

schenckprocess



» Dust
Collection

» Pneumatic
Conveying

» Weighing

» Feeding

Dust Collection & Bulk Material Handling for Grain Processing



Schenck Process Group – your global solutions provider

High-tech solutions for air filtration, conveying, weighing, material loading and unloading

Whether you are a local processor or a major exporter, you need material handling systems that are efficient, reliable and fast. You have a duty of care to your employees and you need to comply with the latest regulations on dust collection and explosion protection. In all cases, Schenck Process has the technical solutions and expertise to meet your needs. With a global team of more than 100 engineers we understand the complexities of agricultural bulk materials handling better than anyone, building customized end-to-end systems consisting of dust collectors, belt weighers, dust transfer systems or container loaders.

Precise solutions pay handsome dividends

A precise evaluation of your application can make a difference of up to 3 – 4 times the life of standard equipment and bring about huge energy efficiency gains. All materials are abrasive and potentially explosive, but when sizing explosion protection equipment it is essential to take multiple factors into account: gauging the parameters of the dust to ensure health and safety, enhance air quality and comply with regulations while maximizing throughput. These parameters differ significantly depending on the interstitial velocity, batch or continuous throughput as well as the product. Schenck Process will work with you to ensure that you get the optimum solution.



Schenck Process delivers custom-designed and engineered solutions for the following applications:

- » Truck or railcar loading, unloading and bulk storage systems
- » In-plant transfer for major, minor and micro ingredients
- » Low pressure continuous dense and dilute phase handling systems
- » Plant controls systems
- » Dust collection
- » Ingredient unloading, cleaning and storage systems
- » Dry ingredient convey systems
- » Batch and continuous feeding systems
- » Central vacuuming
- » Dust transfer

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.

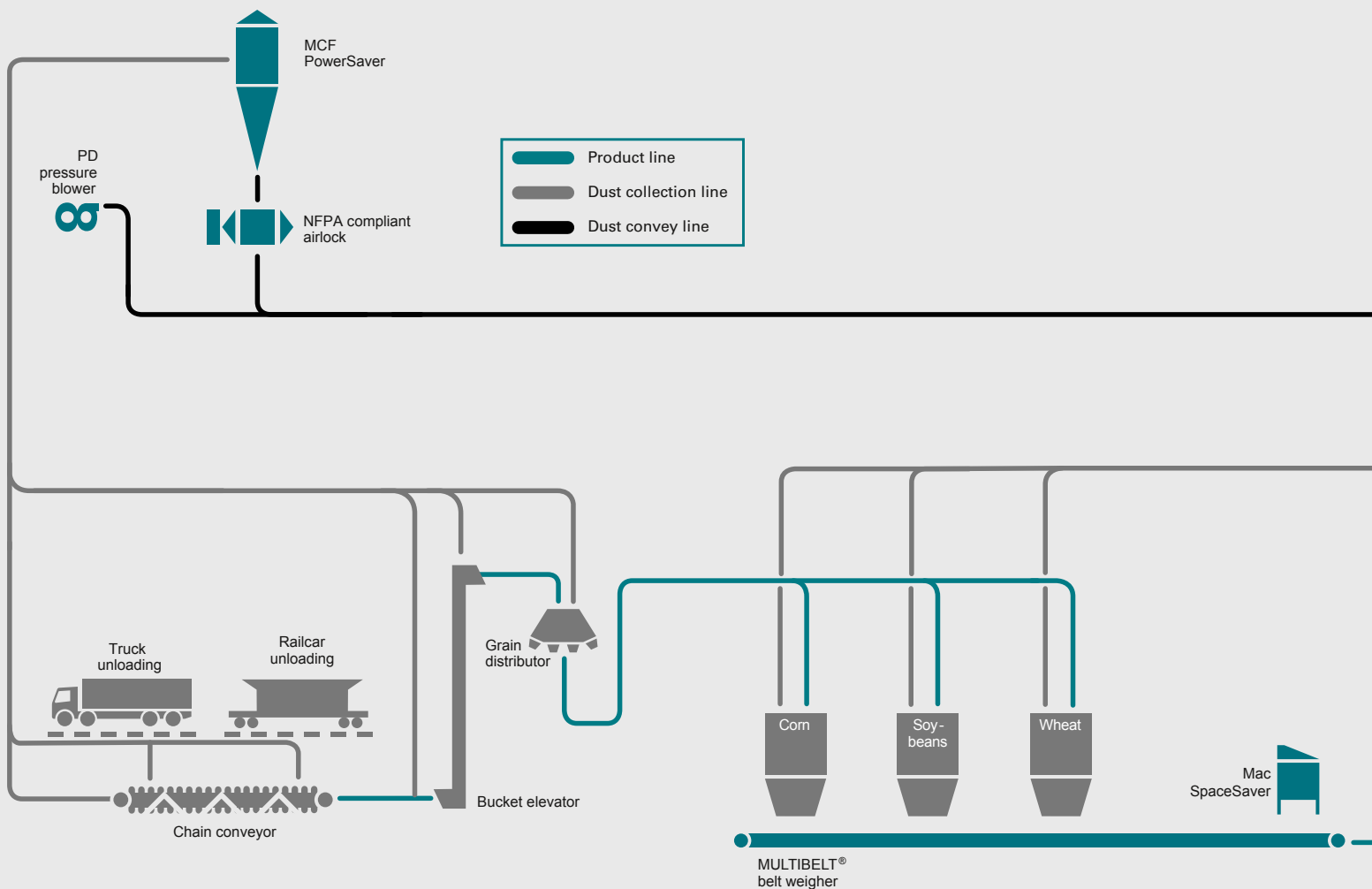
From analysis and planning, through equipment and control panel design, to testing and long-term service, our customers work with a single point of contact throughout the project.

