FederLeicht
TIERGERECHT BETÄUBEN

Operating Instructions

Stunning device FlexiStun
Control device for
compliant stunning of poultry
and small mammals

with support for multiple connection configurations

English version

Please note the animal welfare guidelines for stunning and slaughtering in your country
Council Regulation (EC) No 1099/2009 on the protection of animals at the time of killing

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Table of Contents

1. Safety Instructions and Regulations

Read all safety instructions and all sections of the user manual carefully before using the device for the first time. Keep the safety instructions and the user manual in a safe and accessible place. They must be available at all times when needed.

Improper use of the device may pose potential hazards. You must have read and understood the safety regulations and the user manual in order to operate and use the device safely.

1.1 Symbols and Meanings

The following symbols are used in the user manual to highlight particularly important information and instructions:

	**Prohibition Symbol** Important safety notice to prevent injury – must be followed without exception.
	**Warning symbol** Important note to avoid damage to the device, living beings, or the environment – must be followed without exception.
	**Mandatory Action** Important note to ensure smooth operation of the device – should be followed.

1.2 Basic Safety Instructions

The device has been manufactured in accordance with the latest technological standards and recognized safety regulations. Nevertheless, all safety instructions must be strictly followed during installation, operation, cleaning, and transport of the device. These safety instructions must also be observed when troubleshooting faults or carrying out maintenance and servicing tasks.

Specific safety instructions related to the various connection options can be found in the corresponding chapters of this manual.

When used in accordance with the instructions in this manual and with all safety precautions observed, the device can be operated safely and without risk.

1.2.1 Authorized Personnel

The operator must be qualified to handle technical equipment.

All safety instructions and the user manual must be read carefully and strictly followed.

According to applicable legislation, personnel operating the device must possess a certificate of competence for the restraining, stunning, and killing of animals—or the specific species being handled. They must be demonstrably qualified to carry out all necessary steps involved in the stunning and/or killing process.

The operator must be qualified in handling technical equipment. All safety instructions and the user manual must be read thoroughly and strictly followed.

In accordance with Regulation (EC) No 1099/2009 on the protection of animals at the time of killing, any person responsible for the stunning and/or killing of animals must hold a valid Certificate of Competence appropriate for the species and methods used. This certificate must be issued by a competent authority within the European Union.

All work with or on the device must be carried out with full awareness of one's own safety and the safety of others.

The device must not be operated under the influence of alcohol, drugs, or any substances that impair judgment or reaction time.

1.2.2 Correct operation of the system

Condition of the Device

Use the device exclusively for the purpose specified in this user manual. The manufacturer shall not be held liable for any damage resulting from improper or non-designated use.

The device may only be operated when it is in proper working condition. Any malfunction that could affect safety must be rectified immediately in accordance with the safety instructions.

No technical or structural modifications may be made to the device unless explicitly approved by the manufacturer. Unauthorized modifications will void any warranty claims.

Only original spare parts provided by the manufacturer may be used. These parts meet the required technical specifications and safety standards.

Device Environment

To ensure proper operation and to avoid electric shock caused by leakage currents, the device must not be used outdoors in rain or similar precipitation.

Do not operate the device near sources of heat such as radiators, stoves, or components that emit heat, in order to prevent overheating of the control module.

Care must be taken to ensure that no liquids or foreign objects enter the interior of the control unit or cause damage to it.
If liquids or objects have entered the electrical endosure, or if the control unit is visibly damaged, the device must be switched off immediately and returned to the manufacturer for inspection or repair.

1.2.3 Power Supply and Electrical Safety

All external cables, wiring, and threaded connections must be checked for integrity before use and at regular intervals. Any damage must be repaired immediately in accordance with the applicable safety regulations. The device may only be connected to the power source specified in the user manual or marked on the device.

If the device is not used for an extended period, the power supply should be disconnected. Whenever possible, disconnect the device from the mains after each use.

Before cleaning, transport, or performing maintenance or servicing work, the device must be disconnected from the power supply.

Before each use following disconnection from the power supply, the device's functionality must be checked in accordance with the user manual using the appropriate accessories.

1.2.4 Cleaning and Maintenance

Follow the manufacturer's instructions and the guidance in this manual when cleaning the device.

The device may only be serviced by qualified personnel.
Users must not perform any maintenance beyond what is specifically described in the user manual.

For any maintenance tasks beyond the user's responsibility—including all work on the control module—a qualified technician must be consulted, and coordination with the manufacturer is recommended.

To prevent the risk of electric shock, the housing of the control module must not be removed or opened. The interior contains components that may only be serviced by authorized professionals.
The user must not attempt to access or modify internal components under any circumstances.

2. Scope of Application

The FlexiStun is an electric stunning device designed for the proper stunning, emergency killing, and slaughter of vertebrate animals. It is intended solely for the stunning of vertebrates (primarily poultry) that are to be humanely killed for justified reasons.

The device must be operated in compliance with the Animal Welfare Slaughter Ordinance and relevant animal welfare legislation.

It is strictly prohibited to use the device to stun or kill any other animal species or living beings.

2.1 Connection Options

The stunning device is suitable for electrical stunning of vertebrates when used in combination with various compatible setups. These include:

1. **The patented stainless steel carousel FH-1 with water bath**

- For stunning/killing in the stainless steel carousel, the specified limits for the weight and body length of the poultry to be hung must be observed (see Table T1).
- The proper use of the stainless steel carousel is intended for common poultry species such as chickens, ducks, geese, and turkeys designated for slaughter or emergency killing.
  For smaller birds such as pigeons, guinea fowl, and quail, appropriate accessories must be obtained from the manufacturer, and approval from the relevant veterinary authority must be requested.

2. **A standard slaughter line with water bath**

- Stunning of common poultry species (chickens, ducks, geese, turkeys) can be performed using a standard commercial slaughter line.
  This setup requires additional equipment, such as an ultrasonic sensor, as well as custom installation on the slaughter line. Further adjustments may be made in consultation with the manufacturer and the competent veterinary authority.

3. **A V-electrode**

- Connection with a standard V-electrode is possible for stunning poultry such as chickens, ducks, geese, and turkeys.
  Installation within a mobile slaughter unit is also supported.

4. **A stunning tong (for poultry or small four-legged animals, with or without push button)**

- A standard stunning tong can be used for stunning poultry such as chickens, ducks, geese, and turkeys.
  Separate weight limits apply for four-legged animals (see Table T1).
  For other animal species or larger animals, the manufacturer and the competent veterinary authority must be consulted.
  Once connected correctly, stunning of these animals is also possible in accordance with legal requirements.

Table T1 – Weight and Size Limits by Animal Species

Poultry in Stainless Steel Carousel	**Weight**	**Body length**	**Condition**
Minimum	0,1kg	20cm*	Combined exclusion criteria (AND)
Maximum	35kg	100cm*	Independent exclusion criteria (OR)
Four-Legged Animals with Stunning Tongs			
Sheep	max. 60kg	-	
Goat	max. 40kg	-	
Pig	max. 120kg	-	
Calf	max 80kg	-	

*Body length measured from shank to tip of beak in suspended position

3. Stunning device FlexiStun

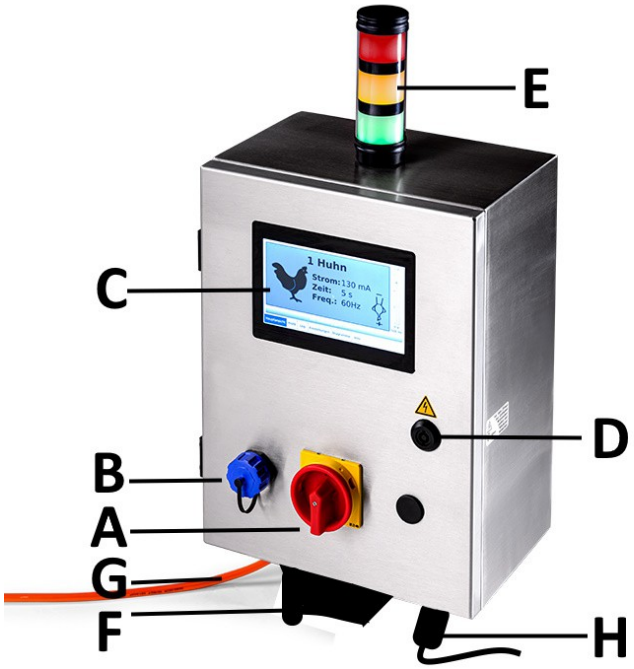
The device consists of a central control module, to which one of the connection alternatives listed in Section 2.1 can be attached. Only one alternative may be operated at a time. (A switch box for parallel connection of two setups is available. This allows manual switching between two connections at the push of a button, without changing the plug.)

Both stunning and killing of the defined animal species via electric shock are possible.
The applicable regulations of the German Animal Welfare Slaughter Ordinance in conjunction with EU Regulation 1099/2009/EC must be observed. Consultation with the responsible veterinary authority may be required.

Stunning/killing is carried out via an electric current, either through full-body, cardiac, or head-only perfusion.

In the remainder of this manual, the term “stunning” will be used for simplicity, unless a clear distinction between stunning and killing is explicit

3.1. Control Unit Layout



Illustrations A1 – Control device

Tabel T2 – Control Unit

A	on-off switch	Switch to turn the device on and off
B	USB-port	Connection point for linking to a USB device
C	Touchscreen	Operated by touch of a finger
D	Lock	to open the control unit
E	Control latern	Visual indicator confirming successful stunning
F	Main connection socket	For attaching the stunning instrument
G	Power Plug	For connecting the device to the public power supply (220V)
H	Negative Pole Connector	Used in full-body current flow stunning with various stunning tool

The control unit is made of a stainless steel housing (IP64) and is therefore splash-proof.

However, care must be taken to ensure that no liquids enter the interior of the control unit. When cleaning, make sure that the housing is not exposed to direct water jets. The housing of the control module may only be opened by a qualified technician and only after consulting the manufacturer.

