Innova® S44i

Operating manual
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1 Operating instructions

1.1 Using this manual

- Read this operating manual thoroughly before using the device for the first time. Also observe the instructions for use of the accessories.
- This operating manual is part of the product. It must always be kept easily accessible.
- Enclose this operating manual when transferring the device to third parties.
- You will find the current version of the operating manual for all available languages on our website at www.eppendorf.com/manuals.

1.2 Danger symbols and danger levels
1.2.1 Danger symbols

The safety instructions in this manual appear with the following danger symbols and danger levels:

<table>
<thead>
<tr>
<th>Hazard point</th>
<th>Danger of cuts</th>
</tr>
</thead>
<tbody>
<tr>
<td>!</td>
<td></td>
</tr>
<tr>
<td>Electric shock</td>
<td>Heavy load</td>
</tr>
<tr>
<td>!</td>
<td></td>
</tr>
<tr>
<td>Toxic</td>
<td>Risk of crushing</td>
</tr>
<tr>
<td>!</td>
<td></td>
</tr>
<tr>
<td>Biohazard</td>
<td>Material damage</td>
</tr>
<tr>
<td>!</td>
<td></td>
</tr>
<tr>
<td>Hot surface</td>
<td></td>
</tr>
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1.2.2 Danger levels

<table>
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<th>Danger level</th>
<th>Description</th>
</tr>
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<tr>
<td>DANGER</td>
<td>Will lead to severe injuries or death.</td>
</tr>
<tr>
<td>WARNING</td>
<td>May lead to severe injuries or death.</td>
</tr>
<tr>
<td>CAUTION</td>
<td>May lead to light to moderate injuries.</td>
</tr>
<tr>
<td>NOTICE</td>
<td>May lead to material damage.</td>
</tr>
</tbody>
</table>
1.3 Symbols used

<table>
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<tr>
<th>Depiction</th>
<th>Meaning</th>
</tr>
</thead>
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<tr>
<td>1.</td>
<td>Actions in the specified order</td>
</tr>
<tr>
<td>2.</td>
<td></td>
</tr>
<tr>
<td>•</td>
<td>Actions without a specified order</td>
</tr>
<tr>
<td>✚</td>
<td>List</td>
</tr>
<tr>
<td>Text</td>
<td>Display or software texts</td>
</tr>
<tr>
<td>☞</td>
<td>Additional information</td>
</tr>
</tbody>
</table>

1.4 Abbreviations used

rpm
Revolutions per minute
2 Safety

2.1 Intended use

Innova S44i orbital shakers are designed for temperature control and shaking of liquids in closed flasks, tubes or plates to support the culturing of bacterial, insect, fungal, yeast, and phototrophic organisms. The shaker is intended for research use only. Innova S44i orbital shakers are intended for indoor laboratory use.

2.2 User profile

The device and accessories may only be operated by trained and skilled personnel.

Before using the device, read the operating manual and the instructions for use of the accessories carefully and familiarize yourself with the device’s mode of operation.

2.3 Personal protective equipment

Personal protective equipment protects your life and your health.

- Always wear the personal protective equipment required for the biosafety level and by the laboratory regulations.
- Always wear protective clothing, protective gloves, and safety boots.
- If additional protective equipment is required, this is indicated above the respective instruction.

2.4 Information on product liability

In the following cases, the designated protection of the device may be affected. Liability for any resulting damage or personal injury is then transferred to the owner:

- The device is not used in accordance with the operating manual.
- The device is used outside of its intended use.
- The device is used with accessories or consumables that are not recommended by Eppendorf.
- The device is maintained or repaired by persons not authorized by Eppendorf AG.
- The user makes unauthorized changes to the device.
### 2.5 Warnings for intended use

**WARNING! Lethal voltages inside the device.**
Touching parts which are under high voltage may cause an electric shock. An electric shock injures the heart and causes respiratory paralysis.

- Ensure that the housing is closed and undamaged.
- Do not remove the housing.
- Ensure that no liquid can penetrate into the device.

Only authorized service personnel may open the device.

**WARNING! Risk from incorrect voltage supply.**

- Only connect the device to voltage sources which correspond with the electrical requirements on the name plate.
- Only use sockets with protective earth conductor.
- Only use the mains/power cord supplied.

**WARNING! Electric shock due to damage to device or mains/power cord.**

- Only switch on the device if the device and the mains/power cord are undamaged.
- Only use devices that have been properly installed or repaired.
- In case of danger, disconnect the device from the mains supply. Disconnect the mains/power plug from the device or the earth/grounded socket. Use the isolating device intended for this purpose (e.g., the emergency switch in the laboratory).

**WARNING! Damage to health due to infectious liquids and pathogenic germs.**

- When handling infectious liquids and pathogenic germs, observe the national regulations, the biological security level of your laboratory, the safety data sheets, and the manufacturer’s application notes.
- Wear your personal protective equipment.
- Consult the "Laboratory Biosafety Manual" (source: World Health Organization, Laboratory Biosafety Manual, in its respective current valid version).

**WARNING! Damage to health due to toxic, radioactive or aggressive chemicals.**

- Wear your personal protective equipment.
- Observe the national regulations for handling these substances.
- Observe the safety data sheets and manufacturer’s application notes.

**WARNING! Risk of crushing fingers with door**

- Do not reach between the door and device, or into the door locking mechanism when opening and closing the door.
WARNING! Burns due to hot metal on the device and hot flasks

- Only touch the device and flasks when wearing protective gloves.

CAUTION! Cutting injuries caused by glass shards.
A damaged touch screen can lead to cuts on the hands.

- Only work with the touch screen if it is not damaged.

CAUTION! Poor safety due to incorrect accessories and spare parts.
The use of accessories and spare parts other than those recommended by Eppendorf may impair the safety, functioning and precision of the device. Eppendorf cannot be held liable or accept any liability for damage resulting from the use of incorrect or non-recommended accessories and spare parts or from the improper use of such equipment.

- Only use accessories and original spare parts recommended by Eppendorf.

NOTICE! Damage to electronic components due to condensation.
Condensate can form in the device after it has been moved from a cool environment to a warmer environment.

- After installing the device, wait for at least 6 h. Only then connect the device to the mains/power line.

NOTICE! Damage to device or malfunctions due to a damaged touch screen

- Do not operate the device.
- Switch off the device, disconnect the mains/power plug and have the touch screen replaced by a service technician authorized by Eppendorf.

NOTICE! Damage to device from unsuitable cleaning fluids or sharp or pointed objects.
Unsuitable cleaning agents may damage the device.

- Never use any corrosive cleaning agents, strong solvents or abrasive polishes.
- Check the compatibility with the materials used.
- Please note the information on chemical resistance.
- Do not clean the device with acetone or organic solvents with a similar effect.
- Do not use any sharp or pointed objects to clean the device.

NOTICE! Damage from the use of aggressive chemicals.

- Do not use any aggressive chemicals on the device or its accessories, such as strong and weak bases, strong acids, acetone, formaldehyde, halogenated hydrocarbons or phenol.
- If the device has been contaminated by aggressive chemicals, immediately clean it by means of a mild cleaning agent.
NOTICE! Material damage due to device vibration
If you place objects on the device, they may fall off due to vibration.

- Do not place any objects on the device.

2.6 Warning signs on the device

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<tr>
<th>Representation</th>
<th>Meaning</th>
<th>Location</th>
</tr>
</thead>
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<td><img src="image" alt="Warning" /></td>
<td>Hazard point! Risk of injury from moving parts</td>
<td>On door handle</td>
</tr>
<tr>
<td><img src="image" alt="Burn" /></td>
<td>Risk of burns from hot surface</td>
<td>Handle of sub-platform</td>
</tr>
<tr>
<td><img src="image" alt="Crushing" /></td>
<td>Risk of crushing from moving parts</td>
<td>Bottom front, bottom left and bottom right side in the chamber</td>
</tr>
</tbody>
</table>
3 Product description
3.1 Product overview
3.1.1 Front view

The configuration of your Innova S44i depends on your order.

Fig. 3-1: Front view

1 Door
   The door has a large viewing window

2 Door handle

3 Touch screen
   Display of user-defined parameters and actual values

4 Sub-platform

5 Sub-platform handle

6 Platform fastener
   Two platform fasteners attach the interchangeable platform to the sub-platform

7 Interchangeable platform

8 Access port
   Pass-through for external cables and equipment (25 mm)
3.1.2 Back view

Fig. 3-2: Back view with interfaces

1 Mains/power cord socket
2 USB port
3 Ethernet port
4 Refrigeration drain
   Drain for condensation water when refrigeration is used
5 Base drain
   For service purpose only
6 Mains/power switch
7 USB port

Only devices which meet the prerequisites of the IEC 950/EN 60950-1 (UL 1950) standards may be connected to the interfaces.
3.2 Delivery package

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<th>Quantity</th>
<th>Description</th>
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<tr>
<td>1</td>
<td>Innova S44i, according to order</td>
</tr>
<tr>
<td>1</td>
<td>Mains/power cord, country specific</td>
</tr>
<tr>
<td>2</td>
<td>Drain tubing</td>
</tr>
<tr>
<td>1</td>
<td>Operating manual</td>
</tr>
<tr>
<td>1</td>
<td>Certificate of Quality</td>
</tr>
<tr>
<td>1</td>
<td>Socket for pallet disassembly</td>
</tr>
</tbody>
</table>

- Check the delivery for completeness.
- Inspect all items for damage that may have occurred during delivery.
- To safely transport and store the device, keep the transport box and packing material.

3.3 Features

The Innova S44i is a large-capacity, stackable shaker with a temperature control function. Its innovative drive with counterbalance adjustment is engineered to support smooth shaking of uneven and heavy loads at high speeds. Designed to provide maximum capacity with a compact footprint, the shaker may also be double-stacked or triple-stacked to further expand platform capacity.

The shaker is available with 2 different orbit sizes, refrigerated and non refrigerated, and with optional photosynthetic LED lights. It supports various applications, including the culturing of bacterial, fungal, yeast, insect, and phototrophic organisms.

Use of the shaker is facilitated by:
- Automated imbalance detection and speed reduction
- Software-guided counterweight adjustment
- Space-saving glide-up door
- Sub-platform with quick-release handle
- Large, easy-to-read touch screen display
- Integrated data logging function
- Data export via USB port
- Ethernet connection to integrate the system into the Building Management System or Eppendorf VisioNize

The Innova S44i can be operated in the following ways:
- Continuously: at a set speed and temperature
- In a timed mode: run at a set speed, time and temperature for a period of up to 95:59 hours, after which the shaker automatically shuts off
- In a programmed mode: allows user-defined multiple step programming of parameters, including the option to run cycle programs

The Innova S44i is a highly versatile shaker with multiple platforms and accessories to customize the shaker for different applications and user needs. An extensive selection of tubes, plates, and Erlenmeyer flasks up to 5 L can be used in the chamber. An optional perforated incubation shelf may be added to incubate static cultures.
3.4 Intuitive operating concept

Eppendorf offers a cross-product operating concept which supports swift familiarization with different Eppendorf products. For different Eppendorf products, the basic operating controls are compatible with each other by using an intuitive touch user interface.
4 Installation
4.1 Selecting the location

**WARNING! Risk of injury due to unsuitable work surface**
The device may fall over if placed on an unsuitable work surface.

- Observe the criteria for selecting a location. The criteria are listed in the operating manual.

**NOTICE! Damage due to overheating**

- Do not place the device close to sources of heat (e.g. radiator, drying cabinet).
- Do not expose the device to direct sunlight.
- Ensure that all sides of the device are an adequate distance from the wall and adjacent devices to guarantee unobstructed air circulation.
Fig. 4-1: Space requirements for the Innova S44i

For information on ambient conditions, device dimensions, and weights, see the Technical Data chapter (see p. 93).

