stomdevice

MELAG
competence in hygiene

User Manual

Cliniclave® 45 D
Cliniclave® 45 MD

Large steam sterilizer

from software version 3.240



EN

Dear customer,

We thank you for your confidence demonstrated by the purchase of this MELAG product. As an owner-run and operated family concern founded in 1951, we have a long history of successful specialization in hygiene products for practice-based use. Our focus on innovation, quality and the highest standards of operational reliability has established MELAG as the world's leading manufacturer in the instrument treatment and hygiene field.

You, our customer are justified in your demand for the best products, quality and reliability. Providing **"competence in hygiene"** and **"Quality – made in Germany"**, we guarantee that these demands will be met. Our certified quality management system is subject to close monitoring: one instrument to this end is our annual multi-day audit conducted in accordance with EN ISO 13485. This guarantees that all MELAG products are manufactured and tested in accordance with strict quality criteria.

The MELAG management and team.

CE 0197

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

stomdevice

Contents

1 General guidelines 6
Symbols used 6
Formatting rules 6
MELAconnect App 6
2 Safety 7
3 Performance specifications 9
Intended use 9
Sterilization procedure 9
Type of the feed water supply 9
Safety equipment 9
Program sequences 11
4 Description of the device 12
Scope of delivery 12
Views of the device 13
Symbols on the device 16
Colour touch display 17
LED status bar 18
Tray mounts for the load 19
5 First steps 20
Setup and installation 20
Feed water supply 20
Switching on the steam sterilizer 21
Opening and closing the door 21
6 Loading the steam sterilizer 24
Preparing the sterilization material 24
Loading the steam sterilizer 25
Load quantities and versions 27
Loading system “Comfort” 28
7 Sterilization 29
Important information regarding routine operation 29
Selecting the program 31
Additional program options 32
Starting the program 34
Program run 34
Manual program abort 36
Program end 38
Removing the sterile material 39
Enable the loading side 40
Storing sterile material 40
8 Logging 41
Batch documentation 41
Output media 41
Outputting text logs automatically after program end (immediate output) 43

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

stomdevice

Subsequent log output ... 44
Finding logs ... 46
9 Function tests ... 48
Vacuum test ... 48
Bowie & Dick test ... 48
MELAcontrol / MELAcontrol PRO test body system ... 49
Feed water quality ... 49
Validation ... 49
Renewed performance qualification (requalification) ... 49
10 Settings ... 50
Setting the display position ... 50
Logging ... 50
User administration ... 56
Formatting the CF card ... 60
Additional drying ... 60
Intelligent drying ... 61
Date and time ... 62
Brightness ... 62
Volume ... 63
View ... 63
MELAconnect ... 65
Key tone ... 65
Screensaver ... 66
Log printer MELAprint 42/44 ... 67
Label printer MELAprint 60 ... 67
Sensitivity ... 67
Energy-saving mode ... 67
11 Maintenance ... 69
Servicing intervals ... 69
Cleaning ... 69
Avoiding staining ... 70
Greasing the door spindle ... 70
Maintenance ... 71
12 Pause times ... 72
Frequency of sterilization ... 72
Duration of the operating pause ... 72
Decommissioning ... 72
Emptying the double jacket ... 72
Transport ... 73
Recommissioning after relocation ... 75
13 Malfunctions ... 76
Displaying events in MELAconnect ... 76
Messages ... 77
Warning and malfunction messages ... 77

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

stomdevice

14 Technical data 89

15 Accessories 92

Glossary 93

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

stomdevice

1 General guidelines

Please read this user manual carefully before commissioning the device. The manual includes important safety instructions. The functionality and value-retention of this device depends on the care accorded to it. Please store the user manual carefully and in close proximity to the device, e.g. in the bracket on the inside of the floor unit door. It represents a component of the product.

Should the user manual no longer be legible, damaged or lost, please obtain a new copy from MELAG. State the device type and your address in an e-mail. The device type is specified on the type plate on the rear of the device.

Symbols used

Symbol	Explanation
	Indicates a dangerous situation, which if not avoided, could entail slight to life-threatening injuries.
	Draws your attention to a situation, which if not avoided, could result in damage to the instruments, the practice fittings or the device.
	Draws your attention to important information.

Formatting rules

Example	Explanation
see Chapter 2	Reference to another text section within this document.
`Universal-Program`	Words or phrases appearing on the display of the device are marked as display text.

MELAconnect App

You can use the MELAconnect app from any location in your practice, to access the device status and program progress of the MELAG devices incorporated in your practice network.

MELAconnect provides the following functions:

- Accessing the device status and program progress
- Access to user manuals and video tutorials for using the device
- Locating malfunctions and accessing solutions and assistance immediately
- Performing quick paperless documentation of routine checks of MELAG sealing devices
- Contacting the service technician (contact data must be entered manually)

In order to connect the MELAconnect app with your MELAG device, see the MELAconnect [▶ page 65] section.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

stomdevice

2 Safety



When operating the device, comply with the following safety instructions as well as those contained in subsequent chapters. Use the device only for the purpose specified in these instructions. Failure to comply with the safety instructions can result in injury and/or damage to the device.

Qualified personnel

- As with the preceding instrument decontamination, the sterilization of instruments and textiles using this steam sterilizer may only be carried out by competent personnel.

Carrying the steam sterilizer

- The device should be transported by min. 6 people. Comply with the corresponding specifications issued by your respective professional association.
- Carry the device using the carrying handles or transport bars included in the scope of delivery (follow the instructions in this user manual and technical manual).
- The carrying handles can be stored in the bracket in the floor unit.

Set-up, installation and commissioning

- Check the device for any damage suffered during transport after unpacking.
- The device should only be set-up, installed and commissioned by MELAG authorized technicians.
- The connections for electrical provision and water supply and discharge must be set-up by trained personnel.
- Using the optional electronic leak detector (water stop) minimizes the risk of water damage.
- The device is not suitable for operation in explosive atmospheres.
- Install and operate the device in a frost-free environment.
- The device is conceived for use outside the patient area. The device should be located a minimum of 1.5 m radius away from the treatment area.
- The documentation media (computer, CF card reader etc.) must be placed in such a way that they cannot come into contact with liquids.
- Observe all the information contained in the technical manual during commissioning.

Power cable and power plug

- Comply with all legal requirements and locally-specified connection conditions.
- Never operate the device if the plug or power cable are damaged.
- The power cable or plug should only be replaced by authorized technicians.
- Never damage or alter the power plug or cable.
- Never unplug by pulling on the power cable. Always take a grip on the plug.
- Ensure that the power cable does not become jammed in.
- Never lead the cable along a source of heat.
- Never fix the power cable with sharp objects.

Reprocessing and sterilization

- Follow the manufacturer's instructions of your textile articles and instruments regarding their decontamination and sterilization.
- Comply with the relevant standards and directives applicable to the decontamination and sterilization of textiles and instruments (in Germany e.g. from the RKI and DGSV).
- Only ever use packaging material and systems which have been cleared by their manufacturer for steam sterilization.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

stomdevice

Program abort

- Please observe that depending on the time of the program abort, opening the door following a program abort can lead to hot steam leaving the chamber.
- Depending on the time of the program abort, it is possible that the load is unsterile. Observe the clear instructions shown on the display of the steam sterilizer. If necessary, sterilize the affected objects after rewrapping.

Removing the sterile material

- Never use force to open the door.
- Use protective gloves to remove the sterile material. Never touch the sterile material, the chamber or the inside of the door with bare hands. The components are hot.
- Check the packaging on the sterile material for damage when removing it from the steam sterilizer. Should the packaging be damaged, re-pack the sterilization material and re-sterilize it.

Storage and transport

- Store and transport the device frost-free.
- Avoid strong shocks/vibrations.
- Store the device in a fashion protected against moisture.

Maintenance

- Maintenance should only be performed by authorized technicians.
- Maintain the specified servicing intervals.

Malfunctions

- Should the device issue the same malfunction message repeatedly, turn off the device and if necessary, inform your stockist.
- The device may only be serviced by authorized technicians.

Notification requirement in the event of serious accidents in the European Economic Area

- Please note that all serious accidents which occur in connection with the medical product (e.g. death or serious deterioration in the state of health of a patient) which were presumably caused by the product, must be reported to the manufacturer (MELAG) and the relevant authority of the member state, in which the user and/or patient resides.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

stomdevice

3 Performance specifications

Intended use

The steam sterilizer is designed for application in a medical context, e.g. general practitioners and dental practices, outpatient surgeries, outpatient centres, walk-in healthcare centres, group practices and hospitals. This steam sterilizer is a large sterilizer in accordance with EN 285. As a universal steam sterilizer is it suitable for complex sterilization tasks performed on the basis of the fractionated vacuum procedure. This enables the complete and effective penetration of the sterilization material with saturated steam. It can be used to sterilize large quantities of instruments with narrow lumen and transmission instruments – both wrapped or unwrapped – and textiles.

WARNING

Any attempt to sterilize liquids can result in a delay in boiling. This can result in burns and damage to the device.

- Never use this device to sterilize fluids. It is not licensed for the sterilization of fluids.

Sterilization procedure

The steam sterilizer sterilizes on the basis of the fractionated vacuum procedure. This guarantees the complete and effective wetting/penetration of the sterilization material with saturated steam.

This procedure enables the sterilization of loads produced in a doctor's practice or clinic in accordance with EN 285.

The steam sterilizer uses the double jacket technology to generate the sterilization steam, i.e. the steam sterilizer is fitted with a separate steam generator combined with a double-walled sterilization chamber. After heating, steam is held constantly available in the double jacket. This gives the walls of the sterilization chamber a defined temperature and protects the sterilization chamber from overheating. This especially effective procedure supports the quick evacuation of the air from the sterilization chamber, the sterilization packaging and instrument cavities. This permits the sterilization of large quantities of instruments or textiles directly one after each other, thereby achieving excellent drying results.

Type of the feed water supply

The steam sterilizer works with a one-way feed water system. This means that it uses fresh feed water (demineralized or distilled water) for every sterilization procedure. The quality of the feed water is subject to permanent monitoring via integrated conductivity measurement. If combined with careful preparation of the instruments, this serves largely to prevent stain accretion on the instruments and soiling of the steam sterilizer.

Safety equipment

Internal process monitoring

A process evaluation system is integrated in the electronics of the steam sterilizer. It compares the process parameters (such as temperature, time and pressure) during a program run. It monitors the parameters in terms of their threshold values during control and regulation and guarantees safe and successful sterilization. A monitoring system checks the device components of the steam sterilizer for their functionality and their plausible interaction. If one or more parameters exceeds pre-determined threshold values, the steam sterilizer issues warnings or malfunction messages and if necessary, aborts the program. In the case of a program abort, follow the instructions on the display.

The steam sterilizer uses an electronic parameter control. This enables the steam sterilizer to optimize the total operating time of a program in dependence on the load.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

stomdevice

Door mechanism

The steam sterilizer constantly checks pressure and temperature in the sterilization chamber and prevents the door from being opened when over-pressure has built up. The motor-driven automatic door lock opens the door slowly by turning the door lock nut and holds the door whilst it opens. Pressure equalization will have been performed by the time that the door is completely open, even following pressure differences.

Independent Registration Device (URG)

The process data is registered using an Independent Registration Device (URG). The process data is determined entirely independently from the control and documented in a log.

Quantity and quality of the feed water

The quantity and quality of the feed water is automatically checked before every program start.

Automatic emergency shutdown

The steam sterilizer is equipped with an emergency shut-down mechanism; i.e. the steam sterilizer shuts down automatically if the internal process evaluation system registers a fault which represents a particular hazard situation. Reactivation of the steam sterilizer is only possible after the malfunction has been remedied.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

Program sequences

A program runs in three main phases: the air removal and heating up phase, the sterilization phase and the drying phase. After program start, you can follow the program run on the display. It shows the chamber temperature and pressure as well as the time until the end of sterilization / drying.

Program phases of a standard sterilization program

Program phase	Description
1. Air removal and heating up phase	**Air removal** The air removal phase comprises the conditioning and the evacuation. During conditioning, steam is repeatedly injected into and removed from the sterilization chamber. This generates over-pressure and the residual air is removed. Then, during fractionation, the mixture of air and steam is evacuated from the sterilization chamber and steam is injected. This procedure is also called the fractionated pre-vacuum procedure.
	Heating The continued steam injection into the chamber leads to an increase in pressure and temperature which continues until the program-specific sterilization parameters have been reached.
2. Sterilization phase	**Sterilizing** If the pressure and temperature correspond to the program-dependent nominal values, the sterilization phase begins. The corresponding process parameters (pressure and temperature) are held at sterilization level. The sterilization time (holding time) is indicated on the display.
3. Drying phase	**Pressure release** The sterilization phase is followed by pressure release from the sterilization chamber.
	Drying The sterile material is dried using a vacuum (vacuum drying).
	Ventilation Upon program end, the chamber is filled with sterile air via the air filter and adjusted to the ambient pressure. The corresponding display notification `Ventilation` is displayed.

Program phases of the vacuum test

Program phase	Description
1. Evacuation phase	The chamber is evacuated until the pressure for the vacuum test has been reached.
2. Equilibration time	An equilibration time of 5 min will follow.
3. Measurement time	The measurement time amounts to 10 min. The pressure increase within the chamber is measured during the measurement time. The evacuation pressure and the equilibration time or measuring time are shown on the display.
4. Ventilation	The chamber is ventilated after the end of the measuring time.
5. Test end	The display shows the test result, the batch number, the total number of batches and the leakage rate.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

stomdevice

4 Description of the device

Scope of delivery

Please check the scope of delivery before setting up and connecting the device.

Standard scope of delivery

- Cliniclave 45 D or Cliniclave 45 MD
- User manual
- Technical manual
- Record of installation and setup
- Manufacturer's inspection report including declaration of conformity with the Medical Devices Directive and Pressure Equipment Directive
- Warranty certificate
- MELAflash CF card
- Slide rail “Basic” or “Comfort”
- Protective gloves
- 4x Carrying handle
- Transport bars set (only with separate dispatch of device and floor unit)
- 4x Screw M12x12
- Outlet hose including two seals (2x with Cliniclave 45 MD)
- PTFE hose 8/6x600
- 2x PTFE hose 16/13x600
- Membrane grommet, large (24 mm, 2x with Cliniclave 45 MD)
- Membrane grommet, small (5 mm, 2x with Cliniclave 45 MD)
- Open-end wrench for the validation fitting connection/floor unit rollers
- Ring spanner for the validation fitting retaining nut
- Allen key with which to open the door in an emergency
- Grease for door lock
- Spatula for applying lubricants
- Bowie & Dick test
- Component set for wall installation (casing for wall breakthrough)
- Installation set (dispatched in advance)

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

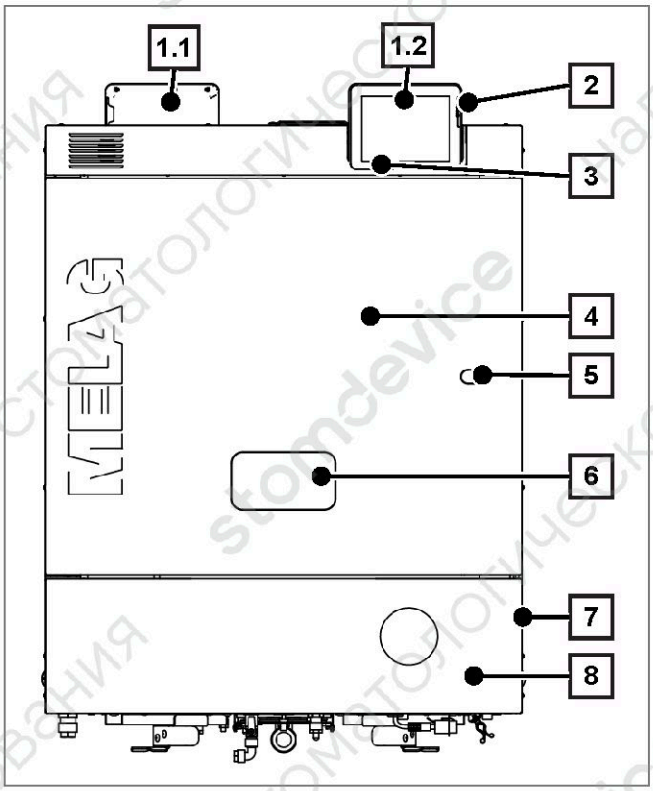
Views of the device

PLEASE NOTE

Recognizing the loading and removal side of the steam sterilizer and the floor unit:

- The fan at the top of the steam sterilizer always lies on the loading side.
- Cliniclave 45 D: The door of the floor unit can only be opened on the loading side.
- Cliniclave 45 MD: A metal panel in the floor unit interior divides it into a loading and removal side. The deeper side is the loading side.

View from front

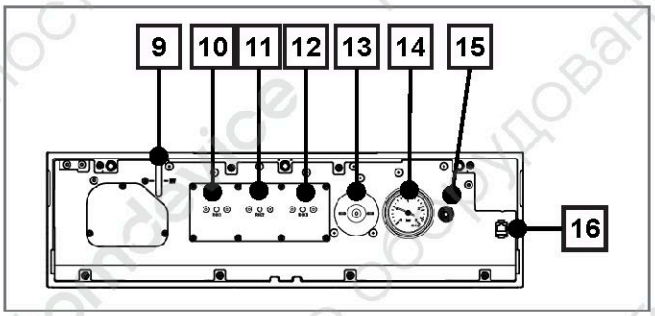


1.1	Colour touch display (removal side)
1.2	Colour touch display (loading side)
2	CF card slot
3	LED status bar
4	Door (swings open left/right)
5	Opening for door opening in an emergency*)
6	Validation fitting*)
7	Power switch (covered, accessible from the side)
8	Service hatch
*)	behind cover

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

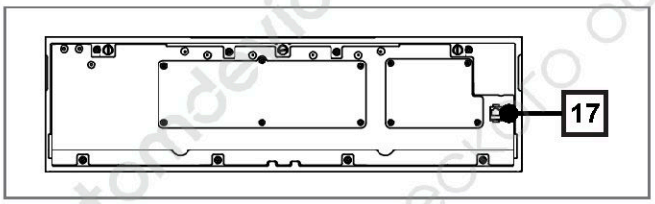
stomdevice

Detailed view with service hatch open (loading side)



9 Steam generator level gauge
10 Reset button overheating protection RHK1 (safety temperature limiter)
11 Reset button overheating protection RHK2 (safety temperature limiter)
12 Reset button overheating protection RHK3 (safety temperature limiter)
13 Sterile filter
14 Manometer for display of the pressure in the double jacket steam generator
15 Opening for emergency activation of the vacuum pump
16 Network cable connection (RJ45) for service

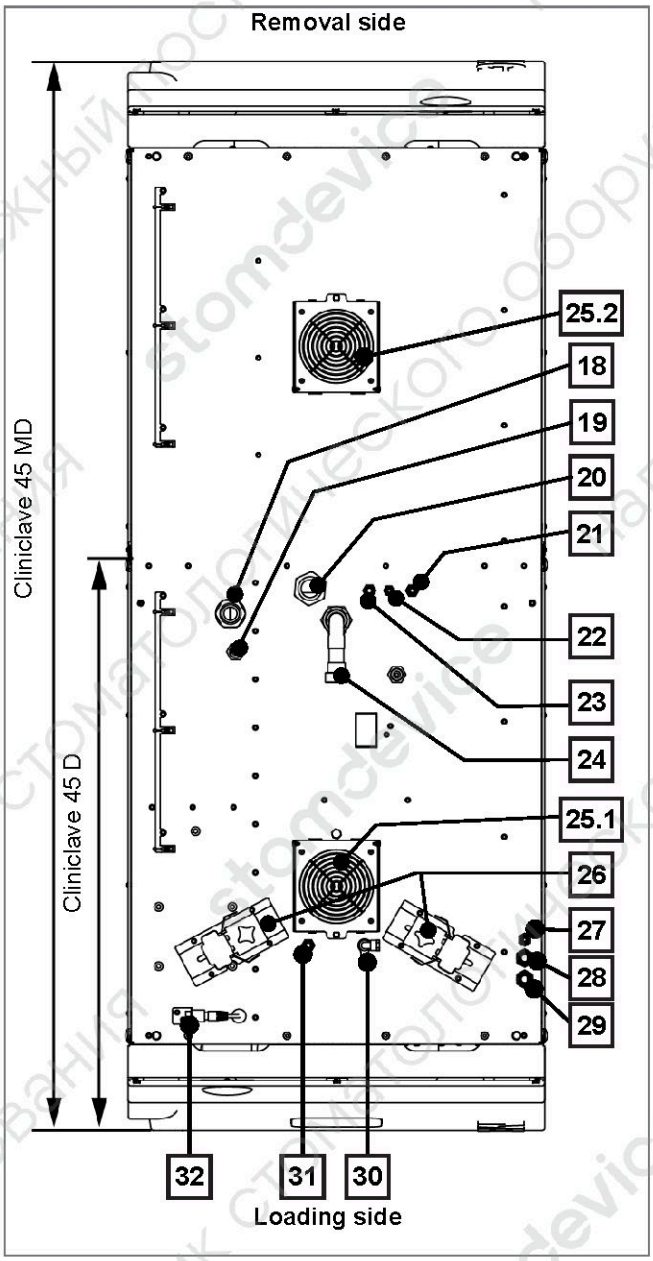
Detailed view with service hatch open (removal side)



17 Network cable connection (RJ45) for service

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

View from below



18 Power cable
19 Power plug connection MELAdem 56/56 M
20 Cold water connection (building-side)
21 Water treatment unit feed water connection
22 Water treatment unit concentrate line connection
23 Water treatment unit cold water connection
24 Wastewater connection
25.1 Fan
25.2 Fan*)
26 Bracket and tensioning carriage for outlet hose
27 Emergency release hose connection
28 Over-pressure line of the spring safety valve “double jacket”**)
29 Over-pressure line of the spring safety valve “chamber”**)
30 Tap for manual emptying of the air gap container
31 Connection for decalcifying the vacuum pump (for service technicians only)
32 Network cable connection (RJ45)

*) Applies to Cliniclave 45 MD.