Grain and bulk agricultural produce handling for every application

For more than 40 years Schenck Process has supplied state-of-the-art dust collection and dry bulk material handling systems to companies of all sizes, including some of the largest grain and agriculture processing plants and exporters throughout the world.

Our solutions take your raw materials from the initial unloading stage and move them all the way through to the final unloading area for shipment, both safely and cost-effectively.

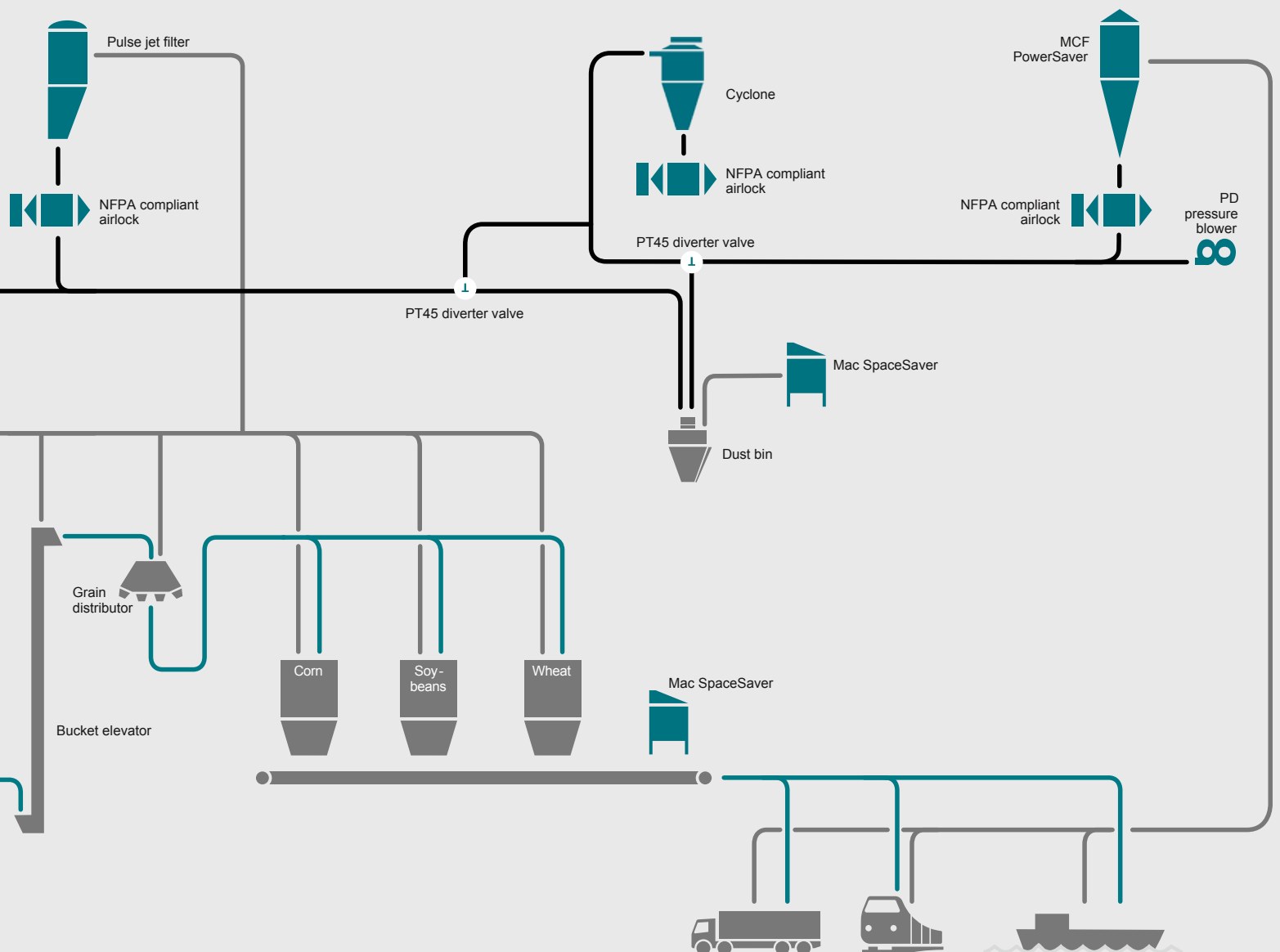
We stay on top of evolving environmental regulations around the world. Our local and global market knowledge is available to help you source the right products for your application. With representatives sitting on several NFPA rule-making committees, we understand explosion protection requirements and help you select appropriate protection for your systems and facility.



Schenck Process has 22 production facilities on five continents, 130 agencies and more than 2,500 employees worldwide. A global infrastructure capable of delivering solutions on a supply-only or turnkey basis make Schenck Process the ideal choice for dust collection and material handling in grain and agriculture process applications anywhere in the world.

Material handling and dust removal solutions

- » Dust collection
- » Dust transfer
- » Central vacuuming
- » Pneumatic conveying
- » Container loading
- » Bulk material receiving
- » Weighing
- » Ducting and fan supply



Solving air pollution challenges

With an array of dust collectors that include cartridge, pulse jet, reverse air, HEPA and medium-pressure controlled cleaning systems, Schenck Process can solve virtually all industrial air pollution challenges.

Explosion protection for all dust collectors

Schenck Process helps customers to meet all of the applicable industry health and safety standards and requirements. Work with our team to provide the relevant material and application information, and we will assist you in determining what form of explosion protection best suits your specific process and facility needs.



