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General information

This manual provides instructions for the installation and use of the TriNEST Microplate incubator and shaker instrument.

Changes from previous manual version

Changes made to this manual are marked with underlined text.

Trademarks

Copyright © 2008-2022, PerkinElmer, Inc. All rights reserved.
PerkinElmer® and Wallac® are registered trademarks of PerkinElmer, Inc.
TriNEST™ is a trademark of PerkinElmer, Inc.
All other trademarks are the property of their respective owners.

Intended purpose

The TriNEST™ microplate incubator and shaker is an IVD instrument intended to be used for incubation and shaking of microplates in accordance with the specific requirements of the different assays. The instrument is semi-automated and intended to be used by trained laboratory personnel.

The function, specific disorder, condition or risk factor to be identified, the product’s quantitative and qualitative properties, the specimen type, and the testing population are based on and described within the intended purpose of the applicable IVD assay.

Contact information

Manufacturer
Wallac Oy,
Mustionkatu 6,
FI-20750 Turku,
Finland.
Tel: 358-2-2678111.
Fax: 358-2-2678 357.
Email: info@perkinelmer.com
Website: www.perkinelmer.com

If you require service or assistance, please contact your local PerkinElmer representative.

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<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="CE" /></td>
<td>CE compliance mark</td>
</tr>
<tr>
<td>Symbol</td>
<td>Description</td>
</tr>
<tr>
<td>--------</td>
<td>-------------</td>
</tr>
<tr>
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<td>Manufacturer</td>
</tr>
<tr>
<td><img src="symbol.png" alt="Date of manufacture" /></td>
<td>Date of manufacture</td>
</tr>
<tr>
<td><img src="symbol.png" alt="Caution, consult instructions for use (label)" /></td>
<td>Caution, consult instructions for use (label)</td>
</tr>
<tr>
<td><img src="symbol.png" alt="Caution, consult instruction for use (instrument)" /></td>
<td>Caution, consult instruction for use (instrument)</td>
</tr>
<tr>
<td><img src="symbol.png" alt="Biological risks" /></td>
<td>Biological risks</td>
</tr>
<tr>
<td><img src="symbol.png" alt="Caution, hot surface" /></td>
<td>Caution, hot surface</td>
</tr>
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<td>Consult instructions for use</td>
</tr>
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<td><img src="symbol.png" alt="In vitro diagnostic medical device" /></td>
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<tr>
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<td>Serial number</td>
</tr>
<tr>
<td><img src="symbol.png" alt="This way up" /></td>
<td>This way up</td>
</tr>
<tr>
<td><img src="symbol.png" alt="Fragile, handle with care" /></td>
<td>Fragile, handle with care</td>
</tr>
</tbody>
</table>
## General information

<table>
<thead>
<tr>
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<th>Description</th>
</tr>
</thead>
<tbody>
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<td><img src="image" alt="Keep dry" /></td>
<td>Keep dry</td>
</tr>
<tr>
<td><img src="image" alt="Certification mark" /></td>
<td>Certification mark from testing laboratory</td>
</tr>
<tr>
<td><img src="image" alt="WEEE" /></td>
<td>WEEE, follow local guidelines when disposing of the equipment</td>
</tr>
<tr>
<td><img src="image" alt="Direct current" /></td>
<td>Direct current</td>
</tr>
</tbody>
</table>

### Contents of the package

- TriNEST Incubator and shaker (1296-0050)
- Power supply unit
- Mains power cables (115 V and 250 V)
- Attachment part (Connection Plate 2300073600) 2 pcs
- Cleaning tool
- Quality Control Certificate

The package contains all materials required for the installation and operation of the TriNEST Microplate incubator and shaker. For optional materials and spare parts that can be ordered from PerkinElmer, see [Optional features and spare parts](#).
Safety information

This section contains the safety information for the TriNEST Microplate incubator and shaker instrument.

Conventions

The following conventions are used in all system documentation:

Warning: A warning indicates a hazardous situation or operation that, if not avoided, could result in serious personal injury or death. Follow all stated precautions.

Caution: A caution indicates an operation that could cause damage to the instrument or loss of data if correct procedures are not followed.

Note: A note emphasizes significant information in a procedure or description and alerts users to key points of interest not related to personal injury.

