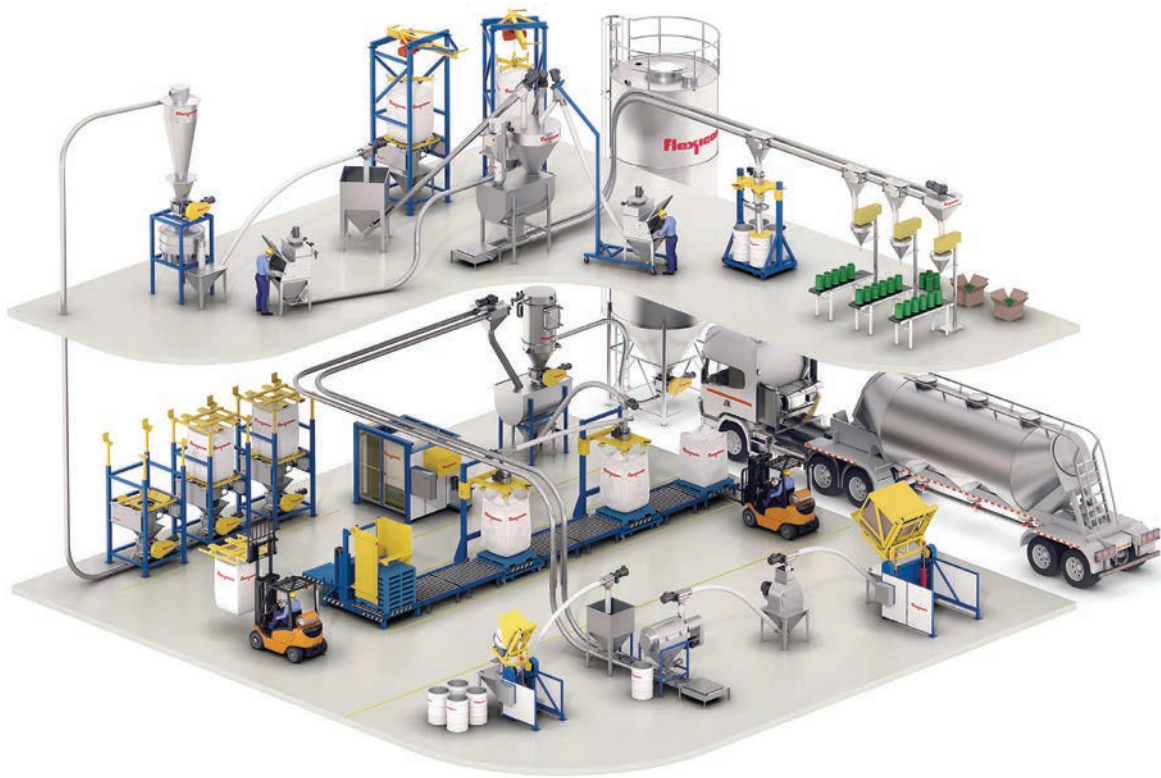




LARGE SCALE BULK HANDLING PROJECTS



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Mechanical and Pneumatic Conveying Choices

Ensure top efficiency for your specific application

Flexicon offers three distinct conveying technologies, each in an unlimited range of variations, from stand-alone units to automated plant-wide systems.

While most materials can be conveyed using any of several methods, the ideal conveyor will balance the strengths and limitations of each, generalized below and at right:

FLEXICON® Flexible Screw Conveyors

(details page 6)

Move the widest range of bulk materials short to medium distances in low to medium volumes

- Convey free-flowing and difficult-to-handle materials that pack, cake, seize or smear
- Prevent separation of blends
- Conveyor routing at any angle, through small holes in walls or ceilings
- Only one moving part contacts material
- Fast disassembly, thorough cleaning
- Stationary or mobile units, including tilt-down models
- Economical to purchase, install, operate and maintain
- Single or multiple discharge points
- Minimal power usage
- 3-A and USDA compliant or industrial models

FLEXI-DISC® Tubular Cable Conveyors

(details page 10)

Move fragile bulk foods and non-foods gently short to long distances in low to medium volumes

