



## Digital Platform Rocker

88882013 & 88882014

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**In the United States:**

For customer service, call 1-800-766-7000  
To fax an order, use 1-800-926-1166  
To order online: [thermofisher.com](http://thermofisher.com)

**In Canada:**

For customer service, call 1-800-234-7437  
To fax an order, use 1-800-463-2996  
To order online: [thermofisher.ca](http://thermofisher.ca)

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**ThermoFisher**  
SCIENTIFIC

**Operating Manual**

Revision A .04 01 2021

**ThermoFisher**  
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## Section 1 Important Information

Ignoring the following warnings could cause serious injuries or even fatal accidents.

Check the voltage, phase and capacity of power supply on the ID plate before installation. Connect properly.

Power supply must be properly grounded. Abnormal grounded connection causes serious damage. Grounded connection must not be on the water pipe and gas pipe.

Use provided power cord. Power cord: Wall outlet with grounded terminal power cord 250V 10A

Do not install the product in a place that gas could leak. Do not use in a place that has industrial oil smoke or metallic dust. It causes fire or electric shock. Do not use the machine near to places where explosion could happen due to organic evaporating gases.

Explosive materials: acid, ester, nitro compound.

Inflammable materials: salt peroxides, inorganic peroxide, salt acids.

Check equipment for permissible environmental conditions when using inside of Temperature and Humidity Chamber or Incubator. It can be the cause of fire or trouble by stirrer electricity, electronic, and damage of motor.

Rocker's permissible environmental condition. Temperature 5°C to 40°C, Maximum relative humidity 80%.

Unplug if there is a strange sound, smell and/or smoke from the product. Stop

operating and request the service.

Keep out of the direct sunlight. It may influence product life and proper operation.

Do not use the machine at places where moisture is high and flooding can happen.

Changes to the product could result in product inefficiency. Also this will void warranty. Which also indicates a hazardous situation, if not avoided may result in minor or moderate injury.

Do not put heavy things on the power cord. Do not put the machine on the cord. It may take off the wire coating and cause electric shock or fire.

Do not touch it with wet hands and place the main plug correctly. It could cause the electric shock or injuries.

Installing power outlet near instrument may be convenient. Allow adequate spacing around the product to ensure proper ventilation, accessibility to the power switch and for allowing the instrument to run without impediment.

Do not install the stirrer near machinery generating high frequency noise. Avoid installation close to high frequency-welding machine, sewing machine, or mass SCR controller.

Do not inject any liquid and inflammable things inside of product.

Do not pour water or put liquid on the top of the product when cleaning. Disconnect the main power immediately and request the service if water may be in the product.

Do not let the product take any strong shock or vibration. It could cause abnormal operation or trouble. It may deteriorate the ability of the product operation and not obtain correct results.

Do not sprinkle insecticide or flammable spray on the product. Use smooth cloths. Cleaning with solvent can cause fire and deformity.

Power off while product cleaning. It may cause electric shock or fire.

Do not drop or allow the machine to fall. It will cause wrong operation and malfunction.

Only accessories that meet the manufacturer's specifications shall be used.

### Disposing of Product

Dispose of the unit by separating the plastic, motor and electronics and dispose according to local laws and regulations.

## Section 2 Introduction

Welcome to Thermo Scientific Digital Platform Rocker. This Digital Platform Rocker is applicable to various mixing operations in different areas, including hybridization, blotting and staining, or distaining gels. To avoid accident during operation, please use rubber bands to fasten containers onto the tray.

This product is intended to be used in a laboratory setting and is not to be used in a clinical setting.

### 2.1 Feature

- ◆ It has left and right reciprocating working mode.
- ◆ Provides 1~15° adjustable angle range.
- ◆ It has speed adjustment, continuous operation and timing function.
- ◆ It has speed/angle adjustment display function.
- ◆ It uses a knob to achieve stepless speed regulation.
- ◆ It uses step-motor, with accurate speed control, stability, safe and reliable features.
- ◆ It has a power recovery function.
- ◆ The housing material is ABS, which has excellent heat resistance, corrosion resistance, impact resistance and chemical resistance.
- ◆ Provide large size tray and rubber strips to meet customer needs.

