



**Precision in weighing,
feeding, pneumatic
conveying and air
filtration systems for
plastics processing**

Precise processes make perfect products

A person is working on a large, colorful, abstract sculpture. The sculpture is composed of many small, irregular pieces in various colors like red, blue, green, and yellow. The person is wearing a grey t-shirt and is focused on their work. The background is a solid teal color.

Multiple
processes.

Multiple
solutions.



» **High precision to match specifications**

» **No contamination**

» **High-volume weighing and feeding**

» **Handling of difficult materials**

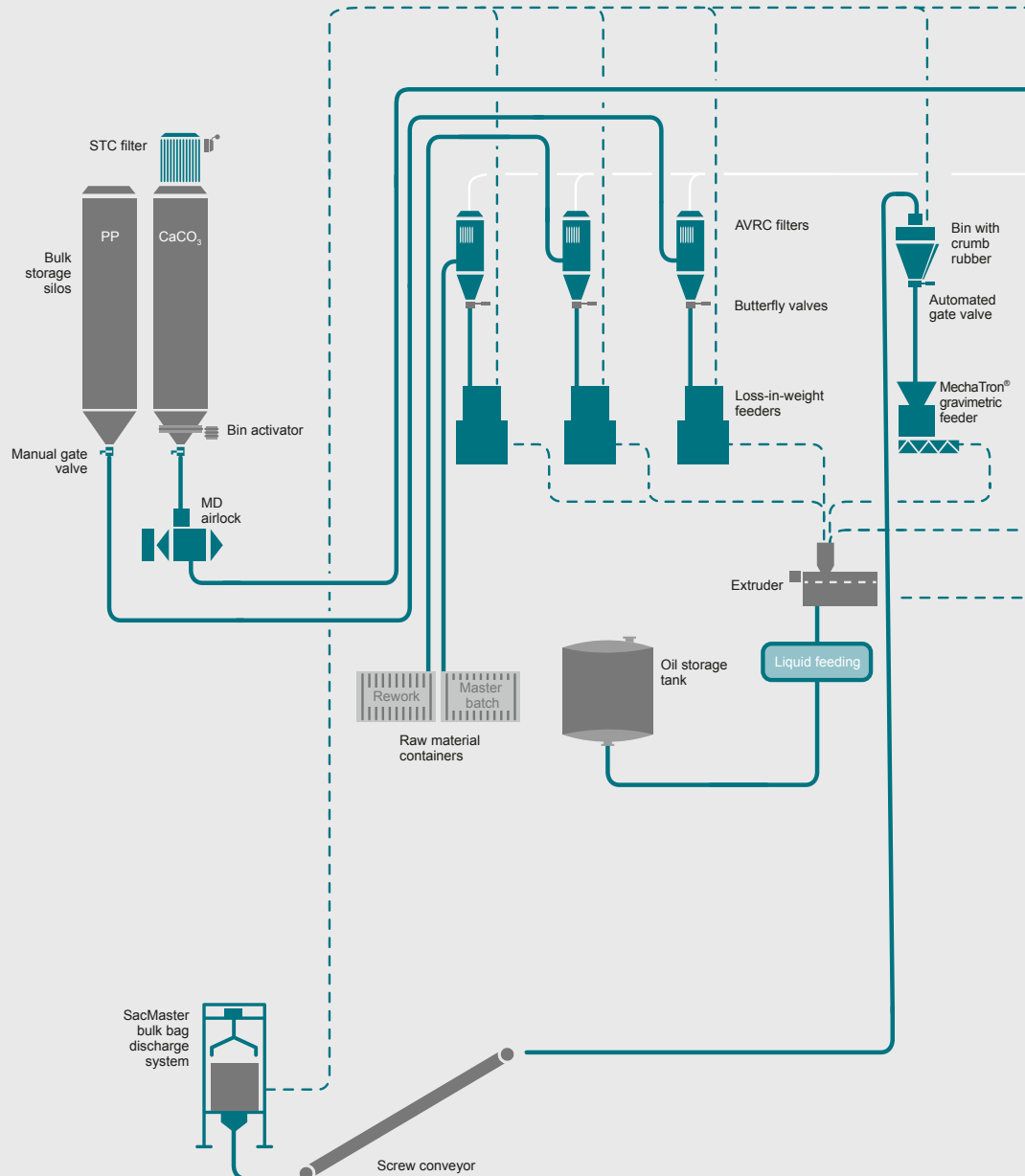
As the requirements of modern plastics become ever more complex, Coperion provides plastics processors with equipment and systems that handle their bulk materials with precision.

A strong combination of loss-in-weight or volumetric feeding, dilute or dense phase conveying, and weighing systems, along with the ability to capture harmful dusts, makes Coperion the supplier of choice in plastic compounding, plastic granulation and polyester production applications. With Coperion bulk handling systems, you can be assured that your product colors and surfaces will maintain the high levels of consistency and adherence to specifications that you and your customers expect.

