

spiroflow



Bulk Material Handling & Automation Solutions

INTEGRATED SOLUTIONS to MODERNIZE YOUR PLANT.

Spiroflow is a global leader in mechanical process conveying, bulk bag loading and unloading equipment, and an emerging leader as a Control Systems Integrator. We lead the industry in safety, containment, sanitation, ergonomics, design and speed.

Beginning with our founder's pioneering development of the industry's first flexible screw conveyor, our line of mechanical conveying, bulk bag filling and discharging equipment set cutting edge benchmarks since the 1970s. We continue to innovate to meet today's process industry needs.

As an engineered solutions provider, and equipment OEM, we offer the industry's most expansive line of mechanical process conveying solutions and bulk bag handling equipment to convey bulk materials, both powder and granular, within your factory process.

Spiroflow Automation Solutions Inc. excels as an end to end Control Systems Integrator with expertise in food processing, paint and coating, ammonia detection, motion control and themed entertainment.

At Spiroflow we are committed to providing our customers the right solution, not just any solution, for their bulk material handling and automation needs.



OUR PROMISE:

PEOPLE, PROCESS, PRODUCTIVITY

At Spiroflow we put people first, meaning we design with the end user in mind to provide safe, ergonomic solutions. Spiroflow exists to make a profound impact that is both immediate and enduring by creating value through innovation.

Our process is to listen to our customer and create value by understanding their needs to deliver robust, safe and innovative solutions. We develop and retain exceptional talent by fostering a respectful collaborative team ethic.

We aspire to be the market leader in all of the industries we serve through advancing design, efficiency, and customer satisfaction. Our technical expertise will support you before and after the sale, which has been our hallmark since inception.

Our end goal is to help you increase productivity. What you run through our equipment is your business -- how you keep it running is ours!

Jeff Dudas & Michel Podevyn



WHAT WE DO



Engineered Process Designs

Most processors need more than a single piece of equipment. Spiroflow engineers have decades of experience putting all the components together and seamlessly integrating them into your new or existing plant.



Process Equipment

Our comprehensive product range includes solutions for the most advanced conveying, weighing, filling and discharging applications to meet the growing demands of processors.



Automation Solutions

As a full-service industrial control, networking, and automation provider, our people help make your manufacturing process work smarter and more efficiently.



Parts & Service

At Spiroflow, we believe that after-sales support and service form an integral part of every bulk material handling solution that we provide.





Table of Contents

- Our Promise
- What's Your Problem?
- Process Equipment
 - Flexible Screw Conveyors (8/9)
 - Aero Mechanical Conveyors (10/11)
 - Cablevey® Tubular Drag Conveyors (12)
 - Chainflow® Tubular Drag Conveyors (13)
 - Dynaflow® Tubular Drag Conveyors (14)
 - Bin Activators & Box/Octabin Drum Tippers (15)
 - Bulk Bag Unloaders (16, 17, 18)
 - Bulk Bag Conditioners (19)
 - Bulk Bag Filler (20/21)
 - Bag Dump Stations (22)
 - Robotic Palletizing (23)
- Automation Solutions (24/25)
- Parts & Service (26)
- Spiroflow Knows® (27)

If You Have a Process Problem, We Have the Solution.

SPIROFLOW'S TEST FACILITIES ARE LOCATED IN THE US & UK AND OFFER REMOTE VIDEO ACCESSIBILITY IF CLIENTS ARE UNABLE TO ATTEND IN PERSON.



Degradation: Minimizing Loss

Maintaining the integrity of a fragile product is a challenge, but degradation can be prevented. Our team of expert engineers produces customized conveying solutions to solve any problem. We have a range of gentle tubular drag conveyors which will convey fragile products such as nuts, cereals and coffee beans.

Effective Dust Control

Companies around the world that transport and handle large volumes of materials in bulk bags find that unloading bulk bags can be a dusty mess if not managed properly. Controlling dust in your packaging operation involves careful bulk bag design as well as expert bulk bag filling and conveying equipment design.

