Hygienic process solutions for sanitary applications

Bulk Material Handling and Dust Collection Systems

Dedicated plant for hygienic equipment manufacture

As a commitment to our customers Schenck Process has dedicated a complete manufacturing location to the production of stainless steel equipment. Located in Whitewater, Wisconsin the plant is completely free of carbon steel manufacturing eliminating the potential for corrosion.

The US Dairy 3-A sanitary standard and European Hygienic Engineering Design Group (EHEDG) guidelines for certain human food production require food producers to use equipment that protects food from contamination, can be mechanically cleaned on all surfaces, and can be dismantled easily for manual cleaning or inspection. The guidelines set benchmarks for suitable materials used in the production of food for human consumption. Primarily, because of its corrosion resistance and durability compared with most other materials available, stainless steel is by far the preferred material for fabricating food equipment.

A full line of stainless steel hygienic equipment is manufactured at the Whitewater, Wisconsin facility. Those products include feeders, weighbelts, bag dump stations, cyclones, filter receivers and dust collectors.

Schenck Process delivers custom-designed and engineered solutions for the food and dairy industry that span the following:

- >> Truck or railcar loading, unloading and bulk storage systems
- >> In-plant transfer for major, minor and micro ingredients
- >> Minor and micro ingredient scaling systems
- >> Low pressure continuous dense and dilute phase handling systems
- >> Plant controls systems
- >> Dust collection
- >> Sifting, storage and mixer transfer systems
- >> Ingredient unloading, cleaning and storage systems
- >> Liquid storage, scaling and transfer systems
- >> Closed loop N2 and CO2 systems
- >> Dry ingredient convey systems
- >> Trim and reclaim transfer systems
- >> Batch and continuous feeding systems

Project management

At Schenck Process, everything we do is centered on customer satisfaction. We strive to make your equipment and systems robust and efficient. Our project management teams become an extension of your business with a direct line of communication to the many resources within the Schenck Process global network. Your Schenck Process team will take command of the design/build process from the project kick-off all the way to process commissioning. From start to finish, our teams are dedicated to meeting your business goals.

