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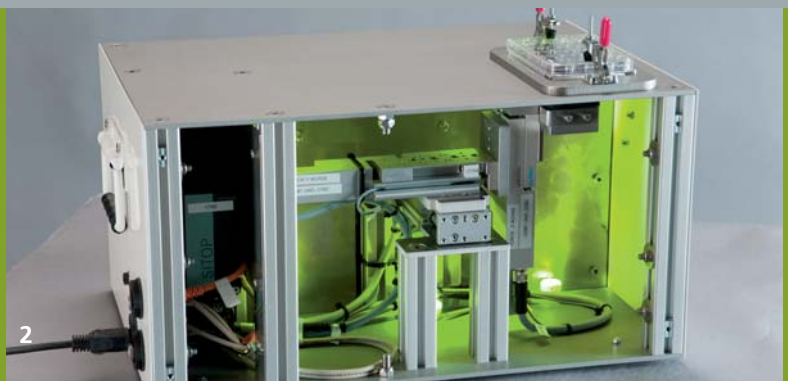

1 *Level metering with clamp-on technology.*
2 *Automatic level metering demonstrator.*

US-MTP-LEVEL – ULTRASONIC LEVEL METERING SYSTEM

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System Description

This ultrasonic level metering system (US-MTP) was developed as a component to automate labs, e.g. analysis operations or processes in the pharmaceutical industry. Advanced clamp-on technology enables rapid and precise level metering in micro-titer plates (MTP) without direct contact with the medium. The system basically consists of a scalable multichannel sensor and the 3-D positioning kinematic with the corresponding control unit. The system is connected to the USB port of a computer that monitors and logs the readings. The sensor is automatically positioned on the underside of the microtiter plate in such a way that the ultrasonic sensors implemented in the sensor head are able to measure the level through the bottom of the wells with high accuracy. Since there is no direct contact with the liquid medium, any risk of cross contamination with the solution in the wells is eliminated. The number of ultrasonic sensors may be scaled and configured to meter several wells without moving the sensor. 96 channels (MTP 96) or more may be implemented depending on the requirements of the application.

Application

The ultrasonic level metering system may be implemented as a single channel system for long term evaporation monitoring (e.g. in stem cell research) or as a multichannel system for rapid level metering in high throughput applications (e.g. in blood analyzers).

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3 - 4 *Level metering with clamp-on technology.*
Photos: Bernd Liebl

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Target Sectors

This innovative level metering system has a wide range of applications:
– Biotechnology
– Bioanalysis
– Pharmaceuticals
– Blood analysis
– Biological research
– Drug development

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