In cases where a specific hazard or warning has been identified, such as an electrical or burn hazard, the related symbol will replace the standard exclamation mark in warnings.

Warnings and precautions

This section contains the safety warnings and precautions you need to keep in mind when using the TriNEST Microplate incubator and shaker instrument.

General safety

Warning: This equipment must be installed and used in accordance with the manufacturer’s recommendations. Installation and service must be performed by personnel properly trained and authorized by PerkinElmer.

Caution: Misuse of electrical equipment can cause electrical injury or other hazards.

Caution: Do not position the instrument in a way that makes it difficult to disconnect the power source. The operator should always have unhindered access to the power switch. Both the power switch and the DC power connector are located on the instrument’s back panel.

Figure 1: Power switch and DC power inlet

Warning: Only use the power supply delivered with the instrument.

Warning: Maximum three stacked instruments. The attachment parts (Connection Plate 2300073600) supplied with the instrument are required when stacking instruments on top of each other. Instrument stacking installation is only to be performed by personnel properly trained and authorized by PerkinElmer.
Caution: Hot surface. The inside of the incubation chambers can be heated to 70°C depending on the temperature selection. Check the temperature from the display before touching the inside of the incubation chambers. Be aware that the plate holder and the plate itself have the same temperature as the chamber they are located in.

Caution: Hot liquids. The temperature of the liquids inside the instrument can reach 70°C. Mishandling the plate can cause the liquid in it to spill or splash. The spilled liquid may cause scalds or burns if the liquid comes into contact with skin.

Chemical and biological hazards

Warning: Biohazard warning. The plates may contain biohazardous or chemically contaminated materials.

Warning: The plates are not fastened to the plate holder. Use caution when moving plates in their plate holders, especially if they contain biohazardous material.

Caution: Liquid can vaporize when heated. You are responsible for checking with the liquid supplier that the potential fumes from the vaporized liquid are not hazardous.

When operating the Trinest instrument, treat all samples and waste as potentially infectious and always wear appropriate protective equipment, consisting of a laboratory coat, protective gloves and safety glasses.

Do not touch the labware with unprotected hands to avoid direct contact with potentially hazardous substances and to prevent any cross contamination of the hardware.

If the Trinest instrument becomes contaminated with any sample material; it must be disinfected and cleaned as soon as possible. See Routine maintenance.

Risks associated with operation and maintenance

Caution: Do not use plates with a lid, frame or collar around the top. Using these types of plates may interfere with the plate detection mechanism. Three SBS standard size microplates can be loaded into one unit.

Warning: The plates are not fastened to the plate holder. Use caution when moving plates in their plate holders, especially if they contain biohazardous material.

Warning: If the plate holder mechanism is worn out, it may spill during shaking. Spillage may result in cross-contamination of the samples or in the contamination of the instrument and the plate holders. Do not touch the labware with unprotected hands and avoid direct contact with potentially hazardous substances.

Warning: Make sure that the incubation temperature is correct when loading the plates and during the incubation. The instrument does not give an error if the actual incubation temperature deviates from the target incubation temperature.

Warning: If the instrument chambers are already heated and you insert a plate without starting the incubation cycle, the plate incubates for as long as the temperature remains high enough. In this case, the instrument timer does not take the incubation time into account.

Warning: The plate incubates for as long as the temperature remains high enough unless it is removed from the instrument.

Caution: Keep your hands, head, and other body parts away from the moving parts when the instrument is in operation.

Warning: Disconnect the power supply before performing any maintenance on the instrument. Switch the instrument off from the power switch and disconnect the power supply cable from the mains.

Caution: Allow the incubation chambers to cool down before cleaning them.

Warning: Do not clean the instrument with chlorine bleach, detergents based on chlorine scouring powder, ammonium, steel wool or agents with metallic constituents. This can cause damage to the surface of the equipment.

Notice regarding serious incidents

For a patient/user/third party in the European Union and in countries with an identical regulatory regime (IVDR; EU 2017/746/EU); if, during the use of this device or as a result of its use, a serious incident has occurred, please report
it to the manufacturer and to your national authority. The contact information for the manufacturer of this device to report a serious incident is:

Wallac Oy
Mustionkatu 6, FI-20750 Turku, Finland
http://www.perkinelmer.com
Phone: +358 2 2678 111
Installation and storage

This section contains information regarding the installation and storage of the TriNEST Microplate incubator and shaker instrument.

