

**Solibin™ IBC Systems**



the power  
in  
powders

# Solibin™ IBC Systems

“controlled discharge of all materials is vital to modern process systems.”



Cutaway version to view internals only

Carolina Conveying Inc offer the Solibin to meet the needs of the users of IBC's who have found limitations with their present system with regard to the discharge of materials which have compacted during storage or transportation.

The Solibin is a development of the proven technology of the patented Soliflo cone discharge valve. The Solibin eliminates rat-holing, bridging, degradation and segregation, and induces mass flow and discharges difficult materials smoothly and completely, with the benefit of control, accuracy, process security and low maintenance.

## Solibin

The Solibin IBC System consists of three parts :-

- The Storage Container
- The Discharge Station
- The Control System

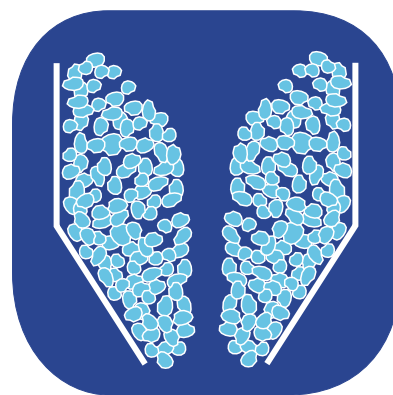
Standard Containers are available in Carbon or Stainless Steel, Polyethylene or Aluminum in 17.5, 35, 50, 70, 85 and 105 cubic foot capacities. These robustly constructed bins are 45 inches square with square to round transition hopper at the bottom, terminating in a 20½ inch diameter outlet to suit the discharge station.

Within the lower part of the container is a spun steel cone incorporating a specially designed seal, which seats in the outlet of the container to form a practical dust-tight seal, whether the bin is full, empty or in transit, providing it is fitted with a transport clamp.

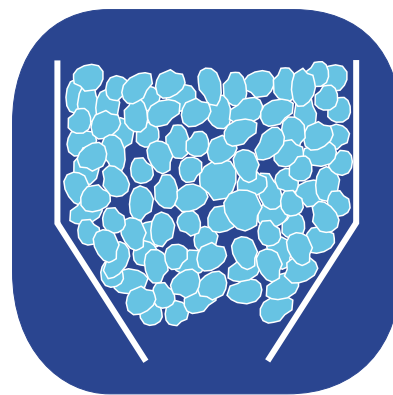
Two types of discharge station are available for fixed or variable flow rate applications. Each station engages automatically with the container, positively locating it in position.

A conical rubber gasket ensures a dust tight seal between the discharge station and the spun steel outlet on the container.

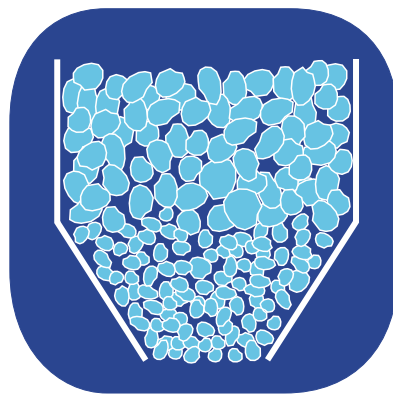
## problems



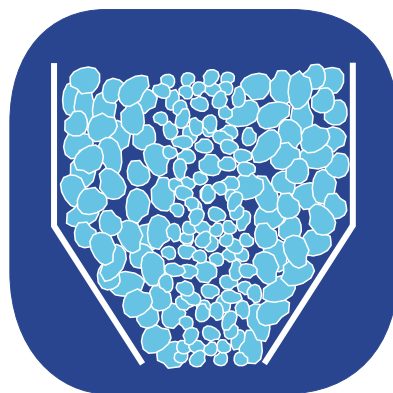
Rat-holing



Bridging



Degradation



Segregation

## Mass Flow

Mass flow occurs when the material moves down the vertical portion of the hopper as a solid mass. There is little relative movement between the particles, and the top surface retains its original configuration. This gives a first-in, first-out principle.

## Operation

The containers are placed on a discharge station by fork-lift truck, pallet jack or crane. They are located into place by the four corner guides, ensuring proper alignment.

When discharge is required, the pneumatically controlled power pack within the discharge station engages the probe with the container's internal stainless steel cone, lifting this cone from its seat and allowing the stored material to flow out through the resulting annular gap. The process is aided, if required, by gentle vertical vibration applied to the core from the power pack, promoting smooth consistent mass flow from the most difficult of materials.

The empty or part empty containers can be removed at any time with minimal risk of leakage. In fact, the whole process from filling and transporting to discharging can be completed without exposing personnel to airborne particles.



**principle of operation**



1. Bin lowered onto discharge station.



2. Bin sealed in position ready to discharge.



3. Cone valve lifts and vibrates to discharge materials as required.



Special IBCs produced for offshore oil rigs to handle drilling 'mud'.  
Rail mounted to save headroom.



## Carolina Conveying

### Specialists

in powder handling components and systems. We offer a very comprehensive range of products including Rotary Airlocks, IBC Systems, Diverter Valves, Silo Dischargers, Volumetric and Weighing Systems, Aero-mechanical Conveyors and Dense Phase Conveying Systems.

## Carolina Conveying

### Technology

product test facility with our complete range of machines allowing prospective clients to visit and witness trials. State of the art CAD and manufacturing facilities for material handling systems.

## Carolina Conveying

### Design

products are always designed to suit your particular application and requirements.

## Carolina Conveying

### Philosophy

it is our company policy to supply customers with products which conform to the highest quality specifications, are fit for their intended purpose, and offer a wide range of support services including installation, commissioning and service contracts.



### important features

- Three valves in one, shut off valve, discharger and feeder.
- Fixed or variable discharge rates.
- Eliminates rat-holing, bridging, segregation or degradation and induces mass flow.
- Handling of containers by fork-lift truck, overhead crane, pallet jack, rail track or automatic container handling system.
- Sanitary and hygienic systems available for food and pharmaceutical applications.
- Process security - if air supply fails, the cone shuts off the flow and seals container.
- Full or partly full containers can be removed from the discharge station at any time without risk of leakage if special features are incorporated.
- Used in conjunction with load cells, system can be used for weighing applications with high accuracies.
- Pneumatic operation ensures safety even in hazardous environments.
- Special purpose systems available for use in the nuclear power industry and offshore oil rigs.
- Complete systems capability including tumble blenders and wash stations are available.



Polyethylene bin



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