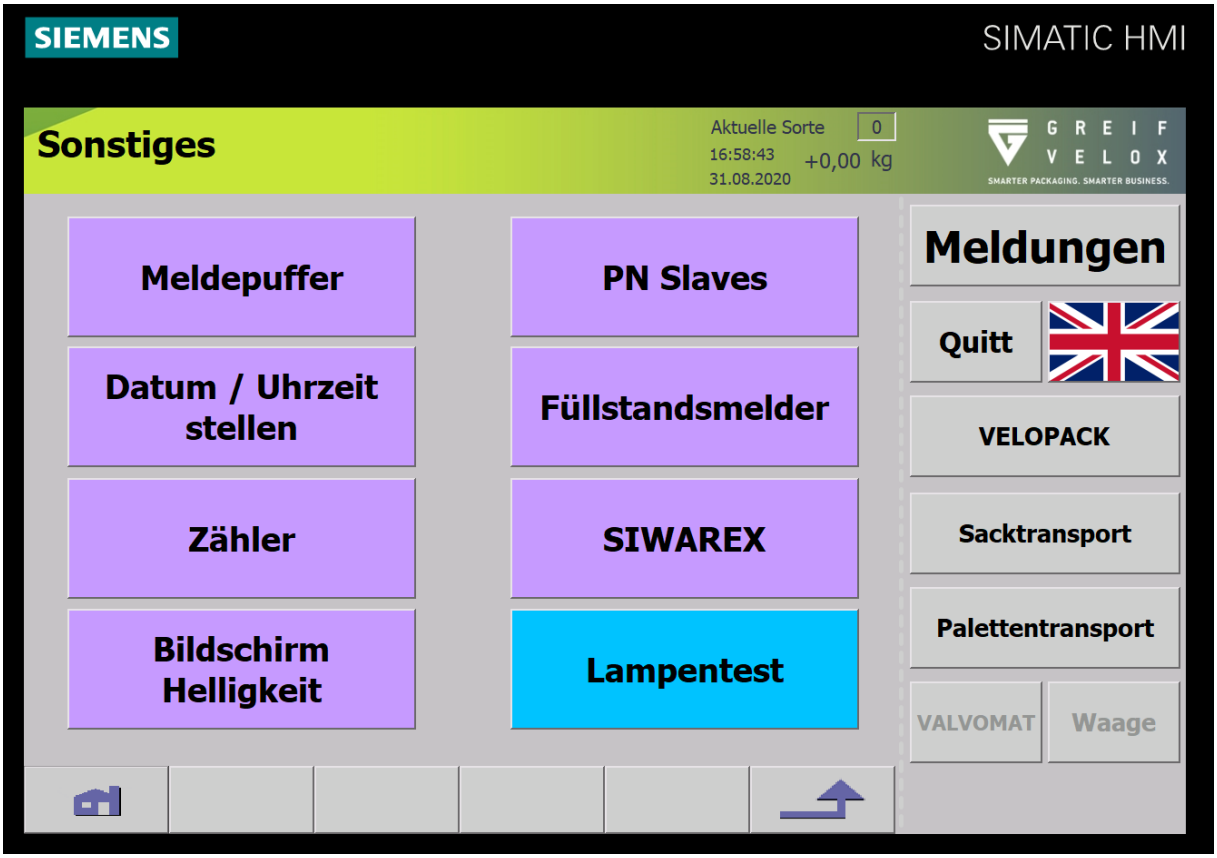
6.3.3.5 Misc.

Durch Berühren der Taste „Sonstiges“ wird das Fenster „Sonstiges“ aufgerufen.

Sonstiges ist in acht Bereiche unterteilt.

- Meldepuffer
- Datum / Uhrzeit stellen
- Zähler
- Bildschirm Helligkeit
- PN Slaves
- Füllstandsmelder
- SIWAREX
- Lampentest

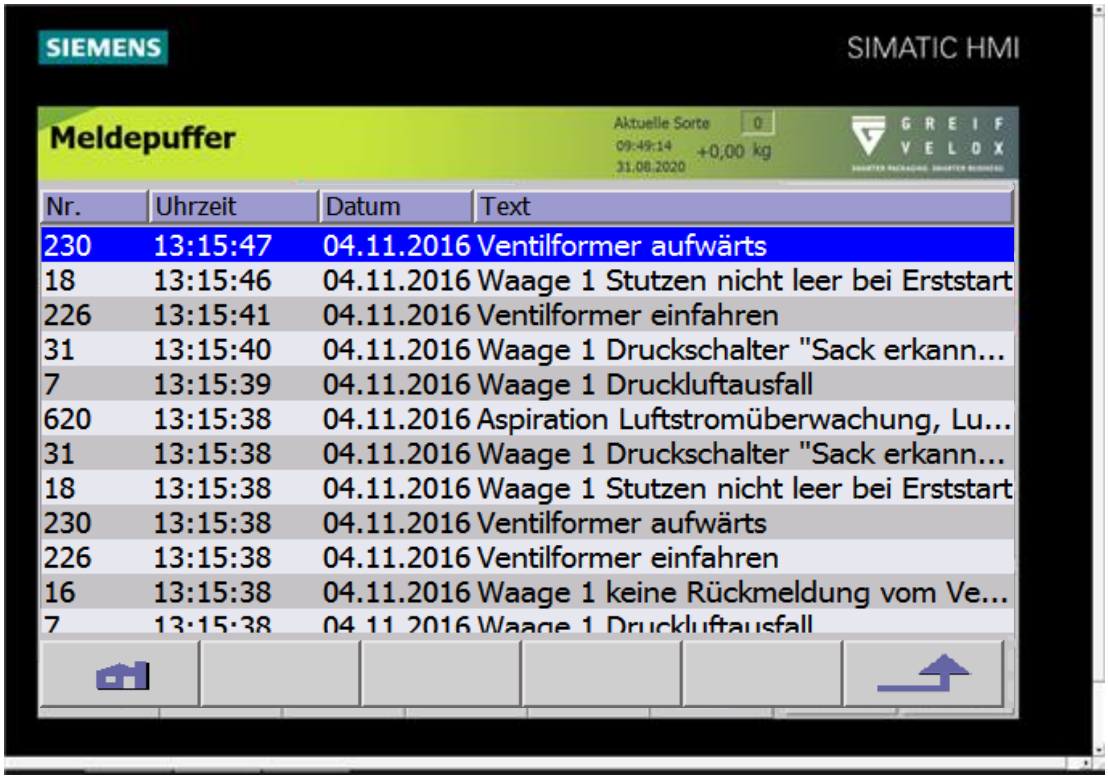
Durch Berühren der Tasten, wird der jeweilige Bereich aufgerufen.



Durch Berühren der Funktionstaste „Lampentest“ werden alle Lampen in der Anlage eingeschaltet.

6.3.3.5.1 Message buffer

Durch Berühren der Taste „Meldepuffer“ wird das Fenster „Meldepuffer“ aufgerufen.

