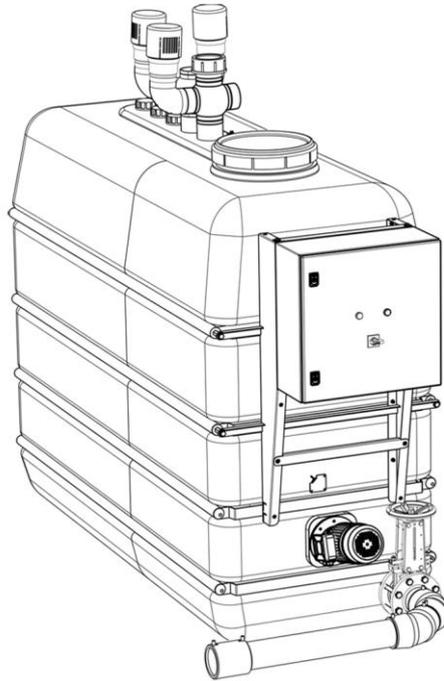


# Duo tank system

Food waste collection system

## Original operating instructions



EN



**Before using the machine, read carefully the operating instructions, the product description and the safety instructions.**



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# 1 Notes on the operating instructions

## 1.1 Product identification

These operating instructions apply to the following machine types:

**Duo tank system**  
M012FWTA10M1-10

## 1.2 Delivery contents

The delivery contents include:

- Tank system according to order
- Documentation, for details see Related documents

## 1.3 Related documents

In addition to these operating instructions, there are other documents that are available depending on the authorisation:

<b>Operator/operating company (included in delivery contents)</b>	
EC/EU declaration of conformity	Spare parts list
Wiring diagram	Assembly plan (in advance)
Documentation of further components specific to the order	Short operating instructions on tank draining
<b>Authorised service technician</b>	
Service manual	

## 1.4 Presentation conventions

### 1.4.1 Warnings

**⚠ DANGER** – indicates an imminently hazardous situation which, if not avoided, will result in serious injury or death.

**⚠ WARNING** – indicates a potentially hazardous situation which, if not avoided, could result in serious injury or death.

**⚠ CAUTION** – indicates a possible hazardous situation which, if not avoided, could result in minor or moderate injury or damage to property.

### 1.4.2 Notices on use



**Note** – indicates useful and important information about the product or its use.

### 1.4.3 Award elements

Description of the markup elements used in this document:

- ✂ Required tool for subsequent action instruction.
- ▶ Requirement to be met for subsequent action instruction.
- 1. Successive action steps.
- ↳ Interim result for individual action steps.
- ✓ Final result of an action instruction.
- A bullet point designates a list.
- [ ] Terms in square brackets indicate keys.
- (1) Position numbers shown in parentheses in the text refer to position numbers in illustrations.

### 1.4.4 Symbols

	Read the operating instructions		Manufacturer
---	---------------------------------	---	--------------

### 1.4.5 Illustrations

The illustrations contained in this document are not necessarily true to the original or to scale. The illustration may deviate from the original, e.g. due to modifications to the product, but without diminishing the facts or comprehensibility.

## 2 Declaration of conformity

This section reproduces the content of the EC/EU Declaration of Conformity for the product. The signed EC/EU Declaration of Conformity with serial number is enclosed with the product.

**We hereby declare under our sole responsibility the conformity of the product with the essential requirements of this EC Directive:**

- 2006/42/EC Machinery Directive, OJEU L157/24

**Furthermore, we declare the conformity of the product with the following EU directives:**

- 2014/30/EU Directive on Electromagnetic Compatibility, OJEU L96/79, 29/03/2014
- 2011/65/EU Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment, OJEU L174/88, 01/07/2011
- The safety objectives set out in the Low Voltage Directive 2014/35/EU (OJEU L96/357, 29/03/2014) were met in accordance with Annex I, No. 1.5.1 of the Machinery Directive.

## 3 Safety

### 3.1 Intended use

The tank system is designed for the homogenisation and interim storage of shredded raw organic waste and food waste of the kind that is usually generated in commercial kitchens, hotels, food service and communal catering.

In terms of its technology and interfaces, the tank system is designed to be operated with MEIKO infeed stations.

The tank system may only be operated by trained personnel.

Only operate the tank system when it is in perfect working order.

Only operate the tank system within the limits specified in the ambient conditions.

The tank system is not approved for operation in a potentially explosive environment.

Technical modifications or conversions are not permitted.

The tank system is designed for continuous operation.

### 3.2 Foreseeable misuse

Do not feed in any food waste or other objects through the tank system maintenance openings.

Do not operate the tank system with maintenance openings open.

### 3.3 Safety information

The product has been manufactured in line with the state of the art and the established safety regulations and standards. Nevertheless, its use may result in functional hazards to the life and limb of the user or third parties. Therefore, read and observe the following safety notices before using the product.

#### **Electric shock due to live parts!**

Live parts are freely accessible when the housing parts are open. Touching live parts can lead to serious electric shocks and injure or kill people.

