

BioMaster® Slim Standard

Food waste treatment system

Operating instructions



EN



Read carefully before use!

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1 Notes to the user

1.1 The purpose of these operating instructions

These operating instructions

- are included in the delivery of every BioMaster®Slim.
- They describe how to operate the machine, remedy minor faults, maintain and clean the BioMaster®Slim.
- They provide important information on how to operate the BioMaster®Slim safely, properly and economically. Observe the notes included to avoid hazards, repair costs and downtime, and to increase the reliability and service life of the BioMaster®Slim.



CAUTION

Please read the operating instructions before commissioning the BioMaster®Slim.

It is imperative that you observe the safety instructions.



CAUTION

Always keep these operating instructions where the BioMaster®Slim is being used. The operating instructions must be freely accessible to the operating and maintenance personnel.

1.2 Ways we present the information

Action steps

The steps to be performed by the operating personnel are shown as a numbered list. The sequence of steps must be observed. The system's response to each action by the operator is marked with an arrow.

Example:

1. Operator action step 1

→ System response to operator action

Lists

There is no fixed sequence for lists. They are displayed as a list of points to check off. Example:

- Point 1
- Point 2

2 Liability and warranty

2.1 Delivery contents

Upon receipt of the delivery, please check immediately whether the contents of the delivery correspond with the shipping documents. MEIKO Green Waste Solutions GmbH does not assume any liability for defects and will not pay compensation for defects claimed later on. Complaints:

- Any noticeable damage caused in transit must be reported in writing immediately and within eight days, as per our terms and conditions.
- Any hidden defects must be reported immediately when they are discovered.

2.2 Liability

The information, data and notes specified in the operating instructions correspond to the latest version at the time of printing. No claims for BioMaster@Slim systems which have already been delivered may be asserted based on these statements, illustrations or descriptions.

We accept no liability for damage or operational malfunctions caused by improper use. Please observe the notes in chapter 3.2 'Intended uses'.

2.3 Warranty

The warranty conditions can be found in the general terms and conditions of MEIKO Green Waste Solutions GmbH.

Please notify MEIKO Green Waste Solutions GmbH in writing of any warranty claims immediately after the defect or fault has been detected.

2.4 Copyright

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3 Safety instructions

3.1 Presentation of safety instructions



DANGER

Indicates a hazard with a **high** degree of risk which, if not avoided, will result in death or serious injury.



WARNING

Indicates a hazard with a **moderate** degree of risk which, if not avoided, will result in death or serious injury.



CAUTION

Indicates a hazard with a **low** degree of risk which, if not avoided, will result in minor or moderate injury.



ATTENTION

This describes a requirement to act in a certain way or carry out a specific activity to ensure the BioMaster® is handled safely and **damage to property** is avoided.



NOTE

Information on operating the BioMaster® consisting of an info pictogram and a worded note.

3.2 Intended uses



CAUTION

Only use the BioMaster®Slim as intended and when the machine's condition does not present any safety-related issues.

This is the only way to ensure the operational safety of the BioMaster®Slim.

The BioMaster®Slim is only to be used commercially for filling with and grinding raw organic and food waste of the kind that is usually generated in commercial kitchens, canteens, hotels, food service and communal catering. The ground waste is mixed with water and pumped out of the BioMaster®Slim into a storage tank using a closed system. It is then ready to be collected and taken to a biogas plant where it can be recycled and used to generate energy.

Food and raw organic waste must always be inserted mixed.

The parameters and environmental conditions defined in chapter 14, 'Technical data,' must be strictly adhered to.

What may be disposed of in the system?

- Food waste
- Fully liquid deep-frying oil (which is also liquid when cold)

Allowed in small quantities

- Raw organic waste – mix and process a max. 50 % proportion with normal, wet food waste.
- Expanding foods
 - Cereals, such as wheat, barley, rice
 - Semolina
 - Pasta, dough
 - Sugar
 - Flour
 - Thick fruit peels (e.g. from citrusfruits, bananas)

Mix and process with normal, wet food waste. Percentage of expanding substances: max. 50 %.

- Skin from marine fish, mussels, shellfish and crustaceans: mix and process with normal, wet food waste. Percentage skins from marine fish, etc.: max. 20 %.
- Used coffee grounds – max. 20 % – mix and process with normal, wet food waste.

Not allowed:

- Inputs with a temperature above 40 °C
- Stone fruits and tropical fruits with large stones/seeds. The stones cannot be processed. Remove after cycle.
- Bones of any kind
- Wooden objects, such as wooden skewers, toothpicks or the like
- Metal or plastic objects such as dishes, cutlery, tools
- Textiles, such as serviettes, towels or the like
- Film, plastic, packaging
- Detergents
- Inorganic substances in general

3.3 Reasonably foreseeable misuse



CAUTION

Dangers may occur if the device is not used as intended.

Any use other than or in addition to that specified under 'intended use' is considered to be improper and is prohibited.

For damage resulting from improper use

- the operator bears sole responsibility,
- the manufacturer assumes no liability whatsoever.

Improper uses include:

- Improper work on and with the BioMaster®Slim
- Inputting unauthorised waste
- Operator error
- Irregular or poor cleaning
- Excessive demands
- Exceeding the permissible operating parameters
- Operation at temperatures $< 5\text{ °C}$ and $> 40\text{ °C}$
- Changing the operating parameters
- Unacceptable environmental conditions, such as strong magnetic fields, electric currents, radiation or strong vibrations
- Use of spare and wear parts or auxiliary materials not approved by the manufacturer
- Interference by third parties
- Straining the lid with heavy loads. No lid loads exceeding 15 kg. Dropping heavy objects onto the lid. Risk of bending and deformation of the lid
- In-house extensions, conversions or modifications to the BioMaster®Slim.