Precise solutions for weighing, feeding, pneumatic conveying and filtration

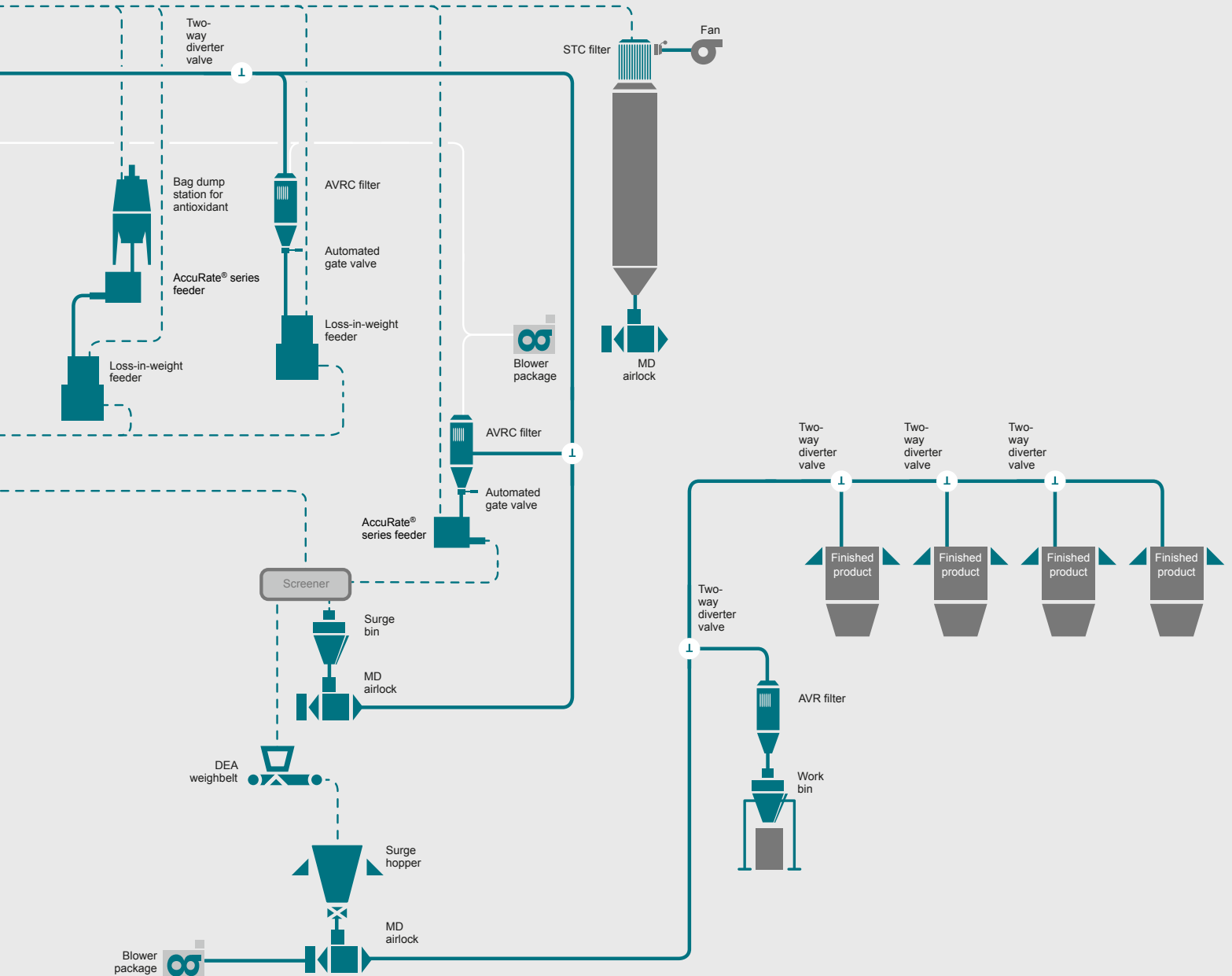
High-quality compounding made easy.

- » **Solutions engineered to your specifications**
- » **Highly diverse product line**
- » **Product consistency**
- » **Project management for ease of integration**