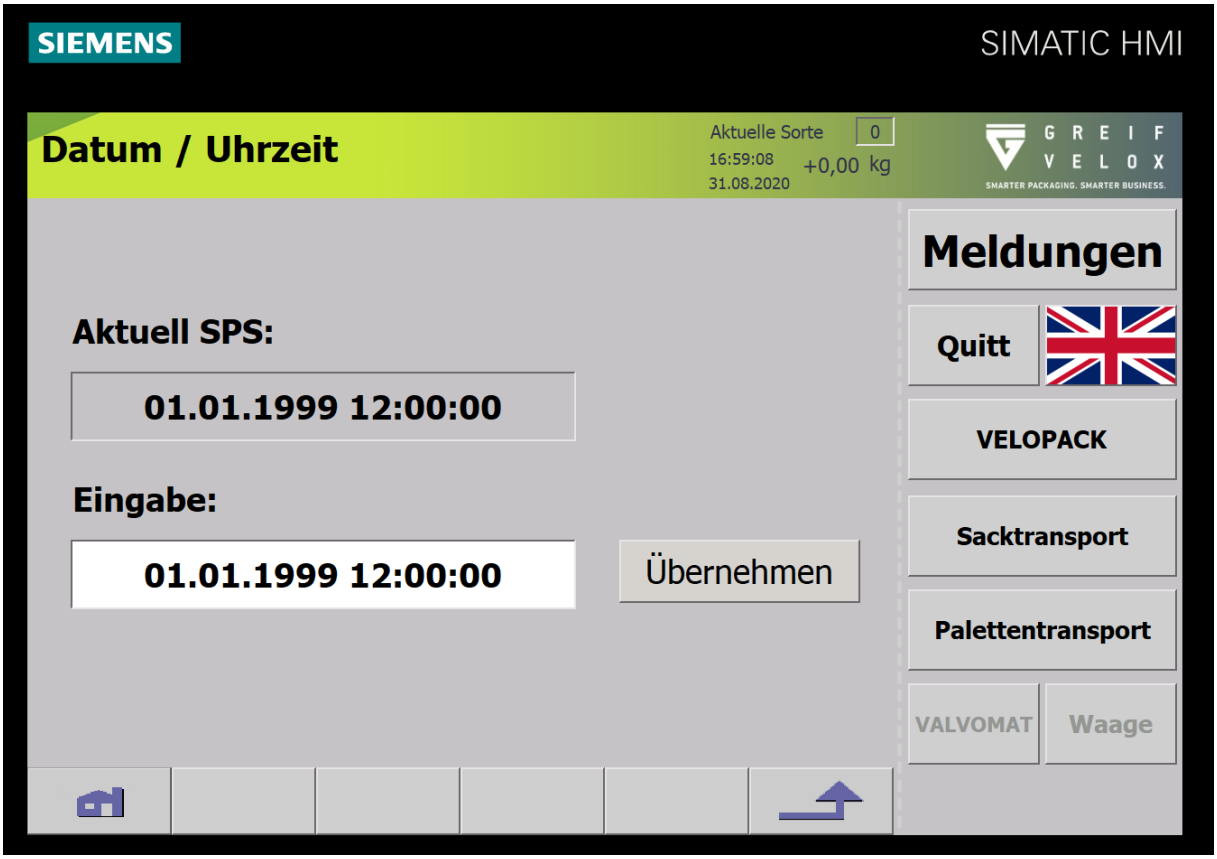


In diesem Bild sind alle Störmeldungen in einer Historie aufgelistet. Die Größe des Meldepuffers ist abhängig vom Bediengerätetyp. Der Meldepuffer kann über die Taste „Puffer löschen“, sowie über Unterbrechung der Versorgungsspannung des Bedienpanels gelöscht werden.

> Die Taste „Puffer löschen“ ist Passwort geschützt!

6.3.3.5.2 Set date/time

Durch Berühren der Taste „Uhrzeit stellen“ wird das Fenster „Datum / Uhrzeit“ aufgerufen.

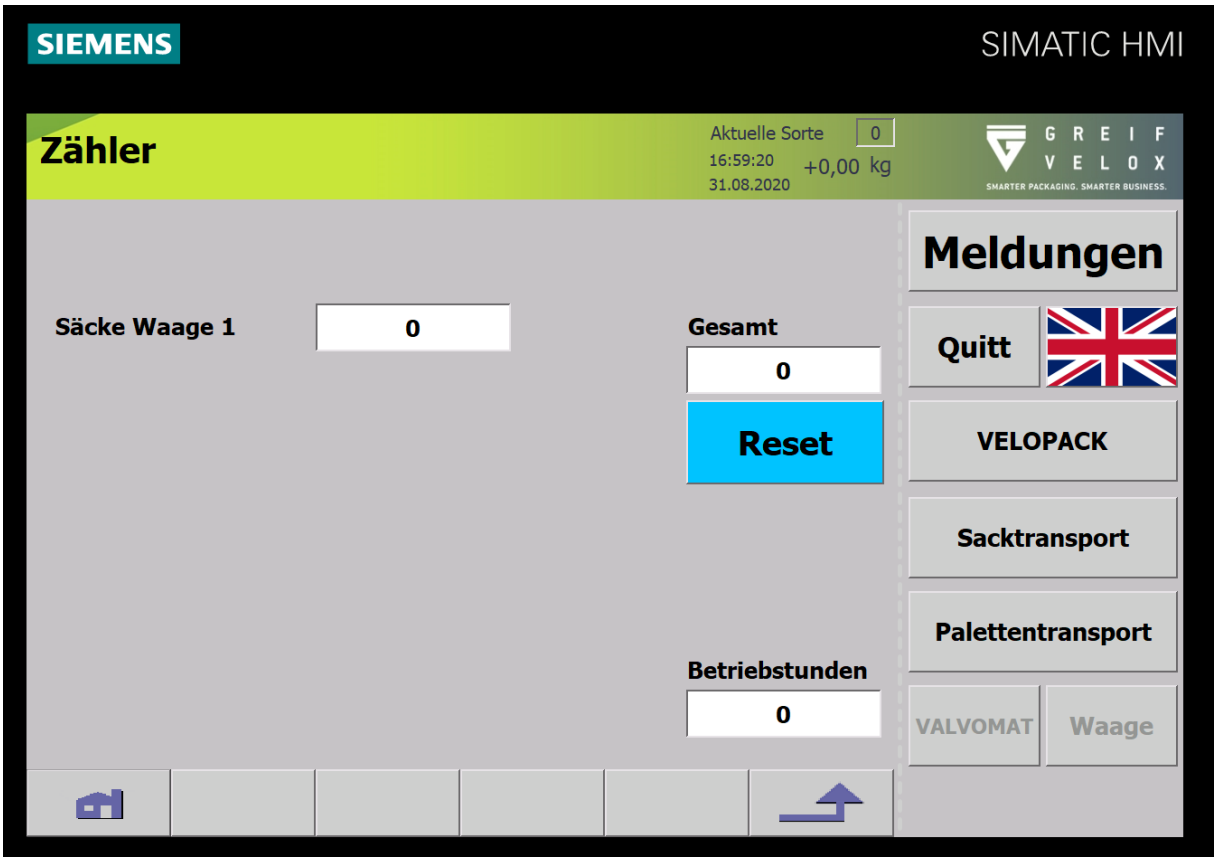


In diesem Fenster kann man die Uhrzeit und das Datum einstellen.

> Die Taste „Übernehmen“ ist Passwort geschützt!

6.3.3.5.3 Counter

Durch Berühren der Taste „Zähler“ wird das Fenster „Zähler“ aufgerufen.

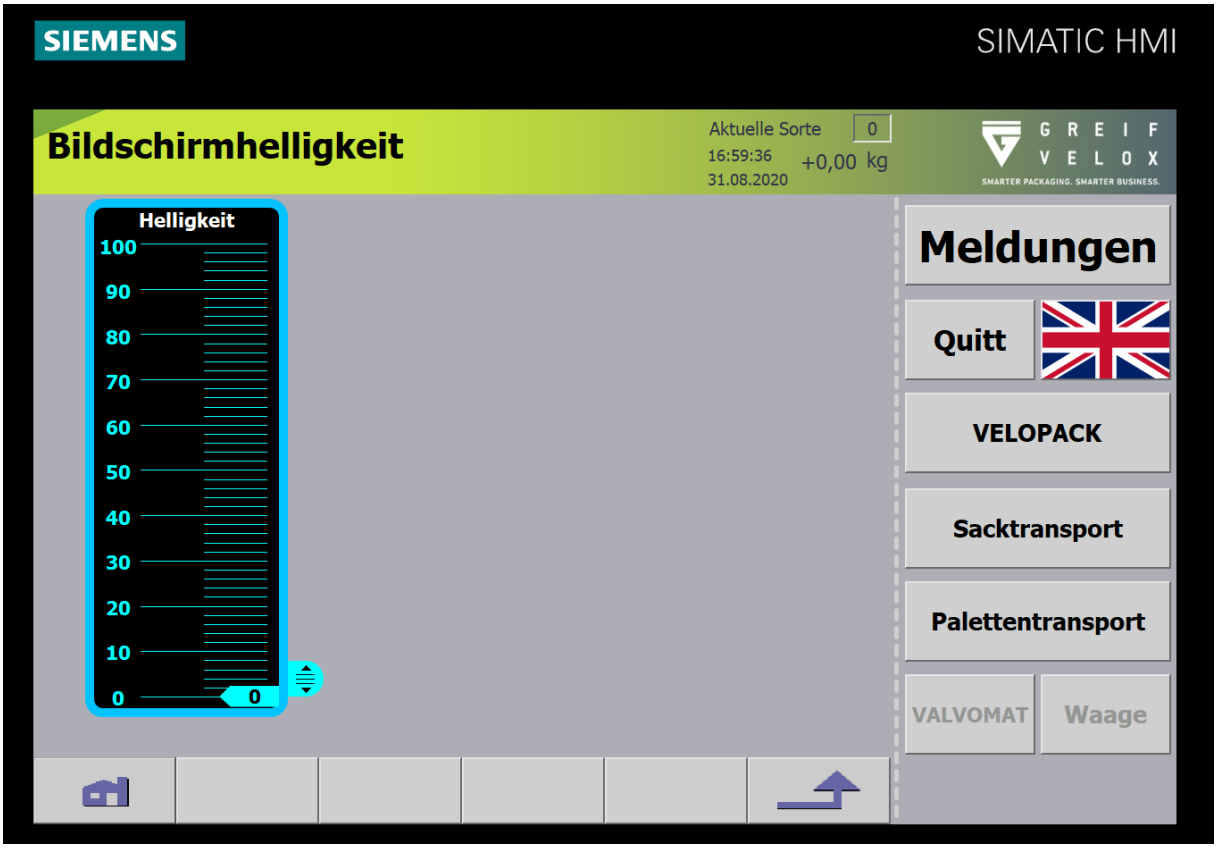


In diesem Fenster werden die Anzahlen der abgefüllten Säcke (Unterscheidung GUT-, Fehl- und Metallsack) und die Betriebsstunden der Anlage angezeigt.
Der Zähler „Gesamt Auftrag“ zeigt die Summe aller Säcke an.