3.4 Risks in dealing with the BioMaster®Slim

The BioMaster®Slim has been manufactured in line with the current state of the art and the established safety-related regulations. Nevertheless, its use may give rise to risks and restrictions:

- To life and limb of the operator or third parties
- To the BioMaster®Slim itself
- To other tangible assets

In order to operate the BioMaster®Slim safely and without errors, the operator must possess a complete knowledge of the safety instructions and the safety regulations.

DANGER



If you open the control cabinet, the terminal box or the casing of the BioMaster®Slim, live parts may become accessible. Touching them can lead to serious injury or death!

Work on the electrical equipment may only be carried out by qualified electricians.

Check the electrical equipment in the system regularly. Remove loose connections and fried cables immediately.

Always keep the control cabinet closed. Access is only permitted to authorised personnel with keys or tools.



DANGER

The BioMaster®Slim has been built to comply with degree of protection IP55 and is protected against splash water and water jets.

The interior can be cleaned with a shower head or normal jet water. Do not use strong water jets or a pressure washer.



DANGER

Warning: magnetic fields!

The BioMaster®Slim contains strong magnets.

Persons with cardiac pacemakers or implanted defibrillators must not be in the vicinity of the BioMaster®Slim.



WARNING

If irregularities in the work sequence, unusual noises or malfunctions occur, immediately trigger an emergency stop and inform the responsible specialist personnel. No unauthorised manipulation by the operating personnel!



WARNING

If you open the casing of the BioMaster®Slim, pressurised lines may become accessible. Removing pressurised piping can cause serious injury.

Maintenance and repair work may only be carried out by qualified and authorised specialist personnel.



WARNING

When closing the lid, the lid can close automatically for the final section. There is a risk of crushing under the lid.

When closing the lid, hold onto the handle area, do not reach between the lid and the casing.



WARNING

No heavy load on lid. No loading of the closed lid with objects weighing more than 15 kg. Do not drop heavy objects onto the lid. Risk of bending and deformation of the lid.



WARNING

The sharp edges of the grinder and the optional raw organic waste driver/pre-shredder present a risk of cutting.

Work carefully, only touch sharp-edged parts while wearing protective gloves.



WARNING

There is a risk of slipping on wet or dirty floors.

If you slip, you may accidentally come into contact with the sharp edges of the stationary grinder and the optional raw organic waste driver/pre-shredder.

Keep your work area clean. Close the lid of the BioMaster®Slim when it is out of use for a longer period.



WARNING

There is a risk of scalding when hot food is poured in.
Allow hot liquids to cool to below 40 °C before pouring,
wear protective clothing when filling.



CAUTION

The BioMaster®Slim's A-scaled sound pressure level is under 70 dB(A).
Depending on local conditions, a higher sound pressure level may be produced,
causing noise-induced hearing loss. For these areas, the operating company must
protect the operating personnel with appropriate protective equipment and protec-
tive measures in accordance with Noise Protection Directive 2003/10/EC.

3.5 Operator's responsibilities

The operator undertakes to only allow those persons to work on the BioMaster®Slim who:

- Are familiar with the foundational local regulations on safety in the workplace and accident prevention
- Have been instructed in how to work with the BioMaster®Slim
- Have read and understood these operating instructions
-

The operator also undertakes to:

- Comply with the requirements of EC Directive 2009/104/EC on the use of work equipment
- To provide the prescribed personal protective equipment
- To inform and train staff on the location of the fire alarm system and the firefighting options.

3.6 Staff responsibilities

All persons entrusted with work on BioMaster®Slim undertake to:

- Observe the foundational local regulations on safety in the workplace and accident prevention
- To read and observe the operating instructions before starting work

3.7 Staff qualifications

Only qualified, authorised and inducted personnel may work on the BioMaster®Slim.

Qualified personnel who, because of their training, experience, instruction and knowledge of the relevant standards, regulations, accident prevention instructions and operating conditions, have been authorised by the person responsible for the safety of the BioMaster®Slim dishwashing machine to carry out the necessary activities. Qualified personnel are also aware of the possible dangers and how to avoid them.

Personnel are classified using a qualification matrix. Each employee may only carry out activities using the BioMaster®Slim that correspond to his or her level of training according to the qualification matrix. Any personnel undergoing training are only allowed to work on the BioMaster®Slim under the supervision of an experienced person.

Specialist personnel must be trained in accordance with their area of responsibility. Completed inductions are documented in training lists and records. These show who has been trained in what area and when.

	Inducted personnel	Specialist personnel with technical training	Electricians	Supervisor with corresponding expertise
Transport	X	X	--	X
Installation		X	X	X
Commissioning	--	X	X	X
Operation	X	X	X	X
Fault finding	X	X	X	X
Troubleshooting, mechanical	--	X	--	X
Troubleshooting, electrical	--	--	X	--
Maintenance	X	X	X	--
Corrective maintenance	--	X	X	--
Decommissioning, storage	X	X	X	X

Key: X = allowed, -- = not allowed

3.8 Safety devices

DANGER



Operate the BioMaster®Slim only if all safety and protective devices are fully present and functional.

In the event of faulty safety and protective devices,

- switch off the BioMaster®Slim immediately,
- secure against switching back on and
- if necessary, disconnect the power supply from the electrical current.

Before each time you start the BioMaster®Slim every time, all protective devices must be properly installed and functional.

Protective devices may only be removed once all parts have stopped moving and the BioMaster®Slim has been secured against restarting.

The emergency stop button and protective devices must be tested regularly to ensure they work reliably.

The BioMaster®Slim has the following safety and protective devices:

- Emergency stop button on the operating panel
- Main switch on operating panel which switches off all poles
- Fault indication lights on the operating panel
- Lockable service hatch
- Protective cladding on all sides
- Splash and jet protected to IP 55
- Two safety sensors = double the safety

The BioMaster®Slim works only with the lid closed. When the lid is opened, the grinder in the BioMaster®Slim is stopped immediately.

3.8.1 Safety marking



CAUTION

Please note all warning and safety instructions on the BioMaster®Slim, as well as other markings.