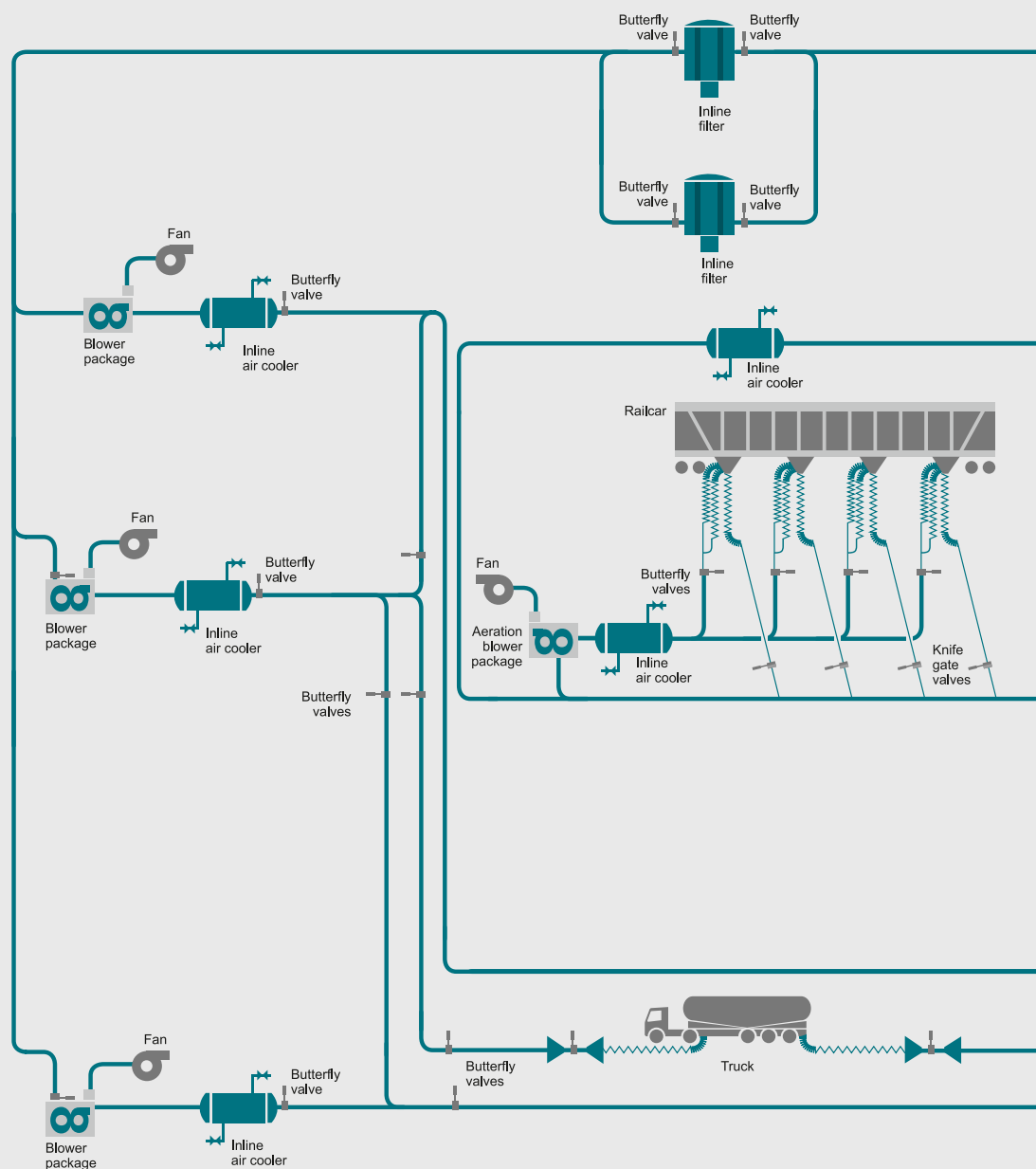
PLASTIC COMPOUNDING

The Coperion solutions for plastics compounding include high accuracy loss-in-weight feeders, modular bulk bag unloading systems and bulk material transfer systems. Single and twin screw feeders and vibratory feeders are the perfect components for metering additives, fillers, and other raw materials in the plastics compounding process. SacMaster bulk bag unloaders easily handle and discharge raw materials. Our bulk material transfer systems can be configured for vacuum or pressure dilute phase or dense phase conveying.



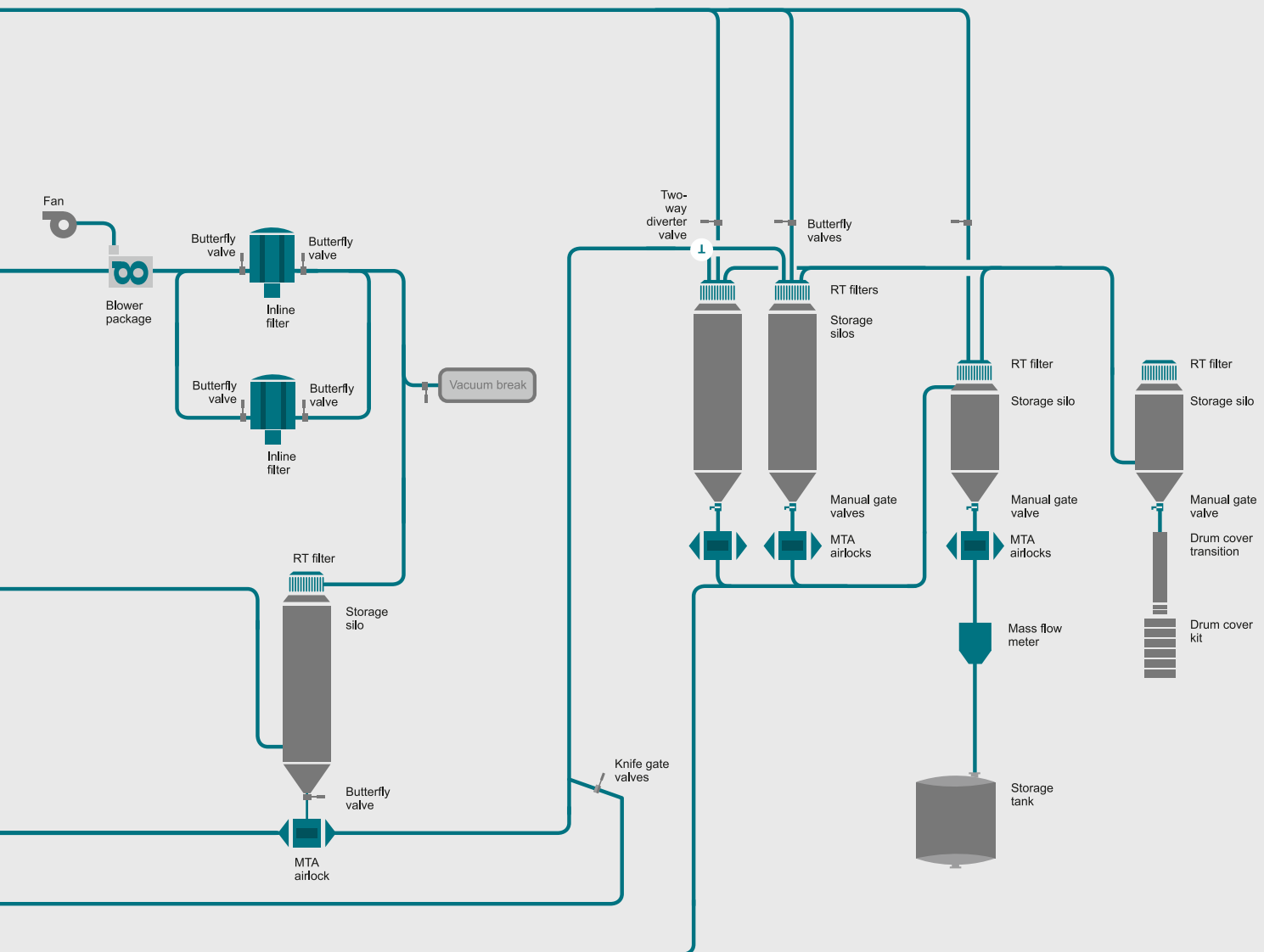
Accurate plant-specific feeding from a single source.