## Section 3 Inspection and Installation

Before unpacking the unit, first check for damages in the package of the unit.

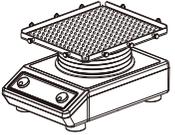
Then unpack the unit. Check carefully to see if there were damages incurred during transit.

After unpacking, check that all unit parts and accessories are as listed below.

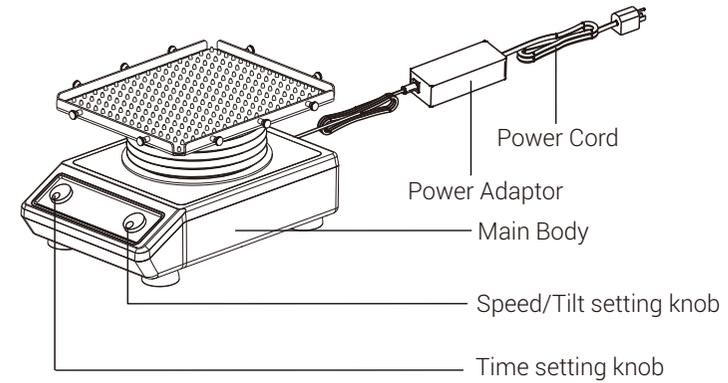
Contact us or the agent from which you purchased the unit if any components were omitted.

### 3.1 Packing List

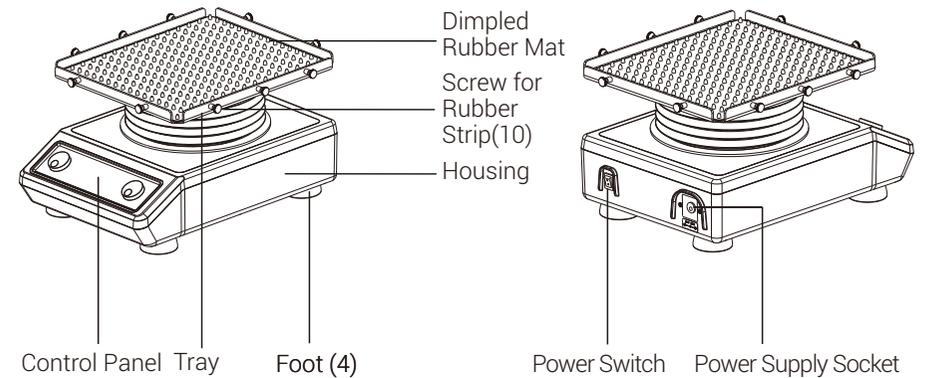
Table -1. Packing List

Description	Catalog Number		Figure
Digital Platform Rocker	88882013	88882014	
Dimpled Rubber Mat (Installed)	1	1	
General Power Adaptor	1	1	
US Plug	1	N/A	
CN Plug	N/A	1	
EU Plug	N/A	1	
UK Plug	N/A	1	
Screw for Rubber Strip (Installed)	10	10	
Rubber Strip	6	6	

### 3.2 Connections



### 3.3 Structure Diagram



## Section 4 Overview

### 4.1 Specifications

<b>Rotation Speed</b>	Speed Range.....1~70rpm
	Display Accuracy.....1rpm
	Speed Accuracy..... $\pm 1\text{rpm} \leq 50\text{rpm}$ , $\pm 2\text{rpm} > 50\text{rpm}$
<b>Rocking Angle</b>	Rocking Mode.....Left right reciprocating motion
	Angle Range..... $1^\circ \sim 24^\circ$
	Angle Accuracy..... $\pm 1^\circ$
<b>Load</b>	Maximum Load (Centered on tray)..... $8\text{kg} @ \leq \pm 12^\circ$ @ $\leq 40\text{rpm}$
<b>Time</b>	Timing Range.....0 (Continuous) / 1s - 9999 min
<b>Size</b>	Overall Dimensions..... $390 \times 292 \times 206\text{mm}$
	Tray Dimensions..... $322 \times 282 \times 19\text{mm}$
	Packaging Dimensions..... $487 \times 387 \times 354\text{mm}$
<b>Weight</b>	Net Weight.....11.5Kg(25.3lb)
	Gross Weight.....13.5Kg(29.8lb)
<b>Power Supply</b>	Input Requirement.....100-240VAC~, 50/60Hz, 0.1A
	Output Requirement..... $24\text{V} = , 2.5\text{A}$
<b>Others</b>	Certificate.....RoHS, WEEE, cCSAus, CE Mark

