


Processing Solutions for Plastics and Performance Materials



Precision in
» Weighing
» Feeding
» Material Handling



CHALLENGES WE ADDRESS:
 ENERGY CONSUMPTION
 REDUCTION OF WASTE
 HANDLING OF DIFFICULT MATERIALS
 PROCESS RELIABILITY
 PRODUCT QUALITY
 INTEGRATED SOLUTIONS

YOUR WORLDWIDE PLASTICS PROCESSING PARTNER

At Schenck Process, we are a global leader in feeding, weighing and material handling systems.

As the requirements of modern plastics become ever more complex, Schenck Process provides plastics processors with equipment and systems that handle their bulk materials with precision.

PRECISE PROCESSES MAKE PERFECT PRODUCTS

We help plastics processors maintain the highest levels of product consistency and adherence to specifications that you and your customers expect.

Through continuous innovation, digitalization, material know-how and our commitment to process sustainability, Schenck Process are ideally placed to be the preferred solution provider for critical material handling processes.

OUR SOLUTIONS

- » Volumetric and gravimetric feeding
- » Mass flow metering
- » Pneumatic conveying systems
- » Loading automation systems
- » Static scales



WE MAKE PROCESSES WORK

The responsible use of plastics worldwide and the creation of conditions for a sustainable economy are an important part of our corporate culture.

We see plastics as a valuable resource that needs to be brought into the circular economy.

Our expertise in plastics processes throughout the full life cycle help us to effectively advance research and development to fulfil the criteria of sustainable production.

Our energy-efficient solutions and digital technologies enable plastics processors to lower their energy consumption, extract maximum value from raw materials and minimize in-process waste.

Ultimately, Schenck Process enable customers to transform their systems into an integrated Circular Economy concept.

OUR MISSION IS TO MAKE PROCESSES WORK TO MAKE LIFE EASIER AND BETTER.



HOW WE ADD EXTRA VALUE

Schenck Process has successfully integrated and installed its wide array of weighing, feeding and material handling solutions for plastics manufacturers across the globe.

MATERIAL TESTING

For complete peace of mind that materials and machines are perfectly matched, realistic tests in our global Test and Innovation Centers help determine optimum processes, design solutions to suit client's applications and ensure successful production results.

PROJECT MANAGEMENT

Our project management team will work closely with you to design the ideal system matched to your specific requirements and application needs.

OUR SOLUTIONS

- » **WEIGHING & FEEDING SOLUTIONS**
[Read more >>](#)
- » **PNEUMATIC CONVEYING**
[Read more >>](#)
- » **SPARES**
[Read more >>](#)
- » **SERVICES**
[Read more >>](#)

PLASTICS PROCESSING CAPABILITIES

Designed to achieve the very best results, our solutions for plastics processors cover each stage, start to finish. Whether it be a full system, stand-alone equipment or machine upgrade, Schenck Process can support you through all these options.

We have a long history of serving and supporting the plastics and performance materials industries.

Our experience initially started in the field of polyolefin production and progressed to encompass compounding applications, film, profile and sheet extrusion, and recycling.

Decades of serving these industries has given us a 360-degree view of the value stream which allows us to understand our customers' needs inside out.

INDUSTRIES WE SERVE

- » **POLYOLEFINS**
[Read more >>](#)
- » **COMPOUNDING**
[Read more >>](#)
- » **MASTERBATCH**
[Read more >>](#)
- » **RECYCLING**
[Read more >>](#)

**MULTIPLE PROCESSES.
MULTIPLE SOLUTIONS.**



**DELIVERING
THE HIGHEST
STANDARDS OF
PRODUCT QUALITY
YOU AND YOUR
CUSTOMERS
EXPECT.**

POLYOLEFIN HANDLING SYSTEMS

Schenck Process supplies proven weighing and dosing technologies for the fulfilment of polyolefin handling systems. Our best-in-class feeding technologies are designed for the highest standards and long-life, reliable performance in challenging environments. Our expertise enables us to design systems to optimize processes and modernize existing plants.

Whether it's polyethylene or polypropylene, the quality of the products that come off your line depend on the quality of the processes they pass through. And that's where the industry-leading accuracy of our plastic processing solutions make all the difference. With our deep application

know-how and end-to-end bulk handling systems, we can tailor solutions to meet your every need for plastic granulation.

OUR SOLUTIONS

- » Accurate metering of fluff and additives
- » Feeding of difficult materials such as carbon black, TiO₂ and sticky additives
- » Expertize in providing custom solutions
- » Integrated system from one source