Process Controls

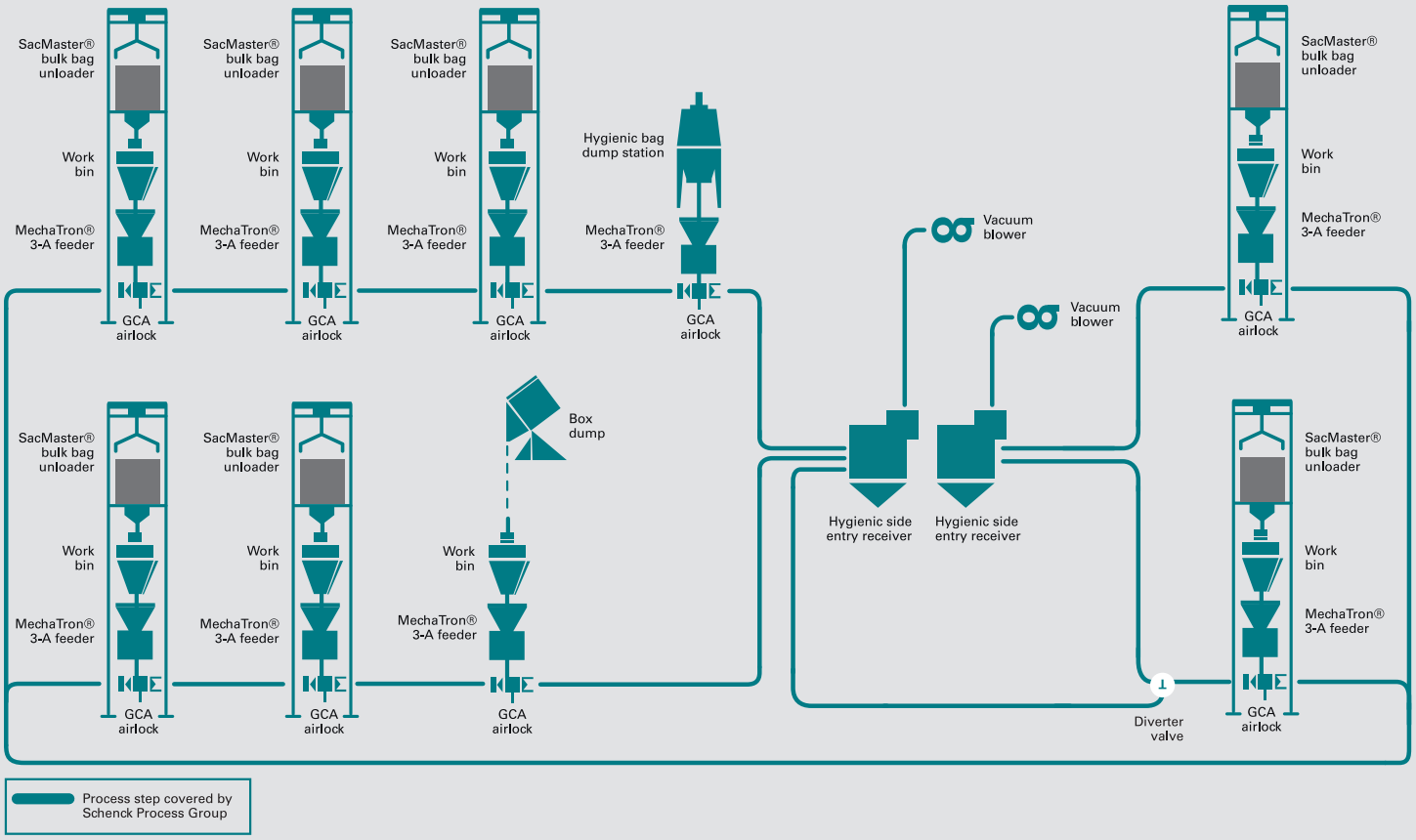
Our Process Controls Group has been entrusted to control processes for some of the world's most recognizable brands. We've been building customized controls for over 40 years and our engineers have an intimate knowledge of industrial processing and production. Our in-depth experience provides field proven solutions.

