



PLANTS FOR THE COMPREHENSIVE SORTING OF RECYCLABLE MATERIALS

TABLE OF CONTENTS

Philosophy	p. 3
Together for a cleaner planet	p. 4
Overview	p. 6
Sorting plants for MSW (Municipal Solid Waste)	p. 8
CSS plants (Sorting and Storage Centre)	p. 10
Sorting plants for PIR (Post-Industrial Recycling)	p. 12
Sorting plants for waste from the collection of plastic packaging	p. 14
Sorting plants for waste from the collection of paper, paperboard and cardboard	p. 16
Sorting plants for waste from the collection of glass and aluminium	p. 18
Composting plants	p. 20
Plant for the preparation of refuse derived fuel	p. 22

Sorting plants for mixed construction material and bulky waste	p. 24
Sorting plants for electrical and electronic waste	p. 26
Sorting plants for photovoltaic panel	p. 28
Sorting plants for metal	p. 30
Sorting plants for wood	p. 32
Mobile sorting and grading systems	p. 34
Multi-material sorting plants	p. 36
Contacts	p. 38

PHILOSOPHY

Founded in 1989 by Angelo Quidacciolu, the company was set up to offer technological solutions in the cork processing sector, enhancing the excellence of the Sardinian territory. As the market changed, the company successfully reconverted, specialising in the design and production of conveyor belts and plants for the automated selection and recycling of materials.

Internationally recognised, the company stands out for its “Made in Italy” quality and high level of applied engineering, offering tailor-made, customer-oriented solutions. Continuity is guaranteed by the second generation, which today actively contributes to the company’s growth, with an eye on innovation and sustainability.

TOGETHER FOR A CLEANER PLANET

A global environmental problem

An expression that calls for collaboration and action to preserve the environment and reduce pollution, emphasising the importance of a collective commitment to environmental sustainability.

In order to reverse this trend, which will see plastic pollution increase more and more over the next 30 years, and drastically reduce environmental impact, it is essential to strengthen recycling policies and promote technological solutions that support more efficient waste management. One of the key steps in this process is sorting: the ability to sort materials according to their nature and colour is a fundamental step to ensure effective and quality recycling.

Quidacciolu Costruzioni Meccaniche responds to this challenge by developing advanced sorting plants designed to maximise resource recovery and concretely support the transition to a circular economy. With innovative technologies and a sustainability-oriented approach, the company is a benchmark in the market, contributing to the protection of ecosystems and the valorisation of recycled materials.



OVERVIEW

Quidacciolu Costruzioni Meccaniche Plants Mechanical engineering Made in Italy.

Each of our plants is developed with the utmost precision and attention to detail, according to the specific needs of the customer, whether a private individual or a large industrial group. Our team is made up of highly qualified professionals with skills ranging from structural design to process engineering and financial management, guaranteeing comprehensive support at all stages of project development.

We offer an integrated and comprehensive service: we build turnkey plants, provide assistance during the start-up phase and are always ready to intervene to ensure operational continuity and maximum efficiency.



Adaptable

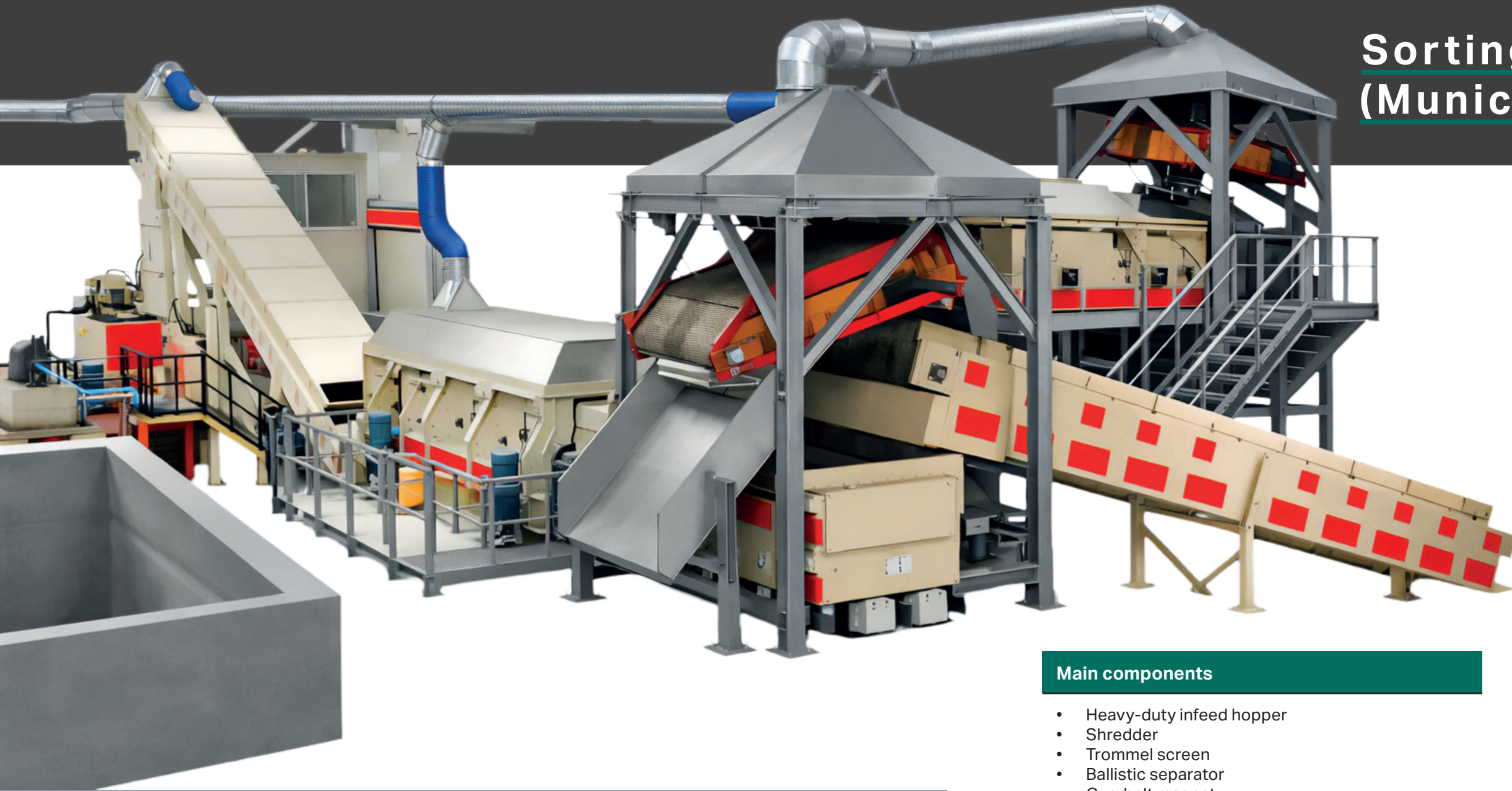
The plants are designed to be easily integrated into any production context, thanks to the engineering solutions developed by our engineering department, which can customise each configuration according to specific operational needs.