- Discs slide materials gently through smooth stainless steel tubing
- Prevent separation of blends
- Durable discs in 4 and 6 in. (100 and 150 mm) diameters
- Available CIP accessories
- Single or multiple inlets/outlets can be removed/relocated and the cable-disc circuit lengthened/shortened/re-routed
- Minimal power usage
- Evacuates material

PNEUMATI-CON® Pneumatic Conveying Systems

(details page 14)

Move free-flowing materials short to long distances in low to high volumes

- Single-point “up-and-in” installations to cross-plant systems with automated controls
- Positive pressure and vacuum dilute phase systems
- Wide capacity range—feed small packaging lines to silos and railcars
- Single or multiple inlet and discharge points
- Total evacuation of supply vessel and the conveyor line

Your final selection should hinge on each conveyor's advantages relative to your specific process, and on the results of conveying your actual material in full-scale test laboratories (page 34).

For large-scale conveying systems integrated with new or existing upstream or downstream equipment, also see Large Scale Bulk Handling Projects (page 29) and Weigh Batching Systems (page 30).



Flexicon flexible screw, tubular cable, and pneumatic conveying systems offer distinct differences in performance relative to specific application requirements. Since many plants convey a variety of bulk materials in a range of capacities over varying distances, a combination of pneumatic and mechanical conveying is often recommended to maximize overall performance and return on investment.

CONVEYOR CHARACTERISTICS	CHECK YOUR REQUIREMENTS	FLEXIBLE SCREW CONVEYORS	DILUTE PHASE POSITIVE-PRESSURE PNEUMATIC CONVEYORS	DILUTE PHASE VACUUM PNEUMATIC CONVEYORS	TUBULAR CABLE CONVEYOR
Short distances		■		■	■
Medium distances		■	■	■	■
Long distances			■	■	■
Lowest initial cost		■			
Lowest energy consumption		■			■
Indirect conveyor routing required			■	■	■
Flexibility of conveyor routing		■			
Simplest installation		■			
Multiple material sources			■	■	■
Multiple material destinations		■	■	■	■
Mobile units		■		■	
Evacuation of material from conveying system			■	■	■
No separation of blends		■			■
Convey directly from barrel or hopper				■	
Materials that pack, cake or smear		■			
Heat-sensitive material		■		■	■
High temperature material		■	■		
Ultra-high temperature destination			■		
Extreme material in-feed rate fluctuation			■	■	■
Contamination-sensitive material		■	■	■	■
Hazardous material		■		■	■

Large Scale Bulk Handling Projects

Engineering, manufacturing and management

Flexicon's Project Engineering Division (PED) designs and automates large scale bulk handling systems of every type and size, including those that source bulk materials from multiple interior and exterior locations, move materials at high rates while achieving precise batch weights, and integrate a diversity of process equipment from multiple manufacturers.

Drawing from over 40 years of experience and 22,000 installations, the Project Engineering Division can assume single-source responsibility for your entire project, taking the risk and uncertainty out of coordinating multiple suppliers, while backing all Flexicon components with a Lifetime Performance Guarantee.

Flexicon can work independently, with the engineering firm managing your entire expansion, or directly with your in-house engineering team, adhering strictly to your standards, documentation requirements and timelines.

A senior-level Project Manager will serve as your single point-of-contact, assisting in all phases of development from order placement through delivery and commissioning, providing all essential services, a portion of which include:

- Working with Flexicon engineering teams to evaluate your bulk material(s), plant layout, throughput rates, residual product limitations, cleanliness, noise limitations, access, cost, cycle times and other parameters
- Providing competitive price quotations including CAD files that integrate equipment manufactured by Flexicon and others, with new or existing equipment in your plant
- Confirming the performance of your system in full-scale test laboratories configured to replicate your process, using your actual material
- Maintaining efficient communications between your team and Flexicon's mechanical and electrical engineers to meet timelines
- Providing technical assistance to third party organizations you determine
- Working with Flexicon's quality control department throughout the project to ensure your total satisfaction
- Streamlining start-up including installation supervision, mechanical equipment commissioning, control system commissioning, site acceptance testing (S.A.T.), and operator training



Flexicon management and engineering teams assist you through every phase of development, streamlining your communications.