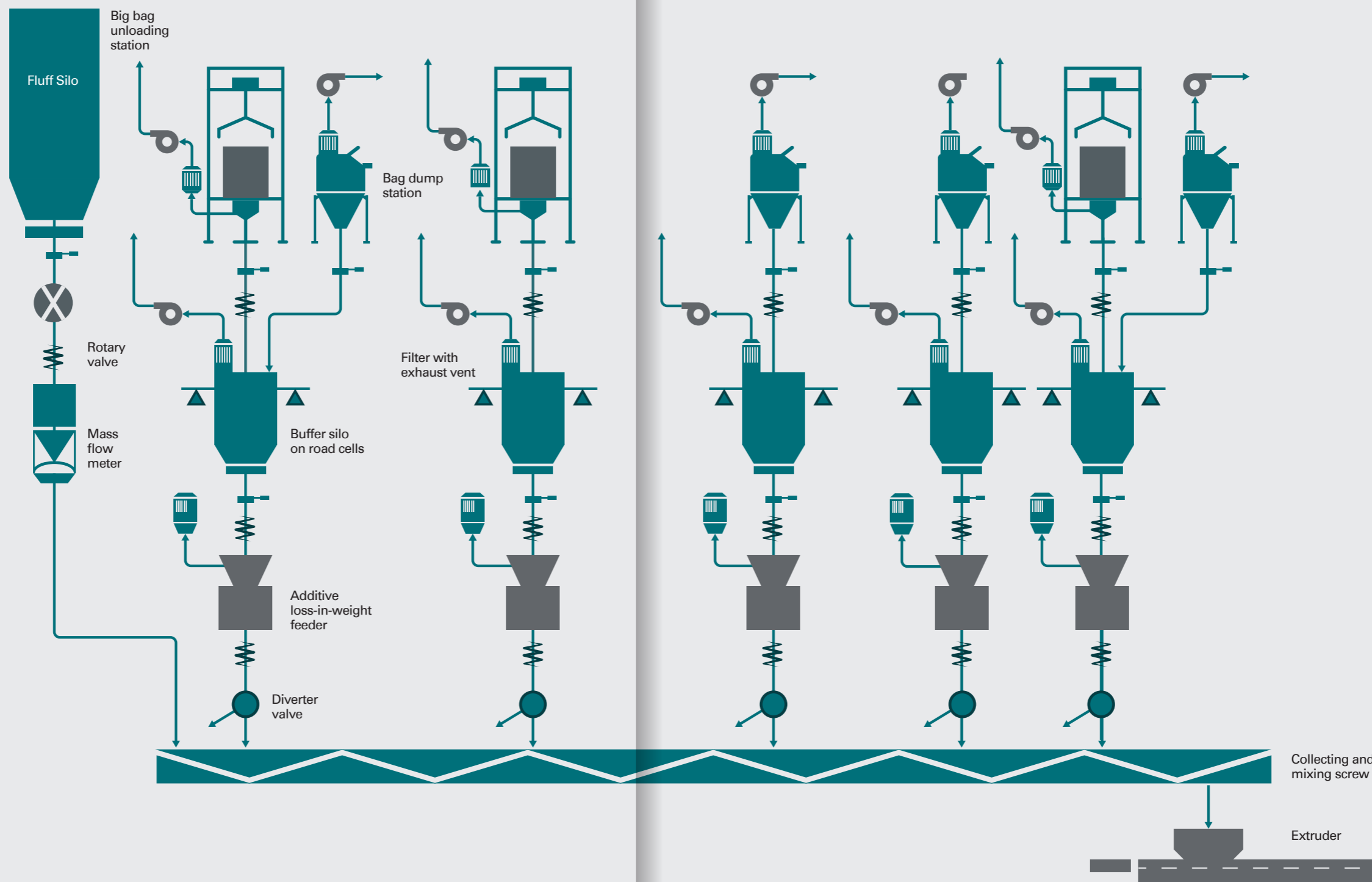
SOLUTIONS FOR HIGHEST RELIABILITY AND PROCESS STABILITY

PERFECTLY FED PLASTIC GRANULATION

Feeding accuracy is everything when it comes to ensuring the strength and desired characteristics of your plastic composites. And that's where our fully integrated solutions excel. Our MULTICOR® mass flow meters expertly handle your PE and PP fluff, while our MechaTron® loss-in-weight feeders take care of the additives and fillers like talc or carbon black to give you the perfect mix every time. These industry-leading solutions offer you the highest feeding accuracy and consistency, and the highest performance of up to world-scale plants with capacities >100t/h per line.



POLYOLEFIN HANDLING SYSTEMS





PLASTIC COMPOUNDING

The Schenck Process solutions for plastics compounding include high accuracy loss-in-weight feeders, modular bulk bag unloading systems and material handling systems.

Whether it's plastic bags or moldings for the car industry, the quality of the products that come off your line depend on the quality of the processes they pass through. This is where the industry-leading accuracy of our plastic processing solutions makes all the difference. We give you the precision control you need to always deliver the levels of quality color and surface finishings your customers demand. With our deep application know-how and end-to-end bulk handling systems, we can tailor solutions to meet your every need for plastic granulation, compounding and beyond.

OUR SOLUTIONS

- » Solutions engineered to your specifications
- » Process know-how
- » Product consistency
- » Project management for ease of integration
- » Global network of experts and service centres



BEST-IN-CLASS SOLUTIONS FOR UNRIVALLED ACCURACY AND QUALITY

Creating custom compounds by enhancing standard plastics with additives, fillers, fibers or liquids requires the highest precision.

Our fully integrated solutions give you the control you need to unload, transport and feed all kinds of materials. Our solutions are also designed to give you the essential flexibility to change recipes easily and clean quickly to achieve minimum downtime.

IF YOU WERE A BULK MATERIAL, WE'D KNOW EVERYTHING ABOUT YOU.