A **touchscreen (C)** is integrated into the device, allowing the user to configure settings by touch.

The screen should be operated with clean fingers and responds to light touch. Excessive pressure may cause long-term damage to the screen.

The **control lamp (E)**, in combination with the integrated buzzer, indicates the following signals:

Table T2a – Visual and Acoustic Signals

Meaning	Visual signal like a traffic light	Acousitc signal buzzer
Ready for use	green	1 x short signal (0,2sec) after to start up the device
Stunning process successful	green	2 x short signal (0,2sec)
Ready to reposition	green	1 x short signal (0,2sec)
Check the stunning	green	3 x short signal (0,2sec)
Stunning in progress	yellow	
Error	red	3 x long signal (0,5sec)
Device is starting up	All colors simultaneously	
No stunning instrument connected	Alternating colors	

The following ports are located on the underside of the device:

- Power plug **(G)** (230 V grounded plug)
- Main connection socket **(F)** for the selected stunning tool
- Negative pole connector **(H)** for use with the stainless steel carousel or the full-body stunning tong
- Depending on the stunning instrument, an additional connection may be required.

3.2 Using the control unit

The control module starts automatically after the on/off switch is activated.

The start screen appears after approximately 15–20 seconds.

Figure A2 – Start Sceen

3.2.1 Display Elements

The start screen displays the main view with the last selected setting, along with the following elements:

No	Label	Operation
1	Electric current	Displays the electric current (in milliamperes); below, the voltage (in volts) and frequency (in hertz) are shown.
2	Status bar	Displays the duration of the stunning process (in seconds) and indicates whether it was successful.
3	Menu bar	Navigation through the different menu pages
	Main view	Displays the core information and functions.
	Profil	Selection of stunning or culling mode and animal type
	Log	Storage of completed stunning procedures
	Settings	Page for entering and saving user-defined parameters
	Diagrams	Page displaying real-time graphs of the active process
	Info	Info page about device specifications

Table T3 - screen elements/ start screen

The functionality of the device operates independently of the information shown on the display. stunning can therefore be administered with the appropriate pre-selection, even when a different screen page is displayed.

The navigation menu is always located at the bottom of the display and can be used during operation

Main Screen

- The main screen corresponds to the start screen and includes the elements listed above. This page always displays the main parameters of the selected program as well as the progress of the stunning.
- The control bar displays the progress of the stunning (yellow). After the stunning process is completed, the bar indicates its outcome (green = successful, red = error).”
- A red vertical bar on the right edge of the screen indicates the achieved current. The voltage and frequency are displayed numerically below it.

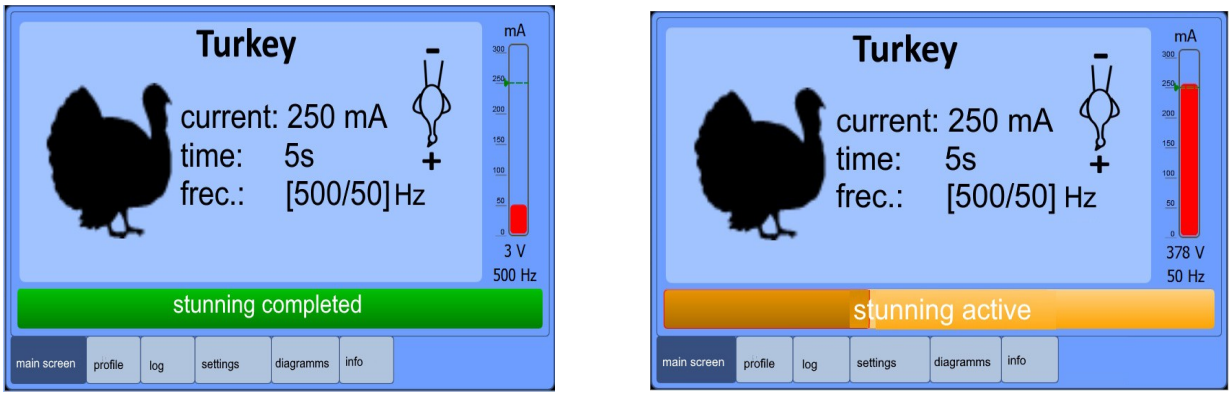


Illustration A3 – Main views

Profile

In the ‘Profile’ menu, the following operating modes can be selected.

- Stunning
- Culling
- System test

The appropriate animal species can then be selected.

Stunning buttons are displayed in blue, culling buttons in red.

Animals can be selected from a drop-down list. The list can be moved up and down by the touch of a finger. A navigation bar is located on the right side to assist with this.

Each profile is marked with a head or body symbol, representing head or body perfusion respectively. It must be ensured that the correct profile is selected for the chosen procedure!

Symbol Head perfusion

Symbol Body perfusion

When an instrument is connected, the stunning device displays incompatible programs as grayed out. However, the responsibility for selecting the correct program remains with the operator.

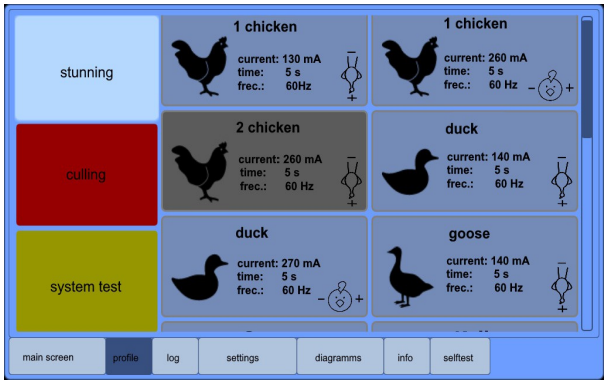


Illustration A4 – Profile / Stunning

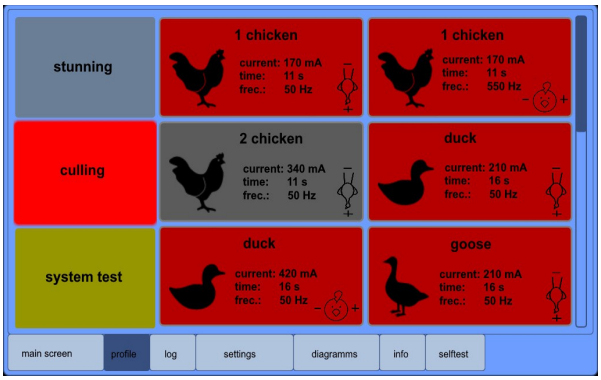


Illustration A5 – Profil/Culling

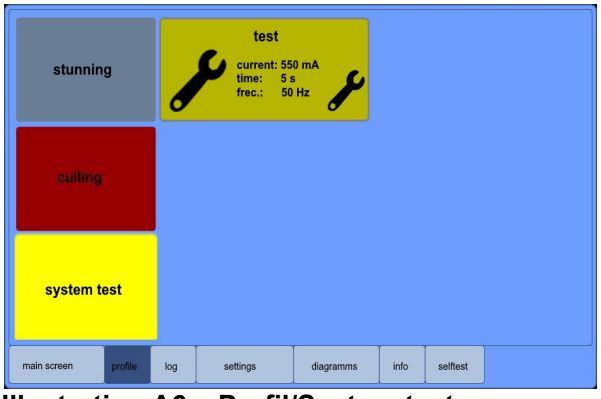


Illustration A6 – Profil/System test

The **System Test** option is used to check operational readiness via a test resistor (see Section 3.2.2). The performed procedures are not stoned in the log.

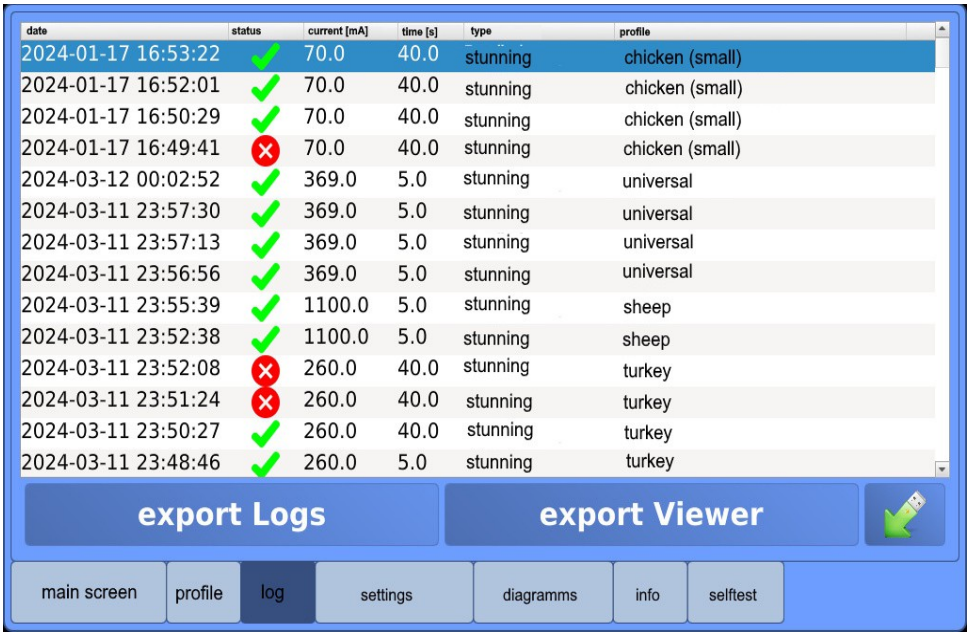
Before selecting the program, the stunning instrument must be connected via the connector plug.

The legally required settings for the animal to be stunned are stored in the internal memory of the control module, including a safety buffer. **See overview in Section 5.1.**

Individual settings can be modified and saved in compliance with the Animal Welfare Slaughter Ordinance. **See Settings.**

Log

The ‘Log’ button opens the internal memory containing data on performed stunning procedures. At a glance, it shows whether a procedure was successful (green check mark) or if an error occurred (red cross). A yellow check mark indicates that the device corrected the stunning process due to a current fluctuation. See Section 3.2.3 for details.