Unpacking

Unpack the instrument carefully and check for any damage that may have occurred during transportation. If any parts are damaged or missing, contact your PerkinElmer representative.

Note: Pictures in this manual are for illustration purposes only and may not be an exact representation of the product. The actual product appearance may vary depending on model and country of delivery.

Environmental requirements

The instrument is intended to be used in a clean and controlled laboratory environment.

The instrument should be positioned to avoid exposure to excess dust, vibrations, strong magnetic fields, direct sunlight, draft, excessive moisture or large temperature fluctuations.

The laboratory table must be strong and have a flat and non-slip surface.

Leave sufficient clearance (10 cm) around the instrument for adequate air circulation.

Ambient temperature range during operation: 15 - 35°C

Relative humidity during operation: 10 - 75%

Installation

Use the power cable supplied to connect the instrument to the mains supply. This supply must have a protective earth. The appliance connector socket is at the back of the instrument.

To connect the instrument to a different mains system, you must use an authorized grounded adapter. Note! The power supply between the mains and the instrument works with voltages between 100V and 240V.

Warning: Maximum three stacked instruments. The attachment parts (Connection Plate 2300073600) supplied with the instrument are required when stacking instruments on top of each other. Instrument stacking installation is only to be performed by personnel properly trained and authorized by PerkinElmer.

Figure 2: Two TriNEST instruments stacked on top of each other, front view
Figure 3: Two TriNEST instruments stacked on top of each other, back view

Make sure the power switch is set to "0" before connecting to the mains.
Functional description

This section describes the functionality of the TriNEST Microplate incubator and shaker instrument.

Physical description

You can use the instrument as a single unit into which up to three microplates of standard size and height (For details, see Specifications and features on page 19) can be loaded at a time. All three incubation chambers are controlled by the same program, they cannot be programmed independently. However, you can stack up to three instruments, giving a total capacity of nine plates. Each instrument in the stack operates independently according to its own program.

Microplates fit into the removable plate holders that are supplied with the instrument.
A plate holder fits into an incubation chamber. It locks into place and holds the plate securely during shaking. It also has a spillage prevention mechanism where it raises the plate against the chamber’s ceiling. The plate remains in this position while in the instrument.

Push down the handle to make it easier to open the lock.

**Warning:** Remember that the plates are not fastened in the plate holders. Be very careful when moving plates in their plate holders, especially if they contain hot liquids or biohazardous material.

**Warning:** Replace the plate holders as soon as you notice wear on the mechanism (see Optional features and spare parts). If the plate holder mechanism is worn out, it may spill during shaking. Spillage may result in cross-contamination of the samples or in the contamination of the instrument and the plate holders. Do not touch the labware with unprotected hands and avoid direct contact with potentially hazardous substances.

**Caution:** Do not use plates with a lid, frame or collar around the top. Using these types of plates may interfere with the plate detection mechanism. Three SBS standard size microplates can be loaded into one unit.

**Note:** When using foil or an equivalent for covering a plate, wrap the excess covering material carefully under the plate to enable the free movement of the plate holder mechanism.

**Note:** Incubation of plates can be started at different times, although the program sets the same conditions in all three incubation chambers (i.e. they all have the same temperature and shaking speed). For details, see Operating instructions on page 14.

**Note:** The plate holder locks magnetically. Keep the locking surfaces clean.

**Note:** The instrument contains magnets. Make sure that they do not interfere with the used materials.

### Control panel

The instrument has a control panel with a display and several controls as shown in the figure.
Display

The display shows the following symbols (from top to bottom):

- **Program number** (01 to 20) and **Program name** (up to 6 characters)
- **Target incubation temperature** in the range of 20 to 70°C.
- An arrow pointing up shows the target has not yet been reached, but the temperature is rising towards it. An arrow pointing down shows the temperature is above the target and is cooling down towards it.
- **Incubation time** - in hours and minutes (max. 48 hours).
- **Shaking speed** - 400 to 1200 rpm in steps of 100; or OFF (no shaking)
- **Interval shake time** - in minutes and seconds (00:00 = no shaking)
- **Interval rest time** - in minutes and seconds (00:00 = no pause)

**Note:** During operation, an arrowhead appears next to functions that are occurring.

Near the bottom of the display you can see the status of the three plate holders:
**TriNEST Microplate incubator and shaker**

## Functional description

- **Filled box** - plate holder in with plate loaded
- **Full line** - plate holder in but empty
- **Dotted line** - plate holder out

During operation, timers show the incubation time left for each plate. After reaching zero the timers will count up. A “+” shows the timer is counting up i.e. it is the time elapsed since incubation was completed.