- Have work on the electrical system carried out only by MEIKO authorised service technicians or a qualified specialist workshop.
- Before opening housing parts, always switch off the main switch and secure it against being switched back on.
- Have damaged insulation and components of the electrical system repaired immediately.
- Have damaged power cables replaced immediately.

#### **Risk of slipping due to leakage of liquids!**

Liquids may leak onto the floor during operation. Slip hazard!

- Be careful when liquids accumulate.
- Always wear suitable safety shoes.

### **Wear personal protective equipment!**

Missing or unsuitable personal protective equipment increases the risk of health effects and injury to people.

- Define and provide personal protective equipment for the respective application.
- Only use personal protective equipment that is in proper condition and provides effective protection.
- Adapt personal protective equipment to the person, e.g. size.
- Personal protective equipment includes, for example
  - Work gloves
  - Safety shoes
  - Safety glasses
  - Protective clothing

### **Make sure safety labels and signs remain legible!**

Safety labels and signs on the machine provide warning of hazards at danger points and are important components of the machine's safety equipment. A lack of safety labels and signs increases the risk of serious and fatal injuries to people.

- Clean soiled safety labels and signs.
- Damaged and unrecognisable safety labels and signs must be replaced immediately.

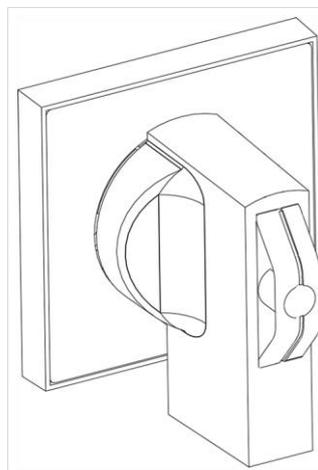
### **Make sure protective devices remain functional!**

If protective devices are missing or damaged, people can be seriously injured or killed.

- Replace damaged protective devices immediately.
- If the protective devices are damaged, shut down the machine.
- Never tamper with, bypass or override protective devices.
- Assemble dismantled protective devices and other parts before commissioning and move them into the protective position.

## **3.4 Safety devices**

### **3.4.1 Emergency off function**



The main switch is designed as an emergency off function. The emergency off function interrupts the power supply to the system. It can be secured against being switched on again.

The emergency off button is located on the control cabinet. It must be easily accessible and free of obstacles at all times.

### 3.5 Safety labels and signs

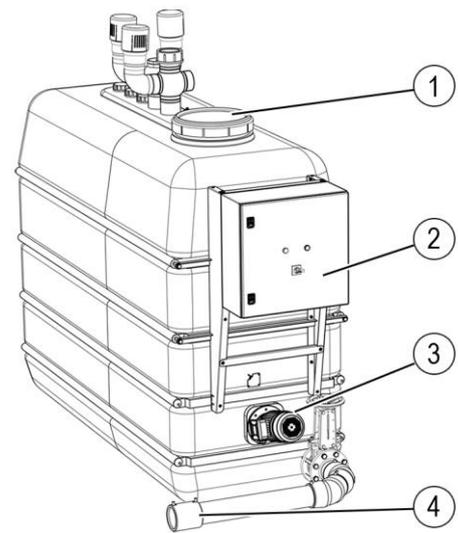
#### 3.5.1 Description of the safety symbols used

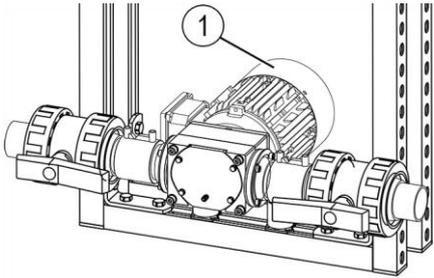
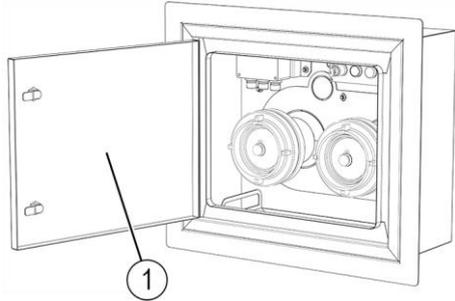
This section describes the safety symbols on the safety labels affixed to the product.

	Warning of electrical voltage
	Warning of hot surfaces
	Warning of choking hazard
	No unauthorised access
	Read instructions
	Wear safety eyewear
	Use fall protection
	Use protective gloves
	Wear protective clothing

#### 3.5.2 Position of the safety labels

This section shows the positions of the safety labels affixed to the product.

Collection tank (installation at ground level)	
	1   
	2  
	3 
	4    

<p><b>Boost pump</b></p> 	1	
<p><b>Tank discharge</b></p> 	1	

### 3.6 What to do in the event of an emergency



- In dangerous situations, disconnect from the power supply using the locally available mains isolator.

### 3.7 Requirements for the personnel

Commissioning, instructions, repairs, maintenance, assembly and installation of or on MEIKO products may only be carried out/authorised by authorised service partners.