### 4.2 Environmental Conditions

Application Environmental Conditions: Indoor use	
Temperature.....	5 to $40^\circ\text{C}$
Voltage Fluctuation.....	$\pm 10\%$ of the nominal voltage
Altitude.....	$\leq 2,000\text{ m}$
Humidity.....	20% to 85%
Storage Environmental Conditions	
Temperature.....	0 to $60^\circ\text{C}$
Humidity.....	20% to 90%, non-condensing

### 4.3 Safety Instructions

Please read the entire instruction manual before operating the Digital Platform Rocker.

**⚠ WARNING DO NOT** use the Digital Platform Rocker in a hazardous atmosphere or with hazardous materials for which the unit was not designed. Also, the user should be aware that the protection provided by the equipment may be impaired if accessories used are not provided or recommended by the manufacturer, or are used in a manner not specified by the manufacturer.

**CAUTION !** To avoid electrical shock, completely cut off power to the unit by disconnecting the power cord from the unit or unplug from the wall outlet. Disconnect unit from the power supply prior to maintenance and service. Any spills should be removed promptly. Bio hazard spills should be cleaned using approved liquid promptly. Solvent spills are a fire hazard.

Stop the unit immediately, and DO NOT operate until clean up is complete and vapors have dissipated.

**DO NOT** immerse the unit for cleaning.

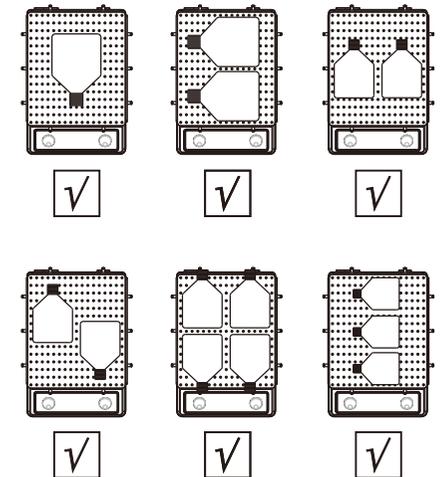
**DO NOT** operate the unit if it shows signs of electrical or mechanical damage.

#### Position of Loads

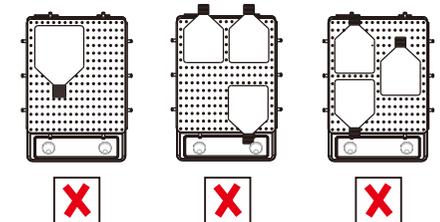
Place the loads in the recommended positions below:

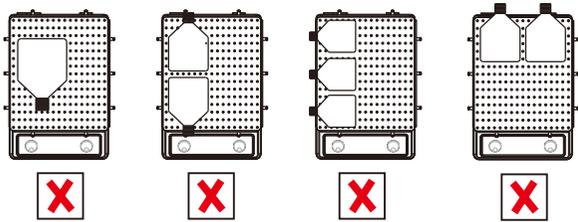
1. Place load at the center of the tray.
2. Place loads symmetrically around the center of the tray.
3. Make sure to use rubber strips to fasten containers onto the tray.

#### Symmetrical placement



#### Asymmetrical placement





**⚠** Asymmetric loading or unloading may affect the normal operation of the instrument and may even cause unpredictable damage.