**) Pos. 28 and 29 are reversed with the Cliniclave 45 D.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

stomdevice

Symbols on the device



Manufacturer of the medical device



Date of manufacture of the medical device



Identifies a medical device



Medical device serial number from the manufacturer



Article number of the medical device



Information about the chamber volume



Operating temperature of the device



Operating pressure of the device



Electrical connection of the device: AC current



The user manual includes important safety information. Failure to comply with these instructions can result in injury and material damage.



Please read this user manual carefully before commissioning the device.



This symbol indicates that the device is live. Contact with live parts result in serious injury and danger to life.



This symbol indicates areas are subject to the influence of high temperatures. Contact with these areas can result in burns. This symbol also indicates the possibility of steam egress. Sign in the door area: “Attention hot surfaces”.



This symbol draws attention to an increased danger of crushing resulting from the improper closure of the steam sterilizer door. Please comply with the instructions outlined in the corresponding chapter.



In affixing this CE mark, the manufacturer declares that this medical product fulfils the basic requirements of the Medical Device Directive. The four-digit number confirms that this is monitored by an approved certification agency.



In affixing this CE mark, the manufacturer declares that this product fulfils the basic requirements of the Pressure Equipment Directive. The four-digit number confirms that this is monitored by an approved certification agency.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

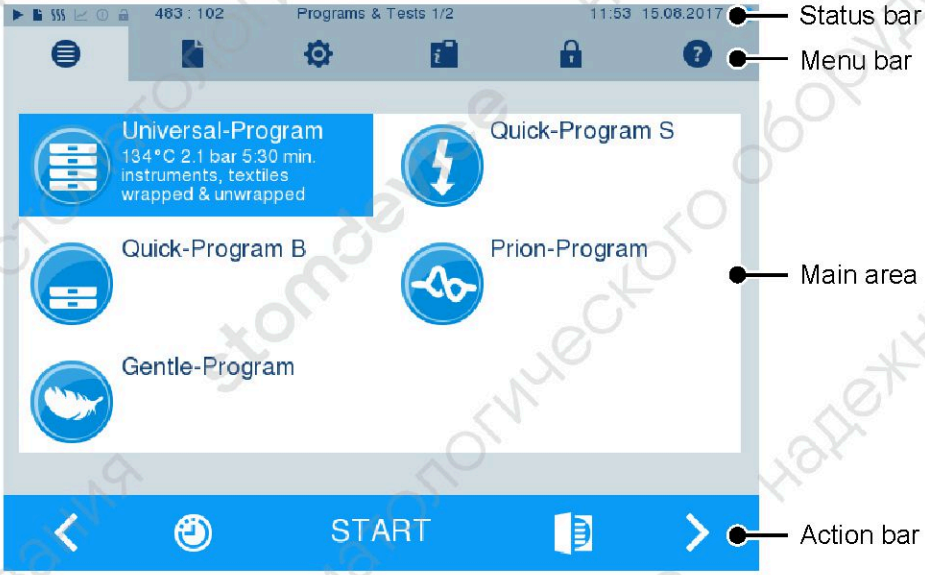
The device may not be disposed as domestic waste. The vendor is responsible for appropriate disposal of the device - it must be delivered to the vendor to be disposed of. MELAG devices are synonymous for long-term quality. When you eventually need to decommission your MELAG device, we offer a special disposal service. Simply contact your stockist.

With the adjacent label, the device manufacturer declares that the medical product corresponds to the basic requirements of the European standard EN 1717 - Protecting Drinking Water from Contamination.

Colour touch display

The operating panel consists of a colour 5 inch touch display.

The steam sterilizer can be operated from both the loading and the removal side via the colour touch display. Program selection and start are always performed via the loading side. Depending on the loading situation, one side can be temporarily locked. Comply with the corresponding message on the display.



Symbols in the status bar		Meaning
	Programs/tests	Indicates whether a program/test is running
	Immediate output	Indicates whether immediate output is activated/deactivated
	Additional drying	Indicates whether additional drying is activated/deactivated
	Graphic logs	Indicates whether the graphic log recording is activated/deactivated
	Energy-saving mode	Indicates whether the steam sterilizer is currently in energy-saving mode
	Service area	Indicates whether a service technician is logged-in to the service area
	CF card status	Indicates whether a CF card has been inserted and whether a reading or writing action is in process

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

stomdevice

Symbol in the menu bar		Meaning
	Program/tests	Lists all sterilization programs and tests e.g. vacuum test, Bowie & Dick test etc.
	Log output	Here you can display the entire log list or the list of logs from a restricted time e.g. the day, month etc. You can also delete specific log types and logs.
	Settings	Here you can perform various settings such as date and time, brightness etc. It also enables one-time setting of the standard logging settings regarding log output.
	Info/status window	Displays information regarding the software version and device data e.g. total number of batches, maintenance counter, log settings, log memory and further technical values.
	Service area	Only for service technicians.
	Help menu	Depending on the window selected and the operating situation, gives information regarding operation or the function of the window currently selected.

Symbols in the action bar		Meaning
	Door open	Opens the door of the steam sterilizer
	Back	Navigates to the previous window
	Forwards	Navigates to the next window
	Cancel / return without saving	Navigates to the superordinate menu, leaves the window without saving
	Zoom (+)	Displays further details such as further values after a completed program
	Start time pre-selection	Navigates to the `Start time pre-selection` menu
	Delete	Deletes logs from the internal log memory/deletes the log printer or label printer stored as standard
	Search	Searches for label printer(s)/log printer(s)
	Skip	Navigates to the next window without entry of the required data

LED status bar

The status bar on the lowest edge of the display indicates different situations with various colours.

Colour of the LED	Meaning
Blue	Standby, program running, drying has not yet begun
Green	Drying running, program completed successfully
Yellow	Warning message, software update is running
Red	Malfunction message, program not completed successfully

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

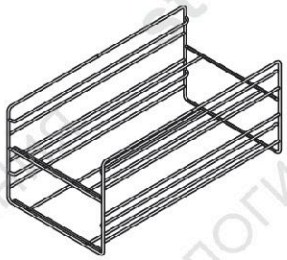
Tray mounts for the load

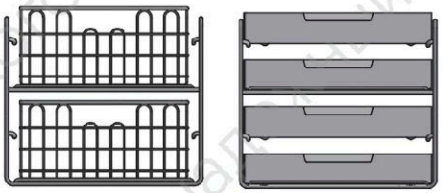
PLEASE NOTE

We do not recommend using the mounts in the rear half of the Cliniclave 45 MD with the slide rail “Basic”. In such a case, please use the “Comfort” loading system.

Mount for 2 instrument baskets or 4 large trays

The Cliniclave 45 D can accommodate a single mount; the Cliniclave 45 MD accommodates up to two mounts of this type.





for 2 instrument baskets or 4 large trays

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

stomdevice

5 First steps

Setup and installation

PLEASE NOTE
Comply with the specifications of the technical manual during setup and installation. This contains all building-side requirements.

Record of installation and setup

The record of installation and setup is to be completed by the responsible stockist and a copy sent to MELAG as proof of the correct setup, installation and initial commissioning. This is a constituent part of any guarantee claim.

Feed water supply

Always use high-quality feed water

The steam sterilizer requires distilled or demineralized water to perform steam sterilization. EN 285 recommends compliance with the guide values in accordance with Appendix B, table B.1 when using feed water (see technical manual). The special construction of the steam generator and the procedure employed to generate the steam (integrated degassing) makes higher conductivity values permissible. As a result, the value of 5 µS/cm recommenced in accordance with EN 285 in table 1 can be exceeded. At 15 µS/cm, the mixed-bed resin cartridge of the water treatment unit should be replaced. The display issues a warning message once conductivity has reached 20 µS/cm. At this point at the latest, the mixed-bed resin cartridge should be replaced or the unit checked.

The feed water from the MELAdem 56/MELAdem 56 M reverse osmosis unit fulfils the requirements placed on feed water.

The feed water supply in the steam sterilizer

The feed water supply is best effected via the water treatment unit MELAdem 56 or MELAdem 56 M. These water treatment units produce the best-quality feed water for the steam sterilizer. The water treatment units are supplied via the air gap integrated in the steam sterilizer. This prevents the water from flowing back into the drinking water supply and corresponds fully to the requirements of EN 1717 (fluid category 5).

PLEASE NOTE
Should you wish to use a water treatment unit from another manufacturer, please first consult with MELAG and comply with the installation instructions.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

stomdevice

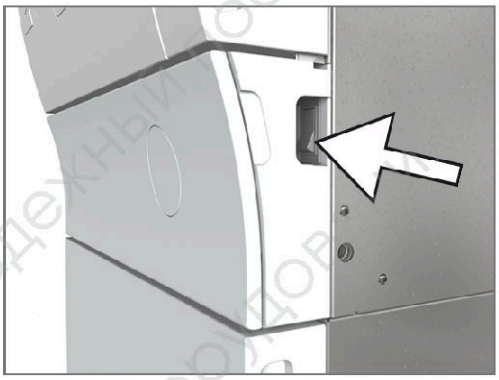
Switching on the steam sterilizer

The following requirements must be fulfilled:

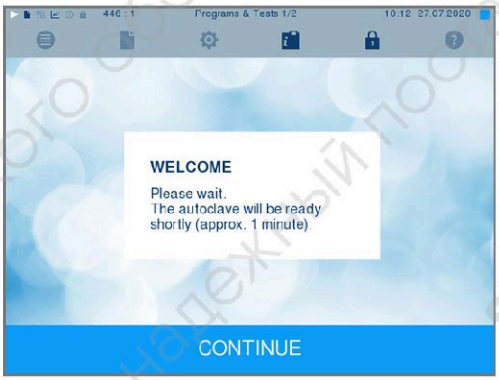
✓ *The steam sterilizer is connected to the electricity supply.*

✓ *The feed water supply is secure. To fill the steam generation system for the first time, the Cliniclave 45 D requires approx. 7 l and the Cliniclave 45 MD approx. 13.5 l feed water.*

1. Switch on the steam sterilizer at the power switch.



2. When the welcome screen appears, press CONTINUE. The display switches to the main menu.



The feed water level is checked and pre-heated immediately after activation.

After device activation, a heating up time of approx. 20 min is required, depending on the device type. This time is required for the pre-heating of the double jacket steam generator.

Opening and closing the door

The steam sterilizer is fitted with a motor-driven automatic door locking mechanism with a threaded spindle. Entry on the display is only possible when the door is closed.

CAUTION

Grasping the door between the inside of the door panel and the door beam brings the risk of crushed hands should the door swing round.

- Always hold the door on the lateral grips intended for this purpose.

PLEASE NOTE

Depending on the operating situation, only one side of the steam sterilizer can be opened at any one time in order to separate the impure and the pure sides.

Opening the door

The door is opened by pressing on the door symbol  on the display.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

stomdevice

When opening the door, comply with the following instructions, so as to ensure faultless operation of the door locking mechanism.

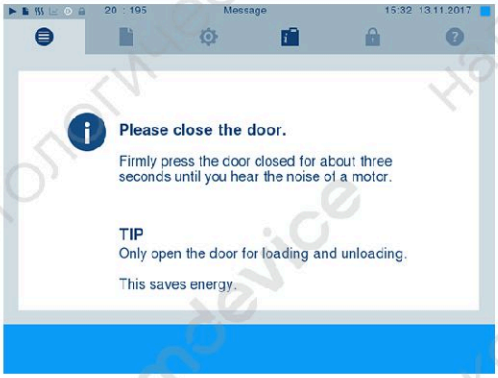
- Never use force to open the door.
- Do not pull vigorously at the door to open it. The door opens automatically.

PLEASE NOTE

The door is to be left open only whilst loading and unloading the steam sterilizer. Keeping the door closed saves energy.

Closing the door

To close the door, press it firmly inwards until the automatic door lock engages. After the door has been closed, the display returns to the program menu. The door is locked pressure-tight upon program start.



- Make sure that the brakes on the casters have been engaged.
- Never slam the door.
- Press the door closely to the housing.
- Hold the door closed for min. 3 s until the door lock engages.

Manual door emergency-opening

CAUTION

Danger of scalding from hot steam. Hot steam egress from the sterilization chamber is possible e.g. if it is necessary to open the door during a running program or immediately after the end of a program.

This could result in scalding.

- If steam is emitted from underneath the device on from the left-hand side after deactivation, wait until the procedure has ended. Wait a further 5 min before opening the door.
- Stand to one side of the door and maintain sufficient distance.
- Allow the sterilization chamber to cool before removing the load.

PLEASE NOTE

The door should always be opened on the loading side. Open on the removal side only after a successful program run.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

In emergency situations e.g. power outage, the door can be opened in the following fashion:

1. If the steam sterilizer is still switched on, switch it off at the power switch.

2. Remove the cover cap in order to enable emergency door-opening by pressing the cover cap that is on the side of the door towards the centre, inwards (i.e. on a door closing to the right on the right-hand side; on a door closing to the left on the left-hand side of the cover cap).



3. Lever the cover cap out of the opening at an angle. Observe the retaining brackets whilst doing so.



4. Remove the 10 mm Allen key included in the scope of delivery from its bracket in the floor unit. Insert it in the door-lock nut behind the opening.



5. Turn the Allen key in an anti-clockwise direction to open the door.

6. Remove the Allen key after opening and return the cover cap.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

stomdevice

6 Loading the steam sterilizer

Preparing the sterilization material

Cleaning and disinfection must always have been performed correctly and appropriately before sterilization. Only in this way is it possible to guarantee the subsequent sterilization of the sterilization material. The materials used, cleaning agents and reprocessing procedure are of decisive significance.

Decontaminating textiles

WARNING

The incorrect decontamination of textiles, e.g. a textile package can prevent steam penetration and/or produce poor drying results. The textiles could not be sterilized.

This could endanger the health of patient and practice team.

Please comply with the following points when treating textiles and putting the textiles in sterilization containers:

- Comply with both the manufacturer's instructions of the textiles regarding treatment and sterilization as well as the relevant standards and directives (in Germany e.g. from the RKI and DGSV).
- Arrange the folds in the textiles parallel to each other.
- Stack textiles vertically wherever possible and not too closely together in the sterilization container. This enables the development of flow channels.
- If textile packages do not remain together, wrap the textiles in sterilization paper.
- Only ever sterilize dry textiles.
- The textiles may not be permitted to come into direct contact with the sterilization chamber; otherwise they will become saturated with condensate.

Decontaminating the instruments

WARNING

The incorrect decontamination of instruments could result in any dirt residue being loosened by the steam pressure during sterilization.

The use of unsuitable care agents e.g. water repellent agents or oils impermeable to steam could result in unsterile instruments. This represents a danger to the health of both patients and yourself.

NOTICE

The presence of residual disinfection and cleaning fluids results in corrosion.

This could result in increased maintenance requirements and a restriction of the steam sterilizer function.

Unwrapped sterile material loses its sterility on contact with ambient air. If you intend to store your instruments sterilely, wrap them in suitable packaging before sterilization.

Ensure the following when decontaminating used and brand-new instruments:

- Follow both the instrument manufacturer’s instructions regarding decontamination and sterilization and comply with the relevant standards and directives (in Germany e.g. from the BGV A1, RKI and DGSV).
- Clean the instruments exceptionally thoroughly e.g. using an ultrasonic device or washer-disinfector.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

- Rinse the instruments after cleanng and disinfecting, where possible with de-mineralized or distilled water and then dry the instruments thoroughly with a clean, non-fuzzing cloth.
- Use only those care agents suitable for steam sterilization. Consult the manufacturer of the care agents. Do not use any water repellent agents or oils impermeable to steam.
- When using ultrasonic devices, care equipment for handpieces and washer-disinfectors, please comply with the manufacturer's treatment instructions.

Loading the steam sterilizer

Effective sterilization and good drying is only possible if the steam sterilizer has been loaded correctly.

Ensure the following during loading:

- Insert trays or cassettes in the chamber only with their appropriate mount.
- Use perforated trays such as those from MELAG. Only in this way can condensate drain off. The use a non-perforated base or half-shell to accommodate the sterilization material can result in poor drying results.
- The use of paper tray inserts can also result in poor drying results.
- Wherever possible, please ensure the separate sterilization of textiles and instruments in separate sterilization containers or sterilization packaging. This leads to better drying results.

Packaging

Only ever use packaging materials and systems (sterile barrier systems) which fulfil the standard EN ISO 11607-1. The correct use of suitable packaging is important in achieving successful sterilization results. You can use re-usable rigid packaging systems or soft packaging such as transparent sterilization packaging, paper bags, sterilization paper, textiles or fleece.

Closed sterilization containers

CAUTION

The use of unsuitable sterilization containers results in insufficient steam penetration and even failure of the sterilization. This can also prevent condensate drain-off.

Consequences are poor drying results. This can result in unsterile instruments and thus endanger the health of patient and practice team.

CAUTION

Incorrect stacking of the sterilization containers can result in the dripping condensate being unable to drain off to the chamber floor. This can saturate sterilization material directly underneath it.

Consequences are poor drying results. Ultimately, this can result in unsterile instruments and thus endanger the health of patient and practice team.

- Do not cover the perforations when stacking the sterilization containers.

Comply with the following when using closed sterilization containers:

- Use aluminium sterilization containers. Aluminium retains and conducts heat and thus accelerates drying.
- Closed sterilization containers must be either perforated or have a valve on at least one side. MELAG sterilization containers (e.g. MELAstore Boxes) fulfil the requirements for successful sterilization and drying.
- Wherever possible, please ensure that sterilization containers are only stacked on top of those of identical size, so that the condensate can run down their sides.
- Ensure that the perforations are not covered when stacking the containers.

Tip: With heavy loads (e.g. orthopaedic instruments) on which a great deal of condensate can develop, we recommend the use of containers with condensate drains (e.g. from Wagner).

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

stomdevice

Soft sterilization packaging

Soft sterilization packaging can be used in both sterilization containers and on trays. Please comply with the following when using soft sterilization packaging e.g. MELAfol:

- Arrange soft sterilization packaging in a perpendicular position and at narrow intervals.
- Place transparent sterilization packages on their edge wherever possible and with the paper side facing downwards.
- Do not place multiple soft sterilization packages flat on top of each other on a tray or in a container.
- If the seam seal tears during sterilization, this could be caused by the choice of undersized packaging. Re-pack the instruments with larger packaging and perform sterilization again.
- Should the seam seal rip during sterilization, extend the sealing pulse on the film sealing device or make a double seam.

Multiple wrapping

The steam sterilizer works with a fractionated vacuum procedure. This permits the use of multiple wrapping.

Mixed loads

Please observe the following when sterilizing mixed loads:

- Always place textiles at the top.
- Place the sterilization containers at the bottom.
- Place unwrapped instruments at the bottom.
- Place the heaviest loads at the bottom.
- Place transparent sterilization packaging and paper bags at the top - except in combination with textiles. In this case, place them at the bottom.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

Load quantities and versions

Max. weight per component

Load	Load quantity	
	Instruments	Textiles
Max. weight per component	2 kg	2 kg

Maximum load quantities for instruments and textiles

The total weight is the sum of the mass of the sterilization material, the packaging materials, the containers and the mounts.

Load type		Instruments		Textiles	
		Cliniclave 45 D	Cliniclave 45 MD	Cliniclave 45 D	Cliniclave 45 MD
Full load	wrapped	35 kg*)	70 kg*)	7 kg	14 kg
	unwrapped	40 kg	80 kg		
Partial load	wrapped	15 kg	30 kg	--	--
	unwrapped				

*) Drying was 35 kg or 70 kg checked for the load with dental containers and MELAstore Boxes. The drying of other large weights (20-40 kg/40-80 kg wrapped) or other load configurations must be checked individually and locally. Additional drying may be required.

Loading versions per sterilization unit (StU)

Type of the mounts*)	Loading version
Mount for 2 instrument baskets or 4 large trays	max. 4 large trays, depth 59 cm max. 2x ½ StU sterilization containers max. 2x ½ StU instrument baskets
Mount for 8 small trays**)	max. 24 dental trays, depth 29 cm (8 per mount)
Mount for dental containers**)	max. 15 dental containers or MELAstore Boxes (5 per mount)
Without mount	max. sterilization container (1 StU)

*) MELAG mounts, trays etc. see Description of the device [▶ page 12]

**) We do not recommend using this mount in the rear half of Cliniclave 45 MD with the “Basic” loading system. In this case, use the “Comfort” loading system.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

stomdevice

Loading system “Comfort”

MELAG provides a loading system “Comfort” consisting of a loading trolley, slide rail, batch slider and loading hook. This enables the effortless and ergonomic loading and unloading of the steam sterilizer. The applicable user manual provides information regarding the set-up and use of the loading trolley.

Please consult the operating manual of the sterilization containers used. Never exceed the max. permissible load quantity and weight specified by the manufacturer.



https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

7 Sterilization

Important information regarding routine operation

Daily routine checks

- Check of the sterilization chamber and seal for its correct condition, see chapter Maintenance [▸ page 69].
- Check of the operational readiness of the recording equipment, see chapter Logging [▸ page 41].
- Perform a Bowie & Dick test (steam penetration test), see chapter Function tests [▸ page 48].

When using the water treatment unit MELAdem 56/56 M

- Perform regular checks of the pressure on the pressure tank manometer before first program start. With daily operation, the pressure tank is still sufficiently full from the previous day.
- The blue indicator shows the current pressure of the water treatment unit.
- The red indicator serves to check the maximum pressure of the water treatment unit.



