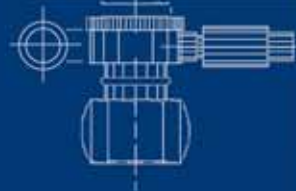
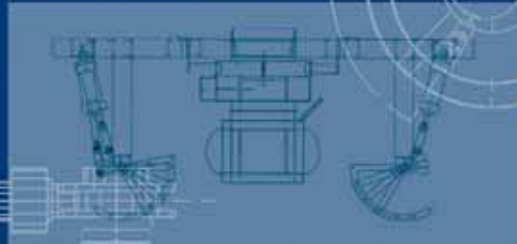




**SPIRALFLOW**

DUST FREE FILLING & WEIGHING STATIONS



FOR  
BULK BAGS  
RIGID IBCS  
DRUMS

Over 100 million bulk bags are sold each year worldwide, proving they are now a well established form of packaging, storage and transport - and not just from an economic standpoint. Processors now have a viable alternative to handling and disposing of large numbers of dusty sacks, because Spiroflow equipment makes filling and discharging from bulk bags safer, easier, more controllable and dust-free. Continuous development of our filling stations allows the choice of standard or customised equipment to suit access, height or hazard considerations. Our filling stations are also the most versatile on the market - they can be adapted for use with rigid bins, drums and octabins.

## DESIGNED FOR VERSATILITY. BUILT FOR ADAPTABILITY.

Customers using our filling stations cover applications in the food, dairy, chemicals, pharmaceuticals, plastics, building products and minerals industries. In addition to standard features such as bag/liner inflation, inflatable neck seal, vibratory base for deaeration/compaction, a wide range of optional equipment can be provided to satisfy process requirements, such as 'spinner' filling heads, automatic bag removal, pallet dispensers and take-off conveyors.



Filling materials in bulk bags and sacks in a minerals processing plant.



Handling by pallet.



Fully automated bulk bag filling system.



Handling by loops.



Low profile.

## DETERMINING YOUR REQUIREMENTS

Before specifying a particular weigh filler, some key factors need to be considered. This not only helps to assess a customer's own particular needs, but also assists our design engineers in determining the optimum system for those needs.



**Q.** How do we handle the bulk bag?

**A.** By pallet or by the bag loops.



**Q.** What bag style and size do we use?

**A.** At this stage, you should consult both the bag manufacturer and Spiroflow. The bag needs to optimise all its volume for safe storage and transport.

*\*Technical paper available.*



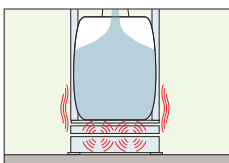
**Q.** How do we contain dust?

**A.** An inflatable neck seal effectively contains the dust during filling. All our filling heads comprise an inner and outer annulus, for product flow and dust evacuation respectively.



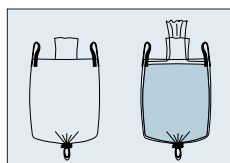
**Q.** Can the filling system be automated?

**A.** If filling in volume, options such as pallet dispensers, automatic bag loop release, bag take-off and accumulation conveyors should be considered, and can be added at a future date to standard Spiroflow equipment.



**Q.** Does the product need vibration?

**A.** Usually, yes. Vibration at the base of the unit deaerates and compacts the product so it not only optimises the bag volume, but forms a safe and stable load. A spinner head can also be used to disperse product into 'baffle' or compartmentalised bags.



**Q.** Do we need a bag liner?

**A.** If the product is very fine, you probably will, to prevent leakage or moisture ingress. However, various alternatives can be used such as coated bags or special bag seams. The liner must be inflated correctly to avoid creasing and subsequent discharge problems.



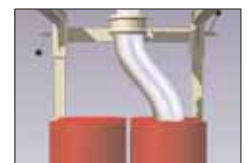
**Q.** Will the equipment need to be earthed?