Maintain the legibility of all safety and danger notices on the BioMaster®Slim and replace them if necessary.

The following pictograms and warning notices are on the BioMaster®Slim:



Warning: magnetic fields!

The BioMaster®Slim contains strong magnets.

Persons with cardiac pacemakers or implanted defibrillators must not be in the vicinity of the BioMaster®Slim.



On closing the lid, there is a risk of crushing between the lid and the casing of the BioMaster®Slim.



Warning: dangerous electric voltage!



The BioMaster®Slim has been built to comply with degree of protection IP55 and is protected against splash water and water jets.

The interior can be cleaned with a shower head or normal jet water. Do not use strong water jets or a pressure washer.

The rating plate is located on the rear of the BioMaster®Slim.

4 Structure and function

4.1 Function

The BioMaster®Slim works as the feeding station in the BioTrans System®. The BioTrans System® offers an economically and ecologically sensible solution for recycling food waste and scraps. The system is used in commercial kitchens, canteens, hotels, food service and communal catering. The BioMaster®Slim converts the waste produced into a homogenous biomass.

Food and raw organic waste is fed into the loading chute on the BioMaster®Slim and ground down with added process water in the grinder.

The resulting biomass is pumped out of the BioMaster®Slim and transported via a closed pipe system to the storage tank.

4.2 Main group: BioMaster®Slim



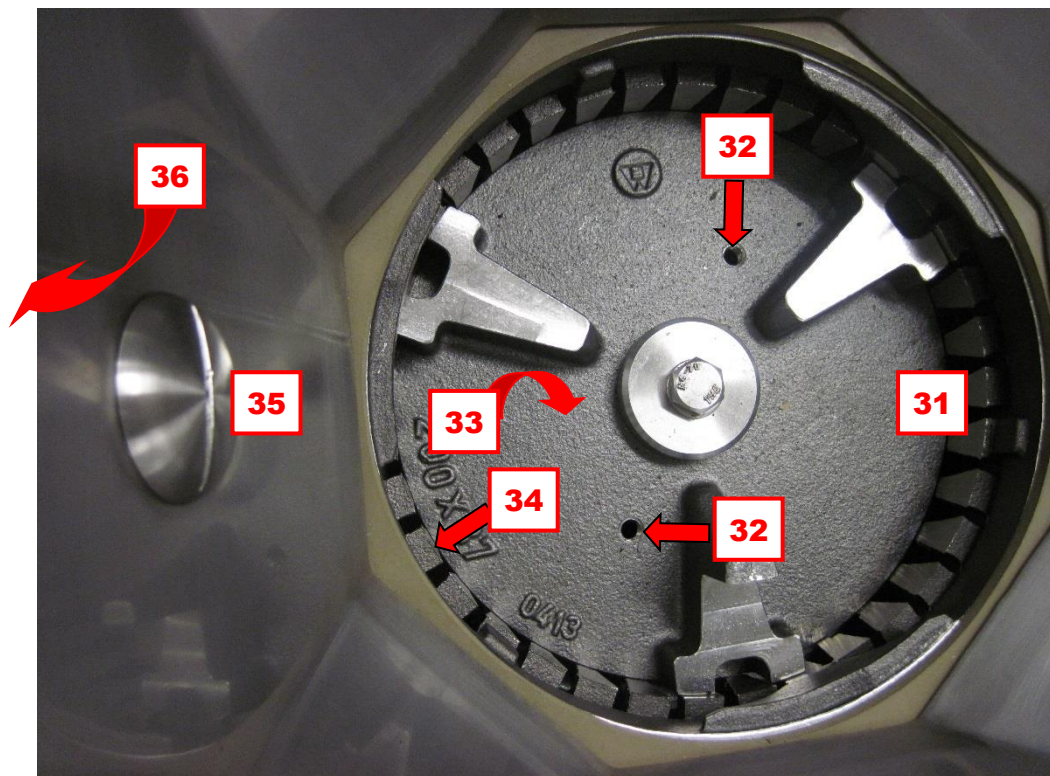
- 1 Lid handle
- 2 Lid with closing magnet
- 3 Lid seal
- 4 Safety contact switch
- 5 Loading chute
- 6 Operating panel
- 7 Lockable service hatch with control cabinet