Interconnected

All plants are equipped with centralised control systems based on PLCs, which allow remote monitoring and management in an Industry 4.0 perspective, guaranteeing high automation, traceability and the possibility of real-time intervention.

Energy efficiency

Quidacciolu Costruzioni Meccaniche has developed systems characterised by significantly reduced drive power, benefiting overall energy efficiency. Thanks to several engineering studies developed by our technical department, a system has been created whereby plant efficiency increases and energy consumption decreases.



Sorting plants for MSW (Municipal Solid Waste)

General description

Plants designed for the treatment of unsorted municipal solid waste, with the aim of maximising the recovery of recyclable materials and significantly reducing the amount of waste sent to landfill. Through the integration of mechanical technologies and automated systems, the plant enables efficient flow management, ensuring high standards of reliability, operational continuity and quality of the sorted fractions.

The modular configuration allows the plant to be adapted to different production capacities and waste compositions, ensuring operational flexibility and the possibility of future expansion.

Main components

- Heavy-duty infeed hopper
- Shredder
- Trommel screen
- Ballistic separator
- Overbelt magnet
- Eddy current separator
- Second-stage shredder
- Baler
- Conveyor
- Steel construction with walkway
- Electrical engineering

Benefits

- High efficiency in separating recoverable fractions
- Significant reduction in landfill disposal
- Optimisation of treatment and recovery flows
- High reliability and operational continuity
- Easy access for maintenance and reduced downtime
- Modular configuration and scalability

Output fractions

- Paper / cardboard / paperboard
- Fine grain
- Organic
- Film
- Ferrous metal
- Non-ferrous metal
- Mixed plastic

Process operation

The treatment cycle begins with the controlled feeding stage, which ensures an even distribution of the material along the line. The waste is then subjected to an initial pre-treatment stage, aimed at reducing its volume and removing the coarsest fractions.

Subsequently, the material passes through screening systems that separate it by particle size, distinguishing between fine, medium and coarse fractions. The various fractions are then processed using ballistic separators, which sort the materials by weight and shape (2D, 3D and fine fraction), optimising the subsequent sorting stages.

Metal components are removed using de-ironisation systems for ferrous metals and eddy current separators for non-ferrous metals. Optical sorting systems (NIR), where provided, allow for further refinement of the stream, identifying specific types of material.

The fractions obtained are finally directed towards recovery, recycling or disposal lines, depending on their quality characteristics.

Customisation and design

Each plant is bespoke, based on a detailed analysis of the waste characteristics, the volumes to be processed and the recovery targets. The technical team oversees every stage of the project, from preliminary design through to construction, installation and commissioning, ensuring seamless integration with any existing lines.

CSS plants (Sorting and Storage Centre)



General description

Designed for the management and recovery of waste intended for the production of secondary solid fuel, the CSS plant optimises sorting, treatment and storage operations. Thanks to its modular design and advanced technologies, it ensures operational continuity, high reliability and control of incoming and outgoing flows.

Benefits

- Optimisation of processing flows
- High sorting efficiency
- Reduced operating costs
- Ease of maintenance
- Operational continuity
- Customisation and design

Main components

- Bag opener
- Trommel screen
- Ballistic separator
- Near infrared technology NIR
- Overbelt magnet
- Eddy current separator
- Windshifter
- Sorting cabin
- Baler
- Container press
- Steel construction with walkway
- Electrical engineering
- Can press
- Conveyor

Output fractions

- Paper / paperboard / cardboard boxes
- Refuse derived fuel
- Fine grain
- Ferrous metal
- Non-ferrous metal
- PET bottles
- PET trays
- Film
- Small film
- PE
- Mixed plastic
- PP
- PS
- Tetrapak

Customisation and design

Each plant is custom-designed, based on a detailed analysis of the characteristics of the input material, the volumes to be processed, and the objectives for recovery and energy recovery. The modular configuration allows the line to be adapted to specific operational requirements, ensuring a high degree of flexibility and the possibility of integration with existing plants.

Process operation

The process begins with the controlled feeding of the material, which is distributed evenly along the line to ensure operational continuity and efficiency in the subsequent stages.

The waste is then subjected to pre-treatment, which may include opening the bags and an initial homogenisation of the material, facilitating the separation operations. Subsequently, using screening systems, the flow is divided according to particle size, separating the fine fractions from the coarser ones.

The larger fractions are processed using ballistic separators, which distinguish between light materials, rigid objects and fine fractions, thereby improving the efficiency of downstream processing.

Metal separation is carried out using magnetic systems for ferrous materials and eddy current separators for non-ferrous metals. Depending on the plant configuration, optical sorting systems may be integrated for further refinement of the material.

The various fractions obtained are finally conveyed to the storage areas, ready for subsequent recovery, recycling or energy recovery, with a continuous and optimised flow throughout the entire line.

Sorting plants for PIR (Post-Industrial Recycling)

General description

PIR industrial waste treatment plants are designed to recover and recycle waste from production processes, transforming it into reusable secondary raw materials. Thanks to the integration of mechanical technologies and advanced sorting systems, they enable high levels of material purity to be achieved, helping to optimise production cycles and reduce waste.

The design flexibility allows for the processing of various types of materials, in particular plastics, industrial packaging and processing waste, ensuring consistent performance even with variable input flows.

Benefits

- Efficient recovery of secondary raw materials
- High quality and purity of the sorted material
- Reduction in production waste
- Optimisation of disposal costs
- Improved sustainability of industrial processes
- High reliability and operational continuity

Main components

- Shredder
- Trommel screen
- Second-stage shredder
- Near infrared technology NIR
- Overbelt magnet
- Eddy current separator
- Sorting cabin
- Baler
- Conveyor
- Steel construction with walkway
- Electrical engineering

Customisation and design

Each plant is custom-designed based on a detailed analysis of production flows, material characteristics and recovery targets. The modular configuration allows the plant to be easily adapted to different operational requirements, ensuring flexibility and the ability to evolve over time.

