

SONOPULS LS 40

Sound proof box



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General

The device and the accessories are to be used in accordance with the user instructions and/or the product information.

The instructions are part of the scope of delivery and are to be stored in the vicinity of the device for later reference. This also applies if possession of the device is transferred elsewhere.

Before the device is put into operation, these instructions are to be read carefully and completely in order for the user to become familiarised with all functions.

Follow warnings and safety instructions (Chapter 1.5) at all times while using the device.

The manufacturer will not assume any responsibility for the device's safety or functional ability in the event of improper handling or usage contrary to the intended purpose. Unauthorised alterations/modifications will render both the warranty claim and the CE conformity null and void.

If service is required, please contact the authorised dealer or the manufacturer.

Symbols used:

Symbol	Meaning	Explanation
	Danger	Denotes information which, if not observed, could pose a risk to life and limb, especially as a result of electric shock.
	Caution	Denotes information that must be observed and complied with in order to prevent damage to the device or injury to the user. When device parts are labelled with this symbol, reference must be made to the documentation.
	Important	Identifies information that is important for implementation.
	Note	Identifies explanatory information.
	Instructions	Identifies instructions that must be followed in the described sequence.

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1 Product description

The SONOPULS sound proof box LS 40 consists of a body (1) with a door (2), the drip tray (6) and the perforated plate (5).

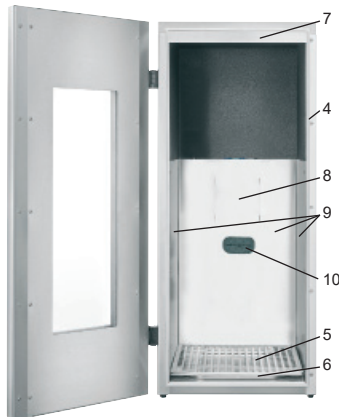
The type specification and serial number are found on the type plate on the rear.

Product features:

- (1) Body
- (2) Door with acrylic glass window
- (3) Handle
- (4) Seal
- (5) Perforated plate, removable
- (6) Drip tray, removable
- (7) LED interior lighting
- (8) Ventilation system
- (9) Splash guard
- (10) Opening for hoses and cables, with sealing plug
- (11) Rubber feet
- (12) Connection for power supply
- (13) Push button to switch the light and ventilation system on and off
- (14) Power supply



Sound proof box
front



Sound proof box
open



Sound proof box
rear side



Power supply (14)

1.1 Mode of operation

The sound proof box is lined with a sound-absorbing insulating material to significantly dampen the sound emitted inside. A splash guard protects the insulating material from undesired splashing or contamination.

The door, which is also lined with insulating material, is reliably closed with a magnetic closure mechanism and a seal on the box body. The double-glazed acrylic glass window allows observing of processes inside the sound proof box.

Integrated LED interior lighting provides additional improvement of process monitoring. Process-related moisture formation is minimized by the ventilation system.

Splash water and spilled sample fluids are collected in the drip tray. For a necessary cleaning the drip tray can be removed. The perforated plate above the drip tray enables a stable positioning of the stand or sample vessels.

1.2 Intended purpose

The SONOPULS sound proof box is used for general noise reduction of a variety of noise producing equipment, for example in laboratories. Amongst other things, the sound proof box can be used to reduce noise when using the SONOPULS ultrasonic homogeniser.

Application example:

SONOPULS ultrasonic homogeniser HD 4200 with stand HG 40 and rosette cell RZ 3 in the sound proof box LS 40



1.3 CE conformity

The SONOPULS sound proof box is a general laboratory device and complies with the criteria for the CE-mark of the European Union:

- Low-voltage directive
- Electromagnetic compatibility directive
- RoHS directive

in their currently valid versions.

A declaration of conformity can be requested from the manufacturer by providing the serial number.

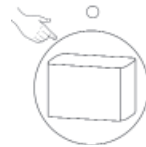
1.4 Technical data

The SONOPULS sound proof box LS 40 is interference-free and CE-marked.