During operation it must be ensured that:

- Only adequately trained and instructed personnel are allowed to work on the machine.
- Personnel responsibilities for operation, maintenance and repairs must be clearly defined.
- Any personnel undergoing training are only allowed to work on the machine under the supervision of an experienced person.

**Qualified personnel** as defined by this document are persons who:

- Over 14 years of age.
- Due to their training, experience and instruction are able to perform the required activities.
- Are authorised to perform the required activities by the person responsible for safety of the system.
- Have read and understood the operating instructions and corresponding safety information and will follow them.

The required qualifications for performing specific work at the machine are determined by MEIKO:

Activity	Persons	Trained operating staff	MEIKO-authorised in-house technician	MEIKO-authorised service technician
Installation/assembly				✓
Commissioning				✓
Operation, use		✓	✓	✓
Cleaning		✓	✓	✓
Checking safety devices			✓	✓
Troubleshooting		✓	✓	✓
Troubleshooting, mechanical			✓	✓
Troubleshooting, electrical			✓*	✓
Maintenance			✓	✓
Repairs			✓	✓

\* with training as an electrician



**Note**

The instructions must be acknowledged in writing.

## 4 Product description

The tank system consists of one or more collection tanks with optional components. The possible variants and options are described in the following sections.

The control elements are located on the control cabinet. Depending on the configuration of the tank system, the control cabinet can be located in different places:

- Control cabinet at the collection tank for installation at ground level
- Control cabinet in the building for underground tanks sunk into the ground

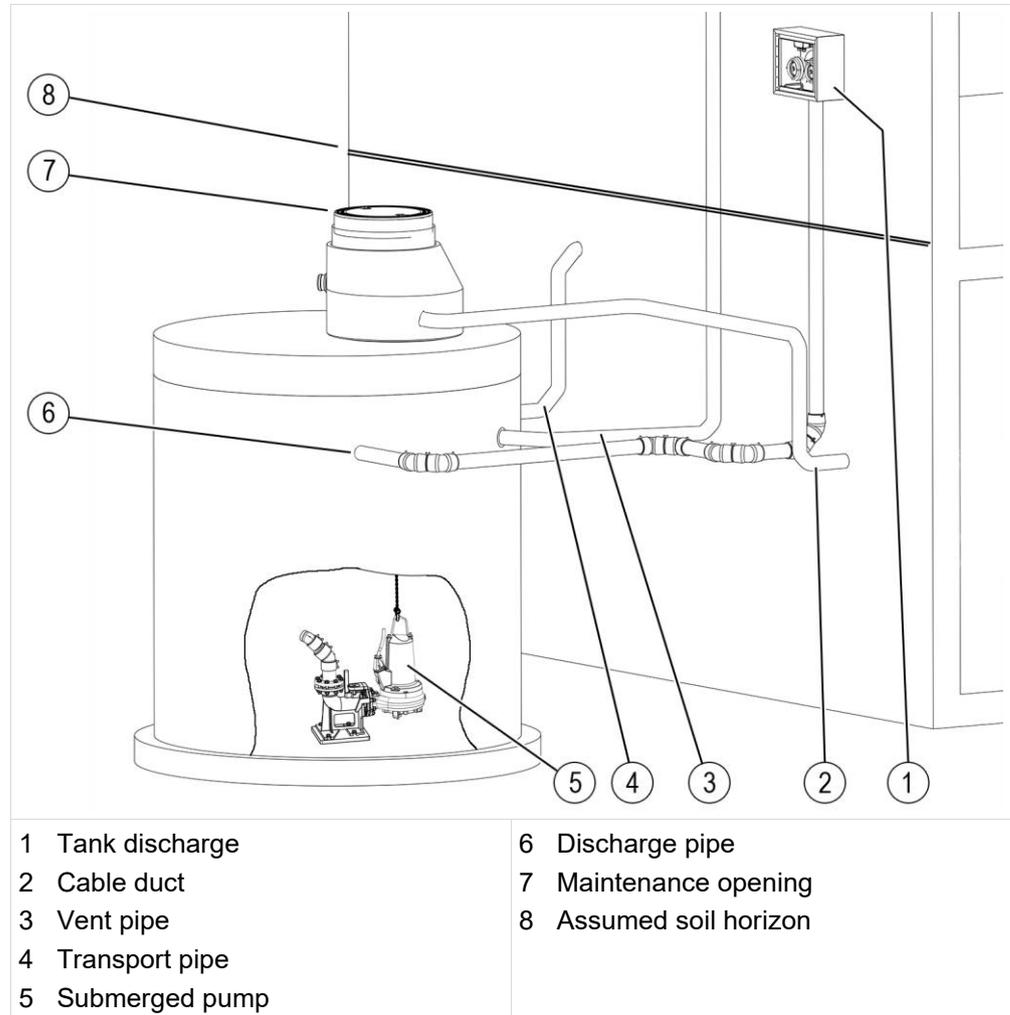
### 4.1 Functional description

Shredded food waste from one or more infeed stations is pumped directly into the collection tank. Grease and sludge from an optionally connected grease separator are pumped into the collection tank via the connection station (CTU). A homogenisation process in the collection tank keeps the biomass in a homogeneous state. When the collection tank is full, it can be emptied via an externally connected discharge pipe.