Output fractions

- Paper / paperboard / cardboard boxes
- Refuse derived fuel
- Film
- Ferrous metal
- Non-ferrous metal
- PE
- PET
- Mixed plastic

Process operation

The material is fed into the plant via controlled feeding systems, which ensure even distribution along the line. Depending on the characteristics of the waste, the process may include a preliminary pre-treatment and volume reduction stage, designed to make the material suitable for subsequent processing.

Subsequently, the flow is screened for size separation and passed through mechanical and automatic sorting systems, which distinguish the different fractions based on their physical and compositional characteristics. Any metals present are removed using magnetic and eddy current systems.

Where high sorting accuracy is required, the plant can be integrated with optical systems (NIR), capable of identifying specific materials and improving the quality of the recovered fractions.

The sorted fractions are then conveyed to storage or reuse lines, ready to be reintroduced into production cycles.

Sorting plants for waste from the collection of plastic packaging



Process operation

The material is fed in via controlled feeding systems, which ensure uniform distribution along the line and continuous flow management. An initial pre-sorting stage removes the coarsest or unsuitable fractions.

The waste is then screened for size separation, sorting the different fractions according to particle size. The larger fractions are processed using ballistic separators, which distinguish between light and rigid materials, thereby improving the efficiency of the subsequent stages.

The flow is then directed to optical sorting systems (NIR), which identify and separate the various polymers according to their characteristics. At the same time, any metals present are removed using de-ironisers and eddy current separators.

The selected fractions are finally conveyed to the storage or compaction lines, ready to be sent to the recycling processes, ensuring a continuous and efficient flow throughout the entire line.

General description

Plastic packaging sorting plants are designed for the recovery and processing of various types of polymers from separate collection schemes and multi-material streams. Thanks to the integration of mechanical technologies and advanced sorting systems, they enable the production of high-purity fractions suitable for subsequent recycling processes.

The plant configuration is designed to handle heterogeneous materials and variable flows, ensuring operational stability and production continuity. The high degree of automation and the modularity of the solutions allow the plant to be adapted to different operational requirements, improving overall efficiency and the quality of the recovered material.

Benefits

- High purity of selected polymers
- Optimisation of recycling processes
- Reduction in waste
- High operational reliability
- Flexibility in flow management

Customisation and design

The systems are custom-designed to suit the composition of the input material and the recovery objectives.

The modular configuration allows the line to be easily adapted to different production capacities and to incorporate specific technologies to improve the performance and quality of the sorted material.

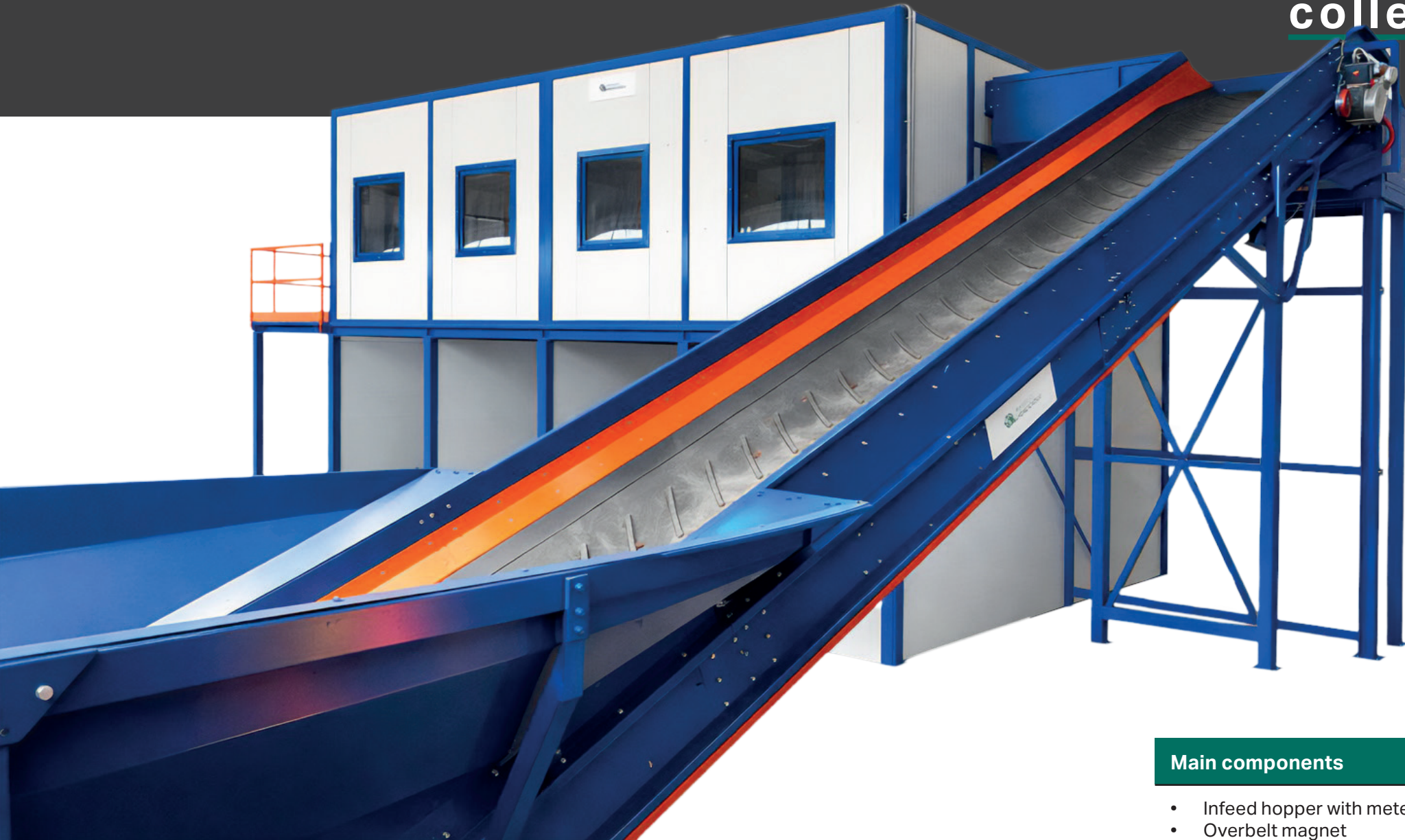
Main components

- Shredder
- Trommel screen
- Overbelt magnet
- Eddy current separator
- Conveyor
- Steel construction with walkway
- Electrical engineering

Output fractions

- | | |
|---------------------|-----------------|
| • Fine grain | • PET trays |
| • Film | • PE |
| • Small film | • Mixed plastic |
| • Ferrous metal | • PP |
| • Non-ferrous metal | • PS |
| • PET bottles | • Tetrapak |

Sorting plants for waste from collection of paper, paperboard and cardboard



General description

Paper and cardboard sorting plants are designed to process cellulose-based materials from separate waste collection, with the aim of producing homogeneous, high-quality fractions suitable for reintroduction into production cycles.