Location in general

- A space of at least 12.5 cm (5 in) on the back side of the device is required for proper ventilation and access to the mains/power cord socket.
- Total space requirement in depth: 145 cm (57 in), measured from the wall to the extended platform.
- A space of 30 cm (12 in) on the left-hand side of the device is required for access to the access port.
- A space of 60 cm (24 in) on the right-hand side of the device is required for service access.
- The ambient conditions match the specifications in the technical data.
- The device can be safely and easily operated at this location.
If you want to drain the condensation water from devices with refrigeration via a house water drain, select a location with a readily accessible house water drain.
- The location is protected from direct sunlight.
- The ceiling is high enough to open the shaker glide-up door.

**Electrical connections**
- Verify that your mains/power connection matches that specified on the name plate
- Ensure there is enough room to access the mains/power switch and mains/power plug.

### 4.2 Installing the platform
Prior to use, an interchangeable platform must be installed on the device.

> When you set up a device for the first time, start a Balance Master calibration before installing the interchangeable platform (see *Calibrating the Balance Master function on p. 49*).

1. Open the shaker door.
2. To disengage the platform locking mechanism, squeeze the sub-platform handle (1) and rotate it down (2).

> Apply light pressure towards the inside of the chamber to disengage the handle more easily.

3. To slide out the sub-platform, pull the handle.
4. Place the interchangeable platform on the sub-platform. Make sure that the platform fastener screw pins are aligned to the holes of the sub-platform.

To locate the mounting holes more easily, push down the platform fasteners with both hands when the interchangeable platform is in the locked position.

5. To fasten the interchangeable platform, press down the platform fastener handle and turn it clockwise (1).

If you are unable to turn the handle in full rotation due to the platform load, lift the platform fastener handle and turn it counterclockwise. To fasten the interchangeable platform, press down the handle and turn it clockwise again. Repeat the process several times.
6. To fully attach the interchangeable platform, repeat this process with the other platform fastener. Make sure that the interchangeable platform sits tight and secure.
7. Align the platform fastener handles sideways, so that they do not interfere with the application. To align the handle properly, lift and turn the handle.
8. Push the sub-platform back into the device.
9. Squeeze and rotate the sub-platform handle up. Make sure that the sub-platform handle is fully engaged and in the locked position.

Uninstalling the platform
1. To loosen the interchangeable platform from the sub-platform, press down the platform fastener handle and turn it counterclockwise (2).
2. Remove the platform from the device.

4.3 Installing flask clamps

NOTICE! Material damage due to incorrect accessories
If the screws are too long, they may affect the stability and functionality of the interchangeable platform.

- Make sure that only the provided screws are used to secure the flask clamps.

Auxiliary equipment
- Phillips screwdriver
- Flat Phillips head screws, provided

Fig. 4-4: Flask clamp with double girdle

1 Girdle tube
2 Clamp finger
3 Clamp body
4 Girdle
5 Clamp mounting hole
Installation
Innova® S44i
English (EN)

The upper girdle secures the flask within the clamp, and the bottom girdle keeps the flask from spinning.

Flask clamps for 2 L, 2.8 L, 4 L and 6 L Erlenmeyer flasks are provided with an additional girdle to help keep the flasks in place. One girdle is already in place on the clamp, the other is packed separately.

Flask clamps purchased for use with the universal platform require installation.

To secure the clamp to the platform, proceed as follows:

1. Place the clamp on the platform, aligning its mounting holes with the holes on the platform.
2. Secure the clamp in place using the provided flat Phillips head screws.
3. For clamps with an additional girdle: Insert an empty flask into the clamp. Keep the first girdle in place on the upper part of the clamp body.
4. Make sure the girdle tubes are located between the clamp fingers and roll the first girdle down the clamp fingers as far as it can go.
   The girdle tubes will rest against the platform, and the springs will be under the clamp base.
5. Place the second girdle around the upper part of the clamp, just as the first girdle was initially. Make sure that its spring sections rest against the clamp fingers, while its girdle tubes sit between the clamp fingers to hold the flask.

Flask clamps and other accessories can be interchangeably used on a variety of Eppendorf platforms. Flat head screws of different lengths and pitches are provided with the accessory.

Ensure the use of the proper screw with the proper platform and accessory configuration.
4.4 Making connections

4.4.1 Electrical connection

**WARNING! Risk of electrical hazard**

- Before making electrical connections, verify that your mains/power supply voltage matches the voltage of the device and that the mains/power switch is in the OFF position.

1. Verify that your supply voltage matches the voltage specified on the name plate of your device.
2. Verify that the mains/power switch is in the OFF position.
3. Plug the mains/power cord into the mains/power cord socket on the rear of the device.

4.4.2 Ethernet connection

The Innova S44i can be connected to Eppendorf’s own monitoring software Eppendorf VisionNize or to a third party monitoring system, e.g., Building Management System (BMS), via the Ethernet connection. The interface provides data on the current status and identity of the device. The device can be integrated into the local network via the Ethernet port and it will receive an IP address. You can access all the data provided by the device with an OPC browser via OPC XML DA by using the assigned IP address and the port 8083. Thus the Innova S44i can be integrated into any third party monitoring system that supports digital input. For further technical information, contact your local Eppendorf partner. The contact addresses can be found online at www.eppendorf.com/worldwide.

4.4.3 Drain connection

The refrigeration drain is used in the following events:
- For draining the condensation water when using refrigeration
- For draining the flush water after contamination e.g., for cleaning purpose. See the Decontamination chapter for further information (see Cleaning/decontamination on p. 85).

1. Connect the supplied drain tubing to the refrigeration drain on the right side of the device before using the device.
2. Insert the other end of the drain tubing into a container or into an accessible house water drain.
3. Allow the condensation or flush water to drain completely.
   - Leave the drain tubing connected while using refrigeration or flushing the chamber bottom cover.
4. Disconnect the drain tubing after use.
5  Operation
5.1 Opening the door

WARNING! Risk of crushing fingers with door
- Do not reach between the door and device, or into the door locking mechanism when opening and closing the door.

CAUTION! Risk of injury due to moving parts
- Be careful when you open the door. The door opens upwards.
- Always fully open the door so it can not fall and close.

1. To open the door, pull the door handle and move the door up and into the open position.
   When the latching mechanism of the door is released:
   - The door open symbol is displayed.
   - The heater turns off.
   - The shaker stops.
   - The chamber light turns on if set to Auto.
   - The fans continue for 30 s.

   When the door is closed, the shaker will continue to operate under the previously entered values.

5.2 Loading the device

WARNING! Risk of personal injury
- Do not reach inside the chamber until the shaker has come to a complete stop.

NOTICE! Material damage due to imbalance
Damage to the drive or platform
- Only operate the device when the platform is installed.
- Evenly distribute the weight of the flasks on the platform.

Prerequisites
- The platform is installed.
1. Squeeze the handle and pull out the sub-platform.
2. Fill the flasks or your accessories up to 25 - 35 % with liquid.
3. Place the flasks or other vessels in corresponding accessories.
4. Push the sub-platform back into the device.

   The sub-platform can only be pushed back when the handle is down.
5.3 Switching the device on/off

Prerequisites

• The device is connected to mains/power supply.

1. Press the mains/power switch to switch on the device.
   The device is switched on and ready for operation.

2. Press the mains/power switch to switch off the device.
6 Operating control overview

6.1 Operating the user interface

The touch screen is designed to be operated with your fingers only without the need for tools. You can wear laboratory gloves made of nitrile or latex. Alternatively, you can also use a stylus, for example, when thick gloves need to be worn in the laboratory.

If liquid comes into contact with the touch screen, the functions displayed on the touch screen may be triggered.

- Do not drop any liquids onto the touch screen.
- Do not spill any liquids onto the touch screen.

6.2 Symbols

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Activate function</td>
</tr>
<tr>
<td></td>
<td>Deactivate function</td>
</tr>
<tr>
<td></td>
<td>Door open</td>
</tr>
<tr>
<td></td>
<td>Door close</td>
</tr>
<tr>
<td></td>
<td>Active alarm</td>
</tr>
<tr>
<td></td>
<td>Notification</td>
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<tr>
<td></td>
<td>Open alarm setting</td>
</tr>
<tr>
<td></td>
<td>Open event log</td>
</tr>
<tr>
<td></td>
<td>Open chart</td>
</tr>
<tr>
<td></td>
<td>Balance Master optimization</td>
</tr>
<tr>
<td></td>
<td>Open temperature function</td>
</tr>
<tr>
<td></td>
<td>Open to display offset values</td>
</tr>
<tr>
<td></td>
<td>Open speed function</td>
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<tr>
<td></td>
<td>Open timer function</td>
</tr>
<tr>
<td>Symbol</td>
<td>Description</td>
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<tr>
<td>--------</td>
<td>--------------------------------------</td>
</tr>
<tr>
<td>![chart duration icon]</td>
<td>Chart duration</td>
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<tr>
<td>![close icon]</td>
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<tr>
<td>![filter icon]</td>
<td>Filter</td>
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<tr>
<td>![export data icon]</td>
<td>Export data</td>
</tr>
<tr>
<td>![chamber light on/off icon]</td>
<td>Chamber light on/off</td>
</tr>
<tr>
<td>![open photosynthetic light function icon]</td>
<td>Open photosynthetic light function</td>
</tr>
<tr>
<td>![change function position icon]</td>
<td>Change function position</td>
</tr>
<tr>
<td>![default alarm setting icon]</td>
<td>Default alarm setting</td>
</tr>
<tr>
<td>![fine increment adjustment icon]</td>
<td>Fine increment adjustment</td>
</tr>
<tr>
<td>![display recently used values icon]</td>
<td>Display recently used values</td>
</tr>
</tbody>
</table>
6.3  Home screen overview

6.3.1  Home screen

Fig. 6-1:  Home screen

1  Status bar
   Information on the user, time, device status, device name

2  Function area
   Standard functions of the device

3  Toolbar
   Buttons for device navigation and operation
6.3.2 Function area

1 **Function name**
   The function name is displayed in black text.

2 **Set value of an active function**
   The set value of an active function is displayed in small black numbers.

3 **Actual value of an active function**
   The actual value of an active function is displayed in large blue numbers.

4 **Actual value of an inactive function**
   The actual value of an inactive function is displayed in small gray numbers.

5 **Set value of an inactive function**
   The set value of an inactive function is displayed in large black numbers.
6.3.3 Toolbar

- Tap the Home button. The home screen appears.
- Tap the Back button. The previous window appears.
- Tap the Menu button. The menu appears. With the menu items, functions such as Settings, Alarms or Event Log can be opened.

6.3.4 Status bar/information bar

If messages are present, the information bar appears instead of the status bar. The information bar displays alarm messages and warning messages.

**Fig. 6-3: Information bar**

1. **Number of unacknowledged messages**
2. **Current message**
   - Red information bar: Unacknowledged alarm messages.
   - Yellow information bar: Unacknowledged warning messages.
3. **Acknowledging the current message**
   - When the current message is acknowledged, it is deleted from the information bar.
   - When all the messages have been acknowledged, the information bar disappears.

**Editing the information bar**

- To display the log, tap the number next to the bell symbol.
- To confirm the current message, tap the checkmark symbol.
Editing the message

- To call up the current message, tap the information bar. The message appears in the log.
- To acknowledge the message, tap the Acknowledge button.
- To change the alarm limits, tap the Alarm (bell symbol) symbol.
- To change the set value of the function, tap the button above the Alarm symbol.

6.4 Function control
6.4.1 Selecting the function

- Tap the function in the function area. The window for setting the set value appears.

6.4.2 Setting the set value

Setting the set value with the slider

- Tap the slider and drag it to the right or to the left. The set value changes.
Changing the set value incrementally with the fine adjustment

- Tap the + button. The set value is incrementally increased.
- Tap the - button. The set value is incrementally decreased.

Selecting the last used set value

1. Tap into the center of the fine adjustment. A list with the last used set values is displayed.
2. Select the set value.