Illustrations A7 – Log

Each saved procedure includes the corresponding progress charts, which can be accessed directly by tapping the respective row.

The green arrow next to the download buttons can be pressed before removing the USB stick to ensure safe ejection.

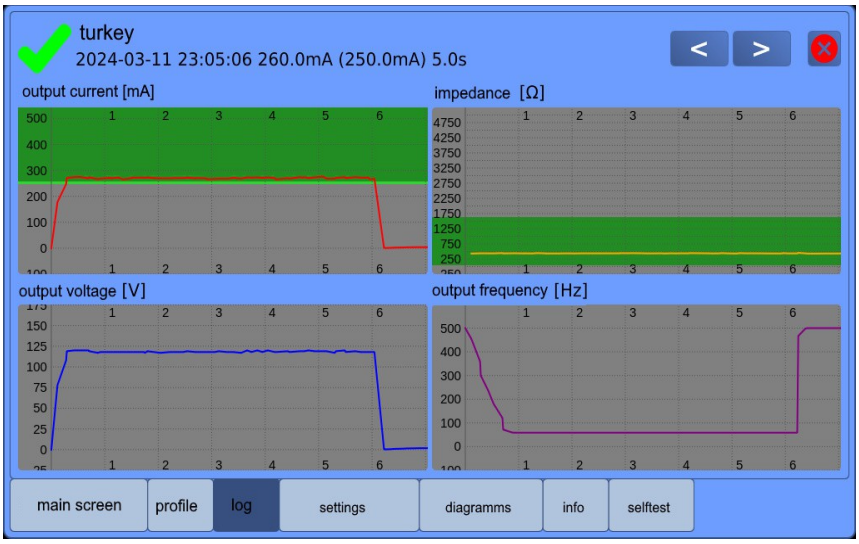
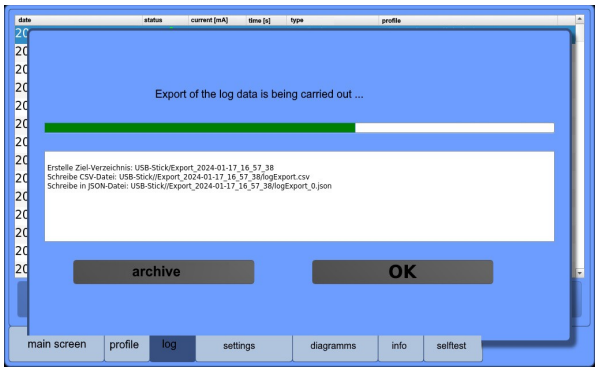


Illustration A8 - Detail view Log

Data retrieval is performed via the USB port (B). The following procedure should be followed:

- Insert a USB stick into the designated slot
- Press the ‘Export Logs’ button → the download progress will be displayed
- Then select ‘Archive’ or ‘Cancel’
- Press the green arrow on the right
- Remove the USB stick
- Close the cover flap



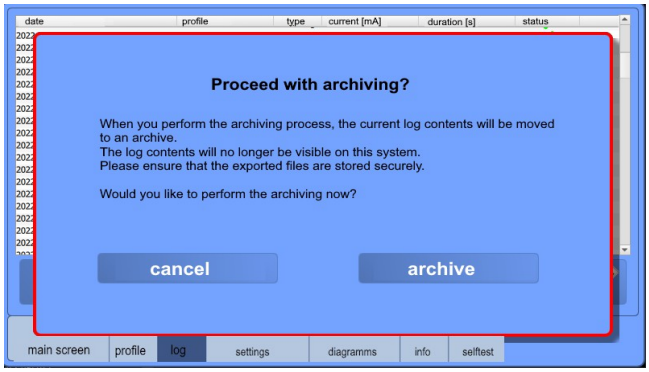


Illustration A9 – Data export

Once archived, the data are no longer directly accessible on the device. They are stored in the internal memory, so they are not lost but cannot be exported again.

Data must be regularly exported and archived to prevent overloading the working memory. We recommend exporting once a month for smaller operations and once a week for larger operations.

The viewer software is used to view stunning procedures on a PC and can also be exported to a USB stick. Further instructions for installation on the PC can be found in Section 4.1.

The viewer (log viewer) can also be downloaded via the USB port. The following procedure should be followed:

- Insert a USB stick into the designated slot
- Press the 'Export Viewer' button → the download progress will be displayed
- Then select 'OK'
- Press the green arrow on the right
- Remove the USB stick
- Close the cover flap

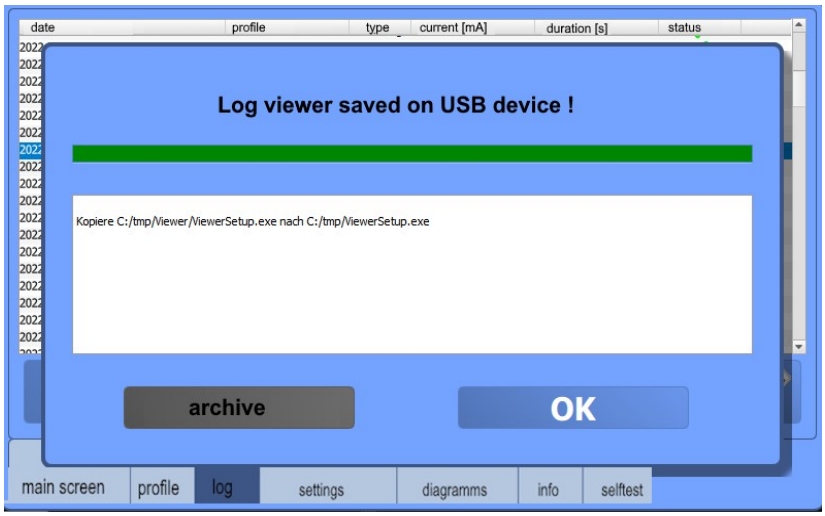


Illustration A 10 – Viewer-Export

Settings

On the Settings page, various user-defined adjustments can be made. The legal requirements according to the Animal Welfare Slaughter Ordinance must be observed.

Illustration A11 – Settings

- **Profile settings**
  - Current: The preset current in milliamperes can be adjusted using the '+' or '–' buttons.
  - Procedure (Duration: x seconds): Select whether repositioning (only when using Electro-Stung-Tong) should be performed.
    - Procedure (Duration: x seconds): Select whether repositioning (only when using stunning forceps) should be performed.
    - The selected total duration is displayed in parentheses.
    - The repositioning time is always 5 seconds.
  - Total Duration: Here you can adjust the stunning duration without repositioning using the '+' or '–' buttons. This field is not displayed when repositioning is selected.
    - When repositioning is selected, the desired durations can be entered for the various phases.
    - Repositioning can be performed up to four times.
  - Starting Voltage: A specific starting voltage can be selected to achieve a smoother rise in the voltage curve.

- **Impedance Measurement**
  - Frequency (Impedance Measurement): Here, the initial frequency for the impedance measurement can be adjusted.
  - Frequency (stunning): Here, the frequency of the stunning process can be adjusted. The legal regulations regarding the appropriate current intensity for the respective animal must be observed!
- **Save buttons**
  - Reset: Pressing this button will restore the settings to their default parameters.
  - Save: Pressing this button saves the current settings into a new profile. Profiles are consecutively numbered according to the animal species.
  - Save Copy: Pressing this button creates a copy of a profile, which can then be modified as desired.

Delete: A user-created profile can be deleted. An additional button will be displayed.

The delete button is not shown for factory default profiles. Thus, the legally required profiles are always retained.

The memory should be cleared regularly.

Diagrams

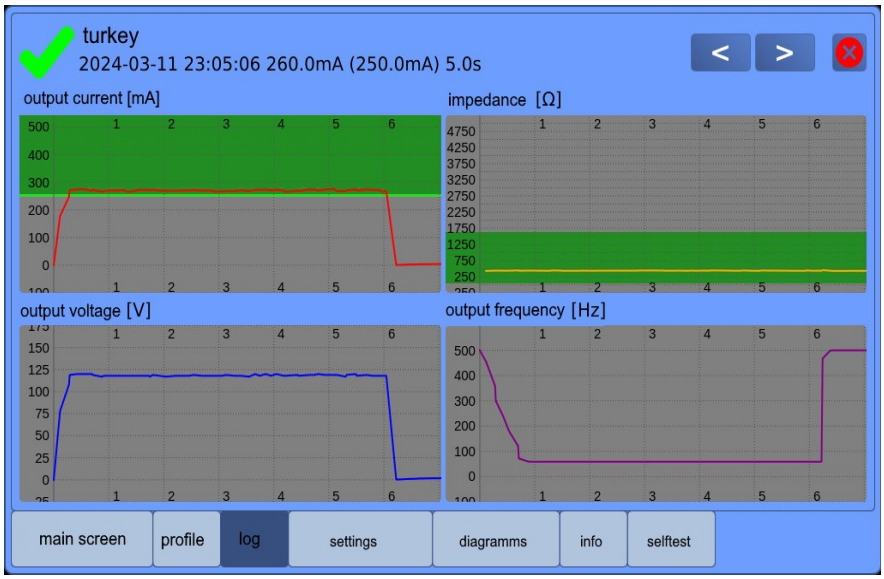


Illustration A12 – Diagrams

Various charts of the stunning process are displayed here.

- Output Current: This shows the progression of the applied current in milliamperes. The green area marks the legally required minimum value or the selected value in the parameters.
- Impedance: This displays the progression of continuous resistance measurement in ohms. (For

stunning instruments with impedance measurement, a green area is shown which must not be fallen below to enable current flow when applying the Electro-Stun-Tong.)

- Output Voltage: This displays the progression of the applied voltage, calculated based on the preceding parameters, in volts.
- Frequency: This shows the progression of the applied frequency in hertz.

The legally mandated parameters for current intensity and frequency are reached within the first second of the procedure.

The progress charts for each procedure are also saved in the log and can be viewed at any time.

Information

This section displays the device properties and serial numbers.