The plant solutions are designed to ensure effective removal of impurities and proper separation between different types of material, even in the presence of mixed streams. The modularity of the system allows the plant to be adapted to different production capacities and required quality levels.

Benefits

- High quality of recovered cellulose fractions, suitable for reintroduction into production cycles
- Significant reduction in impurities and foreign materials
- Optimisation of sorting processes and improved operational efficiency
- Continuous operation and long-term reliability
- Flexibility in handling mixed materials and variable volumes
- Reduction in operating and disposal costs

Main components

- Infeed hopper with metering drum
- Overbelt magnet
- Paper spike
- Near infrared technology NIR
- Conveyor
- Sorting cabin
- Baler
- Steel construction with walkway
- Electrical engineering

Output fractions

- Cardboard boxes
- Deinking
- Mixed paper

Customisation and design

Paper and cardboard sorting plants are custom-designed following an in-depth analysis of the characteristics of the input material, the volumes to be processed and the quality requirements for the final product. The modular configuration allows the line to be adapted to specific operational needs, ensuring flexibility and the potential for future expansion.

Particular attention is paid to defining the plant layout and integrating the sorting systems, in order to optimise workflows and improve the overall efficiency of the process. The solutions are designed to ensure operational continuity, ease of management and integration with any existing plant, guaranteeing reliable performance over the long term.

Process operation

The material is fed into the plant via controlled dosing systems, which ensure a constant distribution along the line and promote process stability.

An initial screening stage enables size separation, distinguishing the finer fractions from the coarser ones. The material is then sent to automatic sorting systems, supplemented where necessary by manual sorting booths, which allow for the removal of impurities and the correct separation of paper, cardboard and foreign materials.

During the process, material flows are optimised to ensure the highest quality of the sorted material, minimising the presence of contaminants. The resulting fractions are finally conveyed to accumulation, baling or storage lines, ready for subsequent recovery in industrial cycles.

Sorting plants for waste from collection of glass and aluminium

General description

Glass and aluminium sorting plants are designed for the recovery and recycling of materials from dedicated or mixed-material collection schemes, ensuring high quality standards for the output fractions.

Through the use of efficient and reliable separation technologies, the plants enable the management of variable flows and different levels of contamination, ensuring operational continuity and optimised performance. The solutions can be configured to meet specific operational requirements and the required purity levels.

Process operation

The material is fed into the plant via controlled feeding systems, designed to ensure uniform and continuous distribution along the line, preventing build-ups and interruptions in the flow.

An initial screening stage enables size separation, allowing the finer fractions to be separated from the coarser ones and any unsuitable materials to be removed. The flow is then directed to magnetic separation systems for the extraction of ferrous metals, whilst non-ferrous metals, such as aluminium, are recovered using eddy current separators, ensuring high efficiency even on small particles.

The glass is then subjected to a refining stage, aimed at reducing impurities and improving the overall quality of the material. At this stage, additional sorting technologies may be integrated to eliminate unwanted fractions and stabilise the final product.

The fractions obtained are finally conveyed to the storage lines or sent for recycling, with a continuous and optimised flow throughout the line, ensuring high quality and operational standards.

Benefits

- High efficiency in the separation of glass and non-ferrous metals
- Recovery of high-value materials with high purity levels
- Reduction of impurities and improvement in the quality of the sorted glass
- Optimisation of processing flows and operational continuity
- Reliability of the systems even when dealing with mixed materials
- Reduction in disposal costs and increased material recovery

Customisation and design

Glass and aluminium sorting plants are custom-designed to suit the characteristics of the input material, contamination levels and the required recovery targets. The modular configuration allows the line to be adapted to different operational requirements, ensuring flexibility and the possibility of future expansion.

The design involves a careful definition of the plant layout and the integration of the most suitable separation technologies, with the aim of optimising performance and improving the quality of the recovered fractions. The solutions developed ensure operational continuity, ease of management and integration with any existing plants, guaranteeing long-term reliability and stability.

Main components

- Feed hopper
- Vibrating feeder
- Conveyor
- Overbelt magnet
- Eddy current separator
- Sorting cabin
- Steel construction with walkway
- Electrical engineering

Output fractions

- Glass
- Non-ferrous metal
- Ferrous metal
- Fine grain

Composting plants



General description

Composting plants are designed to treat the organic fraction of waste, whether from separate collection or agri-food waste, with the aim of transforming it into high-quality compost through controlled biological processes.

The integration of specialised technologies and automated management systems ensures optimal conditions for the degradation of organic matter, guaranteeing high standards of efficiency, operational stability and compliance with environmental regulations. The modular configuration allows the plant to be adapted to different production capacities and characteristics of the material being processed.

Main components

- Feed hopper
- Trommel screen
- Conveyor
- Steel construction with walkway
- Electrical engineering

Output fractions

- Organic fraction
- Fine grain
- Compost

Benefits

- Production of high-quality compost suitable for agricultural use
- Reduction in the volume of organic waste sent for disposal
- Emissions control and odour management
- Optimisation of the biological process through automated systems
- Operational continuity and long-term reliability
- Contribution to the recovery of organic waste within the framework of the circular economy

Customisation and design

Composting plants are custom-designed to suit the characteristics of the input material, the volumes to be processed and the quality objectives for the final compost. The modular configuration allows the system to be adapted to different operational requirements, ensuring flexibility and the possibility of future expansion.

Particular attention is paid to the design of the plant layout and the integration of aeration, control and emission treatment systems, in order to optimise the biological process and ensure compliance with environmental regulations. The solutions developed ensure ease of management, operational continuity and integration with any existing plants.

Process operation

Organic material is fed into the plant via controlled feeding systems and undergoes a preliminary pre-treatment stage, designed to remove foreign matter and prepare the material for the biological process. This stage may include screening and the separation of impurities.

Subsequently, the material is sent to the actual composting phase, which takes place under controlled conditions of aeration, humidity and temperature. The biological process allows for the degradation of the organic matter and the stabilisation of the material, promoting the development of the microorganisms responsible for the transformation.

During the process, operating parameters are monitored and adjusted to ensure the uniformity and quality of the final product. The stabilised material is then subjected to a refining stage, which produces a homogeneous compost suitable for agricultural use.