**A.** If the area poses an explosion risk, static dissipative or groundable bags may be recommended, together with a suitable static monitoring device.



**Q.** Is automatic loop release and height adjustment available?

**A.** Yes, automatic loop release of filled bags is a useful labour saving option for pallet loaded bags. Powered height adjustment is also recommended if different sizes of bag are being filled in order to speed up the filling process.

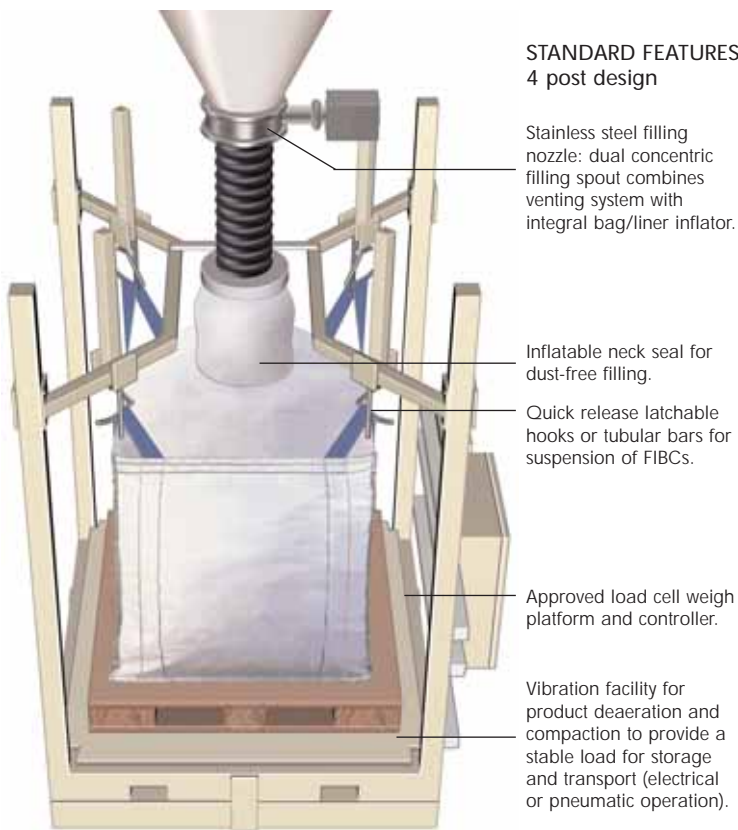


**Q.** Can the equipment be adapted to fill other types of container?

**A.** Yes. Spiroflow supplies a range of options for the filling of rigid bins, drums and octabins.

The competitively priced Model C Series fillers are the ideal solution for users with low to medium volume requirements. The modular construction of the C Series enables users to specify a basic unit for their initial requirements. Where future production demands determine the need for additional operational features, a full range of options is available designed to meet particular system requirements.

## MODEL C WEIGH/FILLERS FOR PALLET HANDLED FIBCs



The C1 Model is for use where flexible or rigid IBCs are filled on pallets and removed by fork lift truck. The base is directly mounted on an approved load cell weigh platform. Features include vibration for product de-aeration, stop/start control by set weight, an annulus for venting of air displaced during filling and pneumatic neck sealing.



Model C3 with automatic height adjustment for varying bag sizes and pneumatic bag loop release system.

Automatic bag loop release



Alternative 'C' Type with horizontal support arms.



