PCR plate heat sealer
DTpack

TS 26.60.12-001-96301278-2017

OPERATION MANUAL

"DNA-Technology R&P", LLC

Protvino

Contents

Safety precautions

Before using the DTpack PCR plate heat sealer, please read this manual and pay special attention to the safety instructions. The following safety instructions must be observed in order to avoid personal injury and damage to the device.

Improper use or misuse of the device can impair the protection provided by the equipment and pose a health risk.

Do not operate the device if the humidity in the room exceeds 80 %. Condensation may cause damage to the electronic components of the device.

The device must be protected against shocks and drops.

The device should be stored and transported in an upright position only.

After transport or storage in cold conditions, the device should be kept at room temperature (18 °C to 25 °C) for 1 hour before connecting to the mains supply.

Avoid getting any liquids or objects inside the unit's case. This may cause damage to the product.

"DNA-Technology", LLC is not responsible for any injury or damage to health caused by improper use of the device or its independent repair and modification.

 **WARNING! Remember that the heating element of the device can be heated up to 200 °C. If the device is handled carelessly, painful burns may occur!**

1. Purpose

The PCR plate heat sealer DTpack (hereinafter referred to as the product, device) is designed for thermal sealing of 48, 96, 192, and 384-well plates with reaction mixtures prepared for amplification with film or foil having a special adhesive coating activated by heating.

Application area of the device is clinical and scientific laboratories.

To seal plates of different formats, use the appropriate adapters included in the delivery package, which are mounted on the base of the product.

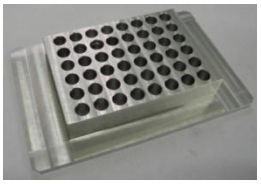
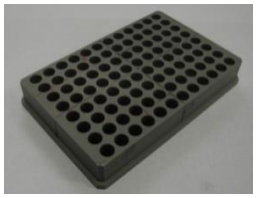
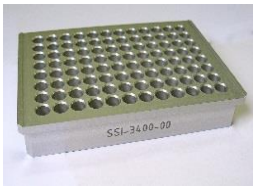
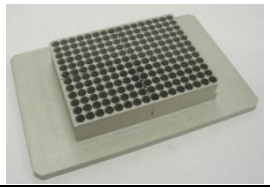
2. Technical parameters

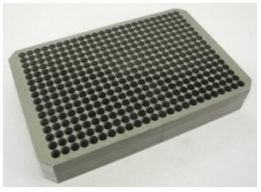
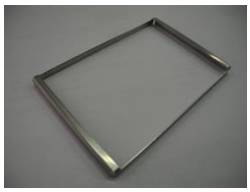
Name	**Value**
AC mains power supply	50÷60 Hz, 198÷253 V
Maximum power consumption: - during heating - when the set sealing temperature is reached	 800 W 50 W
Stabilizable working surface temperature	100 °C – 200 °C
Absolute error of temperature maintenance, up to	± 2 ºC
Time to reach the temperature of 200°C, up to	6 min
Sealing time	0.1÷9.9 s
Clamping force adjustment range	10÷150 N
Overall dimensions of the device (WxDxH), up to	190x260x320 mm
Weight of the product without packaging and accessories, up to	6 kg
Weight of the product with packaging and accessories, up to	8 kg
Overall dimensions of the working table (WxD)	120 x 78 mm

In terms of immunity to interference and interference emission, the device meets the EMC requirements in accordance with IEC 61326-1 for Class B products.

3. Package supply

Table 1. Device package supply.

No.	Name	Designation	Quantity, pcs
1	DTpack device	DTpack	1
2	Replaceable adapter for 48-well plates (200 µL) by 4titude, cat. No. 4ti-0750/48 	LPV1-00-42	1
3	Replaceable adapter for 96-well plates (100 and 200 µL) by 4titude, cat. No. 4ti-0710, 4ti-0720, 4ti-0735, 4ti-0740, 4ti-0750, 4ti-0760, 4ti-0770, 4ti-0900, 4ti-0910, 4ti-0950, 4ti-0954, 4ti-0955, 4ti-0960, 4ti-0970 	LPV1-00-33	1
4	Replaceable adapter for 96-well plates (100 and 200 µL) by SSI, cat. No. SSI-3400-00 	LPV-00-15	1
5	Replaceable adapter for 192-well plates (55 µL) by DNA-Technology, cat. No. SP-0094, SP-0095 	LPV1-00-36	1

No.	Name	Designation	Quantity, pcs
6	Replaceable adapter for 384-well plates (55 µL) by 4titude, cat. No. 4ti-0384 	LPV1-00-28	1
7	Film clamp (for 192- and 48-well adapter) 	LPV-03-00	1
8	Film clamp (for 384- and 96-well adapter) 	LPV-00-50	1
9	USB cable for device connection with PC	-	1
10	Power cable (three-wire)	-	1
11	Flash memory device or software CD-ROM	DTpack Player	1
12	Operation manual	DTpack PCR plate sealing device	1
13	Corrugated cardboard packaging box	-	1

4. Design and functioning of the device

The plate to be sealed and the prepared sealing material are mounted on the adapter corresponding to the plate, which should be placed on the base of the sealing device. To ensure fixation of the film or foil on the plate, use the clamps included in the delivery set of the device.

