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## Heating & Cooling



# CPAC

Cold plate air cooled product line

# CPAC Heating & Cooling Unit Product Line

High performance Peltier driven temperature controlled devices

## CPAC Ultraflat & CPAC Microplate

### Product description

CPAC (Cold Plate Air Cooled) devices are compact all-in-one heating & cooling blocks for microplates, tubes or reservoirs for the integration into robotic workstations. The CPAC product line is intensively used for NGS library preparations.

4 Models are available which differ in temperature range, capability to frequently change temperature and deck positioning to compensate for disposable height or avoidance of cooling air stream on deck. The ideal model for you depends on your liquid handling workstation and on your application needs. The Ultraflat variants are installed on deck. They have a height of only 8 cm. The Microplate variants are integrated into the deck. Only the heating/cooling plate (~ 1.4 cm) is above deck level, while the air ventilation system is below deck. This configuration is preferred if any air stream on deck must be avoided or if the disposable is too high to be placed on the Ultraflat model.

Temperature range is from 4 °C up to 70 °C for the standard device with one Peltier (1-TEC), or from 4 °C up to 110 °C for the 2 Peltier model (2-TEC). The 2-TEC versions can also be used if alternating temperatures are required in different incubation phases during a workflow because they can change the temperature within minutes. Versions with only one Peltier are recommended if the temperature of the device stays constant within an application.

### Controller and accessories

For single CPAC units, the power supply and temperature setting/control is performed through the INHECO Single TEC Control unit (STC). For multiple (up to six) INHECO heating & cooling units, an INHECO Multi TEC Control unit (MTC, with display) or MTC Compact (no display) is used and each device is controlled individually. A slot module is required to connect the CPAC to the STC/MTC.

For optimal temperature transfer, an adapter is always needed. On our website, you will find a list of existing adapter variants for a broad range of disposables with or without insulation. In case you need an adapter for your disposable, which is not yet on the list, we offer to custom design and manufacture it on request.

For heating-only solutions, we refer to the INHECO HeatPAC. For real thermal cycling with temperature change within seconds, we refer to the INHECO ODTC. For liquid cooled solutions, we refer to the INHECO CPLC.



7000166 CPAC Ultraflat HT 2-TEC



7000163 CPAC Microplate HT 2-TEC



8900029: MTC Compact  
8900030: Multi TEC Control (MTC)  
8900031: Single TEC Control (STC)

Product	Part No.	Peltiers	Temp. changes	Robotic installation
CPAC Ultraflat HT 2-TEC <sup>1)</sup>	7000166	2	Yes	on deck
CPAC Ultraflat <sup>2)</sup>	7000190	1	No	on deck
CPAC Ultraflat HT 2-TEC DV <sup>1) 3)</sup>	7000165	2	Yes	on deck
CPAC Microplate HT 2-TEC <sup>1)</sup>	7000163	2	Yes	inside deck or ALP
CPAC Microplate <sup>2)</sup>	7000179	1	No	inside deck or ALP

1) CPAC HT 2-TEC devices are optimized for high temperature with occasional temp. Changes within minutes

For cycling within seconds, we refer to the INHECO ODTC

2) Standard 1-TEC CPAC devices are designed to maintain a constant temperature

3) Waste air down vent to avoid heating-up the deck, deck cut-out required. Please check effects of below deck air flow

# Main specifications

Specifications	7000166/7000165	7000190	7000163	7000179
Accuracy at 37 °C target temperature *	±0.3 K	±0.3 K	±0.3 K	±0.3 K
Uniformity at 37 °C target temperature*	±0.5 K	±0.5 K	±0.5 K	±0.5 K
Temperature Range	4 °C to 110 °C	4 °C to 70 °C	4 °C to 110 °C	4 °C to 70 °C
Required Slot Module	black	blue	black	blue
Ambient temperature	15 °C to 32 °C	15 °C to 32 °C	15 °C to 32 °C	15 °C to 32 °C
Dimensions W x D x H (mm)	89 x 129 x 80	89 x 129 x 80	89 x 129 x 113	89 x 129 x 113

\* Data refer to flat bottom plate at 22 °C ambient temperature, measured with INHECO IMP verification tool

The CPAC product line is integrated with a large number of established LabAutomation systems, such as:

### CPAC Ultraflat

Agilent: Bravo, Encore Multispan, BioCel

Hamilton: Star Line, Nimbus, Vantage

PerkinElmer: JANUS, Multiprobe II

Tecan: Freedom EVO, Genesis, TEMO, Fluent

Beckman: Biomek 3000, 4000 i-Series

### CPAC Microplate

Beckman: Biomek FX, NX, i-Series

PerkinElmer: Sciclone, Zephyr

Protodyne: BioCube



8900033 Heated Lid

## Heated Lid

The Heated Lid can be used as an extra add-on heater on top of the CPAC (or HeatPAC), to increase heating rates, to improve temperature uniformity (especially for deep well plates), and to enable longer duration incubation. The Heated Lid avoids condensation at the top of the plate, as well as reducing evaporation losses, but without needing the space consumption of a dedicated incubator. The Heated Lid has a flexible cable and is of low enough weight (420g) to allow transport by most gripper systems, yet heavy enough to seal the plate. Thus, a full automated processing is possible with the Heated Lid.

