

# Static *Fluid Beds*

Carrier Vibrating Equipment is recognized as the industry leader in designing and manufacturing bulk handling and thermal processing equipment. For decades, our Static Fluid Bed Processors have been custom designed and engineered to serve many industries with efficiency and reliability.

Carrier Static Fluid Bed Processors are engineered to dry and/or cool a variety of products. In addition, our fluid bed dryers can be designed to be multi-functional to classify, sterilize and more in a single unit, making them easily adaptable to different processing requirements. With options such as immersed heat exchangers, more than 100 fluidized deck designs, and PLC controls, Carrier ensures you have the equipment and features needed to solve your processing challenges.



## **Process More Materials:**

- Materials requiring long residence time
- Temperature-sensitive products
- High inlet moisture materials



## Features & Benefits

- Efficient fluidizing design delivers optimal heat transfer with very low energy consumption
- Gentle fluidizing action provides efficient processing without product degradation
- Easily adaptable to accommodate batch or continuous processing
- Zoning allows multiple functions such as simultaneous drying, classification, and cooling to be performed in a single unit
- Control systems allow precise adjustment of the outlet moisture, fluid bed depth, temperature, and retention time
- Material is continuously mixed while in the bed, creating uniformity in drying and blending



## Options

### Heat Exchanger

Immersed heat exchanger tubes can be added to the fluidized bed area for indirect heat transfer to the solids for drying or cooling.



### Clean-In-Place

Clean In Place (C.I.P.) fluid bed designs are available for applications requiring frequent clean out. Our automated cleaning option with fixed spray nozzles is ideal for the food and dairy industry.



### Access Manways & Sampling Ports

Access the interior through a variety of manways, doors and sampling ports.

### Safety Features

Dryer systems can be designed to prevent or detect fires and explosions and include explosion suppression or venting.

### Fluidized Decks

Ensure precise airflow and consistently distributed heat with the proper fluidizing deck for your application.



### Materials of Construction

Material contact surfaces can be fabricated from carbon steel, stainless steel or a number of other alloys. Specialized coatings are available to reduce product adhesion.

### Custom Controls

Minimize field commissioning work with simple starter panels or customized PLC-based controllers complete with remote startup and engineering services.

### Multi-Functional Processing

Fluid bed designs can be customized to dry, cool, classify, sterilize and more, to meet your processing requirements.

### Integrated Systems

Standalone or complete multistep processing solutions.



## Industries & Applications

From plastics and chemicals to pharmaceuticals and foods, Carrier static fluid beds process materials without degradation.

- Polymers & Resins
- Plastic Pellets
- Biopolymers
- Organic Chemicals
- Industrial Salts
- Fertilizer & Herbicide
- Food & Dairy
- Soybeans & Grains
- Cacao & Other Seeds
- Fruit, Amino & Organic Acids
- Sugars
- Minerals, Ores & Pigments
- Pharmaceuticals
- Detergents, Borates & Tetraborates
- Biomass
- Soda Ash
- And much more



### Chemicals & Polymers

- Gentle, efficient drying with low temperature
- Optimized processing of temperature-sensitive materials



### Minerals

- Efficient processing of high moisture products
- Process temperature-sensitive materials that require long residence time



### Food & Dairy

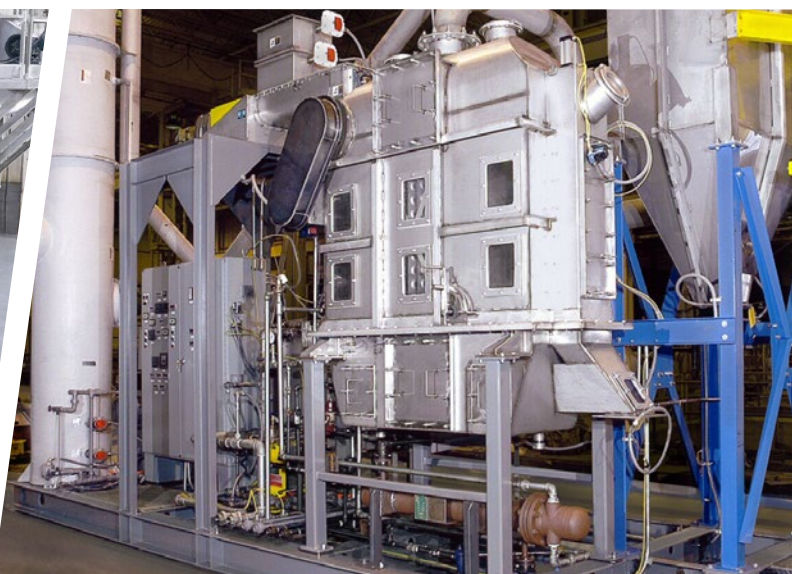
- USDA/3A certified
- Clean-In-Place
- Sanitary processing

## Complete Systems For Process Optimization & Energy Efficiency

Carrier Static Fluid Beds are specifically designed to provide a continuous passage of air through the product bed for efficient drying and cooling and minimum retention time. Carrier designs and manufacturers additional processing equipment that can be integrated upstream or downstream for complete multistep process lines.

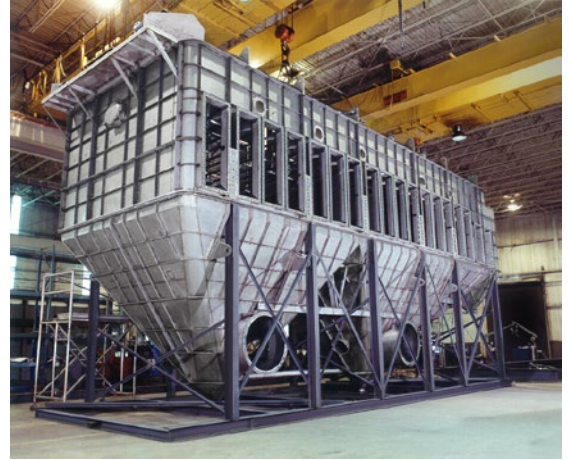
With over 70 years of experience in the engineering, design and manufacture of drying and cooling technology, Carrier's complete systems are:

- Cost-effective, optimized & energy-efficient
- Customized in construction & application
- Reliable, easy to operate & low maintenance



## Engineering & Manufacturing

- Technology profile of over 150 patents
- Equipment designs are verified using Finite Element Analysis (FEA) to ensure trouble-free service and long life
- 3D equipment modeling
- State-of-the-art manufacturing facilities on 3 continents
- Manufacturing expertise working with mild steel, various grades of stainless steel, duplex steels and other exotic alloys for specialty applications
- Welders certified to ASME & AWS standards
- ISO 9001:2015 certified



## Lab Testing

Be confident that your powder and bulk solids processing is efficient with CPEG's 15,000 ft<sup>2</sup> state-of-the-art test lab. With our lab, you have access to the most extensive testing capabilities in the industry. Multiple pieces of equipment can be combined for multistep and multistage testing to simulate field operation, validate new equipment designs and provide complete process solutions. Combined with our full analysis of material characteristics and measurements of material behavior in specific processing applications, you are assured an efficient, reliable and safe solution, all backed by our process warranty.

Field testing with rental equipment is available when lab testing would not effectively simulate process operating environments.



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