Warning! *The sealing film or foil is placed adhesive side down on the PCR plate*.

After reaching the set temperature, the further sealing process is performed by the operator's command in an automatic cycle: moving the carriage (see

Fig.1) downwards until the touching occurs – creating the set clamping force – holding for the set time – returning the moving carriage to the initial position.

The device uses a special sealing material in the form of thermal film or thermal foil as a material for sealing the plate. The melting temperature of the contact material is selected so as to ensure a welded seam without damaging the plate and reliable sealing of the plate wells.

The brand of the sealing material and its properties can be selected by the customer himself.

We recommend using Clear Weld Seal Mark II2 thermal film by 4titude.

Attention! *Observe the recommendations by thermal film, thermal foil and plate manufacturers when selecting the sealing temperature. For Clear Weld Seal Mark II and 4titude two-piece plates the sealing parameters will be 170 °C – 175 °C with 2-3 seconds of holding.*

The non-volatile memory of the device contains two groups of presets. Factory presets:

- “384”, “192”, “96”, “48” – standard sealing presets, that could not be changed from control panel of the device.
  - ✓ **“384” –** for sealing a 384-well plate with *Clear Weld Seal Mark 2 film by 4titude.*
  - ✓ **“192” –** for sealing a 192-well plate with *Clear Weld Seal Mark 2 film by 4titude.*
  - ✓ **“96” –** for sealing a 96-well plate with *Clear Weld Seal Mark 2 film by 4titude.*
  - ✓ **“48”** – for sealing a 48-well plate with *Clear Weld Seal Mark 2 film by 4titude.*

Editing parameters of the sealing mode in these protocols can be performed only using the special DTpack _USB software provided in the product delivery set. Connecting the device to the PC is carried out via USB type-B cable provided in the product delivery set (see Ch. 7 Editing programs (protocols) via a personal computer).

- **“5”, “6”, “7”, “8”** – Custom sealing presets that could be quickly modified from the control panel of the device. Protocol parameters are saved in non-volatile memory when the device is switched off.

The product is designed in a table-top version and consists of:

- base for installation of replaceable adapters (stands) on which the corresponding plates can be installed;
- moving carriage with heating element and security frame;

- electric drive that presses the heating element to a plate with a given force;
- electronics units and sensors (temperature and pressure) to maintain the set temperature, set clamping force and pressing time;
- the display and controls on the front panel of the device;
- USB type-B for PC connection;
- buttons for selecting one of the protocols and manual control of the sealing process, as well as setting parameters of custom sealing protocols;
- display to show information about the selected sealing protocol, the value of the parameters of the selected operating mode and status information;
- sound notifications;
- power switch.
- film clamp (for 192- and 48-well adapter);
- film clamp (for 384- and 96-well adapter).

