



Soliflo™ Bin Discharger



the power
in
powders

Soliflo™ Bin Discharger

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



The patented Carolina Conveying Soliflo is a bin discharger based on the proven principles of the Carolina Conveying Bin Activator.

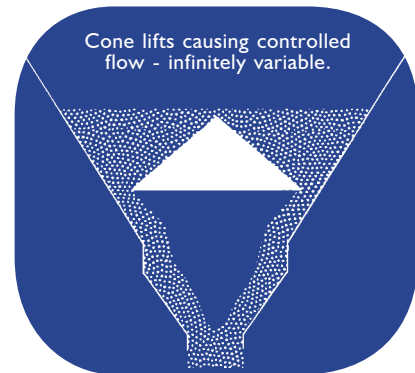
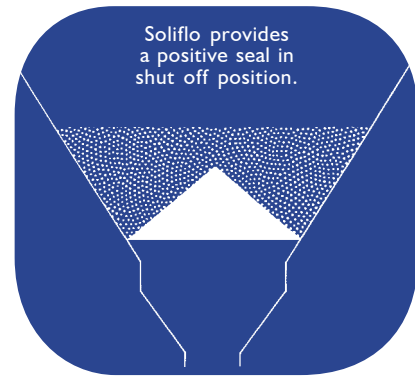
In this pneumatically operated device the inner cone is raised and lowered automatically, creating an annular gap and offering infinitely variable flow, if required. With the cone in its fully lowered position the Soliflo becomes a shut off valve.

There are two types of Soliflo available to cater to most known applications:

- **Preset** - operating to predetermined increments. However, the flow rate from the preset Soliflo can be increased or decreased by manually adjusting internal collars which control the height of the cone.
- **Variable** - the throughput from the machine is controlled by a timer in a remotely positioned control panel which pulses the cone valve up and down thus adjusting the flow rate while the material is discharging.

The Soliflo power unit is a specially designed pneumatic device, operating at 80 psi which by lifting the cone within the silo, creates an annular gap and promotes the flow of material.

A pneumatic vibrator is fitted beneath the cone - this reduces internal shear strength within the material, promotes the flow, but need only be used for discharge of more difficult materials.



important features

- Variable discharge rate.
- Discharge capability over a wide range of materials.
- Wide design variation - round, square or rectangular.
- Operating air does not contact materials in storage.
- Safety guaranteed- due to its pneumatic operation.
- Process security - if air supply fails cone shut off flow.
- Lower power consumption.
- Simple bolt on installation.
- Mechanical parts removable whilst material remains in the silo.
- Minimum attention during operation - totally pneumatic.
- Cone eliminates bridging, rat-holing and compaction.

applications

The versatility of Soliflo creates new possibilities in process control.

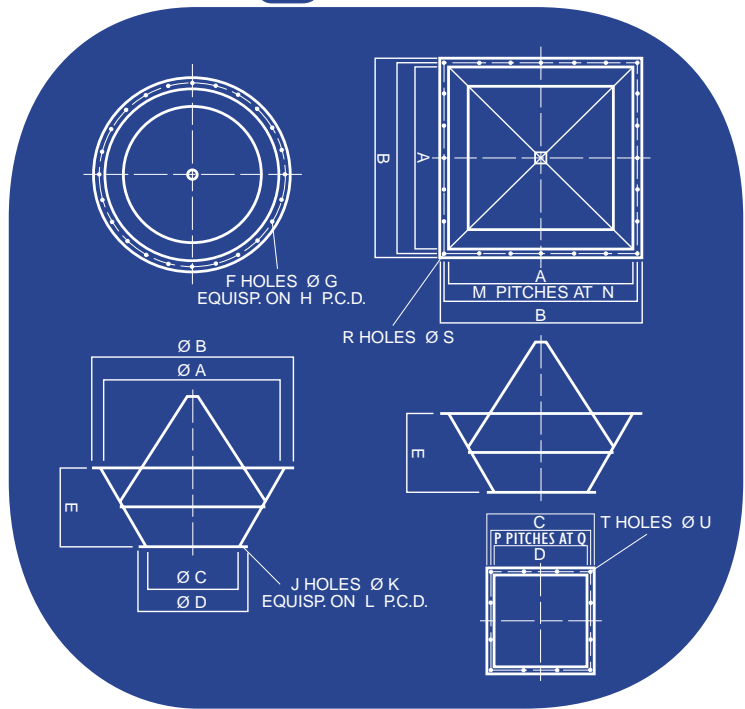
- Utilising the variable flow rate feature, Soliflo used in conjunction with load cells and associated weighing equipment gives a loss in weight system.
- Soliflo fitted to bulk outloading bins gives high flow rates of material for the rapid filling of road tankers yet provides positive shut off.
- Fully variable flow rate control allows Soliflo to be 'tuned in' to packing lines, conveyors and other process equipment.
- Soliflo will greatly improve upon the performance of conventional dischargers, valves, bomb doors and slide valves.
- Soliflo when fitted to buffer bins allows rapid filling and discharge with consequent reduction of process cycle times.