## 4.2 Overview illustration

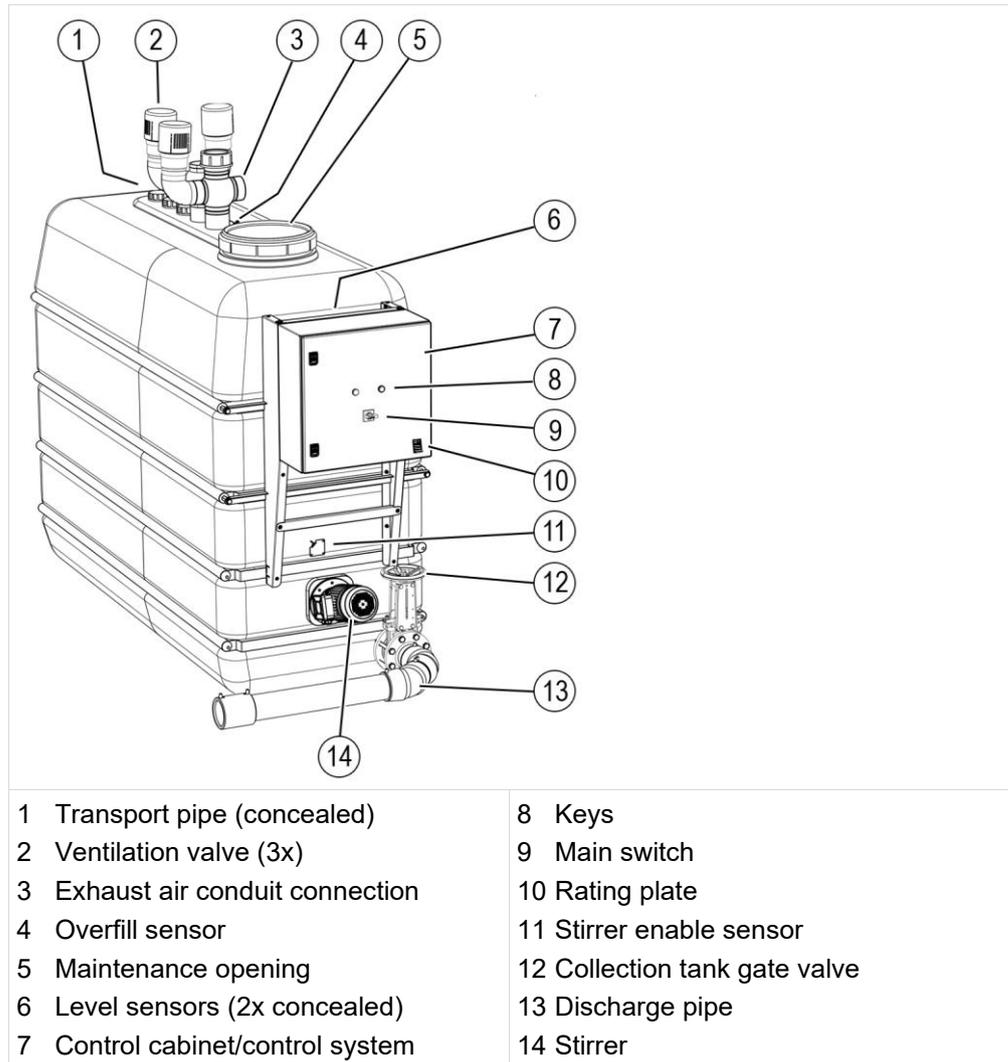
### 4.2.1 Underground tank

Underground tanks are available in a round shape and in various materials. The illustration shows an example of a concrete underground tank. If an underground tank is used, the control cabinet with the control system is located in the building on the wall. The position is indicated in the assembly plan.



## 4.2.2 Rectangular tank

The illustration shows the rectangular tank with all relevant components.