Segregation

If you want to convey a formulation which tends to separate then Spiroflow's flexible screw conveyor (FSC) is an excellent choice. Our FSC is ideal to preserve the homogeneity of a mixture even where particle size or density vary widely between the components. The FSC constantly mixes the product while it is conveyed. The re-mixing ensures that your mixture exits the conveyor as well, if not better, mixed than at the conveyor inlet.

Hygienic Material Handling

Our product portfolio includes five types of totally enclosed, hygienic conveyor systems. All of our systems can be configured with clean in place equipment.

Ammonia Detection

Ammonia leaks can be extremely hazardous. Our automation solutions are designed to keep your employees safe. We can meet all of your requirements to monitor and mitigate leaks by placing warning systems near equipment that uses ammonia.

Ergonomics & Productivity

Putting people first means we design with the end user in mind. Our conveying and weighing systems are designed with a minimum of moving parts for maximum reliability, simple operation, easy cleaning, and low maintenance.

MATERIALS & TESTING

Spiroflow welcomes customers from around the globe to conduct feasibility trials and equally importantly, to offer advice on the comparative advantages of different conveying and bulk bag handling methods relative to the customer's application. Spiroflow's test facilities, located in the US and UK, are fully equipped with flexible screw, aero mechanical and tubular drag conveyors, as well as bulk bag fillers and bulk bag unloaders. We can advise without bias on the right type of solution for your particular product, application and layout restraints. Wherever possible, we simulate your site conditions in terms of conveyor length, flow rate and angle of lift.



Trials are set up to our customers' requirements in terms of conveyor length, angle of elevation and output. We have a database of product conveying trials logged over 45 years, taking the guesswork out of assessing flow rates and expected performance. Trials are also offered at customers' premises where the product and/or application dictate this to be the best course of action.

Powders (free flowing and nonfree flowing) chips, flakes, pellets, spheres, granules and more, we can help you move it. For a complete list of materials, please visit: spiroflow.com



FLEXIBLE SCREW CONVEYOR

For Dry Bulk Solids & Ingredients

Spiroflow Flexible Screw Conveyors are just that – flexible! They can convey in any direction from horizontal to vertical, routed around fixed obstacles and equipment, and from one room to another. They are ideal for lifting materials from bag dump stations or storage bins and conveying products at ceiling height to feed a line of processing or packaging machines.

Spiroflow's Flexible Screw Conveyors inherently ensure material is constantly being remixed. This is accomplished through the action of the rotating spiral – effectively eliminating the risk of product separation. Flexible Screw Conveyors are also an extremely cost effective method of conveying dry bulk solids and ingredients!

Flexible Screw Conveyors are called by many different names, including a flexible auger, flexible screw conveyor, flex conveyor, flexible spiral conveyor, helix or helical conveyor.



Constant Remixing

The Spiroflow system ensures constant remixing; restoring every part of the mix to its desired proportions many times a second. This is essential when feeding pre-mixed ingredients to packaging and tableting machines.

Low Maintenance

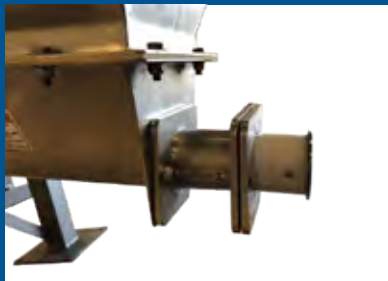
As the only moving part of a Spiroflow conveyor is its robust inner spiral, trouble-free operation is ensured. Our spirals are specially heat-treated and tempered for maximum working life.

Gentle Handling

The rotating spiral is centralized in the tube by the product and, as a result, there is little product degradation. Spiral type and speed are carefully chosen to ensure your product is conveyed in the optimum manner.

Easy to Clean

Optional, interlocked, quick release connectors facilitate rapid dismantling and reassembly where cleaning of the spiral, tube and end connections is essential.



RESTRICTOR PIPE:

Easily allows conveyor throughput adjustment and prevents metal to metal contact for food applications.



AGITATOR:

Improves flowability of a product.



HYGIENIC SEAL:

Lip seal and stand-off between the drive and the outlet.



DROP OUT BOX:

Drop trap enables easy access for cleaning. Hand knobs eliminate the need for tools. Safety switch ensures system cannot be operated with cover removed.