4.3 Control elements



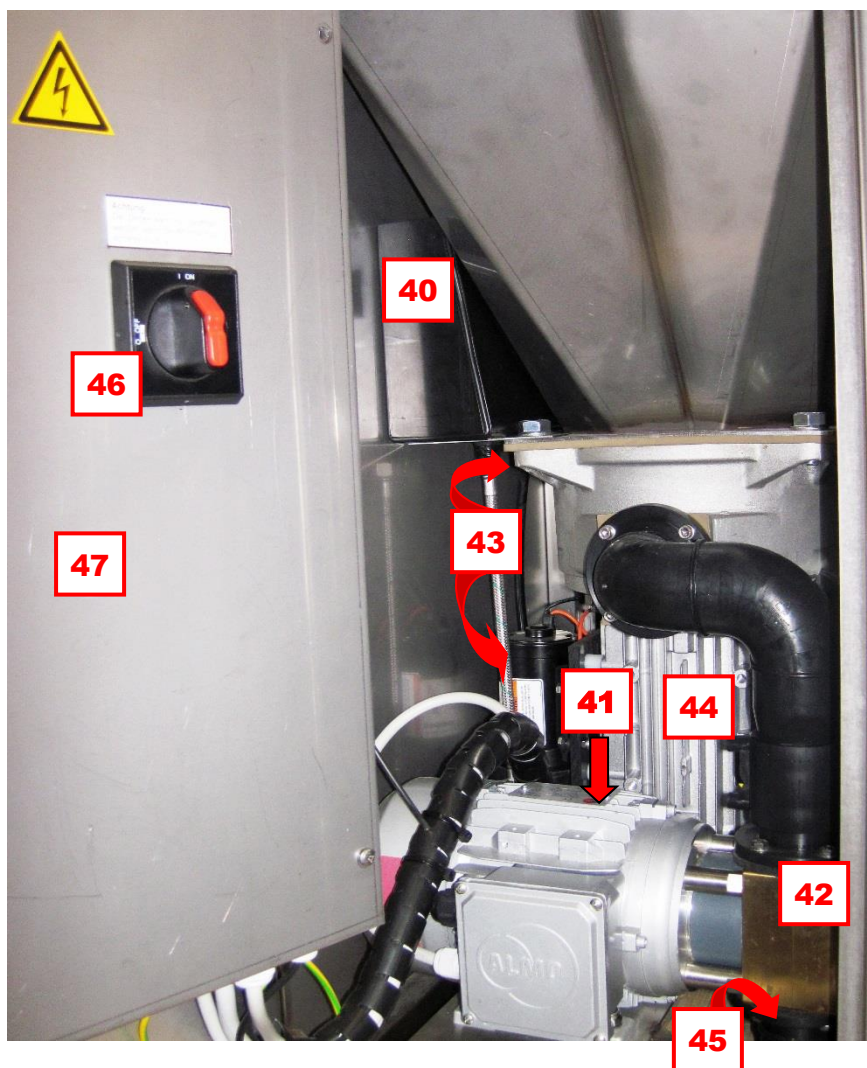
No.	Operating element	Function
10	Main switch	Switch on, position ON; switch off, position OFF.
11	ERROR, fault indication light	Lights up in the event of malfunction, evaluation in chapter 0 'Fault finding'.
12	STANDBY function	Lights up when the lid is closed and the main switch is in the ON position.
13	TANK LEVEL, CONFIRM KEY FOR LEVEL INDICATOR AT 80 %	Button flashes when the level sensor in the tank detects a fill level of 80 %. Button lights up after confirmation. Contact disposal firm to empty tank!
14	TANK LEVEL, LEVEL INDICATOR 100 %	Button lights up when the storage tank is 100 % full. The BioMaster®Slim can no longer be started. Empty storage tank immediately.
15	EMERGENCY STOP, emergency stop button	Immediate shutdown of the BioMaster®Slim in dangerous situations.
16	START	The button lights up during the working cycle.
17	PUMP, Switch on pump	Manual pumping out of loading chute content. Button lights up when pump is in operation.

4.4 Loading chute



- 31 Grinder
 - 32 Mounting points for raw organic waste driver/pre-shredder
 - 33 Rotor
 - 34 Stator
 - 35 Process water nozzle
 - 36 Loading chute level marking 'MAX' (indicates maximum fill in loading chute)
- Optional cutlery catcher magnet on outside of loading chute

4.5 Technical equipment



- | | | | |
|----|---|----|---|
| 40 | Drinking water module with pressurised water pump | 44 | Grinder motor |
| 41 | Pump motor | 45 | Transport pipe connection, PE d-56 – screw connection |
| 42 | BioPump® | 46 | Overload circuit breaker |
| 43 | Pressurised water pump with water distribution function | 47 | Control cabinet |

5 Transport



WARNING

There is a danger of the BioMaster®Slim tipping over during transport. This could cause severe personal injury and damage to property. Secure the BioMaster®Slim against tipping during transport.

When transporting the BioMaster®Slim, make sure that you:

Please note the environmental conditions defined in chapter 14, 'Technical data.'

- Avoid strong mechanical impacts (shocks, vibrations, etc.)
- Switch off the BioMaster®Slim at the main switch before transport, even if it is only a minor change of location.
- Protect the BioMaster®Slim from direct sunlight, frost and other extreme climatic conditions.
- Avoid extreme climatic changes (e.g. transport from a lorry to a heated room at high humidity in winter).
- Close all hatches and lids before transport. Secure them against unintentional opening.
- When transporting the BioMaster®Slim, follow the general safety rules for transporting loads.
- Do not lift or transport the BioMaster®Slim manually.
- When considering the permissible floor loading for transport, take into account both the weight of the BioMaster®Slim and the self weight of the means of transport.
- Only transport the BioMaster®Slim using a pallet truck or forklift. The load capacity must be > 140 kg, the fork length > 600 mm. Drive both forks completely under the BioMaster®Slim, paying attention to components protruding from the floor.
- When setting down, load all four feet evenly, do not tip the BioMaster®Slim from the truck transport.

6 Installation

6.1 Unpacking and setting up

- Carefully remove the transport packaging.
- Check the delivery includes everything it should.
- Report obvious transport damage immediately.
- Observe the permissible floor load when selecting a location.
- Set the BioMaster®Slim on a solid, vibration-free surface.
- Please note the environmental conditions defined in chapter 14, 'Technical data.'
- Adjust the working height using the BioMaster®Slim's adjustable feet.
- Set up the BioMaster®Slim using a spirit level.
- Ensure that all machine feet and adjustable feet are resting firmly on the floor.

6.2 Connections

6.2.1 Electrical connection



DANGER

Only use cables standardised for the correct power rating and only connect the BioMaster®Slim to a fused power supply as per the applicable standards. In case of doubt, contact the authority responsible for the power supply in your company.



WARNING

The BioMaster®Slim may only be connected by a qualified electrician.



CAUTION

The machine wiring is aligned for a clockwise rotation field. Before turning on the power to the BioMaster®Slim, check whether the power supply runs a clockwise rotation field.



CAUTION

Please note the information on electrical connections provided in chapter 14, 'Technical data.'

6.2.2 Cold water connection



WARNING

The BioMaster®Slim may only be connected by qualified specialist personnel.



CAUTION

Risk of corrosion!

Do not use osmosis or demineralised water.

The hardness of the added water shall not exceed 3 °dH or 5.3 °fH or 0.53 mmol/l.



CAUTION

Connect the BioMaster®Slim to the water supply in accordance with local regulations. Observe the relevant country-specific water regulations.