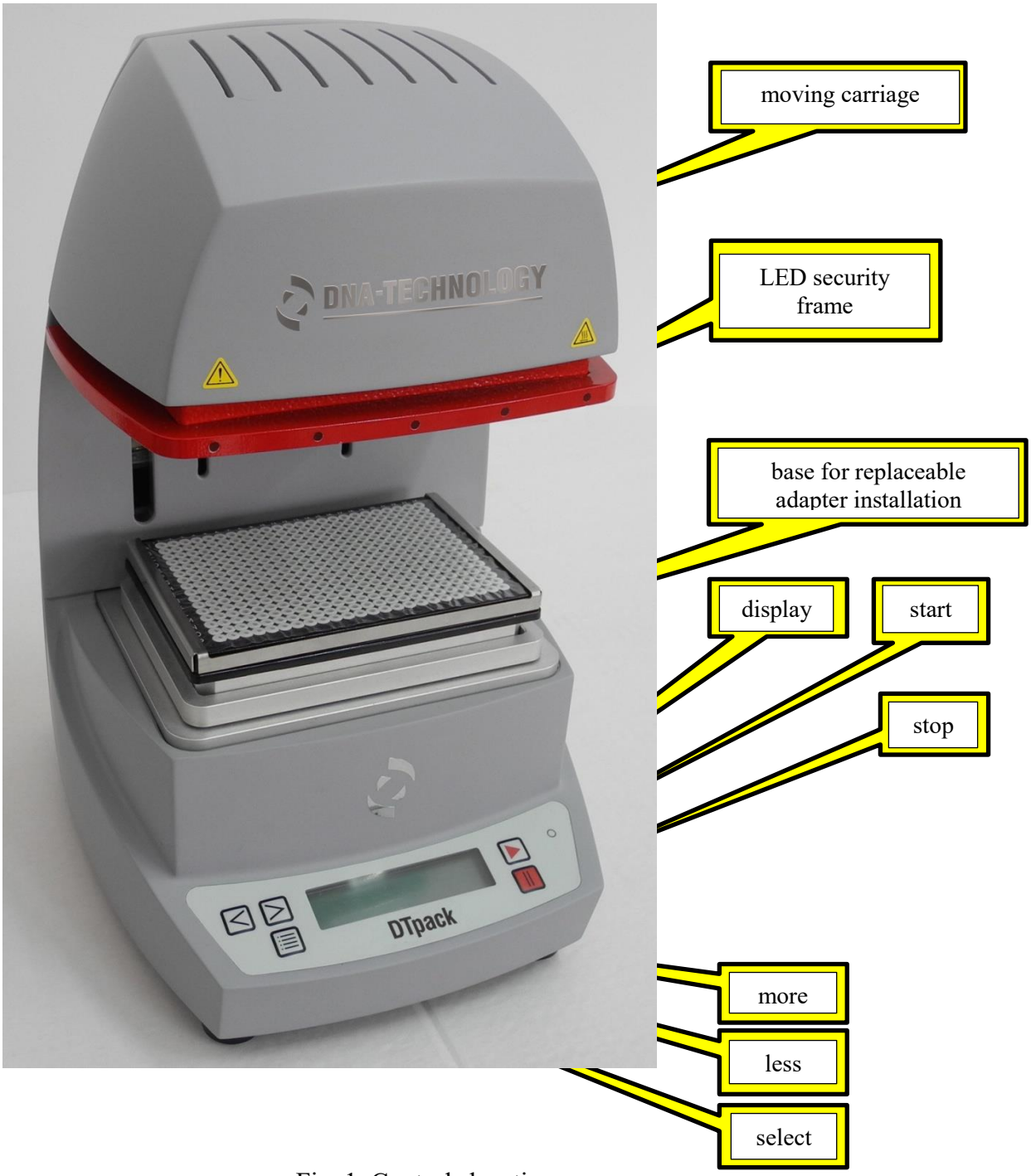


Fig. 1. Controls location

Control buttons and display are on the front panel of the device. The display shows information on the device state and mode in two 16-character lines.

Functions of the control buttons:

- Select;
- More;
- Less;
- Start;
- Stop.

The mains socket, on/off toggle switch and USB socket are located on the rear panel of the device.

To increase safety, a security frame is installed on the upper moving carriage of the device to block the movement of the carriage in case the operator touches it. Red LEDs installed around the perimeter of the frame serve as an additional indication of the danger source. Red indicators (LEDs) start blinking if the heating element is switched on and the heating is in progress. When the set temperature of the heater is reached, the indicator lights up continuously and an acoustic signal sounds.

After the heating element is switched off, the indicator starts flashing and goes out when the temperature drops below 50 °C.

If touching the security frame, a periodic audible signal will sound. The alarm stops when no touching is made.

Information on the selected sealing protocol, the value of the parameters of the selected mode and status information is on the device display.

5. Preparation for work

5.1 Unboxing

Unpack the device and inspect it for external damage. Check that all components are present according to the delivery set (section 3 of this manual).

After prolonged exposure to cold, the device should be kept at room temperature for 1 hour.

5.2 Installation

Operation of the device involves the generation of heat. Do not install the device near heaters or in direct sunlight, or obstruct the natural ventilation of the body frame.

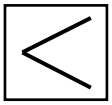
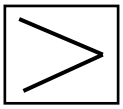
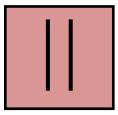
For normal and safe operation, place the device onto a rigid horizontal surface of a stable working table.

The mains cord of the device has a European type plug with a third grounding contact. Before plugging in the device, please make sure that your power outlet provides the necessary ground connection.

6. Controlling the device

6.1 Controls description

The device is controlled by 5 buttons:

- **Select**  button – selection of the sealing protocol and sealing parameters (temperature, clamp force, clamp time);
- **Less**  button – switch to the previous sealing protocol or parameter, decrease the value of the selected parameter;
- **More**  button – switch to the next sealing protocol or parameter, increase the value of the selected parameter;
- **Start**  button – activates heating of the moving carriage's working surface to the set temperature/ starts the sealing when the set temperature is reached;
- **Stop**  button – stops the sealing, returns the moving carriage to the initial upper position and switches off the heating element. Ends the programming process and saves the parameters in the built-in memory of the device.