Entering the set value with the number pad

1. Tap the set value. The number pad appears.
2. Enter the new set value.
3. Confirm your entry. The entry is completed. The number pad disappears.
6.4.3 Switching between functions

- To switch to another function, tap the symbol of the function. The active function is highlighted in blue.
7 Starting the application

7.1 Starting and stopping the device

- Tap the Start button on the toolbar. The device starts with the set values.

- Tap the Stop button on the toolbar. The device stops.

7.2 Setting the temperature value

The temperature value can be adjusted with the slider or with the number pad.

1. Tap the Temperature function on the home screen. The temperature parameters screen appears.
2. Tap the displayed set value. The number pad appears.

3. Enter the desired set value with the number pad.
4. Confirm your entry. The number pad disappears.
5. To return to the home screen, tap the *Home* button.

### 7.3 Setting the speed value

1. Tap the *Speed* function on the home screen. The speed parameters screen appears.

2. Tap the displayed set value. The number pad appears.

The speed value can also be adjusted with the slider.
Starting the application
Innova® S44i
English (EN)

7.4 Setting the speed timer

1. Tap the Speed Timer function on the home screen.
   The speed timer screen appears.

2. Tap the displayed time.
   The number pad appears.

3. Enter the desired time with the number pad.
4. Confirm your entry.
   The number pad disappears.
5. Activate or deactivate the speed time function.
6. To return to the home screen, tap the Home button.

The speed timer can also be adjusted with the rotary adjuster.
7.5 Setting the photosynthetic light

1. Tap the *Photosynthetic Light* function on the home screen.
   The photosynthetic light parameters screen appears.

2. Tap the displayed set value.
   The number pad appears.
3. Enter the desired set value with the number pad.
4. Confirm your entry.
   The number pad disappears.

- The photosynthetic light value can also be adjusted with the slider.

5. Activate or deactivate the photosynthetic light function.
6. To return to the home screen, tap the *Home* button.
8 The Menu area

The Menu area contains all of the software settings.

Fig. 8-1: The Menu screen

- **Settings**
  - Information on the device and licenses
  - Device and system settings
  - Activate user management

- **Contacts & Support**
  - Information on local contact persons

- **Clean Screen**
  - Activate and deactivate the touch screen
  - Clean the touch screen

- **Events**
  - Event log with messages and alarms

- **Charts**
  - View functions in a diagram

- **Export**
  - Export charts, logs and data

- **Alarms**
  - Activate alarms and set alarm limits for the door, speed alarm and temperature alarm

- **Maintenance & Qualification**

- **Programs**
  - Create user-defined programs

- **Login**
  - User management
### 8.1 Settings

This area provides you with information on the device. You can adjust device settings and enable the user management.

- The following settings are available:
  - About this Innova S44i: View information on the device and licenses.
  - System Settings: Configure the date, time and network.
  - Device Settings: Configure the alarm and display.
  - User Management: Create user management (see User administration on p. 73).

#### 8.1.1 The About this Innova S44i menu item

- Tap the Menu > Settings > About this Innova S44i menu item.

The following fields are available:
- **Name**: Enter the device name.
- **Registration Number**: Enter the inventory number of the device.
- **Location**: Enter the location of the device.
- **Article Number**: The article number of the model
- **Serial Number**: The serial number of the device, see the name plate.
- **Software Version**: User software version
- **Hardware Configuration**: View information on optional extensions.
- **License Information**: View information on licenses.
Location – Entering the location of the device

Enter information on the location of the device.

8.1.2 The System Settings menu item

1. Tap the Menu > Settings > System Settings menu item.

The following settings are available:
• Date & Time: Set the date, time and time zone.
• Network: Set the parameters for network operation.

8.1.2.1 Date & Time – Setting the date and time automatically

Prerequisites
• The device is connected to the network.
• A time server is available.

Changing the date, time or time zone may temporarily affect the appearance of the chart. The log may be incorrectly sorted.
1. Tap the Menu > Settings > System Settings > Date & Time > menu items.
2. Switch on the Automatic date & time switch.
3. Tap the Select timezone menu item.
4. Select the continent.
5. Select the time zone.
6. Close the selection.

The Date & Time menu appears.
8.1.2.2 **Date & Time** – Setting the date and time manually

Changing the date, time or time zone may temporarily affect the appearance of the chart. The log may be incorrectly sorted.

1. Tap the **Menu > Settings > System Settings > Date & Time** menu items.
2. Switch off the **Automatic date & time** switch.
   The **Set date** and **Set time** menu items become active.
3. Tap the **Set date** menu item.
4. Set the current date.
5. Tap the **Confirm** button.
   The date is saved.
   The **Date & Time** menu appears.
6. Tap the **Set time** menu item.
7. Set the time.
8. Tap the **Confirm** button.
   The time is saved.
   The **Date & Time** menu appears.
9. Tap the Select timezone menu item.

10. Select the continent.

11. Select the time zone.

12. Close the selection.

The Date & Time menu appears.
8.1.2.3  Network

1. Tap the Menu > Settings > System Settings > Network menu items. The following settings are available:
   - IP Addresses: Current IP address of the device
   - MAC Addresses: Address by which the device can be uniquely identified in the network
   - Enable remote access: Allow device communication with external software.
   - Enable DHCP: The device uses an IP address that was assigned by a DHCP server.
   - Manual Setup: Enter the network settings manually. Active when the Enable DHCP switch is switched off.

2. Tap the Menu > Settings > System Settings > Network > Manual Setup menu item.

3. To enter a value, tap the edit box. The number pad appears.
4. Enter the value.
5. Confirm your entry.
6. Tap the Back button. The data is saved. The window for the network settings appears.
8.1.3 The Device Settings menu item

1. Tap the Menu > Settings > Device Settings > Device menu items.

The following settings are available:
- Acoustic Signals: Set the audible alarm.
- Display Settings: Set the brightness, power saving mode and timeout of the display.
- Chamber Light: Set the light in set chamber.
- Home Screen Configuration: Configure the home screen.
- Offsets: Set and calculate the temperature offset.

8.1.3.1 Acoustic Signals – Setting the audible alarm

1. Tap the Menu > Settings > Device Settings > Acoustic Signals menu items.
2. To enable or disable the audible alarm, tap the O I switch.
3. To test the audible alarm, tap the Test Sound button.

8.1.3.2 Display settings – Setting the touch screen

1. Tap the Menu > Settings > Device Settings > Display Settings menu items.

The following settings are available:
- Display brightness
- Energy save mode
- Time after which the display is dimmed
2. To enable or disable the energy save mode, tap the O I button.
3. Set the time after which the display will be dimmed.
4. Configure the Display timeout and Display brightness settings accordingly.
8.1.3.3 Chamber Light – Setting the chamber light

1. Tap the Menu > Settings > Device > Chamber Light menu items. The following settings are available:
   - Off - The light is always off.
   - Auto - The light is on when the door is open. After the door is closed, the light will automatically go out after 30 seconds.
   - On - The light is always on.
2. Tap the Off | Auto | On buttons.

8.1.3.4 Home Screen Configuration – Configuring the home screen

1. Tap the Menu > Settings > Device Settings > Home Screen Configuration menu items. You can specify which functions appear on the home screen. You can set the order of the functions on the home screen. You can choose the following functions:
   - Temperature
   - Speed
   - Speed Timer
2. For a function to appear on the home screen, activate the switch.
3. Set the order of the functions on the home screen using the arrow keys. On the home screen, the functions appear in the same order as in the list.
   - If 2 areas are not occupied on the home screen, the chart appears on the home screen.
   - If 4 areas are not occupied on the home screen, the chart and event log appear on the home screen.
8.1.3.5 Offset – Calculating and setting the temperature offset

The Innova S44i displays the chamber temperature measured at the temperature sensor location. To display the temperature of the media rather than the temperature of the chamber, an offset must be defined.

Calculating the temperature offset
1. Insert the vessel with the media.
2. Insert the external temperature probe.
3. Set the device to the desired temperature and speed.
4. To start the agitation, tap the Start button.
5. Allow the media to equilibrate for up to 3 hours.

   The actual temperature value is displayed in blue.

6. Record the actual temperature value displayed on the Temperature function of the home screen.
7. Record the temperature of the media measured by the temperature probe.
8. To calculate the offset value, subtract the actual temperature from the media temperature.

   Example:
   Media temperature 35 °C
   Actual temperature value 37 °C
   35 - 37 = -2
   Offset = -2

Setting the temperature offset

1. Tap the Menu > Settings > Device Settings > Offsets > Temperature menu items.
   The offset value appears.
2. Tap the displayed offset value.
   The number pad appears.
3. Enter the calculated offset value with the number pad.
4. Confirm your entry.
   The number pad disappears.
8.1.4 Balance Master function

The integrated Balance Master function enables automated imbalance detection and calculation of the optimal counterweight. If an imbalance condition is detected, it reduces the speed automatically and routes the user through a software-guided counterweight adjustment process (Balance Master optimization) to facilitate the run at the set speed with the actual load.

For Innova S44i stacked on Innova 44, the following applies:
- Do not perform a Balance Master calibration
- The Balance Master cannot be operated
- Observe the limitations in speed for mixed stacked devices, see the Technical Data chapter (see Agitation on p. 96).

8.1.4.1 Calibrating the Balance Master function

A successful calibration of the Balance Master is required for Balance Master optimization to operate correctly.

Counterweight set values for calibration of the Balance Master are dependent on the shaker configuration; a reference of the set values specific to the orbital diameter and position in a stack can be found in the Technical Data chapter (see Counterweight settings for Balance Master calibration on p. 97).

Calibrate the Balance Master of devices in stacked configurations successively starting with the top device. If shakers are stacked on an already installed device, both the new device and the existing device must be calibrated to ensure reliable results for the Balance Master optimization.
The Menu area
Innova® S44i
English (EN)

The Balance Master of an Innova S44i cannot be operated in a mixed stack with Innova 44. Do not perform a Balance Master calibration in a mixed stack configuration with Innova 44. The limitations in speed as for Innova 44 apply. See the technical data for limitations in speed in mixed configurations with Innova 44.

A successful Balance Master calibration is not a prerequisite for operating the Innova S44i safely and properly.

The Balance Master calibration is a prerequisite for using the optimization and is recommended in the following events:
- Initial installation
- Stacking of multiple shakers
- Shaker is repositioned
- Shaker is relocated

Prerequisites
- The base is installed properly.
- The single device or bottom device of a stack configuration is installed on a base.
- The device is properly leveled in its location.
- The devices are stacked properly on top of each other.
- The 5.1 cm (2 in) orbit devices are positioned on the bottom in a stack configuration.
- No other device in the stacked configuration is running the speed function.
- A triple stack must be installed on a small base. A single or double stack can be installed on a small or large base.

Balance Master calibration may only be performed on one device at a time.

1. Tap Menu > Settings > Device Settings > Balance Master.
2. Tap the Calibrate button.
3. Select *Single, Double* or *Triple* according to your shaker configuration.

4. Select *Bottom, Middle* or *Top* according to the position of your shaker.

5. Tap the *Continue* button.

6. Open the door.

7. Remove the platform and content.

8. Set the counterweight adjustment knob to the determined value as shown on the touch screen.
   
   The value is determined according to the shaker configuration. The sample screen shows the counterweight setting 8.5 for a single device with a 2.5 cm (1 in) orbit.

9. Close the shaker door.

10. Tap the *Continue* button.

11. The device starts shaking in order to calibrate the Balance Master. The calibration can take up to 60 minutes.
12. Open the shaker door.

13. Set the counterweight adjustment knob to the displayed value.

   The sample screen shows the value for a single device with a 2.5 cm (1 in) orbit.

14. Reinstall the platform and content.

15. Close the shaker door.

16. Tap the Continue button.

   The Balance Master calibration has been successful.

If the Balance Master calibration was not successful, check the following criteria:

1. Check that the shaker is properly installed, level, and without vertical movement.
2. Check that the platform is removed.
3. Check the position of the counterweight adjustment knob.
4. To start the Balance Master calibration again, tap the Restart calibration button.

   If the Balance Master calibration is still not successful, refer to the Troubleshooting chapter.