- » **Systems perfectly designed to handle polyester fibers and chips**
- » **Highly accurate feeding systems**
- » **Efficient conveying of raw materials**
- » **Robust systems for harsh environments**



POLYESTER PRODUCTION

Feeding and metering polyester fiber strands, polyester chips and PTA powders are well-suited for the Coperion line of dry material feeders and mass flow meters. With feed and flow rate accuracies of $\pm 0.5\%$ that are typically required by polyester processing plants, Coperion has the precise equipment to meet those requirements. Our bulk dense phase pneumatic conveying system moves your raw materials efficiently from one end of the process to the other.

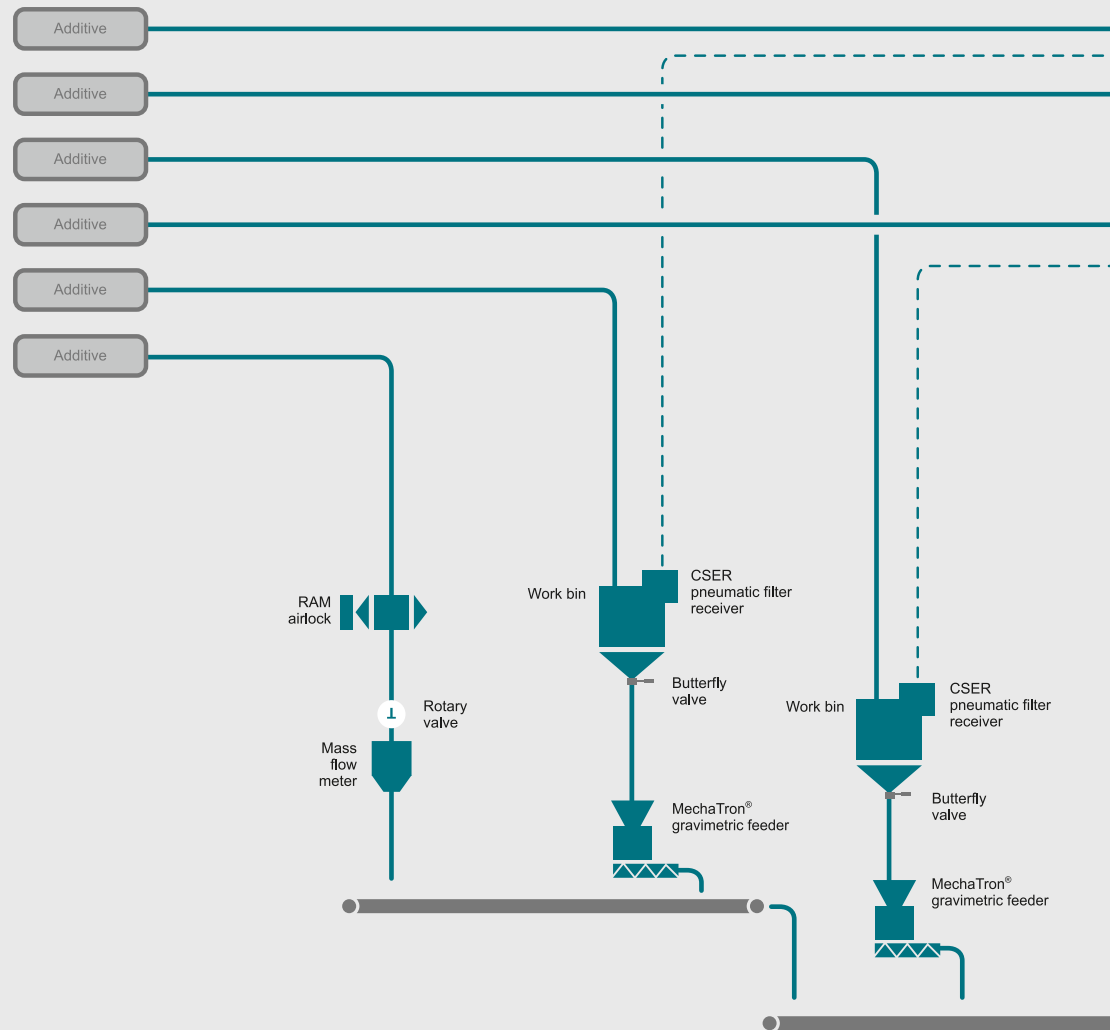


» Feed difficult materials such as carbon black, TiO_2 and more

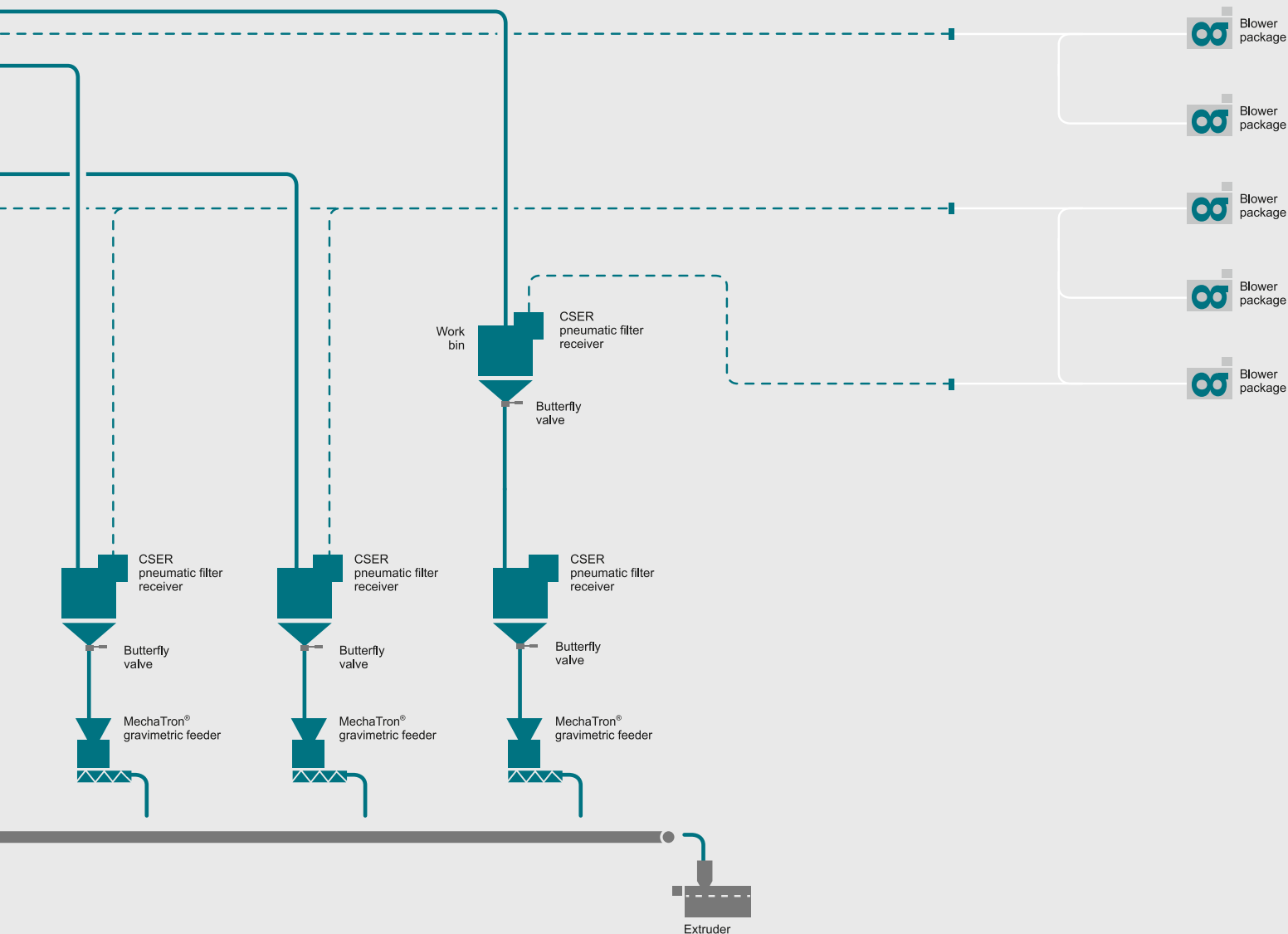
» Pneumatic conveying system for efficient bulk transfer of raw materials

» Expertise in providing custom solutions

» Integrated system from one source



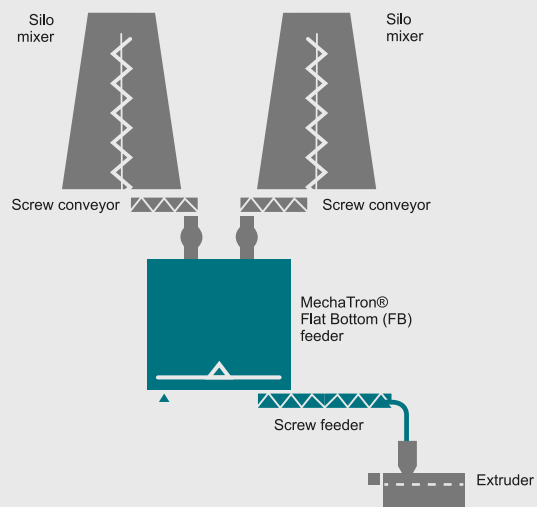
Pneumatic conveying, feeding and metering systems suited to the task.