Alle Zähler werden mit Auftragsstart zurückgesetzt.

6.3.3.5.4 Screen brightness

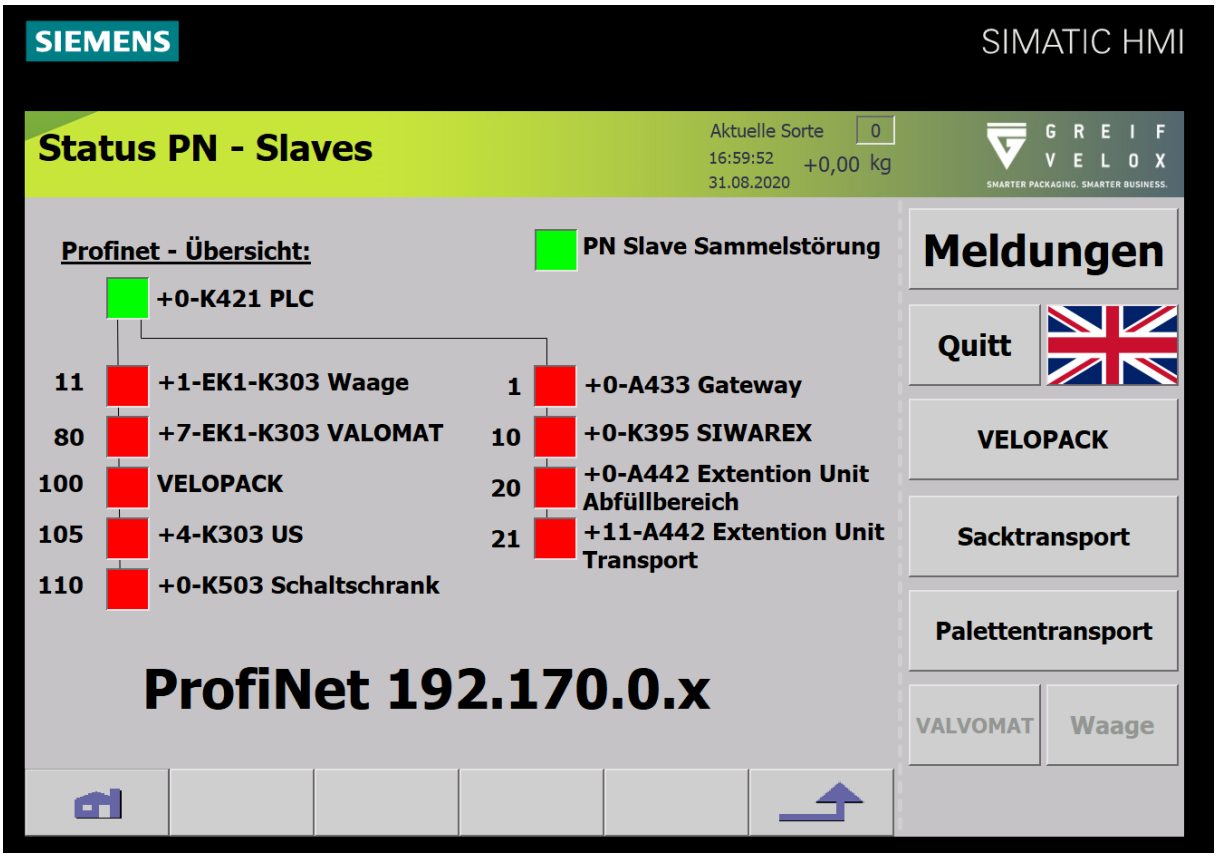
Durch Berühren der Taste „Bildschirm Helligkeit“ wird das Fenster „Bildschirmhelligkeit“ aufgerufen.



Mit dem Schieberegler wird die Helligkeit des Bildschirms eingestellt.

6.3.3.5.5 PN Slaves

Durch Berühren der Taste „PN DSlaves“ wird das Fenster „Status PN - Slaves“ aufgerufen.



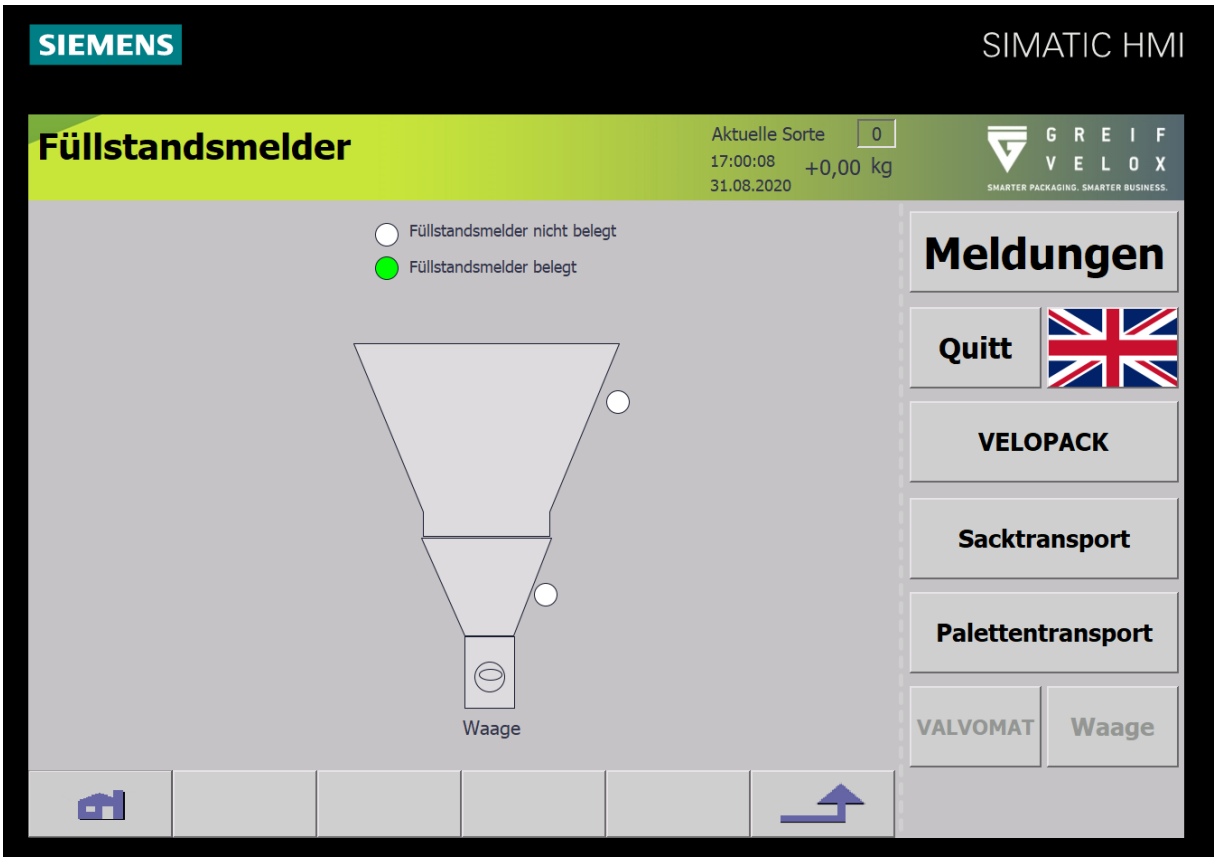
In diesem Bild wird der aktuelle Zustand der Profinet-/Profibusteilnehmer gezeigt.

Grün: Profinet-/Profibusteilnehmer online

Rot: Profinet-/Profibusteilnehmer offline

6.3.3.5.6 Level indicator

Durch Berühren der Taste „Füllstandsmelder“ wird das Fenster Füllstandsmelder aufgerufen.



In diesem Fenster wird der aktuelle Zustand der Füllstandsmelder gezeigt.