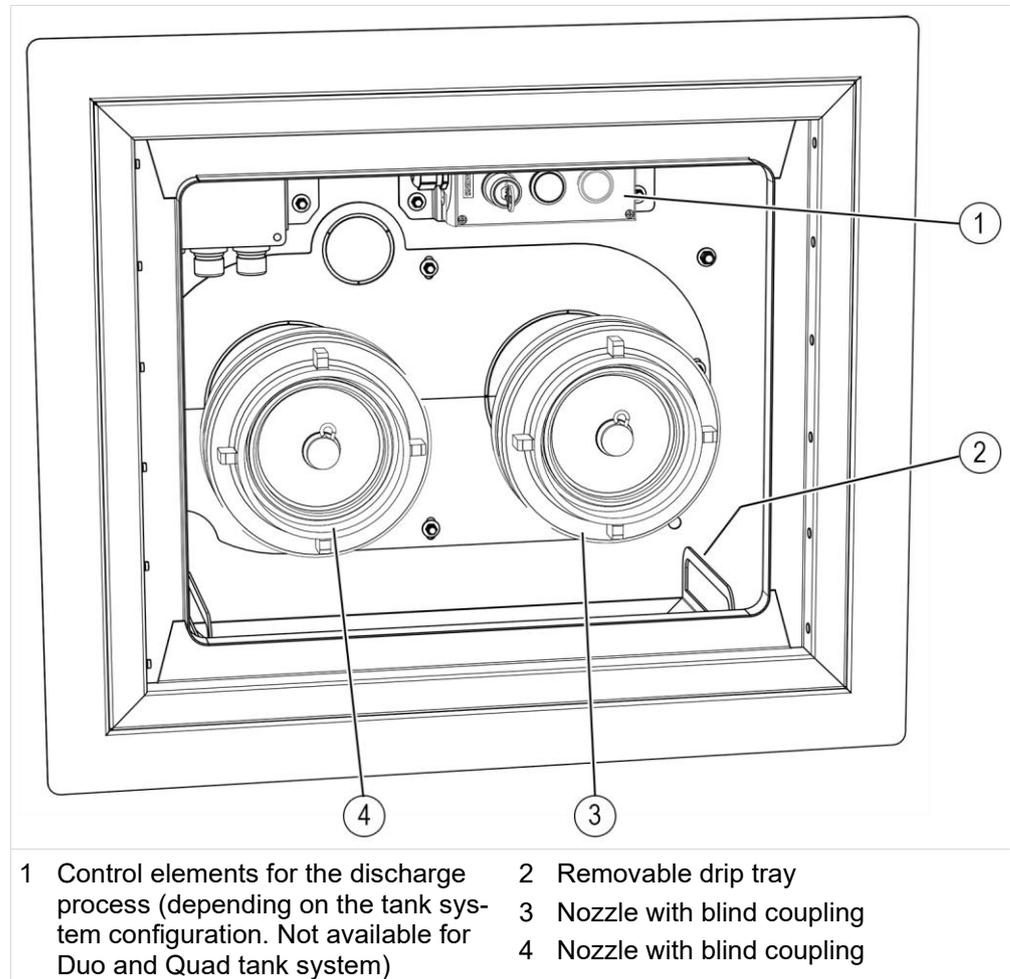


## 4.3 Options

Depending on the order-specific design, various optional modules or functions may be included.

### 4.3.1 Tank discharge

The tank discharge is attached to the outer wall.



Nozzle:

- Connecting the discharge pipe
- Connecting a foul air extraction pipe

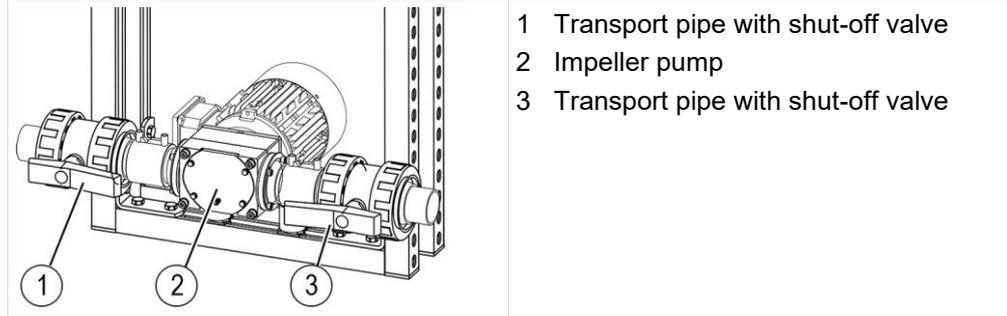
### 4.3.2 Trace heating

The trace heating protects the pipes in non-frost-free areas from damage caused by freezing. The display shows the set target temperature.

A temperature sensor measures the actual temperature in the non-frost-free area. If the value is below the target temperature, the trace heating is activated until the target temperature is reached.