Pressure in the pressure tank (blue indicator)	Meaning	Measure
3-4 bar	Recommended operating pressure	---
< 2.5 bar	Little feed water in the pressure tank	Leave the steam sterilizer switched on so that the water treatment unit can operate.
< 1 bar	No or insufficient feed water in the pressure tank	Leave the steam sterilizer switched on so that the water treatment unit can operate. A warning or malfunction message will be displayed.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

stomdevice

Further routine checks

EN ISO 17665-1 and DIN 58946-7 prescribe the following fundamental procedures for routine operation:

When is it necessary to make checks?	How should the checks be made?
Before starting routine operation	Installation qualification (IQ); Operational qualification (OQ); Performance qualification (PQ)
Monthly	Vacuum test
After 4000 cycles but after 12 months at the latest	Maintenance
After changes to the steam sterilizer and its supply	Operational qualification (OQ)
After changes to the configuration	Renewed performance qualification (PQ) for a particular reason
In established intervals after 12-24 months*)	Renewed performance qualification (PQ)
*) In accordance with the stated standards and in accordance with with the assessment of the person performing validation.	

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

Selecting the program

Now select the sterilization program according to how and whether the sterilization material is packed. It is also necessary to take into account the temperature resistance of the sterilization material. All sterilization and additional programs are displayed in the `Programs & Tests` menu. The following table shows which sterilization material fits which program and which additional programs are available.

	Universal-Program	Quick-Program B	Quick-Program S	Gentle-Program	Prion-Program
Sterilization temperature	134 °C	134 °C	134 °C	121 °C	134 °C
Sterilization pressure	2.1 bar	2.1 bar	2.1 bar	1.1 bar	2.1 bar
Sterilization time	5:30 min	5:30 min	3:30 min	20:30 min	20:30 min

Program name	Operating time*)		Drying**)		Packaging type
	Cliniclave 45 D	**Cliniclave 45 MD**	Time-controlled drying	Intelligent drying	
Universal-Program Partial load Full load Textiles	 approx. 21 min approx. 40 min approx. 28 min	 approx. 28 min approx. 50 min approx. 36 min	 20 min 20 min 20 min	 4-30 min 4-30 min 4-30 min	Single and multiple wrapping
Quick-Program B Partial load	 approx. 21 min	 approx. 28 min	 approx. 10 min	 4-30 min	Single wrapped and unwrapped instruments (no textiles)
Quick-Program S Partial load	 approx. 17 min	 approx. 22 min	 approx. 6 min	 4-30 min	Only unwrapped (no textiles)
Gentle-Program Partial load Textiles	 approx. 36 min approx. 45 min	 approx. 45 min approx. 53 min	 20 min	 4-30 min	Single and multiple wrapped
Prion-Program Partial load Full load Textiles	 approx. 36 min approx. 55 min approx. 43 min	 approx. 43 min approx. 65 min approx. 51 min	 20 min 20 min 20 min	 4-50 min 4-50 min 4-50 min	Single and multiple wrapped

*) Without drying and depending on the load and the set-up conditions e.g. mains voltage and air-pressure. The steam sterilizer requires an additional one-off heating-up time to preheat the double jacket steam generator after activation. For normal operation, this amounts to approx. 20 min.

**) When taking into account the specified load quantity, the program-specific drying times (time-controlled drying) guarantee excellent drying of the sterile material. The drying time can be extended by 50 % for especially difficult drying tasks by activating the additional drying. Activation of intelligent drying subjects the drying phase to automatic monitoring and end the drying phase as soon as the load is dry.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

Additional programs		Use/function
Vacuum test		For measuring the leakage rate, test with a dry and cold device (test without load)
Bowie & Dick test		Steam penetration test with special test package (available from specialist stockists)
Conductivity meas.		For manual measurement of the feed water quality (conductivity)
Drain		For draining and pressure release of the steam generator, e.g. for service, maintenance or before transport

Additional program options

Additional drying

Used with the types of load specified in this chapter, the program-specific drying times guarantee very good drying of the sterile material. For difficult drying tasks you can activate the additional drying function retrospectively during a running program, see Additional drying [▶ page 60].

Start time pre-selection

NOTICE

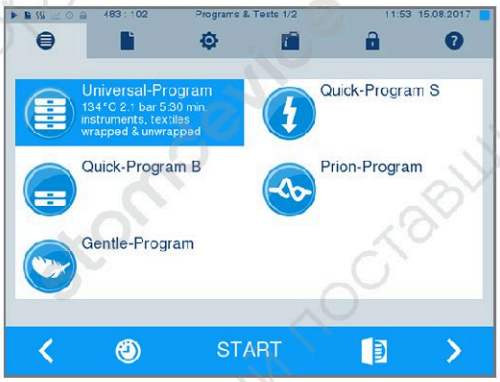
Unsupervised operation of electrical devices, including this steam sterilizer at the operator's risk. MELAG accepts no liability what so ever for any damage resulting from unsupervised operation.

This function enables you to select any program and start it at a time of your choice. The start time pre-selection is only active for the unique time and program selection. That means that after completion of the program, the pre-selected start time expires. You can switch off the steam sterilizer during the start time pre-selection. However, the steam sterilizer must be switched on before the timer runs out.

The start time pre-selection can only be started from the loading side. It can be aborted on both the loading and the removal side.

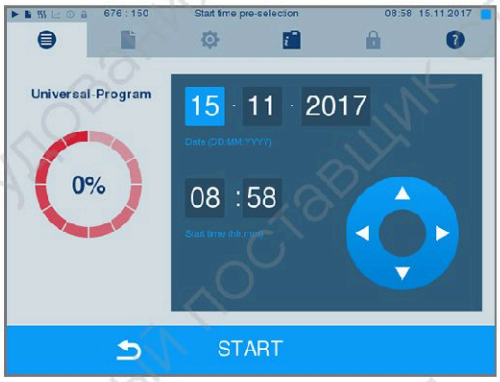
Please note, the security query means that this function is not possible for Quick-Program S. To set a program start to a particular number, proceed as follows:

1. After selecting the program, press the symbol in the action bar. The display switches to the settings window.



https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

2. For example, to change the time, tap directly on the parameters `Hour` or `Minutes`. The selected field is highlighted light blue.



3. Change e.g. the hour by pressing the pushbuttons  and .

4. Then press START. The display remains in the start time pre-selection window.

➥ After the start of the start time pre-selection no other menu apart from the `Info & Status` menu can be selected.

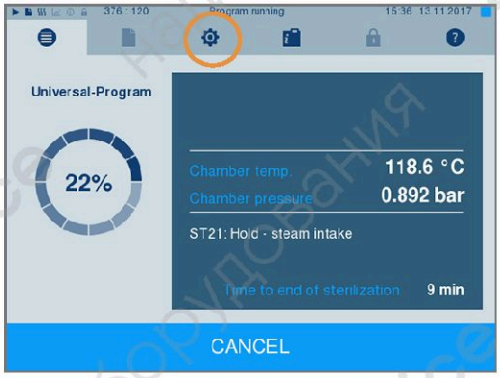
Automatic shutdown

Activating the automatic shutdown function enables the automatic deactivation of the steam sterilizer at the end of a program, e.g. after the last batch at the end of the day. Batch approval can be performed by reactivating the steam sterilizer as usual. Proceed as follows to activate automatic shutdown for the next program run:

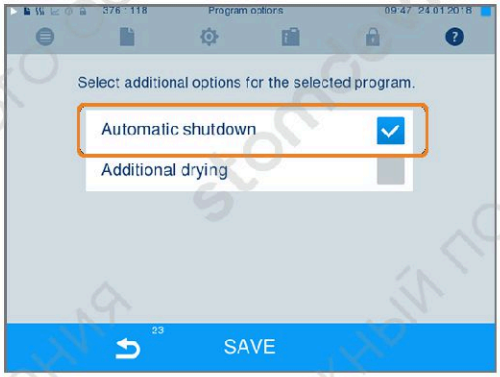
1. Select the desired program.

2. Press START.

3. Select the `Settings` menu. The display switches to the following window.



4. To activate automatic shutdown, set a checkmark and confirm with SAVE.



https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

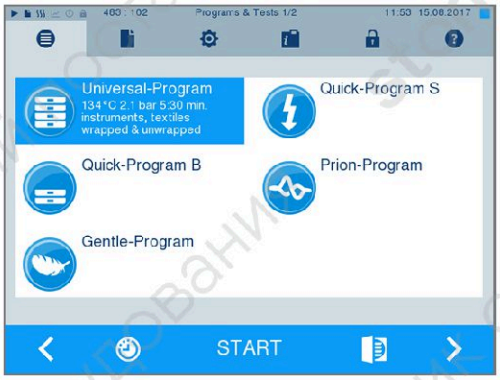
stomdevice

Starting the program

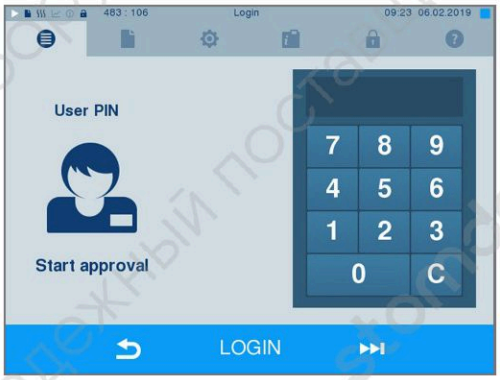
A program can only ever be started on the loading side. A program is displayed as marked after it has been selected.

With the start of the program, the door closes pressure-tight and the steam sterilizer checks the quantity of feed water and its conductivity.

1. To start a program, press the START key.



2. With activated user authentication:
Enter the user PIN or press (if possible) the button to skip this stage  (see User administration [▸ page 56]). **Please note:** Only ever use the "Skip user authentication" function in an emergency.



PLEASE NOTE

When starting Quick-Program S, a warning and an acoustic signal indicates that this program is suitable only for the sterilization of unwrapped instruments. If the load contains unwrapped instruments only, confirm with YES, to start the program.

Program run

A program runs in three main phases: the air removal and heating up phase, the sterilization phase and the drying phase. After program start, you can follow the program run on the display. It shows the chamber temperature and pressure as well as the time until the end of sterilization / drying.

Air removal and heating up phase

During this phase, the steam will be injected and removed from the sterilization chamber (conditioning) to generate over-pressure which removes residual air. Then, during fractionation, the mixture of air and steam is evacuated from the sterilization chamber and steam is injected. This reduces the level of residual air in the sterilization chamber to a minimum. At the same time, the requirements for pressure and temperature are created for sterilization.

Sterilization phase

In the sterilization phase, pressure and temperature are held in the area required for sterilization.

The display indicates whether the sterilization phase has been completed successfully. The coloured ring and the LED status bar switches from blue to green as soon as the drying phase has been introduced.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

The sterilization phase is unsuccessful if the operator or the system (responding to an malfunction) aborts the program run. A system abort returns the steam sterilizer to a pressureless state. This explains why a system abort takes longer than an abort by the operator.

Drying phase

The steam sterilizer provides excellent drying of the sterilization material. Depending on the setting, drying is performed either via the time-controlled drying or the pre-set intelligent drying (see Intelligent drying [▶ page 61]). If difficult-to-dry items require better drying, you can undertake the following steps to improve drying:

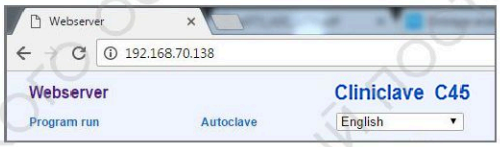
- Load the steam sterilizer properly. Stand e.g. the transparent and paper sterilization packaging upright. Comply with section Loading the steam sterilizer [▶ page 25]. Use the optional package holder if necessary.
- Time-controlled drying: Activate function `Additional drying`, to extend the drying time by 50 %.
- Intelligent drying: Activate function `Additional drying` to restrict the criteria for ending the drying phase.

Following the program run on the computer

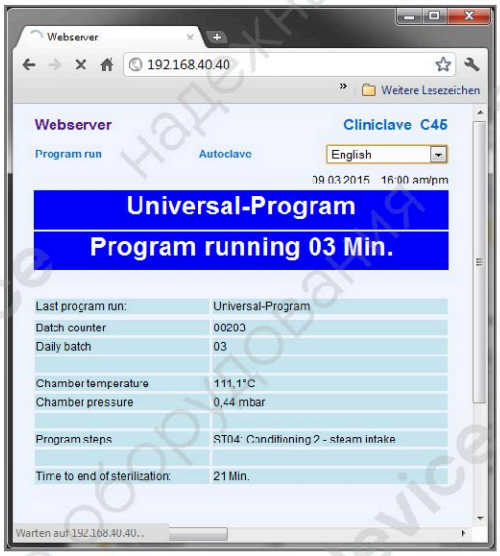
You can follow the current progress of a sterilization program on every computer in the practice network.

✓ *The steam sterilizer has been assigned an IP address and is integrated in the practice network.*

1. Open a web browser (we recommend Mozilla Firefox or Internet Explorer / Microsoft Edge) and enter the IP address of the steam sterilizer in the address bar of the web browser e.g. 192.168.57.41.



2. Confirm with [ENTER]. Now you can display the program run or information about your steam sterilizer (e.g. serial number, device software version and selected values).



https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

stomdevice

Manual program abort

You can abort a current program in all phases. If you end a program before drying begins, the sterilization material remains **unsterile**.

WARNING

Hot steam can be released from the emergency release valve under the floor unit on the loading side after a program abort effected with the power switch.

This could result in burns.

- Never abort a program by switching off at the power switch.

Program abort before the start of drying

WARNING

Danger of infection from early program abort

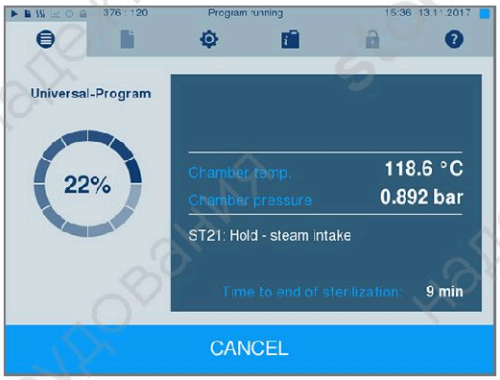
Aborting a program before the drying phase begins means that the load is unsterile. This endangers the health of your patients and practice team.

- If necessary, repack the load and repeat the sterilization for the sterilization material affected.

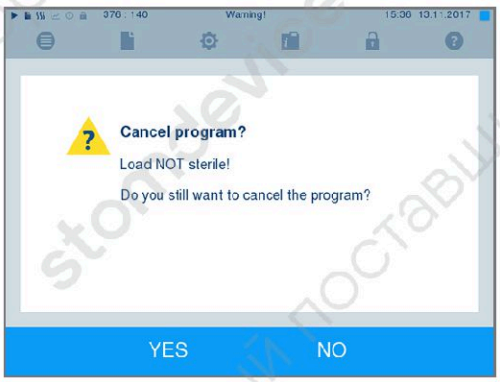
Should you abort a program before drying starts the sterile material may only be removed on the unclean side (the loading side). The display indicates that the program was NOT completed successfully; this is also recorded on the log.

Should you still wish to do so, proceed as follows to abort the program before drying:

1. Press CANCEL on the action bar.

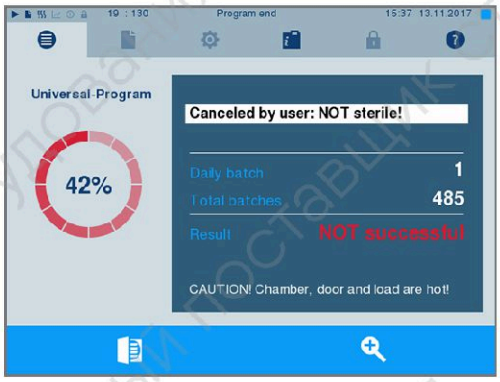


2. Confirm the security query with YES.



https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

3. After a short time, you can open the door by pressing the  symbol. The display shows a warning; the log records the sterilization as `NOT successful`.



Program abort after the start of drying

CAUTION

Given a premature abort of the drying phase, certain circumstances may mean that it is impossible to comply with the max. residual moisture required by EN 285 (textiles < 1 %, metal < 0.2 %).

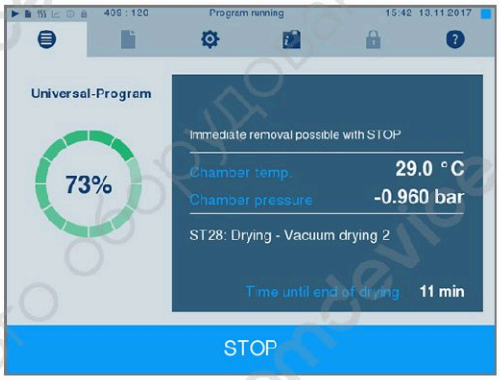
This impairs the storage stability of the sterile material.

- Only ever perform a premature drying abort in exceptional cases to effect immediate renewed availability of the device.
- Check the sterile material after a program abort for residual moisture. Never store sterile material when it is still damp, as the residual moisture can result in recontamination of the sterile material.

Should you abort a program after drying has started, the sterilization is having been completed successfully. The steam sterilizer issues a malfunction message. You then need to expect insufficient drying, especially in the case of wrapped sterile material and a full load. Sterile storage requires sufficient drying. To ensure this, please allow programs with wrapped sterile material to continue to the end of the drying phase as far as is possible. Unwrapped instruments sterilized in a Quick-Program dry from their own warmth after being removed.

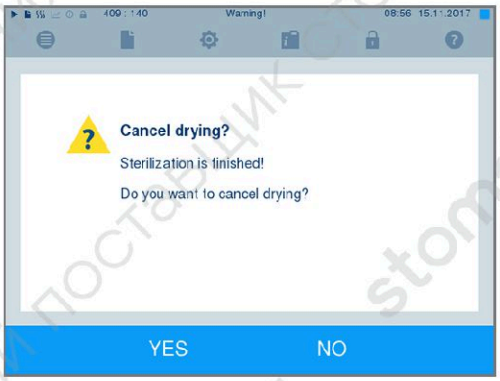
Proceed as follows to abort the program during drying:

1. Press STOP on the action bar.



https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

2. Confirm the security query with YES.

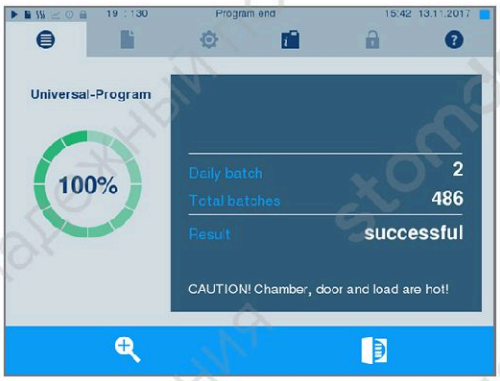


3. After a short time, you can open the door by pressing the door symbol .

Program end

When the program has ended successfully, the corresponding message will be issued on the display. Before opening the door, you can view further values on the display from the program which has just completed, e.g. the plateau time or conductivity etc. by pressing the zoom symbol .

▶ Press the door symbol to unlock the door.



If automatic logging after program end is activated (= Immediate output) in the `Settings` > `Logging` menu, the log of the completed program will be outputted to the activated output medium after opening the door.

The approval process

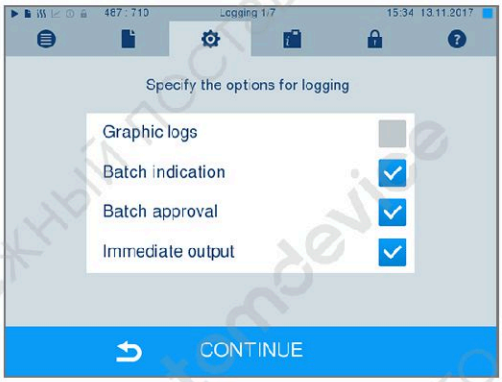
According to RKI “Hygiene requirements for the treatment of medical products”, instrument treatment ends with the documented approval for storage and application of the sterile material. The approval process consists of batch indication and batch approval and must be performed by authorized and expert personnel. This is ensured by the activated user authentication. To do so, enter the user PIN (see Settings [▶ page 50]).

PLEASE NOTE

Skipping user authentication means that the batch is not approved.

- Only ever use the “Skip user authentication” function in an emergency.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ



Batch indication comprises the checking of the indicators used in the sterilization program e.g. MELAcontrol/MELAcontrol PRO. Approval of the indicator strip is possible only if it changes colour entirely.

Batch approval comprises the checking of the process parameters using the sterilization results on the steam sterilizer and the sterilization log as well as checking of the individual packaging for damage and residual moisture. The sterilization log records the approval of the batch and any indicators. Depending on the setting in the user administration, approval for the sterile material requires the user PIN of the person who provides approval for the batch and the indicators.

Removing the sterile material

CAUTION

Danger of burns from hot metal surfaces

- Allow the device to cool sufficiently before opening.
- Do not touch any hot metal parts.

CAUTION

Unsterile instruments resulting from damaged or burst packaging. This endangers the health of your patients and practice team.

- Should the packaging be damaged or have burst after sterilization, re-pack the sterilization material and re-sterilize it.

CAUTION

Danger of burns from the mount sliding out.

- Only remove the trays and instrument baskets one at a time from the steam sterilizer.
- Do not remove the mount with trays or instrument baskets on it.

If you remove the sterile material from the device directly after the end of the program, it is possible that the instruments can be partially damp. According to the red broschure of the Arbeitskreis für Instrumentenaufbereitung (AKI), the tolerable residual moisture is - in practice - a few drops of water capable of evaporating within 15 min, but actual pools of water are not acceptable.

Comply with the following specifications when removing the sterile material:

- ▶ Remove then sterile material following completed and successful sterilization only from the removal side of the device.
- ▶ Never use force to open the door. This could damage the device or result in the emission of hot steam.
- ▶ Use suitable protective gloves to remove the trays.
- ▶ Never touch the sterile material, the device interior or the inside of the the door with unprotected hands. The components are hot.
- ▶ Check the packaging of the sterile material for damage when removing it from the device. Should the packaging be damaged, re-pack the sterilization material and re-sterilize it.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

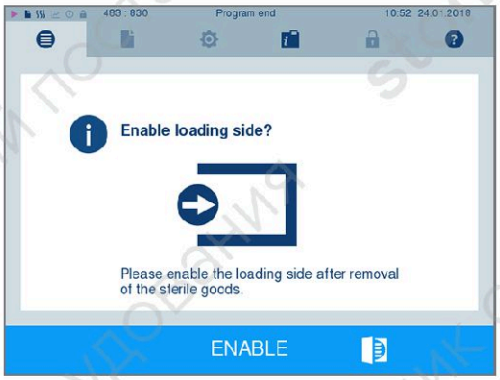
stomdevice

Enable the loading side

The loading side is locked after a completed program until the sterile material has been removed and the loading side has been provided with approval. Only then is it possible to open the door on the loading side and re-load the steam sterilizer.

