

SPIROFLOW

CONVEYING & BULK BAG HANDLING SOLUTIONS

For many years, Spiroflow has been supplying equipment for the discharging and metering of water and effluent treatment chemicals.

The products used for PH control, such as hydrated lime, activated carbon (PAC) and soda ash are supplied in various forms and Spiroflow has designed equipment to discharge both Bulk Bags (FIBCs), silos and 25kg sacks.

All Spiroflow solutions provide the following benefits:

- Reduced manual handling.
- Dust-free bag emptying.
- Loss-in-weight or volumetric chemical batching.
- Integral conveyors - either flexible screw, aero mechanical or vacuum.
- Bulk bag dischargers with integral flow aids for poor flowing products such as hydrated lime.
- Continuous flow of product through the use of hopper/chute agitation devices.
- High levels of reliability.
- Minimum maintenance costs.
- Spiroflow conveyors permit the use of varying or coarser, and less expensive grades of lime than are required for the operation of axial type pumps for example.
- Even and consistent material flow.



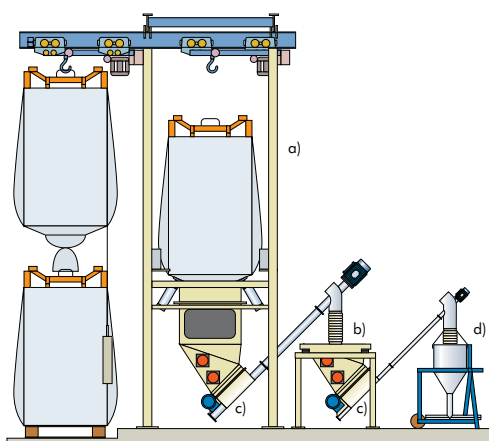
INDUSTRIAL EFFLUENT & WATER TREATMENT

Schematics of typical Spiroflow Discharging and Dosing Systems

SYSTEM 1 Discharging Activated Carbon from FIBCs.

Equipment summary:

- a) FIBC discharge station Type 6 - comprising hoist, runway beam, lifting frame, discharge chute and massage system flow aid.
- b) Weigh hopper on load cells with variable speed gearbox.
- c) Agitation unit with flexible screw conveyor.
- d) Eductor.
- e) Controls with inverter (not shown).



System overview

Activated carbon is supplied in FIBCs that are loaded onto a discharge station. The carbon then empties into a flexible screw conveyor supplying a weigh hopper. The first conveyor tops up the weigh hopper on demand

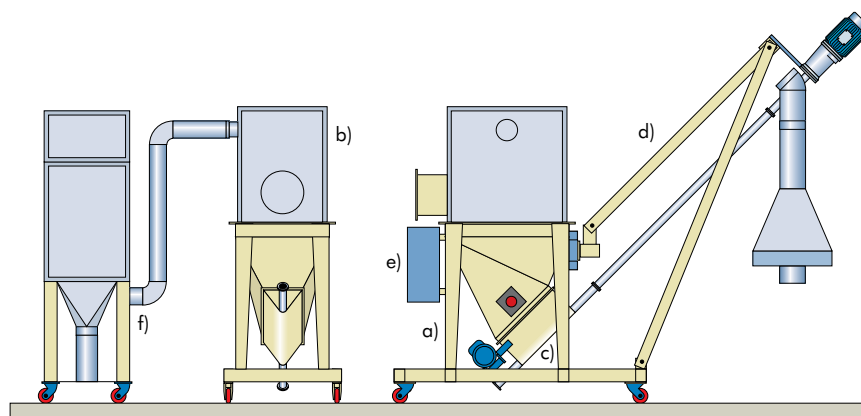
from a low level sensor and stops on a signal from a high level sensor.

From the weigh hopper, a second flexible screw conveyor doses the activated carbon into an eductor using a variable speed gearbox and inverter.

SYSTEM 2 Emptying Activated Carbon from Sacks.

Equipment summary:

- a) Mobile sack tip station comprising a hopper on a mobile frame.
- b) The hopper has a dust hood with dust extraction facility and sack disposal port with a strip curtain on door to contain dust.
- c) An agitation unit is mounted on the base of the hopper to aid material flow.
- d) A flexible screw conveyor with variable speed gearbox is supported by the hopper and the mobile frame.
- e) Control panel with inverter.
- f) Mobile dust extraction unit.