The display can show information in two 16-character lines.

The sealing protocol is set as parameters with their numerical values:

- **Temperature –** sealing temperature **xxx** [°C];
- **Time** – sealing time **y.y**[s];
- **Force –** sealing force **zzz** [N].

Select one of the protocols using the control buttons.

6.2 Sealing and device control

Instructions on device operation using the control buttons on the front panel are given below.

1. Turn on the mains switch on the rear panel. If the device is ready for

operation, the message **DTPACK** will appear on the display. A few seconds after the current program is initialized, the initial mode menu will appear on the display:

S t o p		**P 3 8 4**
1 8 0 ° C	**0 . 5 s**	**1 2 0 N**

Screen 1

- In the upper line of the display, the message “Stop” (initial mode) is displayed at the left edge.
- The current sealing protocol is indicated in the upper line of the display at the right edge, e.g. P384.
- The lower line of the display shows the setpoints for the heater temperature, the sealing time and the clamping force, e.g. 180 °C, 0.5s, 120N.

Place the adapter that matches the PCR plate you are going to use onto the base for replaceable adapters. Place the PCR plate to the adapter. Place the thermal film adhesive side down onto the plate and fix it with the clamp frame.

!** If you need to change the sealing mode, press* ***Select *on the panel to enter the Program selection mode and select the desired sealing protocol (see p.5, Section 6.2).*

2. Press **Start** (see Fig.1) to switch the device into the heating mode. The following message will appear on the display:

H e a t i n g	
1 2 6 ° C	**P 3 8 4**

Screen 2

The current temperature is shown in the lower line on the display. The LEDs on the security frame will start flashing.

Warning! *If you touch the security frame during sealing, an intermittent acoustic signal will warn of the burning hazard. Moving carriage with the heating element will stop and the carriage will return to its original upper position.*

When the set temperature is reached, an acoustic signal sounds and the LEDs light up continuously. The following message appears on the display:

Ready 180 °C P384

Screen 3

The device is ready for sealing. The timeout countdown (15 minutes) will start. If the device is not used for sealing for more than 15 minutes, the heating element will switch off automatically and the device will enter the **Cooling** mode (see p. 4; Sec. 6.2).
! *When the "Stop" button is pressed, the heating process stops prematurely and the unit enters the Cooling mode (see p. 4; Sec. 6.2).*

3. When you press  **Start**, the device goes into the **Sealing** mode and the moving carriage with the heater moves down. The heater touches the surface of the thermal film, and the sealing occurs.
The following message appears on the display:

Sealing P384

Screen 4

At the end of the sealing process, the moving carriage with the heater will automatically move up to home position. The device enters the **Ready** mode (see p. 2; Sec. 6.2). The device is now ready to seal the next plate.
Warning! *If you touch the security frame during sealing, an intermittent acoustic signal will warn of the burning hazard. Moving carriage with the heating element will stop and the carriage will return to its original upper position*.

The countdown for the new timeout has begun.

4. When you press  "**Stop**", the device goes into the **Cooling** mode. The heating elements switch off, and the following message appears on the display:

Cooling 155 °C P384

Screen 5

When this happens, an acoustic signal sounds and the LEDs on the security frame start flashing slightly less frequently than during heating. The lower line of the display shows the current temperature value. When the temperature reaches 50 °C, the LEDs stop blinking. The device goes into the **Stop** mode and the initial menu appears on the display (Screen 1).

The device is reset and ready to continue operation (see p. 1; Sec. 6.2).

! When you press  ***Start**, the device goes into the **Heating** mode again until the set temperature is reached (see p. 2; Sec. 6.2).*

5. To select the desired program press  **Select**, the device will go into the **Select a program** mode (see p. 1; Sec. 6.2). The menu appears on the display:

Program		**384>**
180°C	**0.5s**	**120N**

Screen 6

When you press  **More** or  **Less**, the programming process continues. When you press  **More**, you select the next program, when you press  **Less**, you select the previous program.

*! For the parameter at the end of the list, a bracket (**[** left or **]** right) appears on the screen instead of the corresponding pointers (**More** or **Less**). The corresponding button is blocked in this case.*

When you press  **More**, there is an automatic transition:

- if one of the four "standard" programs **P384** ÷ **P48** is selected, the programming process is terminated and the selected actual program indicated on the display screen is saved. The device goes to the initial **Stop** state (see p. 1; Sec. 6.2):

When you press  **Stop**, the device terminates the programming mode and goes into the initial **Stop** state (see p. 1; Sec. 6.2). The last relevant program indicated on the display is saved.