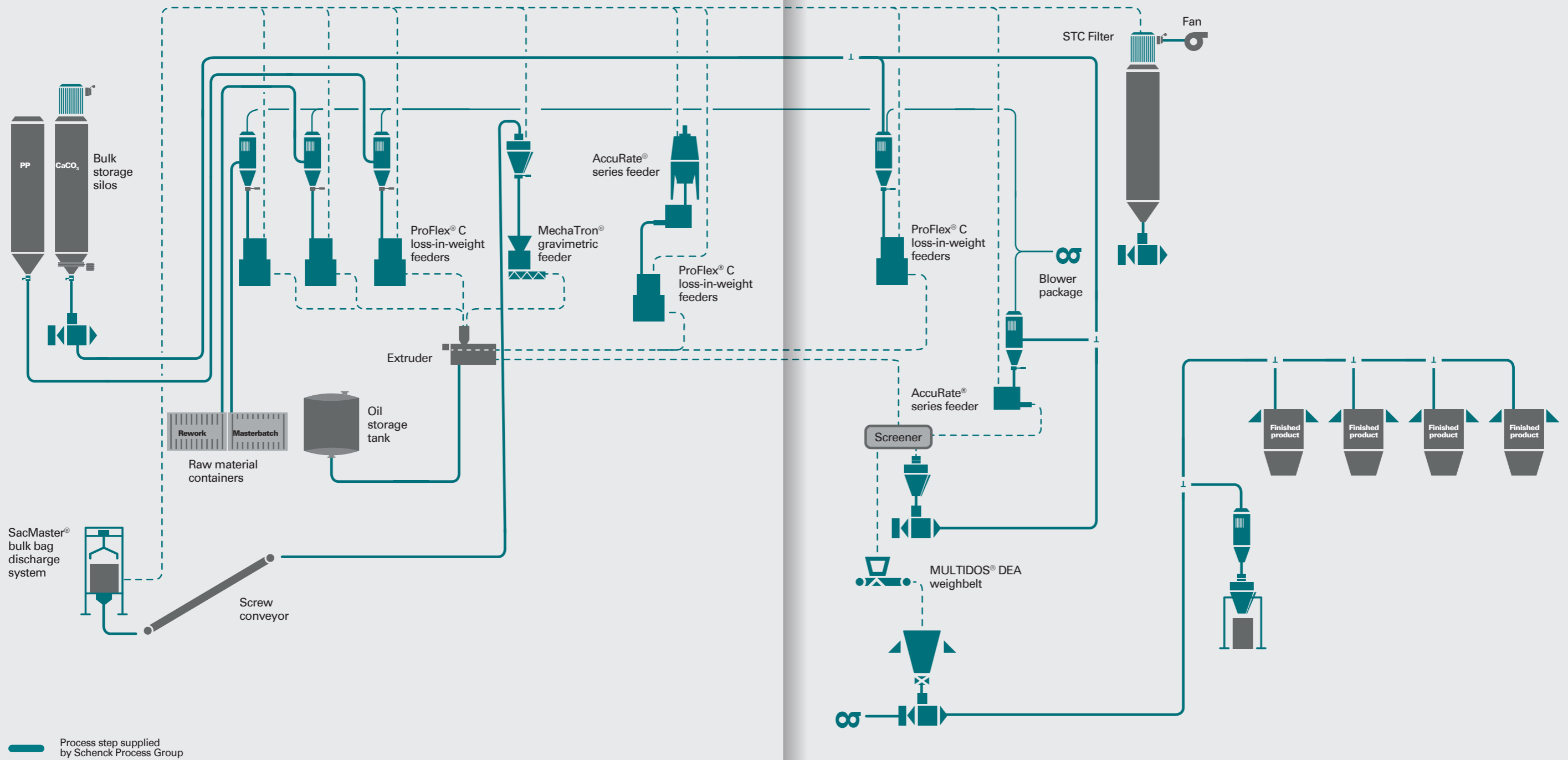
TEST US

Schenck Process operates Test and Innovation Centers around the globe which are dedicated to finding solutions tailored to your individual challenges.

We test material handling, weighing and feeding in combination with your products so you can be sure the test results gained will determine optimum processes and ensure successful production results.

Do you have a challenge where our comprehensive testing facilities can assist? Get in touch and our experts will work out the perfect solution with you. >>

PLASTIC COMPOUNDING HIGH QUALITY COMPOUNDING MADE EASY





MASTERBATCH

WE KEEP CREATIVITY AND INNOVATION FLOWING – WITH PRECISION AND FLEXIBILITY

The continual development of new and functional additives inspire the world's product designers and consumers. To deliver this magic two factors are essential: Absolute precision in weighing and feeding, and flexibility in the set-up of production lines and when changing recipes/colors. We can contribute to your precision and flexibility – thanks to our broad experience in end-to-end performance material handling systems and a strong installed base across the world.



EXTRUDING IMAGINATION

HIGH-PRECISION MASTERBATCH MACHINERY

Whether you are processing new colors or innovative additives, the right pneumatic conveying, feeding and metering system is critical. Typically, difficult additives such as carbon black, TiO₂ and calcium carbonate require a highly accurate and robust feeding system when they are fed into the masterbatch extruder. Our newest small feeders are designed to allow quick changes to increase production flexibility. You can also rely on our pneumatic bulk transfer systems to transport the raw materials and finished goods throughout the plant and in and out of the process.

INTEGRATED SYSTEMS FROM ONE SOURCE

Our ability to design, size, make, and integrate other OEM processes as well as installing and providing ongoing support gives you full control over the design of your processes. To help test your ideas before your build, we operate Innovation and Test Centers around the globe, dedicated to finding solutions tailored to your individual challenges. We'll test material handling, weighing and feeding, and pneumatic conveying systems in combination with your products.