size selection

The size of the Soliflo required is determined by many parameters, including:- the size of the storage silo, the material flow characteristics, the material headload acting on the Soliflo, and the discharge rate required. The size can vary between $\frac{1}{4}$ of the silo diameter for free flowing materials, to $\frac{3}{4}$ of the silo diameter for fibrous or flaky materials. Other parameters may also be considered in order to optimise the specification.

The Carolina Conveying product engineer has at his disposal a computer program which will calculate the headload acting upon the Soliflo.

The Soliflo can be successfully applied to circular, square or rectangular silos.



planning in details

| machine size | | | | | | | |
|------------------------------|--------|--------|--------|--------|--------|--------|--------|
| DIM N | 2' 0" | 3' 0" | 4' 0" | 5' 0" | 6' 0" | 7' 0" | 8' 0" |
| A | 24" | 36" | 48" | 60" | 72" | 84" | 96" |
| B | 28.125 | 40.187 | 52.312 | 62.125 | 77.281 | 89.312 | 101.25 |
| C | 15 | 12 | 24 | 36 | 48 | 60 | 72 |
| D | 18.75 | 16.437 | 28.125 | 40.187 | 52.312 | 65.125 | 77.25 |
| E | 15.75 | 21 | 21 | 21 | 21 | 21 | 21 |
| drillings for round version | | | | | | | |
| F | 8 | 12 | 16 | 24 | 24 | 24 | 28 |
| G | 0.50 | 0.50 | 0.50 | 0.562 | 0.652 | 0.703 | 0.703 |
| H | 26.75 | 38.75 | 50.75 | 63.312 | 75.5 | 87.34 | 99.25 |
| J | 8 | 6 | 8 | 12 | 16 | 24 | 24 |
| K | 0.50 | 0.39 | 0.50 | 0.50 | 0.50 | 0.703 | 0.703 |
| L | 17.312 | 14.75 | 26.75 | 38.75 | 50.75 | 63.312 | 75.59 |
| drillings for square version | | | | | | | |
| M | 2 | 4 | 4 | 6 | 7 | 7 | 8 |
| N | 13.385 | 9.69 | 12.696 | 10.55 | 10.787 | 12.48 | 12.40 |
| P | 2 | 2 | 2 | 4 | 4 | 6 | 7 |
| Q | 8.66 | 7.38 | 13.385 | 9.69 | 12.696 | 10.55 | 10.787 |
| R | 8 | 12 | 16 | 24 | 28 | 28 | 32 |
| S | 0.50 | 0.50 | 0.50 | 0.55 | 0.55 | 0.708 | 0.708 |
| T | 8 | 6 | 8 | 12 | 16 | 24 | 28 |
| U | 0.50 | 0.393 | 0.50 | 0.50 | 0.50 | 0.55 | 0.55 |

All dimensions in inches

Dimensions subject to change without notice

size range

The standard range is 2' 0" to 8' 0" diameter or square. Special smaller or larger units can be supplied if required.



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.



specifications

MATERIALS OF CONSTRUCTION

Carbon Steel and AISI 304 Stainless Steel Standard.

COATINGS

Shellac, P.T.F.E., Epoxy, special paints and special applications to suit customer requirements.

FINISHES

One coat primer. (Standard) Polishing to various grades including food quality and special paint finishes to suit customer requirement.

SUPPLY PRESSURE

80 psi.

Air supply to vibrator should be lubricated so that the Actuator should be clean and dry.

solibin

The Soliflo can be incorporated in I.B.C. discharge systems. The Solibin can be fork lifted to unloading stations where the Soliflo completely empties difficult products. Ask for brochure.

Construction materials - Carbon Steel, Stainless and Aluminum.



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