Product	Part No.	Temperature range	Dimensions W x D x H (mm)
Heated Lid	8900033	ambient +5 K to 115 °C	134 x 91 x 19

## Verification plate

INHECO offers a compact and precise measurement plate (IMP) in ANSI/SLAS (formerly SBS) format for verification of temperature and/or shaking performance. The IMP can be used on heating, cooling, shaking devices and inside incubation chambers. We refer to the IMP brochure for more information.



7901000: INHECO Measurement Plate (IMP)

Product	Part No.	Dimensions W x D x H (mm)	Weight	Temperature range
IMP	7901000	87.5 x 128 x 14.9	100 g	4 °C to 60 °C

## Accessories

Product	Part No.
MTC Compact	8900029
Multi TEC Control (MTC)	8900030
Single TEC Control (STC)	8900031

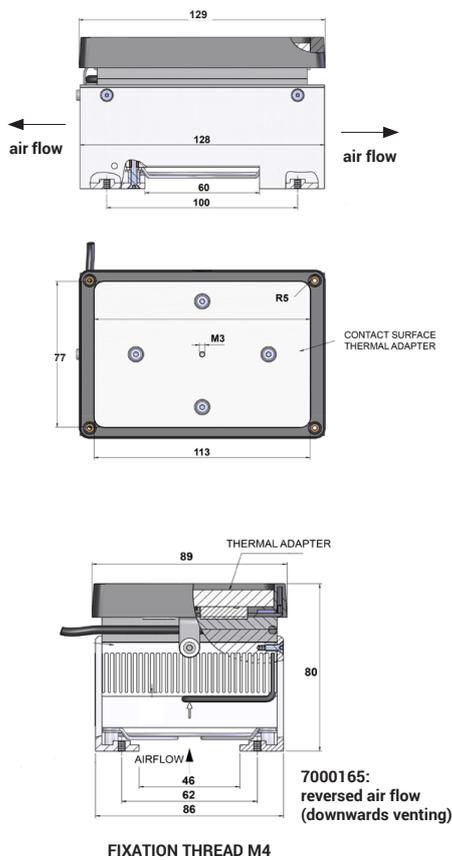
Product	Part No.
Black Slot Module (2-TEC units)	2400125
Blue Slot Module (1-TEC units)	2400128
Heated Lid	8900033

## Adapter plates\*

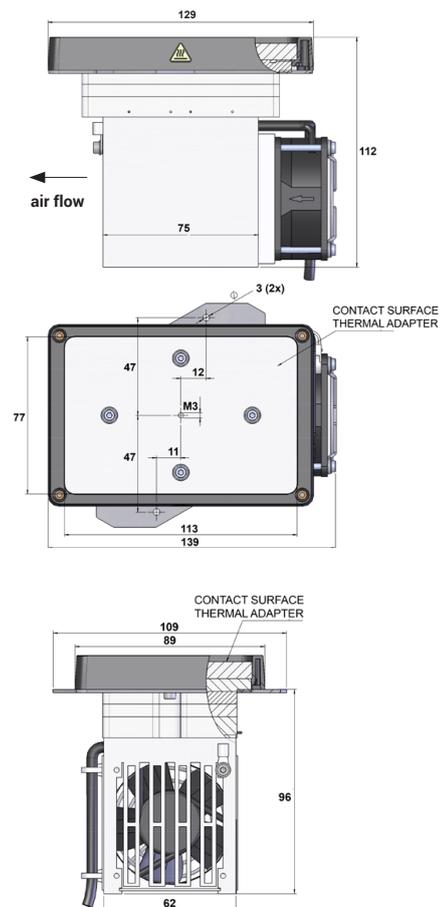
Product	Part No.
Flat Bottom adapter	7900016
Micro Plate 96 PCR	3200203
Micro Plate 384 PCR	3200204

\* Over 100 adapters are available for perfect fit of a wide range of disposables. They are listed on our website. We also customize upon request.

## Drawings CPAC Ultraflat 7000166, 7000190, 7000165



## Drawings CPAC Microplate 7000163 (7000179)



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