

# MoistTech.com



## INSTANT ONLINE & LABORATORY MEASUREMENTS



### MOISTURE MEASUREMENT & CONTROL FROM LAB TO LINE

Controlling the amount of moisture and oil in potato chips and snack foods is an important consideration for process operators. Too little of too much moisture or oil impacts production and quality. By installing MoistTech's IR3000 NIR Moisture Sensor in the processing area, manufacturers can continuously monitor the moisture and oil content to make adjustments as needed.

### MOISTURE & OIL MEASUREMENT IN POTATO CHIPS

Chip manufacturers strive to have the best finish products. During potato chip manufacturing it is important to know the moisture and oil content after the fryer/oven outlet as they can affect quality and consistency, as well as the taste, appearance, stability and shelf life. Additionally, variation and excess moisture and oil in chips can result in discoloration and out of specification of product. Testing moisture during this time will allow adjustments to be made so that chip manufacturers have the highest quality.

Whether finished products have too much or too little moisture and oil is a main concern for snack food manufacturers as some food items are sold by weight, which reduces costs. Having too much moisture can affect the crunch by making the item taste stale or even worse contributing to bacteria/mold growth. Too much oil can make products greasy and higher in fat percentages.

**NIR NON-CONTACT  
INSTANTANEOUS CONTINUOUS  
MEASUREMENT  
ACCURATE  
NEW ADVANCED FEATURES  
IMMEDIATE PRODUCTION ADJUSTMENTS**

Measuring moisture content throughout the process also provides snack food manufacturers cost savings in energy and fuel costs, as well as having less product waste. With continuous NIR online moisture testing, manufacturers can monitor moisture levels which they in-turn, can precisely control ovens and fryers to optimize the production process with minimum energy requirements as well as preventing over cooking.

With the help of industry partners and 30 years of knowledge, MoistTech has thousands of installations worldwide in a wide variety of chips and snack food products. We offer both online for the continuous readings of NIR moisture measurement and laboratory NIR moisture sensors for spot tests near lines or in your quality control labs. Offering a wide variety of instruments including sanitary food grade models that employ a food grade polymeric lens or sapphire window. The IR3000 has higher accuracy than any other systems. Conveyor product gaps, random impurities and burnt product have no effect on the accuracy of the measurement readings.

Realizing that many food processing companies use many primary reference measurements, either in-house or out sourced, MoistTech's NIR moisture sensors are easy to set-up and use. Instant measurements provide manufacturers 100% inspection and savings in cost.

### INSTALLATION

We recommend installing sensor(s) at the exit of the ovens and fryers, close to packaging so that it will allow the food time to stabilize while cooling. The sensor should be installed several inches above the conveyor belt or screw conveyor so that it can continuously monitor the process and can control the moisture content either manually or automatically in the finished product.

**ELIMINATES OFFLINE LAB  
TESTS  
IMPROVED PRODUCT  
QUALITY  
IMPROVED SHELF LIFE  
LOWER ENERGY COSTS  
LESS WASTE  
100% PRODUCT  
INSPECTION  
LESS DOWNTIME  
REDUCED OFFLINE TESTS**

## **ENVIRONMENT**

If the sensor has to be installed close to the oven outlet where it will be susceptible to extreme heat conditions, it is necessary to cool the sensor with either air or water. Furthermore, if the sensor is located near an oil spray, it may be necessary to clean the sensor's optical window during regular routine cleaning.

MoistTech is very experienced with the requirements in the production of all types of snack foods. Our sensor calibrations, measurement wavelengths, algorithms and sensor optical requirements are pre-set at the factory. Typical accuracy is  $\pm 0.05\%$  for moisture and  $\pm 0.2\%$  for oil. Standard analog output range for potato chips is 0-5% moisture and 20-40% oil. The outputs can be adjusted to optimize PLC or recording requirements. For additional information or to discuss your application, please contact our headquarters..