Grün: Füllstandsmelder belegt

Weiß: Füllstandsmelder nicht belegt

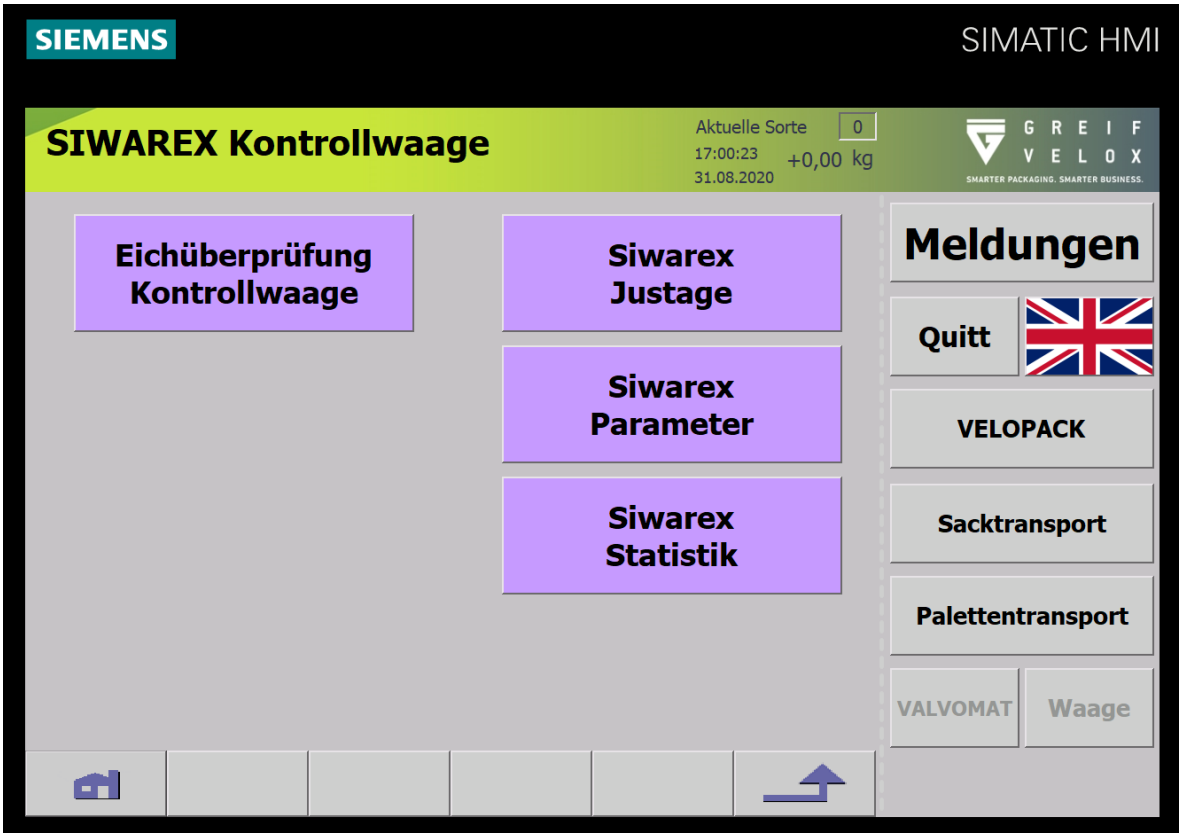
6.3.3.5.7 SIWAREX

Durch Berühren der Taste „SIWAREX“ wird das Fenster „SIWAREX“ aufgerufen.

Das Menü ist in vier Bereiche unterteilt.

- Eichüberprüfung Waage
- Justage Waage
- Siwarex Parameter
- Siwarex Statistik

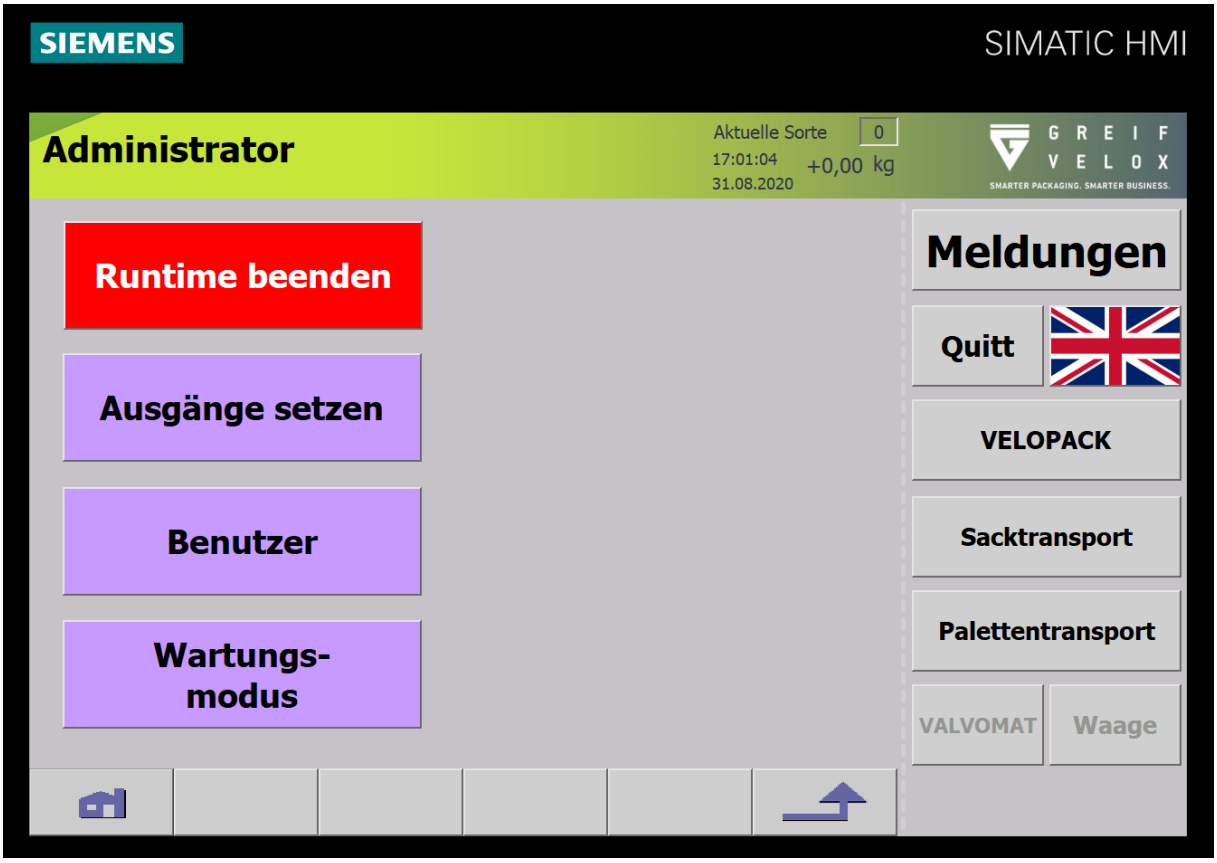
Durch Berühren der Tasten, wird der jeweilige Bereich aufgerufen.