Flexicon designs and automates large scale bulk handling systems that source materials from multiple interior and exterior locations for weigh batching and/or delivery to any downstream process.

Flexicon®
PROJECT
ENGINEERING
DIVISION

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Complete Controls and Automation Services

Maximize productivity of all Flexicon equipment and systems

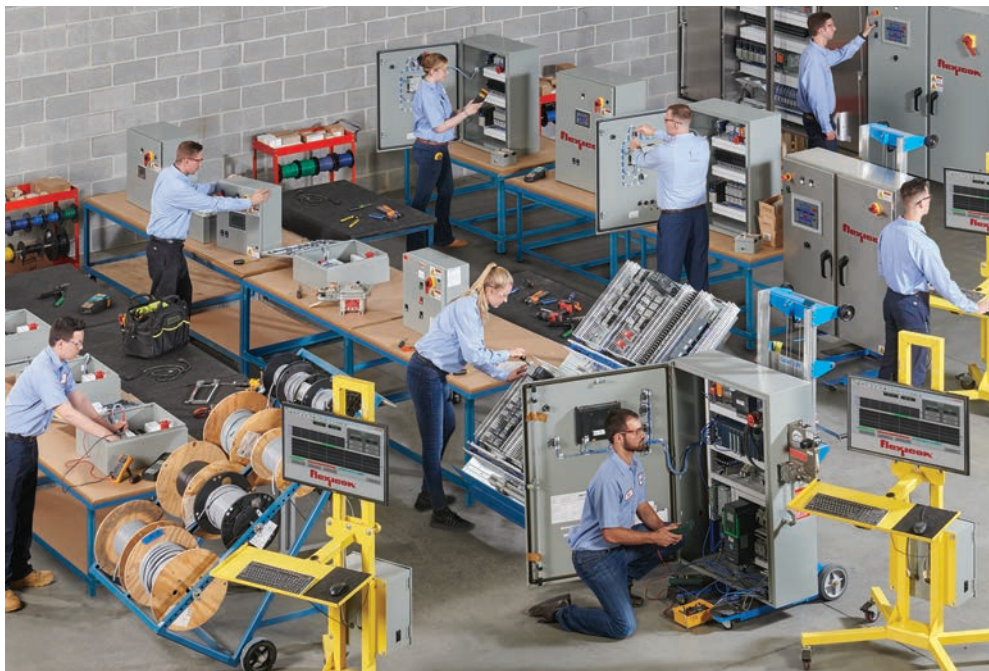
The Flexicon Controls and Automation Department matches state-of-the-art control technologies with Flexicon's full-scale fabrication capabilities.

Flexicon specifies, designs, builds, and tests control systems that ensure maximum equipment productivity, while adhering to each customer's requirements.

Performing all assembly in-house ensures tight adherence to each panel's custom specifications as detailed on mobile wireless displays throughout the shop.

All Flexicon equipment, from basic conveyors to sophisticated plant-wide process systems, are offered with programmable logic controllers (PLCs) and human-machine-interfaces (HMIs) offering the following benefits:

- Easy-to-operate interfaces, from push buttons to human-machine-interfaces (HMIs) with touch screens and graphic representations of equipment inputs and outputs, all customized by application
- 100% Bench testing to ensure proper monitoring and control functions using actual inputs/outputs such as simulated scale systems, various types of sensors and electric motors
- Support of process data exchange between equipment controls and the customer's plant-wide process control program such as reporting batch weights and other operational parameters to plant floor equipment, and uploading of weight deviations, alarm signals and any type of feedback required for plant optimization
- Components that are logically configured and labelled for easy-to-follow troubleshooting by plant personnel
- UL Listed NEMA 4 and 4X enclosures. UL Listed NEMA 7/9 and Z/X purged panels available upon request.
- CSA approved control panels available upon request



Flexicon offers NEMA 4X (shown with optional purge kit) and NEMA 7/9 (explosion proof) control panels

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Programmable logic controls incorporate data and process control systems

Flexicon's advanced control systems maximize the performance of stand-alone bulk handling equipment and engineered systems, and communicate seamlessly with your upstream and downstream processes.