PLASTIC GRANULATION

Whether you are processing polyethylene or polypropylene for the manufacture of plastic bags or plastic molding for cars, the right pneumatic conveying, feeding and metering system is critical in the production of those products. Additionally, additives such as carbon black, TiO_2 and calcium carbonate are typically fed into the extruder and require a highly accurate and robust feeding system. Coperion's line of loss-in-weight feeders meet the most stringent requirements. Our pneumatic bulk transfer systems transport the raw materials and finished goods throughout the plant and in and out of the process.

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



A large roll of plastic film is being processed by machinery in a recycling facility. The film is being fed into a machine, and the background shows other rolls of film and industrial equipment.

Efficient recycling of hard-to-feed plastics.

PLASTIC FILM RECYCLING

When recycling the materials that compose plastic film the MechaTron® 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 MechaTron® Flat Bottom (FB) is ideal for hard-to-feed materials such as chopped polypropylene or PET plastic film when feeding to an extruder.

Weighing. Feeding. Metering.



MechaTron®

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 $\pm .25\%$ to 1% of feed rate set point at 2 sigma
- » Feed rates from $.002$ to $1,100 \text{ ft}^3/\text{h}$ ($.06$ to $31,150 \text{ l/h}$)



MechaTron® Min

Twin screw loss-in-weight feeder

- » Ideal for feeding materials to extruders, mixers and granulators
- » Perfect for batching or feeding small volumes of material
- » Easy to disassemble for cleaning and maintenance
- » Feed rates from $.007$ to $.56 \text{ ft}^3/\text{h}$ ($.2$ to 15.8 l/h)



MechaTron® LQ

Liquid loss-in-weight feeder

- » Loss-in-weight feeding system for liquids
- » Equipped with a feed hopper and an order-specific dosing pump
- » Feed accuracies better than $\pm 0.5\%$
- » Feed rates up to $1,650 \text{ lb/h}$ (750 kg/h)



SolidsFlow™

Mass flow feeding device

- » Feeds abrasive materials and various sized particles
- » No moving parts, low maintenance
- » Instantaneous cut-off of flow rate
- » No material segregation
- » Operates as a vibratory feeder



AccuRate® Series

Proven volumetric feeder

- » Feeding accuracies of $\pm 0.5\%$ to 3%
- » Vinyl hopper gently massages materials into the feeding screw
- » Feed rates from .000017 to 280 ft³/h (.0005 to 7,929 l/h)
- » Ideal for feeding color pigments, plastic powders and pellets



MechaTron® AI

Low feed rate feeder

- » Excellent for feeding micro ingredients, color pigments and plastic additives
- » Quick and easy disassembly for cleaning and maintenance
- » Dual arm external agitation system for maximizing material handling versatility
- » Feed rates from .0007 to 9.5 ft³/h (.02 to 270 l/h)



MechaTron® Flat Bottom (FB)

High-capacity feeder

- » 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 PET plastic film without contamination
- » Feed rates up to 1,100 ft³/h (31,150 l/h)



Weighbelt Feeder

High-capacity industrial weighbelt feeder

- » Can be used for weight- controlled feeding, as a weight indicator and totalizer, or for batching
- » Automatic belt cleaning system
- » Perfect for free-flowing materials such as plastic pellets
- » Feed rates up to 1,680 ft³/h (47,578 l/h)



Mass Flow Meter

- » 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 150 t/h (160 m³/h)

Pneumatic conveying. Filtration. Unloading.



Dense phase

Low-pressure continuous dense phase conveying

- » The blower air source, designed for less than 15 psig (1 bar), can be located nearly anywhere in the plant
- » Multiple systems can be operated from a single blower air source
- » Various systems can be turned on and off as needed, and air delivery from the PD blower compensates automatically
- » Mid-range pressure pumps can also be used to achieve pressures up to 30 psig (2 bar)



Dilute phase

Low-pressure and high-velocity conveying

- » Ideal for non-abrasive and non-fragile materials
- » Easy to convey from a single source to multiple destinations
- » Changeovers are simplified because a fixed dilute line size can convey different rates of product
- » Perfect for transferring finished goods to storage silos
- » Can convey materials over long distances



Pulse jet filters

Bag or cartridge dust collection systems

- » Rectangular, round and square designs for any application
- » Utilizes electronically timed pulses of compressed air to dislodge particles from filter media
- » Quick and easy access for filter media replacement
- » No moving parts, low maintenance
- » Fast turnaround on spare parts requirements

Central vacuum systems

Industrial cleaning solution

- » Routine cleaning to handle large spills
- » Single or multiple user systems
- » Wide variety of filter media, discharge and disposal methods
- » Written emissions guarantees
- » Optimal hose, tool and attachment selections