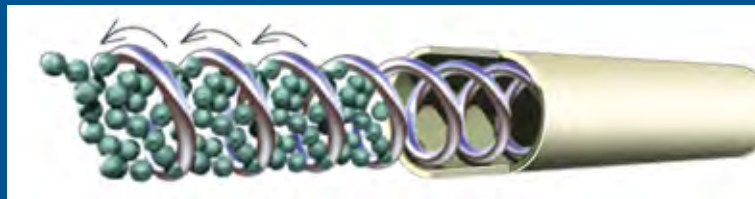


REVERSING TRAP:

Removable end cap on the inlet of the FSC conveyor to allow for maximum recovery of un-used product when emptying the system via running the spiral in reverse prior to product changeover. Safety switch ensures system cannot be operated with cover removed.

DESIGN SIMPLICITY

Sheer simplicity of operation is the key element in the Spiroflow conveying system. The electric motor driven spiral, which is the only moving part, rotates within a sealed tube, moving the materials along by its screw action.



This design simplicity eliminates the need for any additional operating equipment such as filters or bearings - all adding up to a system that's hygienic, easy to clean, low on installation and maintenance costs, and high on efficiency and performance.

Model Specifications

Model (US)	Capacity lb/hour (approx.)	Minimum Bend Radius (ft)	Tube Diameter (In)
214	1,000	6	2 1/4
258	2,000	6	2 5/8
318	4,400	14	3 1/8
412	14,000	20	4 1/2
658	40,000	Rigid	6 5/8
834	80,000	Rigid	8 3/4

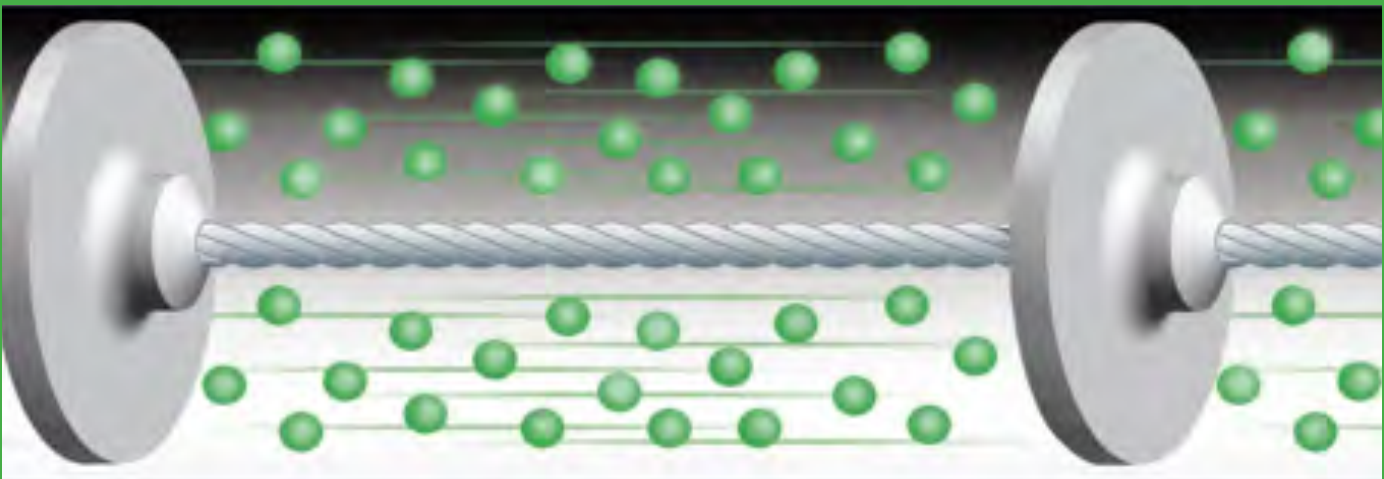
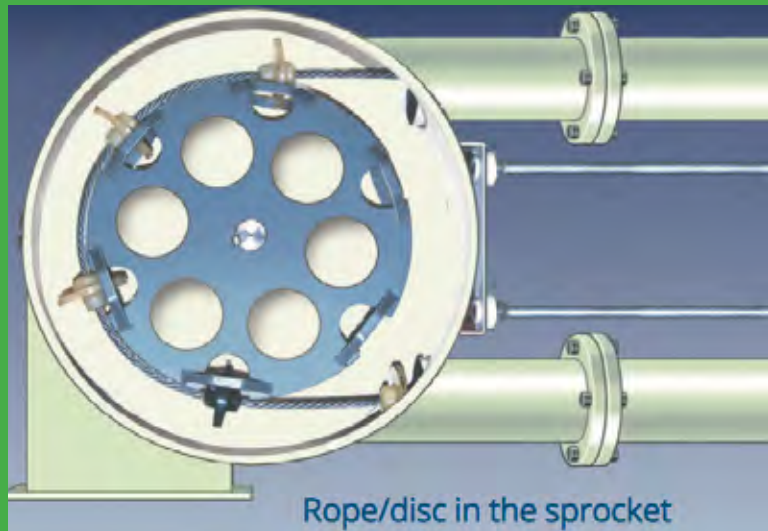
Model (UK/Europe)	Capacity kg/hour (approx.)	Minimum Radius	Tube i/d x o/d (mm)
37	100	2	37 x 43
44	400	2.5	44 x 51
55	800	3	55 x 63
67	2,000	4	67 x 80
80	5,000	5.5	80 x 90
90	7,000	7	90 x 100
120	12,000	Rigid	120 x 136
146	22,000	Rigid	146 x 158
196	40,000	Rigid	196 x 222