“WE ENABLE PROCESSES AND CREATE PRODUCTS TO HELP FULFIL THE CRITERIA OF SUSTAINABLE PRODUCTION.”
 Felix Jakob, Head of Industry, Chemicals and Performance Materials EMEA



BULK MATERIAL HANDLING FOR RECYCLED MATERIALS

Schenck Process has a long history of servicing and supporting companies in plastics and recycling industries.

Recycling has quickly grown into a huge initiative for reducing waste going to the landfill and lowering the carbon footprint from producing virgin plastics.

The Schenck Process solution begins after initial separation of usable plastics from reject materials has taken place. Our systems can take the recyclable materials after grinding and classifying the plastics all the way to the extrusion process and beyond.

OUR SOLUTIONS

- » Volumetric and gravimetric feeding
- » Feeding solutions for light and fluffy materials
- » Pneumatic conveying systems
- » Loading automation systems
- » Bulk reception units for trucks and waste handling systems

HANDLING YOUR BULK MATERIALS WITH PRECISION AND EXPERTIZE

EXPERTLY HANDLING YOUR MATERIALS IS PART OF THE PROCESS

Material behavior changes drastically depending on the product, the process and the application. As your expert partner with decades of experience in engineering optimal process solutions, we work closely with you to understand your process needs and specific bulk material challenges.

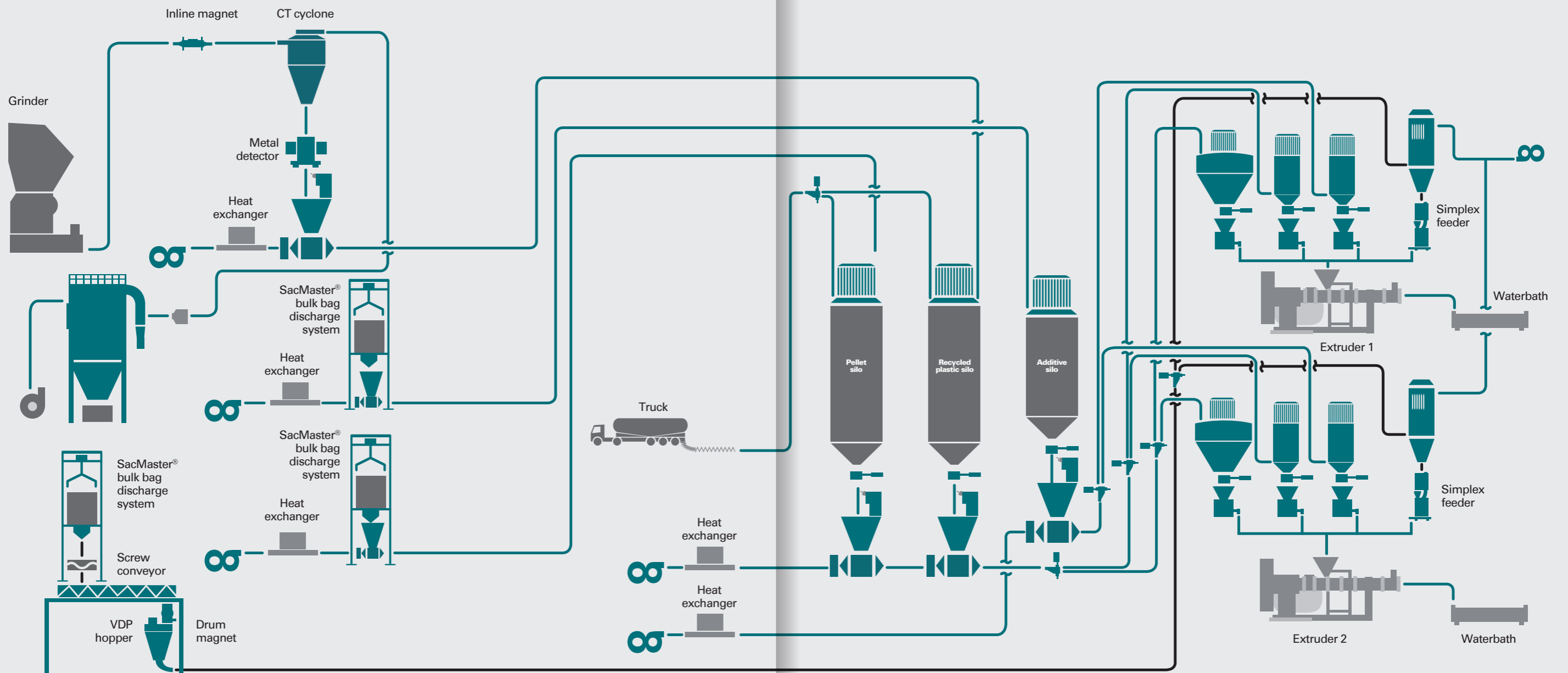
Our engineers use the latest technologies to deliver effective and sustainable bulk material handling systems and make sure you receive the optimal size and equipment your processes require.



DOWNLOAD RECYCLED MATERIALS BROCHURE



BULK MATERIAL HANDLING FOR RECYCLED MATERIALS



— Process step supplied by Schenck Process Group



EFFICIENT RECYCLING OF HARD-TO-FEED PLASTICS

PLASTIC RECYCLING

When recycling the materials that compose plastic film, fibers or post consumer waste, the SIMPLEX Flat Bottom (FB) feeder is the perfect solution. The feeder is designed to handle light and fluffy materials without contamination. With a bottom-driven vertical agitator and an auxiliary agitator, the SIMPLEX FB is ideal for hard-to-feed materials such as chopped plastic film when feeding to an extruder.