System overview

Activated carbon is delivered in sacks which are ripped and tipped into the feed hopper.

The conveyor then dispenses at a predetermined speed to put the required amount into the eductor.

SYSTEM 3 Dosing Activated Carbon from FIBCs.

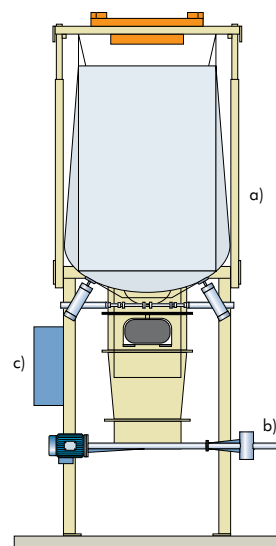
Equipment summary:

- a) A Type 2 FIBC discharge station with lifting frame, discharge chute and massage system.
- b) Integral flexible screw conveyor.
- c) Control panel with inverter.

System overview

FIBCs of activated carbon are delivered to site and are loaded onto the discharge station using a forklift truck or customer's own hoist.

An integral flexible screw conveyor then doses the required amount of carbon into an eductor.



SYSTEM 4

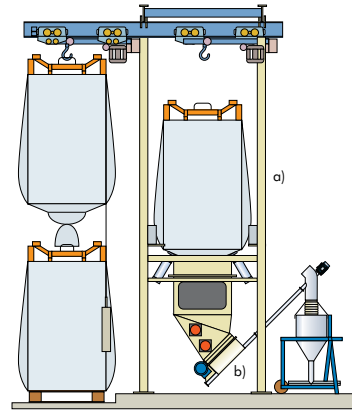
Discharging Activated Carbon from FIBCs without a forklift truck.

Equipment summary:

- a) Type 6 FIBC discharge station comprising hoist, runway beam, lifting frame, discharge chute and massage system to aid flow.
- b) Agitation unit with flexible screw conveyor and variable speed drive.
- c) Control panel with inverter (not shown).

System overview

Activated carbon is supplied in FIBCs that are loaded onto a discharge station. Carbon is then discharged into a flexible screw conveyor, which in turn supplies an eductor.



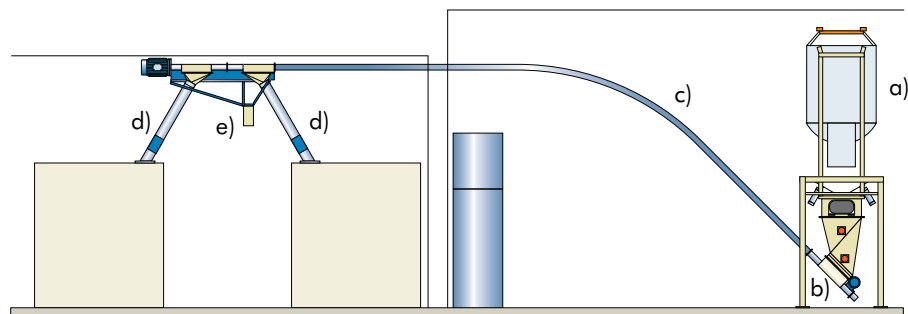
SYSTEM 5 Conveying Hydrated Lime from FIBCs.

Equipment summary:

- a) Type 2 FIBC discharge station comprising lifting frame, discharge chute and bag massage system.
- b) Agitation unit.
- c) Flexible screw conveyor.
- d) 2 x Conveyor outlets.
- e) 1 x Butterfly valve.

System overview

Hydrated lime is delivered in FIBCs that are loaded onto a discharge station. Using the twin outlet, lime can be transferred to one of two mixing tanks at a rate suitable for dispersion.