Safety: EN 61010-1;

EMC: EN 61326-1

Mains supply:	100-240 V~ ($\pm 10\%$) 50/60 Hz, with separate power supply
Housing:	stainless steel AISI 304 (1.4301)
Splash guard:	stainless steel AISI 304 (1.4301)
Drip tray:	stainless steel AISI 304 (1.4301)
Perforated plate:	stainless steel AISI 304 (1.4301)
Insulation:	ester-acoustic foam
External dimensions:	445 × 515 × 1000 mm (L×W×H)
Internal dimensions:	350 × 310 × 880 (L×W×H)
Noise level reduction:	approx. 30 dB (AU)
Weight:	30 kg
Protection class:	III
Serial number (SN):	see type plate
Degree of protection:	IP 2X pursuant to EN 60529



Protected to prevent fingers from accessing dangerous parts.

Protected against solid foreign bodies with a diameter of 12 mm or larger.

Ambient conditions pursuant to EN 61 010-1

Overvoltage category:	II
Degree of contamination:	2
Permissible ambient temperature:	5 to 40 °C
Permissible relative humidity up to 31 °C:	80%
Permissible relative humidity up to 40 °C:	50%
Altitude:	up to 2000 m above sea level
No condensation allowed.	
For indoor operation only.	

1.4.1 Electromagnetic compatibility (EMC)

The device has been checked for electromagnetic compatibility (EMC) in accordance with DIN EN 61326-1 and meets the requirements for Class B devices in accordance with EN 55011.

It is suitable for use in institutions and other areas that are directly connected to a public low-voltage power supply, e.g., medical laboratory facilities.

1.5 Warnings and safety instructions

General

- Keep the sound proof box out of the reach of children and persons who have not been instructed in its operation by reference to these instructions.
- A warranty for the sound proof box will not apply to damage caused by the use of unsuitable disinfection agents or detergents.
- Keep the surface of the sound proof box and operating elements clean and dry.
- Do not expose the sound proof box to corrosive effects.
- The sound proof box should only be transported empty and by multiple people.
- The sound proof box is in compliance with prescribed EMC limit values, so it can be assumed that the electromagnetic radiation emanating from the units is harmless to humans. A binding statement for wearers of implants can only be made at the place of work and together with the implant manufacturer. In case of doubt, information regarding the allowable electromagnetic exposure level should be obtained from the implant manufacturer.
- The door should only be opened/closed using the handle provided.
- The ventilation system should not be covered/closed.
- Nothing should be inserted into the ventilation system and the fan should not be blocked.
- Caution: Magnetic field!
For the closure mechanism, both the door and the body of the sound proof box contain neodymium permanent magnets. Magnets can influence the function of pace makers and implanted defibrillators. It is recommended that people with devices of this type maintain a safe distance of at least 15 cm away from the aforementioned parts. For devices and items that may be damaged by magnetic fields, such as bank cards, hard drives, mechanical watches, hearing aids etc., a safety distance of at least 25 cm is recommended.

Operation

- Observe ambient and set-up conditions, see section 1.4.
- Only plug in the power supply to an outlet with an earthed socket.
- Do not leave the sound proof box running while unattended.
- Only operate the sound proof box with the power supply enclosed.
- During use of the sound proof box, both the lighting and the ventilation system should always be switched on.

Damage

- If the sound proof box or the power supply is damaged, the sound proof box should not be operated.
- In case of defects, disconnect the mains plug immediately.
- Repairs may only be conducted by authorised skilled personnel or by the manufacturer.
- Defective parts may only be replaced with original parts.
- In the case of a damaged power supply or mains cable, the power supply should not be connected to the mains.

2 Preparation

Carefully unpack the sound proof box and accessories and inspect them for completeness or possible transportation damages. Any identified damage or defects must be communicated immediately to the responsible forwarding agent and the supplier in writing.

Before commissioning, the sound proof box should be allowed to stand for 2 hours at its installation site to allow it to adjust to ambient conditions.