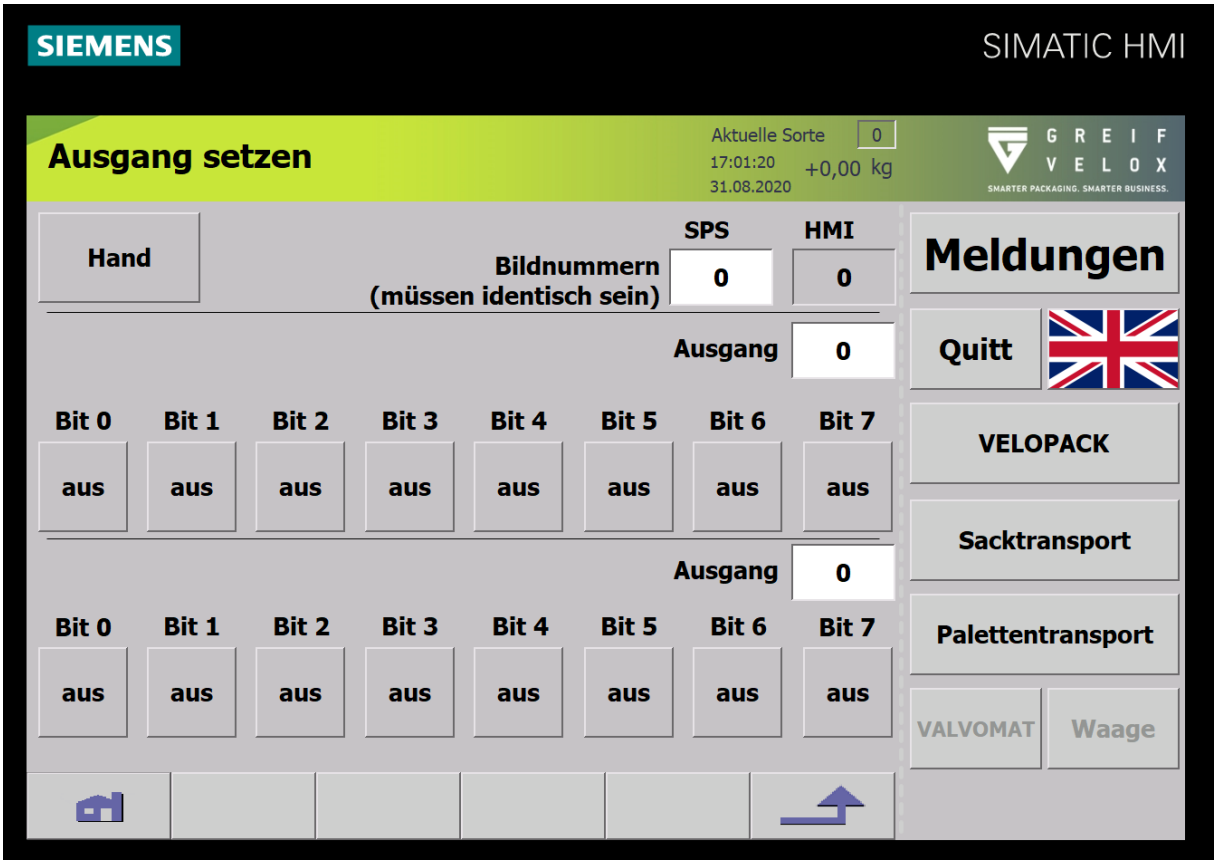
6.3.3.5.8 Lamp test

Durch Berühren der Funktionstaste „Lampentest“ werden alle Lampen in der Anlage eingeschaltet. Die Lampen bleiben so lange an, wie der Benutzer die Funktionstaste gedrückt hält.