MCF PowerSaver

Industrial air filtration

- » Operates with medium-pressure cleaning air (7-9 psig)
- » Total filter area available exceeds 23,000 ft² (7,000 m²)
- » Cleaning capacities over 250,000 CFM
- » Timing mechanism non-electrical – safe in dusty, explosive atmosphere
- » Suited for use in high temperatures 500 °F (260 °C) and higher

Mac SpaceSaver

Air filtration

- » The patented cleaning mechanism thoroughly pulses the cartridges using directed airflow
- » Saves energy through more efficient use of compressed air
- » Cartridge life is extended to reduce consumable costs
- » Tool-free maintenance for changing the filter cartridge
- » Quick release handles allow fast, tool-less removal of the entire blow pipe section

Baghouse parts and services

Full line of replacement parts and service needs

- » Parts supplied for bin vents and filter and vacuum receivers
- » Filter bags, cages, polipleets, cartridges, venturis, clamps, gaskets and explosion panels are available
- » Baghouse maintenance, equipment repair and rebuilds, installations and start-ups
- » Replace or upgrade filter bags, cartridges or cages
- » Rebuild rotary airlocks and valves

Filtration TestCenter

We can prove systems before equipment is installed. Our state-of-the-art filtration TestCenter features a particle emissions test system. We analyze results using varying air-to-cloth ratios and grain loading, with different configurations to build the most cost- and energy-efficient dust collectors for your applications.

Baghouse services

No more worries about leaks or wasted energy/compressed air. The Schenck Process Baghouse Services Group provides Continuous Compliance Inspections (CCI), repair and ongoing periodic maintenance for baghouse and related dust collection equipment.

Cyclone collectors

Dust collection

- » Capable of handling heavy dust loads
- » Designed to separate product from an air stream
- » Easy to wash down and sanitize reducing the risk of cross-contamination
- » No moving parts or maintenance
- » Ideal for applications where high moisture and high material fat content is present

Pulse jet filters

Air filtration

- » Round, square, rectangular pulse jet filter models available
- » Side-entry designed filters for low headroom applications
- » Wide range of air volumes, access positions and air inlet arrangements
- » Models available with either bag or cartridge filter media
- » Easy access to filter media for quick maintenance

Central vacuum systems

Housekeeping

- » Effectively removes dust, dirt and spilled products that could present a hazardous situation
- » System utilizes a variety of filter media, discharge and disposal options and filter cleaning methods
- » Written emissions guarantees are available
- » Multi-user and single-user options
- » System is simple to use and helps provide a safe working environment



Raw material unloading and storage

During raw material unloading Schenck Process has a wide range of product solutions for either mechanically or pneumatically conveying materials to bulk areas.

Pneumatic conveying

Schenck Process specializes in a number of pneumatic conveying technologies that can be applied to the grain and agriculture industries, but our pneumatic dust transfer system is most commonly used for these industries to move or transfer dust from dust collection units.



Dilute Phase Conveying

Easy transport of a wide range of bulk materials

- » High velocity airstream
- » Convey over long distances
- » Moves heavy loads in short time frames
- » Ideal for moving grain to several different silos



Heavy Duty (HD) Airlocks

Versatile airlock for grain processing applications

- » Rated up to a 15 psi pressure differential
- » Available in eight standard sizes ranging from .175 CFR to 16.6 CFR
- » Materials of construction include cast iron or fabricated carbon steel



Blower packages

Engineered packages and replacement parts

- » Valves: pressure relief valves and check valves
- » Silencers and enclosures: reduce blower package noise
- » Filters: inline air filters for 99% plus removal efficiency
- » Pressure and vacuum gauges
- » Blowers and motors for all industries

Weighing

Our wide range of weighing technologies provides grain and agricultural production operators multiple systems to meet their measuring needs. Belt scales for bulk weighing of grain handle flow rates up to 15,000 tons per hour. Weighfeeders designed for challenging process environments have very high feed-rate accuracies, and our load cells are perfect for weight measurements on hoppers, silos and containers.

Optimum space utilization

On-site evaluations and system planning optimize utilization of your plant space and layout. Our project managers specialize in complete design-build project integration. You can involve us at any stage in the design and development of your project. Our engineers are experienced in all aspects of system planning, design, testing and setup. They can handle everything from the financial analysis of alternative systems to start-up supervision and operator training.

