

# Bin & Storage Pile **Dischargers**

Carrier Vibrating Equipment's bin & storage pile dischargers are proven to enhance the flow of dry bulk materials from storage. With proper application engineering, Carrier's dischargers dependably overcome the storage bin problems of classification, ratholing (sometimes referred to as "coring"), segregation and bridging.

Our bin & storage pile dischargers promote plug flow from hoppers and maximize storage capacity for powder and granular materials in industries such as chemical, food, mining, plastics, and others. An internal pressure cone ensures precise energy transmission for positive, continuous flow of material from storage bins on a first-in, first-out basis.



## **Keep Your Materials Flowing with Proven Equipment:**

- Vibrating Bin Dischargers
- Live Bottom Hopper
- Vibrating Live Bins
- Storage Pile Dischargers
- Complete Customized Designs



## Bin Dischargers Features & Benefits

- Suspension system with heavy-duty hanger arms isolate the silo or hopper from the vibrating forces
- Internal pressure cone provides the energy transmission necessary for positive material flow
- 45° heavy-duty outer cone for structural rigidity
- Simple vibratory drive delivers quiet, reliable operation
- Cycle timer adjusts from seconds to hours and can be interfaced with starve switches for optimum flow of materials with varying characteristics
- Molded neoprene Super Seal or Simple Seal inlet sock with built-in skirt provides a flexible sealed connection between the bin discharger and hopper
- Ships pre-engineered and pre-assembled for quick installation and are available in a variety of sizes
- Versatile design allows materials to be discharged directly into a truck or rail car



## Equipment Configurations

### Vibrating Bin Discharger

The discharger vibrates to discharge dry materials from storage bins on a first-in, first-out basis with positive, continuous flow. Typically, a metering device is used below the discharger.

### Live Bottom Hoppers

The discharger is fitted to the bottom of the bin and vibrates to provide true mass flow. It consists of a cylindrical tank with discharger and is ideal for new or expanded facilities.

### Vibrating Live Bins

The discharger is built directly into the tank. As it vibrates, dry materials are discharged. It is pre-engineered, ships pre-assembled and is available in a wide range of sizes.



Isolation Arms



Outer Cone



Drive



Super Seal



Simple Seal

## Options

### Pressure or Vacuum Units

Custom designs for pressure or vacuum service are available. Heavy-duty, reinforced socks are available for extreme pressure or vacuum situations.

### Adapter Ring

The mounting adapter ring can be welded directly to the bin or bolted to a flange on the bin or hopper. The mating flange can also be provided.

### Bolted Expansion Joints

A bolted expansion joint with bolting bars can be provided to prevent dusting of fine powders.

### Coatings

Specialized Teflon® coatings are available to reduce product adhesion.

### Motor Classifications

Totally enclosed vibratory motors to meet various area classifications.

### Slide Gates

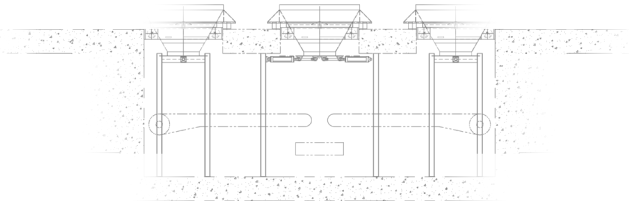
Manually actuated slide gates or hammer gates for quick access maintenance are available upon request.

### Discharge Outlets

Eccentric outlets, multiple outlets, and custom sizes available.

### Inlet Seals

Various seals and material combinations to fit your specific application needs.



## **Pile Dischargers Features & Benefits**

- Unique design increases “live” storage area of stockpiles reducing the need for reclaiming material from above
- Vibratory design efficiently discharges sluggish bulk solids such as limestone, coal, wood chips and sulfur from storage piles
- Engineered to produce a predominantly vertical flow-stream of predictable diameter to withdraw uniformly and concentrically as well as maintain constant command of top layer sloughs
- Controlled vibrating action promotes the flow of stockpiles and can be adjusted to deliver continuous flow of bulk solids
- Cycle-basis design cycles a few seconds per minute for efficient, low-energy consumption
- Adaptable to any existing installation, such as flat bottom bins, stacking towers, reclaim piles, and rail car unloading

## **Increase Live Storage Area**

A sloped, heavy steel drawdown skirt maintains constant vibratory contact with the bulk solid materials and transmits impulses from bottom to top. This typically produces a drawdown angle greater than its natural angle of repose to increase the live storage area and eliminate flow stoppages.

## **Industries & Applications**

Carrier’s Bin & Storage Pile Discharges handle virtually every dry product stored in bulk.

- |                      |                             |                        |
|----------------------|-----------------------------|------------------------|
| • Bauxite            | • Soda Ash                  | • Detergents           |
| • Carbon Black       | • Aluminum Chips            | • Wood Chips           |
| • Coal & Lignite     | • Kaolin Clay               | • Hogged Wood Waste    |
| • Fly Ash            | • Plastic Powders           | • Tar Sand             |
| • Filter Cake        | • Granulated/Powdered Sugar | • Foundry Sand         |
| • Hydrated Lime      | • Oat Flour                 | • Dried Sewage Pellets |
| • Diatomaceous Earth | • Soybean Mill              | • And much more        |
| • Petroleum Coke     | • Tobacco                   |                        |



## **Integrated Systems**

Carrier designs and manufactures additional equipment that can be integrated into our bin and pile dischargers. From our vibrating feeders that are specifically designed for use with bin dischargers to complete pre-engineered, pre-assembled packages shipped to your site.





## Engineering & Manufacturing

- Technology profile of over 150 patents
- Equipment designs often 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 with robotic cutting and welding
- 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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