CAUTION

Observe the connection information provided in chapter 14, 'Technical data.'

6.2.3 Connecting the biomass transport pipe

Use the screw connection to connect the BioMaster®Slim to the transport pipe installed on site. The union nut is on the BioMaster®Slim.

Screw connection: PE d-56

Electrofusion socket: d-56 (max. 45° arc)

7 Commissioning

7.1 Safety instructions



DANGER

Only commission the BioMaster®Slim when all safety and protective devices have been fully installed.

Cancel commissioning if:

- A pipe or other parts are damaged
- The BioMaster®Slim is not working properly even though you have been operating it according to the operating instructions
- You hear unusual noises from the loading chute
- Water is leaking



DANGER

Warning: magnetic fields!

The BioMaster®Slim contains strong magnets.

Persons with cardiac pacemakers or implanted defibrillators must not be in the vicinity of the BioMaster®Slim.



WARNING

The BioMaster®Slim may only be commissioned by qualified and authorised personnel.



WARNING

When the lid is closing, the force switches from pressure to tension for the final section. There is a danger of crushing under the lid.

When closing the lid, hold onto the railing area, do not reach between the lid and the casing.



CAUTION

The BioPump® on the BioMaster®Slim must never run when dry. This may cause irreparable deformations and damage in and to the BioPump®. MEIKO Green Waste Solutions GmbH accepts no liability whatsoever for such damage.

7.2 Pump test run – seal on water distribution and transport pipe

1. Switch on the BioMaster®Slim at the main switch – ON position.
→ The STANDBY button lights up green when the lid is closed.
2. Make sure that the emergency stop button is unlocked.
3. Open the lid of the BioMaster®Slim.
4. Fill the loading chute with 10 litres of fresh water.
5. Press the white PUMP button. Keep it pressed until the loading chute is completely empty.
6. Then check the water distribution and the connection on the transport pipe for leaks.

7.3 Carry out test run with pure water

1. Switch on the BioMaster®Slim at the main switch – ON position.
→ The STANDBY button lights up green when the lid is closed.
2. Make sure that the emergency stop button is unlocked.
3. Make sure that the on-site ¾" water valve is fully open and that water is making it to the BioMaster®Slim.
4. Open the mini ball valve at the water distribution system in the interior of the BioMaster®Slim.
5. Open the lid of the BioMaster®Slim. Check that no objects (e.g. tools, packaging material, etc.) have been left in the loading chute.
6. Close the lid of the BioMaster®Slim.
7. Press the green START button.
→ The START button lights up.
→ The automatic shredding cycle starts.
The BioPump® starts automatically. The white PUMP button lights up. During this time you will hear a soft humming.
→ At the same time, the process water flows through the process water nozzle into the loading chute.
→ The grinder then switches on automatically and starts the grinding process. Up to the end of the factory-set cycle of 45 seconds, the grinder and BioPump® run simultaneously.



CAUTION

If you hear unusual noises from the loading chute, switch off the BioMaster®Slim immediately by pressing the EMERGENCY STOP button. Then check the contents of the loading chute for foreign substances.

- At the end of the grinding cycle, the START and PUMP buttons go out. The BioMaster®Slim switches off automatically.

Then check the water distribution and the connection on the transport pipe for leaks again.

When all cycles have been completed without any problems, the BioMaster®Slim is ready for regular use.

7.4 Setting the process water quantity



CAUTION

The process water nozzle is the main water inlet and must be open even at the lowest possible water setting.

If the process water nozzle is closed or the water supply is too low, there is an increased risk of clogging in the BioMaster®Slim and in the BioTrans system®.

The amount of process water required depends largely on the type of food waste processed and the length of the transport and extraction pipe.

The guide values given are based on experience in hospital and residential home care. The amount of water in hotels and restaurants may vary greatly depending on the conditions of use.

You can adjust the water supply according to your needs.

Check the water settings regularly and adjust if necessary.

Process water quantity	Length of the transport pipe	Cycle length
3.5–4.5 litres	up to 15 m	30–50 seconds
4.5–5.5 litres	up to 25 m	40–60 seconds

7.5 Handover and commissioning report

Fill in the 'Handover and commissioning report' printed in chapter 15.

8 Operation

8.1 Safety instructions



DANGER

Warning: magnetic fields!

The BioMaster®Slim contains strong magnets.

Persons with cardiac pacemakers or implanted defibrillators must not be in the vicinity of the BioMaster®Slim.

8.2 Switching on



CAUTION

Only switch on the BioMaster®Slim if the service hatch at the front is locked.



1. Fully open the stop valve on the water supply.
2. Turn on the main switch – position ON.

When the lid is closed, the STANDBY indicator lights up green. After a few seconds, the BioMaster®Slim is ready for operation.



If the red ERROR fault indication light lights up, the BioMaster®Slim is not ready for operation.

Possible causes can be found in chapter 9, 'Troubleshooting'.

8.3 Opening and closing the lid



CAUTION

Observe the following safety instructions **whenever** opening and closing the lid!



WARNING

When opening, there is a risk of crushing under the lid.

If you release the lid in the lower quarter when opening it, it may close automatically.

Guide the lid by hand until it is fully open; do not reach between the lid and the casing.



CAUTION

Guide the lid by hand until it is fully open.



WARNING

When closing, there is a danger of crushing under the lid.

The lid may close automatically.

When closing the lid, guide the lid by the lid handle and do not reach between the lid and the casing.

8.4 Filling

1. Lift the lid by the lid handle and open it as far as it will go.



WARNING

There is a danger of crushing when opening the lid!

2. Fill the loading chute. Please note the information in chapter 3.2 'Intended uses'.

CAUTION

Fill the loading chute

- With normal inputs (food waste, fully liquid food oil).
- With max. 50 % raw organic waste (fill up loading chute with normal, wet food waste and thoroughly mix inputs)
- With max. 50 % expanding materials (fill up loading chute with normal, wet food waste and thoroughly mix inputs)
- With max. 20 % skins from marine fish, mussels, shellfish and crustaceans (fill up loading chute with normal, wet food waste and thoroughly mix inputs)
- Used coffee grounds – max. 20 % – mix and process with normal, wet food waste.