### 8.1.4.2 Using the Balance Master function for optimization

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**NOTICE! Fatal agitation imbalance error**

If a fatal error occurs, a visual and audible alarm is triggered and the device comes to stop.

1. Acknowledge the alarm.
2. Do not start the device.
3. Contact Eppendorf support.

---

The use of Balance Master optimization requires an initial calibration of the Balance Master during device set-up at its location.

In case excessive vibration of the platform occurs during agitation, the platform speed will automatically decrease. An alarm or a warning will appear on the touch screen. In order to mitigate vibration and run the load at target speed, run the Balance Master optimization. The Balance Master optimization will provide a value in a ± fashion. Increase or decrease the setting of the counterweight by the determined value using the counterweight adjustment knob.
If the device detects an agitation imbalance, a speed alarm and a tilt state imbalance warning appear on the touch screen. The device will operate at the safest speed closest to the set value. The agitation will run at a reduced speed for the current counterbalance setting and weight load.

**Prerequisites**
- The Balance Master is calibrated.
- The Balance Master optimization symbol is shown below the speed value.

---

**Fig. 8-2: Adjusting the counterweight**

1. Sub-platform handle
2. Counterweight adjustment knob

You can start the Balance Master optimization under the following conditions:
- The device is running the speed function.
- The platform is stationary.
1. To access the Balance Master optimization, tap the **Speed** function on the home screen.

![Speed function on the home screen](image)

2. Tap the **Balance Master Optimization** button on the speed parameters screen.

3. Alternatively, tap **Menu > Settings > Device Settings > Balance Master**.

![Menu settings](image)

4. Tap the **Start Balance Master** button.
   The device starts shaking to determine the counterweight adjustment value. Balance Master optimization can take up to 10 min.

![Start Balance Master](image)

5. Open the door after the device has stopped shaking.

6. To adjust the counterweight calculated by the Balance Master, turn the counterweight adjustment knob to the right or left.
   Example: The previous setting of the counterweight was 2. The calculated value for the adjustment is +8. Set the counterweight to 10.

7. To confirm the counterweight adjustment, tap the green check button.
   The day and time of the Balance Master optimization is logged in the event log.

![Confirm adjustment](image)
8.1.4.3 Operating the device without the Balance Master function

In case Balance Master calibration cannot be performed (e.g. because the floor conditions at the installation site do not comply with prerequisites), the shaker performance will not be impaired. In case of an imbalance, the Innova S44i will slow down to a stable level and alert the user.

Alternatively the optimal counterweight settings can be looked up in the Technical Data chapter. To determine the optimal counterweight setting, proceed as follows:

1. Go to the Technical Data chapter (see Optimal counterweight settings on p. 97), choose the table according to the orbit of your device.
2. Calculate the average device load on the platform (exclude the platform weight).
3. Look up the closest value in the table that corresponds to your load.
4. Set the counterweight to the position indicated in the table.
8.2 Events

This area lists the device’s events. You can filter, edit and export event messages.

Fig. 8-3: The Event Log screen

1 Overview of a message  
2 Acknowledge all notifications  
3 Call up filters  
   This button is highlighted in blue, if messages are filtered.  
4 Export events  
   Export list with messages to a USB storage device.  
5 Acknowledgement status

The event log can retain up to 100,000 events before the oldest event is overwritten.
8.2.1 Filtering Events

- Tap Menu > Events.
- Tap the Filter button.
- Select filters.
  If a filter is enabled, a checkmark appears next to the filter.
  In the Events window, the filter symbol is highlighted in blue.
- To disable all the filters, tap Clear all filters.

8.2.2 Editing Events

1. To edit a message, tap the line with the message.
   
   The following parameters are displayed:
   - Message number
   - Status
   - Date and time
   - User that was logged in at the time of the message.
   - Message text
   - Button to acknowledge the message
   - Symbols to call up corresponding parameters

2. To acknowledge a message, tap Acknowledge.
   The button’s appearance will change.

3. To check the parameters of the message, tap the symbols to the right.

8.2.3 Exporting Events.

- Tap Menu > Events.
- Tap Export (see Export on p. 66).

8.3 Alarms

You can set alarms and alarm limits for the device.

The device has three alarms:
- Temperature alarm – Triggers if the temperature in the interior exceeds the alarm limits.
- Speed alarm – Triggers if the speed exceeds the alarm limits.
- Door alarm – Triggers if the outer door has been open for too long.

Tab. 8-1: The default factory settings for the alarms of the Innova S44i are as follows:

<table>
<thead>
<tr>
<th>Alarm</th>
<th>Temperature</th>
<th>Speed</th>
<th>Door open</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default factory setting</td>
<td>+/- 0.5 K</td>
<td>+/- 5 rpm</td>
<td>5 min</td>
</tr>
</tbody>
</table>
8.3.1 Setting alarms and alarm limits

1. To access the device alarm overview, tap the Menu > Alarms menu items. A window containing all of the device alarms, the warning limits, and the alarm limits appears.

2. To open an alarm, tap the corresponding line. The overview window for this alarm appears.

---

**Fig. 8-4:** The *Alarms* screen

1. Lower alarm limit
2. Upper alarm limit
3. Alarm activated
4. Alarm not activated
Fig. 8-5: Setting an alarm

1. Upper alarm limit
2. Actual value
3. Return to default setting
4. Activate or deactivate alarm
5. Lower alarm limit

3. To change an alarm limit, tap the alarm limit. The number pad appears.
4. Enter the new alarm limit.
5. Confirm your entry.

The entered alarm limit appears on the touch screen.
If you change a set value, the alarm limits change accordingly.

If you want to reset the alarm to the factory defaults, tap the return to default setting button (see Fig. 8-5 on p. 59).

### 8.3.2 Active alarm

If an alarm is active, the exceeded alarm limit is highlighted in red in the alarm overview. The alarm appears in the information bar.

### 8.3.3 Setting the door alarm

The Door alarm can be set to trigger if the door is open for longer than: 30 s (seconds), 1 m (minutes), 2 m (minutes), 3 m (minutes), 5 m (minutes), or 10 m (minutes).

1. Tap the Menu > Alarms > Door menu items.
2. Activate or deactivate the alarm function.
3. Choose the alarm time.
8.3.4 Setting the speed alarm

1. Tap the Menu > Alarms > Speed menu items. The speed high alarm and low alarm values appear.
2. Tap the displayed set values. The number pad appears.
3. Enter the desired set values with the number pad.
4. Confirm your entry. The number pad disappears.
5. Activate or deactivate the speed alarm function.
6. To return to the home screen, tap the Home button.

8.3.5 Setting the temperature alarm

1. Tap the Menu > Alarms > Temperature menu items. The temperature high alarm and low alarm values appear.
2. Tap the displayed set values. The number pad appears.
3. Enter the desired set values with the number pad.
4. Confirm your entry. The number pad disappears.
5. Activate or deactivate the temperature alarm function.
8.4  **Contact and Support**

Information on your Eppendorf partner can be entered in this area. You can receive information on contacting the authorized service.

- Tap **Menu > Contact & Support**.

The following parameters are available:
- **Contacts**: Enter the addresses of the Eppendorf partners
- **Service Information**: Information on contacting the authorized service

**Contacts menu item – Entering contact partners**

1. Tap **Menu > Contact & Support**.
2. Tap **Add Contact**.
3. Enter and confirm the name of the Eppendorf partner.
4. Enter the contact information of the Eppendorf partner.
5. To delete an entry, tap the recycle bin symbol.
8.5 Charts

Data is displayed in chart form in this area.

The chart has two different y-axes, each with a different scale. This allows it to show two functions. A function has the same color as the scale it has been assigned. The time is shown on the x-axis.

Fig. 8-6: The Chart screen

1 Select the function.
   The values of the selected function are displayed on the chart.

2 Select the time span.

3 Name of the function for which values are displayed on the chart.

4 Export the chart data to a USB storage device.
The data storage duration is 112 days with a loss of resolution over time. Data is stored with the following resolutions over time:

<table>
<thead>
<tr>
<th>Age of sample</th>
<th>Interval for data storage (hh:mm:ss)</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 min</td>
<td>00:00:15</td>
</tr>
<tr>
<td>3 d</td>
<td>00:00:30</td>
</tr>
<tr>
<td>3 d 1 h</td>
<td>00:01:00</td>
</tr>
<tr>
<td>3 d 2 h</td>
<td>00:02:00</td>
</tr>
<tr>
<td>3 d 3 h</td>
<td>00:04:00</td>
</tr>
<tr>
<td>3 d 4 h</td>
<td>00:04:00</td>
</tr>
<tr>
<td>4 d</td>
<td>00:16:00</td>
</tr>
<tr>
<td>7 d</td>
<td>00:32:00</td>
</tr>
<tr>
<td>14 d</td>
<td>01:04:00</td>
</tr>
<tr>
<td>28 d</td>
<td>02:08:00</td>
</tr>
<tr>
<td>56 d</td>
<td>04:16:00</td>
</tr>
<tr>
<td>112 d</td>
<td>08:32:00</td>
</tr>
</tbody>
</table>

### 8.5.1 Selecting functions

- Tap Menu > Charts.
- Tap the Function button.
- To select the functions for the left y-axis, tap the upper line.
- To select the functions for the right y-axis, tap the lower line.

A window with the available functions appears.

- Select the function.
  - The function appears in the tapped line.
8.5.2 Selecting the time span

1. Tap Menu > Charts.
2. Tap the time span symbol.
3. Select the time span. The time span appears on the x-axis.

Short door openings may not be visible in the chart due to the adjusted resolution. They are however visible in the Event log.

8.5.3 Displaying the chart’s measured values

1. Tap Menu > Charts.
2. To display numerical measured values, select a defined time.
3. Tap the corresponding point in the chart. The measured values of all functions are displayed.
8.5.4 Exporting charts

1. Tap Menu > Charts.
2. Tap Export (see Export on p. 66).

   The graphic itself will not be exported.

   Short door openings may not be visible in the chart due to the adjusted resolution. They are however visible in the Event log.

8.6 Clean Screen

The touch screen can be locked to clean the touch screen.

Locking and unlocking the touch screen

1. Tap Menu > Clean Screen.
   The touch screen is locked. During the display lock the shaker continues operating with its actual settings.
2. To unlock the touch screen, tap the numbered corners in their numerical sequence.
   The touch screen is unlocked. The previous screen is displayed.

8.7 Export

You can export all charts, events and system information for service to a USB storage device.

1. Connect a USB storage device.
2. Tap Menu > Export.
3. Use the sliders to select data for export.
   Data shown in gray cannot be exported.
4. Tap Export.
5. Confirm the connected USB storage device.

6. Confirm the export.

7. Remove the USB storage device.
8.8 Programs

Beside running the shaker continuously or in a simple timed mode, the program function allows the setting of user-defined multiple step programs. That includes the option to loop single steps or a whole program. The Innova S44i can be set to run user-defined programs for an extended period of time.

![Program screen]

Fig. 8-7: The Program screen

1. Edit program
2. Add program
3. Select all

- Tap the Menu > Programs menu items.
- To navigate to the program details screen, tap a program.
**The Menu area**

**Innova® S44i**

**English (EN)**

---

**Abb. 8-8: The Program details screen**

**1 Add step**
A step is added to the program. The step has all the parameters of the previous step.

**2 Insert copy before**

**3 Insert copy after**

**4 Edit step**

**5 Delete step**

**6 Move forward**
With the *Move forward* button it is possible to move single steps forward within a program.

**7 Move backward**
With the *Move backward* button it is possible to move single steps backward within a program.

**8 Loop last step**
The last step of a program is repeated in a loop.

**9 Loop program**
The program is repeated in a loop.

**10 Loop off**
Default setting for programs. The loop function is deactivated. The program ends with the last step.
8.8.1 Adding programs

1. To add a new program, tap the *New program* button on the program screen. The program details screen appears.
2. To enter or edit the program name, tap the edit box.
   The touch keyboard appears.
3. Enter the desired name.
4. Confirm your entry.
   The program details screen appears.

