

**Moisture and Density Sensors**

**As versatile as you need them**



In practice, moisture sensors need to cope with very different practical requirements depending on the products to be measured, the range of moistures and temperatures, the amount of samples available, the conditions of measuring points etc.

TEWS Elektronik has developed a broad range of microwave sensors of different designs, sizes and sensitivities. Therefore, the instrument that best suits any potential application can be selected.

Except for a few models, every sensor can be operated in every measuring instrument, which can also be used for changing applications. The sensors of the new „Blueline®“ model range feature a built-in ID chip which the measuring system reads out for automatic configuration.



#### Tubular sensors

Tubular sensors are filled with the product to be measured. They are suitable for single moisture measurements of powders, granules, pellets etc. Samples of free flowing, non-adhesive products are simply poured through a hopper and, after analysis, released into a dish or similar container under the sensor. Samples of sticky or staining substances or materials that are detrimental to human health can be put into a beaker which is then sealed and briefly placed in the sensor for measuring.

Tubular sensors are used mainly for laboratory use or for making random sample measuring during production. They can be installed in a conveyor bypass, where they are automatically filled and emptied to produce a semi-automated online analysis. Tubular sensors are also suitable for measuring density.

#### Planar sensors

Planar sensors can be installed at a suitable location along a conveyor belt or in a container, to measure the moisture of bulk material in process systems. The product to be analyzed moves in direct contact across the sensor. Stainless steel and high-strength ceramics are used so that the sensors are robust and durable.

#### Fork sensors

Fork sensors are made up of two semi-cylinders that generate the microwave field between them. A typical product sample to be measured will usually come in the shape of boards, foils, strips or fibers, which pass through the fork sensor. Samples can also be pulled continuously through the sensor, which makes fork sensors suitable for both laboratory and process system applications.

#### TipTop and other special-purpose sensors

These sensors can be installed on planar surfaces where they are fixed locally to measure very small sample volumes - of approx. 0.5 cm<sup>3</sup>. Other special-purpose sensor models can measure the moisture in up to 12 small-size objects at the same time.