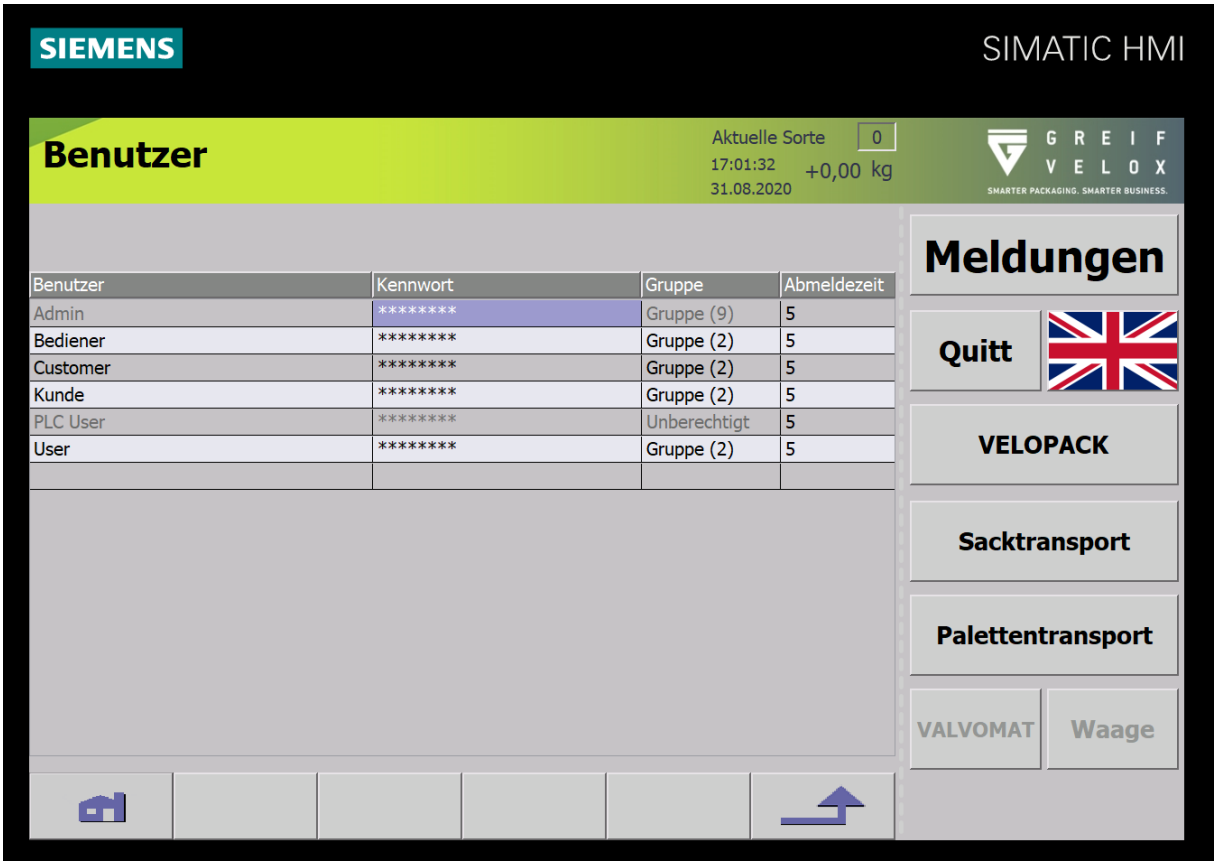
6.3.3.6 Admin



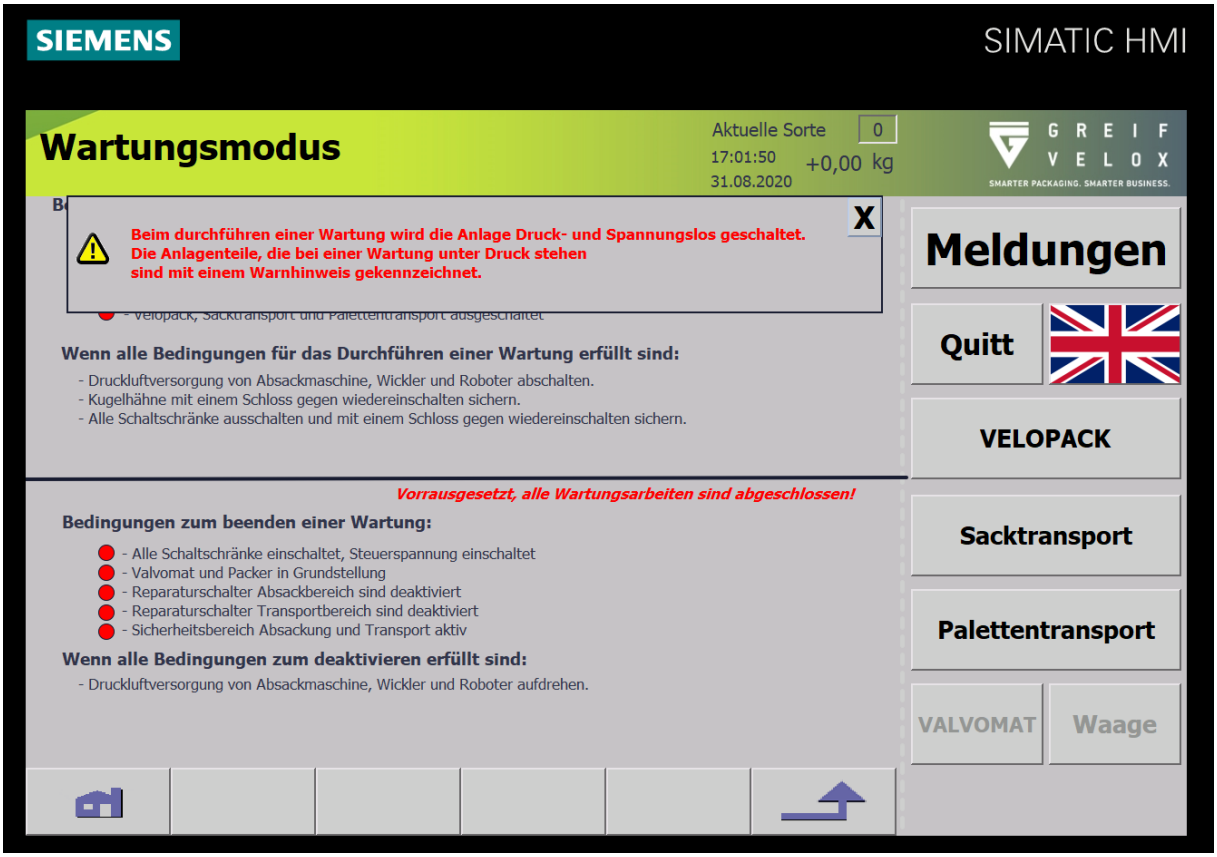
6.3.3.6.1 Set digital outputs

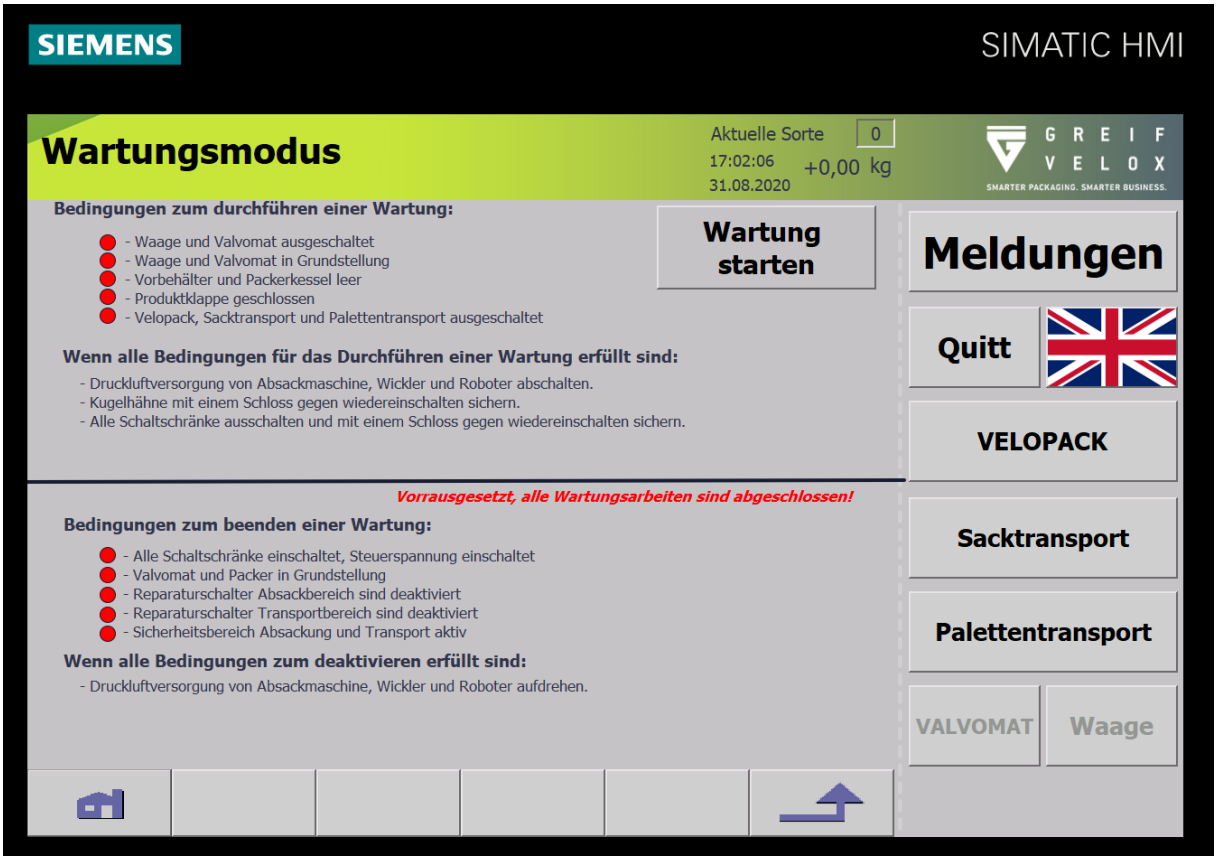


6.3.3.6.2 User


SIEMENS
SIMATIC HMI
Benutzer
Aktuelle Sorte
0
17:01:32
31.08.2020
+0,00 kg
GREIF VELOX
SMARTER PACKAGING. SMARTER BUSINESS.
Benutzer
Kennwort
Gruppe
Abmeldezeit
Admin
****
Gruppe (9)
5
Bediener
****
Gruppe (2)
5
Customer
****
Gruppe (2)
5
Kunde
****
Gruppe (2)
5
PLC User
****
Unberechtigt
5
User
****
Gruppe (2)
5
Meldungen
Quitt
VELOPACK
Sacktransport
Palettentransport
VALVOMAT
Waage

6.3.3.6.3 Maintenance-mode




SIEMENS
SIMATIC HMI
Wartungsmodus
Aktuelle Sorte 0
17:02:06 +0,00 kg
31.08.2020
GREIF VELOX
SMARTER PACKAGING. SMARTER BUSINESS.
Bedingungen zum durchführen einer Wartung:
- Waage und Valvomat ausgeschaltet
- Waage und Valvomat in Grundstellung
- Vorbehälter und Packerkessel leer
- Produktklappe geschlossen
- Velopack, Sacktransport und Palettentransport ausgeschaltet
Wartung starten
Wenn alle Bedingungen für das Durchführen einer Wartung erfüllt sind:
- Druckluftversorgung von Absackmaschine, Wickler und Roboter abschalten.
- Kugelhähne mit einem Schloss gegen wiedereinschalten sichern.
- Alle Schaltschränke ausschalten und mit einem Schloss gegen wiedereinschalten sichern.
Vorrausgesetzt, alle Wartungsarbeiten sind abgeschlossen!
Bedingungen zum beenden einer Wartung:
- Alle Schaltschränke einschaltet, Steuerspannung einschaltet
- Valvomat und Packer in Grundstellung
- Reparaturschalter Absackbereich sind deaktiviert
- Reparaturschalter Transportbereich sind deaktiviert
- Sicherheitsbereich Absackung und Transport aktiv
Wenn alle Bedingungen zum deaktivieren erfüllt sind:
- Druckluftversorgung von Absackmaschine, Wickler und Roboter aufdrehen.
Meldungen
Quitt
VELOPACK
Sacktransport
Palettentransport
VALVOMAT
Waage

6.4 Troubleshooting and error correction

The following table lists the most common fault and error notifications which are indicated on the panel. In the case of other notifications, you can contact the Greif-Velox service team at any time.

Number	Description	Reaction	Possible cause	Measure
7	Scale 1 compressed air failure	Scale does not start Scale aborts dosing	Compressed air pressure too low Hose defect	Increase compressed air pressure Replace hose
12	Scale 1 fill speed = no weight increase	Scale aborts dosing	Product defect Defective bag	Check product feed Check valve bag
17	Scale 1 spout not free at first start	Scale cannot be switched on	There is still a bag on the spout	Remove bag
18	Scale 1 spout not empty at first start	Scale cannot be switched on	There is still a bag on the scale Product or foreign objects are on the scale	Remove bag, remove foreign objects Clean scale
31	Scale 1 pressure switch "Bag detected" continuously has a 1 signal	Scale does not start	Bag detection is dirty Controller incorrectly set	Clean Reset controller
129	VALVOSEAL® 1 US generator fuse failure	Sealing does not start	Fuse failure	Activate fuse
136	VALVOSEAL® 1 bag valve not detected	Sealing does not start	Bag valve is not in correct position	Realign the bag
322	Metal detector error/fault	Scale is switched off Scale cannot be switched on	See metal detector panel	See metal detector panel

329	Metal detector fuse failure 230 V DC	Scale is switched off Scale cannot be switched on	Fuse failure	Activate fuse
594	24 V fuse failure	Diverse failures	Fuse failure	Activate fuse
595	Product change not possible: Scale or VALVOMAT® not turned off	Product not adopted	Scale still activated	Turn scale off
598	3x metal bags one after the other	Notification on the panel	Metal in the container Incorrect detector settings	Check settings
599	No Ethernet connection to the control system	Notification on the panel	Defective cable	Check the cable
620	Aspiration airflow monitoring, airflow too low	Dosing does not start	Airflow too low Airflow monitors incorrectly set	Check airflow Adjust settings

In the event that you cannot remedy faults by yourself, GREIF-VELOX can provide assistance or send a service team at any time.

7 Commissioning

Initial commissioning is always carried out by a Greif-Velox employee.

7.1 Testing safety devices

Before the system is placed into operation, make sure that there is no one in or working on the machine and that no one would be in danger if the machine or conveyor system were turned on.

- Check that all protective equipment and safety devices have been correctly installed, locked and are functional.
- Remove any installation and maintenance aids from the machine, such as supports, assembly fixtures, tools, cleaning cloths or waste following assembly.
- After completing a task, remove any tools, resources used and other loose parts.

- Never leave the system unattended during performance checks or test runs.
- Never perform a test run alone where possible. Make sure that a second person can turn the machine off in the event of danger.
- If a test run produces results which fall below expectations, only take corrective action when the machine has been safely switched off.

Only turn the system on when there is no risk of material damage or anyone being put in danger due to the machine running or goods being conveyed.