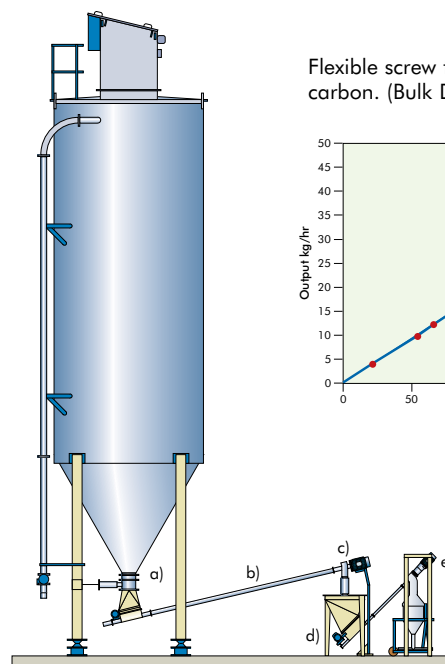
SYSTEM 6 Conveying Activated Carbon from a Silo.

Equipment summary:

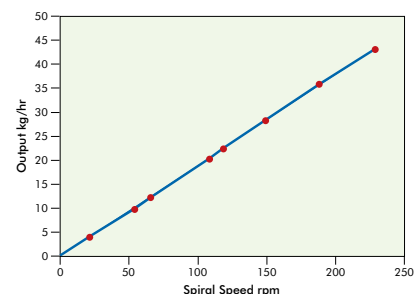
- a) Adaptor/Transition, from silo to agitated conveyor inlet.
- b) Spiroflow conveyor Model 67.
- c) Flexible Connection from outlet of above conveyor to inlet hopper.
- d) Hopper and Agitator Unit.
- e) Spiroflow conveyor Model 37 with gearbox.

System overview

Powdered activated carbon is transferred from a silo situated outside of a building to a mixing/slurry tank. The actual throughput rates were required to vary from approximately 0.35kg to 14kg per hour.

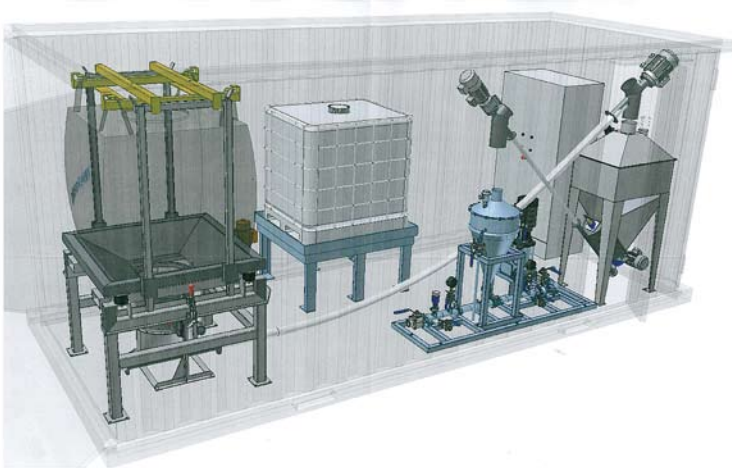


Flexible screw feed rates for powdered activated carbon. (Bulk Density 450 - 500 kg/m³).



"DOSING SYSTEM IN A BOX"

Spiroflow working together with Ejector specialist Transvac Systems Ltd., offer Containerised Dosing Systems where the solids additive handling system, the dosing ejector and all controls including safety and alarm systems are housed in a 20ft ISO Container. This approach massively reduces the cost of water or waste treatment in those situations where a building would otherwise have to be erected. And, of course, they are mobile and can be available for transfer to any location at short notice to deal with a seasonal or emergency situation.



We believe that after-sales support and service form an integral part of the product. This fundamental belief is the basis of many long term partnerships we have enjoyed with our customers.



Certificate No. 6553

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Spiroflow Limited
Lincoln Way, Clitheroe, Lancashire,
BB7 1QG. UK.
Telephone: +44 (0) 1200 422525
Facsimile: +44 (0) 1200 429165
Email: sales@spiroflow.com
Website: www.spiroflow.com

Spiroflow Systems, Inc.
2806 Gray Fox Road, Monroe,
NC 28110, USA.
Telephone: (1) 704 291 9595
Facsimile: (1) 704 291 9594
Email: info@spiroflowsystems.com
Website: www.spiroflowsystems.com