

AN APPLICATION REPORT FROM A SATISFIED CUSTOMER:

Our customer produces flexible packaging material at his location. Solvent-based inks, varnishes and adhesives are used in the printing and laminating production steps; the drying process takes place in encapsulated dryers, the exhaust air of which is led to a solvent recovery system; The recovered solvents are then processed through rectification so that they can be returned to the production process. An evaporative cooling system with an open cooling circuit is assigned to the operation of the rectification system. The cooling water must be treated with various liquid conditioning agents for safe operation. These are stored in 200l containers, from which dosing is then carried out using pumps.



In order to assess the correct dosage quantities, the fill level in the containers must be checked regularly. The classification of some conditioning agents as harmful to health and corrosive led, after a risk analysis was carried out, to the desire for this level measurement to be carried out without contact. In addition, the level measurement had to be sufficiently resistant to the conditioning agents, which meant that no weighing system could be used (small leakage quantities, sensitive measuring system). Since the containers are changed regularly, a permanent installation was also not possible. All previous attempts with measuring systems that come into contact with the product, for example tank level measurements using the differential pressure measurement principle, had to be stopped after a short test period.

We therefore chose the LC 100 measuring system from Secu-Tech (Security & Electronic Technologies GmbH, Austria), as according to the product description this meets all the requirements for the desired level measurement.



In April 2020, the customer made an initial inquiry to Secu-Tech; They offered to initially provide a device for testing in order to test its suitability for the application.

TEST PROCEDURE

- April 21, 2020: Request
- April 22, 2020: Offer for test device
- April 29, 2020: Delivery and installation of the test device with measuring tube; Additional sealing of the housing all around using silicone to protect the electronics against product fumes.



June 23, 2020:

Report on the first test result; The level measurements did not decrease even though the product was removed from the container (check using a folding ruler). Recalibrating the device several times was unsuccessful. The cause is probably reflections of the ultrasonic measurement signal on the measuring tube wall. Re-installation without a measuring tube inserted directly into the container opening shows better results. Test will continue under the changed conditions

- July 16, 2020: Positive completion of the test phase;

CONCLUSION:

The non-contact level measuring device LC100 is very suitable for the application described. The resistance to the cooling water conditioning agents has been sufficiently proven. The filling level in the containers can be determined easily and with sufficient precision.