#### 4.4 Loads, Angle and Speed

Tilt Angle	Placement	Maximum Speed (rpm)	Maximum Weight (Kg)
24°	Centered	70	2.0
1°	Centered	70	2.0
24°	Centered	50	4.0
1°	Centered	50	4.0

##### Double Layer Platform

Part of Accessory	Tilt Angle	Placement	Maximum Speed (rpm)	Maximum Weight (Kg)
Double Platform	1°-24°	Centered	70	1.0
Single Platform	1°-24°	Centered	70	2.0

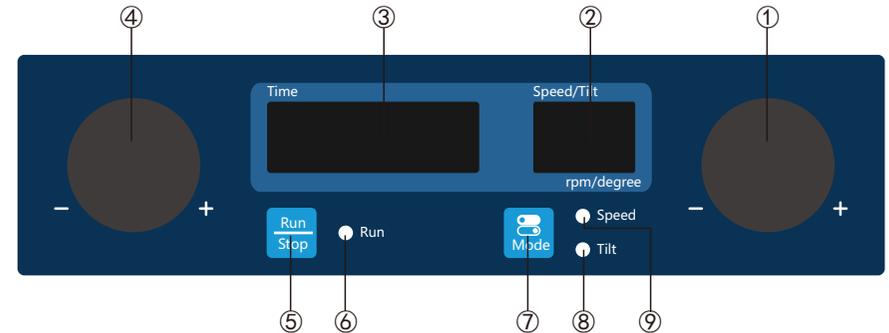
**Warning:** It may affect the maximum speed of the instrument if placing the cell culture flask in the corner or on one side of the tray. If asymmetrical

placement is required by the experiment, do not set to max speed instead change the speed gradually.

## Section 5 Operation

This chapter covers the control panel and its operation.

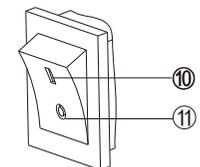
### 5.1 Control Panel



- ①. Speed/Tilt setting knob: Turn the knob clockwise or counterclockwise are used to increase/decrease the set speed/Tilt of instrument.
- ②. Speed/Tilt display window: The window displays set speed/tilt (when the instrument is in standby) or current speed/tilt (when the instrument is running).
- ③. Time display window: The window displays cumulative time (in continuous mode) or remaining time (in timer mode). The range of time displayed is 0s to 9999 minutes.
- ④. Time setting knob: Turn the knob clockwise or counterclockwise are used to increase/decrease the set time of instrument.
- ⑤. Run/Stop button: Start or stop the instrument.

- ⑥. Run indicator: The light is on when the instrument is running and off when the instrument is in standby.
- ⑦. Mode button: Switch modes between Speed and Tilt settings.
- ⑧. Tilt indicator: The light is on when the instrument is in Tilt Adjustment Mode.
- ⑨. Speed indicator: The light is on when the instrument is in Speed Adjustment Mode.

#### Power Switch



- ⑩. Gear I: When the switch is in "gear 1", the instrument power is on.
- ⑪. Gear O: When the switch is in "gear 0", the instrument power is off.

## 5.2 Installation of Two Trays

Only accessories that meet the manufacturer's specifications shall be used.

1. Remove the screw for rubber strip at positions A1 to A4 as shown in the figure 1.
2. Place the two trays on to the Stacking Bars at position A1 to A4 shown in the figure 2.
3. Fasten the screw for rubber strip on the two trays as shown in the figure 3.

### Warning:

- (1). The maximum load on upper layer cannot exceed 1Kg at 70rpm.
- (2). It can be used with rubber strips(88882103) to prevent the tube falling off due to too large swinging Angle, The direction of tube placement as shown in the figure 4.

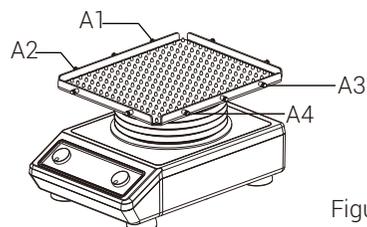


Figure 1

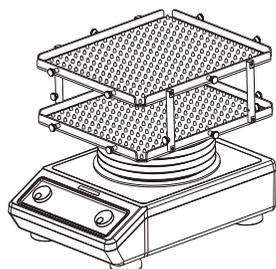


Figure 2

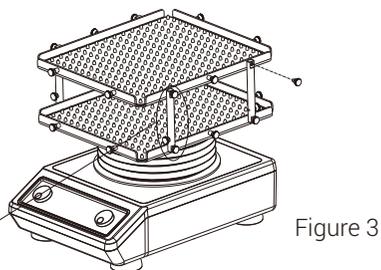


Figure 3

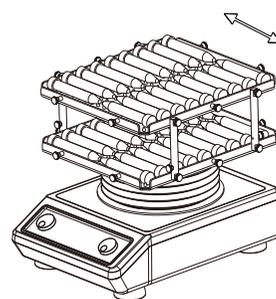


Figure 4

## 5.3 Installation

1. Connect all the components according to the figures shown on page 4 of this manual. Use grounded power outlet. Ensure the machine is on a flat surface prior to operating.
2. Press the power switch "I" side and switch on the instrument.