### 4.3.3 Boost pump

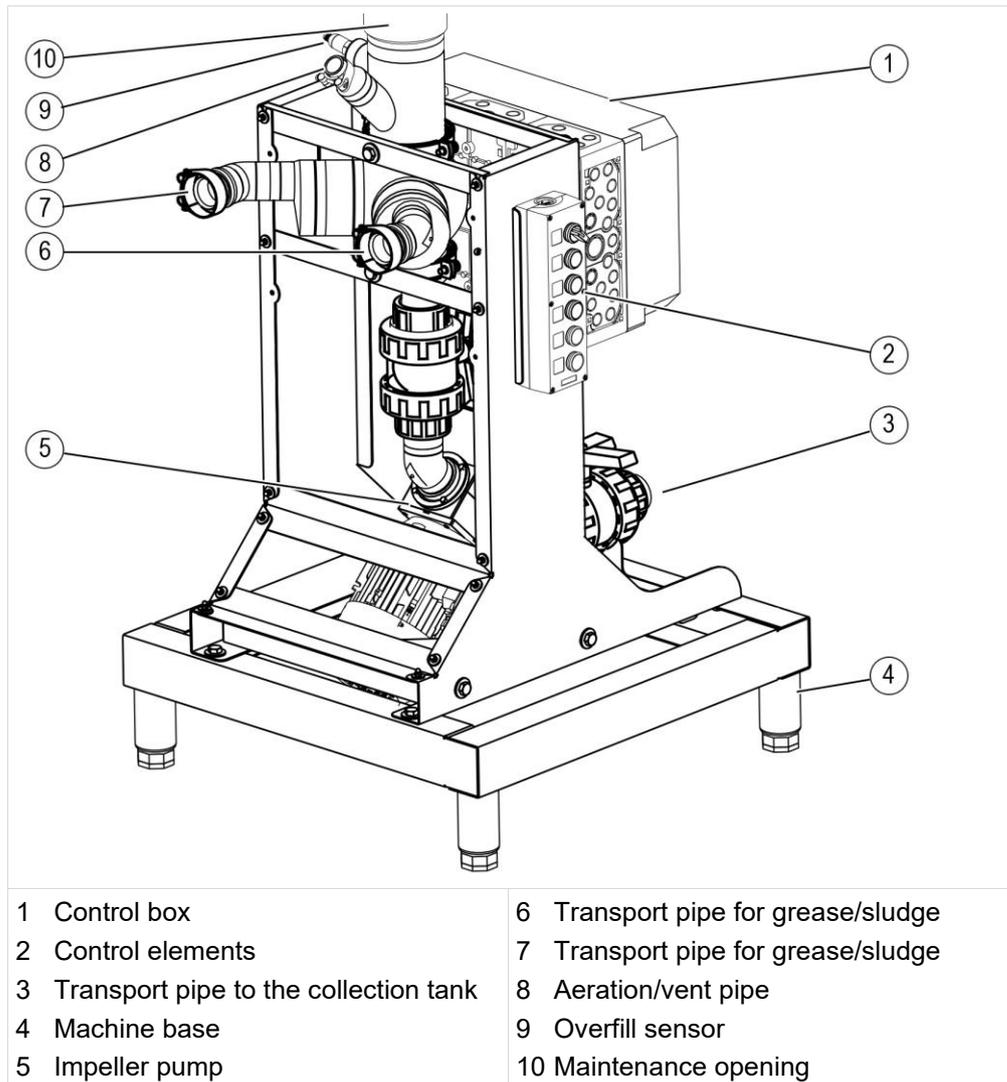
The boost pump is positioned between the infeed station and the collection tank. It supports the transport of food waste when dealing with particularly large distances between infeed stations and the collection tank or to overcome height differences.



### 4.3.4 Grease separator connection station

The connection station (CTU) is required if a partial waste disposal system version of the grease separator is integrated into the food waste treatment system. Operating modes:

- In automatic mode, the CTU pumps sludge and grease from the grease separator into the collection tank in defined cycles.
- In jog mode, grease and sludge can be pumped out of the grease separator manually.



Control elements	
Element	Function
[AUTO/JOG] switch	Switches between automatic mode and jog mode
[Grease drain] button	Opens the electric shut-off valve for the grease drain in jog mode.
[Sludge drain] button	Opens the electric shut-off valve for the sludge drain in jog mode.
[Pump] button	Manual pumping in jog mode.
Fault signal lamp	Lights up red =fault
Readiness for operation signal lamp	Lights up green = ready for operation

#### 4.4 Control elements

Symbol	Description
	<b>[On/Off] key:</b> <ul style="list-style-type: none"> <li>• Switches the tank system on and off.</li> <li>• The button lights up white when the system is switched on.</li> <li>• The button goes out when the system is switched off.</li> </ul>
	<b>Signal lamp red:</b> <ul style="list-style-type: none"> <li>• Steady light: Fault, system is stopped.</li> <li>• Slow flashing: Collection tank level 80%</li> <li>• Fast flashing: Collection tank level 100%</li> </ul>
	<b>Main switch:</b> <ul style="list-style-type: none"> <li>• Interrupts the power supply</li> <li>• Emergency switch-off function</li> </ul>

#### 4.5 Workstations

The workstation for the trained operating personnel is located in front of the system control elements.

Tasks for the operating personnel:

- View fault messages
- View the system status
- Control manual functions

## 5 Technical data

Rectangular tank, installation at ground level			
Material	PE		
Volume	2000 l	3000 l	4000 l
Length	2200 mm	2350 mm	2550 mm
Width	760 mm	1000 mm	1000 mm
Height	1750 mm	2000 mm	2000 mm
Weight	115 kg	170 kg	240 kg

Cylindrical tank, underground tank				
Material	PE			
Volume	5000 l	8500 l	12500 l	16000 l
Length	2330 mm	3670 mm	5010 mm	6350 mm
Ø	2024 mm	2024 mm	2024 mm	2024 mm
Weight	365 kg	560 kg	755 kg	955 kg

Cylindrical tank, underground tank			
Material	Concrete		
Volume	5000 l	8000 l	12400 l
Length	3670 mm	4460 mm	4050 mm
Ø	2300 mm	2300 mm	2800 mm
Weight	10250 kg	12550 kg	15060 kg

### 5.1 Ambient conditions

Ambient conditions	
Operating temperature	5°C ... 40°C
Relative humidity	<90%
Storage temperature	5°C ... 40°C
Maximum height of the installation site above sea level	1000 m

## 6 Transport



#### Note

The machine may only be transported by a service technician authorised by MEIKO!