Throughput rates vary depending on bulk density, material flow characteristics and length and elevation of conveyor. We recommend material testing to determine correct mode.

AERO MECHANICAL CONVEYOR®

EFFICIENT BY DESIGN

Our Aeroflow Aero Mechanical Conveyor has a tubular design where a cable assembly, with evenly spaced polyurethane discs, move at high speed. The cable assembly runs in specially designed sprockets at each corner and each end of the conveyor. The action of the cable assembly traveling at high speed creates an air stream running at the same velocity. As the material is fed into the airstream, it is fluidized and conveyed to the outlet where it is centrifugally ejected. AMCs are one of the most efficient methods of conveying materials such as dry bulk powders because of their gentle dust-free and clean handling properties.





Spiroflow's patented Dynamic Automatic Rope Tensioner (DART) extends rope life by up to 40% and decreases maintenance costs.

NO DUST COLLECTION SYSTEM

Because no additional air is added to convey materials in an aero mechanical conveyor, there is no excess air at the outlet from which to filter entrained dust. Any entrained material that is not ejected at the outlet is simply carried round the enclosed system until it is.

LOW POWER CONSUMPTION

The aero mechanical conveyor is one of the most efficient mechanical conveyors available and therefore keeps power requirements and costs to a minimum.

TOTAL TRANSFER

For everyday bulk solids and ingredients handling applications; what is fed into the conveyor at the inlet is discharged at the outlet. This makes the aero mechanical conveyor ideal for transferring pre-weighed batches of bulk and/or minor ingredients.

GENTLE CONVEYING ACTION

Materials are suspended in a cushion of air that lines the walls of the conveying tubes as it is displaced by the discs traveling at speed. This makes for a gentle conveying action that minimizes damage to fragile finished products as they are conveyed to packaging machines, for example.

TOTALLY ENCLOSED

All conveying takes place in a totally sealed tubular system which ensures the dust-free transfer of even the finest of powders.



Aero Mechanical Conveyors can convey materials at any angle from 0 - 90° without loss of throughput capacity.



Using your smart phone, scan the icon to watch the video.



CABLEVEY®

TUBULAR DRAG CONVEYORS

- Maximum layout versatility with multiple inlets, multiple outlets & complex 3-plane circuits
- Minimize material breakage & maintain consistent mixtures with gentle handling
- Maintain dust and contamination-free handling via the totally enclosed conveyor design
- Maximize chain, disc & tube life and minimize operator maintenance with built-in automatic chain tensioning



CABLE VS. CHAIN

The truth, one is not “better” than the other. The choice depends on the variables of your application. Both systems can transfer hot, cold, wet, dry, hygroscopic or temperature sensitive materials.

All conveying takes place in a totally sealed tubular system which ensures the dust-free transfer of material.