Plants for the preparation of refuse derived fuel

General description

CSS plants are designed to convert sorted waste into secondary solid fuel that meets the quality standards required for use in energy recovery processes.

By combining mechanical technologies with advanced processing systems, they produce a uniform product with controlled characteristics in terms of particle size, calorific value and impurity content.

Process operation

The material is fed into the plant via controlled feeding systems, which ensure uniform distribution along the line and continuous flow management.

Depending on the characteristics of the incoming waste, the process may include a preliminary pre-treatment stage, which involves the removal of unsuitable fractions and the preparation of the material for subsequent processing. The flow is then subjected to volume reduction by shredding, in order to achieve a suitable and uniform particle size.

Subsequently, the material is processed through screening and separation systems, which remove unwanted fractions and improve product quality. Ferrous metals are removed by de-ironisers, whilst non-ferrous metals are separated using eddy current systems.

In the most advanced configurations, optical sorting systems can be integrated for further refinement of the material, ensuring greater control over the quality characteristics of the CSS.

The treated material is finally conveyed to the storage lines or directly to the energy recovery stages, ensuring uniformity, stability and continuity of the final product.

Vantaggi

- Production of fuel that meets the required quality standards
- High consistency of the final product
- Optimisation of calorific value and reduction of impurities
- Reduction in the volume of waste sent to landfill
- Operational continuity and process reliability
- Energy recovery from waste in line with the circular economy

Main components

- Shredder
- Aeraulic separator
- Near infrared technology NIR
- Overbelt magnet
- Eddy current separator
- Second-stage shredder
- Conveyor
- Steel construction with walkway
- Electrical engineering

Output fractions

- Refuse derived fuel
- Fine grain
- Heavy goods (e.g. inert)
- Ferrous metal
- Non-ferrous metal

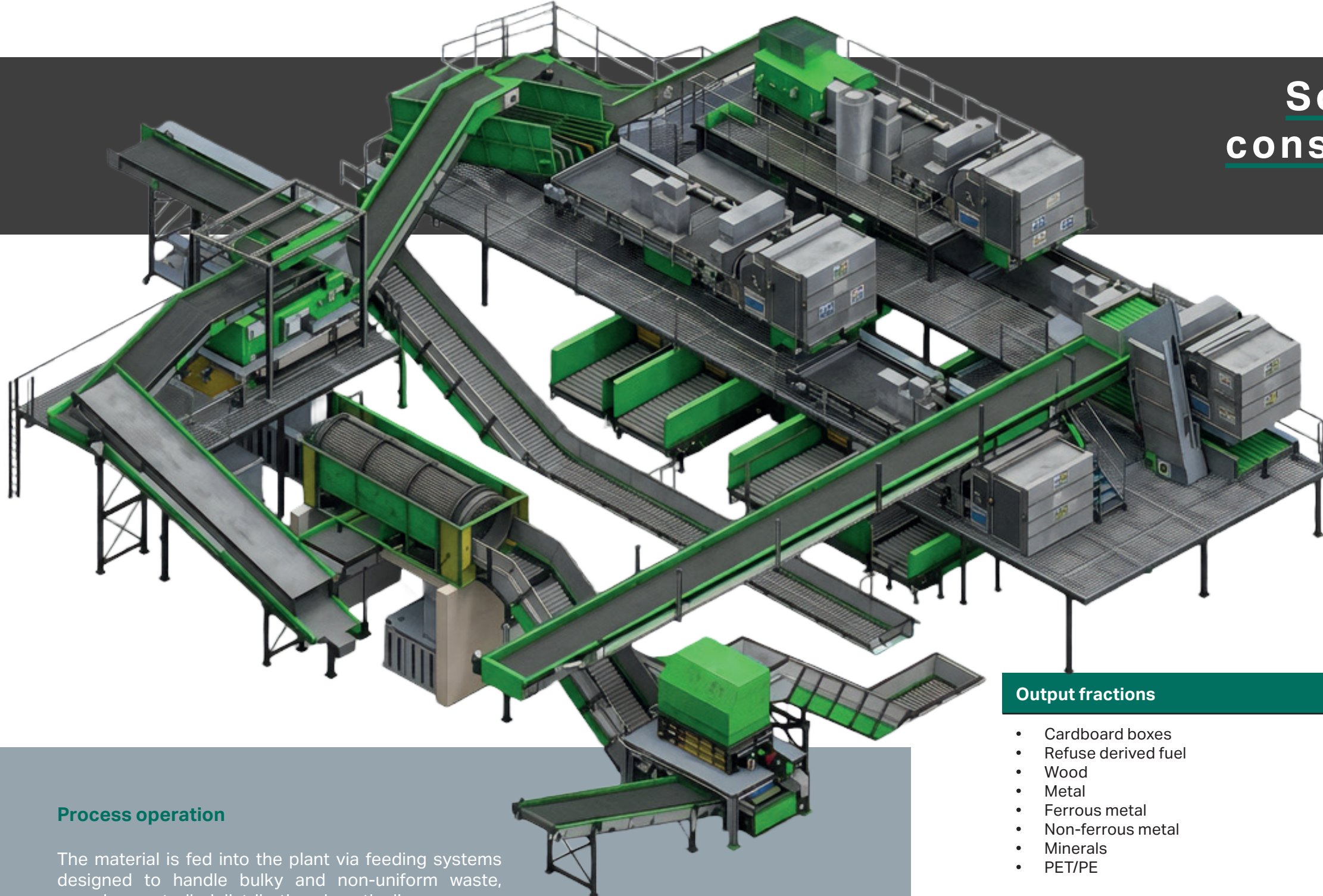
Customisation and design

These plants are custom-designed according to the characteristics of the feedstock, the volumes to be processed and the quality requirements of the final fuel.

The modular configuration allows the line to be adapted to specific operational needs, incorporating the most suitable technologies to meet the required standards. Particular attention is paid to the design of the plant layout and the definition of process parameters, in order to ensure optimal performance and long-term stability.

The design process covers all stages, from preliminary design to construction, installation and commissioning, ensuring full integration with any existing plants, ease of operation and long-term reliability.

Sorting plants for mixed construction materials and bulky waste



Process operation

The material is fed into the plant via feeding systems designed to handle bulky and non-uniform waste, ensuring controlled distribution along the line.

An initial pre-treatment stage involves volume reduction through shredding, which is necessary to make the material more uniform and suitable for subsequent processing. The flow is then screened, allowing the different fractions to be separated by size, distinguishing between fine, medium and coarse materials.