- Always keep the system in view during a test run and stay close to electrical controls and the emergency stop button.
- Make sure you are familiar with how the emergency stop button works.
- Some buttons are reset by turning the knob and others by pulling.
- Try out every emergency stop button on the machine.
- If the machine malfunctions during the test run and presents a risk of damage, the emergency stop button must be working.

NOTE

We strongly advise that the machines are set up and put into operation by our knowledgeable staff.

Otherwise GREIF-VELOX will not be able to accept any warranty claims.

7.2 Starting the system

7.2.1 Preconditions:

- ✓ No EMERGENCY STOP button pressed
- ✓ Control voltage on
- ✓ Safety light curtain activated (empty pallet magazine)
- ✓ Safety door closed and locked
- ✓ Safety light curtain activated (drop-off)
- ✓ Bags available in magazine
- ✓ Remove bags from the positioning arm and the scales (if necessary)
- ✓ Product available

7.2.2 Procedure:

1. Acknowledge and delete faults (if necessary)
2. Close and lock door(s)
3. Safety light curtain not occupied
4. In the "Selection" navigation page under "Product selection", select and apply the correct product type.
5. Press the green "System start/stop" button on the control box.

   Proceed as follows:

   - Turn on Scale 1, VALVOMAT® and Bag transport.
   - Turn off Manual operation and Run to empty, Lock start-up and Lock bag release for all scales.
   - ✓ Green button lights up

(The system components can also be turned on individually using the control buttons → green button lights up.
Run to empty OFF, Lock start-up OFF, Lock bag release OFF for the individual scales and can be selected via the operation pages.)

1. Automatic bagging starts.

Other controls:

- If the system has started ("System start/stop" button lights up), it can be turned back off by pressing the button again.
- If the system has been turned on with the "System start/stop" button, individual system components can be turned back off using the control buttons.

7.2.3 Commissioning with product (if necessary using substitute product)

NOTE	The machine must only be operated by trained personnel. It must only be operated when free of technical defects and in a safe, alert way in accordance with its intended use and these operating instructions.

Before starting the system, ensure that:

- ✓ the machine is wired and connected to an electrical power supply
- ✓ the machine is piped and connected to a pneumatic power supply
- ✓ the suction unit is turned on
- ✓ the low pressure compressor is turned on
- ✓ a supply of the product to be filled is in the pre-filling tank.

The functional test can only commence if the check result is positive.

7.2.4 Test run

Preconditions:

- ✓ No EMERGENCY STOP button pressed
- ✓ Control voltage on
- ✓ Product available

Procedure:

- ✓ Acknowledge and delete faults (if necessary)
- ✓ In the "Selection" navigation page under "Product selection", select and apply the correct product type.
- ✓ Press the green "System start/stop" button on the control box.
  This automatically:
  - turns on the scale
  - turns off Manual operation and Run to empty, Lock start-up and Lock bag release for the scale.

  The green "System start/stop" button lights up.

- ✓ Bagging is ready for operation.

NOTE	Run to empty OFF, Lock start-up OFF and Lock bag release OFF for the scale can also be selected via the operation pages.

NOTE	If the system has started ("System start/stop" button lights up), it can be turned back off by pressing the button again.

NOTE	If the system has been turned on with the "System start/stop" button, individual system components can be turned back off using the control buttons.

NOTE	Position the valve bag far enough onto the filling spout that it can be gripped by the bag clamp, but not so far that the bag blocks the product flow.

With scale ON on the operating panel:

- Bag clamp closes briefly (check whether a bag is still positioned on the spout and that the scale is signalled as free (i.e. there is no half-filled bag on scale)).

Bagging procedure

- Position bag on the spout
- Press the "Close bag clamp" button (controls on packer)
- The packer checks with the bag clamp whether the bag is correctly positioned
- The bag is correctly positioned → dosing commences.
- When dosing finishes → bag clamp opens

✓ The filled valve bag can be removed.

By operating the two-hand controls again:

- the bag carriage moves backwards
- the lateral adjustment mechanism closes.

✓ The pneumatic packer is ready for the next bag.

⚠ WARNING	**Product dust**
	When the bags are released after filling, it is possible that product dust may escape. If the product is hazardous, safety measures must be taken accordingly (eye protection, respiratory protection and safety gloves).

7.2.5 Machine acceptance and load test

Once the trial run has been completed successfully and the system has been run in, machine acceptance is carried out with a full-load test. Together with the owner, the performance data of the system is determined, recorded and compared with the data from the specifications.

Additionally, the completeness of the delivery and the functionality of all safety devices are assessed and recorded.

If all values match the terms which have been contractually agreed, an SAT protocol is filled out and signed.

7.2.6 Note regarding checklists

There are a series of checklists for the commissioning and trial run of the system. They help you perform the necessary tasks. The checklists ensure that no work is forgotten or overlooked which may lead to damage to the system.

7.2.7 Note regarding calibration

After a successful trial run, the system must be approved by the competent weights and measures authority.

The owner must make an application and report the calibration to the relevant authorities. The weights required for calibration must be provided by the owner.

Our experienced service personnel will be happy to assist you with the calibration process.

8 Functional description

8.1 How BVP works

The BVP pneumatic packer works according to the pneumatic packer principle, whereby the bulk material is filled into valve bags using fluidisation air as a carrier medium.

1. The product is gravimetrically fed into the fluidisation pipe through a pre-filling tank installed above the filling machine.
2. If the product covers the fill level gauge, the closing flap is closed.
3. From the fluidisation pipe, the product is fed through the filling spout into the valve bags with fluidisation air.
4. Once the target weight of the bag has been reached, the pinch valve closes.
5. Any residual product still in the filling spout is blown into the valve bag by the discharge nozzle.
6. The bag carriage then moves forwards and the filled valve bag is sealed.
7. The bag clamp serves to fix the valve bag on the spout and monitors the proper positioning of the valve bag.
8. The aspiration system sucks in any escaped product together with the surrounding air and directs the dust/air mixture to the filter system.

9 Cleaning and maintenance

GEFAHR	Vor Beginn aller Arbeiten ist der Maschinenstillstand gegen unbefugtes/irrtümliches Einschalten zu sichern.

- Nach den ersten 500 Betriebsstunden der Maschine sind sämtliche Schraubverbindungen zu kontrollieren und gegebenenfalls nachzuziehen. Dies gilt besonders für Verbindungen an beweglichen Bauteilen, wie z.B.: Motorbefestigung, Kettenrad/Ritzel, Zylinderbefestigung, Verdichter/Pumpe, Schalter, usw.
- Einmal im Monat sollten vorhandene Kettenbefestigungen, Laufräder, Zylinderdichtungen und Verschleißschienen der Ketten kontrolliert werden.
- Verschleiß kann durch regelmäßiges Warten und häufiges Reinigen auf ein Minimum reduziert werden.

Pneumatiksystem

- Für die einzelnen Komponenten des Pneumatiksystems gelten die beigefügten Vorschriften und Betriebsanweisungen des jeweiligen Herstellers.
- Ferner ist der Ölstand im eventuell vorhandenen Ölnebler der Wartungseinheit täglich zu kontrollieren und gegebenenfalls zu reinigen.

Wälzlager

- Alle von GREIF-VELOX eingesetzten Wälzlager sind mit einer Lebensdauerschmierung versehen und sind wartungsfrei.

Ketten

- Vorhandene Ketten sind in regelmäßigen Zeitabständen zu kontrollieren. Wir empfehlen diese Kontrolle einmal in der Woche durchzuführen.
- Gegebenenfalls sind die Ketten nach zu spannen oder zu verkürzen.
- Weiterhin sollen die Ketten regelmäßig geschmiert werden.
- Die Schmierintervalle sind vom Kunden spezifisch zu ermitteln.

Antriebs-, Getriebemotoren

- Für verwendete Motoren gelten die beigefügten Vorschriften und Betriebsanweisungen des jeweiligen Herstellers.
- Bremsmotoren müssen in regelmäßigen Abständen kontrolliert und gegebenenfalls nachgestellt werden. Die Angaben in den Betriebsanleitungen der Hersteller sind unbedingt einzuhalten.

Aspirationsleitungen

- Aspirationsleitungen sind regelmäßig, einmal in der Woche, zu überprüfen und gegebenenfalls zu reinigen.

Potentialausgleich

- Der Betreiber ist verpflichtet, die gelieferte Anlage/Maschine in sein Potentialausgleichsystem einzubeziehen und regelmäßig zu überprüfen

Persönliche Schutzausrüstung

- Bei Wartungs- und Reinigungsarbeiten sowie gegebenenfalls beim Betrieb der Anlage/Maschine müssen ausführende Personen persönliche Schutzausrüstungen tragen bzw. benutzen, entsprechend den beim Betreiber geltenden Vorschriften!