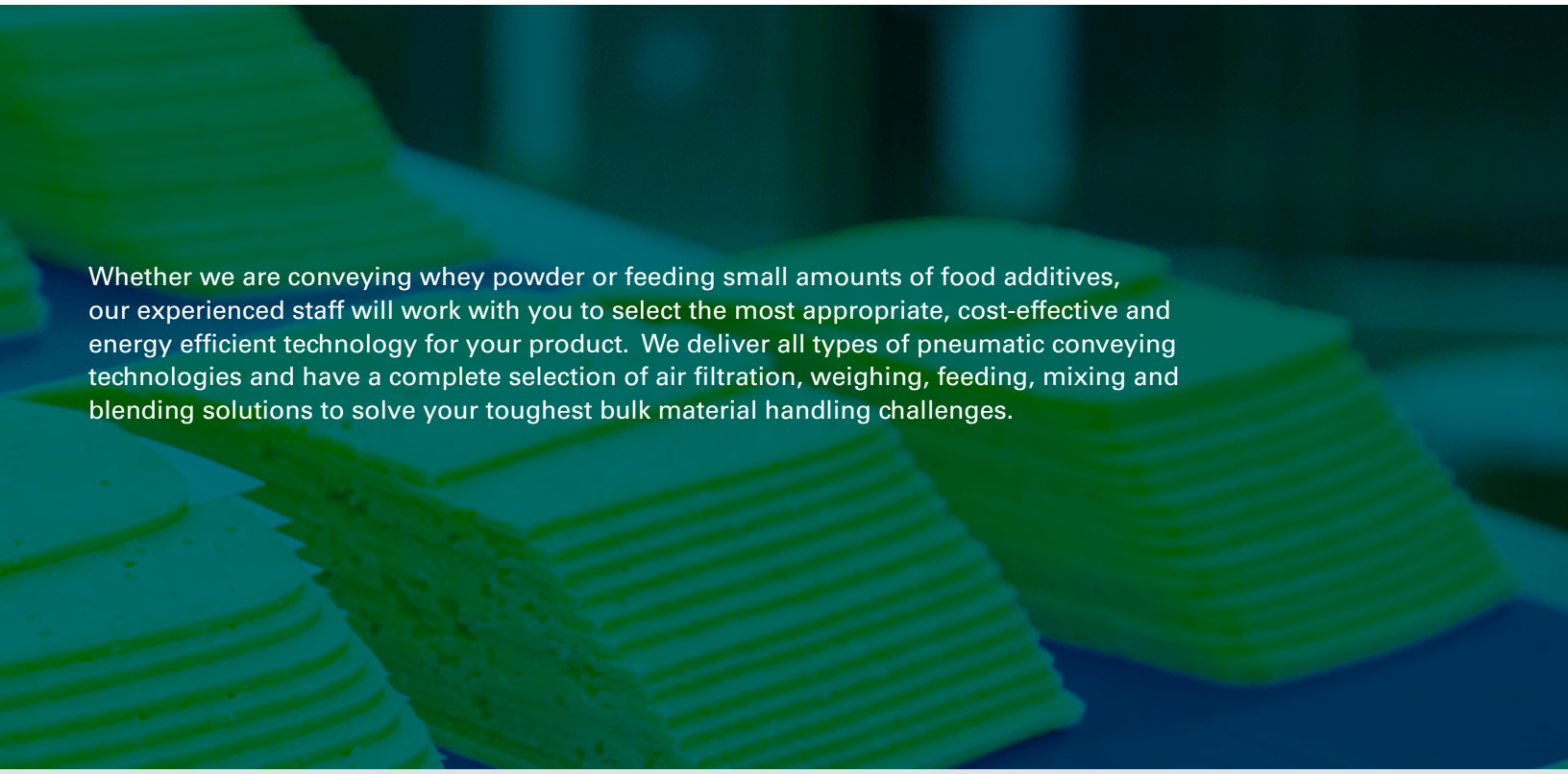
We can custom design whole-plant or partial systems for new plants or integrate legacy control systems. We make everything from small independent panels to complex multi-processor and distributed I/O control systems. Interface with warehouse management, MES and ERP software systems provide a seamless transfer of data throughout a facility. The Schenck Process Controls Group forges long term relationships with customers to support large control system implementations, typically utilizing remote access tools allowing rapid resolution of issues or minor operational adjustments.

From analysis and planning, through equipment and control panel design, to testing and long-term service, our customers work with a single point of contact throughout the project.

