

## Spiroflow Systems Range of Bulk Bag Unloaders

Learn about our nine different models of bulk bag unloaders available to provide discharge by volume or by weight.

### T1 Simple Support Frame Bulk Bag Unloader

Our T1 Simple Support Frame Bulk Bag Dischargers is an economic alternative for straight forward applications where: The product to be discharged is completely free flowing and dust free, requiring no flow aids or containment. Uncontrolled 'choke feeding' from bulk bags is acceptable where no other flow regulation is required once the neck ties are released. An operator is present through the entire filling process.

### T2 Bulk Bag Unloader for Discharging by Volume

Our Universal T2 Bulk Bag Discharger/Unloader provides controllable discharge by volume. Flow from the bulk bag is easily controlled by an integral Spiroflow conveyor coupled directly to the base of the discharger. This type of conveyor can be used to accurately meter bulk bag contents to a process vessel in an enclosed and controlled manner.

### T3 Loss-in-weight Discharger

Our T3 Loss-in-weight Bulk Bag Discharger/Unloader allows you total control over the amount of product you wish to dispense from the bag. This can be varied for individually selected batch amounts or fully interfaced with your plant process control for continuous batch production.

The T3 incorporates all the proven features of our Universal T2 model but with the bag support dish mounted on load cells. This enables highly accurate weighing of product as it is discharged from the bag. If necessary, the integral transfer conveyor can also be suspended from the weigh frame to provide a totally self-contained discharge and loss-in-weight dispensing unit.



### T4 Unloader for Single Trip Bags

Single trip bulk bags are widely used in plant environments for low value or hazardous products which require a dust-free and controllable emptying method. Our T4 Bulk Bag Discharger/Unloader can empty these disposable bags, which have no bottom spout, without waste or spills, even those containing poor flowing products, using various discharge aids and transfer conveyors to suit the application. Features include:

### T5 Low Loader

Spiroflow's T5 Low Loading Discharger/Unloader empties bulk bags and bags in process areas where restricted headroom causes problems in handling bags or where only a low lift forklift is available. The T5 Bulk Bag Discharger is coupled directly to a flexible spiral or other suitable conveyor which meters ingredients from the bag either volumetrically or by weight. Ingredients can then be fed directly to mixing or other process equipment to provide a fully automatic ingredient unloading, proportioning and transfer system. The height of the access door has been designed to receive small bags, which is particularly beneficial to processors who have switched over to bulk bags, but still continue to receive minor ingredients in 50 lb bags. Processors with batching operations may

choose to have several bag frames for use with one discharge station, allowing them to partially empty, re-tie and store bulk bags.

### **T6 Integral Hoist Unloader**

Our T6 Bulk Bag Discharger/Unloader is a fully self contained unloading station for dust-free and controllable bulk bag emptying. The T6 has an integral "I" beam and hoist for loading bags into the unloader and is directly connected to an enclosed conveyor for direct transfer of product to process machinery. Bulk bags may be brought to the unloader by pallet truck and stored ready for lifting without the need for forklift assistance. Full dust control features are incorporated.

### **T7 Multi-Unloader**

Our T7 Bulk Bag Discharger/Unloader is a versatile emptying system that allows processors to discharge materials from bulk bags, rigid bins, Octabins or bags. The Multi-Discharger employs a controllable discharger and a sub frame. A bulk bag or rigid container is placed on the sub frame which has fork channels to allow loading onto the unloader. The unloader has an integral hopper and flexible spiral conveyor, which feeds the contents from the bag either volumetrically or by weight to process or packaging machinery. The discharger also has an interlocked access door where the operator can untie the spout of a bulk bag or unload small bags of product into the conveyor. This unit is particularly suitable for batching operations requiring ingredients from several sources and methods of supply.

### **T9 Total Containment Unloader**

Spiroflow has developed the T9 Bulk Bag Discharger/Unloader for applications where products handled in bulk bags are fine, powdery and invasive and total containment during unloading is necessary to prevent contamination of the local atmosphere. The T9 is also the natural discharging choice when product is volatile, toxic or explosive.

A sealing device inflates inside the bottom spout of the bulk bag and seals it during the emptying process to eliminate the risk of dust emissions. It also operates in conjunction with an automatic spout stretching device to promote a smooth and cylindrical path for material flow directly into a process vessel or integral conveyor. This patented feature is particularly valuable when products with poor flow characteristics are being handled.

It is important to ensure total discharge of product from the bulk bag when invasive powder is being unloaded to prevent the escape of material when the emptied bag is removed. For this reason, the Model T9 has bag massagers at the corners of the bag as well as the base. A patented pneumatic bag tensioner and an inner liner clamp prevent creases from forming during unloading which can trap residual material.

Height adjustment for bags of different sizes is provided as well as a lifting frame locator for correct alignment of the discharger with a process vessel or other equipment where the material is being unloaded. This feature enhances product containment. Special design features also permit Cleaning in Place (CIP).

### **T9 CV Containment Variant Bulk Bag Unloader**

The T9 CV Containment Variant Discharger has a bag support dish that will accommodate any bottom-spout bulk bag. The bag spout passes through the middle of the dish where it can be accessed. The bulk bag provides an additional seal against the support dish for dust free operation. A heavy-duty 3" square steel tube frame is welded directly to the support dish.

The T9 CV containment enclosure is welded directly to the discharger support dish complete with, two fully opening doors in front with polycarbonate viewing panels and a 4" diameter dust extraction spigot fitted to the rear of the containment enclosure for connecting to a dust extraction system.

This model has a liner clamp & down spout positioned inside the containment enclosure. The stainless steel moving clamp and fixed position downspout facilitate the clamping of the bulk bag liner. A pneumatically operated clamp is retracted down to interface with the downspout.

This Discharger can incorporate a number of design options in order to provide maximum versatility and ease of use.

#### **T10/11 Bulk Bag Unloader for Dairy & Pharmaceutical Applications**

At Spiroflow, we specialize in 'high containment' systems and offer a range of Bulk Bag (FIBC) Dischargers/Unloaders specifically for use in dairy and pharmaceutical applications. Our Pharmaceutical Bulk Bag Dischargers offer total containment of bulk bags during discharge and their subsequent removal. They come complete with a liner spout clamping system that ensures the total containment. Interlocked, power operated pinch bars are provided to clamp the bulk bag neck so that the neck ties can be released safely. Dependent upon the potency of the active ingredient, releasing the neck ties, cutting open sealed liners, feeding them through the clamp ring and over the discharge spout all takes place within a negative pressure enclosure connected to a HEPA filtration system either through an access door or through a sealed glove box arrangement.

#### **Flo 60 Bulk Bag Unloader for Poor Flowing Material**

The Flo 60 Bulk Bag Discharger, from our Control and Metering product line, completely empties poor flowing and dusty ingredients from bulk bags and provides a very high level of dust containment.

The steep sloped hopper, which converts the cubic shape of a bulk bag into a conical/silo shape, combined with pulsed vibration is extremely effective in completely emptying any ingredient from a bulk bag. Mechanically manipulating the bag via paddles, arms and other means to achieve ingredient flow is unnecessary. Lined or unlined bulk bags with outlet spouts, porthole outlets or plain bottoms can be emptied.

Attaching dust collection to the Flo 60's two dust vents creates a negative pressure area within its hopper. The gum rubber (or nitrile) dust membrane seals with the sides of the bulk bag. These two features mean that the Flo 60 provides excellent dust containment without having to use an outlet clamping device.