6. If in the **Select a program** mode (see p. 5; Sec. 6.2) one of the custom programs P5 ÷ P8 has been selected, the device switches to the **Select a parameter** mode and the menu appears on the display:

Select a parameter
[Temperature>

Screen 7

Move through the **Select a parameter** menu by pressing the buttons ( **More** or  **Less**). When pressing the **More** button, the name of the parameter is replaced by the next one in the list (temperature, time, force). When pressing the **Less** button, it is replaced by the previous one.

***!** For the parameter at the end of the list, a bracket (**[** left or **]** right) appears on the screen instead of the corresponding pointers (**More** or **Less**). The corresponding button is blocked in this case.*

When you press **Select**, the value of the selected parameter – temperature, time or force – is changed (see the description of procedures for changing parameters below).

When you press **Stop**, the device terminates the programming mode and the last relevant program indicated on the display is saved. The device returns into the initial **Stop** state (see p. 1; Sec. 6.2).

Changing temperature

To change the temperature value, press **Select** in the **Heating element temperature change** mode (Screen 7) and the menu will be displayed:

```
Temperature
                <180°C>
```

Screen 8

The set temperature of the heating element is changed by pressing the **More** or **Less** buttons. The step for a single press is 1 ºC. Long press (more than 1 s) is for accelerated change. Sealing temperature change range: from 100 ºC to 200 ºC.

When you press **Stop**, the device terminates the programming mode and the last relevant program indicated on the display is saved. The device returns into the initial **Stop** state (see p. 1; Sec. 6.2).

***!** If the current temperature value exceeds the newly set temperature value, a flashing message will appear on the display when the **Start** button is pressed:*

```
Overheating
112°C                          P5
```

Screen 9

Simultaneously, the LEDs on the security frame start flashing and the heating element is switched off. When the temperature drops to the newly set value, the LEDs go out, the buzzer sounds and the device enters the **Ready** state (see p. 2; Sec. 6.2).

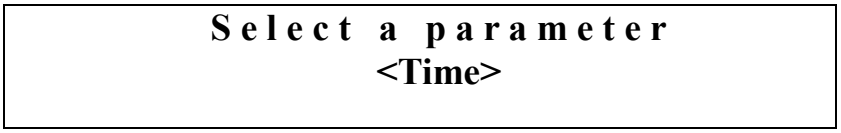
When you press **Stop**, the device goes back into the **Cooling** mode (see p. 4; Sec. 6.2).

When you press **Select**, the device goes back into the **Select a program** mode (see p. 5; Sec. 6.2).

When you press **Start**, the device goes back into the **Heating** mode (see p. 2; Sec. 6.2).

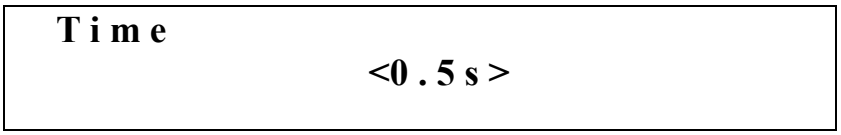
Changing sealing time

To change sealing time, press **More** in the **Select a parameter** mode (see p. 6; Sec. 6.2), and the menu will appear on the display.



Screen 10

In the clamping time value change mode, press **Select** to display the menu:

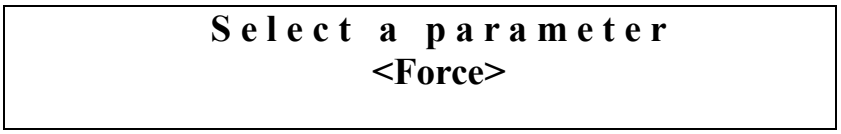


Screen 11

The set sealing time can be changed by pressing **More** or **Less**. Time setting step is 0.1 s in the range (0.1 ÷ 9.9.0) seconds. Long pressing (more than 1 s) is intended for accelerated time change.
Pressing **Select** returns to the **Select a parameter** mode (see p. 6; Sec. 6.2).
Pressing **Stop** terminates the programming mode, and the last relevant program indicated on the display is saved. The device returns into the initial **Stop** state (see p. 1; Sec. 6.2).
The set new value of sealing time is stored in the built-in memory of the device.

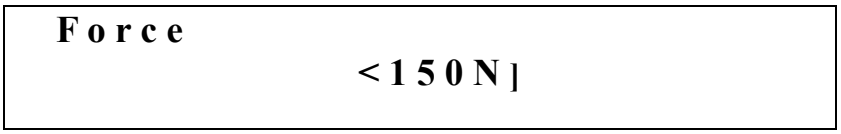
Changing clamping force

To change the force value, press **More** twice in the **Select a parameter** mode (see p. 6; Sec. 6.2), and the menu will appear on the display:



Screen 12

In the clamping force value change mode, press **Select** to display the menu:



Screen 13

The set clamping force can be changed by pressing **More** or **Less**. Force setting step is 1 N in the range of 10 ÷ 150 N. Long pressing (more than 1 s) is intended for accelerated force change.
Pressing **Select** returns to the **Select a parameter** mode (see p. 6; Sec. 6.2).
Pressing **Stop** terminates the programming mode, and the last relevant program indicated on the display is saved. The device returns into the initial **Stop** state (see p. 1; Sec. 6.2).

