

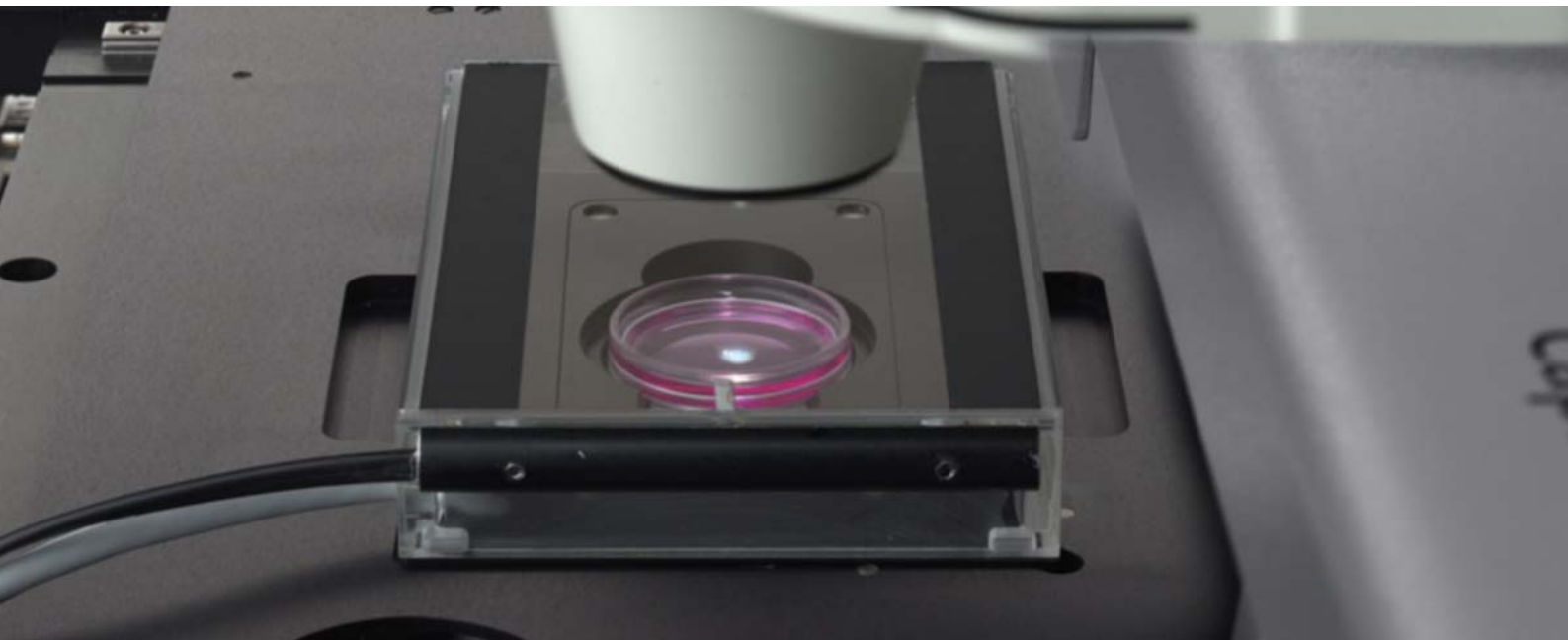
## **Incubator PM PALM S1**

### **On-stage Incubation for PALM Systems**

Incubator PM PALM S1 is an on-stage incubator system enabling temperature control in combination with CO<sub>2</sub> and humidity. It is suitable with all PALM Systems from Carl Zeiss.

The incubator consists of a heated lid and plate with different inserts. The heated lid stabilizes the temperature of the complete inner volume. Therefore no condensation will occur, even under humid conditions. The lid provides excellent optical quality to guarantee contrast methods like DIC or PlasDIC. Due to a modular design, inserts for regular glass slides or dishes (35mm / 50mm) can be loaded into the heated plate.

Laser Manipulation like optical trapping can now be performed in an enclosed compartment, optionally with software based temperature, CO<sub>2</sub> or humidity control. For Laser Microdissection (LCM) you can easily take off the lid without losing track of your objects of interest.



**The modular concept for live cell incubation  
on PALM Systems**



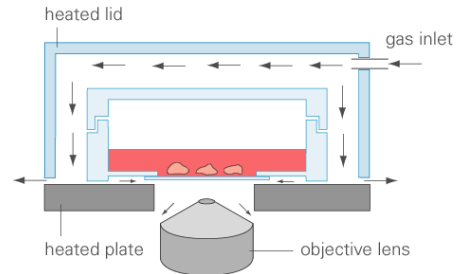
We make it visible.

# Concept

## The principle of no condensation

The heated plate and lid of the on-stage incubator is designed for keeping cells at 37°C in LCM optimized dishes. The lid prevents condensation effects inside the entire incubation system. The top of the lid and the bottom plate are actively heat-controlled.

The heated plate provides outer dimensions of a common 96-well plate (127.5 mm x 85.5 mm) and fits perfectly into PALM RoboStage II. The modular concept of the incubator inserts enables the use of different dishes, etc.