Users benefit by their minimal power requirements and associated energy savings.

Cables used in our cable assembly are constructed from MIL-spec aircraft quality steel cable. With proper tensioning end users can expect a long cable life.



HYGIENIC CONVEYING

- Totally enclosed, dust-free, contamination-free handling
- Discs molded onto hygienic chain
- Handles hot, cold, wet, dry, hygroscopic or temperature sensitive materials
- Minimizes material residence and build-up

CHAINFLOW®

The newest mechanical conveying option in our extensive line of mechanical conveyors

Spiroflow's Chainflow economically conveys dry, hot (up to 180°F/82°C) or cold, powders and granule materials, particularly fragile materials such as cereals, nuts, coffee beans, food ingredients, pet food, animal feed, and a wide variety of chemicals and plastics.

Processors can easily convey or batch ingredients with flexibility in layout options. They successfully convey any number of non-cohesive dry powders and granule materials.

- Heavy-duty conveying of high loads 24/7/365
- Maximum layout versatility with multiple inlets, multiple outlets & complex 3-plane circuits
- Minimize material breakage & maintain consistent mixtures with gentle handling
- Maintain dust and contamination-free handling via the totally enclosed conveyor design
- Maximize chain, disc & tube life and minimize operator maintenance with built-in automatic chain tensioning



Using your smart phone, scan the icon to watch the video.



DYNAFLOW[®] TUBULAR DRAG CONVEYOR

For Heavy Duty Conveying

When nothing else will move it, Dynaflo is the problem solver in a pipeline.

- Suitable for applications with temperatures up to 420°F / 216°C.
- Maintain blends
- Totally enclosed for dust & contamination-free handling
- Layout versatility with 3 plane circuits
- Multiple inlets & multiple outlets
- Convey straight line length in excess of 300' or 100 meters
- Convey straight-line lengths of up to 200 ft. / 60m per conveyor and link multiple conveyors for longer distances
- Low energy consumption



BIN ACTIVATOR



When you need to control material flow rates and minimize bridging consider the Spiroflow Bin Activator. The feeder blades are fully adjustable for accurate and repeatable control of solids flow. Energy is imparted directly into the solids by vibrating blades to maintain flow.

The close tolerance blades provide positive shut-off of solids flow. Spiroflow bin activators are offered in 12" / 305mm & 24" / 610mm sizes as well as custom sizes.

- Controls flow of material
- Promotes flow of difficult material
- Vibrating blades minimize bridging
- Effective shut-off
- Manual, pneumatic or electric controls
- Offered in carbon steel or stainless steel

BOX/OCTABIN & DRUM TIPPERS

When your dry bulk solid materials don't arrive in bags Spiroflow has you covered with a number of box/octabin & drum dumpers. These hydraulic tipping assemblies are designed to rotate and empty contents of boxes/octabins, drums, tubs or carts. Each unit is shipped fully assembled and ready for operation.



- Floor level entry allows loading of the carriage via pallet jack or forklift
- Several models are available as well as custom designs
- Robust painted carbon/mild steel or stainless steel construction
- Easy installation
- Simple operation
- Low cost

BULK BAG UNLOADERS

For Safe, Dust-free Unloading of Powders & Dry Bulk Solids

T2 UNIVERSAL UNLOADER



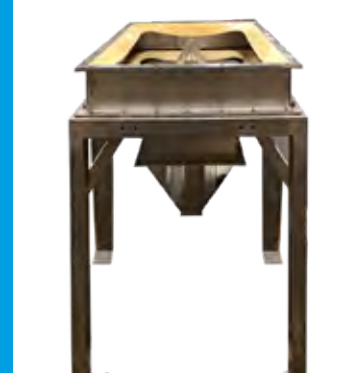
Provides controllable discharge of product via any suitable feeder coupled to its base. It can be fitted with a variety of options and custom designs are available.

T3 LOSS-IN-WEIGHT



Allows total control over product dispensed. The bag support dish is mounted on four load cells for highly accurate weighing.