Warning! *If the temperature of the heating element is higher than 50 °C when disconnecting the product from the power supply and switching it on again, the message "**HOT**" will appear on the display screen.*
*The LEDs on the security frame will start flashing. The heating element will switch off. When the temperature drops below 50 °C, the LEDs go out and the device switches to the initial **Stop** state (see p. 1; Sec. 6.2).*

Note

1. If a fault or malfunction of the device occurs, an error message will appear on the display indicating the faulty part of the device:

E R R O R **Error message**

Screen 14

Error messages:

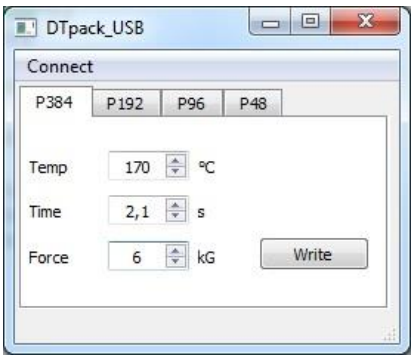
- **TEMP sensor ERROR –** temperature sensor malfunction;
- **HEATER ERROR –** the heater is not switched on in the **Heating** mode or
  the heater is switched on without switching to the **Heating** mode**;**
- **DRIVE ERROR –** moving carriage motor does not start in the **Sealing** mode**;**
- **FORCE sensor ERROR** – force sensor reading greater than 200 N.

If these errors occur, the unit enters the **Cooling** mode (see p. 4; Sec. 6.2). Switch off the mains switch and disconnect the mains cable. Then fill in the claim form and contact the manufacturer.

2. If by user's mistake the film was placed with the adhesive side up and the adhesive agent contaminated the working surface of the moving carriage, eliminate the contamination by wiping working surface of the device with a clean cotton cloth folded in several layers. Be careful and avoid burning your hands.

7. Editing programs (protocols) on a personal computer

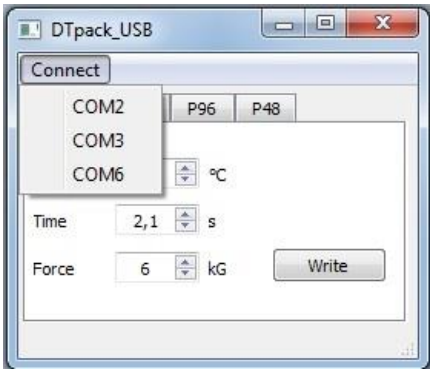
To change parameters of standard protocols "**384**", "**192**", "**96**", "**48**", connect a personal computer with installed software to the USB port of the device with the cable included in the delivery set. Start DTpack Player.exe. The menu appears on the computer display:



If the **Write** button is not active (grayed out), select the COM port of the computer to which the device is connected. To select the COM port, open the Device Manager on the user's computer. In the drop-down list of devices, click on "Ports". Visualize the number of the COM port to which the sealing device is connected.

In the **Connect** menu, select the port number to which the device is connected.

When the device is properly connected to the computer, the **Write** button on the display will become active.



Select the desired standard program one using buttons P384, P192, P96, P48.

New values of temperature, time and clamping force parameters are set using the buttons **Temp**, **Time** and **Force**, respectively.

After pressing the **Write** button, they are written into the built-in device memory. The product goes into the **Stop** state and its display screen shows the original menu (see screen 1).

Note: when the device is switched off, the values of the last revision parameters are saved in the built-in device memory.

8. Marking and safety precautions

Warning! Do not touch the heating element after finishing work with the device and switching off the power supply. Hazardous temperatures remain on the heating element for at least one hour.
There are warning signs on the front of the product:

Caution! Hot surface! warns the user about possible burns to the hands in case of careless touching of the heater surface in case of violation of the requirements of the operation manual and safety rules when working with the device;

Caution! Please refer to the accompanying documentation.
The sound signal source emits an intermittent beeping sound when touching the security frame.

The mains cord of the device has a European type plug with a third grounding contact. Please make sure that your socket outlet provides the necessary ground connection before plugging the device into the mains.

Avoid getting any liquids on the case.

9. Maintenance and repair

9.1 General

The device is a technically complex product. It is forbidden for the user to break the sealing marks and to open the device. In case of violation of this requirement, the warranty for the device is canceled.

Maintenance of the device is aimed at keeping it in working order and maximizing its service life.