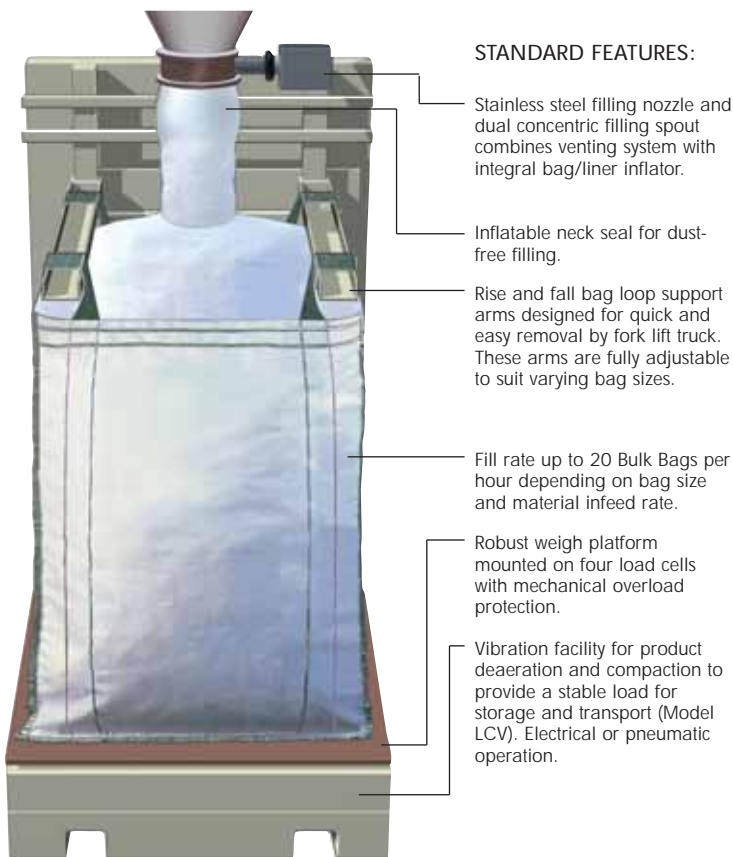
- OPTIONS:**
- Powered roller, mesh or belt conveyor for easy removal of Bulk Bags.
  - Pneumatic bag push-off device.
  - Full management data on weight controller, plus printer.
  - Pneumatic bag loop release system.
  - Rigid bin or drum filling attachment.
  - Automatic FIBC height adjustment (Model C3).
  - Access platform.
  - Full range of filling valves to suit product.
  - Spinning heads, to distribute product in bag.

**TECHNICAL DATA:** Heights may vary according to bag size.

Height (mm)	2800
Width (mm)	1510 (+350 control panel)
Depth (mm)	1510
Fill rate (depending on FIBC size, feed method and operator availability)	Up to 20 Bulk Bags per hour
Air requirements (inflatable neck seal and FIBC inflator) NB: Valve requirements not included	80 psi (5.5 bar) @ 900 litres per cycle

The heavy duty LC Model enables the bag to be easily removed by the loops (e.g. cement and minerals plants). Rise and fall loop support arms with fork lift truck channels accommodate various bag sizes and allow the quick and easy removal of the bags. Options apply as with the standard Model C machines.

## MODEL LC WEIGH/FILLERS FOR LOOP HANDLED FIBCs



### STANDARD FEATURES:

- Stainless steel filling nozzle and dual concentric filling spout combines venting system with integral bag/liner inflator.
- Inflatable neck seal for dust-free filling.
- Rise and fall bag loop support arms designed for quick and easy removal by fork lift truck. These arms are fully adjustable to suit varying bag sizes.
- Fill rate up to 20 Bulk Bags per hour depending on bag size and material infeed rate.
- Robust weigh platform mounted on four load cells with mechanical overload protection.
- Vibration facility for product deaeration and compaction to provide a stable load for storage and transport (Model LCV). Electrical or pneumatic operation.

Optional equipment includes attachment for rigid and drum filling and data management on weight controller.



A wide range of bag sizes can be used for filling a variety of products.



The Model LC is robustly built for heavy duty operation and dust-free filling. Depending on material infeed rate and bag size, the Model LC can fill up to 20 Bulk Bags per hour. Product deaeration is provided by either a vibration arrangement at the base of the unit or by a filling head spinner. This ensures a stable load for safe storage of the FIBCs.