1. Close the door on the removal side.

2. To provide the loading side with approval, acknowledge the corresponding message on the display of the removal side by pressing the pushbutton ENABLE.



Storing sterile material

The maximum storage time is dependent on the packaging and the storage conditions. For standard-conform packaged sterile material – (if protected from dust) it can amount to up to six months. Comply with the provisions of DIN 58953, part 8 and the criteria specified below for the storage of sterile material:

- Comply with the maximum storage duration in accordance with the packaging type.
- Do not store the sterile material in the reprocessing room.
- Store the sterile material in a dust-protected environment e.g. in a closed instrument cabinet.
- Store the sterile material in an environment protected against moisture.
- Store the sterile material in an environment protected against excess temperature variations.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

stomdevice

8 Logging

Batch documentation

The batch documentation serves as proof of the successful conclusion of the program and represents an obligatory part of quality assurance. The device internal log memory saves such data as the program type, batch and process parameters of all the programs completed.

To obtain the batch documentation, you can output the internal log memory and transfer its data to various output media. This can be performed immediately at the end of every program or at a later point, such as at the end of the day.

Capacity of the internal log memory

The steam sterilizer is equipped with an internal log memory. This saves all the data regarding the sterilization program automatically. The capacity of the internal log memory is sufficient for approx. 100 logs. If the internal log memory becomes almost full and at least one log has not been outputted via an activated output medium, the following warning `Internal log memory is almost full` will appear on the display. If this warning appears, working in the `Settings` menu > `Logging` provide the pre-determined output media and output the logs affected (`Log output` menu).

Shortly afterwards, the following message is displayed: `Internal log memory full`. You now have the last chance to archive logs which have not been outputted (confirm query with `YES`) before the data in the steam sterilizer log memory (up to the last 40 logs) is automatically deleted.

Output media

You are able to output and archive the logs of the completed programs on the following output media:

- MELAflash CF card
- Label print-out with the MELAprint 60 label printer
- MELAprint 42/44 log printer
- A computer (via the practice network)

Any combination of the output media is possible. Log output on multiply activated media is performed successively. In its delivery state, the MELAflash CF card is activated as the output medium for text and graphic logs from the steam sterilizer. Automatic logging (= Immediate output) is thus activated.

Detailed information regarding the activation and setting of log output is to be found in the chapter settings, logging [▶ page 50].

Using the CF card as an output medium

NOTICE

Premature removal of the CF card from the card slot or its inappropriate handling can result in data loss, damage to the CF card, the device and/or its software.

- Never push the CF card in the slot with force.
- Never remove the CF card from the slot whilst it is being written or read. The square in the upper right-hand corner of the display lights up during reading and writing access.

The card slot for the CF card is located on the right-hand side of the display housing on both the loading and removal side. Logging via CF card is only possible via the slot on the loading side.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

stomdevice

Proceed as follows in order to insert the CF card in the slot.

✓ *The CF card is set as the output medium in the* `Settings` > `Logging` *menu.*

✓ *If immediate log output is activated, the CF card must be inserted on the loading side.*

1. Insert the CF card in the card slot fully with the raised finger edge pointing rightwards and to the rear.
   If the CF card is inserted correctly, a blue square will illuminate in the right upper corner of the display.



2. Check whether the CF card has been selected as the output medium.

Using the computer as an output medium

You can connect the steam sterilizer directly to a computer or integrate it in an existing (practice) network via FTP or TCP. The computer must be fitted with a RJ45 socket (LAN).

Further information pertaining to the requirements and setting of the computer as an output medium is available in the chapter Settings, logging [▶ page 50].

Reading out a text log on the computer

All text logs can be opened and printed using a text editor, a word processing program or a spreadsheet program. Graphic logs can only be displayed with the MELAtrace/MELAview documentation software.

Each text log (e.g. .PRO, .STR, .STB etc.) must be linked with the text editor to enable the computer to open them automatically with a text editor. The meanings of the endings are outlined in the section Subsequent log output [▶ page 44]. The following example shows how you can link the Windows 10 editor with a specific text log.

1. In Windows Explorer double click on the log file.

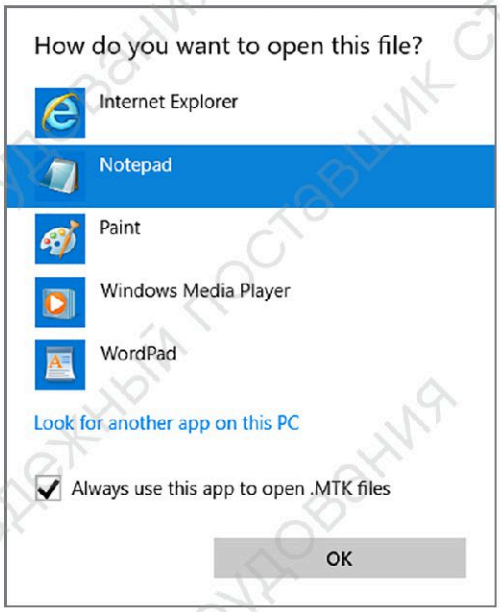
2. If the file ending is unfamiliar, Windows 10 will display the following message:



3. Select “Try an app on this PC”.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

4. Mark the editor and confirm with “OK”.



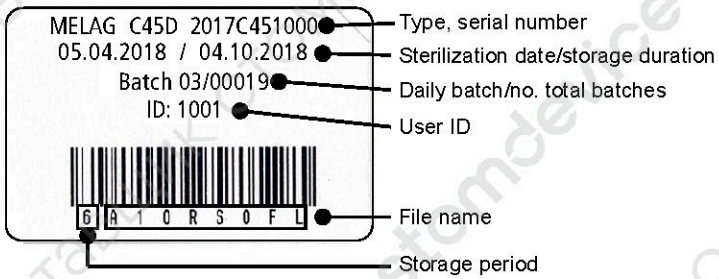
➥ You can then open files with this ending via a double-click in Windows Editor.

Using the label printer as an output medium

The use of a label printer facilitates batch traceability. Using the sterilization date, the storage duration, batch number, user ID of the person approving the application for use, the steam sterilizer used and the file name it is possible to assign the sterilized instruments to the patient and sterilization batch. Faultless packages containing sterile material are marked with labels after sterilization. As such, the preconditions for correct “Approval” by the person conferred with the task of decontamination are given. All information regarding the correct sterilization procedure can be attributed to the instruments used in patient records.

PLEASE NOTE

To facilitate easy assignation of a package marked with a label to a specific batch, the sterilization log file name must not be changed.



Outputting text logs automatically after program end (immediate output)

Should you wish to output the associated text and graphic logs (optional) on an output medium immediately after the end of a program, use option `Immediate output`. In its delivery state, the immediate output of the text and graphic logs via the CF card after program end is activated.

If the output medium selected for this purpose has not been connected, the logs are saved in the internal memory and a warning is issued. The steam sterilizer provides the option of outputting this log at the next possible opportunity. Graphic logs cannot be saved in the internal log memory; they are lost. Further information pertaining to the output of graphic logs is available in the section Outputting graphic logs (optional) [▶ page 51].

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

stomdevice

The following points must be fulfilled for immediate output:

- The date and time have been set correctly.
- The output medium must have been selected and connected.
- Immediate output must be activated in Menu `Settings` > `Logging`.
- With log output to a CF card: The CF card is inserted on the loading side.

Information regarding the setting of immediate output and the desired output medium is provided in the chapter Settings, logging [▶ page 50].

Subsequent log output

Menu `Log output` provides the option of outputting text logs subsequently and independently of the point of the program end. You can set the output media yourself. The output media are pre-selected as standard, which are also selected under `Settings` > `Logging` as far as automatic immediate output has been activated.

Menu `Log output` provides various opportunities for log output. Menu `Logging list` displays all the program logs present in the memory. You can sort the list according to date, time, program and outcome by pressing on the column headings. Here is an overview of all possible output media.

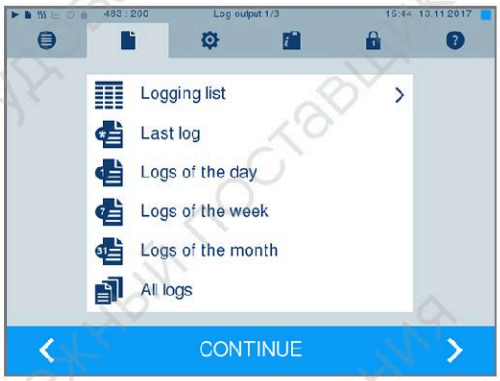
Designation	File ending	Explanation
Last log	.PRO	The log of the last successful completed program is outputted.
Logs of the day	.PRO	The log of the last successful program of the current day is outputted.
Logs of the week	.PRO	Logs of all successfully completed programs of the week - Monday to Sunday - will be outputted
Logs of the month	.PRO	Logs of all successfully completed programs performed in the current month will be outputted.
All logs	.PRO	The logs of all successfully completed programs will be outputted.
Last fault log	.STR	The last malfunction log is outputted.
Fault logs of the day	.STR	The malfunction logs of the current day are outputted.
etc.	...	
Legend log file	.LEG	Contains an explanation of all abbreviations contained in the log.
Status log	.STA	A summary of all important settings and system states (counter, measured values etc.)
Fault in standby	.STB	This log type is generated following malfunctions during a time at which no program was active.
System log	.LOG	A sort of logbook listing all malfunctions and changes to the system in order of their incidence.
Delete all logs	--	Deletes all logs stored in the internal log memory. Notice: All logs will be deleted which were not previously outputted to another output medium.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

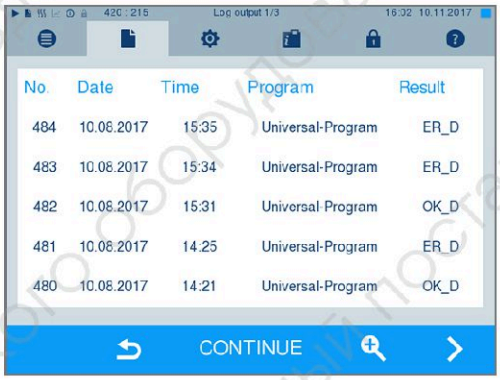
Outputting a log from the log list

Proceed as follows to output a specific log from the internal memory:

1. Navigate to menu `Log output` and select `Logging list`.



2. A list is displayed with all text logs that have been saved in the internal memory. To facilitate the search, you can filter the log sorting sequence by date, program or outcome by selecting the top line.



3. Select a log and press CONTINUE.

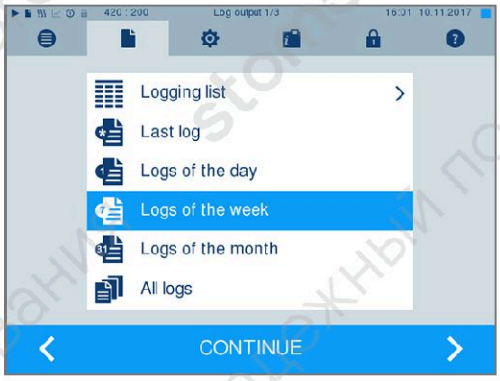
4. Select an output medium if required and press OUTPUT.



Outputting the daily / weekly log etc.

Proceed as follows e.g. to output all the logs of a week:

1. Navigate to menu `Log output` and select option `Logs of the week`.



https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

2. Press CONTINUE.
3. Select an output medium if required and press OUTPUT.

Proceed in a similar fashion to output the last log or all the logs of that day or month or all logs.

Finding logs

PLEASE NOTE

If possible, do not rename the directories, otherwise logs will be stored in both the renamed directory as well as the new device directory generated automatically by the steam sterilizer.

Storage location for logs

When transferring the logs to a CF card, they will be stored in a separate folder in the main directory. Direct transfer of the logs to a computer via the network and using the MELAG FTP server allows you to work directly in the FTP server to determine directly where on your computer the device directory with log files is to be saved. With output via TCP and e.g. MELAtrace, you can work directly in the program to determine the folder in which they are to be saved.

Log directory

A folder is created on all memory media (CF card or computer) after log output containing the encoded serial number of the steam sterilizer concerned. The folder name consists of five characters identical with the first five characters of every log, e.g. B5002. This folder contains sub-folders with the month of log generation e.g. 01_2016 for January 2016. This contains all logs generated by the steam sterilizer this month. The device directory is entered in the main directory on the CF card.



The steam sterilizer checks the memory medium after every type of log output (immediate output after a completed cycle or the transfer of multiple logs simultaneously). Should a directory not exist, it automatically creates a directory for the device and the month. If the logs are subject to multiple outputting on the identical memory medium, the device directory will create a “Duplicate” directory.

Further information pertaining to the meaning of the file endings on the logs is available in section Subsequent log output [▶ page 44].

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

Example log of a successfully completed program

```
----------------------------------------
!0 01100DDUSN01
!1 F50P100B.PRO
----------------------------------------
10 MELAG Cliniclave 45 D
----------------------------------------
15 Programm:      Universal-Program
20 Program type: 134 °C wrapped
25 Date:         07.12.2016
30 Daily batch:  11 Total: 00011
34 ID load:      1001
35 ID approval:  1001
36 Indicators changed: deactivated
37 Batch approved: deactivated
======
40 Universal-Program ended successfully
42 = =
======
45 Temperature:  135.4  +0.18/-0.19 °C
50 Pressure:       2.18  +0.01/-0.01 bar
55 Plateau time: 05 min 30 s
60 Conductivity:    6 µS/cm (1293:72.9)
65 Start time:   20:19:28
70 End time:    21:07:47 (48:19 min)
======
80 SN:2015C45D0901
======
81 MR   V3.218 12.10.2016
82 Para V3.222 13.10.2016
83 BO   V3.319 12.10.2016
----------------------------------------
Step  Time t[m:s] P[mbar] T[°C]
SP-S  0:00   0:00   1014  115.6
SK11  0:37   0:37   1768  112.6
...
SF12  4:11   0:29    509  112.3
SF13  4:35   0:24   1646  118.7
SF21  4:48   0:13   1306  118.3
SF22  5:38   0:50    191  113.8
SF23  6:13   0:35   1833  121.6
.
.
SF42  8:58   0:34    411  103.9
SF43  9:28   0:30   1733  117.8
SH01 10:17   0:49   2873  131.9
SH02 10:37   0:20   2881  132.0
SS01 11:27   0:50   3068  134.1
SS02 16:57   5:30   3182  135.5
SA00 17:42   0:45   1302  112.1
SI01 22:44   5:02    111  116.7
...
SB10 48:12   0:27    812  115.4
SB20 48:18   0:06    923  115.7
SP-E 48:19   0:01    926  115.6
>> Never change code on follow. line <<
0100416227143lB28355772AE6B57ADBCB7E4E33
BAD9726B2FA0F21C35C1163FB01A3212051D7144
1CDB905EF84F796276A30186C03200D841E7074F
1D95EB05506D7D2F570B782541402C7750428EBA
A6B2F2193974164CADC55654107BAE108F7C6E46
168873EE811EF43E0822632831E3F25F6E806F37
5F5A38CED888615F1618F38F370C4C27205C836B
>>Authentication of batch log<<
----------------------------------------
0.00   0.0   0.0   0.0 ---.-   0.0
-edk----etm---etd---etp---etv--ett-END-
```

!0 Ident number
!1 File name
---
10 Steam sterilizer type
---
15 Program name
20 Program sterilization parameters
25 Date
30 Daily and total batch number
34 User ID program start
35 User ID program end
36 Batch indication
37 Batch approval
=====
40 Control notification
42 Warning or malfunction message with program abort
=====
45 Sterilization temperature with max. deviations
50 Sterilization pressure with max. deviations
55 Sterilization time
60 Conductivity of the feed water
65 Time at program start
70 Time at program end
==========
80 Device serial number
==========
81 Current version of the device firmware
82 Current version of the device parameters
83 Current version of the graphical user interface

Step – Program step

Time – Time (min:s) which has elapsed since the program start

t [m:s] – Duration (min:s) which a program step requires

P [mbar] – Chamber pressure

T [°C] – Chamber temperature

Key for the program steps:
SK – Conditioning
SF – Fractionation
SH – Holding
SS – Sterilization
SA – Pressure release
ST – Drying
SI – Intelligent Drying
SB – Ventilation
SP-E – End

Proof of authenticity (electronic signature)
Should never be altered; decoding the code (by MELAG) indicates whether the data was generated on a MELAG steam sterilizer and has been changed.

Sensor measurement values are displayed here in the case of a malfunction. The values are helpful for a service technician.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

stomdevice

9 Function tests

Vacuum test

The steam sterilizer can be checked for leakages in the steam system using the vacuum test. This determines the leakage rate at the same time.

Perform a vacuum test in the following circumstances:

- Once a month in routine operation
- During commissioning
- Following longer operating pauses
- Following a malfunction (e.g. in the vacuum system)

Perform the Vacuum test with the steam sterilizer in a cold and dry state as follows:

1. Switch on the steam sterilizer at the power switch.

2. Working in the `Programs & Tests` menu, select vacuum test and press START.



➥ The evacuation pressure and the equilibration time or measuring time are shown on the display. The chamber is ventilated after the end of the measuring time. Then the message will be shown on the display with an indication of the leakage rate. Should the leakage rate be too high i.e. over 1.3 mbar, a corresponding message will be issued on the display.

Bowie & Dick test

The Bowie & Dick test serves as proof of steam penetration of porous materials such as e.g. textiles. You can perform a routine function check for proof of steam penetration. Use test program `Bowie & Dick test` for this purpose. Specialist stockists provide various test systems for the Bowie & Dick test. Depending on the application, use either a test system for hollow body instruments or for porous sterilization material (laundry etc.). Combination test systems can also be used. Perform the Bowie & Dick test in accordance with the test system manufacturer's specifications.

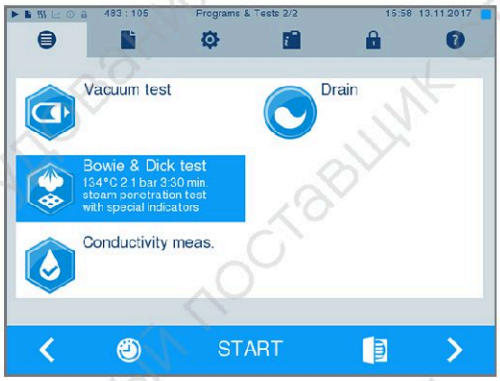
Perform the Bowie & Dick test as follows:

1. Switch on the steam sterilizer at the power switch.

2. Place the test system in the sterilization chamber of the steam sterilizer and close the door.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

3. Working in menu `Programs & Tests` select `Bowie & Dick test` and press START.



Evaluation of the indicator following the colour change

Depending on the manufacturer batch, treatment indicator strips often exhibit differing intensities in the colour change resulting from different lengths of storage or other influences. Of crucial importance for evaluating the Bowie & Dick test is not the strength of contrast in the colour change on the test sheet, but its even nature. If the treatment strips/treatment indicator sheet indicates an equal distribution of colour change, the air removal of the sterilization chamber is without fault. If the treatment indicator strips or the treatment indicator sheets are uncoloured or exhibit less colour in the centre of the star in comparison to the end, air removal was insufficient. In such a case, please consult the stockist customer services/ authorized customer services.

MELAcontrol / MELAcontrol PRO test body system

The MELAcontrol PRO and MELAcontrol test body systems comply with the requirements of DIN EN 867-5. Both test body systems consists of a test body and an indicator strip. In accordance with EN ISO 11140-1, MELAcontrol PRO and MELAcontrol are to be classed as type 2 indicators. The two test body systems can be used in large steam sterilizers for hollow-body loads in accordance with EN 285. When sterilizing category “critical B” instruments, you should add the MELAcontrol / MELAcontrol PRO test body system to every sterilization cycle as a batch control. Regardless of this, you can perform a steam penetration test in the Universal-Program at any time using MELAcontrol / MELAcontrol PRO. Intended use of the test body system can result in the colouration of the plastic surface. This colouration exercises no influence on the functionality of the test body system.

Feed water quality

The conductivity of the feed water is subject to automatic monitoring. Nevertheless, the conductivity should be checked every day before beginning routine operation. If a conductivity of 15 µS/cm or over is registered, please make sure to change the mixed-bed resin cartridge in the water treatment unit. A warning message is issued automatically on the display above a conductivity of 20 µS/cm.

PLEASE NOTE

If, despite all warnings, the steam sterilizer continues to be operated from a conductivity of 20 µS/cm, a test body should be added to each batch to check the steam for non-condensing gases. A malfunction message will be issued on the display upon 35 µS/cm. Further operation is then no longer possible.

Validation

In accordance with EN ISO 17665 and DIN 58946-7 a validation of the steam sterilizer should be performed within the scope of the sterilization process before beginning routine operation.

Renewed performance qualification (requalification)

EN ISO 17665 and DIN 58946-7 recommend a renewed performance qualification (requalification) in regular intervals after 12-24 months.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

stomdevice

10 Settings

Only perform settings to the sterilization and logging on the loading side. Display settings (e.g. brightness, key tone etc.) can also be performed on the removal side.

Setting the display position

The display can be set at various positions to permit ergonomic working on the steam sterilizer.

Information about setting the display position can be taken from the technical manual.

Logging

All settings pertaining to the output of text and graphic logs i.e. output medium, log format, immediate output etc. are performed in menu `Settings` > `Logging`.

To this end, you are led through a settings wizard.