T4 SINGLE TRIP



The T4 Single Trip Bulk Bag Unloader is used with single-trip (disposable) bags that have no bottom spout. The bulk bag is sealed on the outer edge by a rubber membrane as it is lowered into the frame where a pyramid-shaped knife assembly pierces the bag bottom.

T5 LOW HEAD ROOM



The T5 is used in areas with restricted headroom. The bulk bag is loaded onto a bag support upper frame at ground level which is then lifted onto the support frame with a forklift. It includes a dust seal between the upper and lower sections.

T6 INTEGRAL HOIST



Self-contained unloading station for dust-free controllable bulk bag emptying. It has an integral I-beam and hoist for loading bags into the unloader. No forklift necessary.

T9-CV HIGH CONTAINMENT



Designed for applications where products handled in bulk bags are fine, powdery and invasive and high containment during unloading is crucial.

We offer a number of bulk bag unloading designs to handle any application and regularly combine a variety of options and custom designs so you get the exact discharging solution you need.

MOBILE UNLOADER



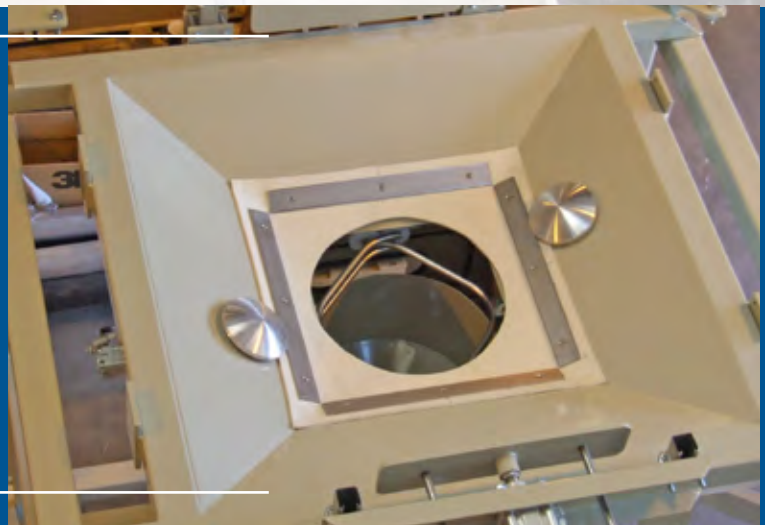
Heavy duty frame with optional towing facility and integral conveyor offers the flexibility of unloading materials at several locations.

FLO 60 & ISO FLO 60



Designed for poor flowing ingredients and features a 60 sloped hopper designed for hazardous, toxic or sanitary products.

All of our Bulk Bag Unloaders come standard with the dish designed for operator safety and full support of a bulk bag.



BULK BAG UNLOADER ADDITIONAL OPTIONS

.....



VIBRATOR



AGITATOR



**SPOUT CLOSURE
BARS**



GLOVE BOX



**INTEGRAL
BAG DUMP**



**INTEGRAL
DUST COLLECTOR**

.....

BULK BAG CONDITIONERS

Does your material arrive compacted and difficult to empty from bulk bags? Bulk bag conditioners can solve these compaction issues and enable easy discharging from your bulk bag unloader.

- Squeezes the Bulk Bag Easily
- Small Footprint
- Moveable Automated Mast
- Manual or Automated Operation
- Integration into a Bulk Bag Unloader



Spiroflow's bulk bag conditioner easily and effectively breaks up solid ingredient contained within bulk bags. Depending on your material it may require only two or three 'squeezes' to do the job.

Simply move the bulk bag between the horizontal poles (with a forklift, hoist or automatically using motorized conveyors) and actuate the hydraulic drive mechanism to quickly and efficiently break up the solid ingredient. Due to its small footprint, our bag conditioner can be located conveniently next to the area where bulk bags are emptied or near incoming storage minimizing the use of valuable floor space.

The bag conditioner can be configured to meet your operational needs with a fixed or movable mast and can be manually operated or integrated into an automated system. Additionally, it can be integrated within the support framework of a bulk bag unloader.



Using your smart phone, scan the icon to watch the video.



SPIROFIL® BULK BAG FILLERS

Our range of weigh/fill equipment is offered in a variety of models from basic to complex to meet the needs of any application. These fillers are modular in construction, enabling the user to specify a number of options for individual production requirements - current and future.

