

date:

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# Operating Instructions

## Thermocycler Techne TC-3000



### Hazards for Humans and Environment



Risk of **burns** at **hot surfaces**

Do not use next to inflammable liquids or gases. Do not put liquids directly into the unit

### Rules of Behaviour

Prepare the PCR mix (on ice) into a 0.2 ml thin wall, flat cap PCR-tube

Do not add the DNA-polymerase if it is not a hot-start polymerase (*i.e.* not active before initial heating)

Turn on Thermocycler. Choose "Programs" and press  $\downarrow$

Select ( $\uparrow$   $\downarrow$ ) the appropriate program (*e.g.* "Standard Genome") and press  $\downarrow$  to select it

Use ( $\uparrow$   $\downarrow$ ) to "run", "view" or "edit", ... the program. Confirm selection with  $\downarrow$

On "view" or "edit", use ( $\uparrow$   $\downarrow$ ) to navigate the stages. For "edit" use  $\downarrow$  to select, type number or toggle ( $\uparrow$   $\downarrow$ ), confirm with  $\downarrow$ . For the steps: digit new temp.,  $\downarrow$ , digit min [toggle to hours with "."], ".", digit sec,  $\downarrow$ , digit ramp [0 = max.],  $\downarrow$ . Omit changes with  $\downarrow$ . Press "." to insert or " $\leftarrow$ " to delete a step.

1) NAME

2) Heat Lid: 105 °C

set lid temperature

Prehead Lid: On

heat up lid before PCR cycles start (4 min)

Pause: On

pauses program for to place the PCR tube. resume " || "

3) In. denat. 94 °C 5m00

initial denaturalisation of DNA. for vector DNA less time

Hot start 75 °C

pauses program for to add DNA-polymerase. resume " || "

4) Number Cycles 30

Step 1 94 °C 0m30 max denaturalisation of the DNA

Step 2 55 °C 0m30 max primer annealing:  $T_m = \Sigma (\Sigma AT)*2 + (\Sigma GC)*4$  [°C]

Step 3 72 °C 1m00 max elongation: for *Pfu* 500 bp/min, for *Taq* 1,000 bp/min

5) Final Extn 72 °C 5m00

final extension

Hold 10 °C

keeps temperature at 10 °C until program stop

End programing by pressing  $\nabla$  to save and confirm changes with  $\downarrow$  (or  $\nabla$  to leave w/o changes)

For more complicate programing, refer to the manual. Use  $\nabla$  to go back to main menu.

On RUN confirm running with  $\downarrow$ . On pauses (heat lid, hot start) resume with " || "

A run can be paused and resumed by pressing " || " and can be stopped by  $\nabla$  (confirmed by  $\downarrow$ )

At the end of the run ( $\nabla$ ) confirm ending with  $\downarrow$

### Cleaning & Maintenance

After use keep the lid open to dry the heater block

**Clean** the heater block **monthly** with cotton buds soaked with 50:50 water/isopropanol

