Quick Start Guide

The SpecPlate is a novel multiwell plate for plate-based absorption measurements and is designed to be integrated seamlessly into existing processes.
Nevertheless, this guide will help speed up its implementation at your lab.

Introduction The SpecPlate consists of 96 structures, each with an **inlet, an outlet, and four chambers** of descending height (2000 µm, 1400 µm, 700 µm, and 100 µm) for sample measurement (see figure 1). The **inlets follow a pattern of 96 wells**, and the samples flow clockwise from the inlet to the lowest chamber. The air is displaced from the structures through the outlet. The **chambers are arranged in a format of 384 wells** and can be measured using standard plate readers. A customized geometry is recommended, but measurements can also be conducted using pre-existing 384-well geometries. The **working volume** per structure is **36 µL**

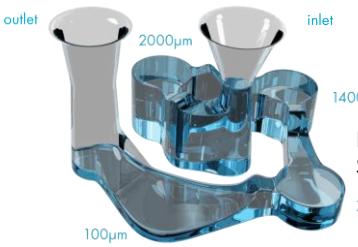

Fig. 1 3D model of SpecPlate-structure

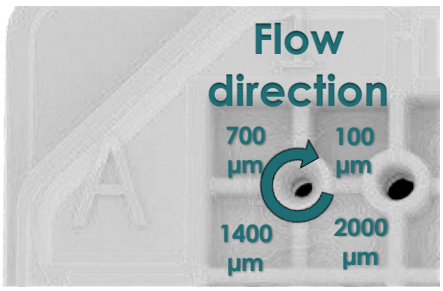

Fig. 2 Close-up of SpecPlate structure

Compatibility The SpecPlate is **compatible** with **all common devices** capable of handling standard multiwell plates. This includes **liquid handlers** capable of handling 96-well plates and **plate readers** compatible with 384-well plates.

Manual Handling For best results, delicately place the pipette tip into the inlet and then **gradually and cautiously release** the solution into the structure. Do not dispense air gaps.

Automated handling The SpecPlate is designed to be compatible with well-calibrated liquid handlers, accommodating both **single and multi-channel pipettes** (8-channel, 96-channel). Please select appropriate pipette tips and flow rates for filling. Successful testing has been conducted with **flow rates ranging from 40 to 100 µL/s**, with a **pipetting height of about 2-3 mm** below the upper edge of the inlet opening. Slow lowering of the tips into the inlet is recommended. Handling with a **robotic manipulator arm** can be performed as usual. For stackers or similar devices, **adjust the necessary settings** in the labware definition file.

Disposal Disposal of used SpecPlates as usual with other plates.

Data Evaluation After measuring the SpecPlate in a 384-well format, for quick and easy data evaluation, it is recommended to **reorganize the measurement data by following the circular arrangement** of the measurement chambers associated with a measurement structure. This is illustrated schematically in the figure below. A simple Excel tool for this task can be provided on request.

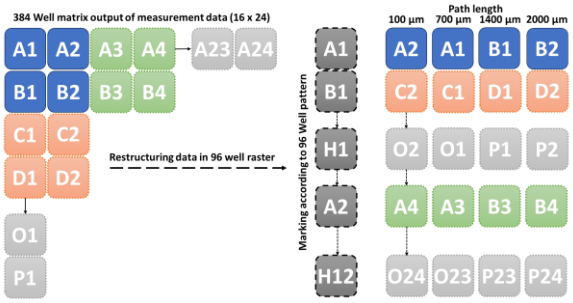

Fig. 3 Scheme of data restructuring

Disclaimer Please note that PHABIOC is not liable for damage to laboratory equipment caused by incorrect operation. SpecPlates are intended for **research use only**

Contact For futher information visit www.phabioc.com or contact info@phabioc.com