8.8.2 Editing programs

1. To edit a program, tap the program on the program screen.
   The program details screen appears.
2. Tap the step you want to edit.
   The editing options for the step appear on the program details screen.
3. To change the parameters of a step, tap the *Edit step* button.
4. To edit a single parameter, tap the function in the list.
5. Tap the displayed value.
6. Enter the desired set value with the number pad.
7. Confirm your entry.
   To return to the program details screen, tap the Back button.

If you want to activate or deactivate a function of a step, proceed as follows:
- Tap the step you want to edit.
- Tap the Edit step button.
- Tap the function in the list.
- Activate or deactivate the function.

To duplicate a step, you can also tap the Add step button on the program details screen.

8.8.3 Deleting or duplicating programs

The Options button is only available in edit mode. To enter edit mode, tap the Edit program button.

1. Tap the Edit program button.
2. Select a program.
3. Tap the Options button.
   The options Duplicate and Delete appear.

4. Tap the desired option.
   - If Delete is selected, confirmation is required.
   - If Duplicate is selected, the program screen appears.

To duplicate a step, you can also tap the Add step button on the program details screen.
8.9  **Login**

User management is set up, and you can log in as a user or administrator (see p. 73).

8.9.1  **Logging in and out as a user**

**Prerequisites**

- User management is set up.

![Login screen](image)

Fig. 8-9:  The Login screen

1  Edit box

2  Number pad

3  Abort login

4  Delete the entry step by step

**Logging in as a user**

1. Tap the Menu > Login menu items.
2. Enter your PIN or password.
   - If the correct PIN or password is entered, the user is automatically logged in.

**Logging out as a user**

1. Tap the Menu > Logout menu items.
9 User administration
9.1 The user administration concept

The user administration can be used to organize access to the Innova S44i. There are three user roles:
- Administrator
- User with standard rights
- User with restricted rights

9.1.1 User roles for working with the user administration

Administrator

The administrator has additional rights:
- Configuring Innova S44i
- Access to user administration

User with standard rights

- A user with standard rights can operate the Innova S44i without restrictions and create new programs and folders.

User with restricted rights

- A user with restricted rights can operate the Innova S44i with certain restrictions, i.e. select, start and stop existing programs.

Logged out user

- A logged out user can stop a program execution.
9.1.2 Working without user administration

Without user administration all users have the same rights as an administrator.

9.1.3 User rights

Tab. 9-1: User administration

<table>
<thead>
<tr>
<th>Tasks</th>
<th>User with restricted rights</th>
<th>User with standard rights</th>
<th>Administrator/Operator (rights without user administration)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Users button in Menu</td>
<td>×</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>User list and all users attributes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Add user</td>
<td></td>
<td>×</td>
<td></td>
</tr>
<tr>
<td>Delete other user</td>
<td></td>
<td>×</td>
<td></td>
</tr>
<tr>
<td>Change own user name</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change others’ user name</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change own full name</td>
<td>×</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>Change others’ full name</td>
<td></td>
<td></td>
<td>×</td>
</tr>
<tr>
<td>Change own e-mail</td>
<td>×</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>Change others’ e-mail</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change own user ID</td>
<td></td>
<td></td>
<td>×</td>
</tr>
<tr>
<td>Change others’ user ID</td>
<td></td>
<td></td>
<td>×</td>
</tr>
<tr>
<td>Change own role</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change others’ role</td>
<td></td>
<td></td>
<td>×</td>
</tr>
<tr>
<td>Change own PIN/password</td>
<td>×</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>Reset others’ PIN/password</td>
<td></td>
<td></td>
<td>×</td>
</tr>
</tbody>
</table>

Tab. 9-2: Common settings

<table>
<thead>
<tr>
<th>Tasks</th>
<th>User with restricted rights</th>
<th>User with standard rights</th>
<th>Administrator/Operator (rights without user administration)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Settings button in menu</td>
<td>×</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>About/Device</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>About/Device/Name</td>
<td></td>
<td></td>
<td>×</td>
</tr>
<tr>
<td>About/License information</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>About/Export</td>
<td>×</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>About/Export –&gt; System information for service</td>
<td>×</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>Tasks</td>
<td>User with restricted rights</td>
<td>User with standard rights</td>
<td>Administrator/Operator (rights without user administration)</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>----------------------------</td>
<td>----------------------------</td>
<td>-----------------------------------------------------------</td>
</tr>
<tr>
<td>About/Export –&gt; All other entries</td>
<td>×</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>Device/Acoustic signals –&gt; Switch</td>
<td></td>
<td>×</td>
<td></td>
</tr>
<tr>
<td>Device/Acoustic signals –&gt; Test button</td>
<td>×</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>Device/Display settings</td>
<td>×</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>System/Date and time</td>
<td></td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>System/Network</td>
<td></td>
<td></td>
<td>×</td>
</tr>
</tbody>
</table>

Tab. 9-3: User management

<table>
<thead>
<tr>
<th>Tasks</th>
<th>User with restricted rights</th>
<th>User with standard rights</th>
<th>Administrator/Operator (rights without user administration)</th>
</tr>
</thead>
<tbody>
<tr>
<td>User management access</td>
<td></td>
<td></td>
<td>×</td>
</tr>
<tr>
<td>User management/Disable user management</td>
<td></td>
<td></td>
<td>×</td>
</tr>
<tr>
<td>User management/Automatic logout</td>
<td></td>
<td></td>
<td>×</td>
</tr>
<tr>
<td>User management/Login mode</td>
<td></td>
<td></td>
<td>×</td>
</tr>
<tr>
<td>User management/Grant all users extra privileges</td>
<td></td>
<td></td>
<td>×</td>
</tr>
<tr>
<td>Change set value of functions</td>
<td>×</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>Agitation function control (start/stop)</td>
<td>×</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>Control for all other functions (start/stop)</td>
<td></td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>Change offset parameters of functions</td>
<td></td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>Change alarm parameters of functions</td>
<td></td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>Balance Master calibration</td>
<td></td>
<td></td>
<td>×</td>
</tr>
<tr>
<td>Balance Master optimization</td>
<td>×</td>
<td>×</td>
<td>×</td>
</tr>
</tbody>
</table>
### Tab. 9-4: Device settings

<table>
<thead>
<tr>
<th>Tasks</th>
<th>User with restricted rights</th>
<th>User with standard rights</th>
<th>Administrator/Operator (rights without user administration)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Device Settings/Chamber light</td>
<td></td>
<td></td>
<td>×</td>
</tr>
<tr>
<td>Chamber light button in menu bar</td>
<td>×</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>Device settings/Home screen configuration</td>
<td></td>
<td></td>
<td>×</td>
</tr>
</tbody>
</table>

### Tab. 9-5: Notification acknowledgement

<table>
<thead>
<tr>
<th>Tasks</th>
<th>User with restricted rights</th>
<th>User with standard rights</th>
<th>Administrator/Operator (rights without user administration)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acknowledge alarm</td>
<td></td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>Acknowledge error</td>
<td></td>
<td></td>
<td>×</td>
</tr>
</tbody>
</table>

### Tab. 9-6: Product-specific feature (programming)

<table>
<thead>
<tr>
<th>Tasks</th>
<th>User with restricted rights</th>
<th>User with standard rights</th>
<th>Administrator/Operator (rights without user administration)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access to Menu &gt; Program</td>
<td>×</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>Create new program</td>
<td>×</td>
<td></td>
<td>×</td>
</tr>
<tr>
<td>Duplicate program</td>
<td>×</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>Delete program</td>
<td>×</td>
<td>×</td>
<td>×</td>
</tr>
</tbody>
</table>

### Tab. 9-7: Rights in program editor

<table>
<thead>
<tr>
<th>Tasks</th>
<th>User with restricted rights</th>
<th>User with standard rights</th>
<th>Administrator/Operator (rights without user administration)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Start program execution</td>
<td>×</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>Stop program execution</td>
<td>×</td>
<td>×</td>
<td>×</td>
</tr>
</tbody>
</table>
9.2 Defining settings in the user administration

9.2.1 Creating an administrator

1. Tap the **Menu** button and navigate to the **Settings > User Management** menu item.

2. To activate the user administration, slide the **User Management** switch to the **I** position. The Login mode window appears.

3. Define the login mode for all users.

4. Continue the process with **Continue**. The Administrator credentials window appears.

5. Enter the user name for the first administrator in the **Enter User Name** field.

6. Continue the process with **Continue**. The Administrator credentials window appears.

7. Enter PIN or password in the **Enter PIN/Password** field. Confirm the entry in the **Repeat PIN/Password** field.

8. Continue the process with **Continue**. The User Management successfully enabled window appears. The user administration is activated.

9. The user account for the first administrator is created.

9. Confirm the message. The User Management window appears. It is now possible to edit the user administration.
9.2.2 Editing the user administration

Prerequisites

- The administrator is logged in.

1. Tap the Menu button and navigate to the Settings > User Management menu item.

2. Define the settings for the user administration.

- **User Management**: Switch the user administration on and off.
- **Automatic Logout**: Define the time after which a user is automatically logged out if the touch screen is not used.
- **Login Mode**: Define the login mode for all users.
- **Grant all users extra privileges**: Restricted rights (Restricted User) or standard rights (User) are active for all users.

    When the Grant all users extra privileges option is activated, a login is not necessary. Also, users who are not recorded in the user administration can operate the device with these rights (Restricted User / User).
9.2.3 Deactivating the user administration

**NOTICE! Data loss in case of deactivation of the user administration**
Deactivating the user administration deletes all user accounts.

- Check whether deactivation of the user administration is required.
- Inform all users that the user accounts have been deleted.

**Prerequisites**
- The administrator is logged in.

1. Tap the **Menu** button and navigate to the **Settings > User Management** menu item.
2. To deactivate the user administration, slide the **User Management** switch to the 0 position.
   - The **Disabling User Management** window appears.
3. Continue the process with **Continue**.
   - The **Confirm deleting all user accounts** window appears.
4. Enter the PIN/password.
5. Complete the process with **Continue**.
   - The user administration is deactivated. All user accounts are deleted.
9.3 Editing user accounts as an administrator

NOTICE! Data loss due to loss of the administrator password

The administrator can only change their password or PIN with their own access data. If the administrator’s access data is lost, no changes will be possible in the user management and system settings.

In this case, the device will have to be reset to the factory settings by an authorized service technician. All the user accounts and the data and settings stored on the device will be deleted.

- Create a second user account with administrator rights.
- Keep the administrator password secure.

9.3.1 Creating a user account

You can create 999 user accounts.

Prerequisites
- The administrator is logged in.

1. Tap the Menu button and navigate to the User menu item.
   The list with the user accounts is displayed.
2. Tap the Add User button.
   The Enter User Name for the new user field appears.
3. Enter the user name.
4. Confirm your entry.
   The User credentials window appears.
   The user account is created. The user data appears in the window.
   The user is assigned to the user group Restricted User.
5. Optional export of user data: Connect the USB stick and tap the Export button.
6. Confirm the export.
   The user data is exported to the USB stick in a TXT file.
7. If the export is successful, the Export successful window appears.
   To complete the process, confirm the message.
9.3.2 Editing user accounts

Users with restricted user rights or standard rights can only edit their own Full Name and E-mail entries. Users can always change their own PIN or password.

Administrators can assign a new user ID to a user account and change the rights.

Prerequisites

• The administrator is logged in.

1. Tap the Menu button and navigate to the User menu item.
   The list with the user accounts appears. Entries that can be edited are indicated by a black pen.
2. Select the user account.
3. Optional: Enter the full name.
4. Optional: Enter the e-mail address.
5. To change the user ID, tap User-ID.
6. Select the new user ID.
7. To change the user group and the corresponding rights, tap Role.
   The list with the available user groups appears.
8. Assign a user group to the user.
   • Restricted User
   • User
   • Administrator
   The selected parameters are stored and appear in the user account.