Fill the loading chute to just below the '-MAX-' mark (notch in the rear wall of the loading chute).



WARNING

There is a risk of scalding when hot food is poured in. Allow hot liquids to cool to below 40 °C before pouring, work carefully, wear protective clothing when filling.



WARNING

If you would like to insert food waste only infrequently or just a little food, close the lid between occasions if possible.

If you slip, you may accidentally come into contact with the sharp edges of the grinder and the optional raw organic waste driver/pre-shredder.

3. When the loading chute is full, close the lid.



WARNING

There is a danger of crushing when closing the lid!

8.5 Start automatic grinding cycle



NOTE

Start the BioMaster®Slim only when the loading chute is sufficiently filled. This will save you money.

Observe the information in chapter 8.4, 'Filling'.



1. Press the green START button.
 - The START button lights up.
 - The BioPump® starts automatically. The white PUMP button lights up.
 - The automatic shredding cycle starts. The cycle length is factory-set to 45 seconds.
 - At the end of the grinding cycle, the START and PUMP buttons go out. The BioMaster®Slim switches off automatically.
 - The STANDBY indicator lights up green.



CAUTION

If you hear unusual noises from the loading chute during the grinding cycle, switch off the BioMaster®Slim immediately by pressing the EMERGENCY STOP button. Check the contents of the loading chute for foreign substances and remove them.



2. When the STANDBY indicator lights up, open the lid.

8.6 Pumping out contents of loading chute



NOTE

If you have poured in larger quantities of liquid, e.g. soup or cleaning water, to the loading chute, pump this out without grinding.



1. Press the white PUMP button. Keep it pressed until the loading chute is completely empty.
2. When the button is released, the pump stops and the PUMP button goes out.

8.7 Daily cleaning



NOTE

Clean the BioMaster®Slim thoroughly at the end of the shift every day. Irregular or improper cleaning can lead to the formation of mould and bacteria, unpleasant odours, corrosion and damage to the machine.

1. Rinse or spray the loading chute (if a cleaning hose is provided by the customer) to remove coarse dirt. Make sure your water consumption is sparing.



2. Switch off the BioMaster®Slim at main switch – OFF position.

3. Open the lid.



WARNING

There is a danger of crushing when opening the lid!

4. Thoroughly clean the loading chute, the area around the grinder, the lid, the seal on the lid and the casing surface on BioMaster®Slim using hot water, sufficient biodegradable detergent (fat solvents) and sponge cloth.



NOTE

Observe all manufacturer's instructions for the use of the detergent, in particular the dosing and dwell time.



CAUTION

Use a suitable detergent. Use the dosing specified by the manufacturer. The detergent must not be used in quantities other than instructed for the BioMaster®Slim or which cannot be disposed of in the BioMaster®Slim.



WARNING

The sharp edges of the stationary grinder and the optional raw organic waste driver/pre-shredder present a risk of cutting.

Work carefully, only touch sharp-edged parts while wearing protective gloves.

5. Make sure that all critical points, such as the lid seal and loading chute, are thoroughly cleaned of grease and residues.
6. If necessary, rinse with a little water after the dwell time. Make sure your water consumption is sparing.



7. Switch on the BioMaster®Slim at the main switch – ON position.



8. Press the white PUMP button. Keep it pressed until the loading chute is completely empty.

9. Wipe all cleaned areas dry.



WARNING

The sharp edges of the stationary grinder and the optional raw organic waste driver/pre-shredder present a risk of cutting.

Work carefully, only touch sharp-edged parts while wearing protective gloves.

10. Close the lid.



WARNING

There is a danger of crushing when closing the lid!



11. Switch off the BioMaster® Slim at main switch – OFF position.

8.8 Weekly cleaning



NOTES

Clean the interior of the BioMaster®Slim once a week.

Thoroughly clean grease deposits in the area around the grinder and pump once a week.

Wash the BioMaster®Slim's transport pipe once a week.

1. Empty the loading chute with the last working cycle before the end of the shift. Then clean the loading chute of any coarse residual dirt. Wash out or spray the loading chute (if a cleaning hose is provided by the customer). Make sure your water consumption is sparing.



2. Press the white PUMP button. Keep it pressed until the loading chute is completely empty.

3. Close the lid.



WARNING

There is a danger of crushing when closing the lid!



4. Switch off the BioMaster®Slim at main switch – OFF position.

5. Get the key for the service hatch from the designated person.
6. Make sure that the main switch of the BioMaster®Slim is off.
7. Open the service hatch.



DANGER

The BioMaster®Slim has been built to comply with degree of protection IP55 and is protected against splash water and water jets.

The interior can be cleaned with a shower head or normal jet water. Do not use strong water jets or a pressure washer.

8. Clean the side walls and the inside of the service hatch with hot water, sufficient biodegradable detergent (fat solvents) and a sponge cloth.



NOTE

Observe all manufacturer's instructions for the use of the detergent, in particular the dosing and dwell time.



CAUTION

Use a suitable detergent. Use the dosing specified by the manufacturer. The detergent must not be used in quantities other than those instructed for the BioMaster®Slim or which cannot be disposed of in the BioMaster®Slim.

9. Wipe all cleaned areas dry.

10. Lock the service hatch and give the key to the designated person.



11. Switch on the BioMaster®Slim at the main switch – ON position.

12. Open the lid.



WARNING

There is a danger of crushing when opening the lid!

To minimise the risk of pipe blockage, clean the transport pipe by washing it with 15 litres of hot water:

13. Pour the hot water carefully into the loading chute.



WARNING

There is a risk of scalding when working with hot water.

Work carefully; wear protective clothing when filling the appliance.