## 5.4 Settings

### Time Settings

1. Continuous mode  
Press the Time setting knob. To decrease time, rotate the knob counter clockwise/to increase time, rotate the knob clockwise, when the time display window shown 00:00, then press the knob with in 5sec to confirm the setting, the digital tube will stop flashing and the time setting is complete. the instrument is in continuous mode.

### 2. Timer mode

- Press the Time setting knob. To decrease time, rotate the knob counter clockwise/to increase time, rotate the knob clockwise then press the knob with in 5sec to confirm the setting, the digital tube will stop flashing and the time setting is complete. the instrument is in timer mode.

### Speed Settings

1. Press the "Mode" button and the Speed indicator light will be on.
2. Press the Speed/Tilt setting knob.  
To decrease speed, rotate the knob

counter clockwise/to increase speed, rotate the knob clockwise then press the knob with in 5sec to confirm the setting, the digital tube will stop flashing and the speed setting is complete.

### Tilt Angle Setting

1. Press the "Mode" button and the Tilt indicator light will be on.
2. Press the Speed/Tilt setting knob.  
To decrease tilt, rotate the knob counter clockwise/to increase tilt, rotate the knob clockwise, then press the knob with in 5sec to confirm the setting, the digital tube will stop flashing and the tilt setting is complete.

### Rocking Time Settings

Press the Time setting knob, The window will show the time value. When the time shown is between 00:01 to 99:59, the default step of the instrument when changing the time is 1 second. Continue to turn the knob clockwise and the value 0100 will show on the Time display window. When the time shown in between 0100 to 9999, the default step is 1 minute. and the press the knob again within 5sec, the digital tube stop flashing, instrument will automatically take the value shown as the set rocking time.

### Run and Stop

Press "  " button and the instrument will start running with the specified settings and the Run indicator light will be on.

The Time display window will show the cumulative time (Continuous Mode), or remaining time (Timer Mode) and the Speed/Tilt display window will show the current speed/tilt.

Press "  " button again and the instrument will slow down until it stops. The instrument will then be in standby and the two display windows will show the set values.

### Finish Operation

After the operation is finished, press the power switch at the back right side the instrument and put it into the "O" state. Unplug the instrument and store the instrument according to the storage guide.

### Alarm System

Err1: If running speed does not match the setting speed, the instrument will have a three-time reboot, and after the three reboots failed, there will be a buzzer, and then Err1 will be displayed in the Speed display window .

End of timer: The instrument buzzing alarm, the "End" is displayed in the Speed window.

When the instrument alarms, press any key, the instrument is back to the standby mode.

### Power Recovery

If the power supply is cut off suddenly while the instrument is in operation, the unit will automatically run at the previously set parameter upon power restoration. The display windows will flash. Press any button to stop flashing.

### Mechanical Zero Correction

To ensure accurate and quality rocking, the instrument will automatically run mechanical zero correction in the following situations:

1. First operation after the machine is turned on.
2. First operation after the rocking speed is reset.
3. After 4 hours of continuous operation (speed > 50rpm);  
After 8 hours of continuous operation (speed ≤ 50rpm).

## Section 6 Safety Tips and Maintenance

### Safety Tips

1. Use independent power supply.
2. Check if the local power supply voltage is suitable for use.
3. Do not drag the power supply cable when unplugging.
4. Do not use non-specified power cable or damaged cable.
5. Service should only be performed by a qualified professional.
6. The power supply must be unplugged under the following situations:
  - (1). When the unit is moved
  - (2). When the electrical cabinet or the moving component is opened
  - (3). When the equipment is malfunctioning
  - (4). When the equipment is not in use
7. Check that the instrument and the accessories are in good condition before each operation.