The ‘Peripherals’ line indicates which stunning instrument is connected.

Wi-Fi information for remote maintenance is also shown here.

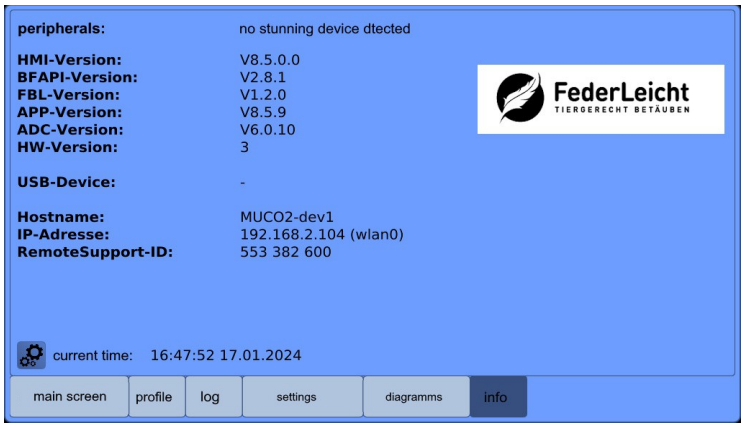


Illustration A13 – Information

3.3 Functionality Test

The device should be tested for functionality after each disconnection from the power supply, after every cleaning or maintenance, and before each use. A dedicated ‘System Test’ button is programmed for this purpose in the ‘Profile’ screen.

- For this purpose, the test accessory serves as a dummy for an animal and must be connected to the electrodes accordingly.
- As stunning parameters, use the settings of the ‘System Test’ button on the Profile page.
- The green indicator light confirms functionality, and stunning of the animals can commence.

3.4 Error Messages

A procedure is considered faulty if the legally prescribed parameters (duration and current intensity) are not met.

A red error (red X)

- Appears when the legally mandated minimum current intensity is not met.
- When the legally required minimum duration of current application is not met.
- In case of interruption of the stunning process (no current flow for more than 3 seconds).

During the stunning process, this is indicated by several signals.

- Acoustic signal (three long beeps).
- Visual signal (red light on the indicator).
- Popup (message on the screen) that disappears automatically or can be dismissed manually.

Illustration A 14 – Error message

In the case of brief operating errors in the millisecond range, the stunning process is not immediately classified as a fault. The control unit is programmed to technically compensate for short-term errors so that the process is not interrupted. Stunning continues and is extended by the duration of the interruption.

This ensures that handling errors — for example, due to poor contact with the electrodes — are compensated without risking the animal waking up during an interruption or suffering unnecessarily.

A yellow check mark with a prompt to verify the success of stunning appears when the entered current intensity is not reached, but the legally required minimum is exceeded, or in the case of brief insufficient electrode contact. The duration of the stunning is automatically extended accordingly.

This is also indicated by a visual and an acoustic signal (red and orange lights on the indicator, plus an acoustic signal: 2 short beeps, 1 long beep).The following message appears on the screen.

Illustration A 15 – Operator Note

In the internal memory, these processes are marked with a yellow check mark.

Troubleshooting

Error	Reason	Correction
The animal is not properly stunned.	The settings for current intensity and stunning duration have not been selected correctly. The selection of head or body perfusion was not made correctly.	Please check the settings according to Chapter 5.1.
The electric circuit is not closed.	The main power plug is not properly connected.	Check the connection to the power supply and the associated fuses.
	The cable is damaged.	The cable must be replaced.
The stunning does not start.	The selected instrument is not connected to the control unit, or the parameters chosen are incorrect.	Check all connections and the selected settings. Restart the device if necessary to reset all settings.
	Impedance (Resistance) is too high	The contact points on the animal should be moistened to reduce the resistance.
Warning: Please check the stunning procedure.	The device has automatically corrected a brief intermittent contact with the electrodes.	Establish firm contact with the electrodes and moisten the animal's contact points.

Tabell T4 – Troubleshooting Control unit

3.5 Updates

After software improvements, updates can be downloaded online.

Please follow these steps to properly install the update:

- Download the update file update.mc1 to an empty USB stick after approval.
  (The file must not be renamed or saved as a copy (1).)
- Insert the USB stick into the USB port on the device.
- Turn on the device using the main switch.
- Wait until the update installation completes automatically → the start screen will be displayed.
- Turn off the device using the main switch.
- Remove the USB stick and close the cover flap.

The device is now ready for use again.

4. Viewer-Software

The saved data can be viewed on the PC after export. The included viewer software is required for this purpose. It can be downloaded from the device.

4.1 Installation

To install on the PC, run the file viewer.exe (or Viewer Setup in the download folder).
Viewer Setup im Downloadordner) aufgerufen werden.

If a Windows warning message appears, click on 'More info' and then select 'Run anyway'.

Please confirm the message 'Do you want to allow this app from an unknown publisher to make changes to your device?' by selecting 'Yes'.

Subsequently, the installation will proceed or be adjusted using the standard dialog boxes.
Please confirm these by clicking 'Next' or 'Install'.

Illustration A16 – Installation Viewer

Clicking 'Finish' completes the installation. You will now find the program in your menu list under the folder FederLeicht.

4.2 Operation

After opening the program, the export file of the stunning procedures can be opened in the following steps (for optimal viewing, maximize the window to full screen):

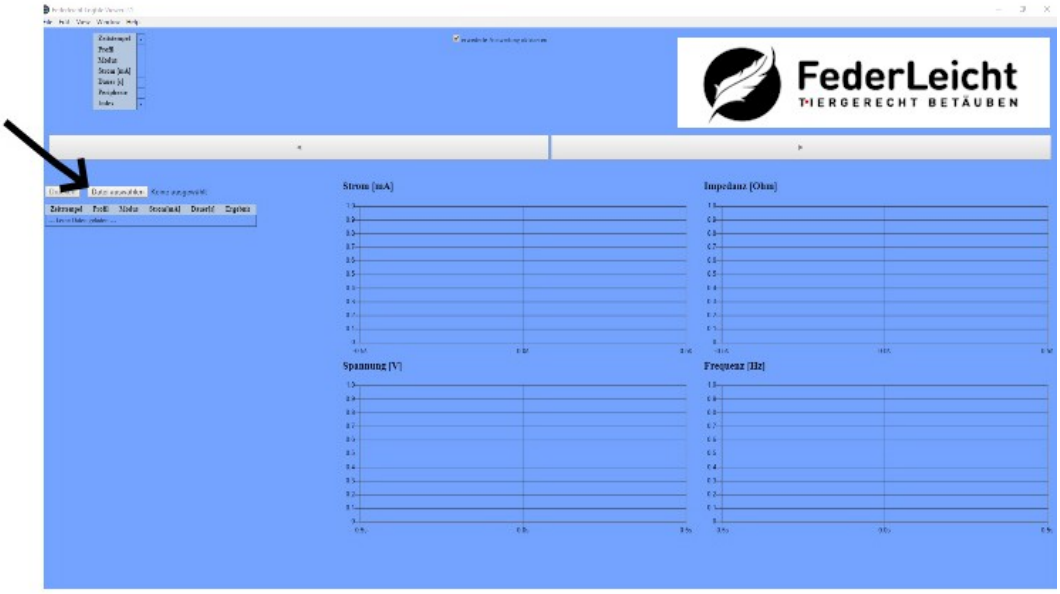


Illustration A17 – Viewer Start Screen

- Click the 'Select File' button.
- Select the appropriate folder containing the exported log file on your computer (from the USB stick or storage location on the PC) → the file is named logExport_x.json (where x represents a number).

The selected file is displayed.

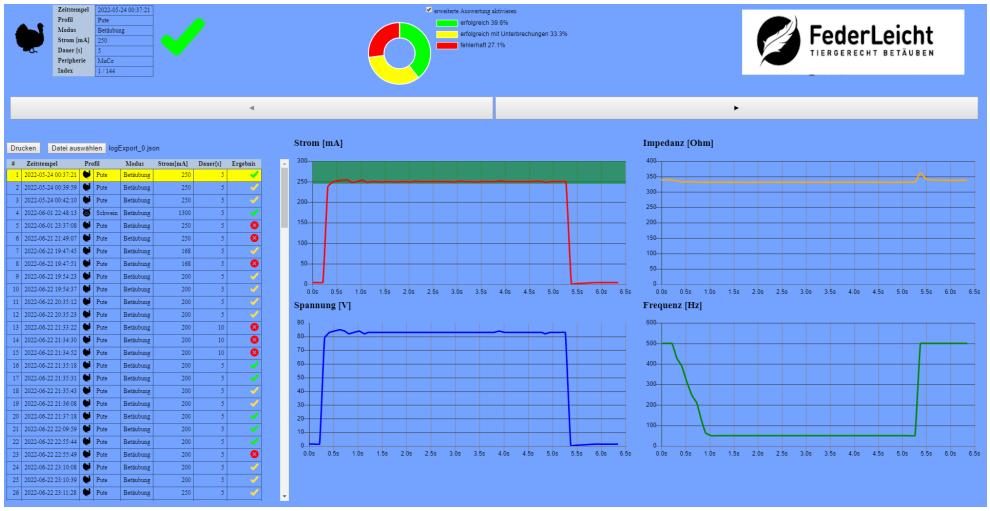


Illustration A18 – Viewer File

All stunning procedures, including parameters and results, are listed in the panel on the left. Each procedure can be selected individually. The result is displayed prominently above. The corresponding charts are shown on the right side.

A pie chart at the top of the screen provides a quick overview of the percentage distribution of successful procedures (green), successful procedures with operator errors (yellow), and error rate (red). Use the arrow buttons to scroll through the procedures one by one.

5. Connection options

The anesthesia instruments specified in Chapter 2.1 can be connected to the control unit.

"The general safety instructions and regulations must be observed continuently.

5.1 Overview

Some procedures are only permitted or recommended for specific animal species. The following tables provide information about the procedures and the corresponding parameters for each animal species.

