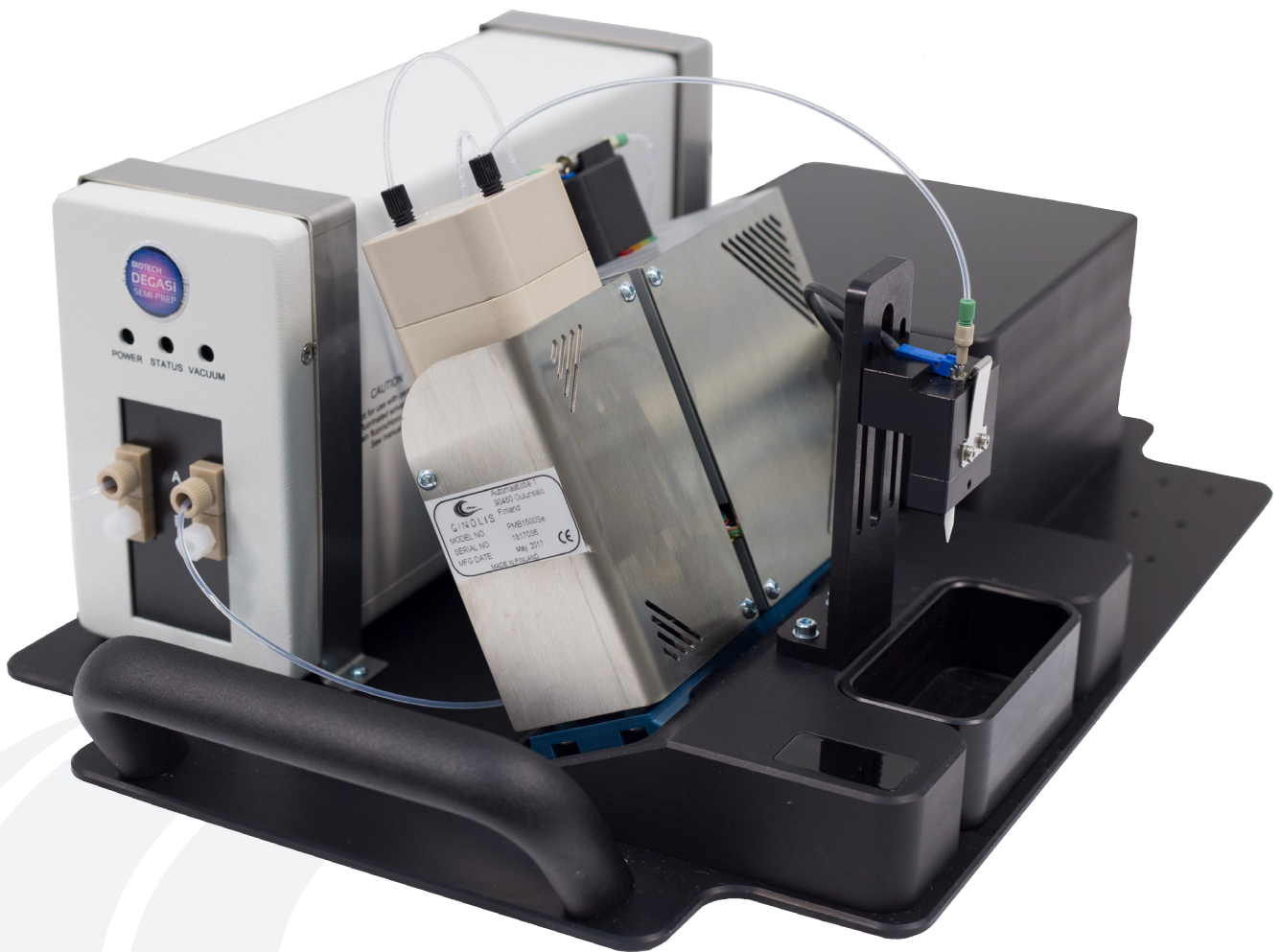




PRECISION FOR  
WELL-BEING



# Ginolis PMB Dispensing Pump **Starter Kit**



High precision non-contact dispensing in  
easy-to-use starter kit

# High precision non-contact dispensing.

## PMB Dispensing Technology

The Piezo Motor Bellows (PMB) pump was developed for accurate and repeatable non-contact dispensing of nanoliter range volumes. The basic starter kit includes PMB pump, control laptop, degasser, tubing, valves and tips. Additional upgrades include travel case, drop verification camera and backlight.

The principle behind the Ginolis PMB pump is a highly accurate piezo motor that is connected to a bellows which is contracted and expanded with the motor. In doing so, the bellows displaces a volume in a closed chamber which is equal to the aspirated or dispensed volume.

The advantage of a bellows driven pump is no friction parts. The result is a pump that will have an extremely long-life with no need for replacement seals and other wear material in the aspiration and dispensing cycle. The pump has an integrated pressure sensor which is used for clog and leak detection, detection of air in the fluid lines, pre-pressurizing the pump and automated monitoring of pressure stabilization during pre-dispensing.

The PMB pump is equipped with a solenoid dispensing valve and a ceramic tip to dispense volumes as low as 1 nl. The dispensing pump displaces a volume of liquid defined by the user and the solenoid valve is opened for a short amount of time (100s of microseconds) to release a drop. The pump can dispense up to 100 drops per second.

The PMB dispensing pump is controlled using Ginolis' Ginger software. The software is programmable and comes equipped with an automated priming function and status monitoring. The PMB pump can be operated in bulk and aspiration modes.

## Models

The Ginolis PMB pump is available in two models that are differentiated by dispensing volume range. The PMB150Se can dispense from single nanoliters to 150  $\mu$ l and the PMB1500Se has a dispensing range from 10 nl to 1500  $\mu$ l.

### Starter Kit Features

- Dimensions (mm) 152 (H), 421 (W), 270 (D)
- Pump PMB150Se or PMB1500Se
- Degasser Biotech DEGASi
- Tubing FEP tubing (0.762 mm ID)
- Tips 2 ceramic tips (190  $\mu$ m orifice)
- Control Laptop Laptop with TwinCat- license

### Optional

- Verification Camera Basler ACE USB3

### PMB Pump Technology

- Dimensions (mm) 127 (H), 44.5 (W), 148.5 (D)
- Valve Solenoid valve
- Material Bellows: Coated with Parylene  
Bellows housing: PEEK
- Resolution 1.0 picoliter aspiration/dispensing rate
- Dosing Speed Max. speed 100 doses / sec
- Bellow Stroke 4 mm
- Precision <1% CV (>50 nl)  
<3% CV (@50 nl)  
<8% (@2,5nl)



### Ginger Control System

- Ginger - desktop automation software
- Embedded industrial PC (Win 7 Pro, TwinCAT)
- GIN UX Tablet User Interface
- USB, WLAN, LAN
- Machine vision capable
- Supports multiple languages