14. Add sufficient biodegradable detergent (fat solvents). Dose for 20 litres of water (calculation: 15 litres of water added plus approx. 3 to 5 litres of water added per cycle).



NOTE

Observe all manufacturer's instructions for the use of the detergent, in particular the dosing and dwell time.



CAUTION

Use a suitable detergent. Use the dosing specified by the manufacturer. The detergent must not be used in quantities other than those instructed for the BioMaster®Slim or which cannot be disposed of in the BioMaster®Slim.

15. Close the lid.



WARNING

There is a danger of crushing when closing the lid!

16. Wait until the end of the dwell time. Observe the relevant information provided by the detergent manufacturer.



17. Press the green START button. The cycle starts. When it finishes, the START and PUMP buttons go out. The BioMaster®Slim switches off automatically.

18. The STANDBY indicator lights up green.

19. Open the lid.



WARNING

There is a danger of crushing when opening the lid!

20. Thoroughly clean the loading chute, the grinder area, the lid, the lid seal, and the casing surface on the BioMaster®Slim. Wipe dry.



21. Press the white PUMP button. Keep it pressed until the loading chute is completely empty.

22. Close the lid.



WARNING

There is a danger of crushing when closing the lid!



23. Switch off the BioMaster®Slim at main switch – OFF position.

8.9 Switching off



NOTE

Switch off the BioMaster®Slim for shorter downtimes, too, e.g. when changing shifts, overnight or on weekends.



1. Depending on the duration of the downtime, clean the BioMaster®Slim.
2. Switch off the BioMaster®Slim at main switch – OFF position.
The STANDBY indicator goes out.

9 Fault finding



WARNING

If irregularities in the work sequence, unusual noises or malfunctions occur, immediately trigger an emergency stop and inform the responsible specialist personnel.

No unauthorised manipulation by the operating personnel!

Any troubleshooting which goes beyond the simple inspection of the input loading chute and the grinder may only be carried out by qualified and authorised personnel.

Problem	Solution
The BioMaster®Slim has no power	<ul style="list-style-type: none"> Is the machine connected to the power supply? Is the main switch switched on? Is the EMERGENCY STOP button unlocked? Are the necessary fuses operational?
Work cycle cannot be started	<ul style="list-style-type: none"> Is the storage tank full and is the red light 'Fill level indicator 100 %' lit up? Have the storage tank(s) emptied immediately. Is the EMERGENCY stop button unlocked? Is the red ERROR fault indication light lit up? (See next item). Is the lid properly closed? The STANDBY indicator light must be lit up. Is the actuator in the lid in contact with the safety sensor in the casing? If dirty, clean the surfaces.
The ERROR fault indication light is continuously lit up	<ul style="list-style-type: none"> Grinder jammed or motor overloaded. <ul style="list-style-type: none"> Check loading chute contents for foreign matter. Check that the grinder can be rotated using an unlocking key. Remove foreign matter. Open the service hatch and set the overload circuit breaker to ON.

Biomass is not pumped out of the loading chute	<ul style="list-style-type: none"> BioPump® is blocked. With the lid open, press the PUMP button for about five seconds and observe the fill level in the loading chute. If the fill level sinks, repeat the procedure until the loading chute is emptied and the BioPump® is free again. If the fill level remains the same, the grinder, BioPump® or transport pipe is blocked. If this is the case, call a technician for help. Check whether a foreign object (plastic, bandage, cloth, etc.) is blocking the grinder. The biomass in the machine is too dry and therefore cannot be pumped away. Try filling it with hot water. Replacement of the pump impeller should only be carried out by trained personnel.
The loading chute is emitting an unusual noise	<ul style="list-style-type: none"> Stop the BioMaster®Slim with the EMERGENCY STOP button, check loading chute contents for foreign objects (cutlery, etc.) Remove foreign matter.

The grinder no longer rotates



- Turn off the main switch – OFF position.
- Clear the loading chute completely. For residual liquid in the loading chute: switch on the BioMaster®Slim at the main switch – ON position. Pump out the remaining liquid by pressing the PUMP button. Switch off the BioMaster®Slim at the main switch – OFF position. If necessary, remove jammed solid parts/foreign materials with the aid of a suitable tool.
- Turn the jammed grinder forcefully to the left and right with the unlocking key until the grinder is able to move again.

WARNING

- The brake motor in use is stiff! If in doubt, call a technician for help!
- Then wash the BioMaster®Slim with hot water and pump out.

10 Maintenance

10.1 Safety instructions



DANGER

If you open the control cabinet, the terminal box or the casing of the BioMaster®Slim, live parts may become accessible. Touching them can lead to serious injury or death!

Check the electrical equipment in the system regularly. Remove loose connections and fried cables immediately.

Always keep the control cabinet closed. Access is only permitted to authorised personnel with keys.

Only operate the BioMaster®Slim at the prescribed voltage and frequency. Only replace fuses with fuses of the same specifications.



WARNING

If you open the casing of the BioMaster®Slim, pressurised lines may become accessible. Removing pressurised piping can cause serious injury.

Inspect all cables, hoses, hose lines and screw connections regularly for signs of damage or aging. In the event of faulty parts, take the BioMaster®Slim out of operation immediately.

Never repair damaged hoses or hose lines. Only replace them with original spare parts.



WARNING

Maintenance of the BioMaster®Slim may only be carried out by specially trained personnel. Work on the electrical equipment may only be carried out by trained electricians.

Note the information in the Maintenance plan.



WARNING

No heavy load on lid. No loading of the closed lid with objects weighing more than 15 kg. Do not drop heavy objects onto the lid. Risk of bending and deformation of the lid.



WARNING

Switch off the BioMaster®Slim at the main switch before starting work. Close the water supply.

Secure all utilities against unintentional start-up.