Project management and engineering services

Bulk material handling and filtration

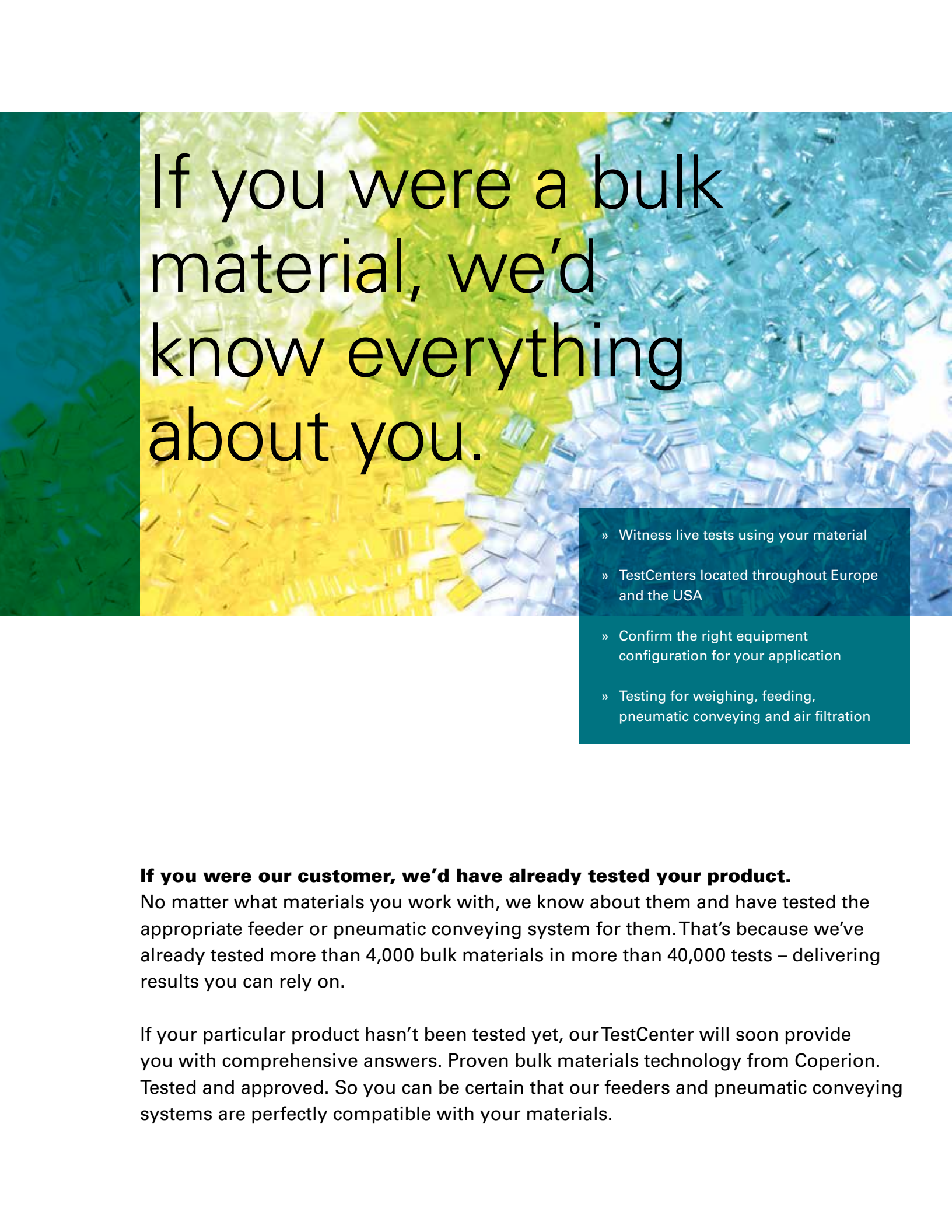
- » Engineering surveys
- » Documentation and certification
- » Process flow diagrams
- » Equipment drawings and layout
- » Dust collector and fan sizing
- » Ductwork sizes and layout
- » Design reviews
- » Turnkey installation

SacMaster

Bulk bag discharging

- » Agitation helps eliminate material bridging and promotes complete bag emptying
- » Three different models for multiple loading options
- » Modular design for easy system customization and compatibility
- » Pre-programmed control reduces user operation time





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

- » 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 and air filtration

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 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 Coperion. Tested and approved. So you can be certain that our feeders and pneumatic conveying systems are perfectly compatible with your materials.

Coperion operates TestCenters around the globe which find solutions tailored to your individual challenges. We test material handling, weighing and feeding, pneumatic conveying and filtration in combination with your products.

The test results gained will help you determine optimum processes and thereby ensure successful production results. Do you have a job where our diverse testing facilities can assist? Get in touch and our experts will work out the perfect solution with you.

Test us.



Air filtration TestCenter

Sabetha, Kansas, USA

- » Small sample testing
- » High pressure pulse jet bags
- » Medium pressure cleaning bags and cartridges
- » Horizontal cartridges
- » SEntry cartridges
- » SpaceSaver cartridges
- » Cyclone efficiency testing
- » Small scale bench testing
- » Particle size analysis



Pneumatics TestCenter

Kansas City, Missouri, USA

- » Vessel dense phase
- » Continuous dense phase
- » Low-pressure continuous dense phase
- » Vacuum dilute phase
- » Small sample testing
- » Pressure dilute phase
- » Vacuum dense phase
- » Eductor
- » Negative airlift



Weighing and feeding TestCenter

Whitewater, Wisconsin, USA

- » Volumetric feeding
- » Gravimetric feeding
- » Batch feeding
- » Vibratory feeding
- » Weigh feeding
- » Bulk bag unloading
- » Shear testing



Repair

- » Exchange program
- » Repair program
- » Refurbishment program
- » Remote service
- » Process monitoring

Management

- » Environmental solutions
- » Process plant operations
- » Inventory management
- » Maintenance management

Inspection

- » Condition monitoring
- » Verification service
- » FitnessCheck

Support

- » eParts catalog
- » Warranty extension
- » Customer training
- » Service hour bank

Customized.