Stunning

Permitted procedures for **electrical stunning** of different animal species with corresponding parameters.

Animal species		Frequency	Water bath	Pliers	V-electrode
Minimum duration 4 Sec.		Hertz (Hz)	Whole-body-perfusion	Head-perfusion	Head-perfusion
	Turkey	<200Hz	250 mA	400 mA	400 mA
		200-400Hz	400 mA		
	chicken	<200Hz	120 mA	240 mA	240 mA
		200-400Hz	150 mA		
	2 chickens	<200Hz	240 mA	n.a.	n.a.
		200-400Hz	300 mA		
	goose	<200Hz	130 mA	260 mA	260 mA
	duck	<200Hz	130 mA	260 mA	260 mA
	sheep		n.a.	1000 mA	n.a.
	goat		n.a.	1000 mA	n.a.
	pig	50-100 Hz	n.a.	1300 mA	n.a.
	calf*		n.a.	1250 mA	n.a.

n.a.: not allowed

*calf up to 6 months

Table T5 – stunning parameters

Culling

Permissible methods of electrical killing of various animal species with corresponding parameters.

Animal species		Frequency	Water bath	Pliers	V-electrode
Minimum duration 10/15 Sec.		Hertz	Whole-body-perfusion	Head-perfusion	Head-perfusion
	Turkey	50 Hz	250 mA	400 mA+E/G	400 mA+E/G
	Huhn	50 Hz	160 mA	240 mA+E/G	240 mA+E/G
	2 chickens	50 Hz	320 mA	n.a.	n.a.
	Goose*	50 Hz	200 mA	400 mA	400 mA
	Duck*	50 Hz	200 mA	400 mA	400 mA
	Sheep		n.a.	1000 mA +E/G	n.a.
	Goat		n.a.	1000 mA +E/G	n.a.
	Pig	50-100 Hz	n.a.	1300 mA +E/G	n.a.
	Kalb**		n.a.	1250 mA +E/G	n.a.

Table T6– Parameter Culling

n.a.: not allowed
* Minimum duration 15 Sekunden
*calf up to 6 months
+E/G: In addition to electrical stunning, a bleeding incision or cervical dislocation should be performed

The basic operation of the device for any type of stunning or killing includes the following steps:

- Connect the main power supply to the respective stunning device.
- Switch on the control unit.
- Select the animal species to be stunned or killed.
- Restrain the animal and moisten the electrodes.
- Start the stunning process by establishing contact with the instrument.
- Wait for the green light signal to confirm successful completion of the process.

5.2 Stainless steel carousel with water bath

The stainless steel carousel is designed exclusively for poultry of all kinds. Hanging or stunning other animal species is not permitted.

Stunning is performed by applying an electric shock through immersing the head in an electrified water bath. A whole-body current flow is always initiated. The necessary electrical circuit is completed via the grounded stainless steel carousel.

The stainless steel carousel can still be safely touched during the stunning process.

For this, the specific instructions (regarding the tightening of all connections) as well as the general safety guidelines must be observed.

5.2.1 Main component of the device

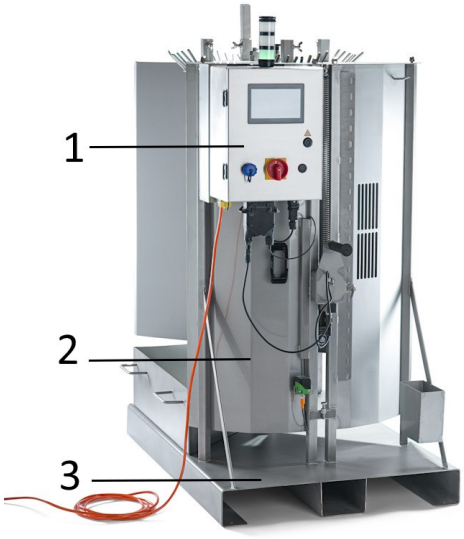


Illustration A19 – Complete device

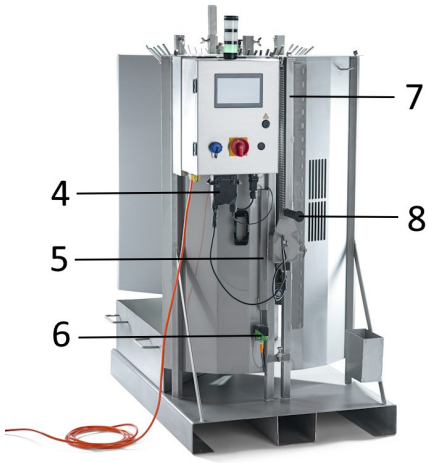


Illustration A20 – Complete device 2

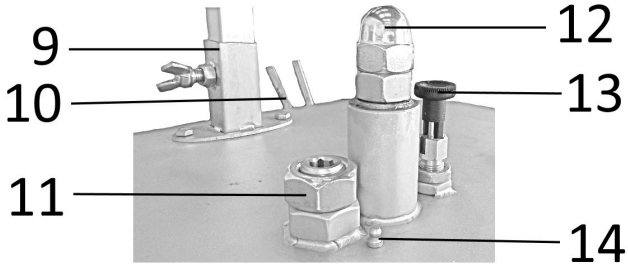


Illustration A21 – Detail rotation ring

No.	Label	Operation
1	pallet block	Base/stand of the device in EU pallet size (80x120cm)
2	Protective wall	Divider at the front of stunning station S2
3	Control unit	Control unit containing all electrical equipment
4	Main connection plug	Connection plug with power cable to the electrode and connection cable to the proximity switch.
5	Cable duct	Cable guide duct
6	Proximity switch	Contact switch to activate the electrical current
7	Guiding slot	Slot in which the slide moves up and down
	Coil spring	Spring to assist the lifting of the slide and
	Locking rail	Perforated rail for anchoring the slide at the desired height
8	handle	Insulated lever for lifting the slide
	Locking pin	Pin for anchoring the slide in the locking rail
9	Accessory holder	Fitting tube for extensions/accessories with wing nut
10	Foot brackets	Components of the rotation ring to hold feet of poultry
11	Snapping device	Locking pin to fix the rotation ring in one position
12	Cap screw	Top cap screw
13	transport lock	Locking pin to secure the rotating element during transport
14	grease nipple	For occasional lubrication of the rotation ring
15	lift support	Substructure for the stunning basin with
	stunning basin	Plastic basin with embedded electrode
16	Electrode nut	Wing nut for fastening the power connection to the electrode
17	Protective cover	Upper cover on the stunning station with…
	Cap nut	4 cap nuts used to fasten the protective cover
18	Assembling tab	Fixture for suspending the control module on the protective wall
19	Assembling screw	Screw for fastening the control module
20	Plug for electric negative pole	Plug for connecting the negative pole when the stainless steel carousel is used
21	Electrode sucket	**Connector socket for cable-to-electrode connection**

Table T7 – Main components of the stainless steel carousel

Illustration A22 – Side view

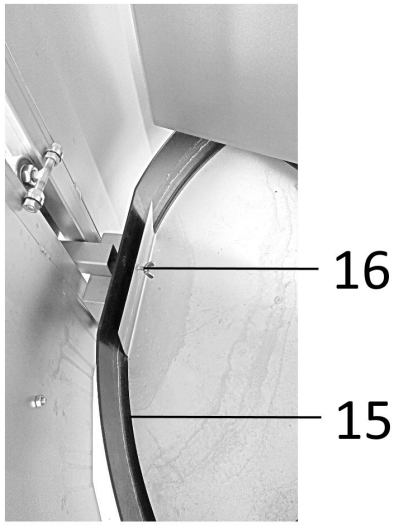


Illustration A23 – Electrode

5.2.2 Risks and Safety Guidelines

The power in the water basin is released when the lifting carriage is raised past the proximity sensor.

There is a risk of electric shock if there is direct or indirect (non-insulated) contact with the water in the basin. During operation, limbs or any other extensions must never be inserted into the water or the plastic basin.

All parts of the device that are in indirect contact with the basin are properly insulated, and the associated electrical circuit is protected by an isolation transformer. In the initial (rest) position, the basin is de-energized and poses no danger.

It must be ensured that the control module is properly secured and that the associated **mounting screw** (19, see below) is tightened firmly to prevent current leakage through the control housing. Improper fastening poses a risk of electric shock.

Care must be taken to ensure that the water basin and the embedded electrode are not damaged. If the basin is damaged, it is no longer approved for use and must be replaced immediately.

The **electrode nut** (16) must also be secured to ensure proper contact and a reliable current flow.

Operating personnel must wear appropriate protective clothing. No loose items should be worn that could accidentally come into contact with the water.

When lifting the basin and securing it to the guide rail, care must be taken not to reach into the guide slot and to avoid getting fingers pinched.

5.2.3 Commissioning

To set up and connect the device, proceed as follows:

1. **Setting up the device:** Place the device at the desired location. The device must be placed on a level, dry, and solid surface. Ensure the device stands firmly and does not wobble. Use outdoors in wet conditions is not permitted.
2. **Filling the water basin:** Pour approximately 5 liters of water into the stunning basin (15)**.**
3. **Connection to the power supply:** Now connect the device to the power supply using the grounded plug.
4. **Switching on:** After connecting to the power supply, the device can be turned on using the on/off switch (A). The computer will start up automatically, and after approximately 15 seconds, the start screen will be displayed on the control unit's screen. The device readiness is indicated by a short beep and a green light.
5. **Testing:** Before confirming operational readiness, the functionality must be checked. To do this, follow the procedure described in Chapter 3.2.2 and use the supplied test resistor instead of a live animal.
6. **Operational readiness:** After successfully testing the functionality, the device is ready for operation.

Mounting the control unit on the stainless steel carousel:

1. **Removing the protective cover:** Lift the lifting carriage and secure it to the locking rail. Loosen the spring screw (22) and unhook the spring.

Caution: The spring is under tension and may snap downward when unhooked, posing a risk of injury.