Immediate log output

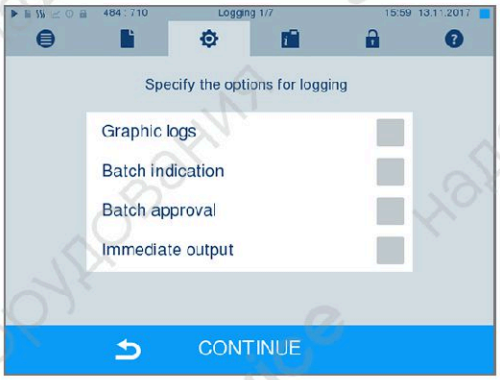
In its delivery state, the immediate output of the text and graphic logs via the CF is activated.

Deactivating immediate output

If log output is not to be performed immediately following the end of a program, but saved in the internal memory, (e.g. to be collected and outputted together within a single week), you can deactivate the immediate output option. Proceed in the following fashion:

✓ *You are in menu `Settings` > `Logging`.*

1. Remove the checkmark in front of option `Immediate output`.



2. Press repeatedly on CONTINUE until you reach the summary window.
3. Press SAVE to save the setting.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

Outputting graphic logs (optional)

PLEASE NOTE

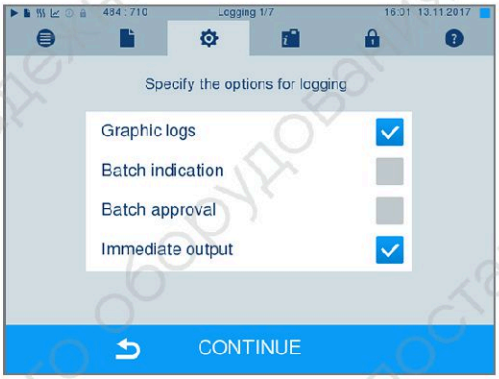
Graphic logs cannot be saved in the internal log memory. A subsequent output of graphic logs is thus not possible.

If you wish to output a graphic log (optional) in addition to a text log, proceed as follows:

✓ *You are in menu* `Settings` > `Logging`.

✓ *Immediate output is activated.*

1. Set a checkmark next to `Graphic logs` and check whether the checkmark is also set next to `Immediate output`.



2. Press CONTINUE and select the CF card and/or the computer as the output medium.



3. If necessary, change the intervals and press CONTINUE.

4. Working in this window, check whether at least one of the two output media have been selected for text logs.



5. Check whether the activated output medium is connected (computer) or has been inserted (CF card).

6. Press repeatedly on CONTINUE until you reach the summary window.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

7. Press SAVE to save the setting.

Explanation of the possible settings for graphic recording:

Interval	Explanation
CF card (CFC) recording interval	in seconds – Indicates the time intervals in which the program curve is recorded on the CF card. The smaller the time interval, the more exact the curve. In the example, the time interval is set to one second.
PC recording interval	in seconds – Indicates the time intervals in which the program curve is recorded, if the computer is selected as output medium. The smaller the time interval, the more exact the curve. In the example, the time interval is set to one second.
PC backup interval	in seconds – Indicates the time interval in which the graphic data from the steam sterilizer is saved on the computer. In the example, the backup interval is set to one second.

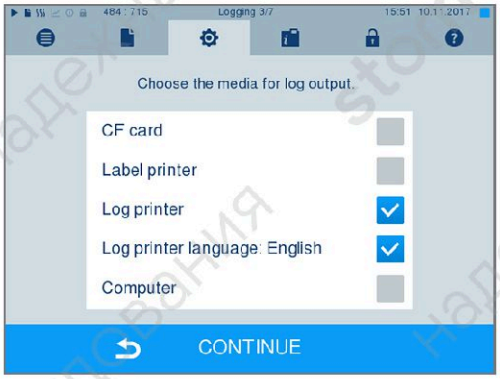
Log output in English

If you want to print all text logs on the MELAprint log printer in English, proceed as follows:

✓ *The text log is to be printed in English, regardless of the language of the graphical user interface.*

✓ *You are in the menu* `Settings` > `Logging`.

1. Press repeatedly on CONTINUE until you reach the log output menu.
2. Select the `Log printer` as an output medium.
3. In addition, select `Log printer language: English`.



4. Press repeatedly on CONTINUE until you reach the summary window.
5. Press SAVE to save the setting.

➥ The output of the text logs on the MELAprint log printer is in English.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

Using the computer as an output medium

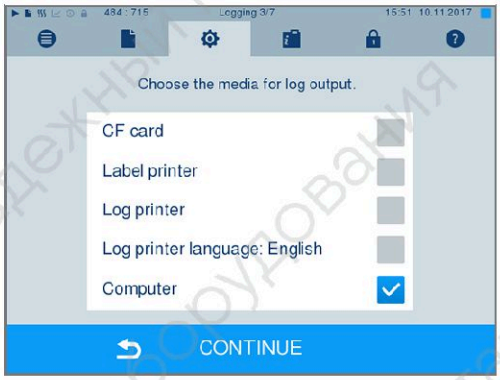
Log transmission can be performed via an FTP server / service or TCP. The following section shows how to set the desired connection:

✓ *You are in menu* `Settings` > `Logging`.

✓ *The steam sterilizer is connected to a computer via a network cable (RJ45).*

✓ *Depending on the output type, an FTP server / service or a suitable program e.g. MELAtrace / MELAview is installed.*

1. Press CONTINUE until you reach the output media selection window.



2. Select the computer as an output medium and press CONTINUE.

➥ The selection window opens and asks whether the connection to the computer should be effected via FTP or TCP.

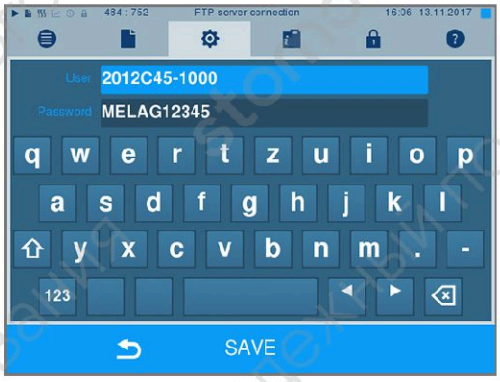
Connection via FTP

✓ *An FTP server or an FTP service is installed on the computer.*

1. Select `Connection via FTP`. The lower pushbutton displays the current user data settings (standard user name: Year of construction + manufacture number; Password MELAG12345).



2. Press the lower pushbutton to change the pre-set TCP user data. The display switches to the settings window.



https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

3. Enter the user name and password and confirm with SAVE.

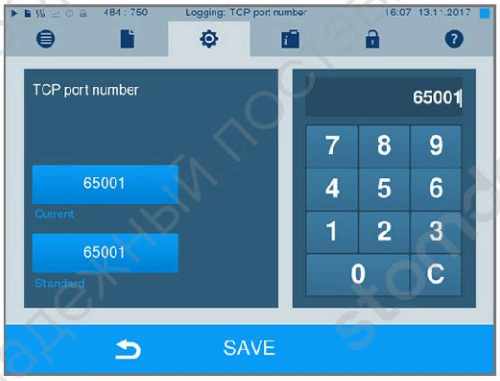
Connection via TCP

✓ *A suitable documentation software e.g. MELAtrace is installed.*

1. Select `Connection via TCP`. The TCP port currently set is displayed on the lower pushbutton (Standard TCP port: 65001).



2. Press on the lower pushbutton to change the pre-set TCP port. The display switches to the settings window.



3. Delete the most up-to-date TCP port using key C; enter another TCP port.
4. Confirm with SAVE.

IP addresses

PLEASE NOTE

The setting up of the (practice) network will require in-depth understanding of the network technology.

Errors in the handling of IP addresses can result in malfunctions and data loss in your practice network.

- IP addresses may only be set by the (practice) network system administrator.

The device is equipped as standard with IP addresses which all belong to a common network with the subnet mask stated in the following depiction.

Device	IP address	Remarks
Steam sterilizer	192.168.40.40	Preset works side
Computer	192.168.40.140	Preset works side
MELAprint 42/44 log printer	192.168.40.240	Preset works side
MELAprint 60 label printer	192.168.40.160	Preset works side
Gateway	192.168.40.244	Not relevant within a network

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

Device	IP address	Remarks
Subnet mask	255.255.255.0	Possibly to be adopted by customer network

If a device is to be integrated in a pre-existing (practice) network, observe and comply with the following:

✓ *The IP addresses listed in the table have not yet been assigned in the (practice) network.*

✓ *The device cannot be automatically administered in a dynamic (practice) network (i.e. a DHCP network).*

1. Select menu `Settings` > `Logging`. The setting wizard opens.

2. Working in the logging assistant, navigate to the window in which the IP addresses of the individual devices are listed.



3. Select e.g. the steam sterilizer [autoclave]. The settings window opens.



4. Select the number block which you wish to change directly.

5. Use the C key to delete the numbers. Enter a new number block and confirm with SAVE.

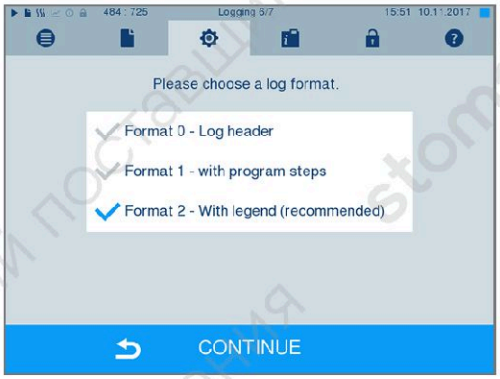
6. Proceed in a similar fashion with the other devices which are to be integrated in the network.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

Log format

Different data is issued depending on the nature of the log format.

- The log format is determined under `Settings > Logging`.



You can choose between the following formats.

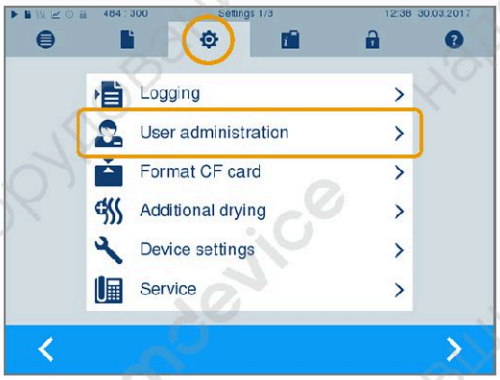
Format	Description
Format 0	Short form - only the log header is outputted.
Format 1	The log header and the program steps are outputted.
Format 2	Standard format - in addition to the log header and the program steps, a key is displayed explaining the individual program steps. In logs outputted via the log printer MELAprint, the corresponding legend row is always located under the row to which it refers.

User administration

An ID and individual user PIN can be issued to every user with which to authenticate him/herself, so as to enable reliable traceability via the clearance process. You can determine the necessity of user authentication via a PIN in the `User administration` menu. Activation of this option documents the user ID and the outcome of the approval procedure in the log header.

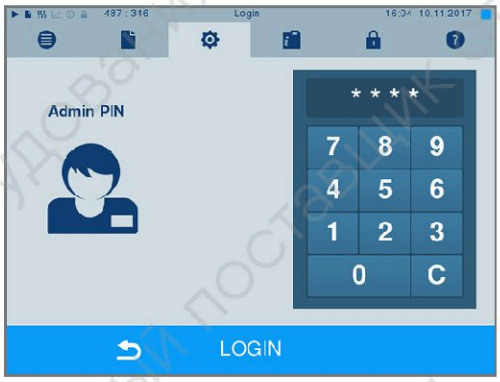
Adding a user

1. Select menu `Settings` > `User administration`.

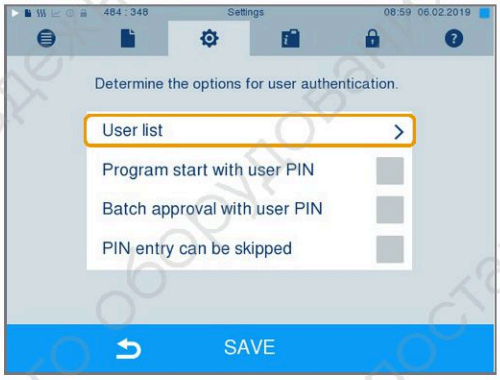


https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

2. In order to access the `User administration` menu and perform settings, enter the Admin PIN (standard: 1000) and confirm with LOGIN. The display switches to window `User administration`.



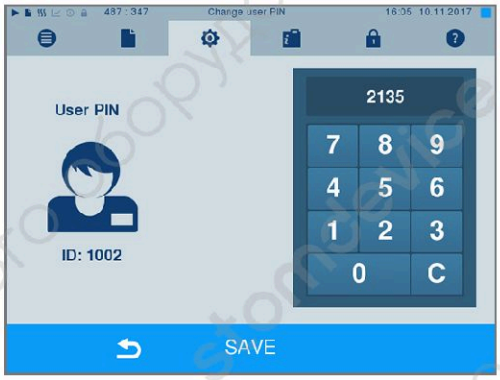
3. Select menu `User list` to display the user list.



4. Select a free ID and select EDIT in order to create a new user. The first ID is reserved for the Admin PIN.



5. Enter a 4-digit PIN in the right-hand key pad for the selected user ID.



6. Accept all the settings with SAVE, then leave the menu.

7. Exit the menu by pressing this symbol .

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

Deleting a user

1. Select the `User administration` option as described above and open the user list.



2. Select the user ID which you wish to delete.
3. Press the  symbol to delete this user.
   ➥ A warning is issued.
4. Confirming the warning with YES will set the PIN number of this ID to “0”.

➥ A new PIN can be issued for this user ID at any time.

Changing the Admin PIN

PLEASE NOTE

If you forget the Admin PIN, consult your stockist/MELAG customer services provider.

The Admin PIN (standard: 1000) can be edited like every other User PIN and should be changed after delivery.

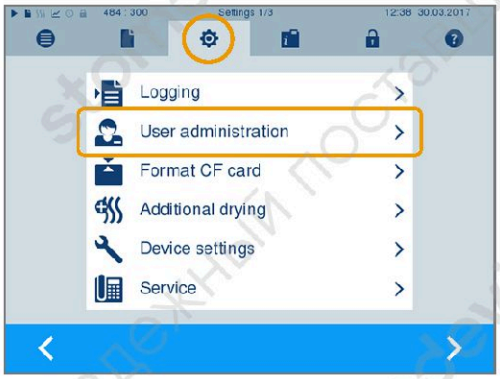
User authentication for sterilization

The user authentication can be set to ensure exact logging and verification. User authentication is performed by entry of the user PIN. The following settings are possible:

- Query user authentication upon program start
- Query user authentication upon program end
- Query user authentication upon program start and end
- You can skip the query user authentication

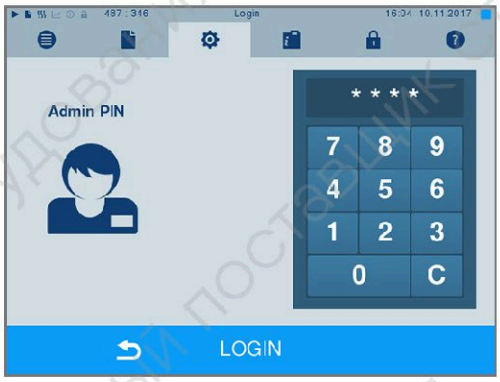
Determining options for the user authentication

1. Select menu `Settings` > `User administration`.

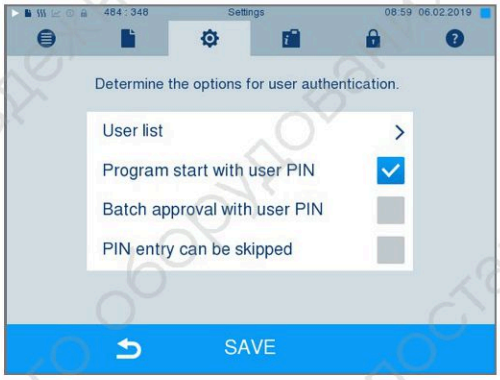


https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

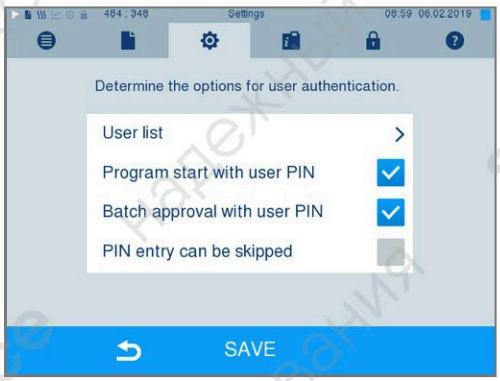
2. User administration menu and perform settings, LOGIN. In order to access the `User administration` menu and perform settings, enter the admin PIN (standard: 1000) and confirm with LOGIN. The display switches to window `User administration`.



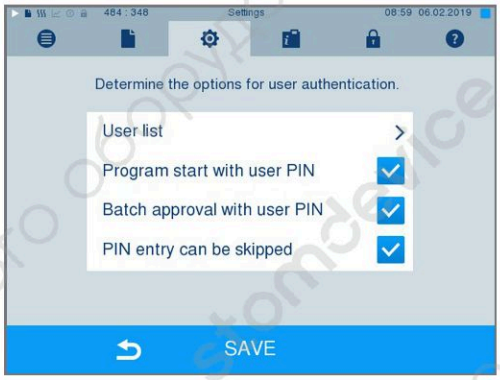
3. Set a checkmark next to `Program start with user PIN` to perform user authentication upon every program start. The program will start only after entry of the user PIN.



4. Set a checkmark next to `Batch approval with user PIN`, to perform user authentication upon every program end. The device door will open following program end only after the user PIN has been entered.



5. Set a checkmark next to `PIN entry can be skipped` to enable the user PIN query to be skipped.



➥ The user PIN query continues to be displayed before program start or after program end. Press the key ⏭ to skip the user authentication.

6. Accept all the settings with SAVE, then leave the menu.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

stomdevice

Formatting the CF card

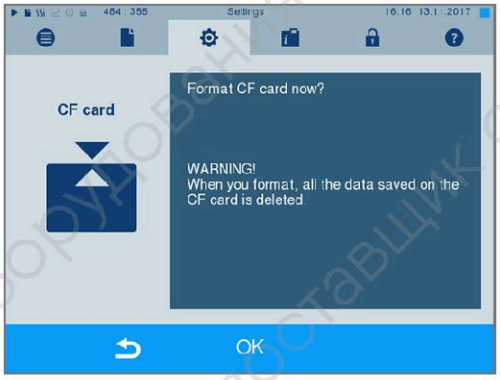
NOTICE

All data saved on the CF card is deleted during formatting.

- Check whether important data is stored on the CF card.
- Save any logs or other data on the computer or another memory medium.

1. Insert the CF card in the steam sterilizer card slot correctly (tangible raised bar on the edge pointing back right). Do not use force.

2. Select the `Settings` > `Format CF card`. The display switches to the corresponding window.



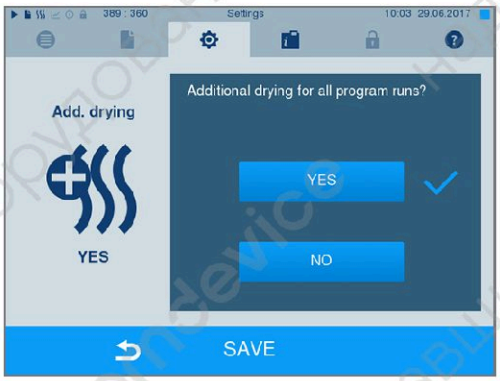
3. To start formatting, press the OK button. Confirm the security query with YES. You can remove the CF card as soon as formatting has been completed.

Additional drying

Selecting additional drying extends the drying time of conventional drying by 50 %. Activating intelligent drying restricts the criteria for ending the drying phase.

Activating/deactivating additional drying for all program runs

1. Select menu `Settings` > `Additional drying`. The display switches to the settings window.



2. Press pushbutton YES or NO to choose whether additional drying should be performed during all subsequent program runs.

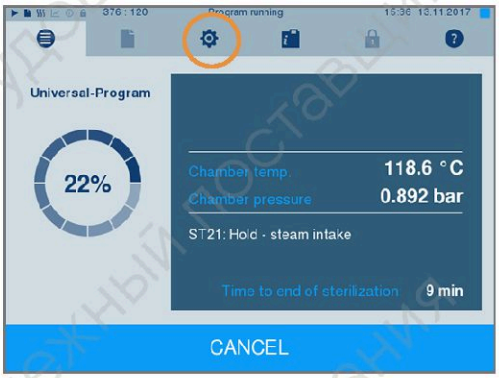
3. Confirm with SAVE.

Activating/deactivating additional drying for the current program run

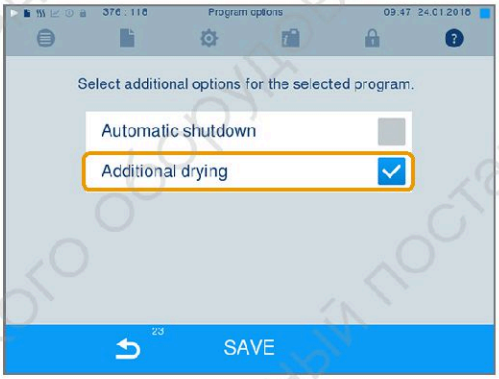
You can activate or deactivate additional drying exclusively for the current program during the program run and into the sterilization phase. The settings during the program run are not carried over for the subsequent program runs.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

1. Select the desired program.
2. Press START.
3. Select menu `Settings`. The display switches to the following window.



4. Place or remove the checkmark against option `Additional drying` and confirm with SAVE.



Intelligent drying

In contrast to a conventional time-controlled drying procedure, with which the duration of the drying phase is determined by the program, the duration of the intelligent drying is automatically calculated using the residual moisture in the sterilization chamber. A number of factors play a role in this process including e.g. the type of the load, wrapped or unwrapped, the load quantity, the distribution of the load in the sterilization chamber etc. Comply with the specifications in section Loading the steam sterilizer [▶ page 25].