COMPREHENSIVE AFTER-SALES SERVICES

Looking for after-sales solutions?

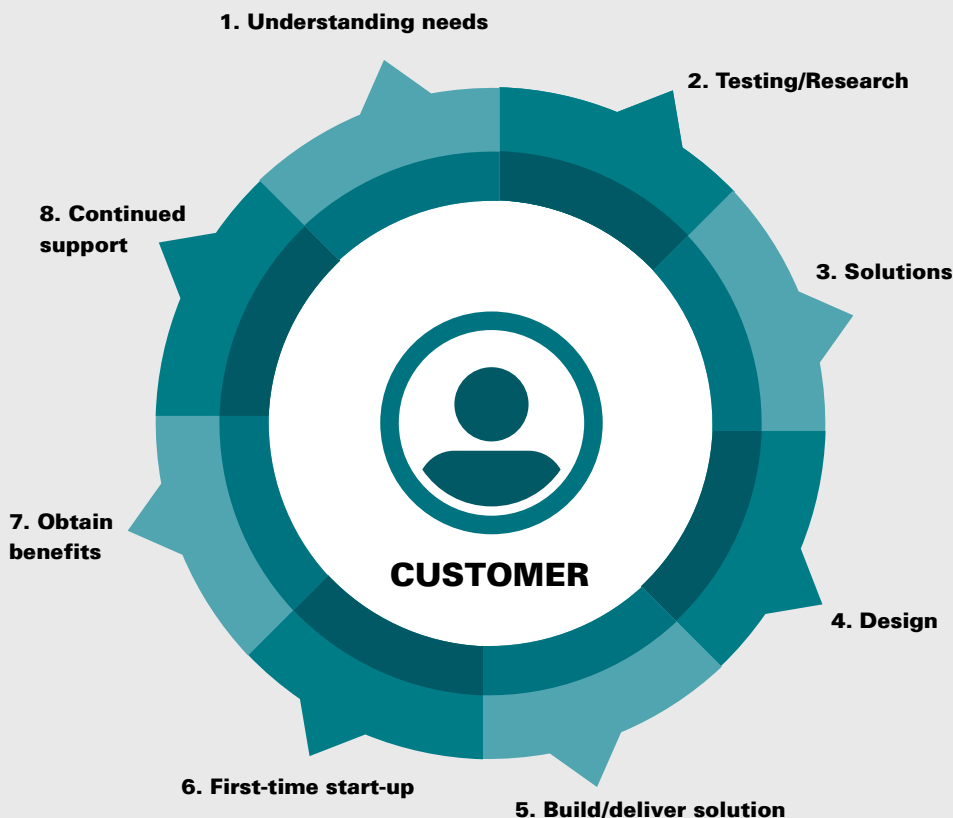
Our extensive Service Team provides them, customized to your specific requirements. With the guidance of our experienced after-sales team, you can create service packages comprised of original spare and wear parts, various services and high quality components to meet your needs. We welcome the opportunity to provide you with individual consultation.

Whatever full service means to you – let's create it together."

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 Coperion, everything we do is centered on customer satisfaction. We follow an eight-step process that allows our experienced project managers and their teams of engineers to design the most efficient, cost-effective system to meet your operational requirements not only on budget and on time, but with long-term stability and reliability in mind.

Your partner in plastics.



1. Understanding needs

Every project begins with your operation, your conditions, your application and your unique needs. We want to understand the issues and problems that you are facing.

2. Testing/Research

Our TestCenters allow us to develop the most innovative solution that will solve any conveying, filtration, weighing or feeding challenge. In addition to our TestCenters, our database containing thousands of test records allows us to cross-reference previously handled materials, enabling quick identification of proven pneumatic conveying, filtration, weighing and feeding solutions.

3. Solution

During this stage, we discuss the testing and research analysis with you. Using that information, a systems quote is prepared to meet your exact needs.

4. Design

We discuss the proposal in greater detail with you in terms of initial and ongoing costs, energy consumption, delivery dates, project timetables and deadlines before agreeing on and proceeding to the next step.

5. Build/deliver solution

No matter where you are located in the world, our global network allows us to engineer, project manage and deliver a solution.

6. First-time start-up

Our rapid start-ups with on-site engineers enable you to quickly get your system up and running.

7. Obtain benefits

With quick start-up you realize maximum productivity with minimal disruption at the time of implementation.

8. Customer support

Our knowledgeable service center personnel are available 24/7 to assist you with ongoing support after equipment installation.



Coperion has successfully integrated and installed its wide array of weighing, feeding, pneumatic conveying and air filtration equipment for plastics manufacturers across the globe. Whether you are compounding, processing thermoplastics or recycling the materials used in the manufacture of plastic film, we have the right solution. Our project management team will work closely with you to design the ideal system matched to your specific requirements and application needs.

Contact your Coperion sales representative to find out how we can put the perfect bulk material handling system together for your plastics manufacturing operation.

The perfect finish.



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