#### Note

If required, the collection tanks can be transported to the installation site by the respective manufacturer.

## 6.1 Transport by crane

### **⚠ DANGER - Danger to life due to suspended load!**

Falling loads can lead to serious injuries or death.

- Never transport loads over people or hazardous areas.
- Never stand under suspended loads.
- Only use suitable, safe lifting gear.
- Wear a hard hat and safety shoes.

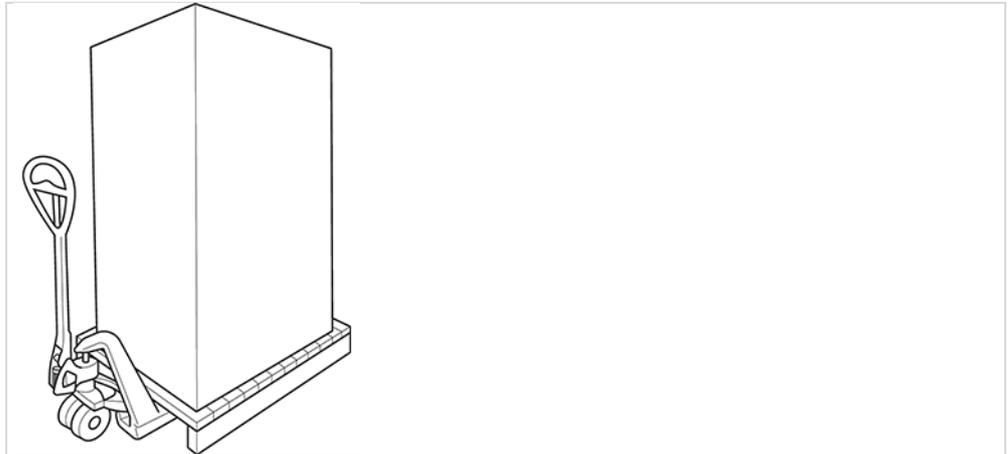


- ▶ Suitable lifting gear is available.
  - ▶ The collection tank is empty.
1. Observe the transport instructions and empty weight of the collection tank!
  2. Check that all openings are closed.
  3. Attach the collection tank to the lifting eyes using the hoist and transport it horizontally using a crane.
- ✓ The collection tank is transported safely.

## 6.2 Transport by pallet jack or sack truck

### **⚠ WARNING – danger of injury due to product tipping**

- Only qualified personnel may carry out transport works.
- Please note safety notices on the packaging.
- Always transport the product on a wooden frame only.
- Wear protective gloves and safety shoes.



The packaging is specifically designed to allow the appliances to be moved safely and securely using a pallet jack or a sack truck. For safe transport, the product is supported by a special square timber frame.

- Execute transport carefully.
- Always transport the product on the supplied wooden frame.
- Observe transport instructions on the packaging.
- Do not unpack the product until it has been transported.

## 6.3 Disposal of packaging materials

All the packaging materials are recyclable. The following materials are used:

- Square timber frame
- Plastic sheeting (PE film)
- Foam material
- Cardboard packaging (edge protection)
- Packaging strap (steel strip)
- Packaging strap (plastic (PP))
- If needed, transport safety bracket (stainless steel)

## 7 Assembly and commissioning

The plant is erected and commissioned exclusively by MEIKO, therefore the chapters on assembly and commissioning are omitted.



### Note

If required, the collection tanks can be installed at the installation site by the respective manufacturer.

### For Australia and New Zealand only:

All work carried out must be in accordance with AS/NZS 3500.1!

Requirements for the water connection	
Permissible water hardness	0 – 14 °dH
Temperature range for fresh water	5 – 30°C
Permissible water pressure	200 – 1,000 hPa (2 – 10 bar)
Fresh water connection	DN20 $\frac{3}{4}$ AG
Fine filter	≤100 µm

## 8 Operation/use

### 8.1 Switching on the system

1. Turn on the main switch.
  2. Press the **[On]** button.
- ✓ The system is switched on. It starts to work in automatic mode.

### 8.2 Draining the storage tank

The collection tank can be drained during operation, regardless of the operating mode or operating status. When the fill level reaches 100%, the system stops with a fault.

#### Variant with a manual shut-off valve

1. Remove the blind coupling from the drain nozzle on the collection tank.
  2. Connect the hose from the emptying vehicle to the drain nozzle.
  3. Open the shut-off valve on the collection tank.
  4. Start the discharge process on the emptying vehicle.
  5. Stop the discharge process when the collection tank and discharge pipe are completely empty.
  6. Close the shut-off valve.
  7. Disconnect the hose and close the drain nozzle with the blind coupling.
- ✓ The discharge process is complete and the biomass can be transported away.

