FOUR E'S SCIENTIFIC

Operating Instructions
使用说明书

Dry Bath Incubator
大干浴器

TC0401001 TC0401002 TC0401003 / BlockS BlockM BlockL

本产品有一位干浴器 二位干浴器 四位干浴器 三个版本

Contents

Safety Instructions

- Read the operating instructions in full before starting up and follow the safety instructions.
- Keep the operating instructions in a place where they can be accessed by everyone.
- Ensure that only trained staff work with the appliance.
- Follow the safety instructions, guidelines, occupational health and safety and accident prevention regulations.
- Socket must be earthed (protective ground contact).
- Before starting the device for the first time, ensure that the connector cable is suitable for the type of socket used and that a safe protective earth connection is assured.
- **Risk of burns!** Exercise caution when touching the housing parts and the heating plate. The heating plate can reach temperatures in excess of 120 °C. Pay attention to the residual heat after switching off. **The device may not be transported unless it is cold!**
- Don't operate the appliance in explosive atmospheres, with hazardous substances or under water.
- Set up the appliance in a spacious area on an even, stable, clean, non -slip, dry and fireproof surface.
- The base plate must be clean and intact.
- The voltage stated on the type plate must correspond to the mains voltage.
- The socket for the mains cord must be easily accessible.
- The power supply cable and cables to the external sensors must not be allowed to come into contact with the hot mounting plate.
- Check the appliance and accessories before hand for damage each time you use them. Do not use damaged components.
- **Caution!** Only media whose flashpoint lies above the safety temperature limit of 130°C may be processed or heated with this device.

• Beware of hazards due to:
  - Flammable materials
  - Combustible media with a low boiling temperature
  - Incorrect container size
  - Overfilling of media
  - Unsafe condition of container.
• Only process media that will not react dangerously to the extra energy produced through processing. This also applies to any extra energy produced in other ways, e.g. through light irradiation.
• Bear in mind the possibility of contamination that might lead to undesirable chemical reactions.
• Wear your personal protective equipment in accordance with the hazard category of the media to be processed.

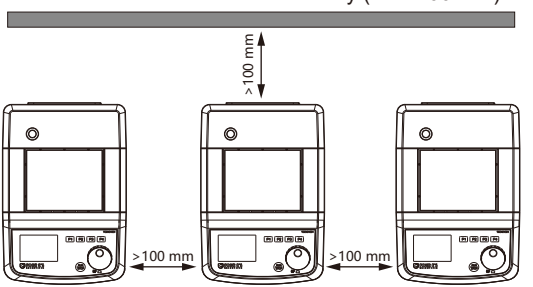
Otherwise there is a risk from:
  - Splashing and evaporation of liquids
  - Ejection of parts
  - Release of toxic or combustible gases

• Immerse external temperature sensor PT 1000 at least 20 mm deep into the medium.
• The external temperature sensor PT1000 must always be inserted in the media when connected.
• A high boiling point media (above 120°C, such as glycerin) can also be put into one of the block holes, and the PT1000 probe can be inserted into that hole.
• Do not heat liquid media except with the block. Never pour liquid media directly on to the heating plate!
• Accessories must be securely attached to the machine and can't come off by themselves.

• Always disconnect the plug before fitting accessories.
• Safe operation is only guaranteed with the accessories described in the “Accessories” chapter.
• The appliance must only be disconnected from the mains supply by pulling out the plug-in power supply unit.

To the protection of the equipment

- The appliance may only be opened by experts.
- Do not cover the device, even partially e.g. with metallic plates or film. This results in overheating.
- Protect the appliance and accessories from bumps and impacts.
- Ensure that the base plate is kept clean.
- Observe the minimum distances between the devices, between the device and the wall and above the assembly (min. 100 mm)



Unpacking

Unpack the package carefully and examine the contents for potential damages that may have occurred during transit. If you observe discernible damage, please promptly contact your local seller for assistance. In the event of any discernible damage to the device, refrain from connecting the device to a power source to avoid any potential risks or further harm.

