LAARMANN®

Innovators in Solids

LM-FBD300 FLUID BED DRYER

FAST AND UNIFORM DRYING WITH EFFICIENT HEAT TRANSFER

- Gentle drying, dispersing and mixing also of temperature sensitive materials
- Very short drying times (~5 - 20min)
- Powerful fan for optimal air throughout
- Easy handling
- Interval operation for better mixing of the fluidized bed wide range of accessories including various
- containers memory (recipes) for up to 15 SOPs
- Motor with no brushes allows for long service life

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Method of operation

The fluid bed dryer LM-FBD300 is used in quality control, sample preparation and R&D departments. It permits the **gentle drying** of organic, inorganic, chemical or pharmaceutical bulk materials **without localized overheating.** Suitable materials can be coarse, fine, crystalline, fibrous or leafy.

The powerful fan of the fluid bed dryer ensures **optimal air throughput** so that the products to be dried are loosened up and thoroughly mixed resulting in **short drying times.**

With the interval operation the fluidized bed is mixed even better. Temperature, drying time and air volume can be set though PLC & HMI and adjusted continuously.

Operating the Fluid Bed Dryer

How it works

Drying in the Fluid Bed Dryer LM-FBD300 makes use of the fluidized bed process, a technique similar to the one used in large industrial dryers. Ambient air is drawn in through a filter.

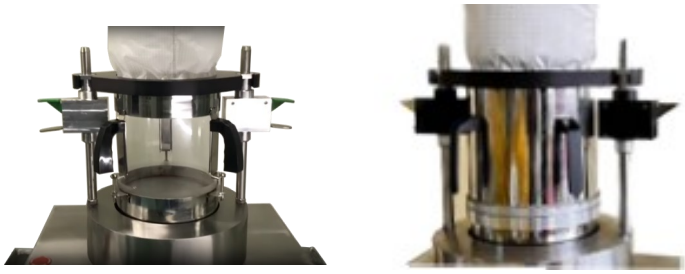
A blower moves the air across the heating elements, and ultimately forces it through the perforated plate and into the detachable drying container. The solid particles are blown upward and dispersed and thus kept separate from one another. This helps to avoid a caking and sticking of the particles as it often occurs when other drying methods are used.

The air stream of the fluid bed dryer extracts moisture from the particles and then exits through the filter bag in the cover. Using the quick-clamp cover with the filter fleece insert is advisable when dealing with products finer upto 100 µm in diameter.

The 1000 watt blower provides an air volume of 185 m3/h at idle speed; heater output is 2000 watts. The air volume, heating power and temperature are infinitely adjustable. Temperature control is effected using he display gauge

Close view of control panel

3 x 0,3 litre chambers



6 litre chambers

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Applications

The Fluid Bed Dryer is a versatile drying solution designed to handle a wide range of materials with efficiency and consistency.

Its fluidization technology ensures uniform drying by suspending particles in a controlled hot air stream, delivering excellent results for applications such as **cellulose, coal, coke, compost, leather, pharmaceutical materials, plastic granules, refuse-derived fuels, sawdust, soils, splints**, and **waste samples.**

This process not only provides rapid and gentle drying but also maintains material integrity, making the Fluid Bed Dryer an essential tool for laboratories, research facilities, and production environments requiring reliable sample preparation.




TECHNICAL DATA	
Applications	Agriculture, biology, chemistry / plastics, construction materials, environment / recycling, food, medicine / pharmaceuticals
Working principle	Drying
Feed size	> 100 µm (depending on feed material and instrument configuration/settings)
Container volume	• 2x6 litre • 0.3 litre 3 chamber (Glass) with close lead and filter bag option.
Setting adjustment method	Through Digital HMI - 1-99 min / Continuous
Storable SOPs	99
Temperature control	Continuously adjustable, 40°C- 100°C (depending on air throughput rate) Dry Run Tempt. 32°C Blower speed min- 58°C Blower speed maximum in standard room temp 27°C.
Power supply	220V 50Hz
Power Connections	1 phase
Standard	CE
Weight	38 kg
Dimension (LXWXH)	600 x 480 x 621 mm

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