### Variant with ascending pipe, without shut-off valve

This variant has no pump and no shut-off valve on the collection tank. Pumping is carried out solely by the pump of the emptying vehicle.

1. Remove the blind coupling from the drain nozzle on the collection tank.
  2. Connect the hose from the emptying vehicle to the drain nozzle.
  3. Start the discharge process on the emptying vehicle.
  4. Stop the discharge process when the collection tank and discharge pipe are completely empty.
  5. Disconnect the hose and close the drain nozzle with the blind coupling.
- ✓ The discharge process is complete and the biomass can be transported away.

## 8.3 Switching off the system

► The food waste supply is switched off.

1. Turn off the main switch.
- ✓ The system is switched off. The power supply is disconnected. The supply of food waste is no longer enabled.

## 8.4 Assistance in case of malfunctions

The following faults can be remedied by the operating personnel or the in-house technician.

Fault	Possible cause	Remedy
The system has no power.	The electrical mains isolator is turned off.	Turn on the electrical mains isolator.
	The main switch is turned off.	Turn on the main switch.
The red light flashes slowly every 2 seconds.	The collection tank is 80% full.	Arrange for the tank to be drained.
The red light flashes quickly.	The collection tank is full.	Arrange for the tank to be drained.
The system is at standstill. The red light illuminates.	There is a fault.	Contact MEIKO Service.

As a rule, faults that are not described here require assistance from a service technician authorised by MEIKO. Please contact your market organisation or an authorised dealer.

### 8.4.1 Operating the connection station (CTU) manually

If servicing is required, it may be necessary to manually pump grease and sludge out of the grease separator (optional) via the connection station (CTU).

Procedure:

1. Set the **[AUTO/JOG]** switch on the CTU to jog mode.
  2. Press and hold the **[Grease drain]** button.
  3. Press the **[Pump]** button for a few seconds, repeat if necessary.  
↳ Grease is pumped out of the grease separator as long as the **[Pump]** button is pressed. Monitor the transparent hoses.
  4. When no more grease is being pumped into the transparent hose, release the buttons.
  5. To pump out sludge, repeat the process using the **[Sludge]** button.  
↳ Sludge is pumped out of the grease separator as long as the **[Pump]** button is pressed. Monitor the transparent hoses.
  6. When clear water is flowing through the transparent hose, release the buttons.
  7. Set the **[AUTO/JOG]** switch to automatic mode.
- ✓ The grease separator has been emptied.

## 9 Maintenance

### 9.1 Maintenance plan

<b>Collection tank</b>		
<b>Activity</b>	<b>Interval</b>	<b>Qualification</b>
Check wet waste room for unpleasant odours.	Weekly	Trained operating personnel
Perform a visual check of exterior.	Every six months	Trained in-house technician
Check stirrers for external damage.		
Check safety labels and signs.	Annually	Service technician authorised by MEIKO
Check fill level sensors for soiling and clean if necessary.		
Check stirrer for correct operation.		

<b>Impeller pump</b>		
<b>Activity</b>	<b>Interval</b>	<b>Qualification</b>
Check impeller pump for leaks.	Monthly	Operator
Check pump head contour for wear.	Annually	Service technician authorised by MEIKO
Check coupling for wear.		
Replace pump head seal kit.		
Replace impeller.		

<b>Control cabinet</b>		
<b>Activity</b>	<b>Interval</b>	<b>Qualification</b>
Check fault signalling buffer.	Every six months	Trained in-house technician
Check all electrical contacts.	Annually	MEIKO service technician
Check control elements on control cabinet for correct operation.		
Check emergency switch-off function.		

### 9.2 Checking safety labels and signs

Safety labels and signs on the product must always be clearly legible.

1. Check all safety labels and signs for legibility.
  2. Replace damaged, illegible safety labels and signs. These can be reordered at MEIKO.
- ✓ The safety levels and signs have been checked.

## 10 Decommissioning

Arrange for the tank to be drained in good time before decommissioning the tank system.

### ► Note

If a partial waste disposal system version of the grease separator is connected, this must also be decommissioned.

1. Flush the infeed stations upstream of the tank system with tap water (start cycle) and then switch off.
  2. Completely empty the system and all connected components.
  3. Switch off the water supply so that connected components do not fill up.
  4. Drain the collection tank.
  5. Clean and pump out all connected components.
  6. Drain the remaining water from the collection tank.
  7. Switch off the system at the main switch and secure it against being switched back on.
- ✓ The system has been decommissioned.

## 11 Dismantling and disposal

In addition to valuable raw materials and recyclable materials, the packaging and the old appliance may also contain substances that are harmful to health and the environment and were required for the function and safety of the old appliance.

### 11.1 Dismantling and disposal of the old device



The appliance is marked with this symbol. Please observe the local regulations for proper disposal of your old appliance.

The components should be separated by material for recycling.

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The clean solution



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