When all plates have been removed, the timers will disappear and the current temperature will be shown instead.

- **Current temperature** - this is visible near the bottom of the display when incubation is not occurring.

- **Incubation temperature** - this is visible at the bottom of the display. Select **Incub** in **Setup** to enable the follow-up of the current temperature during the incubation cycle. It shows the temperature in the incubation chambers to an accuracy of one tenth of a degree whereas the other temperature displays are rounded to the nearest half a degree.

### Controls

The controls are as follows:

- **Left and right arrow buttons** - used in parameter setting to step backwards or forwards through the parameters.

- **Selection dial** - used to select alphanumerical characters and symbols during parameter setting and to set times for incubating and shaking.

- **Preheat button** - used to start preheating.

**Red LED** - this will come on when the preheat button has been pressed. It will remain on until the target temperature is reached, then the LED will blink.

If the LED blinks it shows that the temperature has been reached but the preheat function is still active to maintain the temperature. The LED will go off when the **Start/Pause** button is pressed because the normal heating function will then be activated.

**Note:** The red LED will also come on if operation has been paused and there is at least one plate still in the instrument. This shows that heating is still on even though operation is paused. It will go off when all plates have been removed from the instrument.
### Functional description

**Start/Pause button** - this will blink when at least one plate has been loaded. Press it to start incubation. It will stop blinking but will remain on. If you press it during incubation, it will begin to blink, the timers will stop and operation will pause. Press it again to continue. It will be disabled when incubation is completed until all plates have been unloaded.

**Plate loaded indicators** - on the left of the display there are three green LEDs. A LED will be lit if a plate holder with a plate is in the corresponding incubation chamber. When incubation is completed for a plate, the indicator will blink to show that you should remove the plate.
Operating instructions

Switch on power with the switch at the back of the instrument. The software and hardware version numbers will briefly appear followed by Program 01.

Program selection

The current parameter values for Program 01 will be displayed. To see another program, turn the selection wheel until the number of that program is displayed.

Parameter editing

After selecting the program number, press the Right arrow for three seconds. The first character of the program name will be highlighted for editing.

Note: During parameter editing, press the Right (or Left) arrow to accept the selection and move the cursor to the next (or previous) parameter.

Program name - turn the selection wheel either clockwise or counter-clockwise until the required character appears. Press the Right arrow. The cursor will move to the next position.

Note: The order of the characters that appear when you turn the selection wheel is:
- capital letters (A-Z)
- small letters (a-z)
- numbers (0-9)
- symbols (!#$%&()*+,-./_space) "Space" is the last symbol before "A".

When you press the Right arrow after the sixth position, the cursor will move to the incubation temperature value.

Set the following parameters using the selection wheel and the arrow buttons:
**Operating instructions**

**Operation**

1. Select the program number with the selection wheel.

2. Press the **Preheat** button. The red LED beside it will come on. Wait until the selected temperature has been reached and the red LED blinks.

   **Note:** This is an optional function to pre-heat the incubation chambers

3. From the display, check that the target incubation temperature is correct and has been reached. Load plates in holders into the instrument. The **Start/Pause** button will blink.

   **Note:** Make sure all plate holders are loaded into the instrument before starting the operation. Be aware that the instrument does not start if all the plate holders are not loaded. A single missing or not properly loaded plate holder prevents the operation from starting

4. Press the **Start/Pause** button to start incubation. The timers will start to count down to zero.

   **Warning:** If the instrument chambers are already heated and you insert a plate without starting the incubation cycle, the plate incubates for as long as the temperature remains high enough. In this case, the instrument timer does not take the incubation time into account.

5. To make sure that the temperature remains correct, follow the incubation temperature at the bottom of the display.
**Warning:** Make sure that the incubation temperature is correct when loading the plates and during the incubation. The instrument does not give an error if the actual incubation temperature deviates from the target incubation temperature.