Package contains:

Item	Qty.
Main Unit	1
Power cable	1
Thread handle	1
External temperature sensor PT1000	1
Operating instruction	1

Correct Use

• Use

- For heating media in block heaters

• Range of use

- Laboratories, Schools, Pharmacies and universities

Environmental Conditions

This equipment is designed to operate under the following conditions:

• For indoor use only

• Use in a well-ventilated area

• Ambient temperature range 5°C to 40°C

• Relative humidity not exceeding 80%

• Mains supply fluctuation not exceeding 10%

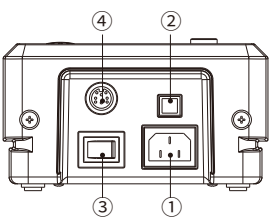
Installation

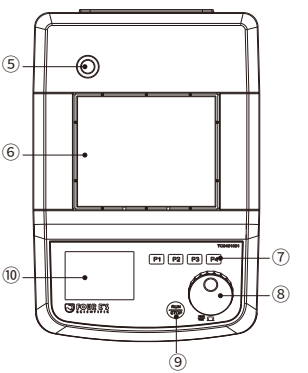
The instrument should be carried using both hands. Never move or carry the instrument when in use or connected to the mains electricity supply. Allow the unit to fully cool to ambient temperature before handling the instrument.

1. Before connecting the instrument to the mains electricity supply, check the voltage against the rating plate (located on the back of the unit). Please note that the unit must be earthed to ensure proper electrical safety.

2. Place the unit on a suitable flat surface.
3. Our instruments are supplied with a power cable. Plug the mains cable into the socket on the back of the instrument, and into a suitable power outlet.
4. Select the dry bath block appropriate for your application. A list of available blocks is given in the “Accessories” section of this manual. Ensure both the underside of the block(s) and the top of the hotplate of the device are clean to allow efficient heat conduction.
5. Place the insert blocks onto the hotplate in the well of the unit and place tubes containing your sample liquid in the blocks.
6. It is important that there is a close fit of the tubes in the block to allow efficient heat transfer.
7. Switch on the instrument.

Operation





① Power port	⑥ Dry bath module placement area
② USB interface (only for our internal tests)	⑦ Program
③ Power switch	⑧ “TEMP/TIMER” knob
④ PT1000 sensor port	⑨ “Run/Stop
⑤ Threaded hole for support clamp	⑩ LED Display

Display

1. °C/°F Icon: This icon shows the current units (either Celsius or Fahrenheit) set for the device.
2. Heating Status Indicators:
   a. Heating: The Heating Icon [ ] signifies that the device is in heating mode (the device is either raising or holding the temperature). “HEATING” is displayed if the device is currently raising the temperature. “HOLDING” is displayed if the device is currently holding the set temperature.
   b. Cooling: The Cooling Icon [ ] signifies that heating is currently inactive while in a running process to let the block cool down, due to the device temperature being higher than the set temperature. “COOLING” will be displayed.
3. PT1000 Temperature Probe Indicator:
   This icon [ ] lights up when the PT1000 temperature probe is connected to the device. In this mode, the PT000 temperature readings are used for display.
4. Delayed Start Indicator:
   This icon [ ] lights up when the timer mode is in delayed start mode. In this mode, the timer value is the remaining amount of time to elapse before heating starts.
5. Temperature Display:
   The temperature display shows the current temperature of the blocks as measured by either the internal or external sensor depending on the mode active. The set temperature is briefly displayed every few seconds.
6. Timer Display:
   The timer display is in HH : mm and starts counting down when the temperature of the dry bath reaches the set temperature (except in delayed start mode).

• **Temperature Setting**

The temperature setting can only be workable when the machine is powered on but not when it's working. Press the blue knob "TEMP/TIME"; the temperature value on the LED display will flash, and then set the temperature by horizontal rotation of the knob.

• **Time Setting**

The time setting can only be workable when the machine is powered on but not when it's working. Press the blue knob "TEMP/TIME" twice; the time value on the LED display will flash, and then set the time by horizontal rotation of the knob.

• **PT1000 Mode**

In this mode, the temperature value represents the actual temperature of the block-well/media depending on where the PT1000 sensor is placed. If placing in a block well, fill a well to the brim with silica oil, and place the PT1000 sensor in that well. Immerse external temperature fully into the oil/medium and make sure the probe touches the bottom. Important: The external temperature sensor PT1000 must always be inserted in the block/media when connected. Failure to do so may cause the media to overheat and result in Error Er4.

• Switch between Fahrenheit Temperature and Celsius Temperature

Switch between the Fahrenheit Temperature and the Celsius Temperature by Pressing P1 and P2 simultaneously.

• Program

1. Create a new program

The system can save 4 programs of the temperature and time. When the machine stops working, long press P1, P2, P3 or P4 to save the new data as P1, P2, P3 or P4 respectively.

