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## Research and development in the field of solar sludge drying



*Comeback of the baby solar dryer: inspection of the electrical control system in the HUBER service factory*

### The "baby" solar dryer is back

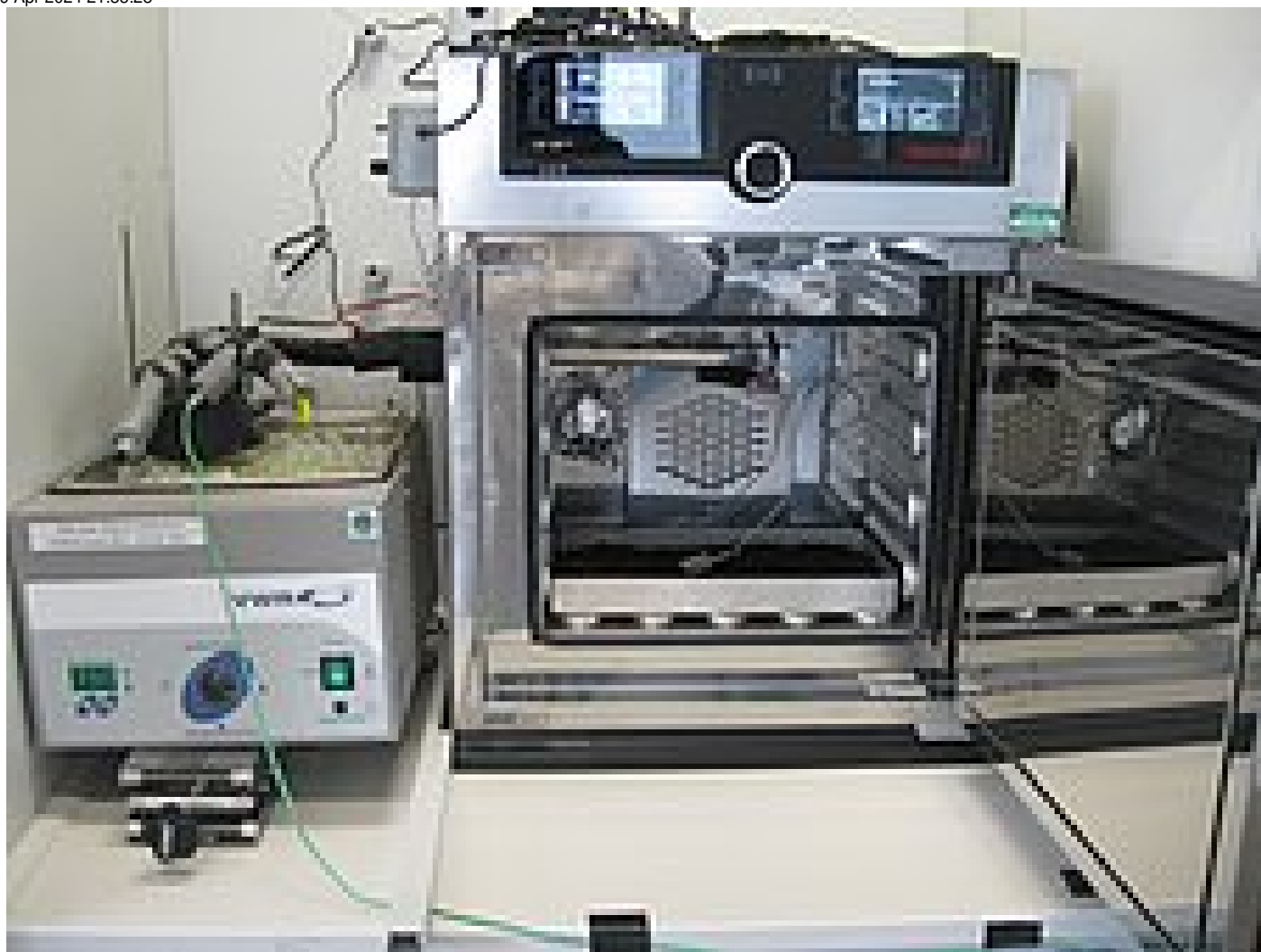
In 2012, HUBER SE manufactured a mobile solar dryer in a container for Expoval Sludge, a research project supported by the Federal Ministry of Education and Research (BMBF). The dryer was extensively tested in cooperation with the Institute for Sanitary Engineering of the Technical University of Braunschweig in Germany, in Poland and in Colombia. The results achieved with the dryer were summed up in a DWA work sheet on solar sludge drying.

The baby solar dryer was recently taken out of the research project and overhauled. In autumn this year, it will be shipped to South America where it will be used for drying tests on several municipal and industrial sewage treatment plants. This should have a sales-promotional effect on the sales of HUBER solar dryers.

### On the trail of odours

As part of the master's theses of two students from the Technical University Amberg-Weiden a laboratory cabinet dryer was modified and tested for exhaust air measurements. The aim of the students' theses is to enable predictions to be made on odour-carrying substances in the exhaust air from the solar dryer. For this purpose, the temperature range was altered from 30 to 70 °C and also the pH value and the return rate for the dry material were modified. Then, the effects on the ammoniac content in the exhaust air were measured.

It turned out that the ammoniac content in the exhaust air is reduced if dry material is mixed into the dewatered sludge as it is the case with the HUBER Sludge Turner SOLSTICE®. The reduced ammoniac content leads to a significant reduction of ammoniac emissions.



*Modified cabinet dryer for exhaust air measurement with Dräger tubes*

On the other hand, it appears that the ammoniac load in the dryer exhaust air increases as the temperature rises, as it is the case in warmer regions or in case of additional utilisation of exhaust air in the solar dryer (floor heating or hot air).

The measurements on the large-scale sewage sludge drying plant at Bayreuth are to be used to compare the laboratory data with the real data gained from practical experience. The decision whether or not an exhaust air treatment is required for the solar dryer has a significant influence on the investment and operating costs of the solar sewage sludge drying plant.

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