

# NEWSLETTER

## VERMES Medical Equipment introduces GBG - Gas Bubble Generator

VERMES Medical Equipment, a division of the VERMES Group dedicated to the development and manufacturing of medical devices and analytical technologies, today announces its GBG – Gas Bubble Generator.

"Despite being engaged in high-quality microdispensing technology, we have the necessary know-how to design and manufacture products and solutions for the medical and pharmaceutical industries," states Juergen Staedtler, CEO of the VERMES Group.

Mr. Christoph Barck has been appointed as the new Business Unit Manager of VERMES Medical Equipment developing technologies for the medical and pharmaceutical industries with his multidisciplinary team of engineers holding strong expertise in medical technology, biotechnology, process engineering and mechanical engineering.

"The expanded organizational structure and additional resources will increase the company's offerings and the interactions between the individual business units are expected to drive significant synergies and open new markets," added Juergen Staedtler.

Depending on the required specifications, VERMES Medical Equipment develops and manufactures medical devices and analysis technologies for a large range of applications,



VERMES Medical Equipment – highest precision of the new GBG (Gas Bubble Generator)

including its new Gas Bubble Generator (GBG). GBG supports the development and calibration of air bubble detectors.

Contact-free non-invasive air bubble detection in fluid-filled tubes plays an increasingly important role not only in medical but also in many other scientific and industrial applications. Bubble sensors are strongly used in medical technology, but also in pharmaceutical plant engineering, food technology, automation technology, HPLC, as well as in mechanical engineering.

Gas bubble detection is of particular importance in certain medical treatments. In various medical procedures that use extracorporeal blood circuits (heart surgery, dialysis, hyperbaric blood transfusion, etc.), the pre-detection of air bubbles in the returned blood is crucial for the patient safety.

Gas bubbles in an artery that supplies the heart or brain with blood can cause serious damage, such as embolism.

**Gas Bubble Generator** VERMES Medical Equipment – highest precision of the new GBG (Gas Bubble Generator)

Ever higher demands are made on medical gas bubble detectors. These include, for example, the detection reliability of bubbles and the determination of the exact bubble size. Other prerequisites are device stability and user-friendliness

The gas bubble generator - GBG from VERMES Medical Equipment allows the introduction of bubbles of exactly pre-selectable size into blood circulation appliances.

GBG is the first air bubble generator in the market that provides a minimum variation in the generation of equal sized bubbles of <1.0% in a bubble size range of 1µl to 150µl.

This accuracy, the uninterrupted repetition of exactly equal bubbles, as well as the required spread of the producible bubble sizes cannot be achieved with conventional technologies and systems.

The new generator GBG fulfills the industry's years of inquiry of exactly calibrated bubbles in this volume range with a precision of +/- 1% in continuous operation and constant feed into a liquid circuit with variable pressures and volume flows.

A medical device, such as a dialysis machine (or just the air bubble detector) can be connected via system hose, and the liquid circuit can be operated with pressures of 1100mbar to 1600mbar and at flow rates of 100ml/h to 1000ml/h. The pressures are set through a control panel and a PID controller keeps the set pressures constant (+/- 0.5%). The liquid circuit temperature is also kept constant using a Peltier temperature control unit at a temperature selectable from 18° C - 40 ° C.

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