WARNING

After completion of maintenance work:

Check all screw fittings which were unscrewed are fitted securely

Check all pipes and connecting elements for leaks



Mount and install all covers and safety devices and check that they function correctly



















CAUTION

Carry out the prescribed maintenance and inspection work in good time. Adjust the maintenance intervals to your operating conditions.

10.2 Maintenance plan

-  This work may only be carried out by qualified specialist personnel.
-  This work may be carried out by inducted personnel.

Work to be carried out	Commissioning	Daily	Weekly	500 h, minimum every 3 months	1,000 h, minimum every 6 months	2000 h, minimum every 12 months
Cleaning the Bio-Master®Slim Visible surfaces, loading chute, grinder area, lid, lid seal, casing surface						
Cleaning the interior of the BioMaster®Slim Wipe service hatch and side walls with damp cloth						
Checking the pump, incl. impeller						
Check the cover seal for wear						
Clean the transport pipe by washing it with 15 litres of hot water						
Check all functions						
Adjust and check process water quantity						
Visual check for damage						

11 Corrective maintenance



WARNING

Repair work on the BioMaster®Slim may only be performed by specialist personnel trained by the manufacturer or by persons authorised by the manufacturer.

Take the BioMaster®Slim out of service immediately in the event of a fault that cannot be rectified using chapter 0, ‘

Fault finding’. Notify the relevant customer service department.

12 Decommissioning, storage



WARNING

Switch off the BioMaster®Slim at the main switch before decommissioning. Close the water supply.

Secure all utilities against unintentional start-up.



WARNING

The BioMaster®Slim may only be decommissioned by trained specialist personnel. Work on the electrical equipment may only be carried out by trained electricians.



CAUTION

Store the BioMaster®Slim according to the rules presented in chapter 14, ‘Technical data’.

13 Disposal



CAUTION

The components of the BioMaster®Slim, all packaging, operating and auxiliary materials and replacement parts must be disposed of safely and in an environmentally friendly manner in accordance with the applicable local laws and regulations.



CAUTION

Disposing of the BioMaster®Slim generates only working and auxiliary materials which are customary in mechanical engineering.



CAUTION

Observe all safety in the workplace and environmental protection regulations valid at the time of disposal.

The operator is responsible for proper disposal and compliance with all applicable local regulations.

14 Technical data

General	
Specific designation	BioMaster®Slim
Width x depth x height [mm]	450 x 700 x 850–950 Height adjustable via the adjustable feet
Weight [kg]	approx. 140
Chute volume [l]	30
Filling height	Continuously variable
Capacity	> 250 kg/hour in batch mode
Noise emission value (operation at no load, measuring position 1m away)	≤ 70 dB (A)
Electrical connection	
Connected electrical load [V]	3 x 400 V + PE
Connection	Socket (CEE 16 A)
Frequency [Hz]	50
Power [kW]	3
Fuse protection	16 A/FI circuit breaker type C with 30 mA trip current
Rotating field	Clockwise rotation field
Degree of protection	IP 55
Water connection	
On-site specifications	Stop valves with ¾" screw connection, easily accessible for regular use
Cold water connection	¾" external thread
Line pressure [kPa]	200 – 800
Filter size on cold water connection	≤ 100 µm
Max. water hardness	14° dH (German hardness) 25° fH (French hardness) 2.50 mmol/l
Process water addition	yes, automatic dosing

Connection to the storage tank	Fitting: PE DN56 PN5 Electrofusion socket: DN56 (max. 45° bend)
Safety device for drinking water	Type AB air gap (according to national and international standards)
Environmental conditions	
Temperature (operating) [°C]	+5 – +40
Temperature (storage) [°C]	-25 – +55
Altitudes	Up to 2000 m above sea level
Air humidity [%]	10 – 90 (non-condensing)
Other	<ul style="list-style-type: none"> ▪ no large temperature fluctuations ▪ no strong magnetic fields, electric currents, radiation, vibrations or shocks

15 Handover and commissioning report – Checklist

Work carried out	
1. Position of system: level and angle	<input type="checkbox"/>
2. Check 16 A mains connection, level sensor connection	<input type="checkbox"/>
3. Check transport pipe connection	<input type="checkbox"/>
4. Safety contact switch (emergency stop when lid is open)	<input type="checkbox"/>
a. In the working cycle	<input type="checkbox"/>
b. System does not work with the lid open (nothing is allowed to run.)	<input type="checkbox"/>
5. Test function with water adjusted to _____ litres	<input type="checkbox"/>
6. Check the connections on the tank for	<input type="checkbox"/>
a. Seals	<input type="checkbox"/>
b. Completeness	<input type="checkbox"/>
c. Open ball valves (except suction)	<input type="checkbox"/>
7. Checking the level monitoring in storage tanks	<input type="checkbox"/>
a. 80 %	<input type="checkbox"/>
b. 100 %	<input type="checkbox"/>
8. Inducting employees	<input type="checkbox"/>
▪ Max. filling of the BioMaster®Slim	<input type="checkbox"/>
▪ Do not put foreign bodies into machine (e.g. cutlery)	<input type="checkbox"/>
▪ Danger of clogging if foreign substances are put in	<input type="checkbox"/>
▪ Only put in and process raw organic waste mixed with normal, wet food waste	<input type="checkbox"/>
▪ Expanding substances (e.g. wheat, rice, semolina, pasta, citrus fruits) should only be processed mixed	<input type="checkbox"/>
▪ Only process skins from marine fish, mussels, crustaceans, etc. when mixed	<input type="checkbox"/>
▪ Process coffee grounds in small quantities and only when mixed	<input type="checkbox"/>
▪ Cleaning	<input type="checkbox"/>
▪ Confirm/unlock 80 % and disposal notification	<input type="checkbox"/>

▪ Troubleshooting (emergency key)	<input type="checkbox"/>
▪ Test run with operator	<input type="checkbox"/>

15.1 EC-/EU-Declaration of Conformity

See separate EC-/EU-Declaration of Conformity

Participating employees

Name	Signature

Machine number: _____

Date and signature

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