Maintenance should be performed by qualified personnel who have studied this manual in detail.

The device is designed for minimal maintenance during normal laboratory operation.

It is necessary to protect the device from mechanical impact as well as from any liquids getting on the device case.

All types of device repairs, including replacement of fuses installed inside the device case to protect against electrical circuits overloading, must be performed at the manufacturer's facility.

9.2 Order of maintenance

The following activities must be carried out by maintenance personnel at the specified intervals:

1) External inspection of the device to make sure that there are no damages

on its surface. Check the condition (integrity) of the power cord, reliability of its connection to the device, condition of the working surface of the moving carriage (heater), the surface of the base for installing adapters, cleanliness of adapters, condition of the control panel of the device. Inspection frequency: before each switching on.

2) Timely removal of dust and dirt from the surface of the device with a dry cloth. Frequency: as soon as contamination occurs.
3) Cleaning working surfaces of the device and adapters with a cotton swab soaked in ethyl or isopropyl alcohol. Cleaning intervals: every 20 operating runs.

Avoid foreign objects or liquids getting into the device.

9.3 Requirements for instrument sanitary processing before repair and disposal

Disinfection must be performed before sending the device for repair (service) or disposal.

The user is responsible for correct use of the device and for its disinfection before sending for repair (service) or disposal.

Disinfection is carried out using the necessary sanitizing agents in accordance with local rules.

After completion of device disinfection fill in the Device decontamination sheet and Coupon for warranty repair (see Section 17). The Device decontamination sheet and Coupon for warranty repair must be included in the package of accompanying documentation of the device.

In the absence of a completed coupon, the device will not be accepted for repair.

Disposal of the device is carried out in accordance with industry standards and regulations. Disposal of the product is performed by a licensed organization in compliance with applicable laws, norms and regulations.

10. EMC declaration

The DTpack PCR plate heat sealer is intended for use in an electromagnetic environment as specified below.

The customer or the user of the device must ensure that the device is used in a corresponding environment.

Checking the emission value	Compliance	Electromagnetic environment – Guidelines
Radio emission GOST 51318.11 (CISPR 11)	Group 1	The DTpack plate sealing device uses radio frequency energy exclusively for its internal function. The RF emission level is very low and does not lead to malfunctions of nearby electronic equipment.
Radio emission GOST 51318.11 (CISPR 11)	Class B	The DTpack plate sealing device is suitable for use in all premises, including domestic premises and premises directly connected to the public low-voltage power supply network supplying buildings used for domestic purposes.
Harmonic emission GOST R 51317.3.2 (IEC 61000-3-2)	Class A	
Voltage fluctuations / flicker emission, GOST 30804.3.3 (IEC 61000-3-3)	Meets the requirements	

Immunity test	IEC 60601 control level	Compliance level	Electromagnetic environment – Guidelines
Electrostatic discharge resistance, GOST R 51317.4.2 (IEC 61000-4-2)	± 6 c contact ± 8 kV air	± 6 kV contact ± 8 kV air	The floors of the room must be made of wood, concrete or ceramic tiles. If the floors are covered with synthetic material, the relative humidity must be at least 30%.
Resistance to rapid transients and surges, GOST 30804.4.4 (IEC 61000-4-4)	± 2 kV for power supply lines ± 1 kV for incoming/outgoing lines	± 2 kV for power supply lines ± 1 kV for incoming/outgoing lines	The quality of the mains power supply should be suitable for typical use in commercial establishments or hospitals.

Immunity test	IEC 60601 control level	Compliance level	Electromagnetic environment – Guidelines
Overload, GOST R 51317.4.5 (IEC 61000-4-5)	± 1 kV in differential mode ± 2 kV in common mode	± 1 kV in differential mode ± 2 kV in common mode	The quality of the mains power supply should be suitable for typical use in commercial establishments or hospitals.
Voltage drops, momentary power interruptions and power line voltage drops GOST R 51317.4.11 (IEC 61000-4-11)	<5 % Un (95% drop to Un) in 0.5 cycles 40 % Un (60 % drop to Un) in 5 cycles 70 % Un (30 % drop to Un) in 25 cycles <5 % Un (>95 % drop to Un) in 5 sec.	<5 % Un (95% drop to Un) in 0.5 cycles 40 % Un (60 % drop to Un) in 5 cycles 70 % Un (30 % drop to Un) in 25 cycles <5 % Un (>95 % drop to Un) in 5 sec.	The quality of the mains power supply should be suitable for typical use in commercial establishments or hospitals.
Magnetic fields of industrial frequency (50/60 Hz) GOST R 51317.6.2 (IEC 61000-6-2)	3 A/m	3 A/m	The quality of the mains power supply should be suitable for typical use in commercial establishments or hospitals.