Food and dairy handling solutions

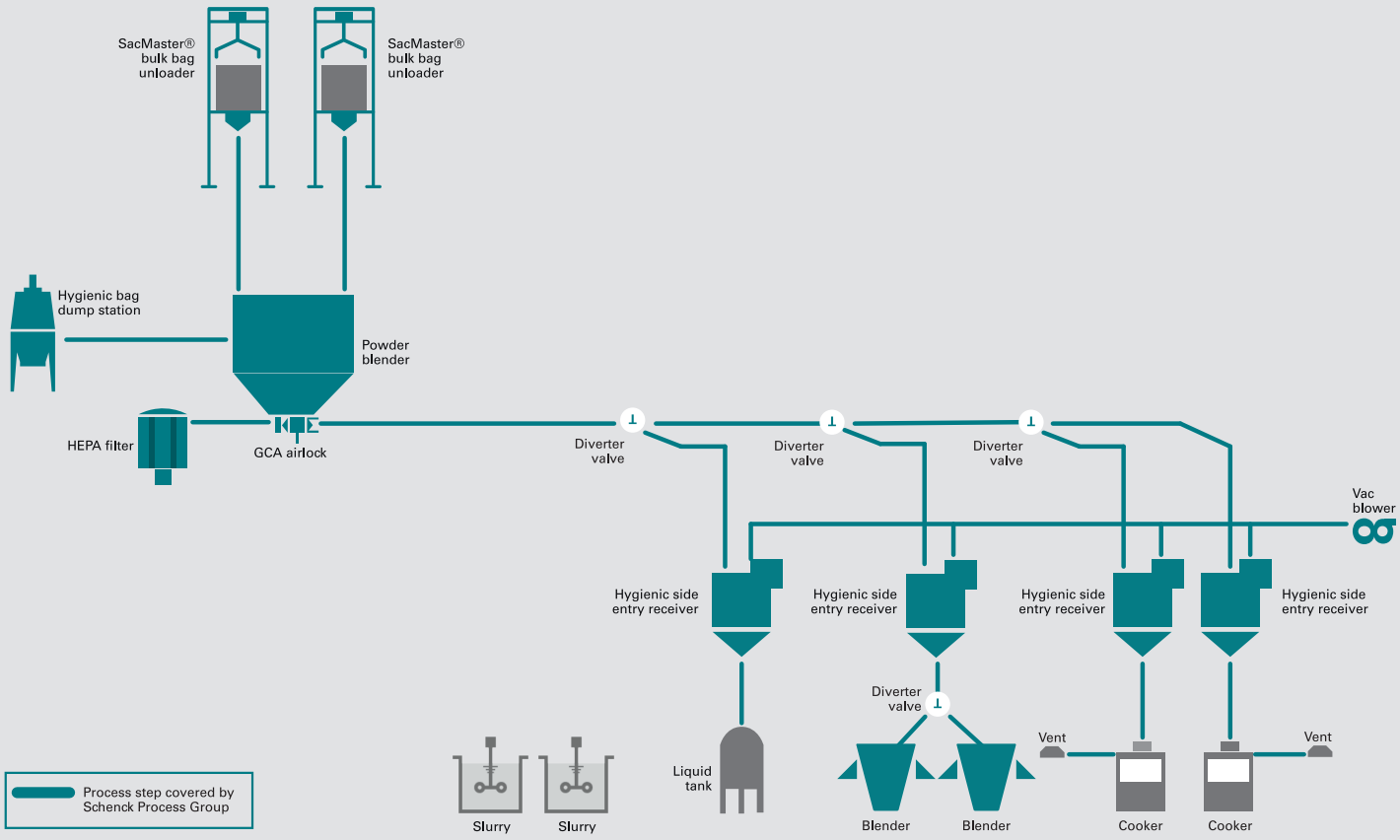
Cheese processing application





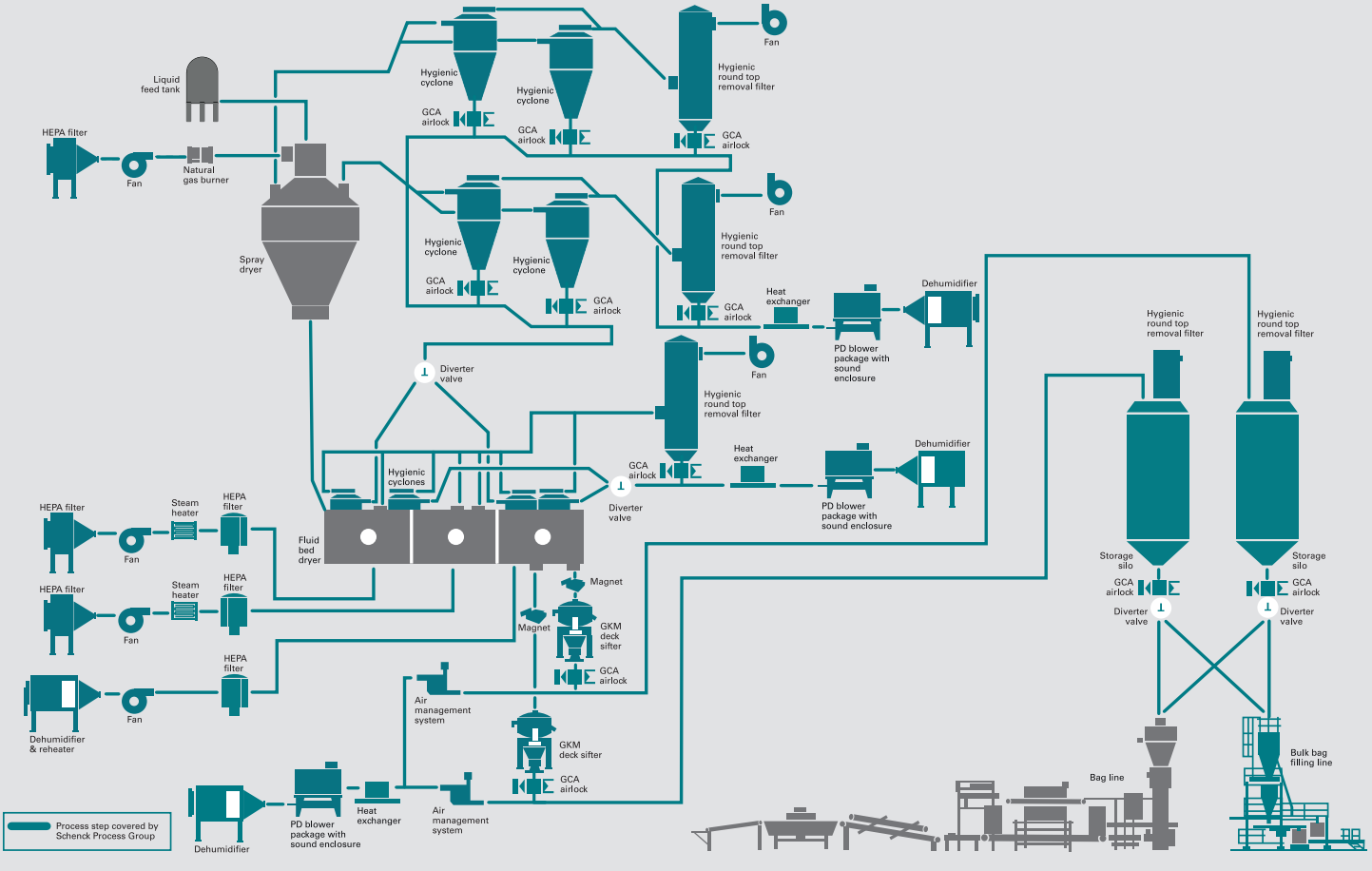
Whether we are conveying whey powder or feeding small amounts of food additives, our experienced staff will work with you to select the most appropriate, cost-effective and energy efficient technology for your product. We deliver all types of pneumatic conveying technologies and have a complete selection of air filtration, weighing, feeding, mixing and blending solutions to solve your toughest bulk material handling challenges.

Powder processing application



Food and dairy handling solutions

Dairy and plant protein handling application



Hygienic products

Manual bulk bag unloading. Sanitary and safe.

For manually emptying or unloading small bags of bulk solid materials the Hygienic Bag Dump (HBD) Station is designed in two configurations, a non-filtered and a pulse jet filtered style. Both bag dump models meet sanitary design requirements with the non-filtered style equipped with a sanitary connection for dust draw off and the filtered version with a flanged exhaust stub. Interior and exterior finishes meet 3-A sanitary standards and large openings enable internal clean-in-place (CIP). Integrated bags and bag cages effectively reduce dust keeping facilities and plant personnel safe.

Hygienic Bag Dump (HBD) Station

- Interior and exterior finishes meet 3-A sanitary requirements
- Ferrules mounted for use with clean-in-place (CIP) system
- Removable internal bag rest
- Bag cages: 304 stainless steel
- Diaphragm bodies are all stainless steel versus commonly found aluminum

Perfect for filtering materials from convey air

The Hygienic Side Entry Receiver (HSER) filter is designed to meet the challenging requirements for sanitation and inspection in markets requiring a high level of cleanliness. Designed as a horizontal cartridge filter, the HSER is ideally suited for low headroom applications under pressure or vacuum and is primarily used as a filter receiver at the end of a pneumatic conveying system to separate the product being conveyed from the convey air. Well suited for a variety of indoor locations, the HSER has a small footprint requirement and can be easily explosion vented through the roof or from the side.