2.1 Scope of delivery

- 1 sound proof box
- 1 drip tray
- 1 perforated plate
- 1 power supply
- 1 country-specific mains cable
- 1 non-slip mat
- 1 sealing plug
- 1 instructions for use

Additional accessories as ordered – see delivery note

2.2 Installation / assembly



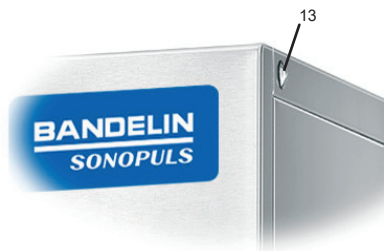
Caution!

- The sound proof box is too heavy to be set up by a single person. The sound proof box should always be unpacked and positioned on a suitable base by two people.
 - Due to its weight, the sound proof box is not suitable for being repositioned every day. It should be positioned permanently.
 - The sound proof box should be set up so that disconnection of the mains connection is easily possible.
-
- Place the sound proof box atop a firm, horizontal and dry surface. In doing so,
 - Note the weight of the sound proof box including accessories.
For net weight, see technical data in section 1.4.
 - Do not cover the opening on the rear.
 - Caution, risk of electric shock: Protect the power supply from moisture and wetness.
 - Connect the sound proof box to the power supply.
 - Connect the power supply to the mains (grounded socket).

2.3 Commissioning

- Conduct function test: Activate lighting and ventilation system by pressing the push button.
- Place the perforated plate on the bottom of the sound proof box and slide the drip tray below.

3 Operation



13 Push button ON / OFF

The lighting and ventilation system of the sound proof box are switched on/off using the push button.



Note

The sound proof box can remain connected to the mains power while switched off the push button.

It can be disconnected from the mains by pulling the mains plug out (power supply).

4 Application

4.1 Instructions for use



- Do not use any combustible, explosive, non-aqueous liquids or azeotropic mixtures directly in the sound proof box (e.g. benzine, solvents). Combustible vapours can endanger the operational safety of devices in the sound proof box, for example, the ultrasonic converter when using the SONOPULS homogeniser, particularly if the ventilation system is switched off.



- When working with aggressive samples in the sound proof box: Prevent splashing on the stainless steel surfaces or clean and dry the surfaces afterwards.



- When using preparations, the safety instructions in the respective product information must be strictly followed.
- For processes that could result in splashing/leakage of liquids, always use the included drip tray and perforated plate to prevent damage to the sound proof box.

4.2 General use

- Open the door of the sound proof box completely.
- Place the perforated plate on the bottom of the sound proof box and slide the drip tray below.
- Position the noise source and required work materials in the sound proof box. Guide the connection lines for the noise source through the rear opening in the body of the sound proof box. Close the opening with the included sealing plug. If required, use the non-slip mat or similar.
- Close the door of the sound proof box.
- Switch on the lighting and ventilation system using the push button. Check that the noise source and work materials are easily viewed/monitored from outside.
- Only now put the noise source into operation.
- After work is complete, switch off the noise source.
- Completely open the door of the sound proof box and remove the noise source or work materials from the box.
- Discharge the drip tray if required.
- To prevent the accumulation of moisture, keep the lighting and ventilation system switched on for approximately 5 more minutes with opened door.
- Switch the sound proof box off using the push button.

4.3 Application with SONOPULS ultrasonic homogeniser and stand HG 40

Operation follows the general procedures described in section 4.2, with the following supplements:

- Depending on application, prepare the stand HG 40 for operation, e.g. by assembling an additional holder WH 40 or the supporting table AT 40.
- Place the ultrasonic converter of the homogeniser into the holder(s) of the stand. Place both on the perforated plate in the sound proof box. Guide the connection lines of the ultrasonic converter through the rear opening in the body of the sound proof box. If required, insert additional tubes/devices/sensors into the sound proof box and connect appropriately. Close the opening with the included sealing plug.
- Place the sample vessels on the perforated plate or the supporting table AT 40 of the stand HG 40. If required, use the non-slip mat or similar.

5 Cleaning and maintenance

Cleaning and maintenance should be performed regularly to maximise the optimal life span of the sound proof box.

CAUTION!



Always disconnect the sound proof box from the mains before performing cleaning/maintenance.



Do not rinse or immerse the sound proof box with or in water and do not expose it to splashing water.