2. Program for quick operation

Short press P1, P2, P3 or P4 and the machine can work with the correspo -nding data (temperature and time) kept by the different programs. The user can also rotate the blue knob to choose the different programs.

• Delayed Start Mode

Press and hold P1 and P3 simultaneously to enter or exit Delayed Start Mode. In this mode, the timer value is the remaining amount of time to elapse before heating starts. The default countdown timer function is not available while Delayed Start Mode is active.

Temperature Calibration

Calibration Procedure

Your device is calibrated before shipment. If the internal sensor's temperature deviates more than 0.5°C from the actual dry bath temperature (measured by a calibrated external probe), recalibrate following the steps below. The calibration follows a 4-point calibration of 40°C, 60°C, 80°C, and 100°C.

Calibration Requirements:

• Ambient Temperature: Below 40°C

• Initial Block Temperature: Ambient temperature (below 40°C)

Calibration Modes:

There are three calibration modes:

1. CA01 (Manual, No PT1000): Use an external temperature probe as the calibration reference.
2. CA02 (Automatic, With PT1000): Uses the connected PT1000 sensor as the calibration reference.
3. CA03 (Manual, With PT1000): Use an external temperature probe as the calibration reference.

Calibration Steps:

1. Prepare the Block:

- Choose a center well.
- Fill it with a high-boiling-point solution (above 120°C, e.g., glycerin) to the brim.
- Place the calibration reference probe in the well.

2. Enter Calibration Mode:

- Press P1 and P4 simultaneously.

3. Select Calibration Mode:

- No PT1000: CA01 is automatically selected.
- With PT1000: Use the "TEMP/TIME" knob to toggle between CA02 and CA03.

4.Start Calibration:

- Automatic Calibration (CA02): Press "RUN/STOP" and let the system complete all points.
- Manual Calibration (CA01 or CA03):

• The P1, P2, P3, P4 buttons correspond with 40°C, 60°C, 80°C, and 100°C respectively.
• Press the desired point (start from P1)
• Press "RUN/STOP" to start heating.

Note: Steps 5-8 are only applicable to the manual calibration modes.

5.Wait for Temperature Stability:

- Once the system reaches "HOLDING" mode, wait 30 minutes.

6.Adjust Calibration:

- Read the temperature on the reference probe.
- Use the "TEMP/TIME" knob to adjust the device's reading to match the reference.

7.Save Calibration Point:

- Press "RUN/STOP" to save the calibration and end heating for the

current point.

8.Repeat for Other Points:

- Repeat steps 4-7 for the remaining calibration points (follow the sequence from P1 to P4)

Reboot the device after calibration has completed.

Error code

If the unit cannot work properly with below faults, it will show the corresponding error code and beep for warning.

Item	Fault code	Fault description	Solution
1	E1	External sensor short-circuit	Replace the sensor
2	E2	Internal sensor open circuit	Replace the sensor
3	E3	Internal sensor short-circuit	Replace the sensor
4	E4	External sensor isn't in the block	Ensure the sensor is firmly in the block

Please contact your supplier in case a sensor needs to be replaced.

Maintenance and Cleaning

- The device is only subject to the natural wear and tear of components and their statistical failure rate.
- Do not allow moisture to get into the device when cleaning.
- Wear protective gloves during cleaning the devices.
- Please disconnect the device and use only cleaning agents which have been approved by us to clean our device.

The following are some potential pollutants and corresponding cleaning agents.

Pollutant	Applicable Cleaning Agent
Dyes	isopropyl alcohol
Constructions materials	water containing tenside / isopropyl alcohol
Cosmetics	water containing tenside / isopropyl alcohol
Foodstuffs	water containing tenside
Fuels	water containing tenside

For some pollutants which are not listed in above table, please contact us directly.

Caution:

- Electrical devices may not be placed in the cleaning agent for the purpose of cleaning.
- Please only send devices in for repair that have been cleaned and are free of materials which might present health hazards.
- Before using another than the recommended method for cleaning or decontamination, the user must ascertain with the manufacturer that this method does not destroy the device.
- If the device is not in use for a long time, please disconnect the power and store it in a dry, clean, stable location.

Repairs

Should you have problems with your Dry Bath Incubator which cannot be easily remedied, you should contact your supplier. Please include details of the fault observed, and the full serial number of the unit.