9.3.3 Deleting a user account

Prerequisites

• The administrator is logged in.

1. Tap the Menu button and navigate to the User menu item.
   The list with the user accounts appears.
2. Select the user account to be deleted.
3. Tap the Recycle bin symbol.
   The Confirm the deletion of: window appears.
9.3.4 Resetting the password/PIN for a user account

If a user has forgotten their password/PIN, the administrator can generate a new password.

The administrator can only change their password or PIN with their current access data. If the administrator’s access data is lost, changes are no longer possible in the user administration. In this case, the device must be reset to the factory settings by an authorized service technician. All user accounts and the programs, log files and logs stored on the device will be deleted.

- Create a second user account with administrator rights.

Prerequisites
- The administrator is logged in.

1. Tap the Menu button and navigate to the User menu item. The list with the user accounts appears.
2. Select the user account.
3. Tap the Reset Password/PIN button. The Do you want to reset the Password/PIN for: window appears.
4. Confirm the process with Reset. The New Credentials window appears. The new password/PIN is created automatically.
5. To export the user data, connect the USB stick and tap the Export button.
6. Confirm the export. The user data is exported to the USB stick in a TXT file.
7. If the export is successful, the Export successful window appears. To complete the process, confirm the message.
9.4 Administrating your own user account

Users can only edit their own Full Name and E-mail entries. Users can always change their own PIN or password.

Prerequisites

- The user is logged in.

1. Tap the Menu button and navigate to the User menu item.
   The list with the user accounts appears. Entries indicated by a black pen can be edited.
2. Select the user account.
3. Optional: Enter the full name.
4. Optional: Enter the e-mail address.
5. To change the password/PIN, tap the Change Password/PIN button.
6. Enter the current password/PIN in the Enter current Password/PIN field.
7. Enter the new password/PIN in the Enter new Password/PIN and Repeat new Password/PIN fields.
8. Confirm your entry.
   The message Password/PIN successfully changed appears.
   The new password or the new PIN is active.
10 Maintenance

10.1 Cleaning/decontamination

DANGER! Electric shock.
- Switch off the device and disconnect the mains/power plug before starting maintenance or cleaning work.

WARNING! Danger due to contact with decontamination agent.
- Wear protective equipment, gloves and protective goggles during the cleaning process.
- Wear respiratory protection when aerosolization is suspected.

NOTICE! Spilled liquid can cause damage to the device.
- Switch off the device.
- Disconnect the mains/power plug.
- Collect the spilled liquid. Observe the specifications for the liquid in the safety data sheets.

NOTICE! Damage due to aggressive cleaning agent or sharp objects
Incorrect cleaning agents can damage the display, surfaces and printing.
- Do not use corrosive cleaning agents, aggressive solvents or abrasive polishes.
- Do not incubate the accessories in aggressive cleaning agents or disinfectants for an extended period of time.
- Do not use sharp objects to clean the device.

10.1.1 Routine cleaning

To maintain the functionality and appearance of the device, clean the device regularly.

Auxiliary equipment
- Lint-free cloth
- Deionized water
- Laboratory cleaner

Prerequisites
- The device is switched off and disconnected from the mains/power supply.
1. To ensure proper air flow in and around the device, remove dust and dirt near the device.
2. Remove the interchangeable platform.
3. To clean the device, wipe over the following components with a lint-free cloth moistened with laboratory cleaner:
   - External surfaces
   - Internal surfaces
   - Interchangeable platform
4. Reinstall the interchangeable platform.
10.1.2 Wipe decontamination

NOTICE! Risk of material damage
Other methods of decontamination than those specified by the manufacturer may damage the device.

- Use the decontamination methods specified by the manufacturer.
- For further questions regarding the disinfection of the device, contact Eppendorf support.

Auxiliary equipment
- Lint-free cloth
- 70 % ethanol, 1 % sodium hypochlorite solution or other suitable disinfectant (e.g., Dismozon pur, Hexaquart S, Biocidal ZF)

Prerequisites
- The device is switched off and disconnected from the mains/power supply.

1. Remove the interchangeable platform.
2. To decontaminate the device, wipe over the following components with a lint-free cloth moistened with a suitable disinfectant:
   - External surfaces
   - Internal surfaces
   - Interchangeable platform
3. Reinstall the interchangeable platform.

10.1.3 Wipe decontamination of the touch screen

Auxiliary equipment
- Lint-free cloth
- Laboratory cleaner
- 70 % ethanol, 1 % sodium hypochlorite solution or other suitable disinfectant (e.g., Dismozon pur, Hexaquart S, Biocidal ZF)

1. To clean or decontaminate the touch screen of the Innova S44i, lock the touch screen (see Clean Screen on p. 66).
2. Wipe over the touch screen with a lint-free cloth moistened with laboratory cleaner or a suitable disinfectant.
3. Remove residues of the disinfectant with a lint-free cloth moistened with distilled water.
4. Unlock the touch screen.
10.1.4 Decontamination of the chamber bottom cover after spills

The bottom of the chamber is protected by a cover which catches spills. The bottom cover can be flushed for decontamination. The maximum filling volume is 3 liters.

Prerequisites
- The device is switched off and disconnected from the mains/power supply.

Auxiliary equipment
- Distilled water
- 1 % sodium hypochlorite solution or other suitable disinfectant

1. Place a sufficiently large container (3 L) below the refrigeration drain on the right-hand side of the device.
2. Connect the supplied drain tubing to the refrigeration drain on the right side of the device. Make sure to place the end of the drain tubing into the container.
3. Flush carefully from the front with a maximum of 2 L of disinfection solution.
4. Allow the solution to drain completely.
5. To remove residues, flush 3 x with 3 L of distilled water. Allow the flush water to drain.
6. Disconnect the drain tubing after decontamination.

NOTICE! Risk of material damage
Incorrect removal of the sub-platform may damage the device.
- If the drive or chamber bottom must be accessed after severe spills, contact an authorized Eppendorf service center.

To drain liquid properly from a device installed on a small base, shorten the drain tubing or use a vacuum pump.

10.2 Service intervals

<table>
<thead>
<tr>
<th>Component</th>
<th>Service interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature sensor accuracy</td>
<td>12 months</td>
</tr>
<tr>
<td>Drive belt inspection</td>
<td>12 months</td>
</tr>
</tbody>
</table>

The maintenance of the components must be performed by an authorized service technician. Contact your local Eppendorf partner. The contact addresses can be found online at [www.eppendorf.com/worldwide](http://www.eppendorf.com/worldwide).
## Troubleshooting

If you cannot remedy an error with the recommended measures, please contact your local Eppendorf partner. The contact addresses can be found on the Internet at [www.eppendorf.com](http://www.eppendorf.com).

<table>
<thead>
<tr>
<th>Problem</th>
<th>Cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>The shaker does not run.</td>
<td>• Door open</td>
<td>▶ Close door firmly, making sure latch is engaged.</td>
</tr>
<tr>
<td></td>
<td>• Fuses burned out</td>
<td>▶ Call an authorized service partner.</td>
</tr>
<tr>
<td></td>
<td>• Mains/power switch not working</td>
<td>▶ Call an authorized service partner.</td>
</tr>
<tr>
<td></td>
<td>• Door switch defective</td>
<td></td>
</tr>
<tr>
<td>The shaker does not run at the set speed.</td>
<td>• Shaker overloaded</td>
<td>▶ Remove some contents and balance the load.</td>
</tr>
<tr>
<td></td>
<td>• Shaker out of balance</td>
<td>▶ Run Balance Master optimization. ▶ Adjust the counterweight.</td>
</tr>
<tr>
<td>Actual values are not indicated on the touch screen.</td>
<td>• Device not properly calibrated</td>
<td>▶ Call an authorized service partner.</td>
</tr>
<tr>
<td>Temperature control loop error</td>
<td>• Device not well-sealed due to issue with door, gasket, latches, ports/plugs</td>
<td>▶ Check the door gasket for any blockage/interference. ▶ Ensure that the access port plug is inserted and is properly seated.</td>
</tr>
<tr>
<td>The shaker stops and a visual and audible alarm is triggered.</td>
<td>• A fatal error</td>
<td>1. Mute the alarm. 2. Do not start the device. Call an authorized service partner.</td>
</tr>
<tr>
<td>Balance Master calibration unsuccessful.</td>
<td>• Vertical movement of base</td>
<td>▶ Locate the corner which shows movement. ▶ Shim the corner until the device is stable.</td>
</tr>
<tr>
<td></td>
<td>• Unstable base installation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Floor conditions</td>
<td>▶ Move the device to an area with a stable floor. ▶ Set counterweight position according to the optimal counterweight setting table (see Counterweight on p. 97).</td>
</tr>
<tr>
<td></td>
<td>• Base unstable</td>
<td>▶ Locate the corner which shows movement. ▶ Shim the corner until the device is stable.</td>
</tr>
</tbody>
</table>
12 Transport, storage and disposal

12.1 Transport

CAUTION! Risk of injury from lifting and carrying heavy loads
The device is heavy. Lifting and carrying the device may cause to back injuries.

- Only lift and transport the device with a sufficient number of helpers.
- Use a transport aid for transporting the device.

- Use the original packing for transport.

<table>
<thead>
<tr>
<th></th>
<th>Air temperature</th>
<th>Relative humidity</th>
<th>Atmospheric pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>General transport</td>
<td>-25 °C – 55 °C</td>
<td>10 % – 95 %, non-condensing</td>
<td>0.7 bar (70 kPa) – 1.06 bar (106 kPa)</td>
</tr>
<tr>
<td>Air freight</td>
<td>-25 °C – 55 °C</td>
<td>10 % – 95 %, non-condensing</td>
<td>0.7 bar (70 kPa) – 1.06 bar (106 kPa)</td>
</tr>
</tbody>
</table>

12.2 Shipping the device

WARNING! Risk of personal injury due to contamination.
People may become contaminated if you store or ship a contaminated device.

- Clean and decontaminate the device before shipping or storage.

NOTICE! Risk of damage due to improper packaging.
Eppendorf AG is not liable for any damage caused by improper packaging.

- Only store and transport the device in its original packaging.
- If you do not have the original packaging, request original packing from Eppendorf AG.

Prerequisites

- The device has been cleaned and decontaminated.
- The original packaging is available.

2. Complete the decontamination declaration.
3. Pack the device.
4. Put the decontamination declaration into the packaging.
   Deliveries shipped without a decontamination certificate will not be processed.
5. Send the device to Eppendorf AG or an authorized service center.
12.3 Storage

<table>
<thead>
<tr>
<th>In transport packing</th>
<th>Air temperature</th>
<th>Relative humidity</th>
<th>Atmospheric pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>-25 °C – 55 °C</td>
<td>10 % – 95 %, non-condensing</td>
<td>0.7 bar (70 kPa) – 1.06 bar (106 kPa)</td>
<td></td>
</tr>
<tr>
<td>Without transport packing</td>
<td>-25 °C – 55 °C</td>
<td>10 % – 95 %, non-condensing</td>
<td>0.7 bar (70 kPa) – 1.06 bar (106 kPa)</td>
</tr>
</tbody>
</table>

12.4 Disposal

If the product needs to be disposed of, the relevant legal regulations must be observed.

Information on the disposal of electrical and electronic devices in the European Community:

Within the European Community, the disposal of electrical devices is regulated by national regulations based on EU Directive 2012/19/EU pertaining to waste electrical and electronic equipment (WEEE).