6. When the timer reaches zero, the green LEDs will blink and, if so configured, the instrument will start to beep (see Setup on page 16, "audible alerts" to control the sounds). The timers will begin to count up, showing how long has elapsed since incubation was completed.

7. Remove the plate holders with plates. The green LEDs will stop blinking and the timers will disappear. When all plates have been removed, the beep will stop.

**Warning:** The plate incubates for as long as the temperature remains high enough unless it is removed from the instrument.

### Adding plates during operation

If there is space, you can load additional plates after incubation has started.

Press the **Start/Pause** button. Shaking will stop and the timers will pause.

Load the additional plates, in their plate holders, into the empty incubation chambers.

Press the **Start/Pause** button. Incubation will resume.

**Note:** For any plate just loaded, (including one that has been temporarily removed and then reloaded) the incubation timer will reset and start from the beginning. For a plate that has not been removed, the timer will resume from when it paused.

**Note:** Make sure all plate holders are loaded into the instrument. The instrument will not start if all the plate holders are not loaded. A single missing or not properly loaded plate holder prevents the operation from starting for all three chambers.

Remove each plate when it becomes ready. After removing a plate and pushing the plate holder back into the instrument, press the **Start/Pause** button so that the other plates continue incubation. The green LEDs and the (optional) beep will indicate when each is ready.

**Warning:** The plate incubates for as long as the temperature remains high enough unless it is removed from the instrument.

**Note:** If you are using interval shaking and the interval is large compared with the total incubation time, a plate that is added after incubation is started may not get the same proportion of shaking and rest as the other plates because the interval timer does not reset for newly loaded plates.

### Setup

To see the Setup parameters, hold down the **Left** arrow when power is switched on.
**Setup**

- **Language** - only ENGLISH is available.
- **Audible alerts** - select ON if you want the instrument to beep when incubation is completed. Select OFF if you do not want it to beep.
- **Show temp** - there are three options (see below)

### Show temp

<table>
<thead>
<tr>
<th>Incub</th>
<th>Ambient</th>
<th>OFF</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Incub</strong> - the temperature in the incubation chambers (displayed with a 0.1°C accuracy). This will be shown at the bottom of the operational display. The incubation temperature needs to be selected to enable the following of the temperature during the incubation cycle.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Ambient</strong> - this is for service purposes. The temperature in the electronics compartment will be shown at the bottom of the operational display.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>OFF</strong> - no additional temperature will be shown at the bottom of the operational display. Not recommended.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Press the **Start/Pause** button to save these values and go to the Program selection mode.

**Note:** Do not use this function at the same time as editing the other Setup parameters because when you switch off the instrument, changes made to them will be lost.
Routine maintenance

**Warning:** Disconnect the power supply before performing any kind of maintenance. Switch off the instrument from the power switch and disconnect the power supply cable from the mains.

Regular cleaning

Keep all surfaces of the instrument clean from dust, as dust can have a negative impact on your sample analysis results. Use a damp lint-free cloth (mild suds). Do this cleaning as often as necessary to avoid buildup of dust on the instrument.

**Warning:** Never clean the instrument with chlorine bleach, detergents based on chlorine scouring powder, ammonium, steel wool or agents with metallic constituents. This would cause damage to the sensitive surface of the equipment.

Cleaning in case of spillage

In case of spills of infectious agents on the surfaces of the instrument the following disinfection procedure should be followed:

**Caution:** Allow the incubation chambers to cool down before cleaning them.

Switch off the power and unplug the instrument. Use disposable gloves. Soak up the spill with a disposable towel. Moisten a disposable towel with an alcohol solution (for example, 70 - 80 % ethanol) and clean the surfaces of the instrument. Place the disposable towels into a biohazard container.

Clean the interior of the chambers by using the cleaning tool provided with the instrument. You can wrap a damp cloth around the cleaning tool. You can use alcohol solution on the lint-free cloth.

You can clean plate holders by removing them from the instrument and wiping with a damp cloth (mild suds). If necessary disinfect with alcohol solution.

Any other maintenance should be performed by personnel authorized by PerkinElmer. Please contact your local PerkinElmer representative for organizing the delivery of the instrument for service.
Specifications and features

This section contains information on the specifications and features of the TriNEST Microplate incubator and shaker instrument.