Any repairs or replacement of parts MUST be undertaken by suitably quantified personnel. Only spare parts supplied or specified by the supplier should be used. Fitting of non-approved parts may affect the performance of the safety features designed into the instrument.

If in any doubt please contact the supplier.

Technical Data

Model	TC0401001	TC0401002	TC0401003
Number of blocks	1	2	4
Heat output [W]	165	250	430
Heating temperature range [°C]	RT+5°C to 150°C	RT+5°C to 150°C	RT+5°C to 150°C
Temperature display	LED	LED	LED
Adjustment and display resolution [K]	0.1	0.1	0.1
Temperature stability within the blocks < 60°C * [±°C]	±0.5	±0.5	±0.5
Temperature stability within the blocks > 60°C * [±°C]	±1	±1	±1
Temperature Uniformity < 60°C * [K]	0.2	0.5	0.5
Temperature Uniformity > 60°C * [K]	0.2	0.5	1
Set-up plate material	Aluminium alloy	Aluminium alloy	Aluminium alloy
Set-up plate dimensions [mm]	96x76	96x152	96x304
Fixed safety circuit [°C]	180	180	180
Timer	√	√	√
Time setting range	1min-99h59min	1min-99h59min	1min-99h59min
Dimensions (W x H x D)	152x86x190mm	152x86x300mm	152x86x465mm
Weight [kg]	1.5	2.5	7.5
Permissible ambient temperature	5 - 40 °C	5 - 40 °C	5 - 40 °C
Permissible relative humidity	80%	80%	80%
Protection class according to DIN EN 60529	IP 21	IP 21	IP 21
Voltage	200-240/115	200-240/115	200-240/115
Frequency	50/60 Hz	50/60	50/60
Power input]	165 W	250	412

Warranty

We guarantee that our scientific instruments adhere to the most rigorous engineering and quality standards. This instrument is warranted to be free from defects in materials and workmanship under normal use and service, for a period of 24 months from the date of dispatch. The warranty is extended only to the original purchaser. For claims under the warranty, please contact your local supplier. After the warranty period expires, the manufacturer retains the right to invoice the cost price for the repair or maintenance of a faulty device, along with any associated service fees.

Scope of Warranty

The following conditions are not covered under the warranty.

- Faults or damage caused by negligence, improper installation, improper operation, or failure to use and maintain the machine in accordance with the instructions in this operating manual.
- Issues caused by unauthorized disassembly or modification.

Accessories

Part No.	Description
TC0401001-35	Single block, Eppendorf tubes, 20x1.5mL, Φ11.5mm x 36.9mm
TC0401001-54	Single Block, conical tubes, 12 x 15ml, Φ17.1mm x 44.5mm
TC0401001-55	Single Block, conical tubes, 5 x 50ml, Φ29.0mm x 47.6mm
TC0401001-60	Single Block, PCR tube, 0x0.5mL, Φ7.9mm x 27.6mm
TC0401001-61	Single Block, mircotube combination, 6/10/5 x 0.5/1.5/2ml
TC0401001-62	Single Block, microtubes, 20x 1.5mL, Φ11.1mm x 39.1mm
TC0401001-63	Single Block, conical tubes, 20 x 1.5ml, Φ11.5mm x 38.1mm
TC0401001-64	Single Block, Corning tubes, 20 x 1.5ml, Φ 10.9mm x 38.1mm
TC0401001-66	Single Block, centrifuge tube combination, 4/3/2 x 1.5/15/50ml
TC0401001-67	Single Block, round tubes, 30 x 6mm, Φ 8.3mm x 48.4mm
TC0401001-68	Single Block, round tubes, 24x 10mm, Φ10.7mm x 48.4mm
TC0401001-69	Single Block, round tubes, 16x 12/13mm, Φ13.9mm x 48.4mm