Hygienic Side Entry Receiver (HSER) Filter

- Low headroom applications
- Compact design, requires less plant space
- Side entry and tool-free filter element removal allows quick maintenance
- No confined space entry for conducting maintenance
- Single point access to both clean and dirty volumes of the filter

Dust collection in low capacity pneumatic conveying systems

The 3-A approved Hygienic Round Top Removal (HRT) Filter is designed for sanitary applications where dust collection is required in low-capacity pneumatic conveying systems such as vacuum loading of extruders or refilling minor/micro hoppers. This circular bodied pulse jet filter features a convenient and efficient top hinged dome. With top entry there is no need to enter the dirty portion of the filter. Top removal snap band filter bags require no tools for removal and can quickly be changed out.

Hygienic Round Top Removal (HRT) Filter

- Interior and exterior finishes meet 3-A requirements
- Ferrules mounted for use with clean-in-place (CIP) skid and with clean-out-of-place (COP) filter media and purge pipes
- Diaphragm bodies are all stainless steel as opposed to others on the market that use aluminum
- Bag cages: 304 stainless steel
- Spring assisted hinge for clean air plenum access

Hygienic products

Sanitary feeding of dry bulk materials

Designed specifically for use in hygienic process applications, the MechaTron® 3-A feeder meets the sanitary requirements for feeding dry bulk materials. All welds, radii, seals, surface finishes, gaskets, and contact and non-contact materials have been accepted by 3-A inspectors. Available product features include feed rates from 0.30 to 330 cubic feet (8.5 to 9,300 liters) per hour and an unmatched ability to disassemble, clean, reconfigure, and service from the non-process side of the feeder. A domed hopper cover and open bottom frame speeds and optimizes draining during and after wash-down cycles.

MechaTron® 3-A Feeder

- Crack and crevice-free contact surfaces
- 316 stainless steel hopper with domed cover to optimize drainage during cleaning
- Internal welds ground and polished in extension hopper
- FDA compliant internal feed hopper

Managing heavy dust loads

The Hygienic Conical Top (HCT) Cyclone fulfills the requirements for use in highly sanitary food and pet food applications. HCT Cyclones are capable of handling very heavy dust loads, and are very good spark arrestors. Additionally, they are perfect for human, dairy and pet food applications where high moisture and high fat content are commonly used in equipment configurations that include dryers and coolers, coating drums for flavors, centrifuge exhausts and extruder negative airlift systems

Hygienic Conical Top (HCT) Cyclone

- Designed for sanitary process solutions
- Internal CIP connection
- Handles heavy dust loads
- Ideal for high moisture areas

Designed for easy cleaning and high performance

The Global Cleanable Airlock (GCA) is ideal for applications where dry raw or finished products are being handled in the process and where inspection or system clean-out are required. Because the GCA is designed for high performance and possesses a number of features suited for hygienic processes the airlock is perfect for food, pet food or any sanitary application.

Global Cleanable Airlock (GCA)

- Easy access to seals with rotor removed from endplate
- All stainless steel construction with the exception of the endplate bearings
- Housing and endplates designed for 10 Bar explosion shock resistance
- FDA and EC 1935/2004 approved materials of construction in product contact areas
- Oversized rotor shaft creates a naturally radiused rotor pocket for more complete product release

Sanitary sifting solution

The leader in high speed and efficient sifting of powders and granules, the Kek® Centrifugal Sifter is designed for sanitary applications. Fitted with a cantilever shaft, it delivers not only the best standards in hygiene and cleanliness, but also unsurpassed reliability with minimal maintenance requirements. Featuring hygienic shaft seals, an oversize end arrangement, threadless internals eliminating exposed threads in the product contact zone, and upgraded internal finishes, the Kek® Sifter meets the highest sanitary standards. Kek® Sifters are available for gravity, and inline pneumatic conveying applications with throughput ranges from a few pounds per hour to over 100 tons per hour.

