

New moisture measurement technology by Hydronix



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The benefits of accurate moisture management are now widely accepted to clearly outweigh the investment and onward cost for concrete producers. Monitoring the moisture in the raw materials, controlling water addition during the mixing process, and finally checking the moisture of the materials in their finished form brings substantial benefits. Product yields may be maximised, materials efficiently utilised, energy consumption reduced, and a quality finished product ensured.

For these reasons, it is more common for producers to examine the business case for such installations, and therefore look for solutions that offer the best accuracy and flexibility at the most competitive price. Building on the success of previous sensors, Hydronix recently launched the new Hydro-Mix VII sensor into the market. Designed specifically for the concrete industry, the sensor may be installed into all forms of concrete mixers, screw conveyors, chutes, and holding hoppers. The key to a successful installation is to ensure that the sensor is located such that the material flows smoothly across the sensor's flat ceramic face.

Digital microwave sensors have on-board electronics that allow results to be immediately processed, averaged, and treated before they are used by the plant's operator or automated control. Filters using moving averages and rate of change rules have been used on Hydronix sensors for many years, allowing the treatment of data onboard the sensor. As the quantity of air in a material increases (and its density reduces), filters gain importance as they are required to remove 'noise' from a signal and only use valid data.

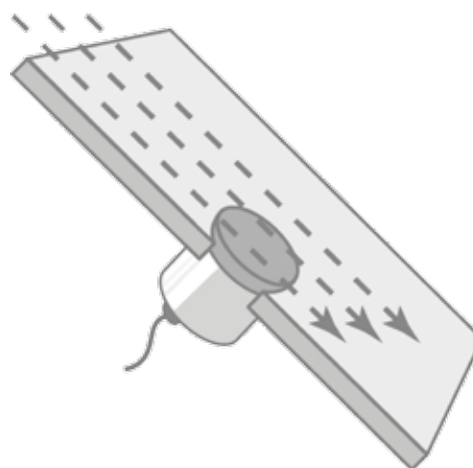
New Hydronix technology now allows the use of advanced Digital Signal Processing (DSP) filters. When used in combination with existing filtering parameters, these allow the user to obtain a smoother signal with reduced data loss further improving sensor performance.

When measuring in aggregates with a potentially steep calibration line, a small change in unscaled readings will lead to a large change in moisture readings. For this reason, it is vital that the unscaled readings of any sensor used remain stable with changes in temperature. The Hydro-Mix VII sensor electronic hardware is designed, just like the bimetallic strip in a mechanical Swiss watch, to remain indifferent to changes in temperature. In addition, a software compensation algorithm measures the temperature of the electronics and finely adjusts the sensor for any further compensation if it is required. Each sensor has a unique software algorithm calculated during the production stage which is stored in the sensors' memory, ensuring maximum stability for each individual unit.

The Hydro-Mix VII sensor may be networked using RS485, RS232, and has USB and Ethernet options. The sensor also has two onboard analogue outputs, allowing the user to simultaneously output a variety of filtered readings, readings from two different measurement modes, or moisture and material temperature simultaneously.

When choosing moisture measurement equipment, the ease of use and quality of after sales service (and advice) given by the supplier should also be an important part of the purchasing decision process. The Hydronix range of sensors may be configured using the Hydro-Com software from a PC with a simple USB connection. They are supported in over 65 countries worldwide and our team of engineers is backed-up by our free global exchange program.

Enquiry: enquiries@hydronix.com



The Hydronix sensor in a chute with flow.