Part No.	Description
TC0401001-70	Single Block, round tubes, 20x 12/13mm, Φ 13.9mm x 48.4mm
TC0401001-71	Single Block, round tubes, 12x 15/16mm, Φ17.5mm x 48.4mm
TC0401001-72	Single Block, round tubes, 8x 20mm, Φ 21mm x 48.4mm
TC0401001-73	Single Block, round tubes, 6x 25mm, Φ 26.2mm x 48.4mm
TC0401001-74	Single Block, round tubes, 4x 35mm, Φ 35mm x 47.6mm
TC0401001-75	Single Block, round tubes, 12x 17/18mm, Φ19.1mm x 48.4mm
TC0401001-76	Single Block, vials, 20x 12mm, Φ12.7mm x 30mm
TC0401001-77	Single Block, vials, 20x 15mm, Φ15.8mm x 35mm
TC0401001-78	Single Block, vials, 12x 17mm, Φ17.8mm x 45mm
TC0401001-79	Single Block, vials, 12x 19mm, Φ19.7mm x 45mm
TC0401001-80	Single Block, vials, 9x 21mm, Φ 21.7mm x 45mm
TC0401001-81	Single Block, vials, 8x 23mm, Φ 23.8mm x 45mm
TC0401001-82	Single Block, vials, 8x 25mm, Φ 25.8mm x 45mm
TC0401001-83	Single Block, vials, 6x 28mm, Φ 28.8mm x 45mm
TC0401001-84	Single Block, vials, 15x 16mm, Φ16.4mm x 45mm
TC0401001-85	Single Block, 10x8 PCR tube strips, 0.2mL tubes
TC0401001-86	Single block, 64 PCR tube strips, 0.2mL tubes
TC0401001-88	Single block, 2x6 cuvettes, 12.5mm
TC0401001-89	Single block, 0.2MLx96-well centrifuge tubes
TC0401001-91	Single block, round tubes, 20x2.0ML, φ11.5x38.1mm

目录

请仔细阅读说明书并在说明书的操作指导下安全使用本仪器。
外形和性能指标如有变动，概不另行通知。

前言

欢迎使用《干浴器说明书》。用户在使用本仪器前应仔细阅读本说明书，了解相关注意事项，并按照说明书中的指导和规范进行操作。

符合性声明

仪器结构符合以下安全标准：
E2006/95/EG
2004/108/EG
2011/65/EU指令
并符合以下标准或标准性文档
EN 61010-1:2010
EN 61326-1:2006
EN 61010-2-010:2003

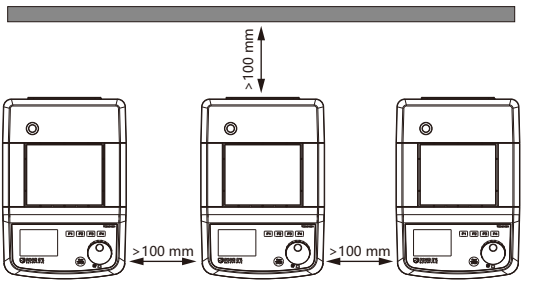
1. 安全说明

- 为了能够安全地使用设备，每个用户必须首先阅读操作说明并遵守其中包含的安全说明

注意
这些操作说明，并将它们放置在每个人都可以查阅到的地方。

- 请遵守所有相关的安全指示和指示，以及实验室使用的工作安全和事故预防规定。
- 本仪器只适用于加热物质
- 输入电压必须与仪器铭牌上标示的电压一致。
- 小心高温! 触摸仪器外壳和盘面时小心烫伤。
- 仪器工作时盘面可能处于高温状态。 仪器关闭后，也请注意余热，只有仪器温彻底冷却后才可以移动机器
- 禁止在爆炸性环境中使用本仪器；本仪器不具有防爆功能。
- 使用能够形成爆炸性混合物的物质，必须采取合适的安全措施，例如，在通风橱下工作。
- 为避免人身伤害和财产损失，请在处理危险物品时遵守相关的安全和事故预防措施。
- 只有使用机器原装选配件才可确保安全。
- 请注意避免仪器电源线/温度传感器线缆触及盘面。
- 每次使用前请检查仪器和配件并确保无损，请勿使用损毁的仪器和配件。
- **注意** 以下情形可能产生的危险:
  - 易燃物质
  - 低沸点可燃物质
  - 易碎玻璃容器
  - 容器大小不合适
  - 溶液过量
  - 容器处于不安全状态
- 将外部PT1000传感器浸入到介质中，至少20mm深。
- 接入外部PT1000传感器后，必须始终插在介质中。
- 高沸点溶液（大于120°C, 如甘油）可加入到模块孔中，将PT1000探头插入该孔中。
- 处理病原体介质时，请使用密闭容器并在合适的通风橱中进行
- 为保证无人监控下的安全操作，请使用燃点温度高于安全温度值的介质。
- 请使用我司原装选配件。
- 确保仪器放置间距合理:

- 仪器之间至少 100 mm
- 仪器距离四周墙壁至少 100 mm



2. 开箱检查

2.1 开箱检查

用户如发现任何包装损伤，请在收据上注明。在打开包装后如果发现任何内部损伤，请联系供货商。

⚠ 注意:

如发现仪器上有任何明显的损伤，请不要将其连接到电源。

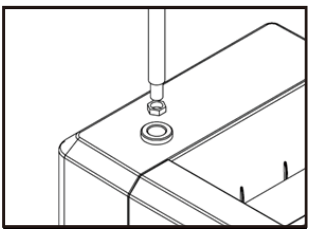
2.2 装箱清单

名称	数量
主机	1
电源线	1
温度传感器	1
选配件	
垂直支撑杆	1
水平杆	1
方形固定块	1
手拧螺丝	2
干浴器模块	-

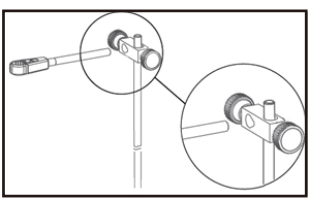
3. 安装

- 安装前请仔细阅读此说明书及其中部件安装部分
- 第一步 安装支撑架

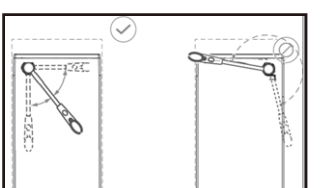
将螺母拧在支撑杆上,然后装入干浴器左上角螺丝孔内



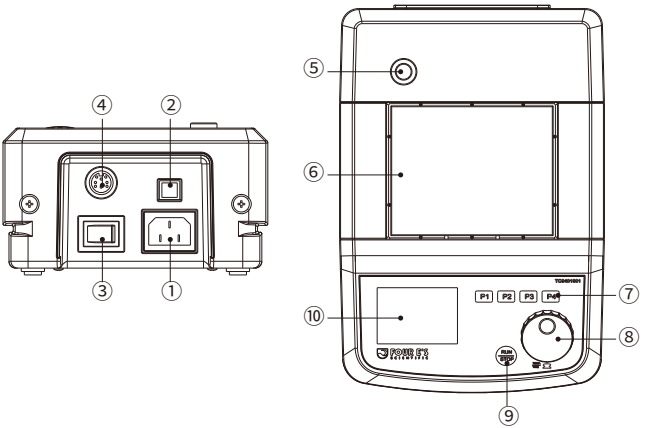
- 第二步 安装上固定夹



安装范围：所有设备的中心必须位于干浴器主体设备以内，如左图



4. 操作说明



① 电源线接口	② 数据接口	③ 电源开关
④ 温控探头接口	⑤ 支撑架孔	⑥ 干浴器模块放置区域
⑦ P1 P2 P3 P4	预设程序按键	
⑧ 编码器	设定时间和温度参数	
⑨ run/stop 按键	启动/停止	
⑩ 显示窗口	显示运行时间，设定温度，运行程序，外置装探头状态，预约模式，正常模式/校准模式等	

5. 开机运行

第一步：温度校准

校准流程

设备在出厂前已完成校准。如果内部传感器的温度与实际样品温度（通过外置传感器测量）偏差超过0.5°C，请按照以下步骤重新校准。本次校准采用4个校准点，包括40°C、60°C、80°C和100°C

校准要求：

- 环境温度：低于40°C
- 初始模块温度：环境温度（低于40°C）

校准模式：

共有三种校准模式：

1. CA01（手动，无PT1000）：使用外置传感器作为校准参考。
2. CA02（自动，有PT1000）：使用连接的PT1000传感器作为校准参考。
3. CA03（手动，有PT1000）：使用外置传感器作为校准参考。

校准步骤：

1. 准备模块：
   - 选择一个中央孔。
   - 使用高沸点溶液（高于120°C，如甘油）装满孔。
   - 将校准参考探针插入孔中。
2. 进入校准模式：
   - 同时按下P1和P4键。
3. 选择校准模式：
   - 无PT1000：自动选择CA01模式。
   - 有PT1000：使用 “TEMP/TIME” 旋钮在CA02和CA03之间切换。
4. 开始校准：
   - 自动校准（CA02）：按下RUN/STOP，系统将自动完成所有校准点。
   - 手动校准（CA01或CA03）：
   - P1、P2、P3、P4 按钮分别对应40°C、60°C、80°C和100°C。
   - 按下目标校准点（从 P1 开始）。
   - 按下 RUN/STOP 开始加热。