Kek® Centrifugal Sifter

- 7 model sizes
- Screens down to 35µ
- Full cantilever shaft – no end bearings or seals
- Rates up to 100 tons/hr

Gentle grinding cone mill

The Kek® Cone Mill is an intermediate energy mill and one of the most versatile size reduction machines in the powder processing industry. Its ability to process a wide range of feed material and produce an equally wide range of product makes it ideal for sizing in both wet and dry granulation processes. Fitted with an isolated drive that facilitates minimal product contact with shaft, seals, and bearings, it is the perfect mill for sanitary applications. The Kek® Cone Mill also features no exposed threads and an internal surface finishes upgrade for hygienic requirements.

Kek® Cone Mill

- 7 model sizes
- Variable speed drive
- Gentle grinding action to minimize fines
- Multiple drive configurations
- Low heat generation

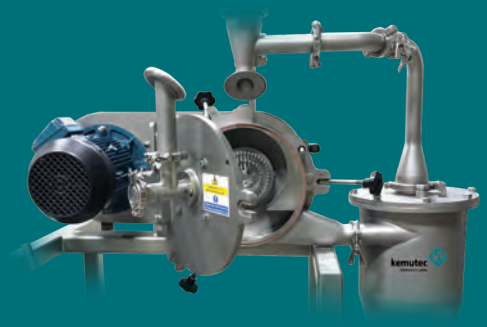
Rapid and efficient blending of powders

The Gardner L Series Ribbon Mixers are designed for the rapid and efficient blending of powders and granular materials for sanitary applications. They are reliable, compact batch ribbon mixers that feature a full-length top cover opening for maximum access. The spiral ribbon agitator is easily removed for cleaning. The mixers can be fitted with a variety of Mucon discharge valves for controlled flow from the mixer. With working capacity ranges from 1.8 to 14 cubic feet (50 to 400 liters) they are perfect for small batch applications.

Gardner L Series Ribbon Mixers

- Full-length opening top covers for maximum access
- Cantilever shaft design for sanitary, easy cleaning
- Easily removable ribbon agitator
- Large range of discharge valves available

Hygienic products



High energy mill for one pass grinding

The Kek® Universal Mill provides high-energy one-pass fine grinding. Available with a variety of interchangeable grinding media, it is capable of unsurpassed, versatile milling performance with a controlled milled particle size range - D50 of 20µ to 100µ for most products. Process customization includes closed-loop mill design, 10 bar containment systems, temperature controlled grinding, and full cryogenic grinding.

Kek® Universal Mill

- High capacity fine grinding
- Interchangeable grinding media
- Temperature controlled and cryogenic grinding available
- High speed, high energy, one-pass mill

Ultra-fine and controlled particle size grinding

The PPS Air Classifier Mill incorporates an internal air-classifying wheel with an independent drive giving precise control over "particle cut point" selection. Suitable for batch processing or continuous operation, this range of mills serves all industries producing fine powders where control of grinding temperature and particle size distribution are of prime importance. PPS Mills are available with fully opening "clamshell" body designs enabling easy access for rapid product changeover, inspection, cleaning and maintenance.

PPS Air Classifier Mill

- Integral classifier for a finer powder
- Tight particle size distribution
- Large range from 5 hp to 400 hp
- Easy clean 'clamshell' body option

Hygienic bulk bag discharging

The Flo Super Clean Discharger is designed for hygienic discharge of materials typically found in dairy, food, pharmaceutical and hazardous chemical applications. The patented clamping mechanism seals the bag or liner outlet preventing dust release and product contamination during discharge. Available with 40° and 60° hopper options for a variety of materials and to suit a wide range of outlet spouted bags.

Flo Super Clean Discharger

- Fork lift or hoist loaded configurations
- Equipped with or without dust control membrane and dust extraction port
- Hopper access door to untie the bag outlet spout
- Load tested FIBC rigging frame

- Witness live tests using your material
- TestCenters located throughout Europe and the USA
- Confirm the right equipment configuration for your application
- Testing for weighing, feeding, pneumatic conveying, mixing, blending, milling, screening and air filtration

If you were a bulk material, we'd know everything about you

If you were our customer, we'd have already tested your product. No matter what materials you work with, we know about them and have tested the appropriate feeder, blender, or pneumatic conveying system for them. That's because we've already tested more than 4,000 bulk materials in more than 40,000 tests – delivering results you can rely on.