INCREASE PRODUCTIVITY WITH THE CTE

The industry's best high densification, high rate, high accuracy bulk bag filler



- 2X Faster
- 2X More Efficient
- 3X Less Storage Space
- Best Densification
- Lower Packaging Costs

CTE BULK BAG FILLER

For high speed filling and maximum material densification.

Our Cone Table Elite (CTE) Bulk Bag Filler is one of the most versatile and capable bulk bag fillers in the industry.

The CTE's proprietary cone table densification technology:

- Maximizes product bulk density in the bag
- Produces the most stable and safe bag possible
- Provides best possible weighing accuracy
- Maximizes bagging rate - over 35, one tonne bags/hour is possible



Using your smart phone, scan the icon to watch the video.



C-SERIES BULK BAG FILLER

Our C Series Bulk Bag Filler are designed for a wide range of applications and industries including food, chemicals, plastics, building materials, mining, minerals and construction.

Options include:

- Rigid Bin
- Box and Drum Filling Attachments
- Data management on weigh fillers and more

Additional bulk bag filling models such as the economical base model filler and custom designs are available.



Box Filling Systems



Drum Filling Systems



Auto Height Adjustment & Roller Conveyors



Mobile & Low Loading Designs



Data Management on Weigh Controller



Automatic Bag Loop Release

BAG DUMP STATIONS



- Significantly reduce dust emissions
- Improve operator efficiency
- Ergonomic Design
- Cleaner working environment
- Robust, proven designs
- Option of integral bag compactors
- Special designs to meet specific requirements
- Range of conveyors to transfer emptied materials to process or packing

ROBOTIC BOX & BAG PALLETIZING

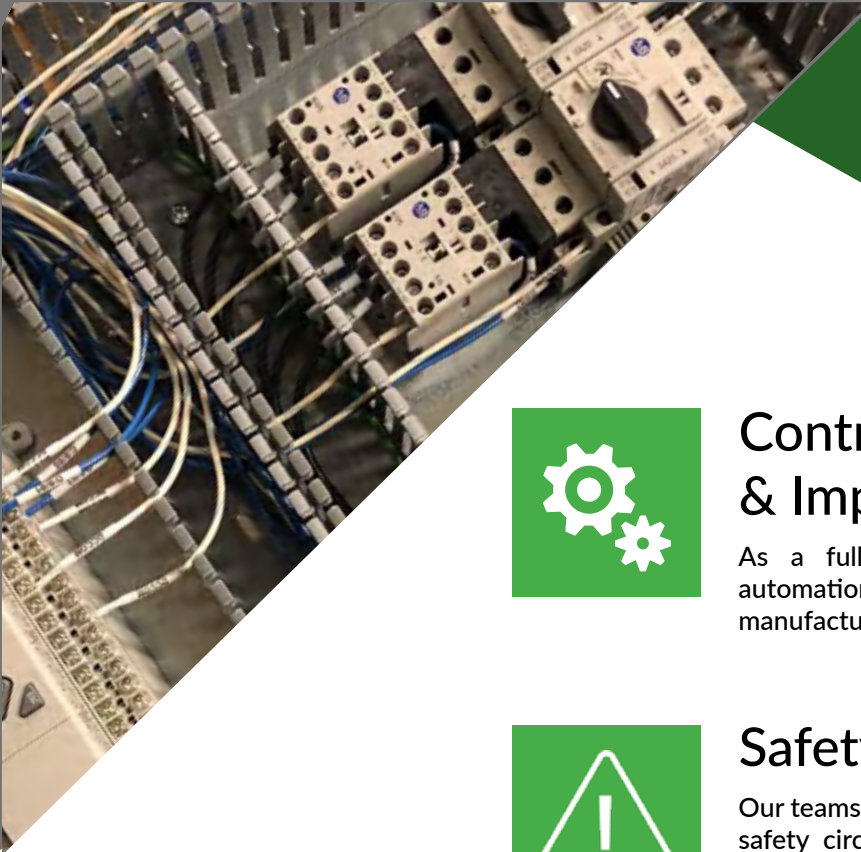
We provide complete end-of-the-line packaging solutions for bag & box palletizing. These systems are designed by our expert engineering team utilizing the latest in conveyor, robotic, machine vision, and motion control technology. End-of-the-line solutions are designed for a variety of industries: automotive, consumer goods, chemical, nutraceutical, food and medical.