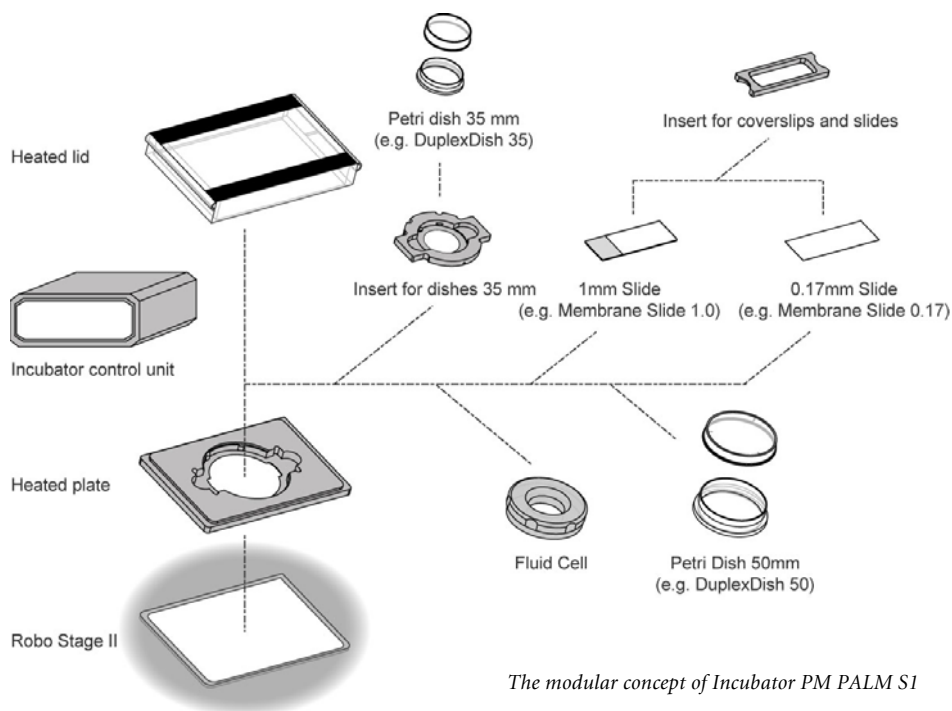


*Schematic drawing of the incubation system*

## Our successor – the modular concept

The multi-well format solution provides a solid basis for heating and for gas incubation on PALM Systems. The modular concept using different inserts enables the needed flexibility when focusing on different live cell applications using different consumables.

From 50mm and 35mm dishes to regular slides – or use Carl Zeiss FluidCell, the optimized consumable for Optical Tweezers applications.

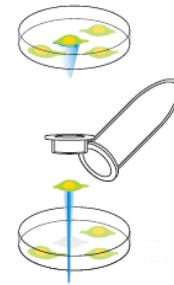


*The modular concept of Incubator PM PALM S1*

# Application

## Incubation and non-contact Laser Microdissection

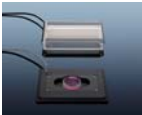
For laser microdissection of live cells you simply take off the heated lid of the incubator, remove the media, move the Collection Device over the dish and start the laser microdissection process. The needed wet conditions for LCM of live cells are still present in the open incubator which guarantees a controlled environment for the cells during the whole experiment.



*Laser cuts around the cell and the isolated cell is captured in the collector and can be recultured*

## Incubator PM PALM S1 – the on-stage solution for PALM Systems:

An overview of all components



Incubator PM PALM S1  
Order No. 415114-9050-000



TempModule S1  
Order No. 411860-9010-000



CO<sub>2</sub> Module S1  
Order No. 411857-9010-000



Heating Device Humidity S1  
Order No. 411857-9050-000

## PALM System requirements

- Axio Observer or Axiovert 200
- PALM RoboStage II
- PALM RoboSoftware Rel. 4.2 or higher for software based temperature control



#### Features of Incubator PM PALM S1:

- Temperature, humidity and CO<sub>2</sub> can be controlled by Microscope Docking Station, AxioVision or PALM RoboSoftware 4.2 or higher
- Stable conditions for temperature, humidity and CO<sub>2</sub>
- The modular concept - One Heated Plate for all: Insert Kit allows loading of 50mm or 35mm dishes and regular slides (1mm or 0.17mm)
- Easy handling: Take off the Heated Lid to start LCM without moving the stage or inserts.
- Use of all objective lenses (up to 100x oil)
- Optimize your Optical Tweezers application: Carl Zeiss FluidCell fits into the Heated Plate Inserts
- Cultivation and simultaneous video documentation for your time-lapse experiments, even for observation periods over days

**Carl Zeiss MicroImaging GmbH**  
07740 Jena, Germany

BioSciences | Microdissection | Munich Location  
Phone : +49 (0) 89 90 9000 - 800  
Telefax : +49 (0) 89 90 9000 - 820  
E-Mail : palm-info@zeiss.de

[www.zeiss.de/microdissection](http://www.zeiss.de/microdissection)