Subsequently, the material is processed using magnetic separation systems to extract ferrous metals, whilst any non-ferrous metals can be recovered using eddy current systems. Depending on the plant configuration, ballistic separators or other technologies may be integrated to improve the separation of light and heavy fractions.

The various fractions obtained are finally conveyed to storage or recovery lines, enabling the recovery of recyclable materials and a significant reduction in the volumes destined for disposal.

Output fractions

- Cardboard boxes
- Refuse derived fuel
- Wood
- Metal
- Ferrous metal
- Non-ferrous metal
- Minerals
- PET/PE

Benefits

- High processing capacity for mixed and bulky materials
- Efficient recovery of recyclable fractions (metals, wood, plastics, aggregates)
- Significant reduction in volumes destined for disposal
- Robust construction and reliability even under demanding operating conditions
- Operational continuity and optimisation of processing flows
- Improved overall efficiency of recovery processes

General description

Plants for the sorting of bulky and demolition waste are designed to process heterogeneous, bulky materials of highly variable composition, originating from urban, industrial and construction sites.

Thanks to their robust design and the integration of specialised technologies, they enable the separation and recovery of various fractions, including metals, wood, plastics and aggregates. The plant solutions are developed to ensure reliability even in the presence of complex materials and under demanding operating conditions, guaranteeing process continuity and consistent performance.

Main components

- Shredder
- Trommel screen
- Overbelt magnet
- Eddy current separator
- Near infrared technology NIR
- Sorting cabin
- Conveyor
- Steel construction with walkway
- Electrical engineering

Customisation and design

Plants for bulky waste and demolition waste are custom-designed according to the composition of the input material, the volumes to be processed and the recovery objectives.

The modular configuration allows the line to be adapted to specific operational requirements, integrating the most suitable technologies to ensure high performance and long-term stability. Particular attention is paid to the design of the plant layout and the selection of high-strength components, in order to ensure reliability and durability even in complex operating environments.

Sorting plants for electrical and electronic waste



Process operation

The material is fed into the plant via controlled feeding systems, which ensure uniform and continuous distribution along the line. Depending on the type of WEEE being processed, the process may include a preliminary dismantling and pre-treatment stage, aimed at removing the most critical components and preparing the material for subsequent processing.

Subsequently, the material stream undergoes shredding, which reduces its volume and homogenises it. The shredded material is then processed using separation systems that include magnetic separators for the extraction of ferrous metals and eddy current separators for the recovery of non-ferrous metals.

Depending on the plant configuration, optical sorting systems and advanced separation technologies may be integrated, enabling a further improvement in the quality of the recovered fractions by distinguishing between plastics, metals and electronic components.

The various fractions obtained are finally conveyed to storage lines or sent for recovery and recycling processes, ensuring a continuous and efficient flow throughout the entire line.

General description

WEEE sorting plants are designed to process complex waste from end-of-life electrical and electronic equipment, with the aim of recovering valuable materials and reducing environmental impact.

Thanks to the integration of mechanical technologies and advanced separation systems, the plants enable the processing of mixed waste streams, characterised by the presence of metals, plastics and electronic components, ensuring high levels of efficiency and quality in the recovered fractions. The modular configuration allows the plant to be adapted to different types of WEEE and production capacities.

Main components

- Feed hopper
- Shredder
- Secondary shredder
- Ballistic separator
- Overbelt magnet
- Eddy current separator
- Densimetric table
- Conveyor
- Steel construction with walkway
- Electrical engineering

Output fractions

- ABS / PS / PE / PP
- Fine grain containing precious metals
- Ferrous metal
- Mixed plastic

Benefits

- Efficient recovery of valuable materials, including ferrous and non-ferrous metals
- High precision in the separation of complex and heterogeneous streams
- Reduction in environmental impact and volumes destined for disposal
- Operational continuity and process reliability
- Optimisation of treatment flows and overall performance
- Compliance with environmental and safety regulations

Customisation and design

The modular configuration allows for the integration of the most suitable technologies for managing different flows, ensuring flexibility and the ability to adapt over time. Particular attention is paid to the design of the plant layout and the definition of the treatment stages, in order to optimise performance and ensure maximum process efficiency.

The solutions developed ensure ease of management, integration with existing systems and operational continuity, offering reliable and scalable systems over the long term.

Sorting plants for photovoltaic panel

General description

Photovoltaic panel sorting plants are designed to process end-of-life modules, with the aim of recovering and recycling the materials they are made of, including glass, metals and plastic components.

Thanks to the integration of mechanical technologies and advanced separation systems, the plants enable the management of complex and mixed waste streams, ensuring high levels of recovery and quality of the resulting fractions. The modular configuration allows the plant to be adapted to different types of panels and production capacities, ensuring operational flexibility and process continuity.

Process operation

The photovoltaic panels are fed into the plant via controlled feeding systems, designed to ensure the safe and uniform handling of the material along the line.

An initial pre-treatment stage prepares the modules for subsequent processing through mechanical operations that facilitate the initial separation of components. The material is then subjected to crushing processes, which reduce its volume and release the various fractions.

The flow is subsequently processed using separation systems that distinguish between glass, metals and plastics. Metals are recovered using magnetic systems and, where necessary, eddy current separators, whilst further sorting technologies can be integrated to improve the quality of the fractions.

The resulting fractions are finally conveyed to storage lines or sent for recovery processes, ensuring a continuous and efficient flow throughout the line and a high level of material recovery.

Main components

- Feed hopper
- Shredder
- Secondary shredder
- Ballistic separator
- Overbelt magnet
- Eddy current separator
- Densimetric table
- Conveyor
- Steel construction with walkway
- Electrical engineering

Benefits

- Efficient recovery of component materials, including glass and metals
- High quality of the recovered fractions
- Reduction in the environmental impact of modules at the end of their life
- Optimisation of treatment and recovery processes
- Operational continuity and system reliability
- Contribution to resource recovery within the framework of the circular economy