MULTIDOS® DMO Weighfeeder

- » Direct multiple cell weighing system without levers or counterbalance weights
- » A rugged weighfeeder for challenging processing environments
- » Standard belt widths of 24" (610 mm) to 54" (1,372 mm) with feed-rate accuracies of $\pm 1/2\%$ over a 10 to 1 range
- » Feed rates up to 500 tons per hour

Load cells Bin weighing systems

- » Ideal for weight measurement on hoppers, silos, containers, etc.
- » Simple, rugged design providing highly accurate measurements
- » Maintenance free
- » Resistant to environmental forces

MULTIBELT® Belt scales, bulk weighing of grain

- » Measures and totalizes continuous flow rates up to 15,000 tons per hour
- » Easily mounts on 18" to 60" (450 to 1,520 mm) wide CEMA idlers using only bolts
- » Weighing accuracies up to $\pm 0.5\%$ are achievable
- » Industrial packaged stainless-steel controller/indicator



Metering

The closed inline measuring systems of our mass flow and solids flow meters are perfect for continuously monitoring flow volumes and rates. They can be used to measure throughput and consumption or to balance and load powdered or granular bulk materials. Dust-tight housing reduces the risk of airborne materials.

Feeding

Schenck Process offers dry material feeders for every feeding application. Volumetric, gravimetric, vibratory, single or twin screws are all available technologies. Feed rates as low as 500 grams per hour and as high as 1,100 cubic feet per hour are possible.



MULTICOR® S
Mass flow meter

- » Continuous mass flow measurement based on the Coriolis principle
- » Direct weighing technology eliminates outside forces on measuring and feeding accuracy
- » Compact design is perfect for applications with limited space requirements
- » Measuring accuracies of $\pm 0.5\%$
- » Dust-tight housing reduces the risk of airborne materials



DLM
Solids flow meter

- » Measures high flow rates of free-flowing granular or pulverized materials
- » Operating capacity of 30 to 600 tons per hour
- » Highly accurate and repeatable
- » Completely dust tight



AccuRate® series
Volumetric feeding systems

- » Proven volumetric feeding technology with installations throughout the world
- » Food-grade and industrial vinyl hoppers available
- » Quick disassembly for cleaning or material change
- » Paddle agitation to the vinyl hopper gently massages materials into the feeding screw
- » Feed rates from .000017 to 280 ft³ (.0005 to 7,928 l) per hour



Filtration audit team:

- » Industrial Ventilation Design Specialists
- » 3D CAD Designer
- » Application Specialists
- » Explosion Protection Experts

Benefits:

- » Improve energy efficiencies
- » Reduce the amount of required airflow
- » Ensure employee health
- » Manage plant expansion
- » Meet NFPA compliance

Air filtration on-site surveys

Schenck Process offers a wide range of engineering services that facilitate optimum air filtration design, installation, and operational efficiency. Our On-Site Surveys are a key component to assuring your dust collection system is operating at peak performance.

The program includes the following key components:

- » On-site dust collection analysis
- » Particle size analysis and emission testing
- » Field measurement of dust producing equipment and plant layout
- » Preliminary sketches of plant/equipment layout as it exists today
- » Preliminary drawings of the plant/equipment layout to include appropriate NFPA recommendations
- » Pictures, data, details and all pertinent information required to evaluate current condition of dust systems
- » Evaluate physical conditions of existing filters, fans and airlocks
- » Evaluate existing ductwork layout and sizing, duct discharge design, and pneumatic transfer system
- » Consult with customer personnel to determine system rates, equipment functionality, problem areas, and desired results from findings
- » Provide quotation for new and upgraded solution



Our dust collection systems keep your facility safe while our bulk material handling systems provide efficient, reliable, and fast product transfer.

Keeping your plant safe and operationally efficient



Schenck Process
7901 NW 107th Terrace
Kansas City, MO 64153
816-891-9300
americas@schcnkprocess.com
www.schcnkprocess.com/us

we make processes work