



# One of the Most Effective Methods for Drying Pharmaceuticals

A wide range of businesses relies on dryers, including those involved in the production of food and beverages, medicine, paper, air purification, and farming. Many industries require drying facilities because of the need to process materials as varied as chemicals used in research and medicine. Before purchasing new drying equipment for the pharmaceutical industry, it is crucial to assess current operations and determine future capacity needs. Vendors you can trust, like VJ Instruments, can tell you all about the options you have for technologies and help you choose the one that makes the most sense for your situation.

However, blending and mixing have traditionally played crucial roles in the production of pharmaceuticals. The right pharmaceutical product with the right composition can only be formed through careful mixing and blending of the appropriate ingredients. Primary pharmaceutical mixing equipment, such as a ball mill or double cone blender, are crucial components of mixing/blending. Let's examine the function of the ball mill in the pharmaceutical industry, as well as other drying and mixing/blending machines, such as the [fluid bed dryer](#) and the double cone blender.

## **Dryers.**

Dryers utilize evaporation, sublimation, or fluidization to remove liquids or moisture from bulk solids, powders, parts, continuous sheets, or other liquids. The product is heated convectively by coming into direct contact with heated air, gas, or a combusted gas product in a direct dryer like an fbd fluid bed dryer.

## **Drying fluid bed fbd.**

The fbd fluid bed dryer has a simple design and operation. Inlet air is filtered before being sucked into the dryer, where it is blown across the heating elements, and through the perforated plate, where it is forced into the removable drying container. The air currents lift the solid particles and scatter them, keeping them isolated from one another. This aids in the prevention of sticking and cake formation. Dry air from the fluid bed dryer passes through the filter bag located at the top, having removed moisture from the particles.

The **fbd fluid bed dryer** by VJ Instruments finds widespread application in laboratories engaged in quality assurance, forensics, and research and development. It allows pharmaceutical bulk materials to be gently dried without localized overheating. Suitably coarse

materials can also be fine, crystalline, fibrous, or leafy. The fbd fluid bed dryer can speed up the drying process while still ensuring a well-mixed, loosened, and dried final product. The fluidized bed is mixed even more thoroughly with the interval operation. Adjusting the drying time, air volume, and temperature is all possible with the help of a PLC and HMI.

It's a mill that uses balls as the grinding medium.

Grinding and mixing materials for use in mineral processing, paints, pyrotechnics, ceramics, and selective laser sintering are both performed in ball mills.

A [ball mill in pharmaceuticals](#) is helpful in the pharmaceutical industry for both the fine grinding of crystalline materials and for mixing dry and wet ingredients. As the balls drop from near the top of the shell, they collide with one another, reducing their size. In the pharmaceutical industry, the final grinding of drugs or the grinding of suspensions is performed in a small and average-capacity ball mill. Ores used in the production of pharmaceutical chemicals are typically ground up in ball mills with the highest throughput rates.

When compared to other systems, a ball mill is superior in the pharmaceutical industry. It can be run in either a batch or continuous fashion, and materials of varying hardnesses can be ground successfully. Additionally, the cost of installation and grinding medium is low. VJ Instruments' pharmaceutical ball mill features an emergency stop switch and an automatic shutoff when the set processing time expires.

## **Blending.**

When new excipients are added to the blend, the blending process can be repeated multiple times within the manufacturing process.

## **Double-cone blender.**

Mixing is a common manufacturing step in many different industries, including the pharmaceutical, pharmaceutical ingredient, food, chemical, cosmetic, detergent, fertilizer, and plastics industries. The [double cone blender](#) is used to mix solids into other solids until they are completely combined. In the manufacturing of pharmaceutical solid dosage forms, powder blending is an essential procedure. Powdered API and excipient powders are typically combined to form tablets. When it comes to mixing powders, a Double Cone Blender is a reliable and flexible piece of machinery. The optimal homogeneity is achieved with an effective volume of 35%-70% of the gross volume. Due to its conical shape and elongated plane at both ends, the double-cone blender is capable of producing uniform mixing and discharging it with relative ease.

VJ Instruments has created various dryers and blenders for a wide range of applications.

VJ Instruments is a manufacturer of scientific instruments whose primary market is the pharmaceutical and preclinical research industries. VJ Instruments offers a wide variety of high-quality items that are guaranteed to meet or exceed industry requirements. Research and development tools, transdermal patch machines, behavior instruments, clinical instruments,

and mazes are all available from VJ Instruments. You can find detailed descriptions and technical specifications for our **fbd fluid bed dryer**, **ball mill in pharmaceuticals**, double cone blender, and other products on our website, [vjinstruments.com](http://vjinstruments.com).