- Utilize the Latest in Robotic Safety Technology
- Latest PLC Technology
- User-Friendly HMI
- Wide Variety of Applications



AUTOMATION SOLUTIONS

Design | Build | Program | Validate | Test | Commission | Start Up | Document



Control Systems Engineering & Implementation

As a full-service industrial control, networking, and automation provider, our engineers help make your manufacturing process work smarter and more efficiently.



Safety Systems

Our teams integrate safety systems - specifically hardwired safety circuits, safety relays, and safety PLCs for many applications including combustible dust (NFPA 664) and ammonia detection.



Field Service Support

Our team members can visit your plant when your manufacturing process needs improvement. Our engineers will help whether we provided the initial control systems integration work or if another integrator did.

Looking to Improve the Safety and Efficiency of your Industrial Application?

Spiroflow Automation Solutions offers technically advanced, customized solutions backed by 45+ years of industry experience to help make your manufacturing process work smarter and more efficiently.

As a CSIA member, Spiroflow Automation is a full-service industrial control, networking, and automation provider. We specialize in control system integration in different areas of industrial control including PLC and motion control, press control and process automation.

Learn how we can make your industrial application safer and more efficient.

Spiroflow Automation is one of a small, elite group of companies recognized as a Rockwell Automation Recognized System Integrator.

We are also proud to be a Wonderware Registered System Integrator Partner. Our customers can trust us to have the understanding, knowledge, training, and experience to upgrade, expand or convert their Wonderware systems or install a new Wonderware system.



“We were having a complex automation problem that was causing \$100,000 per day in lost production. Spiroflow responded on short notice, and with their engineering expertise and around the clock hard work, the situation was resolved in less than 48 hours!”

-Casey Cox of Penntech



Our Philosophy

For us, control systems integration is all about sensing and reacting. No matter the industry or application, we design and build complete, integrated systems.

At Spiroflow Automation, we believe in value engineering. We ensure our customers get the most out of the control systems services we provide often exceeding expectations.

Once we understand your needs (cost, dependability, or process capability) we can, of course, bid on your project exactly as specified but we can often make cost-saving recommendations that fall outside a bid spec based on our value engineering processes and industry expertise.



Parts & Service

We have a global mechanical and electrical installation commissioning team. Whether it is installation supervision, commissioning/debugging, or on-site training, just let us know what you need. We are available to help!



At Spiroflow, we believe that after-sales support and service form an integral part of every bulk material handling solution that we provide. We have systems that have been in operation for decades and that means that they are not only well made but well maintained.



Need spare parts?
Scan the QR code to go directly to
our spare parts form.



*What you run
through our
equipment is
your business.
How you keep it
running is ours!*



Spiroflow Knows®



Product support, industry news and more is available from our technical experts at: www.spiroflowknows.com. Contact our sales team to learn how you can obtain professional development hours.



- On-site Training
- Commissioning/Debugging
- Installation Supervision
- Service Contracts
- Telephone Advice Line
- Training Days
- Professional Development Hours

INDUSTRIES SERVED



Food

- Bakery Products & Ingredients
- Snack Foods
- Food Products
- Sugar & Confectionery
- Beverage / Coffee & Tea
- Vitamins & Supplements
- Pet Food & Animal Feed



Chemicals

- General Chemicals
- Organic & Inorganic Chemicals
- Agricultural Chemicals
- Plastics, Polymers & Rubber
- Paints, Pigments & Coatings
- Resins




Consumer Products


- Glass & Ceramics
- Building Products
- Pulp, Paper & Wood Products
- Cosmetics & Personal Care
- Pharmaceutical



spiroflo 

www.spiroflow.com

 1609 Airport Blvd
Monroe, NC 28110
USA

 +1 704 246 0900

Lincoln Way, Clitheroe,
Lancashire
BB7 1QG, United Kingdom
+44 (0) 1200 422525

 sales@spiroflow.com

