

Jenike Fluidization Segregation Tester

U.S. Patent 6,487,921 B1
ASTM Standard D6941

The **Jenike Fluidization Segregation Tester** measures the tendency of a powder to segregate when fluidized. Fluidization is a state where sufficient air or other gas is entrained in a bed of powder such that it behaves like a fluid. This commonly occurs when handling fine powders and it can result in the vertical separation of the powder by particle size, concentrating the smallest particles near the surface while coarser particles more readily settle and concentrate near the bottom. This behavior may result from gas counterflow (for example during the rapid filling of an enclosed vessel, blending or pneumatically conveying), or simply as air escapes from a bed of fine powder and the powder deaerates. Fluidization segregation is most likely to occur when handling a powder with a significant percentage of particles below 100 microns.

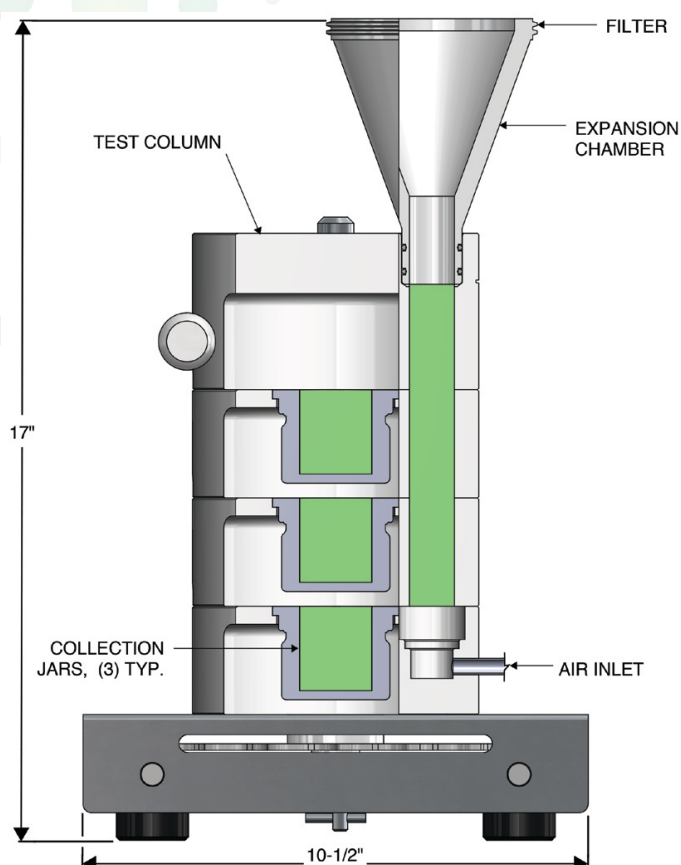
The Jenike Fluidization Segregation Tester simulates the top-to-bottom separation of very fine powders that often occurs as a result of the movement of air or other gases through a bed of powder. It allows the comparison of one material or production batch to another utilizing computer based controls and a touch panel interface for simple operator input and repeatable, operator-independent results.



General Testing Procedures

Place the sample material into the assembled tester using the expansion chamber as a funnel. Next, install and secure a paper filter before setting the control parameters (air flow rates and times) using the controller's touch panel interface. The testing sequence then initiates and the fluidization/deaeration cycle proceeds automatically.

Once the test is complete, position the sample collection jars and simply rotate the handle to divide and distribute the sample equally between them. This unique design provides fast and easy sample collection. The test chamber's stacked components can easily be removed from the tester column for cleaning.



Primary Components

- Control panel for air flow and sequence timing
- Tester column composed of:
 - 3 removable, acrylic cylinders that form the test chamber
 - Acrylic plenum base
 - Stainless steel fluidizing diffuser
 - Acrylic expansion chamber with filter ring for air / particle separation
 - Stainless steel base with locking mechanism
 - Collection jar adapter rings
- Tubing with quick release fitting to connect controller to test column
- Glass jars with lids for sample collection (1 package of 24)
- Paper filters (1 package of 100)

Specifications

- 1.5 mm maximum particle size
- 75 mL maximum sample size
- Height 17" fully assembled, Width 10.5"

Requires:

- 110 - 240v power (specify when ordering)
- clean, dry regulated air/nitrogen supply at 15 to 25 psi/170 kPa

The Fluidization Segregation Tester is also available in a model with nine removable acrylic cylinders.

Contact us for a quote