### Cleaning

In order to ensure the safe use of the instrument, please follow the manufacturer's recommendations for cleaning when cleaning the instrument.

- ◆ Unplug the power first when cleaning.
- ◆ Wipe the instrument with a damp, soft cloth or non-corrosive cleaning agent.
- ◆ Direct spray instruments are prohibited.
- ◆ Make sure that the instrument is completely dry before operating it.
- ◆ Please wear gloves when cleaning.

**Warning:** Avoid dripping detergent or water into the inside of the instrument during cleaning.

### Clean Spill

If accidental spillage of liquids caused by mishandling or contained breakage occurs on the surface of the instrument, please shut down the instrument and clean up the liquid immediately.

If the liquid has already spilled into the unit, cut off the power supply first and immediately clean up the liquid at the surface of the instrument. Place the instrument in a ventilated and dry environment for 24 hours before reuse. If the instrument is not functioning after drying for 24 hours, please contact the manufacturer.

**Warning:** The operator is not permitted to gain access using a tool, to a part which in normal use may be hazardous live.

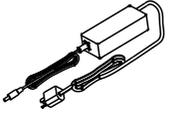
## Section 7 Troubleshooting

Please refer to the following table to troubleshoot if any malfunction occurs.

If the problem still exists, contact your local sales representative.

Error	Cause	Solution
Cannot start instrument, LED display window off	Power disconnected	Connect the power
	Power switch off	Switch on power
	Power adaptor failure	Replace power adaptor
No shaking of the tray	Over-weighted or unbalanced load	Adjust the weight and position of load, decrease rotation speed
	Electrical malfunction	Contact Thermo Scientific
	Mechanical malfunction	Contact Thermo Scientific
Loud noise	Housing loose	Fasten housing screws
	Tray loose	Fasten screws
	Instrument vibrate	Place instrument at a flat and firm surface
Err1	Operational obstruction	Shut down and restart, useless, please contact Thermo Scientific
Other	Keep record for maintenance	

## Section 8 Optional Accessories

Description	Cat. No.	Dimensions	Max. Qty.	Figure
Double Layer Tray w/6 screws	88882148	338x299x19mm	1	
Double Layer Stacking Bars, 4ea w/4 screws	88882161	Φ12x108mm	1	
Rubber Mat	88882101	298x258x5mm	1	
Dimpled Rubber Mat	88882102	298x258mm	1	
Rubber Strips 6 Ea/pack	88882103	180x7mm	6	
Screw for rubber strips 8 Ea/pack	88882129	Φ12x14mm	8	
General Power Adaptor w/US plug	88870126	125VAC 10A 1.8m	1	
General Power Adaptor w/AUS, CN plug	88870127	250VAC 10A 1.8m	1	
General Power Adaptor w/EU plug	88870128	250VAC 16A 1.8m	1	
General Power Adaptor w/UK plug	88870129	250VAC 13A 1.8m	1	

### Note:

For two trays application, please purchase 88882148, 88882161, 88882102 or 88882101 additionally.

## Section 9 Warranty

### THERMO FISHER SCIENTIFIC STANDARD PRODUCT WARRANTY

The Warranty Period starts two weeks from the date your equipment is shipped from our facility. This allows for shipping time so the warranty will go into effect at approximately the same time your equipment is delivered. The warranty protection extends to any subsequent owner during the first year warranty period.

During the first two (2) years, component parts proven to be non-conforming in materials or workmanship will be repaired or replaced at Thermo's expense, labor included. Installation and calibration are not covered by this warranty agreement. The Technical Services Department must be contacted for warranty determination and direction prior to performance of any repairs. Expendable items, glass, filters and gaskets are excluded from this warranty.

Replacement or repair of components parts or equipment under this warranty shall not extend the warranty to either the equipment or to the component part beyond the original warranty period. The Technical Services Department must give prior approval for return of any components or equipment. At Thermo's option, all non-conforming parts must be returned to Thermo Fisher Scientific postage paid and replacement parts are shipped FOB destination.

THIS WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, WHETHER WRITTEN, ORAL OR IMPLIED. NO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE SHALL APPLY. Thermo shall not be liable for any indirect or consequential damages including, without limitation, damages relating to lost profits or loss of products.