WATCH OUR SIMPLEX FB VIDEO ON YOUTUBE >>

KEY BENEFITS

- » High-volume weighing and feeding of recycled materials
- » Feeding systems ideal for handling chopped plastic film, fibers or recycled materials
- » Perfect for feeding lightweight or fluffy materials
- » Accurate extruder feeding



WEIGHING, FEEDING AND METERING SOLUTIONS

Reliable, flexible and accurate systems for optimising your process and achieving the highest and most consistent quality for your products.



MECHATRON®

The MechaTron® is designed to feed bulk solids of all kinds, e.g. powders, granules, pellets, chips, and fibers.

Volumetric or gravimetric – thanks to its modular construction and versatile combinations, all types of feed applications can be realized in the feed rate range from 0.2 dm³/hr to 32 m³/hr using one system. The MechaTron® is widely used in the plastics, performance materials, chemical, fertilizer, detergent, cement, pharmaceutical and food industries.

KEY BENEFITS

- » Volumetric or gravimetric feeding
- » Single or twin screw and vibratory configurations
- » Easy disassembly from the non-process side simplifies cleaning and product changeovers
- » Vibratory models are perfect for feeding plastic pellets with no material pulsation
- » Accuracies of 0.5% of feed rate set point



MECHATRON® MIN

The MechaTron® Min loss-in-weight feeder is used for the continuous feeding or batching of very small volumes of powder.

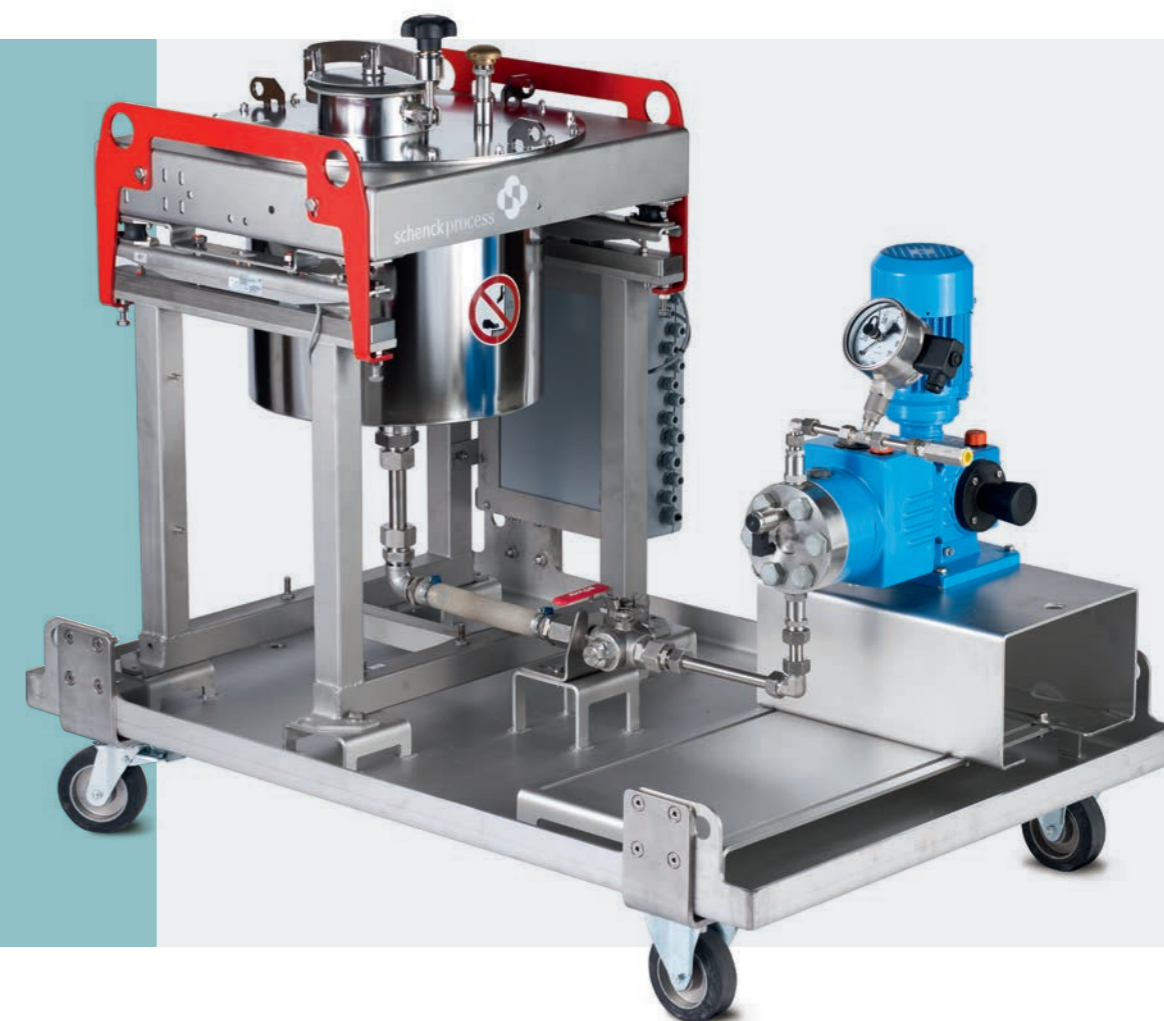
It is ideal for applications where it is required or desired to discharge the material by double-shaft discharge device and internal agitator.