If your particular product hasn't been tested yet, our TestCenter will soon provide you with comprehensive answers. Proven bulk materials technology from Schenck Process. Tested and approved. So you can be certain that our feeders, blenders and pneumatic conveying systems are perfectly compatible with your materials.

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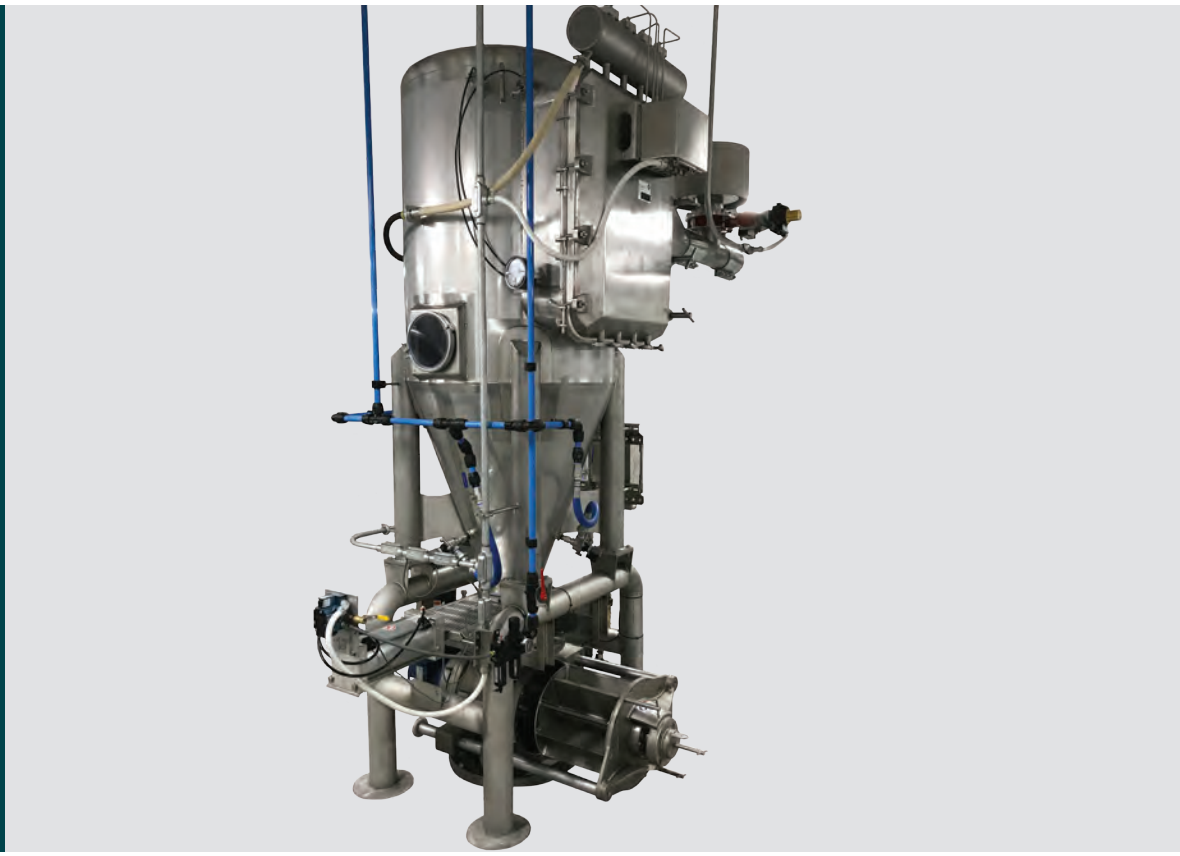
All specifications are subject to change. © 2019



Our commitment to a complete family of hygienic products for your sanitary process provides you material handling solutions from one source. Simple and easy.

Hygienic product solutions for sanitary processes

schenck process

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we make processes work