Your local Thermo Sales Office is ready to help with comprehensive site preparation information before your equipment arrives. Printed instruction manuals carefully detail equipment installation, operation and preventive maintenance.

If equipment service is required, please call your Technical Services Department at 1-866-984-3766, option number 2. We're ready to answer your questions on equipment warranty, operation, maintenance, service and special application. Outside the USA, please contact local Thermo Technical Services Department or local distributor for warranty information.

## Section 10 Compliance

### 1. European Union

 The European voltage models of this product meet all the applicable requirements of the European Directives and therefore display the CE Marking. These Directives are captured in the EU Declaration of Conformity which may be obtained from the manufacturer.

### 2. Product Safety

This product family has been tested to applicable productsafety standards by a Nationally Recognized Test Laboratory (NRTL) and may bear the NRTL's mark of safety compliance to those applicable standards.

### 3. Electromagnetic Compatibility

#### 3.1 FCC Statement (USA)

 Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

**Note:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with

the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

#### 3.2 Canadian ISCED IC Notice

This ISM digital apparatus complies with Canadian ICES-001. Cetappareil ISM estconformeá la norme NMB-001 du Canada.owing optimum tray rotation.

#### 3.3 Korean KC Registration

 사용자안내문  
이기는은무용환경에서사용할 목적으로적합성평가를받은기기로서가정용환경에서사용하는경우전파 간섭의우려가있습니다

WARNING Statement: EMC Registration is done on this equipment for business use only. It may cause interference when the product would be used in home. This warning statement applies a product for business use.

### 4. Environmental Compliance

#### 4.1 Evaluation of Chemicals - Regulations and Directives

##### 4.1.1 REACH - Europe

 Thermo Fisher Scientific is committed to meeting all compliance obligations to evaluate, communicate, and register any Substances of Very High Concern (SVHC), and finding alternates where

appropriate.

#### 4.1.2 RoHS - Europe

Thermo Fisher Scientific is determined to reduce the impact we have on the environment, and so can declare that this product fully complies with the European Parliament's RoHS2 (Restriction of Hazardous Substances) Directive 2011/65/EU, with respect to the limitation for the following substances:

- Lead (0.1 %)
- Mercury (0.1 %)
- Cadmium (0.01 %)
- Hexavalent chromium (0.1 %)
- Polybrominated biphenyls (PBB) (0.1 %)
- Polybrominated diphenyl ethers (PBDE) (0.1 %)

2015/863 Annex II (RoHS2 Amendment, In effect after July 22, 2021)

- Bis(2-ethylhexyl) phthalate (DEHP) (0.1 %)
- Butyl benzyl phthalate (BBP) (0.1 %)
- Dibutyl phthalate (DBP) (0.1 %)
- Diisobutyl phthalate (DIBP) (0.1 %)

Our compliance is witnessed by written declaration from our suppliers and/or component testing. This confirms that any potential trace contamination levels of the substances listed above are below the maximum level set by the latest regulations or follow established

exemptions of the regulation due to their application.

#### 4.1.3 RoHS - China

This product complies with the requirements of the legislative act Administration on the Control of Pollution Caused by Electronic Information Products (ACPEIP). A label of conformance, such as one of the following, may be found on the product:



### 5. End of Life Care

Some considerations and suggestions are listed below for proper disposal of this product. While addressing these actions for safe recycling and disposal, please follow all guidelines, Safety Data Sheets (SDS), or regulations applicable to your location.

- This product has materials and components that may be recycled or reused according to local guidelines and regulations.
- Clean up any chemical or biological safety hazards.



**WEEE Compliance.** This product is required to comply with the European Union's Waste Electrical & Electronic Equipment (WEEE) Directive 2012/19/EU. It is marked with the following symbol. Thermo Fisher Scientific has contracted with one or more recycling/disposal

companies in each EU Member State, and this product should be disposed of or recycled through them. Further information on our compliance with these Directives, the recyclers in your country, and information on Thermo Scientific products which may assist the detection of substances subject to the RoHS Directive are available at [www.thermofisher.com/](http://www.thermofisher.com/)