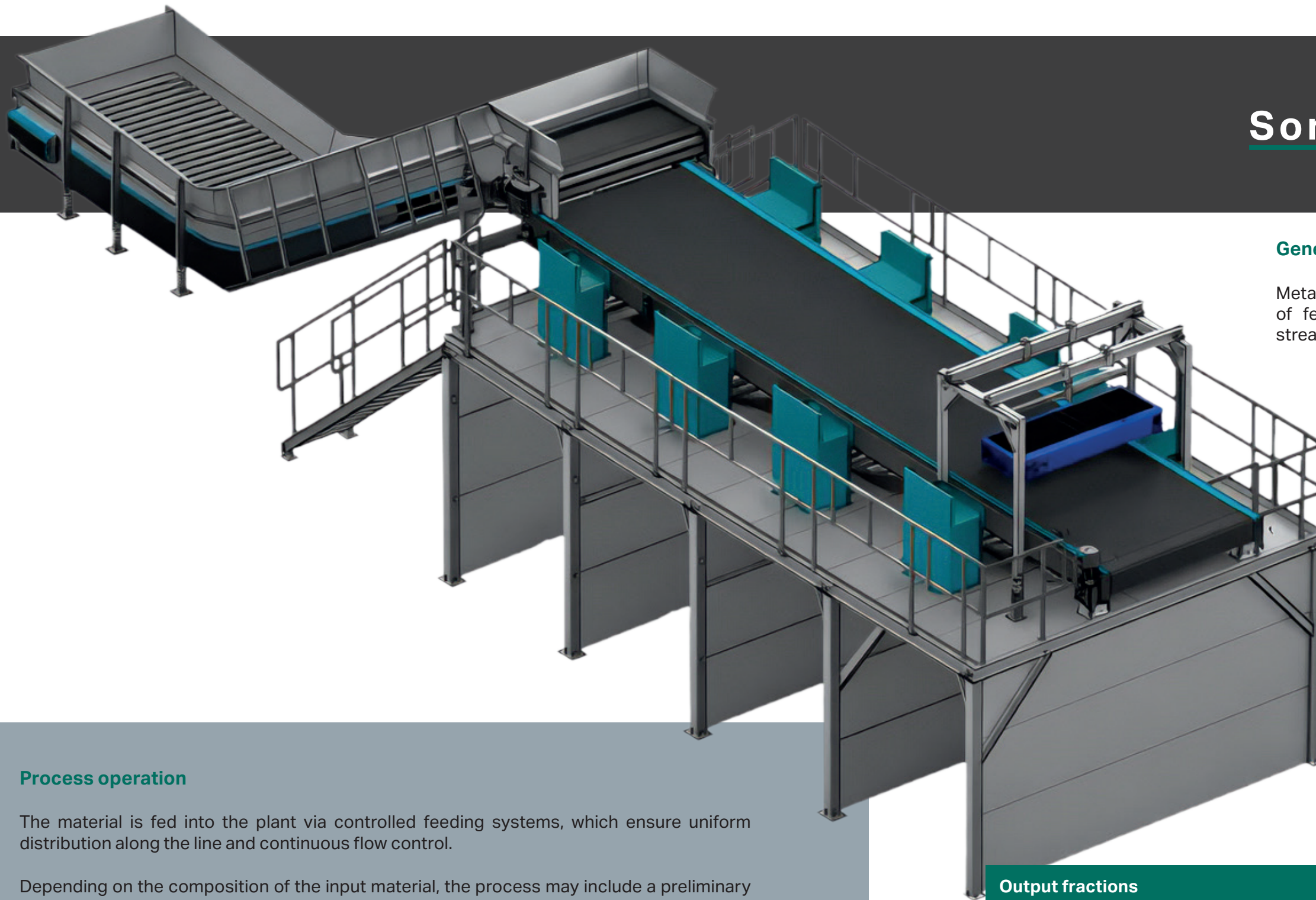
Customisation and design

Photovoltaic panel sorting systems are custom-designed according to the types of modules processed, operational volumes and recovery targets.

The modular configuration allows the line to be adapted to specific operational requirements, integrating the most suitable technologies to ensure high performance and the quality of the recovered material. Particular attention is paid to the design of the plant layout and the definition of the treatment stages, in order to optimise the process and ensure operational stability.

Output fractions

- ABS / PS / PE / PP
- Fine grain containing precious metals
- Ferrous metal
- Mixed plastic



Sorting plants for metal

General description

Metal sorting plants are designed for the recovery and recycling of ferrous and non-ferrous materials from industrial waste streams, WEEE, mixed-material waste and manufacturing scrap.

Thanks to the integration of advanced separation technologies, the plants enable the production of high-purity metal fractions, increasing the value of the recovered material and optimising recycling processes. The modular configuration allows the plant to be adapted to different types of feed and production capacities, ensuring operational continuity and reliability even in the presence of heterogeneous materials.

Benefits

- Efficient recovery of high-value metalsHigh purity of sorted fractions
- Optimisation of recycling processes
- Reduction in volumes sent for disposal
- Operational continuity and long-term reliability
- Flexibility in managing mixed waste streams

Main components

- Feed hopper
- Shredder
- Secondary shredder
- Overbelt magnet
- Eddy current separator
- Conveyor
- Steel construction with walkway
- Electrical engineering

Output fractions

- Ferrous metal
- Non-ferrous metal
- Mixed metal fractions

Customisation and design

The modular configuration allows the line to be adapted to specific operational requirements, incorporating the most suitable technologies to achieve the required purity levels. Particular attention is paid to the design of the plant layout and the definition of the treatment stages, in order to optimise performance and ensure long-term stability.

The solutions developed ensure ease of management, integration with existing systems and the possibility of future expansion, offering reliable, scalable and high-performance systems.

Process operation

The material is fed into the plant via controlled feeding systems, which ensure uniform distribution along the line and continuous flow control.

Depending on the composition of the input material, the process may include a preliminary pre-treatment or volume reduction stage, aimed at making the material more homogeneous and suitable for subsequent processing. The flow is then subjected to magnetic separation systems for the extraction of ferrous metals, using high-efficiency de-ironisers.

Subsequently, non-ferrous metals are recovered using eddy current separators, which allow even small particles to be separated, ensuring high levels of precision.

Depending on quality requirements, the process can be supplemented with additional sorting and refining systems, designed to improve the purity of the metal fractions and optimise overall recovery.

The resulting fractions are finally conveyed to storage lines or sent directly to recycling processes, ensuring operational continuity and consistent quality of the recovered material.

Sorting plants for wood

General description

Wood sorting plants are designed for the processing and recovery of wood material derived from post-consumer waste, industrial waste, packaging and bulky waste.

By integrating mechanical technologies and dedicated separation systems, the plants produce clean wood fractions suitable for reuse in industrial processes, such as panel production or energy recovery. The modular configuration allows the plant to be adapted to different types of material and operating conditions, ensuring process continuity and consistent performance.

Process operation

The material is fed into the plant via controlled feeding systems, designed to ensure uniform distribution along the line and continuous flow management.

Depending on the type of input material, the process may include a preliminary pre-treatment stage, which involves removing the largest or unsuitable fractions and preparing the material for subsequent processing. The flow is then subjected to volume reduction by shredding, in order to achieve a uniform particle size and facilitate separation operations.