According to these regulations, any devices supplied after August 13, 2005, in the business-to-business sphere, to which this product is assigned, may no longer be disposed of in municipal or domestic waste. To document this, they have been marked with the following marking:

![Disposal Marking](image)

Because disposal regulations may differ from one country to another within the EU, please contact your supplier if necessary.
### 13 Technical data

#### 13.1 Power supply

<table>
<thead>
<tr>
<th></th>
<th>Innova S44i incubated</th>
<th>Innova S44i incubated/ refrigerated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mains/power supply voltage</td>
<td>100 V ±10%, 50 Hz/60 Hz</td>
<td>100 V ±10%, 50 Hz/60 Hz</td>
</tr>
<tr>
<td></td>
<td>120 V ±10%, 50 Hz/60 Hz</td>
<td>120 V ±10%, 50 Hz/60 Hz</td>
</tr>
<tr>
<td></td>
<td>230 V ±10%, 50 Hz/60 Hz</td>
<td>230 V ±10%, 50 Hz/60 Hz</td>
</tr>
<tr>
<td>Fuse</td>
<td>10 A</td>
<td></td>
</tr>
<tr>
<td>Power consumption</td>
<td>1800 W</td>
<td></td>
</tr>
<tr>
<td>Overvoltage category</td>
<td>II</td>
<td></td>
</tr>
<tr>
<td>Degree of pollution</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Protection class according to IEC 61010-1</td>
<td>I</td>
<td></td>
</tr>
</tbody>
</table>

#### 13.2 Ambient conditions

<table>
<thead>
<tr>
<th></th>
<th>For indoor use only</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambient temperature</td>
<td>10 °C – 35 °C</td>
</tr>
<tr>
<td>Relative humidity</td>
<td>20 % – 80 %, non-condensing</td>
</tr>
<tr>
<td>Atmospheric pressure</td>
<td>79.5 kPa – 106 kPa</td>
</tr>
<tr>
<td></td>
<td>Use up to a height of 2 000 m above sea level.</td>
</tr>
</tbody>
</table>
### 13.3 Weight/dimensions

#### 13.3.1 Device

<table>
<thead>
<tr>
<th>Device</th>
<th>Innova S44i incubated</th>
<th>Innova S44i incubated/refrigerated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>181.4 kg (400 lb)</td>
<td>188.2 kg (415 lb)</td>
</tr>
</tbody>
</table>

**Outer dimensions of device**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Width</td>
<td>118.2 cm (46.5 in)</td>
</tr>
<tr>
<td>Depth</td>
<td>86.9 cm (34.2 in)</td>
</tr>
<tr>
<td>Height</td>
<td>63.1 cm (24.8 in)</td>
</tr>
</tbody>
</table>

**Interior dimensions**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Width</td>
<td>89.6 cm (35.3 in)</td>
</tr>
<tr>
<td>Depth</td>
<td>71.9 cm (28.3 in)</td>
</tr>
<tr>
<td>Height chamber bottom to chamber ceiling</td>
<td>57.5 cm (22.6 in)</td>
</tr>
<tr>
<td>Height platform to chamber ceiling</td>
<td>43.7 cm (17.2 in)</td>
</tr>
<tr>
<td>Height platform to photosynthetic light bank</td>
<td>40.6 cm (16.0 in)</td>
</tr>
<tr>
<td>Height platform to incubation shelf</td>
<td>27.0 cm (10.6 in)</td>
</tr>
<tr>
<td>Height incubation shelf to chamber ceiling</td>
<td>15.0 cm (5.9 in)</td>
</tr>
</tbody>
</table>

#### 13.3.2 Base

<table>
<thead>
<tr>
<th></th>
<th>Short base</th>
<th>Tall base</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>16.8 kg (37.0 lb)</td>
<td>37.7 kg (83.0 lb)</td>
</tr>
<tr>
<td>Width</td>
<td>118.2 cm (46.5 in)</td>
<td></td>
</tr>
<tr>
<td>Depth</td>
<td>73.7 cm (29.0 in)</td>
<td></td>
</tr>
<tr>
<td>Depth with spacers</td>
<td>83.8 cm (33.0 in)</td>
<td></td>
</tr>
<tr>
<td>Height</td>
<td>10.5 cm (4.1 in)</td>
<td>30.7 cm (12.1 in)</td>
</tr>
</tbody>
</table>

#### 13.3.3 Platform

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>10.0 kg (22.0 lb)</td>
</tr>
<tr>
<td>Width</td>
<td>76.2 cm (30.0 in)</td>
</tr>
<tr>
<td>Depth</td>
<td>62.0 cm (24.4 in)</td>
</tr>
<tr>
<td>Height</td>
<td>0.8 cm (0.3 in)</td>
</tr>
</tbody>
</table>
13.4 Stacking dimensions

Fig. 13-1: Stacking dimensions with short positioning base

<table>
<thead>
<tr>
<th>Height</th>
<th>h1</th>
<th>h2</th>
<th>h3</th>
<th>h4</th>
<th>h5</th>
<th>Depth</th>
<th>Width</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>254.5 cm</td>
<td>203.7 cm</td>
<td>139.4 cm</td>
<td>73.6 cm</td>
<td>10.5 cm</td>
<td>95.8 cm</td>
<td>118.2 cm</td>
</tr>
<tr>
<td></td>
<td>(100.2 in)</td>
<td>(80.2 in)</td>
<td>(54.9 in)</td>
<td>(29.0 in)</td>
<td>(4.1 in)</td>
<td>(37.7 in)</td>
<td>(46.5 in)</td>
</tr>
</tbody>
</table>

13.5 Interfaces

- USB
- USB 2.0
- Ethernet
- Ethernet 100 MBit/s

Only devices which meet the requirements of IEC 950/EN 60950-1 (UL 1950) standards may be connected to the interfaces.
13.6 Application parameters

The following specifications assume a maximum load of 45.5 kg (100 lb), including platforms, clamps, glassware and contents.

13.6.1 Agitation

<table>
<thead>
<tr>
<th>Speed</th>
<th>Orbit 2.5 cm (1 in)</th>
<th>Orbit 5.1 cm (2 in)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed</td>
<td>20 rpm – 400 rpm</td>
<td>20 rpm – 300 rpm</td>
</tr>
</tbody>
</table>

The speed can be set in increments of 1 rpm

<table>
<thead>
<tr>
<th>Control accuracy</th>
<th>±0.5 rpm</th>
</tr>
</thead>
</table>

Innova S44i stacked on Innova 44/44R

<table>
<thead>
<tr>
<th>Maximum load (including platform, clamps, glassware and contents)</th>
<th>Orbit 2.5 cm (1 in)</th>
<th>Orbit 5.1 cm (2 in)</th>
</tr>
</thead>
<tbody>
<tr>
<td>45.5 kg (100 lb)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Platform load</th>
<th>35.4 kg (78 lb)</th>
</tr>
</thead>
</table>

13.6.2 Load

<table>
<thead>
<tr>
<th>Maximum load (including platform, clamps, glassware and contents)</th>
<th>Orbit 2.5 cm (1 in)</th>
<th>Orbit 5.1 cm (2 in)</th>
</tr>
</thead>
<tbody>
<tr>
<td>45.5 kg (100 lb)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Platform load</th>
<th>35.4 kg (78 lb)</th>
</tr>
</thead>
</table>

13.6.3 Temperature

<table>
<thead>
<tr>
<th>Temperature</th>
<th>Innova S44i incubated</th>
<th>Innova S44i incubated/ refrigerated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum</td>
<td>5 °C above ambient temperature</td>
<td>20 °C below ambient temperature (minimum 4 °C)</td>
</tr>
<tr>
<td>Maximum</td>
<td>80 °C</td>
<td></td>
</tr>
<tr>
<td>Control accuracy</td>
<td>±0.1 °C at 37 °C</td>
<td></td>
</tr>
<tr>
<td>Uniformity</td>
<td>±0.25 °C at 37 °C and 150 rpm</td>
<td></td>
</tr>
<tr>
<td>Indication</td>
<td>Displayed in increments of 0.1 °C</td>
<td></td>
</tr>
</tbody>
</table>

13.6.4 Photosynthetic light

<table>
<thead>
<tr>
<th>Main wave length</th>
<th>Wideband spectrum 400 nm – 700 nm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intensity range</td>
<td>15 PAR – 150 PAR</td>
</tr>
<tr>
<td>Uniformity</td>
<td>±10%</td>
</tr>
<tr>
<td>Indication</td>
<td>Displayed in increments of 5 %</td>
</tr>
<tr>
<td>Output</td>
<td>150 W</td>
</tr>
<tr>
<td>Voltage</td>
<td>48 VDC</td>
</tr>
</tbody>
</table>
13.7  Counterweight

13.7.1  Counterweight settings for Balance Master calibration

Counterweight settings for Balance Master calibration of single and stacked devices

<table>
<thead>
<tr>
<th>Position of device in stacked configuration</th>
<th>Orbit</th>
<th>Counterweight setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single</td>
<td>2.5 cm (1 in)</td>
<td>8.5</td>
</tr>
<tr>
<td></td>
<td>5.1 cm (2 in)</td>
<td>17.0</td>
</tr>
<tr>
<td>Bottom of double</td>
<td>2.5 cm (1 in)</td>
<td>12.0</td>
</tr>
<tr>
<td></td>
<td>5.1 cm (2 in)</td>
<td>17.0</td>
</tr>
<tr>
<td>Top of double</td>
<td>2.5 cm (1 in)</td>
<td>5.0</td>
</tr>
<tr>
<td></td>
<td>5.1 cm (2 in)</td>
<td>12.0</td>
</tr>
<tr>
<td>Bottom of triple</td>
<td>2.5 cm (1 in)</td>
<td>13.5</td>
</tr>
<tr>
<td></td>
<td>5.1 cm (2 in)</td>
<td>20.0</td>
</tr>
<tr>
<td>Middle of triple</td>
<td>2.5 cm (1 in)</td>
<td>6.5</td>
</tr>
<tr>
<td></td>
<td>5.1 cm (2 in)</td>
<td>15.0</td>
</tr>
<tr>
<td>Top of triple</td>
<td>2.5 cm (1 in)</td>
<td>3.0</td>
</tr>
<tr>
<td></td>
<td>5.1 cm (2 in)</td>
<td>7.0</td>
</tr>
</tbody>
</table>

13.7.2  Optimal counterweight settings

The following table indicates optimal counterweight settings depending on the load.

Tab. 13-1:  Counterweight settings for devices with a 2.5 cm (1 in) orbit

<table>
<thead>
<tr>
<th>Optimal counterweight setting</th>
<th>Load in kg</th>
<th>Load in lb</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.0</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2.5</td>
<td>3.0</td>
<td>6.7</td>
</tr>
<tr>
<td>3.0</td>
<td>6.1</td>
<td>13.6</td>
</tr>
<tr>
<td>3.5</td>
<td>9.3</td>
<td>20.4</td>
</tr>
<tr>
<td>4.0</td>
<td>12.4</td>
<td>27.3</td>
</tr>
<tr>
<td>4.5</td>
<td>15.5</td>
<td>34.1</td>
</tr>
<tr>
<td>5.0</td>
<td>18.6</td>
<td>40.9</td>
</tr>
<tr>
<td>5.5</td>
<td>21.7</td>
<td>47.8</td>
</tr>
<tr>
<td>6.0</td>
<td>24.8</td>
<td>54.6</td>
</tr>
<tr>
<td>6.5</td>
<td>27.9</td>
<td>61.5</td>
</tr>
<tr>
<td>7.0</td>
<td>31.0</td>
<td>68.3</td>
</tr>
<tr>
<td>7.5</td>
<td>34.1</td>
<td>75.1</td>
</tr>
<tr>
<td>8.0</td>
<td>37.2</td>
<td>81.9</td>
</tr>
<tr>
<td>8.5</td>
<td>40.3</td>
<td>95.6</td>
</tr>
<tr>
<td>9.0</td>
<td>43.4</td>
<td>95.6</td>
</tr>
</tbody>
</table>
Tab. 13-2: Counterweight settings for devices with a 5.1 cm (2 in) orbit

