

PRESS RELEASE

High-end sensors for algae cultivation at the Karlsruhe Institute for Technology (KIT)

Hamilton Bonaduz AG concludes another successful project with the university lab

(Bonaduz, 05/17/2016) – The Swiss company Hamilton Bonaduz AG concluded recently another successful project in collaboration with the Karlsruhe Institute for Technology (KIT). Especially, the dissolved oxygen sensor VisiFerm DO and the pH sensors of the Polilyte Plus family are used in the algae cultivation research program of the institute. Dipl.-Ing. Christian Steinweg of the KIT Institute for Bio- and Food Technology explains: “For many years now, we rely in this research program on the sensors of the Swiss experts”. He adds that the sensors of other suppliers were susceptible to errors and more expensive, since wearing parts had to be exchanged within short intervals. After an intensive test phase it became apparent that the Hamilton sensors are significantly sturdier and operate with only minimal or completely without disruptions. In order to cultivate the algae under the best possible laboratory conditions, the oxygen concentration in the medium has to be determined fast and precisely. This is exactly the point, where the optical dissolved oxygen sensor VisiFerm DO is used: The sensor does not need to be polarized before usage and is therefore quickly ready for operation and ensures stable measurements from the start. A further advantage derives not only from the fast response times, but also from the extremely low maintenance effort as well as its autoclavability. Since algae prefer a neutral pH value, the value has to be kept constant in order to ensure an optimal growth process. To control the measurement, the KIT research team decided to use the Arc version of the Polilyte Plus pH sensor with its Single Pore® technology. The long-term stable reference electrolyte Polisolve Plus contributes significantly to the durability of the sensor. Low maintenance effort and fast calibration make it the ideal sensor for algae cultivation. A centralized calibration in the lab under controlled



conditions is possible due to fact that Arc sensors do not require an extra transmitter and thus can be connected directly to the process control system. The KIT research team is more than satisfied with the sensors' performances. Research Manager Christian Steinweg sums up: "The collaboration was a great success for us! We are looking forward to the future cooperation – especially to serve as beta tester for new Hamilton sensors which are relevant for our research".

Characters (inc. space): 2,370

About Hamilton:

Hamilton Company is a global enterprise with affiliates in Reno, Nevada; Franklin, Massachusetts (both USA); and Bonaduz, Switzerland and sales offices throughout the world.

Hamilton Company and its affiliated entities are an industry leader in the design and manufacture of liquid handling, process analytics, robotics and automated storage solutions. For more than 60 years, Hamilton Company has been satisfying customer needs by combining quality materials with skilled workmanship to ensure the highest level of performance. Hamilton Company's lifelong commitment to precision and quality has earned us global ISO 9001 Certification.

In 2014 Hamilton celebrated the 25th birthday of the sensor business. It started with pH sensors and has been growing ever since. Today the portfolio covers the parameters pH, ORP, conductivity, dissolved oxygen (DO) as well as total and viable cell density. All these parameters are crucial in the core segments BioPharma, ChemPharma and Breweries. The Hamilton offering encompasses the whole measuring loop: sensors, cables, housings, transmitters, buffers, standards and accessories. Top innovations include Arc sensors with integrated micro-controllers making external transmitters obsolete, VisiPro DO the only optical dissolved oxygen sensor available with ATEX/IECEx approval and EasyFerm Bio with the fully biocompatible reference electrolyte Foodlyte.

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