Typical applications include laboratory and test facilities for feeding extruders, mixers, mills and granulators.

The MechaTron® Min system is designed to allow easy dismantling for cleaning and replacement of the discharge devices.

KEY BENEFITS

- » Twin screw loss-in-weight feeder
- » Perfect for batching or feeding small volumes of material
- » Easy to disassemble for cleaning and maintenance
- » Feed rates from 0.2 - 20 liters/hour



MECHATRON® LQ

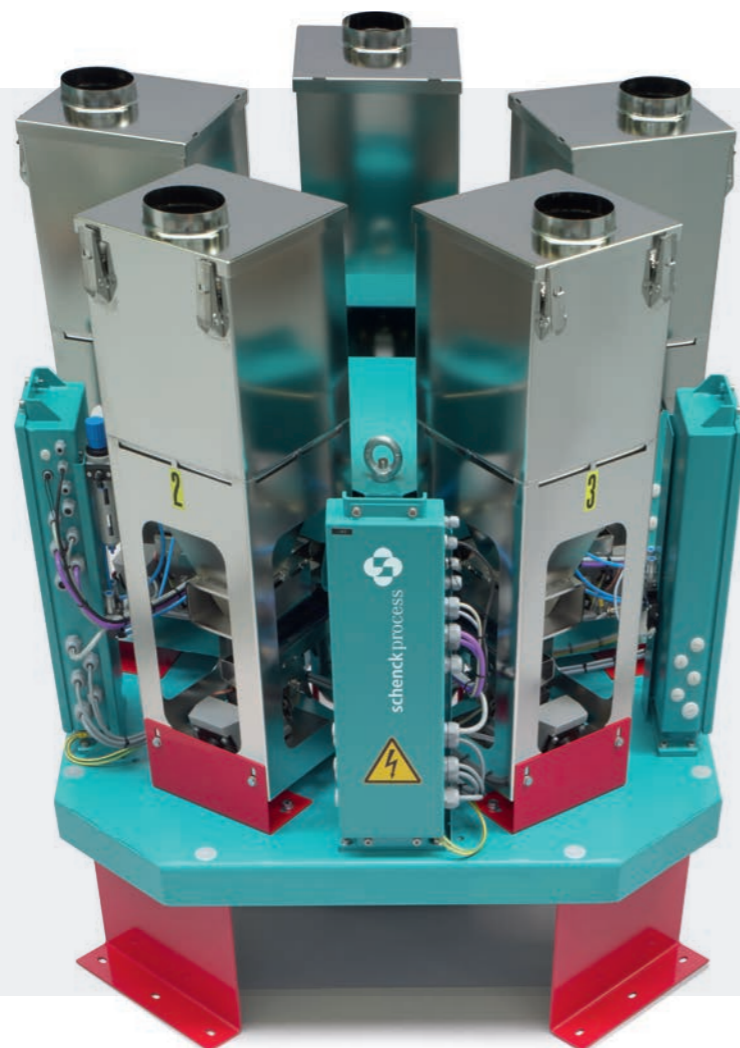
The MechaTron® LQ feed system is used for gravimetric feeding of liquids such as oils, acids, water etc.

The system incorporates a regulated dosing pump and operates on the loss-in-weight principle.

To achieve a more accurate weighing result, the pump is decoupled from the weighing part which has the advantage that the MechaTron® LQ can operate against a counter pressure without a loss of accuracy.

KEY BENEFITS

- » Loss-in-weight feeding system for liquids
- » Equipped with a feed hopper and an order-specific dosing pump
- » Feed accuracies better than $\pm 0.5\%$



MULTIGRAV®

The MULTIGRAV® Multi-Station Feed System is used for the continuous feeding of free-flowing granules.

The MULTIGRAV® feed station comprises 1 to 8 system modules designed for continuous gravimetric feeding of granules. An optimized vibro feeder delivers the granules into the process. The system module is connected to a weighing module with optimized centre of gravity. The weighing module incorporates the vibration-resistant load cell.

If only one feed station is needed, the weighing module is connected with a mounting bracket. For 2 to 8 feed stations, the system modules are centred around a blending vessel serving as buffer for the downstream process and mounted on a common bracket.

A combination with MechaTron® loss-in-weight feeders is possible.

KEY BENEFITS

- » Feeding system consisting of one to eight loss-in-weight feeding units
- » Simultaneous feeding of multiple ingredients for formation of homogeneous blends possible
- » No pulsation even at very low feed rates
- » Extended turndown range
- » Feeding accuracies of $\pm 0.5\%$



MULTICOR®

Based on the Coriolis principle and designed as an enclosed measuring system for the acquisition of feed rate and totalized amounts, the MULTICOR® mass flow meter series offers solutions for applications using gravity to feed material into processes.

MULTICOR® is suitable for throughput and consumption measurement of materials with good to slightly sluggish flow properties.

As this MULTICOR® is equipped with a controllable pre-feeder (for example, start feeder, flow gate or screw) the measuring system can also be used as a feed system.

KEY BENEFITS

- » Continuous mass flow measurement based on the Coriolis principle
- » Direct weighing technology eliminates outside forces on measuring and feeding accuracy
- » Accuracies of $\pm 0.5\%$ are possible
- » Flow rates up to 150t/h (160m³/h)



SIMPLEX FLAT BOTTOM (FB) HIGH-CAPACITY FEEDER

The new SIMPLEX FB is the perfect solution for feeding plastic flakes, cellulose, hemp, glass or carbon fibers and other virgin or recycled materials for plastic film or compounding applications. It is a high capacity stainless steel feeder designed specifically for handling materials with light and fluffy characteristics. With a bottom driven vertical agitator and an auxiliary agitator, the SIMPLEX FB is perfect for hard to feed materials such as chopped polypropylene or PET plastic film when feeding to an extruder.