Technical specifications

The technical specifications for the TriNEST Microplate incubator and shaker instrument are as follows.

Power requirements

Warning: Only use the power supply delivered with the instrument.

- Power consumption max.: 150 W
- Mains voltage AC input to the power supply: 100 - 240 V, 2 A, 50/60 Hz
- DC output from the power supply to the instrument: 24 V, 6.25 A

Capacity

Three microplates can be loaded in one unit.

Three units can be stacked for a total capacity of nine plates.

Any mixture of SBS standard size microplates can be used:

- Length 127.76 mm ± 0.12 (5.030 inches ± 0.005)
- Width 85.47 mm ± 0.12 (3.365 inches ± 0.005)
- Height 14.35 mm ± 0.25 (0.565 inches ± 0.010)

Caution: Do not use plates with a lid, frame or collar around the top. Using these types of plates may interfere with the plate detection mechanism. Three SBS standard size microplates can be loaded into one unit.

Temperature

The incubation temperature can be set from +20°C to +70°C in steps of ±1°C. The minimum temperature that can be achieved in the incubation chambers is 3°C above ambient but not lower than +20°C. It takes 16 minutes at most to raise the temperature from 24°C to a target temperature of 70°C.

If the default plate cooling time is too long for an assay, using one or more cooling block(s) can help. For more on cooling block, see Optional features and spare parts on page 21.

All three incubation chambers are subject to the same temperature conditions.

Temperature setting accuracy: ± 0.5°C.

Uniformity across a plate: better than 0.6°C.

Shaking

Three microplates can be shaken with an orbital vibrating motion.

- Shaking frequency: 0 or 400 - 1200 rpm in steps of 100 rpm.
- Amplitude of shaking: 2 mm (0.08 inches).
- Shaking precision: +/- 2%.

There are two shaking modes: Continuous or Interval.
Shaking time: 0 - 48 h in increments of 1 min.
Interval shaking active periods: 3 s - 60 min. in increments of 1 s or 1 min. If set to 0 s, shaking is off.

Note: Although the instrument will accept a value shorter than 3 seconds for a shaking active period, it may cause errors and therefore must not be used.
Note: Interval shaking rest period: 0 s - 60 min. in increments of 1 s or 1 min.
All three incubation chambers are subject to the same shaking conditions.

Time
Incubation time: up to 48 hours in steps of 1 minute.

Parameter sets
Up to 20 parameters sets (programs) can be stored in the instrument.

Measurements
The measurements of the TriNEST Microplate incubator and shaker instrument are as follows.

Physical dimensions
Depth: 350 mm (13.8 inches)
Width: 388 mm (15.3 inches)
Height: 225 mm (8.9 inches)

Weight
One unit: 15.7 kg (34.6 lb)
Three stacked units: 47.1 kg (103.8 lb)

Environmental conditions
The environmental conditions of the TriNEST Microplate incubator and shaker instrument are as follows.

Operating temperature
Ambient temperature range during operation: 15 - 35°C

Humidity
Relative humidity during operation: 10 - 75%

Altitude
Altitude: 2000 m
Pollution degree
Pollution degree of the intended environment: 2

Transportation and storage
To prevent damage, it is best to store and transport the instrument and its components in their original packing or other suitable container. Close the packaging with adhesive tape.
Store the instrument in a dry place.
Caution: Guard the instrument from impact and vibration during transport.

Transportation conditions
0 °C to +60 °C, Relative humidity 10 to 80%.

Storage conditions
0 °C to +60 °C, Relative humidity 10 to 80%.

Safety standards
Certification:
• IEC-CB, CE, NRTL
The instrument fulfills the requirements of:
• IEC 61010-1
• IEC 61010-2-101
• IEC 61010-2-010
• CAN/CSA-C22.2 61010-1
• UL 61010-1
• IEC 61326-1
• IEC 61326-2-6

Optional features and spare parts
The following optional features can be ordered separately from PerkinElmer:
• Cooling block: the cooling block is designed to cool the plates once the incubation/shaking is over. The cooling block allows for quicker cooling of the nests. Typically, one cooling block in the middle nest will do but for rapid cooling, place one cooling block in each nest. Note that the cooling block’s own temperature affects the cooling speed.
Caution: Do not use cooling blocks while the instrument is shaking. There is no locking mechanism for cooling blocks and their movement, produced by the shaking, will cause damage to the inner coating of the chamber.
Part number for ordering: 1296-2090

- **Plate holder**: the TriNEST incubator-shaker unit has three plate holders: one for each of the three chambers. The plate holder not only serves as a drawer to insert the plate into the instrument, it also has a spillage prevention mechanism whereby it raises the plate against the chamber's ceiling where the plate remains while in the instrument. This mechanism is subjected to wear and tear and a worn-out mechanism can result in spillage, especially during shaking operations.