Intelligent drying is activated in the delivery state. Should you wish to deactivate intelligent drying, proceed as follows:

1. Select menu `Settings` > `Device settings` > `Intelligent drying`. The display switches to the corresponding window.
2. If you wish to deactivate intelligent drying, select NO.



3. Confirm with SAVE.

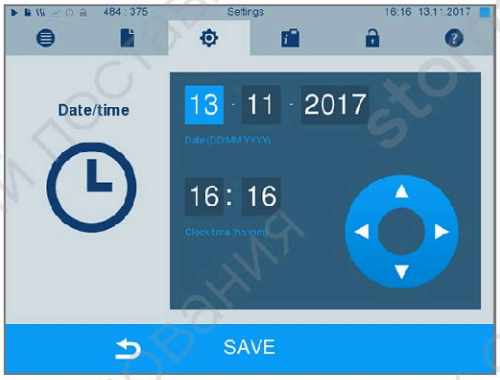
https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

stomdevice

Date and time

Correct batch documentation requires the correct date and time setting on the steam sterilizer. Ensure that you take into account the clock change in autumn and summer, as this is not adjusted automatically. Once the time has been set on the steam sterilizer, it is very accurate. Set the date and time as follows:

1. Select menu `Settings` > `Date & time`. The display switches to the settings window.



2. Select the parameters which you wish to change (day, month, year / hour, minute). The marked parameter is depicted light blue, here e.g. the day.
3. Change the respective value via the pushbuttons and . Repeat this step for all the parameters which you wish to change.
4. Confirm the changes with SAVE.

➥ The display will be restarted after saving and then changes automatically to menu `Programs & Tests`.

Brightness

1. Select menu `Settings` > `Brightness`. The display switches to the settings window.

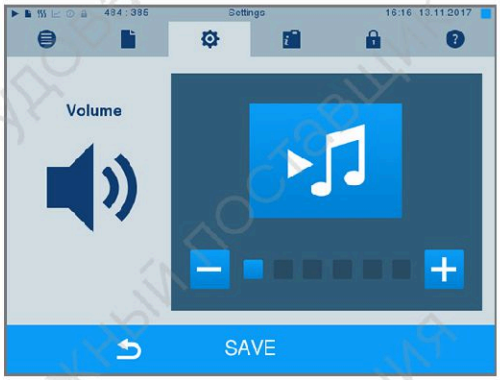


2. Press the pushbutton or to adjust the brightness and contrast on the display.
3. Accept all the settings with SAVE and then leave the menu.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

Volume

1. Select menu `Settings` > `Volume`. The display switches to the settings window.



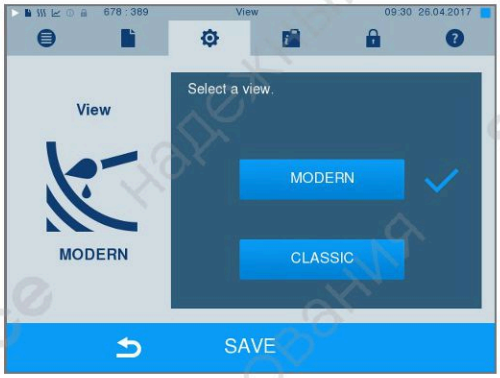
2. Press the − or − pushbutton to adjust the volume.
3. Accept all the settings with SAVE and then leave the menu.

View

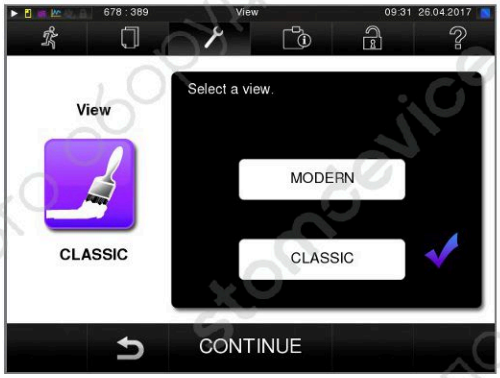
You can choose between classic and modern view.

Switching from MODERN to CLASSIC

1. Select the `Settings` > `View` menu. The display switches to the settings window.



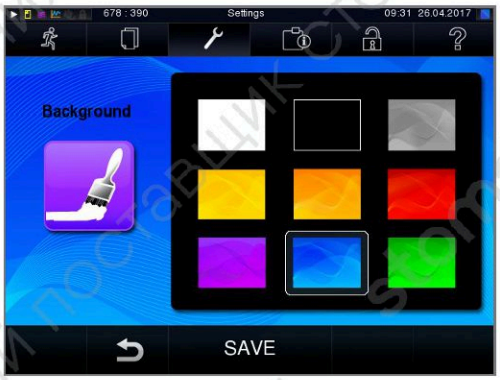
2. Press the CLASSIC button. The design changes immediately.



3. Press CONTINUE.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

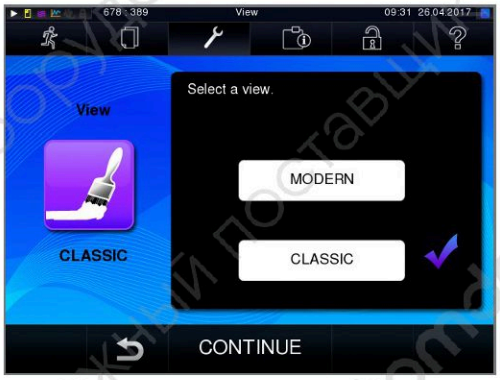
4. Tap on a colour box to change the background colour, e.g. blue. The background colour changes immediately and the white frame around the colour box shows which colour has just been selected.



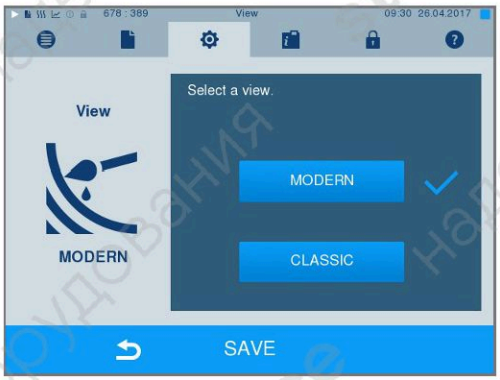
5. Confirm the settings with SAVE. The display changes automatically to the `Settings` menu.

Switching from CLASSIC TO MODERN

1. Select the `Settings` > `View` menu. The display switches to the settings window.



2. Press the MODERN button. The design changes immediately.



3. Confirm the settings with SAVE. The display changes automatically to the `Settings` menu.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

MELAconnect

MELAconnect serves for monitoring of the decontamination process deployed in your MELAG steam sterilizer on your mobile end device (e.g. smartphone, tablet).

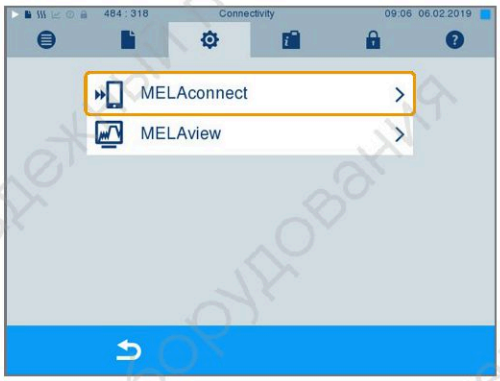
The following requirements must be fulfilled:

✓ *MELAconnect is installed on your mobile end device.*

✓ *You are in menu* `Settings` > `Connectivity`.

---

1. Select `MELAconnect`.



2. Open MELAconnect on your mobile end device.

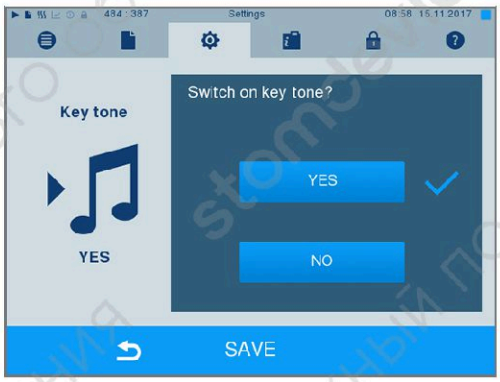
3. Follow the instructions in MELAconnect and read in the QR code to connect your device to MELAconnect. Alternatively, you can enter the IP address of your device in MELAconnect manually.



➥ With manual entry of the IP address: Owners of multiple steam sterilizers of the identical device type can differentiate between their devices by viewing serial number on the display to check whether MELAconnect has been connected to the correct device.

Key tone

1. Select menu `Settings` > `Key tone`. The display switches to the settings window.



2. Press YES or NO to determine whether a tone should be emitted every time a pushbutton is pressed. This can be deactivated at any time.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

stomdevice

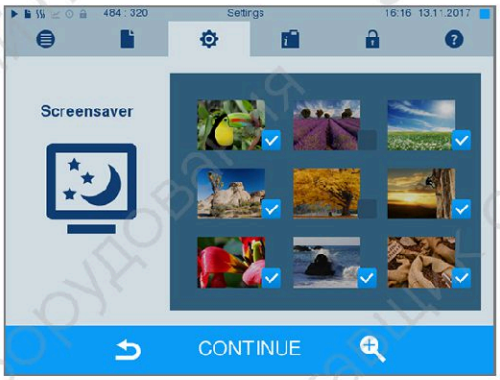
3. Accept all the settings with SAVE and then leave the menu.

Screensaver

A screensaver can be activated to protect the display in standby operation. This displays a continuous slide show of any pictures.

Selecting pictures for the slide show

1. Select `Settings` > `Screensaver`. The display switches to the settings window.



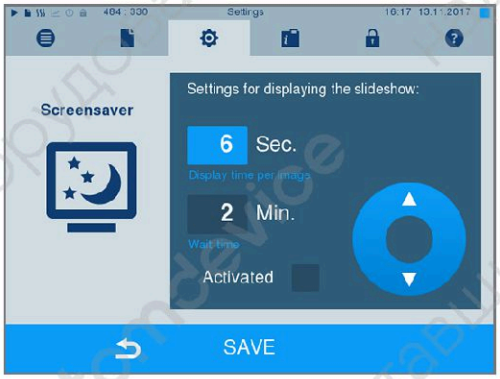
2. Tap on a picture to select it. The white frame around the picture indicates which picture is currently selected.
3. Repeated tapping on the picture selects/deselects it for the slide show.

   ➥ The checkmark on the lower right-hand corner ☑ indicates whether the picture has been selected for the slide show.
4. Press CONTINUE to make further settings.

Setting the display duration of the pictures and the waiting time of the slide show

Proceed as follows to alter one of the named options:

1. Select the parameter directly that you wish to change. The marked parameters are displayed light blue.



2. Change the respective parameter value via the ▼ and ▲ pushbuttons.
3. Confirm the settings with SAVE. The display switches automatically to the `Settings` menu.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

Explanation of the slide show options

Display duration per picture	Indicates the time in seconds between the display of two separate pictures.
Waiting time	Indicates how long the display remains in normal mode before the slide show starts.
Activated	Setting/unsetting the checkmark activates/deactivates the screensaver.

Log printer MELAprint 42/44

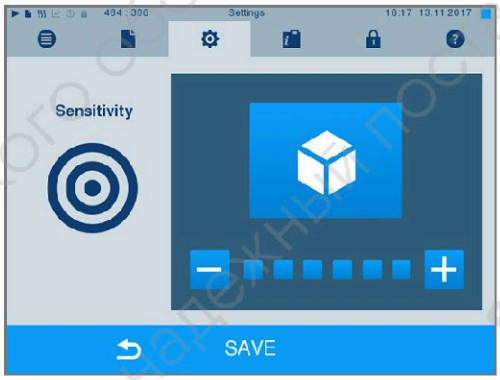
If you wish to output the sterilization log via the log printer MELAprint 42/44, you need to set this on the steam sterilizer once. The user manual of the log printer indicates how to set it up.

Label printer MELAprint 60

If you wish to output the sterilization logs via the label printer MELAprint 60, you need to set this on the steam sterilizer once. The user manual of the label printer indicates how to set it up.

Sensitivity

1. Select menu `Settings` > `Touchscreen sensitivity`. The display switches to the settings window.



2. You can determine the pressure required to activate a pushbutton using the − and − pushbuttons.
3. Accept all the settings with SAVE and then leave the menu.

Energy-saving mode

If the steam sterilizer is not be switched off during longer operating pauses, it can be operated in energy-saving mode. This reduces the time which is required in order to pre-heat the double jacket steam generator to the necessary start temperature after deactivation. Two waiting times can be set in energy-saving mode:

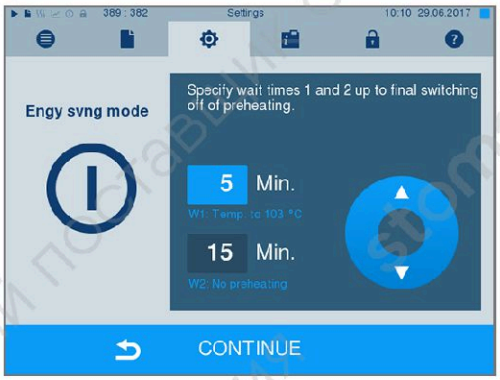
Waiting time 1 (W1): After a pre-set waiting time of 3 min, the temperature of the double jacket steam generator falls to 103 °C. The program run time increases by approx. 2 min upon the next start.

Waiting time 2 (W2): After a pre-set waiting time of 25 min (Cliniclave 45 D) und 40 min (Cliniclave 45 MD) the double jacket steam generator is no longer heated. Accordingly, the length of the program run time increases by approx. 5 min upon the next start, depending on the length of the operating pause, as the double jacket steam generator must first be pre-heated to the necessary start temperature.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

Setup of the energy-saving mode is described here:

1. Select the `Settings` > `Energy saving mode` menu. The display switches to the settings window.

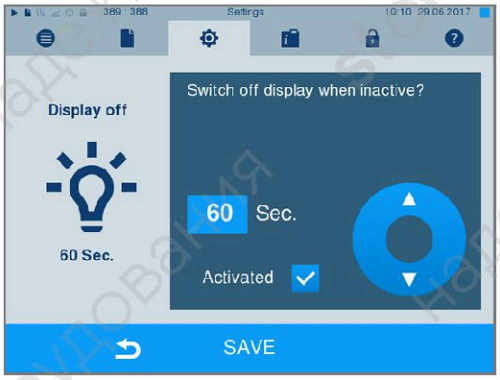


2. Select waiting time 1 directly by touching the minute. The area is displayed light blue.
3. Change the minutes using the  and  pushbuttons.
4. Repeat the steps for waiting time 2.
5. Press CONTINUE.

Switching off the display

Optionally, you can choose whether the display is to be switched off when the steam sterilizer is in energy-saving mode (waiting time 2).

1. Set the checkmark next to `Activated` and set the number of seconds after which the display is to be deactivated.



2. Confirm the settings with SAVE. The display switches automatically to the `Settings` menu.
3. You can switch the display back on by touching the screen.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

stomdevice

11 Maintenance

PLEASE NOTE

Perform the work on the loading and removal side of your device.

Servicing intervals

Interval	Measure	Device component
Weekly	Check for soiling, deposits or damage	Sterilization chamber inc. door seal and chamber sealing face, mount for the load
After 3 months	Greasing the locking spindle and door-lock nut	Door mechanism
After 4000 cycles, at the latest after 12 months	Maintenance	By the authorized customer services working in accordance with the maintenance instructions
As required	Cleaning the surfaces	Housing parts

Cleaning

NOTICE

Inappropriately performed cleaning can lead to the scratching of and damage to surfaces and the development of leaks in sealing surfaces.

This also favours the development of soiling deposits and corrosion in the sterilization chamber.

- Comply with all information regarding cleaning of the part affected.

Door seal, chamber, chamber sealing face, mount, trays

Check the chamber, chamber sealing face, the door seal and the mount for the load **weekly** for soiling, deposits or damage.

If you find any impurities, remove the trays, cassettes and mount from the chamber from the front. Clean the soiled components and the chamber.

When cleaning the chamber, load mount and chamber seal face and door seal, please comply with the following:

- Switch off the steam sterilizer before cleaning and remove the power plug from the socket.
- Ensure that the chamber is not hot.
- Use a soft, non-fuzzing cloth.
- First soak the cloth in the cleaning alcohol or spirit and attempt to wipe away impurities.
- Use a chlorine and vinegar-free cleaning fluid.
- Only if the chamber, mount or chamber sealing face has persistent soiling should you use a mild, non-scouring, stainless steel cleaning agent, with a pH value between 5 and 8.
- Use a neutral liquid cleaning agent to clean the door seal.
- You should not allow cleaning fluid to enter the piping coming from the chamber.
- Do not use any hard objects such as a metal saucepan cleaner or a steel brush.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

stomdevice

Replace a worn, porous or cracked door seal immediately:

1. Remove the door seal from the groove in the round blank.
2. Insert the new door seal into the groove at four points that are evenly distributed over the round blank.
3. Press the seal into the groove in each of the four quadrants. Ensure even distribution.

Housing parts

Where necessary, clean the housing parts with a neutral fluid cleaner or spirit.

Avoiding staining

Only proper cleaning of the instruments prior to sterilization enables you to avoid residue from being released from the load under steam pressure during sterilization. Loosened dirt residue can clog the filter, nozzles and valves of the steam sterilizer and deposit themselves on the instruments and chamber as deposits and stains.

All steam-conducting parts of the steam sterilizer consist of non-rusting material. This rules out the possibility of stain or rust development being caused by the steam sterilizer. Any rust which develops is always extraneous rust.

Incorrect instrument decontamination can result in the accretion of rust even on stainless steel instruments of leading manufacturers. Often, an instrument which drops rust can suffice to cause the development of rust on another instrument or in the steam sterilizer. Remove extraneous rust from the instruments using a chlorine-free stainless steel cleaning agent (see Cleaning [▶ page 69]) or send the damaged instruments to the manufacturer for treatment.

The extent of stain accretion on the instruments is also dependant on the feed water used for steam generation.

Greasing the door spindle

Grease the door spindle **every 3 months** as follows:

1. Clean the locking spindle and door-lock nut with a non-fuzzing cloth.

2. Grease the door lock nut in the steam sterilizer door and the locking spindle with the grease (use around a fingernail's width - approx. 0.5 ml) included in the scope of delivery. The grease will be distributed by the closing of the door.



https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

stomdevice

Maintenance

NOTICE

Continuing operation beyond the maintenance interval can result in malfunctions in the device.

- Maintenance should only be performed by trained and authorized service technicians or stockist technicians.
- Maintain the specified servicing intervals.

Regular maintenance is vital to ensure reliable operation and value retention of the steam sterilizer. All function and safety-relevant components and electrical units must be checked during maintenance and replaced where necessary. Maintenance must be performed in accordance with the pertinent maintenance instructions of the steam sterilizer.

Maintenance work is to be performed regularly in accordance with the 4000 program cycles but must be performed after 12 months. The steam sterilizer will issue a maintenance message at the relevant time.

Maintenance of the reverse osmosis unit

The conductivity of the feed water is measured automatically before every program run. If the water quality falls further, the display of the steam sterilizer will show the message `Poor feed water quality` a program start is however still possible.
If the water quality falls further, the display of the steam sterilizer will show the message `Feed water quality insufficient`. A program start is no longer possible. Perform punctual maintenance on your reverse osmosis unit to avoid device downtime.
Further information and detailed maintenance instructions are listed in the user manual of the reverse osmosis unit.

When in standby mode, the conductivity can also be measured manually in menu `Programs & Tests` (see Feed water quality [▸ page 49]).

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

stomdevice

12 Pause times

Frequency of sterilization

Pause times between the individual programs are not necessary, as the sterilization chamber is maintained permanently at the same temperature. After the end/abort of the drying time and removal of the sterile material, you can load the steam sterilizer again and start a new program.

Duration of the operating pause

Duration of the operating pause	Measure
Short pauses between two sterilization processes	▪ Keep the door closed to save energy ▪ Set the energy-saving mode correspondingly
Pauses which last longer than an hour	▪ Switch off the steam sterilizer
Longer pauses e.g. over night or the weekend	▪ Open the door and switch off the steam sterilizer ▪ Leave the door ajar to prevent premature wear and the sticking of the door seal ▪ Shut off the cold water inflow and if present, the water inflow of the water treatment unit
Longer than two weeks	▪ Perform a vacuum test ▪ After a successful vacuum test, perform an empty sterilization run in Quick-Program S

After pauses, perform the checks described in chapter Function tests [▶ page 48] depending on the length of pause.

Decommissioning

When decommissioning the steam sterilizer for a long pause (e.g. due to holiday), proceed as follows:

1. Empty the double jacket steam generator, see Emptying the double jacket [▶ page 72].
2. Switch off the steam sterilizer at the power switch.
3. Disconnect the power plug from the socket and if necessary, allow the steam sterilizer to cool.
4. Should the steam sterilizer need to be transported, wait until the container on the air gap has emptied automatically (approx. 10 min).
5. Close the water feed.
6. Shut off if present, the water inflow of the water treatment unit.

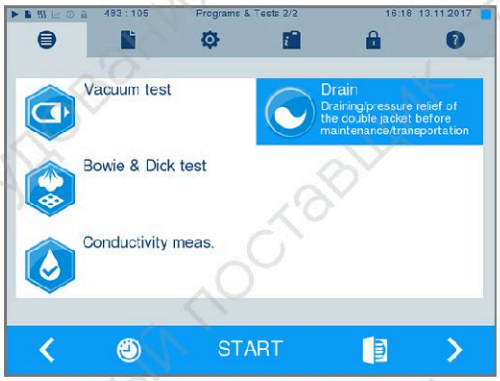
Emptying the double jacket

You have the option of draining the water in the double jacket steam generator easily via program Drain. In order to do so, the steam sterilizer is heated once, building up pressure in the double jacket so that the water can be drained fully from the double jacket steam generator.

1. Switch on the steam sterilizer at the power switch.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

2. Working in menu `Programs & Tests` select program Drain and press START.



3. Following notification `Draining successful` switch off the steam sterilizer, so that water is not fed into the double jacket.

