TEWS Elektronik

Measuring the Moisture in Pharmaceuticals and Chemicals

Meeting the Demand for 100% Verification

It is easy to understand why no other business puts as much stress on the quality of products, raw materials and processes as the pharmaceutical industry. When it comes to precision and speed, measuring must meet the very highest standards.

Fluid Bed (Dryer), Powder drying and granulation

Moisture readings play a crucial role in processes such as powder drying and granulation. Drying is best controlled if accurate sensor values are always available. You may, for example, wish to measure the moisture as the material is inserted in a spray dryer. Taking continuous readings can help you determine when the process has achieved its target moisture. Thus, drying and granulation can be monitored properly.

Hard gelatine capsules

The properties of hard gelatine capsules depend on moisture to a very high degree. Prior to automatic filling, the capsules need to be conditioned to attain a specific moisture level to ensure their physical properties are optimized.

Moisture content can be measured online in the dryer in order to verify whether the capsule moisture is met for further processing. Automatic sampling is carried out in a bypass system to monitor the hard gelatine capsules. The moisture in the pressed powder could also be measured prior to insertion in the tablet pressing machine.

100% inspection of tablets and capsules

As the production of pharmaceuticals has a tendency to increase continuous production control and documentation, there is a constant growing demand for 100% monitoring of all the weight in tablets produced and filled capsules. The weights cannot be monitored 100% by using balances at the speed of modern production lines.

TEWS Elektronik GmbH & Co. KG · Sperberhorst 10 · 22459 Hamburg · Germany
Phone +49.40.555.911.0 · www.tews-elektronik.com

The TEWS Elektronik MW 3011 microwave instrument returns 10,000 moisture and mass readings every second, therefore making it the perfect tool for the high-speed separate measurement of rapidly passing tablets and capsules. The number of objects measured per unit of time is limited solely by the speed at which the objects are passed through the sensor - not by the measuring frequency. Microwave resonance sensors can be installed directly into the production machine or can operate in separate inspection equipment.

PRACTICAL EXAMPLES:

Product		Moisture Range
Gelatine capsules	laboratory and process	2 – 15%
Vitamin powder	laboratory	3 – 8%
Granules	for making tablets	2 – 5%
Calcium ammonium nitrate (fertilizer)	laboratory and process	0.15 – 0.5%
Silicic acid	laboratory and process	2 – 5%
Washing powder	basic powder for process system	9 – 15%
Methacrylate pearls	laboratory	0.1 – 1%

TEWS Elektronik GmbH & Co. KG · Sperberhorst 10 · 22459 Hamburg · Germany
Phone +49.40.555.911.0 · www.tews-elektronik.com