Subsequently, the material is processed using screening systems, which allow for the separation of the various fractions by size. Any metals present are removed using magnetic systems, improving the quality of the recovered wood material.

Depending on quality requirements, additional sorting and refining technologies may be integrated, aimed at removing residual impurities and improving the characteristics of the final product.

The resulting fractions are finally conveyed to storage lines or sent for recovery processes, ensuring a continuous and efficient flow throughout the entire line.

Customisation and design

Wood sorting plants are custom-designed according to the characteristics of the input material, the volumes to be processed and the recovery objectives.

The modular configuration allows the line to be adapted to specific operational requirements, incorporating the most suitable technologies to ensure high performance and the quality of the recovered material. Particular attention is paid to the design of the plant layout and the definition of the treatment stages, in order to optimise the process and ensure long-term stability.

The solutions developed guarantee ease of management, integration with existing plants and the possibility of future expansion, offering reliable, flexible and scalable systems.

Output fractions

- Clean wood for the production of panels (chipboard, MDF)
- Wood for energy recovery (biomass)
- Selected wood fractions for industrial reuse

Main components

- Feed hopper
- Shredder
- Secondary shredder
- Trommel screen
- Overbelt magnet
- Eddy current separator
- Conveyor
- Steel construction with walkway
- Electrical engineering

Benefits

- Efficient recovery of wood material
- Improved quality of the final product
- Reduction of impurities and contaminants
- Optimisation of recovery and reuse processes
- Operational continuity and system reliability
- Flexibility in handling mixed materials



General description

Mobile sorting and screening plants are solutions designed to enable on-site processing operations in temporary settings or where no permanent infrastructure is available. They are particularly suitable for construction sites, remediation projects, bulky waste management or pre-treatment activities.

Thanks to their compact and easily transportable design, these plants enable sorting and separation operations to be carried out with a high degree of operational flexibility, reducing logistics costs and material handling times. The integration of modular technologies allows the solution to be adapted to different types of waste and operating conditions.

Process operation

The material is fed directly into the plant via integrated feeding systems, such as hoppers with slide gate extractors or feed conveyors, which ensure an even distribution of the flow.

Depending on the configuration, the process may include an initial pre-treatment or volume reduction stage using mobile shredders, aimed at making the material more homogeneous and suitable for sorting.

Subsequently, the flow is screened using rotary screens (trommels) or vibrating screens, which allow for the separation of the various fractions by size. The lighter fractions can be processed using air-separation systems (windshifters), whilst metals are removed using magnetic separators and, where applicable, eddy current separators.

In more comprehensive setups, the process may include manual sorting booths for quality control and final material selection.

The resulting fractions are managed directly on-site or conveyed to temporary storage systems, ready for subsequent recovery, transport or disposal.

Mobile sorting and grading systems

Customisation and design

Mobile plants are designed according to specific operational requirements, the type of material to be processed and the operating environment. The modular configuration allows different technologies to be combined into a single compact solution, adapting the plant to site conditions.

Particular attention is paid to mobility, ease of transport and speed of installation, whilst ensuring high performance and operational reliability. The solutions developed also allow integration with other mobile or fixed plants, offering a flexible, scalable system that can be easily reconfigured over time.

Main components

- Feed hopper
- Mobile shredder
- Trommel screen
- Overbelt magnet
- Eddy current separator
- Conveyor
- Steel construction with walkway
- Electrical engineering
- Magnetic separator
- Magnetic drum
- Air separator

Benefits

- High operational flexibility and adaptability to different contexts
- Ability to process waste directly on-site
- Reduced logistics and transport costs
- Rapid installation and commissioning
- Versatility in handling different types of waste
- Operational continuity even under temporary or emergency conditions

Output fractions

- Ferrous metals
- Non-ferrous metals
- Wood
- Plastic
- Inert materials
- Selected recyclable materials



Multi-material sorting plants

General description

Multi-material sorting plants are designed to process mixed waste streams from separate collection schemes, enabling the simultaneous separation of different types of materials, including plastics, metals, paper and lightweight fractions.

Thanks to the integration of mechanical technologies and advanced sorting systems, the plants enable the production of homogeneous, high-quality fractions, optimising recovery and recycling processes. The modular configuration allows the plant to be adapted to different compositions of input material and production capacities, ensuring operational flexibility and process continuity.

Process operation

The material is fed into the plant via controlled feeding systems, which ensure uniform and continuous distribution along the line.

An initial pre-treatment stage may involve opening the bags using drum or comb-type bag openers, in order to make the material accessible for subsequent processing. The flow is then screened using rotary screens (trommels) or vibrating screens, which allow for the separation of the various fractions by size.

Subsequently, the material is processed using ballistic separators, which distinguish the fractions based on shape and dynamic behaviour, separating light materials (2D), rigid bodies (3D) and fine fractions. The light fractions can be further processed using air-jet systems to remove light impurities.

Ferrous metals are removed using magnetic separators (overband or magnetic drum), whilst non-ferrous metals are separated using eddy current systems. In advanced configurations, the process can be integrated with optical sorting systems (NIR), which enable the automatic identification and separation of specific types of material, particularly plastics.

The various fractions obtained are finally conveyed to the storage, compaction or recycling lines, ensuring a continuous and efficient flow throughout the entire line.

Customisation and design

Multi-material sorting plants are custom-designed based on the composition of the input material, the volumes to be processed and the recovery targets.

The modular configuration allows the line to be adapted to specific operational requirements, incorporating the most suitable technologies to ensure high performance and the quality of the recovered fractions. Particular attention is paid to the design of the plant layout and the definition of the treatment stages, in order to optimise material flow and ensure operational stability.

The solutions developed ensure ease of management, integration with existing plants and the possibility of future expansion, offering systems that are reliable, flexible and scalable over time.

Benefits

- High flexibility in handling mixed waste streams
- Efficient and simultaneous separation of multiple materials
- Improved quality of recovered fractions
- Optimisation of recycling and recovery processes
- Reduction in waste and volumes destined for disposal
- Operational continuity and system reliability

Output fractions

- Ferrous metals
- Non-ferrous metals
- Paper and cardboard
- Plastic
- Recyclable light waste

Macchine principali

- Tramoggia di alimentazione
- Vaglio rotante
- Separatore a correnti indotte ECS
- Nastri trasportatori
- Separatore magnetico
- Tamburo magnetico
- Separatore aeraulico
- Bag opener
- Ballistic separator
- Optical sorting systems (NIR)
- Steel construction with walkway
- Electrical engineering



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