Transport

CAUTION

Danger of injury from incorrect carrying.

Lifting and carrying too heavy a load can result in spinal injury. Failure to comply with these provisions can result in crushing.

- The steam sterilizer should be transported by min. 6 people.
- Transport the steam sterilizer using the carrying handles or transport bars included in the scope of delivery.
- Wear protective gloves and safety shoes when moving the steam sterilizer.

Preparing the steam sterilizer for transport

1. Decommission the steam sterilizer, see Decommissioning [▶ page 72]. **PLEASE NOTE**: It is not necessary to empty the steam generator when transporting the steam sterilizer within the practice (level ground).
2. Disconnect the outlet hose and inflow hose from the connections on the walls. Guide both hoses and the power cable into the floor unit.
3. Remove the casing panels from the loading and removal side of the partition wall (four casing panels per side).
4. Remove both plastic caps on the side wall of the loading side.
5. Screw two carrying handles onto the loading side.
6. Should you wish to leave the mounts and trays or cassettes in the sterilization chamber during transport, protect the surface of the round blank. To do so, place e.g. some foam or bubble wrap between the round blank and mount.
7. Close the steam sterilizer door before moving it.
8. Release the holding brake on the casters.
9. Remove the device on the loading side.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

stomdevice

Transport within the practice

Comply with the following provisions during transport within a room or the practice:

- Prepare the steam sterilizer for transport (see Transport [▶ page 73]).
- If necessary, screw on two further carrying handles on the removal side of the device.
- Use the casters to transport the device. It is not necessary to carry the device.
- Protect the practice floor from any damage from the weight of the device.
- Do not roll the steam sterilizer over any uneven surfaces or thresholds. Use the carrying handles to lift the device and comply with the specifications issued by your professional association regarding uneven floor surfaces or thresholds.

Transport over long-distance / dispatch

When transporting the steam sterilizer over long distances, between different floor levels or dispatching it, comply with the following:

- For transport over longer distances, during the danger of frost and/or for dispatch, an authorized technician must prepare the steam sterilizer in accordance with the instructions and empty the steam sterilizer and the air gap container completely (see Decommissioning [▶ page 72]).
- Use the casters to transport the device.
- Only carry the device in exceptional circumstances, e.g. between different floor levels without an elevator or for loading purposes within the scope of relocations. The steam sterilizer should be transported by min. 6 people. Comply with the specifications issued by your professional association.
- Only ever carry the steam sterilizer over short distances.
- Take appropriate measures to secure the steam sterilizer for dispatch. Consult your stockist or an authorized MELAG customer service provider.

Proceed as follows:

1. Prepare the steam sterilizer for transport (see Transport [▶ page 73]).
2. Empty the sterilization chamber.
3. Remove the carrying handles from both sides of the device.
4. If required, fit the transport bars instead. The spacers must sit between the side wall of the device and the transport bar.

PLEASE NOTE

Ordering further transport bars

If the device and floor unit are delivered separately, the transport bars will be included in the scope of delivery. Should you not be in possession of the requisite transport bars (e.g. loss or following delivery of your device as “complete dispatch”) you can order the transport bars (transport bar set for Cliniclave 45/45 M/45 D/45 MD, art. no. 82820). Consult your stockist or an authorized MELAG customer service provider.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

5. Fix the transport bars by screwing the four bolts tight using an open-end wrench (AF 19).



Recommissioning after relocation

When recommissioning after a move, proceed as with the first commissioning; see the technical manual.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

stomdevice

13 Malfunctions

Not all notifications on the display are malfunction messages. Warnings and malfunction messages are issued on the display with an event number. This number serves identification purposes.

	Nature of the display notification	Explanation
	Messages	A number of notifications are messages providing information. Messages are not malfunction messages or warnings. They support the operation of the steam sterilizer.
	Warnings	Warning messages are displayed when necessary. These contain instructions which apply to you, the operator. Warnings are not malfunction messages. They help to ensure malfunction-free operation and to recognize undesirable situations. Comply with these warnings early in order to avoid malfunctions.
	Malfunction messages	Malfunction messages are issued when it is not possible to ensure safe operation or safety of sterilization. These can appear on the display shortly after activating the steam sterilizer or during a program run. If a malfunction occurs during a program run, the program will be aborted. Aborting a program before the drying phase means that the load is unsterile. If necessary, repack the load and repeat the sterilization for the sterilization material affected.



WARNING

Danger of infection from early program abort

Aborting a program before the drying phase begins means that the load is unsterile. This endangers the health of your patients and practice team.

- If necessary, repack the load and repeat the sterilization for the sterilization material affected.

Before contacting customer services

Ensure that you have complied with all instructions relating to a warning or malfunction message issued on the display of the steam sterilizer. The following table contains a summary of the most important events. Should you be unable to find the relevant event in the table below, or your efforts do not redress the problem, you can contact your nearest stockist or an authorized MELAG customer service provider. To enable us to give the best possible service, please have your steam sterilizer serial number and a detailed description of the malfunction to hand.

Displaying events in MELAconnect

You can arrange for the direct transfer the warning and malfunction messages to your mobile end device using the MELAconnect app. Proceed as follows:

1. Press the key  of the notification to display the QR code.
2. Open MELAconnect on your mobile end device and navigate to the troubleshooting menu.
3. Activate the QR code symbol on your mobile end device.
4. Scan the QR code from the display of your steam sterilizer.

   ➥ The event and suggestions for the solution will be displayed on your mobile end device.

Alternatively, you can enter and search for the event number directly in MELAconnect.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

Messages

Event	Possible causes	What you can do
248	The vacuum test was performed, despite residual moisture in the chamber or with a load.	Repeat vacuum test, when steam sterilizer is cold and empty

Warning and malfunction messages

Event	Possible causes	What you can do
61	When using a MELAG water treatment unit: a) Residual air is in the feed system of the water treatment unit or after initial commissioning or after replacing the mixed-bed resin cartridge. b) The pressure tank of MELAdem 56/56 M has not been filled sufficiently and/or the tap on the pressure tank has not been opened completely.	a) Acknowledge the malfunction message and start the program repeatedly until the malfunction message is no longer displayed. b) Please note that after initial commissioning of a MELAdem 56/56 M it takes approx. 1 h until the pressure tank is sufficiently full with water. Check whether the tap on the pressure tank has been opened completely.
	When using a central water treatment unit: c) The central water supply has been interrupted or the flow pressure is insufficient.	c) Check whether inflow valves from the central system to the steam sterilizer are open. Arrange for an inspection of the flow pressure of the central water treatment unit via a flow pressure gauge (min. 0.5 bar at 5 l/min).
	When using an external water storage container: d) Air is located in the intake line from the storage container to the steam sterilizer. e) The suction filter of the external water storage container is blocked.	d) Check whether sufficient feed water is in the storage container; the end of the intake hose is submerged in water and that no air is being drawn in. Please note that the container may stand max. 1.5 m deeper than the steam sterilizer otherwise water cannot be drawn in. e) Check whether the filter in the external water storage container is soiled or blocked and clean if necessary.
63	Very poor feed water quality (conductivity ≥ 35 µS/cm). a) The mixed-bed resin cartridge, pre-filter or the activated carbon filter of MELAdem 56/56 M is exhausted. b) Poor quality of the feed water in the external water storage container.	a) Replace the mixed-bed resin cartridge and if necessary, the pre-filter and the activated carbon filter of MELAdem 56/56 M in accordance with the applicable user manual. **Please note:** The message may also continue to be shown after the filter has been changed until the water remaining in the pressure tank has been consumed. Start the draining program once or twice to flush the poor feed water from the pressure tank. The flushing of the pressure tank means that it can take up to 2.5 h for the tank to be filled and become ready. b) Drain and replace the feed water in the external water storage container.
64	see event 63	
65	see event 63	

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

stomdevice

Event	Possible causes	What you can do
67	The wastewater is unable to drain. a) The outlet hose is kinked or sags. b) The siphon or the building-side outlet line is blocked. c) The programs Quick-Program B and Quick-Program S are mainly used. These programs do not perform automatic flushing.	a) Check the installation of the outlet hose. It must be installed without kinking or sagging and at a constant decline. If necessary, tighten the outlet hose using the tensioning carriage on the underside of the steam sterilizer. b) Check whether the building siphon is blocked. **Please note:** If multiple devices are operated simultaneously, we recommend the installation of an additional siphon. c) Start another program e.g. Universal-Program, Gentle-Program or Prion-Program to perform the necessary flushing.
72	Poor feed water quality (conductivity ≥ 20 µS/cm). The mixed-bed resin cartridge, pre-filter or the activated carbon filter of MELAdem 56/56 M is exhausted.	Replace the mixed-bed resin cartridge and if necessary, the pre-filter and the activated carbon filter of MELAdem 56/56 M in accordance with the applicable user manual. **Please note:** The message may also continue to be shown after the filter has been changed until the water remaining in the pressure tank has been consumed. Start the draining program once or twice to flush the poor feed water from the pressure tank. The flushing of the pressure tank means that it can take up to 2.5 h for the tank can to be filled and ready.
73	see event 72	
74	see event 72	
75	see event 72	
76	see event 67	
81	a) The door was not pushed closed for long enough with sufficient force; as a result, the thread has become caught. b) The door spindle and/or the door lock nut have not been greased regularly and are dry.	a) Close and hold the door with force for approx. 3 s until the spindle engages in the door lock and the door is pulled in automatically. A motor sound is audible. b) Grease the door spindle and the door lock nut regularly with the grease included in the scope of delivery (see Maintenance [▶ page 69]).
82	a) There are objects in the door area. The door was blocked from outside during the opening process. b) A residual vacuum is present in the sterilization chamber. Pressure equalization has not been concluded. c) The door seal sticks to the seal face of the sterilization chamber.	a) Always keep the area in front of the door free so that it can open unhindered. b) 1. Wait 2 min and then acknowledge the message with OK. 2. Should the door not open independently, switch off the steam sterilizer, wait 5 min and then switch it back on. Try again to open the door. If the door does not open, inform the authorized customer services/stockist technician. c) If it has proven possible to open the door (e.g. using the manual door emergency-opening, see Manual door emergency-opening [▶ page 22]) clean the door seal and the seal face on the sterilization chamber (see Cleaning [▶ page 69]).

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

Event	Possible causes	What you can do
83	The door does not reach a pressure-tight state after the program start. a) The door seal and/or the seal face is soiled and or damaged. b) The load blocks the closing sequence. c) The closing mechanism is stiff.	a) Check the door seal and the seal face in the sterilization chamber for soiling, foreign bodies or damage. b) Check whether the load is blocking the door. c) Check the door spindle and the door lock nut for damage. Clean and grease the door spindle and the door lock nut with the grease included in the scope of delivery.
84	see event 82	
102	The wastewater cannot flow off. a) The outlet hose is kinked or sags. b) The siphon or the building-side outlet line is blocked, or multiple devices have been connected to a single siphon. c) The chamber filters are blocked.	a) Check the installation of the outlet hose. It must be installed without kinking or sagging and at a constant decline. b) Check whether the building siphon is blocked. **Please note:** If multiple devices are operated simultaneously, we recommend the installation of an additional siphon. c) Check whether the chamber filters (on the fixing points under the slide rail at the front and back) are soiled/blocked e.g. with packaging residue. If necessary, clean the chamber filters.
103	The sterile filter is soiled/blocked.	1. Check whether the sterile filter suction aperture (centre aperture) behind the service hatch of the steam sterilizer is blocked. If yes, replace the sterile filter. 2. If nothing can be recognized, remove the sterile filter and perform a program run without a load. If the program has been ended successfully, the sterile filter is blocked. In this case, replace the sterile filter.
104	see event 103	
113	a) The steam sterilizer was switched off at the power switch during a program run. b) The power plug has been disconnected or has not been connected correctly in the socket. c) Power outage in the building supply or the building-side RCD switch has tripped.	a) Never switch off the steam sterilizer at the power switch during a program run. b) Check whether the power plug is connected, the power cable has suffered damage or a loose contact or loose plug connections is the cause. Plug the power plug back into the mains socket. c) Arrange for an inspection of the building-side installation (e.g. automatic circuit breaker) and test the steam sterilizer at another socket or on another circuit.
114	see event 102	

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

stomdevice

Event	Possible causes	What you can do
124	a) The steam sterilizer is overloaded. b) The steam sterilizer was operated without a mount and the load (especially the textiles) come into direct contact with the chamber wall. c) The chamber filters in the floor of the sterilization chamber are blocked. d) The cooling water in the steam sterilizer is too warm.	a) Comply with the maximum permissible load quantities, see Loading the steam sterilizer [▶ page 24]. Perform a vacuum test if necessary (see Vacuum test [▶ page 48]. b) Always operate the steam sterilizer with a mount and comply with the loading information (see Loading the steam sterilizer [▶ page 24]). c) Check whether the chamber filters (on the fixing points under the slide rail at the front and back) are soiled/blocked e.g. with packaging residue. Clean the chamber filter if necessary. d) Check whether the inflow hose warms up during operation. If it does, check whether the hose has been connected to the warm water connection by mistake. **Please note:** In summer, a heat accumulation in the supply line can lead the water to warm up. Restart the program so that new, cold water is flushed.
125	see event 124	
126	see event 124	
127	see event 124	
131	see event 102	
132	The steam sterilizer is overloaded or the load has been arranged badly.	Comply with the maximum permissible load quantities, see Loading the steam sterilizer [▶ page 24]. Ensure that the load does not come into direct contact with or covers the steam injection nozzles.
133	see event 124	
135	a) The cooling water hose is kinked. b) The inflow filter in the Aqua-Stop of the inflow hose is blocked by soiling in the building supply. If a leakage water detector (water stop) is installed: c) The leakage water detector is without function. d) The inflow filter in the leakage water detector is blocked by soiling in the building supply.	a) Check the installation of the inflow hose. It must be installed without kinking and may not be crushed. b) Unscrew the inflow hose on the water inflow tap and check the inflow filter; clean it if necessary. c) Unplug the leakage water detector control device from the socket, wait approx. 30 s and plug it back in again. A switching noise on the leakage water valve (black box on the water inflow tap) must be audible. d) Clean the inflow filter in the leakage water detector valve as follows: 1. Close the water inflow tap and start a vacuum test. 2. Wait until the device displays a malfunction message and then switch it off. 3. Unscrew the leakage water detector valve on the water inflow tap and check the inflow filter; clean it if necessary.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

Event	Possible causes	What you can do
136	a) The ambient temperature of the steam sterilizer is too hot. b) The steam sterilizer is installed. The minimum clearances to the surrounding surfaces has not been maintained. c) The door was left open after loading or unloading and hot steam has escaped from the sterilization chamber. d) The filter in the base plate fan is soiled.	Switch off the steam sterilizer and allow it to cool for approx. 1 h. a) The ambient temperature must be below 40 °C. We recommend a maximum temperature of 26 °C. b) Maintain a minimum clearance to the surrounding surfaces (see information in the technical manual). c) Always close the door after loading or unloading. d) Check whether the fan filter in the steam sterilizer base plate is clogged and replace it if necessary.
175	The overheat control of the control heater on L1 (RHK1) has tripped. This notification may be issued in alternation with “E176: ACOUT 02 open”.	1. Switch off the steam sterilizer and push in fully the reset button RHK1 behind the service hatch of the steam sterilizer until a switching noise is audible. 2. Acknowledge the malfunction message. 3. Switch off the steam sterilizer and back on again and then perform an empty sterilization run if necessary. The steam sterilizer is now ready for operation.
176	The overheat control of the control heater on L1 (RHK1) has tripped. This message may be issued in alternation with “E175: ACOUT 01 open”.	1. Switch off the steam sterilizer and push in fully the reset button RHK1 behind the service hatch of the steam sterilizer until a switching noise is audible. 2. Acknowledge the malfunction message. 3. Switch off the steam sterilizer and back on again and then perform an empty sterilization run if necessary. The steam sterilizer is now ready for operation.
182	The mains voltage is too low, poor building voltage supply (e.g. undersized installation, defective socket, multiple devices on a single socket/fuse).	Arrange for an inspection of the building-side installation (e.g. automatic circuit breaker) and test the steam sterilizer at another socket or on another circuit.
183	see event 124	
186	see event 132	
187	see event 102	
203	No log output options have been set.	Check the configuration in the menu `Settings` > `Logging`.
204	The internal log memory is full.	Output the log saved in the steam sterilizer on any output medium or adapt the general output options in the `Settings` > `Logging` menu.
207	see event 203	
208	see event 204	
211	see event 204	

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

stomdevice

Event	Possible causes	What you can do
214	The steam sterilizer has not recognized the CF card; it cannot be read, it is full or it is damaged.	1. Check whether the CF card has been inserted correctly (do not insert under voltage). 2. Make sure that the CF card is not larger than 4 GB. 3. Check whether the write-protection has been set on the CF card by mistake. 4. Test the CF card on a computer. 5. Check whether the memory on the CF is full. If the memory is full, transfer the log files on the CF card to a computer and delete the files on the CF card. 6. Transfer the log files on the CF card to a computer and re-format the CF card in the steam sterilizer. 7. The CF card is defective or incompatible. It is possible that a non-MELAG CF card has been used. **Please note**: We recommend using only original MELAG CF cards.
215	see event 214	
218	The attempt was made to overwrite a write-protected log with a log of the same name.	1. Transfer the log file the CF card to another computer and delete the file from the CF card. 2. Insert the empty CF card in the card slot and enter the log again.
221	The CF card or a sub-directory of the CF card is full.	1. Transfer the present log files from the CF card to a computer. 2. Re-format the CF card in the steam sterilizer.
223	The CF card has not been recognized.	1. Transfer the present log files from the CF card to a computer. 2. Format the CF card in the steam sterilizer. 3. Try again.
224	see event 223	
228	see event 223	
229	The CF card was removed from the slot during a writing/reading action.	Never remove the CF card from the slot whilst it is being written or read. Insert the CF card in the card slot and repeat the procedure.
231	The CF card cannot be located/has not been inserted.	Check whether the CF card has been inserted correctly or insert it in the slot again. Upon repeated incidence, transfer the present log files from the CF card to a computer and format the CF card in the steam sterilizer and then try again.
232	see event 229	
236	File malfunction on the CF card	1. Transfer the present log files from the CF card to a computer. 2. Format the CF card in the steam sterilizer. 3. Try again.
237	The CF card has not been recognized.	Check whether the CF card is write-protected and remove the write protection. Upon repeated incidence, transfer the present log files from the CF card to a computer and format the CF card in the steam sterilizer and then try again.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

Event	Possible causes	What you can do
238	a) It is not possible to format the CF card because it is larger than 4 GB. b) The CF card is defective or incompatible. c) The CF card is write-protected.	a) Only use CF cards with max. memory size of 4 GB. b) 1. Attempt to format the CF card on the computer. 2. The CF card is defective or incompatible. It is possible that a non-MELAG CF card has been used. **Please note**: We recommend using only original MELAG CF cards. c) Disable the write-protection on the CF card.
240	The CF card has not been recognized.	Make sure that the CF card has been inserted in the slot correctly. Upon repeated incidence, transfer the present log files from the CF card to a computer and format the CF card in the steam sterilizer and then try again.
249	The door does not close. The door seal and/or the seal face is soiled.	Check and clean the door seal and seal face on the sterilization chamber for soiling, foreign bodies or damage (see Cleaning [▶ page 69]).
305	The connection cable behind the display is loose or has a loose contact.	Remove the display from the bracket and check whether the connection cable has been connected to the display correctly and has not suffered damage.
351	The maximum operating interval or the number of batches since initial commissioning or the last maintenance have been reached. Maintenance is necessary.	Arrange for maintenance with an authorized customer services/stockist technician. You can continue to operate the steam sterilizer until the maintenance.
353	The steam sterilizer was switched off too early after alteration of the settings.	Always wait until the alterations in the steam sterilizer have been fully accepted before switching off the steam sterilizer. This is indicated in the display by changing into the previous menu or through the start screen.
367	The internal malfunction log memory is full.	Ensure that the selected output media are suitable for your instruments and are ready. Working in the `Log output` menu, output the non-outputted logs.
377	An attempt was made to output logs via the log printer but a log printer is not connected.	Check whether the log printer has been connected correctly. If you do not wish to output any logs in the log printer, deactivate the log printer as an output medium (see Logging [▶ page 50]).
386	The internal program log memory is almost full.	Ensure that the selected output media are suitable for your instruments and are ready. Working in the `Log output` menu, output the non-outputted logs at the next opportunity.
397	a) The network cable has been disconnected or is damaged. b) The network cable is not compatible. c) The computer is not switched on. d) The network connection was not configured correctly. e) The documentation software on the computer was not started.	a) Check whether the network cable has been connected correctly or is damaged. b) Check whether a 1:1 network cable has been connected. A 1:1 network cable must be used for the direct connection between steam sterilizer and computer. c) Switch on the computer. d) Check the network settings (see Logging [▶ page 50]). e) Start the documentation software.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

stomdevice

Event	Possible causes	What you can do
402	The door is blocked and cannot be closed. a) The door seal and/or the seal face is soiled and or damaged. b) The load blocks the door area. c) The closing mechanism is stiff.	a) Check the door seal and the seal face in the sterilization chamber for soiling, foreign bodies or damage. b) Check whether the load is blocking the door. c) Check the door spindle and the door lock nut for damage. Clean and grease the door spindle and the door lock nut with the grease included in the scope of delivery.
407	see event 83	
408	a) The water inflow tap has not been opened or has been opened only insufficiently. b) The building water pressure is too low or fluctuates. c) The inflow filter is kinked. d) The inflow filter in the Aqua-Stop of the inflow hose or the leakage water detector (if present) is blocked by soiling in the building supply. If a leakage water detector (water stop) is installed: e) The leakage water detector is without function.	a) Open the water inflow tap completely and check whether the central water inflow tap is open. b) Check the pressure of the building water supply. The minimum flow pressure should amount to 1.5 bar at 8 l/min. c) Check the installation of the inflow hose. It must be installed without kinking and may not be crushed. d) Clean the inflow filter in the Aqua Stop of the inflow hose or the leakage water detector valve as follows: 1. Turn off the water inflow tap. 2. Switch off the steam sterilizer. 3. Unscrew the inflow hose or the leakage water detector valve on the water inflow tap and check the inflow filter; clean it if necessary. e) Unplug the leakage water detector control device from the socket, wait approx. 30 s and then plug it back in again. A switching noise on the leakage water valve (black box on the water inflow tap) must be audible.
414	The wastewater cannot flow off. a) The outlet hose is kinked or sags. b) The siphon or the building-side outlet line is blocked, or multiple devices have been connected to a single siphon. c) The chamber filters are blocked. d) The steam sterilizer is overloaded. e) The steam sterilizer has been operated without an insert rack.	a) Check the installation of the outlet hose. This must be installed without kinking or sagging and at a constant decline. b) Check whether the building siphon is blocked. **Please note:** If multiple devices are operated simultaneously, we recommend the installation of an additional siphon. c) Check whether the chamber filters (on the fixing points under the slide rail at the front and back) are soiled/blocked e.g. with packaging residue. Clean the chamber filters if necessary. d) Comply with the maximum permissible load quantities (see Loading the steam sterilizer [▸ page 25]). Perform a vacuum test if necessary (see Vacuum test [▸ page 48]). e) Only ever operate the steam sterilizer with an insert rack inserted.
416	see event 214	
417	see event 397	
428	see event 102	
434	Overheat on temperature sensor 2	1. Switch off the steam sterilizer and allow it to cool for 15 min. 2. Start it again. The steam sterilizer is now ready for operation. Should this repeat, please contact the service technician.
438	The steam sterilizer must be validated.	Arrange for validation of the steam sterilizer.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