- OPTIONS:
- Full management data on weight controller, plus printer.
  - Rigid bin or drum filling attachment.
  - Access platform.
  - Atex compliant.
  - Full range of filling valves.

### TECHNICAL DATA:

Height (mm)	2600-3400 to suit FIBC size
Width (mm) without access platform	1200
Depth (mm)	1500
Fill rate (depending on FIBC size, feed method and operator availability)	Up to 20 Bulk Bags per hour
Air requirements (inflatable neck seal and FIBC inflator) NB: Valve requirements not included	80 psi (5.5 bar) @ 900 litres per cycle

## LOW PROFILE FILLERS FOR LIMITED HEIGHTS



Height restrictions can sometimes pose a problem filling Bulk Bags. Spiroflow's low profile machine has been designed to fit in areas previously used for sack packing.



Spiroflow's low loader means bulk bags can now be filled **without the need for a forklift**. The Low loading ramp and low profile pallet base makes unloading filled bulk bags a simple task with a pallet truck.

**OPTIONS:**

- Vibration facility for product deaeration and compaction.
- Certified load cell weigh platform.
- Bulk bag and liner inflation.
- Integral controls.
- Adjustable arms for multiple bag sizes.
- Pneumatic neck seal inflation for dust-free filling.
- Venturi attachment for facility-supplied dust collection.
- Flow control.

**OPERATION:**



Pallet positioned on base.

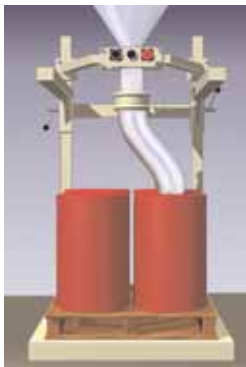


Bag is looped on to support arms and filled.



When filled, bag is removed by pallet truck.

## CUSTOMISED OPTIONS



Processors often need to respond quickly to customer demand and be able to supply product in other kinds of containers such as rigid IBCs, drums or octabins. With the addition of special adaptors, this can be achieved using the same filling platform, providing a versatile, multi-purpose machine.

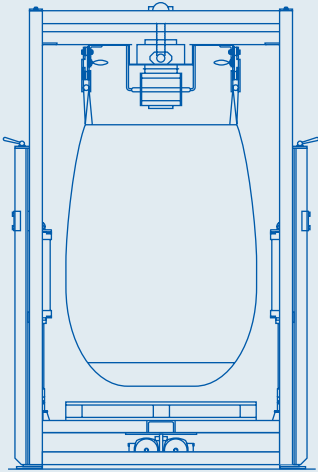


Spiroflow's automated bulk bag filling system gives large volume users the benefit of continuous operation without having to stop to unload each bag. Pallets are automatically fed to the filling rig and the bags are looped onto pneumatically operated hooks. Once filling is completed, the loops are automatically released and the bag is then moved along the line by a powered take-off conveyor.