In order to avoid spillage, replace the plate holders as soon as you start noticing wear in the mechanism.

Part number for ordering (spare part): 2300026300

- **Power supply**: The TriNEST incubator-shaker power supply unit to replace the PSU delivered with the instrument in case it is broken or lost.

Part number for ordering (spare part): 1296-2040
Error handling

This section contains information for handling errors given by the TriNEST Microplate incubator and shaker instrument.

General

Due to the very compact design of the 1296-0050 TriNEST Incubator Shaker it is very limited what is cost efficient to repair on the unit. Therefore the policy is for most failures to fully replace the instrument with a new one.

Quality check of shaking and heating systems are built in the instrument and in case the instrument displays one of the below error messages, reboot the instrument and if the problem persists, contact authorized service person.

Error 1, Tmp sens n

Temperature sensor number n cannot be found.

Error 2, Heater n

Heater element number n is detached or has short circuited.

Error 3, Motor belt

Oven is not moving, conveyer belt has been detached, speed indicator sensor is detached or broken, or there is an error with motor.

Error 4, Motor rpm

The shaking rpm of the oven is incorrect. This can be caused by error in conveyer belt or in motor.
A label with a crossed-out wheeled bin symbol and a rectangular bar indicates that the product is covered by the Waste Electrical and Electronic Equipment (WEEE) Directive and is not to be disposed of as unsorted municipal waste. Any products marked with this symbol must be collected separately, according to the regulatory guidelines in your area.

The objectives of this program are to preserve, protect and improve the quality of the environment, protect human health, and utilize natural resources prudently and rationally. Specific treatment of WEEE is indispensable in order to avoid the dispersion of pollutants into the recycled material or waste stream. Such treatment is the most effective means of protecting the customer’s environment.

Requirements for waste collection, reuse, recycling, and recovery programs vary by regulatory authority at your location. Contact your local responsible body (e.g. your laboratory manager) or authorized representative for information regarding applicable disposal regulations. Contact PerkinElmer at the website listed below for information specific to PerkinElmer products.

Website:
www.perkinelmer.com/WEEE

Europe: follow the link provided above to access instructions on WEEE handling specific to different European countries

Customer Care USA: call 1-800-762-4000

Customer Care Rest of the World: call (+1) 203-925-4602

Products from other manufacturers may also form a part of your PerkinElmer system. These other producers are directly responsible for the collection and processing of their own waste products under the terms of the WEEE Directive. Please contact these producers directly before discarding any of their products.

Consult the PerkinElmer web site (above) for producer names and web addresses.
Warranty

The enclosed instrument comes with a limited warranty (the “Warranty”) from Wallac Oy (“Wallac”), a PerkinElmer company. This is only a summary of the warranty on the enclosed instrument and shall not be deemed to alter or amend the terms of the Warranty. Consult the terms and conditions, and rental or purchase agreement for a full explanation of the Warranty.

In general, for a period of twelve (12) months from the date of installation, or fifteen (15) months from the date of shipment (the “Instrument Warranty Period”), whichever comes earlier, Wallac warrants that this instrument is free from defects in materials and workmanship.

During the Instrument Warranty Period, Wallac will provide parts and labor to repair defects in materials and workmanship.

Note: The warranty on this instrument does not cover required Periodic Maintenance (“PM”), if any, the cost and expense of which must be borne by the purchaser or renter. Failure to perform required PM shall void the Warranty. PerkinElmer and authorized representatives are available to perform PM. Please contact your PerkinElmer representative for additional information on PM.

The full provisions of the limited warranty for this product are available at https://www.perkinelmer.com/corporate/policies/terms-conditions-of-sale.html.