9.1 Umgebungsbedingungen

- Die Umgebungstemperatur im Betrieb soll zwischen +5 und +40° C betragen.
- Die Umgebungsluft darf keine korrosiven Bestandteile enthalten, die Schäden an der Anlage hervorrufen können.
- Unmittelbar am Aufstellungsort der Maschine muss eine Mindest-Leuchtstärke von 250 LUX vorhanden sein.
- Starke Vibrationen können die Wäge Genauigkeit beeinträchtigen, elektrische und mechanische Schäden hervorrufen und sind unbedingt zu vermeiden.
- Die Wäge Elektronik darf nicht in unmittelbarer Nähe von elektrischen Anlagen mit starken elektromagnetischen Feldern installiert werden.
- Bei Aufbau und Installation der Anlage muss auf eine konsequente räumliche Trennung von störbehafteten und störempfindlichen Leitungen geachtet werden. Der Mindestabstand zu Kraftleitungen muss 0,5 m betragen. Alle Mess- und Signalleitungen müssen abgeschirmt und geerdet sein.
- Zu beachten ist die Anweisung der Installationsvorschriften VDE 0185, Teil 1 und 2, in Bezug auf Blitzschutz, Erdung, Schirmung und Netzversorgung.

9.2 Reinigung der produktführenden Anlagenteile

Für die Reinigung der produktführenden Anlagenteile sind folgende Maßnahmen, vor dem Start des Reinigungsprogrammes, durchzuführen:

- Restentleerung der Anlage
- Manuelle Reinigung der Anlage

Produktreste, die eine Schicht dicker 1mm bilden, müssen durch Absaugen entfernt werden.

Nassreinigung der Anlage ist nicht zulässig!

Reinigungsanweisungen

Staubschichten dicker 1mm:

Absaugen

Staubschichten unter 1mm:

Abwischen mit einem feuchten Tuch

Zugelassene Reinigungsgeräte

Feuchte Tücher

Reinigungsstoffe (Wasser, Laugen, …)

Reinigungsstoffe können entsprechend den betrieblichen Notwendigkeiten verwendet werden.

Die Anwender müssen im Umgang mit diesen Substanzen geschult sein, um eine Gefährdung auszuschließen.

Zu jedem Reinigungsmittel muss ein Sicherheitsdatenblatt verfügbar sein.

9.3 Maintenance schedules of plant components

9.3.1 Maintenance schedule VALVOSEAL®

Component	Maintenance work	Maintenance interval
Sonotrode and Ambos	Check for wear	1500 operating hours
linear guiding	Moderately lubricate	1500 operating hours

Please use LGMT 2 (SKF) for lubrication.

9.3.2 Maintenance schedule VALVOMAT

Component	Maintenance work	Maintenance interval
Gear motors	• Oil level at the gear • check and refill if necessary *Immediately eliminate leaks. Do not let any leaks seep into the ground!* Readjusting the brake	according to manufacturer's instructions but no later than every 1000 operating hours
Pneumatic cylinder	Check piston rod sealing	approx. 300 operating hours
Pneumatic hoses	Check for kinks and ageing	approx. 1500 operating hours
Guides and rollers	• Check for wear • Check guide clearance	approx. 300 operating hours

Toothed belt	Check for wear	approx. 300 operating hours

9.3.3 Maintenance schedule robot gripper

Component	Maintenance work	Maintenance interval
vacuum control valve	Check the functioning	approx. 300 operating hours
flaps	Check the functioning	approx. 300 operating hours
three-way ball valves	Check the functioning	approx. 300 operating hours
angle seat valves	Check the functioning	approx. 300 operating hours
sack ejector	Check the functioning	100 operating hours

10 Disassembly and disposal

10.1 Disassembly

DANGER

Suspended loads

Only use load-handling equipment that has a sufficient load-bearing capacity and is free of technical defects and damage.

Never stand or work under suspended loads.

- When lifting system components, only use slinging equipment that is free of technical defects and has a load-bearing capacity that is at least equivalent to the weight lifted.
- Never stand or work under suspended loads. Protect the components from damage.
- Keep transport routes clear and secure internal transport by taking suitable measures.
- Loads must be set down carefully and immediately positioned to protect them against tipping or rolling, as well as from falling objects and other dangers, e.g. being hit by a forklift.
- Ensure there is enough space to put down the components safely.

10.2 Personnel qualifications

See section "Safety", **Chapter 2.5** "Qualifications".

10.3 Transport safety devices

Use the transport safety devices included with the delivery of the system to protect system parts and components from damage during transport.

If you need assistance, contact the service department of GREIF-VELOX.

GREIF-VELOX

Service Department

Kronsforder Landstrasse 177

23560 Lübeck

Tel.: +49 451 / 5303-267

Fax: +49 451 / 5303-233

10.4 Safety instructions for hazardous substances

The system does not contain any hazardous substances.

10.5 Disposal

Disposal according to valid regulations (EU, country-specific)

Protect the environment

The disposal of machines, machine parts, consumables and operating materials is partly subject to statutory regulations. Detailed information is provided by the responsible administrative authority (e.g. water management and environmental offices at federal and state level). Only dispose of waste at authorised collection points.

Recycling

The recyclable materials that have been used are:

- Steel,
- Plastics,
- Electrical equipment,
- Rubber, oils,
- Others

Valid standards and regulations must be observed.

11 Technical Data

Product data

	PPS
grain size (mm):	40 – 60 µm
Bulk density (kg/m³):	500 – 740
product temperature (°C):	30 °C
humidity:	5 – 6,5 %

free flowing	free from lumps	dusty	hygroscopic	bridging
yes	yes	yes	yes	yes

Weighing data

Weighing range:	9,5 – 30 kg
Filling weight:	10 and 15 kg
	The 10 kg-bags must be recorded statistically and checked by a calibrated checkweigher (included in the scope)
Accuracy:	According to OIML Calibration rules (X1)

Output

134 bags per hour with 15 kg for SAT. Performance is up to 165 bags per hour for design of the machine according to the bagging trials executed on the 15th of November 2019 and the retrials on the 5th of December 2019

To obtain the indicated accuracy- and output data, following pre-conditions should be fulfilled by Fuji Oil:

- The weighing and filling properties of the product should correspond to those indicated prior to contract award resp. to the sample.
- constant density and consistent structure and flow characteristics within one product type
- product flow in sufficient quantity, securing a uniform stock above the filling machine/weigher
- suitable packing material
- environment free of vibrations
- regular operation and maintenance of plant as per Greif-Velox-maintenance instructions

Container data

Type:	Valve bag
Material:	Paper with PE-inliner
Dimensions:	420 x 550 x 140 mm (W x L x H)
Inside valve width:	140 mm
Outside valve length:	approx. 50 mm with hotmelt/PE-inside coating 80 gr/m²
Air permeability:	min. 50m³/h by a difference in pressure of 5.000 Pa

Electrical power supply

Main voltage:	3 Ph / N / PE 400 V AC
max. voltage deviation:	-10 % / + 6 %
Auxiliary voltage:	230V
Frequency:	50Hz
max. frequency deviation:	± 2%
Protection class:	min. IP 54
Control voltage:	24 V DC (generated in control cabinet)
Installed power:	Approx 46 kW with the use of a low-pressure compactor

Compressed air (Compressed air quality according to ISO 8573-1 class 1.2.1)

Pressure:	min. 6 bar high pressure on site at the appliance
Volume:	Approx 35 Nm³/h with the use of a low-pressure compactor

Materials

All parts in contact with product are made of stainless steel 1.4301 (SS304). Internal product hopper's surface polished. Surface roughness will be less than 0.8 µ. All further component parts of lacquered mild steel. Rubber parts are FDA approved.

Color range

Basic color machine elements:	RAL 9006 white aluminum
Moving plant components:	Pantone 382C Lime Green

3rd pary components according to manufacturer standard	
Safety fence:	RAL 7037 dusty grey (manufacturer's standard)
Motor drives:	RAL 7031 blue grey(SEW-Standard)
Control cabinets:	RAL 7035 light grey (Rittal-Standard)

Design and standards according to

CE, EG, EN, DIN, DIN EN 60204-1 and VDE. EHEDG standard may be followed as good as possible in terms to surface roughness. Cleaning procedure is described (2306494-D-P-SP-0004_V01.0_Packaging URS) as a dusting off the internal surfaces with compressed air after production. The plant will be CE marked by Grief-Velox after installation and commisssiong.
Max. equivalent continuous sound level in the working area of operating personnel ≤ 80 dB(A).

Operation conditions

Operation conditions:	dry indoors, free of vibrations or shocks
Dust ex zones	Not applicable for equipment poutside the filling room
Ambient temperature:	+ 5°C to + 35°C
Operating time:	continuously 8 hours a day, 250 days per year