

## Spiroflow Solution for Pulp & Paper Applications

### Customer Requirements

An increasing amount of powdered material is being handled in the Pulp & Paper industry due to:

- Pressure on manufacturers to re-use waste products such as paper and board. This involves the use of powdered materials to de-ink and treat effluent.
- Titanium dioxide, which gives good opacity with high brightness, is becoming more widely used as a material pigment for paper filling, particularly for bible or diary paper, or to improve color printing qualities
- Modern pulp and paper techniques now often involve the use of food based powdered materials including casein, starch and gelatin.

This trend has brought or underlined ongoing problems including how to:

- Reduce emissions into the atmosphere
- Improve working conditions
- Reduce cost



### Spiroflow Solution

Although the materials listed are traditionally handled manually, in a modern pulp and paper plant they are normally handled in Bulk Bags (FIBCs). Due to the large quantities used, bulk bags are replacing 50 lb. bags.

#### Several Advantages Gained:

- Dust emissions into the atmosphere are drastically reduced as the flow of the powder is contained in a sealed discharge and conveying system. When a traditional bag is opened, some of its contents inevitably escapes and contaminates the atmosphere. Loss of product is almost entirely eliminated with the use of bulk bags.
- There is no heavy lifting involved when using bulk bag equipment and a potential cause of operator injury is removed. Operators readily accept the equipment for this reason.
- Costs are reduced because purchases of materials delivered in bulk bag quantities may be discounted. Also, labor costs, including costs of operator injury, are reduced because heavy manual lifting is eliminated. Further savings are achieved as stock control is easier. The amount of material remaining in a bulk bag can quickly be seen on the control panel of the discharger and centralized computer inventory control is possible.

In addition to the benefits of reduced labor, Spiroflow equipment also operates with greater reliability and minimum maintenance. Material costs may also be reduced as Spiroflow conveyors permit the use of coarser and less expensive grades of lime than required by axial type powder pumps.

#### The Right Equipment:

Spiroflow Systems has developed a comprehensive range of Bulk Bag handling equipment and associated closed conveyors for use in the Pulp & Paper industry. There are standard models for use where height restrictions demand compact units, and when materials are received in 50 lb. bags as well as bulk bags. Special accessories provide for the discharge of materials with difficult flow characteristics. The equipment is robustly built for trouble-free service over many years and incorporates Spiroflow's experience as a leading manufacturer in this field.

#### Materials used in the Pulp & Paper Industry & successfully handled with Spiroflow equipment include:

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|----------------------|------------------------|-----------------------|-----------------------|-----------------------|
| • Acetic Acid        | • Calcium Hypochlorite | • Palmitic Acid       | • Sodium Bisulfite    | • Sodium Hypochlorite |
| • Aluminum Sulfate   | • Ethyl Alcohol        | • Phosphoric Acid     | • Sodium Borohydride  | • Sodium Sulfate      |
| • Ammonium Hydroxide | • Formic Acid          | • Polyvinyl Acetate   | • Sodium Carbonate    | • Sodium Thiosulfate  |
| • Calcium Bisulfite  | • Hydrochloric Acid    | • Potassium Hydroxide | • Sodium Chloride     | • Sulfur Dioxide      |
| • Calcium Carbonate  | • Oleic Acid           | • Propionic Acid      | • Sodium Hydrosulfite | • Sulfuric Acid       |
| • Calcium Hydroxide  | • Oxalic Acid          | • Sodium Bicarbonate  | • Sodium Hydroxide    | • Titanium Dioxide    |
|                      |                        |                       |                       | • Wood Flour          |