注意：以下步骤5-8仅适用于手动校准模式。

5. 等待温度稳定：
   - 当系统进入 “HOLDING” 模式时，等待30分钟。
6. 调整校准：
   - 读取外置传感器的温度值。
   - 使用 “TEMP/TIME” 旋钮将设备显示的温度值调整到与外置传感器测量值一致。
7. 保存校准点：
   - 按下 “RUN/STOP” 保存校准并结束当前校准点的加热。

8. 校准其他点：
   - 按照P1至P4的顺序，重复步骤4-7完成剩余校准点的校准。

校准完成后，请重新启动设备。

第二步：温度设置
温度设置只可以在系统停止状态下进行；按下TEMP/TIME键，温度显示栏闪动，此时可以调节编码开关至所需设置温度。

第三步：预约时间设定
预约时间设置只可以在系统停止状态下进行；按下TEMP/TIME键，温度显示栏闪动，再次按下TEMP/TIME键，时间显示栏闪动，此时可以调节编码至所需设定时间。

第四步：华氏/摄氏温度转换
同时按下P1，P2键可以在华氏/摄氏温度间切换。

第五步：加热参数保存
系统可以保存四组常用的运行参数，包括温度和时间，可供用户快捷调用。在停止状态下，长按P1(P2/P3/P4)可将当前参数保存到P1(P2/P3/P4)对应的参数组。

第六步：加热参数调取
通过快捷方式调取已经保存的加热参数。在停止状态下，短按P1(P2/P3/P4)可以调取已经保存的参数作为当前运行参数，也可以通过旋转编码器调用P1/P2/P3/P4对应的运行参数。同时，右下角显示对应参数号Pn。

第七步：预约取消与启动
通过同时按下P1,P3取消/启动预约功能。在预约模式下，启动加热功能，则系统不会马上加热，待到达预约时间后再启动加热，且系统持续加热。在非预约模式下，当启动加热功能时，系统马上开启加热，且到达保温状态后定时器开始计时，计时完成后，系统停止加热。

6. 故障排除
故障类型包括：内部传感器开路，内部传感器短路，外部传感器开路，外部探头未插入模块中.。当出现故障时显示对应故障代码，同时蜂鸣器鸣叫（如下表）

序号	故障代码	故障类型
1	E1	外部传感器短路
2	E2	内部传感器开路
3	E3	内部传感器短路
4	E4	外部传感器未置于模块中

7. 维护和清理

- 正确地使用和维护仪器，使其处于良好的工作状态，有利于延长使用寿命。
- 清洁时，切勿让溶液流入机内。
- 清理时，请戴上防护手套。
- 若采用其他清理方法，必须与制造商/供货商确认该方法不会损坏仪器。
- 维护和清理之前必须切断电源，只能使用我们推荐的方法清理仪器。

以下所列的是一些可能存在的污染源类别和对应的清洁剂。

污染源类别	对应清洁剂
染料	异丙醇
建筑材料	水溶表面活性剂/异丙醇
食物	水溶表面活性剂
燃料	水溶表面活性剂
化妆品	水溶表面活性剂/异丙醇

若是以上没有列出的材料，请直接咨询生产商。

⚠ 注意:

- 电子设备不能用清洁剂清理。
- 送修仪器必须清理，同时避免危险物质的污染，并把仪器放回原始包装箱发送。
- 当产品长期不用时，请将仪器断电存放，并置于干燥，洁净，常温，平稳处。

8. 技术参数

产品型号	BlockS	BlockM	BlockL
模块数量	1	2	4
输出功率[W]	165	250	430
加热温度范围[° C]	室温 +5°C-150°C	室温 +5°C-150°C	室温 +5°C-150°C
温度显示	LED	LED	LED
显示分辨率 [K]	0.1	0.1	0.1
模块内的温度稳定性在37°C时	±0.5°C	±0.5°C	±0.5°C
模块内的温度稳定性在60°C时	±0.5°C	±0.5°C	±0.5°C
温度一致性37°C时	±0.5°C	±0.5°C	±0.5°C
加热速率(带外部传感器) [K/min]	5	4.5	4
工作盘材质	铝合金	铝合金	铝合金
工作盘尺寸[mm]	96x76	96x152	96x304
固定安全电路[°C]	180	180	180
计时功能	√	√	√
时间设置范围	1分-99小时59分	1分-99小时59分	1分-99小时59分
外形尺寸 (W x H x D)	152x86x190mm	152x86x300mm	152x86x465mm
重量[kg]	1.5	2.5	7.5
允许环境温度[°C]	5 - 40 °C	5 - 40	5 - 40
允许相对湿度	80%	80%	80%
DIN EN60529保护级别	IP 21	IP 21	IP 21
电压[VAC]	200-240/115	200-240/115	200-240/115
频率[Hz]	50/60 Hz	50/60	50/60
货号	TC0401001	TC0401002	TC0401003