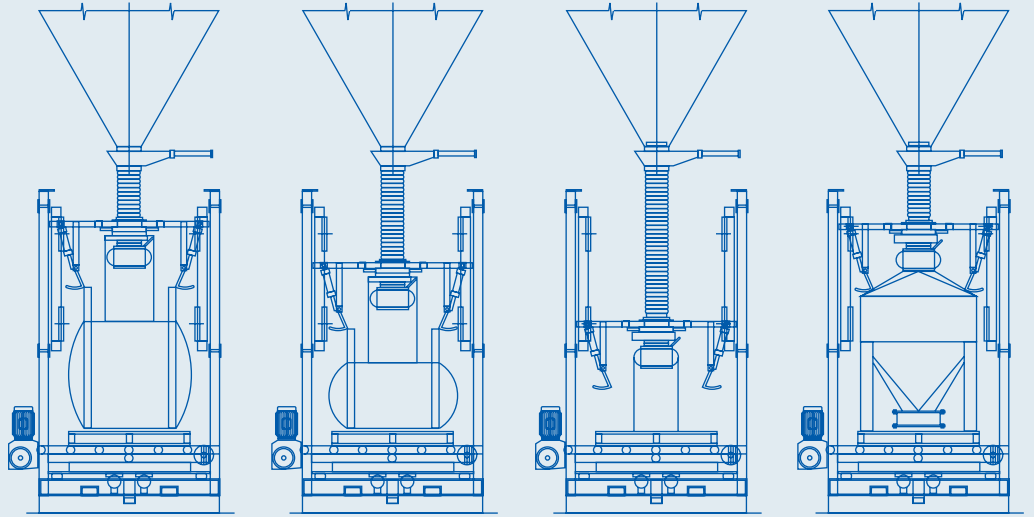


Filling system for bulk bags and sacks.

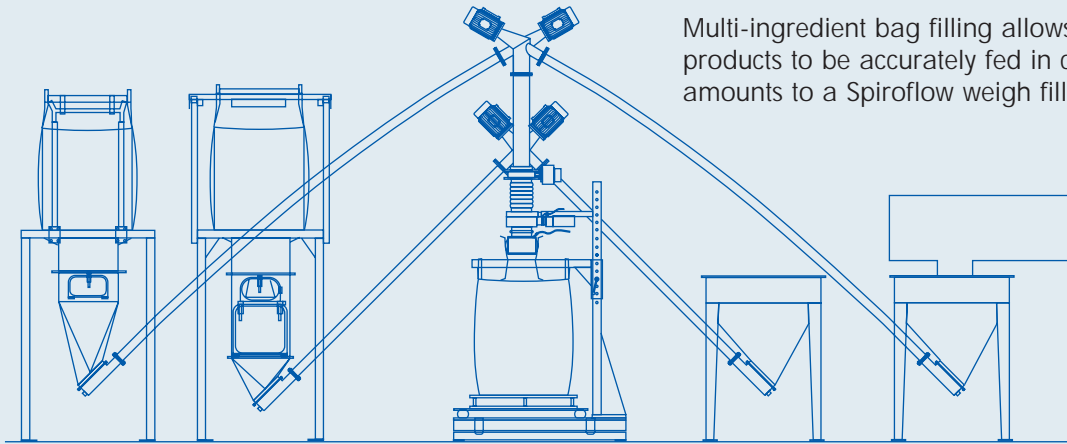
# FILLING EQUIPMENT AND SYSTEMS DESIGNED TO MEET ALL



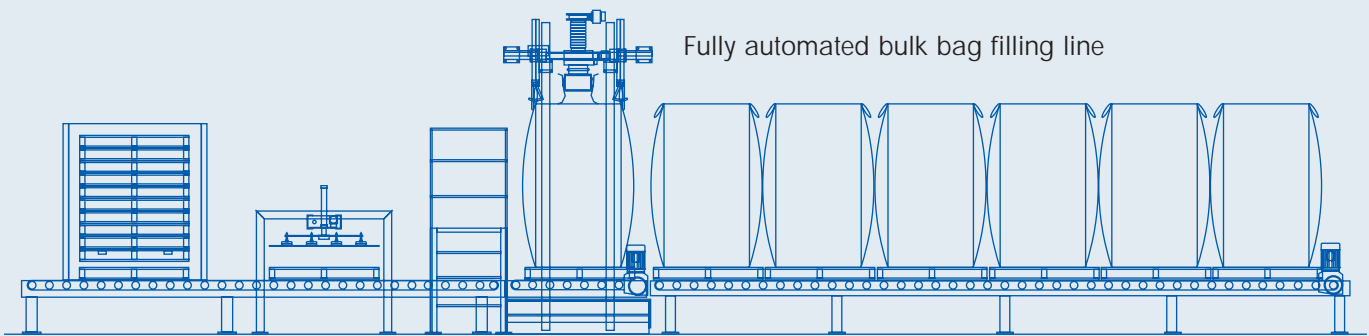
Hang Weighing bulk bag filler



Filling station for FIBCs, drums and rigid bins



Multi-ingredient bag filling allows a number of products to be accurately fed in controlled, varying amounts to a Spiroflow weigh filler.