Note: Un – the level of mains voltage before the test impact is applied.

11. Storage and transport

The device may be stored for up to 3 years in the manufacturer's package at temperature from 5 °C to 40 °C and relative humidity up to 80 % at 25 °C.

The storage room should be free of dust, acid and alkali vapors, aggressive gases and other harmful impurities causing corrosion.

The device can be transported in a shipping container by all types of transport with limitation of the lower value of air temperature to minus 100 °C.

12. Disposal, environmental requirements

The device must be disposed of in accordance with the rules for collection, use, neutralization, disposal, storage, transportation and accounting of medical waste established by the federal executive authority. Disposal is carried out by organizations having the appropriate license, in accordance with the requirements of the current Federal Laws, with observance of environmental protection measures.

DTpack device after operation in a medical institution is classified as epidemiologically safe waste, close in composition to solid domestic waste.

13. Manufacturer's guarantee

The manufacturer guarantees the operation of the DTpack PCR plate heat sealer if the operating rules stated in this manual are followed.

The warranty period of operation is **24 months** from the date of sale.

Warranty repair is performed only upon presentation of the warranty card for this product with a completed claim sheet.

14. Information on the content of precious metals

The device does not contain precious metals.

15. Acceptance certificate

DTpack PCR plate heat sealer

manufacture number _____

produced by “DNA-Technology R&P”, LLC, has passed the acceptance tests, complies with TS 26.60.12-001-96301278-2017 and is recognized as suitable for operation.

Date of release _____

Persons responsible for acceptance _____(signature)

Place seal

16. Packaging list

DTpack PCR plate heat sealer

manufacture number _____

produced by “DNA-Technology R&P”, LLC, is packed according to TS 26.60.12-001-96301278-2017 requirements.

Packaging date _____

Packaged by _____(signature)

Place seal

Note: *The form is filled out by the organization that made the packaging.*

17. Complaint sheet and device decontamination

Batch number of the device: _____

Thorough failure description: _____

_____

_____

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_____

Means of decontamination: _____

_____

_____

_____

Decontamination procedure: _____

_____

_____

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_____

Name: _____

Position: _____

Organization: _____

Date: _____ Signature: _____

Complaint sheet and device decontamination

Batch number of the device: _____

Thorough failure description: _____

_____

_____

_____

_____

_____

_____

_____

_____

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_____

Means of decontamination: _____

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_____

_____

Decontamination procedure: _____

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_____

_____

Name: _____

Position: _____

Organization: _____

Date: _____ Signature: _____

Coupon No.1 filled by the manufacturer

For warranty repair (technical maintenance) of DTpack PCR plate heat sealer

…….manufactured……

(manufacture number) (date)

Manufacturer's technical control representative…….

(TC stamp)

Sales note "DNA-Technology", LLC, Moscow

(organization name)

«.....».....20.... organization's stamp .....

(date) (personal signature)

Owner and his address.....

....

(personal signature)

..... cut line

Coupon No.2 filled by the manufacturer

For warranty repair of (technical maintenance) DTpack PCR plate heat sealer

…….manufactured……

(manufacture number) (date)

Manufacturer's technical control representative…….

(TC stamp)

Sales note "DNA-Technology", LLC, Moscow

(organization name)

«.....».....20.... organization's stamp .....

(date) (personal signature)

Owner and his address.....

....

(personal signature)

.....cut line

Filled out by maintenance facility

Reverse side of Coupon No. 1

Manufacture number of the DTpack PCR plate heat sealer

……..…….....

Repair content .....

.....

.....

.....

Date of repair .....
(day, month, year)

Specialist ..... Owner .....
(signature, stamp) (signature)

.....

Filled out by maintenance facility

Reverse side of Coupon No. 2

Manufacture number of the DTpack PCR plate heat sealer

……..…….....

Repair content .....

.....

.....

.....

Date of repair .....
(day, month, year)

Specialist ..... Owner .....
(signature, stamp) (signature)

Manufacturer: DNA-Technology, Research & Production, LLC
20 Zheleznodorozhnaya Street, Protvino, Serpukhov urban district,
Moscow Region, Russia, 142281
Phone/fax: +7(4967) 31-06-70
E-mail: protvino@dna-technology.ru
https://www.dna-technology.ru

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117587, Russia, Moscow, int. ter. Municipal District
Chertanovo Severnoye, Varshavskoe shosse, 125Zh,
building 5, floor 1, office 12
Phone/fax: +7(495) 640-17-71
E-mail: info@dna-technology.com

Customer support:
Tel.: 8 800 200-75-15 (free for Russia)
E-mail: hotline@dna-technology.ru

Service department:
Tel.: +7(4967) 31-14-67, +7(4967) 31-06-71 (ex. 3126)
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