   Then loosen the four cap nuts on the protective cover (17) and lift it off the device.
2. **Installing the control unit:** Hang the upper mounting tab of the control unit into the designated recess on the front protective wall (18) and ensure that the opening for the mounting screw aligns with it. Then, the mounting screw (19) must be screwed in and tightened securely.
3. **Reinstalling the protective cover:** Now place the protective cover back on and tighten the four cap nuts securely.
4. **Releasing the transport lock:** Release the transport lock (13) by gently pulling and turning it a quarter turn.
5. **Inserting the stunning basin:** The basin is easiest to insert when the rotating wings are positioned between the stations (see Fig. 22). Place the stunning basin securely into the designated holder on the carriage and fasten the electrode nut (16). Then fill the basin two-thirds full with approximately 5 liters of water (do not use distilled water).
6. **Connecting the cables**
   a) Insert the main connector plug (4) into the corresponding main connector socket (F) and flip the locking tabs upward.

   b) Insert the negative terminal end (20) into the corresponding socket (H) and flip the locking tab downward.

   c) Pull the electrode connection cable from the main connector plug through the fastening on the lifting carriage and insert the connector into the electrode socket (21). (To disconnect the cable plug, one of the side clips must be pressed in using a screwdriver or similar tool.)

   d) Guide the proximity switch cable through the cable duct (5) and secure the connector to the proximity switch (6) by tightening the locking nut.

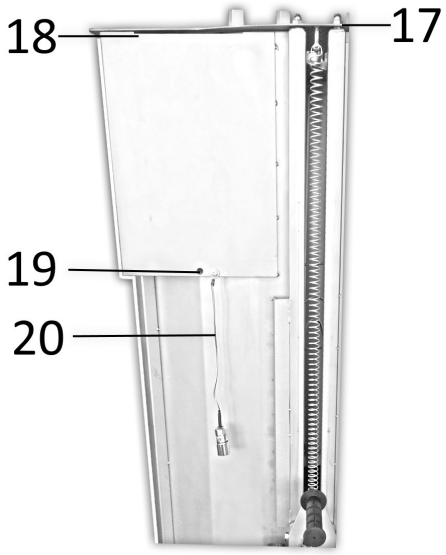


Illustration A24 – Mounting the control unit

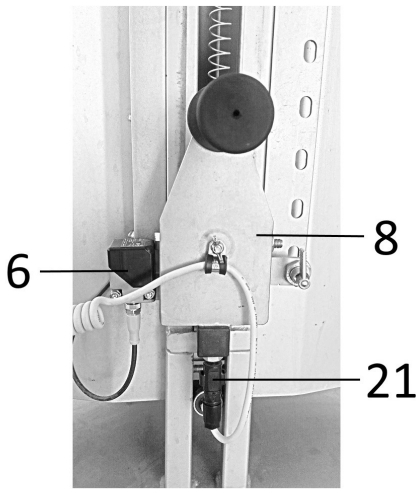


Illustration A25 – Connections of the lifting carriage

5.2.4 Functionality and Operation

The stunning device MuCo-1 consists of four identical compartments (A–D), arranged in a carousel-like structure and separated from each other by rotating wings. The compartments can be rotated through four stations (S1–S4) on the device. These stations must be passed sequentially in order from 1 to 4.

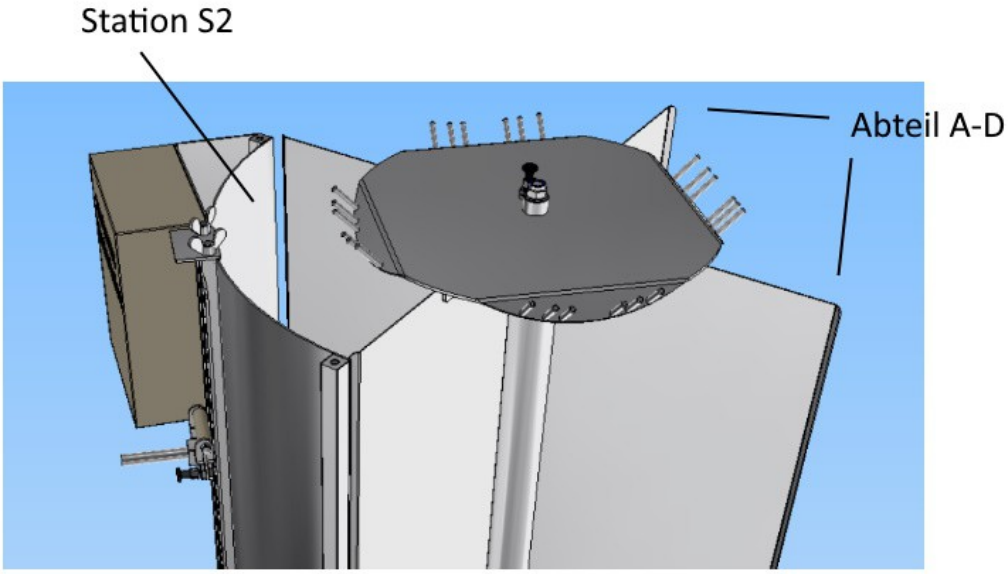


Illustration A 26 – Stations of the stainless steel carousel

The device can be operated by a single person. Coordinated work by two people is also possible. The device should not be operated by more than two persons.

The minimum and maximum dimensions (see Table T1) must be observed.

The device must be adapted for different types of poultry using the appropriate accessories.

- Chicken holders have narrower hooks, suspend the birds lower, and allow two birds to be stunned simultaneously.
- Suitable foot holders for small poultry are also available upon request.
- For geese and especially agile poultry, it is recommended to use a holder to stabilize the neck. See notes in Chapter 5.2.6.

In the lowered position, the water basin is without power.

When raised, the water basin is live (electrified). The basin is shielded from all sides, and further rotation of the carousel is not possible in this position.

After setting up the device and completing the system test, proceed as follows:

1. **Select the appropriate program on the control module with touchscreen.**
2. **At hanging station S1, the animal to be stunned is hung by its feet on the rotating ring into the foot holders (10). Narrower holders are available for smaller animals, and wider holders for larger animals.**

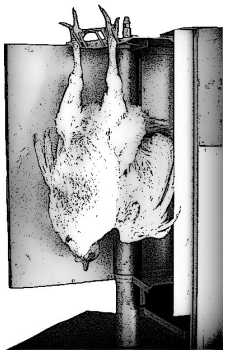


Illustration A27 – Hanging system for turkey on stainless steel carousel

The legs must be securely anchored in the hanging system and moistened to ensure better conductivity.

Turkeys are optimally hung as shown in Fig. A27 (torso facing the operator). For chickens, it is recommended to hang them with their backs facing the operator.

3. **Next, the compartment is manually rotated to the stunning station S2. This is best done by pushing the rotating wing of the respective compartment being used. The head latch (11) ensures that the corresponding compartment is properly secured at station S2 and does not move further.**

At every step, ensure that the rotating wing is grasped by the flat surface, not the edge, to avoid pinching fingers between the rotating wing and the protective wall.

The compartment with the animal to be stunned is now at station S2. The operator also moves to this station, which is separated by a partition.

4. **Once the compartment is securely locked in the correct position, the stunning basin (15) can be lifted using the handle (8). This activates the power flow via a signal from the proximity switch, and the water in the basin becomes electrified.**

The water basin is now electrified, and under no circumstances should it be touched.

Additionally, ensure that the handle of the lifting carriage is operated properly, avoid placing hands in the guide slot, and be careful not to pinch fingers in the locking rail.

The basin must now be raised until the animal to be stunned touches the water in the basin with its head. Upon this contact, the electrical circuit is completed through the water, the head and the hung feet, instantly stunning the animal.

A firm and deliberate lifting of the water basin using the handle should be applied.

Lifting too cautiously risks that the initial electric shock occurs through a fleeting contact, causing the animal to pull its head away.

Lifting too forcefully risks submerging the animal too deeply into the basin or even lifting it out of the foot holder.

The handle can now be secured using the locking pin (8) in the locking rail (7), so that the basin remains at the desired height and does not need to be held during the set time.

In this position, the carousel cannot be rotated further as beeing blocked by the raised water basin.

The power flow is indicated by the signal lights on the control lamp (orange). Once the stunning process is successfully completed, the control lamp shows a green light. The locking pin can now be released, and the lifting carriage can be lowered back to the starting position using the handle.

5. **In the starting position below the proximity switch (6), the power flow is interrupted, and the compartment with the stunned animal can be rotated to the killing station S3.**

6. **The operator moves with the stunned animal in the respective compartment to station S3. Here, the success of the stunning is checked according to applicable legal regulations, and the animal is then killed.**

The success of stunning can be verified based on the following signs: After the current passes through, the animal must no longer raise its head; spontaneous eye movements (blinking), beak opening, as well as lifting and lowering of the pelvic floor (indicating breathing) should no longer occur.

According to legal regulations, the animal must be killed immediately after stunning—either by cervical dislocation using a dislocation clamp or by bleeding out through severing the carotid artery—within a maximum of 20 seconds. (Detailed information can be found in the animal welfare guidelines and standard operating procedures.)

7. **After the animal has been killed, the compartment is rotated to the unloading station S4. The animal can be removed here.**

5.2.5 Operating malfunctions

It is generally recommended to switch off the device in case of operational malfunctions, disconnect it from the power supply if necessary, and then restart it.