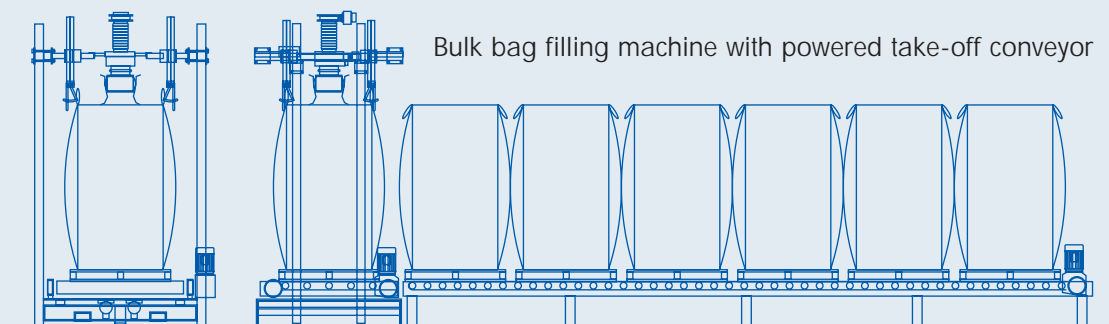
Fully automated bulk bag filling line

Pallet dispenser

Slip sheet dispenser

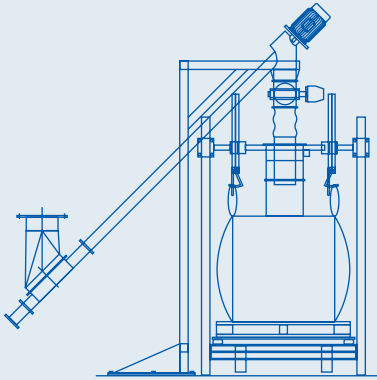
Access platform

Powered accumulation conveyor

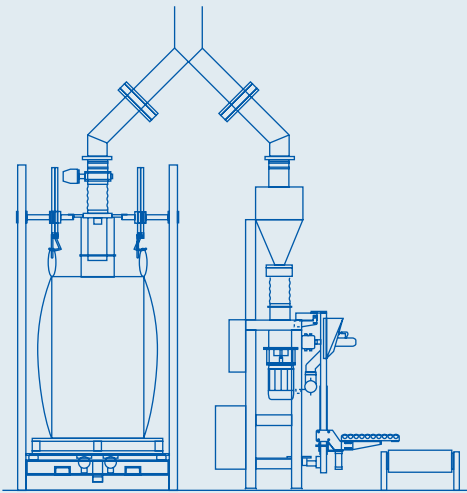


Bulk bag filling machine with powered take-off conveyor

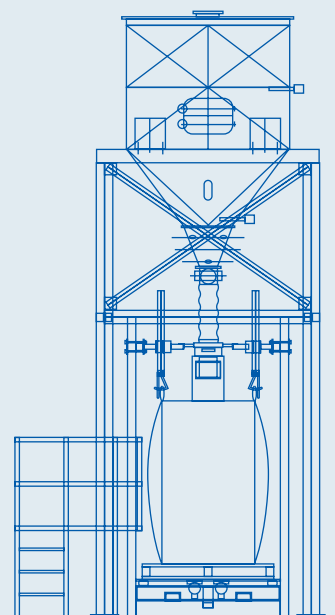
# PROCESS REQUIREMENTS.