9.保修

根据本公司保修规定本机保修 2 年。保修期内如果有任何问题请联络您的供货商，您也可以将仪器附发票和故障说明直接发至我们公司，经我方事先确认后运费由贵方承担。保修不包括零件的自然磨损，也不适用于由于过失、不当操作或者未按操作说明书使用和维护引起的损坏。

10. 选配件

模块型号	描述
TC0401001-35	单个加热块，Eppendorf离心管， 20x1.5mL, Φ11.5mm x 36.9mm
TC0401001-54	单个加热块，圆锥底离心管，12 x 15ml, Φ17.1mm x 44.5mm
TC0401001-55	单个加热块，圆锥底离心管，5 x 50ml, Φ29.0mm x 47.6mm
TC0401001-60	单个加热块， PCR离心管， 30x0.5mL , Φ7.9mm x 27.6mm
TC0401001-61	单个加热块，微型离心管组合，6/10/5 x 0.5/ 1.5/2ml
TC0401001-62	单个加热块， 微型离心管， 20x 1.5mL, Φ11.1mm x 39.1mm
TC0401001-63	单个加热块， 尖底离心管， 20 x 1.5ml, Φ11.5mm x 38.1mm
TC0401001-64	单个加热块，Corning离心管， 20 x 1.5ml, Φ 10.9mm x 38.1mm
TC0401001-66	单个加热块，离心管组合，4/3/2 x 1.5/15/50ml
TC0401001-67	单个加热块，圆底试管， 30 x 6mm, Φ 8.3mm x 48.4mm
TC0401001-68	单个加热块，圆底试管，24x 10mm, Φ10.7mm x 48.4mm
TC0401001-69	单个加热块，圆底试管，16x 12/13mm, Φ13.9mm x 48.4mm
TC0401001-70	单个加热块，圆底试管，20x 12/13mm, Φ 13.9mm x 48.4mm
TC0401001-71	单个加热块，圆底试管，12x 15/16mm, Φ17.5mm x 48.4mm
TC0401001-72	单个加热块，圆底试管，8x 20mm, Φ 21mm x 48.4mm
TC0401001-73	单个加热块，圆底试管，6x 25mm, Φ 26.2mm x 48.4mm
TC0401001-74	单个加热块，圆底试管，4x 35mm, Φ 35mm x 47.6mm
TC0401001-75	单个加热块，圆底试管，12x 17/18mm, Φ19.1mm x 48.4mm
TC0401001-76	单个加热块，小瓶，20x 12mm, Φ12.7mm x 30mm
TC0401001-77	单个加热块，小瓶，20x 15mm, Φ15.8mm x 35mm
TC0401001-78	单个加热块，小瓶，12x 17mm, Φ17.8mm x 45mm

模块型号	描述
TC0401001-79	单个加热块，小瓶，12x 19mm, Φ19.7mm x 45mm
TC0401001-80	单个加热块，小瓶，9x 21mm, Φ 21.7mm x 45mm
TC0401001-81	单个加热块，小瓶，8x 23mm, Φ 23.8mm x 45mm
TC0401001-82	单个加热块，小瓶，8x 25mm, Φ 25.8mm x 45mm
TC0401001-83	单个加热块，小瓶，6x 28mm, Φ 28.8mm x 45mm
TC0401001-84	单个加热块，小瓶，15x 16mm, Φ16.4mm x 45mm
TC0401001-85	单个加热块，10x8 PCR条管，0.2mL管
TC0401001-86	单个加热块，64 PCR条管，0.2mL管
TC0401001-88	单个加热模块，2*6 比色皿，12.5mm
TC0401001-89	单个加热块，0.2MLx96孔离心管
TC0401001-91	单个加热块，圆底离心管，20x2.0ML，φ11.5x38.1mm

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