Error	Cause	Remedy
The animal is not properly stunned.	The settings for current strength and stunning duration are not correctly selected.	Please check the settings according to Chapter 5.1.
	Water is missing.	Check the water level in the stunning basin. Approximately 5 liters must be filled.
	The animal pulls in its neck.	The animal retracts its neck.
	The carriage is lifted too far.	Ensure that only the animal's head is in the water and that the bird does not rest in the basin or get lifted out of the foot holders.
	The carriage was lowered too early (before the set duration elapsed).	The stunning process must be performed again immediately.
The electrical circuit is not completed.	The main plug is not properly connected.	Check the connection to the power supply and the associated fuses.
	The coiled cable is not properly connected to the stunning basin and	Check the connection of the coiled cable to the stunning basin as well as the wing nut securing the

	the corresponding socket.	electrical connection to the electrode.
	The cable is damaged.	The cable must be replaced.
	The electrode connection in the water basin is not properly secured.	**Tightening the wing nut in the water basin**
The rotary ring is sticking/jamming	The locking pin on the rotary ring is either too tightly fastened or not lubricated.	Lubricate the grease nipple with suitable grease.
	The transport lock is still engaged.	Release the transport lock.
	The main nut is tightened too much.	Loosen the upper wing nut slightly.
The basin is damaged.		The basin must be replaced immediately and must no longer be used.
The basin cannot be lifted.	The compartments (A-D) are not in the correct position.	The basin can only be lifted when the partition walls of the compartments are in the correct position and locked in place. Check the position of the partition walls.
	The locking pin is secured in the locking rail.	Release the locking pin.
	The goose holder is pressing against the basin.	The length of the goose holder should be appropriately chosen so that the animal's neck is secured while still allowing the head to dip freely into the water.
The lifting carriage cannot be locked at a specific height.	The locking pin is not properly adjusted.	The adjustment screw on the locking pin should be loosened or tightened.
The stunning process does not start.	The desired instrument is not connected to the control module, or the incorrect parameters have been selected.	Check all connections and the selected settings. If necessary, restart the device to reset all settings.
	Impedance (resistance) is too high.	The contact points of the animal should be moistened to reduce the resistance.

Table T8 – Troubleshooting

5.2.6 Optional accessories

Chicken holders	Extensions of the foot holders for chickens
Goose holders	Bracket for securing geese
Test resistor	Dummy for testing funcitonality
Blood tub	Containment tray for blood

Neck breake pliers	Pliers for performing the neck fracture
Wall mount for animal	For hanging poultry on a fixed wall bracket

Table T9 – Accessories stainless steel carousel

Please note that the holder must be adjusted to the size of the animal and must not be longer than the animal being suspendet. The height can be adjusted using the adjustment screw at the upper end of the holder (9). It is recommended to secure the animal at the neck, not too close to the head, using the Velcro strap. This ensures that the head of the restrained animal hangs below the holder (see Fig. A28), so that the stunning basin is not obstructed by the goose holder and the animal's head can enter the water freely.

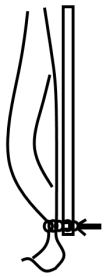


Illustration A 28 – Fixation with goose holder

5.2.7 Cleaning and Maintenance

The slewing ring must be lubricated from time to time via the grease nipple (14). If possible, use food-grade grease for this purpose.

Otherwise, the device ist maintenance – free. For further information, see below regarding the maintenance of the control unit.

Regular cleaning

For regular cleaning, the control unit can remain attached to the stainless steel carousel; however, the control module and plug connections should not be exposed to direct water jets. A hand brush or cleaning cloth can be used for routine cleaning.

The plug connections are designed to be splash-resistant (IP44), and the housing of the control module is sealed; nevertheless, there is still a risk of damage to the device.

The control module is not waterproof and must not be immersed in water. The use of high-pressure water jets (e.g., with a pressure washer), aggressive cleaning agents, or abrasive cleaning tools must be avoided. This also applies to the rear side of the control module.

Handle disassembled parts of the device carefully and with safety in mind to avoid injury or damage to the components.

Procedure for Easy Cleaning:

- Disconnection from the power supply The power plug must be unplugged to disconnect from the power supply.
- **Removal of the water basin:** The water basin must be emptied and cleaned after each use of the device. To empty the water basin, it is recommended to remove the basin (15). The basin can be lifted out of the holder from its initial position. For this, the electrode nut (16) must be loosened. After disconnecting the electrode from its corresponding connection, the basin can be removed by slightly offsetting the position of the rotary wings.

The basin can be rinsed with clean water and wiped with a soft cloth. Do not use abrasive cleaning tools such as steel wool or hard sponges, nor harsh cleaning agents.

A damaged basin must no longer be used for stunning and must be replaced immediately.

- **Cleaning of the device**:The rest of the stainless steel carousel can also be cleaned with a high-pressure cleaner and polished with stainless steel care oil. Only cleaning products suitable for stainless steel should be used.

Intensive cleaning

In case of heavy contamination, the control unit can also be removed from the stainless steel carousel to allow thorough cleaning of the latter.

Procedure for Intensive Cleaning:

- **Disconnection from the power supply:** The power plug must be unplugged to disconnect from the power supply.
- **Disconnection of the connection cables:**
  - The main connection plug must be disconnected.
  - The spiral connection must be loosened using a screwdriver To do this, carefully press a clamp on the left or right side of the connection (21) inward with the screwdriver while gently pulling the plug at the same time. Afterwards, the securing of the spiral cable on the carriage (15) must be released.
  - Then, the connection cable of the proximity switch (6) is disconnected by loosening the union nut.
  - The grounding cable (20) must also be disconnected.

- **Removal of the protective cover:** The four cap nuts on the fastening screws of the protective cover (17) must be loosened. Afterwards, the cover can be lifted off.
- **Removal of the control module:** Loosen the fastening screw (19) of the control device and remove it.
- **Removal of the water basin:** see above.
- **Cleaning of the device:** The rest of the device can now be cleaned with a high-pressure cleaner and polished with stainless steel care oil. Only cleaning products suitable for stainless steel should be used.

5.3 Installation at the slaughter line

The device can be individually mounted on any standard slaughter line.

This requires installation in consultation with the manufacturer, possibly in cooperation with the facility electrician. Connection to the slaughter line is possible via a customized power connection (main connection socket) and an additional ultrasonic sensor for distance measurement.

Further handling corresponds to the standard procedure at the slaughter line as described in Chapter 5.1 of this manual. We also refer to the operating instructions of the manufacturer of the slaughter line used.

5.4 Connection of a V-electrode

The device can be connected to any standard V-electrode.

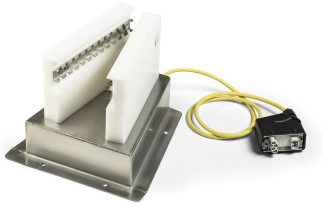


Illustration A 29 - v-electrode

Existing V-electrodes can be connected to the control device via a connector plug. Depending on the model, this requires a qualified electrician to make the connection in consultation with the manufacturer.

5.4.1 Hazards and Safety Instructions

When stunning using the V-electrode, only head current is applied to the animal. This procedure must only be performed by trained personnel and in accordance with animal welfare regulations.

When using the V-electrode, utmost caution is required, as the live parts pose a risk of electric shock and the animal to be stunned is usually held by the operator. Safety instructions must be strictly observed, and rubber gloves must be worn.

The V-electrode must never be tested on humans, other living beings, or objects (except for test equipment).
This risk is minimized and practically eliminated by an integrated resistance measurement. The V-electrode must never be left unattended while in an operational state.

5.4.2 Functionality and operation

The device's own operating manual for the V-electrode must be observed.

When using the V-electrode, the animal welfare and legal regulations regarding restraint, stunning, and slaughter of animals must also be observed.

The different methods of stunning and slaughter for each type of animal, in combination with the corresponding equipment, must be carefully observed and only used in the correct combination (see Chapter 5.1).

For performing **slaughter** by electric shock using the V-electrode, the legal regulations must also be observed. As a general rule, stunning must be followed by either neck dislocation or bleeding..

Procedure for Commissioning:

- Connecting the V-electrode to the control device via the main connection plug (4)
- Connection to the general power supply
- Switching on the device
- Illumination of the green light on the signal tower
- Performing the system test
- Operational readiness of the V-electrode established

The instructions regarding head current in Chapter 5.5.2 must be observed accordingly.

Since the heart of the animal is not electrified with this method, the risk of blood spots in meat is lower; however, this method usually causes wing flapping in poultry. Appropriate restraint and fixation of the animals is recommended.

Moistening the head of the animal to be stunned is also recommended.

For safety reasons, the V-electrode may only release the stunning current after a successful resistance measurement (>1500 ohms) and can deliver up to 400V.

For high-resistance poultry (dense plumage in waterfowl), it is also recommended to include the base of the beak in the V-electrode to promote current flow through the mucous membranes.

Operation after commissioning:

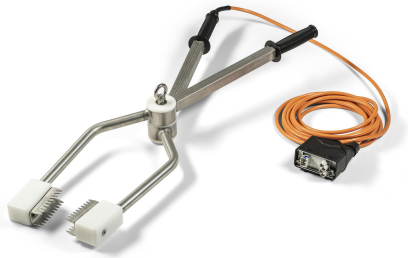
- Selection of the appropriate program
- Restraint of the animal to be stunned (+ moistening of the contact points)
- Firm pressing of the animal's head into the V-electrode to ensure secure contact and immediate current flow
- Hold for the specified stunning duration
- Wait for the indication of a successful stunning process

5.4.3 Operating disruptions

see Chapter 3.2.3 and 3.4, Table T4

5.5 Stunning tongs

The device can be connected to any standard stunning tongs.



Stunning tongs for four-legged animals	Poultry stunning tongs with push-button
larger opening angle	smaller opening angle
Current release via impedance measurement Addition of spikes to the electrode is possible for sheep	Current release without impedance measurement via push-button

Existing tongs can be connected to the control device via a connector plug. Depending on the tong model, a qualified electrician is required to make the connection in consultation with the manufacturer.

5.5.1 Hazards and Safety Instructions

When stunning with stunning tongs, both head perfussion and whole-body perfusion (with the negative pole via the hanging device) can be applied to poultry. For four-legged animals, the procedure can be continued with heart perfusion by repositioning the tongs. This must only be performed by trained personnel and in accordance with animal welfare regulations.

When using the stunning tongs, utmost caution is required, as the live parts of the tongs pose a risk of electric shock. The safety instructions must be strictly observed.

The tongs must never be tested on humans, other living beings, or objects (except test equipment) other than the animal to be slaughtered. This risk is minimized and practically eliminated by an integrated resistance measurement; nevertheless, wearing rubber gloves is recommended.