'C' Series bag filler with feed conveyor



'C1' Series bag filler and 25kg 'turbo' sack packer fed from one source via bifurcated chute

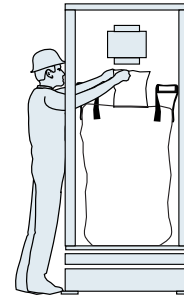


Filling machine fed direct from silo or process vessel via bin activator

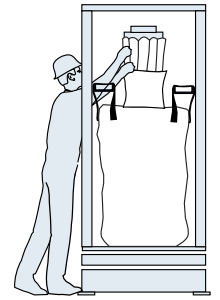
## Bulk bag filling - sequence of operation



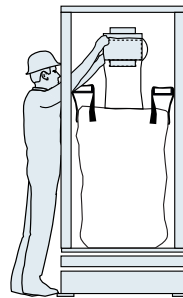
1. Bag loops are placed over support arms.



2. Bag spout and liner are opened up.



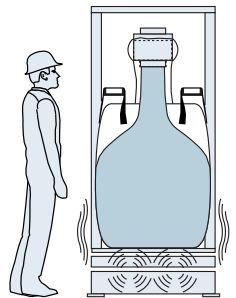
3. Liner or bag spout is attached to inflatable neck seal.



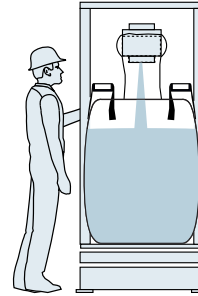
4. Neck seal is inflated to secure the liner or bag spout during filling.



5. Liner/bag inflated.



6. Vibration during filling.



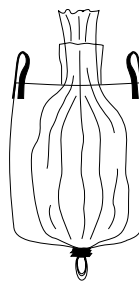
7. Filling valve closes at target weight.



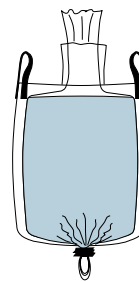
8. Bulk bag spout removed from filling nozzle and tied.

## Inflating a bag liner correctly

Wrong

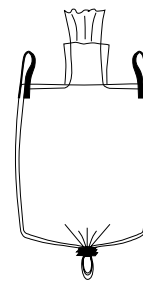


Bulk bag liner, loose as bag supplied.

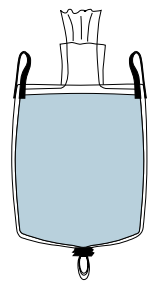


Bulk bag filled with product, but due to creased liner is rucked over outlet and could give discharge trouble.

Right



Correctly inflated liner so no rucking occurs in bulk bag or over outlet spout.



Correctly filled bulk bag with no rucking in liner and over outlet spout.



## DESIGN

We have an experienced team of mechanical and electrical engineers with a vast collective knowledge of solids handling, geared to handle your project quickly and efficiently, whether you need a single filling station or a complete powder handling system.



## TESTING

Our fully equipped test facility, which is at your disposal, assesses performance of our machinery on your particular material. On-site trials can also be arranged if preferred.



## MANUFACTURING

Our recently expanded manufacturing unit, to which we welcome visits by our customers at any time, guarantees your order is processed efficiently and to our high quality standards. We have manufacturing facilities in the UK and the USA.



## AFTER SALES

At Spiroflow, we firmly believe that after sales service forms an integral part of the product. Over 70% of our business comes from existing customers, whom we work with as partners from the moment of placing an order and throughout the equipment's operational life.

### OTHER EQUIPMENT IN THE SPIROFLOW RANGE:

- Flexible screw conveyors
- Vacuum conveyors
- Aeromechanical conveyors
- Bulk bag dischargers
- Sack, drum, IBC and octabin emptiers
- Batch and continuous weighing systems
- Sack packing systems
- Silo and hopper discharge aids
- Continuous mixing systems



Technical papers are available covering most Spiroflow products and may be obtained on request from our marketing department.



Further information concerning Spiroflow products and services can be found by visiting our website:



[www.spiroflow.com](http://www.spiroflow.com)



POWDER HANDLING SYSTEMS

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[www.spiroflowsystems.com](http://www.spiroflowsystems.com)