No warranty is given for damage caused by the use of unsuitable surface disinfection agents or detergents.

5.1 Cleaning and care

- Do not use abrasive cleaners – use commercially-available care products without scouring agents.
- Wipe down all stainless steel surfaces using a damp cloth and then wipe it dry or allow it to dry.
- Discharge and clean the drip tray.
- Do not use an alcohol-based cleaning agent on the acrylic glass window.

5.2 Storage

During extended periods without use, remove the sound proof box from the mains and store it in a cool, dry place.

6 Maintenance and repair

6.1 Servicing

The SONOPULS sound proof box requires no maintenance.

6.2 Troubleshooting

The SONOPULS sound proof box is constructed solidly and designed for a high level of reliability.

Nevertheless, the possibility of a malfunction due to a defective component can never be ruled out entirely.

- Activated push button but no lighting/ventilation:
 - No power ⇒ Check the main fuses
 - Power supply not connected ⇒ Plug in power supply
 - Power supply defective ⇒ Exchange power supply
- Activated push button but no lighting (ventilation works):
 - Lighting defective ⇒ Sound proof box can be operated without lighting.
- Activated push button but no ventilation (lighting works)
 - Ventilation defective ⇒ Fan defective. Replacement required, send in for repair if necessary
- Reduced noise protection:
 - Door not closed correctly ⇒ Close door correctly, clean magnetic closure
 - Door seal damaged ⇒ Replace door seal
 - Sealing plug for the hose and cable bushing not used or defective ⇒ Use or replace the seal

6.3 Repairs and service



CAUTION!

Repair work may only be carried out by authorised, qualified personnel or by the manufacturer. The manufacturer assumes no liability for unauthorised work on the sound proof box!

If errors or defects are ascertained as a result of the functional check, and if such errors are impossible to rectify, the sound proof box may no longer be used. If this occurs, please contact the supplier or the manufacturer in writing:

BANDELIN electronic GmbH & Co. KG
Heinrichstrasse 3-4
DE-12207 Berlin

Repair service:
Tel.: +49 30 768 80-13
Fax: +49 30 768 802 00 13

E-mail:
info@bandelin.com

Returns are subject to the General Conditions of Delivery and Payment of
BANDELIN electronic GmbH & Co. KG.

The sound proof box must also be cleaned and decontaminated (if necessary) – see the next section.

Certificate of Decontamination

If the sound proof box is sent back to the manufacturer for repairs (with accessories, if applicable), the form "Certificate of Decontamination" must be filled out and affixed in a clearly visible location on the outside of the packing.

If this form has not been filled out, we reserve the right to refuse receipt of the package in order to protect our employees.

The form can be downloaded from our website as a PDF file:
www.bandelin.com/Downloads

7 Accessories

Correct accessories facilitate the application.

No-obligation telephone consultation:
+49 30 768 80-0

Website:
www.bandelin.com

A suitable stand is required for operation of the SONOPULS ultrasonic homogeniser in the sound proof box.

Stand SONOPULS HG 40

for application with or without the sound proof box

Code No.: 3681

- External dimensions: 310 × 310 × 820 mm (L×W×H)
- With holder WH 40, insert for UW 50 and non-slip mat
- Standard sleeves can be mounted on the stand rod (d = 16 mm)
- Material (base and rod): Stainless steel



Additional accessories:

WH 40 holder

- For indirect sonication with the SONOPULS ultrasonic homogeniser and stand HG 40 in the sound proof box

Material: POM

Code No.: 3900



Supporting table AT 40

- For sample positioning on stand HG 40

Material: POM

Code No.: 3901



8 Decommissioning

The device must be disposed of separately, not in domestic waste.

Disposal must be conducted in accordance with Directive 2012/19/EU on waste electrical and electronic equipment.

Any supplementary/deviating regulations must be observed.



- The device should be decontaminated before disposal. Afterwards the device can be disposed of as electronic waste.
If decontamination cannot be carried out completely or correctly, a safety data sheet of the substances used must be firmly attached.
- Accessories should be disposed of in scrap metal.
- The packaging is recyclable.