KEY BENEFITS

- » Modular loss-in-weight or volumetric feeder for high capacities
- » Bottom-driven vertical agitator for filling feed screws
- » Perfect for feeding plastic flakes, cellulose, hemp, glass, carbon fibers or shredded film
- » Feed rates up to 35.000 liters/hour or 35m³/hour



**SAVE SPACE
AND TIME,
ADAPT FLEXIBLY
AND IMPROVE
QUALITY.**

PROFLEX® C

The ProFlex® C material feeder range consists of four different feeder sizes, to meet the varying material requirements of the plastic compound and masterbatch industries. The range includes variants for feed rates of up to 6000dm³/h, 3000dm³/h, 500dm³/h and 100dm³/h.

The feed system is used for accurate, continuous volumetric and gravimetric feeding of bulk materials such as powders and granulate materials.

The optimized design of the ProFlex® C allows maximum flexibility to fit to the available space and options to add up to eight feeders. Vertical container walls allow the bulk material to flow, ensuring every millimeter is utilized, as well as making the feeders easy to clean.

KEY BENEFITS

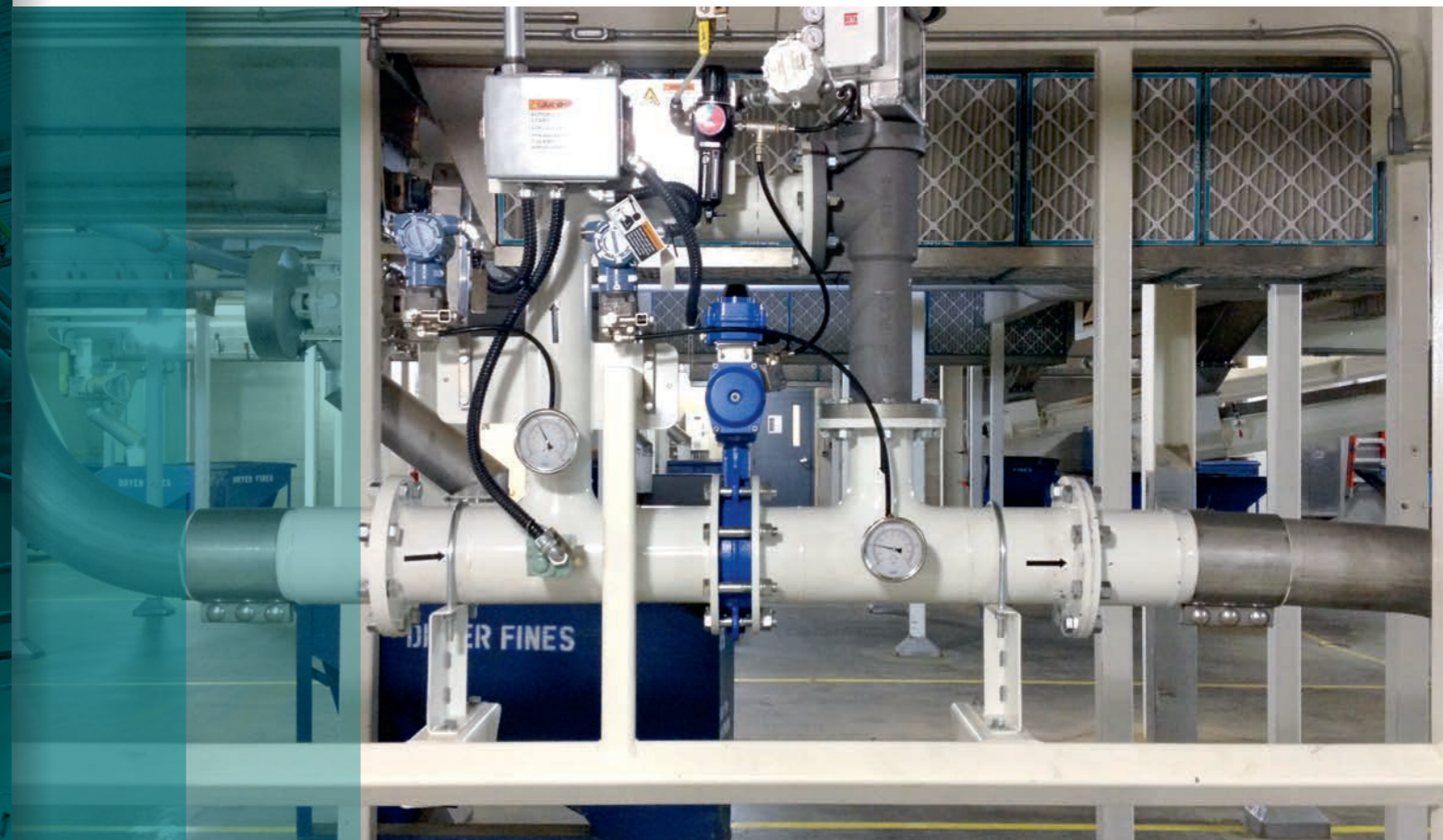
- » Feeder designed specifically for plastics processing
- » Motor assemblies and material discharge positions can be exchanged, accommodating different mounting and clustering requirements
- » Servicing can be done from two different sides, reducing space requirements
- » Supports single and twin screw configurations
- » Feed rates from 1 - 6.000 liters/hour

PNEUMATIC CONVEYING

As industry leaders, our pneumatic conveying solutions cover all types of dense and dilute (lean) conveying. With a comprehensive portfolio of intelligent and energy-efficient solutions and designs, our products meet the unique challenges of all major Plastics and Performance Materials producers.