As a world leader in the bulk handling industry, Flexicon maintains exclusive partnership agreements with leading original equipment manufacturers of process control hardware and software. As a result, your equipment will benefit from state-of-the-art controls that deliver unsurpassed versatility and reliability, allowing you to improve the productivity, safety and cleanliness of your processing environment.

In addition, the comprehensive range of controls offered by Flexicon ensures that your controls package is perfectly matched to your equipment or process sequence—whether you are purchasing a basic conveyor or a sophisticated plant-wide system incorporated into your new or existing process.



As your single-source provider, Flexicon offers the extensive resources and process experience required to balance developmental costs and increase design flexibility, while assuming complete system responsibility.

More than hardware and software, Flexicon provides all of the ancillary services needed to ensure the successful operation of your controls—during start-up and throughout the life of your equipment:

- Complete documentation: all program information is provided to you following installation, affording you the option of implementing changes on-site or through Flexicon
- Security: a layered system of access codes enables you to protect proprietary information, while allowing others limited access to data required to perform routine applications
- Backup: detailed or essential commands can be backed up to remote locations, improving the safety of data storage while allowing rapid reprogramming in the event of an interruption of service due to power outages, severe weather or fire
- System management: A Flexicon Programmable Logic Control System can manage the operation of numerous processing systems such as flow promotion devices, dust collectors and conveyors, regardless of the manufacturer or length of time the equipment has been in service
- Online support: Adjustments that cannot be performed by your on-site personnel can typically be handled by a Flexicon engineer online. In the event the issue cannot be resolved online, all relevant information is downloaded to your Flexicon service technician, reducing troubleshooting time
- Scalability: As your needs and/or your systems change, the Flexicon PLC can be fine-tuned or reprogrammed to meet processing line expansion, new equipment and new application requirements



Plant personnel can download programs to start, stop, slow, speed-up, delay, advance or cycle equipment functions.

Broad Range of Bulk Handling Equipment and Systems



FLEXICON® Flexible Screw Conveyors transport free- and non-free-flowing bulk solid materials from large pellets to sub-micron powders, including products that pack, cake or smear, with no separation of blends.



FLEXI-DISC® Tubular Cable Conveyors gently slide friable bulk material through smooth stainless tubing at any angle to single/multiple points.



PNEUMATI-CON® Pneumatic Conveying Systems move a broad range of bulk materials over short or long distances, between single or multiple inlet and discharge points in low to high capacities.



SWING-DOWN®, REAR-POST and TWIN-CENTERPOST™ Bulk Bag Fillers can fill one bulk bag per week or 20 per hour at the lowest cost per bag. Numerous performance options.



BLOCK-BUSTER® Bulk Bag Conditioners loosen solidified material. Variable height turntable positions bag for conditioning on all sides at all heights.



BULK-OUT® Bulk Bag Dischargers unload free- and non-free-flowing solids from bulk bags automatically. Allows untying, discharging, retying and collapsing.



FLEXICON® Manual Dumping Stations allow dust-free dumping of bulk material from bags and other containers. Automatic filter cleaning allows continuous, efficient operation.

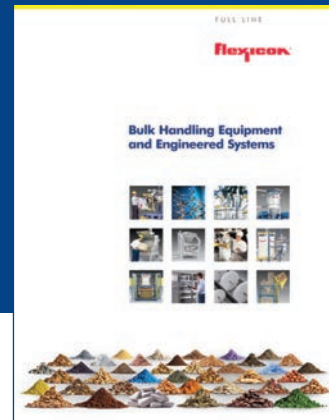


TIP-TITE® Container Dumpers empty bulk material from drums into vessels up to 10 ft (3 m) high. Dust-tight (shown) or open chute models.



FLEXICON® Weigh Batching Systems weigh and blend bulk ingredients automatically. Gain-in-weight (shown) and loss-of-weight systems available.

CLICK OR CALL 1-888-FLEXICON FOR 36 PAGE FLEXICON FULL LINE BROCHURE



Flexicon products are manufactured on four continents, and marketed through an extensive sales network throughout Europe, Australia, Southeast Asia, Africa and North/Central/South America.

HH-0728J

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