The tongs must never be left unattended while in an operational state.

5.5.2 Functionality and operation

The manufacturer's original operating instructions for the stunning tongs must be observed.

When using the stunning tongs, the animal welfare and legal regulations regarding restraint, stunning, and slaughter of animals must also be observed.

The different methods of stunning or slaughtering the respective animals, in conjunction with the corresponding equipment, must be carefully observed and are only permissible in the correct combination (see Chapter 5.1).

The legal regulations must also be observed when performing slaughter by electric shock using tongs.
As a general rule, stunning must be followed by either neck dislocation or bleeding. (Especially when applying head current, where the heart is not induced into ventricular fibrillation).

Procedure for commissioning:

- Connection of the stunning tongs to the control device via the main connector plug (4)
- Connection to the main power supply
- Switching on the device
- Illumination of the green light on the indicator
- Performing the system test
- Stunning tongs are ready for operation

The software ensures that the current flow of the stunning tongs only stops once they are removed from the animal. This ensures that the process can be maintained for the legally required duration, especially if the operator feels the animal has not yet been adequately stunned.

An interruption of the current flow before optimal stunning is thus prevented.

Head flow perfusion

In head-only perfusion, the electrical circuit is closed solely by the tongs.

No electrical circuit is completed through the animal's contact with any other part of the device.

Since the heart of the animal is not traversed by the current with this method, the risk of blood spots in meat is lower. However, this method usually causes wing flapping in poultry. Appropriate restraint and fixation of the animals is recommended.

Moistening the head of the animal to be stunned is also recommended.

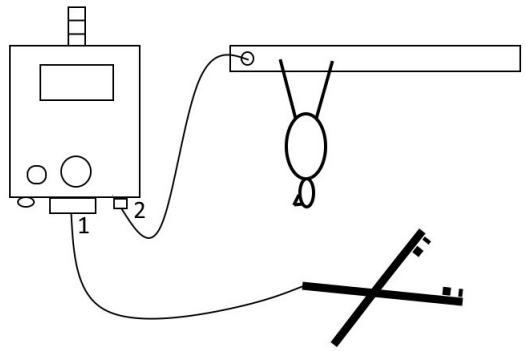
Operation after commissioning:

- Selection of the appropriate program without repositioning
- Restraint of the animal to be stunned (+ moistening of the contact points)
- If necessary, pressing the buttons on the stunning tongs

- Firm gripping with the stunning tongs to ensure secure contact and immediate current flow
- Hold for the entered stunning duration
- Wait for the indication of successful stunning

Whole-body/ heart perfusion

Whole-body perfusion in poultry can be performed by establishing a closed electrical circuit (e.g., hanging the bird on a conductive holder connected to the negative terminal of the device). This setup should only be implemented in consultation with the manufacturer and the responsible veterinarian.



Schematischer Anschluss Ganzkörperdurchströmung mit Betäubungszange

1 = Anschluss Zange
2 = Anschluss Minuspol

For four-legged animals, depending on regulations and procedure, the method switches to cardiac perfusion. Options herefore can be set in the control module on the settings page (see chapter 3.2).

Switching (regripping) is possible up to four times.

The regripping time is always 5 seconds.

A short acoustic signal indicates the need to regrip.

Operation after commissioning:

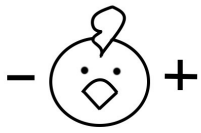
- Selection of the appropriate program with regripping
- Input of the respective stunning times during regripping
- Restraint of the animal to be stunned (+ moistening of the contact points)
- If necessary, pressing the buttons on the stunning tongs
- Firm gripping with the stunning tongs to ensure secure contact and immediate current flow
- Hold for the specified stunning duration
- Wait for the acoustic signal indicating regripping
- Repeat gripping while waiting for signals indicating further regripping or the successful stunning process

5.5.3 Operating disruptions

See chapter 3.2.3 and 3.4 Table T4

5.6 mobile unit

The stunning device can also be brought to the animal as a mobile unit. This allows stunning/slaughtering to be carried out on-site. The available elements/combinations are listed here.

	**Mobile transport cart for hanging the FlexiStun stunning device** **Basic equipment for on-site use**
	**Combination with V-electrode** Suitable for poultry Only head-only electrical stunning possible 

Combination with chicken holder and poultry tongs

Suitable for poultry

Head-only electrical stunning possible without additional accessories

Whole-body electrical stunning with **negative pole connection to the chicken holder** is possible – safety instructions must be strictly observed.

Combination with funnel and poultry tongs

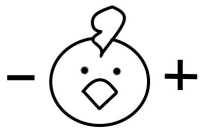
Suitable for poultry

Head-only electrical stunning possible without additional accessories

Combination with four-legged animals tongs

Suitable for four-legged animals

Head/heart current flow with re-gripping possible as legally required.



The various methods of stunning or killing of the respective animals, in combination with the appropriate instruments, must be carefully observed and are only permitted in the correct combinations (see Chapter 5.1).

When performing a killing by electric shock using tongs, the applicable legal regulations must also be observed. As a rule, a cervical dislocation or bleeding is still required – especially when using head-only stunning, where the heart is not induced into ventricular fibrillation.

In any case, it must be ensured that the correct program is selected for the respective device combination. This is particularly essential with regard to head-only or whole-body perfusion.

Special caution is required when connecting a negative pole/leg clamp. The clamp must not come into contact with the funnel, as this would cause a short circuit.

It is mandatory to wear insulated gloves during this procedure to prevent any contact with electrical current.

If connected correctly, the funnel is not live; however, any contact with the animal or the equipment should still be avoided.

6. Cleaning, Maintenance and Servicing

The device is generally maintenance-free for the operator.
However, the safety instructions in Chapter 1 must be observed!

Caution: The control module is not sealed against water ingress. Do not immerse in water. The use of high-pressure cleaners, aggressive detergents, or abrasive cleaning tools is strictly prohibited — including on the rear of the control module.

If water or any foreign objects enter the housing of the control module, the unit must no longer be used for stunning and must be replaced immediately.

The plug connections are designed to be splash-proof (IP44), and the housing of the control module is sealed; nevertheless, there is a risk of damage to the device.

Handle all parts of the device carefully and with safety awareness to avoid injuries or damage to the components.

- If the device remains unused for an extended period, before restarting it must be ensured that the device is clean and fully operational. Check that all parts are present and correctly assembled. Additionally, verify the functionality.
- All screws and the power plug must be checked for integrity before and after use. Any damage must be repaired immediately. Please observe the safety instructions in Chapter 1.
- No further maintenance work is to be performed by the user. For maintenance or repairs on the control module, a qualified technician must always be involved and the manufacturer must be informed.
- Regular **calibration** must be coordinated with the responsible veterinarian and can be performed by the manufacturer upon request.

7. Warranty

The warranty and liability of the manufacturer are provided within the legally prescribed scope, provided that all instructions in this operating manual are followed.

The warranty claim expires in case of improper use of the device or unauthorized modifications/changes to the device or software.

8. Responsibility of the operator

The operator of the device is responsible for the proper use of the device as well as for compliance with and

enforcement of the legal regulations regarding labor and animal protection. For this purpose, the corresponding standard operating procedures must be created and monitored.

Additionally, organizational measures must be planned, implemented, and monitored to ensure smooth and safe operation of the device.

An emergency plan with the applicable first aid measures must be available at all times.

9. Guidelines

The device and the operating manual have been developed in compliance with the EU directives. EN 60335-2-87 as well as1099/2009/EC in conjunction with TierSchlV (Animal Slaughter Ordinance).

Please note the animal welfare guidelines for stunning and slaughtering in your country.

Council Regulation (EC) No 1099/2009 on the protection of animals at the time of killing.

All documentation obligations arising from these regulations are fulfilled when the device is used properly.

Additionally, the national accident prevention regulations as well as those specific to professional associations must be observed.

10. Technical Data

Control module	Stainless steel, electronic control
Power connection	220-230V mains power
Maximum voltage	600 Volts (Tong 400Volts)
Maximal current	1,5 Ampere
Frequency	50-1500Hz
Sound emission	none
Electrical emissions	No exceptional emissions according to the EMC test report in accordance with the EU-61000 standard
Saftey	CE marking according to EU-60335-1 in conjunction with EU-60335-2-87
external measurement ports	An external inspection of the device is possible. The connections for this are located inside the control unit. This may only be opened by qualified personnel. Measurements must also be carried out exclusively by qualified personnel and in compliance with the necessary safety precautions.

11. Scope of delivery

In the standard version

Control module with touchscreen
incl. software
Control software and log viewer

Stainless steel carousel
Stainless steel platform

Permanently mounted carousel
With plastic basin and electrode

Dimensions of the device (W x D x H)	80 x 120 x 160 cm
Total weight of the device	200 kg
Diameter of rotational movement	78 cm
Material	Stainless steel , Plastic

Optional accessories:
Stunning tongs
Chicken holder
Goose holder
Test equipment
Blood collection tray
Wall mount
Wall installation

Optional service:
Delivery
Start-up
Staff training

12. Service

If you experience any problems with the device, require repairs or maintenance, or have questions about its use, we are available to advise you and provide information about the responsible customer service.

FederLeicht GmbH
Hauptstr. 1
D-87767 Niederrieden
Tel: 08335/986309
Fax: 08335/986310
info@federleichtgmbh.de

Note on spare parts ordering
Please observe the following notes when ordering spare parts:

- Please provide your customer number, your address, and the contact person.
- Please provide the spare part order number, the description, and the desired quantity. If no quantities are specified, you will receive one unit of the spare part.
- Please provide the device number. You can find it on the nameplate.

Disposal instructions
When decommissioning the device, information about proper disposal must be obtained independently from the responsible waste authority. A request for the return of old devices can also be sent to the manufacturer.

This operating manual has been created to the best of our knowledge and belief. Changes and errors are reserved. The manufacturer welcomes suggestions and correction proposals.