Whether you need space-saving solutions or a specialized pneumatic conveyor system to handle delicate materials, reduce energy consumption or increased air control for critical materials, we can engineer a solution that provides outstanding performance and long-life operation.

We deliver reliability and efficiency in bulk transfer of raw materials and finished goods, from start to finish, reducing maintenance and overall operational costs.



DENSE PHASE PNEUMATIC CONVEYING

Dense phase conveying is an energy efficient method of transporting abrasive or friable materials through pipelines at very low and stable velocities to minimize degradation and equipment wear.

Schenck Process offers the complete range of technologies, from traditional dense phase conveying systems handling critical powdery products using compressed air and sending materials through pressure vessels to continuous dense phase conveying with blowers.

Our patented continuous dense phase conveying E-finity® system provides gentle and energy efficient conveying for granular and pelleted products by means of an intelligent algorithm utilizing low pressured air from regular blowers to ensure optimal operating conditions.

KEY BENEFITS

- » Energy efficient and gentle conveying of bulk materials
- » Intelligent conveying solutions increase flexibility, reliability, uptime and efficiency
- » Very low product degradation
- » High throughputs achievable
- » Long conveying distances
- » Reduced equipment wear
- » Minimal maintenance



DILUTE PHASE PNEUMATIC CONVEYING

Dilute (or lean) phase pneumatic conveying systems operate on the principle that the solids will be suspended in the conveying line air stream. This is accomplished by metering product into a moving air stream. As there is a high air to material ratio, this is an effective process for non-friable and non-abrasive products. Dilute phase will convey materials regardless of particle size, shape, or density.

If the material is suitable for dilute phase conveying, this method of transport of raw materials and finished goods can be advantageous due to the high flexibility of the layout, lower air pressure and low-cost components.

KEY BENEFITS

- » Low-pressure and high-velocity conveying
- » Ideal for non-abrasive and non-fragile materials
- » Easy to convey from a single source to multiple destinations (pressure conveying)
- » Perfect for transferring finished goods to storage silos
- » Can convey materials over long distances



EDIP CONTROLLER FUNCTIONS:

- BLOWER SPEED CALCULATION
- COLOR TOUCH SCREEN OPERATOR INTERFACE
- BLOWER START/STOP CONTROL
- PURGE FUNCTION
- SYSTEM ALARMS
- TRENDING
- DATA LOGGING
- ENERGY SAVINGS CALCULATION

ENHANCED DILUTE PHASE PNEUMATIC CONVEYING (EDIP)

EDIP is a method designed by Schenck Process to enhance the operation of a dilute phase conveying system by minimizing the speed of the blower under all operating conditions.

The performance of the operating equipment is translated by EDIP into a tangible conveying velocity which is set by the user. In addition, the system control responds to the hanging conditions in the conveying line to maintain the desired velocity by changing the blower speed. The result is a dilute phase system that dramatically reduces power consumption, material degradation and system wear.

KEY BENEFITS

- » Minimize velocity in dilute phase conveying
- » Reduce energy consumption
- » Lower material degradation
- » Equipment wear is reduced



SPARES AND COMPONENTS

For all our core systems, we offer plastics and performance materials processors readily available spare parts and components for long-life performance.

Our tailor-made, reliable solutions are backed by a global service network to ensure quick response times for service requests and short spare part delivery times.

WE PARTNER WITH YOU TO KEEP YOUR PLANT PRODUCTIVE, PROFITABLE AND SAFE.

Our service contracts are designed to meet your exact needs in the most cost-effective way, with original spare parts, timely upgrades and extended warranties.

EXAMPLES INCLUDE

- » Refurbishment and third-party spare parts
- » Wear & tear parts such as screws, bearings, sealings
- » Critical spares such as load cells



SERVICE – FOR YOUR COMPLETE PEACE OF MIND

We design everything with long-term stability and maximum operational reliability in mind.

Whether we're doing a simple engineering study or a complete design-build project, at Schenck Process, everything we do is centered on customer satisfaction.

When it comes to your mission-critical processes, you need a partner you can rely on 100% to keep your business operating optimally. At Schenck Process, we support our customers with fully tailored service concepts to guarantee complete peace of mind.

KEY BENEFITS

- » Industry experts with decades of experience
- » Global Test and Innovation Centers for Feeding, Weighing and Conveying
- » Dedicated application support
- » Product engineering design
- » Global manufacturing & engineering
- » Installation and commissioning
- » Global product & operation training
- » Remote, digital support services for testing and aftersales

BVP10008 EN All information is given without obligation.
All specifications are subject to change. © 2022



Your Partner

Please contact Schenck Process where you will be directly connected to an engineering expert.



Schenck Process Europe GmbH
(Global Head Office)
Pallaswiesenstraße 100
64293 Darmstadt, Germany
T: +49 61 51-15 31 – 0
E: sales-eu@schenckprocess.com
W: www.schenckprocess.com

we make processes work