The SPECTester
Innovative Segregation Tester
The SPECTester
Innovative Segregation Tester

Identifies Both Primary and Secondary Segregation Mechanisms

The SPECTester is capable of measuring segregation by:

- Particle size
- Sifting
- Fluidization
- Angle of repose
- Chemical component
- Air entrainment

SPECTester Features

- Fully automated operation
- Touch screen/keypad control
- 50 segregation sample points measured across the sample bed
- Includes uniformity index for sample and segregation variance data
- Data can be exported to Excel® for manipulation
- CE compliant
- Two models - one with visible light detection and one with NIR detection
- Small-volume Hopper option for reduced sample amounts

During SPECTester operation, the material mixture is poured into the fill hopper. The mixture is transferred to the analyzer via the material chute using the control switch panel to activate the variable-speed, vibrating feeder.
The SPECTester Solution

Using optimal spectroscopic technology, the SPECTester measures samples containing up to six unique components. With one touch, the instrument reports full segregation information. The SPECTester identifies component concentrations, particle size differences, product uniformity, and up to four specific segregation mechanisms.

Before filling the SPECTester with the material mixture, samples of the mixture’s individual components are placed in the component trays (behind the left door) so that their specific spectral reflectance light-print can be acquired. The adjustable feeder arm can be raised or lowered to simulate actual process drop-height. This makes the test results scalable to the actual production parameters.
Example Analysis

Screen permits entry of user information such as
name of the test, number of key components
in the material mixture, and the names and percent
concentration by mass of each key component.
This intuitive interface is user-friendly and provides
a high level of sample tracking.

Interactive touch screen provides
guided entry of sample conditions

Front-positioned keypad provides
easy input of sample parameters and conditions

SPECTester Benefits

- Measures mixtures with up to six components
- Reports how much and why the material mixture
  is segregating
- Provides component concentration, particle size
differences, and product uniformity data
- Indicates primary segregation mechanism out of
  four specific types
- Quickly identify process design parameters
  and quality control issues
- Results scalable to mimic actual process conditions
- Fast analysis – 10 to 30 minutes depending
  on the sample and application
Typical Applications

Quality Control
Measure the segregation potential of drug mixtures as well as its individual components. With the small percentage of API in most pharmaceutical products, even minor variations in concentration can be disastrous. The data can indicate if there needs to be a change made in the process fill operations and/or an alteration to the particle size of a key excipient to eliminate the segregation problem.

Research and Development
Eliminate guesswork in process design by determining mixture segregation during development. Determine sifting or air entrainment segregation. With this information, a manufacturer can resolve the optimal production process for a new product without resorting to costly pilot plant construction.

Process Control
Simulate process parameters while evaluating the segregation potential of both the final product and its individual ingredients. The segregation pattern can reveal how the ingredients' interaction with other components in the mixture affects the overall product as it travels through the processing equipment.

Segregation
Evaluate a mixture and determine which ingredients are primarily responsible for segregation and how their interaction with the entire mixture affects the overall product.
Specifications

Physical

Height: 32 in.
Width: 38 in.
Depth: 18 in.
Weight: 58 kg (130 lbs)

Electrical

Voltage: 100 – 240 VAC
Frequency: 50 to 60 Hz
CE compliant

Environment

Temperature: 10 to 45°C (50 to 113 °F), operating
-10 to 55 °C (14 to 131 °F), non operating