Event	Possible causes	What you can do
439	see event 102	
457	The date or time was set incorrectly.	Check the date and time settings and correct if necessary (see Date and time [▸ page 62]).
458	a) The date or time was set incorrectly. b) The start time pre-selection timer has run down but the steam sterilizer was switched off at the time for which the start time was selected.	a) Check the date and time settings and correct if necessary (see Date and time [▸ page 62]). b) The steam sterilizer must be switched on at time for which the start time is selected.
465	a) The connection to the label printer has been interrupted. b) The label printer has not been switched on.	a) Check whether the power cable is connected to the socket and the Ethernet cable of the label printer is correctly connected with the steam sterilizer. b) Switch on the label printer. The power LED must illuminate green.
479	see event 397	
488	see event 457	
489	see event 136	
490	see event 136	
491	see event 136	
492	see event 136	
493	see event 136	
495	see event 408	
496	see event 408	
499	a) The shut-off valve of the MELAdem 56/56 M pressure tank is closed. b) Insufficient pressure in the pressure tank of the MELAdem 56/56 M (< 1 bar). c) Leak or kinked hoses in the feed water supply. d) The supply from an external feed water supply has been interrupted / the flow pressure is too low (e.g. central water treatment). e) Insufficient flow pressure on the cold water inflow of the MELAdem 56/56M. f) The water supply on the steam sterilizer is set to a pressureless water treatment unit, but a pressurized unit e.g. MELAdem 56/56 M, has been connected.	a) Connect the shut-off valve of the MELAdem 56/56 M pressure tank. b) Check the pressure on the manometer of the MELAdem 56/56 M. If the pressure is under 1 bar, leave the steam sterilizer activated until the pressure in the pressure tank has risen over 1 bar. The pressure pump of the MELAdem 56/56 M must function audibly. Do not switch off the steam sterilizer immediately after sterilization; leave it switched on for approx. 30 min. c) Check all the hoses of the feed water supply from the MELAdem 56/56 M to the steam sterilizer for leaks and kinks. d) 1. Check whether all the taps of the house water supply in the feed water line are open. 2. Check the flow pressure (min. 1 bar). e) Check the flow pressure of the house water supply using a flow pressure gauge (min. 0.5 bar at 5 l/min). f) If a MELAdem 56/56 M or another pressurized device is connected, check whether in the menu `Settings` > `Device settings` > `Water supply` the option `YES` has been selected.
500	see event 499	

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

stomdevice

Event	Possible causes	What you can do
543	a) The outlet hose is kinked, blocked or has insufficient tension. b) The outlet line is blocked. c) Multiple devices have been connected to a single siphon.	a) Check the installation of the outlet hose. It must be installed without kinking and may not be crushed. Depending on the device type and its position, the outlet hose must be stretched taught below the floor trough using a tensioning carriage. b) Check whether the building siphon is blocked. c) If multiple devices are operated simultaneously, we recommend the installation of an additional siphon.
545	a) The building fuse via residual current device has tripped. b) The power plug has been disconnected or has not been connected correctly in the socket. c) Malfunction in the electrical installation.	a) Switch the residual current device back on or replace it if necessary. b) Check whether the power plug is connected, the power cable has suffered damage, or a loose contact or loose plug connections is the cause. Plug the power plug back into the mains socket. c) Arrange for an inspection of the building-side installation (e.g. automatic circuit breaker) and test the steam sterilizer at another socket or on another circuit.
546	a) The building fuse L1 has tripped. b) The power plug has been disconnected or has not been connected correctly in the socket. c) Malfunction in the electrical installation.	a) Switch the fuse L1 back on or replace it if necessary. b) Check whether the power plug is connected, the power cable has suffered damage, or a loose contact or loose plug connections is the cause. Plug the power plug back into the mains socket. c) Arrange for an inspection of the building-side installation (e.g. automatic circuit breaker) and test the steam sterilizer at another socket or on another circuit.
547	a) The building fuse L2 has tripped. b) The power plug has been disconnected or has not been connected correctly in the socket. c) Malfunction in the electrical installation.	a) Switch the fuse L2 back on or replace it if necessary. b) Check whether the power plug is connected, the power cable has suffered damage, or a loose contact or loose plug connections is the cause. Plug the power plug back into the mains socket. c) Arrange for an inspection of the building-side installation (e.g. automatic circuit breaker) and test the steam sterilizer at another socket or on another circuit.
548	a) The building fuse L3 has tripped. b) The power plug has been disconnected or has not been connected correctly in the socket. c) Malfunction in the electrical installation.	a) Switch the fuse L3 back on or replace it if necessary. b) Check whether the power plug is connected, the power cable has suffered damage, or a loose contact or loose plug connections is the cause. Plug the power plug back into the mains socket. c) Arrange for an inspection of the building-side installation (e.g. automatic circuit breaker) and test the steam sterilizer at another socket or on another circuit.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

Event	Possible causes	What you can do
553	The vacuum pump has suffered a blockage e.g. following long shutdown periods.	A vacuum pump can be unblocked in the following fashion: 1. Acknowledge the malfunction message. 2. Switch off the steam sterilizer, disconnect the power plug and open the service hatch. 3. Insert a 6 mm Allen key into the opening to its fullest extent to effect an emergency turning of the vacuum pump. Insert until the key takes a grip and then turn it in both directions to free the blockage of the vacuum pump. Repeat until the Allen key can be turned easily. 4 Then remove the key again. 5. Close the service hatch, connect the power plug and switch on the device. The steam sterilizer is now ready for operation. Should this repeat, please contact the service technician.
576	see event 546	
577	see event 547	
578	see event 548	
579	see event 546	
580	see event 547	
581	see event 548	
589	see event 136	
590	see event 136	
591	see event 136	
593	see event 136	
594	a) The chamber fittings (pressure plate) in the sterilization chamber are soiled or covered. b) The condensate guard is slipped.	a) Check the sterilization chamber interior for packaging or soiling. The load should have no contact with the sterilization chamber. b) Check the position of the condensate guard in the sterilization chamber and correct the alignment. The condensate guard must sit directly below the temperature sensors.
595	see event 594	
596	see event 594	
597	see event 594	
598	see event 594	
599	see event 594	
629	An unpermitted feed water flow was detected.	Switch off the device and switch on again.
635	The label printer was selected as an output medium, but a label printer could not be located.	Check the configuration in the menu `Settings` > `Label printer`.
637	Label printer label roll exhausted.	Insert a new label roll in the label printer.
645	The log printer was selected as an output medium, but a label printer could not be located.	Check the configuration of the log printer in the menu `Settings` > `Log printer`.
646	a) The user name or password for log-in to the FTP server is incorrect. b) The user name or password for log-in to the FTP server has not been setup correctly.	a) Check whether the user name and password set on the steam sterilizer corresponds wit those set on the FTP server (see Settings [▶ page 50]). b) Check the FTP server settings and the connection to the steam sterilizer.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

stomdevice

Event	Possible causes	What you can do
651	a) The door on the removal side was not pushed closed for long enough with sufficient force; as a result, the thread has become caught. b) The door spindle and/or the door lock nut (removal side) have not been greased regularly and are dry.	a) Close and hold the door with force for approx. 3 s until the spindle engages in the door lock and the door is pulled in automatically. A motor sound is audible. b) Grease the door spindle and the door lock nut regularly with the grease included in the scope of delivery (see Maintenance [▸ page 69]).
652	a) There are objects in the door area on the removal side. b) A residual vacuum is present in the sterilization chamber. The pressure equalization has not been concluded. c) The door seal (removal side) sticks to the seal face of the sterilization chamber.	a) Always keep the area in front of the door free so that it can open unhindered. b) 1. Wait two minutes and then confirm the notification with OK. 2. Should the door not open independently, switch off the steam sterilizer, wait five minutes and then switch it back on. Try again to open the door. If the door does not open, inform the authorized customer services/stockist technician. c) If the door could be opened, clean the door seal and the seal face in the sterilization chamber (see Maintenance [▸ page 69]).
653	The door on the removal side does not reach a pressure-tight state after the program start. a) The door seal and/or the seal face (removal side) is soiled and or damaged. b) The load blocks the closing sequence. c) The closing mechanism (removal side) is stiff.	a) Check the door seal and the seal face in the sterilization chamber for soiling, foreign bodies or damage. b) Check whether the load is blocking the door. c) Check the door spindle and the door lock nut for damage. Clean and grease the door spindle and the door lock nut with the grease included in the scope of delivery.
654	see event 653	
655	see event 652	
692	see event 132	
693	see event 132	
694	see event 132	
900	System state is incorrect	Switch the device off and then on again.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

14 Technical data

Device type	Cliniclave 45 D
Device dimensions (H x W x D)	158 x 65 x 101 cm
Empty weight	298 kg | 316 kg inc. MELAdem 56
Operating weight[1)]	335 kg | 373 kg inc. MELAdem 56
Max. floor loading (hydraulic pressure test)[2)]	465 kg | 116.3 kg per caster
Max. operating pressure	2.7 bar
Permissible working pressure	2.2 bar
Permissible working temperature	136 °C
Sterilization chamber	
Chamber diameter/depth	Ø 44 cm | 74 cm
Packing space	1 StU
Chamber volume	110 l
Electrical connection	
Electricity supply	Star connection: 3x380-415 V + N + PE, 16 A, 50/60 Hz Delta connection: 3x220-240 V + PE, 32 A, 50/60 Hz
Electrical power	10.5 kW
Building fuses	Star connection: 3x16 A, RCD 30 mA Delta connection: 3x32 A, RCD 30 mA
Degree of air pollution (in accordance with EN 61010-1)	2
Overvoltage category (in accordance with EN 61010-1)	II
Length of the power cable	max. 1.6-1.9 m from floor unit (depending on connecting side)
Ambient conditions	
Installation location	Interior of a building
Noise emission	72 dB(A)
Heat emission (with max. load)[3)]	1.4 kW
Ambient temperature	5-40 °C (ideal range 16-26 °C)
Degree of protection (following IEC 60529)	IP20
Relative humidity	max. 80 % at 31 °C, decreases in a linear fashion up to max. 50 % relative humidity at 40 °C
Max. altitude	star connection: 3000 m | delta connection: 4000 m
Cold water connection	
Min. flow pressure	1.5 bar at 8 l/min
Max. water consumption	8 l/min
Max. static water pressure	10 bar
Water quality	drinking water, water hardness 4-12 °dH (in accordance with EN 285)
Feed water connection	
Min. flow pressure	0.5 bar at 5 l/min
Max. water consumption	5 l/min
Max. static water pressure	5 bar
Water quality	EN 285, Appendix B, table B.1

[1)] This applies for an operational device filled with water. Depending on the load, it can increase by up to 40 kg.
[2)] When using a MELAdem 56, an additional weight of 33 kg (8.25 kg per caster) must be taken into account.
[3)] This applies to a maximum, solid load and with an opened door.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

stomdevice

Device type	Cliniclave 45 D
Wastewater connection	
Max. flow rate	short-term max. 9 l/min
Wastewater temperature	short-term max. 90 °C

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

Device type	Cliniclave 45 MD
Device dimensions (H x W x D)	158 x 65 x 163 cm
Empty weight	384 kg | 409 kg inc. MELAdem 56 M
Operating weight[4)]	435 kg | 488 kg inc. MELAdem 56 M
Max. floor loading (hydraulic pressure test)[5)]	675 kg | 168.8 kg per caster
Max. operating pressure	2.7 bar
Permissible working pressure	2.2 bar
Permissible working temperature	136 °C
Sterilization chamber	
Chamber diameter/depth	Ø 44 cm | 136 cm
Packing space	2 StU
Chamber volume	205 l
Electrical connection	
Electricity supply	Star connection:3x380-415 V + N + PE, 32 A, 50/60 Hz Delta connection: 3x220-240 V + PE, 63 A, 50/60 Hz
Electrical power	13.5 kW
Building fuses	Star connection: 3x32 A, RCD 30 mA Delta connection: 3x63 A, RCD 30 mA
Degree of air pollution (in accordance with EN 61010-1)	2
Overvoltage category (in accordance with EN 61010-1)	II
Length of the power cable	max. 1.8-2.1 m from floor unit (depending on connecting side)
Ambient conditions	
Installation location	Interior of a building
Noise emission	72 dB(A)
Heat emission (with max. load)[6)]	2.0 kW
Ambient temperature	5-40 °C (ideal range 16-26 °C)
Degree of protection (following IEC 60529)	IP20
Relative humidity	max. 80 % at 31 °C, decreases in a linear fashion up to max. 50 % relative humidity at 40 °C
Max. altitude	star connection: 3000 m | delta connection: 4000 m
Cold water connection	
Min. flow pressure	1.5 bar at 8 l/min
Max. water consumption	8 l/min
Max. static water pressure	10 bar
Water quality	drinking water, water hardness 4-12 °dH (in accordance with EN 285)
Feed water connection	
Min. flow pressure	0.5 bar at 5 l/min
Max. water consumption	5 l/min
Max. static water pressure	5 bar
Water quality	EN 285, Appendix B, table B.1
Wastewater connection	
Max. flow rate	short-term max. 9 l/min
Wastewater temperature	short-term max. 90 °C

[4)] This applies for an operational device filled with water. Depending on the load, it can increase by up to 80 kg.
[5)] When using a MELAdem 56 M, an additional weight of 42 kg (10.5 kg per caster) must be taken into account.
[6)] This applies to a maximum, solid load and with an opened door.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

stomdevice

15 Accessories

You can obtain the specified articles and an overview of further accessories from your stockist.

Category	Article	Art. no.	
		45 D	45 MD
Mounts	Tray mount for 2 instrument baskets (1/2 StU) or 4 trays (1/4 StU)	04522	
Package holder	Package holder, short, 18.4 x 28 x 8.7 cm	22410	
	Package holder, long, 18.4 x 37 x 8.7 cm	22420	
Instrument baskets and trays	Instrument basket (1/2 StU), 19 x 29 x 4 cm	00260	
	Tray large (1/4 StU), 31 x 59 x 5 cm	04520	
MELAstore System	MELAstore Tray 50, 18 x 11.8 x 3 cm	01180	
	MELAstore Tray 100, 27.5 x 17.6 x 3 cm	01181	
	MELAstore Tray 200, 27.5 x 17.6 x 4.3 cm	01182	
	MELAstore Box 100, 31.2 x 19 x 4.6 cm	01191	
	MELAstore Box 200, 31.2 x 19 x 6.5 cm	01192	
Loading system	Slide rail “Basic”	04523	04524
	Slide rail “Comfort”	85920	85930
	Loading trolley	01145	
	Loading hook	28887	
	Batch slider	04521	
Test body system	MELAcontrol consisting of a Helix test body and 250 indicator strips	01080	
	MELAcontrol PRO consisting of a Helix test body and 40 indicator strips	01075	
Water treatment	MELAdem 56 reverse osmosis unit	11056	--
	MELAdem 56 M reverse osmosis unit	--	11057
For the documentation	MELAflash CF card	01043	
	MELAflash card reader	01048	
	MELAprint 60 label printer	01160	
	Network cable (1:1), 2,5 m	15817	
	Network cable (1:1), 5 m	15811	
	MELAtrace documentation software	21138	
	MELAprint 44 log printer	01144	
	Ethernet adapter for MELAprint 42/44	40295	
Other	Water stop	01056	
	¾“ water inflow tap with safety combination	37310	
	Surface-mounted siphon	37410	
	Installation set	09027	

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

Glossary

AKI

AKI is the abbreviation for “Arbeitskreis Instrumentenaufbereitung”

Authorized technician

The term “authorized technician” refers to an employee of a customer service provider or stockist who has been trained and authorized by MELAG to perform maintenance and installation work on MELAG devices. Only they may carry out this work.

Batch

The batch is the composition of items which has been subject to the same decontamination procedure.

BGV A1

BGV is the abbreviation for Berufsgenossenschaftliche Vorschriften (regulations from a professional association). A1 stands for principles of prevention

Bowie & Dick test

Steam penetration test with a standard test package; described in EN 285; the test is recognized in the large-scale sterilization industry.

CF card

The CF card is a memory medium for digital data; Compact Flash is an official standard, i.e. these memory cards can be used in every device fitted with the corresponding slot. The CF card can be read by every device that supports the standard and where necessary, written on.

Condensate

Fluid (e.g. water) produced by the cooling of and resultant separation from the vaporous state.

Conductivity

Conductivity refers to the ability of a conductive chemical material or mixture to conduct or transfer other materials or particles.

Corrosion

The chemical alteration or destruction of metal materials by water and chemicals

Delay in boiling

This refers to the phenomenon that it is possible under certain circumstances to heat a fluid beyond its boiling point without them boiling. This represents an unstable state; even low-level agitation can produce a large bubble within the shortest period, which expands explosively.

Demineralized water

Water without the minerals usually found in normal spring or tap water; is produced through ion exchange of normal tap water. It is used here as feed water.

DGSV

Abbr.: Deutsche Gesellschaft für Sterilgutversorgung (German Society German Society for Sterile Supply). The DSGV training centres are specified in DIN 58946, part 6 as "Requirements of personnel".

DIN 58946-7

Standard – sterilization - steam steam sterilizers - part 7: Building requirements and requirements placed on the operating agents and the operation of steam sterilizers in the health-care branch

DIN 58953

Standard – sterilization, sterile equipment supply

DIN EN 867-5

Standard – non-biological systems for use in sterilizers – part 5: The determination of indicator systems and test bodies for the performance inspection of type B and type S small sterilizers.

Distilled water

From the Latin aqua destillata; also referred to as aqua dest; water which to a great extent is free from salts, organic material and micro-organisms, is produced from normal tap water or pre-cleaned water through the process of distillation (evaporation and subsequent condensation). It is used here as feed water.

Double jacket steam generator

Serves the quick generation of steam outside the sterilization chamber, surrounds the sterilization chamber

EN 285

Standard – Sterilization – Steam sterilizers – large sterilizers

EN ISO 11607-1

Standard - packaging for medical devices to be sterilized in the final packaging - Part 1: Requirements placed on materials, sterile barrier systems and packaging systems

Evacuation

Creation of a vacuum in a vessel

Feed water

Feed water is required to produce steam for sterilization. Guide values for water quality in accordance with EN 285 / EN 13060 – Appendix C

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

stomdevice

Fractionated vacuum procedure
A technical procedure in steam sterilization; the repeated evacuation of the sterilization chamber in alternation with steam injection.

FTP
Abbr.: (File Transfer Protocol) is a data transmission procedure serving to transport data from the internet. This data can include programs, files or even information. Special FTP programs (FTP clients) serve to load the data onto a server.

Heat-up phase
The time required after the steam sterilizer has been switched on / after the start of a sterilization program, to heat the double-jacket steam generator before the sterilization procedure starts. The duration is dependent on temperature at which sterilization takes place.

Mixed loads
wrapped and unwrapped sterilization material within a single load

Multiple wrapping
e.g. wrapped instruments sealed in a double layer of film or wrapped in film and placed in an additional container or a container wrapped in textiles.

Porous
Pervious to liquids and air, e.g. textiles

Process evaluation system
Also known as the self-monitoring system – this observes itself and compares the various sensors during a current program.

RKI
Abbreviation "Robert Koch Institute". It is one of the most important bodies for the safeguarding of public health in Germany.

Soft sterilization packaging
e.g. a paper bag or transparent sterilization packaging

Sterile barrier system
A closed minimum packaging which prevents the entrance of micro-organisms e.g. through sealing bags, sealed and re-usable containers and folded sterilization towels etc.

Sterile material
Also referred to as a batch: a load which has already been sterilized, i.e. is sterile

Sterilization chamber
The interior of a sterilizer accommodates the sterilization material

Sterilization material
Unsterile, sterilizable material which is still to be sterilized.

TCP
Abbr.: Transmission control protocol: refers to a standard protocol for connecting computers and networks.

Vacuum
In common parlance, an area devoid of all material
In the technical sense: volumes with a reduced gas pressure (at least air pressure)

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

stomdevice

MELAG Medizintechnik GmbH & Co. KG

Geneststraße 6-10
10829 Berlin
Germany

Email: info@melag.com
Web: www.melag.com

Original instructions

Responsible for content: MELAG Medizintechnik GmbH & Co. KG
We reserve the right to technical alterations

Your stockist

BA_Cliniclave_45D_45MD_10046_10049_EN.pdf | Rev. 6 - 21/0095 | Modification date: 2021-01-26

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