<table>
<thead>
<tr>
<th>Optimal counterweight setting</th>
<th>Load in kg</th>
<th>Load in lb</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.0</td>
<td>3.7</td>
<td>8.1</td>
</tr>
<tr>
<td>7.5</td>
<td>5.2</td>
<td>11.5</td>
</tr>
<tr>
<td>8.0</td>
<td>6.8</td>
<td>14.9</td>
</tr>
<tr>
<td>8.5</td>
<td>8.3</td>
<td>18.4</td>
</tr>
<tr>
<td>9.0</td>
<td>9.9</td>
<td>21.8</td>
</tr>
<tr>
<td>9.5</td>
<td>11.4</td>
<td>25.2</td>
</tr>
<tr>
<td>10.0</td>
<td>13.0</td>
<td>28.6</td>
</tr>
<tr>
<td>10.5</td>
<td>14.5</td>
<td>32.0</td>
</tr>
<tr>
<td>11.0</td>
<td>16.0</td>
<td>35.4</td>
</tr>
<tr>
<td>11.5</td>
<td>17.6</td>
<td>38.8</td>
</tr>
<tr>
<td>12.0</td>
<td>19.1</td>
<td>42.2</td>
</tr>
<tr>
<td>12.5</td>
<td>20.7</td>
<td>45.6</td>
</tr>
<tr>
<td>13.0</td>
<td>22.2</td>
<td>49.0</td>
</tr>
<tr>
<td>13.5</td>
<td>23.8</td>
<td>52.4</td>
</tr>
<tr>
<td>14.0</td>
<td>25.3</td>
<td>55.8</td>
</tr>
<tr>
<td>14.5</td>
<td>26.8</td>
<td>59.1</td>
</tr>
<tr>
<td>15.0</td>
<td>28.4</td>
<td>62.5</td>
</tr>
<tr>
<td>15.5</td>
<td>29.9</td>
<td>65.9</td>
</tr>
<tr>
<td>16.0</td>
<td>31.4</td>
<td>69.3</td>
</tr>
<tr>
<td>16.5</td>
<td>33.0</td>
<td>72.7</td>
</tr>
<tr>
<td>17.0</td>
<td>34.5</td>
<td>76.0</td>
</tr>
<tr>
<td>17.5</td>
<td>36.0</td>
<td>79.4</td>
</tr>
<tr>
<td>18.0</td>
<td>37.5</td>
<td>82.8</td>
</tr>
<tr>
<td>18.5</td>
<td>39.1</td>
<td>86.1</td>
</tr>
<tr>
<td>19.0</td>
<td>40.6</td>
<td>89.5</td>
</tr>
<tr>
<td>19.5</td>
<td>42.1</td>
<td>92.8</td>
</tr>
<tr>
<td>20.0</td>
<td>43.6</td>
<td>96.2</td>
</tr>
</tbody>
</table>
## 14 Ordering information

### 14.1 Devices

#### 230V 50/60 Hz

<table>
<thead>
<tr>
<th>Order no. (International)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Innova S44i</strong></td>
</tr>
<tr>
<td></td>
<td>230 V, 50 Hz/60 Hz</td>
</tr>
<tr>
<td>S44I300001</td>
<td>Orbit 2.5 cm (1 in), incubated</td>
</tr>
<tr>
<td>S44I310001</td>
<td>Orbit 2.5 cm (1 in), refrigerated</td>
</tr>
<tr>
<td>S44I311001</td>
<td>Orbit 2.5 cm (1 in), refrigerated, photosynthetic LED light bank</td>
</tr>
<tr>
<td>S44I320001</td>
<td>Orbit 5.1 cm (2 in), incubated</td>
</tr>
<tr>
<td>S44I330001</td>
<td>Orbit 5.1 cm (2 in), refrigerated</td>
</tr>
<tr>
<td>S44I331001</td>
<td>Orbit 5.1 cm (2 in), refrigerated, photosynthetic LED light bank</td>
</tr>
</tbody>
</table>

#### 120V 50/60 Hz

<table>
<thead>
<tr>
<th>Order no. (International)</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td></td>
<td><strong>Innova S44i</strong></td>
</tr>
<tr>
<td></td>
<td>120 V, 50 Hz/60 Hz</td>
</tr>
<tr>
<td>S44I200005</td>
<td>Orbit 2.5 cm (1 in), incubated</td>
</tr>
<tr>
<td>S44I210005</td>
<td>Orbit 2.5 cm (1 in), refrigerated</td>
</tr>
<tr>
<td>S44I211005</td>
<td>Orbit 2.5 cm (1 in), refrigerated, photosynthetic LED light bank</td>
</tr>
<tr>
<td>S44I220005</td>
<td>Orbit 5.1 cm (2 in), incubated</td>
</tr>
<tr>
<td>S44I230005</td>
<td>Orbit 5.1 cm (2 in), refrigerated</td>
</tr>
<tr>
<td>S44I231005</td>
<td>Orbit 5.1 cm (2 in), refrigerated, photosynthetic LED light bank</td>
</tr>
</tbody>
</table>

#### 100V 50/60 Hz

<table>
<thead>
<tr>
<th>Order no. (International)</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td></td>
<td><strong>Innova S44i</strong></td>
</tr>
<tr>
<td></td>
<td>100 V, 50 Hz/60 Hz</td>
</tr>
<tr>
<td>S44I000006</td>
<td>Orbit 2.5 cm (1 in), incubated</td>
</tr>
<tr>
<td>S44I010006</td>
<td>Orbit 2.5 cm (1 in), refrigerated</td>
</tr>
<tr>
<td>S44I020006</td>
<td>Orbit 5.1 cm (2 in), incubated</td>
</tr>
<tr>
<td>S44I030006</td>
<td>Orbit 5.1 cm (2 in), refrigerated</td>
</tr>
</tbody>
</table>
### 14.2 Accessories

<table>
<thead>
<tr>
<th>Order no. (International)</th>
<th>Description</th>
<th>Maximum quantity on platform</th>
</tr>
</thead>
<tbody>
<tr>
<td>S44I041001</td>
<td>Positioning base</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Innova S44i</td>
<td></td>
</tr>
<tr>
<td>S44I041002</td>
<td>10.16 cm (4 in)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>30.48 cm (12 in)</td>
<td></td>
</tr>
<tr>
<td>S44I040001</td>
<td>Universal platform</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Innova S44i</td>
<td></td>
</tr>
<tr>
<td>S44I042001</td>
<td>Static incubation shelf</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Innova S44i</td>
<td></td>
</tr>
<tr>
<td>S44I042002</td>
<td>Darkening window shade</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Innova S44i</td>
<td></td>
</tr>
<tr>
<td>S44I041003</td>
<td>Stacking kit</td>
<td></td>
</tr>
<tr>
<td></td>
<td>for triple stack</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Innova S44i</td>
<td></td>
</tr>
<tr>
<td>S44I041005</td>
<td>Stacking kit</td>
<td></td>
</tr>
<tr>
<td></td>
<td>for double stack</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Innova S44i</td>
<td></td>
</tr>
<tr>
<td>S44I041006</td>
<td>Stacking kit</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Stacking an Innova S44i on an Innova 44/44R</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Innova S44i – Innova 44/44R</td>
<td></td>
</tr>
</tbody>
</table>

**Tab. 14-1: Accessories for the universal platform**

Erlenmeyer flasks up to 5 L in size can be accommodated. If photosynthetic light or the static incubation shelf is installed, Erlenmeyer flask clamps for flasks of up to 5 L can be accommodated. If the static Incubation shelf is installed, Fernbach flasks up to 3 L can be accommodated.

<table>
<thead>
<tr>
<th>Order no. (International)</th>
<th>Description</th>
<th>Maximum quantity on platform</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACE-10S</td>
<td>10 mL Erlenmeyer flask clamp</td>
<td>238</td>
</tr>
<tr>
<td>M1190-9004</td>
<td>25 mL Erlenmeyer flask clamp</td>
<td>238</td>
</tr>
<tr>
<td>M1190-9000</td>
<td>50 mL Erlenmeyer flask clamp</td>
<td>130</td>
</tr>
<tr>
<td>M1190-9001</td>
<td>125 mL Erlenmeyer flask clamp</td>
<td>81</td>
</tr>
<tr>
<td>M1190-9002</td>
<td>250 mL Erlenmeyer flask clamp</td>
<td>49</td>
</tr>
<tr>
<td>M1190-9003</td>
<td>500 mL Erlenmeyer flask clamp</td>
<td>36</td>
</tr>
<tr>
<td>ACE-1000S</td>
<td>1 L Erlenmeyer flask clamp</td>
<td>20</td>
</tr>
<tr>
<td>ACE-2000S</td>
<td>2 L Erlenmeyer flask clamp</td>
<td>13</td>
</tr>
<tr>
<td>ACE-3000S</td>
<td>3 L Erlenmeyer flask clamp</td>
<td>8</td>
</tr>
<tr>
<td>ACE-4000S</td>
<td>4 L Erlenmeyer flask clamp</td>
<td>8</td>
</tr>
<tr>
<td>ACE-5000S</td>
<td>5 L Erlenmeyer flask clamp</td>
<td>6</td>
</tr>
<tr>
<td>M1190-9005</td>
<td>2 L Lauber Thompson flask clamp</td>
<td>15</td>
</tr>
<tr>
<td>ACFE-2800S</td>
<td>2.8 L Fernbach flask clamp</td>
<td>8</td>
</tr>
</tbody>
</table>
### Tab. 14-2: Dedicated platforms

<table>
<thead>
<tr>
<th>Order no. (International)</th>
<th>Description</th>
<th>Maximum quantity on platform</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACSB-500S</td>
<td>500 mL media bottle clamp</td>
<td>20</td>
</tr>
<tr>
<td>ACSB-1000S</td>
<td>1000 mL media bottle clamp</td>
<td>20</td>
</tr>
<tr>
<td>Different hole diameters available, refer to <a href="http://www.eppendorf.com">www.eppendorf.com</a></td>
<td>Test tube rack, small</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Test tube rack, medium</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Test tube rack, large</td>
<td>8</td>
</tr>
<tr>
<td>M1289-0700</td>
<td>Microplate rack, stack</td>
<td>4</td>
</tr>
<tr>
<td>TTR-221</td>
<td>Microplate rack, single layer</td>
<td>20</td>
</tr>
<tr>
<td>M1250-9700</td>
<td>Sticky pad</td>
<td>9</td>
</tr>
</tbody>
</table>

### Tab. 14-3: Sticky pad platform

<table>
<thead>
<tr>
<th>Order no. (International)</th>
<th>Description</th>
<th>Maximum quantity on platform</th>
</tr>
</thead>
<tbody>
<tr>
<td>M1250-9700</td>
<td>Sticky pad</td>
<td>9</td>
</tr>
</tbody>
</table>

### 14.3 Spare parts

<table>
<thead>
<tr>
<th>Order no. (International)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>S44I862015</td>
<td>Drain tubing kit</td>
</tr>
<tr>
<td></td>
<td>Base drain tubing, refrigeration drain tubing Innova S44i</td>
</tr>
<tr>
<td>S44I862020</td>
<td>Transport packaging</td>
</tr>
<tr>
<td></td>
<td>Incl. pallet, cardboard box</td>
</tr>
<tr>
<td></td>
<td>Innova S44i</td>
</tr>
</tbody>
</table>
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Declaration of Conformity

The product named below fulfills the requirements of directives and standards listed. In the case of unauthorized modifications to the product or an unintended use this declaration becomes invalid. This declaration of conformity is issued under the sole responsibility of the manufacturer.

Product name:
Innova® S44i
including accessories

Product type:
Incubated / Refrigerated Shaker

Relevant directives / standards:
2014/35/EC EN 61010-1, EN 61010-2-010, EN 61010-2-051,
UL 61010-1, UL 61010-2-010, UL 61010-2-051,
CAN/CSA-C22.2 61010-1, CAN/CSA-C22.2 61010-2-010, CAN/CSA-C22.2 61010-2-051

2014/30/EC EN 61326-1, EN 55011,
CISPR 11, 47 CFR FCC Part 15 Subpart B, ICES 003

2011/65/EU EN 50581

Hamburg, July 18, 2017

Dr. Wilhelm Plüster
Management Board

Dr. Thomas Uschkureit
Portfolio Management

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